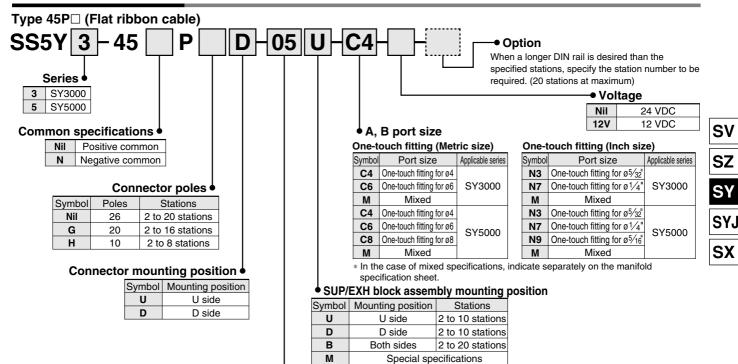
How to Order Manifold



26 pins (P) connector

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

20 pins (PG) connector

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

10 pins (PH) connector

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

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



Valve stations (Blanking plate assemblies are included.)

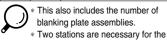
Series 3 SY3000 **5** SY5000

Terminal block mounting position

nook mounting poolition -		
Symbol Mounting positi		
U	U side	
D	D side	

Valve stations

Symbol	Stations	Note
02	2 stations	Cinale wiring once
:	- :	Single wiring spec. (Applicable up to 8 solenoid valv
08	8 stations	(Applicable up to 0 soletiola valves)



double, 3 position (Dual body type). SUP/EXH block assembly mounting position •

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

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

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

•		(Applicable up to 16
16	16 stations	solenoid valves.)
blo 2	nocition	(Dual body type)

Option •

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

A, B port size

One-touch fitting (Metric size)

Symbol	Port size	Applicable series
C4	One-touch fitting for ø4	
C6	One-touch fitting for ø6	SY3000
М	Mixed	
C4	One-touch fitting for ø4	
C6	One-touch fitting for ø6	SY5000
C8	One-touch fitting for ø8	313000
М	Mixed	

One-touch fitting (Inch size)

Symbol	Port size	Applicable series
N3	One-touch fitting for ø 5/32"	
N7	One-touch fitting for ø 1/4"	SY3000
М	Mixed	
N3	One-touch fitting for ø 5/32"	
N7	One-touch fitting for ø1/4"	SY5000
N9	One-touch fitting for ø5/16"	313000
M	Mixed	

indicate separately on the manifold specification sheet.

Symbol	Stations	Note
02	2 stations	Single wiring spec.
	:	(Applicable up to 8
80	8 stations	solenoid valves)



Series **3** SY3000 **5** SY5000

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

Terminal block mounting position

<u> </u>	
Symbol	Mounting position
U	U side
D	D side

Valve stations

ı			
	Symbol	Stations	Note
	02	2 stations	Cinale mining and
		:	Single wining spec. (Applicable up to 17 solenoid valves.)
I	17	17 stations	(Applicable up to 17 soletiola valves.)

This also includes the number of blanking plate assemblies. Two stations are necessary for the

SUP/EXH block assembly mounting position •

double, 3 position (Dual body type)

Symbol	Mounting position	Stations	
U	U side	2 to 10 stations	
D	D side	2 to 10 stations	
В	Both sides	2 to 17 stations	
M	Special specifications		
141	Орсска ор	Comoations	

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

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

A, B port size

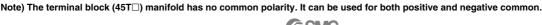
One-touch fitting (Metric size)

Symbol Port size		Applicable series	
C4	One-touch fitting for ø4		
C6	One-touch fitting for ø6	SY3000	
М	Mixed		
C4	One-touch fitting for ø4		
C6	One-touch fitting for ø6	SY5000	
C8	One-touch fitting for ø8	515000	
NA	Miyed		

One-touch fitting (Inch size)

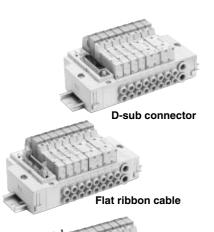
	Symbol	Port size	Applicable series	
	N3	One-touch fitting for ø 5/32"		
	N7	One-touch fitting for ø 1/4"	SY3000	
	М	Mixed		
	N3	One-touch fitting for ø 5/32"		
	Ν7	One-touch fitting for ø 1/4"	SY5000	
	N9	One-touch fitting for ø 5/16"	315000	
Ì	М	Mixed		

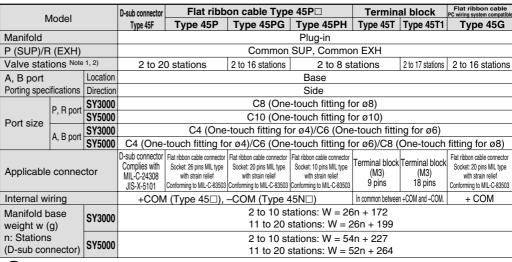
 In the case of mixed specifications (M). indicate separately on the manifold specification sheet





Manifold Specifications





Note 1) For more than 11 stations, supply pressure to P port on both sides and exhaust from R port on both sides. Note 2) There is a limit depending on the number of solenoids. Refer to "How to Order".

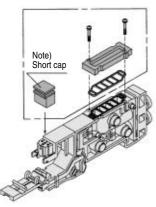
Flow Characteristics

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

Manifold Option

Blanking plate assembly

Terminal block



Series	Assembly part no.		
SY3000	SX3000-75-2A		
SY5000	SX5000-76-2A		
Note) • When mounting			

blanking plate, be sure to mount a short cap.

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

■SUP block disk

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



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

■ EXH block disk

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



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



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

∕!\ Caution

Mounting screw tightening torques

M2: 0.17 N·m M3: 0.8 N·m M4: 1.4 N·m

Label for block disk

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

VZ3000-123-1A (In common with SY3000/5000)

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



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





SV

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SYJ

SX

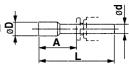
Note) When a block disk is concurrently ordered by specifying on the manifold specification sheet, etc., a label will be stuck on the position where block disk is mounted.



Series	Model	Effective area	Α	В	С
For SY3000 (Ø8)	AN203-KM8	14 mm ²	ø16	26	51
Ear CVE000 (~10)	AN200-KM10	26 mm ²	ø22	53.8	80.8
For SY5000 (Ø10)	AN300-KM10	30 mm ²	ø25	70	97

■ Plug (white)

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



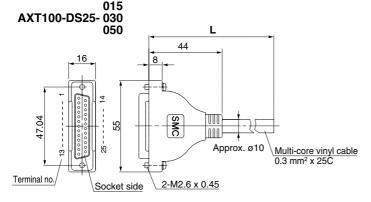
Dimensions

Dillicitatoria				
Applicable fittings size ød	Model	Α	L	D
4	KQ2P-04	16	32	6
6	KQ2P-06	18	35	8
8	KQ2P-08	20.5	39	10
10	KQ2P-10	22	43	12
1/8"	KQ2P-01	16	31.5	5
5/32"	KQ2P-03	16	32	6
1/4"	KQ2P-07	18	35	8.5
5/16"	KU3D-00	20.5	30	10



Manifold Option

■ D-sub connector (25 pins)/Cable assembly



D-sub Connector Cable

Cable length (L)	Assembly part no.	Note
1.5 m	AXT100-DS25-015	Cable 25 core
3 m		x 24 AWG
5 m	AXT100-DS25-050	X Z4 AVVG



When a commercially available connector is required, use a 25 pin female connector conforming to MIL-C24308.

Electric Characteristics

Item	Characteristics
Conductor resistance Ω/km, 20°C	65 or less
Voltage limit V, 1 min, AC	1000
Insulation resistance MΩkm, 20°C	5 or more

Note) The min. bending radius of D-sub cable assembly is 20 mm.

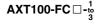
D-sub Connector Cable Assembly Terminal No.

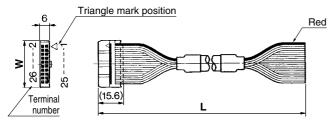
Terminal no.	Lead wire color	Dot marking
1	Black	None
2	Brown	None
3	Red	None
4	Orange	None
5	Yellow	None
6	Pink	None
7	Blue	None
8	Purple	White
9	Gray	Black
10	White	Black
11	White	Red
12	Yellow	Red
13	Orange	Red
14	Yellow	Black
15	Pink	Black
16	Blue	White
17	Purple	None
18	Gray	None
19	Orange	Black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

Connector manufacturers' example

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

■ Flat Ribbon Cable Connector/Cable assembly





Flat Ribbon Cable Assembly

Cable length (L)	10 pins	20 pins	26 pins
1.5 m	AXT100-FC10-1	AXT100-FC20-1	AXT100-FC26-1
3 m	AXT100-FC10-2	AXT100-FC20-2	AXT100-FC26-2
5 m	AXT100-FC10-3	AXT100-FC20-3	AXT100-FC26-3
Connector width (W)	17.2	30	37.5



* For other commercial connectors, use a type with strain relief that conform to MIL-C-83503.

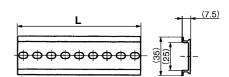
Connector manufacturers' example

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

■ Dimensions/DIN rail

VZ1000−11−1−☐ • Refer to L dimensions

 \ast Fill in \square with an appropriate no. listed on the table of DIN rail dimensions shown below.



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



* Refer to L1 dimension on pages starting with page 1-4-150 for lengths that correspond to the number of manifold stations.

SV

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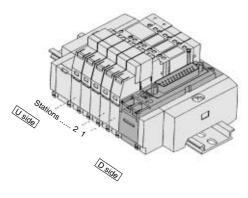
SYJ

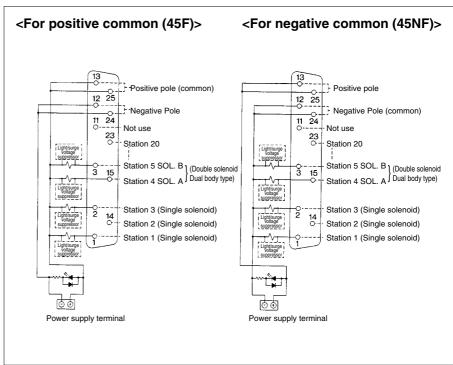
SX

Manifold Internal Wiring

Type 45(N)F: D-sub Connector

A D-sub connector used for electric wiring reduces labor during wiring operation. Connectors conforming to MIL are used for interchangeability.

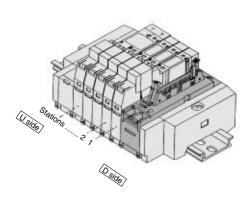


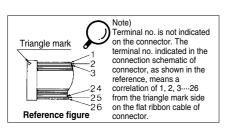


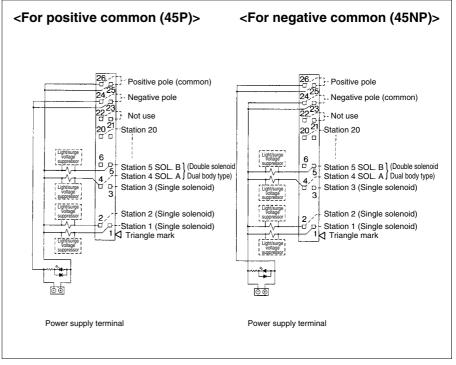
- The power source terminal is used for connecting to an external power source.
- The maximum number of stations that can be accommodated is 20 manifold stations, with up to 22 solenoids. (For more stations, please contact SMC.)
- Regardless of the connector mounting position, stations are to be counted from D side as the 1st one.

Type 45(N)P: Flat Ribbon Cable (26 pins)

A flat cable connector used for electric wiring reduces labor during wiring operation. Connectors conforming to MIL are used for interchangeability.







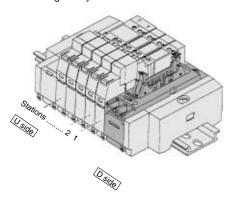
- The power source terminal is used for connecting to an external power source.
- The maximum number of stations that can be accommodated is 20 manifold stations, with up to 20 solenoids. (For more stations, please contact SMC.)
- Regardless of the connector mounting position, stations are to be counted from D side as the 1st one.

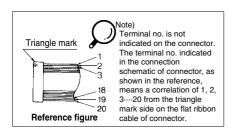
Manifold Internal Wiring

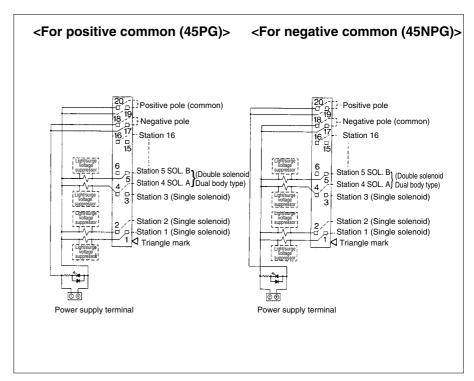
Type 45(N)PG: Flat Ribbon Cable (20 pins)

A flat cable connector used for electric wiring reduces labor during wiring operation.

Connectors conforming to MIL are used for interchangeability.



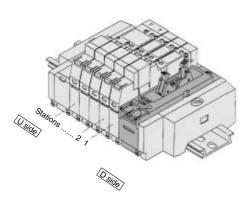


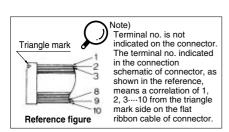


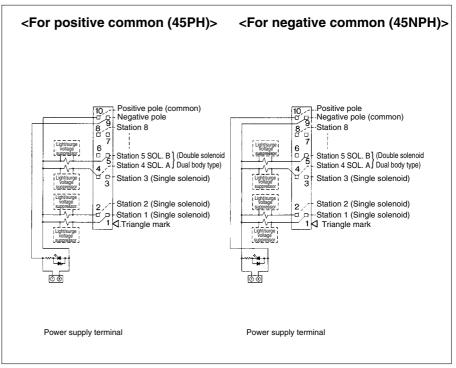
- The power source terminal is used for connecting to an external power source.
- The maximum number of stations that can be accommodated is 16 manifold stations, with up to 16 solenoids. (For more stations, please contact SMC.)
- Regardless of the connector mounting position, stations are to be counted from D side as the 1st one.

Type 45(N)PH: Flat Ribbon Cable (10 pins)

A flat cable connector used for electric wiring reduces labor during wiring operation. Connectors conforming to MIL are used for interchangeability.







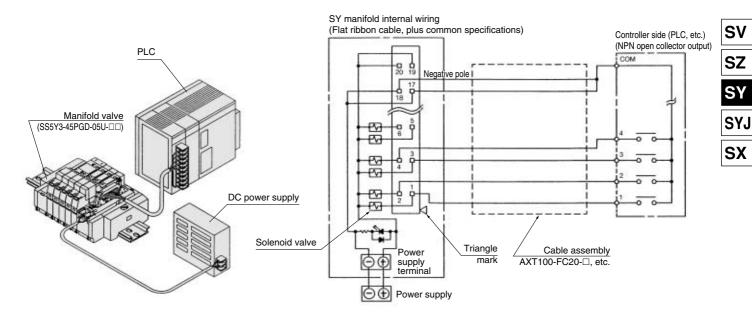
- The power source terminal is used for connecting to an external power source.
- The maximum number of stations that can be accommodated is 8 manifold stations, with up to 8 solenoids. (For more stations, please contact SMC.)
- Regardless of the connector mounting position, stations are to be counted from D side as the 1st one.



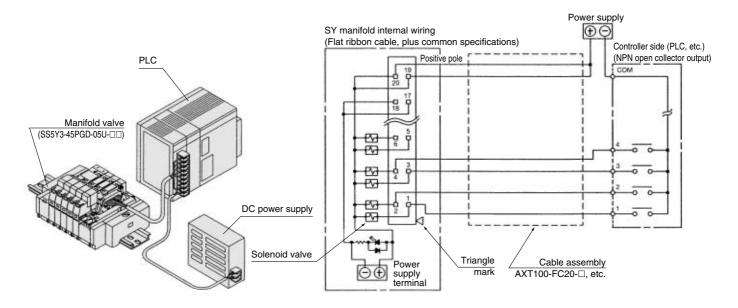
How to Connect SS5Y□-45□ (Plug-in)

Power terminal is equipped with plug-in manifold of Series SY as standard. Power terminal enables the power supply to valve from either of manifold or controller side.

1. Wiring example when using manifold power supply terminals



2. Wiring example when not using manifold power supply terminals (Power is supplied to the controller side or along the wiring, etc.)

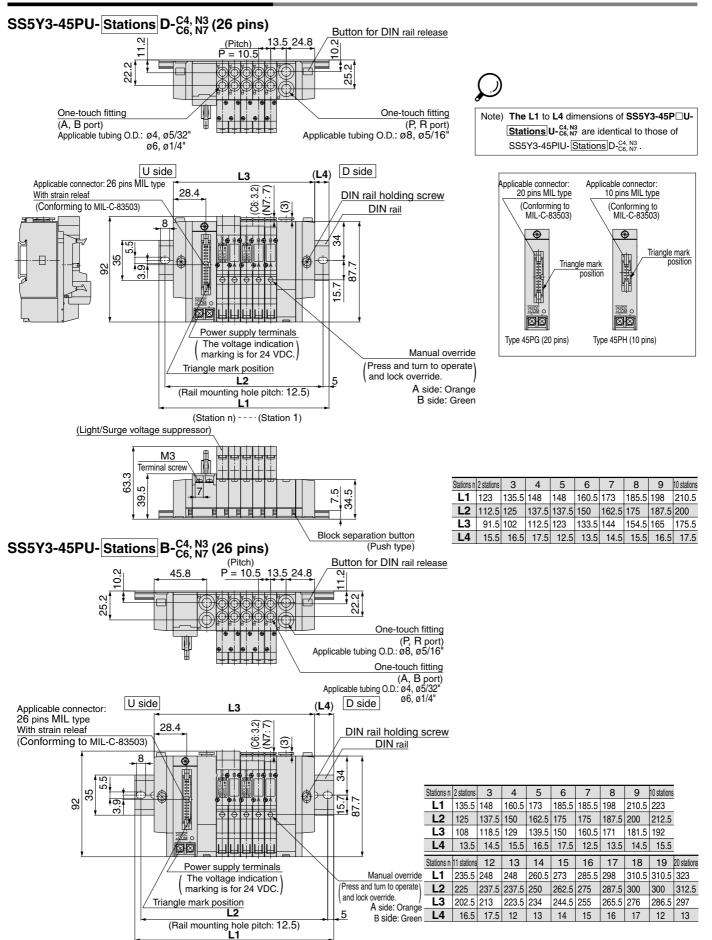


⚠ Caution

Single wire, COM position, etc. of PLC are different from each manufacturer. When
connecting with PLC, read the specifications carefully and understand the electrical
circuit. Poor wiring could cause damage to PLC, power source, etc. as well as manifold
and valve.

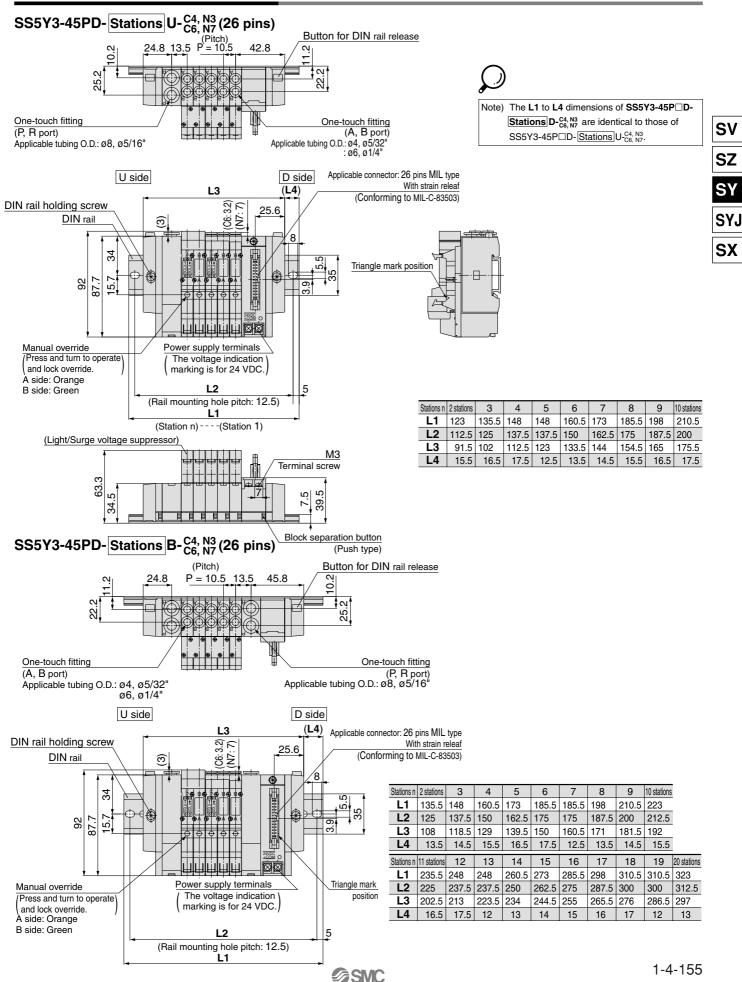


SY3000: Flat Ribbon Cable/Plug-in





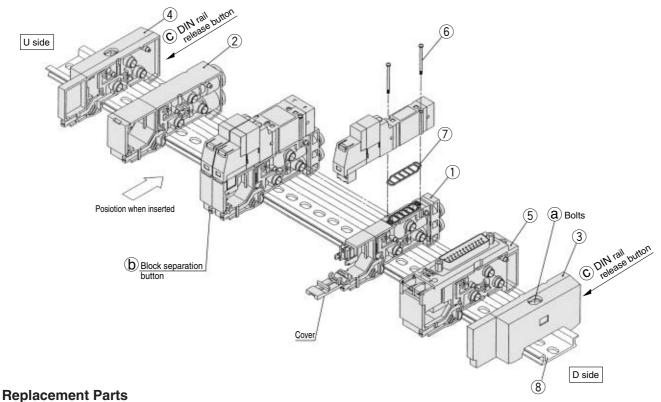
SY3000: Flat Ribbon Cable/Plug-in





DIN Rail Manifold Exploded View

Type 45F (D-sub Connector) Manifold



	D	Part	no.	N.		
No.	Description	SY3000	SY5000	Note		
1	Manifold block assembly		l block assembly part number differs according to an attached lead wire assembly based on the connector spec. Select an late part number from the table of manifold block assembly part number shown below. (Gasket 7 is supplied as an accessory.)			
2	SUP/EXH block assembly	(Metric size) SX3000-51-2A (Inch size) SX3000-51-16A	(Metric size) SX3000-51-2A (Inch size) SX5000-51-16A	Metric size Inch size SY3000: P, R port with One-touch fitting for Ø8 With One-touch fitting for SY5000: P, R port with One-touch fitting for Ø10 With One-touch fitting for		
3	End block assembly	SX3000-52-2A	SX5000-52-2A	For D	side	
4	End block assembly	SX3000-53-2A	SX5000-53-2A	For U side		
⑤-1	Connector block assembly (for D-sub connector)	SX3000-64-1A	SX5000-64-1A	-1A: +COM -1NA: -COM		
⑤-2	Connector block assembly (for 26 pins flat cable)	SX3000-64- ^{2A} _{2NA} -26	SX5000-64- ^{2A} _{2NA} -26		Note)	
⑤-3	Connector block assembly (for 20 pins flat cable)	SX3000-64- ^{2A} _{2NA} -20	SX5000-64- ^{2A} _{2NA} -20	-2A: +COM -2NA: -COM	For 24 VDC	
⑤-4	Connector block assembly (for 10 pins flat cable)	SX3000-64- ^{2A} _{2NA} -10	SX5000-64- ^{2A} _{2NA} -10			
⑤-5	Connector block assembly (for 2 to 8 stations (T, T1) terminal block)	SX3000-64-3A	SX5000-64-3A	In common between +COM and -COM.		
⑤-6	Connector block assembly (for 9 to 17 stations (T1) terminal block)	SX3000-64-8A	SX5000-64-8A			
6	Round head combination screw	SY3000-23-4	M3 x 26, Matt nickel plated			
7	Gasket	SX3000-57-4	SX5000-57-6			
8	DIN rail	VZ1000)-11-1-l□	Refer to pag	je 1-4-123.	

Note 1) The numbers 5-1 to 4 are for 24 VDC. For 12 VDC, suffix "-12V" to the end of parts number. (Example) SX3000-64-1A-12 V Note 2) Two manifold block assemblies are necessary for the double, 3 position (Dual body type).

Style of manifold	Manifold block assembly part no.	Note
For 45(N)F (D-sub connector)	SX₅ ³ 000-50-3A-□□	□□: AB port SY3000 (metric size) C4: With One-touch fitting for ø4 C6: With One-touch fitting for ø6
For 45(N) PG (Flat ribbon cable)	OV ³ 000 50 54 55	(inch size) N3: With One-touch fittign for σ 5/ ₃₂ " N7: With One-touch fitting for σ 1/ ₄ "
For 45G PC Wiring System compatible	SX ₅ ³ 000-50-5A-□□	A, B port SY5000 (metric size) C4: With One-touch fitting for ø4 C6: With One-touch fitting for ø6 C8: With One-touch fitting for ø8
For 45^{T}_{11} (Terminal block)	SX ₅ ³ 000-50-7A-□□	(inch size) N3: WIth One-touch fitting for σ $5^{\circ}/3^{\circ}$ N7: With One-touch fitting for σ $1^{\circ}/16^{\circ}$ N9: With One-touch fitting for σ $1^{\circ}/16^{\circ}$



How to Increase Manifold Base

Loosen bolt (a) fixing the manifold base until it begins to turn idly. (While pressing DIN rail releasing buttons ©, at two locations, separate the manifold base from the DIN rail.)

Additional bases are to be added to the U side. Press splitting button (b) of the manifold block assembly on the U side until button (b) locks, and then separate the block assemblies.

Separate the connector block assembly in the same manner as 2, and remove the connector mounting screw shown in Fig. (1).

4 Loosen the valve mounting screw on the U side, remove the valve, and take out the receptacle housing. (Refer to Fig. (2).)

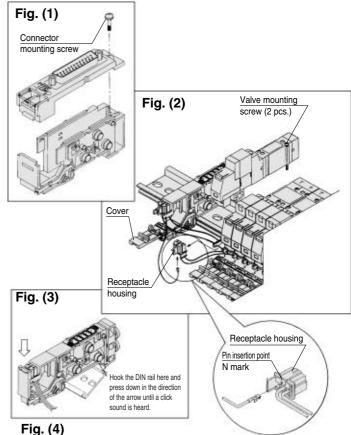
Insert the common wire (red) of the manifold block assembly to be added into the pin insertion section (N mark) of the receptacle housing that was taken out in 4, mount it on the manifold block, and mount the removed valve.

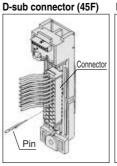
As shown in Fig. (3), mount the additional manifold block assembly on the DIN rail on the U side. Refer to the circuit diagram, and insert the lead wire (black) as shown in Fig. (4).

Press the blocks against each other until a click sound is produced, place the lead wire in the manifold block, and close the lid without pinching the lead wire.

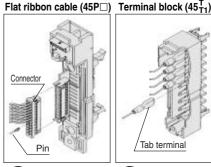
8 While lightly holding the blocks together so that there are no gaps between them, secure them to the DIN rail by tightening

- 1. Depending on the connector, there is a limit to the number of solenoids that can be used. Manifold bases that can be added cannot exceed the number of usable solenoids.
- 2. The manifold block assembly mounting position for additional manifold bases is always on the U side, because wires are connected to respective connectors sequentially from the D side.
- 3. When bolt a for the end block is not sufficiently tightened during reassembly, air leakage may result. Before supplying air, check that there is no gap between blocks and that the manifold block is firmly fixed to the DIN rail in order to ensure air supply without leakage

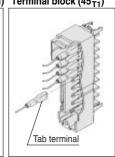








Insert pins after removing the connectorfrom the main unit. After inserting pins, lightly pull lead wires to check that the pins are locked.



SV

SZ

SYJ

SX

Note) Insert tab terminals completely.

Fitting Assembly

Type 45 manifold permits change in the A and B port sizes by changing the manifold block fitting assembly.

After removing the valve, remove the clip with a screwdriver, etc. For mounting a new fitting assembly, insert it and then insert a clip until it will not come out of the manifold block.

Fitting Assembly Part No.

Metric size

SY3000	One-touch fitting for ø4	VVQ1000-50A-C4
513000	One-touch fitting for ø6	VVQ1000-50A-C6
SY5000	One-touch fitting for ø4	VVQ1000-51A-C4
	One-touch fitting for ø6	VVQ1000-51A-C6
	One-touch fitting for ø8	VVQ1000-51A-C8

Inch size

evanno	One-touch fitting for ø5/32"	VVQ1000-50A-N3
513000	One-touch fitting for ø ⁵ / ₃₂ " One-touch fitting for ø ¹ / ₄ "	VVQ1000-50A-N7
SY5000	One-touch fitting for ø5/32"	VVQ1000-51A-N3
	One-touch fitting for ø 1/4"	VVQ1000-51A-N7
	One-touch fitting for ø5/16"	VVQ1000-51A-N9

Note 1) P and R ports cannot be changed.

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

