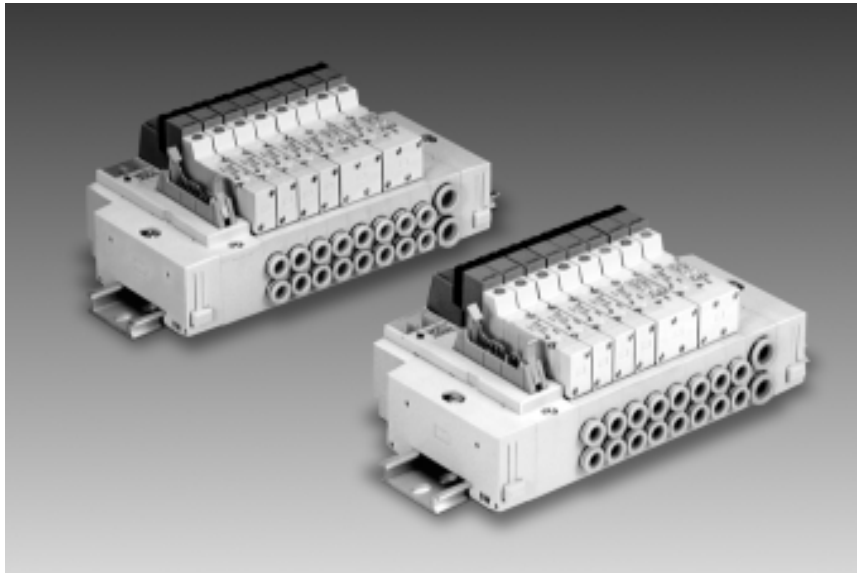


Rubber Seal 5 Port Solenoid Valve

Series *SY3000/5000*



- Low power consumption: 0.55W (with light)
(Current value: 23mA, 24VDC)
- Compact with high flow rate
Cv factor 1.7 to 3 times greater with same body width as previous series
- High reliability
Long life exceeding 50 million cycles
- Main valve and pilot valve common exhaust construction eliminates pilot valve exhaust mist and noise

Series	Effective area mm ² (Cv factor)	Type of actuation					A, B port size		
		2 position		3 position			One-touch fitting		
		Single	Double	Closed center	Exhaust center	Pressure center	C4 (ø4)	C6 (ø6)	C8 (ø8)
SY3□40	4.68 (0.26)	●	●	●	●	●	●	●	—
SY5□40	12.6 (0.7)	●	●	●	●	●	●	●	●

Series SY3000/5000

How to Order Manifolds

SS5Y 3-45G D-05 U-C4

Series

3	SY3000
5	SY5000

Connector mounting position

Symbol	Mounting position
U	U side
D	D side

Valve stations

Symbol	Stations	Note
02	2 stations	Single wiring specifications (up to 16 solenoids are possible)
⋮	⋮	
16	16 stations	

- Two stations are required for double and 3 position (dual body type).
- Also includes the number of blanking plate assemblies.

Options

When a DIN rail is required that is longer than the standard type, specify the number of stations. (max. 20 stations)

A, B port size

Symbol	Port size
C4	ø4 One-touch fitting
C6	ø6 One-touch fitting
M	Mixed

Symbol	Port size
C4	ø4 One-touch fitting
C6	ø6 One-touch fitting
C8	ø8 One-touch fitting
M	Mixed

* Indicate mixed specifications separately on a manifold specification sheet.

Supply/Exhaust block assembly specifications

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

Supply/Exhaust block assembly mounting direction

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

* Indicate special specifications separately on a manifold specification sheet.

How to Order Valves

2 position single **SY 3 1 4 0** **5 FU**

Double/3 position **SY 3 2 4 5** **5 FU**

Series

3	SY3000
5	SY5000

Type of actuation

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

Dual body type (double/3 position)

Pilot type

Nil	Internal pilot
R	External pilot

Rated voltage

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

Manual override

Nil	Non-locking push type
D	Slotted locking type
E	Knob locking type

How to Order Manifold Assemblies

Example

Single solenoid SY3140-5FU (3 sets)

Double solenoid SY3245-5FU (1 set)

Supply/Exhaust block (U side mounting)

Stations 1 2 3

D side U side

Manifold SS5Y3-45GD-05U-C6

SS5Y3-45GD-05U-C6 1 set (manifold part number)

* SY3140-5FU 3 sets (single solenoid part number)

* SY3245-5FU 1 set (double solenoid part number)

The "*" symbol indicates mounting. Put the "*" symbol at the beginning of the part numbers for solenoid valves, etc., which are to be mounted.

- Valve stations are numbered from station 1 on the D side.
- Indicate the valves to be mounted below the manifold part number, in order starting from station 1 as shown in the drawing. When a layout becomes complicated, please indicate it on a manifold specification sheet.
- Since double and 3 position (dual body type) valves use two stations on a manifold base, be careful of the number of stations in manifold base part numbers.

5 Port Solenoid Valve *Series SY3000/5000*

Manifold Specifications

Model		Flat cable type 45G	
Manifold type		Plug-in type	
P (SUP), R (EXH) system		Common SUP/EXH	
Valve stations ^{Note 1)}		2 to 16 stations	
A, B port piping specifications		Location	Base
		Direction	Side
Port size	P/R ports	SY3000	C8 (ø8 One-touch fitting)
		SY5000	C10 (ø10 One-touch fitting)
	A/B ports	SY3000	C4 (ø4 One-touch fitting)/C6 (ø6 One-touch fitting)
		SY5000	C4 (ø4 One-touch fitting) C6 (ø6 One-touch fitting)/C8 (ø8 One-touch fitting)
Valve effective area mm² (Cv factor) ^{Note 2)}		SY3000	C6: P→A/B 4.68 (0.26) A/B→R 4.68 (0.26)
		SY5000	C8: P→A/B 12.6 (0.7) A/B→R 12.6 (0.7)
Weight W (g) n: Stations (D-sub connector) ^{Note 3)}		SY3000	2 to 10 stations: W = 26n + 172
			11 to 16 stations: W = 26n + 199
		SY5000	2 to 10 stations: W = 54n + 227
			11 to 16 stations: W = 54n + 264

Note 1) Available with up to 16 solenoids. When a large number of valves will be operated simultaneously, use type B (supply/exhaust on both sides), applying pressure to the P ports on both sides and releasing exhaust from the R ports on both sides.

Note 2) The value is for manifold base mounting (5 stations). 2 position type with single action.

Note 3) The weight W is the value for the manifold only. To obtain the weight with solenoid valves, add the solenoid valve weights for the required number of stations. Furthermore, when mounting supply/exhaust block assemblies on both sides of type B with a 2 to 10 station manifold, calculate the weight W using the formula for 11 to 16 stations.

Solenoid Valve Specifications

Series		SY3000	SY5000
Fluid		Air	
Internal pilot operating pressure range MPa	2 position single	0.15 to 0.7	
	2 position double	0.1 to 0.7	
	3 position	0.2 to 0.7	
External pilot operating pressure range MPa	Operating pressure range		-100kPa to 0.7
	Pilot pressure range	2 position single	0.25 to 0.7
		2 position double	
3 position			
Ambient and fluid temperature °C		Maximum 50	
Max. operating frequency Hz	2 position single, double	10	5
	3 position	3	3
Manual override		Non-locking push type Slotted locking type, Knob locking type	
Pilot exhaust type	Internal pilot	Main valve/pilot valve common exhaust type	
	External pilot	Pilot valve individual exhaust type	
Lubrication		Not required	
Mounting orientation		Unrestricted	
Impact/Vibration resistance m/s² (Note)		150/30	
Enclosure		Dust proof	

Note) Impact resistance: No malfunction when tested with a drop tester in the axial direction and at a right angle to the main valve and armature, one time each in both energized and deenergized states. (Initial value)

Vibration resistance: No malfunction when tested with one sweep of 8.3 to 2000Hz in the axial direction and at a right angle to the main valve and armature, in both energized and deenergized states. (Initial value)

Solenoid Specifications

Rated coil voltage	24VDC
Allowable voltage fluctuation	±10% of rated voltage
Power consumption	0.55W
Surge voltage suppressor	Diode
Indicator light	LED

Response Time

Note) Based on JISB8375-1981 dynamic performance test (with coil temperature of 20°C and at rated voltage).

SY3000

Type of actuation	Response time ms	
	With light/surge voltage suppressor	
2 position single	12 or less	
2 position double	10 or less	
3 position	16 or less	

SY5000

Type of actuation	Response time ms	
	With light/surge voltage suppressor	
2 position single	19 or less	
2 position double	18 or less	
3 position	32 or less	

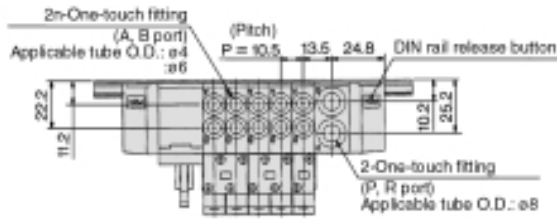
Weights

Valve model	Type of actuation		Weight g
SY3140	2 position	Single	51
		Double	77
SY3□45	3 position	Closed center	82
		Exhaust center	
		Pressure center	
SY5140	2 position	Single	59
		Double	102
SY5□45	3 position	Closed center	112.6
		Exhaust center	
		Pressure center	

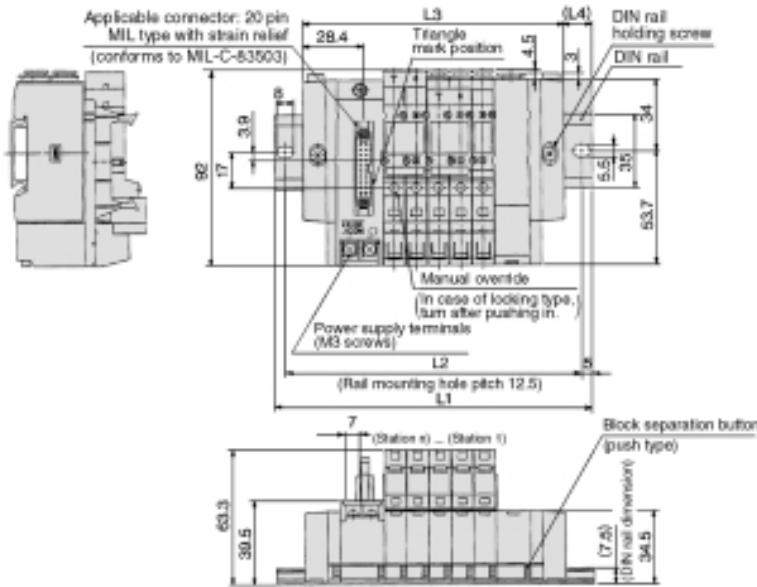
Series SY3000/5000

SY3000: Flat Cable Type/Plug-in

SS5Y3-45GU- Stations D- C4 C6

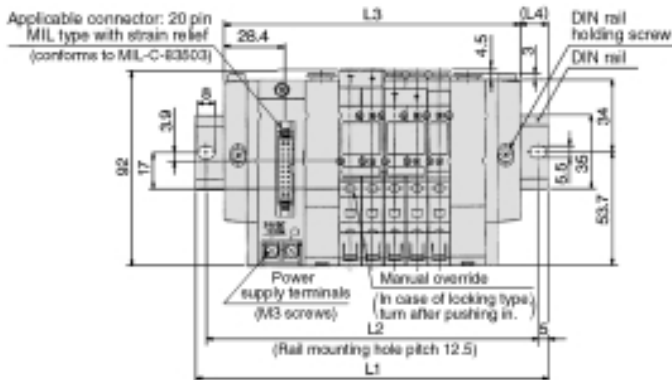
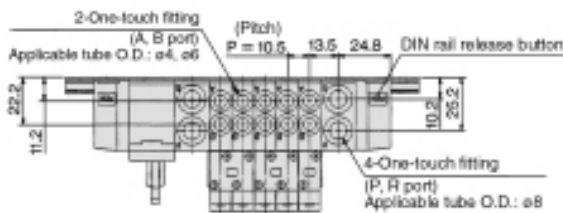


Note) L1 to L4 dimensions of **SS5Y3-45GU- Stations U- C4 C6** are the same as SS5Y3-45GU- Stations D- C4 C6.



Stations	2	3	4	5	6	7	8	9	10
L1	123	135.5	148	148	160.5	173	185.5	198	210.5
L2	112.5	125	137.5	137.5	150	162.5	175	187.5	200
L3	91.5	102	112.5	123	133.5	144	154.5	165	175.5
L4	15.5	16.5	17.5	12.5	13.5	14.5	15.5	16.5	17.5

SS5Y3-45GU- Stations B- C4 C6

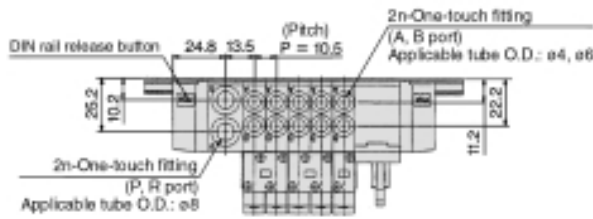


Stations	2	3	4	5	6	7	8	9	10
L1	135.5	148	160.5	173	185.5	185.5	198	210.5	223
L2	125	137.5	150	162.5	175	175	187.5	200	212.5
L3	108	118.5	129	139.5	150	160.5	171	181.5	192
L4	13.5	14.5	15.5	16.5	17.5	12.5	13.5	14.5	15.5

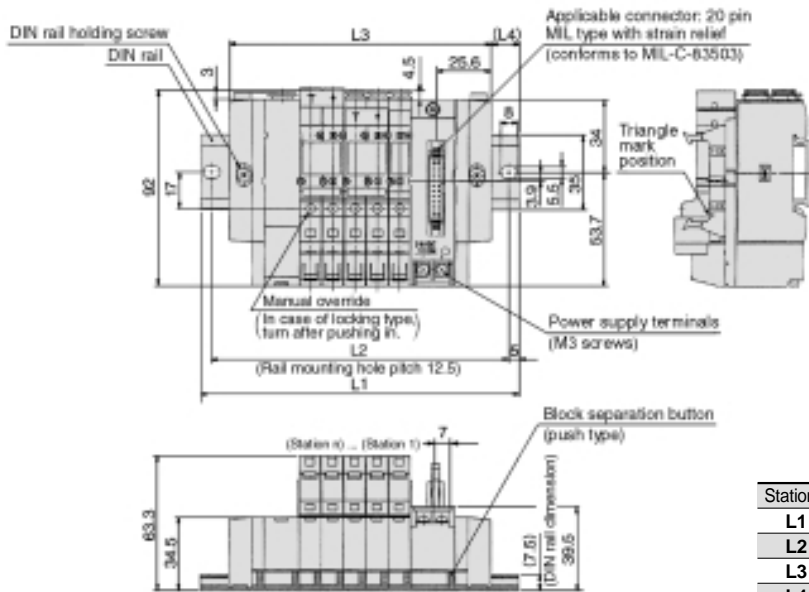
Stations	11	12	13	14	15	16
L1	235.5	248	248	260.5	273	285.5
L2	225	237.5	237.5	250	262.5	275
L3	202.5	213	223.5	234	244.5	255
L4	16.5	17.5	12	13	14	15

5 Port Solenoid Valve Series SY3000/5000

SS5Y3-45GD- Stations U-C₆

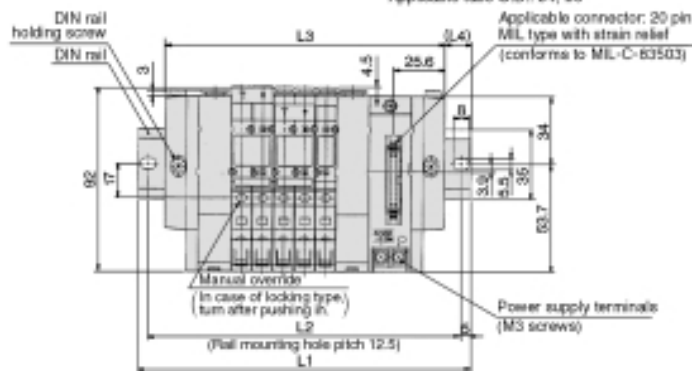
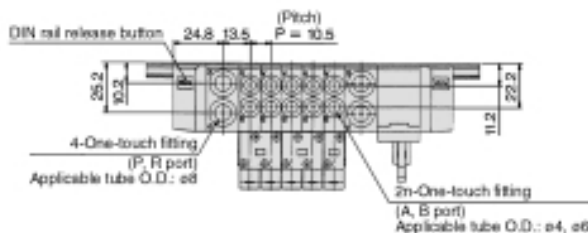


Note) L1 to L4 dimensions of SS5Y3-45GD- Stations D-C₆ are the same as SS5Y3-45GD- Stations U-C₆.



Stations	2	3	4	5	6	7	8	9	10
L1	123	135.5	148	148	160.5	173	185.5	198	210.5
L2	112.5	125	137.5	137.5	150	162.5	175	187.5	200
L3	91.5	102	112.5	123	133.5	144	154.5	165	175.5
L4	15.5	16.5	17.5	12.5	13.5	14.5	15.5	16.5	17.5

SS5Y3-45GD- Stations B-C₆



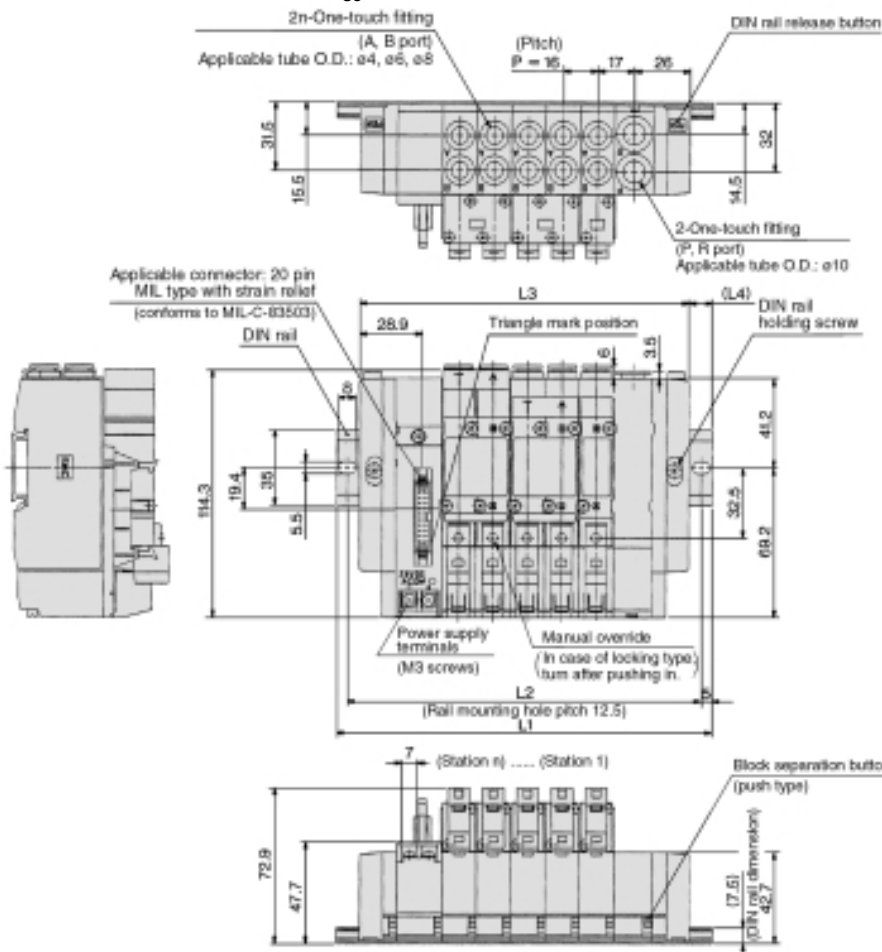
Stations	2	3	4	5	6	7	8	9	10
L1	135.5	148	160.5	173	185.5	185.5	198	210.5	223
L2	125	137.5	150	162.5	175	175	187.5	200	212.5
L3	108	118.5	129	139.5	150	160.5	171	181.5	192
L4	13.5	14.5	15.5	16.5	17.5	12.5	13.5	14.5	15.5

Stations	11	12	13	14	15	16
L1	235.5	248	248	260.5	273	285.5
L2	225	237.5	237.5	250	262.5	275
L3	202.5	213	223.5	234	244.5	255
L4	16.5	17.5	12	13	14	15

Series SY3000/5000

SY5000: Flat Cable Type/Plug-in

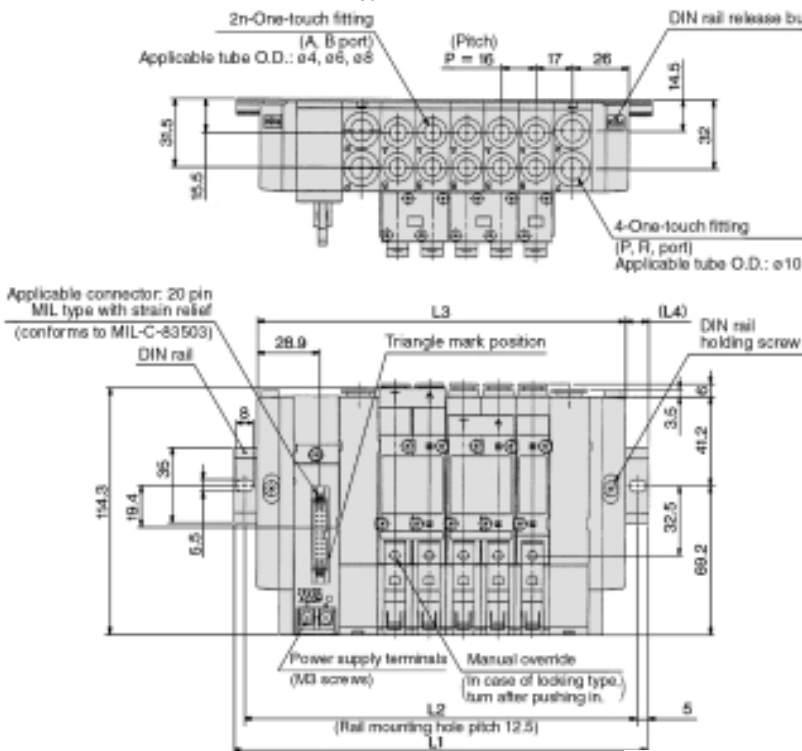
SS5Y5-45GU- Stations D-^{C4}_{C6}_{C8}



Note) L1 to L4 dimensions of SS5Y5-45GU- Stations U-^{C4}_{C6}_{C8} are the same as SS5Y5-45GU- Stations D-^{C4}_{C6}_{C8}.

Stations	2	3	4	5	6	7	8	9	10
L1	135.5	148	160.5	185.5	198	210.5	235.5	248	260.5
L2	125	137.5	150	175	187.5	200	225	237.5	250
L3	105	121	137	153	169	185	201	217	233
L4	15	13.5	11.5	16	14.5	12.5	17	15.5	13.5

SS5Y5-45GU- Stations B-^{C4}_{C6}_{C8}

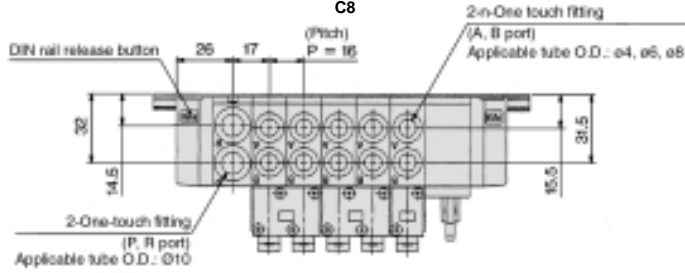


Stations	2	3	4	5	6	7	8	9	10
L1	148	173	185.5	198	210.5	235.5	248	260.5	285.5
L2	137.5	162.5	175	187.5	200	225	237.5	250	275
L3	123	139	155	171	187	203	219	235	251
L4	12.5	17	15	13.5	11.5	16	14.5	12.5	17

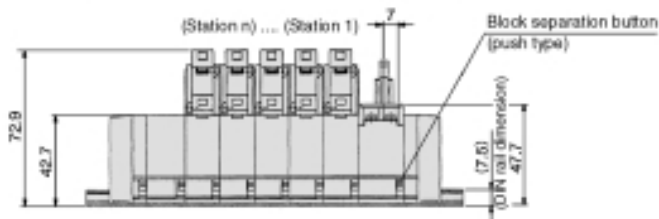
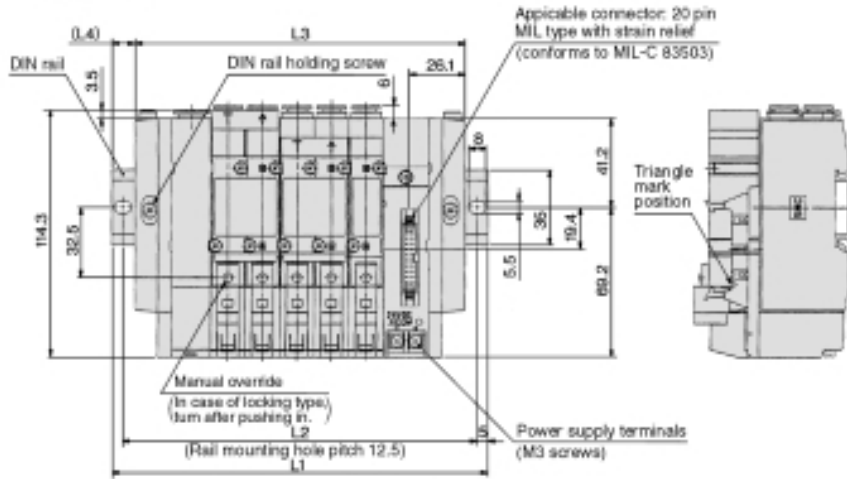
Stations	11	12	13	14	15	16
L1	298	310.5	323	348	360.5	373
L2	287.5	300	312.5	337.5	350	362.5
L3	267	283	299	315	331	347
L4	15.5	13.5	12	16.5	14.5	13

5 Port Solenoid Valve Series SY3000/5000

SS5Y5-45GD- [Stations] U-^{C4}_{C6}_{C8}

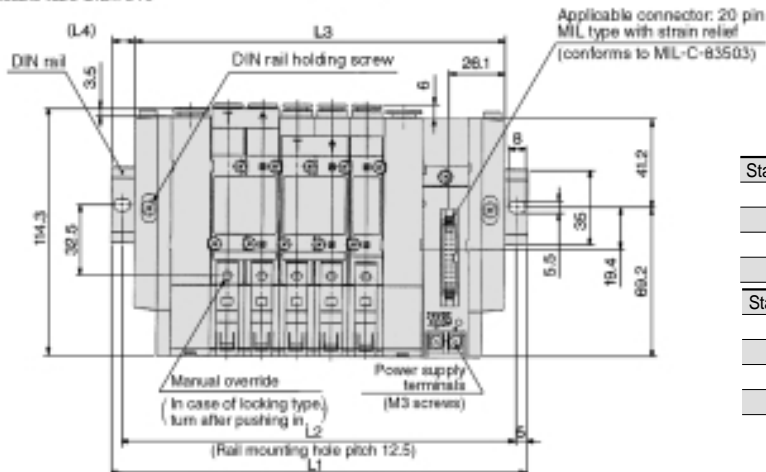
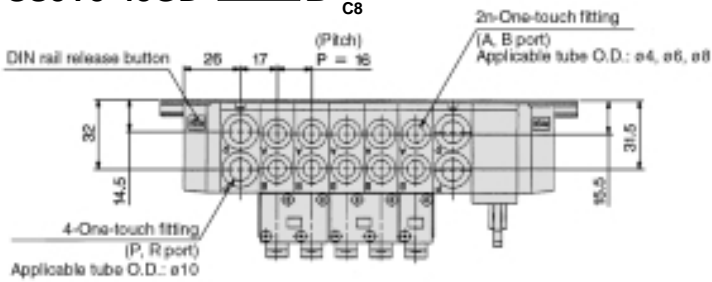


Note) L1 to L4 dimensions of SS5Y5-45GD- [Stations] D-^{C4}_{C6}_{C8} are the same as SS5Y5-45GD- [Stations] U-^{C4}_{C6}_{C8}.



Stations	2	3	4	5	6	7	8	9	10
L1	135.5	148	160.5	185.5	198	210.5	235.5	248	260.5
L2	125	137.5	150	175	187.5	200	225	237.5	250
L3	105	121	137	153	169	185	201	217	233
L4	15	13.5	11.5	16	14.5	12.5	17	15.5	13.5

SS5Y5-45GD- [Stations] B-^{C4}_{C6}_{C8}



Stations	2	3	4	5	6	7	8	9	10
L1	148	173	185.5	198	210.5	235.5	248	260.5	285.5
L2	137.5	162.5	175	187.5	200	225	237.5	250	275
L3	123	139	155	171	187	203	219	235	251
L4	12.5	17	15	13.5	11.5	16	14.5	12.5	17

Stations	11	12	13	14	15	16
L1	298	310.5	323	348	360.5	373
L2	287.5	300	312.5	337.5	350	362.5
L3	267	283	299	315	331	347
L4	15.5	13.5	12	16.5	14.5	13

SY5000: Flat Cable 20 Pin Type

Plug-in Type, DIN Rail Manifold

Manifold Valve Specification Sheet

Make entries in order from ① to ③.

① How to Order Manifolds

Enter the symbols for the required specifications in the blanks below.

SS5Y5-45G

Connector mounting direction

Symbol	Mounting position
U	U side
D	D side

Valve stations

Symbol	Stations	Note
02	2 stations	Single wiring specifications (up to 16 solenoids are possible.)
...	...	
16	16 stations	

- Also includes the number of blanking plate assemblies.
- Since valves other than single solenoids are dual body types, they require two stations.

Supply/Exhaust block assembly mounting position

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

In case of special specifications, indicate in the station table below.

Options

When a DIN rail is required that is longer than the standard type, specify the number of stations. (max. 20 stations)

Supply/Exhaust block assembly specifications

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

A, B port size

Symbol	Specifications
C4	ø4 One-touch fitting
C6	ø6 One-touch fitting
C8	ø8 One-touch fitting
M	Mixed

Indicate mixed mounting in the station table below by entering C4, C6 and C8 instead of "X's".

② How to Order Valves

Enter the symbols for the required specifications in the blanks below.

SY5 *** * — 5FU

Valve actuation/Body option

140	2 position single	Standard
245	2 position double	
345	3 position closed center	Dual body type
445	3 position exhaust center	
545	3 position pressure center	

Indicate in the station table below.

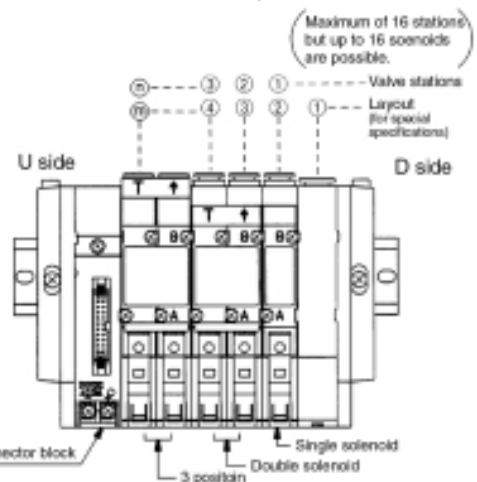
Pilot type

Nil	Internal pilot
R	External pilot

When using an external pilot valve, enter an "X" in the "external pilot specification" section of the station table below.

Manual override

Nil	Non-locking push type
D	Slotted locking type
E	Knob locking type



Note) Connector blocks are not included in stations and layouts.

③ Station Table

- In the case of a single solenoid, enter an "X" in one station box.
- For double and 3 position, enter an "X" across two station boxes. (Refer to the entry example below.) [When A, B port sizes are mixed, indicate the sizes in section (a) with C4 and C6.]

Valve stations or layout		20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	Quantity
2 position	Single solenoid																					
	Double solenoid																					
3 position	Closed center																					
	Exhaust center																					
	Pressure center																					
3 port valve	N.C. single																					
	N.C. double																					
	N.O. single																					
	N.O. double																					
Blanking plate assembly																						
External pilot specification (enter only for external pilot)																						
Enter for special specs.	Supply/Exhaust block assembly																					
SUP blocking disk																						
EXH blocking disk (2pcs./location)																						

[Entry example]

Valve stations or layout		6	5	4	3	2	1
2 position	Single solenoid			C4			X
	Double solenoid	C6			X		

When the port sizes are mixed

- Notes
- Blanking plate assembly: SX5000-76-2A
 - SUP blocking disk: SX5000-77-1A
 - EXH blocking disk: SX5000-77-1A (2pcs./location)
 - Supply/Exhaust block assembly (standard): SX5000-51-2A
 - Supply/Exhaust block assembly (R): SX5000-51-6A
 - Supply/Exhaust block assembly (S): SX5000-51-7A
 - Supply/Exhaust block assembly (RS): SX5000-51-8A

For SMC use only

Enter the ordered part numbers.

Part no.	Quantity

Part no.	Quantity

Order no.	
Clerk (code no.)	
Dept. code	

Note) When there are special specifications for the mounting position of supply/exhaust block assemblies, enter the part numbers and quantities for supply/exhaust block assemblies together with the manifold model.