5 Port Solenoid Valve

New

CE

Increased Flow For The SY Series

SY3000

ø32 [Conventional] → Increased up to **ø50** (300 mm/s)*

10 mm width can drive a ø50 cylinder.

SY5000

ø50 [Conventional] → Increased up to **ø63** (300 mm/s)*

15 mm width can drive a ø63 cylinder.

*Values based on comparison with the conventional SMC model. Refer to page 4 for common conditions.

Thanks to the flow increase, valve size can be reduced. Energy and space savings.

New

- Added the EX260 Integrated-type (For Output) Serial Transmission System.
- Added EtherNet/IP™ and EtherCAT to the EX600 Integrated-type (For Input/Output) Serial Transmission System (Fieldbus System).
- Additional Options:
  Interface regulator assembly
  Individual SUP block assembly
  Individual EXH block assembly
  Dual flow fitting
  Name plate for manifolds



Power Consumption

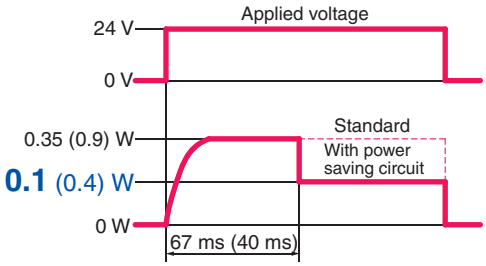
0.1 W With power saving circuit

0.35 W Standard

Power consumption is reduced by power saving circuit.

Power consumption is decreased by approx. 1/3 by reducing the wattage required to hold the valve in an energized state. (Effective energizing time is over 67 ms at 24 VDC.) Refer to the electrical power waveform as shown on the right.

[Electrical power waveform with power saving circuit]



The value in ( ) are for the quick response and high pressure types.

Rubber seal
Metal seal

Life*

70 million cycles (Rubber seal)

200 million cycles (Metal seal)

* According to SMC life test conditions

Series SY3000/5000

SMC

CAT.EUS11-103Bb-UK

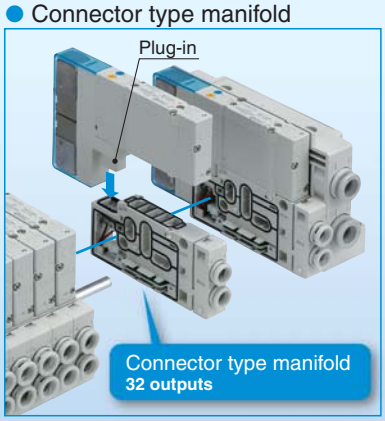
5 Port Solenoid Valve Series SY3000/5000

Plug-in metal base [IP40] **Plug-in connector connecting base [IP67Note)]** ● Connector type manifold





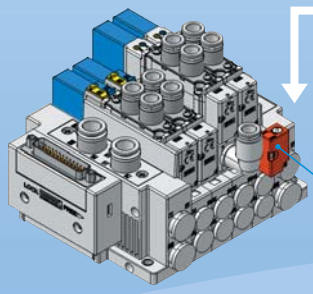
Note) Refer to page 6 for details on IP67.



Space saving / Improved operability

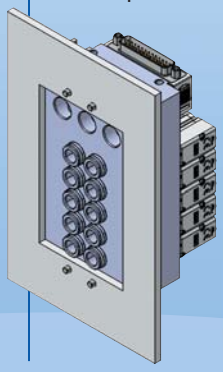
Wiring, piping and operation are integrated on one side.

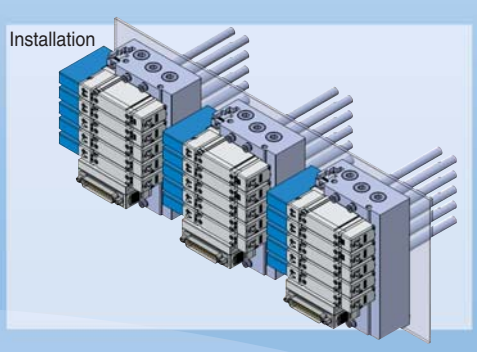
Multiple layer type is available as an option. This saves space in the lateral direction.



Bottom ported is prepared. Space saving

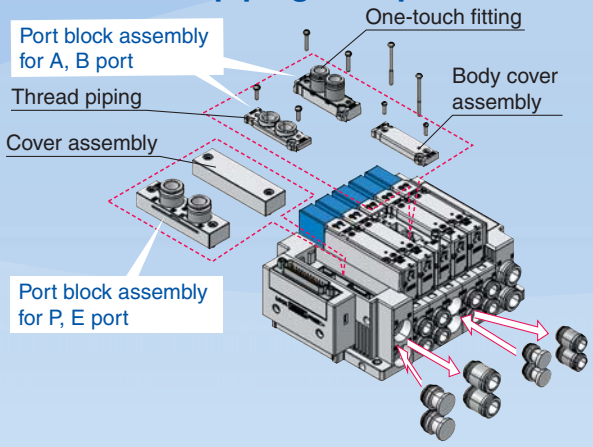
Bottom ported reduces the footprint.



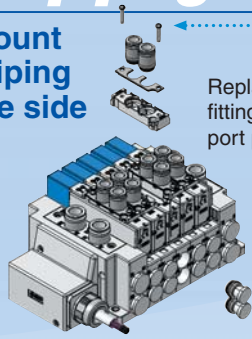


Direction, size and type of the piping can be changed.

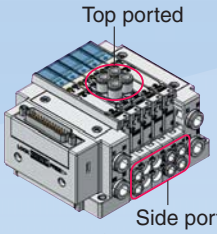
To mount the piping on top



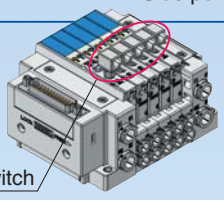
To mount the piping on the side



Mixed mounting of top ported and side ported is possible.



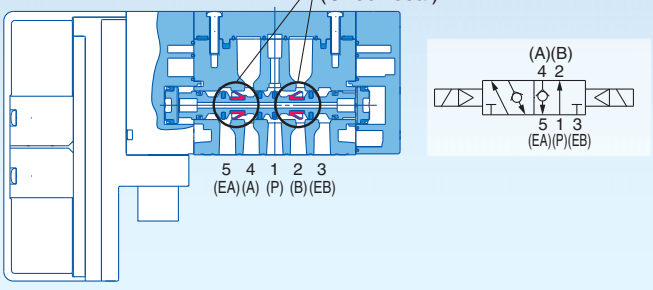
It is possible to detect the output of A and B port with a pressure switch by mounting the top ported valve onto the side ported or bottom ported manifold.



Back pressure check valve

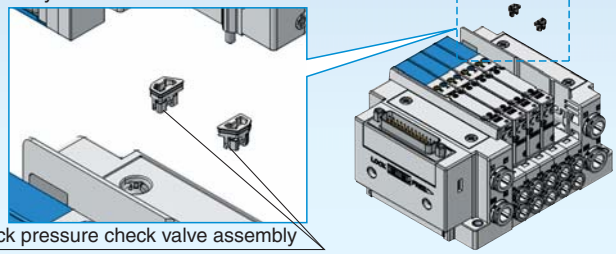
This prevents cylinder malfunction caused by the exhaust from other valves.

Built-in valve type



Retrofit or pre-installed type

If the product is affected by back pressure after installation, the back pressure check valve assembly can be added.

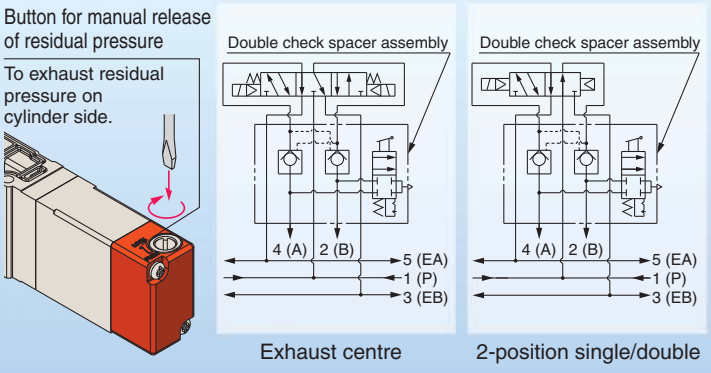


SMC

Double check spacer with residual pressure release valve

Long time of intermediate stop and position holding are possible.

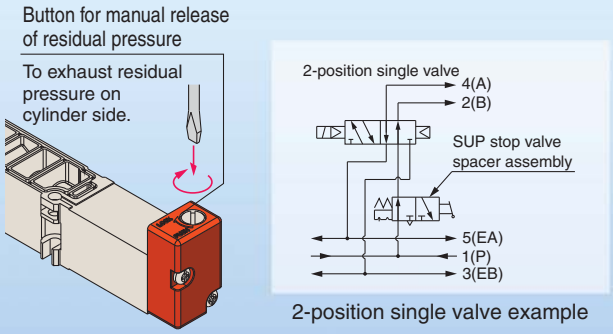
[Intermediate stop] [Drop prevention]



Exhaust centre | 2-position single/double

SUP stop valve spacer with residual pressure release valve

Air supply to each valve can be stopped individually. The valve and cylinder can be replaced without stopping other devices and equipment.



2-position single valve example

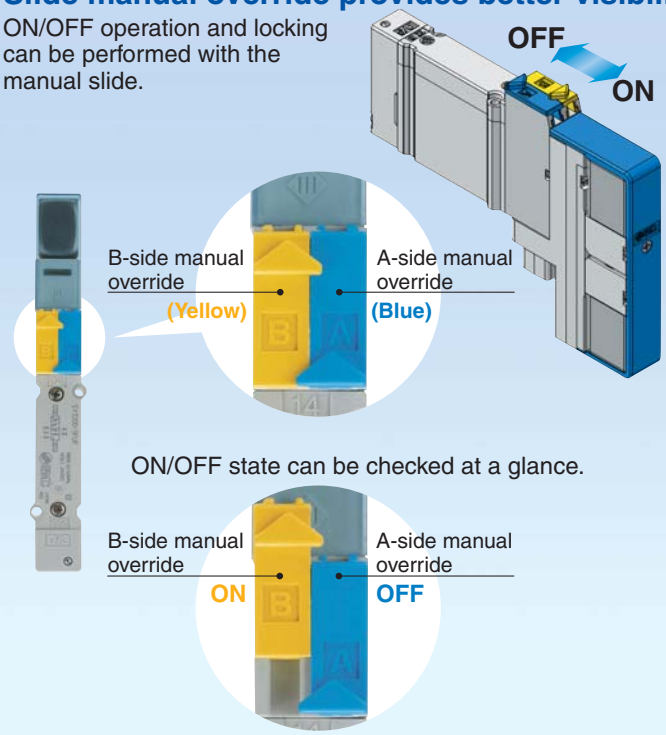
Applicable to various type of serial wiring

Series		Applicable protocol
EX510	Gateway-type Serial Transmission System	•DeviceNet™ •PROFIBUS DP •CC-Link
EX500	Gateway-type Serial Transmission System	•DeviceNet™ •PROFIBUS DP •CC-Link •EtherNet/IP™
EX600	Integrated-type (For Input/Output) Serial Transmission System (Fieldbus System)	•DeviceNet™ •PROFIBUS DP •CC-Link New •EtherNet/IP™ New •EtherCAT
EX250	Integrated-type (For Input/Output) Serial Transmission System	•DeviceNet™ •PROFIBUS DP •CANopen •CC-Link •AS-Interface •EtherNet/IP™

Series		Applicable protocol
EX260 New	Integrated-type (For Output) Serial Transmission System	•DeviceNet™ •PROFIBUS DP •CC-Link •EtherCAT •PROFINET
EX126	Integrated-type (For Output) Serial Transmission System	•CC-Link
EX120	Integrated-type (For Output) Serial Transmission System	•DeviceNet™ •CC-Link •OMRON CompoBus/S •CompoNet™

Slide manual override provides better visibility.

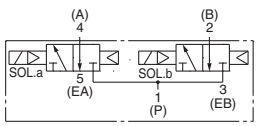
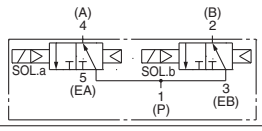
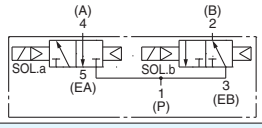
ON/OFF operation and locking can be performed with the manual slide.



4-position dual 3-port valve available

(Only rubber seal type)

- Two 3-port valves built into one body
- 3-port valves on the A and B sides can operate independently.
- When used as a 3-port valve, only half the number of stations is required.
- Can also be used as a 4-position, 5-port valve.
- 4-position dual 3-port valve with back pressure check valve is available.

A side	B side	JIS symbol
N.C. valve	N.C. valve	
N.O. valve	N.O. valve	
N.C. valve	N.O. valve	

Manifold Variations

Manifold Variations			Valve Series	Wiring														
				Connection													Common specification	
										Serial transmission								
			5 ports	D-sub connector	Flat ribbon cable	PC wiring	Terminal block box	Lead wire	Circular connector	EX510	EX500	EX600	EX250	EX260	EX126	EX120	Positive common	Negative common
Plug-in Metal Base	Side ported	Type 50□	SY3□0□ / SY5□0□	● P. 15	● P. 15	● P. 15	—	—	—	● P.35	—	—	—	—	—	—	●	●
	Bottom ported	Type 51□	SY3□0□ / SY5□0□	● P. 15	● P. 15	● P. 15	—	—	—	● P.35	—	—	—	—	—	—	●	●
	Top ported	Type 52□	SY3□3□ / SY5□3□	● P. 29	● P. 29	● P. 29	—	—	—	● P.43	—	—	—	—	—	—	●	●
Plug-in Connector Connecting Base	Side ported	Type 10□	SY3□0□ / SY5□0□	● P. 49	● P. 49	● P. 49	● P. 59	● P. 67	● P. 75	—	● P. 83	● P. 89	● P. 97	● P. 103	● P. 109	● P. 115	●	●
	Bottom ported	Type 11□	SY5□0□	● P. 49	● P. 49	● P. 49	● P. 59	● P. 67	● P. 75	—	● P. 83	● P. 89	● P. 97	● P. 103	● P. 109	● P. 115	●	●
	Top ported	Type 12□	SY3□3□ / SY5□3□	● P. 55	● P. 55	● P. 55	● P. 63	● P. 71	● P. 79	—	● P. 87	● P. 95	● P. 101	● P. 107	● P. 113	● P. 119	●	●

● Standard ○ Option ▲ Made-to-Order (Refer to page 14.)

●Wiring

Plug-in Metal Base

D-sub connector



[IP40]

Flat ribbon cable, PC wiring



[IP40]

Serial transmission: EX510



[IP20]

Plug-in Connector Connecting Base

D-sub connector



[IP40]
* Partially IP67

Plug-in Connector Connecting Base

Circular connector



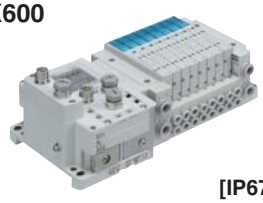
[IP67]

Serial transmission: EX500



[IP67]

Serial transmission: EX600



[IP67]
*Partially IP40

Serial transmission: EX250



[IP67]

Manifold Options (Pages 141 to 148)															A, B Port Size										Valve Options									
																		One-touch fittings																	
																		C2	C3 (N1)	C4 (N3)		C6 (N7)		C8 (N9)										
Blanking plate	Individual SUP spacer	Individual EXH spacer	SUP stop valve spacer with residual pressure release valve	Double check spacer with residual pressure release valve	Interface regulator	Individual SUP block assembly	Individual EXH block assembly	SUP/EXH blocking disk	Label for blocking disk	Back pressure check valve assembly	Dual flow fitting	Silencer (One-touch fitting connection type)	Plug (White)	Name plate	M5	1/8	1/4	Straight piping	Straight piping	Straight piping	Elbow piping Note 1)	Straight piping	Elbow piping Note 1)	Straight piping	Elbow piping Note 1)	SY3000/5000 mixed mounting	Oil resistant (Other than designated turbine oil)	Vacuum specification	Low pressure specification	Different pressures	Reverse pressure	Exhaust throttle	Mixed fitting sizes	Enclosure IP67
○	○	○	○	○	○	—	—	—	—	—	—	—	○	—	●	●	—	●	●	●	—	●	—	—	—	—	▲	● External Pilot	● External Pilot	○ Individual SUP	● External Pilot	○ Individual EXH	●	—
															—	●	●	—	—	●	—	●	—	●	—									
○	○	○	○	○	○	—	—	—	—	—	—	—	○	—	●	●	—	●	●	●	—	●	—	—	—	—	▲	—	—	○ Individual SUP	—	○ Individual EXH	●	—
															—	●	●	—	—	●	—	●	—	●	—									
○	○	○	○	—	○	—	—	—	—	—	—	—	○	—	●	—	—	●	●	●	—	●	—	—	—	—	▲	● External Pilot	● External Pilot	○ Individual SUP	● External Pilot	○ Individual EXH	●	—
															—	●	—	—	—	●	—	●	—	●	—									
○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	—	—	—	●	●	●	●	●	●	—	—	● P.127	▲	● External Pilot	● External Pilot	○ Individual SUP	● External Pilot	○ Individual EXH	●	Note 2) ●
															—	—	—	—	—	●	●	●	●	●	●									
○	○	○	○	○	○	○	○	○	○	○	—	○	○	○	—	—	—	—	—	●	—	●	—	●	—	● P.127	▲	● External Pilot	● External Pilot	○ Individual SUP	● External Pilot	○ Individual EXH	●	Note 2) ●
○	○	○	○	—	○	○	○	○	○	○	—	○	○	○	●	—	—	●	●	●	—	●	—	—	—	● P.131	▲	● External Pilot	● External Pilot	○ Individual SUP	● External Pilot	○ Individual EXH	●	Note 2) ●
															—	●	—	—	—	●	—	●	—	●	—									

Note 1): Elbow piping may specify size only in millimeters, depending on the port size. Refer to How to Order Manifold for details.
Note 2): Refer to Manifold Specifications for details on IP67.

Flat ribbon cable, PC wiring



[IP40]

Terminal block box



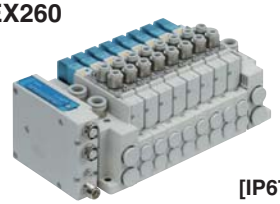
[IP67]

Lead wire



[IP67]

Serial transmission: EX260



[IP67]
∗Partially IP40

Serial transmission: EX126



[IP67]

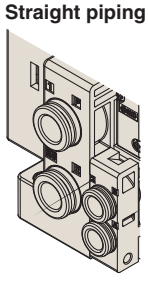
Serial transmission: EX120



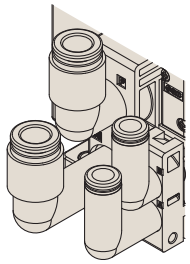
[IP20]

One-touch fittings

Straight piping



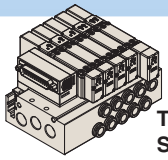
Elbow piping

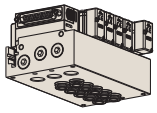


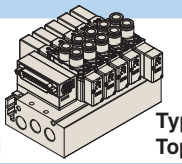
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Plug-in Metal Base ····· P. 5
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Valve Construction ····· P. 10
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Made-to-Order for Valve ····· P. 14

Plug-in Metal Base


Type 50/ Side ported


Type 51/ Bottom ported


Type 52/ Top ported


D-sub connector


Flat ribbon cable


PC wiring


EX510

Type 50/Side Ported, Type 51/Bottom Ported, Type 52/Top Ported P. 15

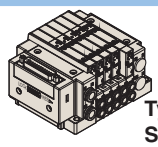
D-sub Connector, Flat Ribbon Cable, PC Wiring System [IP40]
- Type 50/Side Ported ····· P. 15
- Type 51/Bottom Ported ····· P. 15
- Type 52/Top Ported ····· P. 29

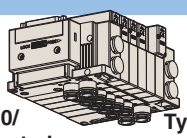
Wiring Specifications ····· P. 33

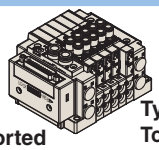
EX510 Gateway-type Serial Transmission System [IP20]
- Type 50/Side Ported ····· P. 35
- Type 51/Bottom Ported ····· P. 35
- Type 52/Top Ported ····· P. 43

Manifold Exploded View [Exploded View, Manifold Parts No.] ····· P. 47

Plug-in Connector Connecting Base


Type 10/ Side ported


Type 11/ Bottom ported


Type 12/ Top ported


D-sub connector


PC wiring


Flat ribbon cable


Terminal block box


Lead wire


Circular connector


EX500


EX600


EX250


EX260


EX126


EX120


Mixed mounting

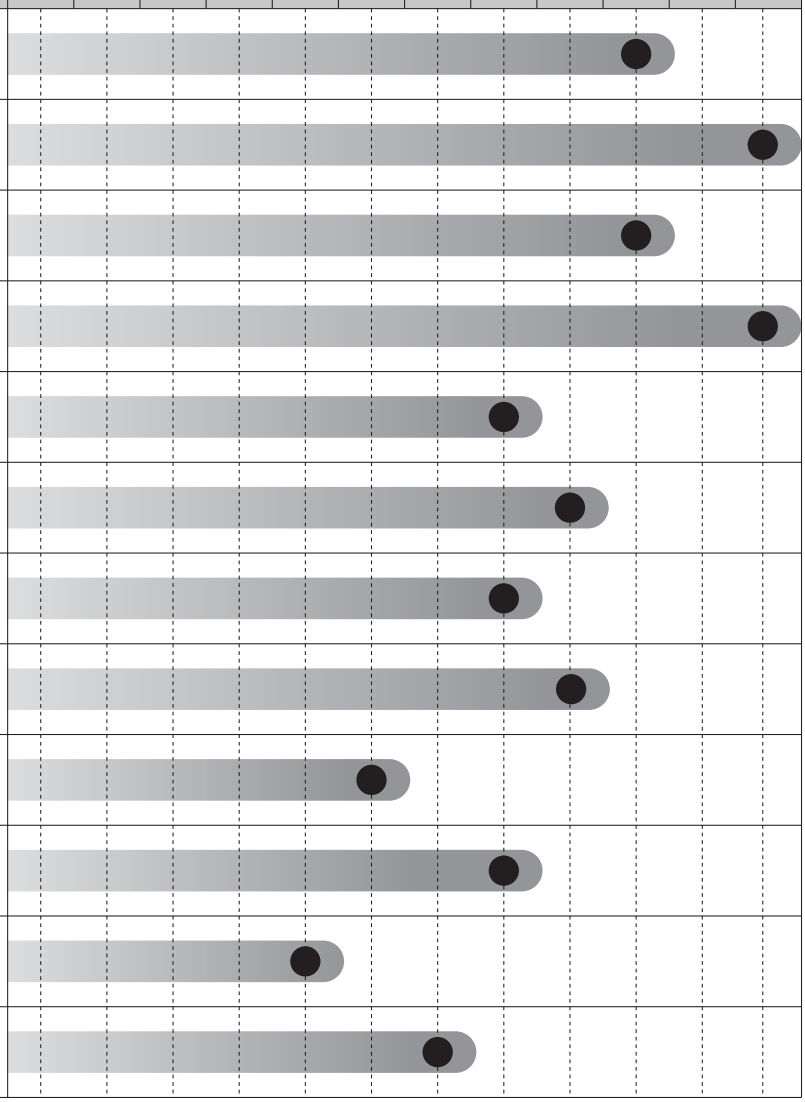
Type 10/Side Ported, Type 11/Bottom Ported, Type 12/Top Ported P. 49

D-sub Connector, Flat Ribbon Cable, PC Wiring System [IP40] ····· P. 49
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Safety Instructions ····· Back cover

Optimum Actuation Size Chart of Air Cylinder

Applicable cylinder speed	Main valve seal type	Series	Applicable cylinder ø6 ø10 ø16 ø20 ø25 ø32 ø40 ø50 ø63 ø80 ø100 ø125
100 mm/s or less	Rubber seal	SY3000	
		SY5000	
	Metal seal	SY3000	
		SY5000	
300 mm/s or less	Rubber seal	SY3000	
		SY5000	
	Metal seal	SY3000	
		SY5000	
500 mm/s or less	Rubber seal	SY3000	
		SY5000	
	Metal seal	SY3000	
		SY5000	



[Common conditions]
- Pressure: 0.5 MPa
- Piping length: 1 m
- Load ratio: 50%
- Stroke: 200 mm
- Connector type manifold. Side and bottom ported type

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

Plug-in Metal Base

Manifold Specifications

Model			D-sub connector	Flat ribbon cable			Serial wiring
			F type	P type	PG type J type	PH type	S5 type (EX510)
Manifold type			Plug-in metal base				
SUP/EXH port type			Common SUP/EXH				
Valve stations	**All double wiring**		2 to 12 stations		2 to 9 stations (J type: 2 to 8 stations)	2 to 4 stations	2 to 8 stations
	All single wiring				2 to 12 stations	2 to 8 stations	2 to 12 stations
Applicable connector			D-sub connector Conforming to MIL-C-24308 JIS-X-5101	Flat ribbon cable connector with strain relief Conforming to MIL-C-83503			—
				Socket: 26 pins MIL type	Socket: 20 pins MIL type	Socket: 10 pins MIL type	
Internal wiring			Positive common, Negative common				
Port size	**1(P), 3/5(E) port**	**SY3000**	1/8				
		SY5000	1/4				
	4(A), 2(B) port	**SY3000**	M5 x 0.8, 1/8 ø2 One-touch fitting, ø3.2 One-touch fitting, ø4 One-touch fitting, ø6 One-touch fitting ø1/8" One-touch fitting, ø5/32" One-touch fitting, ø1/4" One-touch fitting				
		SY5000	1/8, 1/4 ø4 One-touch fitting, ø6 One-touch fitting, ø8 One-touch fitting ø5/32" One-touch fitting, ø1/4" One-touch fitting, ø5/16" One-touch fitting				
Enclosure (Based on IEC60529)			IP40				IP20

Manifold Flow-rate Characteristics Note 1)/Manifold Weight

Valve Seal Type: Rubber Seal

Model	Port size		Valve flow-rate characteristics						Weight: W [g] Note 2) (n: stations)	
			1→4/2 (P→A/B)			4/2→5/3 (A/B→E)				
	1, 5, 3 (P, EA, EB)	4, 2 (A, B)	C [dm³/(s·bar)]	b	Q [L/min] (ANR) Note 3)	C [dm³/(s·bar)]	b	Q [L/min] (ANR) Note 3)	Fixed: C□	Replaceable: KC□
SS5Y3-50 (Side ported)	01	C6	1.1	0.19	262	1.1	0.15	256	39n + 247	43.5n + 247
SS5Y3-51 (Bottom ported)	01	C6	1.2	0.31	307	1.2	0.14	278	41.5n + 251	48.5n + 251
SS5Y3-52 (Top ported)	01	C6	1.1	0.29	278	1.2	0.20	287	44n + 247	
SS5Y5-50 (Side ported)	02	C8	2.6	0.28	653	2.6	0.14	603	93n + 379	110n + 379
SS5Y5-51 (Bottom ported)	02	C8	2.7	0.35	709	2.8	0.20	671	93n + 413	113n + 413
SS5Y5-52 (Top ported)	02	C8	2.6	0.26	645	3.1	0.13	715	103n + 379	

Valve Seal Type: Metal Seal

Model	Port size		Valve flow-rate characteristics						Weight: W [g] Note 2) (n: stations)	
			1→4/2 (P→A/B)			4/2→5/3 (A/B→E)				
	1, 5, 3 (P, EA, EB)	4, 2 (A, B)	C [dm³/(s·bar)]	b	Q [L/min] (ANR) Note 3)	C [dm³/(s·bar)]	b	Q [L/min] (ANR) Note 3)	Fixed: C□	Replaceable: KC□
SS5Y3-50 (Side ported)	01	C6	0.9	0.14	209	1.0	0.12	229	39n + 247	43.5n + 247
SS5Y3-51 (Bottom ported)	01	C6	1.0	0.21	241	1.1	0.10	250	41.5n + 251	48.5n + 251
SS5Y3-52 (Top ported)	01	C6	1.1	0.15	256	1.1	0.14	255	44n + 247	
SS5Y5-50 (Side ported)	02	C8	2.2	0.20	527	2.3	0.13	530	93n + 379	110n + 379
SS5Y5-51 (Bottom ported)	02	C8	2.4	0.26	595	2.5	0.16	586	93n + 413	113n + 413
SS5Y5-52 (Top ported)	02	C8	2.4	0.18	568	2.6	0.12	596	103n + 379	

∗ Calculation of effective area S and sonic conductance C: S = 5.0 x C

Note 1) The value is for manifold base with 5 stations and individually operated 2-position type.
Note 2) 'Weight: W' is the value for the D-sub connector manifold.
To obtain the weight with valves attached, add the valve weights given on page 9 for the appropriate number of stations.
Nota 3) These valves have been calculated according to ISO6358 and indicate the flow rate under standard conditions with an inlet pressure of 0.6 MPa (relative pressure) and a pressure drop of 0.1 MPa.

Plug-in Connector Connecting Base

Manifold Specifications

Model			D-sub connector		Flat ribbon cable			Terminal block box	Lead wire	Circular connector	Serial wiring			
			F type	FW type	P type	PG type J type	PH type	T type	L type	M type	S6□ type (EX600)	SA2 type (EX500) S4□ type (EX126)	S□ type (EX250) (EX260)	S3□ type (EX120)
Manifold type			Plug-in connector connecting base											
SUP/EXH port type			Common SUP/EXH (Common for 3/5 port)											
Valve stations			2 to 24 stations			2 to18 stations (J type: 2 to 16 stations)	2 to 8 stations	2 to 20 stations	2 to 24 stations			2 to 16 stations	2 to 24 stations	2 to 16 stations
Applicable connector			D-sub connector Conforming to MIL-C-24308 JIS-X-5101		Flat ribbon cable connector with strain relief Conforming to MIL-C-83503 Socket: 26 pins MIL type	Socket: 20 pins MIL type	Socket: 10 pins MIL type	—						
Internal wiring			Positive common, Negative common											
Port size	**1(P), 3/5(E) port**	**SY3000**	ø8 One-touch fitting ø5/16" One-touch fitting											
		SY5000	ø10 One-touch fitting ø3/8" One-touch fitting											
	4(A), 2(B) port	**SY3000**	ø2 One-touch fitting, ø3.2 One-touch fitting, ø4 One-touch fitting, ø6 One-touch fitting ø1/8" One-touch fitting, ø5/32" One-touch fitting, ø1/4" One-touch fitting											
		SY5000	ø4 One-touch fitting, ø6 One-touch fitting, ø8 One-touch fitting ø5/32" One-touch fitting, ø1/4" One-touch fitting, ø5/16" One-touch fitting											
Enclosure (Based on IEC60529)			IP40	IP67	IP40			IP67			IP67 (I/O unit: partially IP40)	IP67 (EX500 gateway unit, input unit: IP65	IP67 (Partially IP40)	IP20

Manifold Flow-rate Characteristics Note 1)/Manifold Weight

Valve Seal Type: Rubber Seal

Model	Port size		Valve flow-rate characteristics						Weight: W [g] Note 2) (n: stations)
			1→4/2 (P→A/B)			4/2→5/3 (A/B→E)			
	1, 3/5 (P, E)	4, 2 (A, B)	C [dm³/(s·bar)]	b	Q [L/min] (ANR) Note 3)	C [dm³/(s·bar)]	b	Q [L/min] (ANR) Note 3)	
SS5Y3-10 (Side ported)	C8	C6	1.4	0.30	356	1.6	0.19	381	28.9n + 293
SS5Y3-12 (Top ported)	C8	C6	1.2	0.29	303	1.3	0.19	310	25.1n + 314
SS5Y5-10 (Side ported)	C10	C8	3.3	0.30	839	3.6	0.17	848	74.7n + 398
SS5Y5-11 (Bottom ported)	C10	C8	3.3	0.29	834	4.2	0.26	1042	76.8n + 445
SS5Y5-12 (Top ported)	C10	C8	2.8	0.27	699	3.8	0.23	926	66.3n + 417

Valve Seal Type: Metal Seal

Model	Port size		Valve flow-rate characteristics						Weight: W [g] Note 2) (n: stations)
			1→4/2 (P→A/B)			4/2→5/3 (A/B→E)			
	1, 3/5 (P, E)	4, 2 (A, B)	C [dm³/(s·bar)]	b	Q [L/min] (ANR) Note 3)	C [dm³/(s·bar)]	b	Q [L/min] (ANR) Note 3)	
SS5Y3-10 (Side ported)	C8	C6	1.2	0.19	286	1.3	0.18	308	28.9n + 293
SS5Y3-12 (Top ported)	C8	C6	1.2	0.16	281	1.3	0.18	308	25.1n + 314
SS5Y5-10 (Side ported)	C10	C8	2.7	0.24	662	3.1	0.17	730	74.7n + 398
SS5Y5-11 (Bottom ported)	C10	C8	2.8	0.25	690	3.5	0.15	816	76.8n + 445
SS5Y5-12 (Top ported)	C10	C8	2.6	0.18	616	3.0	0.16	703	66.3n + 417

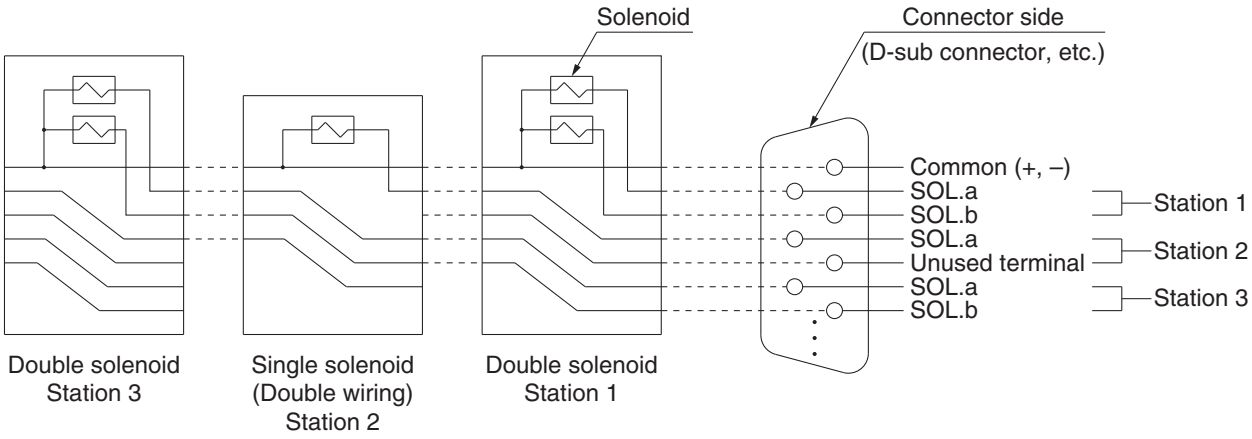
∗ Calculation of effective area S and sonic conductance C: S = 5.0 x C

Note 1) The value is for manifold base with 5 stations and individually operated 2-position type.
Note 2) 'Weight: W' is the value of the internal pilot, and D-sub connector manifold (IP40) with one-touch fitting straight piping type.
To obtain the weight with valves attached, add the valve weights given on page 9 for the appropriate number of stations.
Nota 3) These valves have been calculated according to ISO6358 and indicate the flow rate under standard conditions with an inlet pressure of 0.6 MPa (relative pressure) and a pressure drop of 0.1 MPa.

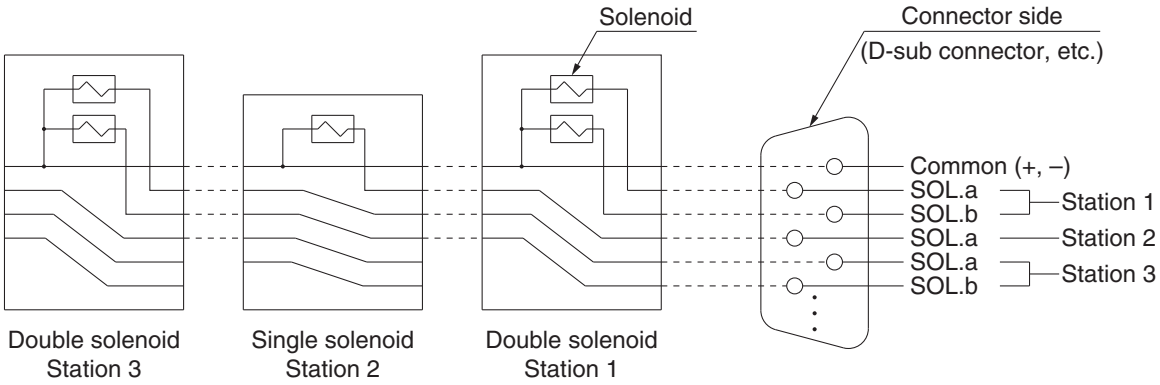
Connector Wiring Layout

For both serial and parallel wiring, additional valves are sequentially assigned pins on the connector.
This makes it completely unnecessary to disassemble the connector unit.

■ Single solenoid valve is installed to all double wiring (in case of all double wiring). (Manifold specification sheet is not necessary.)



■ Single/double wiring are mixed. (Manifold specification sheet is necessary.)



Note) These diagrams are for the purpose of explanation, and differ from the connector wiring used for testing.

Series SY3000/5000
Valve Specifications 1

Valve Specifications

Valve type			Rubber seal	Metal seal
Fluid			Air	
Internal pilot operating pressure range [MPa]	**2-position single**		0.15 to 0.7	0.1 to 0.7 (High pressure type: 0.1 to 1)
	2-position double		0.1 to 0.7	
	3-position		0.2 to 0.7	
	4-position dual 3-port valve		0.15 to 0.7	—
External pilot operating pressure range [MPa]	**Operating pressure range**		–100 kPa to 0.7 (4-position: –100 kPa to 0.6)	–100 kPa to 0.7 (High pressure type: –100 kPa to 1)
	Pilot pressure range	**2-position single**	0.25 to 0.7	0.1 to 0.7 (High pressure type: 0.1 to 1)
		2-position double		
		3-position		
		4-position dual 3-port valve	Operating pressure + 0.1 or more (Min. 0.25) to 0.7	—
Ambient and fluid temperature [°C]			–10 to 50 (No freezing)	
Max. operating frequency [Hz]	**2-position single/double 4-position dual 3-port valve**		5	20 Note 1)
	3-position		3	10 Note 1)
Manual override			Non-locking push type	
			Push-turn locking slotted type	
			Push-turn locking lever type	
			Slide locking type	
Pilot exhaust type	**Internal pilot**		Main/Pilot valve common exhaust	
	External pilot		Pilot valve individual exhaust	
Lubrication			Not required	
Mounting orientation			Unrestricted	Single: Unrestricted Double/3-position: Main valve is horizontal.
Impact/Vibration resistance Note 2) **[m/s²]**			150/30	
Enclosure			IP67 (Based on IEC60529)	
Coil rated voltage [DC]			24, 12 V	
Allowable voltage fluctuation [V]			±10% of rated voltage Note 3)	
Power consumption [W]	**Standard**		0.35 (With indicator light: 0.4)	
	High pressure type, Quick response type		0.9 (With indicator light: 0.95)	
	With power saving circuit		Standard: 0.1 (With indicator light only), High pressure type: 0.4 (With indicator light only)	
Surge voltage suppressor			Diode (Varistor for non-polar type)	
Indicator light			LED	

Note 1) Use below 5 Hz for with power saving circuit.

Note 2) Impact resistance: No malfunction occurred when it is tested in the axial direction and at the right angles to the main valve and armature in both energized and de-energized states every once for each condition. (Values at the initial period)
Vibration resistance: No malfunction occurred in a one-sweep test between 45 and 2000 Hz. Test was performed at both energized and de-energized states in the axial direction and at the right angles to the main valve and armature. (Values at the initial period)

Note 3) Due to voltage drops by the internal circuit in S/Z type and T type (with power saving circuit), use within the allowable voltage fluctuation as follows.
S/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

Series	Seal type	Model	Type of actuation	Response time [ms]					
				Standard			Quick response type		
				Without light/surge voltage suppressor	With light/surge voltage suppressor		Without light/surge voltage suppressor	With light/surge voltage suppressor	
					S/Z type	R/U type		S/Z type	R/U type
SY3000	Rubber seal	**SY31□0**	2-position single	15 or less	20 or less	15 or less	12 or less	15 or less	12 or less
	Metal seal	**SY31□1**		15 or less	20 or less	15 or less	12 or less	15 or less	12 or less
	Rubber seal	**SY32□0**	2-position double	12 or less	15 or less	12 or less	10 or less	13 or less	10 or less
	Metal seal	**SY32□1**		12 or less	15 or less	12 or less	10 or less	13 or less	10 or less
	Rubber seal	**SY33/4/5□0**	3-position	18 or less	22 or less	18 or less	14 or less	18 or less	14 or less
	Metal seal	**SY33/4/5□1**		18 or less	22 or less	18 or less	14 or less	18 or less	14 or less
	Rubber seal	**SY3A/B/C□0**	4-position dual 3-port valve	18 or less	22 or less	18 or less	15 or less	19 or less	15 or less
SY5000	Rubber seal	**SY51□0**	2-position single	24 or less	31 or less	24 or less	18 or less	25 or less	18 or less
	Metal seal	**SY51□1**		24 or less	31 or less	24 or less	18 or less	25 or less	18 or less
	Rubber seal	**SY52□0**	2-position double	12 or less	15 or less	12 or less	10 or less	13 or less	10 or less
	Metal seal	**SY52□1**		12 or less	15 or less	12 or less	10 or less	13 or less	10 or less
	Rubber seal	**SY53/4/5□0**	3-position	30 or less	34 or less	30 or less	24 or less	28 or less	24 or less
	Metal seal	**SY53/4/5□1**		28 or less	30 or less	28 or less	23 or less	25 or less	23 or less
	Rubber seal	**SY5A/B/C□0**	4-position dual 3-port valve	35 or less	42 or less	35 or less	28 or less	35 or less	28 or less

Valve Specifications 2

Valve Weight

Series SY3000

Valve model	Seal type	Type of actuation		Weight [g]
SY3□00	Rubber seal	2-position	Single	74
			Double	83
		3-position	Closed centre	87
			Exhaust centre	
			Pressure centre	
		4-position	Dual 3-port valve	83

Valve model	Seal type	Type of actuation		Weight [g]
SY3□01	Metal seal	2-position	Single	76
			Double	86
		3-position	Closed centre	90
			Exhaust centre	
			Pressure centre	

Valve model	Seal type	Type of actuation		Port size 4, 2 (A, B)	Weight [g]
SY3□30-M5	Rubber seal	2-position	Single	M5 x 0.8	74
			Double		83
		3-position	Closed centre		87
			Exhaust centre		
			Pressure centre		
		4-position	Dual 3-port valve		83
SY3□30-C2		2-position	Single	C2 ø2 One-touch fitting	82
			Double		91
		3-position	Closed centre		95
			Exhaust centre		
			Pressure centre		
		4-position	Dual 3-port valve		91
SY3□30-C3		2-position	Single	C3 ø3.2 One-touch fitting	85
			Double		94
		3-position	Closed centre		98
			Exhaust centre		
			Pressure centre		
		4-position	Dual 3-port valve		94
SY3□30-C4		2-position	Single	C4 ø4 One-touch fitting	77
			Double		86
		3-position	Closed centre		90
			Exhaust centre		
			Pressure centre		
		4-position	Dual 3-port valve		86
SY3□30-C6		2-position	Single	C6 ø6 One-touch fitting	80
			Double		89
		3-position	Closed centre		93
			Exhaust centre		
			Pressure centre		
		4-position	Dual 3-port valve		89

Valve model	Seal type	Type of actuation		Port size 4, 2 (A, B)	Weight [g]
SY3□31-M5	Metal seal	2-position	Single	M5 x 0.8	76
			Double		86
		3-position	Closed centre		90
			Exhaust centre		
			Pressure centre		
SY3□31-C2		2-position	Single	C2 ø2 One-touch fitting	84
			Double		94
		3-position	Closed centre		98
			Exhaust centre		
			Pressure centre		
SY3□31-C3		2-position	Single	C3 ø3.2 One-touch fitting	87
			Double		97
		3-position	Closed centre		101
			Exhaust centre		
			Pressure centre		
SY3□31-C4		2-position	Single	C4 ø4 One-touch fitting	79
			Double		89
		3-position	Closed centre		93
			Exhaust centre		
			Pressure centre		
SY3□31-C6		2-position	Single	C6 ø6 One-touch fitting	82
			Double		92
		3-position	Closed centre		96
			Exhaust centre		
			Pressure centre		

Series SY5000

Valve model	Seal type	Type of actuation		Weight [g]
SY5□00	Rubber seal	2-position	Single	82
			Double	90
		3-position	Closed centre	100
			Exhaust centre	
			Pressure centre	
		4-position	Dual 3-port valve	90

Valve model	Seal type	Type of actuation		Weight [g]
SY5□01	Metal seal	2-position	Single	91
			Double	101
		3-position	Closed centre	111
			Exhaust centre	
			Pressure centre	

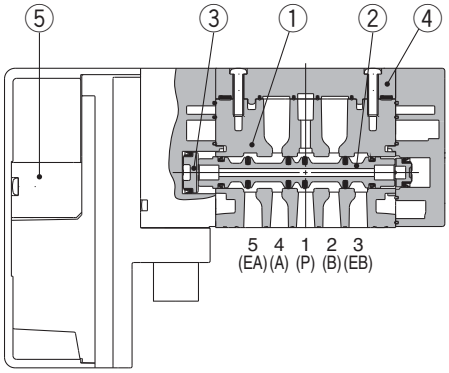
Valve model	Seal type	Type of actuation		Port size 4, 2 (A, B)	Weight [g]
SY5□30-01	Rubber seal	2-position	Single	1/8	102
			Double		110
		3-position	Closed centre		120
			Exhaust centre		
			Pressure centre		
		4-position	Dual 3-port valve		110
SY5□30-C4		2-position	Single	C4 ø4 One-touch fitting	115
			Double		123
		3-position	Closed centre		133
			Exhaust centre		
			Pressure centre		
		4-position	Dual 3-port valve		123
SY5□30-C6		2-position	Single	C6 ø6 One-touch fitting	110
			Double		118
		3-position	Closed centre		128
			Exhaust centre		
			Pressure centre		
		4-position	Dual 3-port valve		118
SY5□30-C8		2-position	Single	C8 ø8 One-touch fitting	99
			Double		107
		3-position	Closed centre		117
			Exhaust centre		
			Pressure centre		
		4-position	Dual 3-port valve		107

Valve model	Seal type	Type of actuation		Port size 4, 2 (A, B)	Weight [g]
SY5□31-01	Metal seal	2-position	Single	1/8	111
			Double		121
		3-position	Closed centre		131
			Exhaust centre		
			Pressure centre		
SY5□31-C4		2-position	Single	C4 ø4 One-touch fitting	124
			Double		134
		3-position	Closed centre		144
			Exhaust centre		
			Pressure centre		
SY5□31-C6		2-position	Single	C6 ø6 One-touch fitting	120
			Double		130
		3-position	Closed centre		140
			Exhaust centre		
			Pressure centre		
SY5□31-C8		2-position	Single	C8 ø8 One-touch fitting	108
			Double		118
		3-position	Closed centre		128
			Exhaust centre		
			Pressure centre		

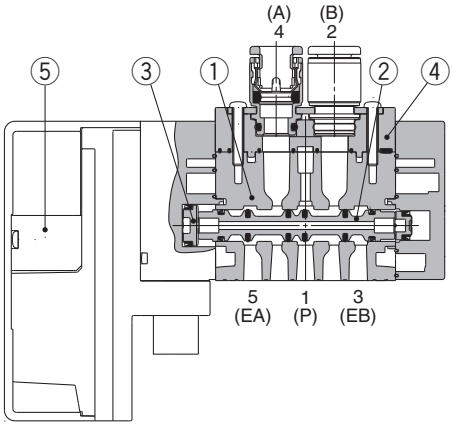
Series SY3000/5000
Valve Construction 1

Rubber Seal

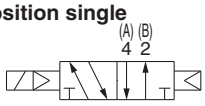
2-position single



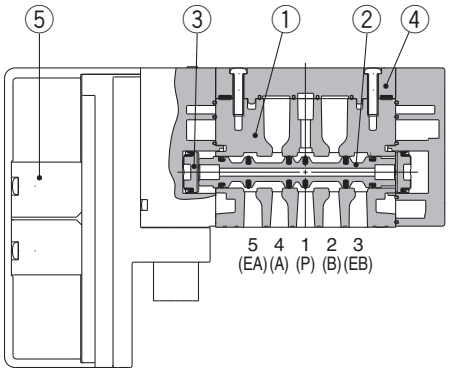
Top ported



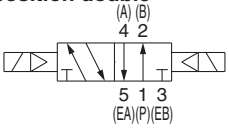
2-position single



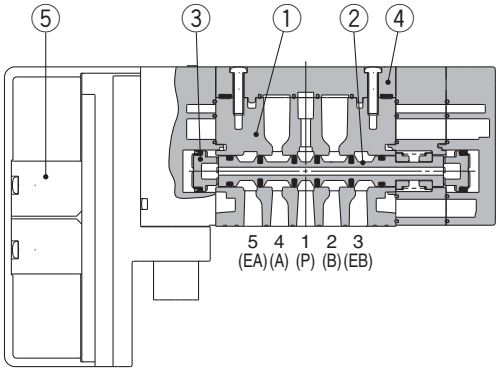
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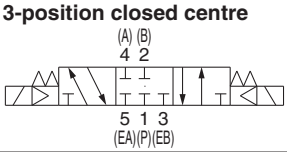
2-position double



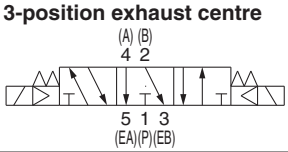
3-position closed centre/exhaust centre/pressure centre



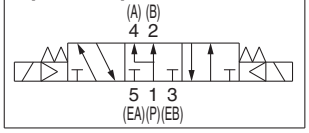
3-position closed centre



3-position exhaust centre



3-position pressure centre



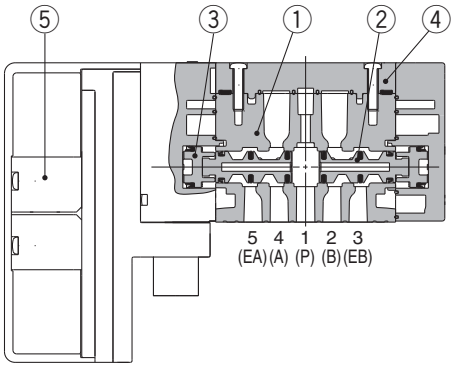
Component Parts

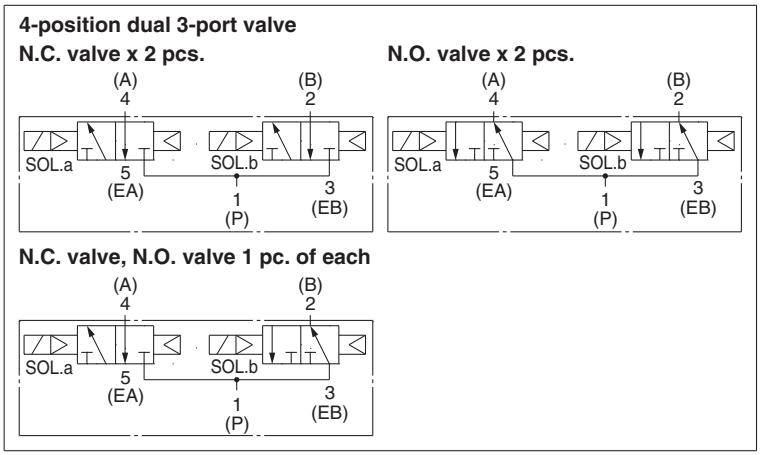
No.	Description	Material	Note
1	**Body**	SY3000: Zinc die-casted SY5000: Aluminium die-casted	
2	**Spool valve**	Special resin/HNBR (3-position valve: Aluminium/HNBR)	
3	**Piston**	Resin	
4	**Body cover assembly**	Resin	For side/bottom ported
	Port block assembly	Resin (SY5000 series threaded type: Zinc die-casted)	For top ported
5	**Pilot valve assembly**	—	Refer to page 14.

Valve Construction 2

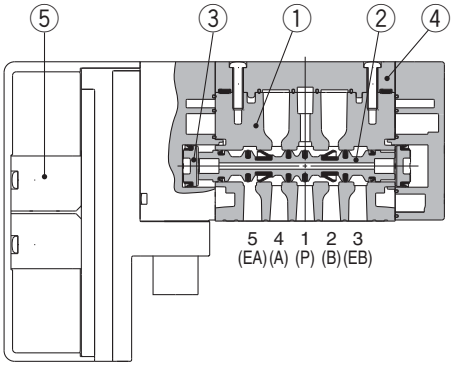
Rubber Seal

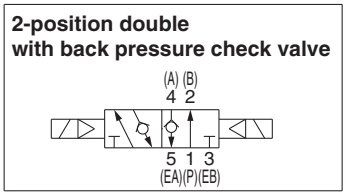
4-position dual 3-port valve



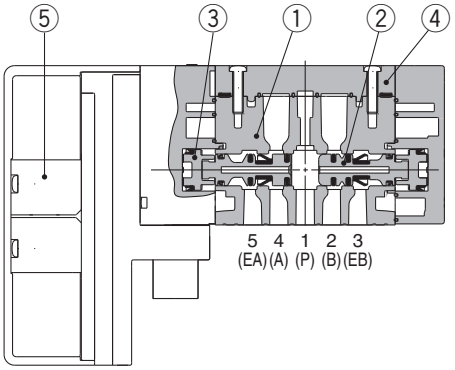


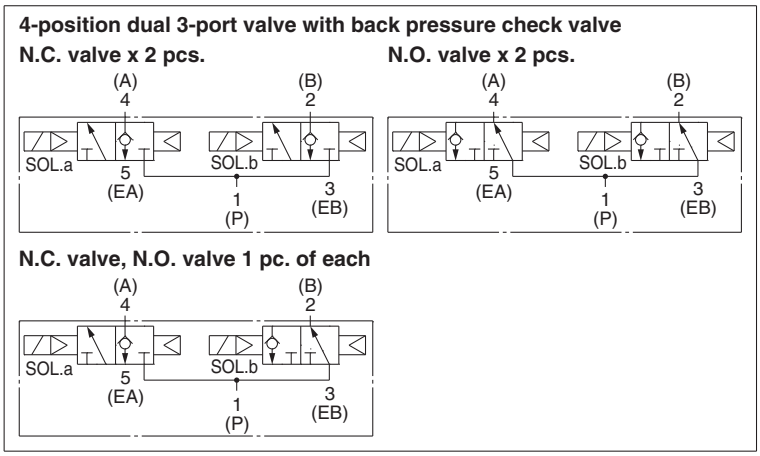
2-position double with back pressure check valve (Built-in valve type)





4-position dual 3-port valve with back pressure check valve (Built-in valve type)

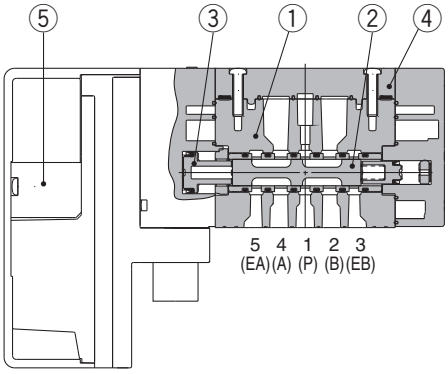




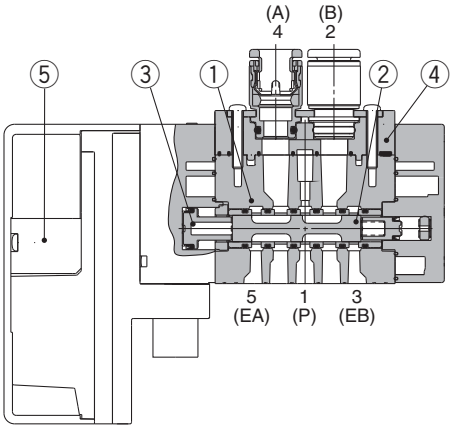
Series SY3000/5000
Valve Construction 3

Metal Seal

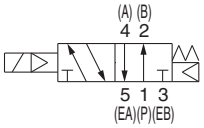
2-position single



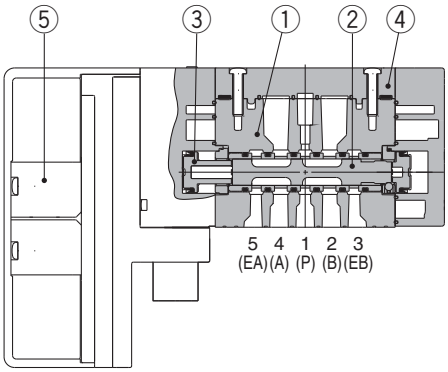
Top ported



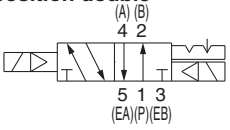
2-position single



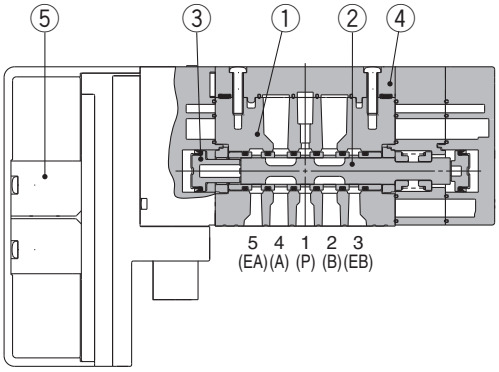
2-position double



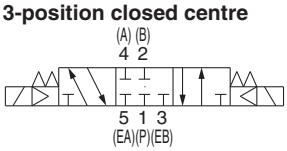
2-position double



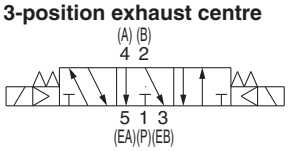
3-position closed centre/exhaust centre/pressure centre



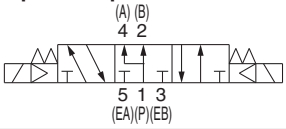
3-position closed centre



3-position exhaust centre



3-position pressure centre



Component Parts

No.	Description	Material	Note
1	**Body**	SY3000: Zinc die-casted SY5000: Aluminium die-casted	
2	**Spool, Sleeve**	Stainless steel/HNBR	
3	**Piston**	Resin	
4	**Body cover assembly**	Resin	For side/bottom ported
	Port block assembly	Resin (SY5000 series threaded type: Zinc die-casted)	For top ported
5	**Pilot valve assembly**	—	Refer to page 14.

Series SY3000/5000
Valve Replacement Parts 1

How to Order Port Block Assembly

SY □0V-6A□-□-□□

Series

3	3000
5	5000

Pilot type

—	Internal pilot
R	External pilot

Option for mounting

—	Standard (Valve mounting screw "not" falling-out-prevention type)
1	Valve mounting screw falling-out-prevention type

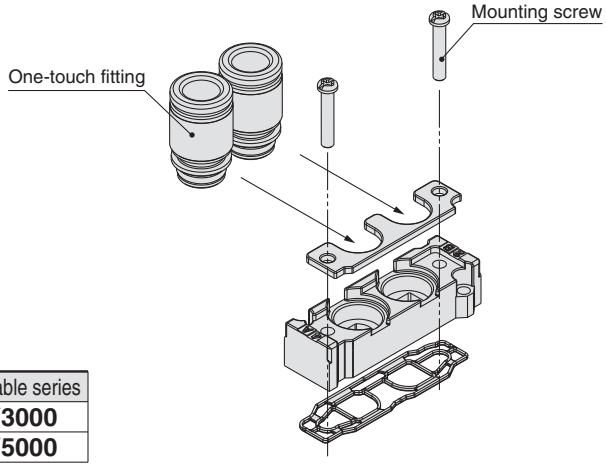
Thread type

—	Rc
F	G
N	NPT
T	NPTF

∗ Except M5

A, B port size
Thread piping

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



One-touch fitting (Metric)

Symbol	Port size	Applicable series	
		SY3000	**SY5000**
C2	ø2 One-touch fitting	●	—
C3	ø3.2 One-touch fitting	●	—
C4	ø4 One-touch fitting	●	●
C6	ø6 One-touch fitting	●	●
C8	ø8 One-touch fitting	—	●

One-touch fitting (Inch)

Symbol	Port size	Applicable series	
		SY3000	**SY5000**
N1	ø1/8" One-touch fitting	●	—
N3	ø5/32" One-touch fitting	●	●
N7	ø1/4" One-touch fitting	●	●
N9	ø5/16" One-touch fitting	—	●

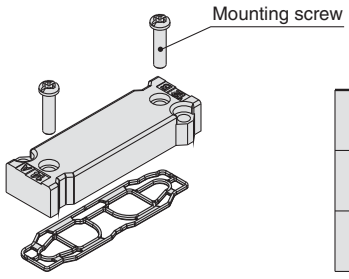
● Possible to replace only the one-touch fitting.

Port size		SY3000	SY5000
Metric size	ø2 One-touch fitting	VVQ1000-50A-C2	—
	ø3.2 One-touch fitting	VVQ1000-50A-C3	—
	ø4 One-touch fitting	VVQ1000-50A-C4	VVQ1000-51A-C4
	ø6 One-touch fitting	VVQ1000-50A-C6	VVQ1000-51A-C6
	ø8 One-touch fitting	—	VVQ1000-51A-C8
Inch size	ø1/8" One-touch fitting	VVQ1000-50A-N1	—
	ø5/32" One-touch fitting	VVQ1000-50A-N3	VVQ1000-51A-N3
	ø1/4" One-touch fitting	VVQ1000-50A-N7	VVQ1000-51A-N7
	ø5/16" One-touch fitting	—	VVQ1000-51A-N9

Refer to pages 156 and 157 for how to replace the port block assembly, one-touch fitting and body cover assembly.

Body Cover Assembly

∗ Used when the top ported is changed to the side or bottom ported.



Series		Part no.	
		Standard (Valve mounting screw "not" falling-out-prevention type)	Valve mounting screw falling-out-prevention type
SY3000	Internal pilot	SY30V-16A	SY30V-16A-1
	External pilot	SY30V-16AR	SY30V-16AR-1
SY5000	Internal pilot	SY50V-16A	SY50V-16A-1
	External pilot	SY50V-16AR	SY50V-16AR-1

Valve Replacement Parts 2

How to Order Pilot Valve Assembly (With a gasket and two mounting screws)

V112 □ □ – □ A

Pilot valve option

—	Standard (0.7 MPa)
B	Quick response type (0.7 MPa)
K	High pressure type (1.0 MPa)*

* Only metal seal type is available for the high pressure type (1.0 MPa).

Coil type

—	Standard
T	With power saving circuit

Rated voltage

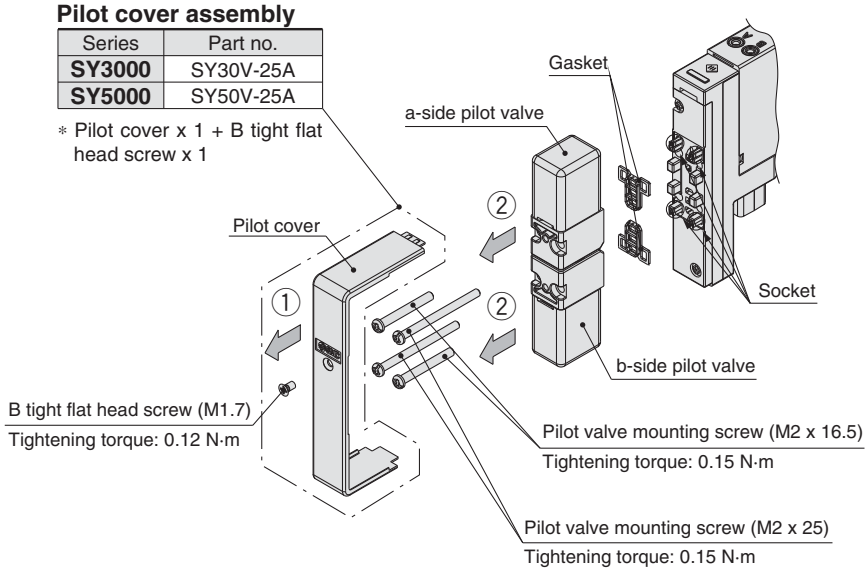
5	24 VDC
6	12 VDC

How to replace pilot valves

Pilot cover assembly

Series	Part no.
SY3000	SY30V-25A
SY5000	SY50V-25A

* Pilot cover x 1 + B tight flat head screw x 1



- Loosen B tight flat head screw to remove the pilot cover in the direction indicated by the arrow ①.
- Remove the pilot valve mounting screws.
- Remove the pilot valve in the direction indicated by the arrow ②.

* Assemble by following the removal procedure in reverse.

Note 1) Ensure the gasket is mounted, and take care not to bend the socket.
Note 2) Be noted for mounting that there are two types of lengths for the pilot valve mounting screws.

⚠ Caution

The coil specification and voltage (including light/surge voltage suppressor) cannot be changed by changing the pilot valve assembly.

Made-to-Order for Valve

Made to Order — Please contact SMC for detailed dimensions, specifications, and lead times.

Main Valve Fluororubber Specification

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

- When using a lubricant other than the recommended turbine oil, and there is a possibility of malfunction due to swelling of the spool valve seals.

Applicable valve series **SY3□$^{0}_{3}$0, SY5□$^{0}_{3}$0** (Only rubber seal type)

SY $^{3}_{5}$ □ $^{0}_{3}$ 0 □□□□ – □□□ 1 – □□ – □ – X90

Entry is the same as standard products.
The specification and performance are the same as those of standard products.

Type 50
Side Ported

Type 51
Bottom Ported

Plug-in Metal Base

D-sub Connector | Flat Ribbon Cable | PC Wiring

Series SY3000/5000

CE RoHS

How to Order Manifold

SS5Y 3 – 50 F 1 – □ 05 D – C6 □ □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿

❶ Series

3	SY3000
5	SY5000

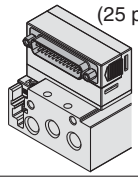
❷ Type

50	Side ported
51	Bottom ported
50R	Side ported, External pilot

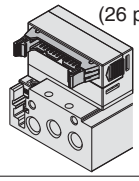
∗ External pilot is not available for the bottom ported type.

❸ Connector type

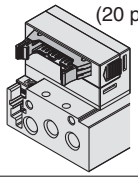
F: D-sub connector (25 pins)



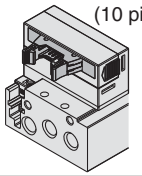
P: Flat ribbon cable (26 pins)



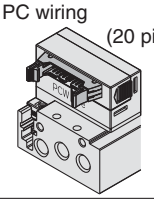
PG: Flat ribbon cable (20 pins)



PH: Flat ribbon cable (10 pins)

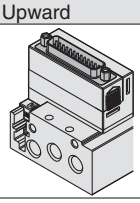


J: PC wiring (20 pins)

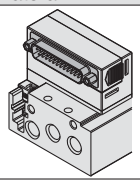


❹ Connector entry direction

1: Upward



2: Lateral



❺ Wiring type

—	All double wiring Note 1)
S	All single wiring Note 2)

Note 1) All double wiring: 2-position single, double, 3-position and 4-position valves can be used on all manifold stations.
Note 2) All single wiring: Available only for the manifold which has 2-position single for all stations.
Note that 2-position double, 3- or 4-position valves cannot be used.
Note 3) Please contact SMC if a mixture of single wiring and double wiring is required.

❻ Valve stations

F: D-sub connector (25 pins)

Symbol	Stations	Note
02	2 stations	All double wiring
⋮	⋮	
12	12 stations	
02	2 stations	All single wiring
⋮	⋮	
12	12 stations	

P: Flat ribbon cable (26 pins)

Symbol	Stations	Note
02	2 stations	All double wiring
⋮	⋮	
12	12 stations	
02	2 stations	All single wiring
⋮	⋮	
12	12 stations	

PG: Flat ribbon cable (20 pins)

Symbol	Stations	Note
02	2 stations	All double wiring
⋮	⋮	
09	9 stations	
02	2 stations	All single wiring
⋮	⋮	
12	12 stations	

PH: Flat ribbon cable (10 pins)

Symbol	Stations	Note
02	2 stations	All double wiring
⋮	⋮	
04	4 stations	
02	2 stations	All single wiring
⋮	⋮	
08	8 stations	

J: PC wiring (20 pins)

Symbol	Stations	Note
02	2 stations	All double wiring
⋮	⋮	
08	8 stations	
02	2 stations	All single wiring
⋮	⋮	
12	12 stations	

∗ This also includes the number of blanking plate assembly.

❼ P, E port entry

U	U side Note 1)
D	D side Note 1) Note 2)
B	Both sides

Note 1) Plugs are mounted on the opposite side of the selected ports.
Note 2) Only D side is available for Type 51 (Bottom ported).

Refer to the page on the right for ❽.

❾ Thread type

—	Rc
F	G
N	NPT
T	NPTF

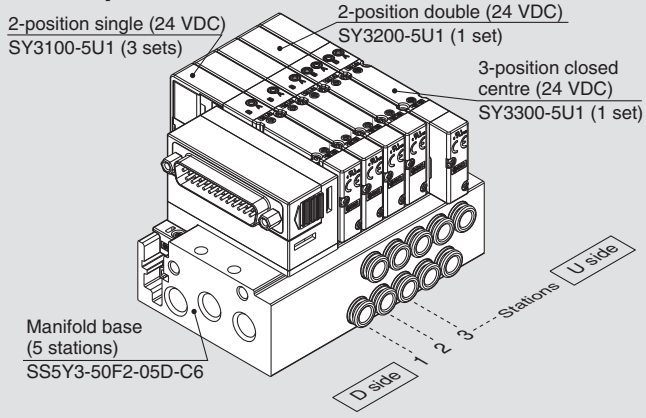
❿ Mounting

—	Direct mounting	
D	DIN rail mounting (With DIN rail)	
D0	DIN rail mounting (Without DIN rail)	
D3	For 3 stations	Specify a longer rail than the standard length.
⋮	⋮	
D12	For 12 stations	

∗ Only direct mounting is available for Type 51 (Bottom ported).

How to Order Manifold Assembly

Example (SS5Y3-50F2-□)



SS5Y3-50F2-05D-C6 ··· 1 set (Type 50 5-station manifold base part no.)
∗SY3100-5U1 ····· 3 sets (2-position single part no.)
∗SY3200-5U1 ····· 1 set (2-position double part no.)
∗SY3300-5U1 ····· 1 set (3-position closed centre part no.)
The asterisk denotes the symbol for assembly.
Prefix it to the part nos. of the valve, etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on a manifold specification sheet.

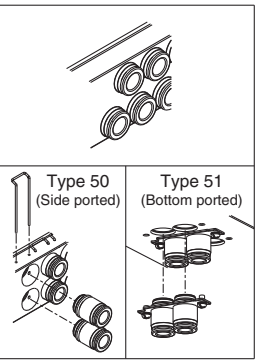
Note) When mixing top ported configurations, select from page 30.
In this case, use caution as there is also output on the A and B port on base side. Specify on a manifold specification sheet if plugs are required on the A and B port on base side.

⑧ A, B port size (Thread piping)

Symbol	A, B port	SY3000	SY5000
M5	M5 x 0.8	●	—
01	1/8	●	●
02	1/4	—	●

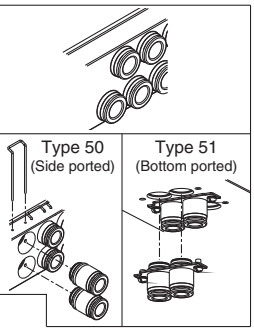
A, B port size (Metric)

	Symbol	A, B port	SY3000	SY5000
Fixed	**C2**	ø2 One-touch fitting	●	—
	C3	ø3.2 One-touch fitting	●	—
	C4	ø4 One-touch fitting	●	●
	C6	ø6 One-touch fitting	●	●
	C8	ø8 One-touch fitting	—	●
Replaceable	**KC2**	ø2 One-touch fitting	●	—
	KC3	ø3.2 One-touch fitting	●	—
	KC4	ø4 One-touch fitting	●	●
	KC6	ø6 One-touch fitting	●	●
	KC8	ø8 One-touch fitting	—	●
	M*	Mixed sizes	●	●
P, E port size (Thread piping)			1/8	1/4



A, B port size (Inch)

	Symbol	A, B port	SY3000	SY5000
Fixed	**N1**	ø1/8" One-touch fitting	●	—
	N3	ø5/32" One-touch fitting	●	●
	N7	ø1/4" One-touch fitting	●	●
	N9	ø5/16" One-touch fitting	—	●
Replaceable	**KN1**	ø1/8" One-touch fitting	●	—
	KN3	ø5/32" One-touch fitting	●	●
	KN7	ø1/4" One-touch fitting	●	●
	KN9	ø5/16" One-touch fitting	—	●
	M*	Mixed sizes	●	●
P, E port size (Thread piping)			1/8	1/4



∗ When ports are mixed sizes, indicate the piping specifications on the manifold specification sheet.

How to Order Valves (With two mounting screws)

Refer to page 8 for valve specifications.

SY 3 1 0 0 □ □ □ □ – 5 □ □ 1 – □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫

❸ Base mounted

❶ Series

3	SY3000
5	SY5000

❷ Type of actuation

1	2-position single
2	2-position double
3	3-position closed centre
4	3-position exhaust centre
5	3-position pressure centre
A*	4-position dual 3-port valve (N.C./N.C.)
B*	4-position dual 3-port valve (N.O./N.O.)
C*	4-position dual 3-port valve (N.C./N.O.)

∗ Only rubber seal type is available for the 4-position dual 3-port valve.

❸ Seal type

0	Rubber seal
1	Metal seal

❹ Pilot type

—	Internal pilot
R	External pilot

❺ Back pressure check valve (Built-in valve type)

—	None
H	Built-in

∗ Only rubber seal type
∗ The built-in valve type back pressure check valve is not available for the 3-position type.

❻ Pilot valve option

—	Standard (0.7 MPa)
B	Quick response type (0.7 MPa)
K*	High pressure type (1.0 MPa)

∗ Only metal seal type is available for the high pressure type.

❼ Coil type

—	Standard
T	With power saving circuit (Continuous duty type)

∗ Be sure to select the power saving circuit type when the valve is continuously energized for long periods of time.
∗ Note the specified energizing time when power saving circuit is selected. Refer to page 154.

❽ Rated voltage

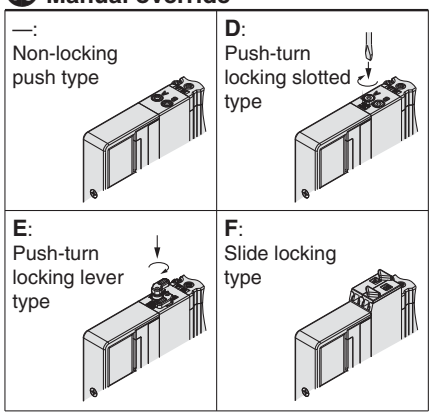
5	24 VDC
6	12 VDC

❾ Light/surge voltage suppressor and common specification

—	Without light/surge voltage suppressor (Non-polar)
R	With surge voltage suppressor (Non-polar)
U	With light/surge voltage suppressor (Non-polar)
S	With surge voltage suppressor (Positive common)
Z	With light/surge voltage suppressor (Positive common)
NS	With surge voltage suppressor (Negative common)
NZ	With light/surge voltage suppressor (Negative common)

∗ Only "Z" and "NZ" types are available for the product with power saving circuit.

❿ Manual override



⓫ Type of mounting screw

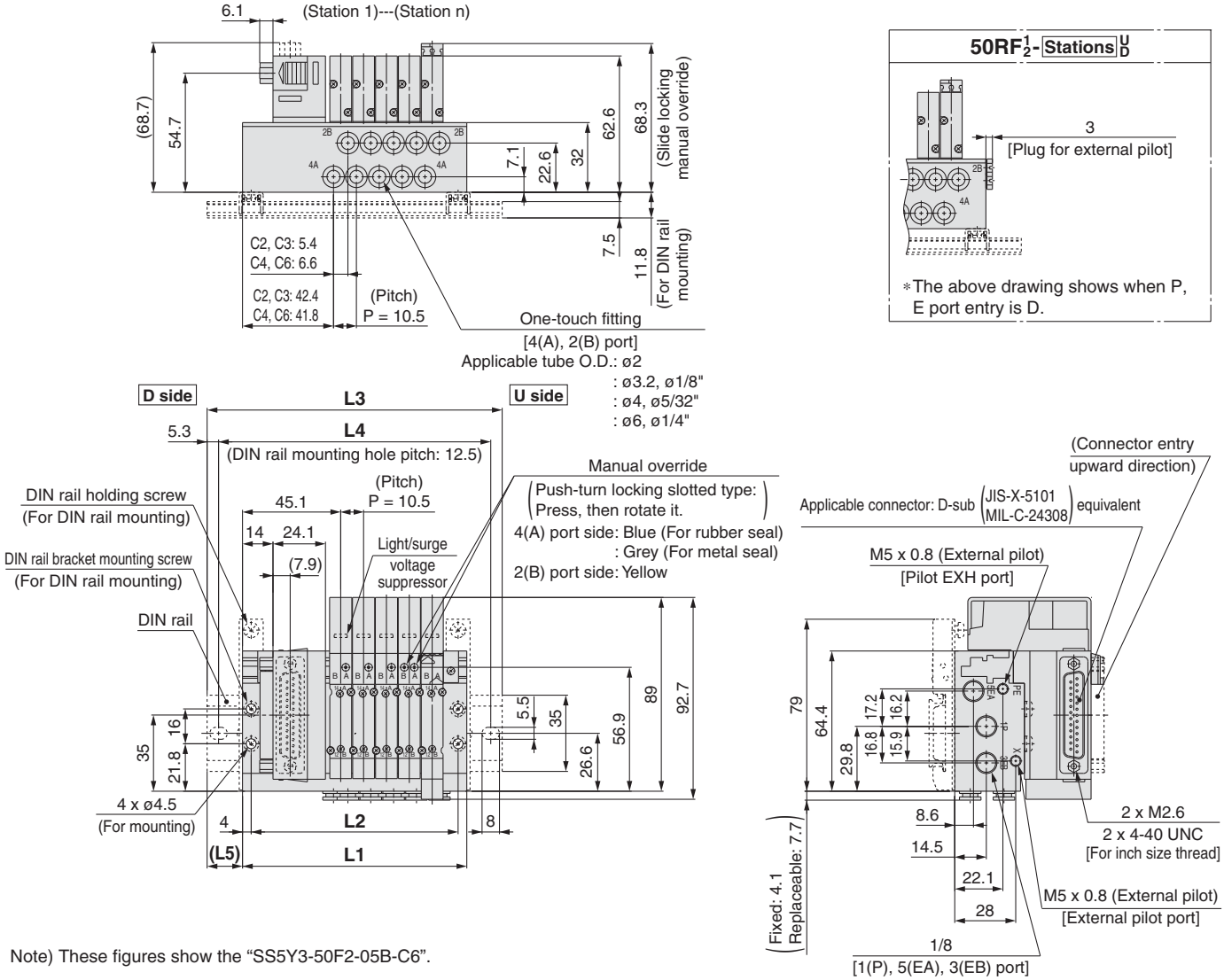
—	Round head combination screw
B	Hexagon socket head cap screw
K	Round head combination screw (Falling-out-prevention type)
H	Hexagon socket head cap screw (Falling-out-prevention type)

∗ For "K" and "H", the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance etc.
∗ When ordering a valve individually, the base gasket is not included. Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance service.
Refer to page 47 for part numbers of the base gasket and mounting screw.
∗ "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly or double check spacer assembly with residual pressure release valve.

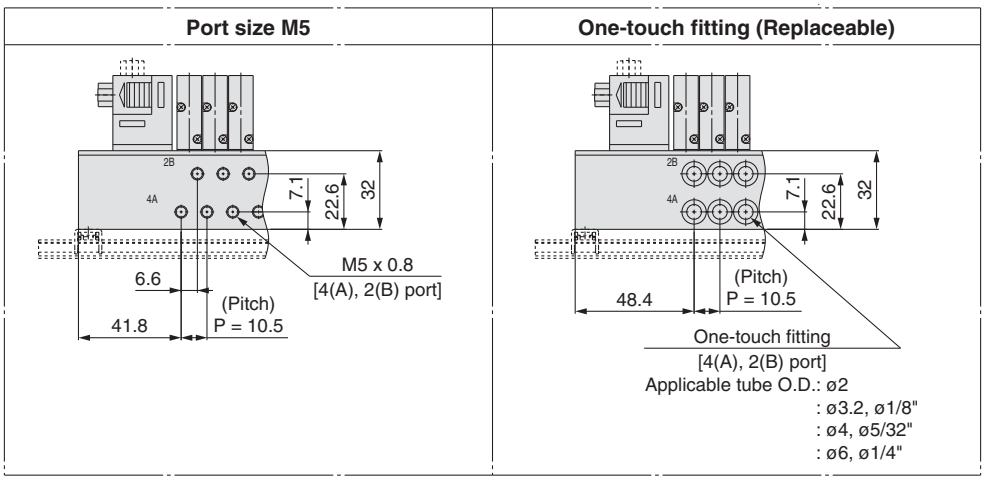
⚠ Protective class
class Ⅲ (Mark: ⋙)

Dimensions: Type 50/D-sub Connector/Series SY3000

SS5Y3-50(R)F$^{1}_{2}$-Stations $^{U}_{D}$-$^{M5}_{C\square, N\square}$ $^{B}_{KC\square, KN\square}$ □(D)



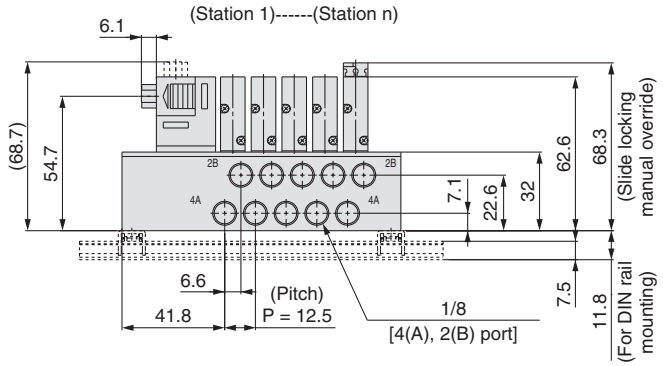
Note) These figures show the “SS5Y3-50F2-05B-C6”.

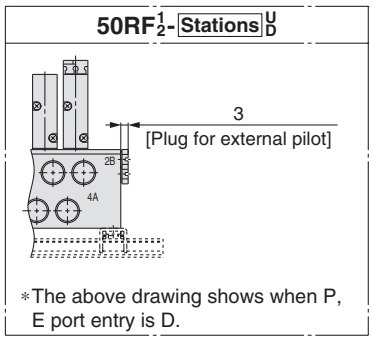


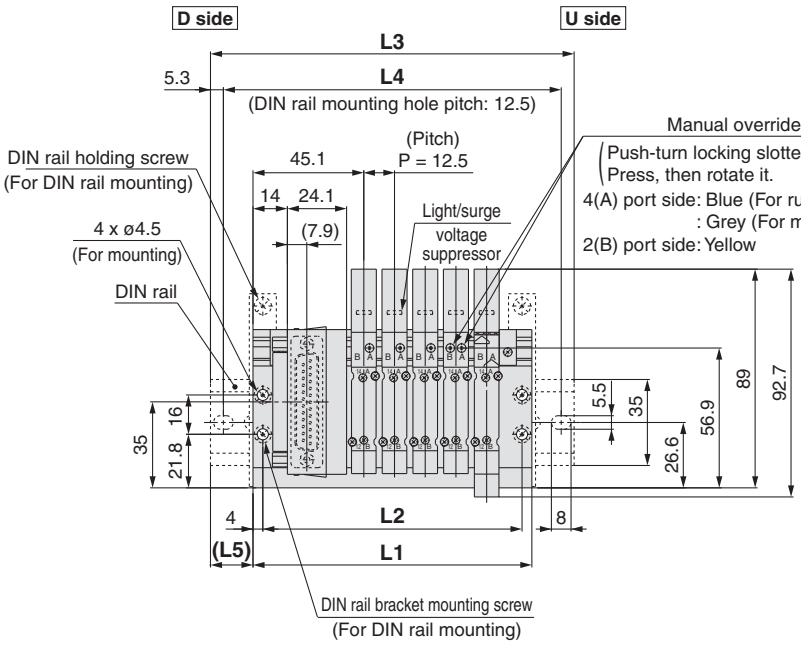
n: Stations	2	3	4	5	6	7	8	9	10	11	12
L1	71.5	82	92.5	103	113.5	124	134.5	145	155.5	166	176.5
L2	63.5	74	84.5	95	105.5	116	126.5	137	147.5	158	168.5
L3	98	110.5	123	135.5	148	160.5	160.5	173	185.5	198	210.5
L4	87.5	100	112.5	125	137.5	150	150	162.5	175	187.5	200
L5	13.5	14.5	15.5	16.5	17.5	18.5	13	14	15	16	17

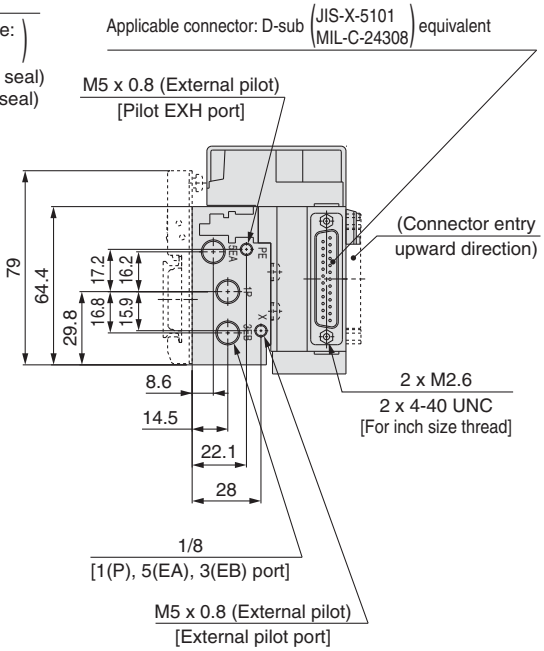
Dimensions: Type 50/D-sub Connector/Series SY3000

SS5Y3-50(R)F$^{1}_{2}$-Stations$^{U}_{B}$-01□(D)







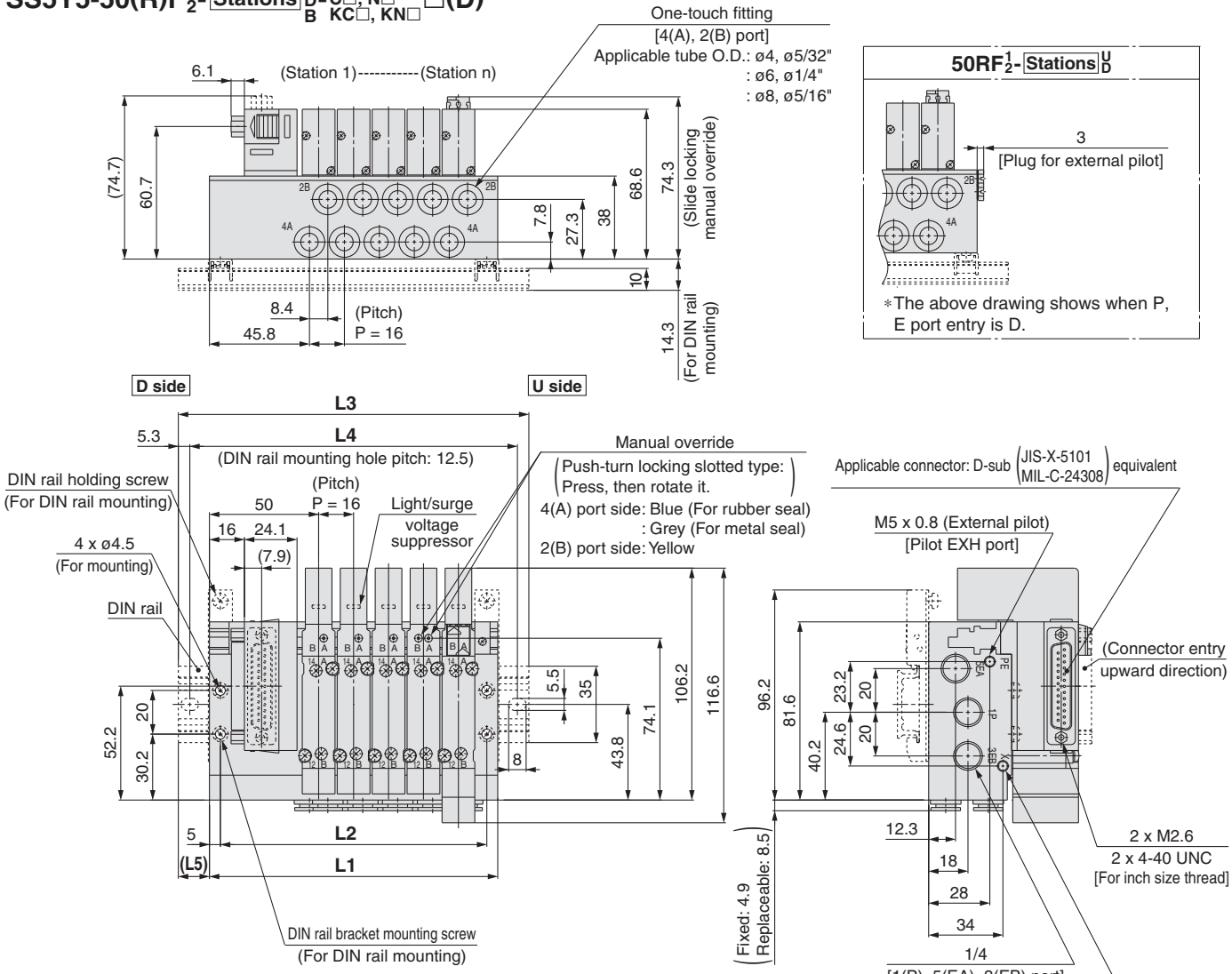


Note) These figures show the “SS5Y3-50F2-05B-01”.

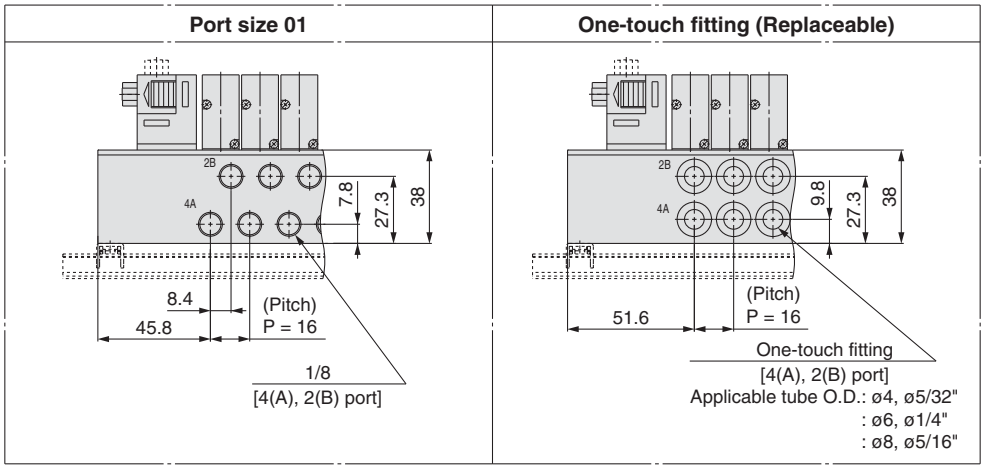
n: Stations	2	3	4	5	6	7	8	9	10	11	12
L1	76	88.5	101	113.5	126	138.5	151	163.5	176	188.5	201
L2	68	80.5	93	105.5	118	130.5	143	155.5	168	180.5	193
L3	110.5	123	135.5	148	160.5	173	185.5	198	210.5	223	235.5
L4	100	112.5	125	137.5	150	162.5	175	187.5	200	212.5	225
L5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5

Dimensions: Type 50/D-sub Connector/Series SY5000

SS5Y5-50(R)F$^{1}_{2}$- Stations $^{U}_{D}$-$^{01}_{B}$ C□, N□ KC□, KN□ □(D)



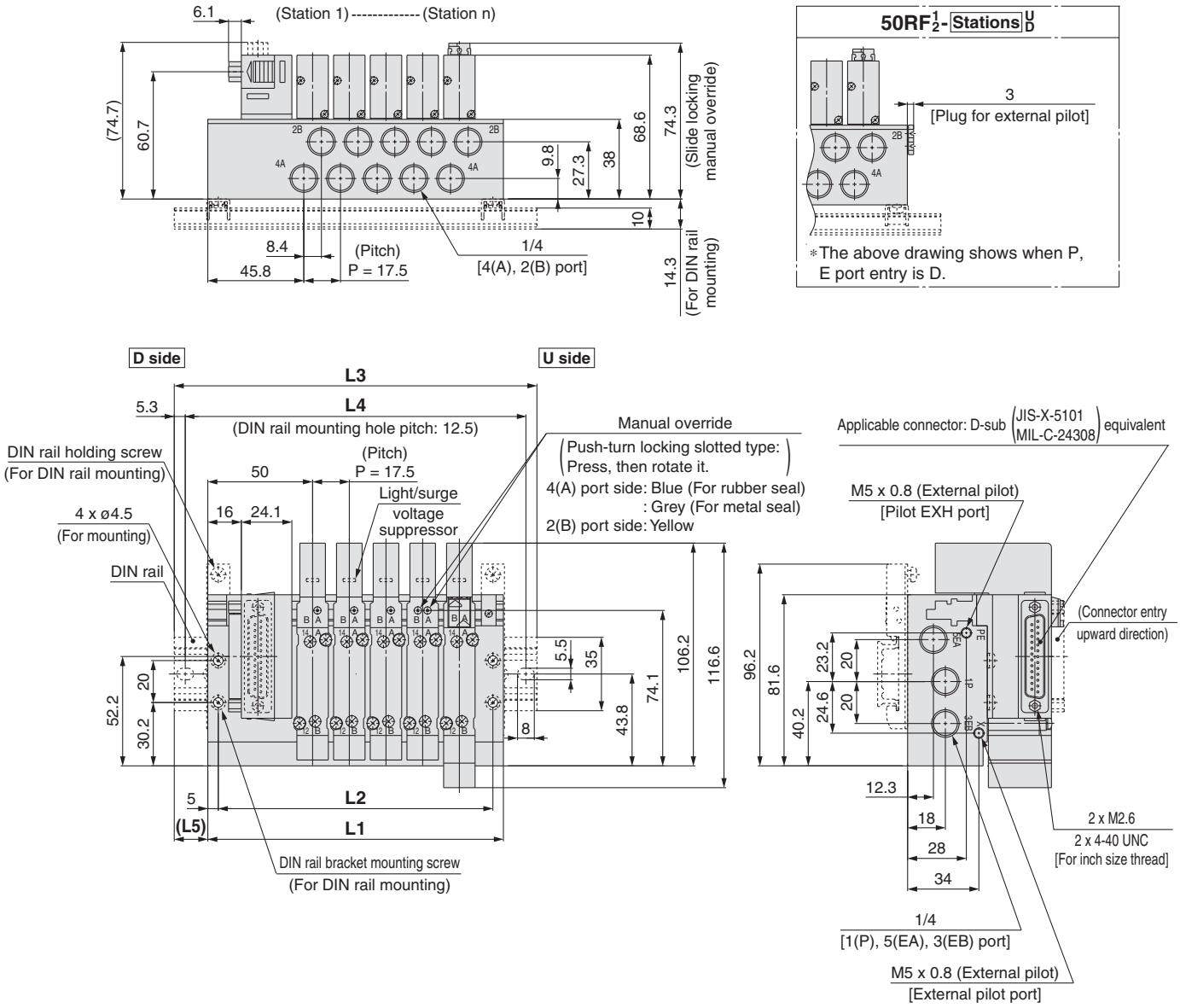
Note) These figures show the "SS5Y5-50F2-05B-C8".



n: Stations	2	3	4	5	6	7	8	9	10	11	12
L1	84	100	116	132	148	164	180	196	212	228	244
L2	74	90	106	122	138	154	170	186	202	218	234
L3	110.5	135.5	148	160.5	173	198	210.5	223	248	260.5	273
L4	100	125	137.5	150	162.5	187.5	200	212.5	237.5	250	262.5
L5	13.5	18	16	14.5	12.5	17	15.5	13.5	18	16.5	14.5

Dimensions: Type 50/D-sub Connector/Series SY5000

SS5Y5-50(R)F$^{1}_{2}$-[Stations]$^{U}_{B}$-02□(D)

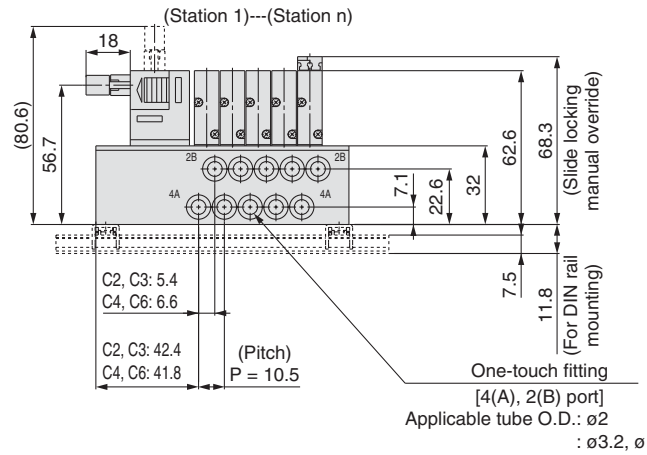


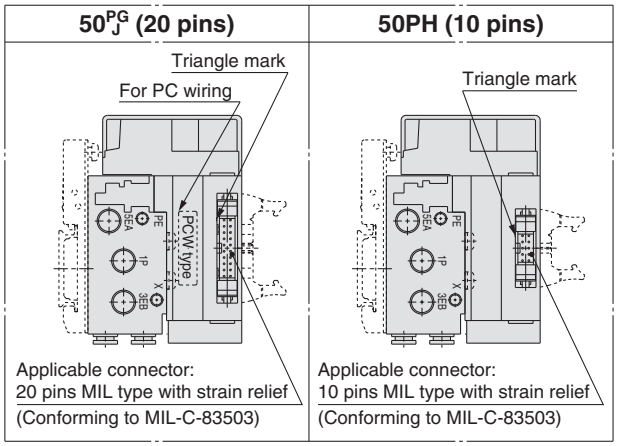
Note) These figures show the “SS5Y5-50F2-05B-02”.

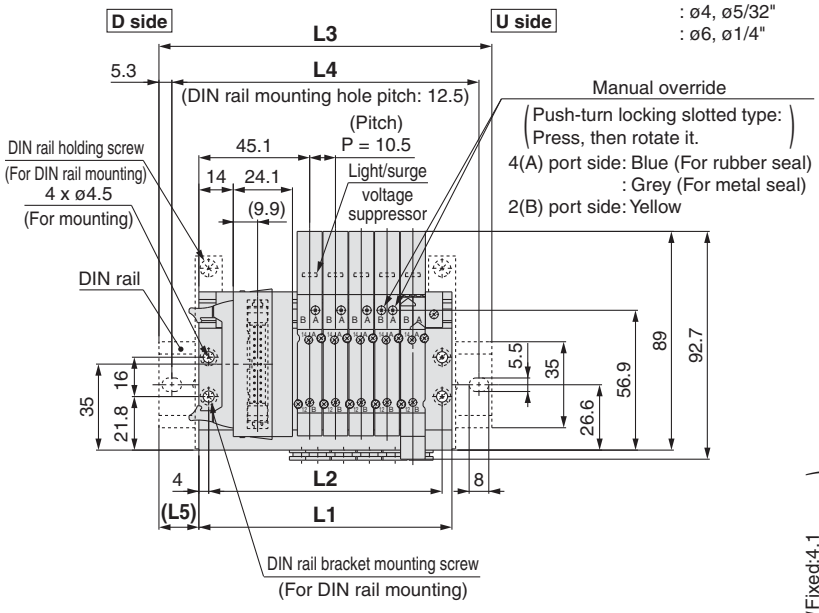
n: Stations	2	3	4	5	6	7	8	9	10	11	12
L1	88.5	106	123.5	141	158.5	176	193.5	211	228.5	246	263.5
L2	78.5	96	113.5	131	148.5	166	183.5	201	218.5	236	253.5
L3	123	135.5	148	173	185.5	210.5	223	235.5	260.5	273	298
L4	112.5	125	137.5	162.5	175	200	212.5	225	250	262.5	287.5
L5	17.5	15	12.5	16	13.5	17.5	15	12.5	16	13.5	17.5

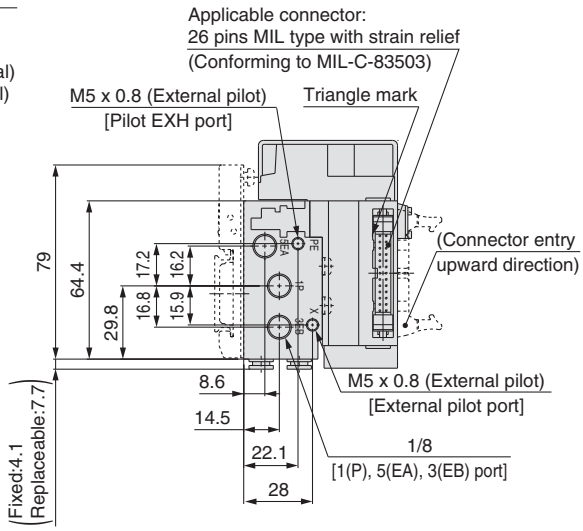
Dimensions: Type 50/Flat Ribbon Cable/Series SY3000

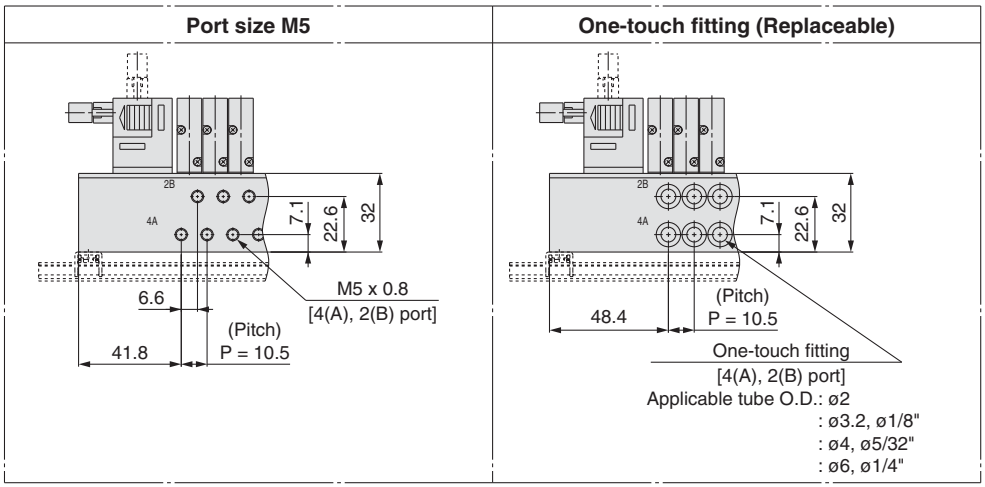
SS5Y3-50(R) P / PG / PH / J 1 / 2 - Stations U / D / B - M5 C□, N□ KC□, KN□ □(D)





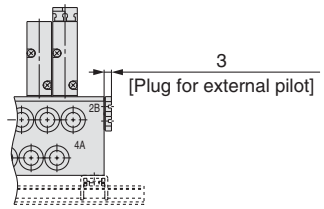






Note 1) These figures show the "SS5Y3-50P2-05B-C6".
Note 2) Only connectors are different for 50PG, 50PH and 50J. L1 to L5 dimensions are the same as 50P type.

50R P / J □ 1 / 2 - Stations U / D

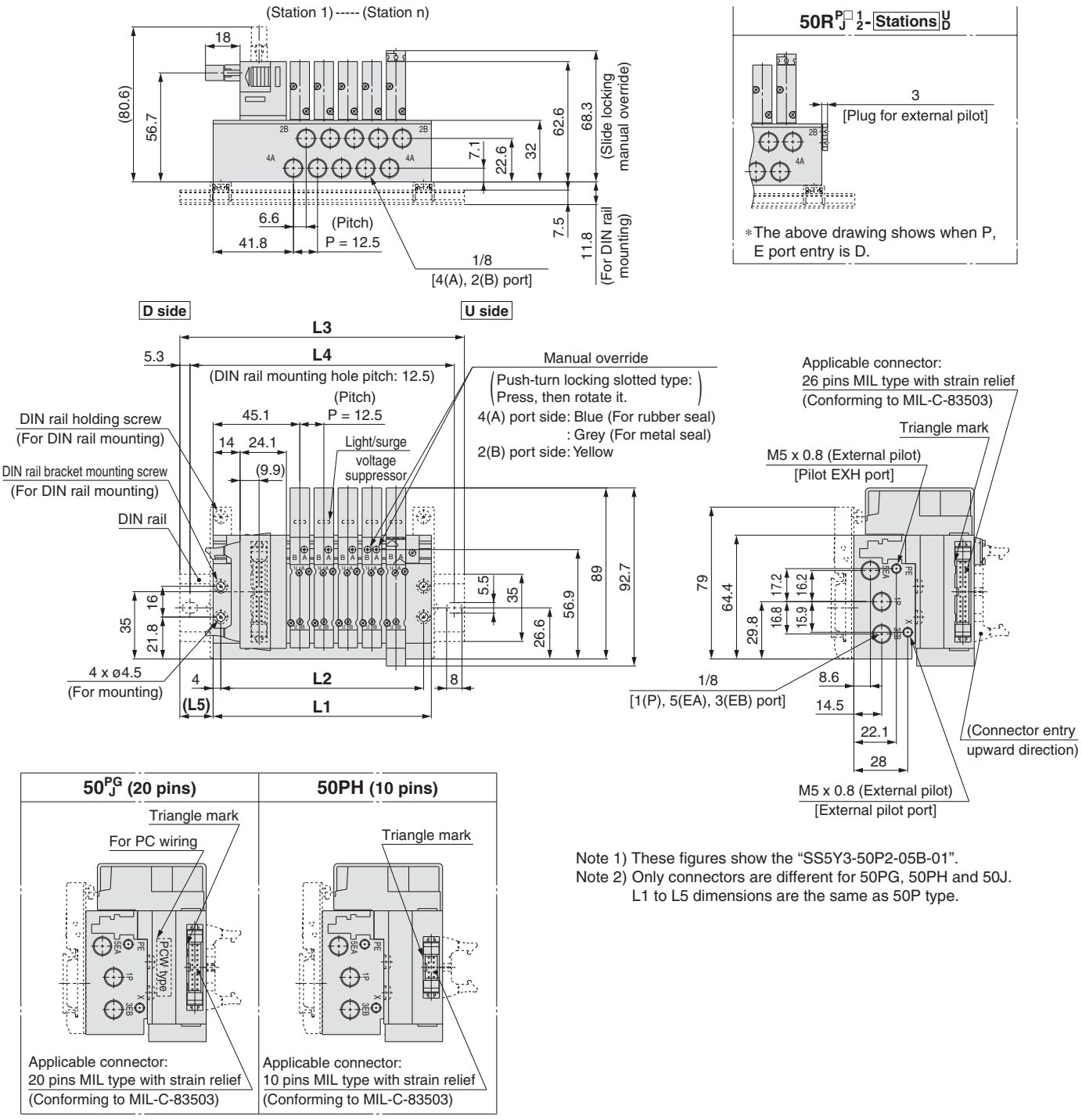


∗The above drawing shows when P, E port entry is D.

n: Stations	2	3	4	5	6	7	8	9	10	11	12
L1	71.5	82	92.5	103	113.5	124	134.5	145	155.5	166	176.5
L2	63.5	74	84.5	95	105.5	116	126.5	137	147.5	158	168.5
L3	98	110.5	123	135.5	148	160.5	160.5	173	185.5	198	210.5
L4	87.5	100	112.5	125	137.5	150	150	162.5	175	187.5	200
L5	13.5	14.5	15.5	16.5	17.5	18.5	13	14	15	16	17

Dimensions: Type 50/Flat Ribbon Cable/Series SY3000

SS5Y3-50(R)[P/PG/PH/J] 1/2-[Stations][U/D/B]-01□(D)

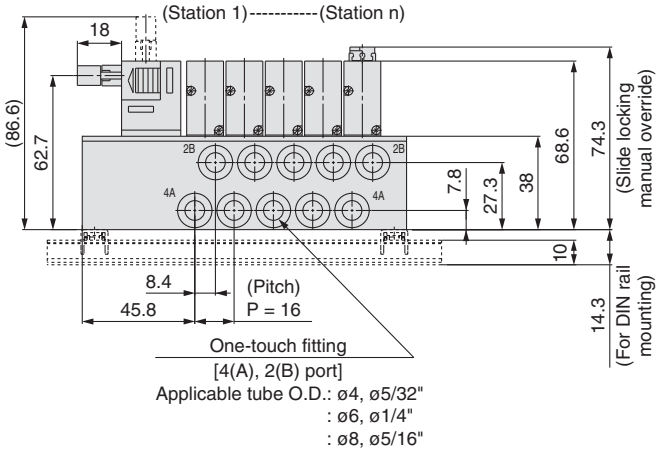


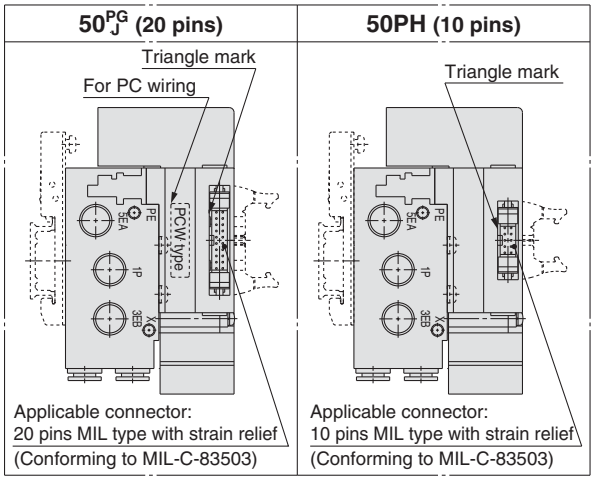
Note 1) These figures show the "SS5Y3-50P2-05B-01".
Note 2) Only connectors are different for 50PG, 50PH and 50J.
L1 to L5 dimensions are the same as 50P type.

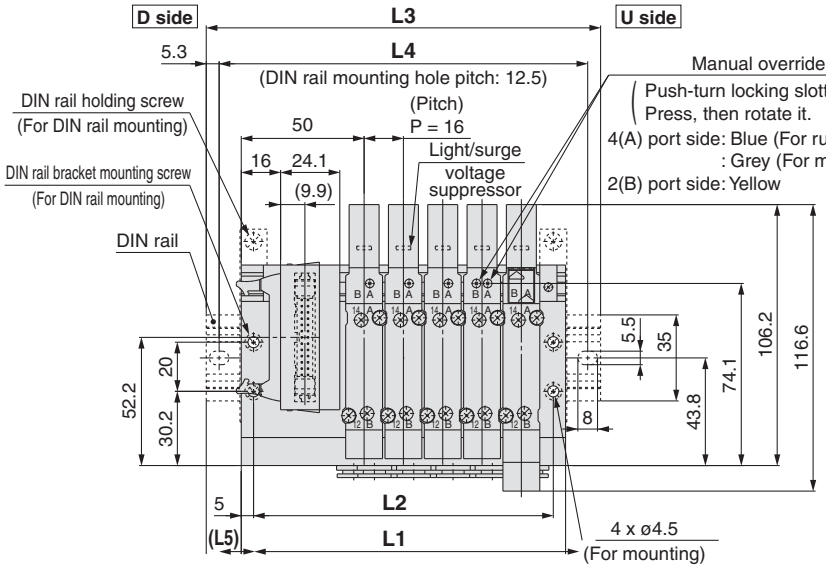
n: Stations	2	3	4	5	6	7	8	9	10	11	12
L1	76	88.5	101	113.5	126	138.5	151	163.5	176	188.5	201
L2	68	80.5	93	105.5	118	130.5	143	155.5	168	180.5	193
L3	110.5	123	135.5	148	160.5	173	185.5	198	210.5	223	235.5
L4	100	112.5	125	137.5	150	162.5	175	187.5	200	212.5	225
L5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5

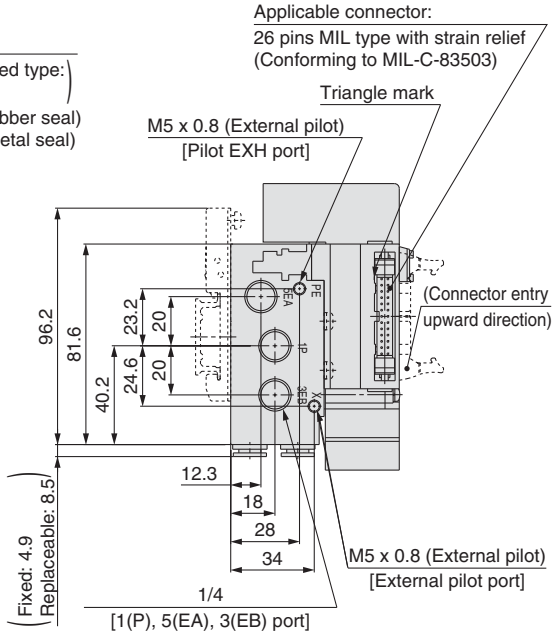
Dimensions: Type 50/Flat Ribbon Cable/Series SY5000

SS5Y5-50(R) P/PG/PH/J **1/2** - **Stations** **U/D/B** **01** - **C□, N□ / KC□, KN□** **□(D)**

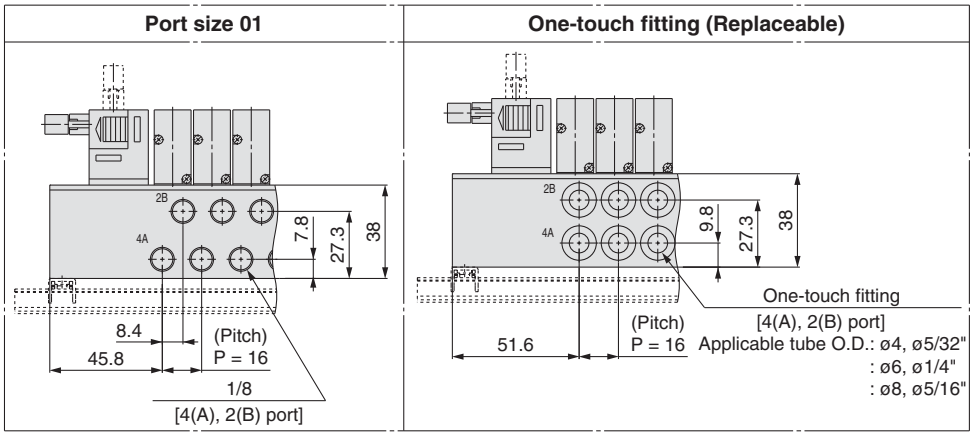


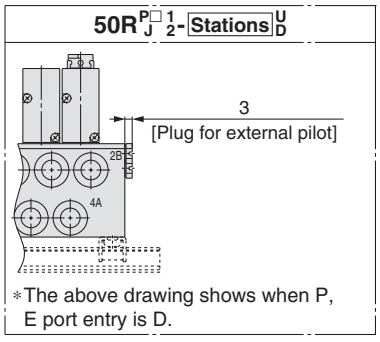






Note 1) These figures show the "SS5Y5-50P2-05B-C8".
Note 2) Only connectors are different for 50PG, 50PH and 50J.
L1 to L5 dimensions are the same as 50P type.

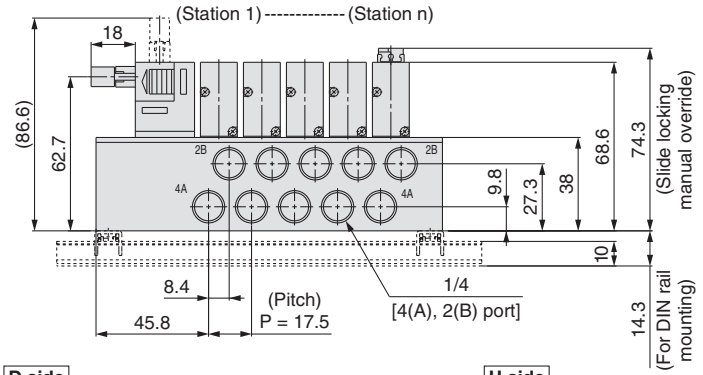


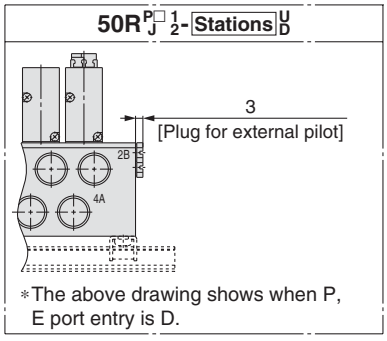


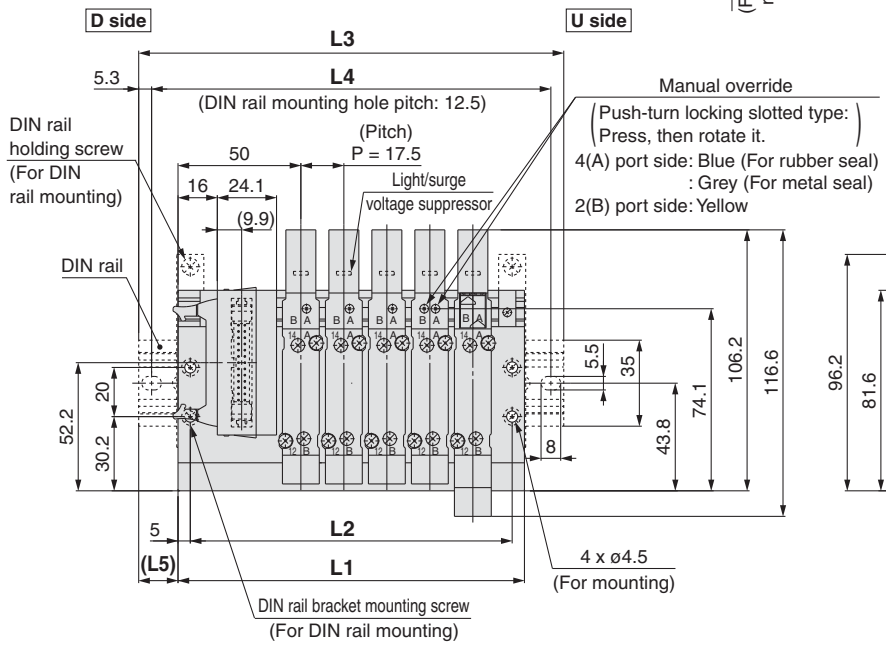
n: Stations	2	3	4	5	6	7	8	9	10	11	12
L1	84	100	116	132	148	164	180	196	212	228	244
L2	74	90	106	122	138	154	170	186	202	218	234
L3	110.5	135.5	148	160.5	173	198	210.5	223	248	260.5	273
L4	100	125	137.5	150	162.5	187.5	200	212.5	237.5	250	262.5
L5	13.5	18	16	14.5	12.5	17	15.5	13.5	18	16.5	14.5

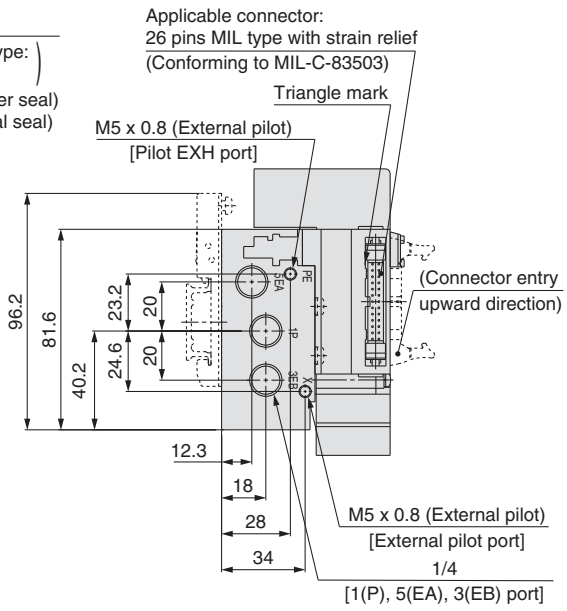
Dimensions: Type 50/Flat Ribbon Cable/Series SY5000

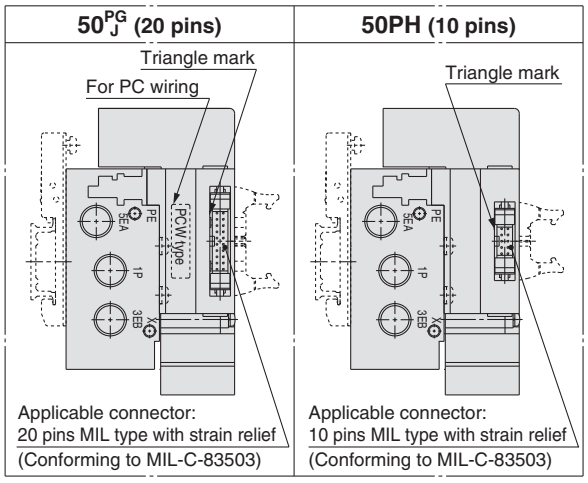
SS5Y5-50(R)$^{P}_{PG}$ $^{1}_{2}$-Stations$^{U}_{D}$-02□(D)











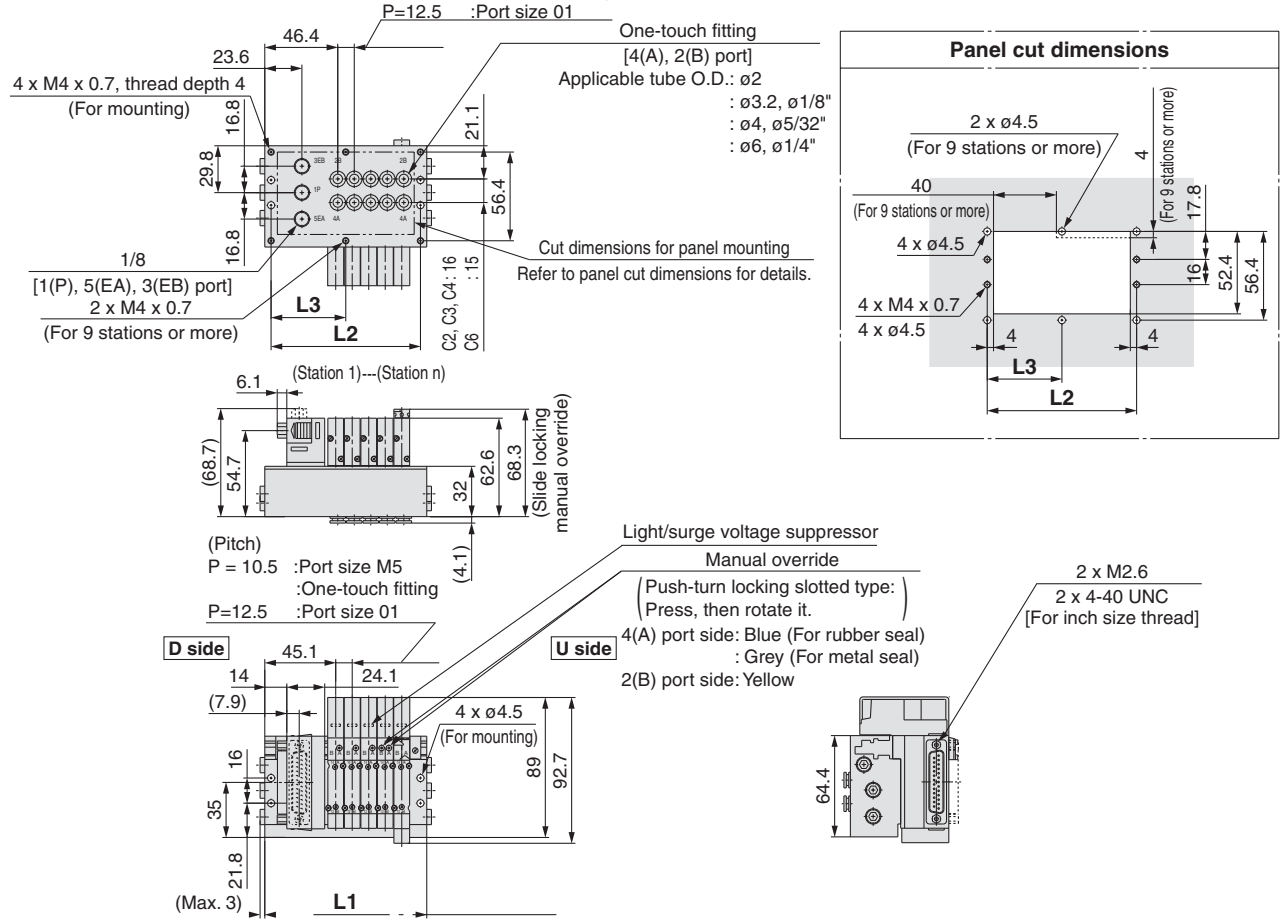
Note 1) These figures show the "SS5Y5-50P2-05B-02".
Note 2) Only connectors are different for 50PG, 50PH and 50J.
L1 to L5 dimensions are the same as 50P type.

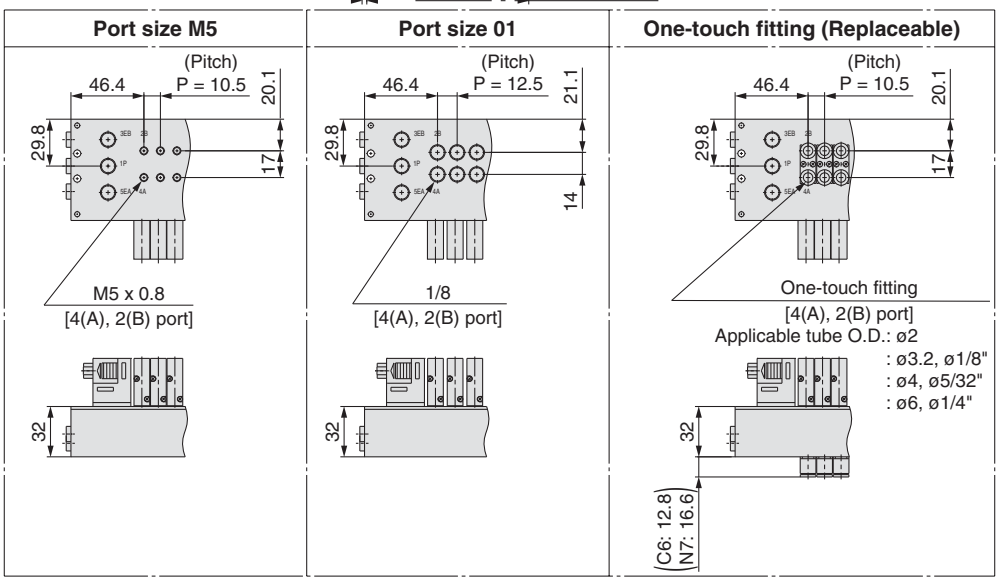
n: Stations	2	3	4	5	6	7	8	9	10	11	12
L1	88.5	106	123.5	141	158.5	176	193.5	211	228.5	246	263.5
L2	78.5	96	113.5	131	148.5	166	183.5	201	218.5	236	253.5
L3	123	135.5	148	173	185.5	210.5	223	235.5	260.5	273	298
L4	112.5	125	137.5	162.5	175	200	212.5	225	250	262.5	287.5
L5	17.5	15	12.5	16	13.5	17.5	15	12.5	16	13.5	17.5

Dimensions: Type 51/D-sub Connector/Series SY3000

SS5Y3-51F$\frac{1}{2}$- Stations D- M5, 01 / C□, N□ / KC□, KN□ □

(Pitch)
P = 10.5 :Port size M5
:One-touch fitting
P=12.5 :Port size 01





Note) These figures show the "SS5Y3-51F2-05D-C6".

Port Size M5, C□, N□, KC□, KN□

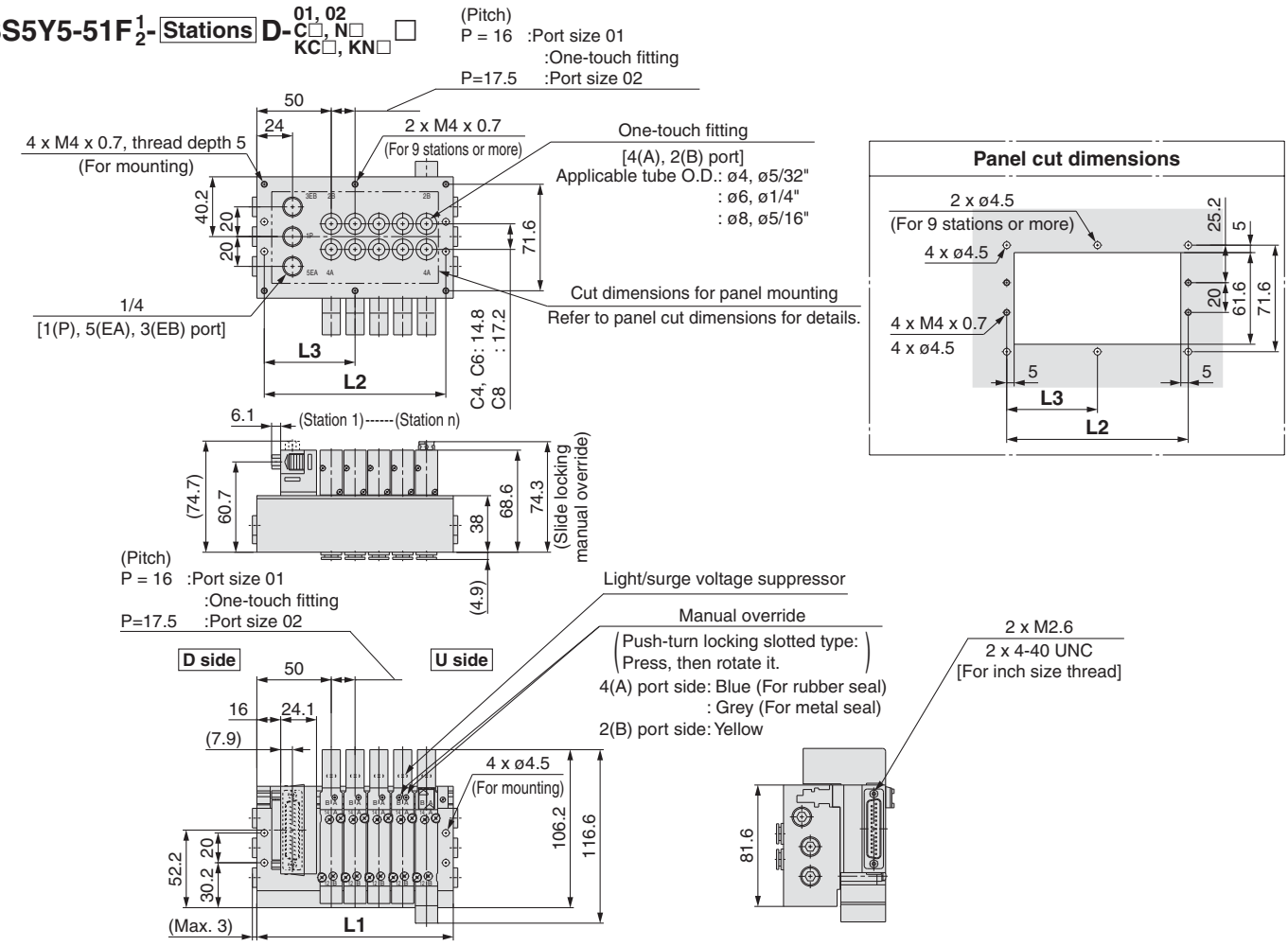
n: Stations	2	3	4	5	6	7	8	9	10	11	12
L1	71.5	82	92.5	103	113.5	124	134.5	145	155.5	166	176.5
L2	63.5	74	84.5	95	105.5	116	126.5	137	147.5	158	168.5
L3	—	—	—	—	—	—	—	68.5	73.8	79	84.3

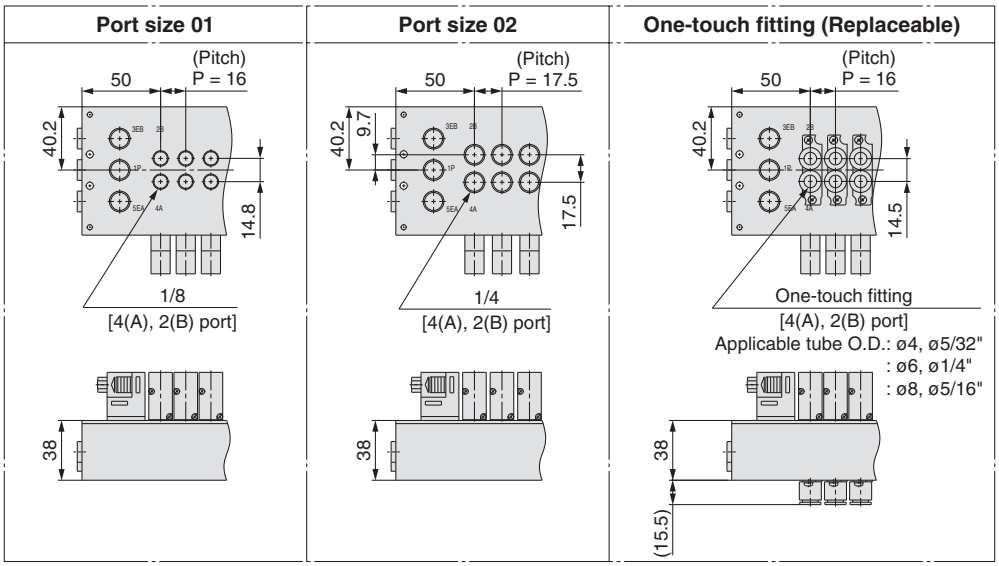
Port Size 01

n: Stations	2	3	4	5	6	7	8	9	10	11	12
L1	76	88.5	101	113.5	126	138.5	151	163.5	176	188.5	201
L2	68	80.5	93	105.5	118	130.5	143	155.5	168	180.5	193
L3	—	—	—	—	—	—	—	77.8	84	90.3	96.5

Dimensions: Type 51/D-sub Connector/Series SY5000

SS5Y5-51F$\frac{1}{2}$- Stations **D-** 01, 02 C□, N□ KC□, KN□ □





Note) These figures show the "SS5Y5-51F2-05D-C8".

Port Size 01, C□, N□, KC□, KN□

n: Stations	2	3	4	5	6	7	8	9	10	11	12
L1	84	100	116	132	148	164	180	196	212	228	244
L2	74	90	106	122	138	154	170	186	202	218	234
L3	—	—	—	—	—	—	—	93	101	109	117

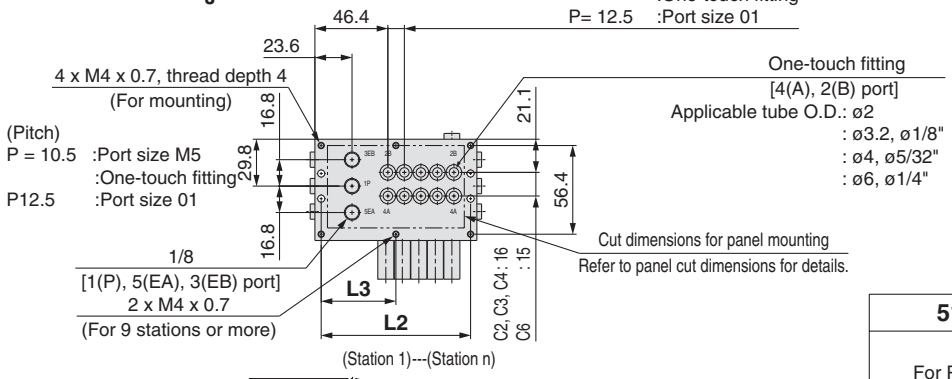
Port Size 02

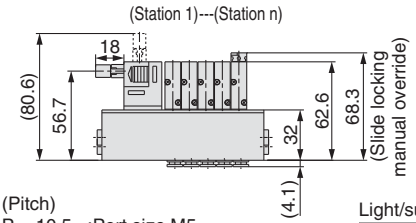
n: Stations	2	3	4	5	6	7	8	9	10	11	12
L1	88.5	106	123.5	141	158.5	176	193.5	211	228.5	246	263.5
L2	78.5	96	113.5	131	148.5	166	183.5	201	218.5	236	253.5
L3	—	—	—	—	—	—	—	100.5	109.3	118	126.8

Dimensions: Type 51/Flat Ribbon Cable/Series SY3000

SS5Y3-51 P/PG/PH/J **1/2** - **Stations** **D-** **M5, 01 / C□, N□ / KC□, KN□** □

(Pitch)
P = 10.5 :Port size M5
:One-touch fitting
P= 12.5 :Port size 01

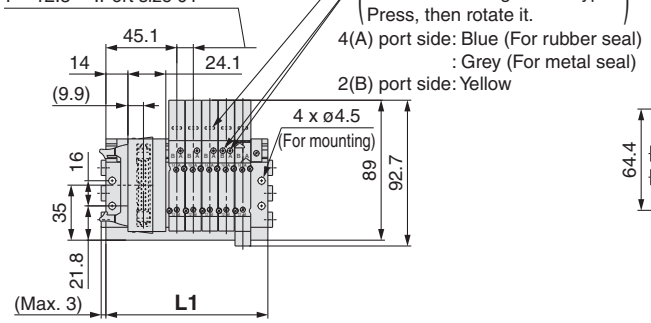


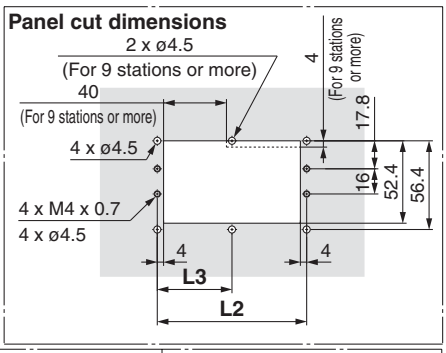


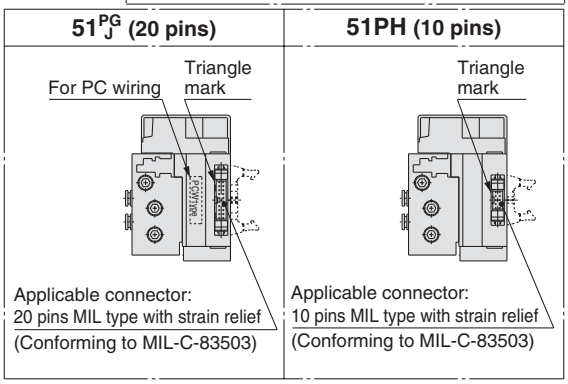
D side

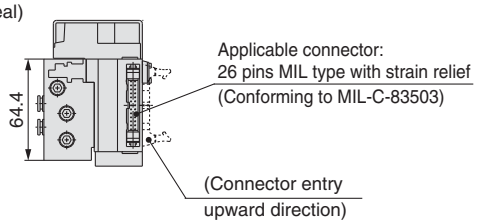
(Pitch)
P = 10.5 :Port size M5
:One-touch fitting
P= 12.5 :Port size 01

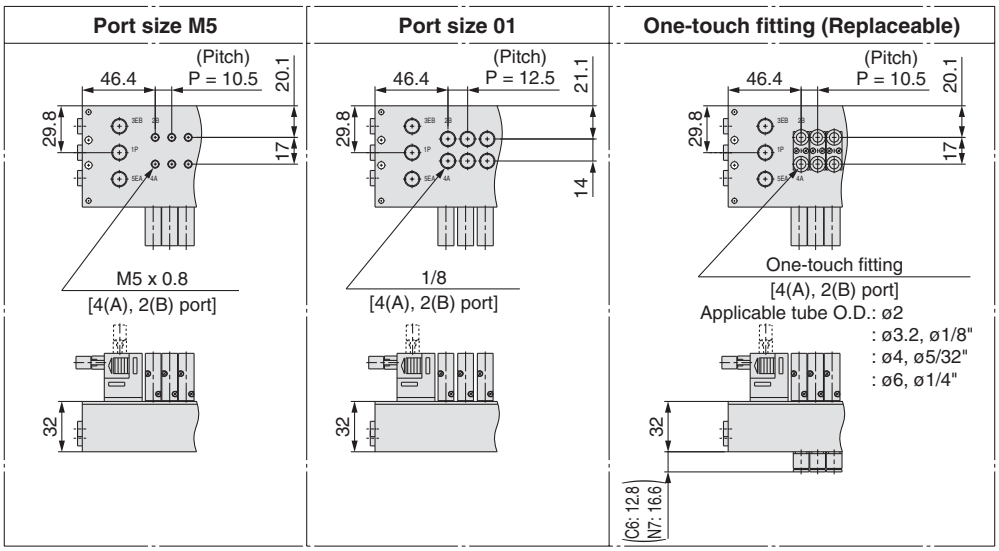
U side











Note) These figures show the "SS5Y3-51P2-05D-C6".

Port Size M5, C□, N□, KC□, KN□

n: Stations	2	3	4	5	6	7	8	9	10	11	12
L1	71.5	82	92.5	103	113.5	124	134.5	145	155.5	166	176.5
L2	63.5	74	84.5	95	105.5	116	126.5	137	147.5	158	168.5
L3	—	—	—	—	—	—	—	68.5	73.8	79	84.3

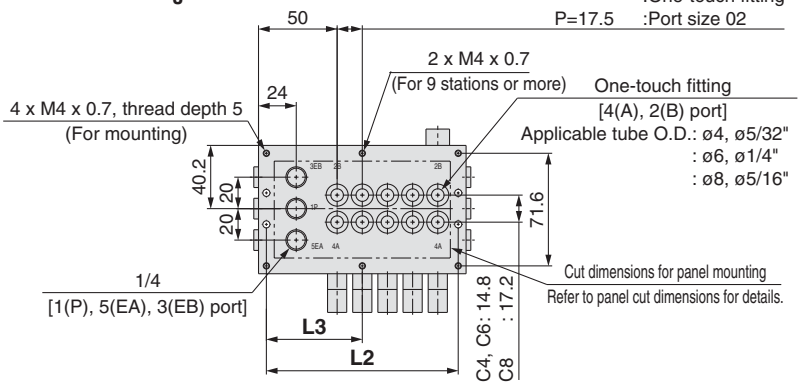
Port Size 01

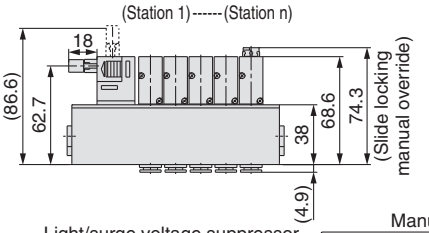
n: Stations	2	3	4	5	6	7	8	9	10	11	12
L1	76	88.5	101	113.5	126	138.5	151	163.5	176	188.5	201
L2	68	80.5	93	105.5	118	130.5	143	155.5	168	180.5	193
L3	—	—	—	—	—	—	—	77.8	84	90.3	96.5

Dimensions: Type 51/Flat Ribbon Cable/Series SY5000

SS5Y5-51 P / PG / PH / J **1** / **2** - **Stations** **D-** **01, 02** **C□, N□ KC□, KN□** □

(Pitch)
P = 16 :Port size 01
:One-touch fitting
P=17.5 :Port size 02

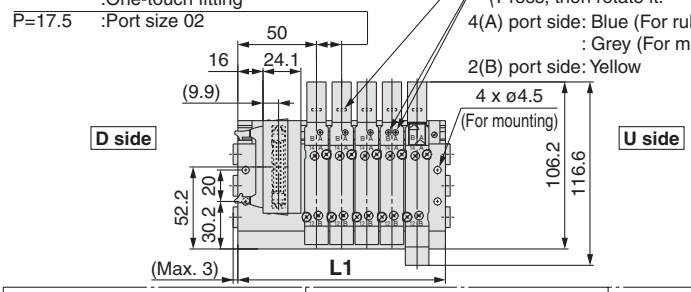




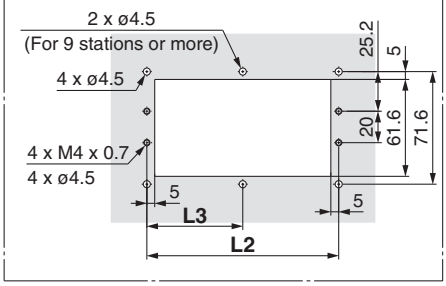
(Pitch)
P = 16 :Port size 01
:One-touch fitting
P=17.5 :Port size 02

Light/surge voltage suppressor

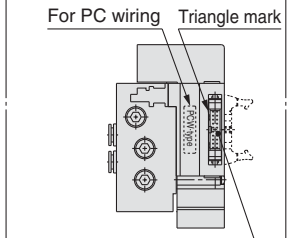
Manual override
(Push-turn locking slotted type: Press, then rotate it.)
4(A) port side: Blue (For rubber seal)
: Grey (For metal seal)
2(B) port side: Yellow



Panel cut dimensions

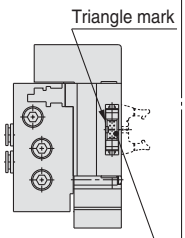


51PG J (20 pins)

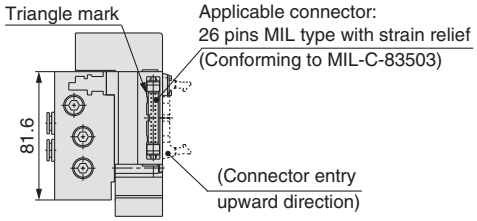


Applicable connector:
20 pins MIL type with strain relief
(Conforming to MIL-C-83503)

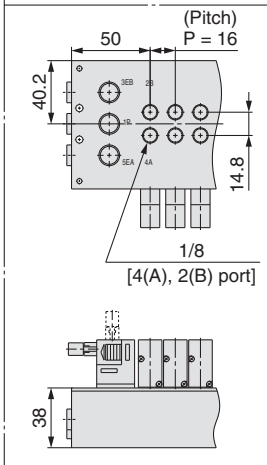
51PH (10 pins)



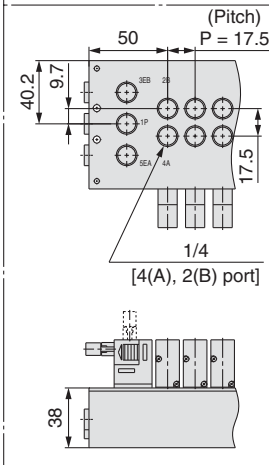
Applicable connector:
10 pins MIL type with strain relief
(Conforming to MIL-C-83503)



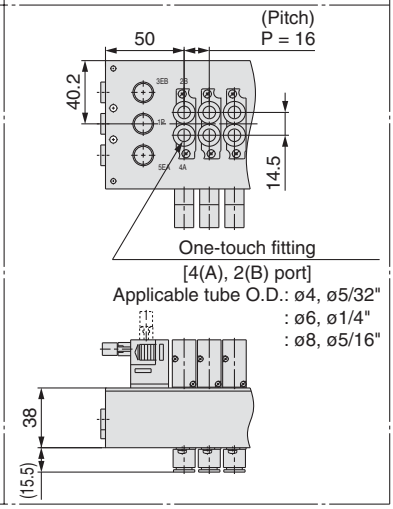
Port size 01



Port size 02



One-touch fitting (Replaceable)



Note) These figures show the "SS5Y5-51P2-05D-C8".

Port Size 01, C□, N□, KC□, KN□

n: Stations	2	3	4	5	6	7	8	9	10	11	12
L1	84	100	116	132	148	164	180	196	212	228	244
L2	74	90	106	122	138	154	170	186	202	218	234
L3	—	—	—	—	—	—	—	93	101	109	117

Port Size 02

n: Stations	2	3	4	5	6	7	8	9	10	11	12
L1	88.5	106	123.5	141	158.5	176	193.5	211	228.5	246	263.5
L2	78.5	96	113.5	131	148.5	166	183.5	201	218.5	236	253.5
L3	—	—	—	—	—	—	—	100.5	109.3	118	126.8

Plug-in Metal Base

D-sub Connector **Flat Ribbon Cable** **PC Wiring**

Type 52
Top Ported

Series SY3000/5000

CE RoHS

How to Order Manifold

SS5Y 3 – 52 F 1 – □ 05 D – □ □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾

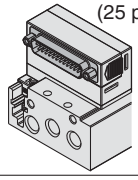
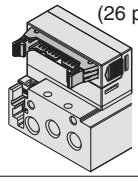
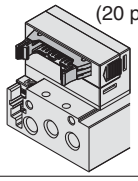
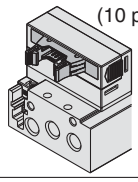
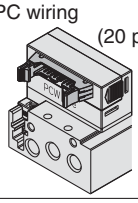
❶ Series

3	SY3000
5	SY5000

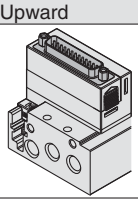
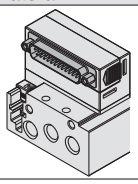
❷ Type

52	Top ported
52R	Top ported, External pilot

❸ Connector type

F: D-sub connector (25 pins) 	**P**: Flat ribbon cable (26 pins) 	**PG**: Flat ribbon cable (20 pins) 
PH: Flat ribbon cable (10 pins) 	**J**: PC wiring (20 pins) 	

❹ Connector entry direction

1: Upward	**2**: Lateral
	

❺ Wiring type

—	All double wiring Note 1)
S	All single wiring Note 2)

Note 1) All double wiring: 2-position single, double, 3-position and 4-position valves can be used on all manifold stations.
Note 2) All single wiring: Available only for the manifold which has 2-position single for all stations.
Note that 2-position double, 3- or 4-position valves cannot be used.
Note 3) Please contact SMC if a mixture of single wiring and double wiring is required.

❻ Valve stations

F: D-sub connector (25 pins)

Symbol	Stations	Note
02	2 stations	All double wiring
⋮	⋮	
12	12 stations	
02	2 stations	All single wiring
⋮	⋮	
12	12 stations	

P: Flat ribbon cable (26 pins)

Symbol	Stations	Note
02	2 stations	All double wiring
⋮	⋮	
12	12 stations	
02	2 stations	All single wiring
⋮	⋮	
12	12 stations	

PG: Flat ribbon cable (20 pins)

Symbol	Stations	Note
02	2 stations	All double wiring
⋮	⋮	
09	9 stations	
02	2 stations	All single wiring
⋮	⋮	
12	12 stations	

PH: Flat ribbon cable (10 pins)

Symbol	Stations	Note
02	2 stations	All double wiring
⋮	⋮	
04	4 stations	
02	2 stations	All single wiring
⋮	⋮	
08	8 stations	

J: PC wiring (20 pins)

Symbol	Stations	Note
02	2 stations	All double wiring
⋮	⋮	
08	8 stations	
02	2 stations	All single wiring
⋮	⋮	
12	12 stations	

∗ This also includes the number of blanking plate assembly.

❼ P, E port entry

U	U side Note)
D	D side Note)
B	Both sides

Note) Plugs are mounted on the opposite side of the selected ports.

❽ Thread type

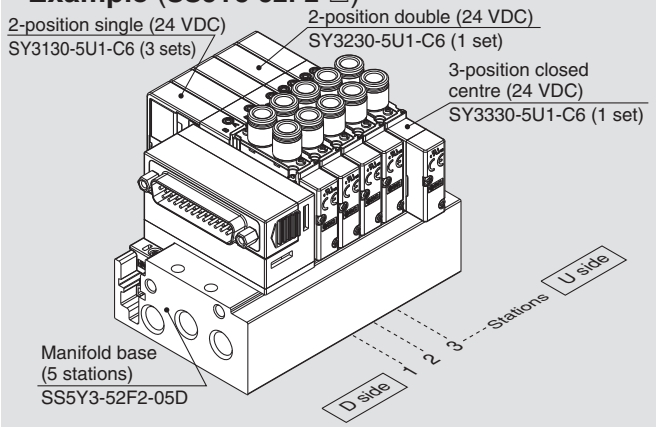
—	Rc
00F	G
00N	NPT
00T	NPTF

❾ Mounting

—	Direct mounting	
D	DIN rail mounting (With DIN rail)	
D0	DIN rail mounting (Without DIN rail)	
D3	For 3 stations	Specify a longer rail than the standard length.
⋮	⋮	
D12	For 12 stations	

How to Order Manifold Assembly

Example (SS5Y3-52F2-□)



SS5Y3-52F2-05D····· 1 set (Type 52 5-station manifold base part no.)
∗SY3130-5U1-C6····· 3 sets (2-position single part no.)
∗SY3230-5U1-C6····· 1 set (2-position double part no.)
∗SY3330-5U1-C6····· 1 set (3-position closed centre part no.)
The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the valve, etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on a manifold specification sheet.

How to Order Valves (With two mounting screws)

Refer to page 8 for valve specifications.

SY 3 1 3 0 ❶ ❷ ❸ ❹ ❺ ❻ ❼ – 5 ❽ ❾ ❿ 1 – C6 ⓫ ⓬ – ⓭

❸ Top ported

❶ Series

3	SY3000
5	SY5000

❷ Type of actuation

1	2-position single
2	2-position double
3	3-position closed centre
4	3-position exhaust centre
5	3-position pressure centre
A*	4-position dual 3-port valve (N.C./N.C.)
B*	4-position dual 3-port valve (N.O./N.O.)
C*	4-position dual 3-port valve (N.C./N.O.)

* Only rubber seal type is available for the 4-position dual 3-port valve.

❸ Seal type

0	Rubber seal
1	Metal seal

❹ Pilot type

—	Internal pilot
R	External pilot

❺ Back pressure check valve (Built-in valve type)

—	None
H	Built-in

* Only rubber seal type
* The built-in valve type back pressure check valve is not available for the 3-position type.

❻ Pilot valve option

—	Standard (0.7 MPa)
B	Quick response type (0.7 MPa)
K*	High pressure type (1.0 MPa)

* Only metal seal type is available for the high pressure type.

❼ Coil type

—	Standard
T	With power saving circuit (Continuous duty type)

* Be sure to select the power saving circuit type when a valve is continuously energized for long periods of time.
* Note the specified energizing time when power saving circuit is selected. Refer to page 154.

❽ Rated voltage

5	24 VDC
6	12 VDC

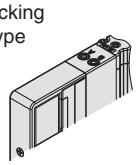
❾ Light/surge voltage suppressor and common specification

—	Without light/surge voltage suppressor (Non-polar)
R	With surge voltage suppressor (Non-polar)
U	With light/surge voltage suppressor (Non-polar)
S	With surge voltage suppressor (Positive common)
Z	With light/surge voltage suppressor (Positive common)
NS	With surge voltage suppressor (Negative common)
NZ	With light/surge voltage suppressor (Negative common)

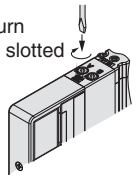
* Only "Z" and "NZ" types are available for the product with power saving circuit.

❿ Manual override

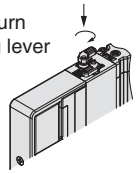
—: Non-locking push type



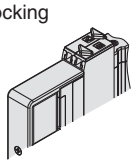
D: Push-turn locking slotted type



E: Push-turn locking lever type



F: Slide locking type



⓫ A, B port size

Thread piping

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

One-touch fitting (Metric)

Symbol	A, B port	SY3000	SY5000
C2	ø2 One-touch fitting	●	—
C3	ø3.2 One-touch fitting	●	—
C4	ø4 One-touch fitting	●	●
C6	ø6 One-touch fitting	●	●
C8	ø8 One-touch fitting	—	●

One-touch fitting (Inch)

Symbol	A, B port	SY3000	SY5000
N1	ø1/8" One-touch fitting	●	—
N3	ø5/32" One-touch fitting	●	●
N7	ø1/4" One-touch fitting	●	●
N9	ø5/16" One-touch fitting	—	●

⓬ Thread type

—	Rc
F	G
N	NPT
T	NPTF

* Only — is available for M5.

⓭ Type of mounting screw

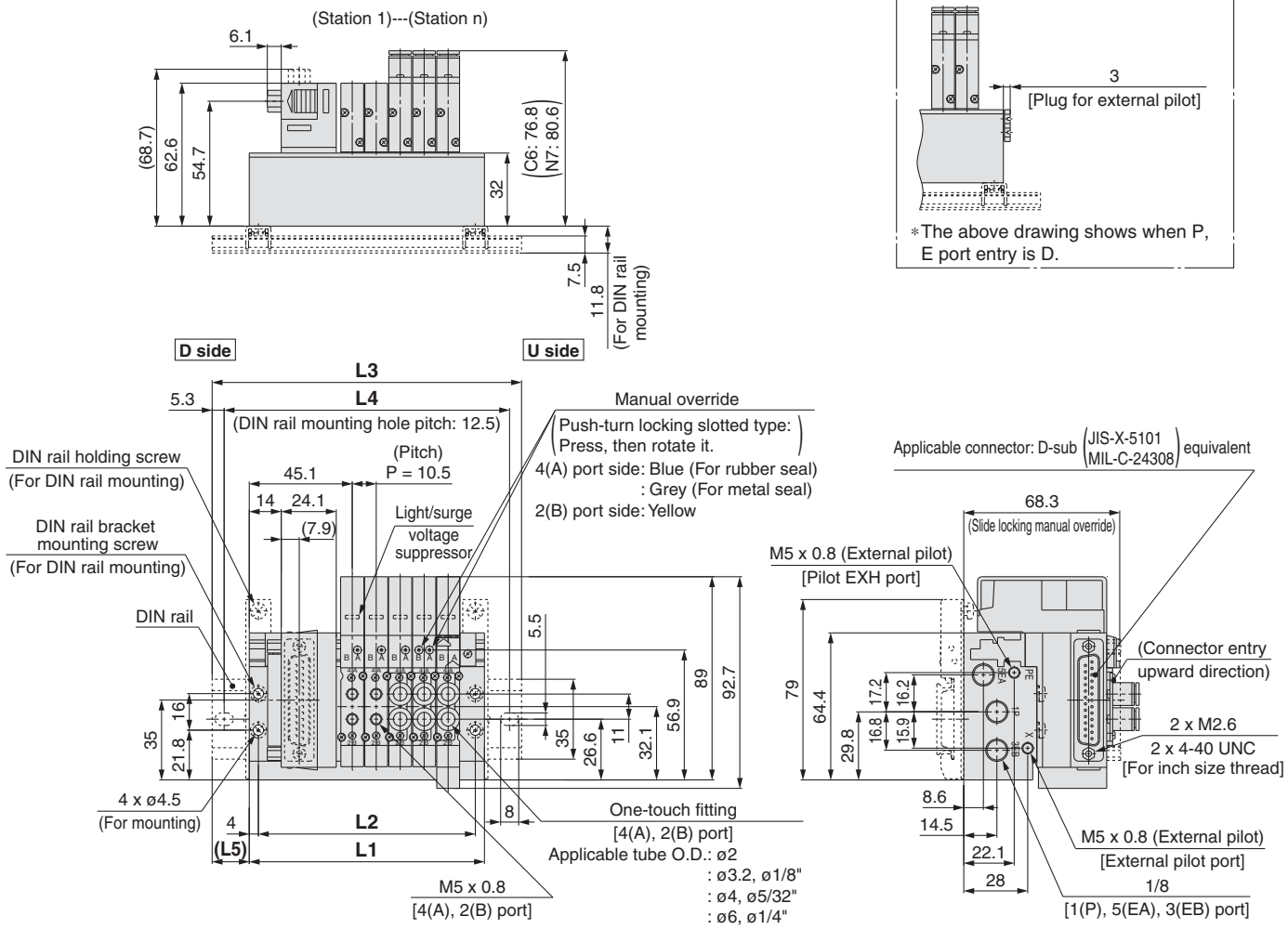
—	Round head combination screw
B	Hexagon socket head cap screw
K	Round head combination screw (Falling-out-prevention type)
H	Hexagon socket head cap screw (Falling-out-prevention type)

* For "K" and "H", the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance etc.
* When ordering a valve individually, the base gasket is not included. Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance service.
  Refer to page 47 for part numbers of the base gasket and mounting screw.
* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly.

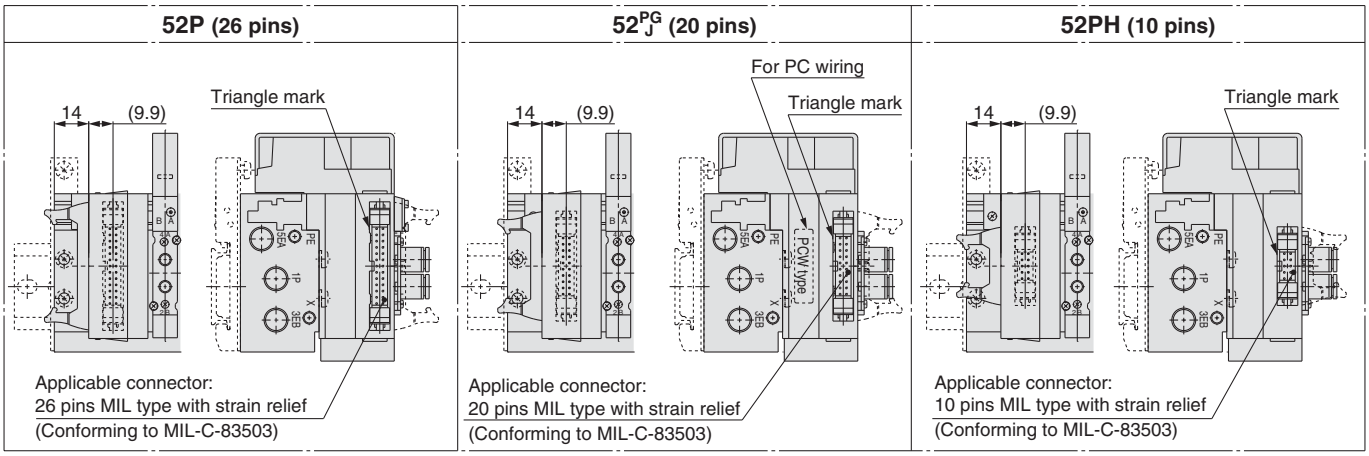
⚠ Protective class class Ⅲ (Mark: ⏚)

Dimensions: Type 52/D-sub Connector, Flat Ribbon Cable/Series SY3000

SS5Y3-52(R) F/P/PG/PH/J **1/2-** Stations **U/D/B-□(D)**



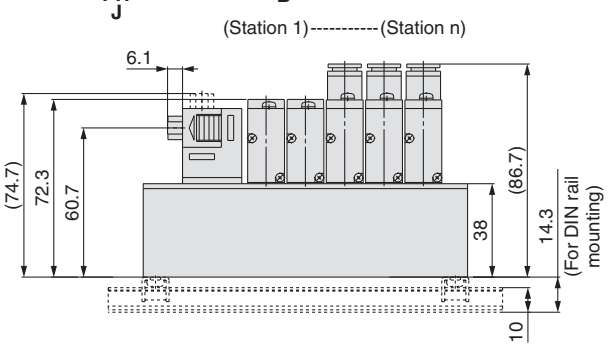
Note) These figures show the "SS5Y3-52F2-05B".

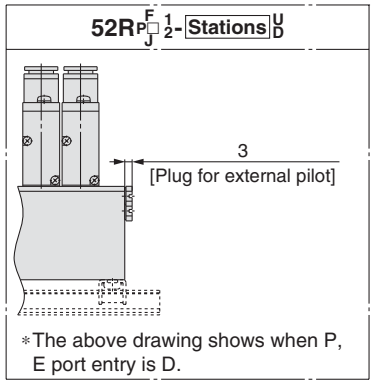


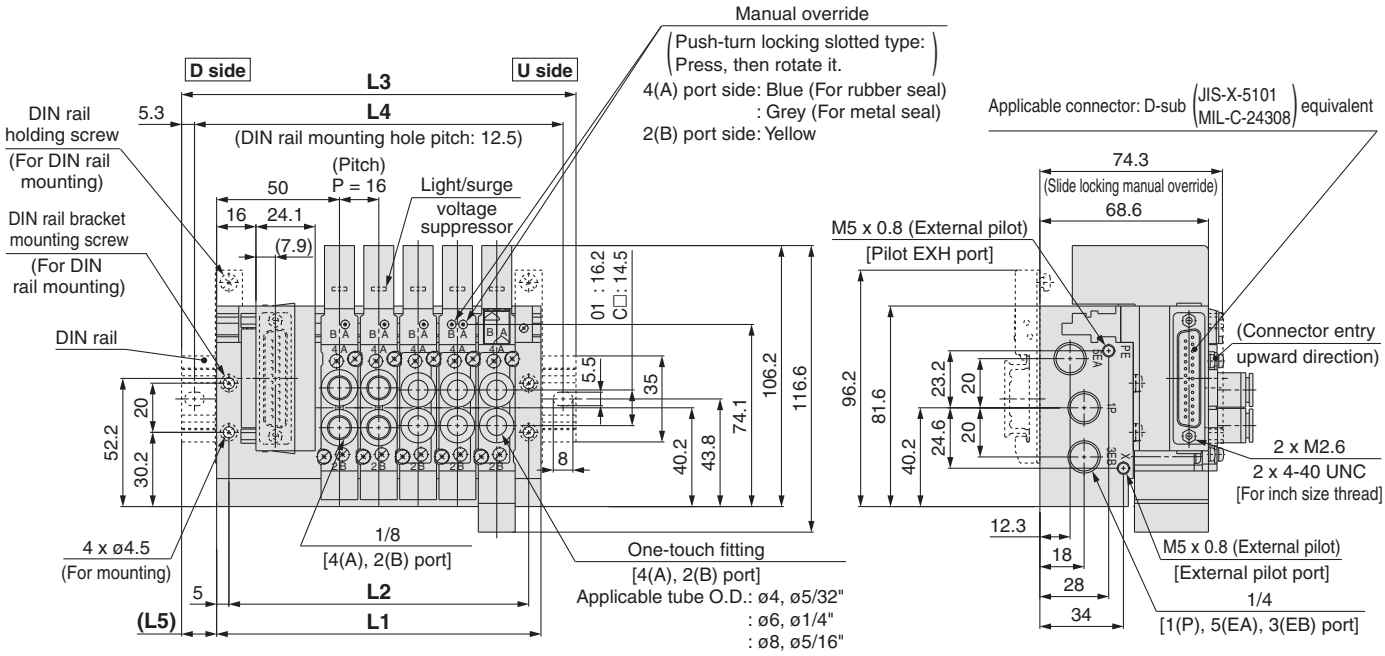
n: Stations	2	3	4	5	6	7	8	9	10	11	12
L1	71.5	82	92.5	103	113.5	124	134.5	145	155.5	166	176.5
L2	63.5	74	84.5	95	105.5	116	126.5	137	147.5	158	168.5
L3	98	110.5	123	135.5	148	160.5	160.5	173	185.5	198	210.5
L4	87.5	100	112.5	125	137.5	150	150	162.5	175	187.5	200
L5	13.5	14.5	15.5	16.5	17.5	18.5	13	14	15	16	17

Dimensions: Type 52/D-sub Connector, Flat Ribbon Cable/Series SY5000

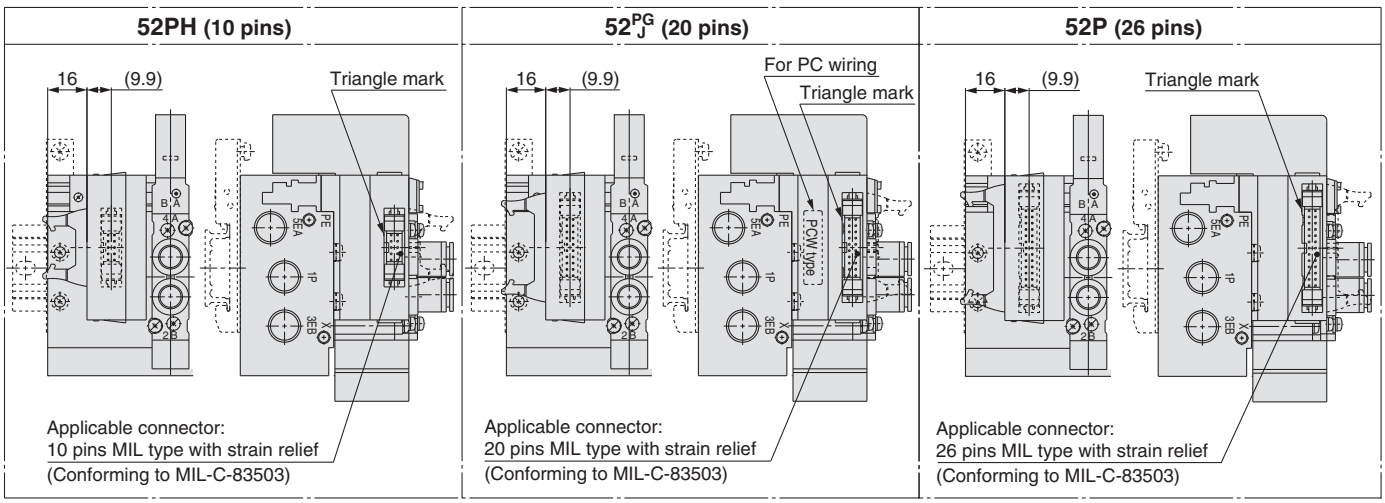
SS5Y5-52(R) P/PG/PH/J **1/2-** Stations **U/D/B-□(D)**







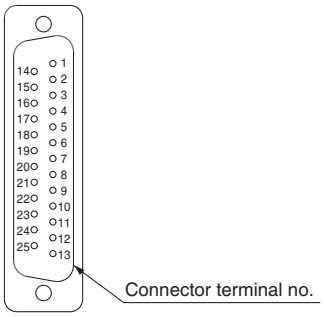
Note) These figures show the "SS5Y5-52F2-05B".



n: Stations	2	3	4	5	6	7	8	9	10	11	12
L1	84	100	116	132	148	164	180	196	212	228	244
L2	74	90	106	122	138	154	170	186	202	218	234
L3	110.5	135.5	148	160.5	173	198	210.5	223	248	260.5	273
L4	100	125	137.5	150	162.5	187.5	200	212.5	237.5	250	262.5
L5	13.5	18	16	14.5	12.5	17	15.5	13.5	18	16.5	14.5

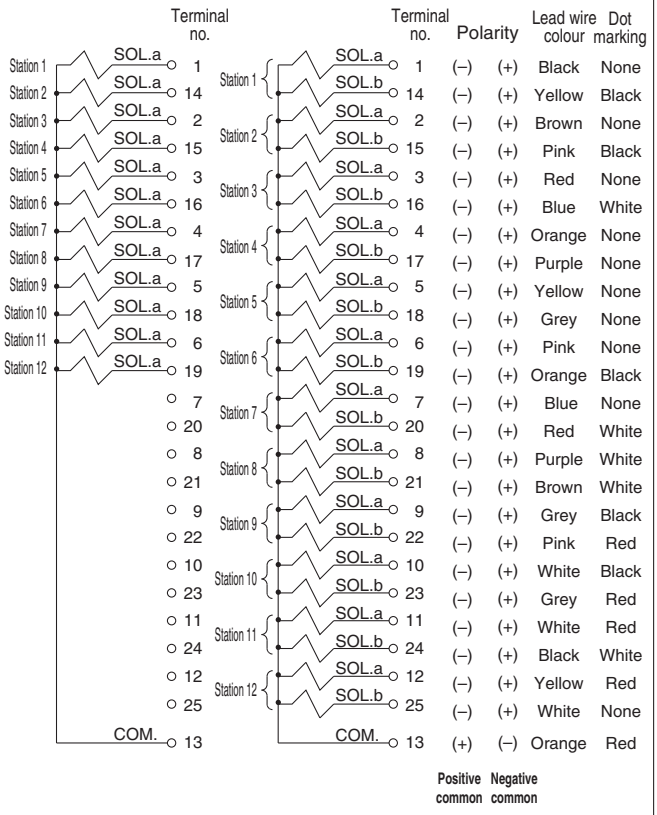
Electrical Wiring Specifications

D-sub connector



Lead wire colour for D-sub connector assembly (AXT100-DS25-$^{015}_{030}_{050}$)

<All single wiring> **<All double wiring>**

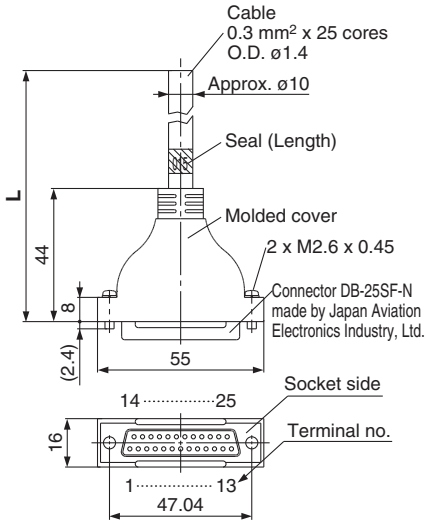


Terminal no.	Polarity		Lead wire colour	Dot marking
	Positive common	Negative common		
1	(–)	(+)	Black	None
14	(–)	(+)	Yellow	Black
2	(–)	(+)	Brown	None
15	(–)	(+)	Pink	Black
3	(–)	(+)	Red	None
16	(–)	(+)	Blue	White
4	(–)	(+)	Orange	None
17	(–)	(+)	Purple	None
5	(–)	(+)	Yellow	None
18	(–)	(+)	Grey	None
6	(–)	(+)	Pink	None
19	(–)	(+)	Orange	Black
7	(–)	(+)	Blue	None
20	(–)	(+)	Red	White
8	(–)	(+)	Purple	White
21	(–)	(+)	Brown	White
9	(–)	(+)	Grey	Black
22	(–)	(+)	Pink	Red
10	(–)	(+)	White	Black
23	(–)	(+)	Grey	Red
11	(–)	(+)	White	Red
24	(–)	(+)	Black	White
12	(–)	(+)	Yellow	Red
25	(–)	(+)	White	None
13	(+)	(–)	Orange	Red

Note) When using a valve with no polarity, either positive common or negative common can be used.

Cable Assembly

AXT100-DS25-$^{015}_{030}_{050}$



Lead wire colour for D-sub connector cable assembly by terminal number

Terminal no.	Lead wire colour	Dot marking
1	Black	None
2	Brown	None
3	Red	None
4	Orange	None
5	Yellow	None
6	Pink	None
7	Blue	None
8	Purple	White
9	Grey	Black
10	White	Black
11	White	Red
12	Yellow	Red
13	Orange	Red
14	Yellow	Black
15	Pink	Black
16	Blue	White
17	Purple	None
18	Grey	None
19	Orange	Black
20	Red	White
21	Brown	White
22	Pink	Red
23	Grey	Red
24	Black	White
25	White	None

D-sub connector cable assembly

Cable length (**L**)	Assembly part no.	Note
1.5 m	AXT100-DS25-015	Cable 0.3 mm² x 25 cores
3 m	AXT100-DS25-030	
5 m	AXT100-DS25-050	

* When using a standard commercial connector, use a 25-pin type female connector conforming to MIL-C-24308.
* Cannot be used for movable wiring.
* Lengths other than the above are also available. Please contact SMC for details.

Electrical characteristics

Item	Property
Conductor resistance Ω/km, 20°C	65 or less
Voltage limit V, 1 minute, AC	1000
Insulation resistance MΩ/km, 20°C	5 or more

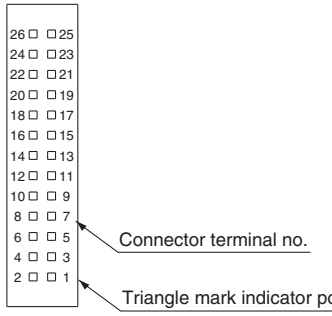
Connector Manufacturers' Example

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

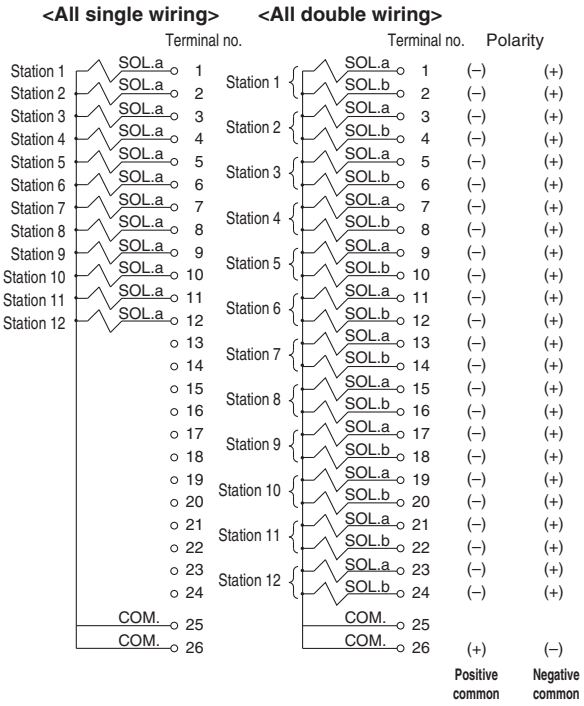
Note) The minimum bending radius of the D-sub connector cable is 20 mm.

Electrical Wiring Specifications

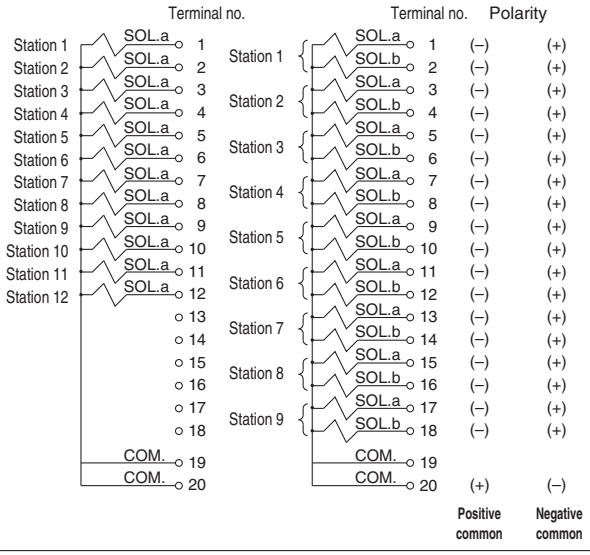
Flat ribbon cable connector



P: Flat ribbon cable (26 pins)



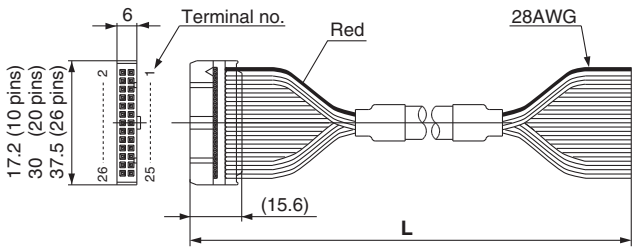
PG: Flat ribbon cable (20 pins)



Note) When using a valve with no polarity, either positive common or negative common can be used.

Cable Assembly

AXT100-FC 10 / 20 / 26 (1 / 2 / 3)



Flat ribbon cable connector assembly

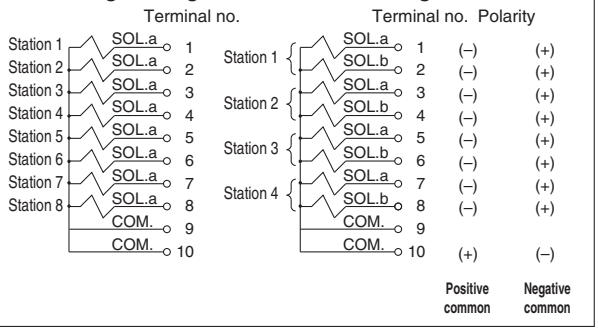
Cable length (**L**)	Assembly part no.		
	26 pins	20 pins	10 pins
1.5 m	AXT100-FC26-1	AXT100-FC20-1	AXT100-FC10-1
3 m	AXT100-FC26-2	AXT100-FC20-2	AXT100-FC10-2
5 m	AXT100-FC26-3	AXT100-FC20-3	AXT100-FC10-3

* When using a standard commercial connector, use a 26-pin, 20-pin or 10-pin type connector conforming to MIL-C-83503 with strain relief.
* Cannot be used for movable wiring.
* Lengths other than the above are also available. Please contact SMC for details.

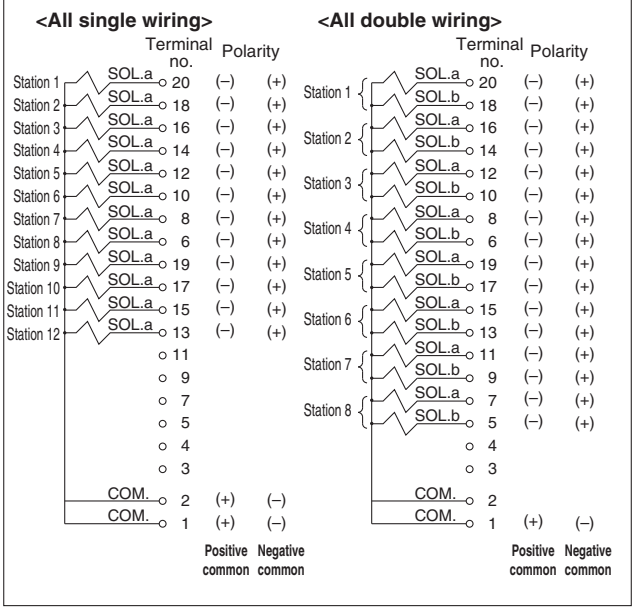
Connector Manufacturers' Example

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

PH: Flat ribbon cable (10 pins)



J: Flat ribbon cable (20 pins) PC wiring



Type 50
Side Ported

Type 51
Bottom Ported

Plug-in Metal Base

EX510

Series SY3000/5000

How to Order Manifold

SS5Y 3 – 50 S5 ❶ – ❷ ❸ ❹ 05 D – C6 ❼ ❽ ❾

❶ Series

3	SY3000
5	SY5000

❷ Type

50	Side ported
51	Bottom ported
50R	Side ported, External pilot

∗ External pilot is not available for the bottom ported type.

❸ SI unit output polarity

—	Positive common
N	Negative common

❹ Wiring type

—	All double wiring Note 1)
S	All single wiring Note 2)

Note 1) All double wiring: 2-position single, double, 3-position and 4-position valves can be used on all manifold stations.
Note 2) All single wiring: Available only for the manifold which has 2-position single for all stations.
Note that 2-position double, 3- or 4-position valves cannot be used.
Note 3) Please contact SMC if a mixture of single wiring and double wiring is required.

❺ Valve stations

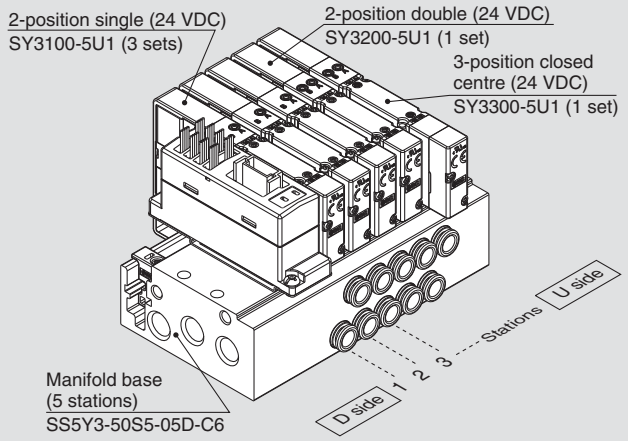
Symbol	Stations	Note
02	2 stations	All double wiring
⋮	⋮	
08	8 stations	

Symbol	Stations	Note
02	2 stations	All single wiring
⋮	⋮	
12	12 stations	

∗ This also includes the number of blanking plate assembly.

How to Order Manifold Assembly

Example (SS5Y3-50S5-□)



SS5Y3-50S5-05D-C6 ··· 1 set (Type 50 5-station manifold base part no.)
∗SY3100-5U1 ····· 3 sets (2-position single part no.)
∗SY3200-5U1 ····· 1 set (2-position double part no.)
∗SY3300-5U1 ····· 1 set (3-position closed centre part no.)
→ The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the valve, etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on a manifold specification sheet.

Note) When mixing top ported configurations, select from page 44.
In this case, use caution as there is also output on the A and B port on base side. Specify on a manifold specification sheet if plugs are required on the A and B port on base side.

❻ P, E port entry

U	U side Note 1)
D	D side Note 1) Note 2)
B	Both sides

Note 1) Plugs are mounted on the opposite side of the selected ports.
Note 2) Only D side is available for Type 51 (Bottom ported).

❽ Thread type

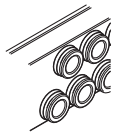
—	Rc
F	G
N	NPT
T	NPTF

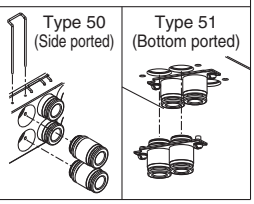
❼ A, B port size (Thread piping)

Symbol	A, B port	SY3000	SY5000
M5	M5 x 0.8	●	—
01	1/8	●	●
02	1/4	—	●

A, B port size (Metric)

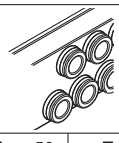
	Symbol	A, B port	SY3000	SY5000
Fixed	C2	ø2 One-touch fitting	●	—
	C3	ø3.2 One-touch fitting	●	—
	C4	ø4 One-touch fitting	●	●
	C6	ø6 One-touch fitting	●	●
	C8	ø8 One-touch fitting	—	●
Replaceable	KC2	ø2 One-touch fitting	●	—
	KC3	ø3.2 One-touch fitting	●	—
	KC4	ø4 One-touch fitting	●	●
	KC6	ø6 One-touch fitting	●	●
	KC8	ø8 One-touch fitting	—	●
	M∗	Mixed sizes	●	●
P, E port size (Thread piping)			1/8	1/4

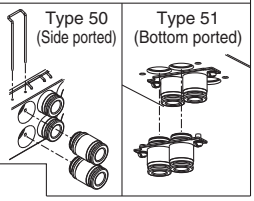




A, B port size (Inch)

	Symbol	A, B port	SY3000	SY5000
Fixed	N1	ø1/8" One-touch fitting	●	—
	N3	ø5/32" One-touch fitting	●	●
	N7	ø1/4" One-touch fitting	●	●
	N9	ø5/16" One-touch fitting	—	●
Replaceable	KN1	ø1/8" One-touch fitting	●	—
	KN3	ø5/32" One-touch fitting	●	●
	KN7	ø1/4" One-touch fitting	●	●
	KN9	ø5/16" One-touch fitting	—	●
	M∗	Mixed sizes	●	●
P, E port size (Thread piping)			1/8	1/4





∗ When ports are mixed sizes, indicate the piping specifications on the manifold specification sheet.

❾ Mounting

—	Direct mounting	
D	DIN rail mounting (With DIN rail)	
D0	DIN rail mounting (Without DIN rail)	
D3	For 3 stations	Specify a longer rail than the standard length.
⋮	⋮	
D12	For 12 stations	

∗ Only direct mounting is available for Type 51 (Bottom ported).

Refer to Reduced Wiring Fieldbus System (Serial Transmission) in Electric Products (CAT.E150) for details on the EX510 Gateway-type Serial Transmission System.

SMC

How to Order Valves (With two mounting screws)

Refer to page 8 for valve specifications.

SY 3 1 0 0 □ □ □ □ – 5 □ □ 1 – □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫

● Base mounted

❶ Series

3	SY3000
5	SY5000

❷ Type of actuation

1	2-position single
2	2-position double
3	3-position closed centre
4	3-position exhaust centre
5	3-position pressure centre
A*	4-position dual 3-port valve (N.C./N.C.)
B*	4-position dual 3-port valve (N.O./N.O.)
C*	4-position dual 3-port valve (N.C./N.O.)

* Only rubber seal type is available for the 4-position dual 3-port valve.

❸ Seal type

0	Rubber seal
1	Metal seal

❹ Pilot type

—	Internal pilot
R	External pilot

❺ Back pressure check valve (Built-in valve type)

—	None
H	Built-in

* Only rubber seal type
* The built-in valve type back pressure check valve is not available for the 3-position type.

❻ Pilot valve option

—	Standard (0.7 MPa)
B	Quick response type (0.7 MPa)
K*	High pressure type (1.0 MPa)

* Only metal seal type is available for the high pressure type.

❼ Coil type

—	Standard
T	With power saving circuit (Continuous duty type)

* Be sure to select the power saving circuit type when the valve is continuously energized for long periods of time.
* Note the specified energizing time when power saving circuit is selected. Refer to page 154.

❽ Rated voltage

5	24 VDC

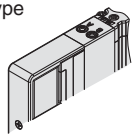
❾ Light/surge voltage suppressor and common specification

R	With surge voltage suppressor (Non-polar)
U	With light/surge voltage suppressor (Non-polar)
S	With surge voltage suppressor (Positive common)
Z	With light/surge voltage suppressor (Positive common)
NS	With surge voltage suppressor (Negative common)
NZ	Without light/surge voltage suppressor (Negative common)

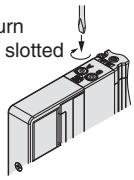
* Only "Z" and "NZ" types are available for the product with power saving circuit. Select a valve from R, U, S or Z when the SI unit output polarity is positive common.
  Select a valve from R, U, NS or NZ when the SI unit output polarity is negative common.

❿ Manual override

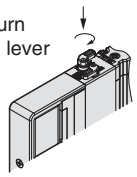
—: Non-locking push type



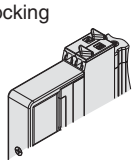
D: Push-turn locking slotted type



E: Push-turn locking lever type



F: Slide locking type



⓫ Type of mounting screw

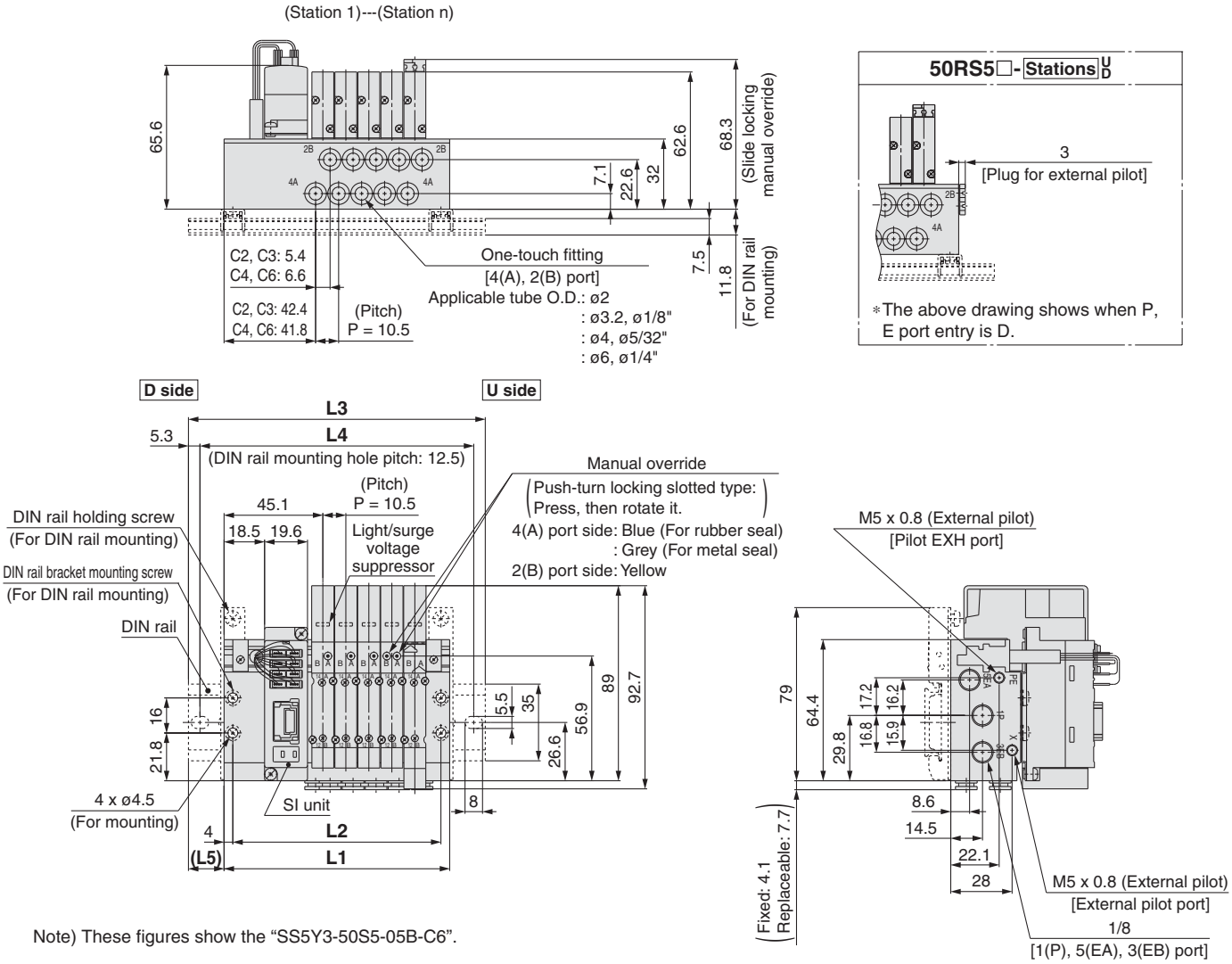
—	Round head combination screw
B	Hexagon socket head cap screw
K	Round head combination screw (Falling-out-prevention type)
H	Hexagon socket head cap screw (Falling-out-prevention type)

* For "K" and "H", the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance etc.
* When ordering a valve individually, the base gasket is not included. Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance service.
  Refer to page 47 for part numbers of the base gasket and mounting screw.
* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly or double check spacer assembly with residual pressure release valve.

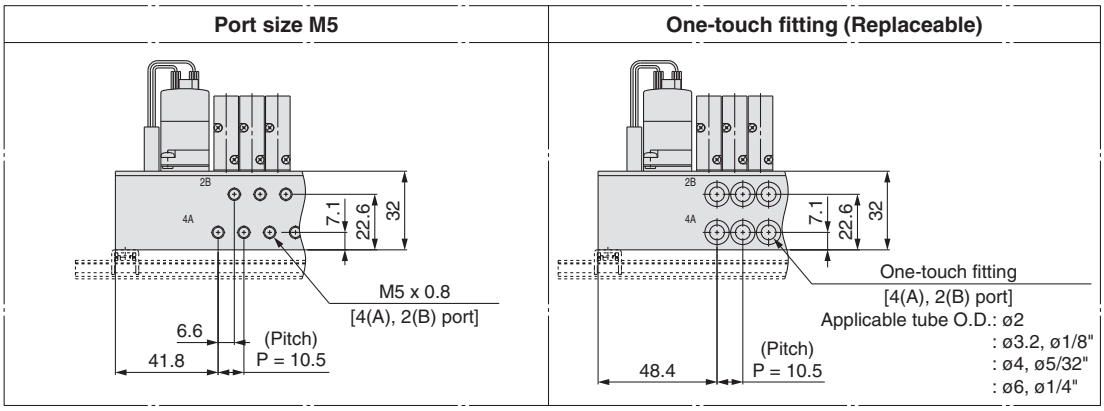
⚠ Protective class class Ⅲ (Mark: ⧼Ⅲ⧽)

Dimensions: Type 50/EX510/Series SY3000

SS5Y3-50(R)S5□-Stations U/D/B - M5 C□, N□ / KC□, KN□ □(D)



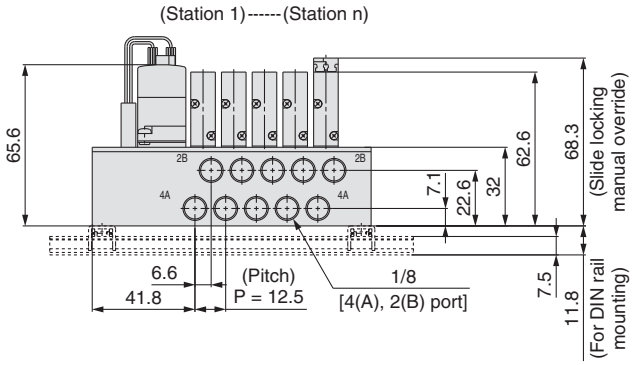
Note) These figures show the “SS5Y3-50S5-05B-C6”.

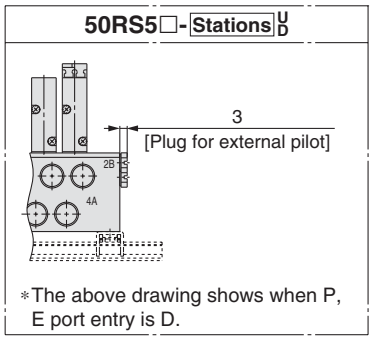


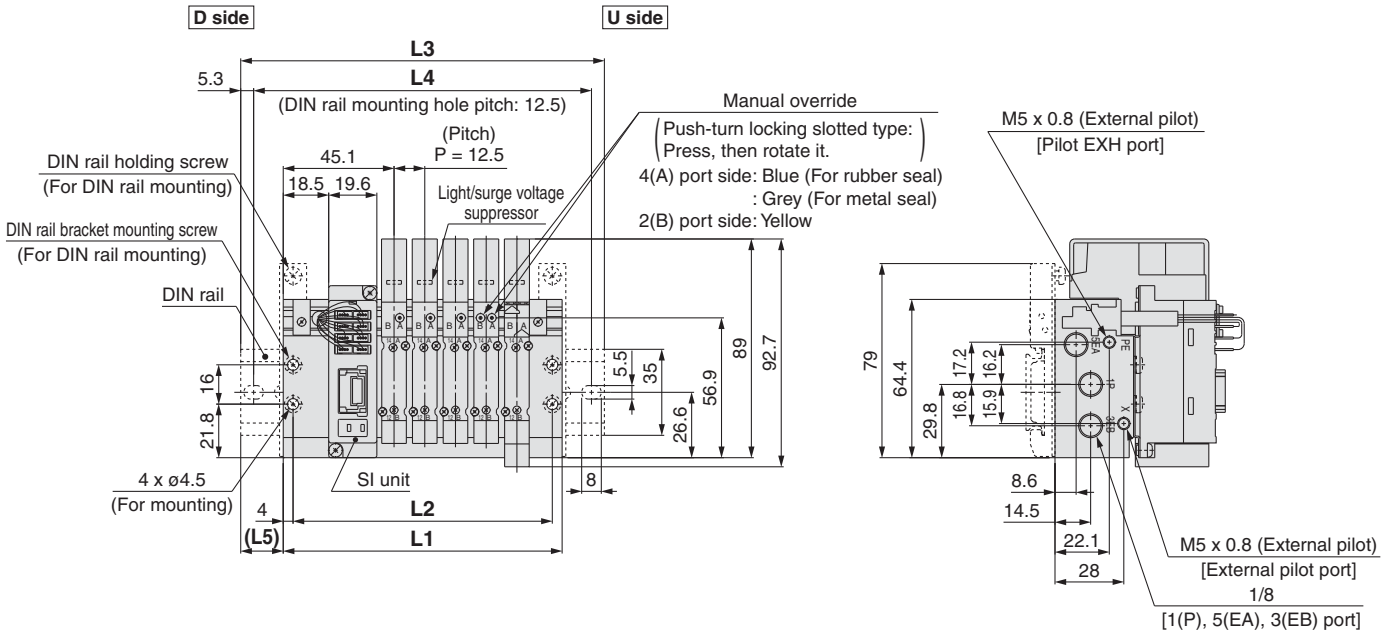
n: Stations	2	3	4	5	6	7	8	9	10	11	12
L1	71.5	82	92.5	103	113.5	124	134.5	145	155.5	166	176.5
L2	63.5	74	84.5	95	105.5	116	126.5	137	147.5	158	168.5
L3	98	110.5	123	135.5	148	160.5	160.5	173	185.5	198	210.5
L4	87.5	100	112.5	125	137.5	150	150	162.5	175	187.5	200
L5	13.5	14.5	15.5	16.5	17.5	18.5	13	14	15	16	17

Dimensions: Type 50/EX510/Series SY3000

SS5Y3-50(R)S5□-Stations U/D/B-01□(D)





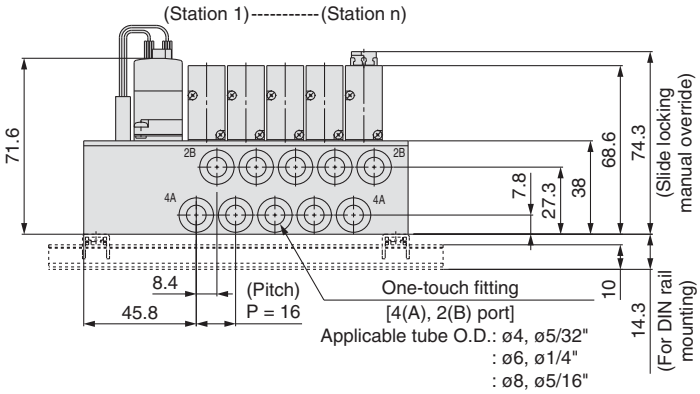


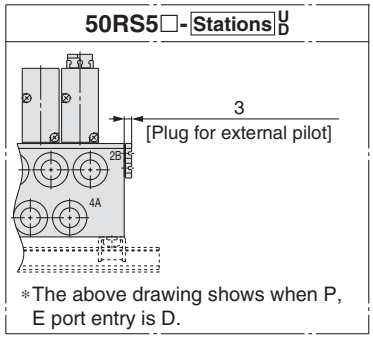
Note) These figures show the “SS5Y3-50S5-05B-01”.

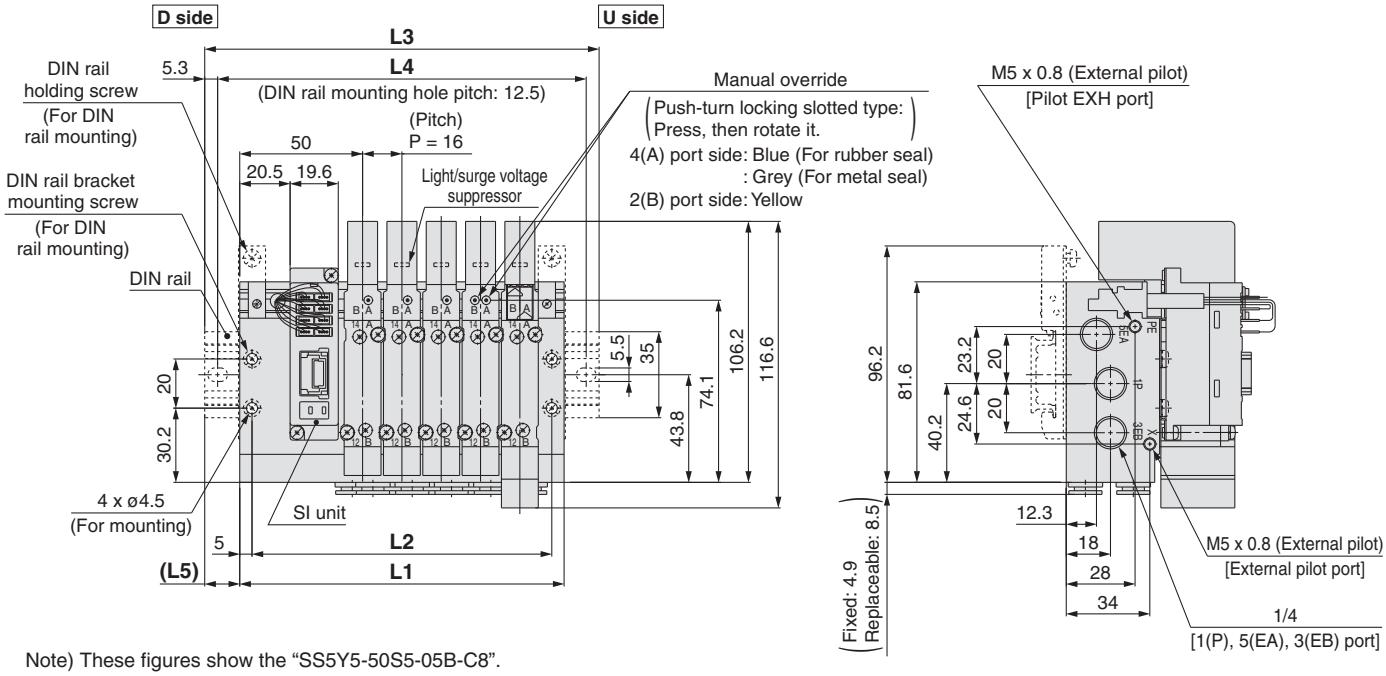
n: Stations	2	3	4	5	6	7	8	9	10	11	12
L1	76	88.5	101	113.5	126	138.5	151	163.5	176	188.5	201
L2	68	80.5	93	105.5	118	130.5	143	155.5	168	180.5	193
L3	110.5	123	135.5	148	160.5	173	185.5	198	210.5	223	235.5
L4	100	112.5	125	137.5	150	162.5	175	187.5	200	212.5	225
L5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5

Dimensions: Type 50/EX510/Series SY5000

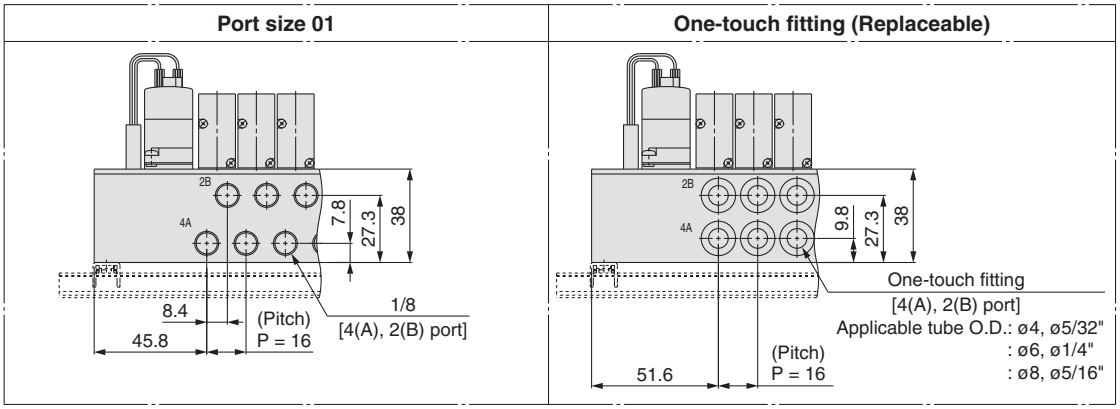
SS5Y5-50(R)S5□-Stations U/D/B 01 C□, N□ / KC□, KN□ □(D)







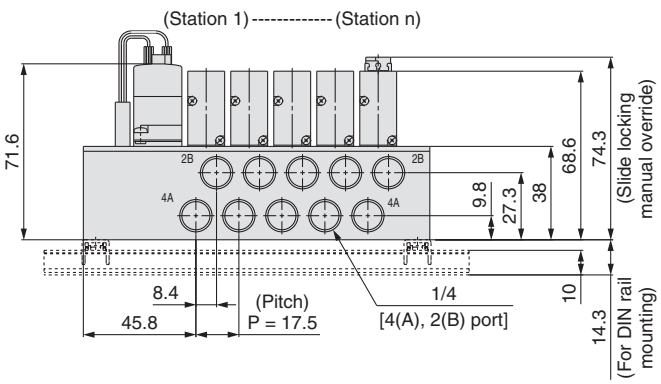
Note) These figures show the "SS5Y5-50S5-05B-C8".

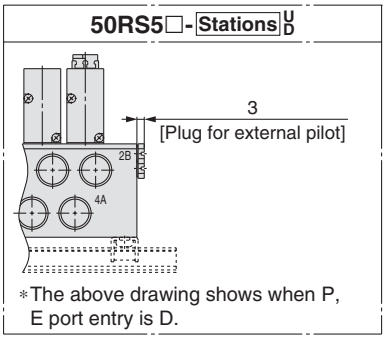


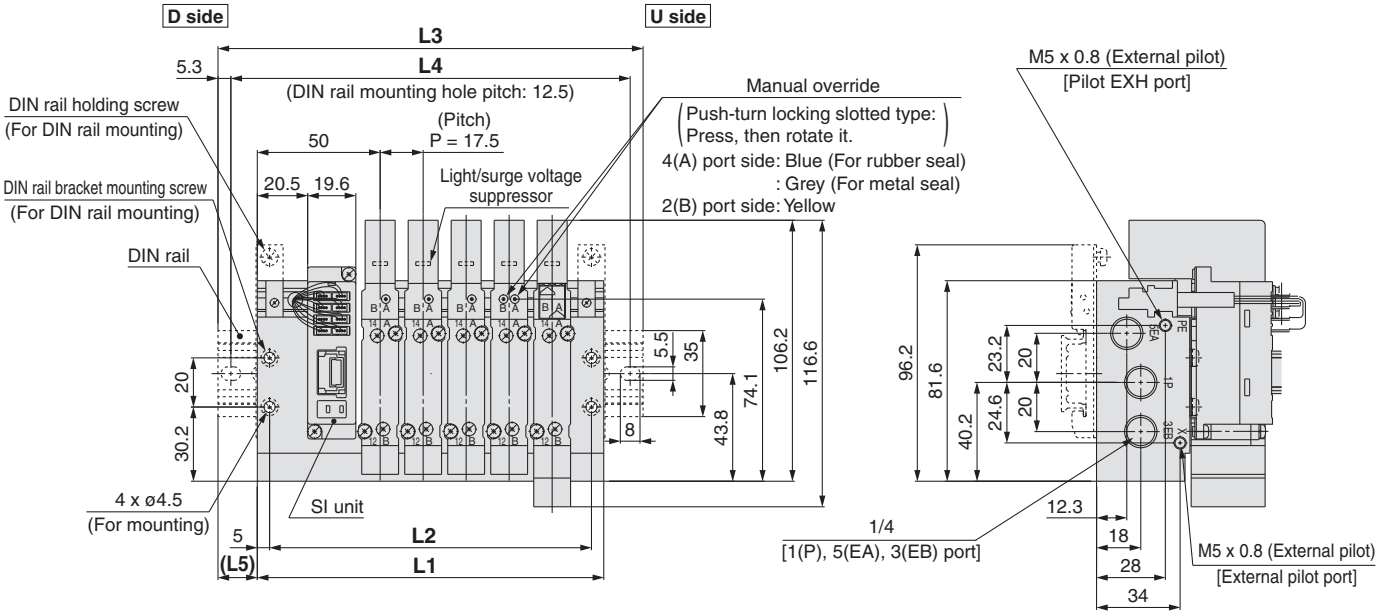
n: Stations	2	3	4	5	6	7	8	9	10	11	12
L1	84	100	116	132	148	164	180	196	212	228	244
L2	74	90	106	122	138	154	170	186	202	218	234
L3	110.5	135.5	148	160.5	173	198	210.5	223	248	260.5	273
L4	100	125	137.5	150	162.5	187.5	200	212.5	237.5	250	262.5
L5	13.5	18	16	14.5	12.5	17	15.5	13.5	18	16.5	14.5

Dimensions: Type 50/EX510/Series SY5000

SS5Y5-50(R)S5□-Stations U/D/B-02□(D)







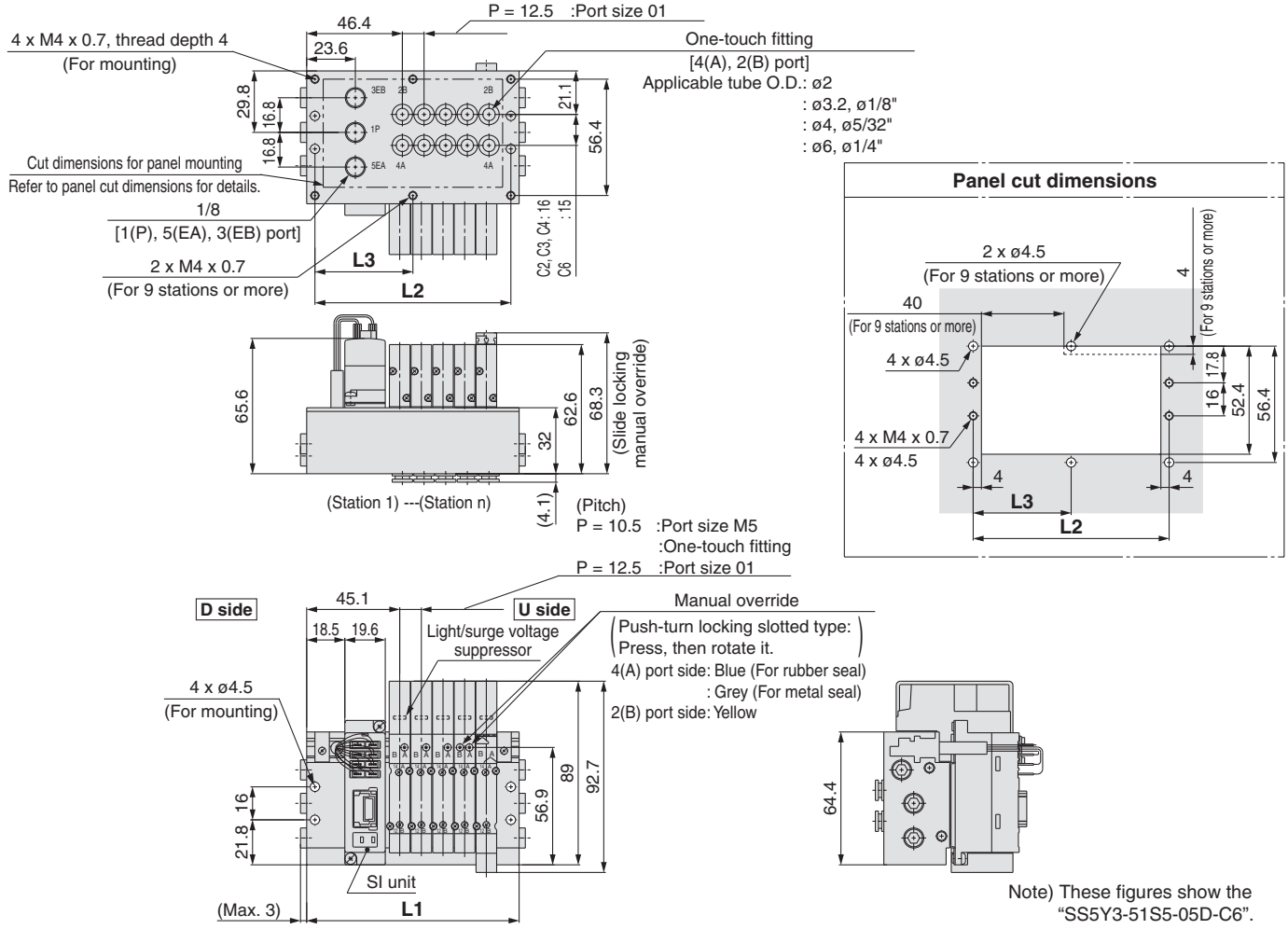
Note) These figures show the “SS5Y5-50S5-05B-02”.

n: Stations	2	3	4	5	6	7	8	9	10	11	12
L1	88.5	106	123.5	141	158.5	176	193.5	211	228.5	246	263.5
L2	78.5	96	113.5	131	148.5	166	183.5	201	218.5	236	253.5
L3	123	135.5	148	173	185.5	210.5	223	235.5	260.5	273	298
L4	112.5	125	137.5	162.5	175	200	212.5	225	250	262.5	287.5
L5	17.5	15	12.5	16	13.5	17.5	15	12.5	16	13.5	17.5

Dimensions: Type 51/EX510/Series SY3000

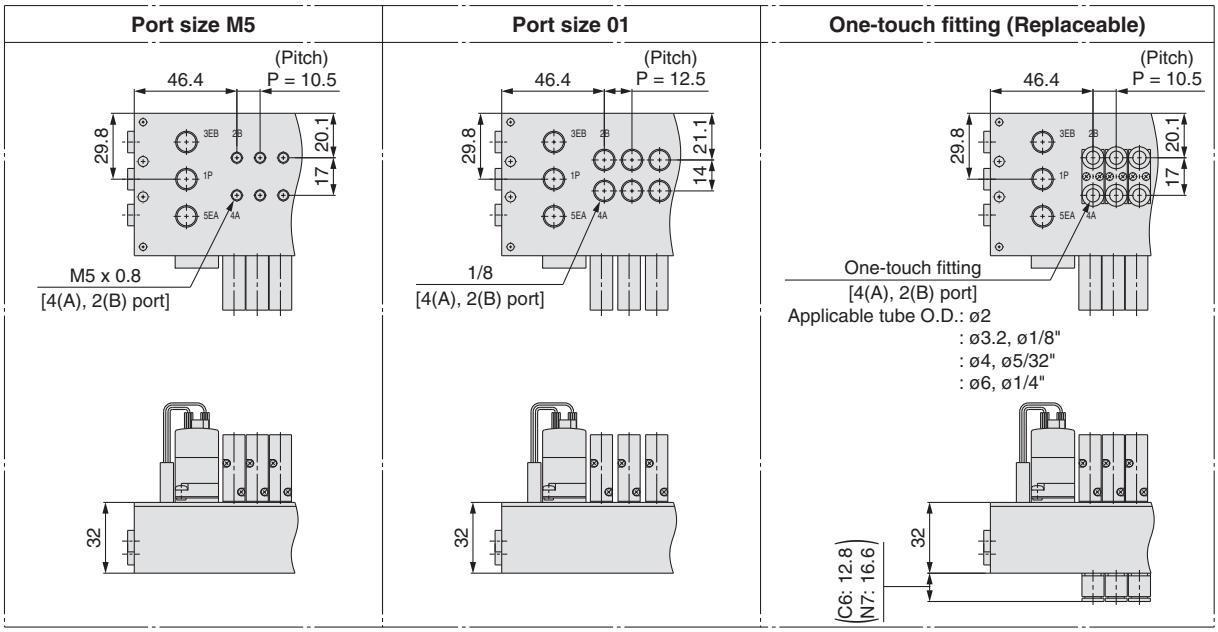
SS5Y3-51S5□-Stations D- **M5, 01** **C□, N□** **KC□, KN□** □

(Pitch)
P = 10.5 :Port size M5
:One-touch fitting
P = 12.5 :Port size 01



(Pitch)
P = 10.5 :Port size M5
:One-touch fitting
P = 12.5 :Port size 01

Note) These figures show the "SS5Y3-51S5-05D-C6".



Port Size M5, C□, N□, KC□, KN□

n: Stations	2	3	4	5	6	7	8	9	10	11	12
L1	71.5	82	92.5	103	113.5	124	134.5	145	155.5	166	176.5
L2	63.5	74	84.5	95	105.5	116	126.5	137	147.5	158	168.5
L3	—	—	—	—	—	—	—	68.5	73.8	79	84.3

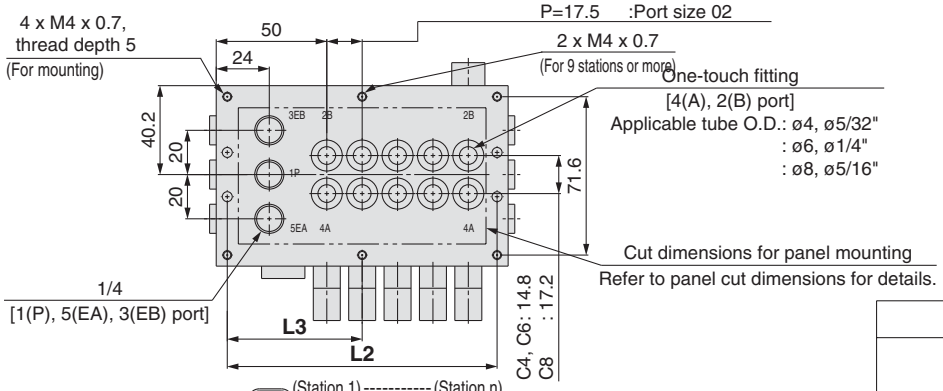
Port Size 01

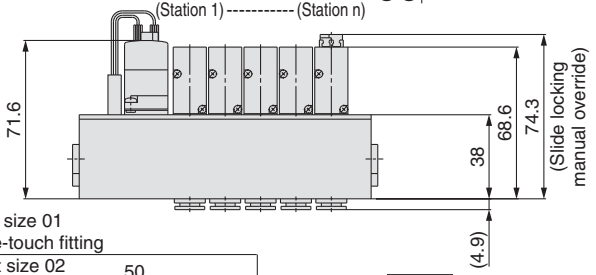
n: Stations	2	3	4	5	6	7	8	9	10	11	12
L1	76	88.5	101	113.5	126	138.5	151	163.5	176	188.5	201
L2	68	80.5	93	105.5	118	130.5	143	155.5	168	180.5	193
L3	—	—	—	—	—	—	—	77.8	84	90.3	96.5

Dimensions: Type 51/EX510/Series SY5000

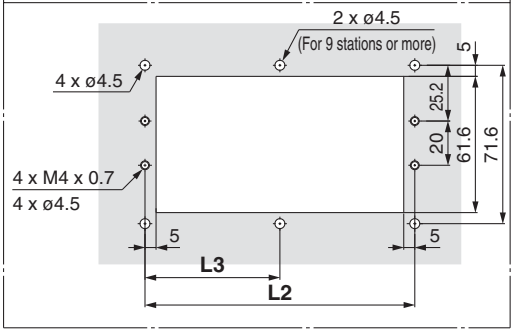
SS5Y5-51S5- Stations **D -** 01, 02 C□, N□ KC□, KN□ □

(Pitch)
P = 16 :Port size 01
:One-touch fitting
P=17.5 :Port size 02

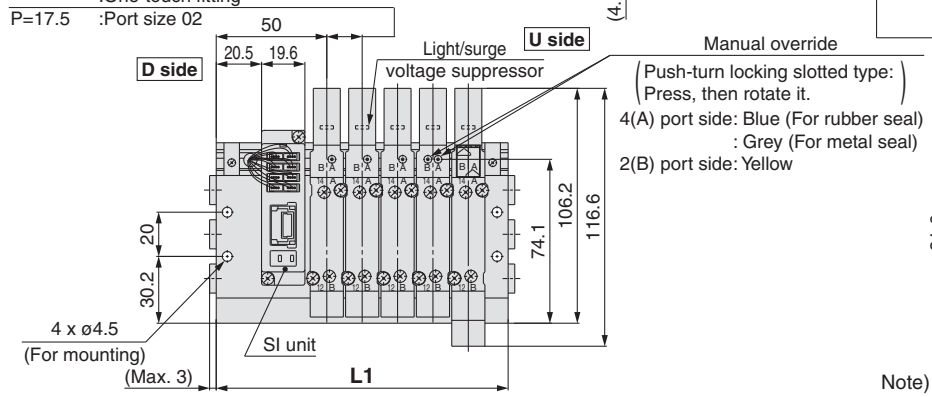


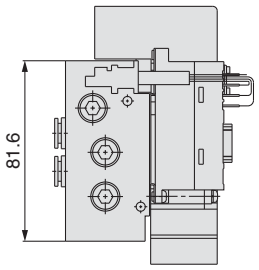


Panel cut dimensions



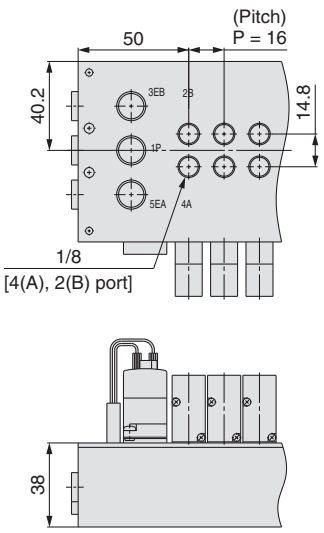
(Pitch)
P = 16 :Port size 01
:One-touch fitting
P=17.5 :Port size 02



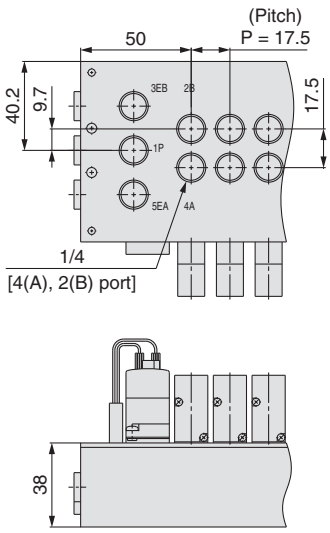


Note) These figures show the "SS5Y5-51S5-05D-C8".

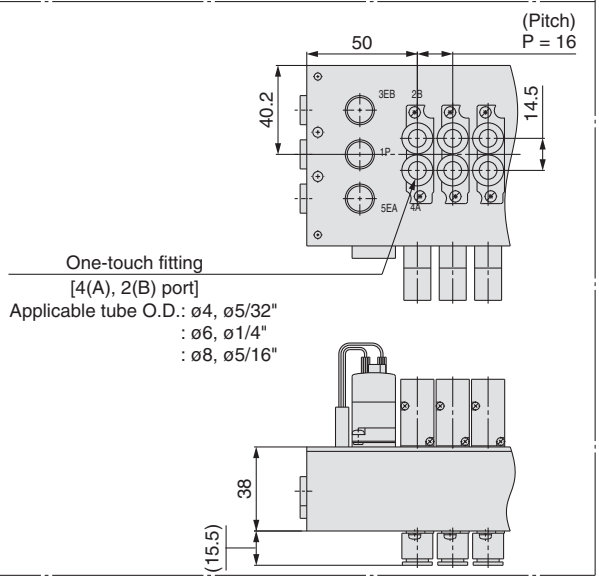
Port size 01



Port size 02



One-touch fitting (Replaceable)



Port Size 01, C□, N□, KC□, KN□

n: Stations	2	3	4	5	6	7	8	9	10	11	12
L1	84	100	116	132	148	164	180	196	212	228	244
L2	74	90	106	122	138	154	170	186	202	218	234
L3	—	—	—	—	—	—	—	93	101	109	117

Port Size 02

n: Stations	2	3	4	5	6	7	8	9	10	11	12
L1	88.5	106	123.5	141	158.5	176	193.5	211	228.5	246	263.5
L2	78.5	96	113.5	131	148.5	166	183.5	201	218.5	236	253.5
L3	—	—	—	—	—	—	—	100.5	109.3	118	126.8

Plug-in Metal Base

EX510

Type 52
Top Ported

Series SY3000/5000

How to Order Manifold

SS5Y 3 – 52 S5 ☐ – ☐ 05 D – ☐ ☐

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽

❶ Series

3	SY3000
5	SY5000

❷ Type

52	Top ported
52R	Top ported, External pilot

❸ SI unit output polarity

—	Positive common
N	Negative common

❹ Wiring type

—	All double wiring Note 1)
S	All single wiring Note 2)

Note 1) All double wiring: 2-position single, double, 3-position and 4-position valves can be used on all manifold stations.
Note 2) All single wiring: Available only for the manifold which has 2-position single for all stations.
Note that 2-position double, 3- or 4-position valves cannot be used.
Note 3) Please contact SMC if a mixture of single wiring and double wiring is required.

❺ Valve stations

Symbol	Stations	Note
02	2 stations	All double wiring
⋮	⋮	
08	8 stations	
02	2 stations	All single wiring
⋮	⋮	
12	12 stations	

∗ This also includes the number of blanking plate assembly.

❻ P, E port entry

U	U side Note)
D	D side Note)
B	Both sides

Note) Plugs are mounted on the opposite side of the selected ports.

❼ Thread type

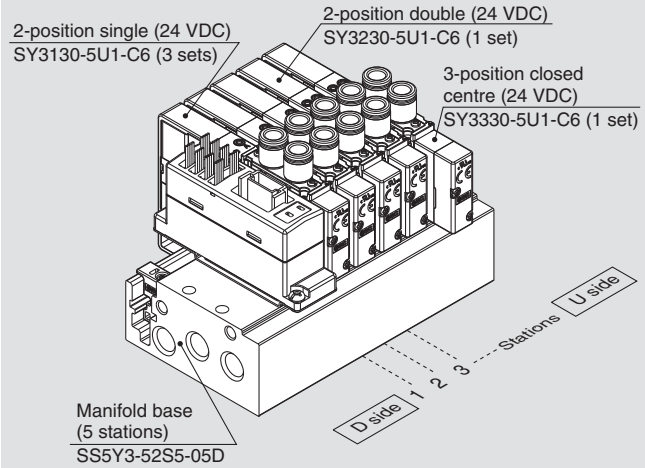
—	Rc
00F	G
00N	NPT
00T	NPTF

❽ Mounting

—	Direct mounting	
D	DIN rail mounting (With DIN rail)	
D0	DIN rail mounting (Without DIN rail)	
D3	For 3 stations	Specify a longer rail than the standard length.
⋮	⋮	
D12	For 12 stations	

How to Order Manifold Assembly

Example (SS5Y3-52S5-☐)



SS5Y3-52S5-05D ····· 1 set (Type 52 5-station manifold base part no.)
∗SY3130-5U1-C6 ····· 3 sets (2-position single part no.)
∗SY3230-5U1-C6 ····· 1 set (2-position double part no.)
∗SY3330-5U1-C6 ····· 1 set (3-position closed centre part no.)
→ The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the valve, etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on a manifold specification sheet.

Refer to Reduced Wiring Fieldbus System (Serial Transmission) in Electric Products (CAT.E150) for details on the EX510 Gateway-type Serial Transmission System.

How to Order Valves (With two mounting screws)

Refer to page 8 for valve specifications.

SY 3 1 3 0 □ □ □ □ – 5 □ □ 1 – C6 □ – □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫ ⓬ ⓭

● Top ported

❶ Series

3	SY3000
5	SY5000

❷ Type of actuation

1	2-position single
2	2-position double
3	3-position closed centre
4	3-position exhaust centre
5	3-position pressure centre
A*	4-position dual 3-port valve (N.C./N.C.)
B*	4-position dual 3-port valve (N.O./N.O.)
C*	4-position dual 3-port valve (N.C./N.O.)

* Only rubber seal type is available for the 4-position dual 3-port valve.

❸ Seal type

0	Rubber seal
1	Metal seal

❹ Pilot type

—	Internal pilot
R	External pilot

❺ Back pressure check valve (Built-in valve type)

—	None
H	Built-in

* Only rubber seal type
* The built-in valve type back pressure check valve is not available for the 3-position type.

❻ Pilot valve option

—	Standard (0.7 MPa)
B	Quick response type (0.7 MPa)
K*	High pressure type (1.0 MPa)

* Only metal seal type is available for the high pressure type.

❼ Coil type

—	Standard
T	With power saving circuit (Continuous duty type)

* Be sure to select the power saving circuit type when the valve is continuously energized for long periods of time.
* Note the specified energizing time when power saving circuit is selected. Refer to page 154.

❽ Rated voltage

5	24 VDC

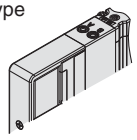
❾ Light/surge voltage suppressor and common specification

R	With surge voltage suppressor (Non-polar)
U	With light/surge voltage suppressor (Non-polar)
S	With surge voltage suppressor (Positive common)
Z	With light/surge voltage suppressor (Positive common)
NS	With surge voltage suppressor (Negative common)
NZ	With light/surge voltage suppressor (Negative common)

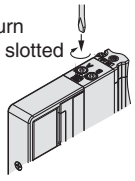
* Only "Z" and "NZ" types are available for the product with power saving circuit. Select a valve from R, U, S or Z when the SI unit polarity is — (Positive common). Select a valve from R, U, NS or NZ when the SI unit output polarity is N (Negative common).

❿ Manual override

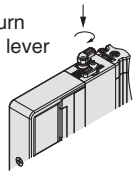
—: Non-locking push type



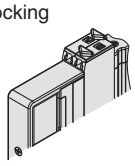
D: Push-turn locking slotted type



E: Push-turn locking lever type



F: Slide locking type



⓫ A, B port size

Thread piping

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

One-touch fitting (Metric)

Symbol	A, B port	SY3000	SY5000
C2	ø2 One-touch fitting	●	—
C3	ø3.2 One-touch fitting	●	—
C4	ø4 One-touch fitting	●	●
C6	ø6 One-touch fitting	●	●
C8	ø8 One-touch fitting	—	●

One-touch fitting (Inch)

Symbol	A, B port	SY3000	SY5000
N1	ø1/8" One-touch fitting	●	—
N3	ø5/32" One-touch fitting	●	●
N7	ø1/4" One-touch fitting	●	●
N9	ø5/16" One-touch fitting	—	●

⓬ Thread type

—	Rc
F	G
N	NPT
T	NPTF

* Only — is available for M5.

⓭ Type of mounting screw

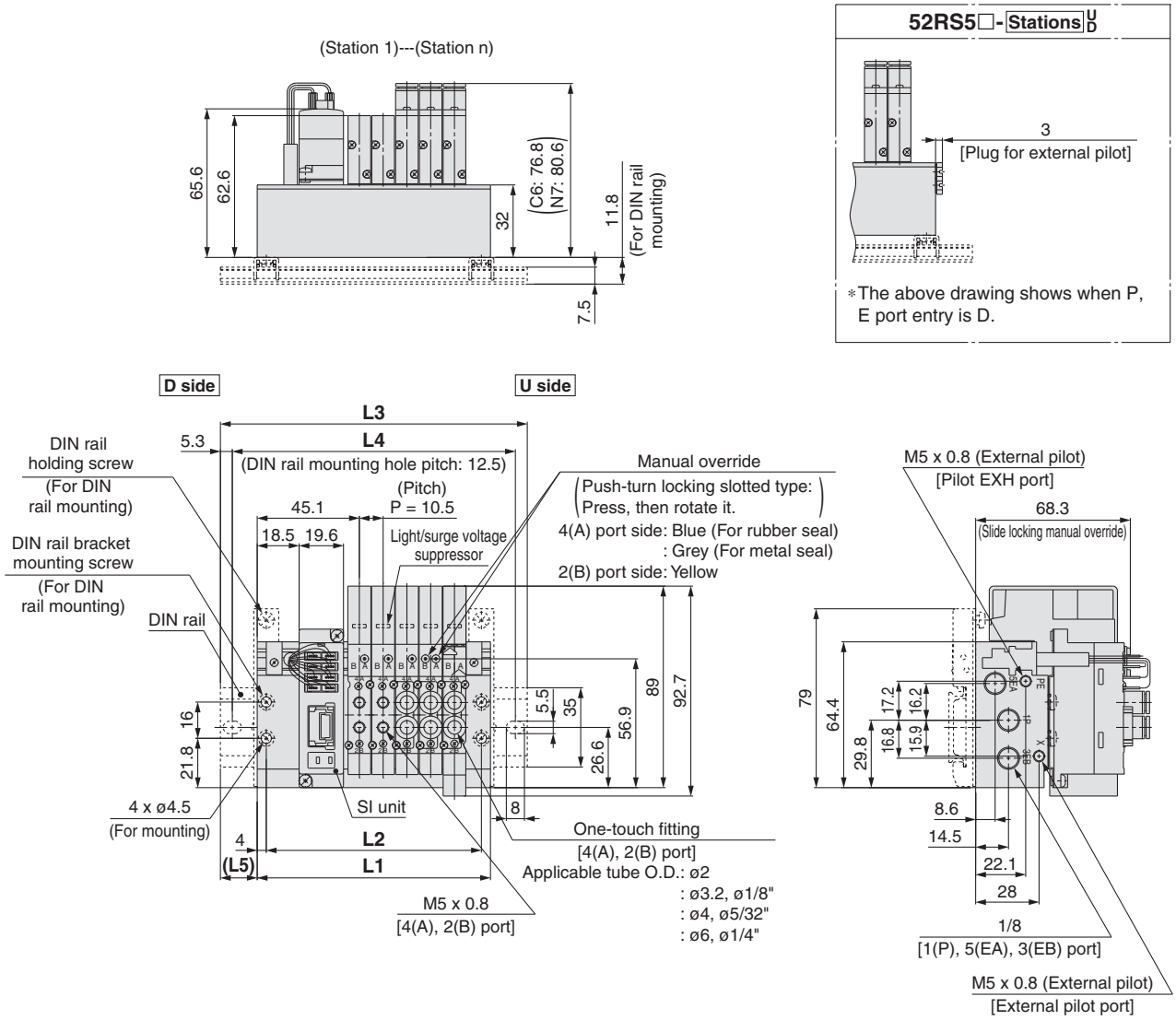
—	Round head combination screw
B	Hexagon socket head cap screw
K	Round head combination screw (Falling-out-prevention type)
H	Hexagon socket head cap screw (Falling-out-prevention type)

* For "K" and "H", the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance etc.
* When ordering a valve individually, the base gasket is not included. Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance service.
  Refer to page 47 for part numbers of the base gasket and mounting screw.
* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly.

⚠ Protective class class Ⅲ (Mark: ⧼Ⅲ⧽)

Dimensions: Type 52/EX510/Series SY3000

SS5Y3-52(R)S5□-Stations U/D/B-□(D)

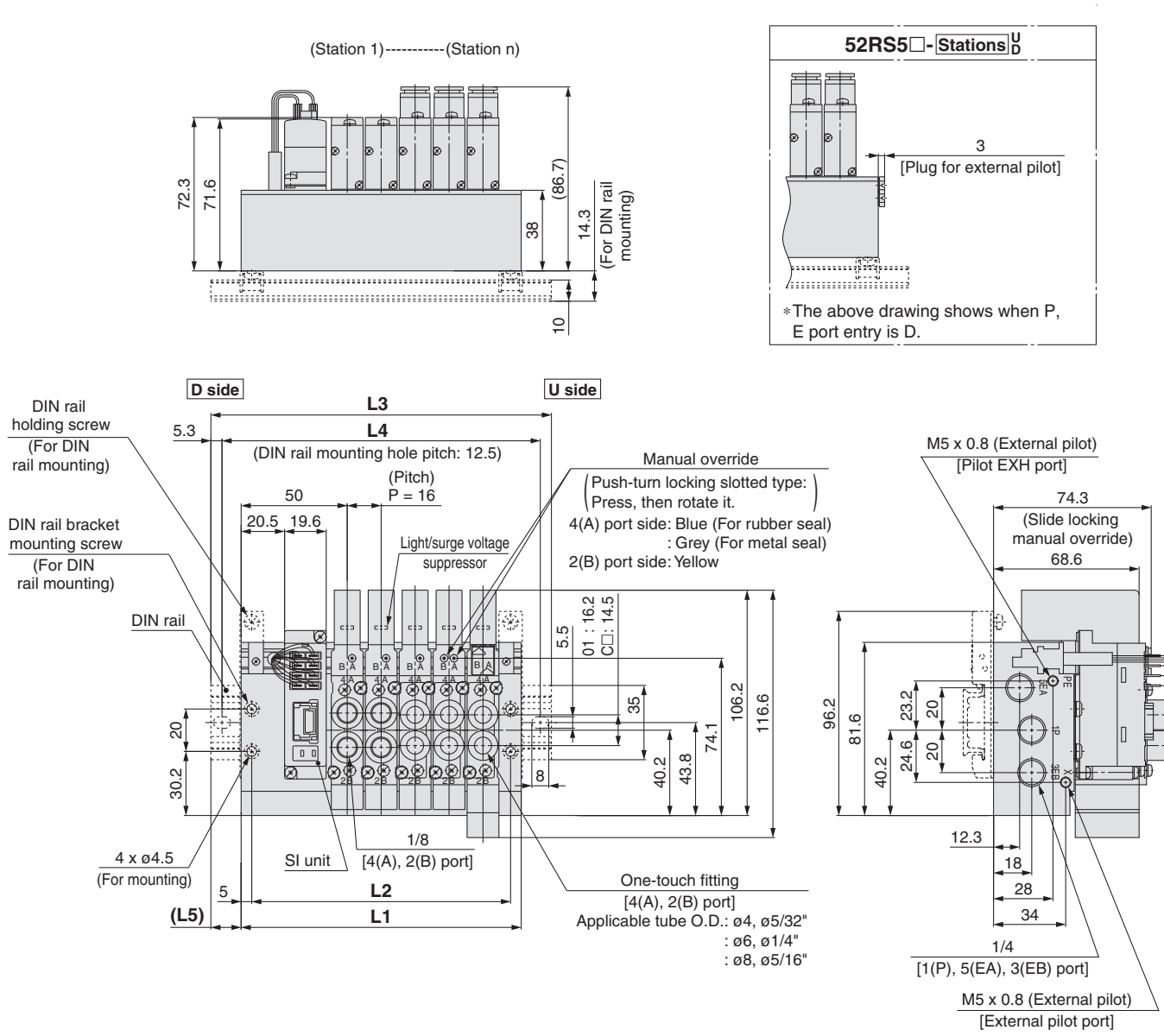


Note) These figures show the “SS5Y3-52S5-05B”.

n: Stations	2	3	4	5	6	7	8	9	10	11	12
L1	71.5	82	92.5	103	113.5	124	134.5	145	155.5	166	176.5
L2	63.5	74	84.5	95	105.5	116	126.5	137	147.5	158	168.5
L3	98	110.5	123	135.5	148	160.5	160.5	173	185.5	198	210.5
L4	87.5	100	112.5	125	137.5	150	150	162.5	175	187.5	200
L5	13.5	14.5	15.5	16.5	17.5	18.5	13	14	15	16	17

Dimensions: Type 52/EX510/Series SY5000

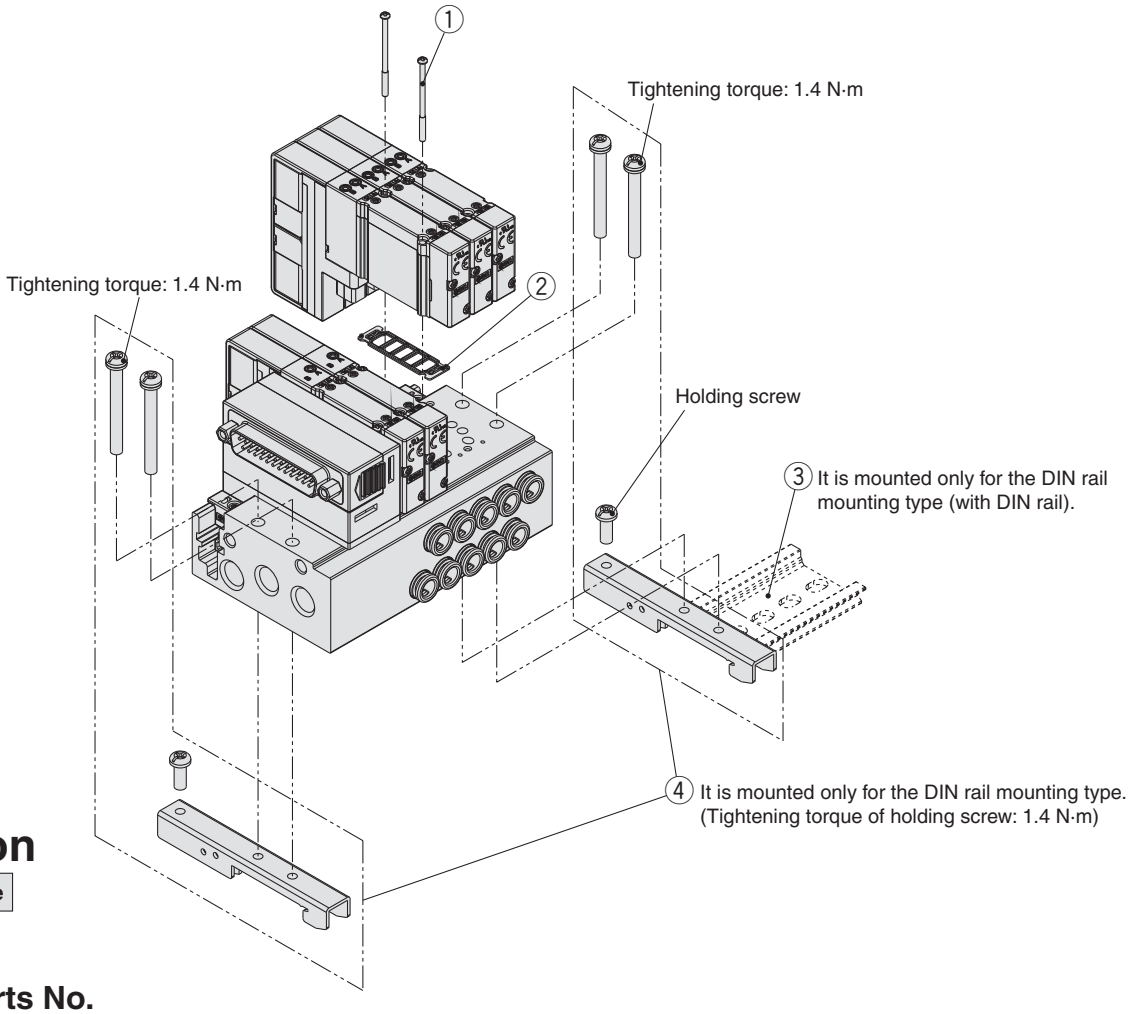
SS5Y5-52(R)S5□-Stations U/D/B-□(D)



Note) These figures show the "SS5Y5-52S5-05B".

n: Stations	2	3	4	5	6	7	8	9	10	11	12
L1	84	100	116	132	148	164	180	196	212	228	244
L2	74	90	106	122	138	154	170	186	202	218	234
L3	110.5	135.5	148	160.5	173	198	210.5	223	248	260.5	273
L4	100	125	137.5	150	162.5	187.5	200	212.5	237.5	250	262.5
L5	13.5	18	16	14.5	12.5	17	15.5	13.5	18	16.5	14.5

Plug-in Metal Base Manifold Exploded View



⚠ Caution

Tightening torque

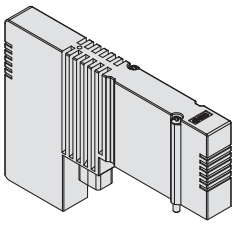
M2: 0.16 N·m
M3: 0.8 N·m

Manifold Parts No.

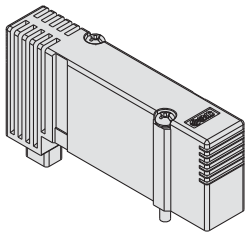
No.	Description		Part no. SY3000	Part no. SY5000	Note
①	**Valve mounting screw**	**Round head combination screw**	**SY3000-23-24A** (M2 x 32)	**SY5000-221-1A** (M3 x 32.5)	Part numbers shown on the left are for 10 valves (20 pcs.).
		Hexagon socket head cap screw	**SY3000-222-1A** (M2 x 32)	**SY5000-222-1A** (M3 x 32.5)	Part numbers shown on the left are for 10 valves (20 pcs.).
②	**Base gasket (for plug-in metal base)**		**SY30M-11-1A**	**SY50M-11-1A**	Part numbers shown on the left are for 10 valves (10 pcs.).
③	**DIN rail**		**VZ1000-11-1-□**	**VZ1000-11-4-□**	Refer to page 140.
④	**Clamp bracket assembly (for plug-in metal base)**		**SY30M-15-2A**	**SY50M-15-2A**	Part numbers shown on the left are for the clamp bracket assembly for one manifold (two sets of clamp brackets).

■Blanking plate assembly (With two mounting screws)

Used when expecting valve additions, or for maintenance. A structure to prevent screws falling out is in place on the blanking plate, making it much harder for the mounting screws to fall out.



SY30M-26-2A(-B)



SY50M-26-2A(-B)

Refer to pages 149 and 151 for dimensions.

Refer to pages 141 to 148 for individual SUP/EXH and other options.

How to Order Blanking Plate Assembly

SY □ 0M − 26 − 2 A − □

Series

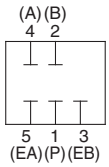
3	SY3000
5	SY5000

Option for mounting

—	With mounting screw (Round head combination screw)
B	With mounting screw (Hexagon socket head cap screw)

Base type

2	For plug-in metal base



Circuit diagram

Type 10
Side Ported

Type 11
Bottom Ported

Plug-in Connector Connecting Base

D-sub Connector (IP40/IP67) | Flat Ribbon Cable (IP40) | PC Wiring (IP40)

Series SY3000/5000

CE RoHS

How to Order Manifold

SS5Y 3 – 10 F 1 – 05 U □ – C6 □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾

Refer to page 123 for dimensions of Type 11/Bottom ported type.

❶ Series

3	SY3000
5	SY5000

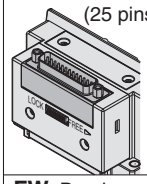
❷ Type

10	Side ported
11	Bottom ported*

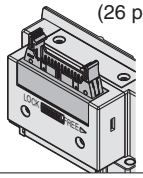
* The SY5000 manifold base is used for the bottom ported of the SY3000. When ordering, refer to Plug-in Mixed Mounting Type Manifold (from page 127).

❸ Connector type

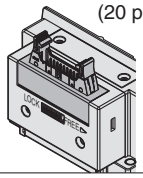
F: D-sub connector (25 pins, IP40)



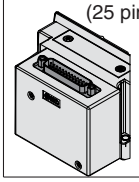
P: Flat ribbon cable (26 pins)



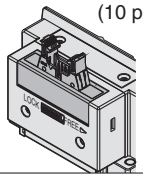
PG: Flat ribbon cable (20 pins)



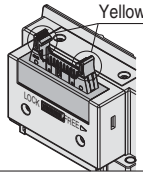
FW: D-sub connector (25 pins, IP67)



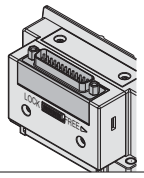
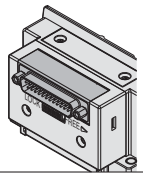
PH: Flat ribbon cable (10 pins)



J: PC wiring (20 pins)



❹ Connector entry direction

1: Upward	**2**: Lateral
	

❺ Valve stations

F/FW: D-sub connector (25 pins)

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
12	12 stations	
02	2 stations	Specified layout Note 2) (Available up to 24 solenoids)
⋮	⋮	
24	24 stations	

P: Flat ribbon cable (26 pins)

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
12	12 stations	
02	2 stations	Specified layout Note 2) (Available up to 24 solenoids)
⋮	⋮	
24	24 stations	

PG: Flat ribbon cable (20 pins)

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
09	9 stations	
02	2 stations	Specified layout Note 2) (Available up to 18 solenoids)
⋮	⋮	
18	18 stations	

PH: Flat ribbon cable (10 pins)

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
04	4 stations	
02	2 stations	Specified layout Note 2) (Available up to 8 solenoids)
⋮	⋮	
08	8 stations	

J: PC wiring (20 pins)

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
08	8 stations	
02	2 stations	Specified layout Note 2) (Available up to 16 solenoids)
⋮	⋮	
16	16 stations	

Note 1) Double wiring: 2-position single, double, 3-position and 4-position valves can be used on all manifold stations. Use of a 2-position single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.

Note 2) Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.)

Note 3) This also includes the number of blanking plate assembly.

❻ P, E port entry

U	U side (2 to 10 stations)
D	D side (2 to 10 stations)
B	Both sides (2 to 24 stations)

Refer to the page on the right for ❽.

❼ SUP/EXH block assembly

—	Internal pilot
S	Internal pilot, Built-in silencer
R	External pilot

* 3/5(E) port is plugged for the built-in silencer type.

❾ Mounting and Option

Symbol	Mounting	Option
—	Direct mounting	None
AA		Name plate (With station number)
BA		Name plate (Without station number)
D□	DIN rail mounting	Without name plate
A□		Name plate (With station number)
B□		Name plate (Without station number)

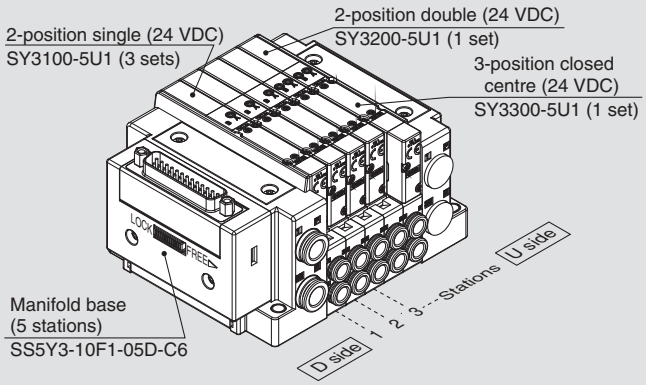
DIN Rail Option

—	Direct mounting	
0	Without DIN rail (with bracket)	
3	For 3 stations	Specify a longer rail than the total length of specified stations.
⋮	⋮	
24	For 24 stations	

Note 1) Enter the number of stations inside □. (Refer to "DIN Rail Option" below.)
Note 2) Only direct mounting is available for Type 11 (Bottom ported).

How to Order Manifold Assembly

Example (SS5Y3-10F1-□)



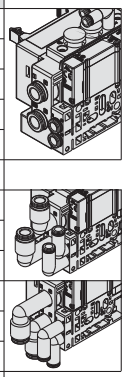
SS5Y3-10F1-05D-C6 ··· 1 set (Type 10 5-station manifold base part no.)
***SY3100-5U1 ··· 3 sets (2-position single part no.)**
***SY3200-5U1 ··· 1 set (2-position double part no.)**
***SY3300-5U1 ··· 1 set (3-position closed centre part no.)**
→ The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the valve, etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on a manifold specification sheet.

Note) When mixing top ported configurations, select from page 56.
In this case, use caution as there is also output on the A and B port on base side. Specify on a manifold specification sheet if plugs are required on the A and B port on base side.

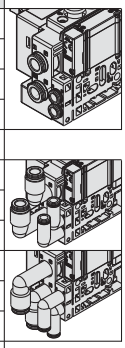
❽ A, B port size (Metric)

Symbol	A, B port		Type 10/ Side ported SY3000	Type 10/ Side ported SY5000	Type 11/ Bottom ported SY5000
C2	Straight	ø2 One-touch fitting	●	—	—
C3	Straight	ø3.2 One-touch fitting	●	—	—
C4	Straight	ø4 One-touch fitting	●	●	●
C6	Straight	ø6 One-touch fitting	●	●	●
C8	Straight	ø8 One-touch fitting	—	●	●
CM*	Straight	Straight port, mixed sizes	●	●	●
L4	Elbow (Note) Upward	ø4 One-touch fitting	●	●	—
L6	Elbow (Note) Upward	ø6 One-touch fitting	●	●	—
L8	Elbow (Note) Upward	ø8 One-touch fitting	—	●	—
B4	Elbow (Note) Downward	ø4 One-touch fitting	●	●	—
B6	Elbow (Note) Downward	ø6 One-touch fitting	●	●	—
B8	Elbow (Note) Downward	ø8 One-touch fitting	—	●	—
LM*	Elbow	Elbow port, mixed sizes (Including upward and downward piping)	●	●	—
P, E port size (One-touch fittings)			ø8	ø10	ø10



A, B port size (Inch)

Symbol	A, B port		Type 10/ Side ported SY3000	Type 10/ Side ported SY5000	Type 11/ Bottom ported SY5000
N1	Straight	ø1/8" One-touch fitting	●	—	—
N3	Straight	ø5/32" One-touch fitting	●	●	●
N7	Straight	ø1/4" One-touch fitting	●	●	●
N9	Straight	ø5/16" One-touch fitting	—	●	●
CM*	Straight	Straight port, mixed sizes	●	●	●
LN3	Elbow (Note) Upward	ø5/32" One-touch fitting	●	—	—
LN7	Elbow (Note) Upward	ø1/4" One-touch fitting	●	●	—
LN9	Elbow (Note) Upward	ø5/16" One-touch fitting	—	●	—
BN3	Elbow (Note) Downward	ø5/32" One-touch fitting	●	—	—
BN7	Elbow (Note) Downward	ø1/4" One-touch fitting	●	●	—
BN9	Elbow (Note) Downward	ø5/16" One-touch fitting	—	●	—
LM*	Elbow	Elbow port, mixed sizes (Including upward and downward piping)	●	●	—
P, E port size (One-touch fittings)			ø5/16"	ø3/8"	ø3/8"



Note) To avoid interference with the body or piping, select downward elbow port when mounting the optional spacer assembly (pages 141 to 143).
* Indicate the sizes on the manifold specification sheet in the case of "CM", "LM".
* The direction of P, E port fittings is the same as for A, B port. If selecting "LM", indicate it on the manifold specification sheet for the P, E port fitting direction.

How to Order Valves (With two mounting screws)

Refer to page 8 for valve specifications.

SY 3 1 0 0 □ □ □ □ – 5 □ □ 1 – □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫

❸ Base mounted

❶ Series

3	SY3000
5	SY5000

❷ Type of actuation

1	2-position single
2	2-position double
3	3-position closed centre
4	3-position exhaust centre
5	3-position pressure centre
A*	4-position dual 3-port valve (N.C./N.C.)
B*	4-position dual 3-port valve (N.O./N.O.)
C*	4-position dual 3-port valve (N.C./N.O.)

* Only rubber seal type is available for the 4-position dual 3-port valve.

❸ Seal type

0	Rubber seal
1	Metal seal

❹ Pilot type

—	Internal pilot
R	External pilot

❺ Back pressure check valve (Built-in valve type)

—	None
H	Built-in

* Only rubber seal type. Manifold installed type is available if the back pressure check valve is required for a valve with metal seal. Refer to page 147 for Ordering Example. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.
* The built-in valve type back pressure check valve is not available for the 3-position type.

❻ Pilot valve option

—	Standard (0.7 MPa)
B	Quick response type (0.7 MPa)
K*	High pressure type (1.0 MPa)

* Only metal seal type is available for the high pressure type.

❼ Coil type

—	Standard
T	With power saving circuit (Continuous duty type)

* Be sure to select the power saving circuit type when the valve is continuously energized for long periods of time.
* Note the specified energizing time when power saving circuit is selected. Refer to page 154.

❽ Rated voltage

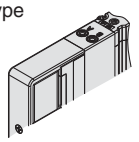
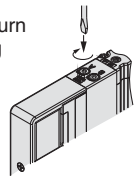
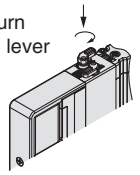
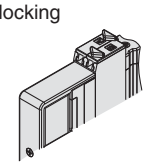
5	24 VDC
6	12 VDC

❾ Light/surge voltage suppressor and common specification

—	Without light/surge voltage suppressor (Non-polar)
R	With surge voltage suppressor (Non-polar)
U	With light/surge voltage suppressor (Non-polar)
S	With surge voltage suppressor (Positive common)
Z	With light/surge voltage suppressor (Positive common)
NS	With surge voltage suppressor (Negative common)
NZ	With light/surge voltage suppressor (Negative common)

* Only "Z" and "NZ" types are available for the product with power saving circuit.

❿ Manual override

—: Non-locking push type	
D: Push-turn locking slotted type	
E: Push-turn locking lever type	
F: Slide locking type	

⓫ Type of mounting screw

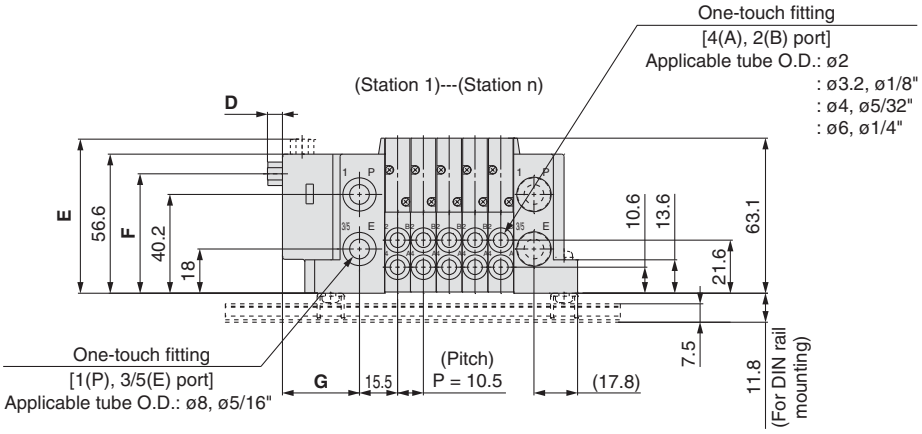
—	Round head combination screw
B	Hexagon socket head cap screw
K	Round head combination screw (Falling-out-prevention type)
H	Hexagon socket head cap screw (Falling-out-prevention type)

* For "K" and "H", the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance etc.
* When ordering a valve individually, the base gasket is not included. Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance service.
  Refer to page 136 for part numbers of the base gasket and mounting screw.
* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly or double check spacer assembly with residual pressure release valve.

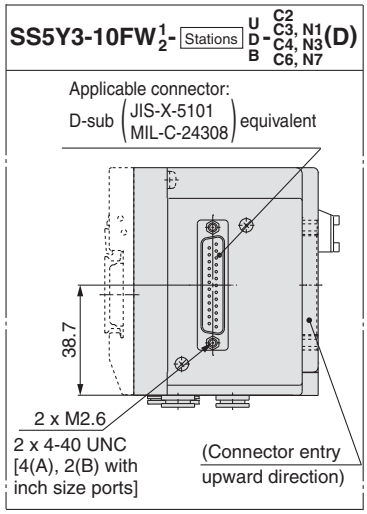
⚠ Protective class class Ⅲ (Mark: ⧼Ⅲ⧽)

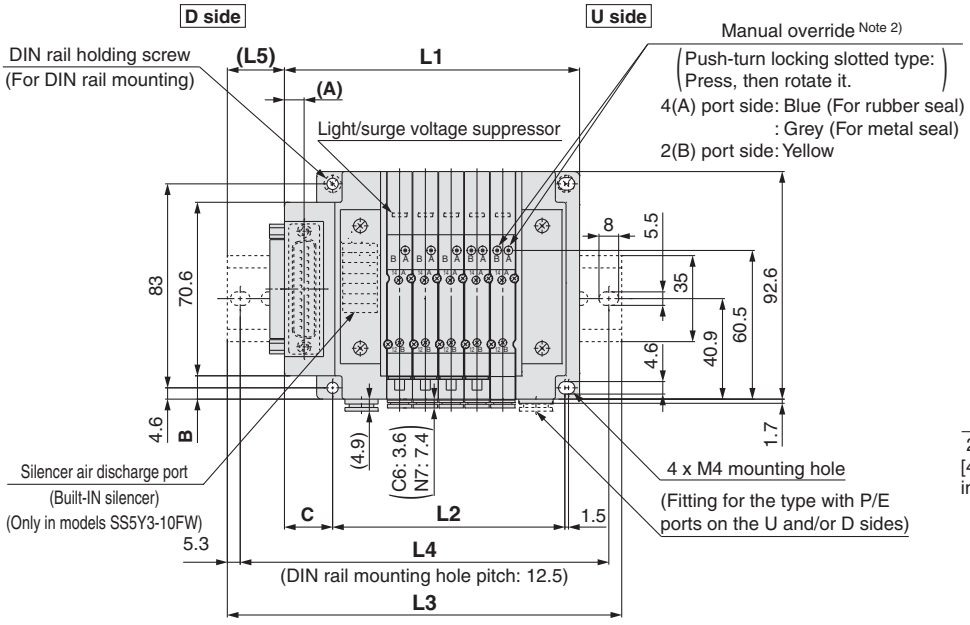
Dimensions: Type 10/D-sub Connector/Series SY3000

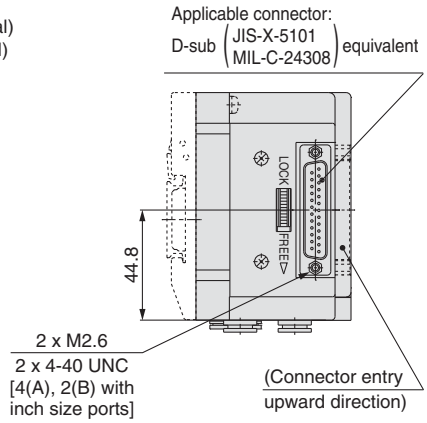
SS5Y3-10F$\frac{1}{2}$- Stations U/D/B - C2/C3, N1/C4, N3/C6, N7 (D)



SS5Y3-10FW$\frac{1}{2}$- Stations U/D/B - C2/C3, N1/C4, N3/C6, N7 (D)







Note 1) These figures show the "SS5Y3-10F2-05D-C6".
Note 2) Refer to page 121 for dimensions of external pilot, silencer, elbow fittings and slide locking manual override.
Note 3) Refer to page 124 for dimensions of A or B port top-ported type.

Model	A	B	C	D	E	F	G
SS5Y3-10F	8	9.5	19.6	6.1	62.7	48.6	31.4
SS5Y3-10FW	15	3.4	36.5	4.5	61.1	18	48.3

Note) Measures to any number of stations.

SS5Y3-10F - $\frac{1}{2}$ Stations - U/D/B C2/C3, N1/C4, N3/C6, N7 (D)

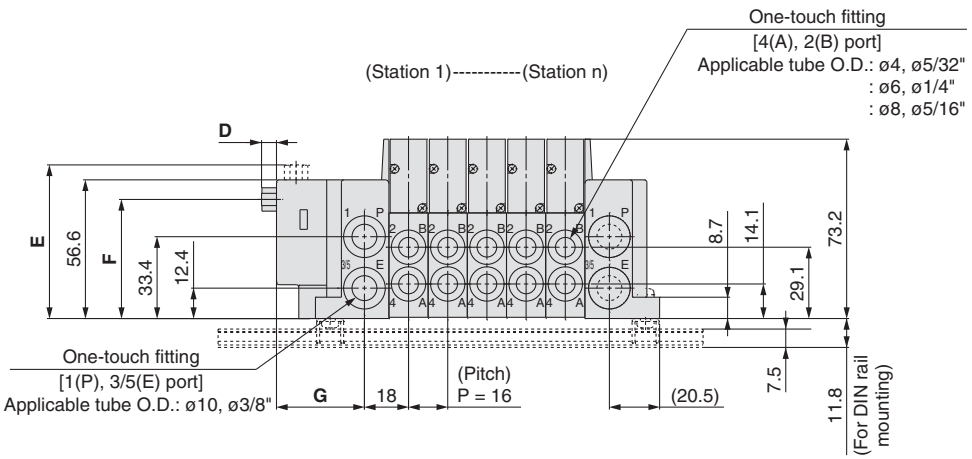
n: Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	88.6	99.1	109.6	120.1	130.6	141.1	151.6	162.1	172.6	183.1	193.6	204.1	214.6	225.1	235.6	246.1	256.6	267.1	277.6	288.1	298.6	309.1	319.6
L2	63	73.5	84	94.5	105	115.5	126	136.5	147	157.5	168	178.5	189	199.5	210	220.5	231	241.5	252	262.5	273	283.5	294
L3	123	135.5	148	160.5	160.5	173	185.5	198	210.5	223	223	235.5	248	260.5	273	285.5	298	298	310.5	323	335.5	348	360.5
L4	112.5	125	137.5	150	150	162.5	175	187.5	200	212.5	212.5	225	237.5	250	262.5	275	287.5	287.5	300	312.5	325	337.5	350
L5	20.5	21.5	22.5	23.5	18	19	20	21	22	23	18	19	20	21	22	23	23.5	18.5	19.5	20.5	21.5	22.5	23.5

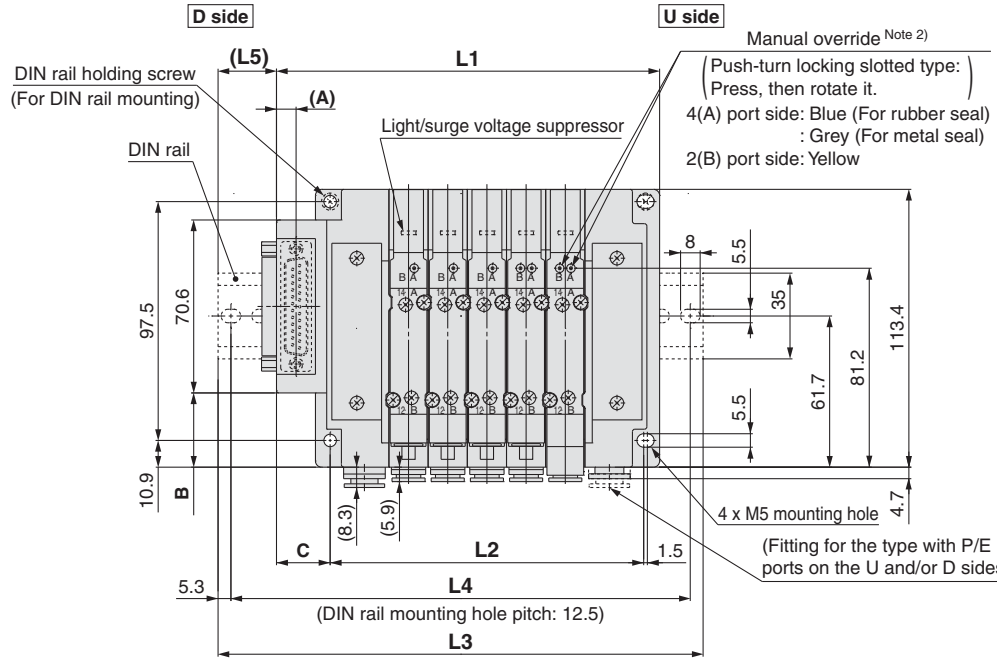
SS5Y3-10FW$\frac{1}{2}$- Stations - U/D/B C2/C3, N1/C4, N3/C6, N7 (D)

n: Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	105.5	116	126.5	137	147.5	158	168.5	179	189.5	200	210.5	221	231.5	242	252.5	263	273.5	284	294.5	305	315.5	326	336.5
L2	63	73.5	84	94.5	105	115.5	126	136.5	147	157.5	168	178.5	189	199.5	210	220.5	231	241.5	252	262.5	273	283.5	294
L3	135.5	148	160.5	173	185.5	198	198	210.5	223	235.5	248	260.5	260.5	273	285.5	298	310.5	323	323	335.5	348	360.5	373
L4	125	137.5	150	162.5	175	187.5	187.5	200	212.5	225	237.5	250	250	262.5	275	287.5	300	312.5	312.5	325	337.5	350	362.5
L5	17.5	18.5	19.5	20.5	21.5	22.5	17	18	19	20	21	22	17	18	19	20	21	22	16.5	17.5	18.5	19.5	20.5

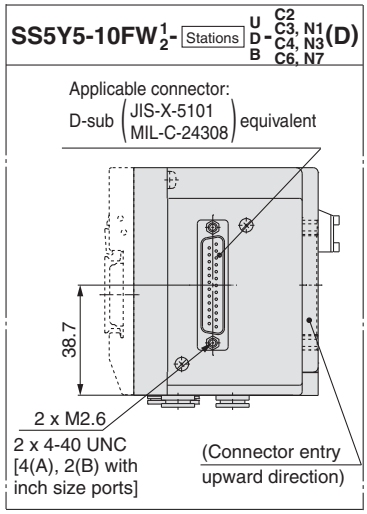
Dimensions: Type 10/D-sub Connector/Series SY5000

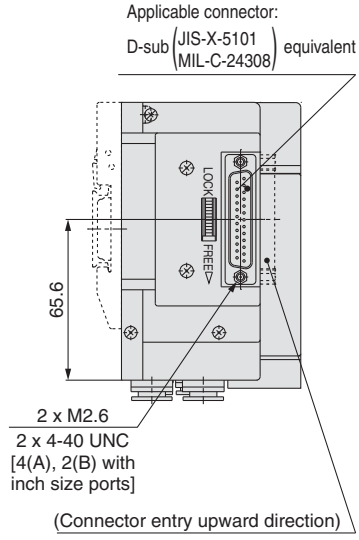
SS5Y5-10F$^{1}_{2}$- Stations U/D/B - C4, N3 / C6, N7 / C8, N9 (D)





SS5Y5-10FW$^{1}_{2}$- Stations U/D/B - C2 / C3, N1 / C4, N3 / C6, N7 (D)





Note 1) These figures show the "SS5Y5-10F2-05D-C8".
Note 2) Refer to page 121 for dimensions of external pilot, silencer, elbow fittings and slide locking manual override.
Note 3) Refer to page 124 for dimensions of A or B port top-ported type.

Model	A	B	C	D	E	F	G
SS5Y5-10F	8	30.3	21.9	6.1	62.7	48.6	35.9
SS5Y5-10FW	15	24.2	38	4.5	61.1	23	50

Note) Measures to any number of stations.

SS5Y5-10F -$^{1}_{2}$ Stations - U/D/B - C2 / C3, N1 / C4, N3 / C6, N7 (D)

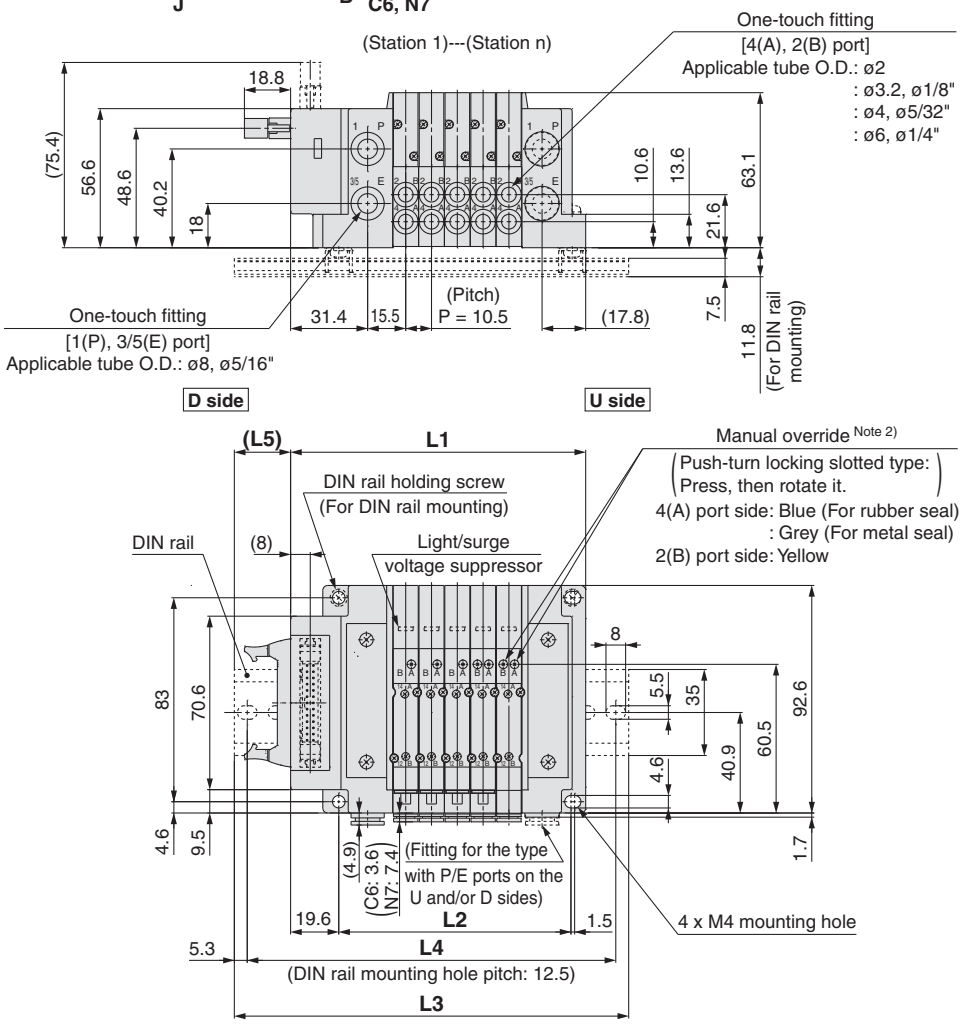
n: Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	108.4	124.4	140.4	156.4	172.4	188.4	204.4	220.4	236.4	252.4	268.4	284.4	300.4	316.4	332.4	348.4	364.4	380.4	396.4	412.4	428.4	444.4	460.4
L2	80	96	112	128	144	160	176	192	208	224	240	256	272	288	304	320	336	352	368	384	400	416	432
L3	148	160.5	173	198	210.5	223	235.5	260.5	273	285.5	298	323	335.5	348	373	385.5	398	410.5	435.5	448	460.5	485.5	498
L4	137.5	150	162.5	187.5	200	212.5	225	250	262.5	275	287.5	312.5	325	337.5	362.5	375	387.5	400	425	437.5	450	475	487.5
L5	23	21	19.5	24	22	20.5	18.5	23	21.5	19.5	18	22.5	20.5	19	23.5	21.5	20	18	22.5	21	19	23.5	22

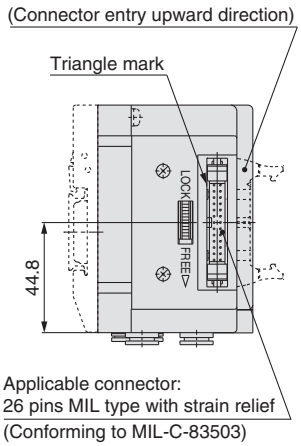
SS5Y5-10FW$^{1}_{2}$- Stations - U/D/B - C2 / C3, N1 / C4, N3 / C6, N7 (D)

n: Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	122.5	138.5	154.5	170.5	186.5	202.5	218.5	234.5	250.5	266.5	282.5	298.5	314.5	330.5	346.5	362.5	378.5	394.5	410.5	426.5	442.5	458.5	474.5
L2	80	96	112	128	144	160	176	192	208	224	240	256	272	288	304	320	336	352	368	384	400	416	432
L3	160.5	173	185.5	210.5	223	235.5	248	273	285.5	298	310.5	335.5	348	360.5	385.5	398	410.5	423	448	460.5	473	498	510.5
L4	150	162.5	175	200	212.5	225	237.5	262.5	275	287.5	300	325	337.5	350	375	387.5	400	412.5	437.5	450	462.5	487.5	500
L5	21.5	19.5	18	22.5	20.5	19	17	21.5	20	18	16.5	21	19	17.5	22	20	18.5	16.5	21	19.5	17.5	22	20.5

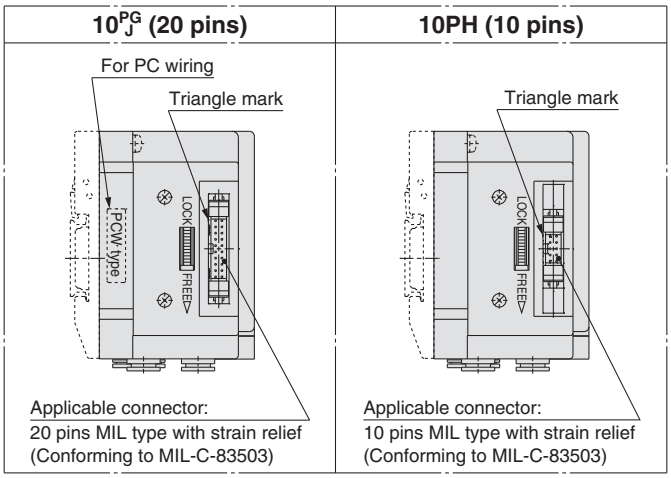
Dimensions: Type 10/Flat Ribbon Cable/Series SY3000

SS5Y3-10 P / PG / PH / J **1** / **2** - **Stations** U / D / B - C2 / C3, N1 / C4, N3 / C6, N7 **(D)**





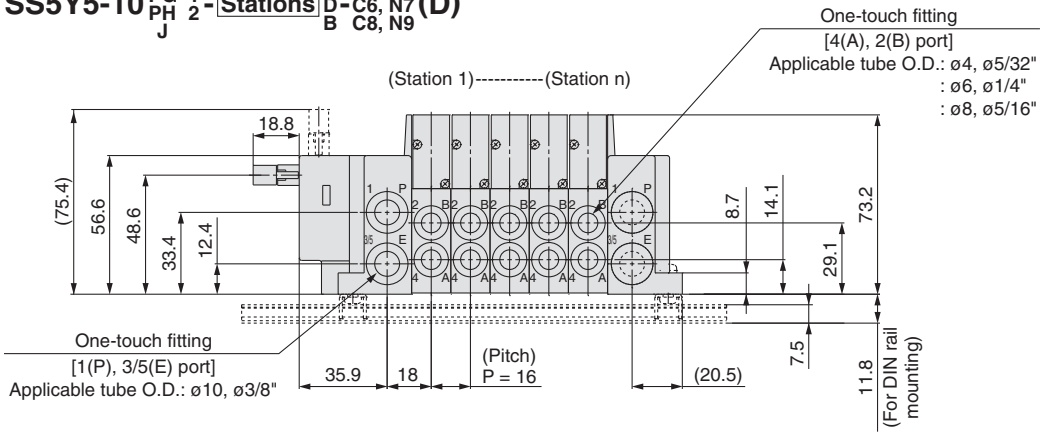
Note 1) These figures show the "SS5Y3-10P2-05D-C6".
Note 2) Refer to page 121 for dimensions of external pilot, silencer, elbow fittings and slide locking manual override.
Note 3) Refer to page 124 for dimensions of A or B port top-ported type.
Note 4) Only connectors are different for 10PG, 10PH and 10J. L1 to L5 dimensions are the same as 10P type.

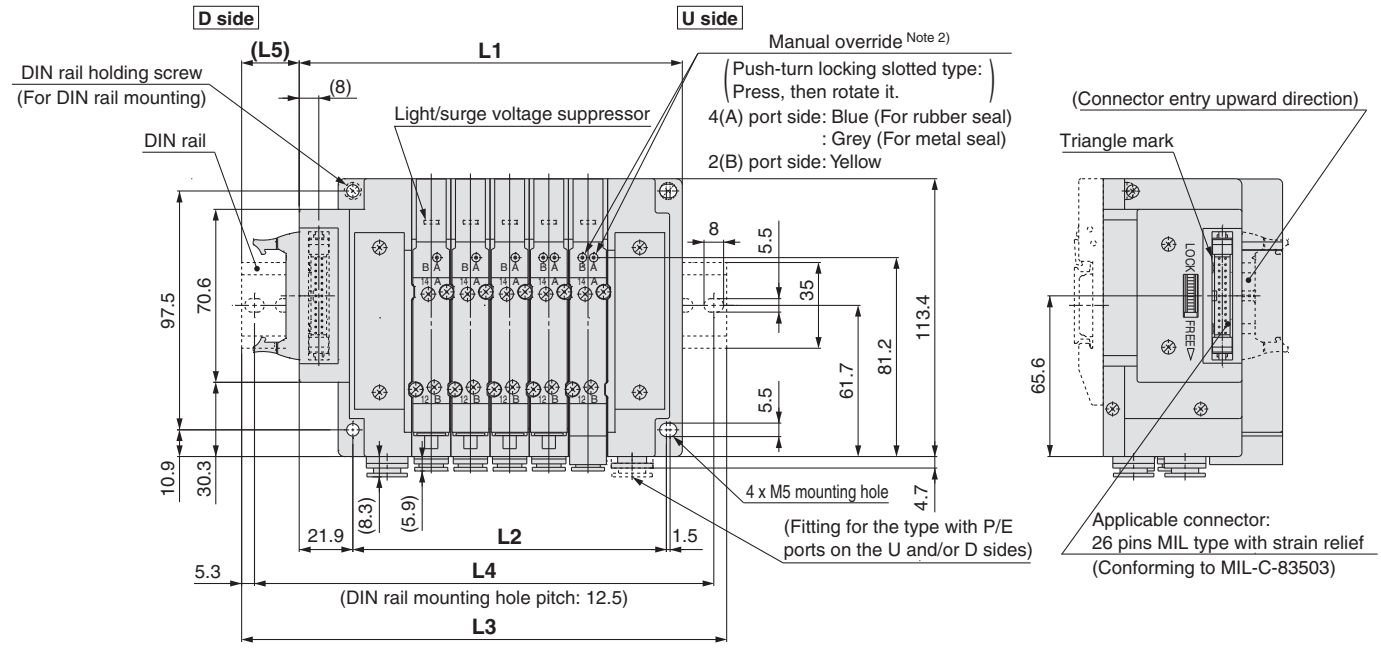


n: Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	88.6	99.1	109.6	120.1	130.6	141.1	151.6	162.1	172.6	183.1	193.6	204.1	214.6	225.1	235.6	246.1	256.6	267.1	277.6	288.1	298.6	309.1	319.6
L2	63	73.5	84	94.5	105	115.5	126	136.5	147	157.5	168	178.5	189	199.5	210	220.5	231	241.5	252	262.5	273	283.5	294
L3	123	135.5	148	160.5	160.5	173	185.5	198	210.5	223	223	235.5	248	260.5	273	285.5	298	298	310.5	323	335.5	348	360.5
L4	112.5	125	137.5	150	150	162.5	175	187.5	200	212.5	212.5	225	237.5	250	262.5	275	287.5	287.5	300	312.5	325	337.5	350
L5	20.5	21.5	22.5	23.5	18	19	20	21	22	23	18	19	20	21	22	23	23.5	18.5	19.5	20.5	21.5	22.5	23.5

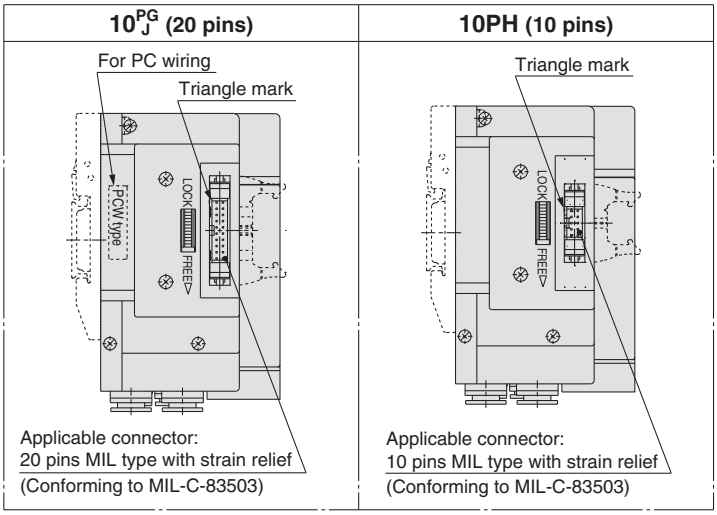
Dimensions: Type 10/Flat Ribbon Cable/Series SY5000

SS5Y5-10 P/PG/PH/J **1/2** - **Stations** U/D/B **C4, N3 / C6, N7 / C8, N9** **(D)**





Note 1) These figures show the "SS5Y5-10P2-05D-C8".
Note 2) Refer to page 122 for dimensions of external pilot, silencer, elbow fittings and slide locking manual override.
Note 3) Refer to page 125 for dimensions of A or B port top-ported type.
Note 4) Only connectors are different for 10PG, 10PH and 10J. L1 to L5 dimensions are the same as 10P type.



n: Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	108.4	124.4	140.4	156.4	172.4	188.4	204.4	220.4	236.4	252.4	268.4	284.4	300.4	316.4	332.4	348.4	364.4	380.4	396.4	412.4	428.4	444.4	460.4
L2	80	96	112	128	144	160	176	192	208	224	240	256	272	288	304	320	336	352	368	384	400	416	432
L3	148	160.5	173	198	210.5	223	235.5	260.5	273	285.5	298	323	335.5	348	373	385.5	398	410.5	435.5	448	460.5	485.5	498
L4	137.5	150	162.5	187.5	200	212.5	225	250	262.5	275	287.5	312.5	325	337.5	362.5	375	387.5	400	425	437.5	450	475	487.5
L5	23	21	19.5	24	22	20.5	18.5	23	21.5	19.5	18	22.5	20.5	19	23.5	21.5	20	18	22.5	21	19	23.5	22

Plug-in Connector Connecting Base

D-sub Connector (IP40/IP67) | Flat Ribbon Cable (IP40) | PC Wiring (IP40)

Type 12 Top Ported

Series SY3000/5000

RoHS

How to Order Manifold

SS5Y 3 – 12 F 1 – 05 U □ – □ □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽

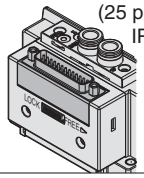
Refer to pages 124 and 125 for dimensions of Type 12/Top ported type.

❶ Series

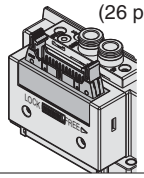
3	SY3000
5	SY5000

❷ Connector type

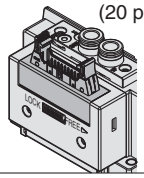
F: D-sub connector (25 pins, IP40)



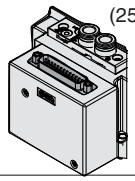
P: Flat ribbon cable (26 pins)



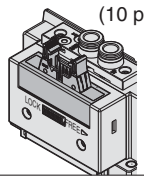
PG: Flat ribbon cable (20 pins)



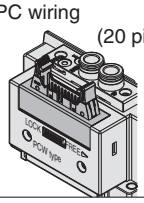
FW: D-sub connector (25 pins, IP67)



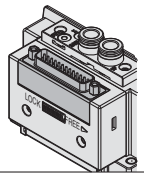
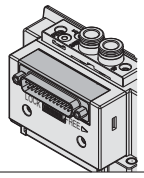
PH: Flat ribbon cable (10 pins)



J: PC wiring (20 pins)



❸ Connector entry direction

1: Upward	**2**: Lateral
	

❹ Valve stations

F/FW: D-sub connector (25 pins)

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
12	12 stations	
02	2 stations	Specified layout Note 2) (Available up to 24 solenoids)
⋮	⋮	
24	24 stations	

P: Flat ribbon cable (26 pins)

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
12	12 stations	
02	2 stations	Specified layout Note 2) (Available up to 24 solenoids)
⋮	⋮	
24	24 stations	

PG: Flat ribbon cable (20 pins)

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
09	9 stations	
02	2 stations	Specified layout Note 2) (Available up to 18 solenoids)
⋮	⋮	
18	18 stations	

PH: Flat ribbon cable (10 pins)

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
04	4 stations	
02	2 stations	Specified layout Note 2) (Available up to 8 solenoids)
⋮	⋮	
08	8 stations	

J: PC wiring (20 pins)

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
08	8 stations	
02	2 stations	Specified layout Note 2) (Available up to 16 solenoids)
⋮	⋮	
16	16 stations	

Note 1) Double wiring: 2-position single, double, 3-position and 4-position valves can be used on all manifold stations.
Use of a 2-position single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.

Note 2) Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.)

Note 3) This also includes the number of blanking plate assembly.

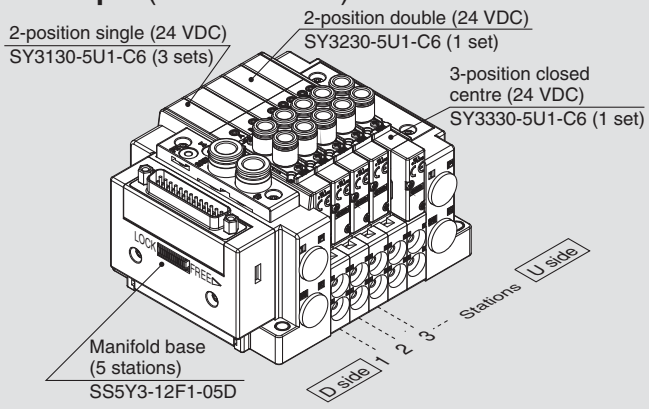
❺ P, E port entry

U Note)	U side (2 to 10 stations)
D Note)	D side (2 to 10 stations)
B	Both sides (2 to 24 stations)

Note) ❻ For type "S", supply/exhaust block assembly with built-in silencer, choose U or D for P port entry.

How to Order Manifold Assembly

Example (SS5Y3-12F1-□)



SS5Y3-12F1-05D ····· 1 set (Type 12 5-station manifold base part no.)
∗SY3130-5U1-C6 ····· 3 sets (2-position single part no.)
∗SY3230-5U1-C6 ····· 1 set (2-position double part no.)
∗SY3330-5U1-C6 ····· 1 set (3-position closed centre part no.)

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

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold part number, state the valves to be mounted in order from the 1st station as shown in the figure above.
  If the arrangement becomes complicated, specify on a manifold specification sheet.

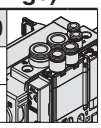
❻ SUP/EXH block assembly

—	Internal pilot
S	Internal pilot,Built-in silencer
R	External pilot

∗ For built-in silencer type, P and E ports are available on U and D sides. 3/5(E) port is plugged. The silencer exhaust port is located on the opposite side of P, E port entry. (Example: When the P, E port entry is D side, the silencer exhaust port is U side.)

❼ P, E port size (One-touch fittings)

Symbol	SY3000	SY5000
—	ø8	ø10
N	ø5/16"	ø3/8"



∗ For N, sizes are in inches.

❽ Mounting

—	Direct mounting	
D	DIN rail mounting (With DIN rail)	
D0	DIN rail mounting (Without DIN rail)	
D3	For 3 stations	Specify a longer rail than the standard length.
⋮	⋮	
D24	For 24 stations	

SMC

How to Order Valves (With two mounting screws)

Refer to page 8 for valve specifications.

SY 3 1 3 0 ❶ ❷ ❸ ❹ ❺ ❻ ❼ – 5 ❽ ❾ ❿ 1 – C6 ⓫ ⓬ – ⓭

● Top ported

❶ Series

3	SY3000
5	SY5000

❷ Type of actuation

1	2-position single
2	2-position double
3	3-position closed centre
4	3-position exhaust centre
5	3-position pressure centre
A*	4-position dual 3-port valve (N.C./N.C.)
B*	4-position dual 3-port valve (N.O./N.O.)
C*	4-position dual 3-port valve (N.C./N.O.)

* Only rubber seal type is available for the 4-position dual 3-port valve.

❸ Seal type

0	Rubber seal
1	Metal seal

❹ Pilot type

—	Internal pilot
R	External pilot

❺ Back pressure check valve (Built-in valve type)

—	None
H	Built-in

* Only rubber seal type. Manifold installed type is available if the back pressure check valve is required for a valve with metal seal. Refer to page 147 for Ordering Example. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.
* The built-in valve type back pressure check valve is not available for the 3-position type.

❻ Pilot valve option

—	Standard (0.7 MPa)
B	Quick response type (0.7 MPa)
K*	High pressure type (1.0 MPa)

* Only metal seal type is available for the high pressure type.

❼ Coil type

—	Standard
T	With power saving circuit (Continuous duty type)

* Be sure to select the power saving circuit type when the valve is continuously energized for long periods of time.
* Note the specified energizing time when power saving circuit is selected. Refer to page 154.

❽ Rated voltage

5	24 VDC
6	12 VDC

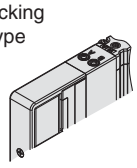
❾ Light/surge voltage suppressor and common specification

—	Without light/surge voltage suppressor (Non-polar)
R	With surge voltage suppressor (Non-polar)
U	With light/surge voltage suppressor (Non-polar)
S	With surge voltage suppressor (Positive common)
Z	With light/surge voltage suppressor (Positive common)
NS	With surge voltage suppressor (Negative common)
NZ	With light/surge voltage suppressor (Negative common)

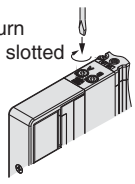
* Only "Z" and "NZ" types are available for the product with power saving circuit.

❿ Manual override

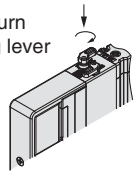
—: Non-locking push type



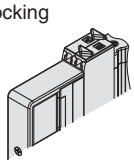
D: Push-turn locking slotted type



E: Push-turn locking lever type



F: Slide locking type



⓫ A, B port size

Thread piping

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

One-touch fitting (Metric)

Symbol	A, B port	SY3000	SY5000
C2	ø2 One-touch fitting	●	—
C3	ø3.2 One-touch fitting	●	—
C4	ø4 One-touch fitting	●	●
C6	ø6 One-touch fitting	●	●
C8	ø8 One-touch fitting	—	●

One-touch fitting (Inch)

Symbol	A, B port	SY3000	SY5000
N1	ø1/8" One-touch fitting	●	—
N3	ø5/32" One-touch fitting	●	●
N7	ø1/4" One-touch fitting	●	●
N9	ø5/16" One-touch fitting	—	●

⓬ Thread type

—	Rc
F	G
N	NPT
T	NPTF

* Only — is available for M5.

⓭ Type of mounting screw

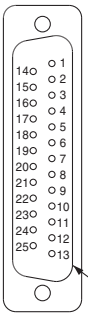
—	Round head combination screw
B	Hexagon socket head cap screw
K	Round head combination screw (Falling-out-prevention type)
H	Hexagon socket head cap screw (Falling-out-prevention type)

* For "K" and "H", the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance etc.
* When ordering a valve individually, the base gasket is not included. Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance service.
  Refer to page 136 for part numbers of the base gasket and mounting screw.
* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly.

⚠ Protective class class Ⅲ (Mark: ⏚)

Electrical Wiring Specifications

D-sub connector



Connector terminal no.

If alignment is not specified, the internal wiring is double wiring (connected to SOL. a and SOL. b) regardless of number of stations, valve and option types.

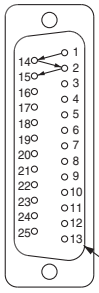
Lead wire colour for D-sub connector assembly
(AXT100-DS25- $^{015}_{030}_{050}$ **)**
(SY30M-DS25- $^{015}_{030}_{050}$ **N)**

		Terminal no.	Polarity		Lead wire colour	Dot marking
Station 1	SOL.a	1	(–)	(+)	Black	None
	SOL.b	14	(–)	(+)	Yellow	Black
Station 2	SOL.a	2	(–)	(+)	Brown	None
	SOL.b	15	(–)	(+)	Pink	Black
Station 3	SOL.a	3	(–)	(+)	Red	None
	SOL.b	16	(–)	(+)	Blue	White
Station 4	SOL.a	4	(–)	(+)	Orange	None
	SOL.b	17	(–)	(+)	Purple	None
Station 5	SOL.a	5	(–)	(+)	Yellow	None
	SOL.b	18	(–)	(+)	Grey	None
Station 6	SOL.a	6	(–)	(+)	Pink	None
	SOL.b	19	(–)	(+)	Orange	Black
Station 7	SOL.a	7	(–)	(+)	Blue	None
	SOL.b	20	(–)	(+)	Red	White
Station 8	SOL.a	8	(–)	(+)	Purple	White
	SOL.b	21	(–)	(+)	Brown	White
Station 9	SOL.a	9	(–)	(+)	Grey	Black
	SOL.b	22	(–)	(+)	Pink	Red
Station 10	SOL.a	10	(–)	(+)	White	Black
	SOL.b	23	(–)	(+)	Grey	Red
Station 11	SOL.a	11	(–)	(+)	White	Red
	SOL.b	24	(–)	(+)	Black	White
Station 12	SOL.a	12	(–)	(+)	Yellow	Red
	SOL.b	25	(–)	(+)	White	None
	COM.	13	(+)	(–)	Orange	Red
			Positive common	**Negative common**		

Note) When using a valve with no polarity, either positive common or negative common can be used.

Specified Layout

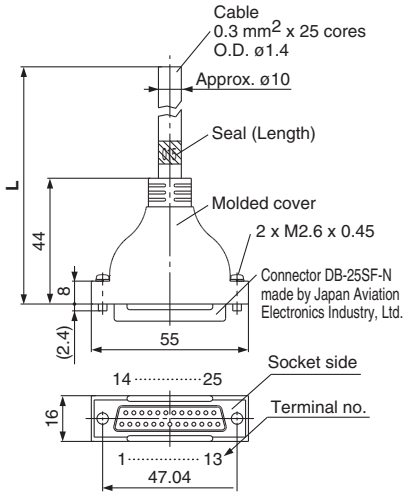
(25 pins)



Mixed wiring of single and double wiring can be specified on the manifold specification sheet. The maximum number of stations is determined according to the number of solenoids. The total number of solenoids should be 24 or less. 1 solenoid is required for 2-position single, and 2 solenoids for 2-position double, 3-position and 4-position.

Cable Assembly (IP40)

AXT100-DS25- $^{015}_{030}_{050}$



D-sub connector cable assembly

Cable length (**L**)	Assembly part no.	Note
1.5 m	AXT100-DS25-015	Cable 0.3 mm² x 25 cores
3 m	AXT100-DS25-030	
5 m	AXT100-DS25-050	

* When using a standard commercial connector, use a 25-pin type female connector conforming to MIL-C-24308.
* Cannot be used for movable wiring.
* Lengths other than the above are also available. Please contact SMC for details.

Lead wire colour for D-sub connector cable assembly by terminal number

Terminal no.	Lead wire colour	Dot marking
1	Black	None
2	Brown	None
3	Red	None
4	Orange	None
5	Yellow	None
6	Pink	None
7	Blue	None
8	Purple	White
9	Grey	Black
10	White	Black
11	White	Red
12	Yellow	Red
13	Orange	Red
14	Yellow	Black
15	Pink	Black
16	Blue	White
17	Purple	None
18	Grey	None
19	Orange	Black
20	Red	White
21	Brown	White
22	Pink	Red
23	Grey	Red
24	Black	White
25	White	None

Electrical characteristics

Item	Property
Conductor resistance Ω/km, 20°C	65 or less
Voltage limit V, 1 minute, AC	1000
Insulation resistance MΩ/km, 20°C	5 or more

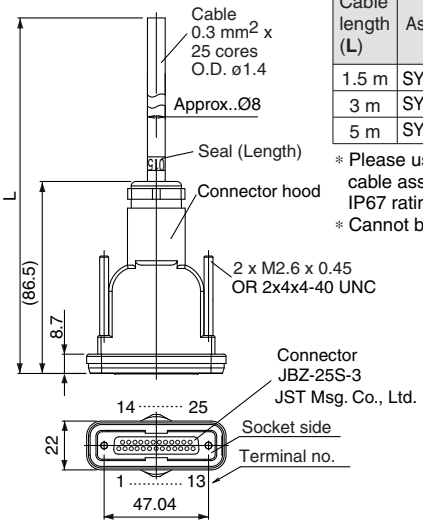
Connector Manufacturers' Example

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

Note) The minimum bending radius of the D-sub connector cable is 20 mm.

Cable Assembly (IP67)

SY30M-DS25- $^{015}_{030}_{050}$ **(N)**



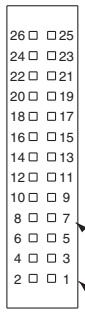
D-sub connector cable assembly

Cable length (**L**)	Assembly part no.	Note
1.5 m	SY30M-DS25-015	Cable 0.3 mm² x 25 cores
3 m	SY30M-DS25-030	
5 m	SY30M-DS25-050	

* Please use the d-sub connector cable assembly in the table to meet IP67 rating.
* Cannot be used for movable wiring.

Electrical Wiring Specifications

Flat ribbon cable connector



If alignment is not specified, the internal wiring is double wiring (connected to SOL. a and SOL. b) regardless of number of stations, valve and option types.

Connector terminal no.

Triangle mark indicator position

P: Flat ribbon cable (26 pins)

<Double wiring>

Station	Terminal no.		Polarity	
Station 1	SOL.a	1	(–)	(+)
	SOL.b	2	(–)	(+)
Station 2	SOL.a	3	(–)	(+)
	SOL.b	4	(–)	(+)
Station 3	SOL.a	5	(–)	(+)
	SOL.b	6	(–)	(+)
Station 4	SOL.a	7	(–)	(+)
	SOL.b	8	(–)	(+)
Station 5	SOL.a	9	(–)	(+)
	SOL.b	10	(–)	(+)
Station 6	SOL.a	11	(–)	(+)
	SOL.b	12	(–)	(+)
Station 7	SOL.a	13	(–)	(+)
	SOL.b	14	(–)	(+)
Station 8	SOL.a	15	(–)	(+)
	SOL.b	16	(–)	(+)
Station 9	SOL.a	17	(–)	(+)
	SOL.b	18	(–)	(+)
Station 10	SOL.a	19	(–)	(+)
	SOL.b	20	(–)	(+)
Station 11	SOL.a	21	(–)	(+)
	SOL.b	22	(–)	(+)
Station 12	SOL.a	23	(–)	(+)
	SOL.b	24	(–)	(+)
	COM.	25	(+)	(–)
	COM.	26	(+)	(–)

Positive common / Negative common

PG: Flat ribbon cable (20 pins)

<Double wiring>

Station	Terminal no.		Polarity	
Station 1	SOL.a	1	(–)	(+)
	SOL.b	2	(–)	(+)
Station 2	SOL.a	3	(–)	(+)
	SOL.b	4	(–)	(+)
Station 3	SOL.a	5	(–)	(+)
	SOL.b	6	(–)	(+)
Station 4	SOL.a	7	(–)	(+)
	SOL.b	8	(–)	(+)
Station 5	SOL.a	9	(–)	(+)
	SOL.b	10	(–)	(+)
Station 6	SOL.a	11	(–)	(+)
	SOL.b	12	(–)	(+)
Station 7	SOL.a	13	(–)	(+)
	SOL.b	14	(–)	(+)
Station 8	SOL.a	15	(–)	(+)
	SOL.b	16	(–)	(+)
Station 9	SOL.a	17	(–)	(+)
	SOL.b	18	(–)	(+)
	COM.	19	(+)	(–)
	COM.	20	(+)	(–)

Positive common / Negative common

PH: Flat ribbon cable (10 pins)

<Double wiring>

Station	Terminal no.		Polarity	
Station 1	SOL.a	1	(–)	(+)
	SOL.b	2	(–)	(+)
Station 2	SOL.a	3	(–)	(+)
	SOL.b	4	(–)	(+)
Station 3	SOL.a	5	(–)	(+)
	SOL.b	6	(–)	(+)
Station 4	SOL.a	7	(–)	(+)
	SOL.b	8	(–)	(+)
	COM.	9	(+)	(–)
	COM.	10	(+)	(–)

Positive common / Negative common

J: Flat ribbon cable (20 pins) PC wiring

<Double wiring>

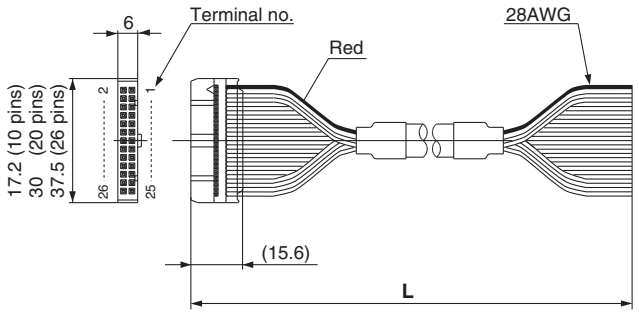
Station	Terminal no.		Polarity	
Station 1	SOL.a	20	(–)	(+)
	SOL.b	18	(–)	(+)
Station 2	SOL.a	16	(–)	(+)
	SOL.b	14	(–)	(+)
Station 3	SOL.a	12	(–)	(+)
	SOL.b	10	(–)	(+)
Station 4	SOL.a	8	(–)	(+)
	SOL.b	6	(–)	(+)
Station 5	SOL.a	19	(–)	(+)
	SOL.b	17	(–)	(+)
Station 6	SOL.a	15	(–)	(+)
	SOL.b	13	(–)	(+)
Station 7	SOL.a	11	(–)	(+)
	SOL.b	9	(–)	(+)
Station 8	SOL.a	7	(–)	(+)
	SOL.b	5	(–)	(+)
		4		
		3		
	COM.	2	(+)	(–)
	COM.	1	(+)	(–)

Positive common / Negative common

Note) When using a valve with no polarity, either positive common or negative common can be used.

Cable Assembly

AXT100-FC 10 / 20 / 26 (1 / 2 / 3)



Flat ribbon cable connector assembly

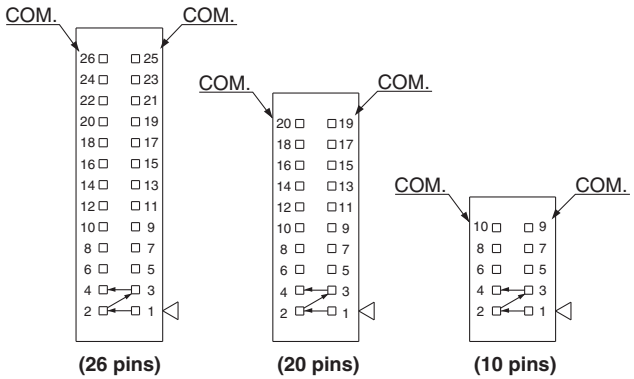
Cable length (**L**)	Assembly part no.		
	26 pins	20 pins	10 pins
1.5 m	AXT100-FC26-1	AXT100-FC20-1	AXT100-FC10-1
3 m	AXT100-FC26-2	AXT100-FC20-2	AXT100-FC10-2
5 m	AXT100-FC26-3	AXT100-FC20-3	AXT100-FC10-3

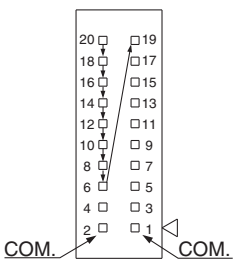
* When using a standard commercial connector, use a 26-pin, 20-pin or 10-pin type connector conforming to MIL-C-83503 with strain relief.
* Cannot be used for movable wiring.
* Lengths other than the above are also available. Please contact SMC for details.

Connector Manufacturers' Example

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

Specified Layout





(20 pins PC wiring)

Mixed wiring of single and double wiring can be specified on the manifold specification. The maximum number of stations is determined according to the number of solenoids. The total number of solenoids should be 24 or less. 1 solenoid is required for 2-position single, and 2 solenoids for 2-position double, 3-position and 4-position.

Type 10
Side Ported

Type 11
Bottom Ported

Plug-in Connector Connecting Base

Terminal Block Box

Series SY3000/5000

How to Order Manifold

SS5Y 3 – 10 T – 05 U □ – C6 □

❶ ❷ ❸ ❹ ❺ ❻ ❼

Refer to page 123 for dimensions of Type 11/Bottom ported type.

❶ Series

3	SY3000
5	SY5000

❷ Type

10	Side ported
11	Bottom ported*

* The SY5000 manifold base is used for the bottom ported of the SY3000. When ordering, refer to Plug-in Mixed Mounting Type Manifold (from page 127).

❸ Valve stations

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
10	10 stations	
02	2 stations	Specified layout Note 2) (Available up to 20 solenoids)
⋮	⋮	
20	20 stations	

Note 1) Double wiring: 2-position single, double, 3-position and 4-position valves can be used on all manifold stations. Use of a 2-position single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.

Note 2) Specified layout: Indicate the wiring specifications with the manifold specification sheet. (Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.)

Note 3) This also includes the number of blanking plate assembly.

❹ P, E port entry

U	U side (2 to 10 stations)
D	D side (2 to 10 stations)
B	Both sides (2 to 20 stations)

❺ SUP/EXH block assembly

—	Internal pilot
S	Internal pilot, Built-in silencer
R	External pilot

* 3/5(E) port is plugged for the built-in silencer type.
* When the built-in silencer type is used, keep the exhaust port from coming in direct contact with water or other liquids.

Refer to the page on the right for ❻.

❼ Mounting and Option

Symbol	Mounting	Option
Nil	Direct mounting	None
AA		Name plate (With station number)
BA		Name plate (Without station number)
D□	DIN rail mounting	Without name plate
A□		Name plate (With station number)
B□		Name plate (Without station number)

Note 1) Enter the number of stations inside □. (Refer to "DIN Rail Option" below.)

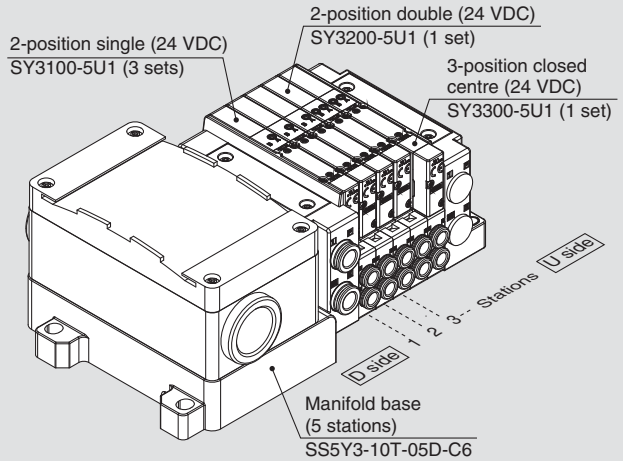
Note 2) Only direct mounting is available for Type 11 (Bottom ported).

DIN Rail Option

—	Direct mounting	
0	Without DIN rail (with bracket)	
3	For 3 stations	Specify a longer rail than the total length of specified stations.
⋮	⋮	
24	For 24 stations	

How to Order Manifold Assembly

Example (SS5Y3-10T-□)



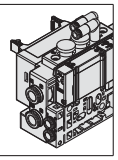
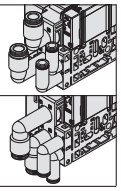
SS5Y3-10T-05D-C6 ···1 set (Type 10 5-station manifold base part no.)
***SY3100-5U1 ····· 3 sets (2-position single part no.)**
***SY3200-5U1 ····· 1 set (2-position double part no.)**
***SY3300-5U1 ····· 1 set (3-position closed centre part no.)**
→ The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the valve, etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on a manifold specification sheet.

Note) When mixing top ported configurations, select from page 64. In this case, use caution as there is also output on the A and B port on base side. Specify on a manifold specification sheet if plugs are required on the A and B port on base side.

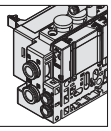
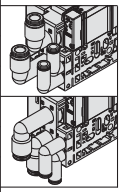
❻ A, B port size (Metric)

Symbol		A, B port	Type 10/ Side ported SY3000	Type 10/ Side ported SY5000	Type 11/ Bottom ported SY5000
C2	Straight	ø2 One-touch fitting	●	—	—
C3	Straight	ø3.2 One-touch fitting	●	—	—
C4	Straight	ø4 One-touch fitting	●	●	●
C6	Straight	ø6 One-touch fitting	●	●	●
C8	Straight	ø8 One-touch fitting	—	●	●
CM*	Straight	Straight port, mixed sizes	●	●	●
L4	Elbow (Note) Upward	ø4 One-touch fitting	●	●	—
L6	Elbow (Note) Upward	ø6 One-touch fitting	●	●	—
L8	Elbow (Note) Upward	ø8 One-touch fitting	—	●	—
B4	Elbow (Note) Downward	ø4 One-touch fitting	●	●	—
B6	Elbow (Note) Downward	ø6 One-touch fitting	●	●	—
B8	Elbow (Note) Downward	ø8 One-touch fitting	—	●	—
LM*	Elbow	Elbow port, mixed sizes (Including upward and downward piping)	●	●	—
P, E port size (One-touch fittings)			ø8	ø10	ø10

A, B port size (Inch)

Symbol		A, B port	Type 10/ Side ported SY3000	Type 10/ Side ported SY5000	Type 11/ Bottom ported SY5000
N1	Straight	ø1/8" One-touch fitting	●	—	—
N3	Straight	ø5/32" One-touch fitting	●	●	●
N7	Straight	ø1/4" One-touch fitting	●	●	●
N9	Straight	ø5/16" One-touch fitting	—	●	●
CM*	Straight	Straight port, mixed sizes	●	●	●
LN3	Elbow (Note) Upward	ø5/32" One-touch fitting	●	—	—
LN7	Elbow (Note) Upward	ø1/4" One-touch fitting	●	●	—
LN9	Elbow (Note) Upward	ø5/16" One-touch fitting	—	●	—
BN3	Elbow (Note) Downward	ø5/32" One-touch fitting	●	—	—
BN7	Elbow (Note) Downward	ø1/4" One-touch fitting	●	●	—
BN9	Elbow (Note) Downward	ø5/16" One-touch fitting	—	●	—
LM*	Elbow	Elbow port, mixed sizes (Including upward and downward piping)	●	●	—
P, E port size (One-touch fittings)			ø5/16"	ø3/8"	ø3/8"

Note) To avoid interference with the body or piping, select downward elbow port when mounting the optional spacer assembly (pages 141 to 143).
* Indicate the sizes on the manifold specification sheet in the case of "CM", "LM".
* The direction of P, E port fittings is the same as for A, B port. If selecting "LM", indicate it on the manifold specification sheet for the P, E port fitting direction.

How to Order Valves (With two mounting screws)

Refer to page 8 for valve specifications.

SY [3] [1] [0] [0] [ ] [ ] [ ] [ ] – [5] [ ] [ ] **1** – [ ]
❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫

❶ Series

3	SY3000
5	SY5000

❷ Type of actuation

1	2-position single
2	2-position double
3	3-position closed centre
4	3-position exhaust centre
5	3-position pressure centre
A*	4-position dual 3-port valve (N.C./N.C.)
B*	4-position dual 3-port valve (N.O./N.O.)
C*	4-position dual 3-port valve (N.C./N.O.)

* Only rubber seal type is available for the 4-position dual 3-port valve.

❸ Seal type

0	Rubber seal
1	Metal seal

❹ Pilot type

—	Internal pilot
R	External pilot

❺ Back pressure check valve (Built-in valve type)

—	None
H	Built-in

* Only rubber seal type. Manifold installed type is available if the back pressure check valve is required for a valve with metal seal. Refer to page 147 for Ordering Example. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.
* The built-in valve type back pressure check valveis not available for the 3-position type.

❻ Pilot valve option

—	Standard (0.7 MPa)
B	Quick response type (0.7 MPa)
K*	High pressure type (1.0 MPa)

* Only metal seal type is available for the high pressure type.

❼ Coil type

—	Standard
T	With power saving circuit (Continuous duty type)

* Be sure to select the power saving circuit type when the valve is continuously energized for long periods of time.
* Note the specified energizing time when power saving circuit is selected. Refer to page 154.

❽ Rated voltage

5	24 VDC
6	12 VDC

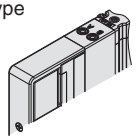
❾ Light/surge voltage suppressor and common specification

—	Without light/surge voltage suppressor (Non-polar)
R	With surge voltage suppressor (Non-polar)
U	With light/surge voltage suppressor (Non-polar)
S	With surge voltage suppressor (Positive common)
Z	With light/surge voltage suppressor (Positive common)
NS	With surge voltage suppressor (Negative common)
NZ	With light/surge voltage suppressor (Negative common)

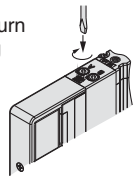
* Only "Z" and "NZ" types are available for the product with power saving circuit.

❿ Manual override

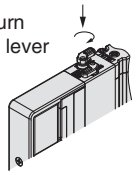
—: Non-locking push type



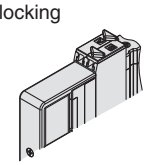
D: Push-turn locking slotted type



E: Push-turn locking lever type



F: Slide locking type



⓫ Type of mounting screw

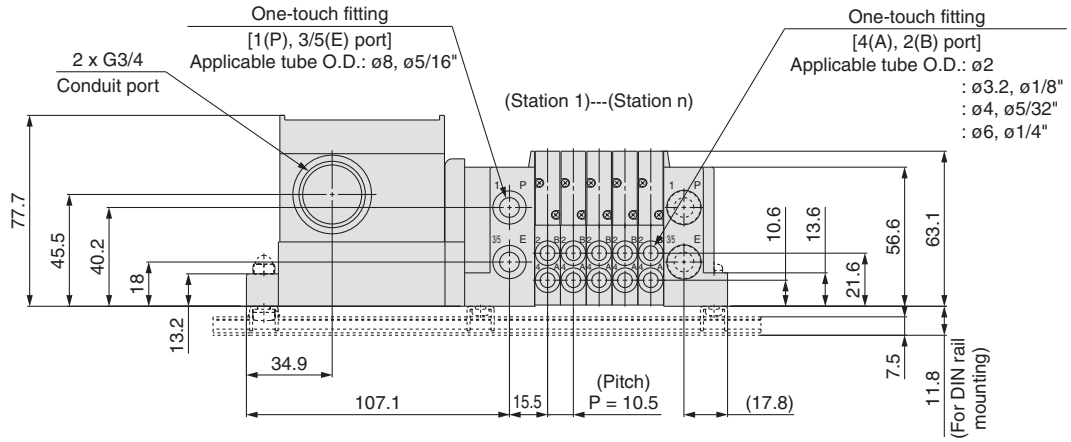
—	Round head combination screw
B	Hexagon socket head cap screw
K	Round head combination screw (Falling-out-prevention type)
H	Hexagon socket head cap screw (Falling-out-prevention type)

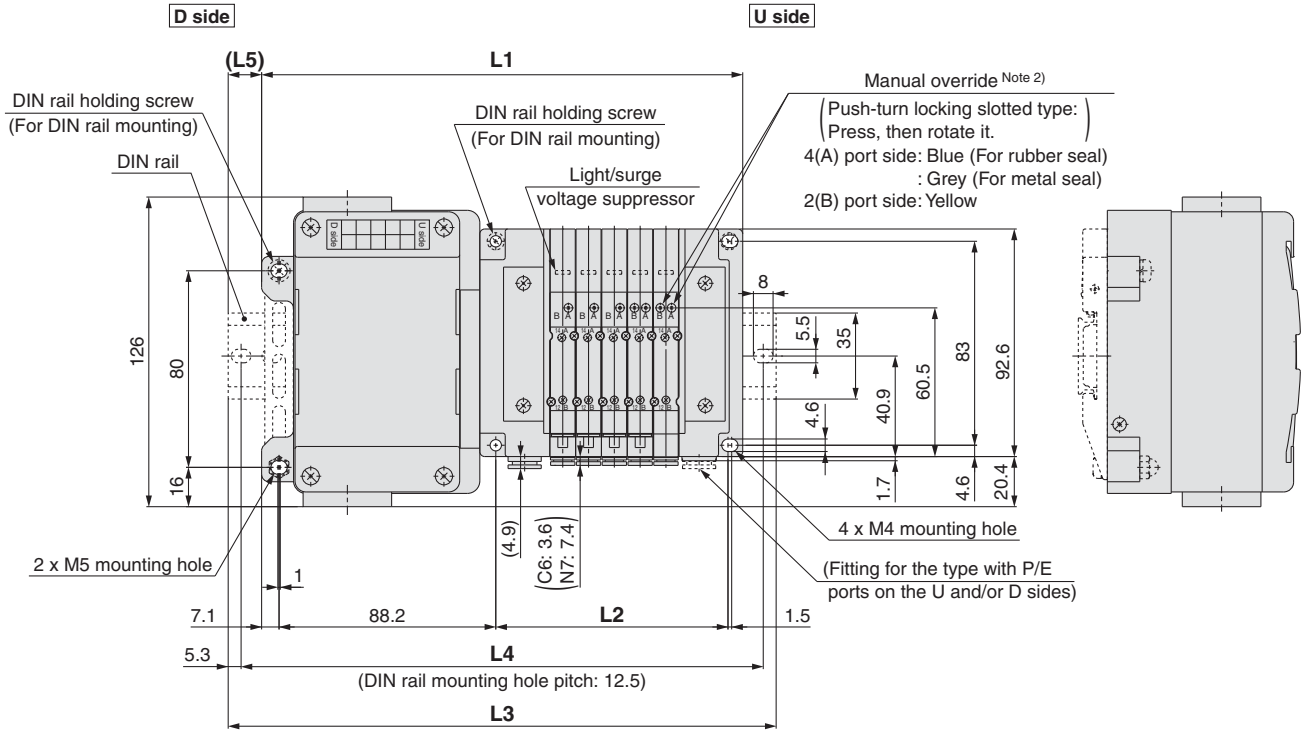
* For "K" and "H", the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance etc.
* When ordering a valve individually, the base gasket is not included. Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance service.
  Refer to page 136 for part numbers of the base gasket and mounting screw.
* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly or double check spacer assembly with residual pressure release valve.

⚠ Protective class class Ⅲ (Mark: ⏚)

Dimensions: Type 10/Terminal Block Box/Series SY3000

SS5Y3-10T- Stations **U** C2 / **D** C3, N1 / C4, N3 / **B** C6, N7 **(D)**



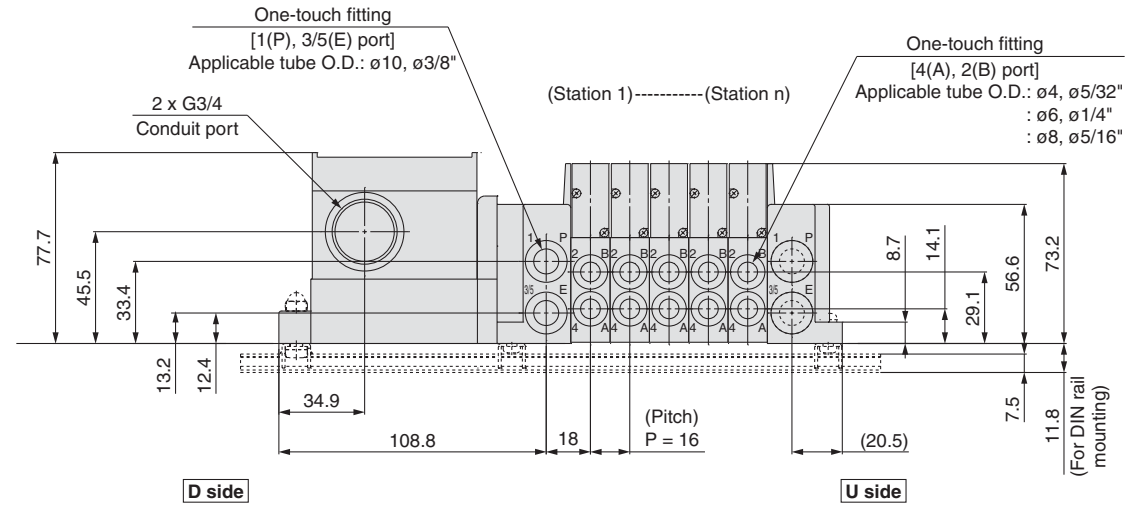


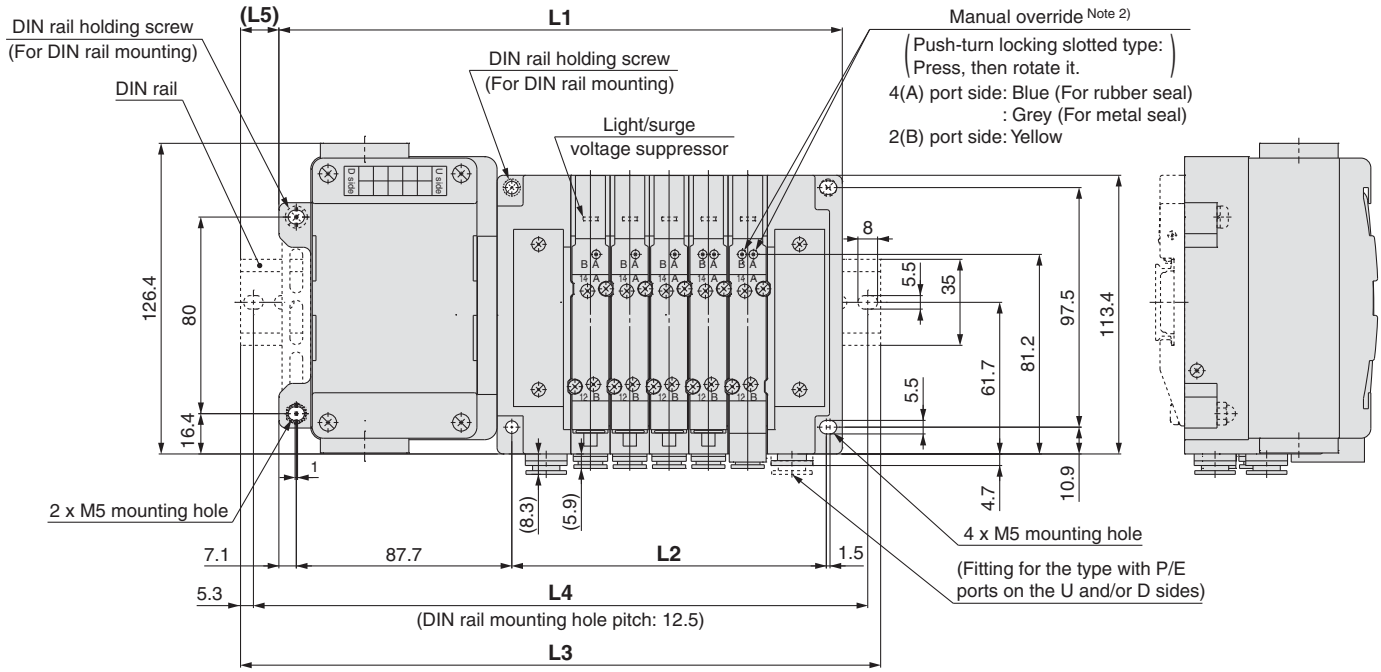
Note 1) These figures show the “SS5Y3-10T-05D-C6”.
Note 2) Refer to page 121 for dimensions of external pilot, silencer, elbow fittings and slide locking manual override.
Note 3) Refer to page 124 for dimensions of A or B port top-ported type.

n: Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	164.3	174.8	185.3	195.8	206.3	216.8	227.3	237.8	248.3	258.8	269.3	279.8	290.3	300.8	311.3	321.8	332.3	342.8	353.3
L2	63	73.5	84	94.5	105	115.5	126	136.5	147	157.5	168	178.5	189	199.5	210	220.5	231	241.5	252
L3	198	198	210.5	223	235.5	248	260.5	273	273	285.5	298	310.5	323	335.5	335.5	348	360.5	373	385.5
L4	187.5	187.5	200	212.5	225	237.5	250	262.5	262.5	275	287.5	300	312.5	325	325	337.5	350	362.5	375
L5	17	11.5	12.5	13.5	14.5	15.5	16.5	17.5	12.5	13.5	14.5	15.5	16.5	17.5	12	13	14	15	16

Dimensions: Type 10/Terminal Block Box/Series SY5000

SS5Y5-10T-[Stations] U C4, N3 / D C6, N7 / B C8, N9 (D)





Note 1) These figures show the “SS5Y5-10T-05D-C8”.
Note 2) Refer to page 122 for dimensions of external pilot, silencer, elbow fittings and slide locking manual override.
Note 3) Refer to page 125 for dimensions of A or B port top-ported type.

n: Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	181.3	197.3	213.3	229.3	245.3	261.3	277.3	293.3	309.3	325.3	341.3	357.3	373.3	389.3	405.3	421.3	437.3	453.3	469.3
L2	80	96	112	128	144	160	176	192	208	224	240	256	272	288	304	320	336	352	368
L3	210.5	223	248	260.5	273	285.5	310.5	323	335.5	360.5	373	385.5	398	423	435.5	448	460.5	485.5	498
L4	200	212.5	237.5	250	262.5	275	300	312.5	325	350	362.5	375	387.5	412.5	425	437.5	450	475	487.5
L5	14.5	13	17.5	15.5	14	12	16.5	15	13	17.5	16	14	12.5	17	15	13.5	11.5	16	14.5

Plug-in Connector Connecting Base

Terminal Block Box

Type 12
Top Ported

Series SY3000/5000

How to Order Manifold

SS5Y 3 – 12T – 05 U ☐ – ☐ ☐

❶ ❷ ❸ ❹ ❺ ❻

Refer to pages 124 and 125 for dimensions of Type 12/Top ported type.

❶ Series

3	SY3000
5	SY5000

❷ Valve stations

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
10	10 stations	
02	2 stations	Specified layout Note 2) (Available up to 20 solenoids)
⋮	⋮	
20	20 stations	

Note 1) Double wiring: 2-position single, double, 3-position and 4-position valves can be used on all manifold stations. Use of a 2-position single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.
Note 2) Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.)
Note 3) This also includes the number of blanking plate assembly.

❸ P, E port entry

U Note)	U side (2 to 10 stations)
D Note)	D side (2 to 10 stations)
B	Both sides (2 to 20 stations)

Note) ❹For type "S", supply/exhaust block assembly with built-in silencer, choose U or D for P port entry.

❹ SUP/EXH block assembly

—	Internal pilot
S	Internal pilot, Built-in silencer
R	External pilot

∗ For built-in silencer type, P and E ports are available on U and D sides. 3/5(E) port is plugged. The silencer exhaust port is located on the opposite side of P, E port entry. (Example: When the P, E port entry is D side, the silencer exhaust port is U side.)
∗ When the built-in silencer type is used, keep the exhaust port from coming in direct contact with water or other liquids.

❺ P, E port size (One-touch fittings)

Symbol	SY3000	SY5000
—	ø8	ø10
N	ø5/16"	ø3/8"

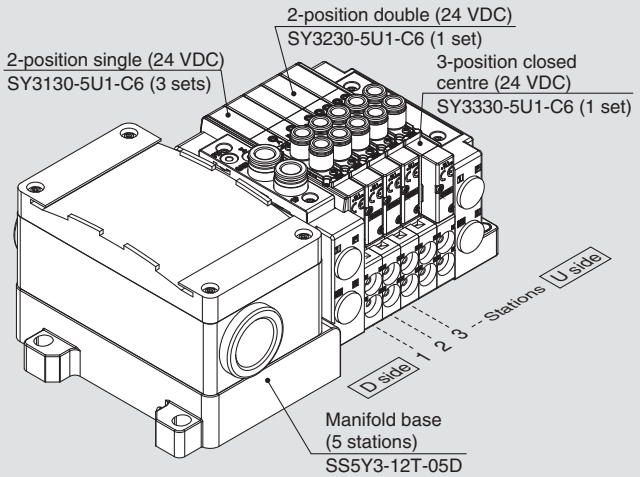
∗ For N, sizes are in inches.

❻ Mounting

—	Direct mounting	
D	DIN rail mounting (With DIN rail)	
D0	DIN rail mounting (Without DIN rail)	
D3	For 3 stations	Specify a longer rail than the standard length.
⋮	⋮	
D20	For 20 stations	

How to Order Manifold Assembly

Example (SS5Y3-12T-☐)



SS5Y3-12T-05D ····· 1 set (Type 12 5-station manifold base part no.)
∗SY3130-5U1-C6 ····· 3 sets (2-position single part no.)
∗SY3230-5U1-C6 ····· 1 set (2-position double part no.)
∗SY3330-5U1-C6 ····· 1 set (3-position closed centre part no.)
→ The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the valve, etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on a manifold specification sheet.

How to Order Valves (With two mounting screws)

Refer to page 8 for valve specifications.

SY 3 1 3 0 ❶ ❷ ❸ ❹ ❺ ❻ ❼ – 5 ❽ ❾ ❿ 1 – C6 ⓫ ⓬ – ⓭

Top ported

❶ Series

3	SY3000
5	SY5000

❷ Type of actuation

1	2-position single
2	2-position double
3	3-position closed centre
4	3-position exhaust centre
5	3-position pressure centre
A*	4-position dual 3-port valve (N.C./N.C.)
B*	4-position dual 3-port valve (N.O./N.O.)
C*	4-position dual 3-port valve (N.C./N.O.)

* Only rubber seal type is available for the 4-position dual 3-port valve.

❸ Seal type

0	Rubber seal
1	Metal seal

❹ Pilot type

—	Internal pilot
R	External pilot

❺ Back pressure check valve (Built-in valve type)

—	None
H	Built-in

* Only rubber seal type. Manifold installed type is available if the back pressure check valve is required for a valve with metal seal. Refer to page 147 for Ordering Example. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.
* The built-in valve type back pressure check valve is not available for the 3-position type.

❻ Pilot valve option

—	Standard (0.7 MPa)
B	Quick response type (0.7 MPa)
K*	High pressure type (1.0 MPa)

* Only metal seal type is available for the high pressure type.

❼ Coil type

—	Standard
T	With power saving circuit (Continuous duty type)

* Be sure to select the power saving circuit type when the valve is continuously energized for long periods of time.
* Note the specified energizing time when power saving circuit is selected. Refer to page 154.

❽ Rated voltage

5	24 VDC
6	12 VDC

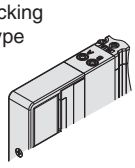
❾ Light/surge voltage suppressor and common specification

—	Without light/surge voltage suppressor (Non-polar)
R	With surge voltage suppressor (Non-polar)
U	With light/surge voltage suppressor (Non-polar)
S	With surge voltage suppressor (Positive common)
Z	With light/surge voltage suppressor (Positive common)
NS	With surge voltage suppressor (Negative common)
NZ	With light/surge voltage suppressor (Negative common)

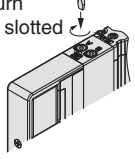
* Only "Z" and "NZ" types are available for the product with power saving circuit.

❿ Manual override

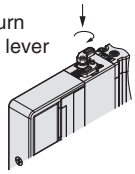
—: Non-locking push type



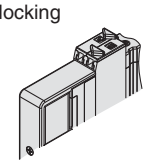
D: Push-turn locking slotted type



E: Push-turn locking lever type



F: Slide locking type



⓫ A, B port size

Thread piping

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

One-touch fitting (Metric)

Symbol	A, B port	SY3000	SY5000
C2	ø2 One-touch fitting	●	—
C3	ø3.2 One-touch fitting	●	—
C4	ø4 One-touch fitting	●	●
C6	ø6 One-touch fitting	●	●
C8	ø8 One-touch fitting	—	●

One-touch fitting (Inch)

Symbol	A, B port	SY3000	SY5000
N1	ø1/8" One-touch fitting	●	—
N3	ø5/32" One-touch fitting	●	●
N7	ø1/4" One-touch fitting	●	●
N9	ø5/16" One-touch fitting	—	●

⓬ Thread type

—	Rc
F	G
N	NPT
T	NPTF

* Only — is available for M5.

⓭ Type of mounting screw

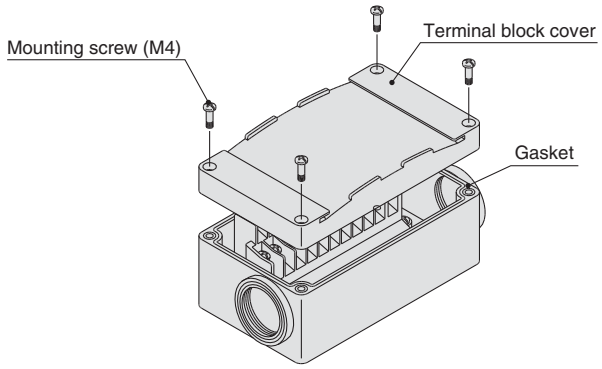
—	Round head combination screw
B	Hexagon socket head cap screw
K	Round head combination screw (Falling-out-prevention type)
H	Hexagon socket head cap screw (Falling-out-prevention type)

* For "K" and "H", the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance etc.
* When ordering a valve individually, the base gasket is not included. Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance service.
  Refer to page 136 for part numbers of the base gasket and mounting screw.
* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly.

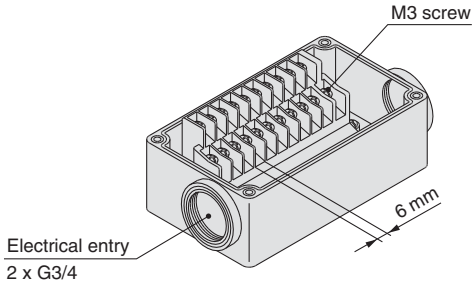
Protective class class Ⅲ (Mark: ⧼Ⅲ⧽)

Terminal Block Connection

Step 1. Removing the terminal block cover
Loosen the 4 mounting screws (M4) to remove the terminal block cover.



Step 2. The below diagram shows the terminal block wiring. All stations are provided with double wiring regardless of the mounted valves.
Connect each wire to the power supply side, according to the markings provided inside the terminal block.



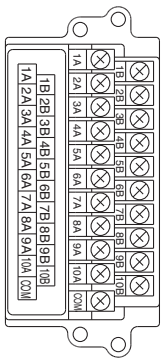
Step 3. Mounting the terminal block cover
Securely tighten the screws to the torque shown in the below table only after confirming that the gasket is installed correctly.

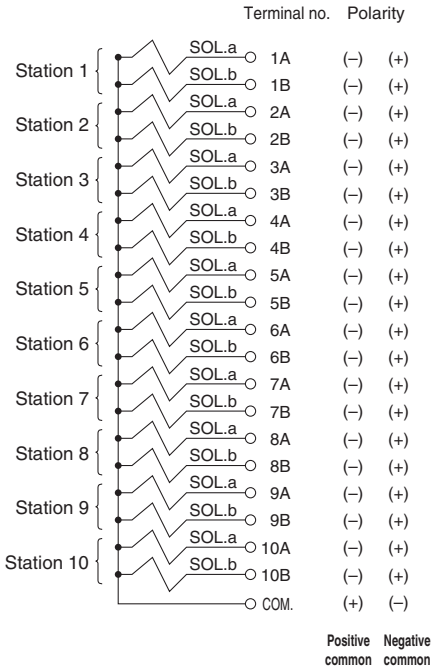
Proper tightening torque N·m
0.7 to 1.2

- Applicable crimped terminal: 1.25-3S, 1.25Y-3, 1.25Y-3N, 1.25Y-3.5
- Name plate: VVQ5000-N-T
- Drip-proof plug assembly (for G3/4): AXT100-B06A

Electrical Wiring Specifications (IP67 compatible)

Standard wiring



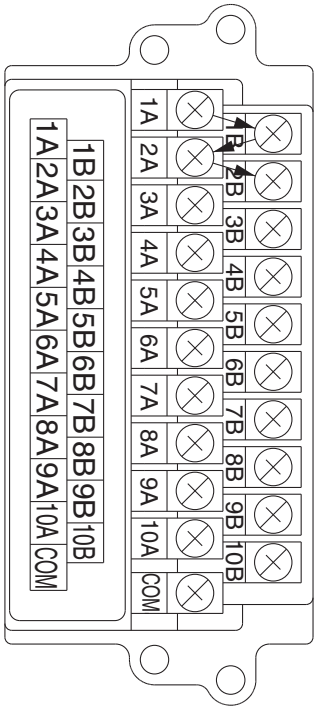


If alignment is not specified, the internal wiring is double wiring (connected to SOL. a and SOL. b) regardless of number of stations, valve and option types.

Note) When using a valve with no polarity, either positive common or negative common can be used.

Specified Layout

Mixed wiring of single and double wiring can be specified on the manifold specification sheet. The maximum number of stations is determined according to the number of solenoids. The total number of solenoids should be 20 or less. 1 solenoid is required for 2-position single, and 2 solenoids for 2-position double, 3-position and 4-position.



Type 10
Side Ported

Type 11
Bottom Ported

Plug-in Connector Connecting Base

Lead Wire

Series SY3000/5000

CE RoHS

How to Order Manifold

SS5Y 3 – 10 L1 1 – 05 U □ – C6 □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾

Refer to page 123 for dimensions of Type 11/Bottom ported type.

❶ Series

3	SY3000
5	SY5000

❷ Type

10	Side ported
11	Bottom ported*

* The SY5000 manifold base is used for the bottom ported of the SY3000. When ordering, refer to Plug-in Mixed Mounting Type Manifold (from page 127).

❸ Number of cores (Lead wire)

L1	34 cores
L2	17 cores
L3	9 cores

❹ Lead wire length

1	0.6 m
2	1.5 m
3	3 m

❺ Valve stations

(L1□)

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
16	16 stations	
02	2 stations	Specified layout Note 2) (Available up to 32 solenoids)
⋮	⋮	
24	24 stations	

(L3□)

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
04	4 stations	
02	2 stations	Specified layout Note 2) (Available up to 8 solenoids)
⋮	⋮	
08	8 stations	

(L2□)

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
08	8 stations	
02	2 stations	Specified layout Note 2) (Available up to 16 solenoids)
⋮	⋮	
16	16 stations	

Note 1) Double wiring: 2-position single, double, 3-position and 4-position valves can be used on all manifold stations.
Use of a 2-position single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.

Note 2) Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.)

Note 3) This also includes the number of blanking plate assembly.

❻ P, E port entry

U	U side (2 to 10 stations)
D	D side (2 to 10 stations)
B	Both sides (2 to 24 stations)

❼ SUP/EXH block assembly

—	Internal pilot
S	Internal pilot, Built-in silencer
vR	External pilot

* 3/5(E) port is plugged for the built-in silencer type.
* When the built-in silencer type is used, keep the exhaust port from coming in direct contact with water or other liquids.

Refer to the page on the right for ❽.

❾ Mounting and Option

Symbol	Mounting	Option
—	Direct mounting	None
AA		Name plate (With station number)
BA		Name plate (Without station number)
D□	DIN rail mounting	Without name plate
A□		Name plate (With station number)
B□		Name plate (Without station number)

Note 1) Enter the number of stations inside □. (Refer to "DIN Rail Option" below.)

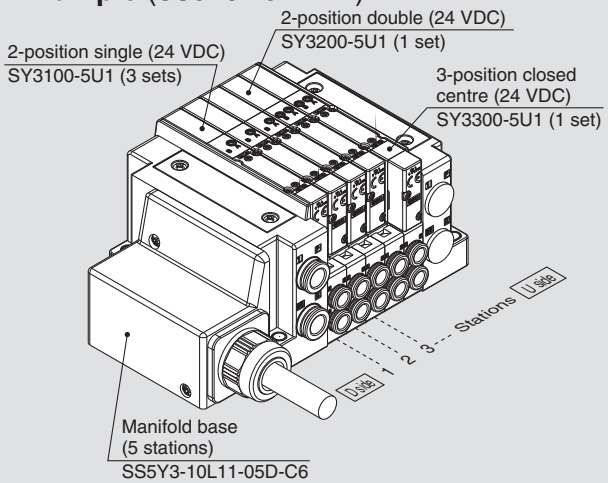
Note 2) Only direct mounting is available for Type 11 (Bottom ported).

DIN Rail Option

—	Direct mounting	
0	Without DIN rail (with bracket)	
3	For 3 stations	Specify a longer rail than the total length of specified stations.
⋮	⋮	
24	For 24 stations	

How to Order Manifold Assembly

Example (SS5Y3-10L11-□)



SS5Y3-10L11-05D-C6 ··· 1 set (Type 10 5-station manifold base part no.)
***SY3100-5U1 ····· 3 sets (2-position single part no.)**
***SY3200-5U1 ····· 1 set (2-position double part no.)**
***SY3300-5U1 ····· 1 set (3-position closed centre part no.)**
→ The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the valve, etc.

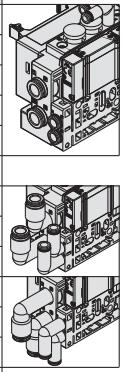
- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on a manifold specification sheet.

Note) When mixing top ported configurations, select from page 72.
In this case, use caution as there is also output on the A and B port on base side. Specify on a manifold specification sheet if plugs are required on the A and B port on base side.

SMC

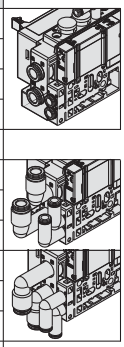
❽ A, B port size (Metric)

Symbol	A, B port		Type 10/ Side ported SY3000	Type 10/ Side ported SY5000	Type 11/ Bottom ported SY5000
C2	Straight	ø2 One-touch fitting	●	—	—
C3	Straight	ø3.2 One-touch fitting	●	—	—
C4	Straight	ø4 One-touch fitting	●	●	●
C6	Straight	ø6 One-touch fitting	●	●	●
C8	Straight	ø8 One-touch fitting	—	●	●
CM*	Straight	Straight port, mixed sizes	●	●	●
L4	Elbow (Note) Upward	ø4 One-touch fitting	●	●	—
L6	Elbow (Note) Upward	ø6 One-touch fitting	●	●	—
L8	Elbow (Note) Upward	ø8 One-touch fitting	—	●	—
B4	Elbow (Note) Downward	ø4 One-touch fitting	●	●	—
B6	Elbow (Note) Downward	ø6 One-touch fitting	●	●	—
B8	Elbow (Note) Downward	ø8 One-touch fitting	—	●	—
LM*	Elbow	Elbow port, mixed sizes (Including upward and downward piping)	●	●	—
P, E port size (One-touch fittings)			ø8	ø10	ø10



A, B port size (Inch)

Symbol	A, B port		Type 10/ Side ported SY3000	Type 10/ Side ported SY5000	Type 11/ Bottom ported SY5000
N1	Straight	ø1/8" One-touch fitting	●	—	—
N3	Straight	ø5/32" One-touch fitting	●	●	●
N7	Straight	ø1/4" One-touch fitting	●	●	●
N9	Straight	ø5/16" One-touch fitting	—	●	●
CM*	Straight	Straight port, mixed sizes	●	●	●
LN3	Elbow (Note) Upward	ø5/32" One-touch fitting	●	—	—
LN7	Elbow (Note) Upward	ø1/4" One-touch fitting	●	●	—
LN9	Elbow (Note) Upward	ø5/16" One-touch fitting	—	●	—
BN3	Elbow (Note) Downward	ø5/32" One-touch fitting	●	—	—
BN7	Elbow (Note) Downward	ø1/4" One-touch fitting	●	●	—
BN9	Elbow (Note) Downward	ø5/16" One-touch fitting	—	●	—
LM*	Elbow	Elbow port, mixed sizes (Including upward and downward piping)	●	●	—
P, E port size (One-touch fittings)			ø5/16"	ø3/8"	ø3/8"



Note) To avoid interference with the body or piping, select downward elbow port when mounting the optional spacer assembly (pages 141 to 143).
* Indicate the sizes on the manifold specification sheet in the case of "CM", "LM".
* The direction of P, E port fittings is the same as for A, B port. If selecting "LM", indicate it on the manifold specification sheet for the P, E port fitting direction.

How to Order Valves (With two mounting screws)

Refer to page 8 for valve specifications.

SY 3 1 0 0 □ □ □ □ – 5 □ □ 1 – □
❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫

❶ Series • Base mounted

3	SY3000
5	SY5000

❷ Type of actuation

1	2-position single
2	2-position double
3	3-position closed centre
4	3-position exhaust centre
5	3-position pressure centre
A*	4-position dual 3-port valve (N.C./N.C.)
B*	4-position dual 3-port valve (N.O./N.O.)
C*	4-position dual 3-port valve (N.C./N.O.)

* Only rubber seal is available for the 4-position dual 3-port valve.

❸ Seal type

0	Rubber seal
1	Metal seal

❹ Pilot type

—	Internal pilot
R	External pilot

❺ Back pressure check valve (Built-in valve type)

—	None
H	Built-in

* Only rubber seal type. Manifold installed type is available if the back pressure check valve is required for a valve with metal seal. Refer to page 147 for Ordering Example. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.
* The built-in valve type back pressure check valve is not available for the 3-position type.

❻ Pilot valve option

—	Standard (0.7 MPa)
B	Quick response type (0.7 MPa)
K*	High pressure type (1.0 MPa)

* Only metal seal type is available for the high pressure type.

❼ Coil type

—	Standard
T	With power saving circuit (Continuous duty type)

* Be sure to select the power saving circuit type when the valve is continuously energized for long periods of time.
* Note the specified energizing time when power saving circuit is selected. Refer to page 154.

❽ Rated voltage

5	24 VDC
6	12 VDC

❾ Light/surge voltage suppressor and common specification

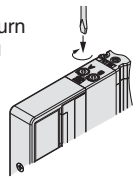
—	Without light/surge voltage suppressor (Non-polar)
R	With surge voltage suppressor (Non-polar)
U	With light/surge voltage suppressor (Non-polar)
S	With surge voltage suppressor (Positive common)
Z	With light/surge voltage suppressor (Positive common)
NS	With surge voltage suppressor (Negative common)
NZ	With light/surge voltage suppressor (Negative common)

* Only "Z" and "NZ" types are available for the product with power saving circuit.

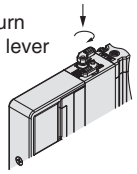
❿ Manual override

—: Non-locking push type

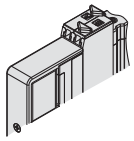
D: Push-turn locking slotted type



E: Push-turn locking lever type



F: Slide locking type



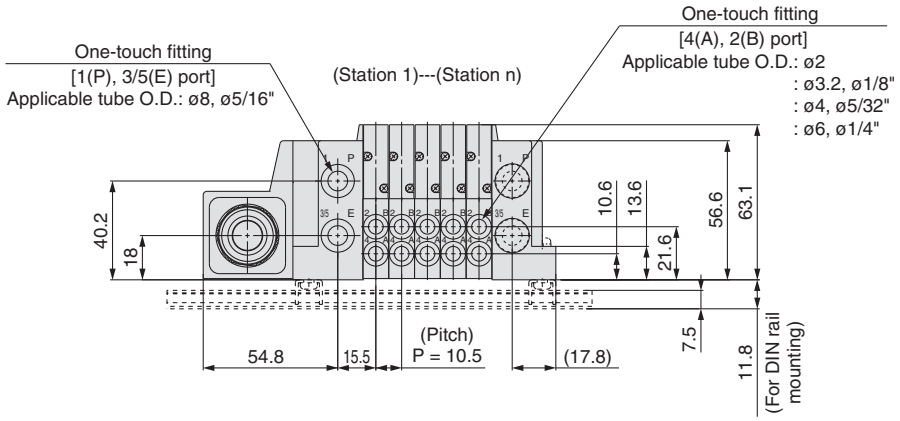
⓫ Type of mounting screw

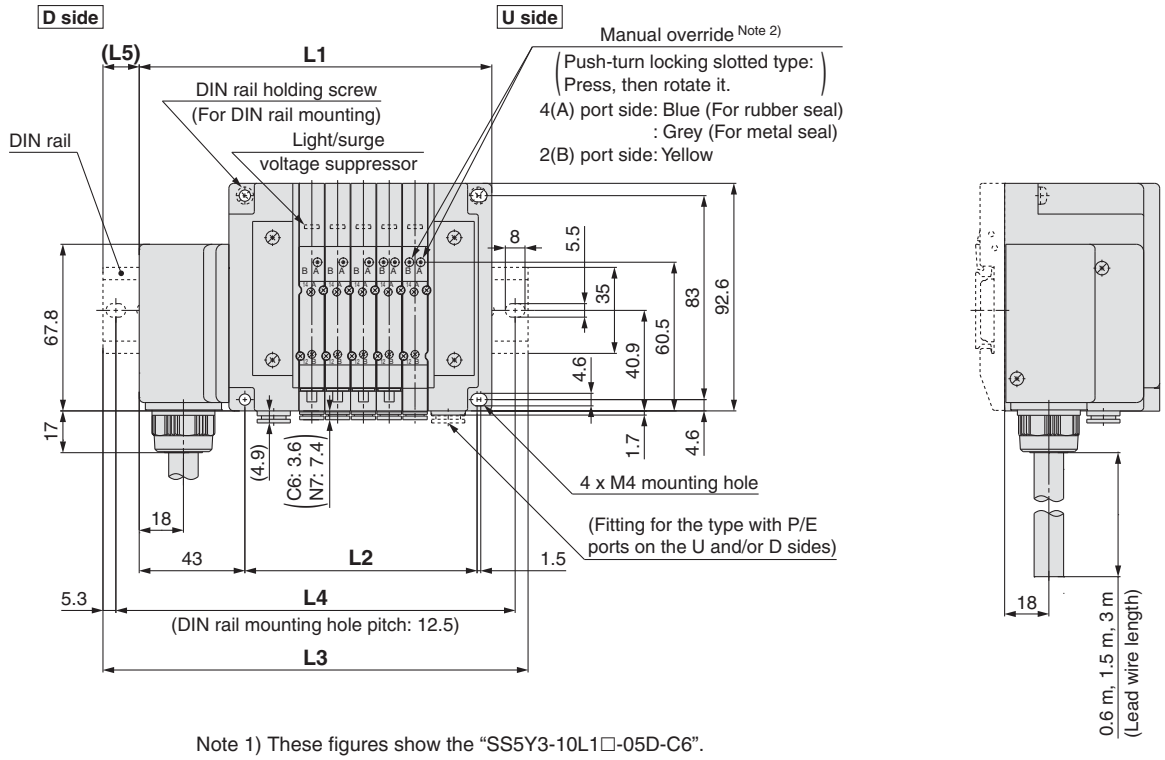
—	Round head combination screw
B	Hexagon socket head cap screw
K	Round head combination screw (Falling-out-prevention type)
H	Hexagon socket head cap screw (Falling-out-prevention type)

* For "K" and "H", the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance etc.
* When ordering a valve individually, the base gasket is not included. Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance service.
  Refer to page 136 for part numbers of the base gasket and mounting screw.
* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly or double check spacer assembly with residual pressure release valve.

Dimensions: Type 10/Lead Wire/Series SY3000

SS5Y3-10L 1/2/3 □ - **Stations** U/D/B - C2/C3, N1/C4, N3/C6, N7 **(D)**



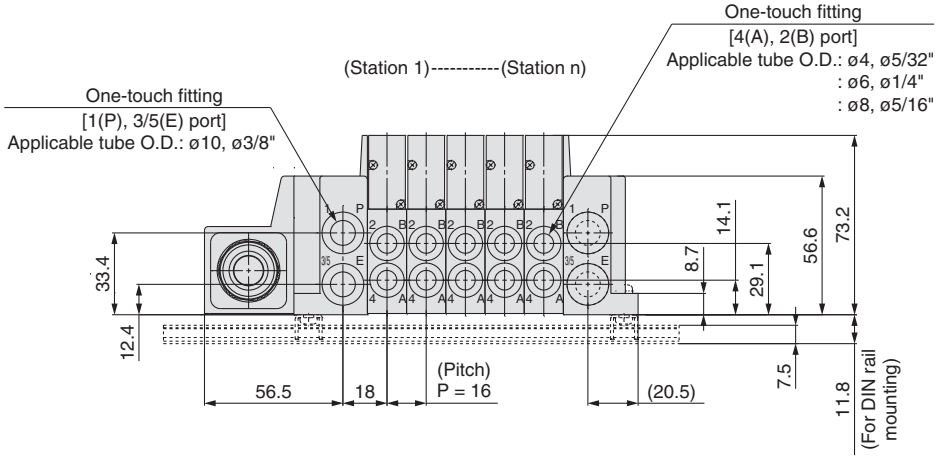


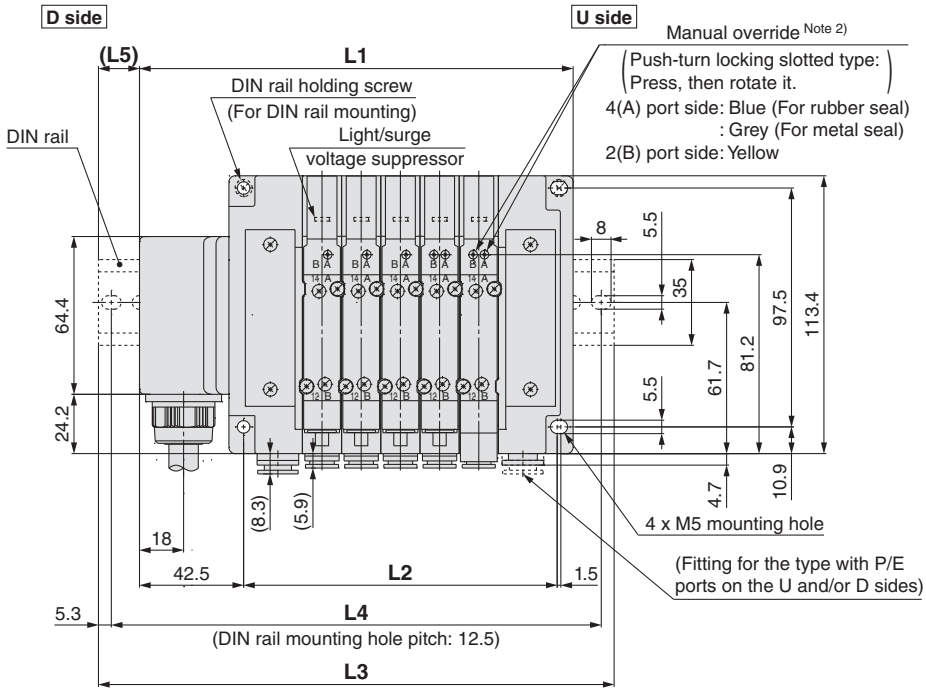
Note 1) These figures show the "SS5Y3-10L1□-05D-C6".
Note 2) Refer to page 121 for dimensions of external pilot, silencer, elbow fittings and slide locking manual override.
Note 3) Refer to page 124 for dimensions of A or B port top-ported type.

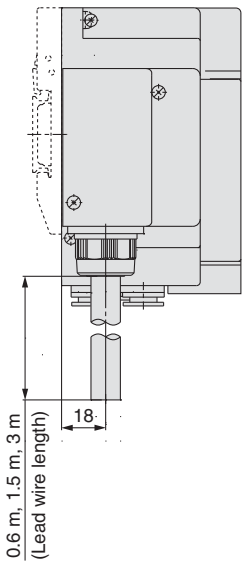
n: Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	112	122.5	133	143.5	154	164.5	175	185.5	196	206.5	217	227.5	238	248.5	259	269.5	280	290.5	301	311.5	322	332.5	343
L2	63	73.5	84	94.5	105	115.5	126	136.5	147	157.5	168	178.5	189	199.5	210	220.5	231	241.5	252	262.5	273	283.5	294
L3	135.5	148	160.5	173	185.5	198	210.5	210.5	223	235.5	248	260.5	273	273	285.5	298	310.5	323	335.5	335.5	348	360.5	373
L4	125	137.5	150	162.5	175	187.5	200	200	212.5	225	237.5	250	262.5	262.5	275	287.5	300	312.5	325	325	337.5	350	362.5
L5	12	13	14	15	16	17	18	12.5	13.5	14.5	15.5	16.5	17.5	12.5	13.5	14.5	15.5	16.5	17.5	12	13	14	15

Dimensions: Type 10/Lead Wire/Series SY5000

SS5Y5-10L 1/2/3 □ **-** Stations U/D/B C4, N3 / C6, N7 / C8, N9 **(D)**







Note 1) These figures show the "SS5Y5-10L1□-05D-C8".
Note 2) Refer to page 122 for dimensions of external pilot, silencer, elbow fittings and slide locking manual override.
Note 3) Refer to page 125 for dimensions of A or B port top-ported type.

n: Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	129	145	161	177	193	209	225	241	257	273	289	305	321	337	353	369	385	401	417	433	449	465	481
L2	80	96	112	128	144	160	176	192	208	224	240	256	272	288	304	320	336	352	368	384	400	416	432
L3	160.5	173	185.5	210.5	223	235.5	260.5	273	285.5	298	323	335.5	348	360.5	385.5	398	410.5	435.5	448	460.5	473	498	510.5
L4	150	162.5	175	200	212.5	225	250	262.5	275	287.5	312.5	325	337.5	350	375	387.5	400	425	437.5	450	462.5	487.5	500
L5	16	14	12.5	17	15	13.5	18	16	14.5	12.5	17	15.5	13.5	12	16.5	14.5	13	17.5	15.5	14	12	16.5	15

Plug-in Connector Connecting Base

Lead Wire

Type 12
Top Ported

Series SY3000/5000

RoHS

How to Order Manifold

SS5Y 3 – 12 L1 1 – 05 U □ – □ □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽

Refer to pages 124 and 125 for dimensions of Type 12/Top ported type.

❶ Series

3	SY3000
5	SY5000

❷ Number of cores (Lead wire)

L1	34 cores
L2	17 cores
L3	9 cores

❸ Lead wire length

1	0.6 m
2	1.5 m
3	3 m

❺ P, E port entry

U Note)	U side (2 to 10 stations)
D Note)	D side (2 to 10 stations)
B	Both sides (2 to 24 stations)

Note) ❻ For type "S", supply/exhaust block assembly with built-in silencer, choose U or D for P port entry.

❹ Valve stations

(L1□)

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
16	16 stations	
02	2 stations	Specified layout Note 2) (Available up to 32 solenoids)
⋮	⋮	
24	24 stations	

(L3□)

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
04	4 stations	
02	2 stations	Specified layout Note 2) (Available up to 8 solenoids)
⋮	⋮	
08	8 stations	

(L2□)

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
08	8 stations	
02	2 stations	Specified layout Note 2) (Available up to 16 solenoids)
⋮	⋮	
16	16 stations	

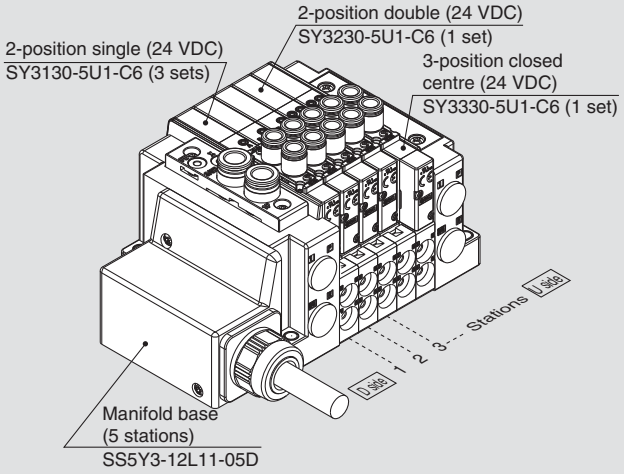
Note 1) Double wiring: 2-position single, double, 3-position and 4-position valves can be used on all manifold stations.
Use of a 2-position single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.

Note 2) Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.)

Note 3) This also includes the number of blanking plate assembly.

How to Order Manifold Assembly

Example (SS5Y3-12L11-□)



SS5Y3-12L11-05D··· 1 set (Type 12 5-station manifold base part no.)
∗SY3130-5U1-C6····· 3 sets (2-position single part no.)
∗SY3230-5U1-C6····· 1 set (2-position double part no.)
∗SY3330-5U1-C6····· 1 set (3-position closed centre part no.)
The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the valve, etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on a manifold specification sheet.

❻ SUP/EXH block assembly

—	Internal pilot
S	Internal pilot, Built-in silencer
R	External pilot

∗ For built-in silencer type, P and E ports are available on U and D sides. 3/5(E) port is plugged. The silencer exhaust port is located on the opposite side of P, E port entry. (Example: When the P, E port entry is D side, the silencer exhaust port is U side.)
∗ When the built-in silencer type is used, keep the exhaust port from coming in direct contact with water or other liquids.

❼ P, E port size (One-touch fittings)

Symbol	SY3000	SY5000
—	ø8	ø10
N	ø5/16"	ø3/8"

∗ For N, sizes are in inches.

❽ Mounting

—	Direct mounting	
D	DIN rail mounting (With DIN rail)	
D0	DIN rail mounting (Without DIN rail)	
D3	For 3 stations	Specify a longer rail than the standard length.
⋮	⋮	
D24	For 24 stations	

SMC

How to Order Valves (With two mounting screws)

Refer to page 8 for valve specifications.

SY 3 1 3 0 □ □ □ □ – 5 □ □ 1 – C6 □ – □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫ ⓬ ⓭

● Top ported

❶ Series

3	SY3000
5	SY5000

❷ Type of actuation

1	2-position single
2	2-position double
3	3-position closed centre
4	3-position exhaust centre
5	3-position pressure centre
A*	4-position dual 3-port valve (N.C./N.C.)
B*	4-position dual 3-port valve (N.O./N.O.)
C*	4-position dual 3-port valve (N.C./N.O.)

∗ Only rubber seal type is available for the 4-position dual 3-port valve.

❸ Seal type

0	Rubber seal
1	Metal seal

❹ Pilot type

—	Internal pilot
R	External pilot

❺ Back pressure check valve (Built-in valve type)

—	None
H	Built-in

∗ Only rubber seal type. Manifold installed type is available if the back pressure check valve is required for a valve with metal seal. Refer to page 147 for Ordering Example. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.
∗ The built-in valve type back pressure check valve is not available for the 3-position type.

❻ Pilot valve option

—	Standard (0.7 MPa)
B	Quick response type (0.7 MPa)
K*	High pressure type (1.0 MPa)

∗ Only metal seal type is available for the high pressure type.

❼ Coil type

—	Standard
T	With power saving circuit (Continuous duty type)

∗ Be sure to select the power saving circuit type when the valve is continuously energized for long periods of time.
∗ Note the specified energizing time when power saving circuit is selected. Refer to page 154.

❽ Rated voltage

5	24 VDC
6	12 VDC

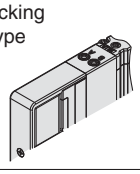
❾ Light/surge voltage suppressor and common specification

—	Without light/surge voltage suppressor (Non-polar)
R	With surge voltage suppressor (Non-polar)
U	With light/surge voltage suppressor (Non-polar)
S	With surge voltage suppressor (Positive common)
Z	With light/surge voltage suppressor (Positive common)
NS	With surge voltage suppressor (Negative common)
NZ	With light/surge voltage suppressor (Negative common)

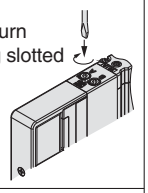
∗ Only “Z” and “NZ” types are available for the product with power saving circuit.

❿ Manual override

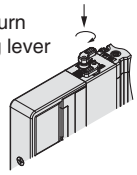
—: Non-locking push type



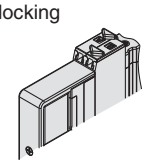
D: Push-turn locking slotted type



E: Push-turn locking lever type



F: Slide locking type



⓫ A, B port size

Thread piping

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

One-touch fitting (Metric)

Symbol	A, B port	SY3000	SY5000
C2	ø2 One-touch fitting	●	—
C3	ø3.2 One-touch fitting	●	—
C4	ø4 One-touch fitting	●	●
C6	ø6 One-touch fitting	●	●
C8	ø8 One-touch fitting	—	●

One-touch fitting (Inch)

Symbol	A, B port	SY3000	SY5000
N1	ø1/8" One-touch fitting	●	—
N3	ø5/32" One-touch fitting	●	●
N7	ø1/4" One-touch fitting	●	●
N9	ø5/16" One-touch fitting	—	●

⓬ Thread type

—	Rc
F	G
N	NPT
T	NPTF

∗ Only — is available for M5.

⓭ Type of mounting screw

—	Round head combination screw
B	Hexagon socket head cap screw
K	Round head combination screw (Falling-out-prevention type)
H	Hexagon socket head cap screw (Falling-out-prevention type)

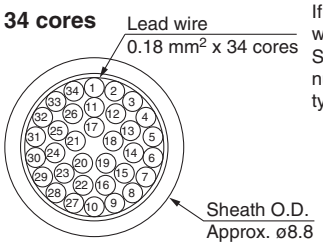
∗ For “K” and “H”, the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance etc.
∗ When ordering a valve individually, the base gasket is not included. Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance service.
Refer to page 136 for part numbers of the base gasket and mounting screw.
∗ "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly.

⚠ Protective class class Ⅲ (Mark: ⧼Ⅲ⧽)

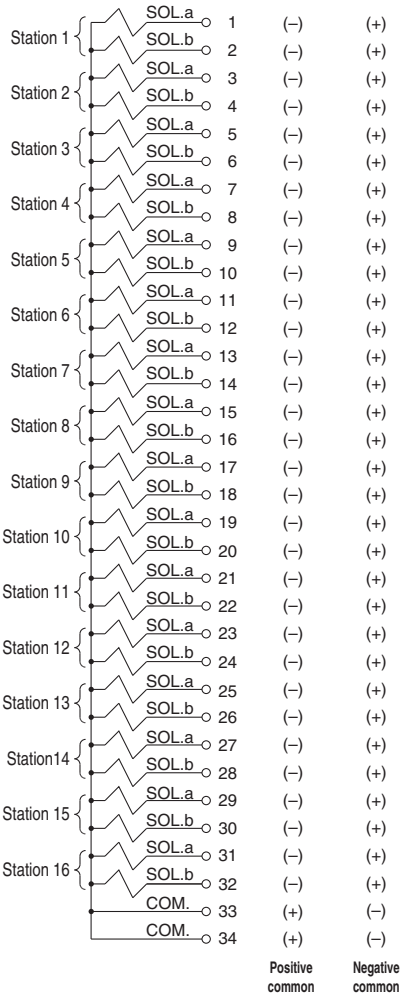
Electrical Wiring Specifications

Lead wire

34 cores



If alignment is not specified, the internal wiring is double wiring (connected to SOL. a and SOL. b) regardless of number of stations, valve and option types.



Lead wire colour	Printed mark (Both sides)	
	Type	Colour
Orange	–	Red
		Black
Light Grey	–	Red
		Black
White	–	Red
		Black
Yellow	–	Red
		Black
Pink	–	Red
		Black
Orange	– –	Red
		Black
Light Grey	– –	Red
		Black
White	– –	Red
		Black
Yellow	– –	Red
		Black
Pink	– –	Red
		Black
Orange	– – –	Red
		Black
Light Grey	– – –	Red
		Black
White	– – –	Red
		Black
Yellow	– – –	Red
		Black
Pink	– – –	Red
		Black
Orange	– – – –	Red
		Black
Light Grey	– – – –	Red
		Black

Note) For negative common specification, a valve for negative common or a valve without polarity should be used.

Electrical characteristics

Item	Property
Conductor resistance Ω/km, 20°C	143 or less
Voltage limit V, 1 minute, AC	2000
Insulation resistance MΩ/km, 20°C	10 or more

Note) Cannot be used for movable wiring. The minimum bending radius of the cable is 55 mm.

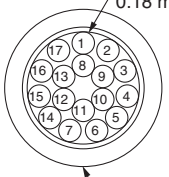
Specified Layout

Mixed wiring of single and double wiring can be specified on the manifold specification. The maximum number of stations is determined according to the number of solenoids. The total number of solenoids should be 32 or less. 1 solenoid is required for 2-position single, and 2 solenoids for 2-position double, 3-position and 4-position.

Electrical Wiring Specifications

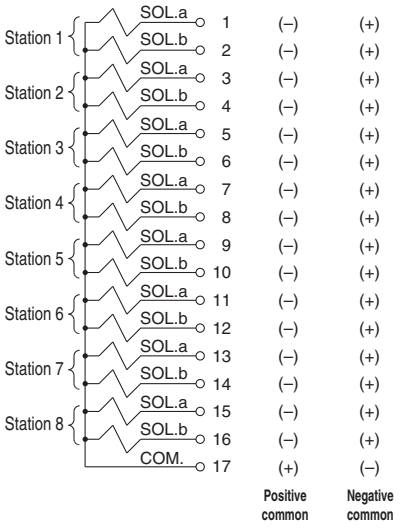
Lead wire

17 cores Lead wire 0.18 mm² x 17 cores



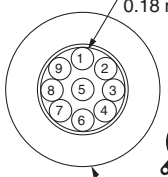
Sheath O.D. ø6.8

Note) Cannot be used for movable wiring. The minimum bending radius of the cable is 45 mm.



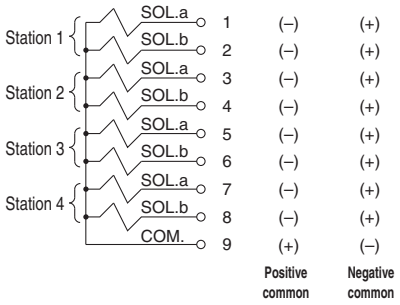
Lead wire colour	Printed mark (Both sides)	
	Type	Colour
Orange	—	Red
		Black
Light Grey	—	Red
		Black
White	—	Red
		Black
Yellow	—	Red
		Black
Pink	—	Red
		Black
Orange	— —	Red
		Black
Light Grey	— —	Red
		Black
White	— —	Red
		Black
Yellow	— —	Red

9 cores Lead wire 0.18 mm² x 9 cores



Sheath O.D. ø6.3

Note) Cannot be used for movable wiring. The minimum bending radius of the cable is 40 mm.



Lead wire colour	Printed mark (Both sides)	
	Type	Colour
Orange	—	Red
		Black
Light Grey	—	Red
		Black
White	—	Red
		Black
Yellow	—	Red
		Black
Pink	—	Red

Electrical characteristics

Item	Property
Conductor resistance Ω/km, 20°C	143 or less
Voltage limit V, 1 minute, AC	2000
Insulation resistance MΩ/km, 20°C	10 or more

Note) For negative common specification, a valve for negative common or a valve without polarity should be used.

Type 10
Side Ported

Type 11
Bottom Ported

Plug-in Connector Connecting Base

Circular Connector

Series SY3000/5000

RoHS

How to Order Manifold

SS5Y 5 – 10 M – 05 U □ – C6 □

❶ ❷ ❸ ❹ ❺ ❻ ❼

Refer to page 123 for dimensions of Type 11/Bottom ported type.

❶ Series

3	SY3000
5	SY5000

❷ Type

10	Side ported
11	Bottom ported*

* The SY5000 manifold base is used for the bottom ported of the SY3000. When ordering, refer to Plug-in Mixed Mounting Type Manifold (from page 127).

❸ Valve stations

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
12	12 stations	
02	2 stations	Specified layout Note 2) (Available up to 24 solenoids)
⋮	⋮	
24	24 stations	

Note 1) Double wiring: 2-position single, double, 3-position and 4-position valves can be used on all manifold stations. Use of a 2-position single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.

Note 2) Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.)

Note 3) This also includes the number of blanking plate assembly.

❹ P, E port entry

U	U side (2 to 10 stations)
D	D side (2 to 10 stations)
B	Both sides (2 to 24 stations)

❺ SUP/EXH block assembly

—	Internal pilot
S	Internal pilot, Built-in silencer
R	External pilot

* 3/5(E) port is plugged for the built-in silencer type.
* When the built-in silencer type is used, keep the exhaust port from coming in direct contact with water or other liquids.

Refer to the page on the right for ❻.

❼ Mounting and Option

Symbol	Mounting	Option
—	Direct mounting	None
AA		Name plate (With station number)
BA		Name plate (Without station number)
D□	DIN rail mounting	Without name plate
A□		Name plate (With station number)
B□		Name plate (Without station number)

Note 1) Enter the number of stations inside □. (Refer to "DIN Rail Option" below.)

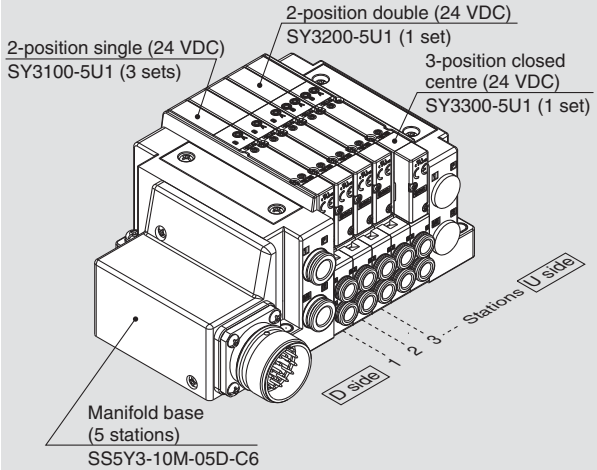
Note 2) Only direct mounting is available for Type 11 (Bottom ported).

DIN Rail Option

—	Direct mounting	
0	Without DIN rail (with bracket)	
3	For 3 stations	Specify a longer rail than the total length of specified stations.
⋮	⋮	
24	For 24 stations	

How to Order Manifold Assembly

Example (SS5Y3-10M-□)



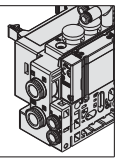
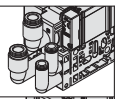
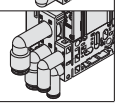
SS5Y3-10M-05D-C6 ··· 1 set (Type 10 5-station manifold base part no.)
***SY3100-5U1 ····· 3 sets (2-position single part no.)**
***SY3200-5U1 ····· 1 set (2-position double part no.)**
***SY3300-5U1 ····· 1 set (3-position closed centre part no.)**
→ The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the valve, etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on a manifold specification sheet.

Note) When mixing top ported configurations, select from page 80. In this case, use caution as there is also output on the A and B port on base side. Specify on a manifold specification sheet if plugs are required on the A and B port on base side.

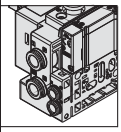
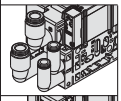
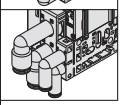
❻ A, B port size (Metric)

Symbol		A, B port	Type 10/ Side ported SY3000	Type 10/ Side ported SY5000	Type 11/ Bottom ported SY5000
C2	Straight	ø2 One-touch fitting	●	—	—
C3	Straight	ø3.2 One-touch fitting	●	—	—
C4	Straight	ø4 One-touch fitting	●	●	●
C6	Straight	ø6 One-touch fitting	●	●	●
C8	Straight	ø8 One-touch fitting	—	●	●
CM*	Straight	Straight port, mixed sizes	●	●	●
L4	Elbow (Note) Upward	ø4 One-touch fitting	●	●	—
L6	Elbow (Note) Upward	ø6 One-touch fitting	●	●	—
L8	Elbow (Note) Upward	ø8 One-touch fitting	—	●	—
B4	Elbow (Note) Downward	ø4 One-touch fitting	●	●	—
B6	Elbow (Note) Downward	ø6 One-touch fitting	●	●	—
B8	Elbow (Note) Downward	ø8 One-touch fitting	—	●	—
LM*	Elbow	Elbow port, mixed sizes (Including upward and downward piping)	●	●	—
P, E port size (One-touch fittings)			ø8	ø10	ø10

A, B port size (Inch)

Symbol		A, B port	Type 10/ Side ported SY3000	Type 10/ Side ported SY5000	Type 11/ Bottom ported SY5000
N1	Straight	ø1/8" One-touch fitting	●	—	—
N3	Straight	ø5/32" One-touch fitting	●	●	●
N7	Straight	ø1/4" One-touch fitting	●	●	●
N9	Straight	ø5/16" One-touch fitting	—	●	●
CM*	Straight	Straight port, mixed sizes	●	●	●
LN3	Elbow (Note) Upward	ø5/32" One-touch fitting	●	—	—
LN7	Elbow (Note) Upward	ø1/4" One-touch fitting	●	●	—
LN9	Elbow (Note) Upward	ø5/16" One-touch fitting	—	●	—
BN3	Elbow (Note) Downward	ø5/32" One-touch fitting	●	—	—
BN7	Elbow (Note) Downward	ø1/4" One-touch fitting	●	●	—
BN9	Elbow (Note) Downward	ø5/16" One-touch fitting	—	●	—
LM*	Elbow	Elbow port, mixed sizes (Including upward and downward piping)	●	●	—
P, E port size (One-touch fittings)			ø5/16"	ø3/8"	ø3/8"

Note) To avoid interference with the body or piping, select downward elbow port when mounting the optional spacer assembly (pages 141 to 143).
* Indicate the sizes on the manifold specification sheet in the case of "CM", "LM".
* The direction of P, E port fittings is the same as for A, B port. If selecting "LM", indicate it on the manifold specification sheet for the P, E port fitting direction.

How to Order Valves (With two mounting screws)

Refer to page 8 for valve specifications.

SY 3 1 0 0 □ □ □ □ – 5 □ □ 1 – □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫

❸: 0 = Base mounted

❶ Series

3	SY3000
5	SY5000

❷ Type of actuation

1	2-position single
2	2-position double
3	3-position closed centre
4	3-position exhaust centre
5	3-position pressure centre
A*	4-position dual 3-port valve (N.C./N.C.)
B*	4-position dual 3-port valve (N.O./N.O.)
C*	4-position dual 3-port valve (N.C./N.O.)

* Only rubber seal type is available for the 4-position dual 3-port valve.

❸ Seal type

0	Rubber seal
1	Metal seal

❹ Pilot type

—	Internal pilot
R	External pilot

❺ Back pressure check valve (Built-in valve type)

—	None
H	Built-in

* Only rubber seal type. Manifold installed type is available if the back pressure check valve is required for a valve with metal seal. Refer to page 147 for Ordering Example. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.
* The built-in valve type back pressure check valve is not available for the 3-position type.

❻ Pilot valve option

—	Standard (0.7 MPa)
B	Quick response type (0.7 MPa)
K*	High pressure type (1.0 MPa)

* Only metal seal type is available for the high pressure type.

❼ Coil type

—	Standard
T	With power saving circuit (Continuous duty type)

* Be sure to select the power saving circuit type when the valve is continuously energized for long periods of time.
* Note the specified energizing time when power saving circuit is selected. Refer to page 154.

❽ Rated voltage

5	24 VDC
6	12 VDC

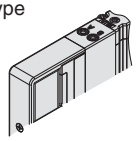
❾ Light/surge voltage suppressor and common specification

—	Without light/surge voltage suppressor (Non-polar)
R	With surge voltage suppressor (Non-polar)
U	With light/surge voltage suppressor (Non-polar)
S	With surge voltage suppressor (Positive common)
Z	With light/surge voltage suppressor (Positive common)
NS	With surge voltage suppressor (Negative common)
NZ	With light/surge voltage suppressor (Negative common)

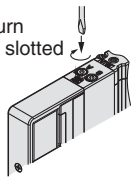
* Only "Z" and "NZ" types are available for the product with power saving circuit.

❿ Manual override

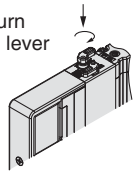
—: Non-locking push type



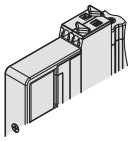
D: Push-turn locking slotted type



E: Push-turn locking lever type



F: Slide locking type



⓫ Type of mounting screw

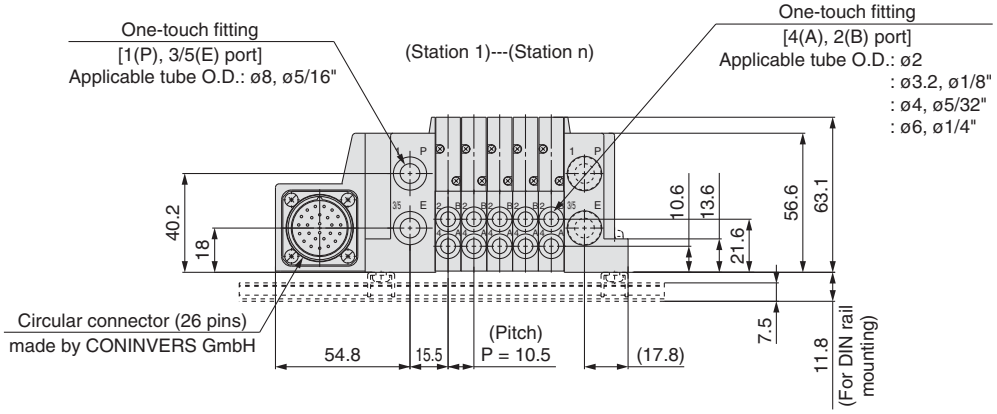
—	Round head combination screw
B	Hexagon socket head cap screw
K	Round head combination screw (Falling-out-prevention type)
H	Hexagon socket head cap screw (Falling-out-prevention type)

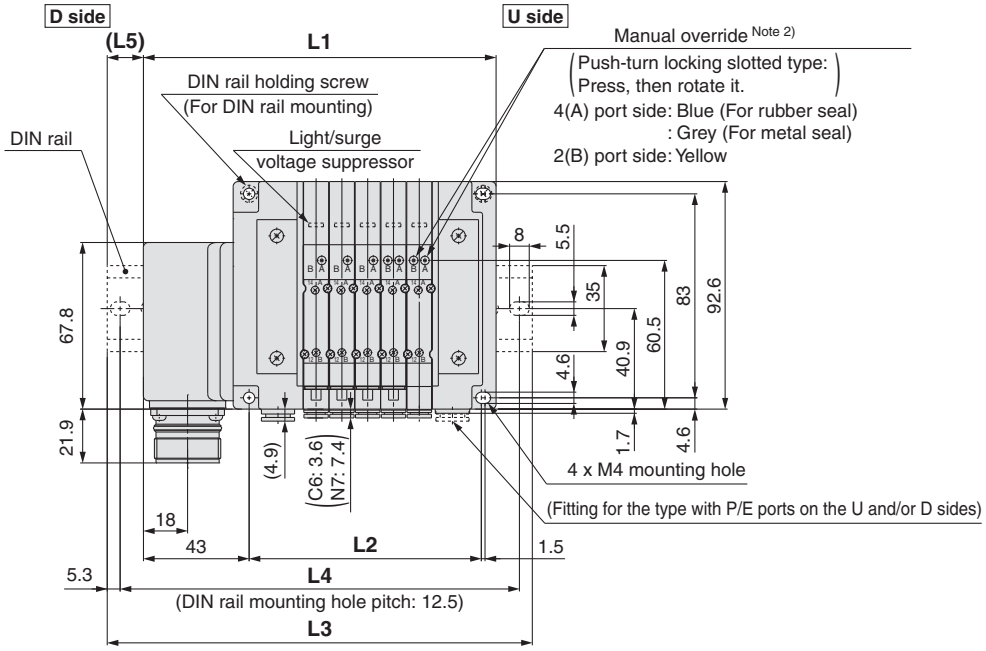
* For "K" and "H", the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance etc.
* When ordering a valve individually, the base gasket is not included. Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance service.
  Refer to page 136 for part numbers of the base gasket and mounting screw.
* "B" and "H" cannot be selected for the individual SUP/ EXH spacer assembly or double check spacer assembly with residual pressure release valve.

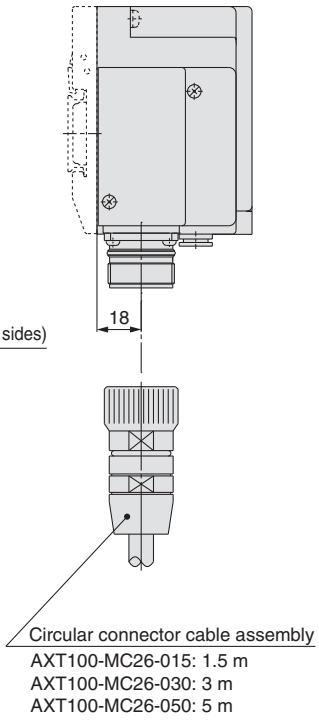
⚠ Protective class class Ⅲ (Mark: ⧼Ⅲ⧽)

Dimensions: Type 10/Circular Connector/Series SY3000

SS5Y3-10M- Stations **U** **D** **B** **-** **C2** **C3, N1** **C4, N3** **C6, N7** **(D)**





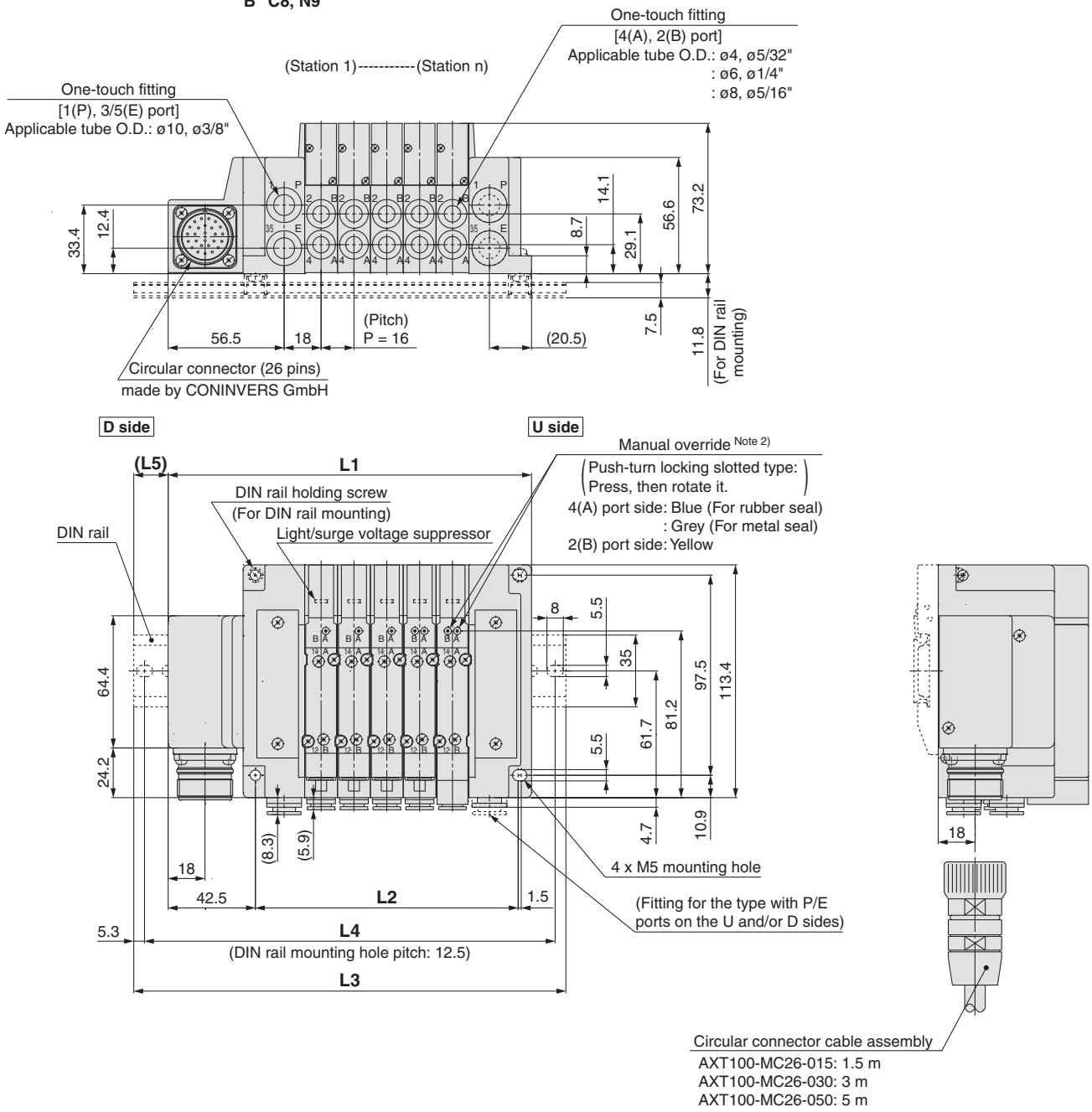


Note 1) These figures show the "SS5Y3-10M-05D-C6".
Note 2) Refer to page 121 for dimensions of external pilot, silencer, elbow fittings and slide locking manual override.
Note 3) Refer to page 124 for dimensions of A or B port top-ported type.

n: Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	112	122.5	133	143.5	154	164.5	175	185.5	196	206.5	217	227.5	238	248.5	259	269.5	280	290.5	301	311.5	322	332.5	343
L2	63	73.5	84	94.5	105	115.5	126	136.5	147	157.5	168	178.5	189	199.5	210	220.5	231	241.5	252	262.5	273	283.5	294
L3	135.5	148	160.5	173	185.5	198	210.5	210.5	223	235.5	248	260.5	273	273	285.5	298	310.5	323	335.5	335.5	348	360.5	373
L4	125	137.5	150	162.5	175	187.5	200	200	212.5	225	237.5	250	262.5	262.5	275	287.5	300	312.5	325	325	337.5	350	362.5
L5	12	13	14	15	16	17	18	12.5	13.5	14.5	15.5	16.5	17.5	12.5	13.5	14.5	15.5	16.5	17.5	12	13	14	15

Dimensions: Type 10/Circular Connector/Series SY5000

SS5Y5-10M-[Stations] [U C4, N3 / D C6, N7 / B C8, N9] (D)



Note 1) These figures show the “SS5Y5-10M-05D-C8”.
Note 2) Refer to page 122 for dimensions of external pilot, silencer, elbow fittings and slide locking manual override.
Note 3) Refer to page 125 for dimensions of A or B port top-ported type.

n: Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	129	145	161	177	193	209	225	241	257	273	289	305	321	337	353	369	385	401	417	433	449	465	481
L2	80	96	112	128	144	160	176	192	208	224	240	256	272	288	304	320	336	352	368	384	400	416	432
L3	160.5	173	185.5	210.5	223	235.5	260.5	273	285.5	298	323	335.5	348	360.5	385.5	398	410.5	435.5	448	460.5	473	498	510.5
L4	150	162.5	175	200	212.5	225	250	262.5	275	287.5	312.5	325	337.5	350	375	387.5	400	425	437.5	450	462.5	487.5	500
L5	16	14	12.5	17	15	13.5	18	16	14.5	12.5	17	15.5	13.5	12	16.5	14.5	13	17.5	15.5	14	12	16.5	15

Plug-in Connector Connecting Base

Circular Connector

Type 12
Top Ported

Series SY3000/5000

RoHS

How to Order Manifold

SS5Y 3 – 12M – 05 U □ – □ □

❶ ❷ ❸ ❹ ❺ ❻

Refer to pages 124 and 125 for dimensions of Type 12/Top ported type.

❶ Series

3	SY3000
5	SY5000

❷ Valve stations

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
12	12 stations	
02	2 stations	Specified layout Note 2) (Available up to 24 solenoids)
⋮	⋮	
24	24 stations	

Note 1) Double wiring: 2-position single, double, 3-position and 4-position valves can be used on all manifold stations. Use of a 2-position single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.

Note 2) Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.)

Note 3) This also includes the number of blanking plate assembly.

❸ P, E port entry

U Note)	U side (2 to 10 stations)
D Note)	D side (2 to 10 stations)
B	Both sides (2 to 24 stations)

Note) ❹For type "S", supply/exhaust block assembly with built-in silencer, choose U or D for P port entry.

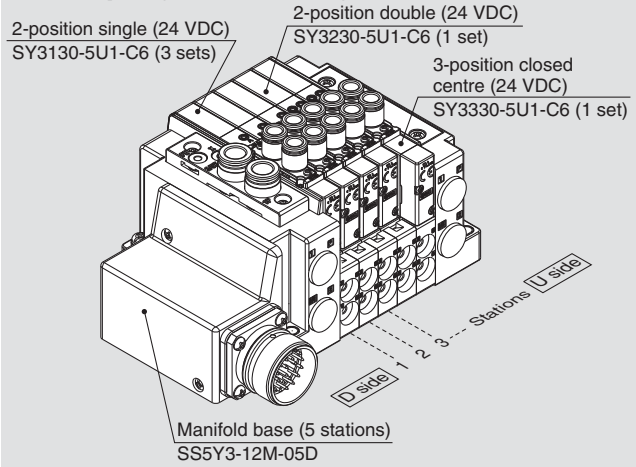
❹ SUP/EXH block assembly

—	Internal pilot
S	Internal pilot, Built-in silencer
R	External pilot

* For built-in silencer type, P and E ports are available on U and D sides. 3/5(E) port is plugged. The silencer exhaust port is located on the opposite side of P, E port entry. (Example: When the P, E port entry is D side, the silencer exhaust port is U side.)
* When the built-in silencer type is used, keep the exhaust port from coming in direct contact with water or other liquids.

How to Order Manifold Assembly

Example (SS5Y3-12M-□)



SS5Y3-12M-05D ····· 1 set (Type 12 5-station manifold base part no.)
***SY3130-5U1-C6 ····· 3 sets (2-position single part no.)**
***SY3230-5U1-C6 ····· 1 set (2-position double part no.)**
***SY3330-5U1-C6 ····· 1 set (3-position closed centre part no.)**
→ The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the valve, etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on a manifold specification sheet.

❺ P, E port size (One-touch fittings)

Symbol	SY3000	SY5000
—	ø8	ø10
N	ø5/16"	ø3/8"

* For N, sizes are in inches.

❻ Mounting

—	Direct mounting	
D	DIN rail mounting (With DIN rail)	
D0	DIN rail mounting (Without DIN rail)	
D3	For 3 stations	Specify a longer rail than the standard length.
⋮	⋮	
D24	For 24 stations	

SMC

How to Order Valves (With two mounting screws)

Refer to page 8 for valve specifications.

SY 3 1 3 0 ❶ ❷ ❸ ❹ ❺ ❻ ❼ – 5 ❽ ❾ ❿ 1 – C6 ⓫ ⓬ – ⓭

❸ Top ported

❶ Series

3	SY3000
5	SY5000

❷ Type of actuation

1	2-position single
2	2-position double
3	3-position closed centre
4	3-position exhaust centre
5	3-position pressure centre
A*	4-position dual 3-port valve (N.C./N.C.)
B*	4-position dual 3-port valve (N.O./N.O.)
C*	4-position dual 3-port valve (N.C./N.O.)

* Only rubber seal is available for the 4-position dual 3-port valve.

❸ Seal type

0	Rubber seal
1	Metal seal

❹ Pilot type

—	Internal pilot
R	External pilot

❺ Back pressure check valve (Built-in valve type)

—	None
H	Built-in

* Only rubber seal type. Manifold installed type is available if the back pressure check valve is required for a valve with metal seal. Refer to page 147 for Ordering Example. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.
* The built-in valve type back pressure check valve is not available for the 3-position type.

❻ Pilot valve option

—	Standard (0.7 MPa)
B	Quick response type (0.7 MPa)
K*	High pressure type (1.0 MPa)

* Only metal seal type is available for the high pressure type.

❼ Coil type

—	Standard
T	With power saving circuit (Continuous duty type)

* Be sure to select the power saving circuit type when the valve is continuously energized for long periods of time.
* Note the specified energizing time when power saving circuit is selected. Refer to page 154.

❽ Rated voltage

5	24 VDC
6	12 VDC

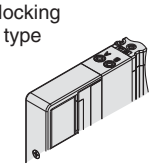
❾ Light/surge voltage suppressor and common specification

—	Without light/surge voltage suppressor (Non-polar)
R	With surge voltage suppressor (Non-polar)
U	With light/surge voltage suppressor (Non-polar)
S	With surge voltage suppressor (Positive common)
Z	With light/surge voltage suppressor (Positive common)
NS	With surge voltage suppressor (Negative common)
NZ	With light/surge voltage suppressor (Negative common)

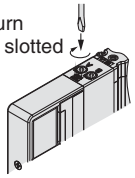
* Only "Z" and "NZ" types are available for the product with power saving circuit.

❿ Manual override

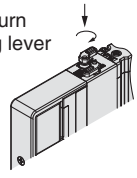
—: Non-locking push type



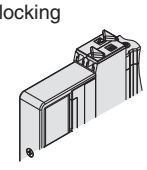
D: Push-turn locking slotted type



E: Push-turn locking lever type



F: Slide locking type



⓫ A, B port size

Thread piping

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

One-touch fitting (Metric)

Symbol	A, B port	SY3000	SY5000
C2	ø2 One-touch fitting	●	—
C3	ø3.2 One-touch fitting	●	—
C4	ø4 One-touch fitting	●	●
C6	ø6 One-touch fitting	●	●
C8	ø8 One-touch fitting	—	●

One-touch fitting (Inch)

Symbol	A, B port	SY3000	SY5000
N1	ø1/8" One-touch fitting	●	—
N3	ø5/32" One-touch fitting	●	●
N7	ø1/4" One-touch fitting	●	●
N9	ø5/16" One-touch fitting	—	●

⓬ Thread type

—	Rc
F	G
N	NPT
T	NPTF

* Only — is available for M5.

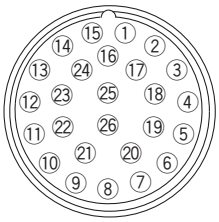
⓭ Type of mounting screw

—	Round head combination screw
B	Hexagon socket head cap screw
K	Round head combination screw (Falling-out-prevention type)
H	Hexagon socket head cap screw (Falling-out-prevention type)

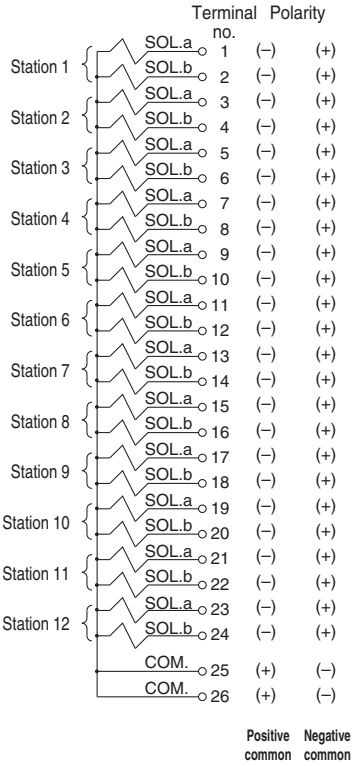
* For "K" and "H", the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance etc.
* When ordering a valve individually, the base gasket is not included. Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance service.
  Refer to page 136 for part numbers of the base gasket and mounting screw.
* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly.

Electrical Wiring Specifications

Circular connector



If alignment is not specified, the internal wiring is double wiring (connected to SOL. a and SOL. b) regardless of number of stations, valve and option types.



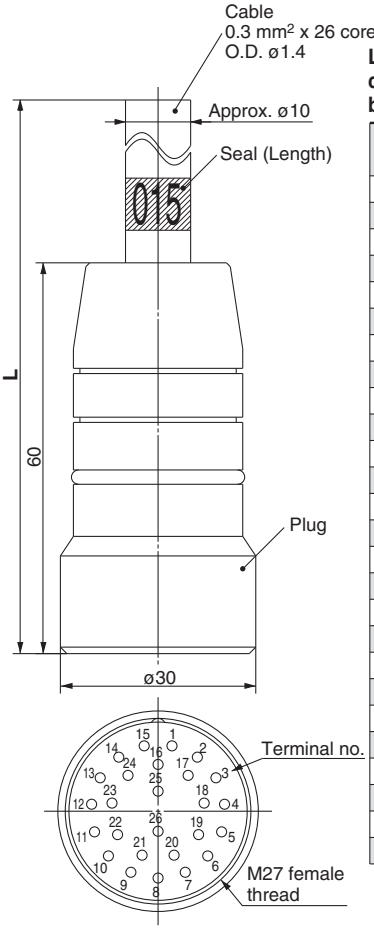
Note) When using a valve with no polarity, either positive common or negative common can be used.

Specified Layout

Mixed wiring of single and double wiring can be specified on the manifold specification sheet. The maximum number of stations is determined according to the number of solenoids. The total number of solenoids should be 24 or less. 1 solenoid is required for 2-position single, and 2 solenoids for 2-position double, 3-position and 4-position.

Cable Assembly

AXT100-MC26- 015 / 030 / 050



Lead wire colour for circular connector cable assembly by terminal number

Terminal no.	Lead wire colour	Dot marking
1	Black	None
2	Brown	None
3	Red	None
4	Orange	None
5	Yellow	None
6	Pink	None
7	Blue	None
8	Purple	White
9	Grey	Black
10	White	Black
11	White	Red
12	Yellow	Red
13	Orange	Red
14	Yellow	Black
15	Pink	Black
16	Blue	White
17	Purple	None
18	Grey	None
19	Orange	Black
20	Red	White
21	Brown	White
22	Pink	Red
23	Grey	Red
24	Black	White
25	White	None
26	White	None

Circular connector cable assembly

Cable length (**L**)	Assembly part no.
	26 pins
1.5 m	AXT100-MC26-015
3 m	AXT100-MC26-030
5 m	AXT100-MC26-050

∗ Cannot be used for movable wiring.
∗ Lengths other than the above is also available. Please contact SMC for details.

Electrical characteristics

Item	Property
Conductor resistance Ω/km, 20°C	65 or less
Voltage limit V, 1 minute, AC	1000
Insulation resistance MΩ/km, 20°C	5 or more

Note) The minimum bending radius of the circular connector cable is 20 mm.

Type 10
Side Ported

Type 11
Bottom Ported

Plug-in Connector Connecting Base

EX500

Series SY3000/5000

RoHS

How to Order Manifold

SS5Y 3 – 10 S A2 – 05 U ☐ – C6 ☐

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽

Refer to page 123 for dimensions of Type 11/Bottom ported type.

❶ Series

3	SY3000
5	SY5000

❷ Type

10	Side ported
11	Bottom ported*

* The SY5000 manifold base is used for the bottom ported of the SY3000. When ordering, refer to Plug-in Mixed Mounting Type Manifold (from page 127).

❸ SI unit

0	Without SI unit
A2	DeviceNet™ / PROFIBUS DP / CC-Link / EtherNet/IP™ (Positive common)
A2N	DeviceNet™ / PROFIBUS DP / CC-Link / EtherNet/IP™ (Negative common)

Note) Ensure that the valve's common specifications match.

❹ Valve stations

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
08	8 stations	
02	2 stations	Specified layout Note 2) (Available up to 16 solenoids)
⋮	⋮	
16	16 stations	

Note 1) Double wiring: 2-position single, double, 3-position and 4-position valves can be used on all manifold stations. Use of a 2-position single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.
Note 2) Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.)
Note 3) This also includes the number of blanking plate assembly.
Note 4) For the product without the SI unit (S0), note the maximum number of solenoids of the SI unit that will be mounted. If the layout is specified, indicate it on the manifold specification sheet.

❺ P, E port entry

U	U side (2 to 10 stations)
D	D side (2 to 10 stations)
B	Both sides (2 to 16 stations)

❻ SUP/EXH block assembly

—	Internal pilot
S	Internal pilot, Built-in silencer
R	External pilot

* 3/5(E) port is plugged for the built-in silencer type.
* When the built-in silencer type is used, keep the exhaust port from coming in direct contact with water or other liquids.

Refer to the page on the right for ❼.

❽ Mounting and Option

Symbol	Mounting	Option
—	Direct mounting	None
AA		Name plate (With station number)
BA		Name plate (Without station number)
D☐	DIN rail mounting	Without name plate
A☐		Name plate (With station number)
B☐		Name plate (Without station number)

Note 1) Enter the number of stations inside ☐. (Refer to "DIN Rail Option" below.)
Note 2) Only direct mounting is available for Type 11 (Bottom ported).

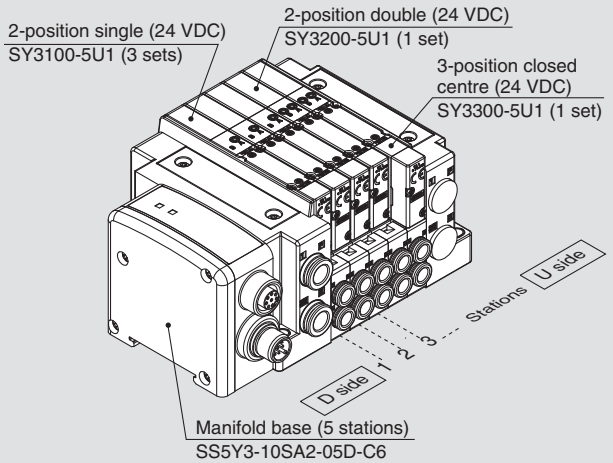
DIN Rail Option

—	Direct mounting	
0	Without DIN rail (with bracket)	
3	For 3 stations	Specify a longer rail than the total length of specified stations.
⋮	⋮	
16	For 16 stations	

* If the DIN rail must be mounted without an SI unit, select D0. Then, refer to L3 of the dimensions for the DIN rail length and order separately. (Refer to page 140 for the DIN rail part number.)

How to Order Manifold Assembly

Example (SS5Y3-10SA2-☐)



SS5Y3-10SA2-05D-C6 ··· 1 set (Type 10 5-station manifold base part no.)
***SY3100-5U1····· 3 sets (2-position single part no.)**
***SY3200-5U1····· 1 set (2-position double part no.)**
***SY3300-5U1····· 1 set (3-position closed centre part no.)**
The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the valve, etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on a manifold specification sheet.

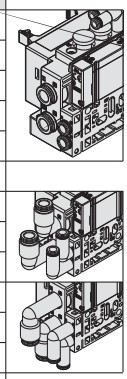
Note) When mixing top ported configurations, select from page 88. In this case, use caution as there is also output on the A and B port on base side. Specify on a manifold specification sheet if plugs are required on the A and B port on base side.

Refer to Reduced Wiring Fieldbus System (Serial Transmission) in Electric Products (CAT.E150) for details on the EX500 Gateway-type Serial Transmission System.

SMC

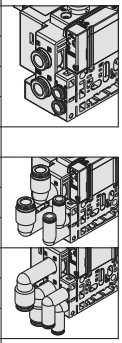
❼ A, B port size (Metric)

Symbol		A, B port	Type 10/ Side ported SY3000	Type 10/ Side ported SY5000	Type 11/ Bottom ported SY5000
C2	Straight	ø2 One-touch fitting	●	—	—
C3	Straight	ø3.2 One-touch fitting	●	—	—
C4	Straight	ø4 One-touch fitting	●	●	●
C6	Straight	ø6 One-touch fitting	●	●	●
C8	Straight	ø8 One-touch fitting	—	●	●
CM*	Straight	Straight port, mixed sizes	●	●	●
L4	Elbow (Note) Upward	ø4 One-touch fitting	●	●	—
L6	Elbow (Note) Upward	ø6 One-touch fitting	●	●	—
L8	Elbow (Note) Upward	ø8 One-touch fitting	—	●	—
B4	Elbow (Note) Downward	ø4 One-touch fitting	●	●	—
B6	Elbow (Note) Downward	ø6 One-touch fitting	●	●	—
B8	Elbow (Note) Downward	ø8 One-touch fitting	—	●	—
LM*	Elbow (Note)	Elbow port, mixed sizes (Including upward and downward piping)	●	●	—
P, E port size (One-touch fittings)			ø8	ø10	ø10



A, B port size (Inch)

Symbol		A, B port	Type 10/ Side ported SY3000	Type 10/ Side ported SY5000	Type 11/ Bottom ported SY5000
N1	Straight	ø1/8" One-touch fitting	●	—	—
N3	Straight	ø5/32" One-touch fitting	●	●	●
N7	Straight	ø1/4" One-touch fitting	●	●	●
N9	Straight	ø5/16" One-touch fitting	—	●	●
CM*	Straight	Straight port, mixed sizes	●	●	●
LN3	Elbow (Note) Upward	ø5/32" One-touch fitting	●	—	—
LN7	Elbow (Note) Upward	ø1/4" One-touch fitting	●	●	—
LN9	Elbow (Note) Upward	ø5/16" One-touch fitting	—	●	—
BN3	Elbow (Note) Downward	ø5/32" One-touch fitting	●	—	—
BN7	Elbow (Note) Downward	ø1/4" One-touch fitting	●	●	—
BN9	Elbow (Note) Downward	ø5/16" One-touch fitting	—	●	—
LM*	Elbow (Note)	Elbow port, mixed sizes (Including upward and downward piping)	●	●	—
P, E port size (One-touch fittings)			ø5/16"	ø3/8"	ø3/8"



Note) To avoid interference with the body or piping, select downward elbow port when mounting the optional spacer assembly (pages 141 to 143).
* Indicate the sizes on the manifold specification sheet in the case of "CM", "LM".
* The direction of P, E port fittings is the same as for A, B port. If selecting "LM", indicate it on the manifold specification sheet for the P, E port fitting direction.

How to Order Valves (With two mounting screws)

Refer to page 8 for valve specifications.

SY 3 1 0 0 □ □ □ □ – 5 □ □ 1 – □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫

❸ 0: Base mounted

❶ Series

3	SY3000
5	SY5000

❷ Type of actuation

1	2-position single
2	2-position double
3	3-position closed centre
4	3-position exhaust centre
5	3-position pressure centre
A*	4-position dual 3-port valve (N.C./N.C.)
B*	4-position dual 3-port valve (N.O./N.O.)
C*	4-position dual 3-port valve (N.C./N.O.)

* Only rubber seal type is available for the 4-position dual 3-port valve.

❸ Seal type

0	Rubber seal
1	Metal seal

❹ Pilot type

—	Internal pilot
R	External pilot

❺ Back pressure check valve (Built-in valve type)

—	None
H	Built-in

* Only rubber seal type. Manifold installed type is available if the back pressure check valve is required for a valve with metal seal. Refer to page 147 for Ordering Example. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.
* The built-in valve type back pressure check valve is not available for the 3-position type.

❻ Pilot valve option

—	Standard (0.7 MPa)
B	Quick response type (0.7 MPa)
K*	High pressure type (1.0 MPa)

* Only metal seal type is available for the high pressure type.

❼ Coil type

—	Standard
T	With power saving circuit (Continuous duty type)

* Be sure to select the power saving circuit type when the valve is continuously energized for long periods of time.
* Note the specified energizing time when power saving circuit is selected. Refer to page 154.

❽ Rated voltage

5	24 VDC

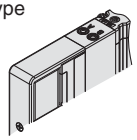
❾ Light/surge voltage suppressor and common specification

R	With surge voltage suppressor (Non-polar)
U	With light/surge voltage suppressor (Non-polar)
S	With surge voltage suppressor (Positive common)
Z	With light/surge voltage suppressor (Positive common)
NS	With surge voltage suppressor (Negative common)
NZ	With light/surge voltage suppressor (Negative common)

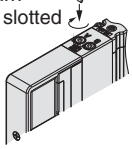
* Only "Z" and "NZ" types are available for the product with power saving circuit. Select a valve from R, U, S or Z when the SI unit specification is A2 (Positive common). Select a valve from R, U, NS or NZ when the SI unit specification is A2N (Negative common).

❿ Manual override

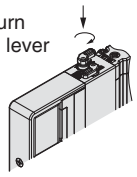
—: Non-locking push type



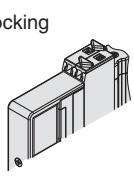
D: Push-turn locking slotted type



E: Push-turn locking lever type



F: Slide locking type



⓫ Type of mounting screw

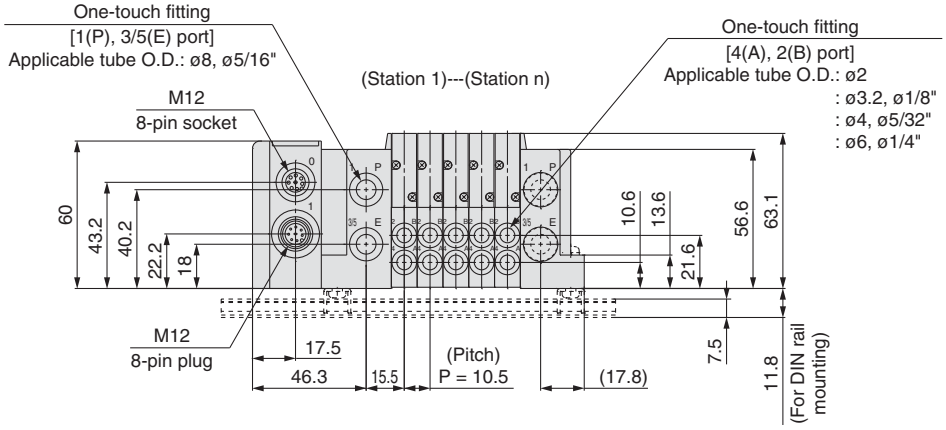
—	Round head combination screw
B	Hexagon socket head cap screw
K	Round head combination screw (Falling-out-prevention type)
H	Hexagon socket head cap screw (Falling-out-prevention type)

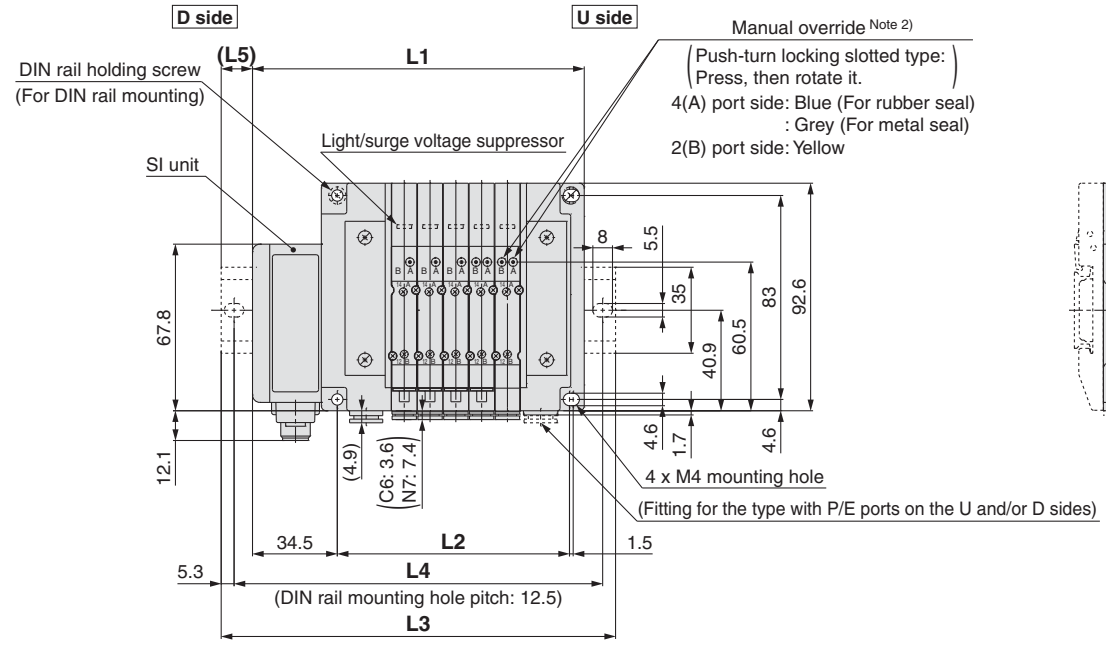
* For "K" and "H", the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance etc.
* When ordering a valve individually, the base gasket is not included. Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance service.
  Refer to page 136 for part numbers of the base gasket and mounting screw.
* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly or double check spacer assembly with residual pressure release valve.

⚠ Protective class class Ⅲ (Mark: ⧼Ⅲ⧽)

Dimensions: Type 10/EX500/Series SY3000

SS5Y3-10SA2-[Stations][U/D/B]-[C2/C3, N1/C4, N3/C6, N7](D)



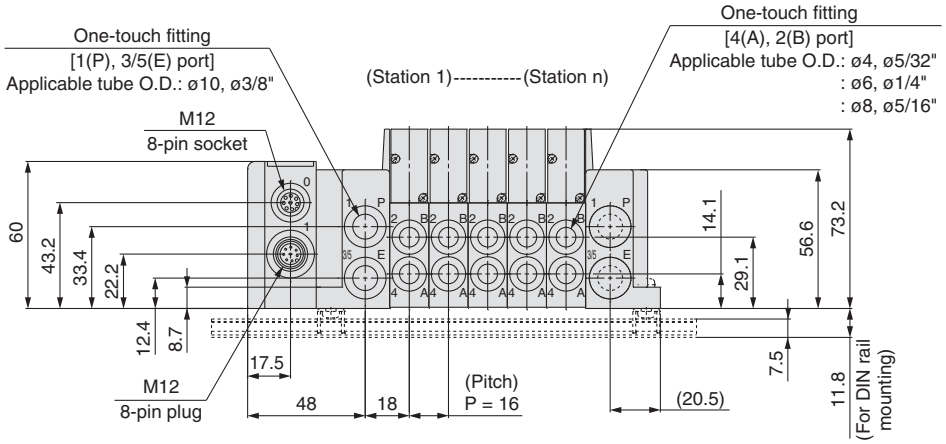


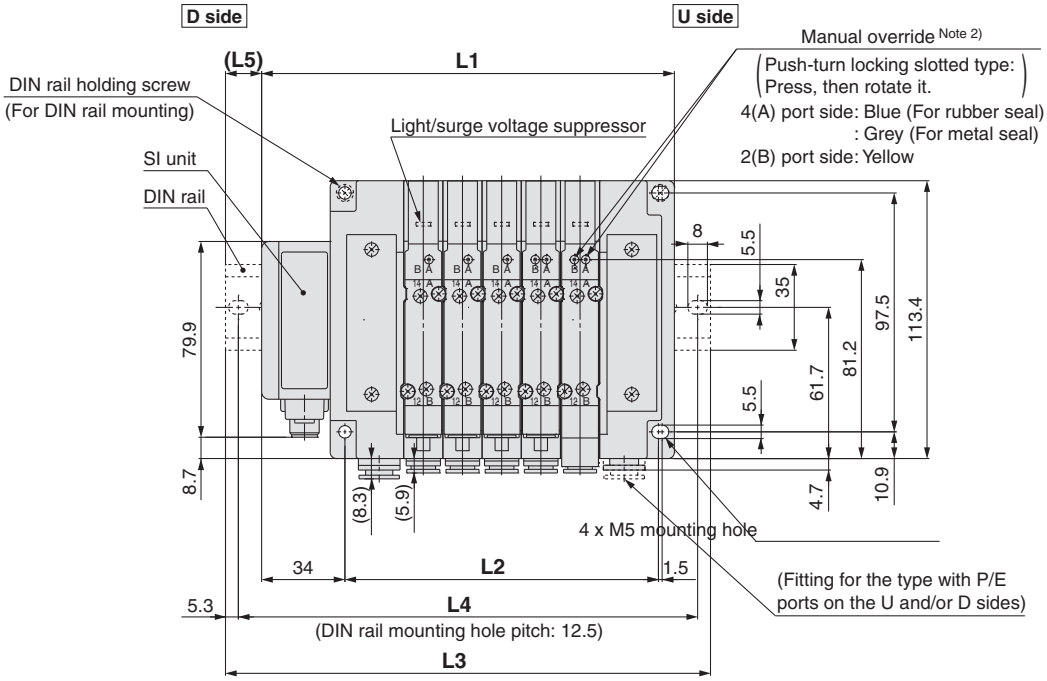
Note 1) These figures show the “SS5Y3-10SA2-05D-C6”.
Note 2) Refer to page 121 for dimensions of external pilot, silencer, elbow fittings and slide locking manual override.
Note 3) Refer to page 124 for dimensions of A or B port top-ported type.

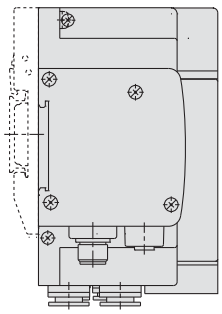
n: Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	103.5	114	124.5	135	145.5	156	166.5	177	187.5	198	208.5	219	229.5	240	250.5
L2	63	73.5	84	94.5	105	115.5	126	136.5	147	157.5	168	178.5	189	199.5	210
L3	135.5	148	148	160.5	173	185.5	198	210.5	223	223	235.5	248	260.5	273	285.5
L4	125	137.5	137.5	150	162.5	175	187.5	200	212.5	212.5	225	237.5	250	262.5	275
L5	16	17	12	13	14	15	16	17	18	12.5	13.5	14.5	15.5	16.5	17.5

Dimensions: Type 10/EX500/Series SY5000

SS5Y5-10SA2-[Stations] [U: C4, N3 / D: C6, N7 / B: C8, N9] (D)







Note 1) These figures show the "SS5Y5-10SA2-05D-C8".
Note 2) Refer to page 122 for dimensions of external pilot, silencer, elbow fittings and slide locking manual override.
Note 3) Refer to page 125 for dimensions of A or B port top-ported type.

n: Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	120.5	136.5	152.5	168.5	184.5	200.5	216.5	232.5	248.5	264.5	280.5	296.5	312.5	328.5	344.5
L2	80	96	112	128	144	160	176	192	208	224	240	256	272	288	304
L3	148	160.5	185.5	198	210.5	235.5	248	260.5	273	298	310.5	323	348	360.5	373
L4	137.5	150	175	187.5	200	225	237.5	250	262.5	287.5	300	312.5	337.5	350	362.5
L5	14	12	16.5	15	13	17.5	16	14	12.5	17	15	13.5	18	16	14.5

Plug-in Connector Connecting Base

EX500

Type 12
Top Ported

Series SY3000/5000

RoHS

How to Order Manifold

SS5Y 3 – 12S A2 – 05 U □ – □ □

❶ ❷ ❸ ❹ ❺ ❻ ❼

Refer to pages 124 and 125 for dimensions of Type 12/Top ported type.

❶ Series

3	SY3000
5	SY5000

❷ SI unit

0	Without SI unit
A2	DeviceNet™/PROFIBUS DP/ CC-Link/EtherNet/IP™ (Positive common)
A2N	DeviceNet™/PROFIBUS DP/ CC-Link/EtherNet/IP™ (Negative common)

Note) Ensure that the valve's common specifications match.

❹ P, E port entry

U Note)	U side (2 to 10 stations)
D Note)	D side (2 to 10 stations)
B	Both sides (2 to 16 stations)

Note) ❺For type "S", supply/exhaust block assembly with built-in silencer, choose U or D for P port entry.

❺ SUP/EXH block assembly

—	Internal pilot
S	Internal pilot/Built-in silencer
R	External pilot

* For built-in silencer type, P and E ports are available on U and D sides. 3/5(E) port is plugged. The silencer exhaust port is located on the opposite side of P, E port entry. (Example: When the P, E port entry is D side, the silencer exhaust port is U side.)
* When the built-in silencer type is used, keep the exhaust port from coming in direct contact with water or other liquids.

❸ Valve stations

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
08	8 stations	
02	2 stations	Specified layout Note 2) (Available up to 16 solenoids)
⋮	⋮	
16	16 stations	

Note 1) Double wiring: 2-position single, double, 3-position and 4-position valves can be used on all manifold stations. Use of a 2-position single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.
Note 2) Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.)
Note 3) This also includes the number of blanking plate assembly.
Note 4) For the product without the SI unit (S0), note the maximum number of solenoids of the SI unit that will be mounted. If the layout is specified, indicate it on the manifold specification sheet.

❻ P, E port size (One-touch fittings)

Symbol	SY3000	SY5000
—	ø8	ø10
N	ø5/16"	ø3/8"

* For N, sizes are in inches.

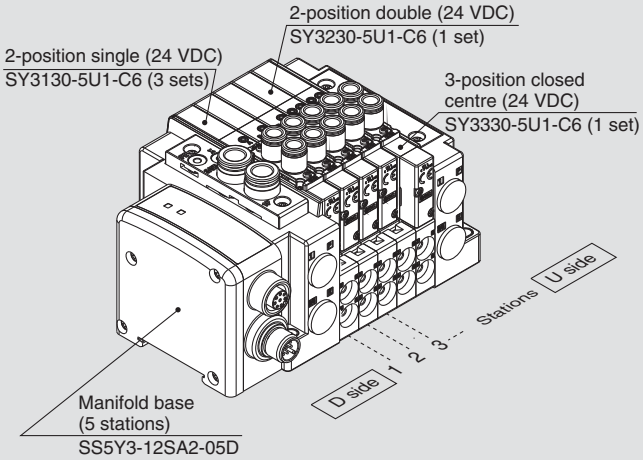
❼ Mounting

—	Direct mounting	
D	DIN rail mounting (With DIN rail)	
D0	DIN rail mounting (Without DIN rail)	
D3	For 3 stations	Specify a longer rail than the standard length.
⋮	⋮	
D16	For 16 stations	

* When mounted on the DIN rail without the SI unit, please select D0 and refer to L3 of the dimensions for the DIN rail length, then order separately. (Refer to page 140 for the DIN rail part number.)

How to Order Manifold Assembly

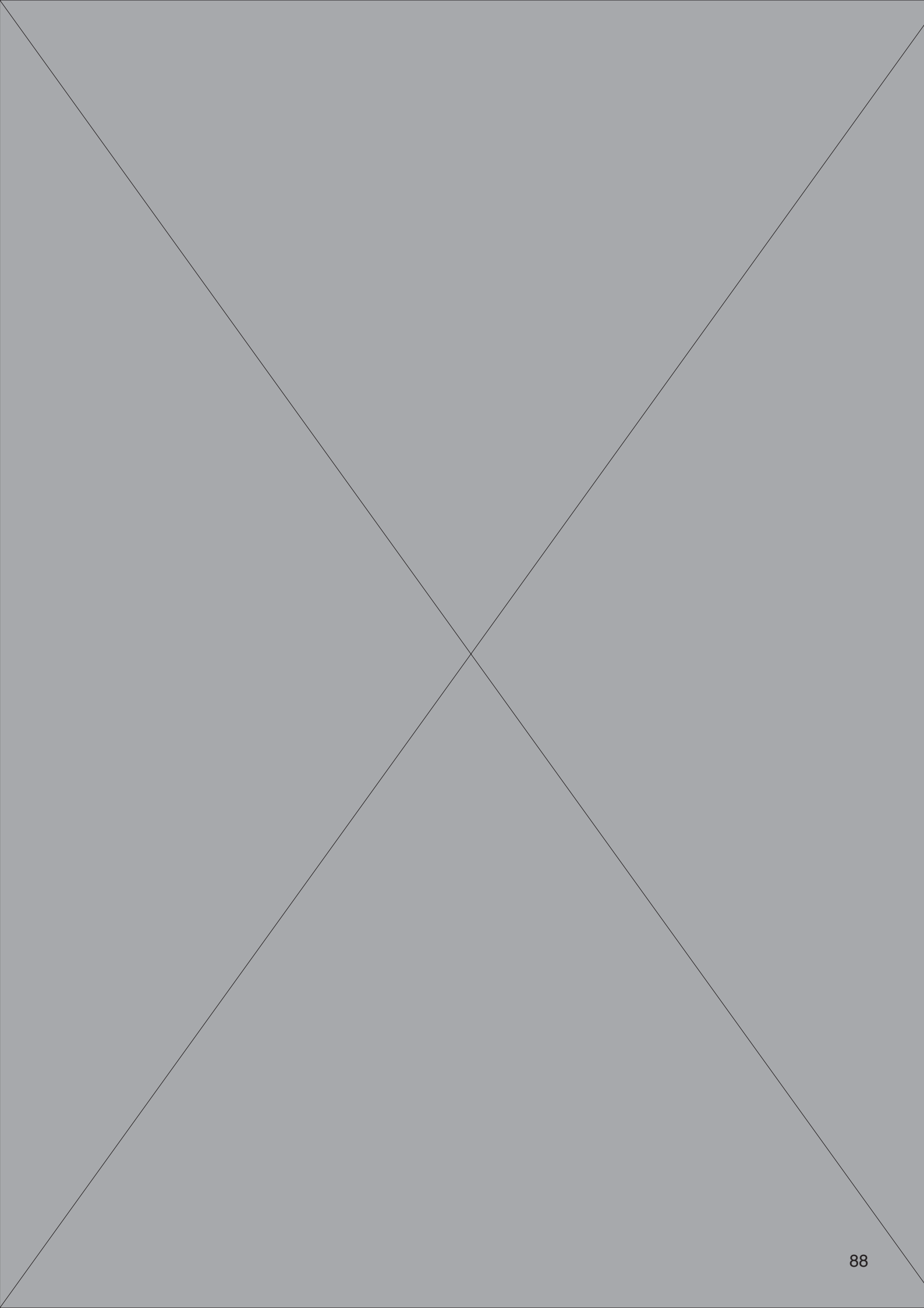
Example (SS5Y3-12SA2-□)



SS5Y3-12SA2-05D ··· 1 set (Type 12 5-station manifold base part no.)
***SY3130-5U1-C6 ····· 3 sets (2-position single part no.)**
***SY3230-5U1-C6 ····· 1 set (2-position double part no.)**
***SY3330-5U1-C6 ····· 1 set (3-position closed centre part no.)**
→ The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the valve, etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on a manifold specification sheet.

Refer to Reduced Wiring Fieldbus System (Serial Transmission) in Electric Products (CAT.E150) for details on the EX500 Gateway-type Serial Transmission System.



Type 10
Side Ported

Type 11
Bottom Ported

Plug-in Connector Connecting Base

EX600

Series SY3000/5000

RoHS

How to Order Manifold

SS5Y 3 – 10 S6 Q □ 2 – 05 U – C6 □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾

Refer to page 123 for dimensions of Type 11/Bottom ported type.

❶ Series

3	SY3000
5	SY5000

❷ Type

10	Side ported
11	Bottom ported*

* The SY5000 manifold base is used for the bottom ported of the SY3000. When ordering, refer to Plug-in Mixed Mounting Type Manifold (from page 127).

❸ SI unit

0	Without SI unit
Q	DeviceNet™
N	PROFIBUS DP
V	CC-Link
ZE	EtherNet/IP™
D	EtherCAT

Note 1) I/O unit cannot be mounted without SI unit.
Note 2) Valve plate which connects manifold and SI unit is not mounted to a valve without SI unit. Refer to the EX600 catalogue (CAT.E02-24) for mounting.

❹ SI unit output polarity, end plate type

SI unit output polarity	Power supply with M12 connector	Power supply with 7/8 inch connector
Without SI unit	—	
SI unit positive common	2	3
SI unit negative common	4	5

Note 1) Ensure a match with the common specifications of the value to be used.
Note 2) Without SI unit, the symbol is —.

❺ I/O unit stations

—	None
1	1 station
⋮	⋮
9	9 stations

Note 1) Without SI unit, the symbol is —.
Note 2) SI unit is not included in I/O unit stations.
Note 3) When I/O unit is selected, it is shipped separately, and assembled by customer. Refer to the attached operation manual for mounting.

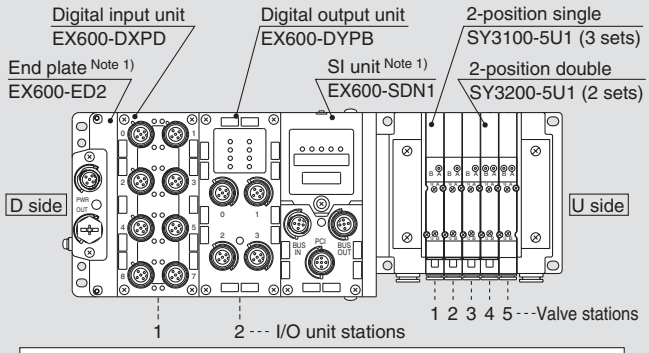
❻ Valve stations

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
16	16 stations	
02	2 stations	Specified layout Note 2) (Available up to 32 solenoids)
⋮	⋮	
24	24 stations	

Note 1) Double wiring: 2-position single, double, 3-position and 4-position valves can be used on all manifold stations. Use of a 2-position single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.
Note 2) Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.)
Note 3) This also includes the number of blanking plate assembly.

How to Order Manifold Assembly

Example (SS5Y3-10S6□-□)



SS5Y3-10S6Q42-05B-C6 ··· 1 set (Type 10 5-station manifold base part no.)
***SY3100-5U1 ····· 3 sets (2-position single part no.)**
***SY3200-5U1 ····· 2 sets (2-position double part no.)**
***EX600-DXPD ····· 1 set I/O unit part number (Station 1)**
***EX600-DYPB ····· 1 set I/O unit part number (Station 2)**
The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the valve, etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold part number, state the valves to be mounted, then the I/O units in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on a manifold specification sheet.

Note 1) Do not enter the SI unit part number and the end plate part number together.
Note 2) When mixing top ported configurations, select from page 96.
In this case, use caution as there is also output on the A and B port on base side. Specify on a manifold specification sheet if plugs are required on the A and B port on base side.

❼ P, E port entry, SUP/EXH block assembly

	Internal pilot	Internal pilot, Built-in silencer	External pilot
P, E port entry U side (2 to 10 stations)	U	C	G
P, E port entry D side (2 to 10 stations)	D	E	H
P, E port entry both sides (2 to 24 stations)	B	F	J

* 3/5(E) port is plugged for the built-in silencer type.
* When the built-in silencer type is used, keep the exhaust port from coming in direct contact with water or other liquids.

Refer to the page on the right for ❽.

❾ Mounting and Option

Symbol	Mounting	Option
—	Direct mounting	None
AA		Name plate (With station number)
BA		Name plate (Without station number)
D□	DIN rail mounting	Without name plate
A□		Name plate (With station number)
B□		Name plate (Without station number)

Note 1) Enter the number of stations inside □. (Refer to "DIN Rail Option" below.)
Note 2) Only direct mounting is available for Type 11 (Bottom ported).

DIN Rail Option

—	Direct mounting	
0	Without DIN rail (with bracket)	
3	For 3 stations	Specify a longer rail than the total length of specified stations.
⋮	⋮	
24	For 24 stations	

* If the DIN rail must be mounted without an SI unit, select D0. Then, refer to L3 of the dimensions for the DIN rail length and order separately. (Refer to page 140 for the DIN rail part number.)

Refer to Series EX600 Fieldbus System (For Input/Output) (CAT.E02-24) for details on the EX600 Integrated-type (For I/O) Serial Transmission System. (IP40 specifications apply depending on the selected I/O unit.)

SMC

⑧ A, B port size (Metric)

Symbol		A, B port	Type 10/ Side ported SY3000	Type 10/ Side ported SY5000	Type 11/ Bottom ported SY5000
C2	Straight	ø2 One-touch fitting	●	—	—
C3	Straight	ø3.2 One-touch fitting	●	—	—
C4	Straight	ø4 One-touch fitting	●	●	●
C6	Straight	ø6 One-touch fitting	●	●	●
C8	Straight	ø8 One-touch fitting	—	●	●
CM*	Straight	Straight port, mixed sizes	●	●	●
L4	Elbow (Note) Upward	ø4 One-touch fitting	●	●	—
L6	Elbow (Note) Upward	ø6 One-touch fitting	●	●	—
L8	Elbow (Note) Upward	ø8 One-touch fitting	—	●	—
B4	Elbow (Note) Downward	ø4 One-touch fitting	●	●	—
B6	Elbow (Note) Downward	ø6 One-touch fitting	●	●	—
B8	Elbow (Note) Downward	ø8 One-touch fitting	—	●	—
LM*	Elbow	Elbow port, mixed sizes (Including upward and downward piping)	●	●	—
P, E port size (One-touch fittings)			ø8	ø10	ø10

A, B port size (Inch)

Symbol		A, B port	Type 10/ Side ported SY3000	Type 10/ Side ported SY5000	Type 11/ Bottom ported SY5000
N1	Straight	ø1/8" One-touch fitting	●	—	—
N3	Straight	ø5/32" One-touch fitting	●	●	●
N7	Straight	ø1/4" One-touch fitting	●	●	●
N9	Straight	ø5/16" One-touch fitting	—	●	●
CM*	Straight	Straight port, mixed sizes	●	●	●
LN3	Elbow (Note) Upward	ø5/32" One-touch fitting	●	—	—
LN7	Elbow (Note) Upward	ø1/4" One-touch fitting	●	●	—
LN9	Elbow (Note) Upward	ø5/16" One-touch fitting	—	●	—
BN3	Elbow (Note) Downward	ø5/32" One-touch fitting	●	—	—
BN7	Elbow (Note) Downward	ø1/4" One-touch fitting	●	●	—
BN9	Elbow (Note) Downward	ø5/16" One-touch fitting	—	●	—
LM*	Elbow	Elbow port, mixed sizes (Including upward and downward piping)	●	●	—
P, E port size (One-touch fittings)			ø5/16"	ø3/8"	ø3/8"

Note) To avoid interference with the body or piping, select downward elbow port when mounting the optional spacer assembly (pages 141 to 143).

* Indicate the sizes on the manifold specification sheet in the case of "CM", "LM".
* The direction of P, E port fittings is the same as for A, B port. If selecting "LM", indicate it on the manifold specification sheet for the P, E port fitting direction.

How to Order Valves (With two mounting screws)

Refer to page 8 for valve specifications.

SY 3 1 0 0 □ □ □ □ – 5 □ □ 1 – □

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

③ Base mounted

① Series

3	SY3000
5	SY5000

② Type of actuation

1	2-position single
2	2-position double
3	3-position closed centre
4	3-position exhaust centre
5	3-position pressure centre
A*	4-position dual 3-port valve (N.C./N.C.)
B*	4-position dual 3-port valve (N.O./N.O.)
C*	4-position dual 3-port valve (N.C./N.O.)

* Only rubber seal type is available for the 4-position dual 3-port valve.

③ Seal type

0	Rubber seal
1	Metal seal

④ Pilot type

—	Internal pilot
R	External pilot

⑤ Back pressure check valve (Built-in valve type)

—	None
H	Built-in

* Only rubber seal type. Manifold installed type is available if the back pressure check valve is required for a valve with metal seal. Refer to page 147 for Ordering Example. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.
* The built-in valve type back pressure check valve is not available for the 3-position type.

⑥ Pilot valve option

—	Standard (0.7 MPa)
B	Quick response type (0.7 MPa)
K*	High pressure type (1.0 MPa)

* Only metal seal type is available for the high pressure type.

⑦ Coil type

—	Standard
T	With power saving circuit (Continuous duty type)

* Be sure to select the power saving circuit type when the valve is continuously energized for long periods of time.
* Note the specified energizing time when power saving circuit is selected. Refer to page 154.

⑧ Rated voltage

5	24 VDC

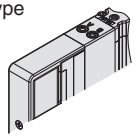
⑨ Light/surge voltage suppressor and common specification

R	With surge voltage suppressor (Non-polar)
U	With light/surge voltage suppressor (Non-polar)
S	With surge voltage suppressor (Positive common)
Z	With light/surge voltage suppressor (Positive common)
NS	With surge voltage suppressor (Negative common)
NZ	With light/surge voltage suppressor (Negative common)

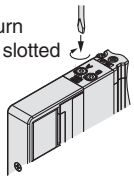
* Select a valve from R, U, S or Z when the SI unit polarity is positive common. Select a valve from R, U, NS or NZ when the SI unit output polarity is negative common.
* Only "Z" and "NZ" types are available for the product with power saving circuit.

⑩ Manual override

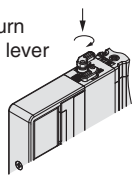
—: Non-locking push type



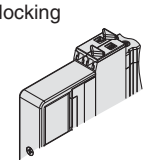
D: Push-turn locking slotted type



E: Push-turn locking lever type



F: Slide locking type



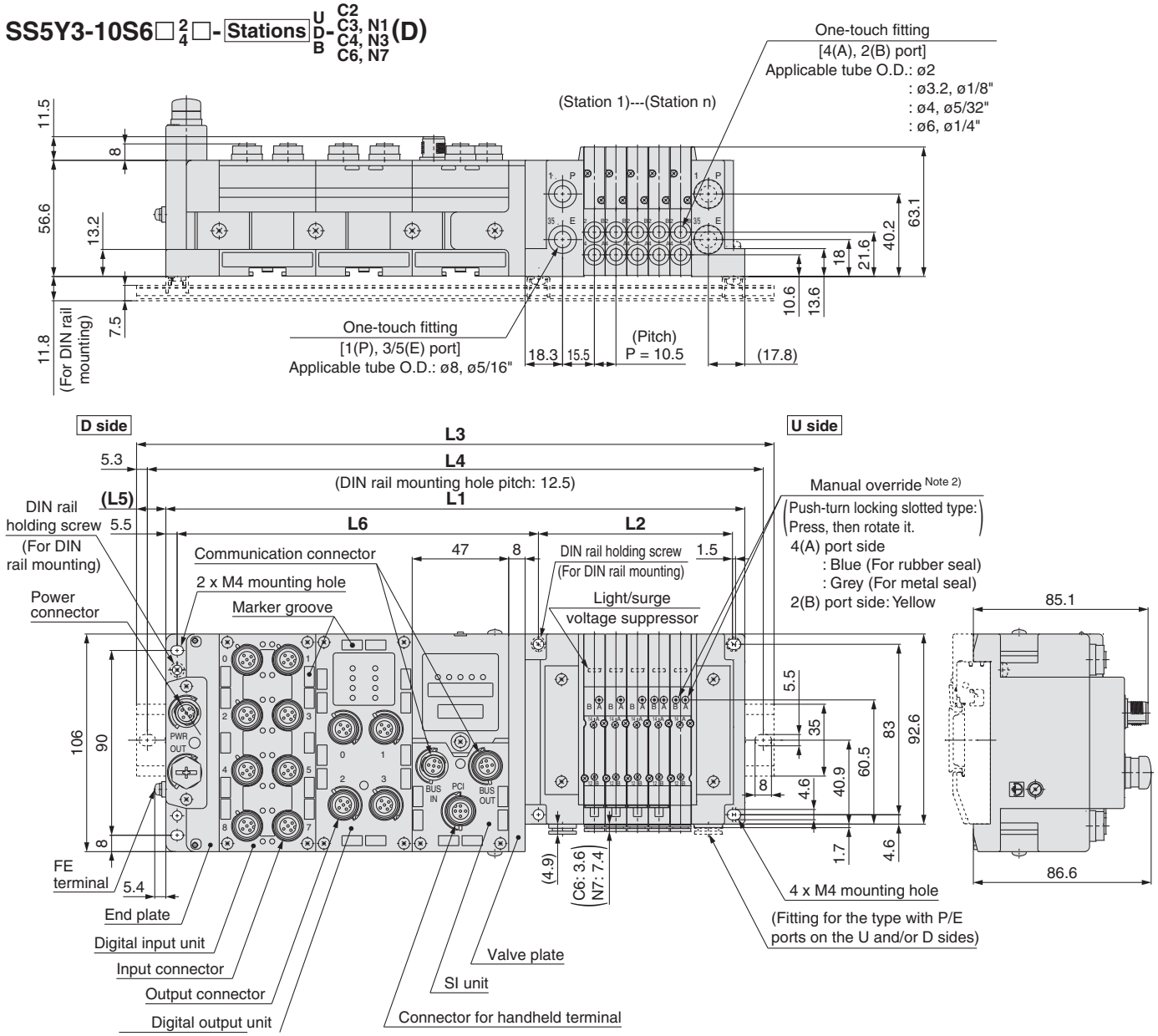
⑪ Type of mounting screw

—	Round head combination screw
B	Hexagon socket head cap screw
K	Round head combination screw (Falling-out-prevention type)
H	Hexagon socket head cap screw (Falling-out-prevention type)

* For "K" and "H", the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance etc.
* When ordering a valve individually, the base gasket is not included. Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance service.
  Refer to page 136 for part numbers of the base gasket and mounting screw.
* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly or double check spacer assembly with residual pressure release valve.

Dimensions: Type 10/EX600 (M12 Connector)/Series SY3000

SS5Y3-10S6□ 2/4 □- Stations U/D/B - C2/C3, N1/C4, N3/C6, N7 (D)



L1 = 10.5 x n1 + 135.5 + 47 x n2
L2 = 10.5 x n1 + 42
L4 = L3 – 10.5
L5 = (L3 – L1)/2
L6 = 47 x n2 + 82

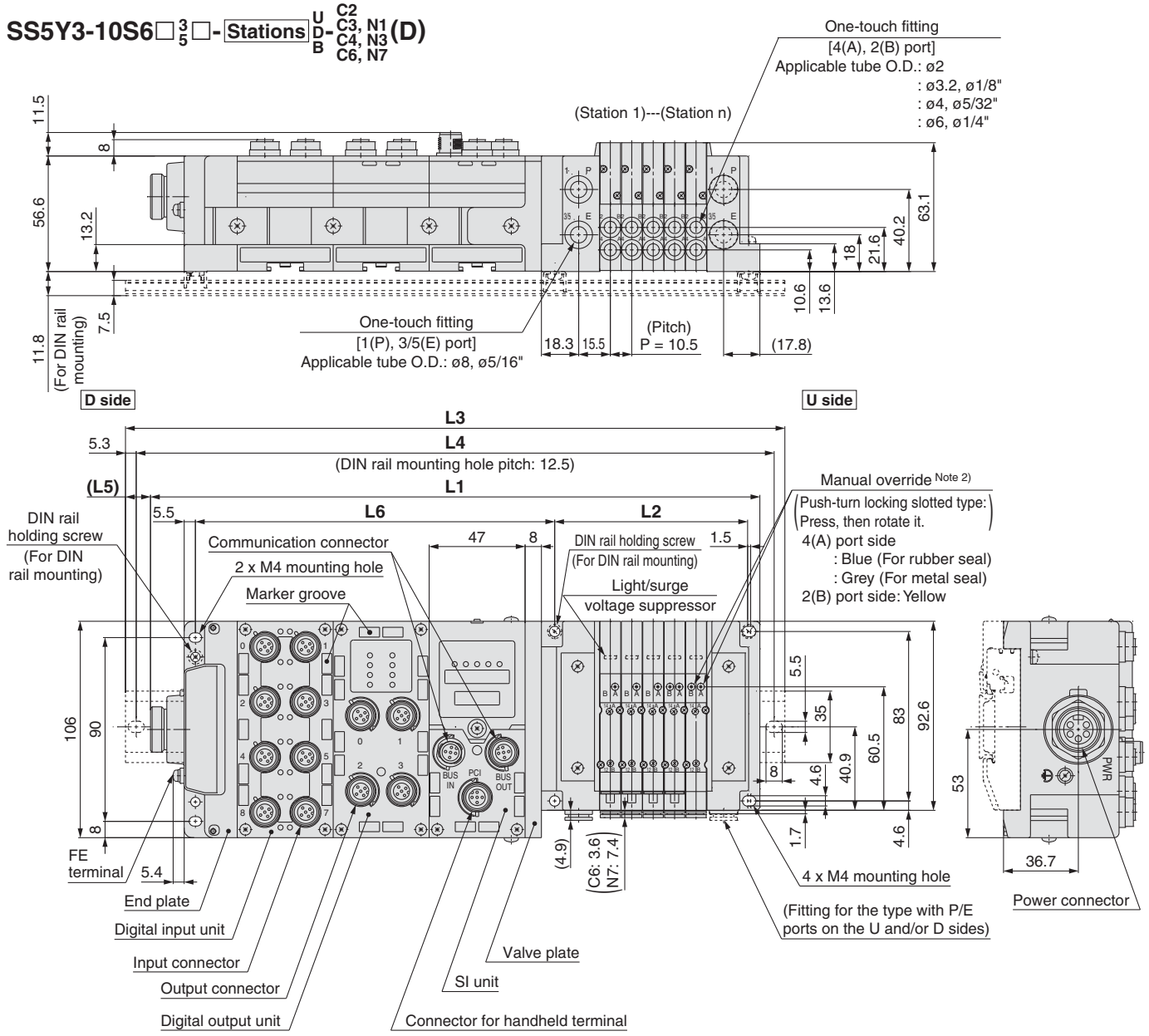
Note 1) These figures show the “SS5Y3-10S6Q22-05D-C6”.
Note 2) Refer to page 121 for dimensions of external pilot, silencer, elbow fittings and slide locking manual override.
Note 3) Refer to page 124 for dimensions of A or B port top-ported type.

L3: DIN Rail Overall Length

I/O unit stations (n2) \ Valve stations (n1)	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
0	185.5	198	210.5	223	223	235.5	248	260.5	273	285.5	285.5	298	310.5	323	335.5	348	348	360.5	373	385.5	398	410.5	423
1	235.5	248	248	260.5	273	285.5	298	310.5	323	323	335.5	348	360.5	373	385.5	385.5	398	410.5	423	435.5	448	448	460.5
2	285.5	285.5	298	310.5	323	335.5	348	348	360.5	373	385.5	398	410.5	410.5	423	435.5	448	460.5	473	485.5	485.5	498	510.5
3	323	335.5	348	360.5	373	385.5	385.5	398	410.5	423	435.5	448	448	460.5	473	485.5	498	510.5	510.5	523	535.5	548	560.5
4	373	385.5	398	410.5	410.5	423	435.5	448	460.5	473	473	485.5	498	510.5	523	535.5	548	548	560.5	573	585.5	598	610.5
5	423	435.5	448	448	460.5	473	485.5	498	510.5	510.5	523	535.5	548	560.5	573	573	585.5	598	610.5	623	635.5	635.5	648
6	473	473	485.5	498	510.5	523	535.5	535.5	548	560.5	573	585.5	598	610.5	610.5	623	635.5	648	660.5	673	673	685.5	698
7	510.5	523	535.5	548	560.5	573	573	585.5	598	610.5	623	635.5	635.5	648	660.5	673	685.5	698	698	710.5	723	735.5	748
8	560.5	573	585.5	598	598	610.5	623	635.5	648	660.5	673	673	685.5	698	710.5	723	735.5	735.5	748	760.5	773	785.5	798
9	610.5	623	635.5	635.5	648	660.5	673	685.5	698	698	710.5	723	735.5	748	760.5	760.5	773	785.5	798	810.5	823	835.5	835.5

Dimensions: Type 10/EX600 (7/8 Inch Connector)/Series SY3000

SS5Y3-10S6□ 3/5 □- Stations U/D/B- C2/C3, N1/C4, N3/C6, N7 (D)



L1 = 10.5 x n1 + 152 + 47 x n2
L2 = 10.5 x n1 + 42
L4 = L3 – 10.5
L5 = (L3 – L1)/2
L6 = 47 x n2 + 82

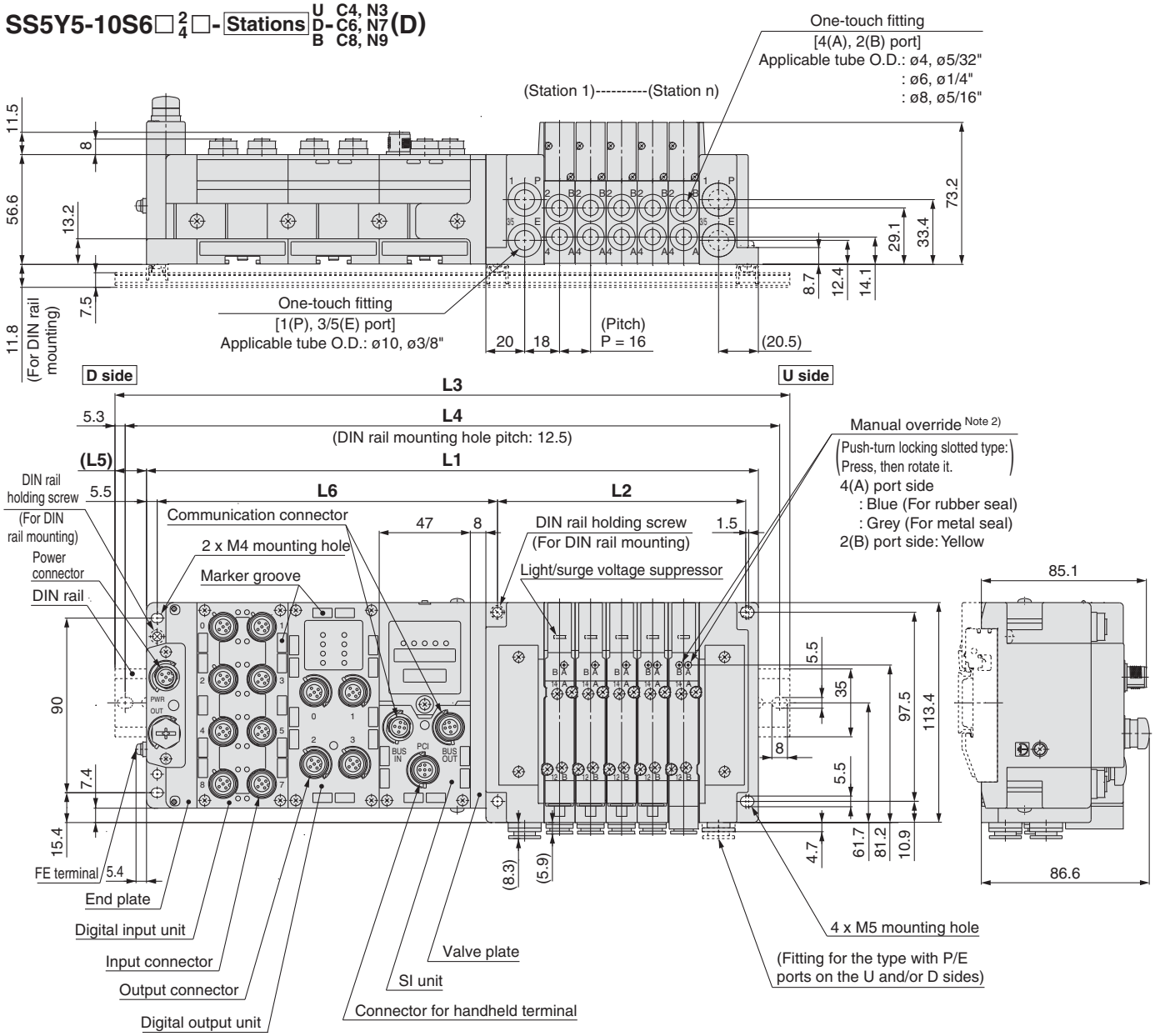
Note 1) These figures show the "SS5Y3-10S6Q32-05D-C6".
Note 2) Refer to page 121 for dimensions of external pilot, silencer, elbow fittings and slide locking manual override.
Note 3) Refer to page 124 for dimensions of A or B port top-ported type.

L3: DIN Rail Overall Length

I/O unit stations (n2) \ Valve stations (n1)	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
0	198	210.5	223	235.5	248	260.5	260.5	273	285.5	298	310.5	323	323	335.5	348	360.5	373	385.5	385.5	398	410.5	423	435.5
1	248	260.5	273	285.5	285.5	298	310.5	323	335.5	348	360.5	360.5	373	385.5	398	410.5	423	423	435.5	448	460.5	473	485.5
2	298	310.5	323	323	335.5	348	360.5	373	385.5	385.5	398	410.5	423	435.5	448	448	460.5	473	485.5	498	510.5	523	523
3	348	348	360.5	373	385.5	398	410.5	423	423	435.5	448	460.5	473	485.5	485.5	498	510.5	523	535.5	548	548	560.5	573
4	385.5	398	410.5	423	435.5	448	448	460.5	473	485.5	498	510.5	510.5	523	535.5	548	560.5	573	585.5	585.5	598	610.5	623
5	435.5	448	460.5	473	485.5	485.5	498	510.5	523	535.5	548	548	560.5	573	585.5	598	610.5	610.5	623	635.5	648	660.5	673
6	485.5	498	510.5	510.5	523	535.5	548	560.5	573	573	585.5	598	610.5	623	635.5	648	648	660.5	673	685.5	698	710.5	710.5
7	535.5	548	548	560.5	573	585.5	598	610.5	610.5	623	635.5	648	660.5	673	673	685.5	698	710.5	723	735.5	735.5	748	760.5
8	573	585.5	598	610.5	623	635.5	635.5	648	660.5	673	685.5	698	710.5	710.5	723	735.5	748	760.5	773	773	785.5	798	810.5
9	623	635.5	648	660.5	673	673	685.5	698	710.5	723	735.5	735.5	748	760.5	773	785.5	798	798	810.5	823	835.5	848	860.5

Dimensions: Type 10/EX600 (M12 Connector)/Series SY5000

SS5Y5-10S6□$^{2}_{4}$□- Stations $^{U\ C4, N3}_{D-\ C6, N7}$ (D)
$^{B\ \ C8, N9}$



L1 = 16 x n1 + 141.5 + 47 x n2
L2 = 16 x n1 + 48
L4 = L3 – 10.5
L5 = (L3 – L1)/2
L6 = 47 x n2 + 81.5

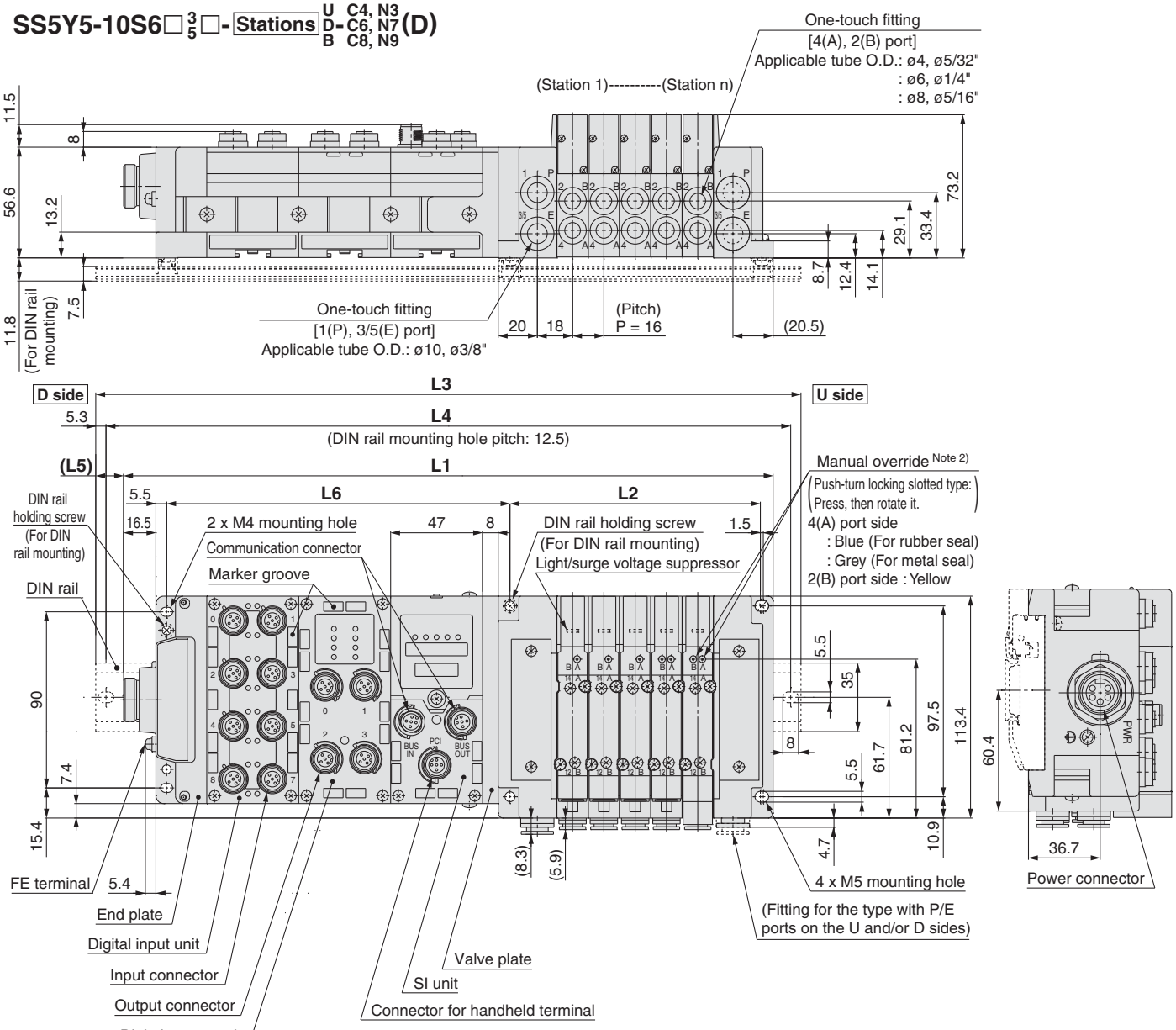
Note 1) These figures show the "SS5Y5-10S6Q22-05D-C8".
Note 2) Refer to page 122 for dimensions of external pilot, silencer, elbow fittings and slide locking manual override.
Note 3) Refer to page 125 for dimensions of A or B port top-ported type.

L3: DIN Rail Overall Length

I/O unit stations (n2) \ Valve stations (n1)	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
0	198	223	235.5	248	273	285.5	298	310.5	335.5	348	360.5	373	398	410.5	423	448	460.5	473	485.5	510.5	523	535.5	560.5
1	248	260.5	285.5	298	310.5	335.5	348	360.5	373	398	410.5	423	448	460.5	473	485.5	510.5	523	535.5	548	573	585.5	598
2	298	310.5	323	348	360.5	373	398	410.5	423	435.5	460.5	473	485.5	510.5	523	535.5	548	573	585.5	598	623	635.5	648
3	348	360.5	373	398	410.5	423	435.5	460.5	473	485.5	498	523	535.5	548	573	585.5	598	610.5	635.5	648	660.5	685.5	698
4	385.5	410.5	423	435.5	460.5	473	485.5	498	523	535.5	548	573	585.5	598	610.5	635.5	648	660.5	673	698	710.5	723	748
5	435.5	448	473	485.5	498	523	535.5	548	560.5	585.5	598	610.5	635.5	648	660.5	673	698	710.5	723	748	760.5	773	785.5
6	485.5	498	523	535.5	548	560.5	585.5	598	610.5	623	648	660.5	673	698	710.5	723	735.5	760.5	773	785.5	810.5	823	835.5
7	535.5	548	560.5	585.5	598	610.5	623	648	660.5	673	698	710.5	723	735.5	760.5	773	785.5	798	823	835.5	848	873	885.5
8	573	598	610.5	623	648	660.5	673	685.5	710.5	723	735.5	760.5	773	785.5	798	823	835.5	848	873	885.5	898	910.5	935.5
9	623	648	660.5	673	685.5	710.5	723	735.5	748	773	785.5	798	823	835.5	848	860.5	885.5	898	910.5	935.5	948	960.5	973

Dimensions: Type 10/EX600 (7/8 Inch Connector)/Series SY5000

SS5Y5-10S6□ 3/5 □- Stations U C4, N3 / D- C6, N7 / B C8, N9 (D)



L1 = 16 x n1 + 158 + 47 x n2
L2 = 16 x n1 + 48
L4 = L3 – 10.5
L5 = (L3 – L1)/2
L6 = 47 x n2 + 81.5

Note 1) These figures show the "SS5Y5-10S6Q32-05D-C8".
Note 2) Refer to page 122 for dimensions of external pilot, silencer, elbow fittings and slide locking manual override.
Note 3) Refer to page 125 for dimensions of A or B port top-ported type.

L3: DIN Rail Overall Length

I/O unit stations (n2) \ Valve stations (n1)	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
0	223	235.5	248	273	285.5	298	310.5	335.5	348	360.5	385.5	398	410.5	423	448	460.5	473	485.5	510.5	523	535.5	560.5	573
1	260.5	285.5	298	310.5	335.5	348	360.5	373	398	410.5	423	448	460.5	473	485.5	510.5	523	535.5	560.5	573	585.5	598	623
2	310.5	335.5	348	360.5	373	398	410.5	423	435.5	460.5	473	485.5	510.5	523	535.5	548	573	585.5	598	623	635.5	648	660.5
3	360.5	373	398	410.5	423	435.5	460.5	473	485.5	510.5	523	535.5	548	573	585.5	598	610.5	635.5	648	660.5	685.5	698	710.5
4	410.5	423	435.5	460.5	473	485.5	498	523	535.5	548	573	585.5	598	610.5	635.5	648	660.5	685.5	698	710.5	723	748	760.5
5	460.5	473	485.5	498	523	535.5	548	560.5	585.5	598	610.5	635.5	648	660.5	673	698	710.5	723	748	760.5	773	785.5	810.5
6	498	523	535.5	548	560.5	585.5	598	610.5	635.5	648	660.5	673	698	710.5	723	735.5	760.5	773	785.5	810.5	823	835.5	848
7	548	560.5	585.5	598	610.5	623	648	660.5	673	698	710.5	723	735.5	760.5	773	785.5	810.5	823	835.5	848	873	885.5	898
8	598	610.5	623	648	660.5	673	685.5	710.5	723	735.5	760.5	773	785.5	798	823	835.5	848	873	885.5	898	910.5	935.5	948
9	648	660.5	673	685.5	710.5	723	735.5	760.5	773	785.5	798	823	835.5	848	860.5	885.5	898	910.5	935.5	948	960.5	973	—

Plug-in Connector Connecting Base

EX600

Type 12
Top Ported

Series SY3000/5000

RoHS

How to Order Manifold

SS5Y 3 – 12S6 Q □ 2 – 05 U – □ □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽

Refer to pages 124 and 125 for dimensions of Type 12/Top ported type.

❶ Series

3	SY3000
5	SY5000

❷ SI unit

0	Without SI unit
Q	DeviceNet™
N	PROFIBUS DP
V	CC-Link
ZE	EtherNet/IP™
D	EtherCAT

Note 1) I/O unit cannot be mounted without SI unit.
Note 2) Valve plate which connects manifold and SI unit is not mounted to a valve without SI unit. Refer to the EX600 catalogue (CAT.E02-24) for mounting.

❸ SI unit output polarity, end plate type

SI unit output polarity	Power supply with M12 connector	Power supply with 7/8 inch connector
Without SI unit	—	
SI unit positive common	2	3
SI unit negative common	4	5

Note 1) Without SI unit, the symbol is —.
Note 2) Ensure a match with the common specifications of the value to be used.

❹ I/O unit stations

—	None
1	1 stations
⋮	⋮
9	9 stations

Note 1) Without SI unit, the symbol is —.
Note 2) SI unit is not included in I/O unit stations.
Note 3) When I/O unit is selected, it is shipped separately, and assembled by customer. Refer to the attached operation manual for mounting.

❺ Valve stations

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
16	16 stations	
02	2 stations	Specified layout Note 2) (Available up to 32 solenoids)
⋮	⋮	
24	24 stations	

Note 1) Double wiring: 2-position single, double, 3-position and 4-position valves can be used on all manifold stations. Use of a 2-position single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.
Note 2) Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.)
Note 3) This also includes the number of blanking plate assembly.

❻ P, E port entry, SUP/EXH block assembly

	Internal pilot	Internal pilot, Built-in silencer	External pilot
P, E port entry U side (2 to 10 stations)	U	C Note)	G
P, E port entry D side (2 to 10 stations)	D	E Note)	H
P, E port entry both sides (2 to 24 stations)	B	—	J

∗ For built-in silencer type, P and E ports are available on U and D sides. 3/5(E) port is plugged. The silencer exhaust port is located on the opposite side of P, E port entry. (Example: When the P, E port entry is D side, the silencer exhaust port is U side.)
∗ When the built-in silencer type is used, keep the exhaust port from coming in direct contact with water or other liquids.
Note) For SUP/EXH block assembly specifications, built-in silencer types will have P port entry stipulated.

❼ P, E port size (One-touch fittings)

Symbol	SY3000	SY5000
—	ø8	ø10
N	ø5/16"	ø3/8"

∗ For N, sizes are in inches.

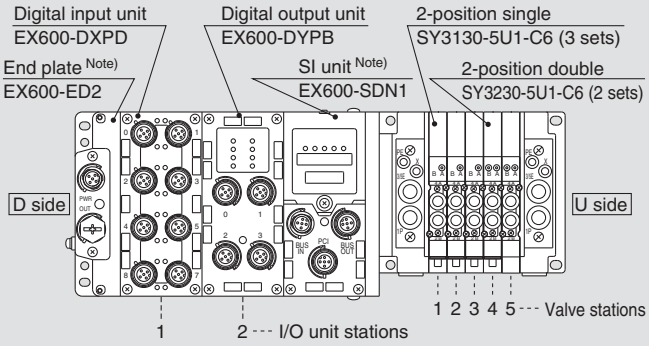
❽ Mounting

—	Direct mounting	
D	DIN rail mounting (With DIN rail)	
D0	DIN rail mounting (Without DIN rail)	
D3	For 3 stations	Specify a longer rail than the standard length.
⋮	⋮	
D24	For 24 stations	

∗ If the DIN rail must be mounted without an SI unit, select D0. Then, refer to L3 of the dimensions for the DIN rail length and order separately. (Refer to page 140 for the DIN rail part number.)

How to Order Manifold Assembly

Example (SS5Y3-12S6□-□)



SS5Y3-12S6Q42-05B ····· 1 set (Type 12 5-station manifold base part no.)
∗SY3130-5U1-C6 ····· 3 sets (2-position single part no.)
∗SY3230-5U1-C6 ····· 2 sets (2-position double part no.)
∗EX600-DXPD ····· 1 set I/O unit part number (Station 1)
∗EX600-DYPB ····· 1 set I/O unit part number (Station 2)
The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the valve, etc.

• The valve arrangement is numbered as the 1st station from the D side.
• Under the manifold part number, state the valves to be mounted, then the I/O units in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on a manifold specification sheet.
Note) Do not enter the SI unit part number and the end plate part number together.

Refer to Series EX600 Fieldbus System (For Input/Output) (CAT.E02-24) for details on the EX600 Integrated-type (For I/O) Serial Transmission System. (IP40 specifications apply depending on the selected I/O unit.)

SMC

How to Order Valves (With two mounting screws)

Refer to page 8 for valve specifications.

SY 3 1 3 0 □ □ □ □ – 5 □ □ 1 – C6 □ – □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫ ⓬ ⓭

❸: Top ported

❶ Series

3	SY3000
5	SY5000

❷ Type of actuation

1	2-position single
2	2-position double
3	3-position closed centre
4	3-position exhaust centre
5	3-position pressure centre
A*	4-position dual 3-port valve (N.C./N.C.)
B*	4-position dual 3-port valve (N.O./N.O.)
C*	4-position dual 3-port valve (N.C./N.O.)

* Only rubber seal type is available for the 4-position dual 3-port valve.

❸ Seal type

0	Rubber seal
1	Metal seal

❹ Pilot type

—	Internal pilot
R	External pilot

❺ Back pressure check valve

—	None
H	Built-in

* Only rubber seal type. Manifold installed type is available if the back pressure check valve is required for a valve with metal seal. Refer to page 147 for Ordering Example. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.
* The built-in valve type back pressure check valve is not available for the 3-position type.

❻ Pilot valve option

—	Standard (0.7 MPa)
B	Quick response type (0.7 MPa)
K*	High pressure type (1.0 MPa)

* Only metal seal type is available for the high pressure type.

❼ Coil type

—	Standard
T	With power saving circuit (Continuous duty type)

* Be sure to select the power saving circuit type when the valve is continuously energized for long periods of time.
* Note the specified energizing time when power saving circuit is selected. Refer to page 154.

❽ Rated voltage

5	24 VDC

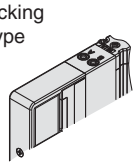
❾ Light/surge voltage suppressor and common specification

R	With surge voltage suppressor (Non-polar)
U	With light/surge voltage suppressor (Non-polar)
S	With surge voltage suppressor (Positive common)
Z	With light/surge voltage suppressor (Positive common)
NS	With surge voltage suppressor (Negative common)
NZ	With light/surge voltage suppressor (Negative common)

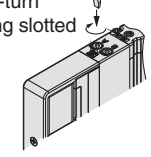
* Select a valve from R, U, S or Z when the SI unit polarity is positive common. Select a valve from R, U, NS or NZ when the SI unit output polarity is negative common.
* Only "Z" and "NZ" types are available for the product with power saving circuit.

❿ Manual override

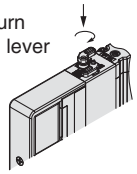
—: Non-locking push type



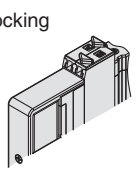
D: Push-turn locking slotted type



E: Push-turn locking lever type



F: Slide locking type



⓫ A, B port size

Thread piping

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

One-touch fitting (Metric)

Symbol	A, B port	SY3000	SY5000
C2	ø2 One-touch fitting	●	—
C3	ø3.2 One-touch fitting	●	—
C4	ø4 One-touch fitting	●	●
C6	ø6 One-touch fitting	●	●
C8	ø8 One-touch fitting	—	●

One-touch fitting (Inch)

Symbol	A, B port	SY3000	SY5000
N1	ø1/8" One-touch fitting	●	—
N3	ø5/32" One-touch fitting	●	●
N7	ø1/4" One-touch fitting	●	●
N9	ø5/16" One-touch fitting	—	●

⓬ Thread type

—	Rc
F	G
N	NPT
T	NPTF

* Only — is available for M5.

⓭ Type of mounting screw

—	Round head combination screw
B	Hexagon socket head cap screw
K	Round head combination screw (Falling-out-prevention type)
H	Hexagon socket head cap screw (Falling-out-prevention type)

* For "K" and "H", the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance etc.
* When ordering a valve individually, the base gasket is not included. Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance service.
  Refer to page 136 for part numbers of the base gasket and mounting screw.
* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly.

Type 10
Side Ported

Type 11
Bottom Ported

Plug-in Connector Connecting Base

EX250

Series SY3000/5000

How to Order Manifold

SS5Y 3 – 10 S Q □ □ – 05 U – C6 □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾

Refer to page 123 for dimensions of Type 11/Bottom ported type.

❶ Series

3	SY3000
5	SY5000

❷ Type

10	Side ported
11	Bottom ported*

* The SY5000 manifold base is used for the bottom ported of the SY3000. When ordering, refer to Plug-in Mixed Mounting Type Manifold (from page 127).

❸ SI unit

0	Without SI unit
Q	DeviceNet™ (Negative common)
N	PROFIBUS DP (Negative common)
V	CC-Link (Positive common)
TA	AS-Interface, (Negative common) (8 in/8 out, 31 slave modes, 2 isolated common type)
TB	AS-Interface, (Negative common) (4 in/4 out, 31 slave modes, 2 isolated common type)
TC	AS-Interface, (Negative common) (8 in/8 out, 31 slave modes, 1 common type)
TD	AS-Interface, (Negative common) (4 in/4 out, 31 slave modes, 1 common type)
Y	CANopen (Negative common)
ZE	EtherNet/IP™ (Negative common)

Note 1) Ensure that the specifications match those of the common specifications of the valve to be used.
Note 2) Input block cannot be mounted without SI unit.
Note 3) The supply current from the SI unit of AS-Interface applicable 1 power supply system specification to the input block and valve is limited.

❹ Input block stations

—	None
1	1 station
⋮	⋮
8	8 stations

Note) Without SI unit, the symbol is —. The maximum number of stations is limited for the AS-Interface applicable SI unit.

❺ Input block type

	PNP input (Positive common)	NPN input (Negative common)
Without input block	—	
M12, 2 inputs	A	D
M12, 4 inputs	B	E
M8, 4 inputs	C	F

Note) Without SI unit, the symbol is —.

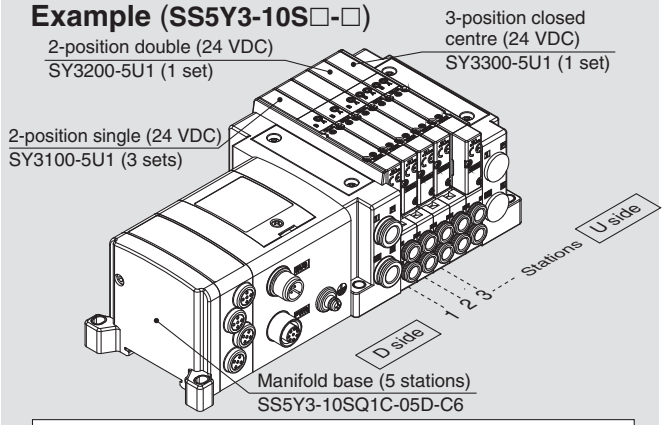
❻ Valve stations

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
16	16 stations	
02	2 stations	Specified layout Note 2) (Available up to 32 solenoids)
⋮	⋮	
24	24 stations	

Note 1) Double wiring: 2-position single, double, 3-position and 4-position valves can be used on all manifold stations.
Use of a 2-position single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.
Note 2) Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.)
When determining the number of valve stations, note that the maximum number of solenoids for the AS-Interface applicable SI unit specification is as follows.
• 8 in/8 out specification: Max. 8 solenoids
• 4 in/4 out specification: Max. 4 solenoids
Note 3) This also includes the number of blanking plate assembly.
Note 4) For the product without the SI unit (S0), note the maximum number of solenoids of the SI unit that will be mounted. If the layout is specified, indicate it on the manifold specification sheet.

How to Order Manifold Assembly

Example (SS5Y3-10S□-□)



SS5Y3-10SQ1C-05D-C6 ··· 1 set (Type 10 5-station manifold base part no.)
***SY3100-5U1 ····· 3 sets (2-position single part no.)**
***SY3200-5U1 ····· 1 set (2-position double part no.)**
***SY3300-5U1 ····· 1 set (3-position closed centre part no.)**
The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the valve, etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on a manifold specification sheet.

Note) When mixing top ported configurations, select from page 102.
In this case, use caution as there is also output on the A and B port on base side. Specify on a manifold specification sheet if plugs are required on the A and B port on base side.

❼ P, E port entry, SUP/EXH block assembly

	Internal pilot	Internal pilot, Built-in silencer	External pilot
P, E port entry U side (2 to 10 stations)	U	C	G
P, E port entry D side (2 to 10 stations)	D	E	H
P, E port entry both sides (2 to 24 stations)	B	F	J

* 3/5(E) port is plugged for the built-in silencer type.
* When the built-in silencer type is used, keep the exhaust port from coming in direct contact with water or other liquids.

Refer to the page on the right for ❽.

❾ Mounting and Option

Symbol	Mounting	Option
—	Direct mounting	None
AA		Name plate (With station number)
BA		Name plate (Without station number)
D□	DIN rail mounting	Without name plate
A□		Name plate (With station number)
B□		Name plate (Without station number)

DIN Rail Option

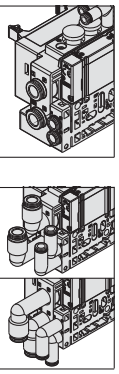
—	Direct mounting	
0	Without DIN rail (with bracket)	
3	For 3 stations	Specify a longer rail than the total length of specified stations.
⋮	⋮	
24	For 24 stations	

Note 1) Enter the number of stations inside □. (Refer to "DIN Rail Option" below.)
Note 2) Only direct mounting is available for Type 11 (Bottom ported).
* When it is necessary to mount a DIN rail without an SI unit, select D0 and order DIN rail length separately, referring to L3 in the dimensions. Refer to page 140 for part numbers of DIN rail.

Refer to Reduced Wiring Fieldbus System (Serial Transmission) in Electric Products (CAT.E150) for details on the EX250 Integrated-type (For Input/Output) Serial Transmission System.

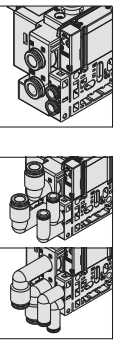
⑧ A, B port size (Metric)

Symbol	A, B port		Type 10/ Side ported SY3000	Type 10/ Side ported SY5000	Type 11/ Bottom ported SY5000
C2	Straight	ø2 One-touch fitting	●	—	—
C3	Straight	ø3.2 One-touch fitting	●	—	—
C4	Straight	ø4 One-touch fitting	●	●	●
C6	Straight	ø6 One-touch fitting	●	●	●
C8	Straight	ø8 One-touch fitting	—	●	●
CM*	Straight	Straight port, mixed sizes	●	●	●
L4	Elbow (Note) Upward	ø4 One-touch fitting	●	●	—
L6	Elbow (Note) Upward	ø6 One-touch fitting	●	●	—
L8	Elbow (Note) Upward	ø8 One-touch fitting	—	●	—
B4	Elbow (Note) Downward	ø4 One-touch fitting	●	●	—
B6	Elbow (Note) Downward	ø6 One-touch fitting	●	●	—
B8	Elbow (Note) Downward	ø8 One-touch fitting	—	●	—
LM*	Elbow	Elbow port, mixed sizes (Including upward and downward piping)	●	●	—
P, E port size (One-touch fittings)			ø8	ø10	ø10



A, B port size (Inch)

Symbol	A, B port		Type 10/ Side ported SY3000	Type 10/ Side ported SY5000	Type 11/ Bottom ported SY5000
N1	Straight	ø1/8" One-touch fitting	●	—	
N3	Straight	ø5/32" One-touch fitting	●	●	●
N7	Straight	ø1/4" One-touch fitting	●	●	●
N9	Straight	ø5/16" One-touch fitting	—	●	●
CM*	Straight	Straight port, mixed sizes	●	●	●
LN3	Elbow (Note) Upward	ø5/32" One-touch fitting	●	—	—
LN7	Elbow (Note) Upward	ø1/4" One-touch fitting	●	●	—
LN9	Elbow (Note) Upward	ø5/16" One-touch fitting	—	●	—
BN3	Elbow (Note) Downward	ø5/32" One-touch fitting	●	—	—
BN7	Elbow (Note) Downward	ø1/4" One-touch fitting	●	●	—
BN9	Elbow (Note) Downward	ø5/16" One-touch fitting	—	●	—
LM*	Elbow	Elbow port, mixed sizes (Including upward and downward piping)	●	●	—
P, E port size (One-touch fittings)			ø5/16"	ø3/8"	ø3/8"



Note) To avoid interference with the body or piping, select downward elbow port when mounting the optional spacer assembly (pages 141 to 143).

∗ Indicate the size on the manifold specification sheet in the case of "CM", "LM".

∗ The direction of P, E port fittings is the same as for A, B port. If selecting "LM", indicate it on the manifold specification sheet for the P, E port fitting direction.

How to Order Valves (With two mounting screws)

Refer to page 8 for valve specifications.

SY **3** **1** **0** **0** □ □ □ □ – **5** □ □ **1** – □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫

❸ 0: Base mounted

❶ Series

3	SY3000
5	SY5000

❷ Type of actuation

1	2-position single
2	2-position double
3	3-position closed centre
4	3-position exhaust centre
5	3-position pressure centre
A*	4-position dual 3-port valve (N.C./N.C.)
B*	4-position dual 3-port valve (N.O./N.O.)
C*	4-position dual 3-port valve (N.C./N.O.)

∗ Only rubber seal type is available for the 4-position dual 3-port valve.

❸ Seal type

0	Rubber seal
1	Metal seal

❹ Pilot type

—	Internal pilot
R	External pilot

❺ Back pressure check valve (Built-in valve type)

—	None
H	Built-in

∗ Only rubber seal type. Manifold installed type is available if the back pressure check valve is required for a valve with metal seal. Refer to page 147 for Ordering Example. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

∗ The built-in valve type back pressure check valve is not available for the 3-position type.

❻ Pilot valve option

—	Standard (0.7 MPa)
B	Quick response type (0.7 MPa)
K*	High pressure type (1.0 MPa)

∗ Only metal seal type is available for the high pressure type.

❼ Coil type

—	Standard
T	With power saving circuit (Continuous duty type)

∗ Be sure to select the power saving circuit type when the valve is continuously energized for long periods of time.

∗ Note the specified energizing time when power saving circuit is selected. Refer to page 154.

❽ Rated voltage

5	24 VDC

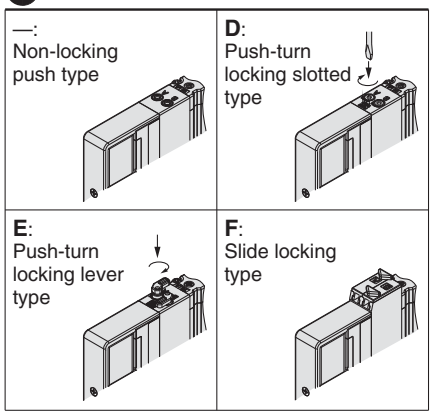
❾ Light/surge voltage suppressor and common specification

R	With surge voltage suppressor (Non-polar)
U	With light/surge voltage suppressor (Non-polar)
S	With surge voltage suppressor (Positive common)
Z	With light/surge voltage suppressor (Positive common)
NS	With surge voltage suppressor (Negative common)
NZ	With light/surge voltage suppressor (Negative common)

∗ "R" and "U" are applicable for every SI unit. However, "S" and "Z" can be used only for CC-Link applicable unit and "NS" and "NZ" are for units which are not CC-Link applicable.

∗ Only "Z" and "NZ" types are available for the product with power saving circuit.

❿ Manual override



⓫ Type of mounting screw

—	Round head combination screw
B	Hexagon socket head cap screw
K	Round head combination screw (Falling-out-prevention type)
H	Hexagon socket head cap screw (Falling-out-prevention type)

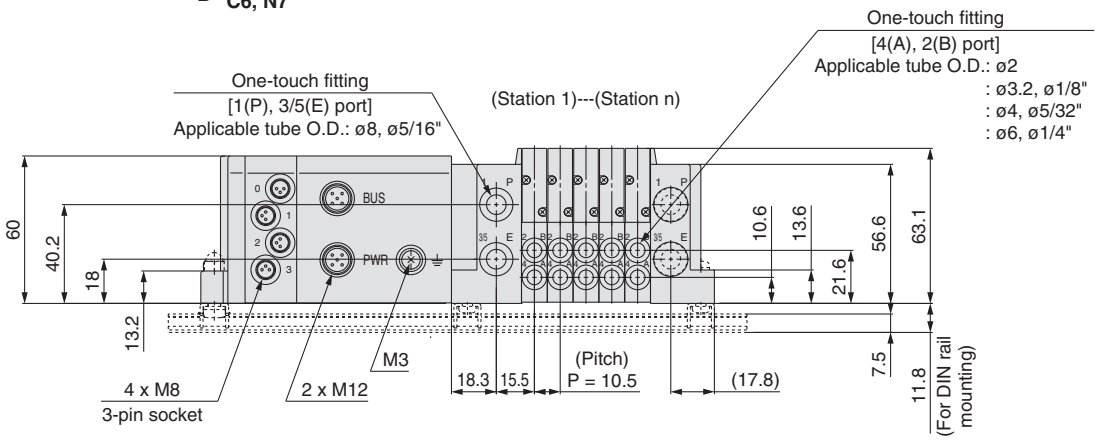
∗ For "K" and "H", the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance etc.

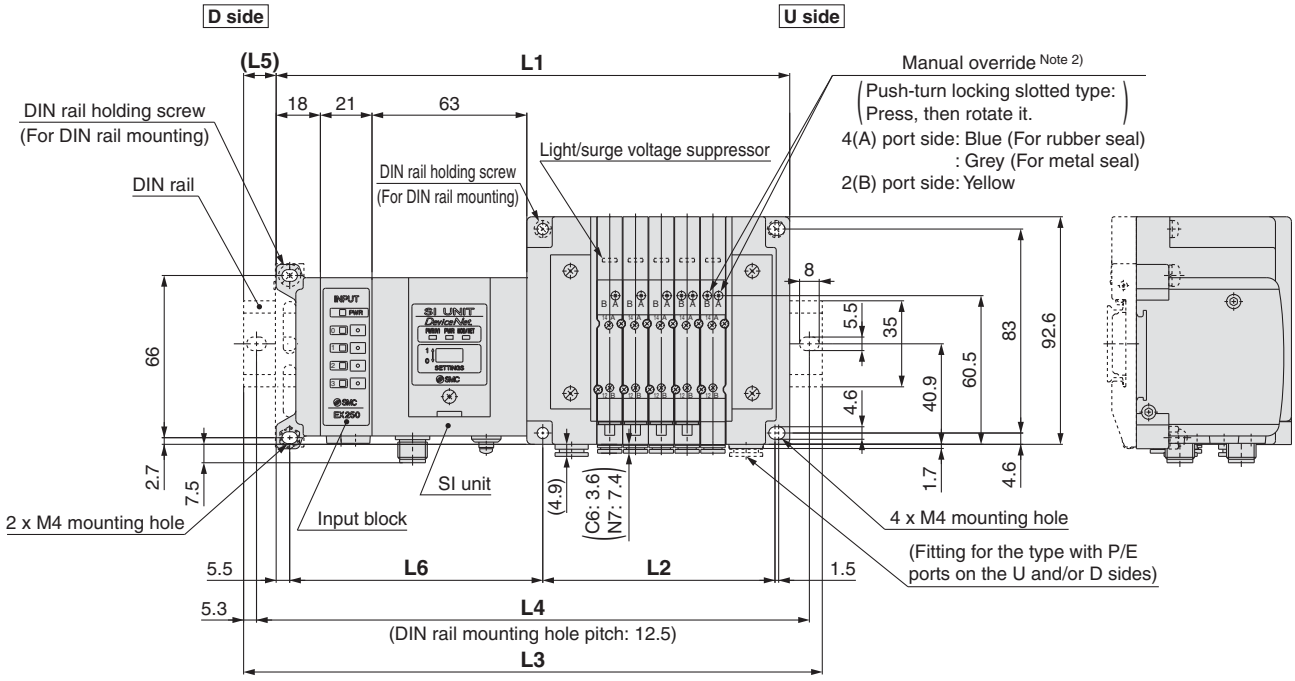
∗ When ordering a valve individually, the base gasket is not included. Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance service.
Refer to page 136 for part numbers of the base gasket and mounting screw.

∗ "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly or double check spacer assembly with residual pressure release valve.

Dimensions: Type 10/EX250/Series SY3000

SS5Y3-10S□-Stations U/D/B - C2/C3, N1/C4, N3/C6, N7 (D)





L1 = 10.5 x n1 + 135.5 + 21 x n2
L2 = 10.5 x n1 + 42
L4 = L3 – 10.5
L5 = (L3 – L1)/2
L6 = 21 x n2 + 82

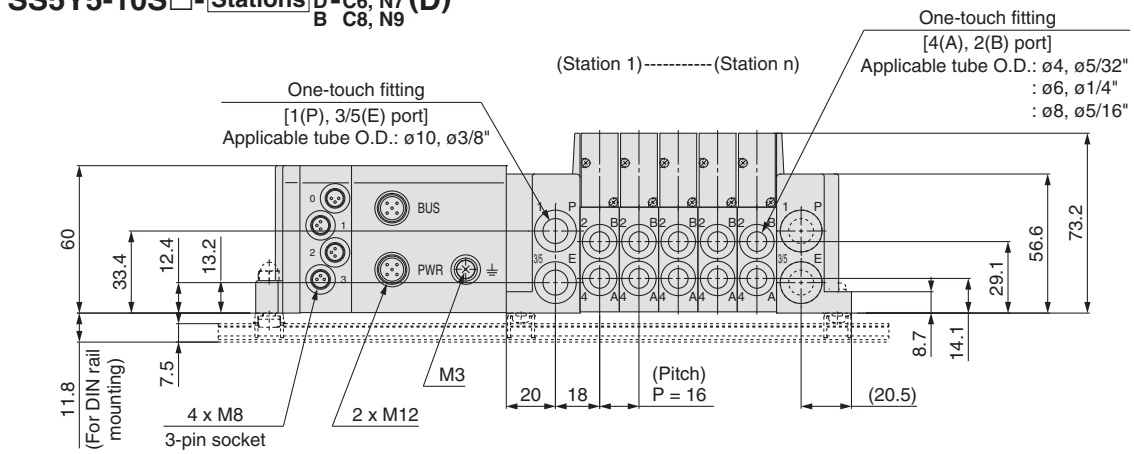
Note 1) These figures show the "SS5Y3-10SQ1A-05D-C6".
Note 2) Refer to page 121 for dimensions of external pilot, silencer, elbow fittings and slide locking manual override.
Note 3) Refer to page 124 for dimensions of A or B port top-ported type.

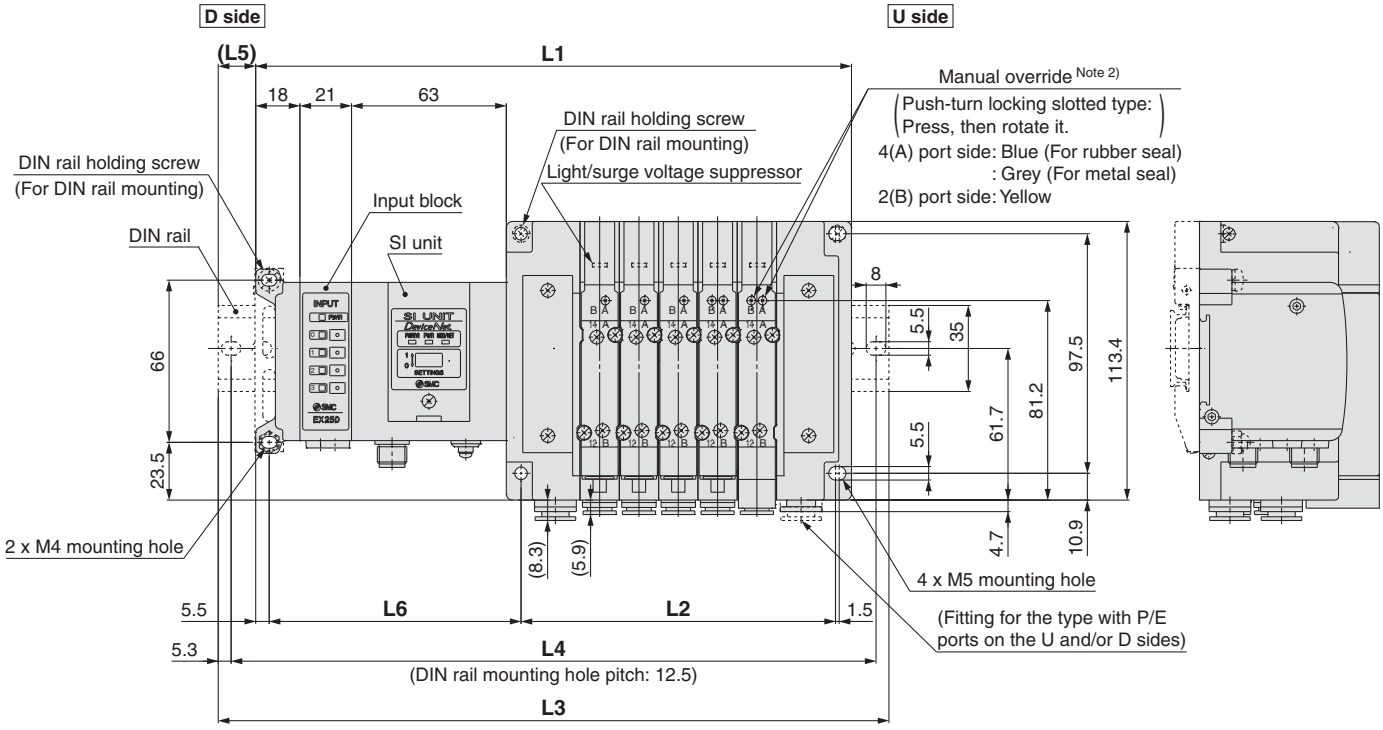
L3: DIN Rail Overall Length

Input block stations (n2) \ Valve stations (n1)	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
0	185.5	198	210.5	223	223	235.5	248	260.5	273	285.5	285.5	298	310.5	323	335.5	348	348	360.5	373	385.5	398	410.5	423
1	210.5	223	223	235.5	248	260.5	273	285.5	285.5	298	310.5	323	335.5	348	348	360.5	373	385.5	398	410.5	423	423	435.5
2	223	235.5	248	260.5	273	285.5	285.5	298	310.5	323	335.5	348	348	360.5	373	385.5	398	410.5	423	423	435.5	448	460.5
3	248	260.5	273	285.5	285.5	298	310.5	323	335.5	348	348	360.5	373	385.5	398	410.5	423	423	435.5	448	460.5	473	485.5
4	273	285.5	285.5	298	310.5	323	335.5	348	348	360.5	373	385.5	398	410.5	423	423	435.5	448	460.5	473	485.5	485.5	498
5	285.5	298	310.5	323	335.5	348	348	360.5	373	385.5	398	410.5	423	423	435.5	448	460.5	473	485.5	485.5	498	510.5	523
6	310.5	323	335.5	348	348	360.5	373	385.5	398	410.5	423	423	435.5	448	460.5	473	485.5	485.5	498	510.5	523	535.5	548
7	335.5	348	348	360.5	373	385.5	398	410.5	423	423	435.5	448	460.5	473	485.5	485.5	498	510.5	523	535.5	548	548	560.5
8	348	360.5	373	385.5	398	410.5	423	423	435.5	448	460.5	473	485.5	485.5	498	510.5	523	535.5	548	548	560.5	573	585.5

Dimensions: Type 10/EX250/Series SY5000

SS5Y5-10S□-Stations U C4, N3 / D C6, N7 / B C8, N9 (D)





L1 = 16 x n1 + 141.5 + 21 x n2
L2 = 16 x n1 + 48
L4 = L3 – 10.5
L5 = (L3 – L1)/2
L6 = 21 x n2 + 81.5

Note 1) These figures show the "SS5Y5-10SQ1A-05D-C8".
Note 2) Refer to page 122 for dimensions of external pilot, silencer, elbow fittings and slide locking manual override.
Note 3) Refer to page 125 for dimensions of A or B port top-ported type.

L3: DIN Rail Overall Length

Input block stations (n2) \ Valve stations (n1)	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
0	198	223	235.5	248	273	285.5	298	310.5	335.5	348	360.5	373	398	410.5	423	448	460.5	473	485.5	510.5	523	535.5	560.5
1	223	235.5	260.5	273	285.5	298	323	335.5	348	373	385.5	398	410.5	435.5	448	460.5	485.5	498	510.5	523	548	560.5	573
2	248	260.5	273	298	310.5	323	335.5	360.5	373	385.5	410.5	423	435.5	448	473	485.5	498	523	535.5	548	560.5	585.5	598
3	260.5	285.5	298	310.5	335.5	348	360.5	373	398	410.5	423	448	460.5	473	485.5	510.5	523	535.5	548	573	585.5	598	623
4	285.5	298	323	335.5	348	373	385.5	398	410.5	435.5	448	460.5	473	498	510.5	523	548	560.5	573	585.5	610.5	623	635.5
5	310.5	323	335.5	360.5	373	385.5	398	423	435.5	448	473	485.5	498	510.5	535.5	548	560.5	585.5	598	610.5	623	648	660.5
6	323	348	360.5	373	398	410.5	423	435.5	460.5	473	485.5	510.5	523	535.5	548	573	585.5	598	623	635.5	648	660.5	685.5
7	348	360.5	385.5	398	410.5	435.5	448	460.5	473	498	510.5	523	548	560.5	573	585.5	610.5	623	635.5	648	673	685.5	698
8	373	385.5	398	423	435.5	448	473	485.5	498	510.5	535.5	548	560.5	573	598	610.5	623	648	660.5	673	685.5	710.5	723

Plug-in Connector Connecting Base

EX250

Type 12
Top Ported

Series SY3000/5000

How to Order Manifold

SS5Y 3 – 12S Q □ □ – 05 U – □ □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽

Refer to pages 124 and 125 for dimensions of Type 12/Top ported type.

❶ Series

3	SY3000
5	SY5000

❷ SI unit

0	Without SI unit
Q	DeviceNet™ (Negative common)
N	PROFIBUS DP (Negative common)
V	CC-Link (Positive common)
TA	AS-Interface, (Negative common) (8 in/8 out, 31 slave modes, 2 isolated common type)
TB	AS-Interface, (Negative common) (4 in/4 out, 31 slave modes, 2 isolated common type)
TC	AS-Interface, (Negative common) (8 in/8 out, 31 slave modes, 1 common type)
TD	AS-Interface, (Negative common) (4 in/4 out, 31 slave modes, 1 common type)
Y	CANopen (Negative common)
ZE	EtherNet/IP™ (Negative common)

Note 1) Ensure a match with the common specifications of the value to be used.
Note 2) Input block cannot be mounted without SI unit.
Note 3) The supply current from the SI unit of AS-Interface applicable 1 power supply system specification to the input block and valve is limited.

❸ Input block stations

—	None
1	1 station
⋮	⋮
8	8 stations

Note) Without SI unit, the symbol is —. The maximum number of stations is limited for the AS-Interface applicable SI unit.

❹ Input block type

	PNP input (Positive common)	NPN input (Negative common)
Without input block	—	
M12, 2 inputs	A	D
M12, 4 inputs	B	E
M8, 4 inputs	C	F

Note) Without SI unit, the symbol is —.

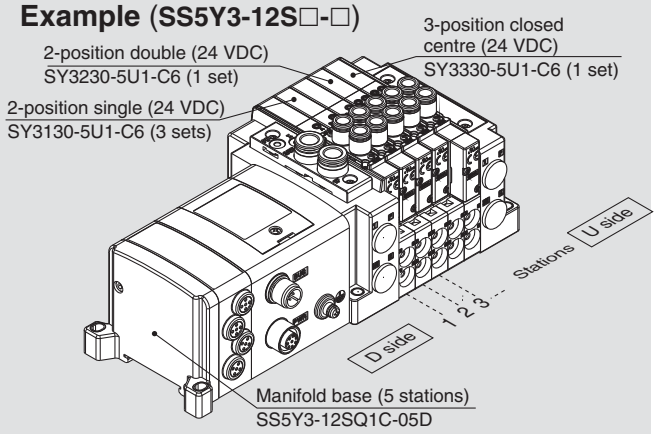
❺ Valve stations

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
16	16 stations	
02	2 stations	Specified layout Note 2) (Available up to 32 solenoids)
⋮	⋮	
24	24 stations	

Note 1) Double wiring: 2-position single, double, 3-position and 4-position valves can be used on all manifold stations.
Use of a 2-position single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.
Note 2) Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.)
When determining the number of valve stations, note that the maximum number of solenoids for the AS-Interface applicable SI unit specification is as follows.
• 8 in/8 out specification: Max. 8 solenoids
• 4 in/4 out specification: Max. 4 solenoids
Note 3) This also includes the number of blanking plate assembly.
Note 4) For the porduct without the SI unit (S0), note the maximum number of solenoids of the SI unit that will be mounted. If the layout is specified, indicate it on the manifold specification sheet.

How to Order Manifold Assembly

Example (SS5Y3-12S□-□)



SS5Y3-12SQ1C-05D ··· 1 set (Type 12 5-station manifold base part no.)
∗SY3130-5U1-C6 ····· 3 sets (2-position single part no.)
∗SY3230-5U1-C6 ····· 1 set (2-position double part no.)
∗SY3330-5U1-C6 ····· 1 set (3-position closed centre part no.)
The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the valve, etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on a manifold specification sheet.

❻ P, E port entry, SUP/EXH block assembly

	Internal pilot	Internal pilot, Built-in silencer	External pilot
P, E port entry U side (2 to 10 stations)	U	C Note)	G
P, E port entry D side (2 to 10 stations)	D	E Note)	H
P, E port entry both sides (2 to 24 stations)	B	—	J

∗ For built-in silencer type, P and E ports are available on U and D sides. 3/5(E) port is plugged. The silencer exhaust port is located on the opposite side of P, E port entry. (Example: When the P, E port entry is D side, the silencer exhaust port is U side.)
∗ When the built-in silencer type is used, keep the exhaust port from coming in direct contact with water or other liquids.
Note) For SUP/EXH block assembly specifications, built-in silencer types will have P port entry stipulated.

❼ P, E port size (One-touch fittings)

Symbol	SY3000	SY5000
—	ø8	ø10
N	ø5/16"	ø3/8"

∗ For N, sizes are in inches.

❽ Mounting

—	Direct mounting	
D	DIN rail mounting (With DIN rail)	
D0	DIN rail mounting (Without DIN rail)	
D3	For 3 stations	Specify a longer rail than the standard length.
⋮	⋮	
D24	For 24 stations	

∗ If the DIN rail must be mounted without an SI unit, select D0. Then, refer to L3 of the dimensions for the DIN rail length and order separately. (Refer to page 140 for the DIN rail part number.) (Refer to page 140 for the DIN rail part number.)

Refer to Reduced Wiring Fieldbus System (Serial Transmission) in Electric Products (CAT.E150) for details on the EX250 Integrated-type (For Input/Output) Serial Transmission System.

SMC

How to Order Valves (With two mounting screws)

Refer to page 8 for valve specifications.

SY 3 1 3 0 ❶ ❷ ❸ ❹ ❺ ❻ ❼ – 5 ❽ ❾ ❿ 1 – C6 ⓫ ⓬ – ⓭

❸ Top ported

❶ Series

3	SY3000
5	SY5000

❷ 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
A*	4-position dual 3-port valve (N.C./N.C.)
B*	4-position dual 3-port valve (N.O./N.O.)
C*	4-position dual 3-port valve (N.C./N.O.)

* Only rubber seal type is available for the 4-position dual 3-port valve.

❸ Seal type

0	Metal seal
1	Rubber seal

❹ Pilot type

—	Rubber seal
R	Metal seal

❺ Back pressure check valve (Built-in valve type)

—	None
H	Built-in

* Only rubber seal type. Manifold installed type is available if the back pressure check valve is required for a valve with metal seal. Refer to page 147 for Ordering Example. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.
* The built-in valve type back pressure check valve is not available for the 3-position type.

❻ Pilot valve option

—	Standard (0.7 MPa)
B	Quick response type (0.7 MPa)
K*	High pressure type (1.0 MPa)

* Only metal seal type is available for the high pressure type.

❼ Coil type

—	Standard
T	With power saving circuit (Continuous duty type)

* Be sure to select the power saving circuit type when the valve is continuously energized for long periods of time.
* Note the specified energizing time when power saving circuit is selected. Refer to page 154.

❽ Rated voltage

5	24 VDC

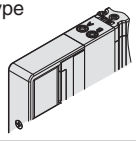
❾ Light/surge voltage suppressor and common specification

R	With surge voltage suppressor (Non-polar)
U	With light/surge voltage suppressor (Non-polar)
S	With surge voltage suppressor (Positive common)
Z	With light/surge voltage suppressor (Positive common)
NS	With surge voltage suppressor (Negative common)
NZ	With light/surge voltage suppressor (Negative common)

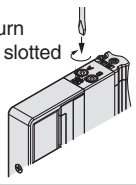
* "R" and "U" are applicable for every SI unit. However, "S" and "Z" can be used only for CC-Link applicable unit and "NS" and "NZ" are for units which are not CC-Link applicable.
* Only "Z" and "NZ" types are available for the product with power saving circuit.

❿ Manual override

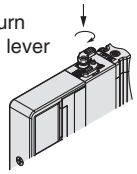
—: Non-locking push type



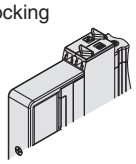
D: Push-turn locking slotted type



E: Push-turn locking lever type



F: Slide locking type



⓫ A, B port size

Thread piping

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

One-touch fitting (Metric)

Symbol	A, B port	SY3000	SY5000
C2	ø2 One-touch fitting	●	—
C3	ø3.2 One-touch fitting	●	—
C4	ø4 One-touch fitting	●	●
C6	ø6 One-touch fitting	●	●
C8	ø8 One-touch fitting	—	●

One-touch fitting (Inch)

Symbol	A, B port	SY3000	SY5000
N1	ø1/8" One-touch fitting	●	—
N3	ø5/32" One-touch fitting	●	●
N7	ø1/4" One-touch fitting	●	●
N9	ø5/16" One-touch fitting	—	●

⓬ Thread type

—	Rc
F	G
N	NPT
T	NPTF

* Only — is available for M5.

⓭ Type of mounting screw

—	Round head combination screw
B	Hexagon socket head cap screw
K	Round head combination screw (Falling-out-prevention type)
H	Hexagon socket head cap screw (Falling-out-prevention type)

* For "K" and "H", the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance etc.
* When ordering a valve individually, the base gasket is not included. Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance service.
  Refer to page 136 for part numbers of the base gasket and mounting screw.
* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly.

Type 10
Side Ported

Type 11
Bottom Ported

Plug-in Connector Connecting Base

EX260

Series SY3000/5000

RoHS

How to Order Manifold

Refer to page 123 for Type 11/Bottom ported dimensions.

SS5Y [3] – [10] **S** [NA] [N] – [05] [U] [ ] – [C6] [ ]
(1) (2) (3) (4) (5) (6) (7) (8) (9)

❶ Series

3	SY3000
5	SY5000

❷ Type

10	Side ported
11	Bottom ported

∗ The SY5000 manifold base is used for the bottom ported of the SY3000. When ordering, refer to Plug-in Mixed Type Manifold (from page 127).

❸ SI unit specifications

Symbo	Protocol	Number of outputs	Communication connector
0	Without SI unit		
QA	DeviceNet™	32	M12
QB		16	
NA	PROFIBUS DP	32	M12
NB		16	
NC		32	D-sub Note)
ND		16	
VA	CC-Link	32	M12
VB		16	
DA	EtherCAT	32	M12
DB		16	
FA	PROFINET	32	M12
FB		16	
EA	EtherNet/IP™	32	M12
EB		16	

Note) IP40 for the D-sub applicable communication connector specification.
For SI unit part number, refer to page 136.
DIN rail cannot be mounted without SI unit.

❹ SI unit output polarity

—	Positive common
N	Negative common

Note 1) Ensure a match with the common specifications of the value to be used.
Note 2) Without SI unit, the symbol is —.

❺ Valve stations

In the case of the 32-output SI unit

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
16	16 stations	
02	2 stations	Specified layout Note 2) (Available up to 32 solenoids)
⋮	⋮	
24	24 stations	

In the case of the 16-output SI unit

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
08	16 stations	
02	2 stations	Specified layout Note 2) (Available up to 16 solenoids)
⋮	⋮	
16	24 stations	

Note 1) Double wiring: 2-position single, double, 3-position and 4-position valves can be used on all manifold stations.
Use of a 2-position single solenoid will result in an unused control signal. If this is not desired, order with a specified layout
Note 2) Specified layout: Indicate the wiring specifications on the manifold specification sheet.
(Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.)
Note 3) This also includes the number of blanking plate assembly.
Note 4) For the model without the SI unit (S0), note the maximum number of solenoids of the SI unit that will be mounted. If the layout is specified, indicate it on the manifold specification sheet.

❻ P, E port entry

U	U side (2 to 10 stations)
D	D side (2 to 10 stations)
B	Both sides (2 to 24 stations)

❼ SUP/EXH block assembly

—	Internal pilot
S	Internal pilot, Built-in silencer
R	External pilot

∗ 3/5(E) port is plugged for the built-in silencer type.
∗ When the built-in silencer type is used, keep the exhaust port from coming in direct contact with water or other liquids.

❾ Mounting and Option

Symbol	Mounting	Option
—	Direct mounting	None
AA		Name plate (With station number)
BA		Name plate (Without station number)
D□	DIN rail mounting	Without name plate
A□		Name plate (With station number)
B□		Name plate (Without station number)

Note 1) Enter the number of stations inside □. (Refer to "DIN Rail Option" below.)
Note 2) Only direct mounting is available for Type 11 (Bottom ported).

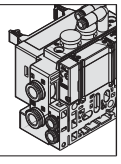
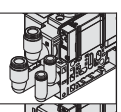
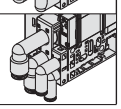
DIN Rail Option

—	Direct mounting	
0	Without DIN rail (with bracket)	
3	For 3 stations	Specify a longer rail than the total length of specified stations.
⋮	⋮	
24	For 24 stations	

∗ When it is necessary to mount a DIN rail without an SI unit, select D0 and order DIN rail length separately, referring to L3 in the dimensions. Refer to page 140 for part numbers of DIN rail.

❽ A, B port size (Metric)

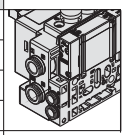
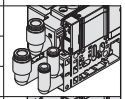
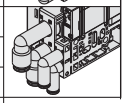
Symbol		A, B port	Type 10/ Side ported SY3000	Type 10/ Side ported SY5000	Type 11/ Bottom ported SY5000
C2	Straight	ø2 One-touch fitting	●	—	—
C3		ø3.2 One-touch fitting	●	—	—
C4		ø4 One-touch fitting	●	●	●
C6		ø6 One-touch fitting	●	●	●
C8		ø8 One-touch fitting	—	●	●
CM*		Straight port, mixed sizes	●	●	●
L4	Elbow Upward	ø4 One-touch fitting	●	●	—
L6		ø6 One-touch fitting	●	●	—
L8		ø8 One-touch fitting	—	●	—
B4	Elbow Downward	ø4 One-touch fitting	●	●	—
B6		ø6 One-touch fitting	●	●	—
B8		ø8 One-touch fitting	—	●	—
LM*		Elbow port, mixed sizes (Including upward and downward piping)	●	●	—
P, E port size (One-touch fittings)			ø8	ø10	ø10

Note) To avoid interference with the body or piping, select downward elbow port when mounting the optional spacer assembly (pages 141 to 143).
∗ Indicate the sizes on the manifold specification sheet in the case of "CM", "LM".

A, B port size (Inch)

Symbol		A, B port	Type 10/ Side ported SY3000	Type 10/ Side ported SY5000	Type 11/ Bottom ported SY5000
N1	Straight	ø1/8" One-touch fitting	●	—	—
N3		ø5/32" One-touch fitting	●	●	●
N7		ø1/4" One-touch fitting	●	●	●
N9		ø5/16" One-touch fitting	—	●	●
CM*		Straight port, mixed sizes	●	●	●
LN3	Elbow Upward	ø5/32" One-touch fitting	●	—	—
LN7		ø1/4" One-touch fitting	●	●	—
LN9		ø5/16" One-touch fitting	—	●	—
BN3	Elbow Downward	ø5/32" One-touch fitting	●	—	—
BN7		ø1/4" One-touch fitting	●	●	—
BN9		ø5/16" One-touch fitting	—	●	—
LM*		Elbow port, mixed sizes (Including upward and downward piping)	●	●	—
P, E port size (One-touch fittings)			ø5/16"	ø3/8"	ø3/8"

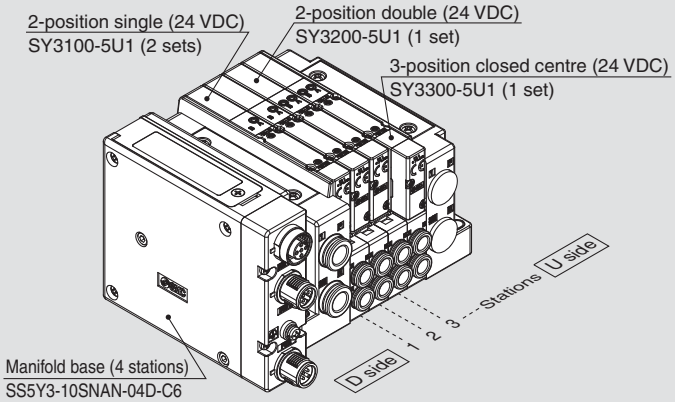
∗ The direction of P, E port fittings is the same as for A, B port. If selecting "LM", indicate it on the manifold specification sheet for the P, E port fitting direction.

Refer to Fieldbus System (CAT.E02-25) for details on the EX260 Integrated-type (For Output) Serial Transmission System.

SMC

How to Order Manifold Assembly

Example (SS5Y3-10SNAN-□)



SS5Y3-10SNAN-04D-C6···1 set (Type 10 4-station manifold base part no.)
∗SY3100-5U1·····2 sets (2-position single part no.)
∗SY3200-5U1·····1 set (2-position double part no.)
∗SY3300-5U1·····1 set (3-position closed centre part no.)
The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the valve, etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold part number, state the valves to be mounted in order from the 1st station as shown in the figure on the left.

If the arrangement becomes complicated, specify on a manifold specification sheet.

Note) When mixing top ported configurations, select from page 108. Specify on a manifold specification sheet if plugs are required on the A and B port on the manifold.

How to Order Valves (With two mounting screws)

Refer to page 8 for valve specifications.

SY 3 1 0 0 □ □ □ □ – 5 □ □ 1 – □
❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫

● Base mounted

❶ Series

3	SY3000
5	SY5000

❷ Type of actuation

1	2-position single
2	2-position double
3	3-position closed centre
4	3-position exhaust centre
5	3-position pressure centre
A*	4-position dual 3-port valve (N.C./N.C.)
B*	4-position dual 3-port valve (N.O./N.O.)
C*	4-position dual 3-port valve (N.C./N.O.)

∗ Only rubber seal type is available for the 4-position dual 3-port valve.

❸ Seal type

0	Rubber seal
1	Metal seal

❹ Pilot type

—	Internal pilot
R	External pilot

❺ Back pressure check valve (Built-in valve type)

—	None
H	Built-in

∗ Only rubber seal type.
Manifold installed type is available if the back pressure check valve is required for a valve with metal seal. Refer to page 147 for details. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.
∗ The built-in valve type back pressure check valve is not available for the 3-position type.

❻ Pilot valve option

—	Standard (0.7 MPa)
B	Quick response type (0.7 MPa)
K*	High pressure type (1.0 MPa)

∗ Only metal seal type is available for the high pressure type.

❼ Coil type

—	Standard
T	With power saving circuit (Continuous duty type)

∗ Be sure to select the power saving circuit type when a valve is continuously energized for long periods of time.
∗ Note the specified energizing time when power saving circuit is selected. Refer to page 154.

❽ Rated voltage

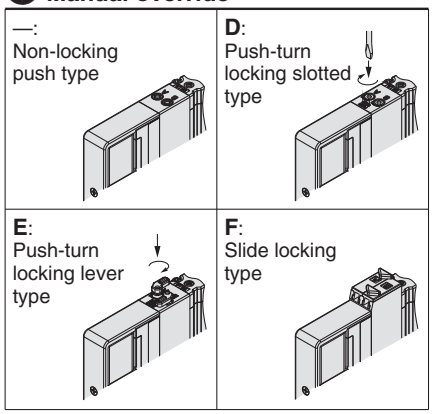
5	24 VDC

❾ Light/surge voltage suppressor and common specification

R	With surge voltage suppressor (Non-polar)
U	With light/surge voltage suppressor (Non-polar)
S	With surge voltage suppressor (Positive common)
Z	With light/surge voltage suppressor (Positive common)
NS	With surge voltage suppressor (Negative common)
NZ	With light/surge voltage suppressor (Negative common)

∗ Select a valve from R, U, S or Z when the SI unit output polarity is positive common. Select a valve from R, U, NS or NZ when the SI unit output polarity is negative common.
∗ Only "Z" and "NZ" types are available for the product with power saving circuit.

❿ Manual override



⓫ Type of mounting screw

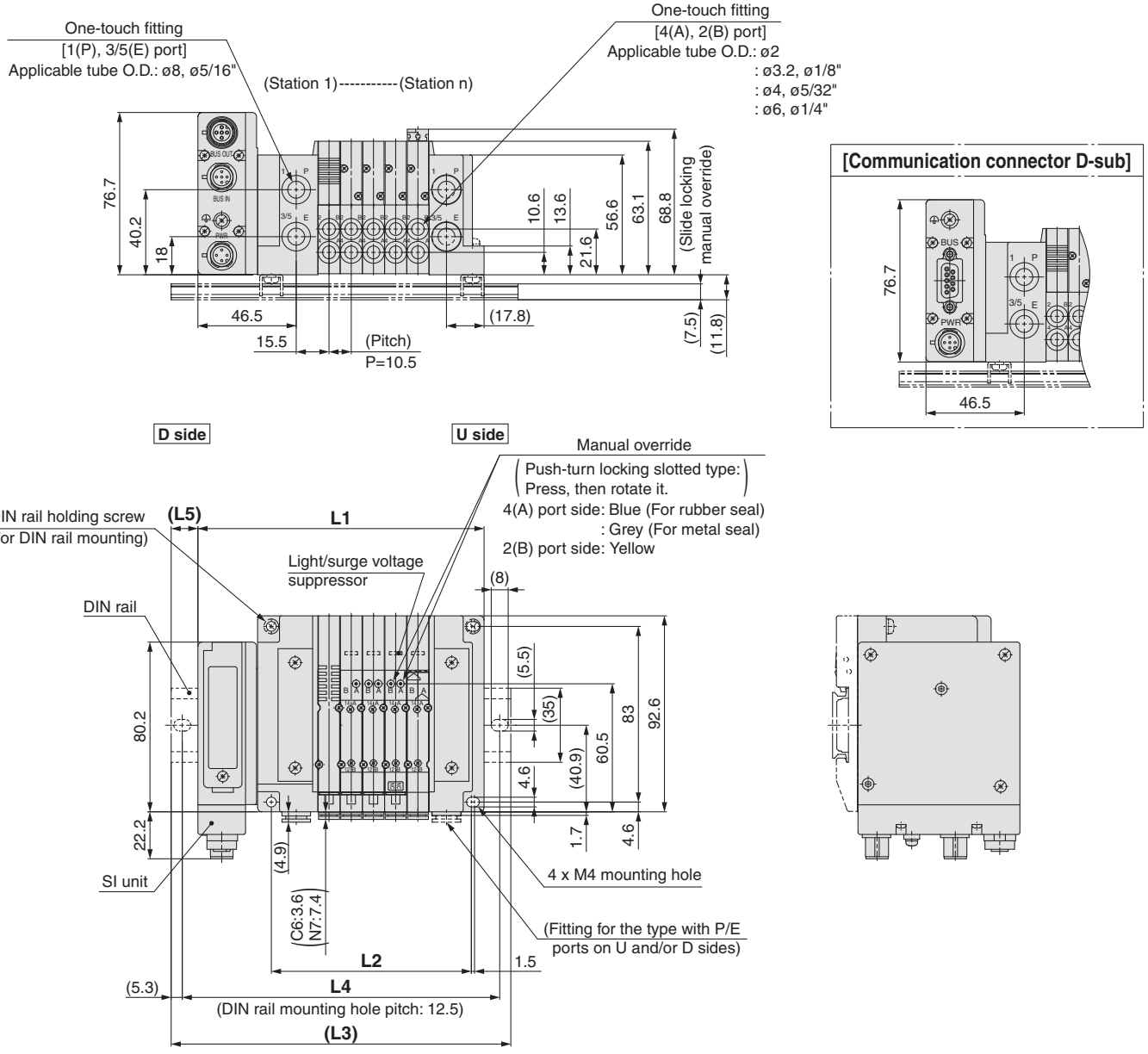
—	Round head combination screw
B	Hexagon socket head cap screw
K	Round head combination screw (Falling-out-prevention type)
H	Hexagon socket head cap screw (Falling-out-prevention type)

∗ For "K" and "H", the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance etc.
∗ When ordering a valve individually, the base gasket is not included. Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance service.
Refer to page 136 for part numbers of the base gasket and mounting screw.
∗ "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly or double check spacer assembly with residual pressure release valve.

⚠ Protective class class Ⅲ (Mark: ⏚)

Dimensions: Type 10/For EX260/Series SY3000

SS5Y3-10S□□-Stations U/D/B - C2/C3, N1/C4, N3/C6, N7 (D)



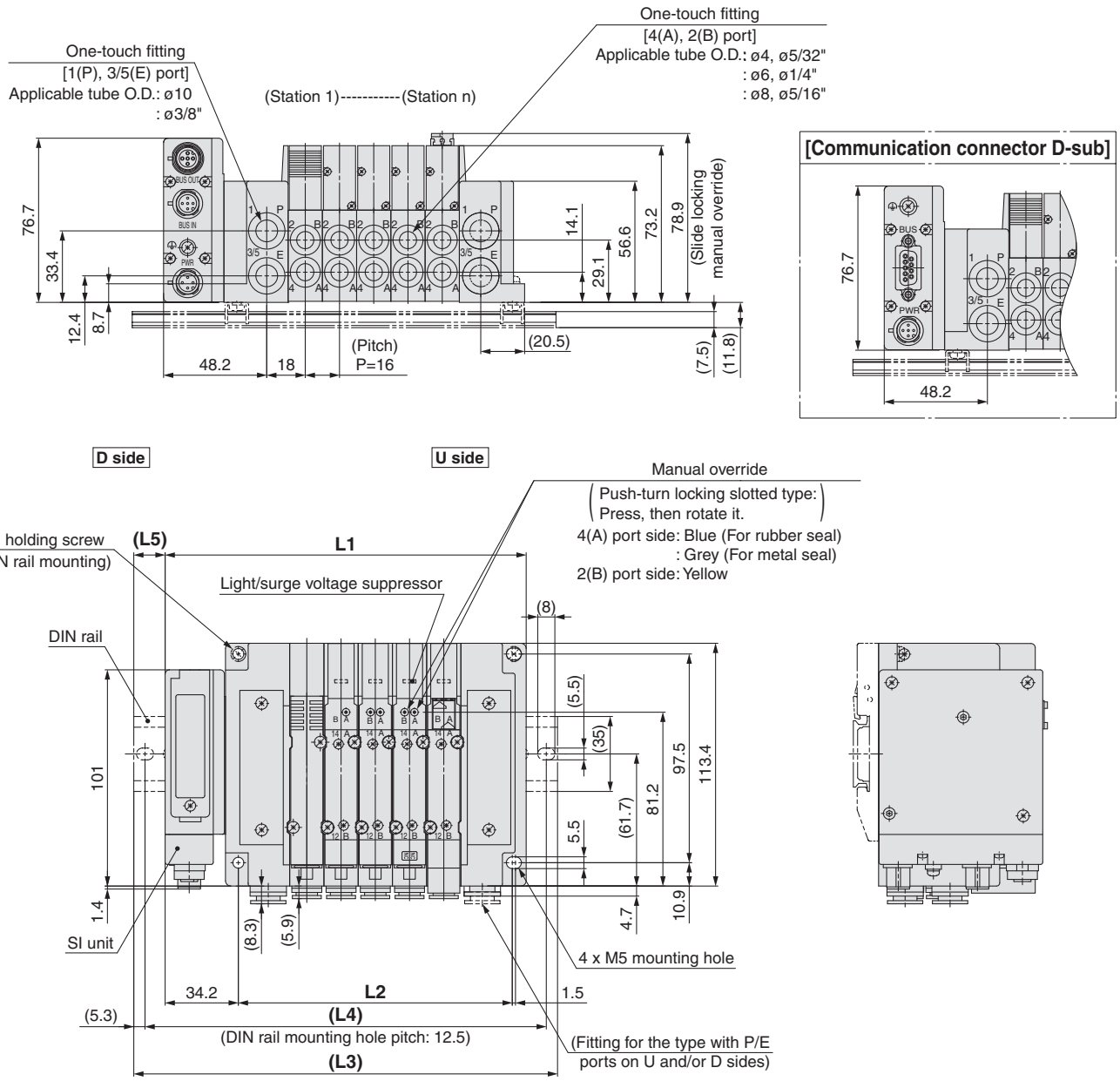
Note 1) These figures show the "SS5Y3-10SQA-05D-C6".
Note 2) Refer to page 121 for dimensions of external pilot, silencer, elbow fittings and slide locking manual override.
Note 3) Refer to page 124 for dimensions of A or B port top-ported type.

n: stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
L1	103.7	114.2	124.7	135.2	145.7	156.2	166.7	177.2	187.7	198.2	208.7	219.2	229.7	240.2	250.7	261.2
L2	63	73.5	84	94.5	105	115.5	126	136.5	147	157.5	168	178.5	189	199.5	210	220.5
L3	135.5	148	148	160.5	173	185.5	198	210.5	223	223	235.5	248	260.5	273	285.5	285.5
L4	125	137.5	137.5	150	162.5	175	187.5	200	212.5	212.5	225	237.5	250	262.5	275	275
L5	16	17	11.5	12.5	13.5	14.5	15.5	16.5	17.5	12.5	13.5	14.5	15.5	16.5	17.5	12

n: stations	18	19	20	21	22	23	24
L1	271.7	282.2	292.7	303.2	313.7	324.2	334.7
L2	231	241.5	252	262.5	273	283.5	294
L3	298	310.5	323	335.5	348	348	360.5
L4	287.5	300	312.5	325	337.5	337.5	350
L5	13	14	15	16	17	12	13

Dimensions: Type 10/For EX260/Series SY5000

SS5Y5-10S□□-Stations U C4, N3 / D C6, N7 / B C8, N9 (D)



Note 1) These figures show the "SS5Y5-10SQA-05D-C8".
Note 2) Refer to page 122 for dimensions of external pilot, silencer, elbow fittings and slide locking manual override.
Note 3) Refer to page 125 for dimensions of A or B port top-ported type.

n: stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
L1	120.7	136.7	152.7	168.7	184.7	200.7	216.7	232.7	248.7	264.7	280.7	296.7	312.7	328.7	344.7	360.7
L2	80	96	112	128	144	160	176	192	208	224	240	256	272	288	304	320
L3	148	160.5	185.5	198	210.5	235.5	248	260.5	273	298	310.5	323	348	360.5	373	385.5
L4	137.5	150	175	187.5	200	225	237.5	250	262.5	287.5	300	312.5	337.5	350	362.5	375
L5	13.5	12	16.5	14.5	13	17.5	15.5	14	12	16.5	15	13	17.5	16	14	12.5

n: stations	18	19	20	21	22	23	24
L1	376.7	392.7	408.7	424.7	440.7	456.7	472.7
L2	336	352	368	384	400	416	432
L3	410.5	423	435.5	448	473	485.5	498
L4	400	412.5	425	437.5	462.5	475	487.5
L5	17	15	13.5	11.5	16	14.5	12.5

Plug-in Connector Connecting Base

EX260

Type 12 Top Ported

Series SY3000/5000

RoHS

How to Order Manifold

Refer to pages 124, 125 for Type 12/Top ported dimensions.

SS5Y ❶3 – 12S ❷NA ❸N – ❹05 ❺U ❻ – ❼ ❽

❶ Series

3	SY3000
5	SY5000

❷ SI unit specifications

Symbol	Protocol	Number of outputs	Communication connector
0	Without SI unit		
QA	DeviceNet™	32	M12
QB		16	
NA	PROFIBUS DP	32	M12
NB		16	
NC		32	D-sub Note)
ND		16	
VA	CC-Link	32	M12
VB		16	
DA	EtherCAT	32	M12
DB		16	
FA	PROFINET	32	M12
FB		16	
EA	EtherNet/IP™	32	M12
EB		16	

Note) IP40 for the D-sub applicable communication connector specification.
For SI unit part number, refer to page 136.
DIN rail cannot be mounted without SI unit.

❸ SI unit output polarity

—	Positive common (NPN)
N	Negative common (PNP)

Note 1) Ensure a match with the common specifications of the value to be used.
Note 2) Without SI unit, the symbol is —.

❹ Valve stations

In the case of the 32-output SI unit

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
16	16 stations	
02	2 stations	Specified layout Note 2) (Available up to 32 solenoids)
⋮	⋮	
24	24 stations	

In the case of the 16-output SI unit

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
08	8 stations	
02	2 stations	Specified layout Note 2) (Available up to 16 solenoids)
⋮	⋮	
16	16 stations	

Note 1) Double wiring: 2-position single, double, 3-position and 4-position valves can be used on all manifold stations.
Use of a 2-position single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.
Note 2) Specified layout: Indicate the wiring specifications on the manifold specification sheet.
(Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.)
Note 3) This also includes the number of blanking plate assembly.
Note 4) For the model without the SI unit (S0), note the maximum number of solenoids of the SI unit that will be mounted. If the layout is specified, indicate it on the manifold specification sheet.

❺ P, E port entry

U Note)	U side (2 to 10 stations)
D Note)	D side (2 to 10 stations)
B	Both sides (2 to 24 stations)

Note) ❻ For type "S", supply/exhaust block assembly with built-in silencer, choose U or D for P port entry.

❻ SUP/EXH block assembly

—	Internal pilot
S	Internal pilot, Built-in silencer
R	External pilot

∗ For built-in silencer type, P and E ports are available on U and D sides. 3/5(E) port is plugged. The silencer exhaust port is located on the opposite side of P, E port entry. (Example: When the P, E port entry is D side, the silencer exhaust port is U side.)
∗ When the built-in silencer type is used, keep the exhaust port from coming in direct contact with water or other liquids.

❼ P, E port size (One-touch fittings)

Symbol	SY3000	SY5000
—	ø8	ø10
N	ø5/16"	ø3/8"

∗ For N, sizes are in inches.

❽ Mounting

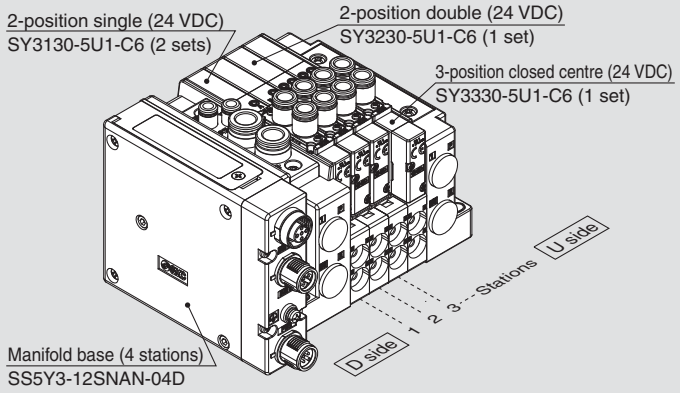
—	Direct mounting	
D	DIN rail mounting (With DIN rail)	
D0	DIN rail mounting (Without DIN rail)	
D3	For 3 stations	Specify a longer rail than the standard length.
⋮	⋮	
D24	For 24 stations	

∗ When it is necessary to mount a DIN rail without an SI unit, select D0 and order DIN rail length separately, referring to L3 in the dimensions. Refer to page 140 for part numbers of DIN rail.

Refer to Fieldbus System (CAT.E02-25) for details on the EX260 Integrated-type (For Output) Serial Transmission System.

How to Order Manifold Assembly

Example (SS5Y3-12SNAN-□)



SS5Y3-12SNAN-04D ····· 1 set (Type 12 4-station manifold base part no.)
∗SY3130-5U1-C6 ····· 2 sets (2-position single part no.)
∗SY3230-5U1-C6 ····· 1 set (2-position double part no.)
∗SY3330-5U1-C6 ····· 1 set (3-position closed centre part no.)
The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the valve, etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold part number, state the valves to be mounted in order from the 1st station as shown in the figure on the left. If the arrangement becomes complicated, specify on a manifold specification sheet.

How to Order Valves (With two mounting screws)

Refer to page 8 for valve specifications.

SY 3 1 3 0 □ □ □ □ – 5 □ □ 1 – C6 □ – □
❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫ ⓬ ⓭

● Top ported

❶ Series

3	SY3000
5	SY5000

❷ Type of actuation

1	2-position single
2	2-position double
3	3-position closed centre
4	3-position exhaust centre
5	3-position pressure centre
A∗	4-position dual 3-port valve (N.C./N.C.)
B∗	4-position dual 3-port valve (N.O./N.O.)
C∗	4-position dual 3-port valve (N.C./N.O.)

∗ Only rubber seal type is available for the 4-position dual 3-port valve.

❸ Seal type

0	Rubber seal
1	Metal seal

❹ Pilot type

—	Internal pilot
R	External pilot

❺ Back pressure check valve (Built-in valve type)

—	None
H	Built-in

∗ Only rubber seal type.
Manifold installed type is available if the back pressure check valve is required for a valve with metal seal. Refer to page 147 for details. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.
∗ The built-in valve type back pressure check valve is not available for the 3-position type.

❻ Pilot valve option

—	Standard (0.7 MPa)
B	Quick response type (0.7 MPa)
K∗	High pressure type (1.0 MPa)

∗ Only metal seal type is available for the high pressure type.

❼ Coil type

—	Standard
T	With power saving circuit (Continuous duty type)

∗ Be sure to select the power saving circuit type when a valve is continuously energized for long periods of time.
∗ Note the specified energizing time when power saving circuit is selected. Refer to page 154.

❽ Rated voltage

5	24 VDC

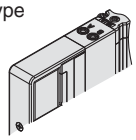
❾ Light/surge voltage suppressor and common specification

R	With surge voltage suppressor (Non-polar)
U	With light/surge voltage suppressor (Non-polar)
S	With surge voltage suppressor (Positive common)
Z	With light/surge voltage suppressor (Positive common)
NS	With surge voltage suppressor (Negative common)
NZ	With light/surge voltage suppressor (Negative common)

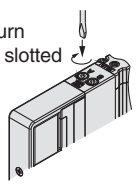
∗ Select a valve from R, U, S or Z when the SI unit output polarity is positive common.
Select a valve from R, U, NS or NZ when the SI unit output polarity is negative common.
∗ Only "Z" and "NZ" types are available for the product with power saving circuit.

❿ Manual override

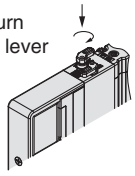
—: Non-locking push type



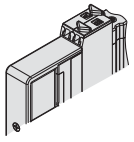
D: Push-turn locking slotted type



E: Push-turn locking lever type



F: Slide locking type



⓫ A, B port size

Thread piping

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

One-touch fitting (Metric)

Symbol	A and B port	SY3000	SY5000
C2	ø2 One-touch fitting	●	—
C3	ø3.2 One-touch fitting	●	—
C4	ø4 One-touch fitting	●	●
C6	ø6 One-touch fitting	●	●
C8	ø8 One-touch fitting	—	●

One-touch fitting (Inch)

Symbol	A and B port	SY3000	SY5000
N1	ø1/8" One-touch fitting	●	—
N3	ø5/32" One-touch fitting	●	●
N7	ø1/4" One-touch fitting	●	●
N9	ø5/16" One-touch fitting	—	●

⓬ Thread type

—	Rc
F	G
N	NPT
T	NPTF

∗ Only — is available for M5.

⓭ Type of mounting screw

—	Round head combination screw
B	Hexagon socket head cap screw
K	Round head combination screw (Falling-out-prevention type)
H	Hexagon socket head cap screw (Falling-out-prevention type)

∗ For "K" and "H", the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance etc.
∗ When ordering a valve individually, the base gasket is not included. Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance service. Refer to page 136 for part numbers of the base gasket and mounting screw.
∗ "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly.

⚠ Protective class
class # (Mark: Ⅲ)

Type 10
Side Ported

Type 11
Bottom Ported

Plug-in Connector Connecting Base

EX126

Series SY3000/5000

CE RoHS

How to Order Manifold

SS5Y 3 – 10 S4 V – 05 U □ – C6 □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽

Refer to page 123 for dimensions of Type 11/Bottom ported type.

❶ Series

3	SY3000
5	SY5000

❷ Type

10	Side ported
11	Bottom ported*

* The SY5000 manifold base is used for the bottom ported of the SY3000. When ordering, refer to Plug-in Mixed Mounting Type Manifold (from page 127).

❸ SI unit

0	Without SI unit
V	CC-Link (Positive common NPN)

* Only a terminal block plate is mounted for the valve without SI unit.

❹ Valve stations

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
08	8 stations	
02	2 stations	Specified layout Note 2) (Available up to 16 solenoids)
⋮	⋮	
16	16 stations	

Note 1) Double wiring: 2-position single, double, 3-position and 4-position valves can be used on all manifold stations. Use of a 2-position single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.

Note 2) Specified layout: Indicate the wiring specifications with the manifold specification sheet. (Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.)

Note 3) This also includes the number of blanking plate assembly.

❺ P, E port entry

U	U side (2 to 10 stations)
D	D side (2 to 10 stations)
B	Both sides (2 to 16 stations)

❻ SUP/EXH block assembly

—	Internal pilot
S	Internal pilot, Built-in silencer
R	External pilot

* 3/5(E) port is plugged for the built-in silencer type.
* When the built-in silencer type is used, keep the exhaust port from coming in direct contact with water or other liquids.

Refer to the page on the right for ❼.

❽ Mounting and Option

Symbol	Mounting	Option
—	Direct mounting	None
AA		Name plate (With station number)
BA		Name plate (Without station number)
D□	DIN rail mounting	Without name plate
A□		Name plate (With station number)
B□		Name plate (Without station number)

Note 1) Enter the number of stations inside □. (Refer to "DIN Rail Option" below.)

Note 2) Only direct mounting is available for Type 11 (Bottom ported).

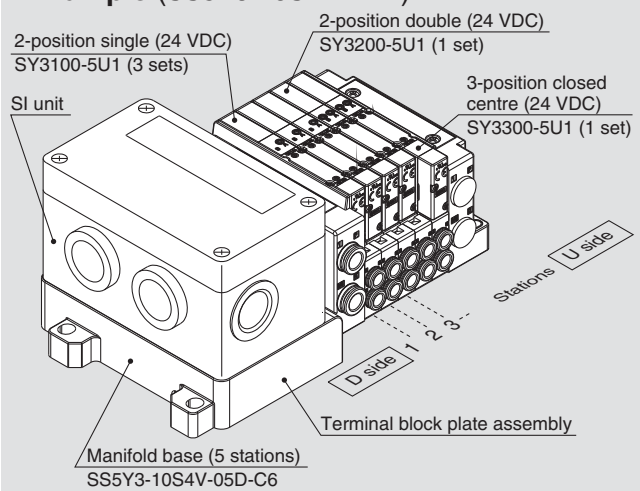
DIN Rail Option

—	Direct mounting	
0	Without DIN rail (with bracket)	
3	For 3 stations	Specify a longer rail than the total length of specified stations.
⋮	⋮	
16	For 16 stations	

Refer to Reduced Wiring Fieldbus System (Serial Transmission) in Electric Products (CAT.E150) for details on the EX126 Integrated-type (For Output) Serial Transmission System.

How to Order Manifold Assembly

Example (SS5Y3-10S4V-□-□)



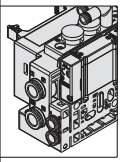
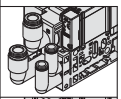
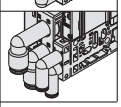
SS5Y3-10S4V-05D-C6 ··· 1 set (Type 10 5-station manifold base part no.)
***SY3100-5U1 ····· 3 sets (2-position single part no.)**
***SY3200-5U1 ····· 1 set (2-position double part no.)**
***SY3300-5U1 ····· 1 set (3-position closed centre part no.)**
→ The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the valve, etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on a manifold specification sheet.

Note) When mixing top ported configurations, select from page 114. In this case, use caution as there is also output on the A and B port on base side. Specify on a manifold specification sheet if plugs are required on the A and B port on base side.

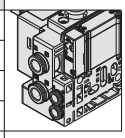
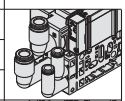
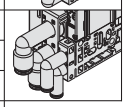
❼ A, B port (Metric)

Symbol		A, B port	Type 10/ Side ported SY3000	Type 10/ Side ported SY5000	Type 11/ Bottom ported SY5000
C2	Straight	ø2 One-touch fitting	●	—	—
C3	Straight	ø3.2 One-touch fitting	●	—	—
C4	Straight	ø4 One-touch fitting	●	●	●
C6	Straight	ø6 One-touch fitting	●	●	●
C8	Straight	ø8 One-touch fitting	—	●	●
CM*	Straight	Straight port, mixed sizes	●	●	●
L4	Elbow Upward	ø4 One-touch fitting	●	●	—
L6	Elbow Upward	ø6 One-touch fitting	●	●	—
L8	Elbow Upward	ø8 One-touch fitting	—	●	—
B4	Elbow Downward	ø4 One-touch fitting	●	●	—
B6	Elbow Downward	ø6 One-touch fitting	●	●	—
B8	Elbow Downward	ø8 One-touch fitting	—	●	—
LM*	Elbow	Elbow port, mixed sizes (Including upward and downward piping)	●	●	—
P, E port size (One-touch fittings)			ø8	ø10	ø10

A, B port (Inch)

Symbol		A, B port	Type 10/ Side ported SY3000	Type 10/ Side ported SY5000	Type 11/ Bottom ported SY5000
N1	Straight	ø1/8" One-touch fitting	●	—	—
N3	Straight	ø5/32" One-touch fitting	●	●	●
N7	Straight	ø1/4" One-touch fitting	●	●	●
N9	Straight	ø5/16" One-touch fitting	—	●	●
CM*	Straight	Straight port, mixed sizes	●	●	●
LN3	Elbow Upward	ø5/32" One-touch fitting	●	—	—
LN7	Elbow Upward	ø1/4" One-touch fitting	●	●	—
LN9	Elbow Upward	ø5/16" One-touch fitting	—	●	—
BN3	Elbow Downward	ø5/32" One-touch fitting	●	—	—
BN7	Elbow Downward	ø1/4" One-touch fitting	●	●	—
BN9	Elbow Downward	ø5/16" One-touch fitting	—	●	—
LM*	Elbow	Elbow port, mixed sizes (Including upward and downward piping)	●	●	—
P, E port size (One-touch fittings)			ø5/16"	ø3/8"	ø3/8"

Note) To avoid interference with the body or piping, select downward elbow port when mounting the optional spacer assembly (pages 141 to 143).
* Indicate the size on the manifold specification sheet in the case of "CM", "LM".
* The direction of P, E port fittings is the same as for A, B port. If selecting "LM", indicate it on the manifold specification sheet for the P, E port fitting direction.

How to Order Valves (With two mounting screws)

Refer to page 8 for valve specifications.

SY [3] [1] [0] [0] [ ] [ ] [ ] [ ] – [5] [ ] [ ] **1** – [ ]
❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫

❶ Series

● Base mounted

3	SY3000
5	SY5000

❷ Type of actuation

1	2-position single
2	2-position double
3	3-position closed centre
4	3-position exhaust centre
5	3-position pressure centre
A*	4-position dual 3-port valve (N.C./N.C.)
B*	4-position dual 3-port valve (N.O./N.O.)
C*	4-position dual 3-port valve (N.C./N.O.)

* Only rubber seal type is available for the 4-position dual 3-port valve.

❸ Seal type

0	Rubber seal
1	Metal seal

❹ Pilot type

—	Internal pilot
R	External pilot

❺ Back pressure check valve (Built-in valve type)

—	None
H	Built-in

* Only rubber seal type. Manifold installed type is available if the back pressure check valve is required for a valve with metal seal. Refer to page 147 for Ordering Example. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.
* The built-in valve type back pressure check valve is not available for the 3-position type.

❻ Pilot valve option

—	Standard (0.7 MPa)
B	Quick response type (0.7 MPa)
K*	High pressure type (1.0 MPa)

* Only metal seal type is available for the high pressure type.

❼ Coil type

—	Standard
T	With power saving circuit (Continuous duty type)

* Be sure to select the power saving circuit type when the valve is continuously energized for long periods of time.
* Note the specified energizing time when power saving circuit is selected. Refer to page 154.

❽ Rated voltage

5	24 VDC

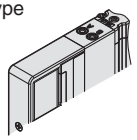
❾ Light/surge voltage suppressor and common specification

R	With surge voltage suppressor (Non-polar)
U	With light/surge voltage suppressor (Non-polar)
S	With surge voltage suppressor (Positive common)
Z	With light/surge voltage suppressor (Positive common)

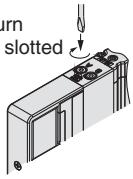
* Only "Z" type is available for the product with power saving circuit.

❿ Manual override

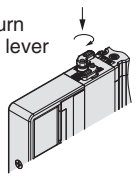
—: Non-locking push type



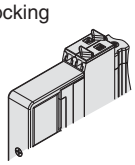
D: Push-turn locking slotted type



E: Push-turn locking lever type



F: Slide locking type



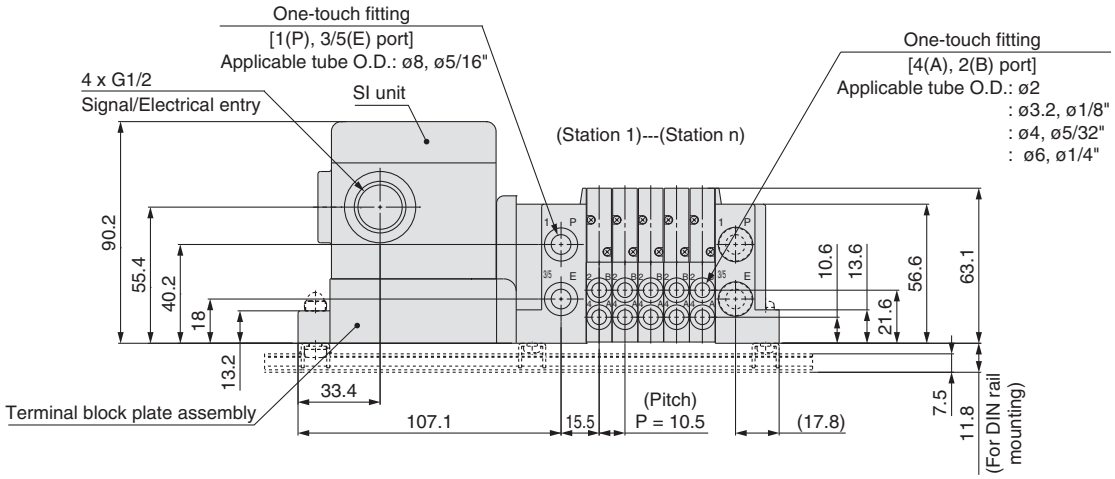
⓫ Type of mounting screw

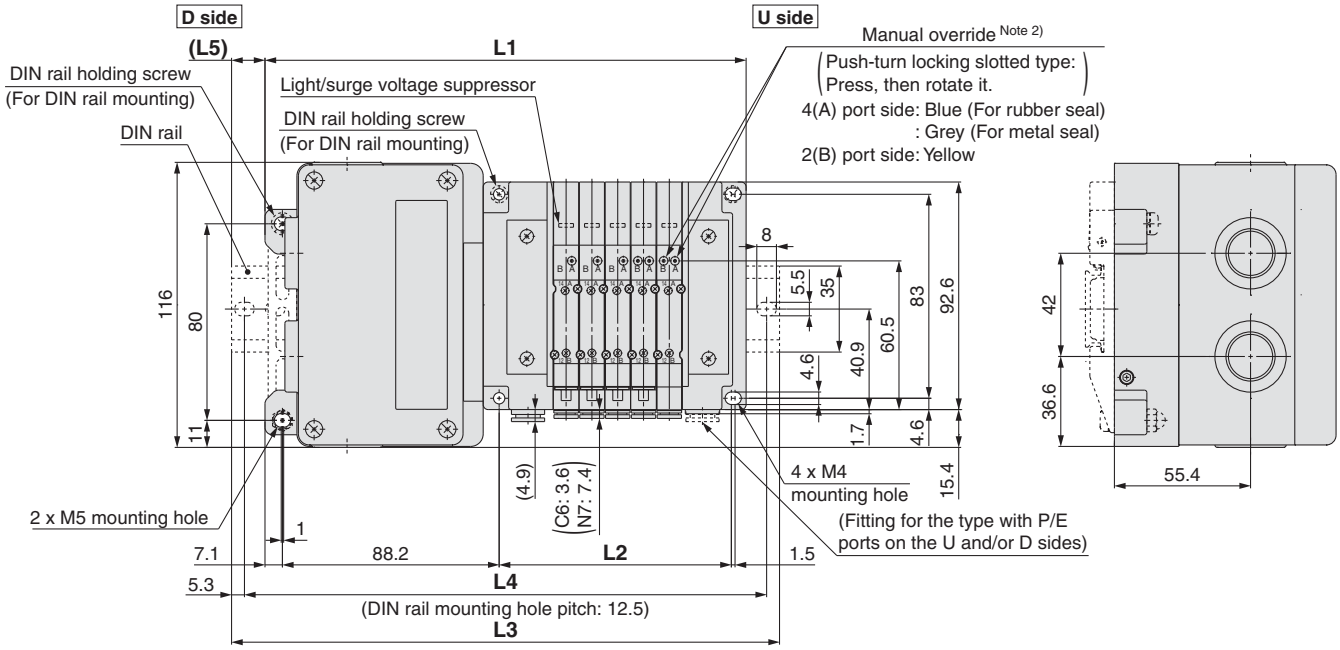
—	Round head combination screw
B	Hexagon socket head cap screw
K	Round head combination screw (Falling-out-prevention type)
H	Hexagon socket head cap screw (Falling-out-prevention type)

* For "K" and "H", the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance etc.
* When ordering a valve individually, the base gasket is not included. Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance service.
  Refer to page 136 for part numbers of base gasket and mounting screw.
* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly or double check spacer assembly with residual pressure release valve.

Dimensions: Type 10/EX126/Series SY3000

SS5Y3-10S4□-Stations U/D/B - C2 / C3, N1 / C4, N3 / C6, N7 (D)



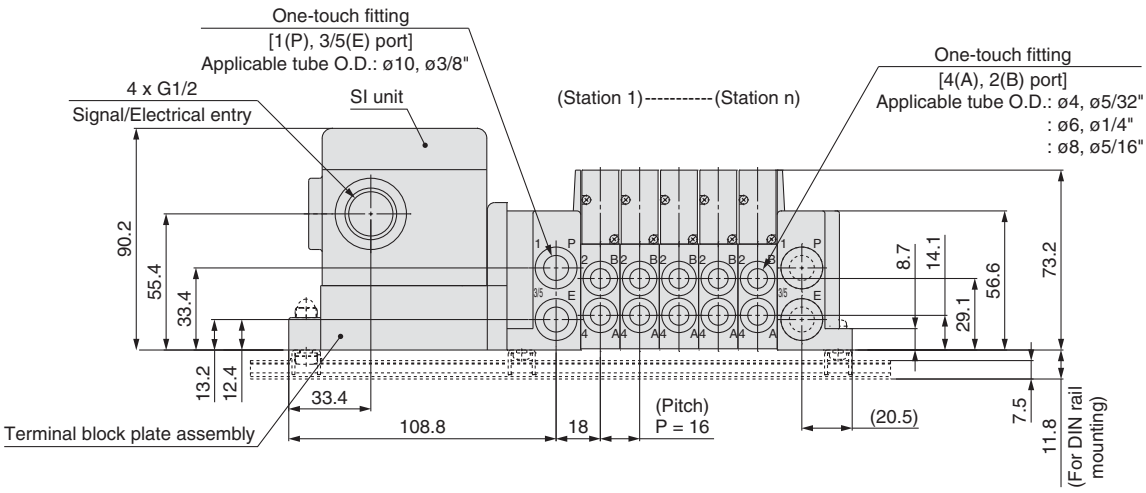


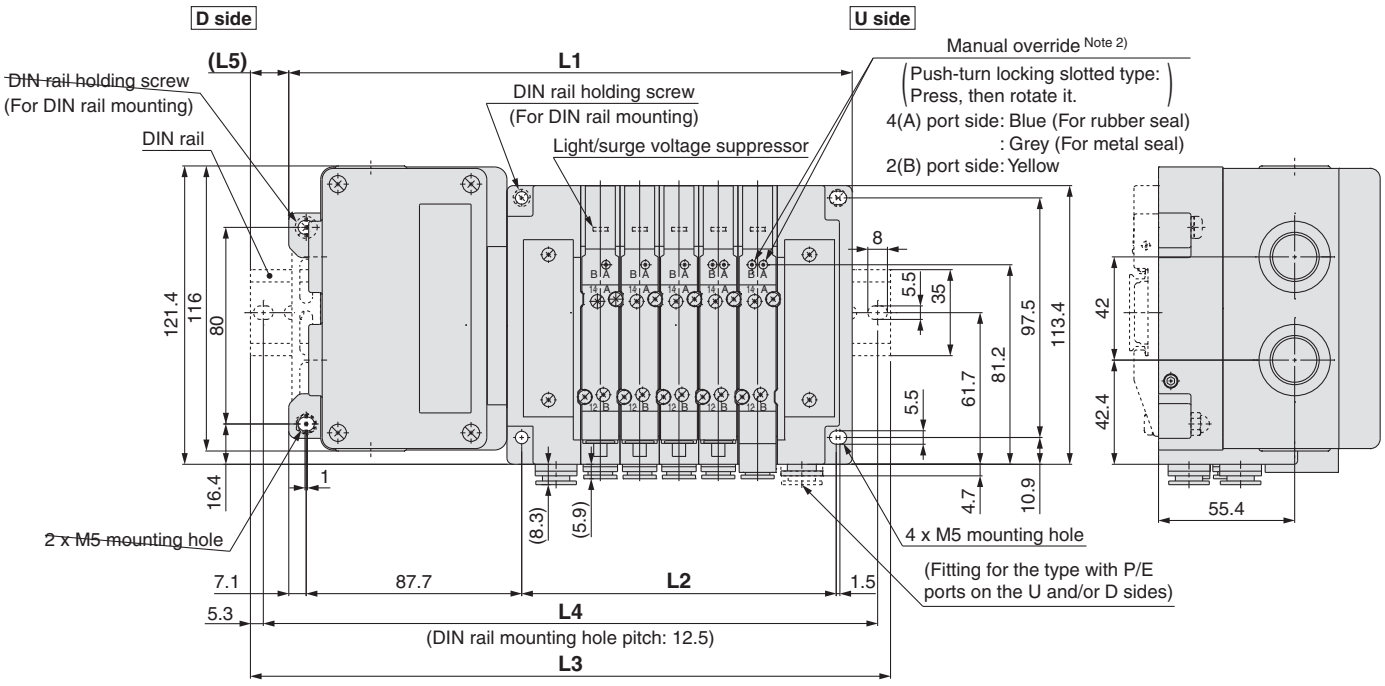
Note 1) These figures show the "SS5Y3-10S4□-05D-C6".
Note 2) Refer to page 121 for dimensions of external pilot, silencer, elbow fittings and slide locking manual override.
Note 3) Refer to page 124 for dimensions of A or B port top-ported type.

n: Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	164.3	174.8	185.3	195.8	206.3	216.8	227.3	237.8	248.3	258.8	269.3	279.8	290.3	300.8	311.3
L2	63	73.5	84	94.5	105	115.5	126	136.5	147	157.5	168	178.5	189	199.5	210
L3	198	198	210.5	223	235.5	248	260.5	273	273	285.5	298	310.5	323	335.5	335.5
L4	187.5	187.5	200	212.5	225	237.5	250	262.5	262.5	275	287.5	300	312.5	325	325
L5	17	11.5	12.5	13.5	14.5	15.5	16.5	17.5	12.5	13.5	14.5	15.5	16.5	17.5	12

Dimensions: Type 10/EX126/Series SY5000

SS5Y5-10S4□-Stations U C4, N3 / D C6, N7 / B C8, N9 (D)





Note 1) These figures show the "SS5Y5-10S4□-05D-C8".
Note 2) Refer to page 122 for dimensions of external pilot, silencer, elbow fittings and slide locking manual override.
Note 3) Refer to page 125 for dimensions of A or B port top-ported type.

n: Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	181.3	197.3	213.3	229.3	245.3	261.3	277.3	293.3	309.3	325.3	341.3	357.3	373.3	389.3	405.3
L2	80	96	112	128	144	160	176	192	208	224	240	256	272	288	304
L3	210.5	223	248	260.5	273	285.5	310.5	323	335.5	360.5	373	385.5	398	423	435.5
L4	200	212.5	237.5	250	262.5	275	300	312.5	325	350	362.5	375	387.5	412.5	425
L5	14.5	13	17.5	15.5	14	12	16.5	15	13	17.5	16	14	12.5	17	15

Type 12
Top Ported

Plug-in Connector Connecting Base

EX126

Series SY3000/5000

RoHS

How to Order Manifold

SS5Y 3 – 12S4 V – 05 U ☐ – ☐ ☐

❶ ❷ ❸ ❹ ❺ ❻ ❼

Refer to pages 124 and 125 for dimensions of Type 12/Top ported type.

❶ Series

3	SY3000
5	SY5000

❷ SI unit

0	Without SI unit
V	CC-Link (Positive common NPN)

∗ Only a terminal block plate is mounted for the valve without SI unit.

❸ Valve stations

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
08	8 stations	
02	2 stations	Specified layout Note 2) (Available up to 16 solenoids)
⋮	⋮	
16	16 stations	

Note 1) Double wiring: 2-position single, double, 3-position and 4-position valves can be used on all manifold stations. Use of a 2-position single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.

Note 2) Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.)

Note 3) This also includes the number of blanking plate assembly.

❹ P, E port entry

U Note)	U side (2 to 10 stations)
D Note)	D side (2 to 10 stations)
B	Both sides (2 to 16 stations)

Note) ❺ For type "S", supply/exhaust block assembly with built-in silencer, choose U or D for P port entry.

❺ SUP/EXH block assembly

—	Internal pilot
S	Internal pilot, Built-in silencer
R	External pilot

∗ For built-in silencer type, P and E ports are available on U and D sides. 3/5(E) port is plugged. The silencer exhaust port is located on the opposite side of P, E port entry. (Example: When the P, E port entry is D side, the silencer exhaust port is U side.)

∗ When the built-in silencer type is used, keep the exhaust port from coming in direct contact with water or other liquids.

❻ P, E port size (One-touch fittings)

Symbol	SY3000	SY5000
—	ø8	ø10
N	ø5/16"	ø3/8"

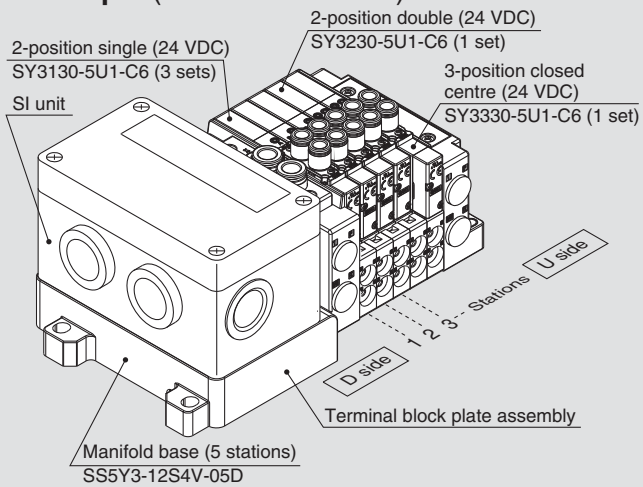
∗ For N, sizes are in inches.

❼ Mounting

—	Direct mounting	
D	DIN rail mounting (With DIN rail)	
D0	DIN rail mounting (Without DIN rail)	
D3	For 3 stations	Specify a longer rail than the standard length.
⋮	⋮	
D16	For 16 stations	

How to Order Manifold Assembly

Example (SS5Y3-12S4V-☐-☐)



SS5Y3-12S4V-05D ··· 1 set (Type 12 5-station manifold base part no.)
∗SY3130-5U1-C6 ····· 3 sets (2-position single part no.)
∗SY3230-5U1-C6 ····· 1 set (2-position double part no.)
∗SY3330-5U1-C6 ····· 1 set (3-position closed centre part no.)
→ The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the valve, etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on a manifold specification sheet.

Refer to Reduced Wiring Fieldbus System (Serial Transmission) in Electric Products (CAT.E150) for details on the EX126 Integrated-type (For Output) Serial Transmission System.

How to Order Valves (With two mounting screws)

Refer to page 8 for valve specifications.

SY 3 1 3 0 □ □ □ □ – 5 □ □ 1 – C6 □ – □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫ ⓬ ⓭

● Top ported

❶ Series

3	SY3000
5	SY5000

❷ Type of actuation

1	2-position single
2	2-position double
3	3-position closed centre
4	3-position exhaust centre
5	3-position pressure centre
A*	4-position dual 3-port valve (N.C./N.C.)
B*	4-position dual 3-port valve (N.O./N.O.)
C*	4-position dual 3-port valve (N.C./N.O.)

∗ Only rubber seal type is available for the 4-position dual 3-port valve.

❸ Seal type

0	Rubber seal
1	Metal seal

❹ Pilot type

—	Internal pilot
R	External pilot

❺ Back pressure check valve (Built-in valve type)

—	None
H	Built-in

∗ Only rubber seal type. Manifold installed type is available if the back pressure check valve is required for a valve with metal seal. Refer to page 147 for Ordering Example. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.
∗ The built-in valve type back pressure check valve is not available for the 3-position type.

❻ Pilot valve option

—	Standard (0.7 MPa)
B	Quick response type (0.7 MPa)
K*	High pressure type (1.0 MPa)

∗ Only metal seal type is available for the high pressure type.

❼ Coil type

—	Standard
T	With power saving circuit (Continuous duty type)

∗ Be sure to select the power saving circuit type when the valve is continuously energized for long periods of time.
∗ Note the specified energizing time when power saving circuit is selected. Refer to page 154.

❽ Rated voltage

5	24 VDC

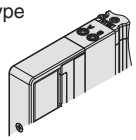
❾ Light/surge voltage suppressor and common specification

R	With surge voltage suppressor (Non-polar)
U	With light/surge voltage suppressor (Non-polar)
S	With surge voltage suppressor (Positive common)
Z	With light/surge voltage suppressor (Positive common)

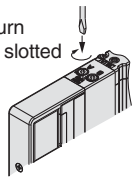
∗ Only "Z" types are available for models with a power saving circuit.

❿ Manual override

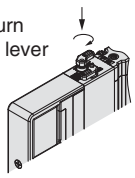
—: Non-locking push type



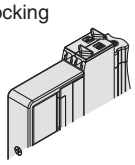
D: Push-turn locking slotted type



E: Push-turn locking lever type



F: Slide locking type



⓫ A, B port size

Thread piping

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

One-touch fitting (Metric)

Symbol	A, B port	SY3000	SY5000
C2	ø2 One-touch fitting	●	—
C3	ø3.2 One-touch fitting	●	—
C4	ø4 One-touch fitting	●	●
C6	ø6 One-touch fitting	●	●
C8	ø8 One-touch fitting	—	●

One-touch fitting (Inch)

Symbol	A, B port	SY3000	SY5000
N1	ø1/8" One-touch fitting	●	—
N3	ø5/32" One-touch fitting	●	●
N7	ø1/4" One-touch fitting	●	●
N9	ø5/16" One-touch fitting	—	●

⓬ Thread type

—	Rc
F	G
N	NPT
T	NPTF

∗ Only — is available for M5.

⓭ Type of mounting screw

—	Round head combination screw
B	Hexagon socket head cap screw
K	Round head combination screw (Falling-out-prevention type)
H	Hexagon socket head cap screw (Falling-out-prevention type)

∗ For "K" and "H", the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance etc.
∗ When ordering a valve individually, the base gasket is not included. Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance service.
Refer to page 136 for part numbers of base gasket and mounting screw.
∗ "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly.

Type 10
Side Ported

Type 11
Bottom Ported

Plug-in Connector Connecting Base

EX120

Series SY3000/5000

RoHS

How to Order Manifold

SS5Y 3 – 10 S3 R1 – 05 U □ – C6 □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽

Refer to page 123 for dimensions of Type 11/Bottom ported type.

❶ Series

3	SY3000
5	SY5000

❷ Type

10	Side ported
11	Bottom ported*

* The SY5000 manifold base is used for the bottom ported of the SY3000. When ordering, refer to Plug-in Mixed Mounting Type Manifold (from page 127).

❸ SI unit

0	Without SI unit
Q	DeviceNet™ (Positive common NPN)
R1	OMRON Corp.: CompoBus/S (16 outputs) (Positive common NPN)
R2	OMRON Corp.: CompoBus/S (8 outputs) (Positive common NPN)
V	CC-Link (Positive common NPN)
ZB	CompoNet™ (Positive common NPN)
ZBN	CompoNet™ (Negative common PNP)

Note) Ensure a match with the common specifications of the value to be used.

❹ Valve stations

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
08	8 stations	
02	2 stations	Specified layout Note 2) (Available up to 16 solenoids)
⋮	⋮	
16	16 stations	

Note 1) Double wiring: 2-position single, double, 3-position and 4-position valves can be used on all manifold stations. Use of a 2-position single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.
Note 2) Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.)
Note 3) This also includes the number of blanking plate assembly.
Note 4) Since R2 type SI unit has 8 outputs, note that up to 8 solenoids can be accommodated.

❺ P, E port entry

U	U side (2 to 10 stations)
D	D side (2 to 10 stations)
B	Both sides (2 to 16 stations)

❻ SUP/EXH block assembly

—	Internal pilot
S	Internal pilot, Built-in silencer
R	External pilot

* 3/5(E) port is plugged for the built-in silencer type.

Refer to the page on the right for ❼.

❽ Mounting and Option

Symbol	Mounting	Option
—	Direct mounting	None
AA		Name plate (With station number)
BA		Name plate (Without station number)
D□	DIN rail mounting	Without name plate
A□		Name plate (With station number)
B□		Name plate (Without station number)

Note 1) Enter the number of stations inside □. (Refer to "DIN Rail Option" below.)
Note 2) Only direct mounting is available for Type 11 (Bottom ported).

DIN Rail Option

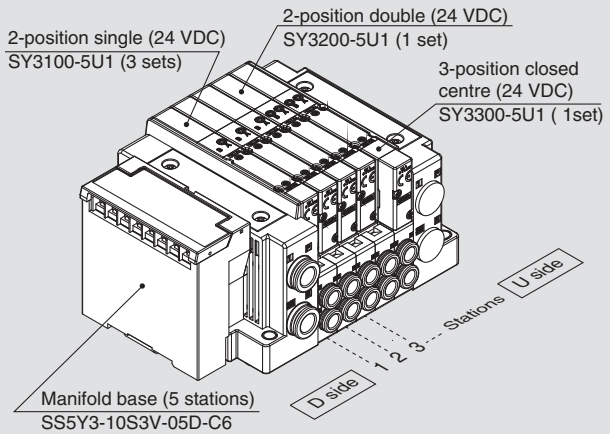
—	Direct mounting	
0	Without DIN rail (with bracket)	
3	For 3 stations	Specify a longer rail than the total length of specified stations.
⋮	⋮	
16	For 16 stations	

* If the DIN rail must be mounted without an SI unit, select D0. Then, refer to L3 of the dimensions for the DIN rail length and order separately. (Refer to page 140 for the DIN rail part number.)

Refer to Reduced Wiring Fieldbus System (Serial Transmission) in Electric Products (CAT.E150) for details on the EX120 Integrated-type (For Output) Serial Transmission System.

How to Order Manifold Assembly

Example (SS5Y3-10S3□-□)



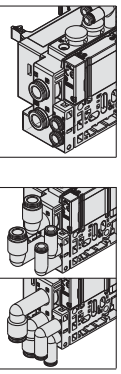
SS5Y3-10S3V-05D-C6 ··· 1 set (Type 10 5-station manifold base part no.)
***SY3100-5U1 ····· 3 sets (2-position single part no.)**
***SY3200-5U1 ····· 1 set (2-position double part no.)**
***SY3300-5U1 ····· 1 set (3-position closed centre part no.)**
The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the valve, etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on a manifold specification sheet.

Note) When mixing top ported configurations, select from page 120. In this case, use caution as there is also output on the A and B port on base side. Specify on a manifold specification sheet if plugs are required on the A and B port on base side.

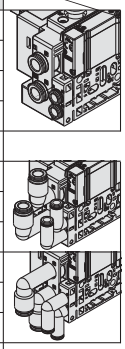
❼ A, B port size (Metric)

Symbol	A, B port		Type 10/ Side ported SY3000	Type 10/ Side ported SY5000	Type 11/ Bottom ported SY5000
C2	Straight	ø2 One-touch fitting	●	—	—
C3	Straight	ø3.2 One-touch fitting	●	—	—
C4	Straight	ø4 One-touch fitting	●	●	●
C6	Straight	ø6 One-touch fitting	●	●	●
C8	Straight	ø8 One-touch fitting	—	●	●
CM*	Straight	Straight port, mixed sizes	●	●	●
L4	Elbow Note) Upward	ø4 One-touch fitting	●	●	—
L6	Elbow Note) Upward	ø6 One-touch fitting	●	●	—
L8	Elbow Note) Upward	ø8 One-touch fitting	—	●	—
B4	Elbow Note) Downward	ø4 One-touch fitting	●	●	—
B6	Elbow Note) Downward	ø6 One-touch fitting	●	●	—
B8	Elbow Note) Downward	ø8 One-touch fitting	—	●	—
LM*	Elbow	Elbow port, mixed sizes (Including upward and downward piping)	●	●	—
P, E port size (One-touch fittings)			ø8	ø10	ø10



A, B port size (Inch)

Symbol	A, B port		Type 10/ Side ported SY3000	Type 10/ Side ported SY5000	Type 11/ Bottom ported SY5000
N1	Straight	ø1/8" One-touch fitting	●	—	—
N3	Straight	ø5/32" One-touch fitting	●	●	●
N7	Straight	ø1/4" One-touch fitting	●	●	●
N9	Straight	ø5/16" One-touch fitting	—	●	●
CM*	Straight	Straight port, mixed sizes	●	●	●
LN3	Elbow Note) Upward	ø5/32" One-touch fitting	●	—	—
LN7	Elbow Note) Upward	ø1/4" One-touch fitting	●	●	—
LN9	Elbow Note) Upward	ø5/16" One-touch fitting	—	●	—
BN3	Elbow Note) Downward	ø5/32" One-touch fitting	●	—	—
BN7	Elbow Note) Downward	ø1/4" One-touch fitting	●	●	—
BN9	Elbow Note) Downward	ø5/16" One-touch fitting	—	●	—
LM*	Elbow	Elbow port, mixed sizes (Including upward and downward piping)	●	●	—
P, E port size (One-touch fittings)			ø5/16"	ø3/8"	ø3/8"



Note) To avoid interference with the body or piping, select downward elbow port when mounting the optional spacer assembly (pages 141 to 143).
* Indicate the size on the manifold specification sheet in the case of "CM", "LM".
* The direction of P, E port fittings is the same as for A, B port. If selecting "LM", indicate it on the manifold specification sheet for the P, E port fitting direction.

How to Order Valves (With two mounting screws)

Refer to page 8 for valve specifications.

SY 3 1 0 0 □ □ □ □ – 5 □ □ 1 – □

❶ ❷ ● Base mounted ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫

❶ Series

3	SY3000
5	SY5000

❷ Type of actuation

1	2-position single
2	2-position double
3	3-position closed centre
4	3-position exhaust centre
5	3-position pressure centre
A*	4-position dual 3-port valve (N.C./N.C.)
B*	4-position dual 3-port valve (N.O./N.O.)
C*	4-position dual 3-port valve (N.C./N.O.)

* Only rubber seal type is available for the 4-position dual 3-port valve.

❸ Seal type

0	Rubber seal
1	Metal seal

❹ Pilot type

—	Internal pilot
R	External pilot

❺ Back pressure check valve (Built-in valve type)

—	None
H	Built-in

* Only rubber seal type. Manifold installed type is available if the back pressure check valve is required for a valve with metal seal. Refer to page 147 for Ordering Example. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.
* The built-in valve type back pressure check valve is not available for the 3-position type.

❻ Pilot valve option

—	Standard (0.7 MPa)
B	Quick response type (0.7 MPa)
K*	High pressure type (1.0 MPa)

* Only metal seal type is available for the high pressure type.

❼ Coil type

—	Standard
T	With power saving circuit (Continuous duty type)

* Be sure to select the power saving circuit type when the valve is continuously energized for long periods of time.
* Note the specified energizing time when power saving circuit is selected. Refer to page 154.

❽ Rated voltage

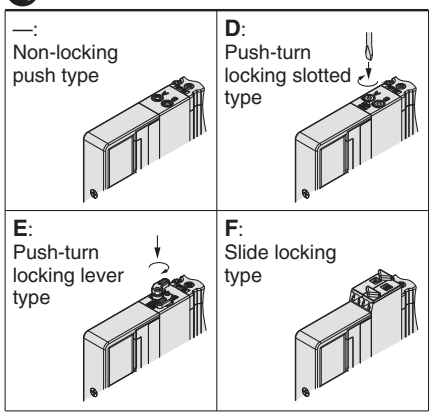
5	24 VDC

❾ Light/surge voltage suppressor and common specification

R	With surge voltage suppressor (Non-polar)
U	With light/surge voltage suppressor (Non-polar)
S	With surge voltage suppressor (Positive common)
Z	With light/surge voltage suppressor (Positive common)
NS	With surge voltage suppressor (Negative common)
NZ	With light/surge voltage suppressor (Negative common)

* Select a valve from R, U, S or Z when the SI unit specification is ZBN (Positive common). Select a valve from R, U, NS or NZ when the SI unit specification is ZBN (Negative common).
* Only "Z" and "NZ" types are available for the product with power saving circuit.

❿ Manual override



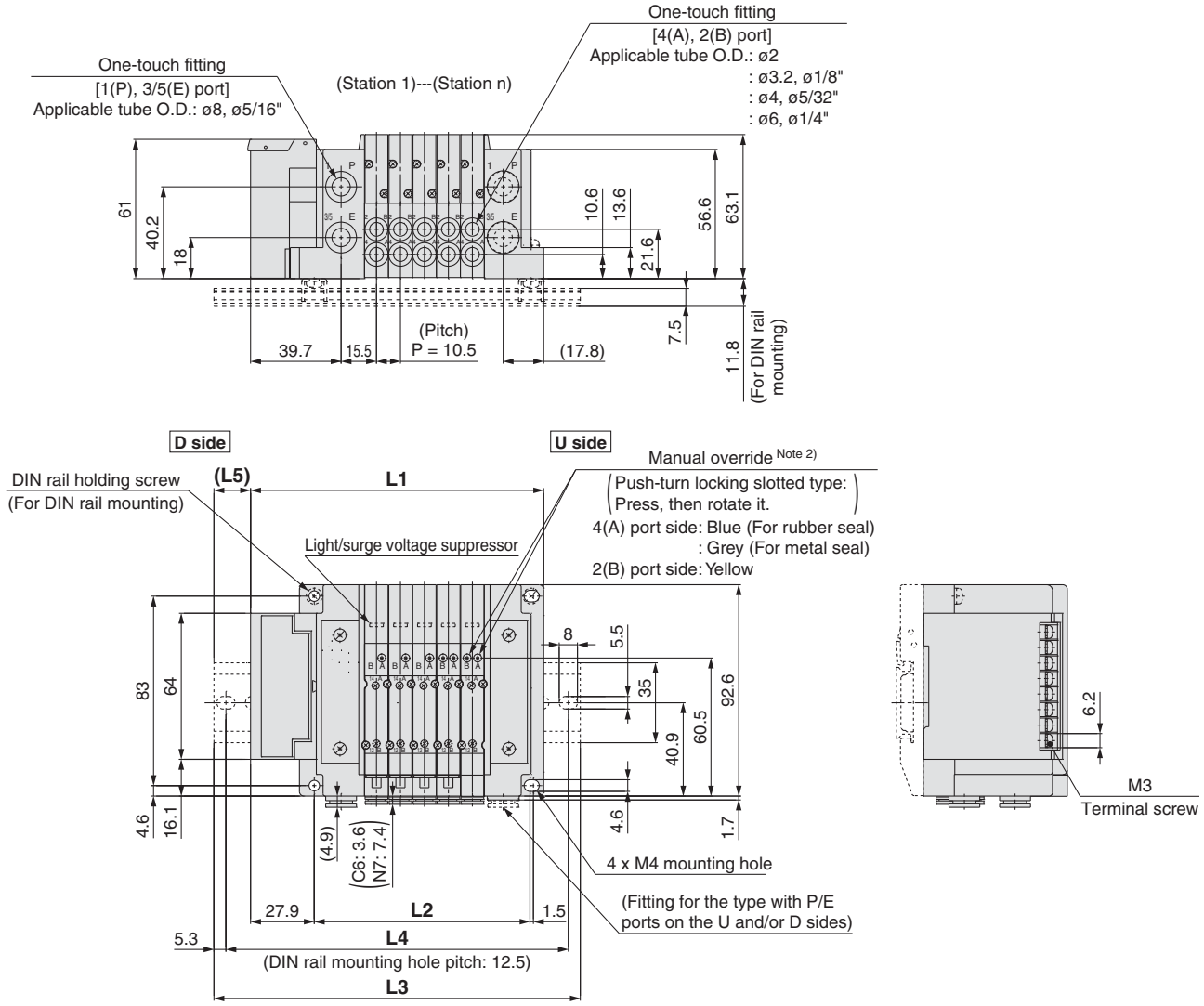
⓫ Type of mounting screw

—	Round head combination screw
B	Hexagon socket head cap screw
K	Round head combination screw (Falling-out-prevention type)
H	Hexagon socket head cap screw (Falling-out-prevention type)

* For "K" and "H", the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance etc.
* When ordering a valve individually, the base gasket is not included. Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance service.
  Refer to page 136 for part numbers of the base gasket and mounting screw.
* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly or double check spacer assembly with residual pressure release valve.

Dimensions: Type 10/EX120/Series SY3000

SS5Y3-10S3□-Stations U/D/B - C2/C3, N1/C4, N3/C6, N7 (D)

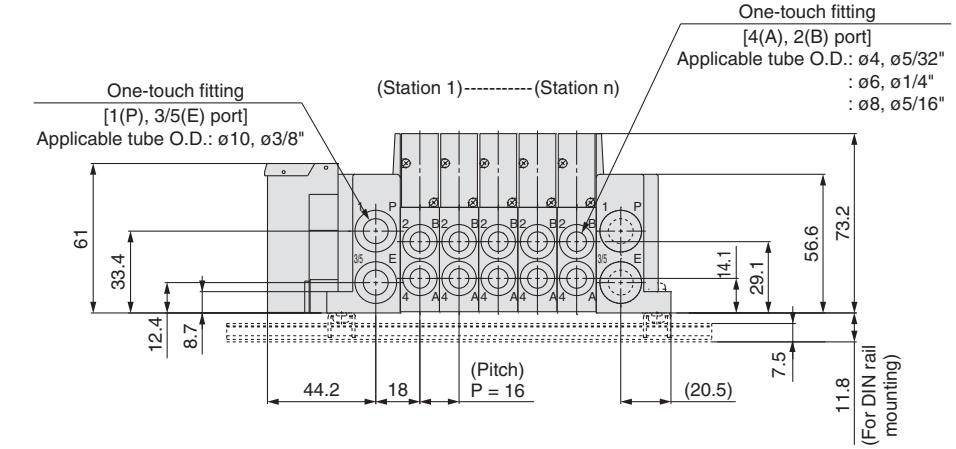


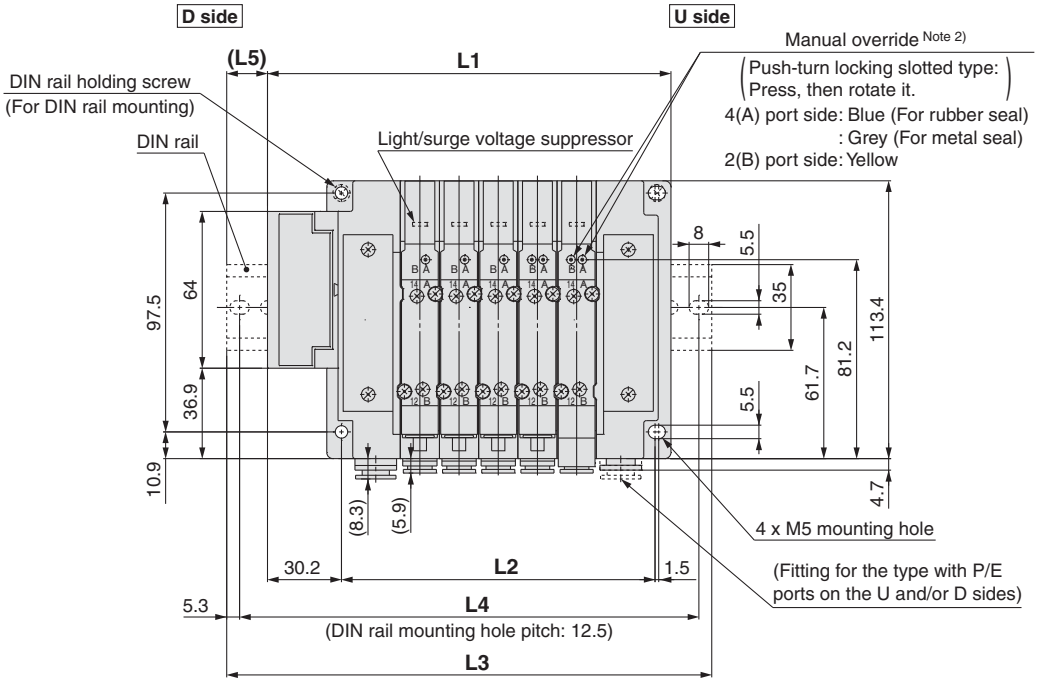
Note 1) These figures show the "SS5Y3-10S3□-05D-C6".
Note 2) Refer to page 121 for dimensions of external pilot, silencer, elbow fittings and slide locking manual override.
Note 3) Refer to page 124 for dimensions of A or B port top-ported type.

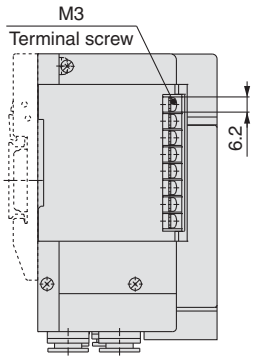
n: Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	96.9	107.4	117.9	128.4	138.9	149.4	159.9	170.4	180.9	191.4	201.9	212.4	222.9	233.4	243.9
L2	63	73.5	84	94.5	105	115.5	126	136.5	147	157.5	168	178.5	189	199.5	210
L3	123	135.5	148	160.5	173	173	185.5	198	210.5	223	235.5	235.5	248	260.5	273
L4	112.5	125	137.5	150	162.5	162.5	175	187.5	200	212.5	225	225	237.5	250	262.5
L5	13	14	15	16	17	12	13	14	15	16	17	11.5	12.5	13.5	14.5

Dimensions: Type 10/EX120/Series SY5000

SS5Y5-10S3□-Stations U C4, N3 / D C6, N7 / B C8, N9 (D)







Note 1) These figures show the "SS5Y5-10S3□-05D-C8".
Note 2) Refer to page 122 for dimensions of external pilot, silencer, elbow fittings and slide locking manual override.
Note 3) Refer to page 125 for dimensions of A or B port top-ported type.

n: Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	116.7	132.7	148.7	164.7	180.7	196.7	212.7	228.7	244.7	260.7	276.7	292.7	308.7	324.7	340.7
L2	80	96	112	128	144	160	176	192	208	224	240	256	272	288	304
L3	148	160.5	173	198	210.5	223	248	260.5	273	285.5	310.5	323	335.5	348	373
L4	137.5	150	162.5	187.5	200	212.5	237.5	250	262.5	275	300	312.5	325	337.5	362.5
L5	15.5	14	12	16.5	15	13	17.5	16	14	12.5	17	15	13.5	11.5	16

Plug-in Connector Connecting Base

EX120

Type 12
Top Ported

Series SY3000/5000

RoHS

How to Order Manifold

SS5Y 3 – 12S3 R1 – 05 U □ – □ □

❶ ❷ ❸ ❹ ❺ ❻ ❼

Refer to pages 124 and 125 for dimensions of Type 12/Top ported type.

❶ Series

3	SY3000
5	SY5000

❷ SI unit

0	Without SI unit
Q	DeviceNet™(Positive common NPN)
R1	OMRON Corp.: CompoBus/S (16 outputs) (Positive common NPN)
R2	OMRON Corp.: CompoBus/S (8 outputs) (Positive common NPN)
V	CC-Link (Positive common NPN)
ZB	CompoNet™ (Positive common NPN)
ZBN	CompoNet™ (Negative common PNP)

Note 1) Ensure a match with the common specifications of the value to be used.

❸ Valve stations

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
08	8 stations	
02	2 stations	Specified layout Note 2) (Available up to 16 solenoids)
⋮	⋮	
16	16 stations	

Note 1) Double wiring: 2-position single, double, 3-position and 4-position valves can be used on all manifold stations. Use of a 2-position single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.

Note 2) Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.)

Note 3) This also includes the number of blanking plate assembly.

Note 4) Since R2 type SI unit has 8 outputs, note that up to 8 solenoids can be accommodated.

❹ P, E port entry

U Note)	U side (2 to 10 stations)
D Note)	D side (2 to 10 stations)
B	Both sides (2 to 16 stations)

Note) ❺ For type "S", supply/exhaust block assembly with built-in silencer, choose U or D for P port entry.

❺ SUP/EXH block assembly

—	Internal pilot
S	Internal pilot, Built-in silencer
R	External pilot

∗ For built-in silencer type, P and E ports are available on U and D sides. 3/5(E) port is plugged. The silencer exhaust port is located on the opposite side of P, E port entry. (Example: When the P, E port entry is D side, the silencer exhaust port is U side.)

❻ P, E port size (One-touch fittings)

Symbol	SY3000	SY5000
—	ø8	ø10
N	ø5/16"	ø3/8"

∗ For N, sizes are in inches.

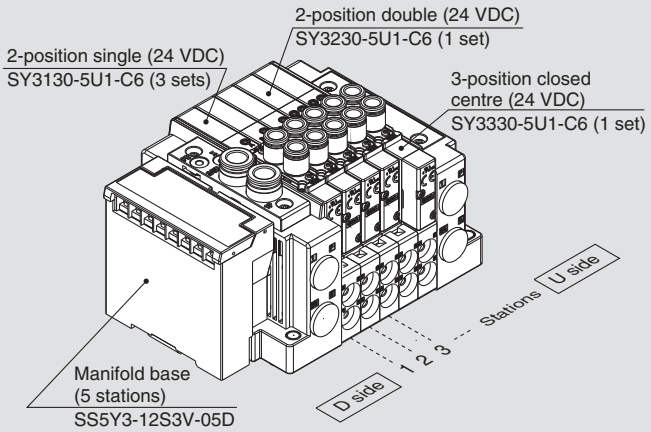
❼ Mounting

—	Direct mounting	
D	DIN rail mounting (With DIN rail)	
D0	DIN rail mounting (Without DIN rail)	
D3	For 3 stations	Specify a longer rail than the standard length.
⋮	⋮	
D16	For 16 stations	

∗ When mounted on the DIN rail without the SI unit, please select D0 and refer to L3 of the dimensions for the DIN rail length, then order separately. (Refer to page 140 for the DIN rail part number.)

How to Order Manifold Assembly

Example (SS5Y3-12S-□-□)



SS5Y3-12S3V-05D ··· 1 set (Type 12 5-station manifold base part no.)
∗SY3130-5U1-C6 ····· 3 sets (2-position single part no.)
∗SY3230-5U1-C6 ····· 1 set (2-position double part no.)
∗SY3330-5U1-C6 ····· 1 set (3-position closed centre part no.)
The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the valve, etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on a manifold specification sheet.

Refer to Reduced Wiring Fieldbus System (Serial Transmission) in Electric Products (CAT.E150) for details on the EX120 Integrated-type (For Output) Serial Transmission System.

How to Order Valves (With two mounting screws)

Refer to page 8 for valve specifications.

SY 3 1 3 0 ❶ ❷ ❸ ❹ ❺ ❻ ❼ – 5 ❽ ❾ ❿ 1 – C6 ⓫ ⓬ – ⓭

❸ Top ported

❶ Series

3	SY3000
5	SY5000

❷ Type of actuation

1	2-position single
2	2-position double
3	3-position closed centre
4	3-position exhaust centre
5	3-position pressure centre
A*	4-position dual 3-port valve (N.C./N.C.)
B*	4-position dual 3-port valve (N.O./N.O.)
C*	4-position dual 3-port valve (N.C./N.O.)

* Only rubber seal type is available for the 4-position dual 3-port valve.

❸ Seal type

0	Rubber seal
1	Metal seal

❹ Pilot type

—	Internal pilot
R	External pilot

❺ Back pressure check valve (Built-in valve type)

—	None
H	Built-in

* Only rubber seal type. Manifold installed type is available if the back pressure check valve is required for a valve with metal seal. Refer to page 147 for Ordering Example. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.
* The built-in valve type back pressure check valve is not available for the 3-position type.

❻ Pilot valve option

—	Standard (0.7 MPa)
B	Quick response type (0.7 MPa)
K*	High pressure type (1.0 MPa)

* Only metal seal type is available for the high pressure type.

❼ Coil type

—	Standard
T	With power saving circuit (Continuous duty type)

* Be sure to select the power saving circuit type when the valve is continuously energized for long periods of time.
* Note the specified energizing time when power saving circuit is selected. Refer to page 154.

❽ Rated voltage

5	24 VDC

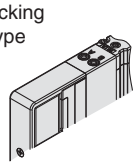
❾ Light/surge voltage suppressor and common specification

R	With surge voltage suppressor (Non-polar)
U	With light/surge voltage suppressor (Non-polar)
S	With surge voltage suppressor (Positive common)
Z	With light/surge voltage suppressor (Positive common)
NS	With surge voltage suppressor (Negative common)
NZ	With light/surge voltage suppressor (Negative common)

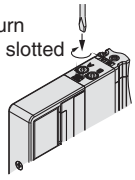
* Select a valve from R, U, S or Z when the SI unit specification is ZBV (Positive common). Select a valve from R, U, NS or NZ when the SI unit specification is ZBN (Negative common).
* Only "Z" and "NZ" types are available for the product with power saving circuit.

❿ Manual override

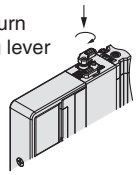
—: Non-locking push type



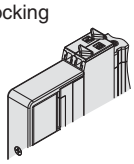
D: Push-turn locking slotted type



E: Push-turn locking lever type



F: Slide locking type



⓫ A, B port size

Thread piping

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

One-touch fitting (Metric)

Symbol	A, B port	SY3000	SY5000
C2	ø2 One-touch fitting	●	—
C3	ø3.2 One-touch fitting	●	—
C4	ø4 One-touch fitting	●	●
C6	ø6 One-touch fitting	●	●
C8	ø8 One-touch fitting	—	●

One-touch fitting (Inch)

Symbol	A, B port	SY3000	SY5000
N1	ø1/8" One-touch fitting	●	—
N3	ø5/32" One-touch fitting	●	●
N7	ø1/4" One-touch fitting	●	●
N9	ø5/16" One-touch fitting	—	●

⓬ Thread type

—	Rc
F	G
N	NPT
T	NPTF

* Only — is available for M5.

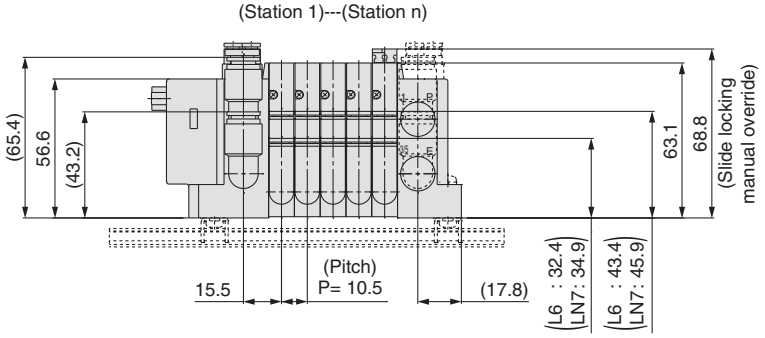
⓭ Type of mounting screw

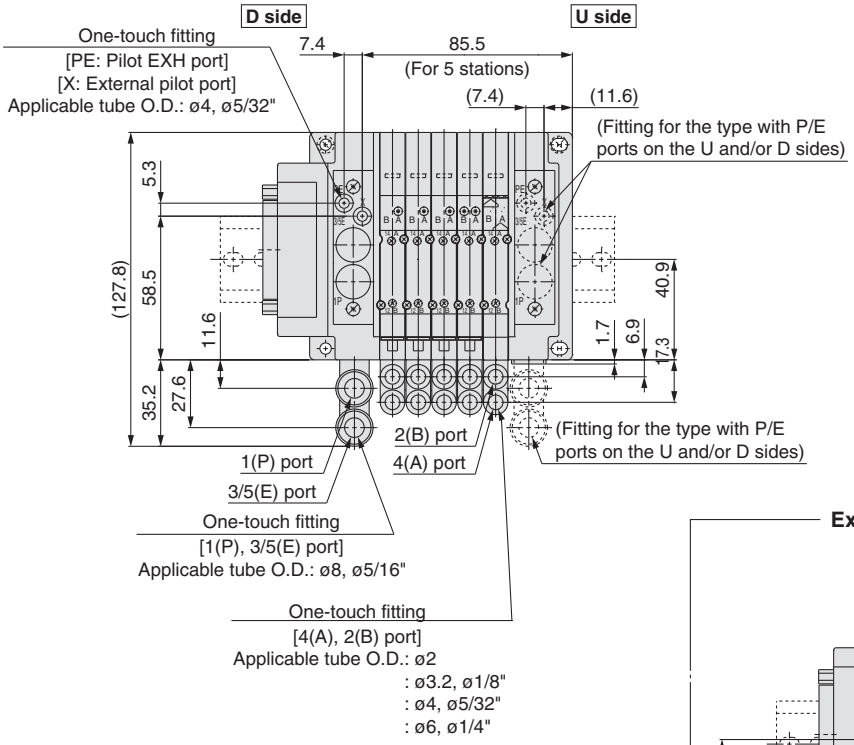
—	Round head combination screw
B	Hexagon socket head cap screw
K	Round head combination screw (Falling-out-prevention type)
H	Hexagon socket head cap screw (Falling-out-prevention type)

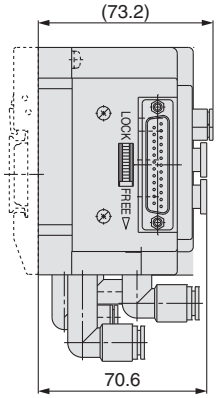
* For "K" and "H", the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance etc.
* When ordering a valve individually, the base gasket is not included. Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance service.
  Refer to page 136 for part numbers of the base gasket and mounting screw.
* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly.

Dimensions: Type 10/External Pilot, Silencer, Elbow Fittings, Slide Locking Manual Override/Series SY3000

SS5Y3-10□-Stations U/D/B (S, R)-L/B□

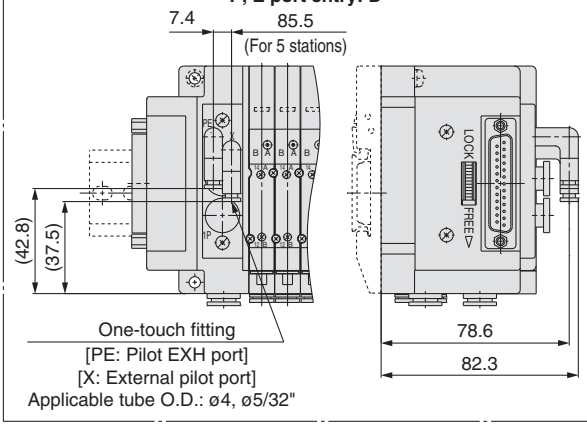




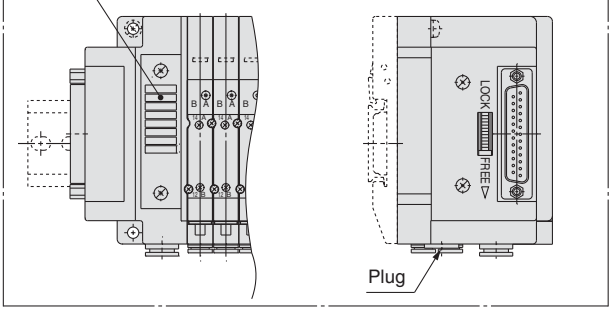


Note) These figures show the “SS5Y3-10F2-05DR-L6”.

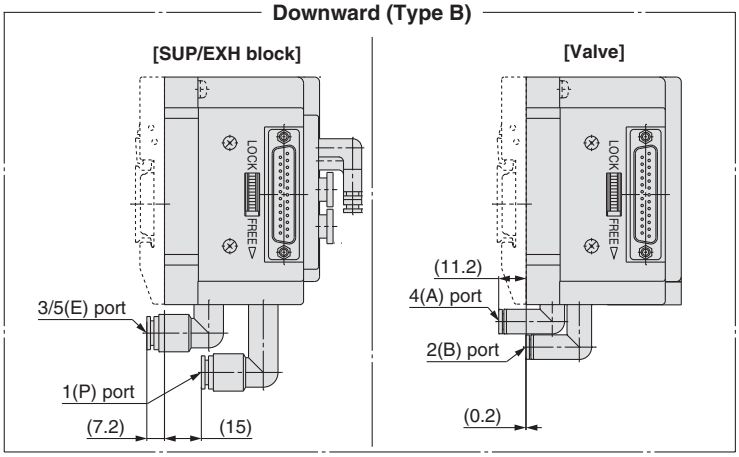
External pilot for straight piping
P, E port entry: D



Built-in silencer
<Internal pilot>
P, E port entry: D

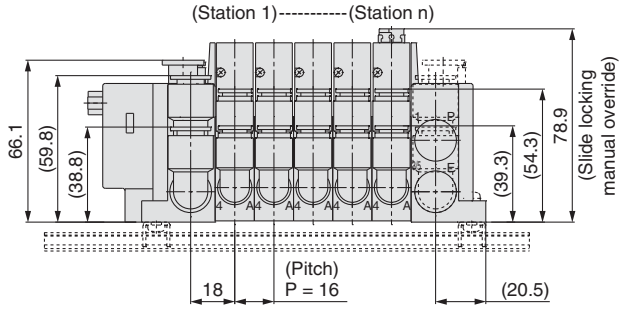


Downward (Type B)

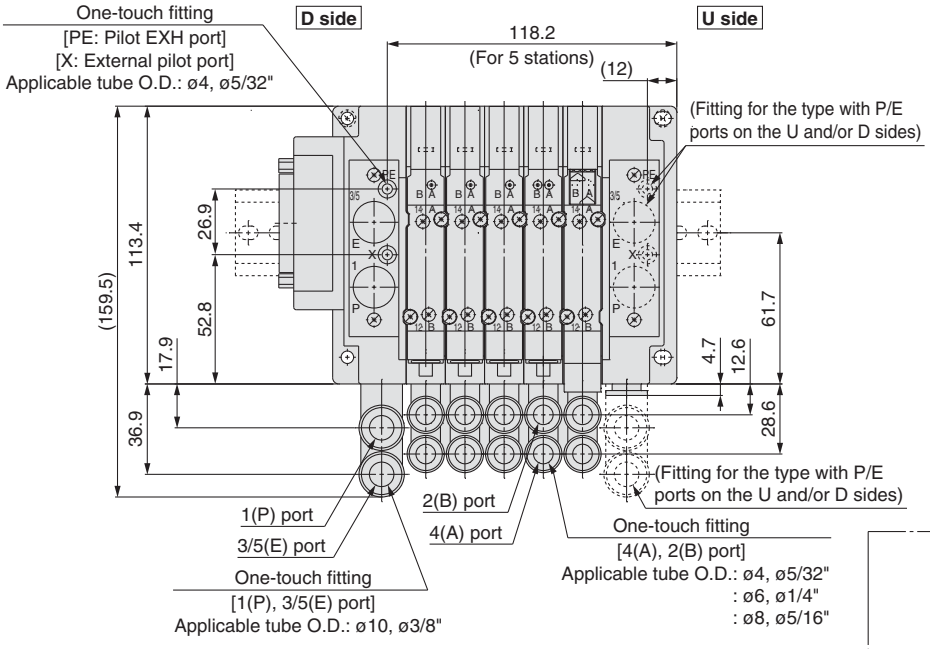


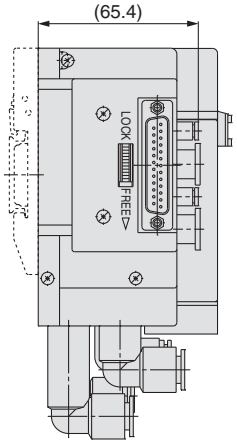
Dimensions: Type 10/External Pilot, Silencer, Elbow Fittings, Slide Locking Manual Override/Series SY5000

SS5Y5-10□-Stations $\frac{U}{D}_{B}$(S, R)-$\frac{L}{B}$□

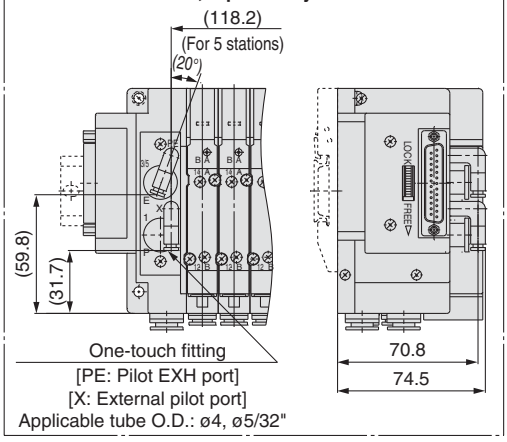


Note) These figures show the "SS5Y5-10F2-05DR-L8".

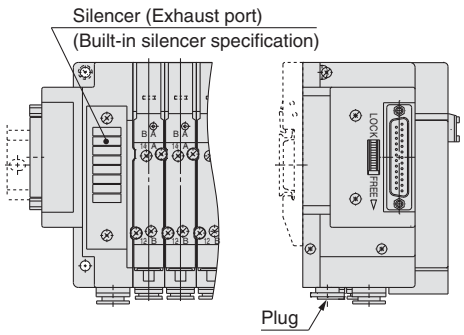




External pilot for straight piping
P, E port entry: D

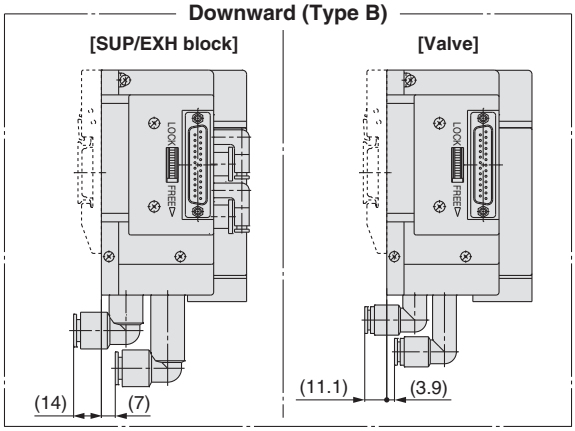


Built-in silencer
P, E port entry: D

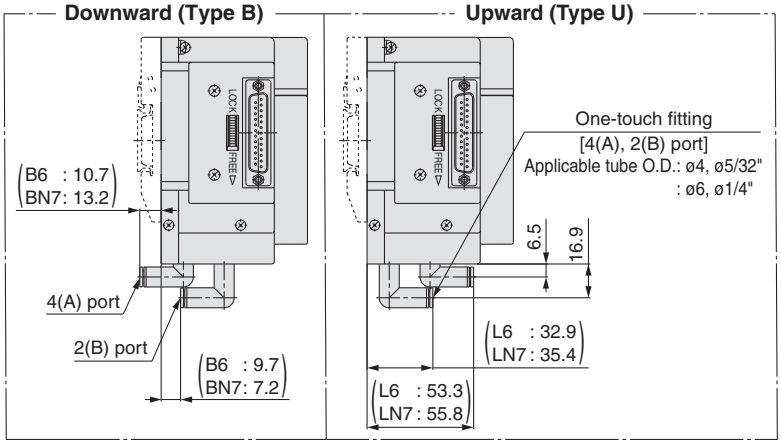


Valve/Series SY3000 (Mixed Mounting)

Downward (Type B)

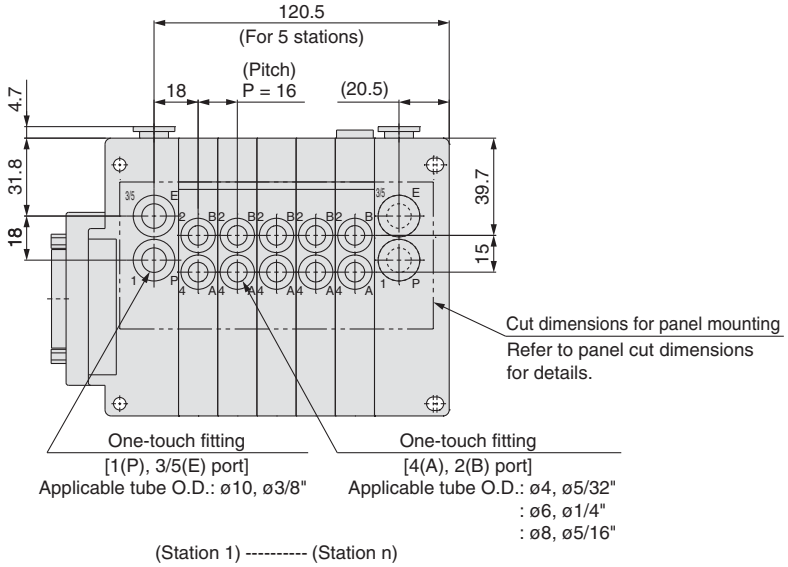


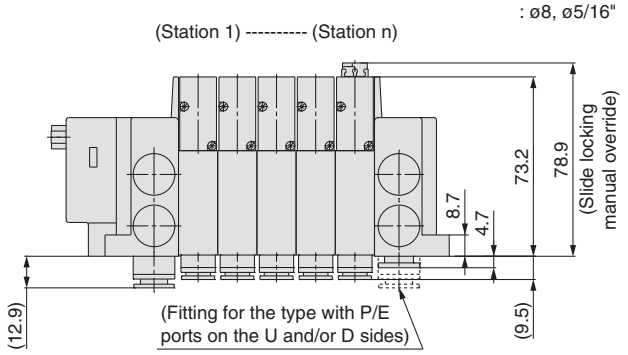
Downward (Type B) **Upward (Type U)**

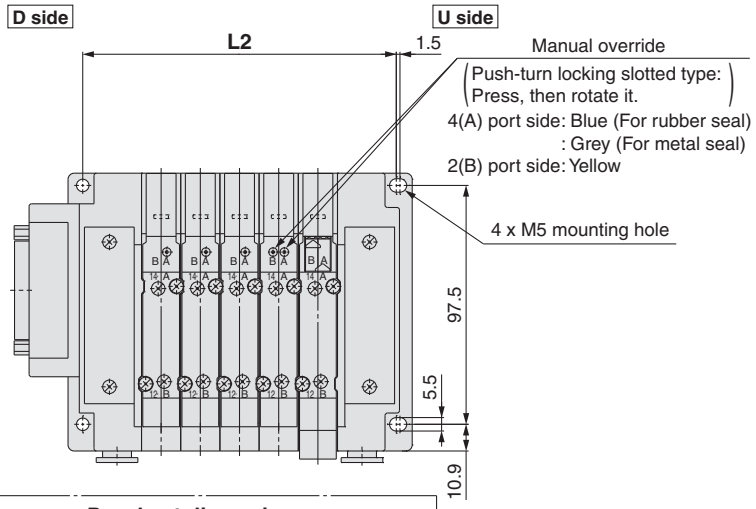


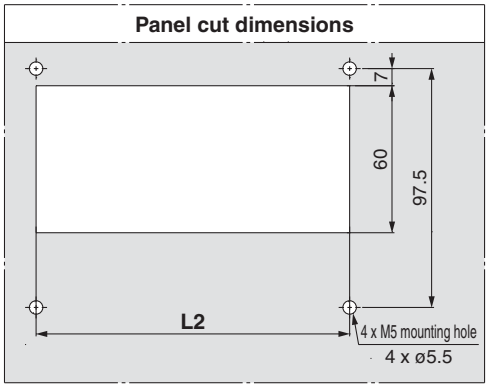
Dimensions: Type 11/All Wirings/Series SY5000

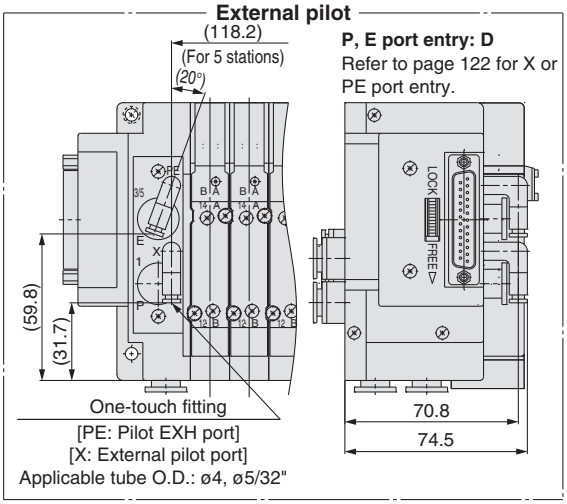
SS5Y5-11□-Stations U D B

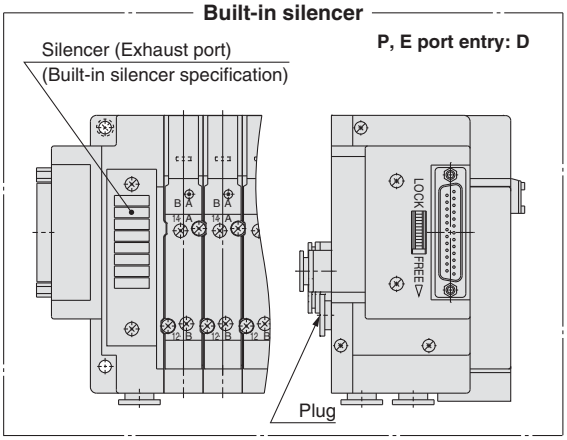


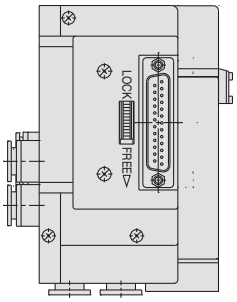










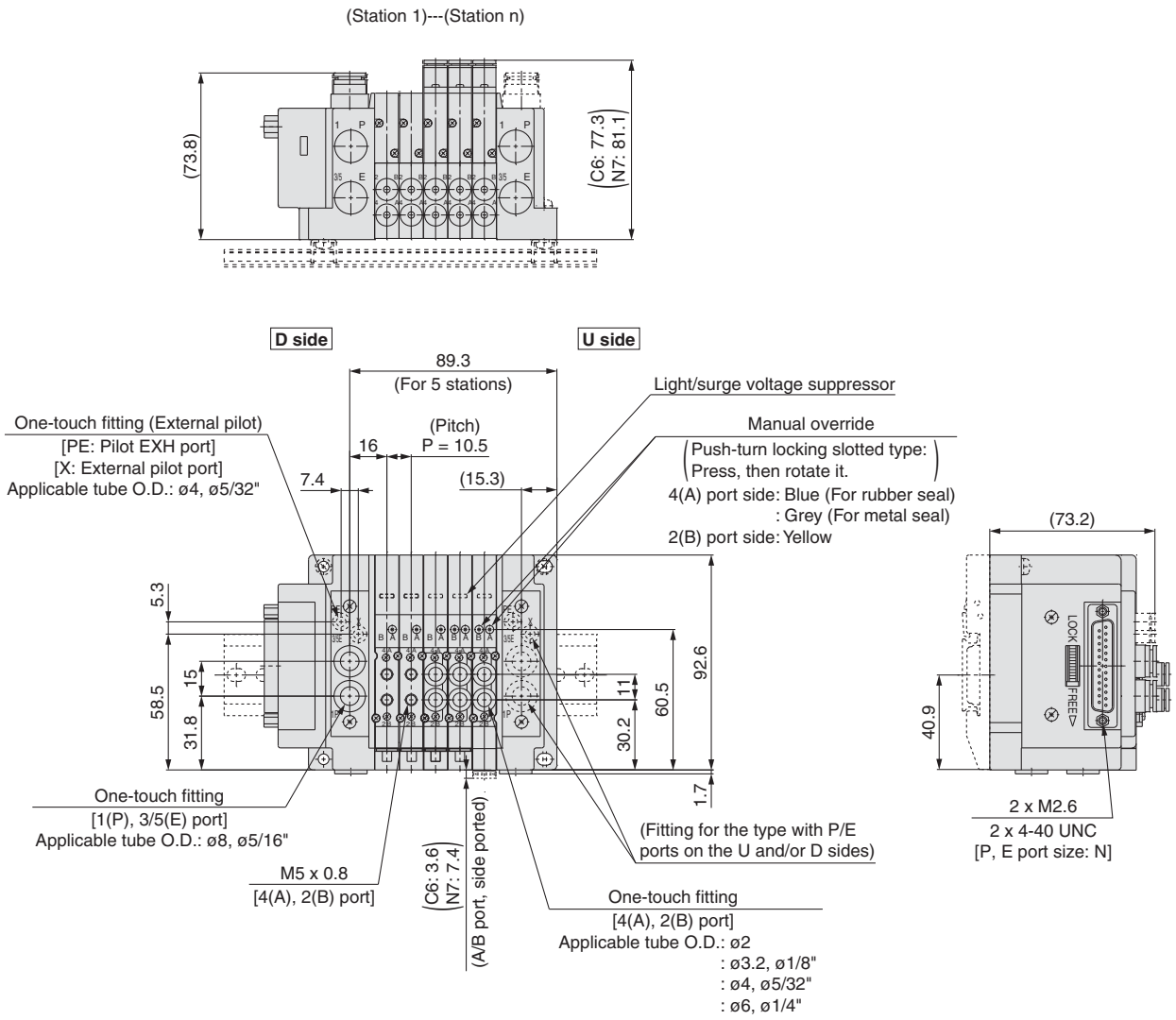


Note 1) These figures show the "SS5Y5-11F2-05D-C8".
Note 2) Refer to the below pages for L2 dimensions and other dimensions that are not specified in each wiring specification.

D-sub connector : P. 52
Flat ribbon cable : P. 54
Terminal block box: P. 62
Lead wire : P. 70
Circular connector : P. 78
EX500 : P. 86
EX600 : P. 93, 94
EX250 : P. 100
EX260 : P. 106
EX126 : P. 112
EX120 : P. 118

Dimensions: Type 12/All Wirings/Series SY3000

SS5Y3-12□-Stations U/D/B (R)

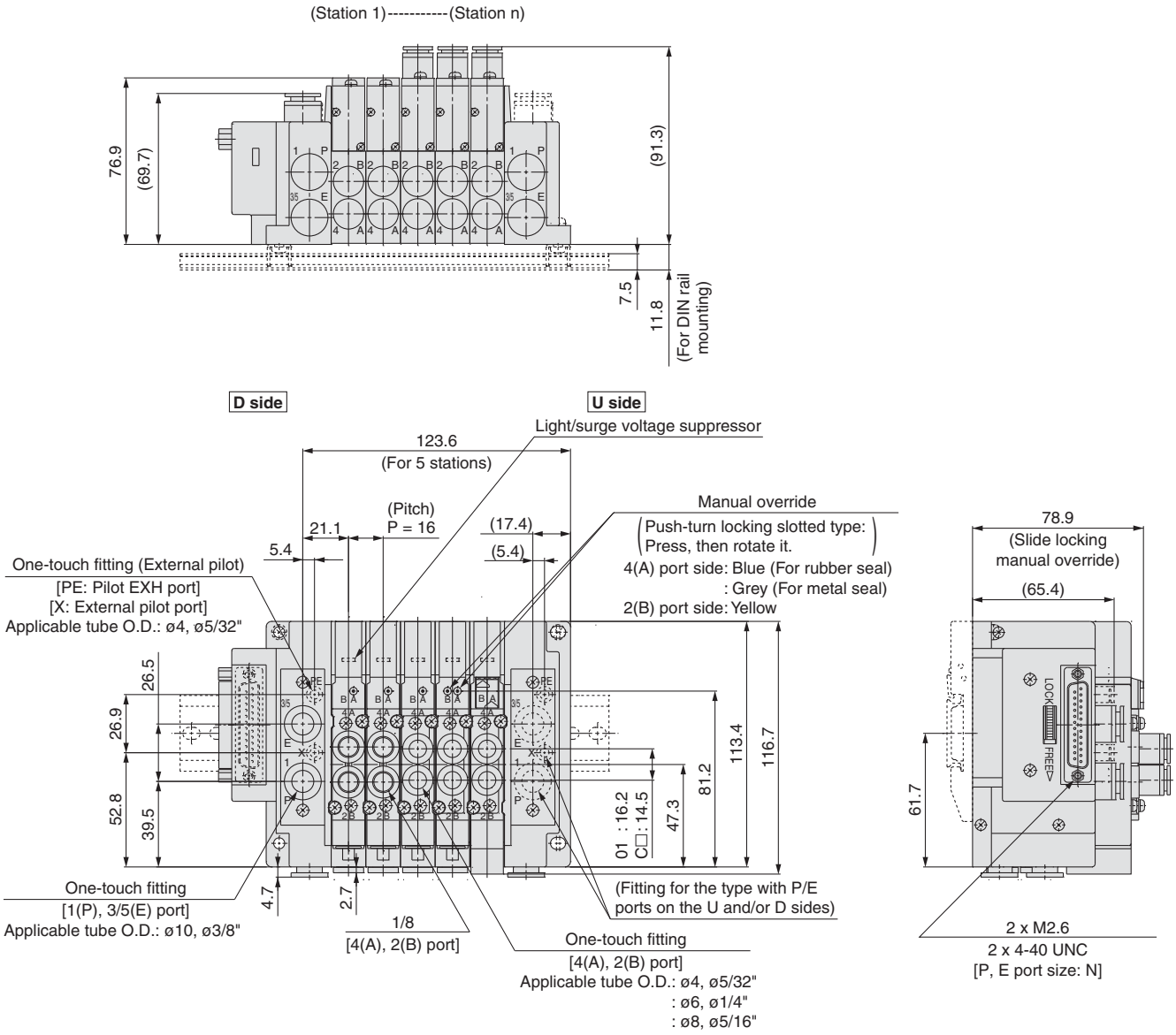


Note 1) These figures show the "SS5Y3-12F2-05D".
Note 2) For built-in silencer type, a silencer is mounted on the opposite side of U or D side with P or E port. Refer to page 121 for dimensions of silencer.
Note 3) Refer to the below pages for dimensions that are not specified in each wiring specification.

D-sub connector	: P. 51
Flat ribbon cable	: P. 53
Terminal block box:	P. 61
Lead wire	: P. 69
Circular connector :	P. 77
EX500	: P. 85
EX600	: P. 91, 92
EX250	: P. 99
EX260	: P. 105
EX126	: P. 111
EX120	: P. 117

Dimensions: Type 12/All Wirings/Series SY5000

SS5Y5-12□-Stations U/D/B (R)



Note 1) These figures show the “SS5Y5-12F2-05D”.
Note 2) For built-in silencer type, a silencer is mounted on the opposite side of U or D side with P or E port. Refer to page 122 for dimensions of silencer.
Note 3) Refer to the below pages for dimensions that are not specified in each wiring specification.

D-sub connector	: P. 52
Flat ribbon cable	: P. 54
Terminal block box:	P. 62
Lead wire	: P. 70
Circular connector	: P. 78
EX500	: P. 86
EX600	: P. 93, 94
EX250	: P. 100
EX260	: P. 106
EX126	: P. 112
EX120	: P. 118

Type 10 Side Ported

Type 11 Bottom Ported

Plug-in Connector Connecting Base: Plug-in Mixed Mounting Type Manifold

D-sub Connector (IP40/IP67) | Flat Ribbon Cable (IP40) | PC Wiring (IP40) | Terminal Block Box (IP67) | Lead Wire (IP67) | Circular Connector (IP67) | EX500 (IP67) | EX600 (IP67) | EX250 (IP67) | EX260 (IP67) | EX126 (IP67) | EX120 (IP20)

Series SY3000/5000

The SY3000 can be mounted onto the SY5000 size manifold.

How to Order Manifold

Refer to page 130 for dimensions of Type 11/Bottom ported type.

SS5Y5 – M 10 F 1 – 05 U □ – C 8 6 □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿

Mixed Mounting Type

It is possible to mount the SY3000 size valves on all stations. In this case, there is no need to fill in part ❽ in the order code. However, the manifold block width should be 12.5 mm.

❶ Type

10	Side ported
11	Bottom ported

❷ Connector type

Symbol	Type	Page
F	D-sub connector (25 pins, IP40)	P. 49
FW	D-sub connector (25 pins, IP67)	
P	Flat ribbon cable (26 pins)	
PG	Flat ribbon cable (20 pins)	
PH	Flat ribbon cable (10 pins)	
J	PC wiring (20 pins)	
T	Terminal block box	P. 59
L1	Lead wire 34 cores	P. 67
L2	Lead wire 17 cores	
L3	Lead wire 9 cores	
M	Circular connector	P. 75
S□	Serial transmission: EX500	P. 83
S6□	Serial transmission: EX600	P. 89
S□	Serial transmission: EX250	P. 97
S□	Serial transmission: EX260	P. 103
S4□	Serial transmission: EX126	P. 109
S3□	Serial transmission: EX120	P. 115

∗ Refer to the pages shown in the table above for details.

❸

• With Lead wire

Lead wire length

1	0.6 m
2	1.5 m
3	3 m

• With D-sub connector, Flat ribbon cable and PC wiring

Connector entry direction

1	Upward
2	Lateral

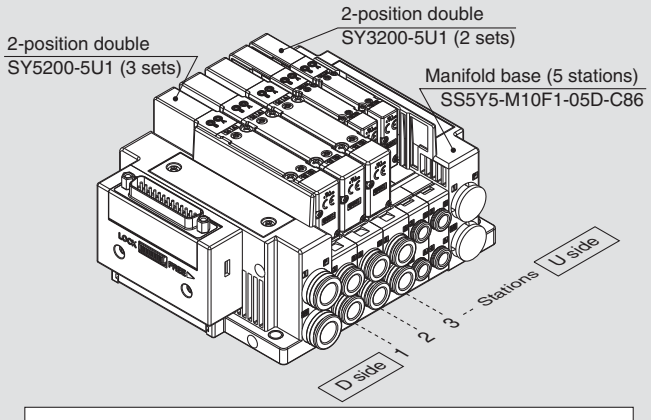
∗ It is not necessary to select the items above for the valve with terminal block box or with circular connector or the serial transmission type.

❹ Valve stations

Symbol	Stations	Note
02	2 stations	Some connectors have a limitation on the number of stations. Refer to the pages shown in the table "Connector type" for details.
⋮	⋮	
24	24 stations	

How to Order Manifold Assembly

Example (SS5Y5-M10F1-□)



SS5Y5-M10F1-05D-C86 ··· 1 set (Type M10 5-station manifold base part no.)
∗SY5200-5U1 ····· 3 sets (2-position double part no.)
∗SY3200-5U1 ····· 2 sets (2-position double part no.)
→ The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the valve, etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on a manifold specification sheet.

Note) When mixing top ported configurations, select from page 132. In this case, use caution as there is also output on the A and B port on base side. Specify on a manifold specification sheet if plugs are required on the A and B port on base side.

❺ P, E port entry

U	U side (2 to 10 stations)
D	D side (2 to 10 stations)
B	Both sides (2 to 24 stations)

∗ Refer to page 89 for the EX600 and ❼ on page 97 for the EX250.

❻ SUP/EXH block assembly

—	Internal pilot
S	Internal pilot, Built-in silencer
R	External pilot

∗ 3/5(E) port is plugged for the built-in silencer type.
∗ Refer to page 89 for the EX600 and ❼ on page 97 for the EX250.

Refer to the page on the right for ❼, ❽ and ❾.

❿ Mounting and Option

Symbol	Mounting	Option
—	Direct mounting	None
AA		Name plate (With station number)
BA		Name plate (Without station number)
D□	DIN rail mounting	Without name plate
A□		Name plate (With station number)
B□		Name plate (Without station number)

Note 1) Enter the number of stations inside □. (Refer to "DIN Rail Option" below.)
Note 2) Only direct mounting is available for Type 11 (Bottom ported).

DIN Rail Option

—	Direct mounting	
0	Without DIN rail (with bracket)	
3	For 3 stations	Specify a longer rail than the total length of specified stations. [The SY5000 valve is now at a mountable length (manifold block length of 16 mm).]
⋮	⋮	
24	For 24 stations	

∗Refer to page 129 to determine the L3 using "Calculation formula" for the DIN rail length.

❼ Fitting type

Symbol	A, B port
C	Metric size: Straight One-touch fitting
L	Metric size: One-touch fitting with upward elbow Note)
B	Metric size: One-touch fitting with downward elbow Note)
N	Inch size: Straight One-touch fitting
LN	Inch size: One-touch fitting with upward elbow Note)
BN	Inch size: One-touch fitting with downward elbow Note)
CM*	Straight port, mixed sizes
LM*	Elbow port, mixed sizes (Including upward and downward piping)

Note) To avoid interference with the body or piping, select downward elbow port when mounting the optional spacer assembly (pages 141 to 143).
* Indicate the sizes on the manifold specification sheet in the case of "CM", "LM".
* The direction of P, E port fittings is the same as for A, B port. If selecting "LM", indicate it on the manifold specification sheet for the P, E port fitting direction.
* Elbow fittings: ø2, ø3.2 and ø1.8" are not available for the SY3000 series. ø2, ø3.2, ø1.8" and ø5/32" are not available for the SY5000 series.

❽ SY5000: A, B port size

(Metric)

Symbol	Port size
4	ø4 One-touch fitting
6	ø6 One-touch fitting
8	ø8 One-touch fitting
—	For all stations of SY3000

(Inch)

Symbol	Port size
3	ø5/32" One-touch fitting
7	ø1/4" One-touch fitting
9	ø5/16" One-touch fitting
—	For all stations of SY3000

* No symbol needs to be specified when fitting type "CM", "LM" is selected.

❾ SY3000: A, B port size

(Metric)

Symbol	Port size
2	ø2 One-touch fitting
3	ø3.2 One-touch fitting
4	ø4 One-touch fitting
6	ø6 One-touch fitting
8	ø8 One-touch fitting Note)

(Inch)

Symbol	Port size
1	ø1/8" One-touch fitting
3	ø5/32" One-touch fitting
7	ø1/4" One-touch fitting
9	ø5/16" One-touch fitting Note)

Note) The valve pitch is the same as the SY5000.
* No symbol needs to be specified when fitting type "CM", "LM" is selected.

How to Order Valves (With two mounting screws)

Refer to page 8 for valve specifications.

SY 3 1 0 0 □ □ □ □ – 5 □ □ 1 – □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫

● Base mounted

❶ Series

3	SY3000
5	SY5000

❷ Type of actuation

1	2-position single
2	2-position double
3	3-position closed centre
4	3-position exhaust centre
5	3-position pressure centre
A*	4-position dual 3-port valve (N.C./N.C.)
B*	4-position dual 3-port valve (N.O./N.O.)
C*	4-position dual 3-port valve (N.C./N.O.)

* Only rubber seal type is available for the 4-position dual 3-port valve.

❸ Seal type

0	Rubber seal
1	Metal seal

❹ Pilot type

—	Internal pilot
R	External pilot

❺ Back pressure check valve (Built-in valve type)

—	None
H	Built-in

* Only rubber seal type. Manifold installed type is available if back pressure check valve is required for the valve with metal seal. Refer to page 147 for Ordering Example. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.
* The built-in valve type back pressure check valve is not available for the 3-position type.

❻ Pilot valve option

—	Standard (0.7 MPa)
B	Quick response type (0.7 MPa)
K*	High pressure type (1.0 MPa)

* Only metal seal type is available for the high pressure type.

❼ Coil type

—	Standard
T	With power saving circuit (Continuous duty type)

* Be sure to select the power saving circuit type when the valve is continuously energized for long periods of time.
* Note the specified energizing time when power saving circuit is selected. Refer to page 154.

❽ Rated voltage

5	24 VDC
6	12 VDC

* Only 24 VDC is available for the serial transmission type.

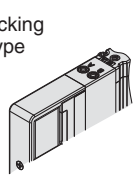
❾ Light/surge voltage suppressor and common specification

—	Without light/surge voltage suppressor (Non-polar)
R	With surge voltage suppressor (Non-polar)
U	With light/surge voltage suppressor (Non-polar)
S	With surge voltage suppressor (Positive common)
Z	With light/surge voltage suppressor (Positive common)
NS	With surge voltage suppressor (Negative common)
NZ	With light/surge voltage suppressor (Negative common)

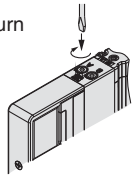
* "—" is not available for the SI unit manifold.
* Only "Z" and "NZ" types are available for the product with power saving circuit. Select a valve which is suited to the SI unit output polarity or SI unit specification when the SI unit is selected.
Refer to the pages below for details.
EX500: P. 84 EX600: P. 90 EX250: P. 98
EX260: P. 104 EX126: P. 110 EX120: P. 116

❿ Manual override

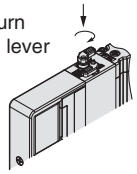
—: Non-locking push type



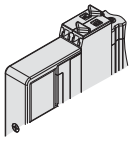
D: Push-turn locking slotted type



E: Push-turn locking lever type



F: Slide locking type



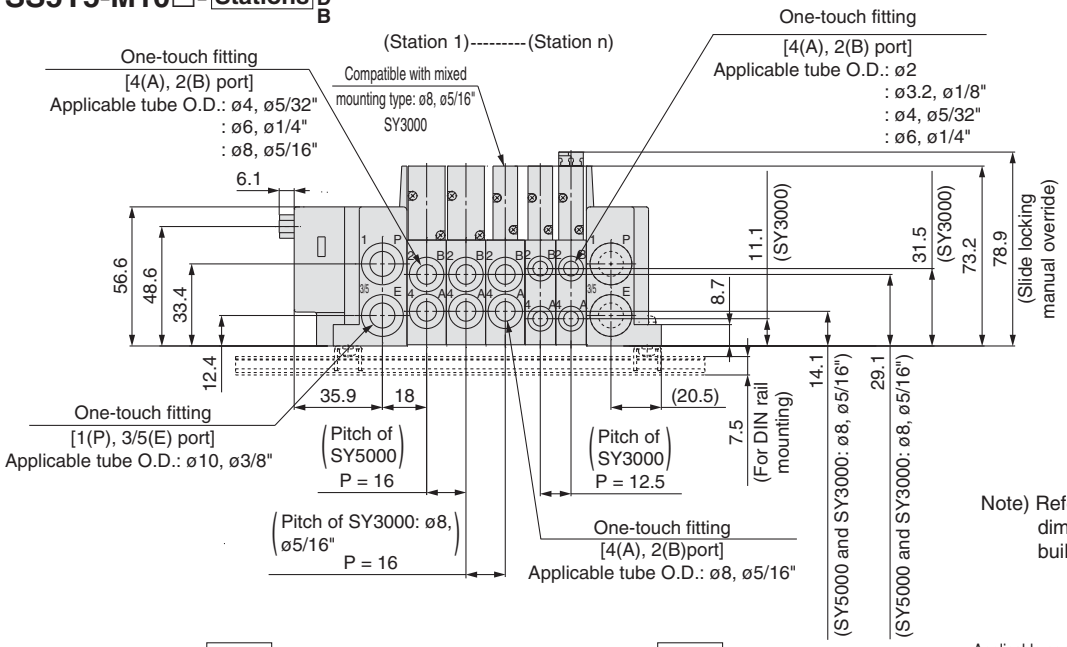
⓫ Type of mounting screw

—	Round head combination screw
B	Hexagon socket head cap screw
K	Round head combination screw (Falling-out-prevention type)
H	Hexagon socket head cap screw (Falling-out-prevention type)

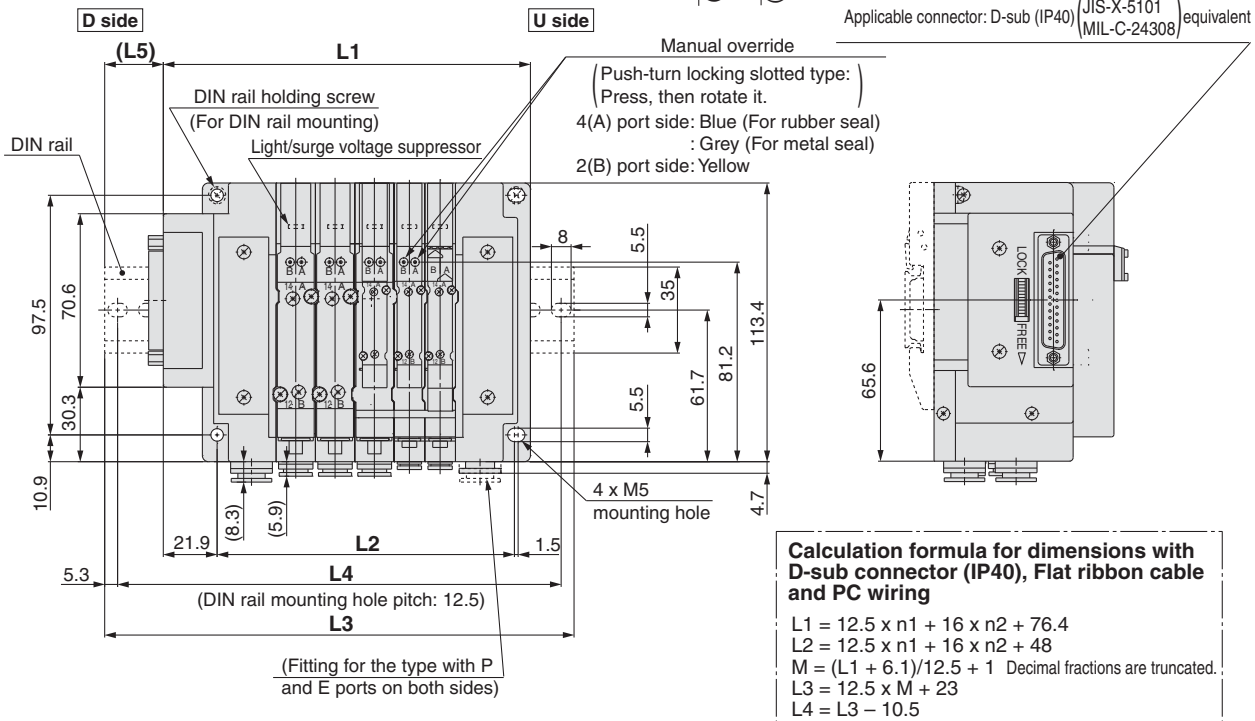
* For "K" and "H", the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance etc.
* When ordering a valve individually, the base gasket is not included. Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance service.
Refer to page 136 for part numbers of the base gasket and mounting screw.
* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly or double check spacer assembly with residual pressure release valve.

Dimensions: Type 10/Mixed Mounting

SS5Y5-M10□-Stations U D B



Note) Refer to pages 121 and 122 for dimensions of external pilot, built-in silencer and elbow fittings.



Calculation formula for dimensions with D-sub connector (IP40), Flat ribbon cable and PC wiring

L1 = 12.5 x n1 + 16 x n2 + 76.4
L2 = 12.5 x n1 + 16 x n2 + 48
M = (L1 + 6.1)/12.5 + 1 Decimal fractions are truncated.
L3 = 12.5 x M + 23
L4 = L3 – 10.5
L5 = (L3 – L1 + 6.1)/2

n1: Number of valve stations of the SY3000
n2: Number of valve stations of the SY5000
(Including the stations of the SY3000: ø8, ø5/16")

Calculation formula for dimensions with Terminal block box, Lead wire, Circular connector, EX500/600/250/260/126/120 serial transmission

L1 = 12.5 x n1 + 16 x n2 + a + b x n3
L2 = 12.5 x n1 + 16 x n2 x 48
M = L1/12.5 + 1 Decimal fractions are truncated.
L3 = 12.5 x M + 23
L4 = L3 – 10.5
L5 = (L3 – L1)/2
L6 = b x n3 + c

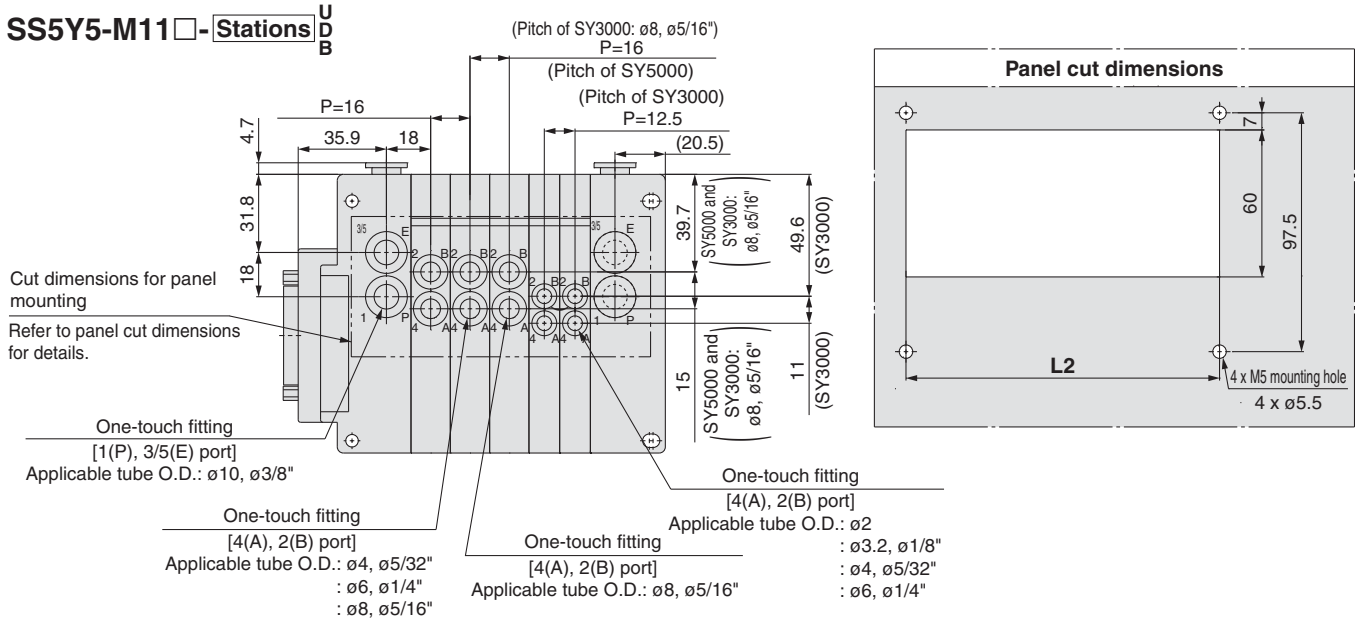
n1: Number of valve stations of the SY3000
n2: Number of valve stations of the SY5000
n3: Number of I/O units or input block stations

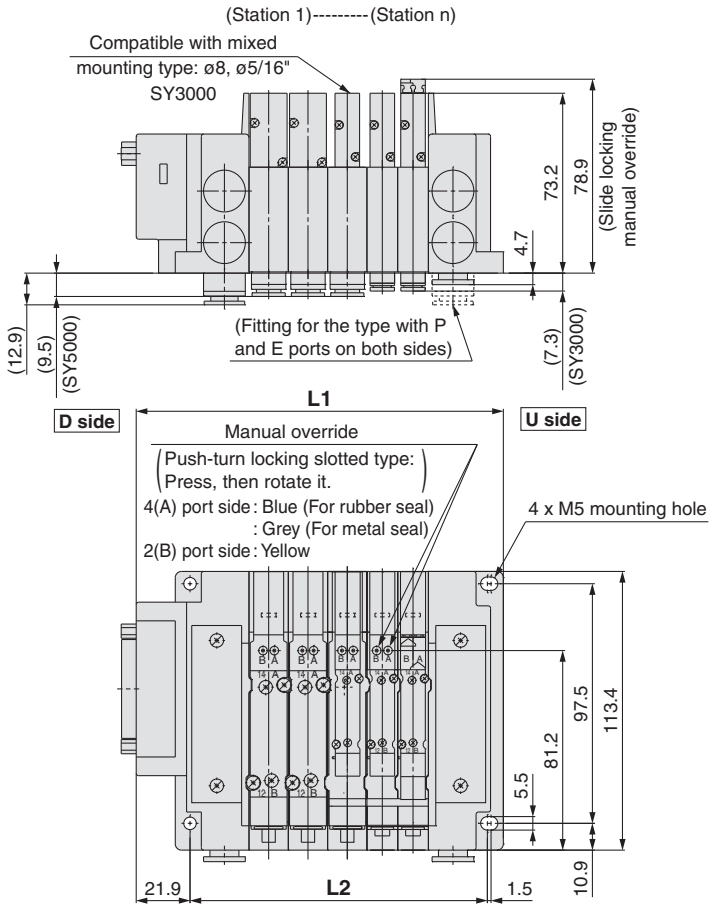
Note) Refer to pages 91 to 94 for dimensions of the EX600 serial transmission with I/O unit and pages 99 and 100 for the EX250 serial transmission with input block when L6, b and c are used for the calculation formula.

Coefficient	a	b	c
D-sub connector (IP40), Flat ribbon cable or Pc wiring	74.6	—	—
D-sub connector (IP67)	90.5	—	—
Terminal block box or Serial transmission: EX126	149.3	—	—
Lead wire or Circular connector	97	—	—
Serial transmission: EX500	88.5	—	—
Serial transmission: EX600 (M12 connector)	141.5	47	81.5
Serial transmission: EX600 (7/8 inch connector)	158	47	81.5
Serial transmission: EX250	141.5	21	81.5
Serial transmission: EX260	88.7	—	—
Serial transmission: EX120	84.7	—	—

Dimensions: Type 11/Mixed Mounting

SS5Y5-M11□-Stations U D B



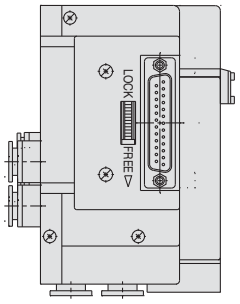


Calculation formula for dimensions

L1 = 12.5 x n1 + 16 x n2 + a + b x n3
L2 = 12.5 x n1 + 16 x n2 + 48
L6 = b x n3 + c

n1: Number of valve stations of the SY3000
n2: Number of valve stations of the SY5000
(Including the stations of the SY3000: ø8, ø5/16")
n3: Number of I/O units or input block stations

Note) Refer to pages 91 to 94 for dimensions of the EX600 serial transmission with I/O unit and pages 99 and 100 for the EX250 serial transmission with input block when L6, b and c are used for the calculation formula.



Coefficient	a	b	c
D-sub connector (IP40), Flat ribbon cable or PC wiring	74.6	—	—
D-sub connector (IP67)	90.5	—	—
Terminal block box or Serial transmission: EX126	149.3	—	—
Lead wire or Circular connector	97	—	—
Serial transmission: EX500	88.5	—	—
Serial transmission: EX600 (M12 connector)	141.5	47	81.5
Serial transmission: EX600 (7/8 inch connector)	158	47	81.5
Serial transmission: EX250	141.5	21	81.5
Serial transmission: EX260	88.7	—	—
Serial transmission: EX120	84.7	—	—

Note) Refer to page 123 for dimensions of external pilots and built-in silencers, as well as their panel cuts.

Plug-in Connector Connecting Base: Plug-in Mixed Mounting Type Manifold

D-sub Connector (IP40/IP67) | Flat Ribbon Cable (IP40) | PC Wiring (IP40)
Terminal Block Box (IP67) | Lead Wire (IP67) | Circular Connector (IP67) | EX500 (IP67)
EX600 (IP67) | EX250 (IP67) | EX260 (IP67) | EX126 (IP67) | EX120 (IP20)

Type 12
Top Ported

Series SY3000/5000

SY3000 can be mounted onto SY5000 size manifold.

How to Order Manifold

Refer to pages 124 and 125 for dimensions of Type 12/Top ported type.

SS5Y5 − M 12 F 1 − 05 U □ − □ □

❶ ❷ ❸ ❹ ❺ ❻ ❼

Mixed Mounting Type

It is possible to mount the SY3000 size valves on all stations. However, the manifold block width should be 12.5 mm.

❶ Connector type

Symbol	Type	Page
F	D-sub connector (25 pins, IP40)	P. 55
FW	D-sub connector (25 pins, IP67)	
P	Flat ribbon cable (26 pins)	
PG	Flat ribbon cable (20 pins)	
PH	Flat ribbon cable (10 pins)	
J	PC wiring (20 pins)	
T	Terminal block box	P. 63
L1	Lead wire 34 cores	P. 71
L2	Lead wire 17 cores	
L3	Lead wire 9 cores	
M	Circular connector	P. 79
S□	Serial transmission: EX500	P. 87
S6□	Serial transmission: EX600	P. 95
S□	Serial transmission: EX250	P. 101
S□	Serial transmission: EX260	P. 107
S4□	Serial transmission: EX126	P. 113
S3□	Serial transmission: EX120	P. 119

∗ Refer to the pages shown in the table above for details.

❷

• With Lead wire

Lead wire length

1	0.6 m
2	1.5 m
3	3 m

• With D-sub connector, Flat ribbon cable and PC wiring

Connector entry direction

1	Upward
2	Lateral

∗ It is not necessary to select the items above for the valve with terminal block box or with circular connector or the serial transmission type.

❸ Valve stations

Symbol	Stations	Note
02	2 stations	Some connectors have a limitation on the number of stations. Refer to the pages shown in the table "Connector type" for details.
⋮	⋮	
24	24 stations	

❹ P, E port entry

U Note)	U side (2 to 10 stations)
D Note)	D side (2 to 10 stations)
B	Both sides (2 to 24 stations)

∗ Refer to page 95 for the EX600 and ❻ on page 101 for the EX250.

Note) For type "S", supply/exhaust block assembly with built-in silencer, choose U or D for P port entry.

❺ SUP/EXH block assembly

—	Internal pilot
S	Internal pilot, Built-in silencer
R	External pilot

∗ For built-in silencer type, P and E ports are available on U and D sides. 3/5(E) port is plugged. The silencer exhaust port is located on the opposite side of P, E port entry. (Example: When the P, E port entry is D side, the silencer exhaust port is U side.)
∗ Refer to page 95 for the EX600 and ❻ on page 101 for the EX250.

❻ P, E port size (One-touch fittings)

—	ø10
N	ø3/8"

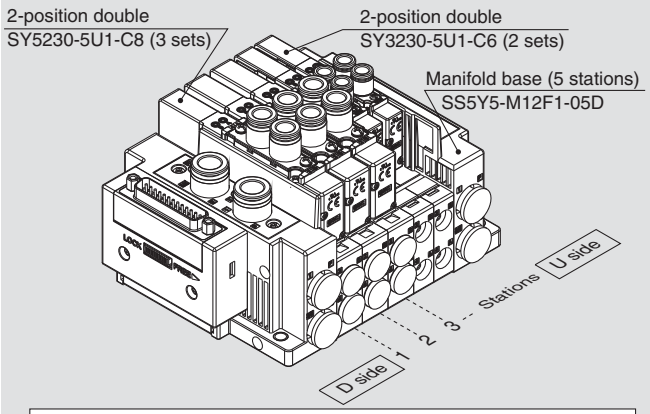
❼ Mounting

—	Direct mounting	
D	DIN rail mounting (With DIN rail)	
D0	DIN rail mounting (Without DIN rail)	
D3	For 3 stations	Specify a longer rail than the standard length. [The SY5000 valve is now at a mountable length (manifold block length of 16 mm).]
⋮	⋮	
D24	For 24 stations	

∗ Refer to page 133 to determine the L3 using "Calculation formula" for the DIN rail length.

How to Order Manifold Assembly

Example (SS5Y5-M12F1-□)



SS5Y5-M12F1-05D ··· 1 set (Type M12 5-station manifold base part no.)
∗SY5230-5U1-C8 ····· 3 sets (2-position double part no.)
∗SY3230-5U1-C6 ····· 2 sets (2-position double part no.)
The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the valve, etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on a manifold specification sheet.

How to Order Valves (With two mounting screws)

Refer to page 8 for valve specifications.

SY 3 1 3 0 ❶ ❷ ❸ ❹ ❺ ❻ ❼ – 5 ❽ ❾ ❿ 1 – C6 ⓫ ⓬ – ⓭

❸ Top ported

❶ Series

3	SY3000
5	SY5000

❷ Type of actuation

1	2-position single
2	2-position double
3	3-position closed centre
4	3-position exhaust centre
5	3-position pressure centre
A*	4-position dual 3-port valve (N.C./N.C.)
B*	4-position dual 3-port valve (N.O./N.O.)
C*	4-position dual 3-port valve (N.C./N.O.)

* Only rubber seal type is available for the 4-position dual 3-port valve.

❸ Seal type

0	Rubber seal
1	Metal seal

❹ Pilot type

—	Internal pilot
R	External pilot

❺ Back pressure check valve (Built-in valve type)

—	None
H	Built-in

* Only rubber seal type. Manifold installed type is available if the back pressure check valve is required for a valve with metal seal. Refer to page 147 for Ordering Example. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.
* The built-in valve type back pressure check valve is not available for the 3-position type.

❻ Pilot valve option

—	Standard (0.7 MPa)
B	Quick response type (0.7 MPa)
K*	High pressure type (1.0 MPa)

* Only metal seal type is available for the high pressure type.

❼ Coil type

—	Standard
T	With power saving circuit (Continuous duty type)

* Be sure to select the power saving circuit type when a valve is continuously energized for long periods of time.
* Note the specified energizing time when power saving circuit is selected. Refer to page 154.

❽ Rated voltage

5	24 VDC
6	12 VDC

* Only 24 VDC is available for the serial transmission type.

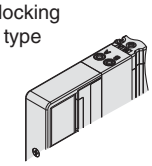
❾ Light/surge voltage suppressor and common specification

—	Without light/surge voltage suppressor (Non-polar)
R	With surge voltage suppressor (Non-polar)
U	With light/surge voltage suppressor (Non-polar)
S	With surge voltage suppressor (Positive common)
Z	With light/surge voltage suppressor (Positive common)
NS	With surge voltage suppressor (Negative common)
NZ	With light/surge voltage suppressor (Negative common)

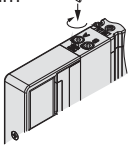
* "—" is not available for the SI unit manifold.
* Only "Z" and "NZ" types are available for the product with power saving circuit. Select a valve which is suited to the SI unit output polarity or SI unit specification when the SI unit is selected.
  Refer to the pages below for details.
  EX500: P. 88
  EX600: P. 96
  EX250: P. 102
  EX260: P. 108
  EX126: P. 114
  EX120: P. 120

❿ Manual override

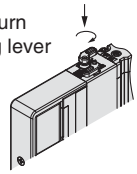
—: Non-locking push type



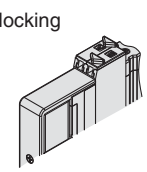
D: Push-turn locking slotted type



E: Push-turn locking lever type



F: Slide locking type



⓫ A, B port size

Thread piping

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

One-touch fitting (Metric)

Symbol	A, B port	SY3000	SY5000
C2	ø2 One-touch fitting	●	—
C3	ø3.2 One-touch fitting	●	—
C4	ø4 One-touch fitting	●	●
C6	ø6 One-touch fitting	●	●
C8	ø8 One-touch fitting	—	●

One-touch fitting (Inch)

Symbol	A, B port	SY3000	SY5000
N1	ø1/8" One-touch fitting	●	—
N3	ø5/32" One-touch fitting	●	●
N7	ø1/4" One-touch fitting	●	●
N9	ø5/16" One-touch fitting	—	●

⓬ Thread type

—	Rc
F	G
N	NPT
T	NPTF

* Only — is available for M5.

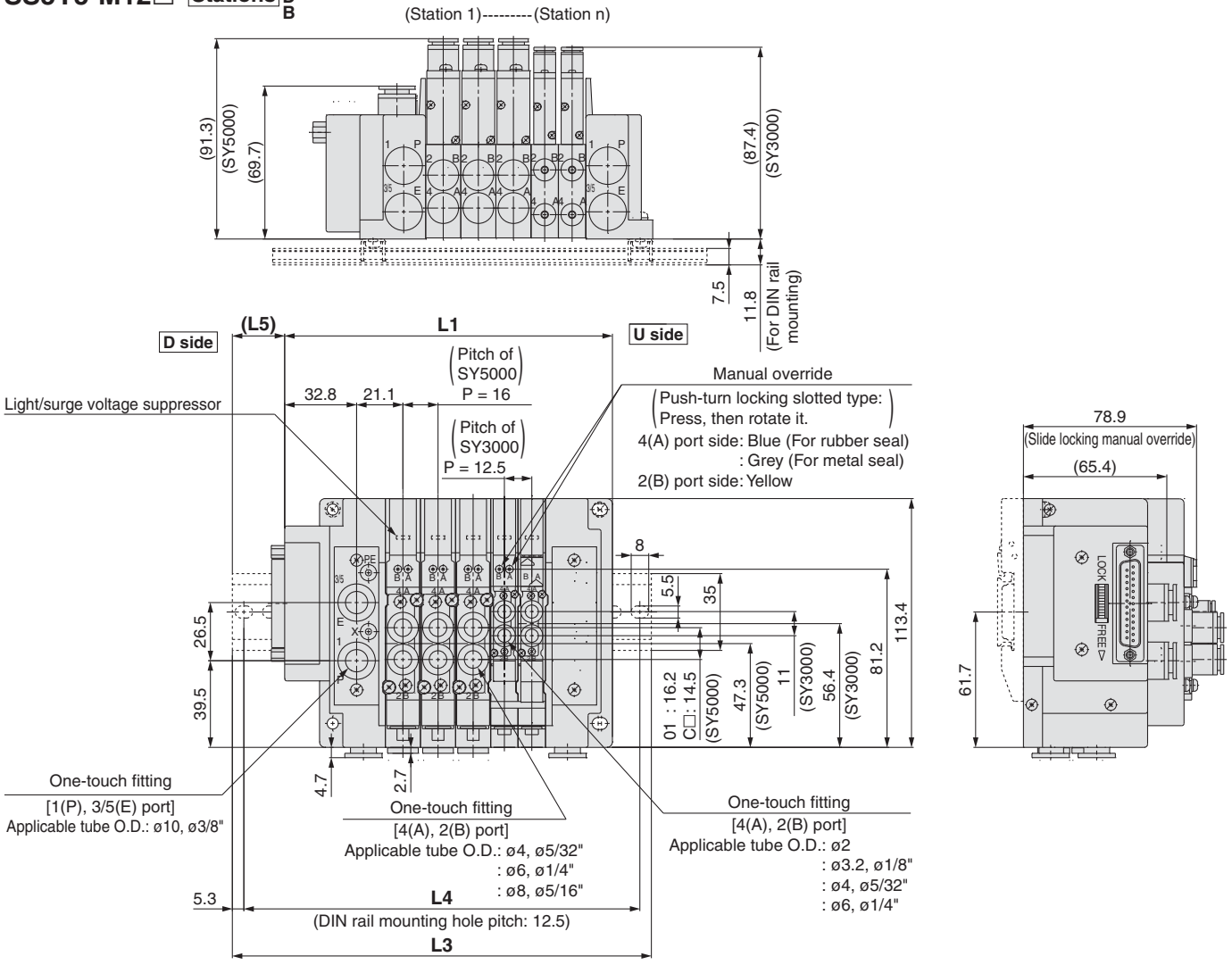
⓭ Type of mounting screw

—	Round head combination screw
B	Hexagon socket head cap screw
K	Round head combination screw (Falling-out-prevention type)
H	Hexagon socket head cap screw (Falling-out-prevention type)

* For "K" and "H", the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance etc.
* When ordering a valve individually, the base gasket is not included. Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance service.
  Refer to page 136 for part numbers of the base gasket and mounting screw.
* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly.

Dimensions: Type 12/Mixed Mounting

SS5Y5-M12□-Stations U D B



Calculation formula for dimensions with D-sub connector, Flat ribbon cable and PC wiring

L1 = 12.5 x n1 + 16 x n2 + 76.4
L2 = 12.5 x n1 + 16 x n2 + 48
M = (L1 + 6.1)/12.5 + 1 Decimal fractions are truncated.
L3 = 12.5 x M + 23
L4 = L3 – 10.5
L5 = (L3 – L1 + 6.1)/2

n1: Number of valve stations of the SY3000
n2: Number of valve stations of the SY5000

Calculation formula for dimensions with Terminal block box, Lead wire, Circular connector, EX500/600/250/260/126/120 serial transmission

L1 = 12.5 x n1 + 16 x n2 + a + b x n3
L2 = 12.5 x n1 + 16 x n2 x 48
M = L1/12.5 + 1 Decimal fractions are truncated.
L3 = 12.5 x M + 23
L4 = L3 – 10.5
L5 = (L3 – L1)/2
L6 = b x n3 + c

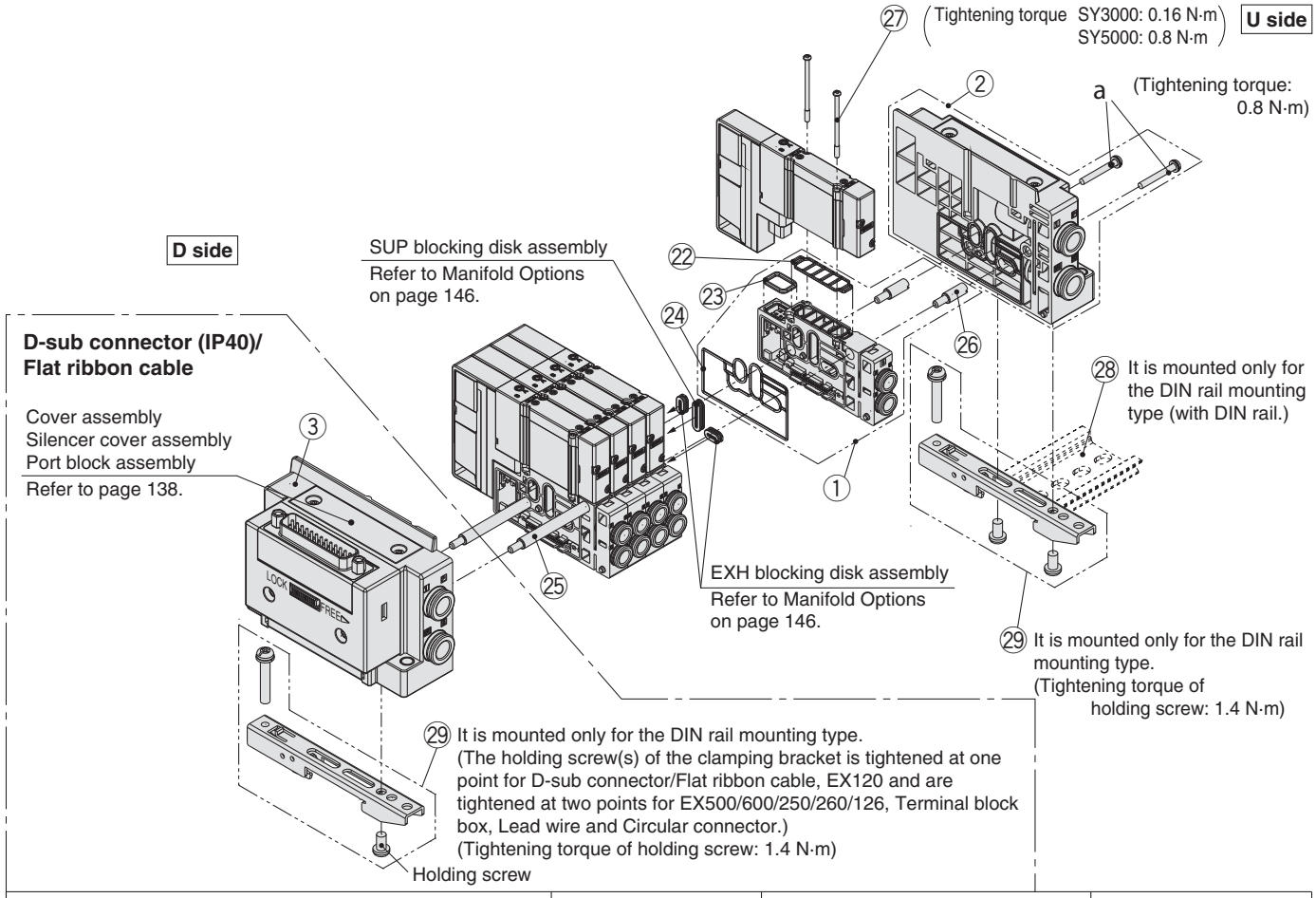
n1: Number of valve stations of the SY3000
n2: Number of valve stations of the SY5000
n3: Number of I/O units or input block stations

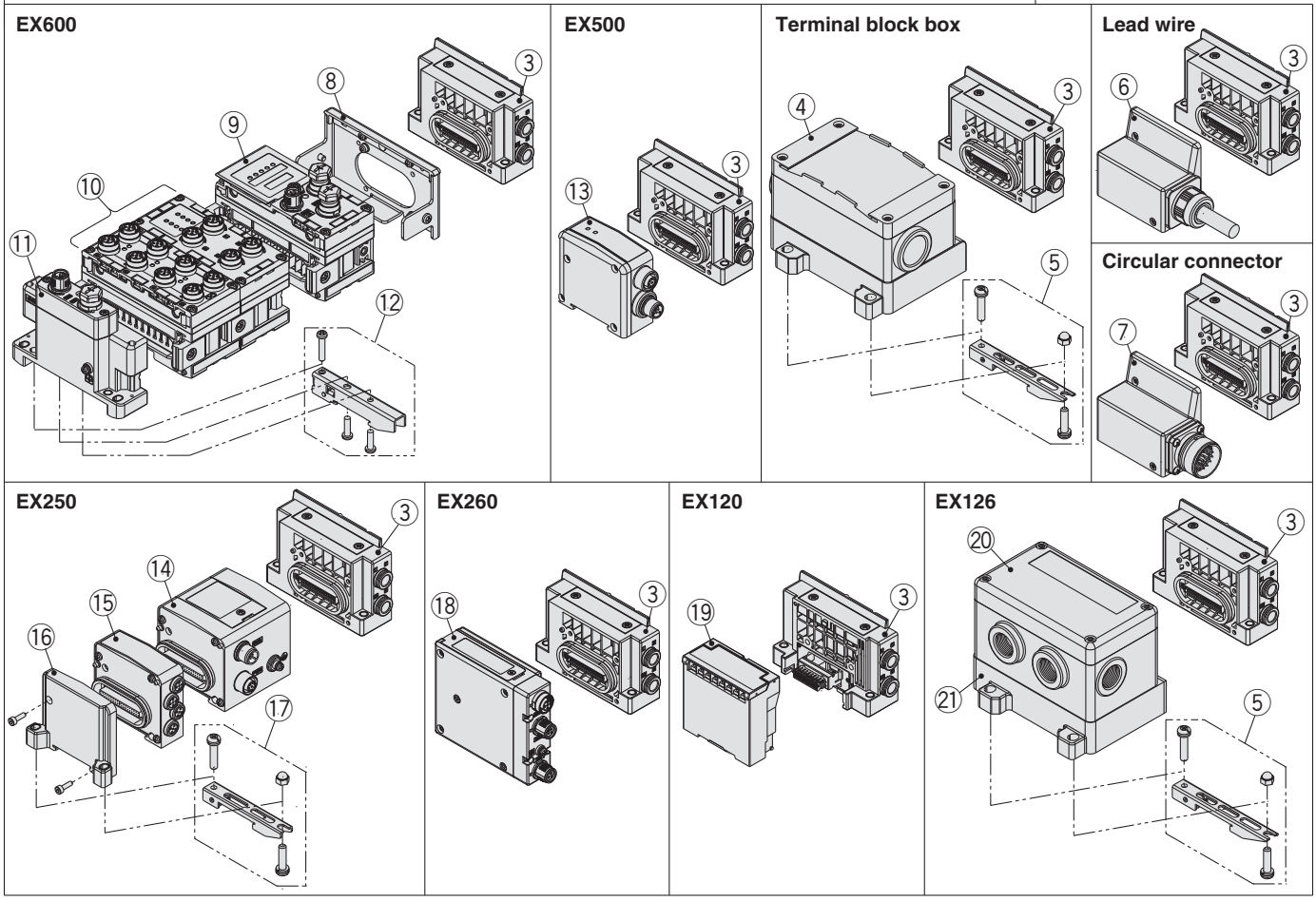
Note) Refer to pages 121 and 122 for dimensions of external pilot and elbow fittings.

Note) Refer to pages 91 to 94 for dimensions of the EX600 serial transmission with I/O unit and pages 99 and 100 for the EX250 serial transmission with input block when L6, b and c are used for the calculation formula.

Coefficient	a	b	c
Terminal block box or Serial transmission: EX126	149.3	—	—
Lead wire or Circular connector	97	—	—
Serial transmission: EX500	88.5	—	—
Serial transmission: EX600 (M12 connector)	141.5	47	81.5
Serial transmission: EX600 (7/8 inch connector)	158	47	81.5
Serial transmission: EX250	141.5	21	81.5
Serial transmission: EX260	88.7	—	—
Serial transmission: EX120	84.7	—	—

Plug-in Connector Connecting Base Manifold Exploded View





Manifold Parts No.

No.	Description	Part no.		Note
		SS5Y3-10/11/12	SS5Y5-(M)10/11/12	
①	Manifold block assembly	Refer to page 137.		Includes ㉒ (1 pc.), ㉓, ㉔, and ㉖.
②	SUP/EXH end block assembly	Refer to page 137.		
③	SUP/EXH block assembly	Refer to page 137.		
④	Terminal block box housing assembly	VVQC1000-T0-1		
⑤	Clamp bracket assembly for terminal block box Clamp bracket assembly for EX126 SI unit	SY30M-15-4A		Supplied individually.
⑥	Lead wire connector block assembly	SY30M-14-4A-1-1		34 cores, 0.6 m lead wire
		SY30M-14-4A-1-2		34 cores, 1.5 m lead wire
		SY30M-14-4A-1-3		34 cores, 3 m lead wire
		SY30M-14-4A-2-1		17 cores, 0.6 m lead wire
		SY30M-14-4A-2-2		17 cores, 1.5 m lead wire
		SY30M-14-4A-2-3		17 cores, 3 m lead wire
		SY30M-14-4A-3-1		9 cores, 0.6 m lead wire
		SY30M-14-4A-3-2		9 cores, 1.5 m lead wire
		SY30M-14-4A-3-3		9 cores, 3 m lead wire
⑦	Circular connector block assembly	SY30M-14-5A		26 pins
⑧	Valve plate	EX600-ZMV2		With mounting screws (2 pcs. of M4 x 6 and 2 pcs. of M3 x 8)
⑨	EX600 SI unit	EX600-SDN1A		DeviceNet™ PNP (Negative common)
		EX600-SDN2A		DeviceNet™ NPN (Positive common)
		EX600-SMJ1		CC-Link PNP (Negative common)
		EX600-SMJ2		CC-Link NPN (Positive common)
		EX600-SPR1A		PROFIBUS DP PNP (Negative common)
		EX600-SPR2A		PROFIBUS DP NPN (Positive common)
		EX600-SEN1		EtherNet/IP™ PNP (Negative common)
		EX600-SEN2		EtherNet/IP™ NPN (Positive common)
		EX600-SEC1		EtherCAT PNP (Negative common)
		EX600-SEC2		EtherCAT NPN (Positive common)
⑩	EX600 digital input unit	EX600-DXNB		NPN input, M12 connector, 5 pins (4 pcs.), 8 inputs
		EX600-DXPB		PNP input, M12 connector, 5 pins (4 pcs.), 8 inputs
		EX600-DXNC		NPN input, M8 connector, 3 pins (8 pcs.), 8 inputs
		EX600-DXNC1		NPN input, M8 connector, 3 pins (8 pcs.), 8 inputs, with open circuit detection
		EX600-DXPC		PNP input, M8 connector, 3 pins (8 pcs.), 8 inputs
		EX600-DXPC1		PNP input, M8 connector, 3 pins (8 pcs.), 8 inputs, with open circuit detection
		EX600-DXND		NPN input, M12 connector, 5 pins (8 pcs.), 16 inputs
		EX600-DXPD		PNP input, M12 connector, 5 pins (8 pcs.), 16 inputs
		EX600-DXNE		NPN input, D-sub connector, 25 pins, 16 inputs
		EX600-DXPE		PNP input, D-sub connector, 25 pins, 16 inputs
		EX600-DXNF		NPN input, Spring type terminal block, 32 pins, 16 inputs
		EX600-DXPF		PNP input, Spring type terminal block, 32 pins, 16 inputs
	EX600 digital output unit	EX600-DYNB		NPN output, M12 connector, 5 pins (4 pcs.), 8 outputs
		EX600-DYPB		PNP output, M12 connector, 5 pins (4 pcs.), 8 outputs
		EX600-DYNE		NPN output, D-sub connector, 25 pins, 16 outputs
		EX600-DYPE		PNP output, D-sub connector, 25 pins, 16 outputs
		EX600-DYNF		NPN output, Spring type terminal block, 32 pins, 16 outputs
		EX600-DYPF		PNP input/output, Spring type terminal block, 32 pins, 16 outputs
	EX600 digital input/output unit	EX600-DMNE		NPN input/output, D-sub connector, 25 pins, 8 inputs/outputs
		EX600-DMPE		PNP input/output, D-sub connector, 25 pins, 8 inputs/outputs
		EX600-DMNF		NPN input/output, Spring type terminal block, 32 pins, 8 inputs/outputs
		EX600-DMPF		PNP input/output, Spring type terminal block, 32 pins, 8 inputs/outputs
	EX600 analogue input unit	EX600-AXA		M12 connector, 5 pins (2 pcs.), 2-channel input
	EX600 analogue output unit	EX600-AYA		M12 connector, 5 pins (2 pcs.), 2-channel output
	EX600 analogue input/output unit	EX600-AMB		M12 connector, 5 pins (4 pcs.), 2-channel input/output
⑪	EX600 end plate	EX600-ED2		M12 connector, 5 pins, Max. supplied current 2 A
		EX600-ED2-3		M12 connector, 5 pins, Max. supplied current 2 A, with DIN rail mounting bracket
		EX600-ED3		7/8 inch connector, 5 pins, Max. supplied current 8 A
		EX600-ED3-3		7/8 inch connector, 5 pins, Max. supplied current 8 A, with DIN rail mounting bracket
⑫	Clamp bracket for EX600	EX600-ZMA2		With mounting screws (1 pc. of M4 x 20 and 2 pcs. of M4 x 14)
⑬	EX500 SI unit	EX500-Q001		DeviceNet™, PROFIBUS DP, CC-Link, EtherNet/IP™ (Positive common)
		EX500-Q101		DeviceNet™, PROFIBUS DP, CC-Link, EtherNet/IP™ (Negative common)
⑭	EX250 SI unit	EX250-SDN1		DeviceNet™ (Negative common)
		EX250-SPR1		PROFIBUS DP (Negative common)
		EX250-SMJ2		CC-Link (Positive common)
		EX250-SAS3		AS-Interface, 8 in/8 out, 31 slave modes, 2 isolated common type (Negative common)
		EX250-SAS5		AS-Interface, 4 in/4 out, 31 slave modes, 2 isolated common type (Negative common)
		EX250-SAS7		AS-Interface, 8 in/8 out, 31 slave modes, 1 common type (Negative common)
		EX250-SAS9		AS-Interface, 4 in/4 out, 31 slave modes, 1 common type (Negative common)
		EX250-SCA1A		CANopen (Negative common)
		EX250-SEN1		EtherNet/IP™ (Negative common)
⑮	EX250 input block	EX250-IE1		M12, 2 inputs
		EX250-IE2		M12, 4 inputs
		EX250-IE3		M8, 4 inputs
⑯	EX250 end plate assembly	EX250-EA1		With mounting screws (2 pcs. of M3 x 10)
⑰	Clamp bracket assembly for EX250	SY30M-15-3A		Supplied individually.

Manifold Parts No.

No.	Description		Part no. SS5Y3-10/11/12	Part no. SS5Y5-(M)10/11/12	Note
⑱	EX260 SI unit		EX260-SDN1		DeviceNet™ M12 connector, 32 outputs (Negative common) (PNP)
			EX260-SDN2		DeviceNet™ M12 connector, 32 outputs (Positive common) (NPN)
			EX260-SDN3		DeviceNet™ M12 connector, 16 outputs (Negative common) (PNP)
			EX260-SDN4		DeviceNet™ M12 connector, 16 outputs (Positive common) (NPN)
			EX260-SPR1		PROFIBUS DP M12 connector, 32 outputs (Negative common) (PNP)
			EX260-SPR2		PROFIBUS DP M12 connector, 32 outputs (Positive common) (NPN)
			EX260-SPR3		PROFIBUS DP M12 connector, 16 outputs (Negative common) (PNP)
			EX260-SPR4		PROFIBUS DP M12 connector, 16 outputs (Positive common) (NPN)
			EX260-SPR5		PROFIBUS DP D-sub connector, 32 outputs (Negative common) (PNP)
			EX260-SPR6		PROFIBUS DP D-sub connector, 32 outputs (Positive common) (NPN)
			EX260-SPR7		PROFIBUS DP D-sub connector, 16 outputs (Negative common) (PNP)
			EX260-SPR8		PROFIBUS DP D-sub connector, 16 outputs (Positive common) (NPN)
			EX260-SMJ1		CC-Link M12 connector, 32 outputs (Negative common) (PNP)
			EX260-SMJ2		CC-Link M12 connector, 32 outputs (Positive common) (NPN)
			EX260-SMJ3		CC-Link M12 connector, 16 outputs (Negative common) (PNP)
			EX260-SMJ4		CC-Link M12 connector, 16 outputs (Positive common) (NPN)
			EX260-SEN1		EtherNet/IP™ 32 outputs (Negative common) (PNP)
			EX260-SEN2		EtherNet/IP™ 32 outputs (Positive common) (NPN)
			EX260-SEN3		EtherNet/IP™ 16 outputs (Negative common) (PNP)
			EX260-SEN4		EtherNet/IP™ 16 outputs (Positive common) (NPN)
			EX260-SEC1		EtherCAT M12 connector, 32 outputs (Negative common) (PNP)
			EX260-SEC2		EtherCAT M12 connector, 32 outputs (Positive common) (NPN)
			EX260-SEC3		EtherCAT M12 connector, 16 outputs (Negative common) (PNP)
			EX260-SEC4		EtherCAT M12 connector, 16 outputs (Positive common) (NPN)
			EX260-SPN1		PROFINET 32 outputs (Negative common) (PNP)
			EX260-SPN2		PROFINET 32 outputs (Positive common) (NPN)
			EX260-SPN3		PROFINET 16 outputs (Negative common) (PNP)
			EX260-SPN4		PROFINET 16 outputs (Positive common) (NPN)
⑲	EX120 SI unit		EX120-SDN1		DeviceNet™ (Positive common)
			EX120-SCS1		OMRON Corp.: CompoBus/S (16 outputs) (Positive common)
			EX120-SCS2		OMRON Corp.: CompoBus/S (8 outputs) (Positive common)
			EX120-SMJ1		CC-Link (Positive common)
			EX120-SCM1		CompoNet™ (Positive common)
			EX120-SCM3		CompoNet™ (Negative common)
⑳	EX126 SI unit		EX126D-SMJ1		CC-Link (Positive common)
㉑	Terminal block plate assembly		VVQC1000-74A-2		For mounting EX126 SI unit
㉒	Base gasket (for connector connecting base)		SY30M-9-1A	SY50M-9-1A	Part numbers shown on the left are for 10 valves. (10 pcs.)
㉓	Connector gasket		SX3000-146-2		Supplied individually.
㉔	Manifold block gasket		SY30M-9-2	SY50M-9-2	Supplied individually.
㉕	Tie-rod		VVQC1000-TR-□	SV2000-55-1-□-A	□: Manifold stations 2 pcs. supplied (SY3000), 3 pcs. supplied (SY5000)
	Tie-rod (for mounting only SY3000 on mixed mounting type manifolds)		—	SY50M-49-1-□-A	3 pcs. supplied.
㉖	Tie-rod for additional stations		SY30M-49-2-A	SV2000-55-2A-A	2 pcs. supplied (SY3000), 3 pcs. supplied (SY5000) (Included in ①)
	Tie-rod for additional stations (for mixed mounting of SY3000: except A, B port size ø8, ø5/16")		—	SY50M-49-2-A	3 pcs. supplied. (Included in ①)
	Tie-rod for additional stations (for mixed mounting of SY3000: A, B port size ø8, ø5/16")		—	SV2000-55-2A-A	3 pcs. supplied.
㉗	Valve mounting screw	Round head combination screw	SY3000-23-24A (M2 x 32)	SY5000-221-1A (M3 x 32.5)	Part numbers shown on the left are for 10 valves. (20 pcs.)
		Hexagon socket head cap screw	SY3000-222-1A (M2 x 32)	SY5000-222-1A (M3 x 32.5)	Part numbers shown on the left are for 10 valves. (20 pcs.)
㉘	DIN rail		VZ1000-11-1-□		Refer to page 140.
㉙	Clamp bracket assembly (for connector connecting base)		SY30M-15-1A	SY50M-15-1A	Supplied individually.

Manifold Parts No.

①Manifold block assembly

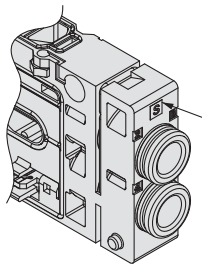
SY□0M−2−□□A−□

Series

3	SY3000
5	SY5000

Piping direction

1	Side/Top ported
2	Bottom ported



Wiring type

S	Single wiring
D	Double wiring

A, B port size

Symbol	A, B port	SY3000	SY5000	Note
C2	ø2 One-touch fitting	●	—	Side/Bottom ported Metric size
C3	ø3.2 One-touch fitting	●	—	
C4	ø4 One-touch fitting	●	●	
C6	ø6 One-touch fitting	●	●	
C8	ø8 One-touch fitting	—Note	●	
N1	ø1/8" One-touch fitting	●	—	Side/Bottom ported Inch size
N3	ø5/32" One-touch fitting	●	●	
N7	ø1/4" One-touch fitting	●	●	
N9	ø5/16" One-touch fitting	—Note	●	

Note) Refer to Mixed Mounting Type: ø8, ø5/16"

Symbol		A, B port	SY3000	SY5000	Note
L4	Upward elbow	ø4 One-touch fitting	●	●	Side ported Metric size
L6		ø6 One-touch fitting	●	●	
L8		ø8 One-touch fitting	—Note	●	
LN3		ø5/32" One-touch fitting	●	—	Side ported Metric size
LN7		ø1/4" One-touch fitting	●	●	
LN9		ø5/16" One-touch fitting	—Note	●	
B4	Downward elbow	ø4 One-touch fitting	●	●	Side ported Metric size
B6		ø6 One-touch fitting	●	●	
B8		ø8 One-touch fitting	—Note	●	
BN3		ø5/32" One-touch fitting	●	—	Side ported Metric size
BN7		ø1/4" One-touch fitting	●	●	
BN9		ø5/16" One-touch fitting	—Note	●	
00		Plug	●	●	Top ported

①Mixed mounting of the SY3000 and SY5000, Manifold block assembly for mounting the SY3000

SY50M−2−□□A−□

Piping direction

3	Side/Top ported
4	Bottom ported

Wiring type

S	Single wiring
D	Double wiring

A, B port size

Symbol	A, B port	Note
C2	ø2 One-touch fitting	Side/Bottom ported Metric size
C3	ø3.2 One-touch fitting	
C4	ø4 One-touch fitting	
C6	ø6 One-touch fitting	
N1	ø1/8" One-touch fitting	Side/Bottom ported Inch size
N3	ø5/32" One-touch fitting	
N7	ø1/4" One-touch fitting	

Symbol		A, B port	Note
L4	Upward elbow	ø4 One-touch fitting	Side ported Metric size
L6		ø6 One-touch fitting	
LN3		ø5/32" One-touch fitting	Side ported Inch size
LN7		ø1/4" One-touch fitting	
B4	Downward elbow	ø4 One-touch fitting	Side ported Metric size
B6		ø6 One-touch fitting	
BN3		ø5/32" One-touch fitting	Side ported Inch size
BN7		ø1/4" One-touch fitting	
00		Plug	Top ported

①Mixed mounting of the SY3000 and SY5000, Manifold block assembly for mounting the SY3000 for ø8, ø5/16" (A manifold block assembly for mounting the SY3000 valves on the SY5000 manifolds at A, B port size: ø8, ø5/16")

SY50M−2−□□A−□

Piping direction

5	Side ported
6	Bottom ported

Wiring type

S	Single wiring
D	Double wiring

A, B port size

Symbol		A, B port	Note
C8		ø8 One-touch fitting	Side/Bottom ported Metric size
N9		ø5/16" One-touch fitting	Side/Bottom ported Inch size
L8	Upward elbow	ø8 One-touch fitting	Side ported Metric size
LN9		ø5/16" One-touch fitting	Side ported Inch size
B8	Downward elbow	ø8 One-touch fitting	Side ported Metric size
BN9		ø5/16" One-touch fitting	Side ported Inch size

∗Manifold block assembly accessories

SY3000:
- ㉖Tie-rod assembly for additional stations/2
- ㉒Base gasket/1
- ㉓Connector gasket/1
- ㉔Manifold block gasket/1

SY5000 (including mixed mounting type):
- ㉖Tie-rod assembly for additional stations/3
- ㉒Base gasket/1
- ㉓Connector gasket/1
- ㉔Manifold block gasket/1

②SUP/EXH end block assembly

SY□0M−3− 1 A□ −□−□

③SUP/EXH block assembly

SY□0M−1−□A□□−□−□

Series

3	SY3000
5	SY5000

SUP/EXH block assembly

1	EX500/600/250/260/126, Terminal block box, Lead wire, Circular connector, D-sub connector (IP67) Note
11	D-sub connector (25 pins, IP40)
12	Flat ribbon cable (26 pins)
13	Flat ribbon cable (20 pins)
14	Flat ribbon cable (10 pins)
15	PC wiring (20 pins)
16	EX120

Note) For D-Sub connector kit FW, please consider that IP67 D-Sub connector SY30M-14-9A1(U)/SY30M-14-9A2(U) has to be also included.

Pilot/Piping type

Symbol	Specifications	Note
—	Internal pilot	Side ported
S	Internal pilot, Built-in silencer	
R	External pilot	
V	Internal pilot	Top ported
RV	External pilot	
VP	Internal pilot, for silencer (supply side)∗	
B	Internal pilot	Bottom ported
BS	Internal pilot, Built-in silencer	
BR	External pilot	

∗"VP" type is plugged with an E port.

Connector entry direction (for D-sub connector, Flat ribbon cable, PC wiring only)

1	Upward
2	Lateral

Mounting

—	Direct mounting
D0	DIN rail mounting (Without DIN rail)

P, E port size

Symbol		P, E port	SY3000	SY5000	Note
C8		ø8 One-touch fitting	●	—	Side/Bottom/Top ported Metric size
C10		ø10 One-touch fitting	—	●	
N9		ø5/16" One-touch fitting	●	—	Side/Bottom/Top ported Inch size
N11		ø3/8" One-touch fitting	—	●	
L8	Upward elbow	ø8 One-touch fitting	●	—	Side ported Metric size
L10		ø10 One-touch fitting	—	●	
LN9		ø5/16" One-touch fitting	●	—	Side ported Inch size
LN11		ø3/8" One-touch fitting	—	●	
B8	Downward elbow	ø8 One-touch fitting	●	—	Side ported Metric size
B10		ø10 One-touch fitting	—	●	
BN9		ø5/16" One-touch fitting	●	—	Side ported Inch size
BN11		ø3/8" One-touch fitting	—	●	
00 Note 1)		Plug	●	●	P/E port entry on one side or Top ported
00U Note 2)		Plug	●	●	

Note 1) It can be selected only if no symbol or "S" or "V" or "B" is selected for the pilot port and the piping.

Note 2) "00U" is available only for the D-sub connector type and it has an inch size locking bracket.

∗SUP/EXH end block assembly accessories

SY3000: Tension bolt/2
- ㉔Manifold block gasket/1

SY5000: Tension bolt/3
- ㉔Manifold block gasket/1

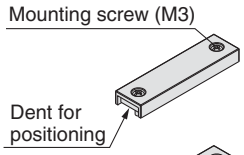
∗SUP/EXH block assembly accessories

SY3000: Tension bolt/None
(because the nuts are embedded)

SY5000: Tension bolt/3

Manifold Parts No.

■ Cover assembly/Silencer cover assembly/Port block assembly for SUP/EXH (end) block assembly



Cover assembly
(Internal pilot)

Silencer cover assembly
(Internal pilot, Built-in silencer)

Port block assembly
(Side/Bottom ported, External pilot)

Port block assembly
(Top ported, Internal pilot, for silencer (supply side))

Port block assembly
(Top ported, Internal/External pilot)

SY 3 0M−4− 1A

SY 3 0M−5− 1A

SY 3 0M−6− 1AR − 00 □

X, PE port one-touch fitting type

—	Metric size (ø4)
U	Inch size (ø5/32")

SY 3 0M−6− 3AV − C8

SY 3 0M−6− 1A □ V − C8

Series

3	SY3000
5	SY5000

Pilot type

—	Internal pilot
R	External pilot

P, E port size

Symbol	P, E port	SY3000	SY5000
C8	ø8 One-touch fitting	●	—
C10	ø10 One-touch fitting	—	●
N9	ø5/16" One-touch fitting	●	—
N11	ø3/8" One-touch fitting	—	●

∗ Cover assembly, silencer cover assembly and port block assembly are included in the SUP/EXH (end) block assembly, but they need to be ordered for piping direction change.

Tightening torque for mounting screw (M3): 0.8 N·m

Type 10, 11, 12: How to Increase Connector Type Manifold

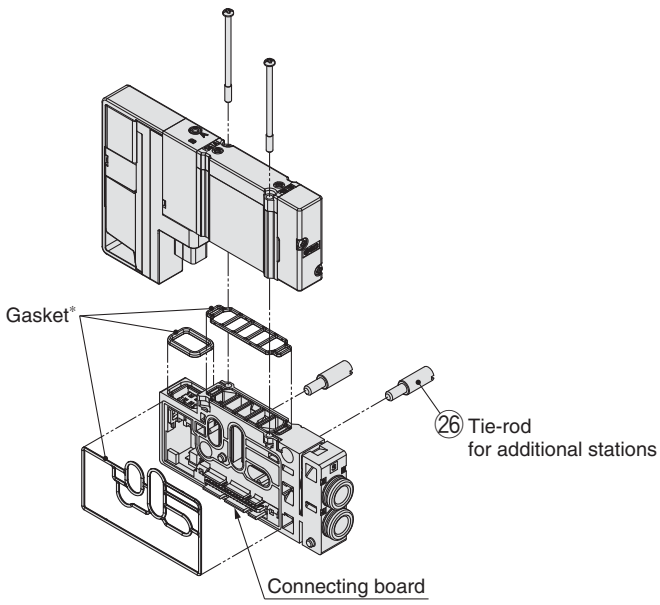
1 **Loosen the U-side tension bolt ⓐ, and remove the SUP/EXH end block assembly ②.**

2 **Screw in tie-rods for additional stations ㉖ to the manifold's tie-rod ㉕.**
(Screw them in until there is no gap between the tie-rods.)

3 **Connect the manifold block assembly ① and SUP/EXH end block assembly ② to be added, and tighten the tension bolt ⓐ.**

Tightening torque for tension bolt ⓐ (M3): 0.8 N·m

(Refer to page 134 for ①, ②, ㉕ and ⓐ.)



∗ Gaskets (in three places) are mounted.

⚠ 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 the tightening of the tension bolt is inadequate.

One-touch Fittings and Plug Assembly/Part No.

Refer to Changing One-touch Fittings on page 157 for replacement method.

■ One-touch fittings

Port size			SY3000	SY5000
A, B port	Metric size	ø2 One-touch fitting (Straight type)	VVQ1000-50A-C2	—
		ø3.2 One-touch fitting (Straight type)	VVQ1000-50A-C3	—
		ø4 One-touch fitting (Straight type)	VVQ1000-50A-C4	VVQ1000-51A-C4
		ø6 One-touch fitting (Straight type)	VVQ1000-50A-C6	VVQ1000-51A-C6
		ø8 One-touch fitting (Straight type)	—	VVQ1000-51A-C8
		ø4 One-touch fitting (Elbow type)	SZ3000-73-1A-L4	SZ3000-74-1A-L4
		ø6 One-touch fitting (Elbow type)	SZ3000-73-1A-L6	SZ3000-74-1A-L6
		ø8 One-touch fitting (Elbow type)	—	SZ3000-74-1A-L8
		ø4 One-touch fitting (Long elbow type)	SZ3000-73-2A-L4	SZ3000-74-2A-L4
		ø6 One-touch fitting (Long elbow type)	SZ3000-73-2A-L6	SZ3000-74-2A-L6
		ø8 One-touch fitting (Long elbow type)	—	SZ3000-74-2A-L8
	Inch size	ø1/8" One-touch fitting (Straight type)	VVQ1000-50A-N1	—
		ø5/32" One-touch fitting (Straight type)	VVQ1000-50A-N3	VVQ1000-51A-N3
		ø1/4" One-touch fitting (Straight type)	VVQ1000-50A-N7	VVQ1000-51A-N7
		ø5/16" One-touch fitting (Straight type)	—	VVQ1000-51A-N9
		ø5/32" One-touch fitting (Elbow type)	KJL03-95-X224	—
		ø1/4" One-touch fitting (Elbow type)	KJL07-95-X224	KQ2L07-14-X224
		ø5/16" One-touch fitting (Elbow type)	—	KQ2L09-14-X224
		ø5/32" One-touch fitting (Long elbow type)	KJL03-95-X225	—
		ø1/4" One-touch fitting (Long elbow type)	KJL07-95-X225	KQ2L07-14-X225
		ø5/16" One-touch fitting (Long elbow type)	—	KQ2L09-14-X225
P, E port	Metric size	ø8 One-touch fitting (Straight type)	VVQ1000-51A-C8	—
		ø10 One-touch fitting (Straight type)	—	VVQ2000-51A-C10
		ø8 One-touch fitting (Elbow type)	SZ3000-74-1A-L8	—
		ø10 One-touch fitting (Elbow type)	—	SZ3000-83-1A-L10
		ø8 One-touch fitting (Long elbow type)	SZ3000-74-2A-L8	—
		ø10 One-touch fitting (Long elbow type)	—	SZ3000-83-2A-L10
	Inch size	ø5/16" One-touch fitting (Straight type)	VVQ1000-51A-N9	—
		ø3/8" One-touch fitting (Straight type)	—	VVQ2000-51A-N11
		ø5/16" One-touch fitting (Elbow type)	KQ2L09-14-X224	—
		ø3/8" One-touch fitting (Elbow type)	—	KQ2L11-14-X224
		ø5/16" One-touch fitting (Long elbow type)	KQ2L09-14-X225	—
		ø3/8" One-touch fitting (Long elbow type)	—	KQ2L11-14-X225

■ Plug assembly

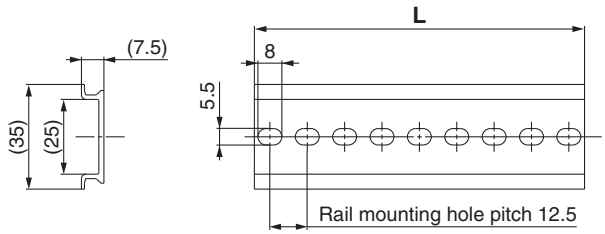
	SY3000	SY5000
A, B port	VVQ0000-58A	VVQ1000-58A
P, E port	VVQ1000-58A	VVQ2000-58A

Manifold Options

■ DIN rail dimensions/weight for the SY3000 plug-in metal base and the SY3000/5000 plug-in connector connecting base

VZ1000-11-1-□

∗ Refer to the DIN rail dimensions table below and specify the number in the box □.



No.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
L dimension	98	110.5	123	135.5	148	160.5	173	185.5	198	210.5	223	235.5	248	260.5	273	285.5	298	310.5	323
Weight [g]	17.6	19.9	22.1	24.4	26.6	28.9	31.1	33.4	35.6	37.9	40.1	42.4	44.6	46.9	49.1	51.4	53.6	55.9	58.1

No.	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
L dimension	335.5	348	360.5	373	385.5	398	410.5	423	435.5	448	460.5	473	485.5	498	510.5	523	535.5	548	560.5
Weight [g]	60.4	62.5	64.9	67.1	69.4	71.6	73.9	76.1	78.4	80.6	82.9	85.1	87.4	89.6	91.9	94.1	96.4	98.6	100.9

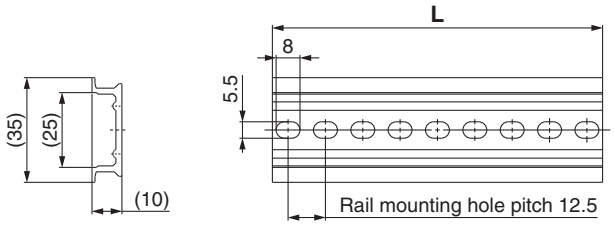
No.	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
L dimension	573	585.5	598	610.5	623	635.5	648	660.5	673	685.5	698	710.5	723	735.5	748	760.5	773	785.5	798
Weight [g]	103.1	105.4	107.6	109.9	112.1	114.4	116.6	118.9	121.1	123.4	125.6	127.9	130.1	132.4	134.6	136.9	139.1	141.4	143.6

No.	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71
L dimension	810.5	823	835.5	848	860.5	873	885.5	898	910.5	923	935.5	948	960.5	973	985.5
Weight [g]	145.9	148.1	150.4	152.6	154.9	157.1	159.4	161.6	163.9	166.1	168.4	170.6	172.9	175.1	177.4

■ DIN rail dimensions/weight for the SY5000 plug-in metal base

VZ1000-11-4-□

∗ Refer to the DIN rail dimensions table below and specify the number in the box □.



No.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
L dimension	98	110.5	123	135.5	148	160.5	173	185.5	198	210.5	223	233.5	248	260.5	273	285.5	298	310.5	323
Weight [g]	24.8	28	31.1	34.3	37.4	40.6	43.8	46.9	50.1	53.3	56.4	59.6	62.7	65.9	69.1	72.2	75.4	78.6	81.7

No.	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
L dimension	335.5	348	360.5	373	385.5	398	410.5	423	435.5	448	460.5	473	485.5	498	510.5	523	535.5	548	560.5
Weight [g]	84.9	88	91.2	94.4	97.5	100.7	103.9	107	110.2	113.3	116.5	119.7	122.8	126	129.2	132.3	135.5	138.6	141.8

No.	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
L dimension	573	585.5	598	610.5	623	635.5	648	660.5	673	685.5	698	710.5	723	735.5	748	760.5	773	785.5	798
Weight [g]	145	148.1	151.3	154.5	157.6	160.8	163.9	167.1	170.3	173.4	176.6	179.8	182.9	186.1	189.2	192.4	195.6	198.7	201.9

No.	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71
L dimension	810.5	823	835.5	848	860.5	873	885.5	898	910.5	923	935.5	948	960.5	973	985.5
Weight [g]	205.1	208.2	211.4	214.5	217.7	220.9	224	227.2	230.4	233.5	236.7	239.8	243	246.2	249.3

⚠Caution

Tightening torque for mounting screw
M2: 0.16 N·m
M3: 0.8 N·m

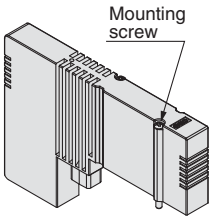
Manifold Options

Refer to pages 149 and 151 for dimensions.

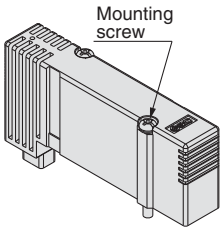
■Blanking plate assembly

(With two mounting screws)

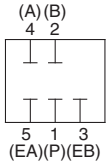
Used when valve additions are expected or for maintenance. A structure is in place on the blanking plate to prevent the mounting screws from sliding.



SY30M-26-□A (-B)



SY50M-26-□A (-B)



Circuit diagram

How to Order Blanking Plate Assembly

SY 3 0M − 26 − 1 A − □

Series

3	SY3000
5	SY5000

Option for mounting

—	With mounting screw (Round head combination screw)
B	With mounting screw (Hexagon socket head cap screw)

Base type

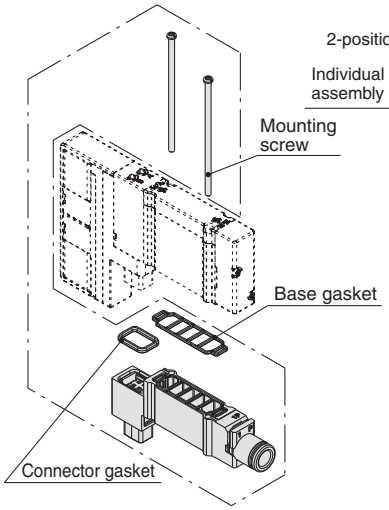
1	For plug-in connector connecting base
2	For plug-in metal base

■Individual SUP spacer assembly

(With a connector gasket, a base gasket, and two mounting screws)

When the same manifold is used for different pressures, an individual SUP spacer assembly is used as a supply port for different pressures.

Note) When selecting an elbow type for one-touch fitting for a spacer assembly, use it faced upward, since it interferes with A and B port piping in Type 50 and Type 10 manifolds.



Circuit diagram

(Mounting example of a 2-position single valve)

Part numbers of mounting screw (2 pcs. of each)

SY3000: SY3000-23-12A

SY5000: SY5000-221-12A

How to Order Individual SUP/EXH Spacer Assembly

One-touch fitting Straight type **SY 3 0M − 38 − 1 A − C6**

One-touch fitting Elbow type **SY 3 0M − 38 − 2 A − L6**

Series

3	SY3000
5	SY5000

Spacer type

38	Individual SUP spacer
39	Individual EXH spacer

Individual SUP/EXH spacer assembly

2	Short elbow type
3	Long elbow type

Note) Select the long elbow type for a 3-position valve when using Type 11 and Type 12 downwards. However, Type 11 of the SY3000 series for the mixed mounting of connector connecting bases cannot be used downwards.

Port size (Metric)

Symbol	P, E port	SY3000	SY5000
L4	ø4 One-touch fitting	●	●
L6	ø6 One-touch fitting	●	●
L8	ø8 One-touch fitting	—	●

Port size (Inch)

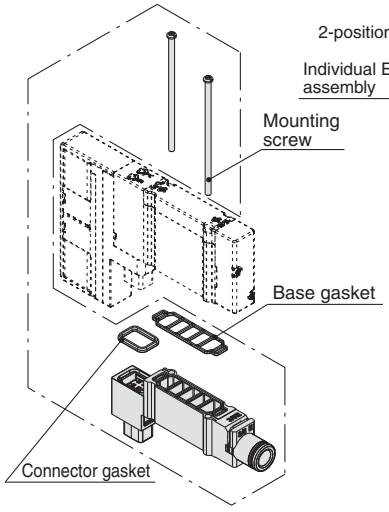
Symbol	P, E port	SY3000	SY5000
LN3	ø5/32" One-touch fitting	●	—
LN7	ø1/4" One-touch fitting	●	●
LN9	ø5/16" One-touch fitting	—	●

■Individual EXH spacer assembly

(With a connector gasket, a base gasket, and two mounting screws)

When valve exhaust affects other stations due to the circuit configuration, this spacer assembly is used for individual valve exhaust.

Note) When selecting an elbow type for one-touch fitting for a spacer assembly, use it faced upward, since it interferes with A and B port piping in Type 50 and Type 10 manifolds.



Circuit diagram

(Mounting example of a 2-position single valve)

Part numbers of mounting screw (2 pcs. of each)

SY3000: SY3000-23-12A

SY5000: SY5000-221-12A

Port size (Metric)

Symbol	P, E port	SY3000	SY5000
C2	ø2 One-touch fitting	●	—
C3	ø3 One-touch fitting	●	—
C4	ø4 One-touch fitting	●	●
C6	ø6 One-touch fitting	●	●
C8	ø8 One-touch fitting	—	●

Port size (Inch)

Symbol	P, E port	SY3000	SY5000
N1	ø1/8" One-touch fitting	●	—
N3	ø5/32" One-touch fitting	●	●
N7	ø1/4" One-touch fitting	●	●
N9	ø5/16" One-touch fitting	—	●

⚠Caution

Tightening torque for mounting screw
M2: 0.16 N·m
M3: 0.8 N·m

Manifold Options

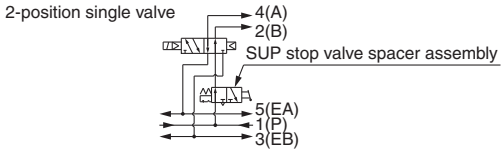
Refer to pages 149 and 152 for dimensions.

■ SUP stop valve spacer assembly with residual pressure release valve

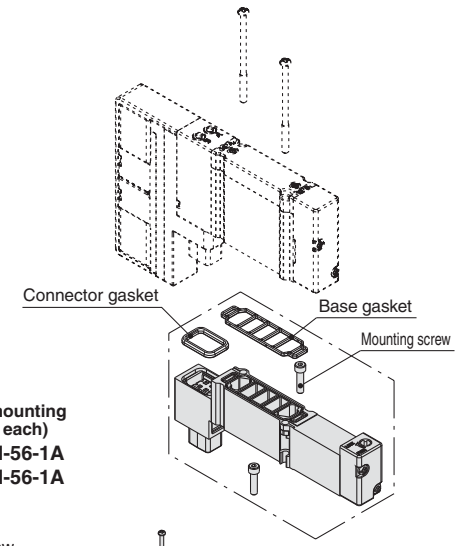
(With a connector gasket, a base gasket and two mounting screws.)

It is used to shut off the supply air to valves individually.

Series	Part no.
SY3000	SY30M-50-1A
SY5000	SY50M-50-1A



Circuit diagram
(Mounting example of a 2-position single valve)

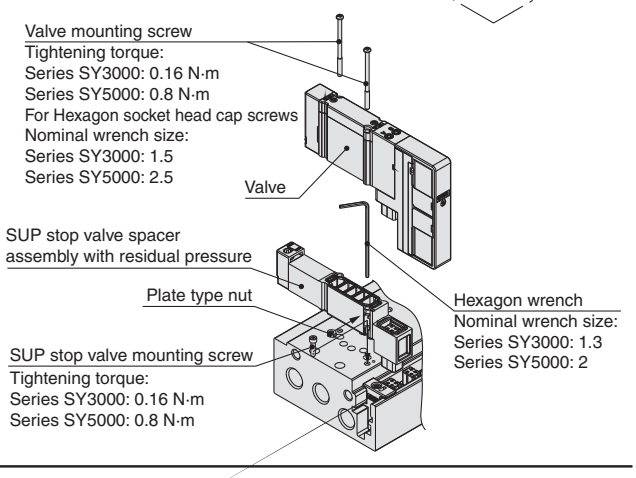


Part numbers of mounting screw (2 pcs. of each)
SY3000: SY30M-56-1A
SY5000: SY50M-56-1A

[How to mount SUP stop valve spacer assembly with residual pressure release valve]

Insert the SUP stop valve mounting screw from the side of the spacer assembly, and mount it to the manifold.
Tighten the SUP stop valve mounting screw to the specified tightening torque.
Mount the valve and tighten the valve mounting screws to the specified tightening torque after mounting the SUP stop valve spacer assembly with residual pressure exhaust valve.

Note 1) Install the plate type nut to the spacer assembly as shown in the figure if it comes off. The SUP stop valve mounting screws can be tightened with a hexagon wrench without removing the plate type nut.
Note 2) When the elbows are facing upwards in A and B ports in Type 10 manifolds, they will interfere with the piping for the spacer assembly. Therefore, please combine the A and B ports with straight types or elbows facing downwards.

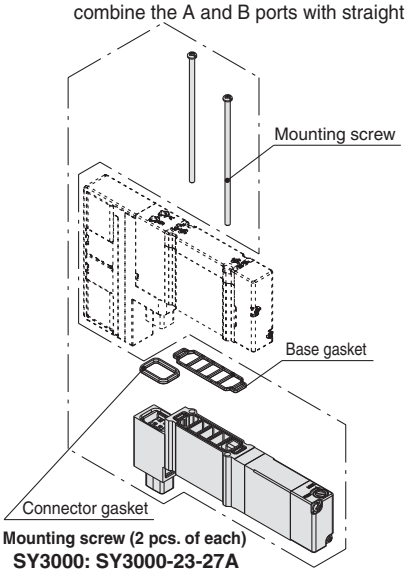


■ Double check spacer assembly with residual pressure release valve (Side/Bottom ported)

(With a connector gasket, a base gasket, and two mounting screws)

It is used to hold the intermediate position of the cylinder for a long period of time. Use a 3-position exhaust centre valve when the double check spacer assembly with residual exhaust valve is used.
It can also be used for drop prevention at the cylinder stroke end when supply residual pressure is released by using a 2-position single/double valve.

Note) When the elbows are facing upwards in A and B ports in Type 10 manifolds, they will interfere with the piping for the spacer assembly. Therefore, please combine the A and B ports with straight types or elbows facing downwards.



Mounting screw (2 pcs. of each)
SY3000: SY3000-23-27A
SY5000: SY5000-221-4A

Series	Part no.
SY3000	SY30M-60-1A
SY5000	SY50M-60-1A

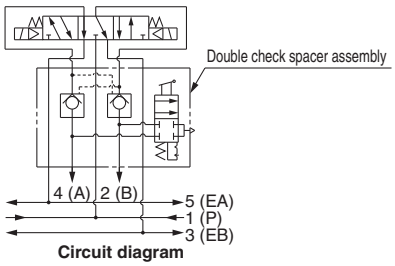
	Intermediate stop	Drop prevention
Applicable valve	$SY^{3}_{5}40^{0}_{1}$	$SY^{3}_{5}{}^{1}_{2}0^{0}_{1}$

⚠Caution

- Air leakage from the pipe between the valve and cylinder or from the fittings will prevent the cylinder from stopping for a long period of time. Check the leakage using neutral household detergent, such as dish washing soap. Also, check the cylinder's tube gasket, piston packing and rod packing for air leakage.
- Combining with 3-position closed centre or pressure centre valve will not work.
- If the exhaust of the double check spacer is restricted too much, the cylinder may not operate properly and may not stop intermediately.
- Set the cylinder load so that the cylinder pressure will be within two times that of the supply pressure.

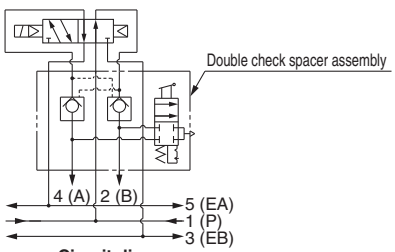
<Example>

Double check spacer assembly with residual pressure release valve
3-position exhaust centre valve



Circuit diagram
(Intermediate stop: When 3-position exhaust centre valve is mounted)

Double check spacer assembly with residual pressure release valve
2-position single valve



Circuit diagram
(Drop prevention: When 2-position single valve is mounted)

⚠ Caution

Tightening torque for mounting screw
M2: 0.16 N·m
M3: 0.8 N·m

Manifold Options

Refer to pages 150 and 152 for dimensions.

■Interface regulator

(With a connector gasket, a base gasket, and two mounting screws)

Used when the supply pressure for each valve on the same manifold must be individually set (reduced pressure).

How to Order

SY 3 0M – 05 – P – □

Series

3	SY3000

Pressure gauge option Note 1)

M1	No pressure gauge	
05	Pressure gauge with MPa display (For odd number station)	
06	Pressure gauge with MPa display (For even number station)	
N5	Pressure gauge with psi display (For odd number station)	Note 2)
N6	Pressure gauge with psi display (For even number station)	Note 2)

Applicable valve Note 3)

—	For single, double, and 4-position
3	For 3-position

Note 1) In the case of the SY3000 series with a pressure gauge, when mounting on the manifold, use caution that the part numbers are different between the odd no. stations and the even no. stations to prevent the pressure gauges from interfering with each other.
If using a connector connecting base M10/11/12 (mixed mounting type), you can use only the model without a pressure gauge (M1).

Note 2) As per the new Measurement Law, gauges with a psi display will only be sold to overseas customers.

Note 3) In the case of the SY3000 series, use caution that the part numbers will differ depending on the one for single/double and 4- and 3-position due to the different length of solenoid valves. Also, if you have selected a model with a pressure gauge, and if at least the one for 3 position is included in the same manifold, use all the ones for 3-position to prevent the pressure gauges from interfering with each other.

SY 5 0M – 00 – P

Series

5	SY5000

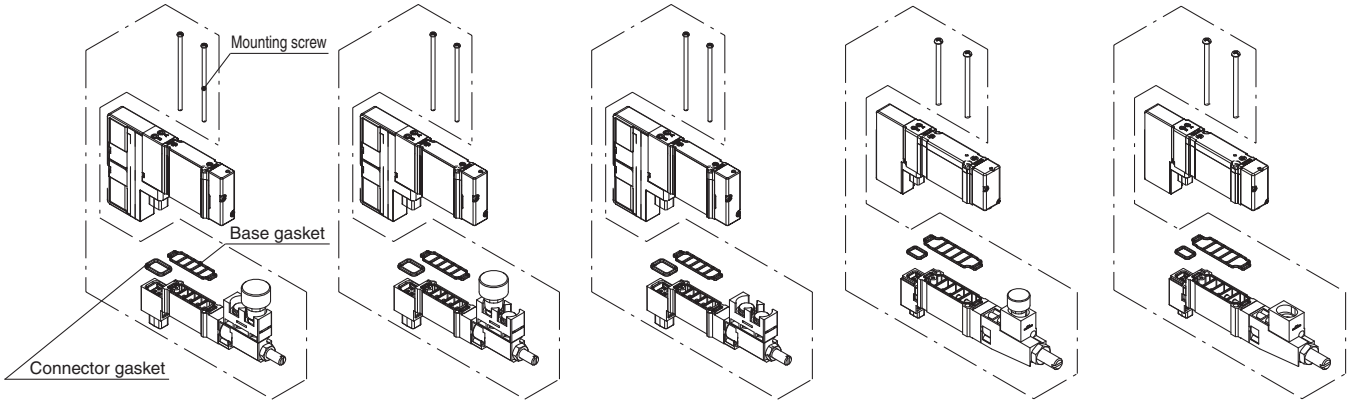
Pressure gauge option

M1	No pressure gauge	
00	Pressure gauge with MPa display	
N0	Pressure gauge with psi display	Note 2)

Regulating port

P	1(P) port
A1	4(A) port (P controlled type, A port regulation)
B1	2(B) port (P controlled type, B port regulation)

Part numbers of mounting screw (2 pcs. of each)
SY3000: SY3000-23-12A
SY5000: SY5000-221-6A



SY30M-05/N5-□
(With pressure gauge/For odd number station)

SY30M-06/N6-□
(With pressure gauge/For even number station)

SY30M-M1-□
(Without pressure gauge)

SY50M-00/N0-□
(With pressure gauge)

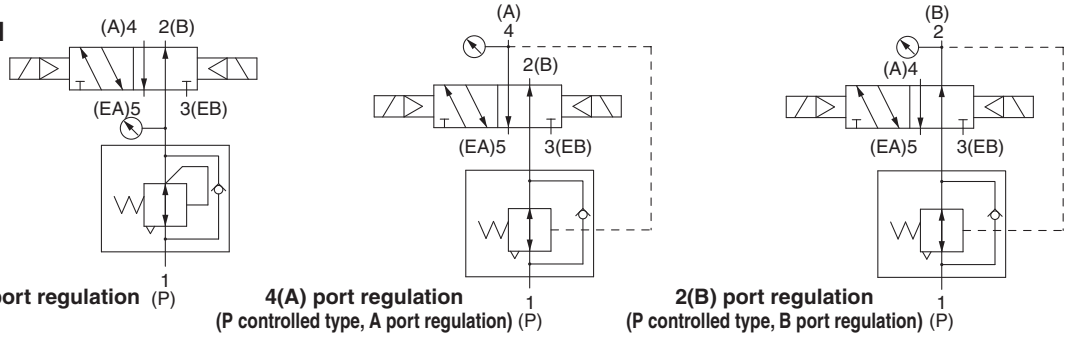
SY50M-M1-□
(Without pressure gauge)

Specifications

Interface regulator model		SY30M-□-□-□	SY50M-□-□
Applicable valve model Note 2)		SY3□$^{0}_{3}$□(R)	SY5□$^{0}_{3}$□(R)
Regulating port		1(P), 4(A), 2(B)	
Set pressure range		0.1 to 0.7 MPa	
Maximum operating pressure		1.0 MPa	
Fluid		Air	
Ambient and fluid temperature		-10 to 50°C (No freezing)	
Weight [g] Note 3)	With pressure gauge	33(35) Note 4)	75
	Without pressure gauge	27(29) Note 4)	69

Note 1) Always apply pressure from 1(P) port in the base for interface regulator.
Note 2) 3-position closed center and pressure center, and 4-position dual 3-port valves are only available for 1(P) port pressure regulation.
Note 3) Gasket and mounting screws are included in the weight.
Note 4) ( ): Denotes the values of SY30M-□-□-3.

JIS symbol



1(P) port regulation (P)

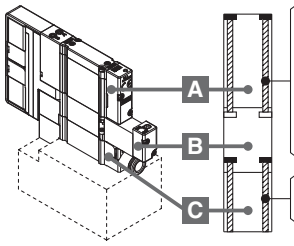
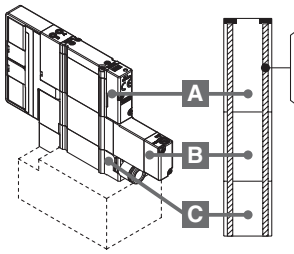
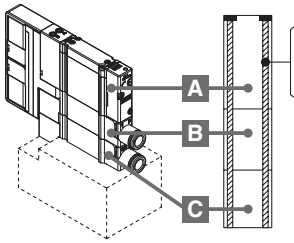
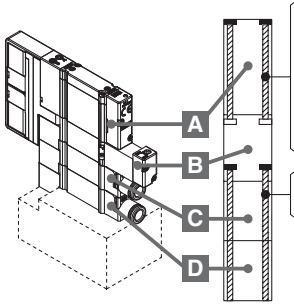
4(A) port regulation
(P controlled type, A port regulation) (P)

2(B) port regulation
(P controlled type, B port regulation) (P)

⚠ Caution

Tightening torque for mounting screw
M2: 0.16 N·m
M3: 0.8 N·m

Mounting Screw Part No. ① (when adding optional lamination layers)

Combination			① SY3000 (M2)		② SY5000 (M3)	
			Round head combination screw	Hexagon socket head cap screw	Round head combination screw	Hexagon socket head cap screw
 <Round head combination screw> ①:SY3000-23-24A ②:SY5000-221-1A <Hexagon socket head cap screw> ①:SY3000-222-1A ②:SY5000-222-1A ①:SY30M-56-2A ②:SY50M-56-2A	A	Valve	**SY3000-23-24A** [for 10 valves (20 pcs.)]	**SY3000-222-1A** [for 10 valves (20 pcs.)]	**SY5000-221-1A** [for 10 valves (20 pcs.)]	**SY5000-222-1A** [for 10 valves (20 pcs.)]
	B	SUP stop valve spacer assembly with residual pressure release valve	**SY30M-56-2A** (2 pcs.)		**SY50M-56-2A** (2 pcs.)	
	C	Individual SUP (EXH) spacer assembly				
 <Round head combination screw> ①:SY3000-23-33A ②:SY5000-221-5A	A	Valve	**SY3000-23-33A** (2 pcs.)	—	**SY5000-221-5A** (2 pcs.)	—
	B	Double check spacer assembly with residual pressure release valve				
	C	Individual SUP (EXH) spacer assembly				
 <Round head combination screw> ①:SY3000-23-32A ②:SY5000-221-3A	A	Valve	**SY3000-23-32A** (2 pcs.)	—	**SY5000-221-3A** (2 pcs.)	—
	B	Individual SUP (EXH) spacer assembly				
	C	Individual EXH (SUP) spacer assembly				
 <Round head combination screw> ①:SY3000-23-24A ②:SY5000-221-1A <Hexagon socket head cap screw> ①:SY3000-222-1A ②:SY5000-222-1A ①:SY30M-56-4A ②:SY50M-56-4A	A	Valve	**SY3000-23-24A** [for 10 valves (20 pcs.)]	**SY3000-222-1A** [for 10 valves (20 pcs.)]	**SY5000-221-1A** [for 10 valves (20 pcs.)]	**SY5000-222-1A** [for 10 valves (20 pcs.)]
	B	SUP stop valve spacer assembly with residual pressure release valve	**SY30M-56-4A** (2 pcs.)		**SY50M-56-4A** (2 pcs.)	
	C	Individual SUP (EXH) spacer assembly				
	D	Individual EXH (SUP) spacer assembly				

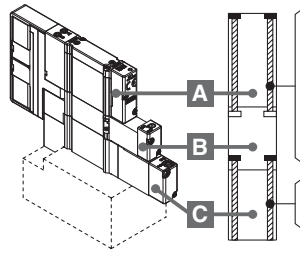
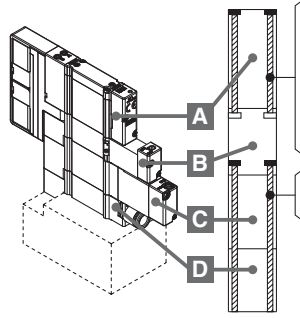
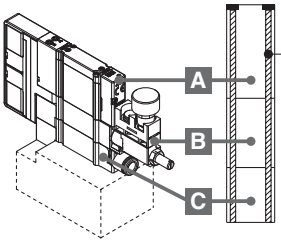
∗ Mounting onto a manifold follows the order explained above.

Note) The fitting for individual SUP/EXH spacers comes in a straight type only, since an elbow type would interfere with each spacer assembly when laminated.

⚠Caution

Tightening torque for mounting screw
M2: 0.16 N·m
M3: 0.8 N·m

Mounting Screw Part No. ② (when adding optional lamination layers)

Combination			① SY3000 (M2)		② SY5000 (M3)	
			Round head combination screw	Hexagon socket head cap screw	Round head combination screw	Hexagon socket head cap screw
 <Round head combination screw> ①:SY3000-23-24A ②:SY5000-221-1A <Hexagon socket head cap screw> ①:SY3000-222-1A ②:SY5000-222-1A ①:SY30M-56-3A ②:SY50M-56-3A	A	Valve	SY3000-23-24A [for 10 valves (20 pcs.)]	SY3000-222-1A [for 10 valves (20 pcs.)]	SY5000-221-1A [for 10 valves (20 pcs.)]	SY5000-222-1A [for 10 valves (20 pcs.)]
	B	SUP stop valve spacer assembly with residual pressure release valve	SY30M-56-3A (2 pcs.)		SY50M-56-3A (2 pcs.)	
	C	Double check spacer assembly with residual pressure release valve				
 <Round head combination screw> ①:SY3000-23-24A ②:SY5000-221-1A <Hexagon socket head cap screw> ①:SY3000-222-1A ②:SY5000-222-1A ①:SY30M-56-5A ②:SY50M-56-5A	A	Valve	SY3000-23-24A [for 10 valves (20 pcs.)]	SY3000-222-1A [for 10 valves (20 pcs.)]	SY5000-221-1A [for 10 valves (20 pcs.)]	SY5000-222-1A [for 10 valves (20 pcs.)]
	B	SUP stop valve spacer assembly with residual pressure release valve	SY30M-56-5A (2 pcs.)		SY50M-56-5A (2 pcs.)	
	C	Double check spacer assembly with residual pressure release valve				
	D	Individual EXH (SUP) spacer assembly				
 <Round head combination screw> ①:SY3000-23-32A ②:SY5000-221-7A	A	Valve	SY3000-23-32A (2 pcs.)	—	SY5000-221-7A (2 pcs.)	—
	B	Interface regulator assembly				
	C	Individual SUP (EXH) spacer assembly				

∗ Mounting onto a manifold follows the order explained above.

Note) The fitting for individual SUP/EXH spacers comes in a straight type only, since an elbow type would interfere with each spacer assembly when laminated.

⚠Caution

Tightening torque for mounting screw
M2: 0.16 N·m
M3: 0.8 N·m

Manifold Options

∗Refer to pages 150 and 152 for dimensions.

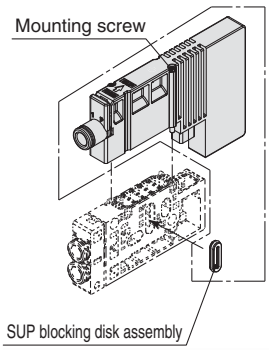
■Individual SUP block assembly

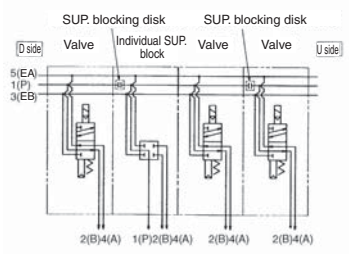
Used as supply port for different pressures when using different pressures for plug-in connector connecting base. (Use for 1 station)

Used by disconnecting both sides of the number of stations used to supply pressure from the individual SUP block (as shown in example).

∗ Specify the mounting position of the block as well as the position where the SUP passage is to be blocked on the manifold specification sheet. Blocking is required for 1 or 2 positions for 1 set.
(2 SUP blocking disks to block SUP is attached to individual SUP block.)

∗ Electrical wiring is connected to a number of stations in the individual SUP block manifold.





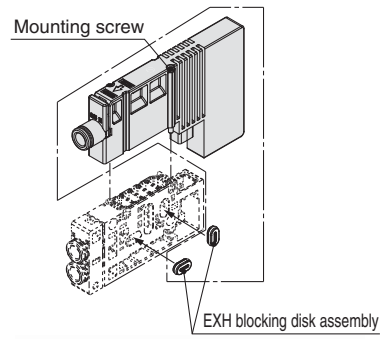
■Individual EXH block assembly

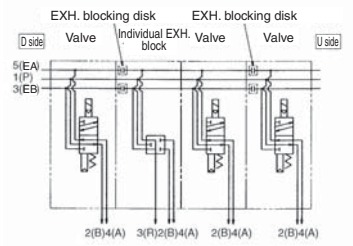
On the circuit of the plug-in connector connection base, used to individually exhaust the value when the exhaust from the valve will affect a number of stations. (Use for 1 station.)

Used by blocking both sides of the number of stations when exhausting individually (as shown in example).

∗ Specify the mounting position of the block as well as the position where the EXH passage is to be blocked on the manifold specification sheet. Blocking is required for 1 or 2 positions for 1 set.
(2 sets of EXH blocking disks (4 pcs.) to block EXH is attached to individual EXH block.)

∗ Electrical wiring is connected to a number of stations in the individual EXH block manifold.





How to Order Individual SUP/EXH Block Assembly

One-touch fitting Straight type SY 3 0M − 78 − 1 A − C6

One-touch fitting Elbow type SY 3 0M − 78 − 2 A − L6

Series

3	SY3000
5	SY5000

Block type

78	Individual SUP block
79	Individual EXH block

Individual SUP/EXH block assembly

2	Short elbow type (Type 12)
3	Long elbow type (Type 11)

Note) Long elbow type is for the SY5000 only.

Port size (Metric)

Symbol	P, E port	SY3000	SY5000
L4	ø4 One-touch fitting	●	●
L6	ø6 One-touch fitting	●	●
L8	ø8 One-touch fitting	—	●

Port size (Inch)

Symbol	P, E port	SY3000	SY5000
LN3	ø5/32" One-touch fitting	●	—
LN7	ø1/4" One-touch fitting	●	●
LN9	ø5/16" One-touch fitting	—	●

Port size (Metric)

Symbol	P, E port	SY3000	SY5000
C2	ø2 One-touch fitting	●	—
C3	ø3.2 One-touch fitting	●	—
C4	ø4 One-touch fitting	●	●
C6	ø6 One-touch fitting	●	●
C8	ø8 One-touch fitting	—	●

Port size (Inch)

Symbol	P, E port	SY3000	SY5000
N1	ø1/8" One-touch fitting	●	—
N3	ø5/32" One-touch fitting	●	●
N7	ø1/4" One-touch fitting	●	●
N9	ø5/16" One-touch fitting	—	●

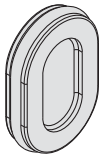
■SUP/EXH blocking disk assembly (for connector type manifold, Type 10, 11, 12)

[SUP blocking disk]

By inserting the SUP blocking disk in the pressure supply passage of the manifold valve, can provide two different high and low pressure in one manifold.

[EXH blocking disk]

By inserting the EXH blocking disk in the exhaust passage of the manifold valve, can separate the exhaust from the valve so it does not affect the other valves. It can also be used for the manifold for the positive pressure and vacuum mixed manifold. (2 pcs. are required to block both sides of the EXH.)

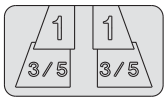


Series	SUP blocking disk assembly	EXH blocking disk assembly
SY3000	SY30M-40-1A	SY30M-40-2A
SY5000	SY50M-40-1A	SY50M-40-1A

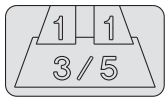
■Label for blocking disk

Label to indicate and confirm on the manifold where the SUP/EXH blocking disk assemblies were inserted. (3 sheets each)

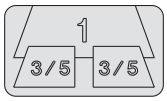
SUP/EXH blocking disk label



SUP blocking disk label

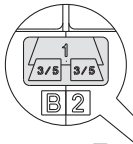


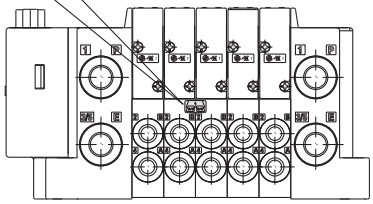
EXH blocking disk label



Series	Part no.
SY3000	SJ3000-155-1A
SY5000	

∗ If the blocking disk assembly is ordered using the manifold specification sheet and ordered at the same time as the manifold, the position where the blocking disk assembly is inserted will be labeled and shipped out.





Manifold Options

■Back pressure check valve assembly (Retrofit or pre-installed type)

It prevents cylinder malfunction caused by other valve exhaust entry. Insert it into EA/EB port (valve mounting side) on the manifold side of a valve which is affected. It is effective when a single-acting cylinder is used.

∗ When ordering assemblies incorporated with a manifold, refer to the Ordering Example below (when installed in all stations.)

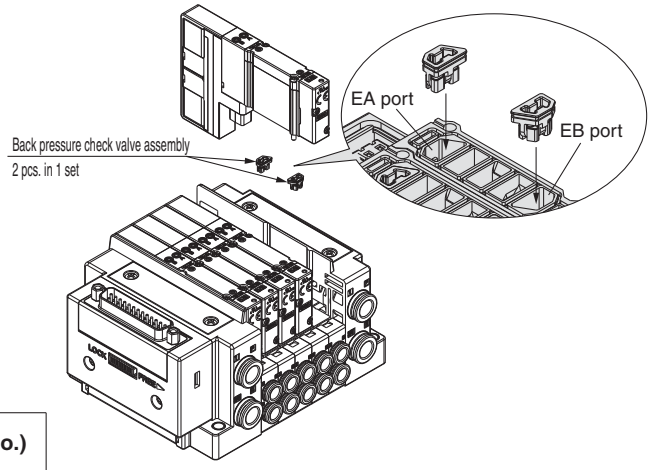
Note) When a check valve for back pressure prevention is desired and is to be installed only in certain manifold stations, clearly indicate the part number and specify the mounting position on the manifold specification sheet.

<Precautions>

1. The back pressure check valve assembly is assembly parts with a check valve structure. However, since the valve has slight air leakage, take precautions for the exhaust air not to be restricted at the exhaust port.
2. When the back pressure check valve assembly is mounted, please contact SMC for valve flow-rate characteristics.

Ordering Example

SS5Y3-10F1-05B-C6·····1 set (Type 10 5-station manifold base part no.)
∗SY3201-5U1·····5 sets (2-position double part no.)
∗SY30M-24-1A·····5 sets (Back pressure check valve assembly part no.)
∗The asterisk denotes the symbol for assembly.



Series	Part no.
SY3000	SY30M-24-1A
SY5000	SY50M-24-1A

■Dual flow fitting (for connector connecting base, Type 10, side ported)

This is a fitting for cylinder ports which enables simultaneous actuation and increase in flow rate of valves for 2 stations.

∗ When ordering assemblies incorporated into a manifold, refer to the Ordering Example below and specify on the manifold specifications sheet.

How to Order Dual Flow Fitting

SY 3 0M − 120 − 1A − C8

Series

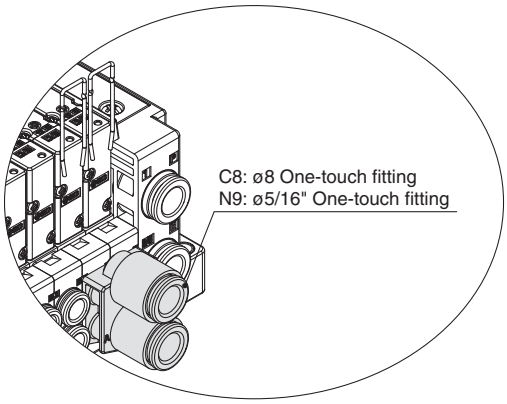
3	SY3000
5	SY5000

A, B port size

Symbol	A, B port		SY3000	SY5000
C8	Metric size	ø8 One-touch fitting	●	—
C10		ø10 One-touch fitting	—	●
N9	Inch size	ø5/16" One-touch fitting	●	—
N11		ø3/8" One-touch fitting	—	●

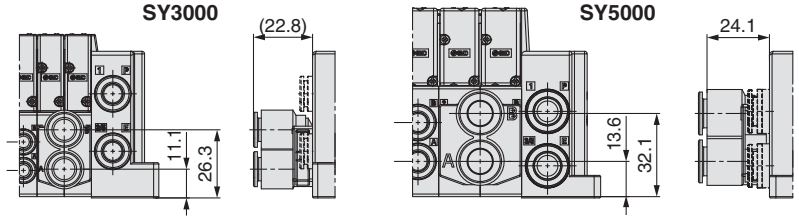
Ordering Example

SS5Y3-10F1-08B-CM
∗SY3100-5U1
∗SY30M-120-1A-C8
∗The asterisk denotes the symbol for assembly.



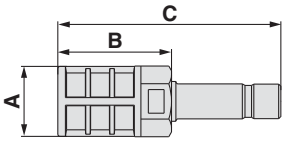
Note 1) Specifically for side porting for a connector connecting base. Cannot be attached to bottom or top ported, or mixed mounting types that are metal or connector connecting bases.

Note 2) When adding or changing clips, please push them into the very end of the manifold for each station. Also, please make sure to use the clip that was packed together, as the clip and the fitting for one station differ among products that can be used with the SY5000.



■Silencer (One-touch fitting connection type)

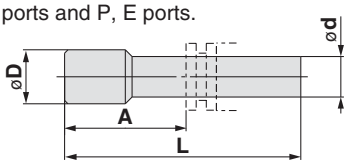
This silencer can be mounted to the 3/5 (E: EXH) port of the manifold in one step.



Series	Model	Effective area	A	B	C
For SY3000 (ø8)	**AN15-C08**	14 mm²	ø16	26	51
For SY5000 (ø10)	**AN20-C10**	26 mm²	ø22	53.8	80.8

■Plug (White)

These are inserted in unused cylinder ports and P, E ports.



Dimensions

Applicable fitting size ød (Metric size)	Model	A	L	D
2	**KJP-02**	8.2	17	3
3.2	**KQ2P-23**	16	31.5	5
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

Applicable fitting size ød (Inch size)	Model	A	L	D
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 Options

A transparent plastic plate to put a label with the name of the function of the solenoid valve.

■Name plate (for manifold)

SY3000: For SS5Y3-10 (Side ported)
SY5000: For SS5Y5-10/11 (Side/Bottom ported)

Name plate bracket assembly and name plate mounting instructions

Insert it into the groove on the name plate bracket onto which a SUP/EXH (end) block is mounted, as shown in Fig. 2.

∗ When ordering assemblies incorporated with a manifold, refer to the Ordering Example below.

SS5Y3-10□□□-□□□-□□

SS5Y5-$^{10}_{11}$□□□-□□□-□□

Mounting and Option

Symbol	Mounting option
AA	Name plate (printed), (directly mounting)
A	Name plate (printed), DIN rail mounted (With DIN rail)
A0	Name plate (printed), DIN rail mounted (Without DIN rail)
A3	Name plate (printed), DIN rail specified length (For 3 stations)
⋮	⋮
A24	Name plate (printed), DIN rail specified length (For 24 stations)
BA	Name plate (no printing), (direct mounting)
B	Name plate (no printing), DIN rail mounted (With DIN rail)
B0	Name plate (no printing), DIN rail mounted (Without DIN rail)
B3	Name plate (no printing), DIN rail specified length (For 3 stations)
⋮	⋮
B24	Name plate (no printing), DIN rail specified length (For 24 stations)

Note) You cannot mount name plates onto Type 12 (top ported) and Type 10 (side ported) mixed mounting types with top ported valves, nor onto manifolds with optional laminated spacers. Also, no name plate settings are available for the SY3000/SY5000 mixed mounting types.

Ordering Example

SS5Y3-10F1-05UR-C6AA ····· 1 set
∗SY3200R-5U1 ····· 5 sets
∗ **The asterisk denotes the symbol for assembly.**

■If adding a name plate

If adding a name plate to a manifold in use, you must order a name plate bracket assembly, in addition to ordering a name plate. Refer to the table below for the part number. and the amount.

Name plate part no.

Series		SS5Y3-10	SS5Y5-10/11	Note
Name plate	Printed	SY30M-86-□N	SY50M-86-□N	□:Number of stations (1 to 24)
	No printing	SY30M-86-□	SY50M-86-□	

Name plate bracket assembly part no. and number of items ordered

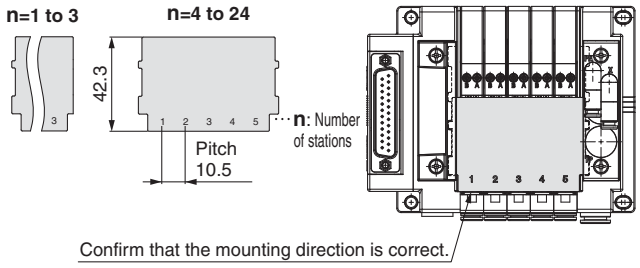
Series		SS5Y3-10	SS5Y5-10/11
Name plate assembly part no.		SY30M-85-1A	SY50M-85-1A
Manifold SUP/EXH block assembly Pilot type and P, E port entry	Internal pilot U/D piping	2 pcs.	2 pcs.
	Internal pilot double sided piping	2 pcs.	
	External pilot U/D piping	1 pc. Note)	
	External pilot double sided piping	Not required Note)	

Note) If the manifold is an external pilot, an insertion slot for name plates is on the port block of the SUP/EXH block assembly. Thus, a bracket assembly is no longer required on the port piping side.

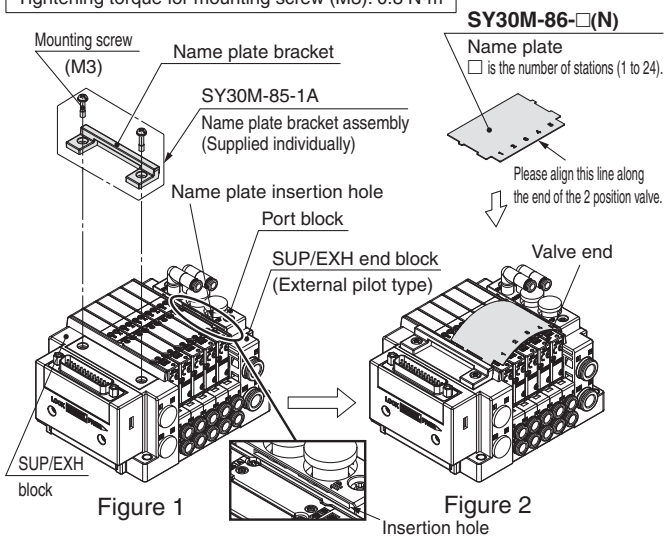
⚠ Caution

1. Be sure to shut off the power and air supplies before mounting the name plate bracket assembly. 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 the tightening of the bracket mounting screws is inadequate.

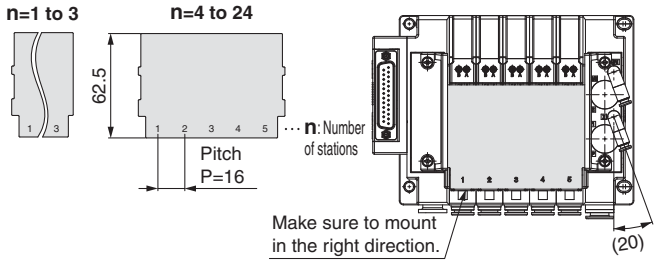
<Series SY3000>



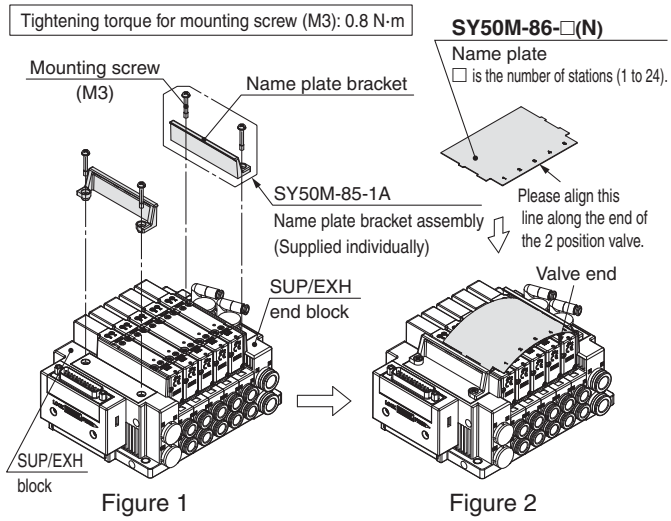
Tightening torque for mounting screw (M3): 0.8 N·m



<Series SY5000>

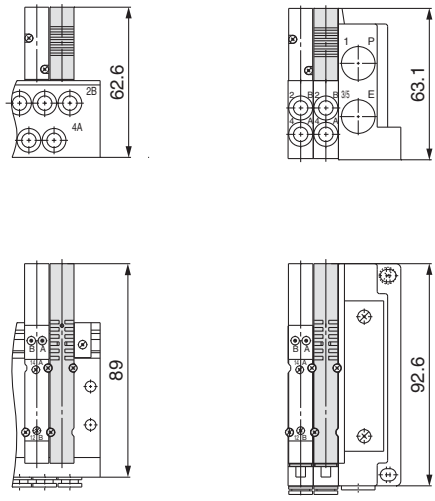


Tightening torque for mounting screw (M3): 0.8 N·m



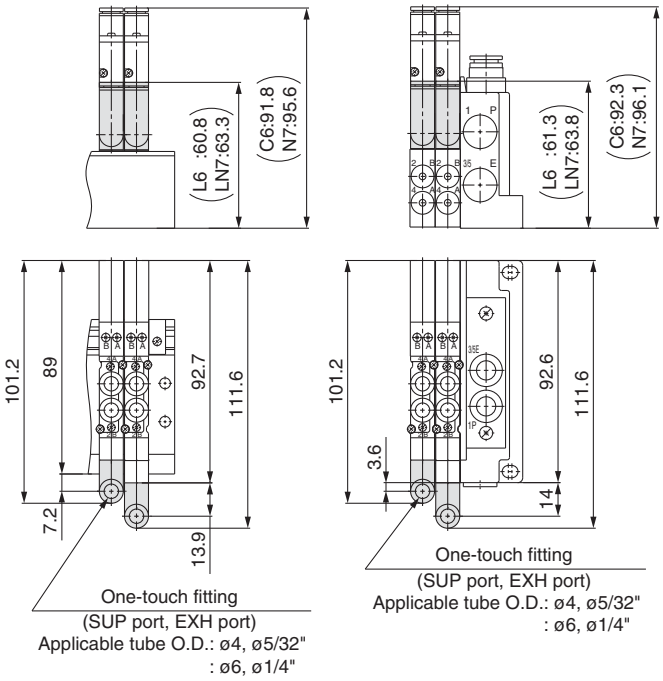
Dimensions: Manifold Options/Series SY3000

■ Blanking plate assembly



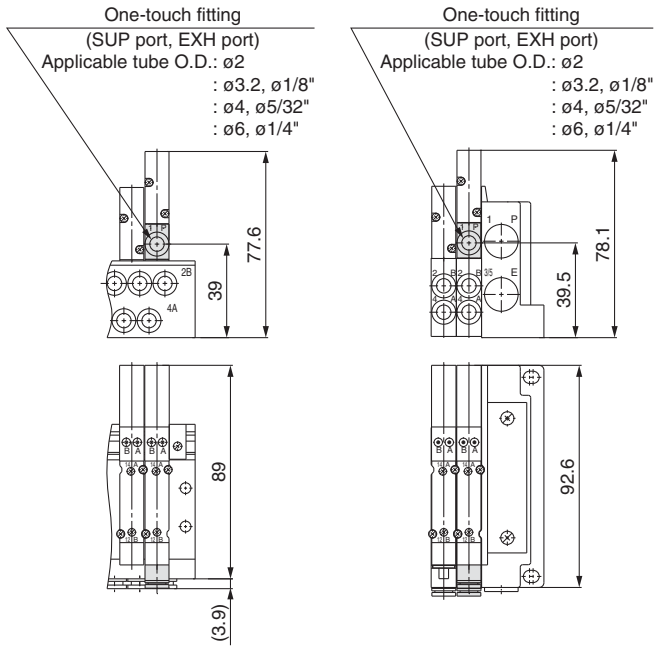
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■ Individual SUP/EXH spacer assembly (Top/Bottom ported)



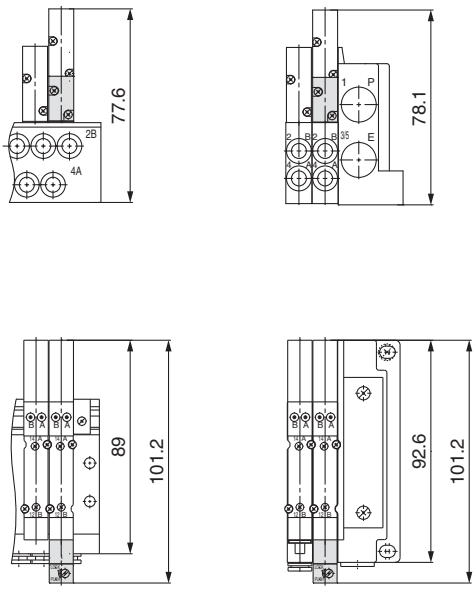
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■ Individual SUP/EXH spacer assembly (Side ported)



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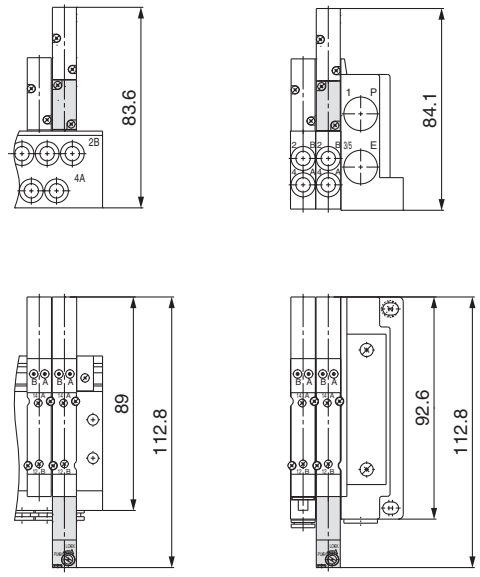
■ SUP stop valve spacer assembly with residual pressure release valve



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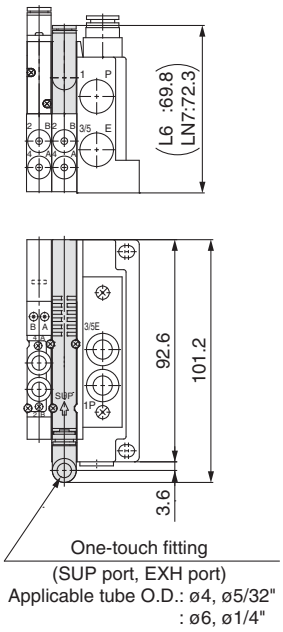
Dimensions: Manifold Options/Series SY3000

■Double check spacer assembly with residual pressure release valve



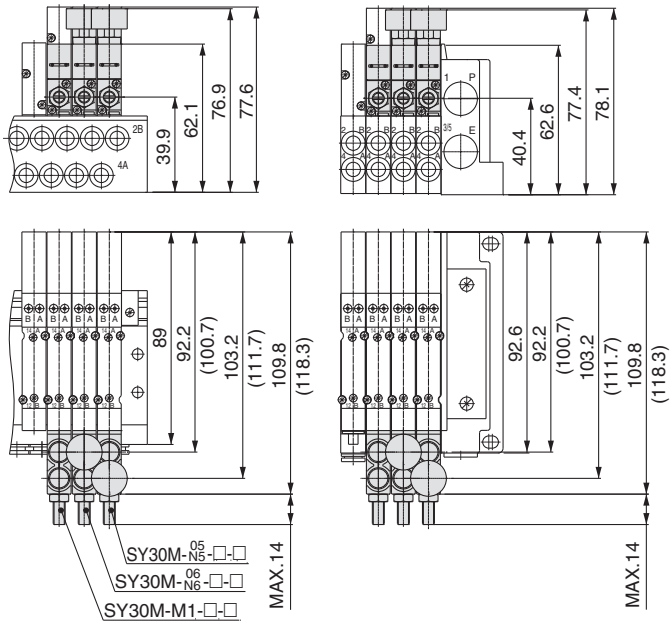
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■Individual SUP/EXH block assembly (Top ported)



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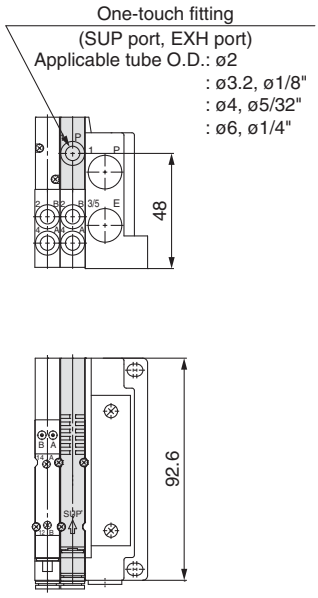
■Interface regulator assembly



<Type 50, 51, 52> <Type 10, 12>

∗The dimensions within ( ) applies to the **SY30M-□-□-3**.

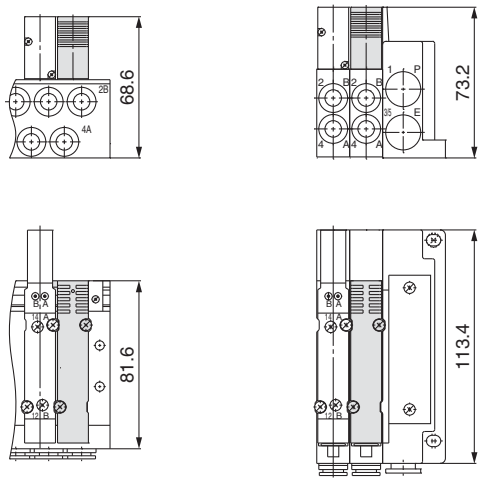
■Individual SUP/EXH block assembly (Side ported)



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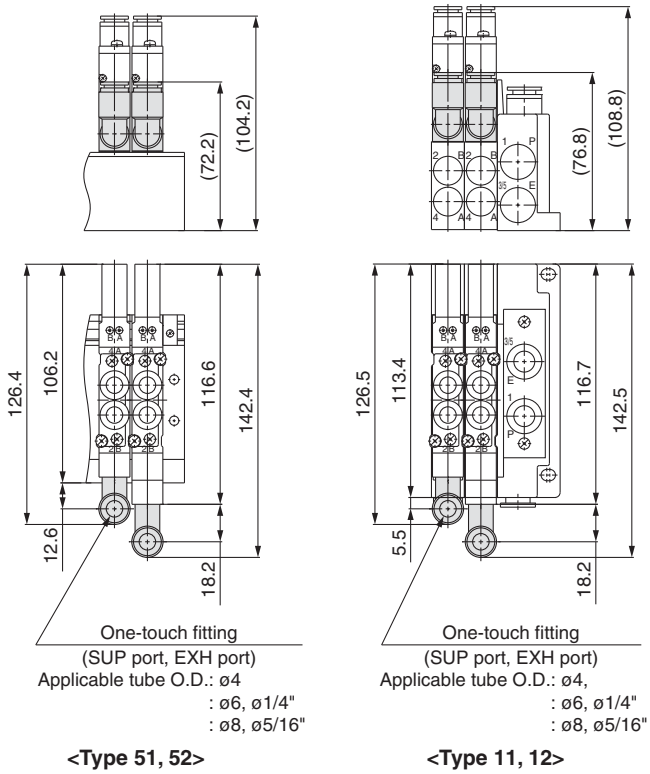
Dimensions: Manifold Options/Series SY5000

■Blanking plate assembly



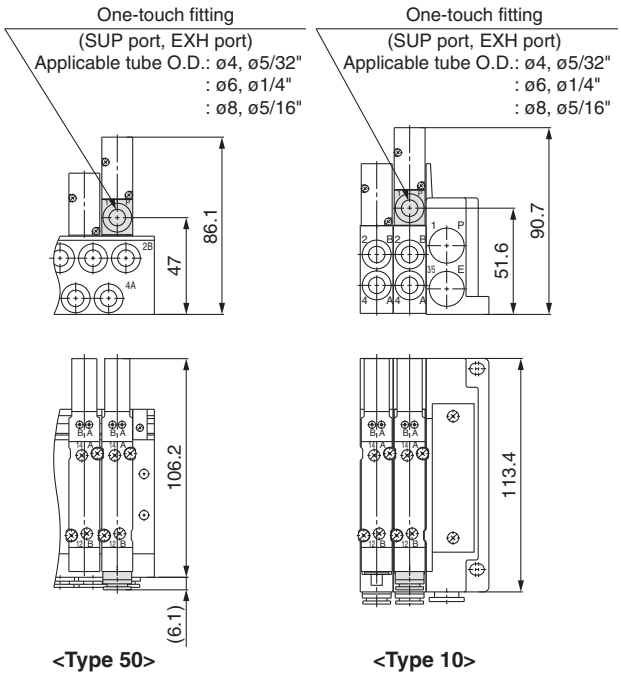
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■Individual SUP/EXH spacer assembly (Top/Bottom ported)



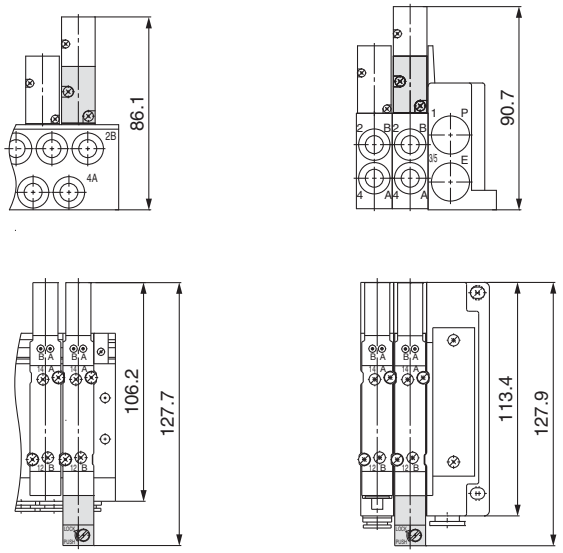
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■Individual SUP/EXH spacer assembly (Side ported)



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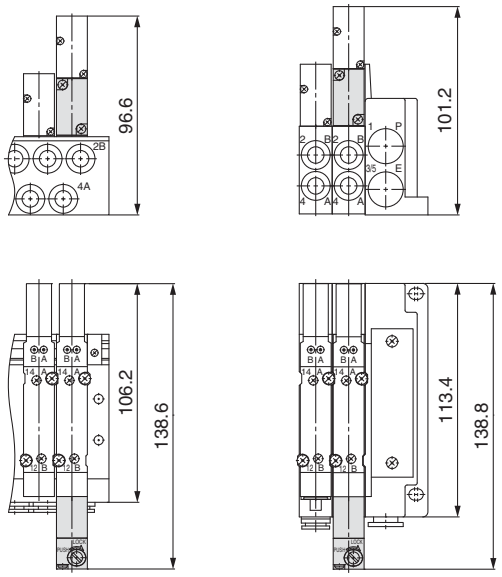
■SUP stop valve spacer assembly with residual pressure release valve



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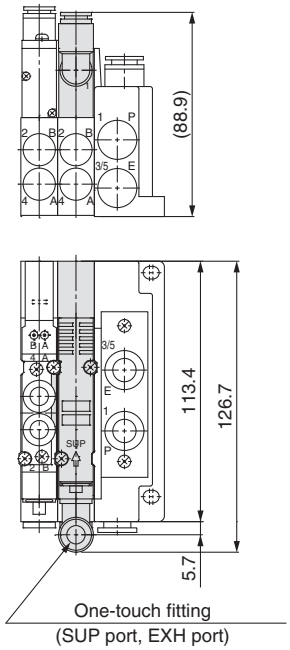
Dimensions: Manifold Options/Series SY5000

■Double check spacer assembly with residual pressure release valve



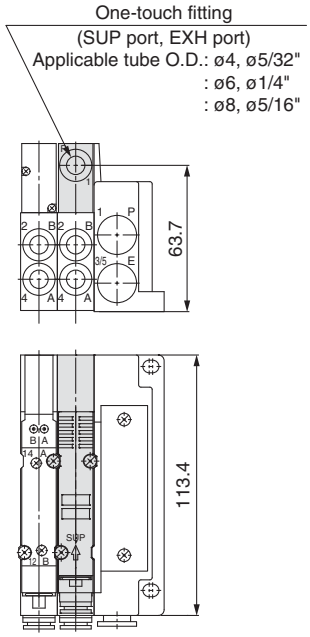
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■Individual SUP/EXH block assembly (Top ported)



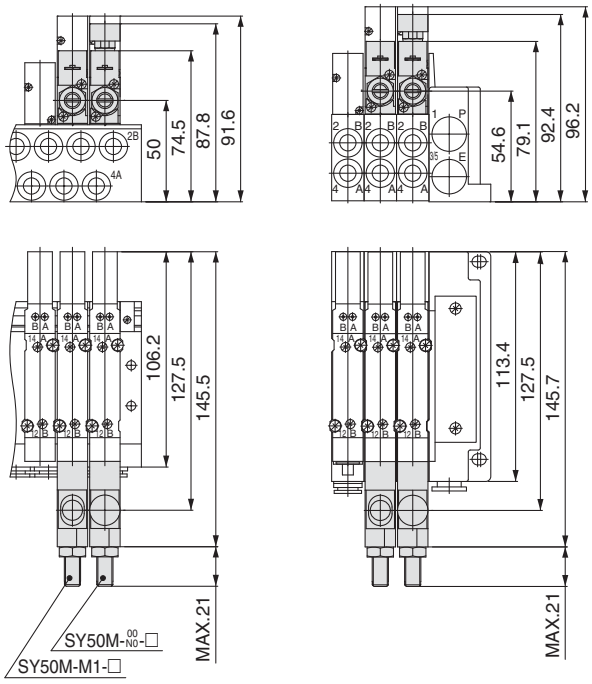
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■Individual SUP/EXH block assembly (Side ported)



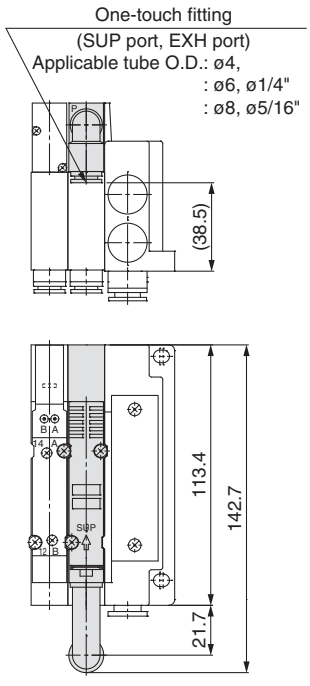
<Type 10>

■Interface regulator assembly



<Type 50, 51, 52> <Type 10, 11, 12>

■Individual SUP/EXH block assembly (Bottom ported)



<Type 11>

Series SY3000/5000
Specific Product Precautions 1

Be sure to read before handling.
Refer to back cover for Safety Instructions, "Handling Precautions for SMC Products" (M-E03-3) for 3/4/5 Port Solenoid Valve Precautions.

Valve Mounting

⚠Caution

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

Model	Thread size	Tightening torque
SY3000	M2	0.16 N·m
SY5000	M3	0.8 N·m

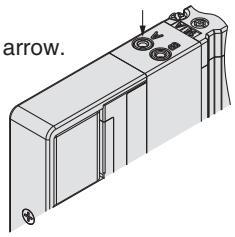
Manual Override

⚠Warning

Regardless of an electric signal for the valve, the manual override is used for switching the main valve. Connected actuator is started by manual operation. Use the manual override after confirming that there is no danger.

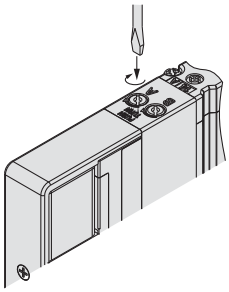
■Non-locking push type

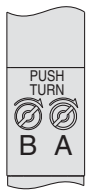
Press in the direction of the arrow.



■Push-turn locking slotted type [Type D]

Push down on the manual override with a small flat head screwdriver until it stops. Turn it clockwise by 90 to lock it. Turn it counterclockwise to release it.
If it is not turned, it can be operated the same way as the non-locking type.

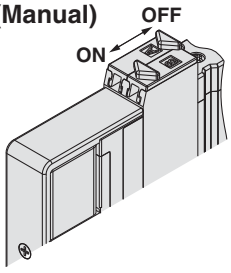


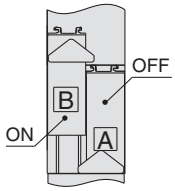


⚠Caution

Do not apply excessive torque when turning the manual override. [0.1 N·m]
When locking the manual override, be sure to push it down before turning. Turning without first pushing it down can cause damage to the manual override and other trouble such as air leakage, etc.

■Slide locking type (Manual)





It is locked by sliding the manual override all the way in the direction indicated by the arrow (ON side) with a small flat head screwdriver or with your fingers. Slide it in the direction indicated by the arrow (OFF side) to release it.

Back Pressure Check Valve

⚠Caution

There are two types of back pressure check valves; the one which is built into a valve (with rubber seal type only) and the one which is built in on the manifold side with connector connection. Both of them have a check valve built-in to prevent back pressure. For this reason, use caution that the valves with external pilot specification cannot be pressurized from exhaust port [3/5(E)]. As compared with the types which do not integrate the back pressure check valve, C value of the flow-rate characteristics goes down. Please contact SMC for details.

Exhaust Throttle

⚠Caution

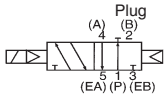
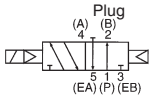
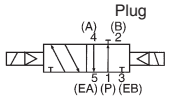
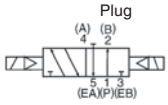
The SY series pilot valve and main valve share a common exhaust inside the valve. Therefore, do not block the exhaust port when arranging the piping.

Used as a 3-Port Valve

⚠Caution

■In case of using a 5-port valve as a 3-port valve

The SY3000/5000 series can be used as normally closed (N.C.) or normally open (N.O.) 3-port port valves by closing one of the cylinder ports 4(A) or 2(B) with a plug. However, they should be used with the exhaust ports kept open. They are convenient at times when a double solenoid type 3-port valve is required.

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

Valve and Manifold Combination

The SY series plug-in valve has the common configuration of the valve mounting surface between base mounted type (SY$^{3}_{5}$□0□) and top ported type (SY$^{3}_{5}$□3□), therefore, it can be mounted to all manifolds of the side ported type (type 50 and type 10), the bottom ported type (type 51 and type 11) and the top ported type (type 52 and type 12).
For example, air output can be obtained from both sides of the A and B ports of the manifold and the valve by mounting a top ported valve to a side ported or bottom ported manifold , and a pressure switch can be connected to the output port on one side. However, when selecting valves and manifolds, note that when a base mounted valve is mounted to a top ported manifold, there will be no output from the A and B port.

Specific Product Precautions 2

Be sure to read before handling.
Refer to back cover for Safety Instructions, "Handling Precautions for SMC Products" (M-E03-3) for 3/4/5 Port Solenoid Valve Precautions.

Light/Surge Voltage Suppressor

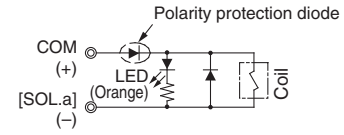
⚠Caution

■Polar type

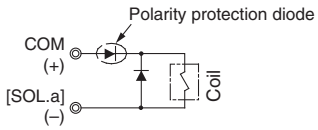
Positive common

Single solenoid

Light/surge voltage suppressor (□Z)



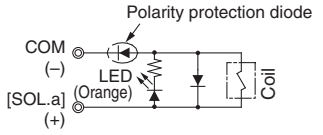
Surge voltage suppressor (□S)



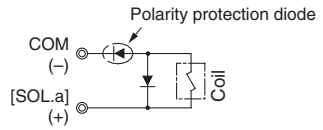
Negative common

Single solenoid

Light/surge voltage suppressor (□NZ)



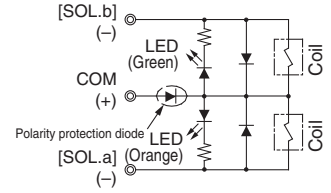
Surge voltage suppressor (□NS)



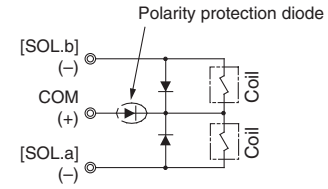
Positive common

Double solenoid, 3-position, 4-position

Light/surge voltage suppressor (□Z)



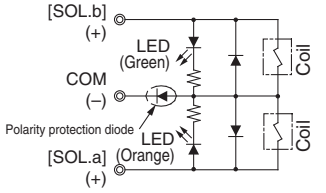
Surge voltage suppressor (□S)



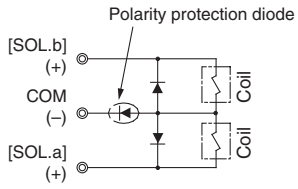
Negative common

Double solenoid, 3-position, 4-position

Light/surge voltage suppressor (□NZ)



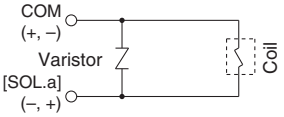
Surge voltage suppressor (□NS)



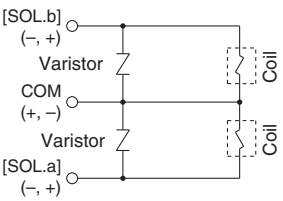
■Non-polar type

With surge voltage suppressor (□R)

Single solenoid

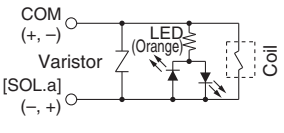


Double solenoid

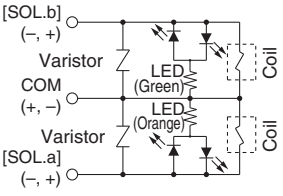


With light/surge voltage suppressor (□U)

Single solenoid



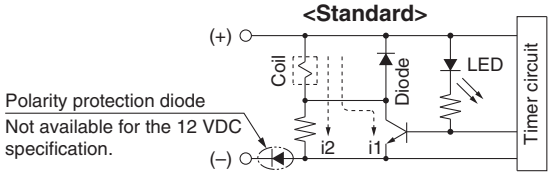
Double solenoid



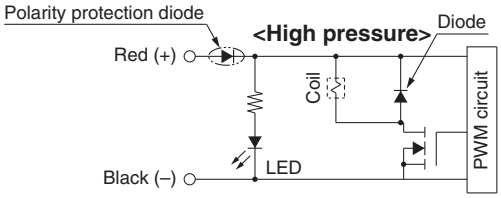
■With power saving circuit

Power consumption is decreased by approx. 1/3 by reducing the wattage required to hold the valve in an energized state. (Effective energizing time is over 67 ms at 24 VDC.)

Note) Be careful with the energizing time, as quick response and high pressure types will become operational when loaded at more than 40 ms.

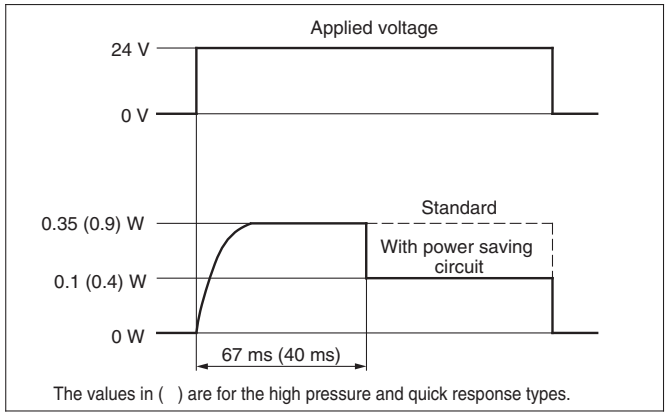


i1: Starting current, i2: Holding current



The above circuit reduces the current consumption when holding in order to save energy. Refer to the electrical power waveform as shown below.

<Electrical power waveform with power saving circuit>



The values in ( ) are for the high pressure and quick response types.

- The 12 VDC specification with power saving circuit (standard specification) does not have the polarity protection diode. Do not make a mistake with the polarity.
- Since the voltage will drop by approx. 0.5 V due to the transistor, pay attention to the allowable voltage fluctuation. (For details, refer to the solenoid specifications of each type of valve.)

Residual voltage of the surge voltage suppressor

Note) If a varistor or diode surge voltage suppressor is used, there is some residual voltage to the protection element and rated voltage. Therefore, refer to the below table and pay attention to the surge voltage protection on the controller side. Also, since the response time does change, refer to the valve specifications on page 8.

Residual Voltage

Surge voltage suppressor	DC	
	24 V	12 V
S, Z	Approx. 1 V	
R, U	Approx. 47 V	Approx. 32 V

Specific Product Precautions 3

Be sure to read before handling.
Refer to back cover for Safety Instructions, "Handling Precautions for SMC Products" (M-E03-3) for 3/4/5 Port Solenoid Valve Precautions.

Continuous Duty

⚠Caution

If a valve is energized continuously for a long period of time, the rise in temperature due to heat-up of the coil assembly may cause a decline in solenoid valve performance, reduce service life, or have adverse effects on peripheral equipment. If the valve is energized continuously for a long period of time, be sure to use a valve with power saving circuit. In particular, if three or more adjacent stations on the manifold are energized simultaneously for extended periods of time or if the valves on A side and B side are energized simultaneously for a long period of time, take special care as the temperature rise will be greater.

Countermeasure for Surge Voltage Intrusion

■Sneak-in of surge voltage

With non-polar type valves, at times of sudden interruption of the loading power supply, such as emergency shutdown, surge voltage intrusion may be generated from loading equipment with a large capacity (power consumption), and the valve in a de-energized state may switch over (see Figure 1). When installing a breaker circuit for the loading power supply, consider using a valve with polarity (with polarity protection diode), or install a surge absorption diode between the loading equipment COM line and the output equipment COM line (see Figure 2).

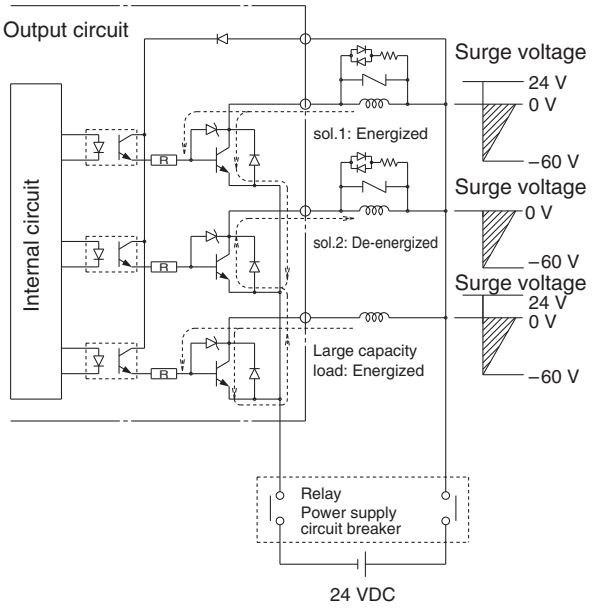


Figure 1. Surge intrusion circuit example (NPN outlet example) (24 VDC)

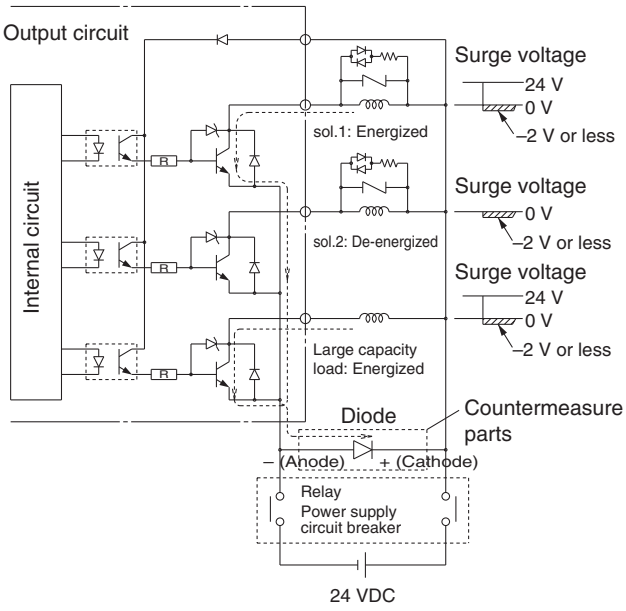


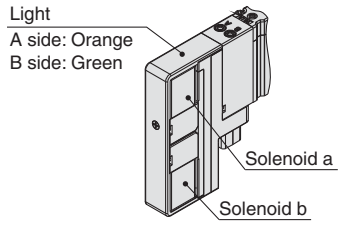
Figure 2. Surge intrusion circuit example (NPN outlet example) (24 VDC)

Specific Product Precautions 4

Be sure to read before handling.
Refer to back cover for Safety Instructions, "Handling Precautions for SMC Products" (M-E03-3) for 3/4/5 Port Solenoid Valve Precautions.

Light Indication

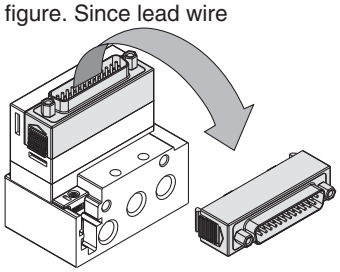
When equipped with indicator light and surge voltage suppressor, the light window turns orange when solenoid a is energized, and it turns green when solenoid b is energized.



Type 5□ (Metal Base) Changing Connector Entry Direction

⚠Caution

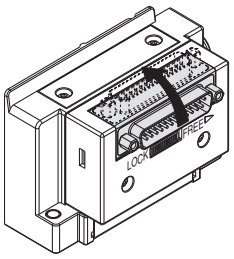
Connector direction for electrical entry of D-sub connector, flat ribbon cable and PC wiring can be changed.
If the directional change is required, push the lever on both sides to remove the connector and change the connector direction for electrical entry as shown in the figure. Since lead wire assemblies are attached to the connector, excessive pulling or twisting can cause broken wires or other trouble. Also, take precautions so that lead wires are not caught and pinched when installing the connector.



Type 1□ (Connector Connecting Base) Changing Connector Entry Direction

⚠Caution

Connector direction for electrical entry of D-sub connector, flat ribbon cable and PC wiring can be changed. If the directional change is required, slide the lever on the side of the connector block to the FREE position, and then change the direction as shown in the figure. Also, before connecting the connector, be sure to return the lever to the LOCK position. (If the lever is difficult to slide, move the connector a little bit to make it easier to slide the lever.) If an excessive force is applied on the connector in the LOCK position, the connector block may be damaged. Also, using in such a way that the connector floats in the FREE position, it may cause the lead wire, etc. to break. Thus, refrain from using in these ways.



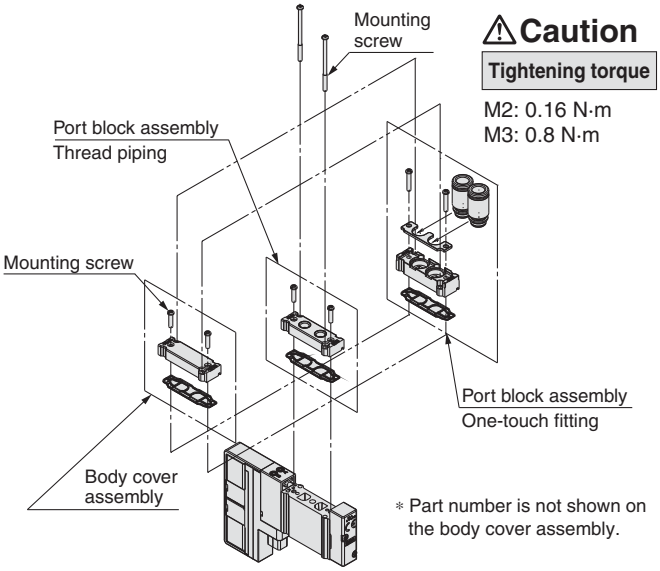
Fixation of DIN Rail Mounting Type Manifold

When the manifold is fixed with bolts on a mounting surface, etc., it can be operated just by fixing on both ends of the DIN rail if the bottom surface of the DIN rail is entirely in contact with the mounting surface when mounted horizontally.
However, if it is used with other mounting or with side or reverse mounting, fix the DIN rail with bolts at regular intervals. As a guide, insert bolts in 2 positions for 2-5 stations, 3 positions for 6-10 stations, 4 positions for 11-15 stations, 5 positions for 16-20 stations and 6 positions for 21-24 stations.
Take the same measures for horizontal mounting if the mounting surface vibrates.
If fixed at lesser points than specified and use it, there could be a warp or torsion in the DIN rail and the manifold and lead to bring some troubles such as air leakage.

Port Block Assembly and How to Change Piping Types between Top and Side

⚠Caution

For top ported type, the port size of A and B ports can be changed by switching the port block assemblies which are mounted on the body. The piping method can also be changed by switching the top ported type port block assembly with the side ported type cover assembly. Also, it may cause air leakage if the mounting screws are not tightened securely enough when they are switched. Take care to tighten to the correct tightening torque.
Refer to page 13 for part numbers of port block assembly and body cover assembly.
When switching them while valves are mounted on a manifold, remove the clip with a flat head screwdriver before switching the port plugs and the one-touch fittings. It may cause air leakage if the mounting screws are not tightened or the clip is not inserted securely enough when they are switched. Take care to tighten to the correct tightening torque.

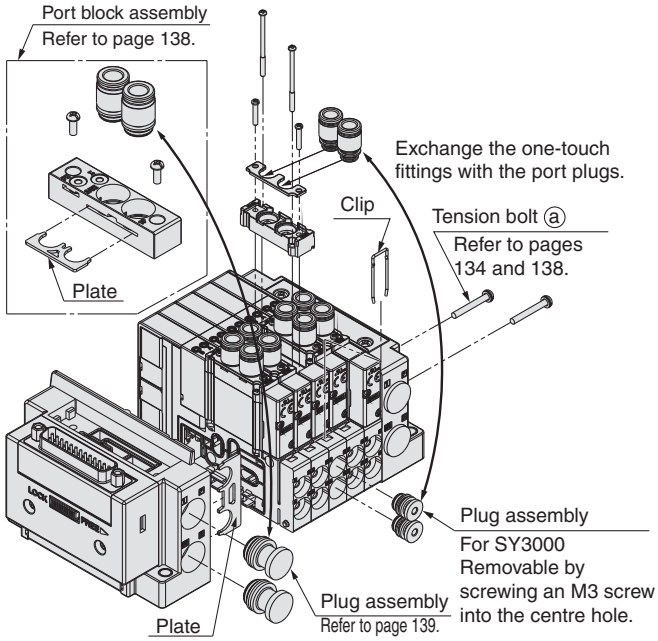


⚠Caution

Tightening torque

M2: 0.16 N·m
M3: 0.8 N·m

■How to change while mounted on a manifold



Series SY3000/5000
Specific Product Precautions 5

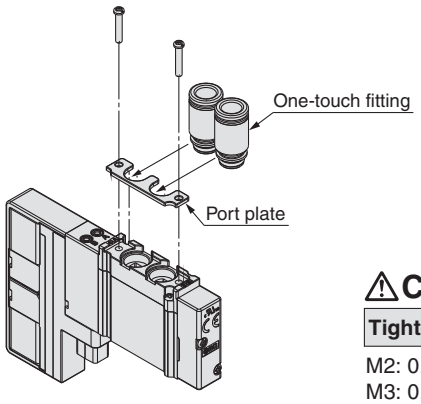
Be sure to read before handling.
Refer to back cover for Safety Instructions, "Handling Precautions for SMC Products" (M-E03-3) for 3/4/5 Port Solenoid Valve Precautions.

Changing One-touch Fittings

⚠Caution

By replacing one-touch fittings of valve or manifold base, it is possible to change the connection diameter of the 4(A), 2(B), 1(P), 3/5(E) ports.
When replacing the one-touch fittings, remove the clip or the plate and the plate mounting screws with a screwdriver before pulling the one-touch fittings off. Mount the one-touch fittings by following the removal procedure in reverse.
It may cause air leakage if the mounting screws are not tightened or the clip and the clip plate are not inserted securely enough when they are switched. Take care to tighten to the correct tightening torque. Refer to page 139 for part numbers of one-touch fittings for valve or manifold.

■Valve



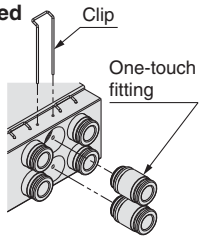
⚠Caution

Tightening torque

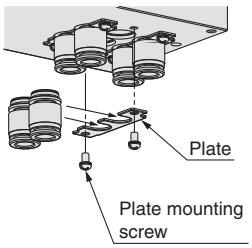
M2: 0.16 N·m
M3: 0.8 N·m

■Plug-in metal base

●Side ported

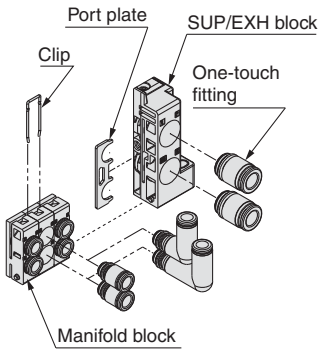


●Bottom ported

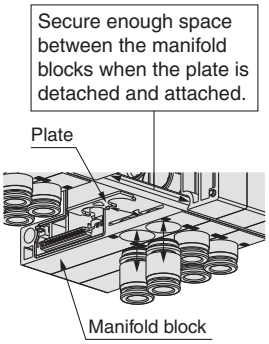


■Plug-in connector connecting base

●Side ported



●Bottom ported



Other Tube Brands

⚠Caution

1. When using other than SMC brand tube, confirm that the following specifications are satisfied with respect to the tube outside diameter tolerance.

1) Nylon tube within 0.1 mm
2) Soft nylon tube within 0.1 mm
3) Polyurethane tube within +0.15 mm
–0.2 mm

Do not use tube which do not meet these outside diameter tolerances. It may not be possible to connect them, or they may cause other trouble, such as air leakage or the tube pulling out after connection.

One-touch Fittings

■Tube attachment/detachment for one-touch fittings

1) Tube attachment

1. Take a tube having no flaws on its periphery and cut it off at a right angle. When cutting the tube, use tube cutters TK-1, 2 or 3. Do not use pinchers, nippers or scissors, etc. If cutting is done with tools other than tube cutters, the tube may be cut diagonally or become flattened, etc., making a secure installation impossible. Allow some extra length in the tube.
2. Grasp the tube and push it in slowly, inserting it securely all the way into the fitting.
3. After inserting the tube, pull on it lightly to confirm that it will not come out. If it is not installed securely all the way into the fitting, this can cause problems such as air leakage or the tube pulling out.

2) Tube detachment

1. Push in the release button sufficiently, pushing its collar equally around the circumference.
2. Pull out the tube while holding down the release button so that it does not come out. If the release button is not pressed down sufficiently, there will be increased bite on the tube and it will become more difficult to pull it out.
3. When the removed tube is to be used again, cut off the portion which has been chewed before reusing it. If the chewed portion of the tube is used as is, this can cause trouble such as air leakage or difficulty in removing the tube.

Series SY3000/5000
Specific Product Precautions 6

Be sure to read before handling.
Refer to back cover for Safety Instructions, "Handling Precautions for SMC Products" (M-E03-3) for 3/4/5 Port Solenoid Valve Precautions.

One-touch Fittings

⚠Caution

When fittings are used, they may interfere with one another depending on their types and sizes. Therefore, the dimensions of the fittings to be used should first be confirmed in their respective catalogues.
Fittings whose compliance with the SY series is already confirmed are stated below. If the fitting within the applicable range is selected, there will not be any interference.

Applicable Fittings: Series KQ2H, KQ2S
Series KJH, KJS

Series	Model	Piping port	Port size	Fittings	Applicable tube O.D. ø2	ø3.2	ø4	ø6	ø8	ø10	ø12
SY3000	SY3□3$^{0}_{1}$-□□-M5	4A, 2B	M5	KQ2H KJH	●	●	●				
				KQ2S KJS	●	●	●	●			
	SS5Y3-50/51/52(R) Manifold base	1P, 5EA, 3EB	1/8	KQ2H KJH		●	●	●	●		
				KQ2S KJS			●	●	●		
		X, PE	M5	KQ2H KJH	●	●	●				
				KQ2S KJS	●	●	●	●			
		4A, 2B	1/8	KQ2H KJH		●	●				
				KQ2S KJS			●	●			
			M5	KQ2H KJH	●	●	●				
				KQ2S KJS	●	●	●	●			

Series	Model	Piping port	Port size	Fittings	Applicable tube O.D. ø2	ø3.2	ø4	ø6	ø8	ø10	ø12
SY5000	SY5□3$^{0}_{1}$-□□-01	4A, 2B	1/8	KQ2H KJH		●	●	●			
				KQ2S KJS			●	●	●		
	SS5Y5-50/51/52(R) Manifold base	1P, 5EA, 3EB	1/4	KQ2H		●	●	●	●	●	
				KQ2S				●	●	●	●
		X, PE	M5	KQ2H KJH	●	●	●	●			
				KQ2S KJS	●	●	●	●			
		4A, 2B	1/4	KQ2H		●	●	●	●		
				KQ2S				●	●	●	
			1/8	KQ2H KJH		●	●	●			
				KQ2S KJS			●	●	●		

⚠ Safety Instructions

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of **"Caution," "Warning"** or **"Danger."** They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC)*1), and other safety regulations.

⚠ Caution: **Caution** indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.

⚠ Warning: **Warning** indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.

⚠ Danger : **Danger** indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

*1) ISO 4414: Pneumatic fluid power – General rules relating to systems.
ISO 4413: Hydraulic fluid power – General rules relating to systems.
IEC 60204-1: Safety of machinery – Electrical equipment of machines. (Part 1: General requirements)
ISO 10218-1: Manipulating industrial robots - Safety.
etc.

⚠ Warning

1. **The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications.**
   Since the product specified here is used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results. The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product. This person should also continuously review all specifications of the product referring to its latest catalogue information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.
2. **Only personnel with appropriate training should operate machinery and equipment.**
   The product specified here may become unsafe if handled incorrectly. The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.
3. **Do not service or attempt to remove product and machinery/equipment until safety is confirmed.**
   1. The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.
   2. When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.
   3. Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.
4. **Contact SMC beforehand and take special consideration of safety measures if the product is to be used in any of the following conditions.**
   1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
   2. Installation on equipment in conjunction with atomic energy, railways, air navigation, space, shipping, vehicles, military, medical treatment, combustion and recreation, or equipment in contact with food and beverages, emergency stop circuits, clutch and brake circuits in press applications, safety equipment or other applications unsuitable for the standard specifications described in the product catalogue.
   3. An application which could have negative effects on people, property, or animals requiring special safety analysis.
   4. Use in an interlock circuit, which requires the provision of double interlock for possible failure by using a mechanical protective function, and periodical checks to confirm proper operation.

⚠ Caution

1. **The product is provided for use in manufacturing industries.**
   The product herein described is basically provided for peaceful use in manufacturing industries.
   If considering using the product in other industries, consult SMC beforehand and exchange specifications or a contract if necessary.
   If anything is unclear, contact your nearest sales branch.

Limited warranty and Disclaimer/ Compliance Requirements

The product used is subject to the following "Limited warranty and Disclaimer" and "Compliance Requirements".
Read and accept them before using the product.

Limited warranty and Disclaimer

1. The warranty period of the product is 1 year in service or 1.5 years after the product is delivered.*2)
   Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.
2. For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided.
   This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.
3. Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalogue for the particular products.

*2) **Vacuum pads are excluded from this 1 year warranty.**
A vacuum pad is a consumable part, so it is warranted for a year after it is delivered.
Also, even within the warranty period, the wear of a product due to the use of the vacuum pad or failure due to the deterioration of rubber material are not covered by the limited warranty.

Compliance Requirements

1. The use of SMC products with production equipment for the manufacture of weapons of mass destruction (WMD) or any other weapon is strictly prohibited.
2. The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulations of the countries involved in the transaction. Prior to the shipment of a SMC product to another country, assure that all local rules governing that export are known and followed.

⚠ Safety Instructions | Be sure to read "Handling Precautions for SMC Products" (M-E03-3) before using.

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