

SY3000/5000/7000 Body Ported Valve Single Unit

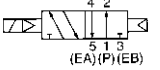
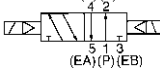
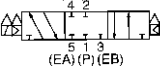
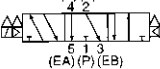
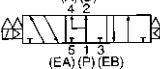
How to Order

SY **5** **1** 20 — **5** **L** — — — **01** — —

Series

3	SY3000
5	SY5000
7	SY7000

Configuration

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

Voltage

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

AC (50/60Hz)

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

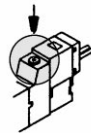
- * "D" and "DO" only available for 12V and 24V in case of DC.
- * "D" and "DO" only available on SY5000 and SY7000.

A/B port size

Symbol	Port size	Applicable series
M5	M5 X 0.8	SY3000
C4	One-touch fittings for ø4	
C6	One-touch fittings for ø6	SY5000
01	Rc (PT) 1/8	
C4	One-touch fittings for ø4	SY7000
C6	One-touch fittings for ø6	
C8	One-touch fittings for ø8	SY7000
02	Rc (PT) 1/4	
C8	One-touch fittings for ø8	
C10	One-touch fittings for ø10	

Manual override

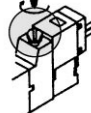
—: Non-locking push style



D: Push-turn locking slotted style



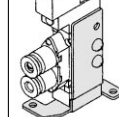
E: Push-turn locking lever style



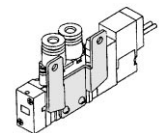
Bracket

—: Without bracket
F1: With foot bracket

(Foot bracket only available for 2 position single solenoid valve)



F2: With side bracket



Indicator light and surge voltage suppressor

Electrical entry for G, H, L, M

—	W/o indicator light and surge voltage suppressor
S	W/ surge voltage suppressor
Z	W/ indicator light and surge voltage suppressor
R	W/ surge voltage suppressor (Non-polar)
U	W/ indicator light and surge suppressor (Non-polar)



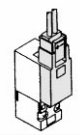
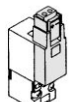
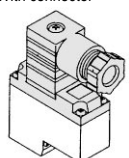
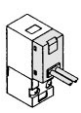
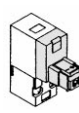
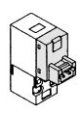
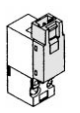
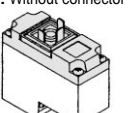
- * "R" and "U" types: DC only.
- * For AC, there is no "S" specification since it is integrated with converter.

Electrical entry for D

—	W/o indicator light and surge suppressor
S	W/ surge voltage suppressor (Non-polar)
Z	W/ indicator light and surge suppressor (Non-polar)

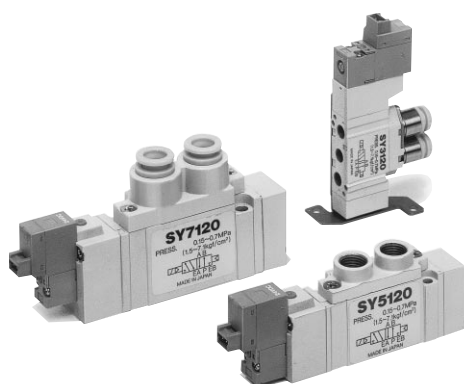
- * "DOZ" is unavailable.
- * For AC, there is no "S" specification since it is integrated with converter.

Electrical entry

24V, 12V, 6V, 5V, 3V DC/100V, 110V, 200V, 220V AC				24V, 12V DC 100V, 110V, 200V, 220V AC
Grommet	L plug connector	M plug connector		DIN connector
G: 300mm lead wire	L: 300mm lead wire	M: 300mm lead wire	MN: Without lead wire	(SY5000, 7000only) D: With connector
				
H: 600mm lead wire	LN: Without lead wire	LN: Without connector	MO: Without connector	DO: Without connector
				

- * LN and MN includes 2 sockets.
- * D, DO: SY5000/7000 only.

SY3000/5000/7000 Body Ported Valve



Specifications

Series		SY3000	SY5000	SY7000
Fluid		Air		
Internal pilot	2 position single	0.15 to 0.7		
Operating pressure range (MPa)	2 position double	0.1 to 0.7		
	3 position	0.2 to 0.7		
Ambient and fluid temperature		50°C Max.		
Max. operating frequency (Hz)	2 position single, double	10	5	5
	3 position	3	3	3
Manual override		Non-locking push style, Push-turn locking slotted style, Push-turn locking lever style		
Pilot exhaust		Common exhaust for main and pilot valve		
Lubrication		Not required		
Mounting position		Free		
Impact/Vibration resistance (m/s ²) ⁽¹⁾		150/30		
Protection structure		Dust proof (DIN connector IP65)*		



* Subject to IEC529

Note) Impact resistance: No malfunction resulted from the impact test using a drop impact tester. The test was performed on the axis and right angle directions of the main valve and armature, for both energized and de-energized states. (Valve in the initial stage.)

Vibration resistance: No malfunction occurred in a one-sweep test between 8.3 and 2,000 Hz. Test was performed at both energize and de-energized states to the axis and right angle directions of the main valve and armature. (Valve in the Initial stage.)



P.1.1-123 to 1.1-136

Solenoid Specifications

Electrical entry		Grommet (G)/(H), L plug connector (L), M plug connector (M), DIN connector (D)*	
Coil rated voltage(V)	DC	24, 12, 6, 5, 3	
	AC 50/60 Hz	100, 110, 200, 220*	
Allowable voltage		±10% rated voltage	
Power consumption(W)	DC	0.5(With light: 0.55 (DIN connector with lamp: 0.6)	
Apparent power(VA)	AC	100V	0.9 (With light: 1.0)
		110V [115V]	1.0 (With light: 1.1) [1.1 (With light: 1.2)]
		200V	1.8 (With light: 1.9)
		220V [230V]	1.9 (With light: 2.0) [2.2 (With light: 2.3)]
		Surge voltage suppressor	Diode (DIN connector is ZNR. G, L or M (Non-polar) is zener diode.)
Indicator light		LED (AC of DIN connector is neon lamp.)	



* DIN connector (D) is for SY5000 and 7000 only.

* Can be used for 110V, 115V, 220V, and 230V AC.

Response Time



Note) According to dynamic performance test JIS B8375-1981 (Coil temperature 20°C, at rated voltage, without surge voltage suppressor.)

SY3000

Configuration	Response time (ms) (0.5MPa)		
	Without indicator light and surge voltage suppressor	With indicator light and surge voltage suppressor	
		S, Z	R, U
2 position single	12 or less	15 or less	12 or less
2 position double	10 or less	13 or less	10 or less
3 position	15 or less	20 or less	16 or less

SY5000

Configuration	Response time (ms) (0.5MPa)		
	Without indicator light and surge voltage suppressor	With indicator light and surge voltage suppressor	
		S, Z	R, U
2 position single	19 or less	26 or less	19 or less
2 position double	18 or less	22 or less	18 or less
3 position	32 or less	38 or less	32 or less

SY7000

Configuration	Response time (ms) (0.5MPa)		
	Without indicator light and surge voltage suppressor	With indicator light and surge voltage suppressor	
		S, Z	R, U
2 position single	31 or less	38 or less	33 or less
2 position double	27 or less	30 or less	28 or less
3 position	50 or less	56 or less	50 or less

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VP4

VQ

VQ4

VQZ

VQD

VZS

VFS

VS

VS7

Body Ported Valve

Model/Series SY3000

Valve model	Configuration		Port size		Effective area (mm ²) (Cv)		Weight (g)					
			P, EA, EB	A, B	P→A/B	A/B→EA/EB	Grommet	L, M plug connector				
SY3□20-□-M5	2 position	Single	M5 X 0.8		3.6 (0.2)	3.78 (0.21)	48	51				
		Double					62	70				
	3 position	Closed center			3.6 (0.2)	3.78 (0.21)	65	72				
		Exhaust center							[2.7 (0.15)]			
		Pressure center							3.96 (0.22)	3.6 (0.2)		
	Single	M5 X 0.8			C4 (One-touch fittings for ø4)	3.42 (0.19)	3.6 (0.2)	57	61			
	Double							72	79			
3 position	Closed center					3.42 (0.19)	3.42 (0.19)	75	82			
	Exhaust center									3.78 (0.21)	[2.7 (0.15)]	
	Pressure center									3.6 (0.2)	3.6 (0.2)	
	Single		M5 X 0.8	C6 (One-touch fittings for ø6)		3.6 (0.2)	4.14 (0.23)	53	57			
	Double							68	75			
3 position	Closed center					3.6 (0.2)	3.96 (0.22)	71	78			
	Exhaust center									3.78 (0.21)	4.5 (0.25)	[3.06 (0.17)]
	Pressure center									3.96 (0.22)	3.96 (0.22)	

Note []: Normal position

Model/Series SY5000

Valve model	Configuration		Port size		Effective area (mm ²) (Cv)		Weight (g)						
			P, EA, EB	A, B	P→A/B	A/B→EA/EB	Grommet	L, M plug connector	DIN connector				
SY5□20-□-01	2 position	Single	Rc(PT)½		9.18 (0.51)	10.6 (0.59)	67	70	93				
		Double					82	89	135				
	3 position	Closed center			7.38 (0.41)	7.92 (0.44)	87	94	140				
		Exhaust center								12.06 (0.67)	[8.28 (0.46)]		
		Pressure center								10.62 (0.59)	[4.32 (0.24)]	8.46 (0.47)	
SY5□20-□-C4	2 position	Single			Rc(PT)½	C4 (One-touch fittings for ø4)	5.5 (0.31)	3.9 (0.22)	91	94	117		
		Double							105	113	159		
	3 position	Closed center					5.3 (0.29)	3.9 (0.22)	111	118	164		
		Exhaust center										5.3 (0.29)	3.9 (0.22)
		Pressure center										5.7 (0.32)	3.9 (0.22)
SY5□20-□-C6	2 position	Single	Rc(PT)½	C6 (One-touch fittings for ø6)			9 (0.5)	9 (0.5)	85	89	112		
		Double							100	107	153		
	3 position	Closed center					7.2 (0.4)	7.38 (0.41)	105	112	158		
		Exhaust center										9.72 (0.54)	[7.2 (0.4)]
		Pressure center										10.62 (0.59)	[4.32 (0.24)]
SY5□20-□-C8	2 position	Single			Rc(PT)½	C8 (One-touch fittings for ø8)	9.18 (0.51)	9.9 (0.55)	77	80	103		
		Double							92	99	145		
	3 position	Closed center					7.38 (0.41)	7.92 (0.44)	97	104	150		
		Exhaust center										11.88 (0.66)	[7.74 (0.43)]
		Pressure center										10.62 (0.59)	[4.32 (0.24)]

Note [] Normal position

Model/Series SY7000

Valve model	Configuration		Port size		Effective area (mm ²) (Cv)		Weight (g)							
			P, EA, EB	A, B	P→A/B	A/B→EA/EB	Grommet	L, M plug connector	DIN connector					
SY7□20-□-02	2 position	Single	Rc(PT)¼		16.2 (0.9)	15.66 (0.87)	98	102	125					
		Double					114	121	167					
	3 position	Closed center			12.06 (0.67)	11.34 (0.63)	122	129	175					
		Exhaust center								11.88 (0.66)	16.74 (0.93)	[11.7 (0.65)]		
		Pressure center								17.1 (0.95)	[11.16 (0.62)]	11.34 (0.63)		
SY7□20-□-C8	2 position	Single			P port Rc(PT)¼	C8 (One-touch fittings for ø8)	13.86 (0.77)	13.68 (0.76)	104	108	131			
		Double							120	128	174			
	3 position	Closed center					11.52 (0.64)	10.44 (0.58)	128	136	182			
		Exhaust center										11.16 (0.62)	14.4 (0.8)	[10.8 (0.6)]
		Pressure center										14.58 (0.81)	[10.62 (0.59)]	10.44 (0.58)
SY7□20-□-C10	2 position	Single	EA, EB port : Rc(PT)½	C10 (One-touch fittings for ø10)			15.84 (0.88)	14.94 (0.83)	100	103	126			
		Double							116	123	169			
	3 position	Closed center					12.24 (0.68)	11.16 (0.62)	124	131	177			
		Exhaust center										11.88 (0.66)	16.2 (0.89)	[11.34 (0.63)]
		Pressure center										16.74 (0.93)	[11.16 (0.62)]	11.34 (0.63)

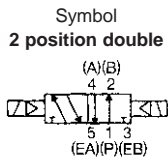
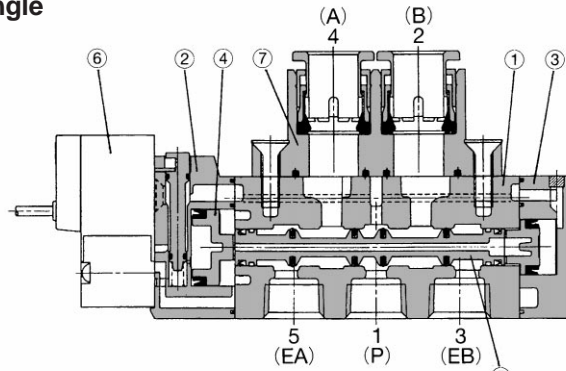
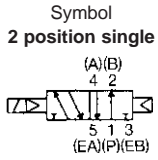
Note [] Normal position

SY3000/5000/7000 Body Ported Valve

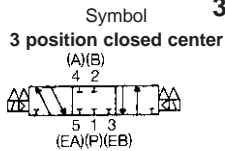
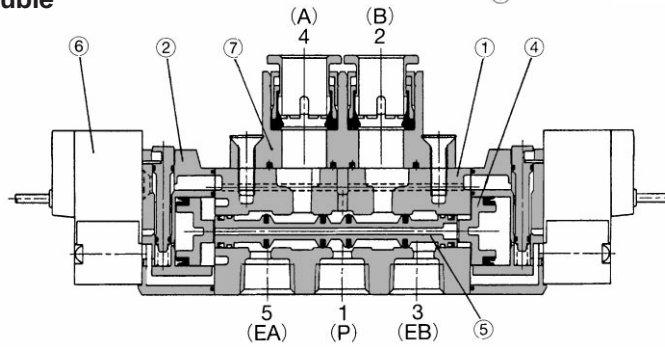
Construction

Series SY

2 position single



2 position double

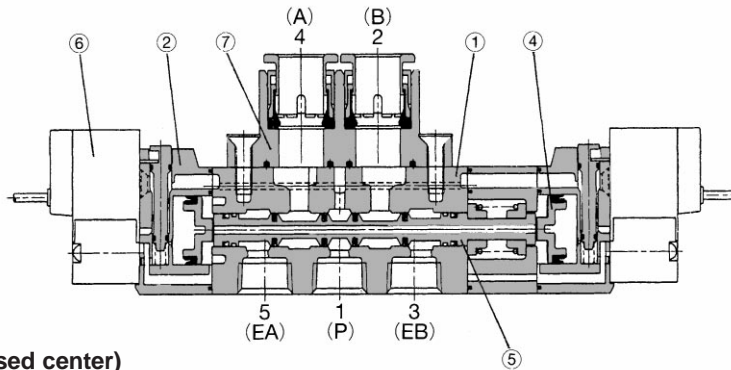
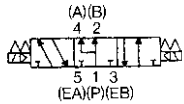


3 position closed center/exhaust center/pressure center

3 position exhaust center



3 position pressure center



(In case of closed center)

Component Parts

No.	Description	Material	Note
①	Body	Aluminum die cast	White
②	Adaptor plate	Resin	White
③	End plate	Resin	White
④	Piston	Resin	—
⑤	Spool assembly	Aluminum/NBR	—

Replacement Parts

No.	Description	Part No.
⑥	Pilot operator assembly	See "How to Order Pilot Valve Assembly" on p.1.1-14.
⑦	Port block assembly	See "How to Order Port Block Assembly" on p.1.1-14.

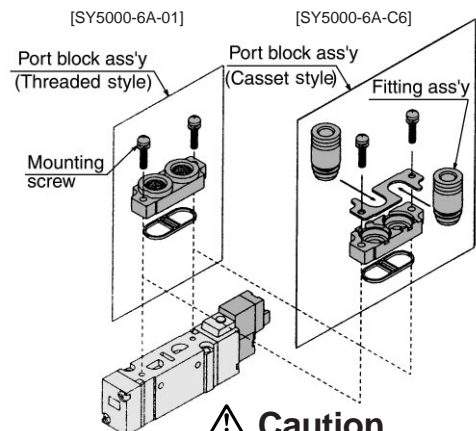
Bracket Assembly No.

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

How to Change Port Block Assembly

The cylinder port block assembly can be easily changed to exchange the A/B port size. When changing block assembly, correct screw torque must be achieved.

● SY5000



⚠ Caution

Torque for mounting screws

SY3000 (M2): 0.09Nm

SY⁵000 (M3): 0.6Nm



*See "How to Order Port Block Assembly" on p.1.1-14 for part No.

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VP4

VQ

VQ4

VQZ

VQD

VZS

VFS

VS

VS7

Body Ported Valve

How to Order Pilot Valve Assembly

SY114—**5** **G**

Voltage

5	24V DC
6	12V DC
V	6V DC
S	5V DC
R	3V DC
1	100V AC ^{50/60} Hz
2	200V AC ^{50/60} Hz
3	110V AC ^{50/60} Hz [115V AC ^{50/60} Hz]
4	220V AC ^{50/60} Hz [230V AC ^{50/60} Hz]

Electrical entry





G	Grommet (300mm lead wire)	
H	Grommet (600mm lead wire)	
L	L plug	With lead wire
LN	connector	Without lead wire
LO		Without connector
M	M plug	With lead wire
MN	connector	Without lead wire
MO		Without connector

Indicator light and surge voltage suppressor

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

- "R" and "U" types: DC only.
- For AC, there is No "S" specifications since it is integrated with converter.

How to Order Connector Assembly

DC : SY100-30-4A 
 100V AC : SY100-30-1A 
 200V AC : SY100-30-2A 
 Other AC : SY100-30-3A 
 Without lead wire : SY100-30-A

(Only connector and sockets (2 pcs.))

Lead wire length

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

SY115—**5** **D**

Voltage

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

Electrical entry

D	DIN	With connector
DO	Connector	Without connector

Indicator light and surge voltage suppressor

—	Without indicator light and surge voltage suppressor
S	With surge voltage suppressor (Non-polar)
Z	With indicator light and surge voltage suppressor (Non-polar)

- * "DOZ" is unavailable.
- * For AC, there is No "S" specification since it is integrated with converter

Note) In case of exchanging pilot valve ass'y only, SY114 (G, H, L, M) and SY115 (DIN) are unexchangeable each other.

How to Order Port Block Assembly

SY 000—6A—

Series

3	SY3000
5	SY5000
7	SY7000

A, B port size

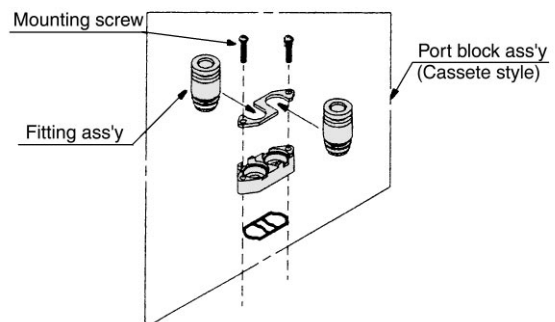
Symbol	Port size	Applicable series
M5	M5 X 0.8	SY3000
C4	One-touch fittings for ø4	
C6	One-touch fittings for ø6	
01	Rc(PT)1/8	SY5000
C4	One-touch fittings for ø4	
C6	One-touch fittings for ø6	
C8	One-touch fittings for ø8	SY7000
02	Rc(PT)1/4	
C8	One-touch fittings for ø8	
C10	One-touch fittings for ø10	

SY3000/5000

* In case of SY3000/5000 port block assembly, replacement of the fitting assembly only is possible.

Refer to the following.

SY3000	For One-touch fittings ø4	VVQ1000-50A-C4
	For One-touch fittings ø6	VVQ1000-50A-C6
SY5000	For One-touch fittings ø4	VVQ1000-51A-C4
	For One-touch fittings ø6	VVQ1000-51A-C6
	For One-touch fittings ø8	VVQ1000-51A-C8



SY3000/5000/7000 Body Ported Valve

Dimensions/Series SY3000

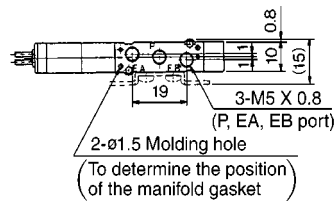
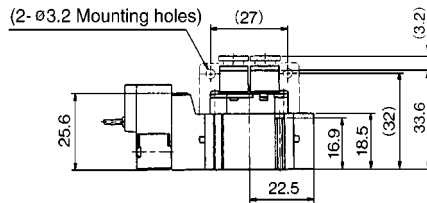
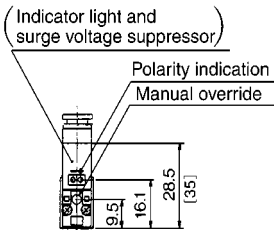
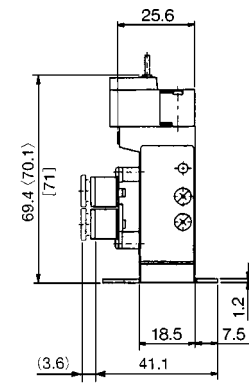
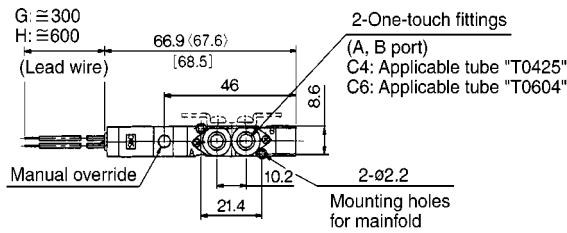
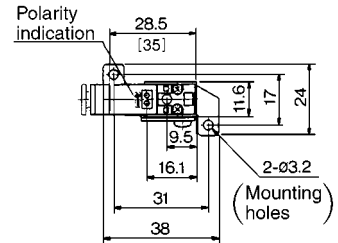
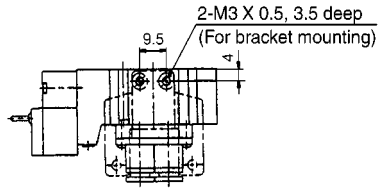
Note) []: Values for AC
 < >: Values with surge voltage suppressor.

2 position single

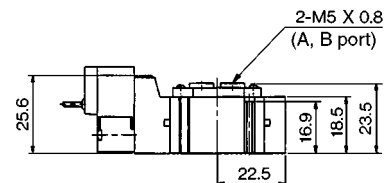
Grommet (G), (H): SY3120-□_G□□-C4-C6 (-F2)

In case with foot bracket

SY3120-□_G□□-C4-C6 -F1

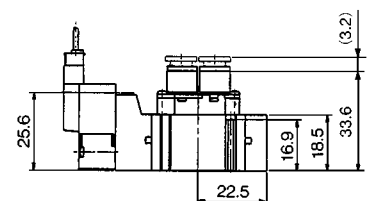
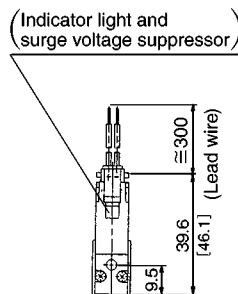
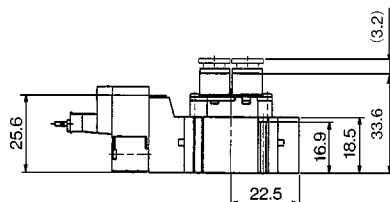
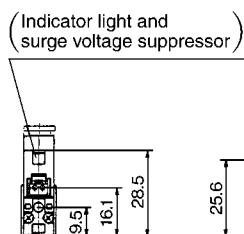
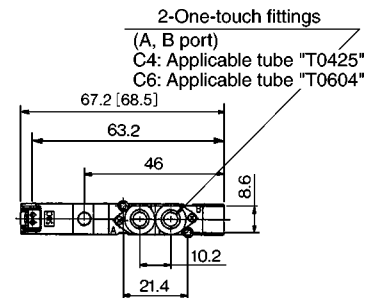
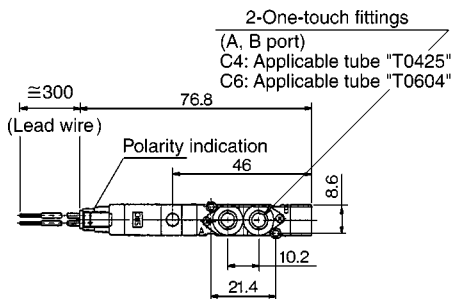


SY3120-□_G□□-M5



L plug connector (L): SY3120-□L□□-C4-C6

M plug connector (M): SY3120-□M□□-C4-C6



- SY
- SYJ
- SX
- VK
- VZ
- VF
- VFR
- VP7
- VP4
- VQ
- VQ4
- VQZ
- VQD
- VZS
- VFS
- VS
- VS7

Body Ported Valve

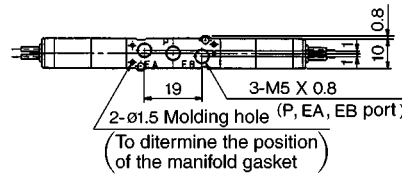
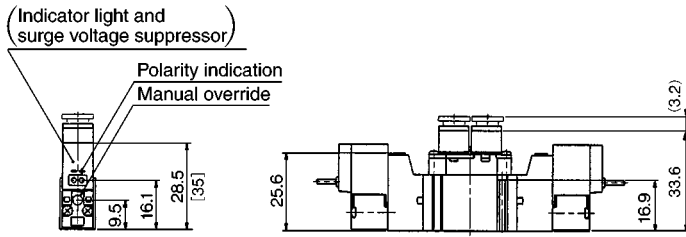
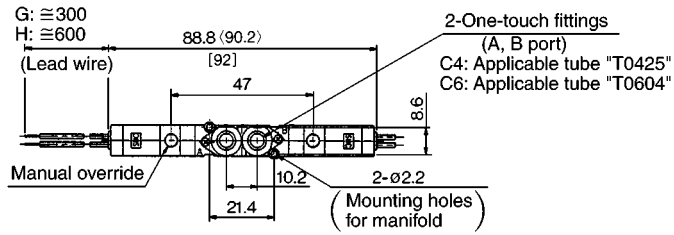
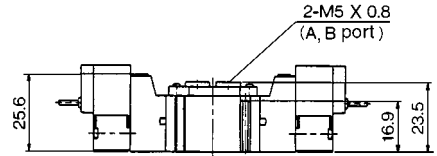
Dimensions/Series SY3000

Note) []: Values for AC
< >: Values with surge voltage suppressor

2 position double

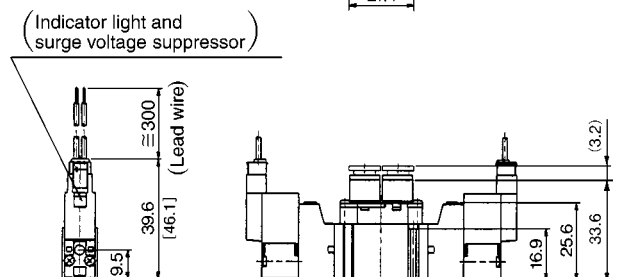
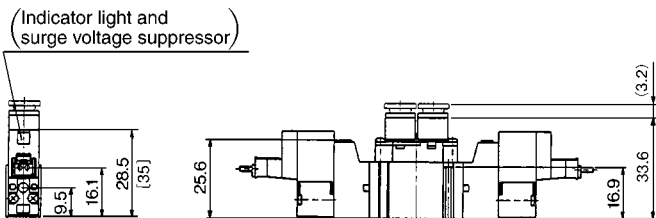
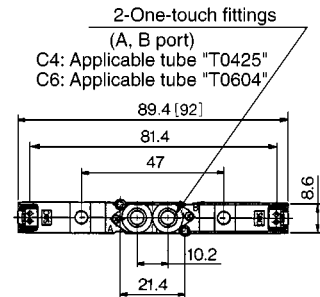
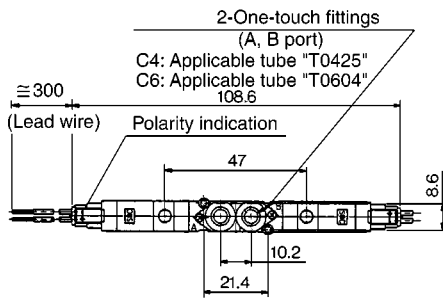
Grommet (G), (H): SY3220-□^G_H□□-C4
C6

SY3220-□^G_H□□-M5



L plug connector (L): SY3220-□L□□-C4
C6

M plug connector (M): SY3220-□M□□-C4
C6



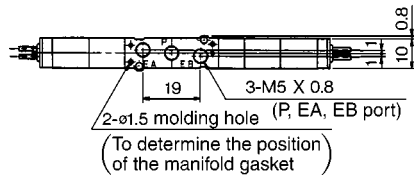
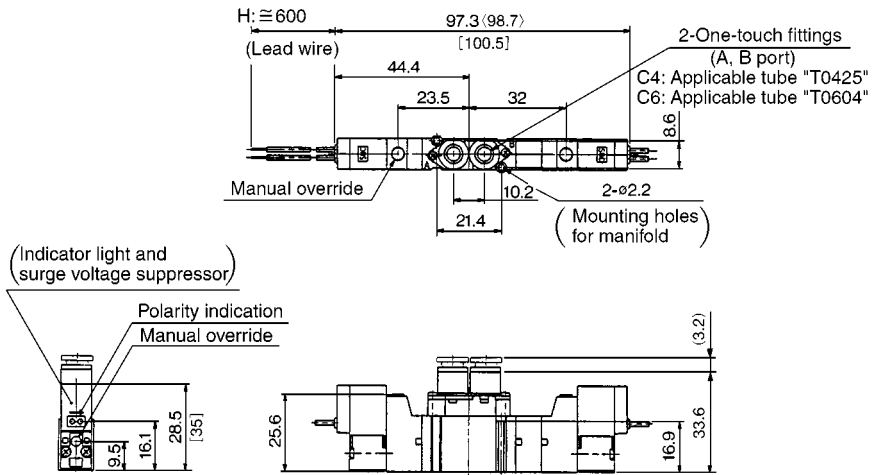
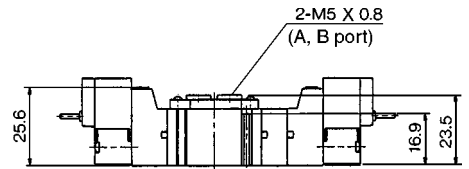
SY3000/5000/7000 Body Ported Valve

Note) []: Values for AC
 < >: Values with surge voltage suppressor.

3 position closed center/exhaust center/pressure center

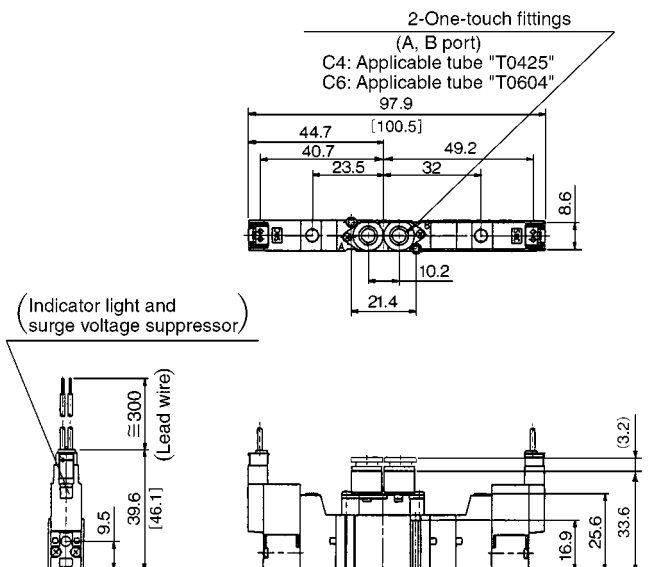
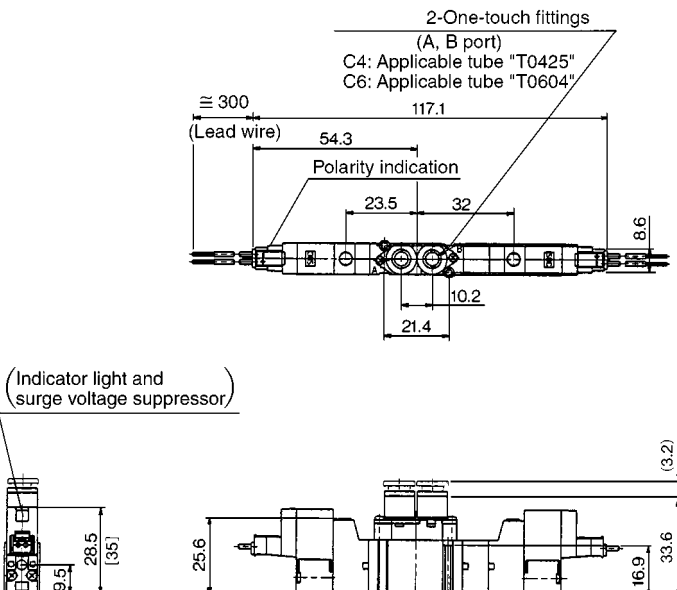
Grommet (G), (H): SY $\frac{3}{4}$ 20-□_H □□-C4
 C6

SY $\frac{3}{4}$ 20-□_H □□-M5



L plug connector (L): SY $\frac{3}{4}$ 20-□L □□-C4
 C6

M plug connector (M): SY $\frac{3}{4}$ 20-□M □□-C4
 C6



- SY
- SYJ
- SX
- VK
- VZ
- VF
- VFR
- VP7
- VP4
- VQ
- VQ4
- VQZ
- VQD
- VZS
- VFS
- VS
- VS7

SY3000/5000/7000 Base Mounted Valve Single Unit

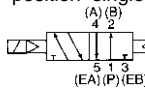
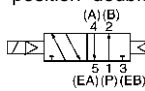
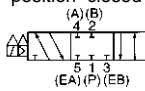
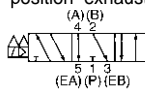
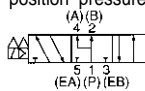
How to Order

SY 5 2 40 [] 5 L [] [] []

Series

3	SY3000
5	SY5000
7	SY7000

Configuration

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

Pilot

—	Internal pilot
R	External pilot

AC (50/60Hz)

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

*D and DO only available for 12V in case of DC.
*D and DO only available for SY5000 and SY7000.

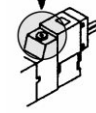
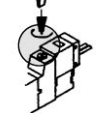

Voltage

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

A/B port size

Symbol	Port size	Applicable series
—	Without subplate	
01	Rc(PT) 1/8 With subplate	SY3000
02	Rc(PT) 1/4 With subplate	SY5000 SY7000
03	Rc(PT) 3/8 With subplate	SY7000

Manual override

—: Non-locking push style 	D: Push-turn locking slotted style 
E: Push-turn locking lever style 	

Indicator light and surge voltage suppressor

Electrical entry for G, H, L, M

—	W/o indicator light and surge suppressor
S	W/ surge voltage suppressor
Z	W/ indicator light and surge suppressor
R	W/ surge suppressor (Non-polar)
U	W/ indicator light and surge suppressor (Non-polar)

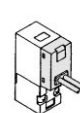
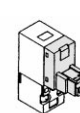
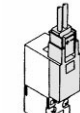
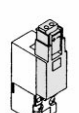
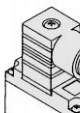
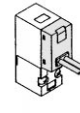
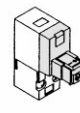
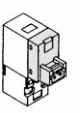
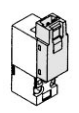

Electrical entry for D

—	W/o indicator light and surge suppressor
S	W/ surge suppressor (Non-polar)
Z	W/ indicator light and surge suppressor (Non-polar)

*"R" and "U" types: DC only.
*For AC, there is No "S" specification since it is integrated with converter.

*"DOZ" is unavailable.
*For AC, there is No "S" specification since it is integrated with converter.

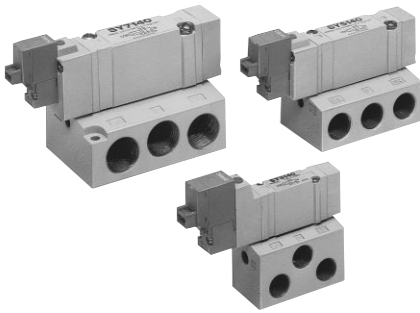
Electrical entry

24V, 12V, 6V, 5V, 3V DC/100V, 110V, 200V, 220V AC				24V, 12V DC 100V, 110V, 200V, 220V AC
Grommet	L plug connector	M plug connector		DIN connector
G: 300mm lead wire 	L: 300mm lead wire 	M: 300mm lead wire 	MN: Without Lead wire 	(SY5000/7000 only) D: With connector 
H: 600mm lead wire 	LN: Without Lead wire 	LO: Without connector 	MO: Without connector 	DO: Without connector 

*"LN" and "MN" include 2 sockets.

*"D", "DO": SY5000/7000 only.

SY3000/5000/7000 Base Mounted Valve



P.1.1-123 to 1.1-136

Specifications

Series		SY3000	SY5000	SY7000
Fluid		Air		
Internal pilot	2 position single	0.15 to 0.7		
Operating pressure range (MPa)	2 position double	0.1 to 0.7		
	3 position	0.2 to 0.7		
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	0.25 to 0.7	
3 position	0.25 to 0.7			
Ambient and fluid temperature		50°C Max.		
Max. operating frequency (Hz)	2 position single, double	10	5	5
	3 position	3	3	3
Manual override		Non-locking push style, Push-turn locking slotted style, Push-turn locking lever style		
Pilot exhaust	Internal pilot	Common exhaust for main and pilot valve		
	External pilot	Individual exhaust for pilot valve		
Lubrication		Not required		
Mounting position		Free		
Impact/Vibration resistance (m/s ²) ⁽¹⁾		150/30 (8.3 to 2000Hz)		
Protection structure		Dust proof (DIN connector IP65)*		



*Equivalent to IEC 529

Note 1) Impact resistance: No malfunction resulted from the impact test using a drop impact tester. The test was performed on the axis and right angle directions of the main valve and armature, for both energized and de-energized states. (Value in the initial stage.)

Vibration resistance: No malfunction occurred in a one-sweep test between 8.3 and 2,000 Hz. Test was performed at both energize and de-energized states to the axis and right angle directions of the main valve and armature. (Value in the initial stage.)

Solenoid Specification

Electrical entry		Grommet(G)/(H), L plug connector(L), M plug connector(M), DIN connector(D)*	
Coil rated voltage (V)	DC	24, 12, 6, 5, 3	
	AC 50/60 Hz	100, 110, 200, 220*	
Allowable voltage		±10% rated voltage	
Power consumption		DC	0.5(With light: 0.55 (DIN connector with lamp: 0.6))
Apparent power (VA)	AC	100V	0.9 (With light: 1.0)
		110V	1.0 (With light: 1.1)
		[115V]	[1.1 (With light: 1.2)]
		200V	1.8 (With light: 1.9)
		220V [230V]	1.9 (With light: 2.0) [2.2 (With light: 2.3)]
Surge voltage suppressor		Diode (DIN connector is ZNR. G, L or M (Non-polar) is zener diode.)	
Indicator light		LED (AC of DIN connector is neon lamp.)	



*DIN connector (D) is SY5000, 7000 only.

*Can be used for 110V, 115V, 220V and 230V AC.

Response Time



Note) According to dynamic performance test JIS B8375-1981

(Coil temperature 20°C, at rated voltage, without surge voltage suppressor.)

SY3000

Configuration	Response time (ms) (0.5MPa)		
	Without indicator light and surge voltage suppressor	With indicator light and surge voltage suppressor	
		S, Z type	R, U type
2 position single	12 or less	15 or less	12 or less
2 position double	10 or less	13 or less	10 or less
3 position	15 or less	20 or less	16 or less

SY5000

Configuration	Response time (ms) (0.5MPa)		
	Without indicator light and surge voltage suppressor	With indicator light and surge voltage suppressor	
		S, Z type	R, U type
2 position single	19 or less	26 or less	19 or less
2 position double	18 or less	22 or less	18 or less
3 position	32 or less	38 or less	32 or less

SY7000

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

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VP4

VQ

VQ4

VQZ

VQD

VZS

VFS

VS

VS7

Base Mounted Valve

Model/Series SY3000

Valve model	Configuration		Port size	Effective area (mm ²) _(Cv) ⁽¹⁾		Weight (g) ⁽²⁾	
				P→A/B	A/B→EA/EB	Grommet	L, M, plug connector
SY3□40-□-01	2 position	Single	Rc(PT)1/8	4.86 (0.27)	5.4 (0.3)	81 (47)	85 (51)
		Double		4.86 (0.27)	5.4 (0.3)	96 (62)	103 (69)
	3 position	Closed center		4.68 (0.26)	4.86 (0.27)	98 (63)	105 (70)
		Exhaust center		4.86 (0.27)	5.94 (0.33) [3.24 (0.18)]		
		Pressure center		6.66 (0.37) [3.24 (0.18)]	5.22 (0.29)		



Note 1) []: In case of normal position Note 2) (): Without sub-plate

Model/Series SY5000

Valve model	Configuration		Port size	Effective area (mm ²) _(Cv) ⁽¹⁾		Weight (g) ⁽²⁾		
				P→A/B	A/B→EA/EB	Grommet	L, M, plug connector	DIN connector
SY5□40-□-02	2 position	Single	Rc(PT)1/4	12.78 (0.71)	12.6 (0.7)	118 (55)	121 (59)	154 (82)
		Double		12.78 (0.71)	12.6 (0.7)	133 (70)	140 (77)	186 (123)
	3 position	Closed center		7.56 (0.42)	8.1 (0.45)	138 (76)	146 (83)	192 (129)
		Exhaust center		7.92 (0.44)	14.4 (0.8) [9.0 (0.5)]			
		Pressure center		15.84 (0.88) [4.5 (0.25)]	8.64 (0.48)			



Note 1) []: In case of normal position Note 2) (): Without sub-plate

Model/Series SY7000

Valve model	Configuration		Port size	Effective area (mm ²) _(Cv) ⁽¹⁾		Weight (g) ⁽²⁾		
				P→A/B	A/B→EA/EB	Grommet	L, M, plug connector	DIN connector
SY7□40-□-03	2 position	Single	Rc(PT)1/4	23.22 (1.29)	21.6 (1.2)	215 (86)	219 (90)	242 (113)
		Double		23.22 (1.29)	21.6 (1.2)	231 (102)	238 (109)	284 (155)
	3 position	Closed center		14.04 (0.78)	12.24 (0.68)	233 (104)	241 (112)	287 (158)
		Exhaust center		14.04 (0.78)	20.88 (1.16) [12.96 (0.72)]			
		Pressure center		24.48 (1.36) [13.5 (0.75)]	12.42 (0.69)			

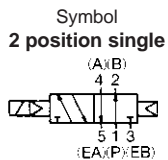


Note 1) []: In case of normal position Note 2) (): Without sub-plate

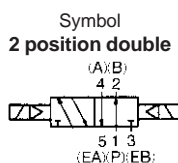
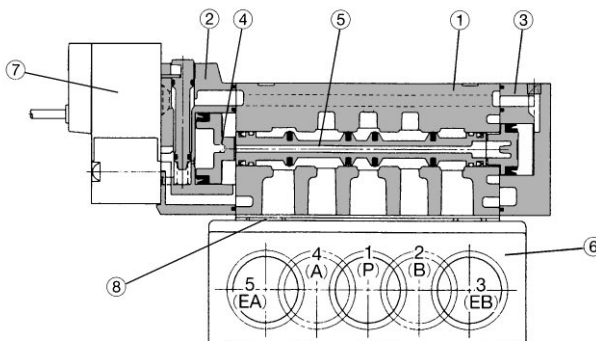
SY3000/5000/7000 Base Mounted Valve

Construction

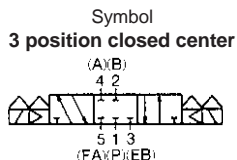
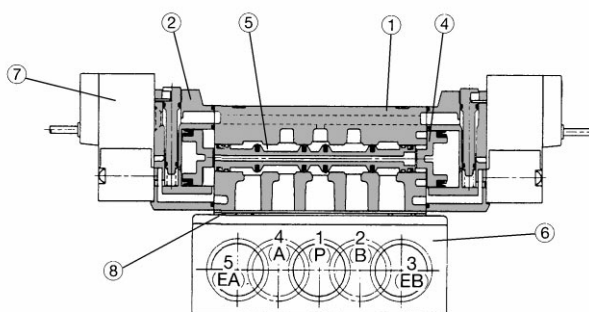
Series SY



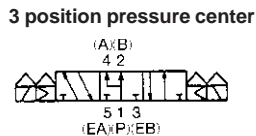
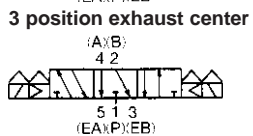
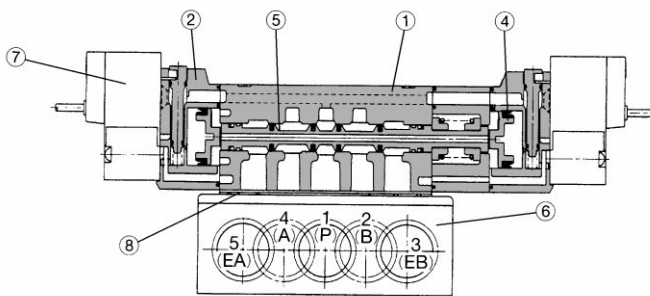
2 position single



2 position double



3 position closed center/exhaust center/pressure center



(In case of closed center)

Component Parts

No.	Description	Material	Note
①	Body	Aluminum die cast	White
②	Adaptor plate	Resin	White
③	End plate	Resin	White
④	Piston	Resin	-
⑤	Spool ass'y	Aluminum/NBR	-

Replacement Parts

No.	Description	Part No.			Note
		SY3□40	SY5□40	SY7□40	
⑥	Sub-plate	SY3000-27-1	SY5000-27-1	Rc(PT)1/4: SY7000-27-1 Rc(PT)3/8: SY7000-27-2	Aluminum die cast
⑦	Pilot valve ass'y	See "How to Order Pilot Valve Assembly" on p.1.1-28.			
⑧	Gasket	SY3000-11-8	SY5000-11-2	SY7000-11-2	NBR
-	Mounting bolt	SY3000-23-4 (M2 X 21)	M3 X 26	M4 X 31	For valve mounting (Mat nickel plated)

⚠ Caution

Torque for mounting screws
M2: 0.15 Nm
M3: 0.6 Nm
M4: 1.4 Nm

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VP4

VQ

VQ4

VQZ

VQD

VZS

VFS

VS

VS7

Base Mounted Valve

How to Order Pilot Valve Assembly

SY114—5 G

Voltage

5	24V DC
6	12V DC
V	6V DC
S	5V DC
R	3V DC
1	100V AC ^{50/60} Hz
2	200V AC ^{50/60} Hz
3	110V AC ^{50/60} Hz [115V AC ^{50/60} Hz]
4	220V AC ^{50/60} Hz [230V AC ^{50/60} Hz]

Electrical entry

G	Grommet (300mm lead wire)	
H	Grommet (600mm lead wire)	
L	L plug connector	With lead wire
LN		Without lead wire
LO		Without connector
M	M plug connector	With lead wire
MN		Without lead wire
MO		Without connector

Indicator light and surge voltage suppressor

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

“R” and “U” types DC only.
 For AC, there is No “S” specification since it is integrated with converter.

How to Order Connector Assembly

DC : SY100-30-4A
 100V AC : SY100-30-1A
 200V AC : SY100-30-2A
 Other AC : SY100-30-3A
 Without lead wire: SY100-30-A

(Only connector and sockets (2 pcs.))

Lead wire length

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

SY115—5 D

Voltage

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

Electrical entry

D	DIN	With connector
DO	connector	Without connector

Indicator light and surge voltage suppressor

—	Without indicator light and surge voltage suppressor
S	With surge voltage suppressor (Non-polar)
Z	With indicator light and surge voltage suppressor (Non-polar)

* “DOZ” is unavailable.
 * For AC, there is No “S” specification since it is integrated with converter.

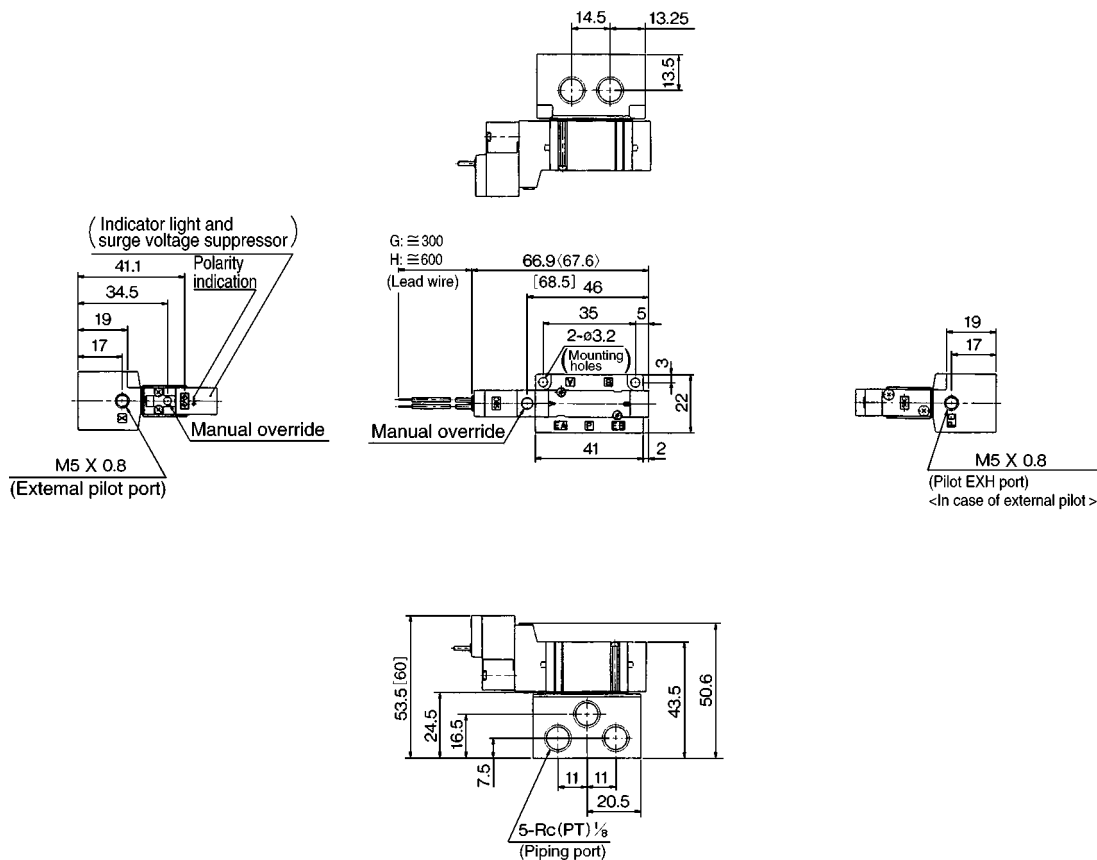
SY3000/5000/7000 Base Mounted Valve

Dimensions/Series SY3000

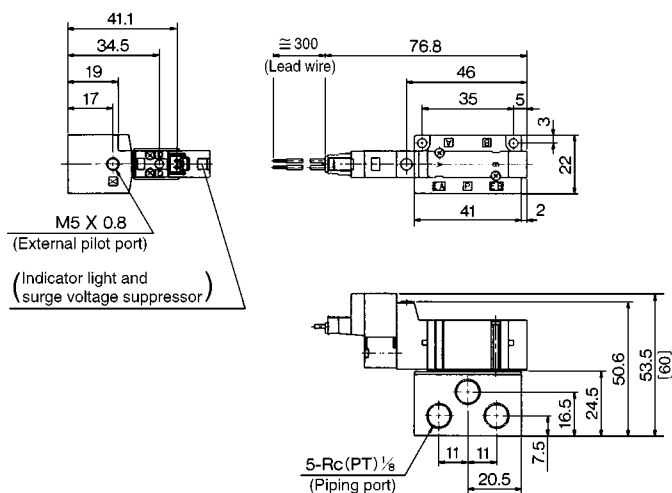
Note []: Values for AC
< >: Values with surge voltage suppressor.

2 position single

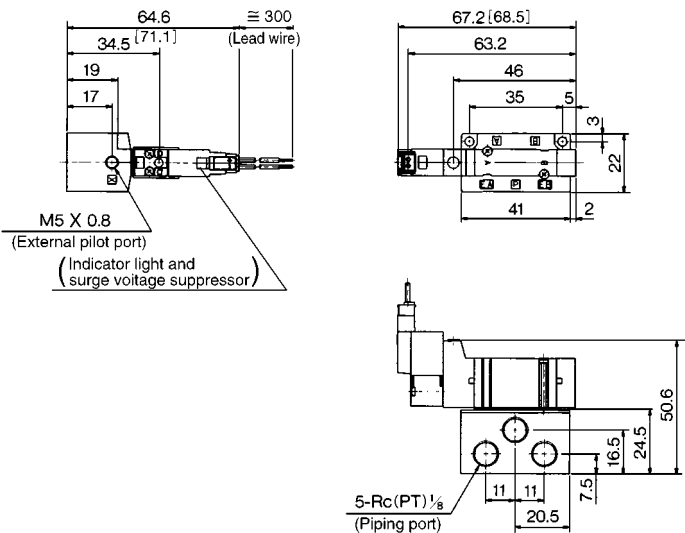
Grommet (G), (H): SY3140(R)-□^G_H□□-01



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



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



- SY
- SYJ
- SX
- VK
- VZ
- VF
- VFR
- VP7
- VP4
- VQ
- VQ4
- VQZ
- VQD
- VZS
- VFS
- VS
- VS7

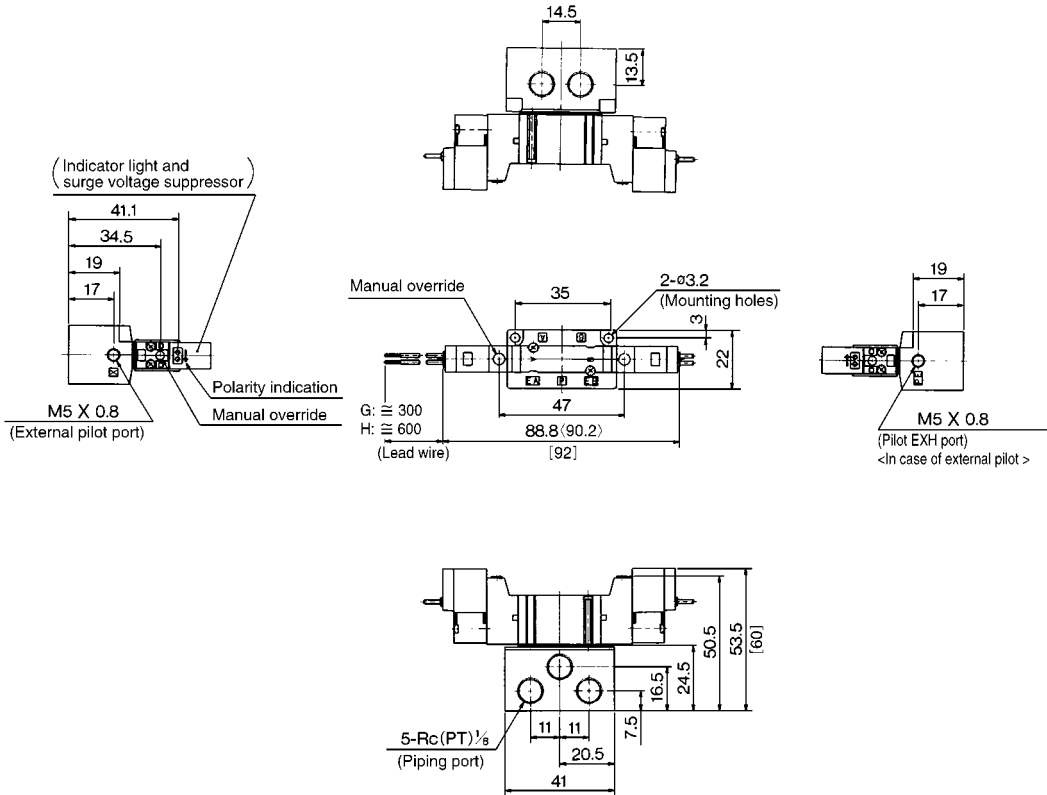
Base Mounted Valve

Dimensions/Series SY3000

Note) []: Values for AC
< >: Values with surge voltage suppressor.

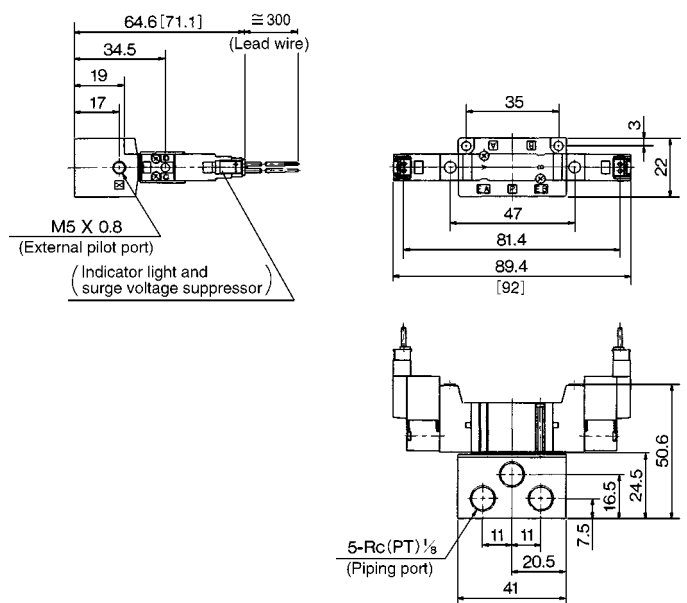
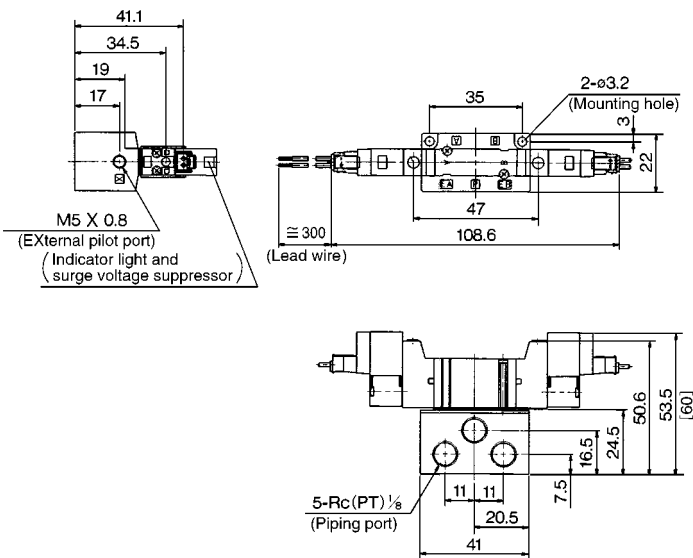
2 position double

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



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

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

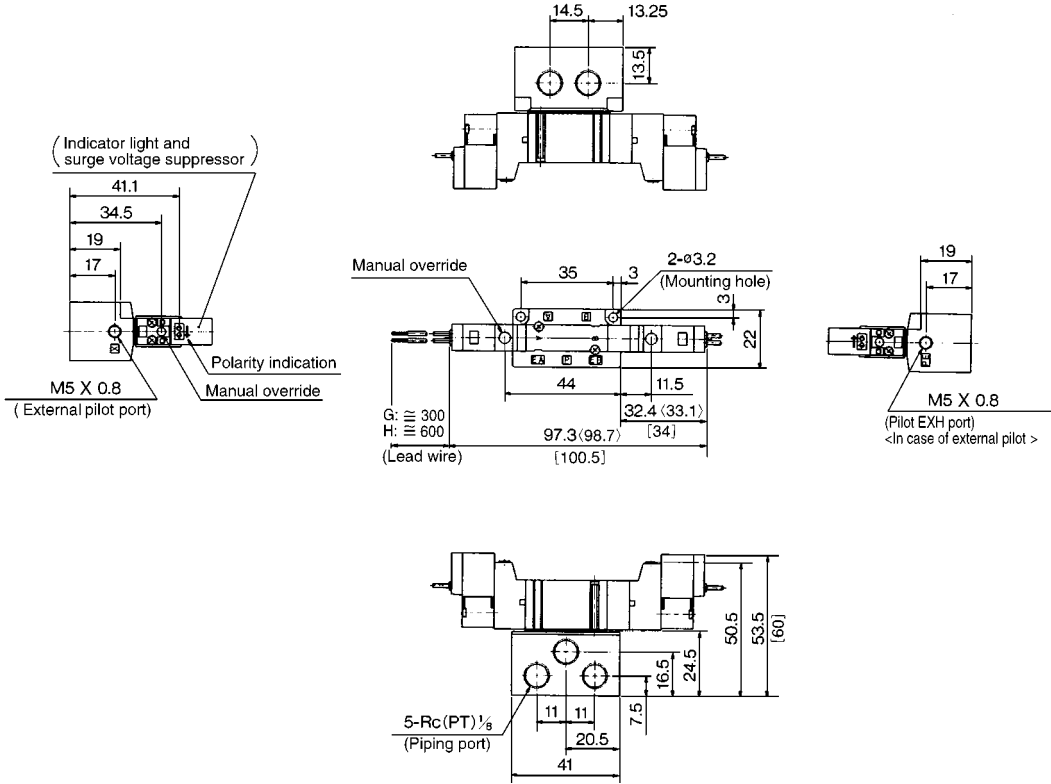


SY3000/5000/7000 Base Mounted Valve

Note) []: Values for AC
 < >: Values with surge voltage suppressor.

3 position closed center/exhaust center/pressure center

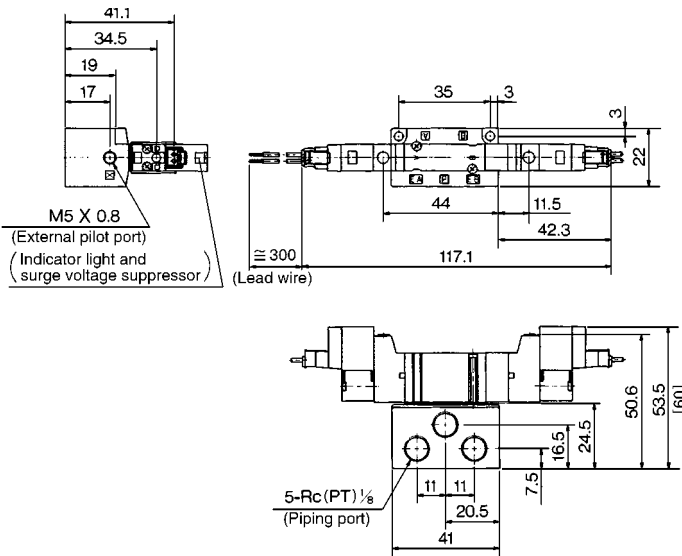
Grommet (G), (H): SY3³/₅40(R)-□^G□□-01



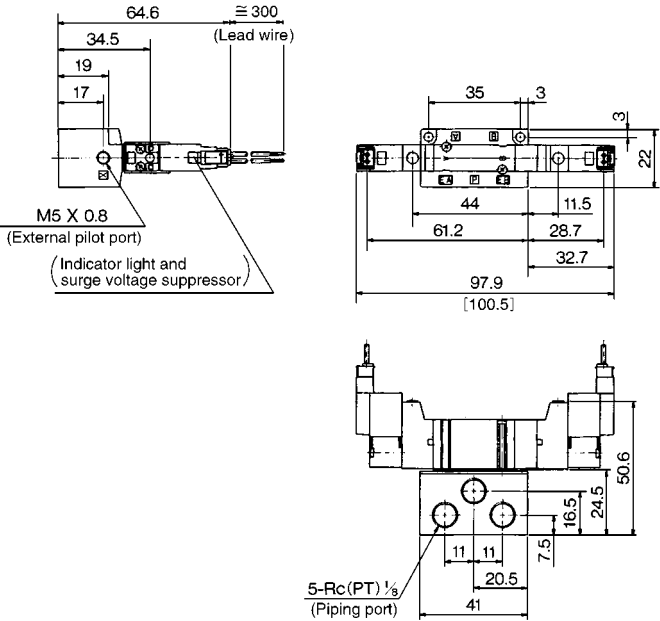
- SY**
- SYJ**
- SX**
- VK**
- VZ**
- VF**
- VFR**
- VP7**
- VP4**

- VQ**
- VQ4**
- VQZ**
- VQD**
- VZS**
- VFS**
- VS**
- VS7**

L plug connector (L): SY3³/₅40(R)-□L□□-01



M plug connector (M): SY3³/₅40(R)-□M□□-01



SY3000/5000/7000 Body Ported/Bar Manifold

20 Type

Individual Wiring

How to Order Manifold

SS5Y 5 — 20 — 05

Manifold series

3	SY3000
5	SY5000
7	SY7000

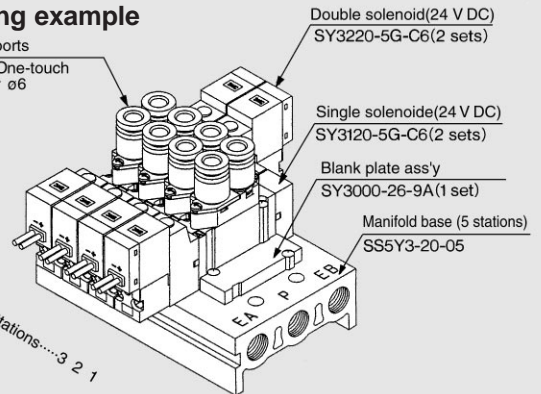
Stations

02	2 stations
⋮	⋮
20	20 stations

How to Order Valve Manifold Ass'y (Example)

Ordering example

Cylinder ports
C6: with One-touch fittings for ø6



SS5Y3-20-05.....1 set (20 type 5 station manifold base part No.)
 *SY3000-26-9A.....1 set (Blank plate ass'y part No.)
 *SY3120-5G-C6.....2 sets (Single solenoid part No.)
 *SY3220-5G-C6.....2 sets (Double solenoid part No.)

To order valves and options mounted onto the manifold at the factory, list the valves/options with an asterisk in front of each part number.

Add the valve and option part number under the manifold base part number. When arrangement is complicated, specify it in the manifold specification form.

How to Order Valve

SY 5 1 20 — 5 L — 01

Series

3	SY3000
5	SY5000
7	SY7000

Configuration

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

Voltage

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

* "D" and "DO" only available for 12V and 24V in case of DC.
 * "D" and "DO" only available on SY5000 and SY7000.

A/B port size

Symbol	Port size	Applicable series
M5	M5 X 0.8	
C4	One-touch fittings for ø4	SY3000
C6	One-touch fittings for ø6	
01	Rc(PT)1/8	
C4	One-touch fittings for ø4	SY5000
C6	One-touch fittings for ø6	
C8	One-touch fittings for ø8	
02	Rc(PT)1/4	
C8	One-touch fittings for ø8	SY7000
C10	One-touch fittings for ø10	

Manual override

—	Non-locking push style
D	Push-turn locking slotted style
E	Push-turn locking lever style

Indicator light and surge voltage suppressor

Electrical entry for G, H, L, M

—	W/o indicator light and surge voltage suppressor
S	W/ surge voltage suppressor
Z	W/ indicator light and surge suppressor
R	W/ surge suppressor (Non-polar)
U	W/ indicator light and surge suppressor (Non-polar)

* "R" and "U" types: DC only.
 * For AC, there is No "S" specification since it is integrated with converter.

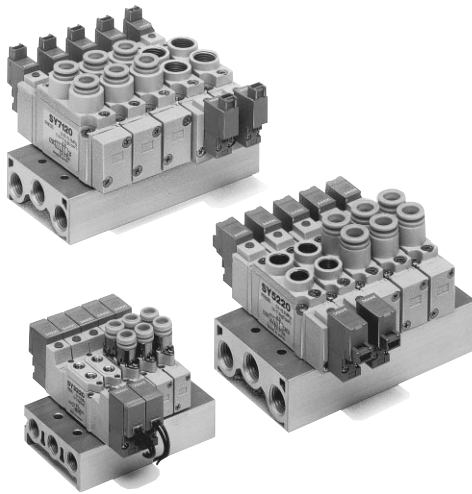
Electrical entry for D

—	W/o indicator light and surge suppressor
S	W/ surge suppressor (Non-polar)
Z	W/ indicator light and surge suppressor (Non-polar)

* "DOZ" is unavailable.
 * For AC, there is No "S" specification since it is integrated with converter.

Electrical entry

24V, 12V, 6V, 5V, 3V DC/100V, 110V, 200V, 220V AC			24V, 12V DC 100V, 110V AC 200V, 220V AC
Grommet	L plug connector	M plug connector	DIN connector
G: 300mm lead wire	L: With lead wire (Length: 300mm)	M: With lead wire (Length: 300mm)	(SY5000/7000 only)
H: 600mm lead wire	LN: Without lead wire	MN: Without lead wire	D: With connector
	LO: Without connector	MO: Without connector	DO: Without connector



Manifold Specifications

Model	SS5Y3-20	SS5Y5-20	SS5Y7-20	
Applicable valve	SY3□20	SY5□20	SY7□20	
Manifold style	Single base/B mounting			
P(SUP)/R(EXH)	Common SUP/Common EXH			
Valve stations	2 to 20 ⁽¹⁾			
A/B porting location	Valve			
Port size	P, EA, EB, port	Rc(PT)1/8	Rc(PT)1/4	Rc(PT)1/4
	A, B port	M5 X 0.8 C4 (One-touch fittings for ø4) C6 (One-touch fittings for ø6)	Rc(PT)1/8 C4 (One-touch fittings for ø4) C6 (One-touch fittings for ø6) C8 (One-touch fittings for ø8)	Rc(PT)1/4 C8 (One-touch fittings for ø8) C10 (One-touch fittings for ø10)
Valve effective orifice (mm ²)(Cv) ⁽²⁾	P→A/B 3.6 (0.2) C6: A/B→EA/EB 4.14 (0.23)	P→A/B 9.18 (0.51) C8: A/B→EA/EB 9.9 (0.55)	P→A/B 15.84 (0.88) A/B→EA/EB 14.94 (0.83)	
Manifold base weight W(g) n: Station	W=13n+35	W=36n+64	W=43n+64	

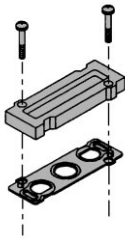


Note 1) For more than 10 stations (more than 5 stations in case of SS5Y7), supply pressure to P port on both sides and exhaust from EA and EB port on both sides.

Note 2) Value when manifold base (5 stations) is installed and in single operation of 2 position style.

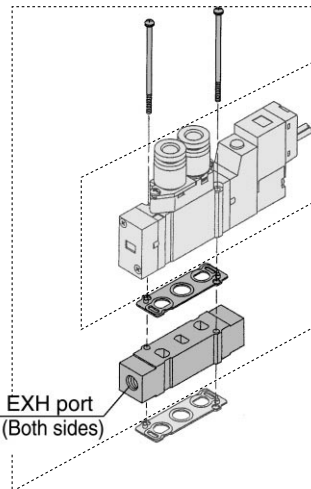
Manifold Options

Blank plate assembly



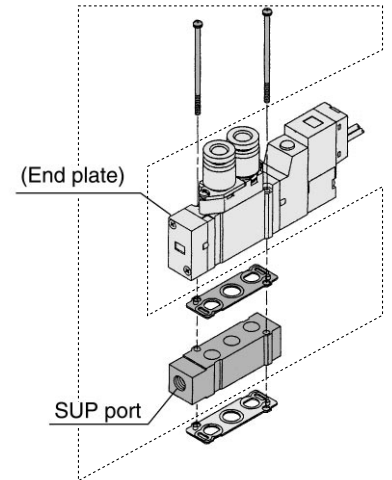
Series	Ass'y part No.
SY3000	SY3000-26-9A
SY5000	SY5000-26-1A
SY7000	SY7000-26-1A

Individual EXH spacer assembly



Series	Ass'y part No.	Port size
SY3000	SY3000-39-20A	M5 X 0.8
SY5000	SY5000-39-1A	Rc(PT)1/8
SY7000	SY7000-39-1A	Rc(PT)1/4

Individual SUP spacer assembly

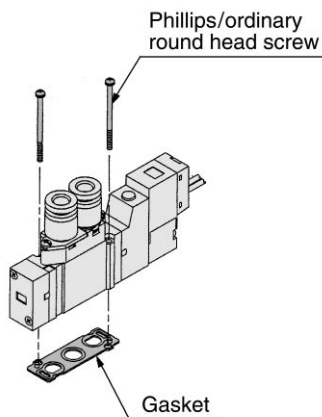


Series	Ass'y part No.	Port size
SY3000	SY3000-38-20A	M5 X 0.8
SY5000	SY5000-38-1A	Rc(PT)1/8
SY7000	SY7000-38-1A	Rc(PT)1/4



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

Screw Gasket

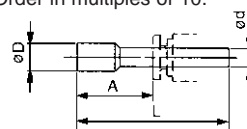


Series	Round head screw	Gasket
SY3000	SY3000-23-4 (M2 X 21)	SY3000-11-24
SY5000	M3 X 26 (Mat nickel plated)	SY5000-11-1
SY7000	M4 X 31 (Mat nickel plated)	SY7000-11-1

Plug

It is inserted into an unused cylinder port and SUP/EXH port.
The minimum order quantity is 10pcs. Order in multiples of 10.

KQP-⁰⁴/₀₈/₁₀-X19
● White color



Caution

Torque for mounting screws

M2: 0.15Nm
M3: 0.6Nm
M4: 1.4Nm

Dimensions

Fitting size ød	Part No.	A	L	D
4	KQP-04-X19	16	32	6
6	KQP-06-X19	18	35	8
8	KQP-08-X19	20.5	39	10
10	KQP-10-X19	22	43	12

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VP4

VQ

VQ4

VQZ

VQD

VZS

VFS

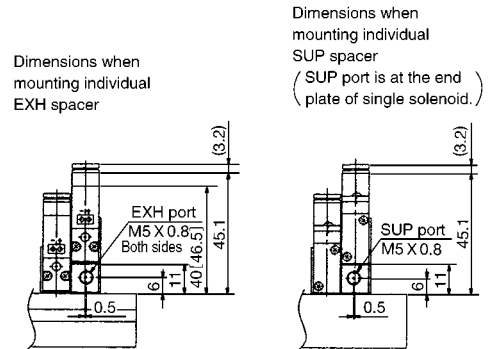
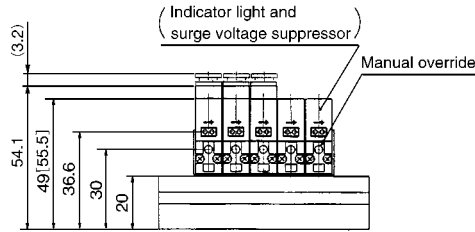
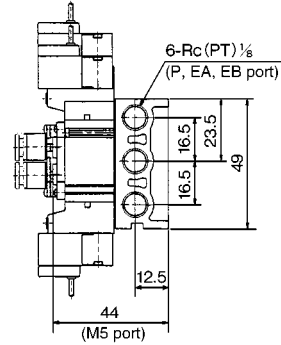
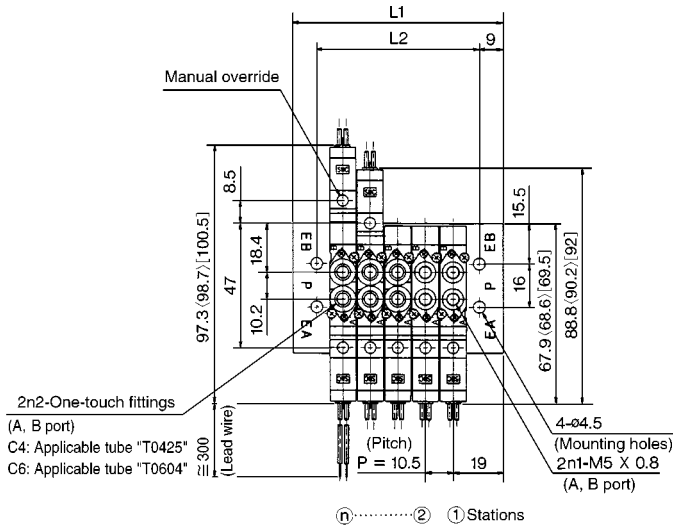
VS

VS7

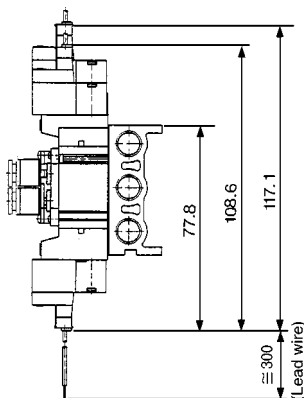
SY3000: SS5Y3-20-Station

Note) []: Values for AC
< >: Values with surge voltage suppressor.

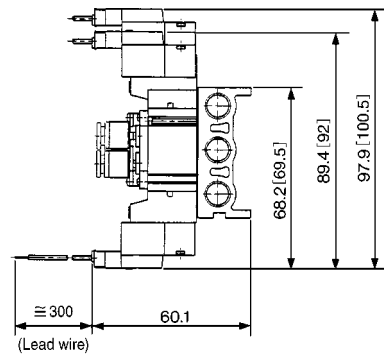
Grommet (G)



L plug connector (L)



M plug connector (M)



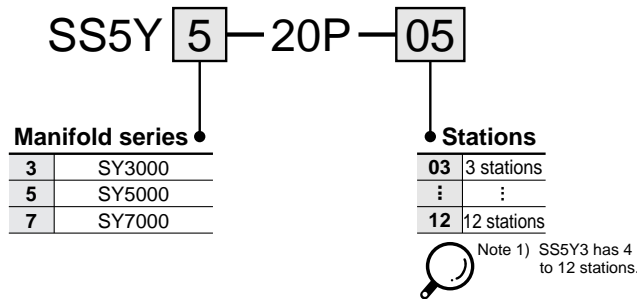
Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	48.5	59	69.5	80	90.5	101	111.5	122	132.5	143	153.5	164	174.5	185	195.5	206	216.5	227	237.5
L2	30.5	41	51.5	62	72.5	83	93.5	104	114.5	125	135.5	146	156.5	167	177.5	188	198.5	209	219.5

SY3000/5000/7000 Body Ported/Bar Manifold

20P
type

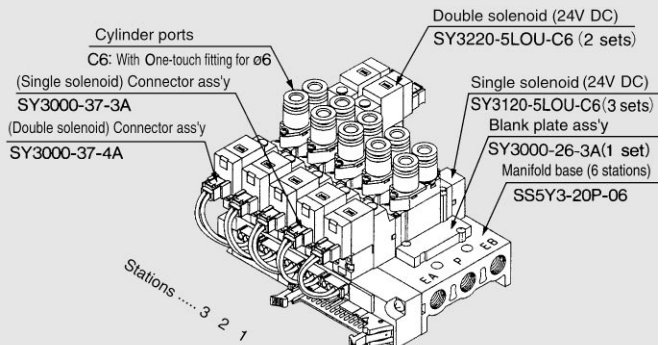
Flat Cable

How to Order Manifold



How to Order Valve Manifold Assembly (Example)

Ordering example

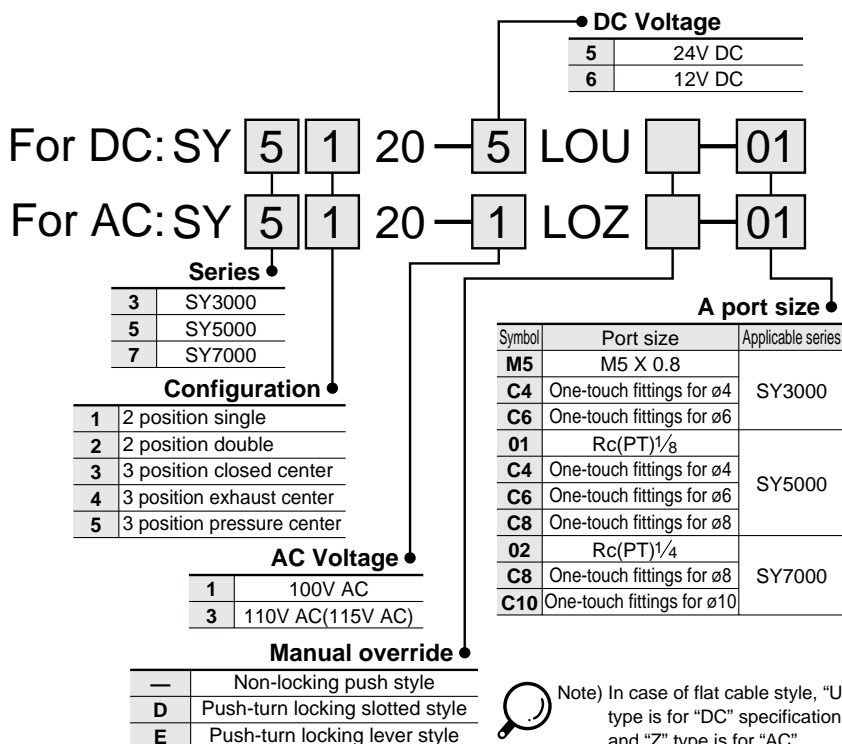


SS5Y3-20P-06.....1 set (20P type 6 station manifold part No.)
 *SY3000-26-3A1 set (Blank plate ass'y part No.)
 *SY3120-5LOU-C6.....3 sets (Single solenoid part No.)
 *SY3220-5LOU-C6.....2 sets (Double solenoid part No.)
 *SY3000-37-3A3 sets (Connector ass'y part No.)
 *SY3000-37-4A2 sets (Connector ass'y part No.)

To order valves and options mounted onto the manifold at the factory, list the valves/option with an asterisk in front of each part number.

Add the valve and option part number under the manifold base part number. For more complicated assemblies, specify in the manifold specification form.

How to Order Valve



How to Order Connector Ass'y

12 or 24V DC

Configuration	SY3000	SY5000/7000
Single solenoid	SY3000-37-3A	SY5000-37-3A
Double solenoid 3 position	SY3000-37-4A	SY5000-37-4A
Single with spacer ass'y	SY5000-37-3A	SY5000-37-5A
Double, 3 position with spacer ass'y	SY3000-37-6A	SY5000-37-6A

100V AC

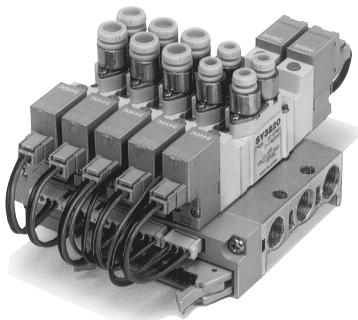
Configuration	SY3000	SY5000/7000
Single solenoid	SY3000-37-32A	SY5000-37-15A
Double solenoid 3 position	SY3000-37-33A	SY5000-37-16A
Single with spacer ass'y	SY5000-37-15A	SY5000-37-17A
Double, 3 position with spacer ass'y	SY3000-37-34A	SY5000-37-18A

110V(115V) AC

Configuration	SY3000	SY5000/7000
Single solenoid	SY3000-37-35A	SY5000-37-19A
Double solenoid 3 position	SY3000-37-36A	SY5000-37-20A
Single with spacer ass'y	SY5000-37-19A	SY5000-37-21A
Double, 3 position with spacer ass'y	SY3000-37-37A	SY5000-37-22A

- External wiring is concentrated for one-hand piping
- Simplified appearance.

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

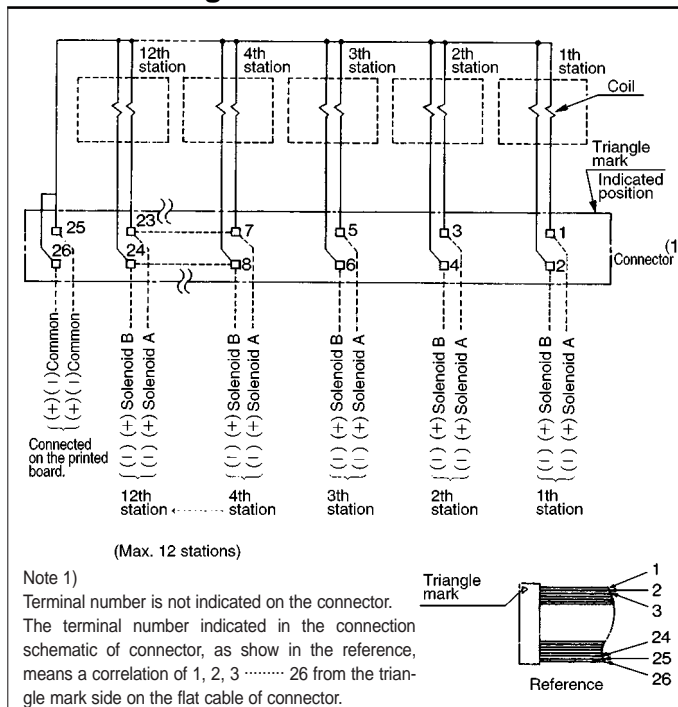


Flat Cable Manifold Specifications

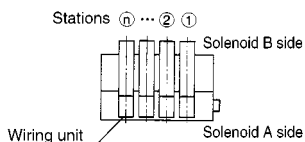
Model	SS5Y3-20P	SS5Y5-20P	SS5Y7-20P	
Applicable valve	SY3□20	SY5□20	SY7□20	
Manifold style	Single base/B mounting			
P(SUP)/R(EXH)	Common SUP/Common EXH			
Valve stations	4 to 12 ⁽¹⁾	3 to 12 ⁽¹⁾		
A/B porting location	Valve			
Port size	P, EA, EB port	Rc(PT)1/8	Rc(PT)1/4	Rc(PT)1/4
	A, B port	M5 X 0.8 C4 (One-touch fittings for ø4) C6 (One-touch fittings for ø6)	Rc(PT)1/8 C4 (One-touch fittings for ø4) C6 (One-touch fittings for ø6) C8 (One-touch fittings for ø8)	Rc(PT)1/4 C8 (One-touch fittings for ø8) C10 (One-touch fittings for ø10)
Valve effective area (mm ²) (Cv) ⁽²⁾	P→A/B 3.6 (0.2) C6: A/B→EA/EB 4.14 (0.23)	P→A/B 9.18 (0.51) C8: A/B→EA/EB 9.9 (0.55)	P→A/B 15.84 (0.88) A/B→EA/EB 14.94 (0.83)	
Manifold base weight W(g) n: Station	W=19n+45	W=43n+77	W=51n+81	
Connector	Socket: 26 pin MIL with strain relief; conforms MIL-C-83503			
Internal wiring	Both for + COM and -COM			
Voltage	12, 24V DC 100, 110V AC			

- Note 1) If there are more than 10 stations (more than 5 stations in case of SS5Y7), supply air to P port on both sides of the manifold and exhaust from EA/EB port on both sides of the manifold.
 Note 2) For a 5 station manifold base use a single acting, 2 position valve.
 Note 3) The withstand voltage specification for the wiring unit section is JIS C0704, Grade 1 or its equivalent.

Internal Wiring of Manifold



- For more than 10 stations, both poles of the common should be wired.
- For single solenoid, connect to the solenoid A side.
- The maximum number of stations is 12. If more than 12 stations are required, consult SMC.



⚠ Caution

- Only non-polar valves are available for the DC flat cable manifold, therefore negative COM or positive COM wiring of the manifold is possible.

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VP4

VQ

VQ4

VQZ

VQD

VZS

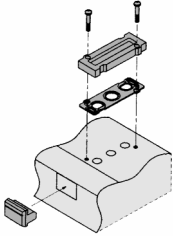
VFS

VS

VS7

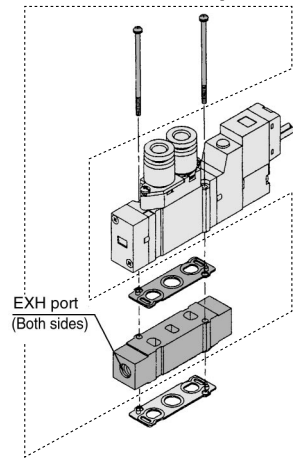
Manifold Options

Blank plate assembly

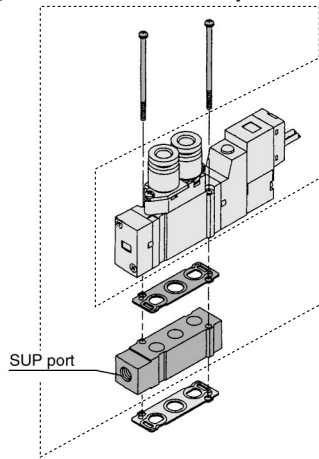


	Ass'y part No.
SY3000	SY3000-26-10A
SY5000	SY5000-26-3A
SY7000	SY7000-26-3A

Individual EXH spacer ass'y ■ Individual SUP spacer ass'y



EXH port
(Both sides)



SUP port

	Ass'y part No.	Port size
SY3000	SY3000-39-20A	M5 X 0.8
SY5000	SY5000-39-1A	Rc(PT)1/8
SY7000	SY7000-39-1A	Rc(PT)1/4

	Ass'y part No.	Port size
SY3000	SY3000-38-20A	M5 X 0.8
SY5000	SY5000-38-1A	Rc(PT)1/8
SY7000	SY7000-38-1A	Rc(PT)1/4

Note) For protection of the wiring unit section from drainage, piping at the EA port should be arranged so that it will not be directly exposed to exhaust from the valve.

Caution

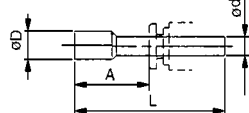
Torque for mounting screws

M2: 0.15Nm
M3: 0.6Nm
M4: 1.4Nm

Plug

It is inserted into an unused cylinder port and SUP/EXH ports.
The minimum order quantity is 10 pcs. Order in multiples of 10.

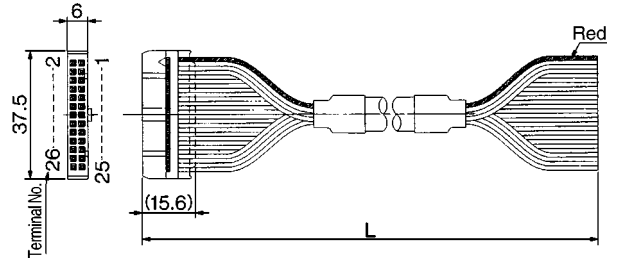
KQP-04-X19
06
08
10
● White color



Dimensions

Applicable fittings size ϕd	Part No.	A	L	D
4	KQP-04-X19	16	32	6
6	KQP-06-X19	18	35	8
8	KQP-08-X19	20.5	39	10
10	KQP-10-X19	22	43	12

Flat cable connector assembly AXT100-FC26- $\frac{1}{2}$ $\frac{3}{3}$



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

* For other commercial connectors, use 26 pin style with strain relief made in conformity with MIL-C-83503.

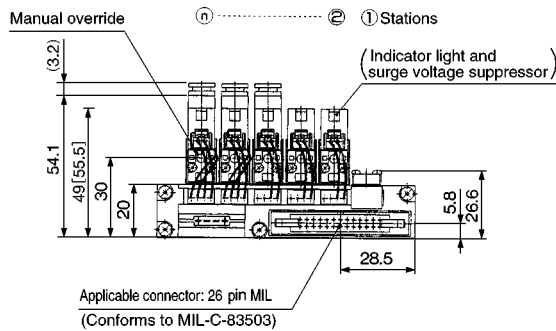
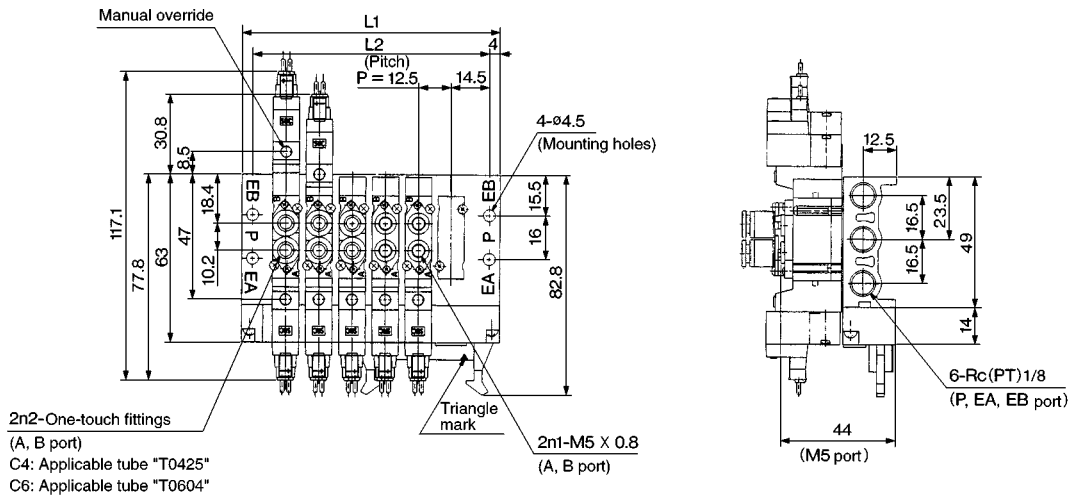
SY3000/5000/7000 Body Ported Manifold

20P Type

SY3000: SS5Y3-20P-Station



Note) []: Values for AC.



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

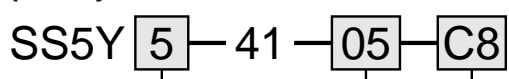
- SY
- SYJ
- SX
- VK
- VZ
- VF
- VFR
- VP7
- VP4
- VQ
- VQ4
- VQZ
- VQD
- VZS
- VFS
- VS
- VS7

41_{Type}
42_{Type}

SY3000/5000/7000 Base Mounted/Bar Manifold Individual Wiring

How to Order Manifold

41 Type/Compact style



Manifold series

3	SY3000
5	SY5000

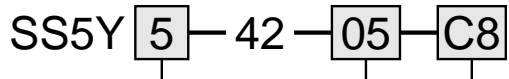
Stations

02	2 stations
⋮	⋮
20	20 stations

A/B port size

Symbol	Port size	Applicable series
M5	M5 X 0.8	
C4	One-touch fittings for ø4	SY3000
C6	One-touch fittings for ø6	
01	Rc(PT) 1/8	
C6	One-touch fittings for ø6	SY5000
C8	One-touch fittings for ø8	

42 Type/External pilot capable



Manifold series

3	SY3000
5	SY5000
7	SY7000

Stations

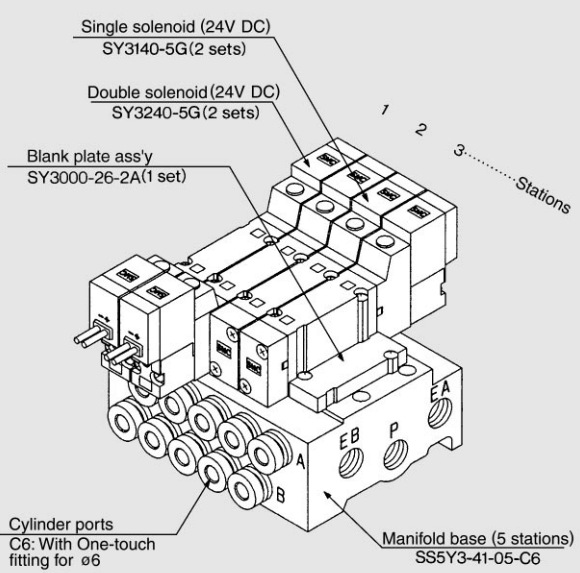
02	2 stations
⋮	⋮
20	20 stations

A/B port size

Symbol	Port size	Applicable series
01	Rc(PT) 1/8	
C4	One-touch fittings for ø4	SY3000
C6	One-touch fittings for ø6	
02	Rc(PT) 1/4	
C6	One-touch fittings for ø6	SY5000
C8	One-touch fittings for ø8	
02	Rc(PT) 1/4	
C10	One-touch fittings for ø10	SY7000

How to Order Valve Manifold Ass'y (Example)

Ordering example



- SS5Y3-41-05-C6.....1 set (41 type 5 stations manifold base part No.)
 - *SY3240-5G.....2 sets (Double solenoid part No.)
 - *SY3140-5G.....2 sets (single solenoid part No.)
 - *SY3000-26-2A.....1 set (Blank plate ass'y part No.)
- To order valves and options mounted onto the manifold at the factory, list the valves/potions with an asterisk in front of each part number.

Add the valve and option part number under the manifold base part number. When arrangement is complicated, specify it in the manifold specification form.

How to Order Valve

SY 5 2 40 [] 5 L [] []

Series

3	SY3000
5	SY5000
7	SY7000

Configuration

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

Pilot

-	Internal pilot
R	External pilot

Voltage

DC specifications

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

AC specifications(50/60 Hz)

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

*"D" and "DO" only available for 12V and 24V in case of DC.

*"D" and "DO" only available on SY5000 and SY7000.

Manual override

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

Indicator light and surge voltage suppressor

Electrical entry for G, H, L, M

-	W/o indicator light and surge suppressor
S	W/ surge voltage suppressor
Z	W/ indicator light and surge suppressor
R	W/ surge suppressor (Non-polar)
U	W/ indicator light and surge suppressor (Non-polar)

* "R" and "U" types: DC only.
* For AC, there is No "S" specification since it is integrated with converter.

Electrical entry for D

-	W/o indicator light and surge suppressor
S	W/ surge suppressor (Non-polar)
Z	W/ indicator light and surge suppressor (Non-polar)

* "DOZ" is unavailable.
* For AC, there is No "S" specification since it is integrated with converter.

Electrical entry

24V, 12V, 6V, 5V, 3V DC/100V, 110V, 200V, 220V AC			24V, 12V DC 100V, 110V AC, 200V, 220V AC
Grommet	L plug connector	M plug connector	DIN connector
G: 300mm lead wire H: 600mm lead wire	L: 300mm lead wire LN: Without lead wire LO: Without connector	M: 300mm lead wire MN: Without lead wire MO: Without connector	(SY5000/7000 only) D: With connector DO: Without connector

* "LN" and "MN" include 2 sockets.
* "D" and "DO": SY5000/7000 only.

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VP4

VQ

VQ4

VQZ

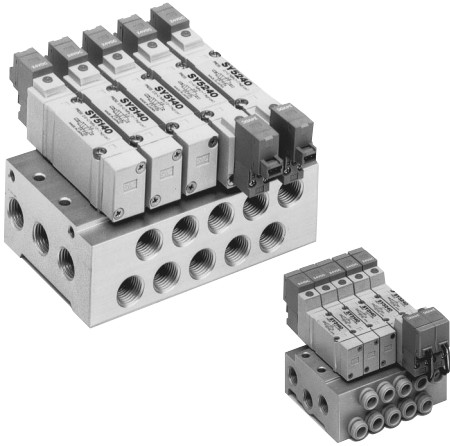
VQD

VZS

VFS

VS

VS7



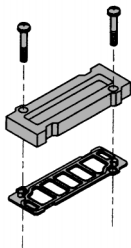
Manifold Specifications

Model	SS5Y3-41	SS5Y3-42	SS5Y5-41	SS5Y5-42	SS5Y7-42
Applicable valve	SY3□40		SY5□40		SY7□40
Manifold style	Single base/B mounting				
P(SUP)/R(EXH)	Common SUP/Common EXH				
Valve stations	2 to 20 (1)				
A/B	Base				
Porting spec.	Side				
Port size	P, EA, EB port	Rc(PT) 1/8		Rc(PT) 1/4	
	A, B port	M5 X 0.8	Rc(PT) 1/8	Rc(PT) 1/8	Rc(PT) 1/4
Valve effective area (mm ²)(Cv) ⁽²⁾	C4 (One-touch for ø4)		C6 (One-touch for ø6)		C10 (One-touch for ø10)
	C6: P → A/B 3.96 (0.22) A/B → EA/EB 4.14 (0.23)		C8: P → A/B 9.54 (0.53) A/B → EA/EB 9.0 (0.5)		C10: P → A/B 16.2 (0.9) A/B → EA/EB 16.2 (0.9)
Manifold base weight W(g) n: Station	W=30n+50	W=37n+63	W=61n+101	W=79n+127	W=100n+151

Note 1) For more than 10 stations (more than 5 stations in case of SS5Y7), supply pressure to P port on both sides and exhaust from EA/EB port on both sides.
 Note 2) Value when manifold base (5 stations) is installed and in single operation of 2 position style.

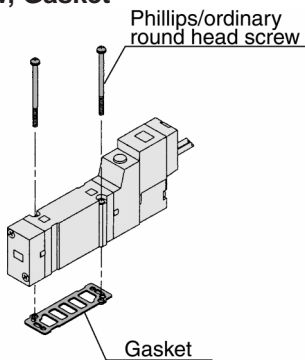
Manifold Options

Blank plate assembly



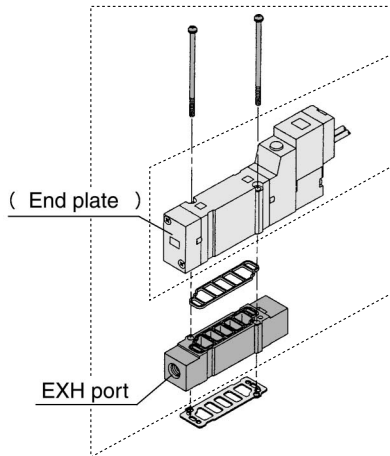
Series	Ass'y part No.
SY3000	SY3000-26-9A
SY5000	SY5000-26-2A
SY7000	SY7000-26-2A

Screw, Gasket



Series	Round head screw	Gasket
SY3000	SY3000-23-4 (M2 X 21)	SY3000-11-8
SY5000	M3 X 26 (Mat nickel plated)	SY5000-11-2
SY7000	M4 X 31 (Mat nickel plated)	SY7000-11-2

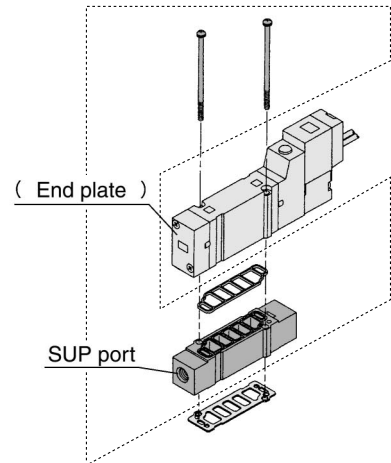
Individual EXH spacer assembly



Series	Ass'y part No.	Port size
SY3000	SY3000-39-2A	M5 X 0.8
SY5000	SY5000-39-2A	Rc(PT) 1/8
SY7000	SY7000-39-2A	Rc(PT) 1/4

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

Individual SUP spacer assembly



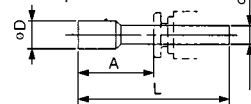
Series	Ass'y part No.	Port size
SY3000	SY3000-38-2A	M5 X 0.8
SY5000	SY5000-38-2A	Rc(PT) 1/8
SY7000	SY7000-38-2A	Rc(PT) 1/4

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

Plug

It is inserted into an unused cylinder ports and SUP/EXH port. The minimum order quantity is 10 pcs. Order in multiples of 10.

KQP-04-X19
04
06
08
10
White color



Dimensions

Applicable fitting size ød	Part No.	A	L	D
4	KQP-04-X19	16	32	6
6	KQP-06-X19	18	35	8
8	KQP-08-X19	20.5	39	10
10	KQP-10-X19	22	43	12

Caution

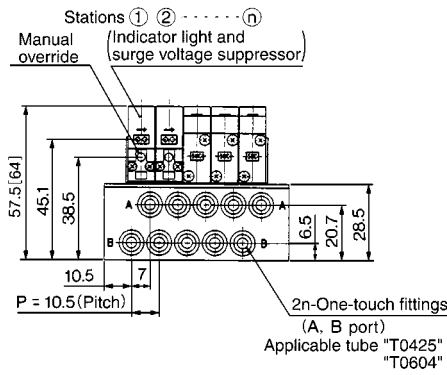
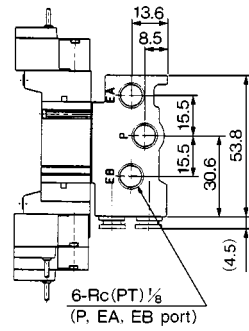
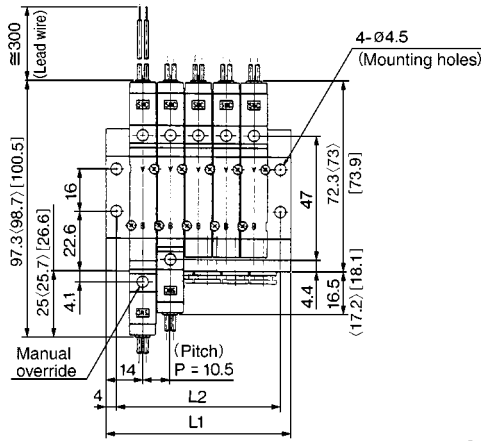
Torque for mounting screws

M2: 0.15Nm
M3: 0.6Nm
M4: 1.4Nm

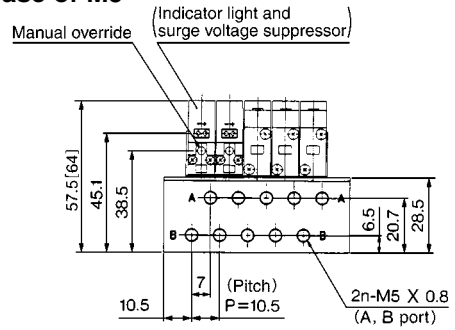
SY3000: SS5Y3-41-Station -M5, C4, C6

Note) []: Values for AC
< >: Values with surge voltage suppressor.

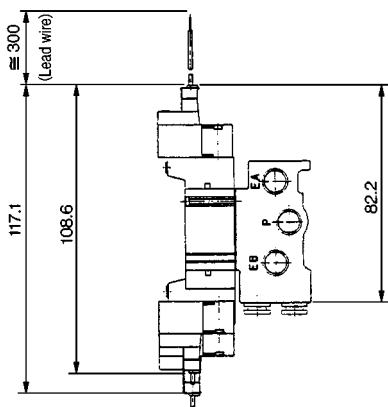
Grommet (G)



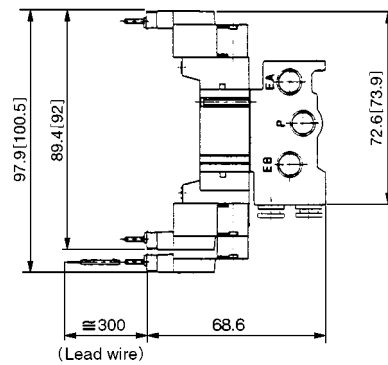
In case of M5



L plug connector (L)



M plug connector (M)



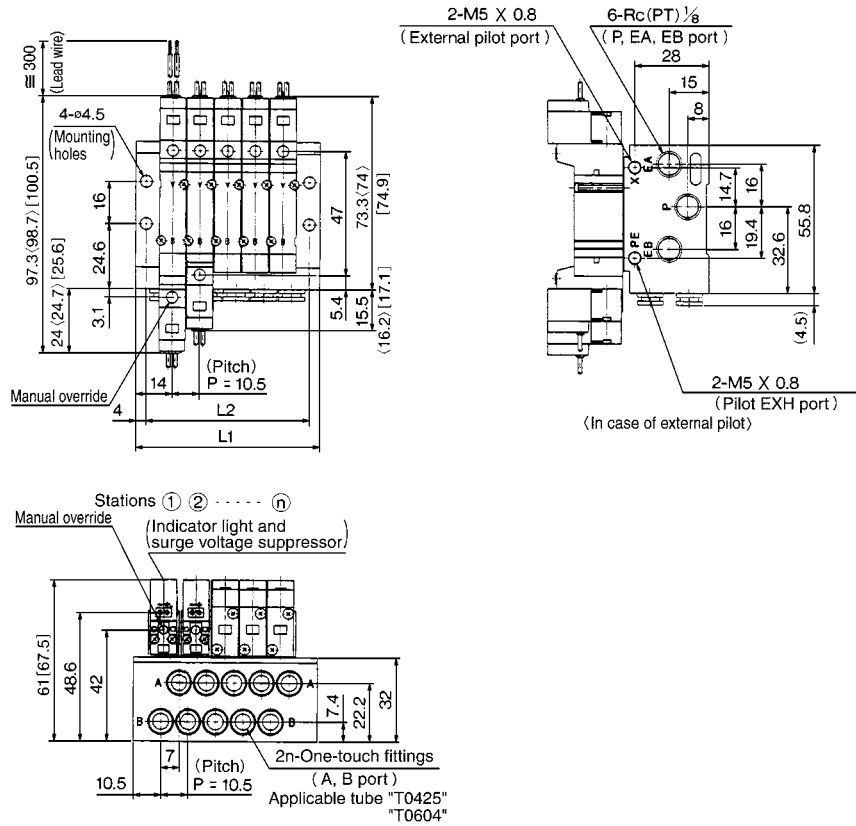
Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	38.5	49	59.5	70	80.5	91	101.5	112	122.5	133	143.5	154	164.5	175	185.5	196	206.5	217	227.5
L2	30.5	41	51.5	62	72.5	83	93.5	104	114.5	125	135.5	146	156.5	167	177.5	188	198.5	209	219.5

- SY
- SYJ
- SX
- VK
- VZ
- VF
- VFR
- VP7
- VP4
- VQ
- VQ4
- VQZ
- VQD
- VZS
- VFS
- VS
- VS7

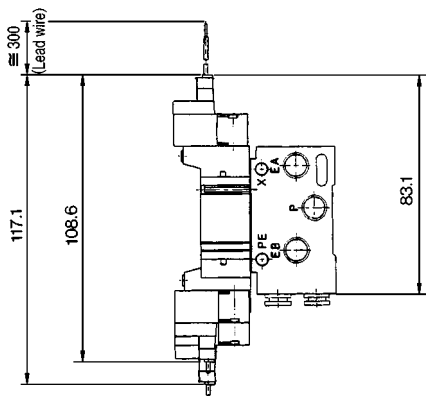
SY3000: SS5Y3-42-Station -C4, C6

Note) []: Values for AC
 < >: Values with surge voltage suppressor.

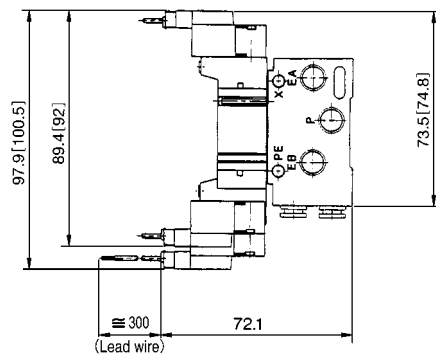
Grommet (G)



L plug connector (L)



M plug connector (M)



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

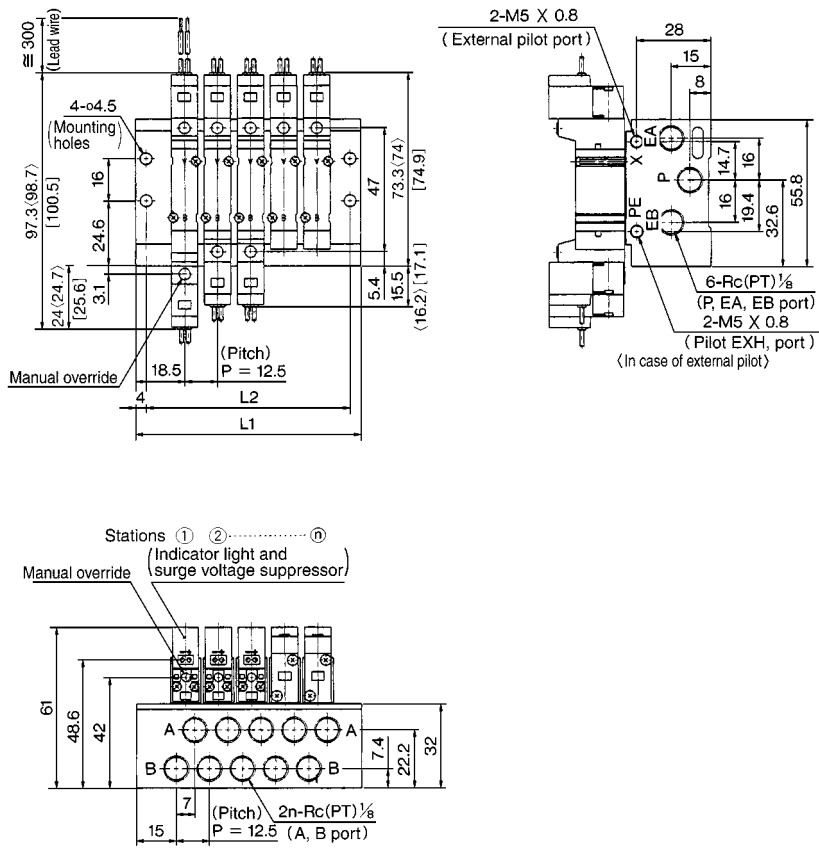
- SY
- SYJ
- SX
- VK
- VZ
- VF
- VFR
- VP7
- VP4

- VQ
- VQ4
- VQZ
- VQD
- VZS
- VFS
- VS
- VS7

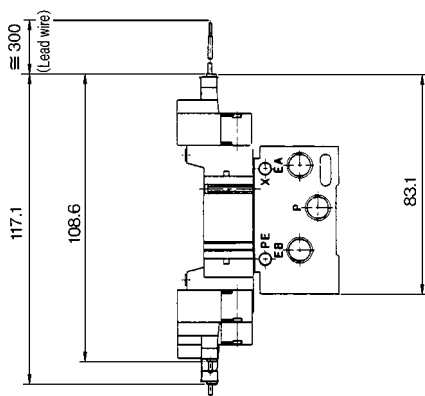
SY3000: SS5Y3-42-Station -01

Note) []: Values for AC
< >: Values with surge voltage suppressor.

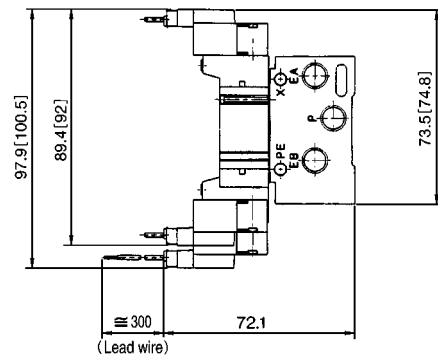
Grommet (G)



L plug connector (L)



M plug connector (M)



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

41P
Type

42P
Type

SY3000/5000/7000 Base Mounted/Bar Manifold Flat Cable

How to Order Manifold

41P Type/Compact Manifold

SS5Y **5** - 41P - **05** - **C8**

Manifold series

3	SY3000
5	SY5000

Stations

03	3 stations
⋮	⋮
12	12 stations

Note) SS5Y3 has 4 to 12 stations.

A/B port size

Symbol	Port size	Applicable series
M5	M5 X 0.8	
C4	One-touch fittings for ø4	SY3000
C6	One-touch fittings for ø6	
01	Rc(PT) 1/8	
C6	One-touch fittings for ø6	SY5000
C8	One-touch fittings for ø8	

42P Type/External pilot capable

SS5Y **5** - 42P - **05** - **C8**

Manifold series

3	SY3000
5	SY5000
7	SY7000

Stations

03	3 stations
⋮	⋮
12	12 stations

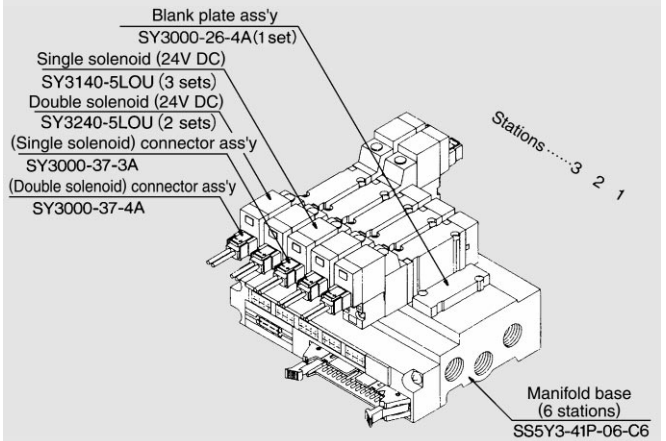
Note) SS5Y3 has 4 to 12 stations.

A/B port size

Symbol	Port size	Applicable series
01	Rc(PT) 1/8	
C4	One-touch fittings for ø4	SY3000
C6	One-touch fittings for ø6	
02	Rc(PT) 1/4	
C6	One-touch fittings for ø6	SY5000
C8	One-touch fittings for ø8	
02	Rc(PT) 1/4	
C10	One-touch fittings for ø10	SY7000

How to Order Valve Manifold Ass'y (Example)

Ordering example

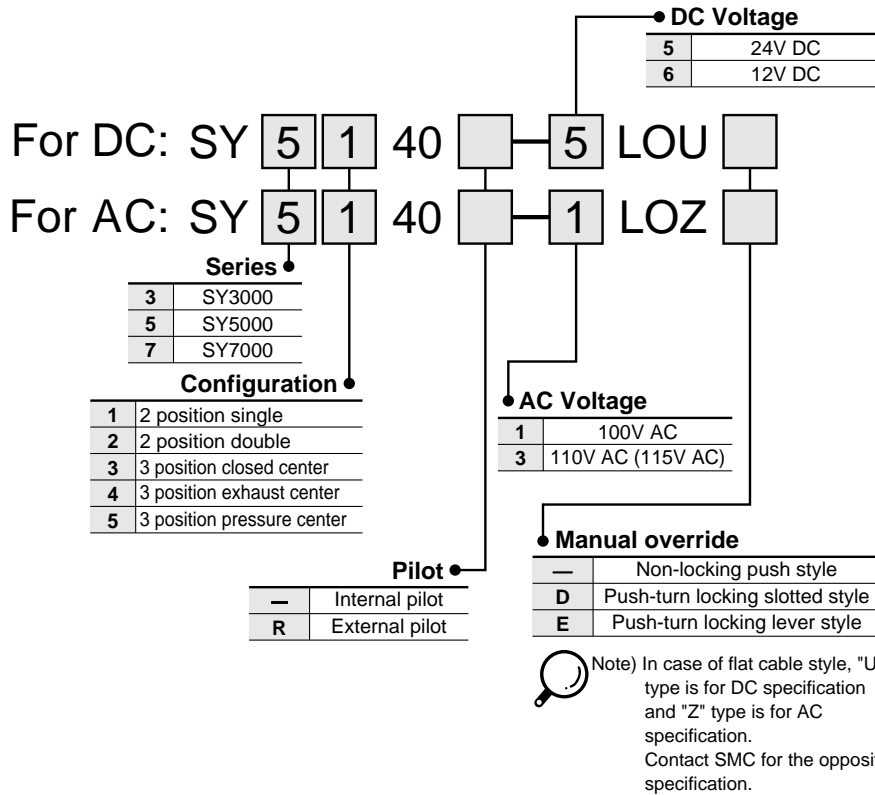


- SS5Y3-41P-06-C6 1 set (41P type 6 station manifold base part No.)
 *SY3000-26-4A 1 set (Blank plate ass'y part No.)
 *SY3140-5LOU 3 sets (Single solenoid part No.)
 *SY3240-5LOU 2 sets (Double solenoid part No.)
 *SY3000-37-3A 3 sets (Connector ass'y part No.)
 *SY3000-37-4A 2 sets (Connector ass'y part No.)

To order valves and options mounted onto the manifold at the factory, list the valves/options with an asterisk in front of each part number.

Add the valve and option part number under the manifold base part number. When arrangement is complicated, specify it in the manifold specification form.

How to Order Valve



- SY
- SYJ
- SX
- VK
- VZ
- VF
- VFR
- VP7
- VP4

How to Order Connector Assembly

12 or 24 V DC

Configuration	SY3000	SY5000/7000
Single solenoid	SY3000-37-3A	SY5000-37-3A
Double solenoid, 3 position	SY3000-37-4A	SY5000-37-4A
Single with spacer ass'y	SY5000-37-3A	SY5000-37-5A
Double, 3 position with spacer ass'y	SY3000-37-6A	SY5000-37-6A

100 V AC

Configuration	SY3000	SY5000/7000
Single solenoid	SY3000-37-32A	SY5000-37-15A
Double solenoid, 3 position	SY3000-37-33A	SY5000-37-16A
Single with spacer ass'y	SY5000-37-15A	SY5000-37-17A
Double, 3 position with spacer ass'y	SY3000-37-34A	SY5000-37-18A

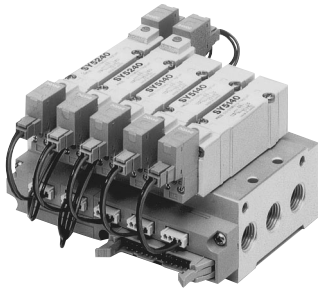
110 V AC (115 V AC)

Configuration	SY3000	SY5000/7000
Single solenoid	SY3000-37-35A	SY5000-37-19A
Double solenoid, 3 position	SY3000-37-36A	SY5000-37-20A
Single with spacer ass'y	SY5000-37-19A	SY5000-37-21A
Double, 3 position with spacer ass'y	SY3000-37-37A	SY5000-37-22A

- VQ
- VQ4
- VQZ
- VQD
- VZS
- VFS
- VS
- VS7

- External wiring is concentrated for one-hand piping
- Simplified appearance.

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

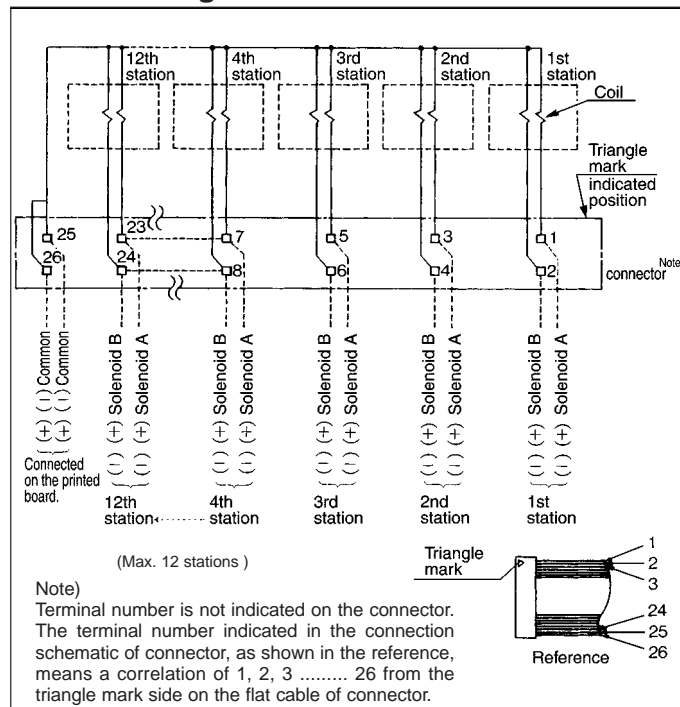


Flat Cable Manifold Specifications

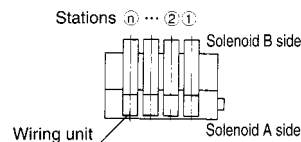
Model	SS5Y3-41P	SS5Y3-42P	SS5Y5-41P	SS5Y5-42P	SS5Y7-42P
Applicable valve	SY3□40		SY5□40		SY7□40
Manifold style	Single base/B mounting				
P(SUP)/R(EXH)	Common SUP/Common EXH				
Valve stations	4 to 12 ⁽¹⁾		3 to 12 ⁽¹⁾		
A/B	Base				
Porting spec.	Side				
	P, EA, EB port		Rc(PT) 1/8		Rc(PT) 1/4
Port size	A, B port		M5 X 0.8	Rc(PT) 1/8	Rc(PT) 1/4
			C4 (One-touch for ø4) C6 (One-touch for ø6)	C4 (One-touch for ø4) C6 (One-touch for ø6)	C6 (One-touch for ø6) C8 (One-touch for ø8)
Valve effective area (mm ²)(Cv) ⁽²⁾	C6: P→A/B 3.96 (0.22) A/B→EA/EB 4.14 (0.23)		C8: P→A/B 9.54 (0.53) A/B→EA/EB 9.0 (0.5)		C10: P→A/B 16.2 (0.9) A/B→EA/EB 16.2 (0.9)
Manifold base weight W(g) n: stations	W=39n+83	W=48n+99	W=67n+118	W=88n+151	W=109n+174
Connector	Socket: 26 pin MIL with strain relief; conforms to MIL-C-83503				
Internal wiring	Both for+COM and-COM				
Voltage	12, 24V DC 100, 110V AC				

- Note 1) If there are more than 10 stations (more than 5 stations in case of SS5Y7), supply air to P port on both sides of the manifold and exhaust from EA/EB port on both sides of the manifold.
 Note 2) For a 5 station manifold base use a single acting, 2 position valve.
 Note 3) The withstand voltage specification for the wiring unit section is JIS C0704, Grade 1 or its equivalent.

Internal Wiring of Manifold



- For more than 10 station, both poles of the common should be wired.
- For single solenoid, connect to the solenoid A side.
- The maximum number of station is 12. If more than 12 stations are required, consult SMC.

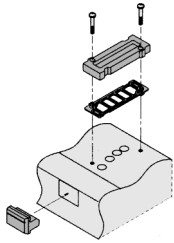


⚠ Caution

- Only non-polar valves are available for the DC flat cable manifold, therefore negative COM or positive COM wiring of the manifold is possible.

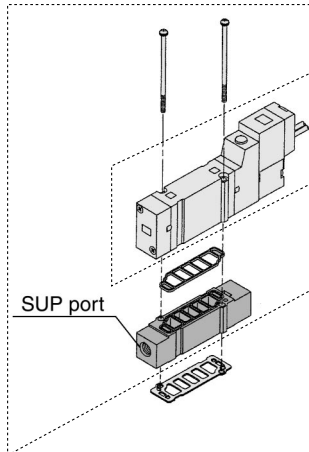
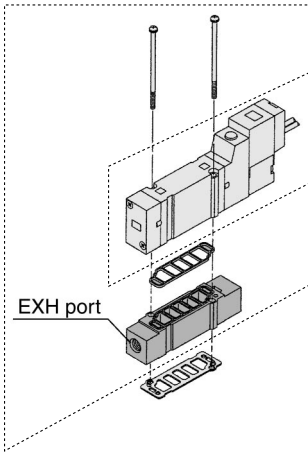
Manifold Options

Blank plate assembly



Series	Ass'y part No.
SY3000	SY3000-26-10A
SY5000	SY5000-26-4A
SY7000	SY7000-26-4A

Individual EXH spacer ass'y Individual SUP spacer ass'y

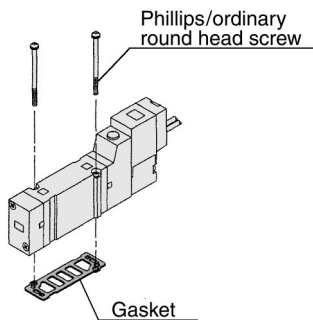


Series	Ass'y part No.	Port size
SY3000	SY3000-39-2A	M5 X 0.8
SY5000	SY5000-39-2A	Rc(PT)1/8
SY7000	SY7000-39-2A	Rc(PT)1/4

Series	Ass'y part No.	Port size
SY3000	SY3000-38-2A	M5 X 0.8
SY5000	SY5000-38-2A	Rc(PT)1/8
SY7000	SY7000-38-2A	Rc(PT)1/4

Note) For protection of the wiring unit section from drainase, piping at the EA port should be arranged so that it will not be directly exposed to exhaust from the valve.

Screw, Gasket No.



Series	Round head screw	Gasket
SY3000	SY3000-23-4 (M2 X 21)	SY3000-11-8
SY5000	M3 X 26 (Mat nickel plated)	SY5000-11-2
SY7000	M4 X 31 (Mat nickel plated)	SY7000-11-2

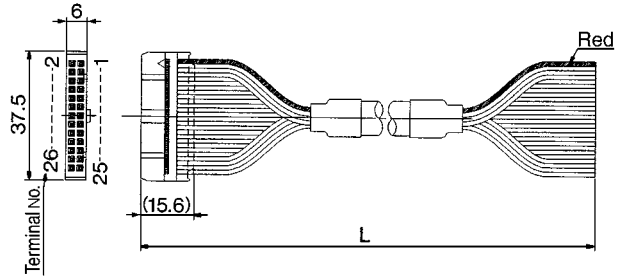
Caution

Torque for mounting screws

M2: 0.15Nm
M3: 0.6Nm
M4: 1.4Nm

Flat cable connector assembly

AXT100-FC26-¹/₂/₃



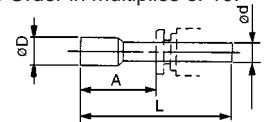
Cable length(L)	Ass'y part No.	Note
1.5m	AXT100-FC26-1	Cable 26 core X 28AWG
3m	AXT100-FC26-2	
5m	AXT100-FC26-3	

* For other commercial connectors, use 26 pin style with strain relief made in conformity with MIL-C-83503.

Plug

It is inserted into an unused cylinder port and SUP/EXH port. The minimum order quantity is 10 pcs. Order in multiples of 10.

KQP-⁰⁴/₀₆/₀₈/₁₀-X19
● White color



Dimensions

Applicable fittings size ød	Part No.	A	L	D
4	KQP-04-X19	16	32	6
6	KQP-06-X19	18	35	8
8	KQP-08-X19	20.5	39	10
10	KQP-10-X19	22	43	12

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VP4

VQ

VQ4

VQZ

VQD

VZS

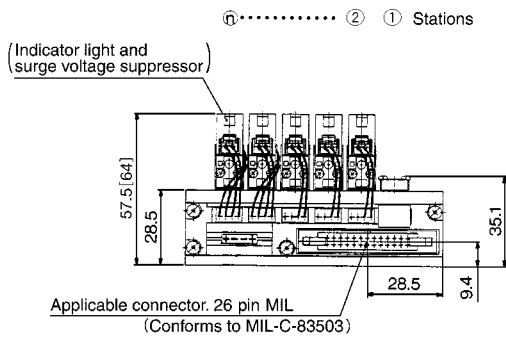
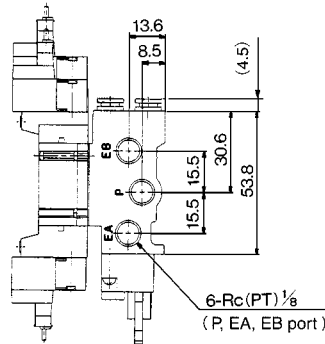
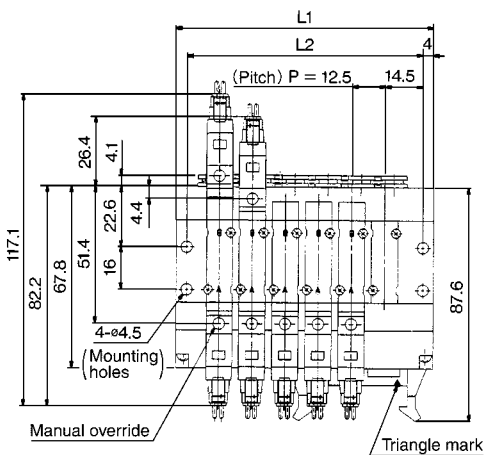
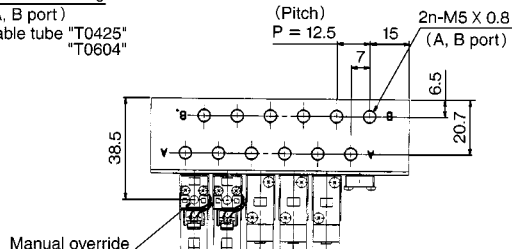
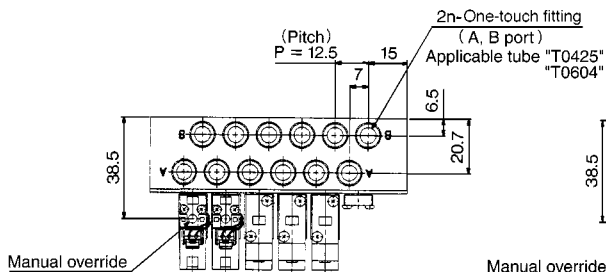
VFS

VS

VS7



In case of M5 X 0.8

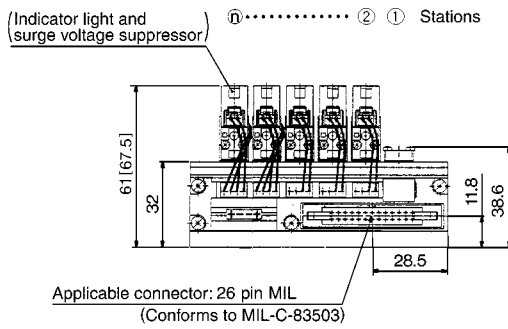
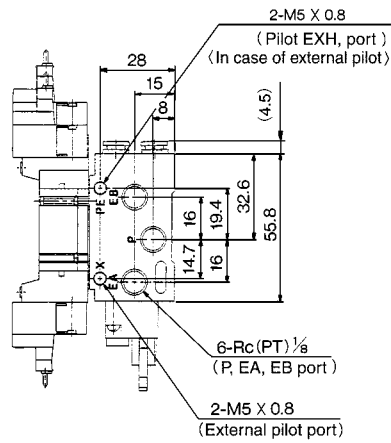
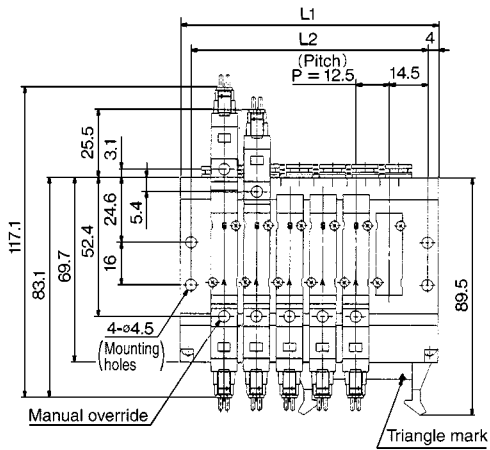
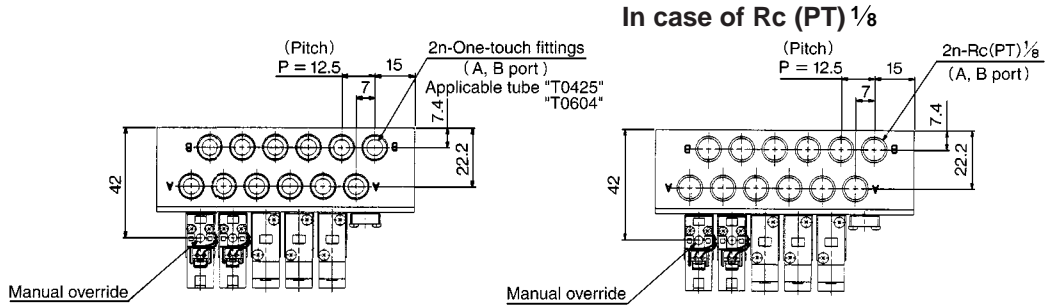


Stations	4	5	6	7	8	9	10	11	12
L1	72.5	85	97.5	110	122.5	135	147.5	160	172.5
L2	64.5	77	89.5	102	114.5	127	139.5	152	164.5

SY3000: SS5Y3-42P-Station-01, C4, C6



Note) []: Values for AC

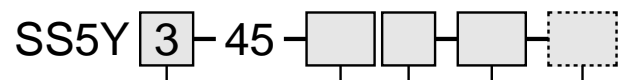


Stations	4	5	6	7	8	9	10	11	12
L1	72.5	85	97.5	110	122.5	135	147.5	160	172.5
L2	64.5	77	89.5	102	114.5	127	139.5	152	164.5

45Type

SY3000/5000 Base Mounted Stacking Manifold/DIN Rail Mounted Individual Wiring

How to Order Manifold



Manifold series

3	SY3000
5	SY5000

Stations

02	2 stations
⋮	⋮
20	20 stations

SUP/EXH block ass'y's mounting position

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

* Order with "Valve Manifold Ass'y Specification Form".

A/B port size

SY3000

Symbol	Port size
C4	One-touch fittings for ø4
C6	One-touch fittings for ø6
M*	Mixed

SY5000

Symbol	Port size
C4	One-touch fittings for ø4
C6	One-touch fittings for ø6
C8	One-touch fittings for ø8
M*	Mixed

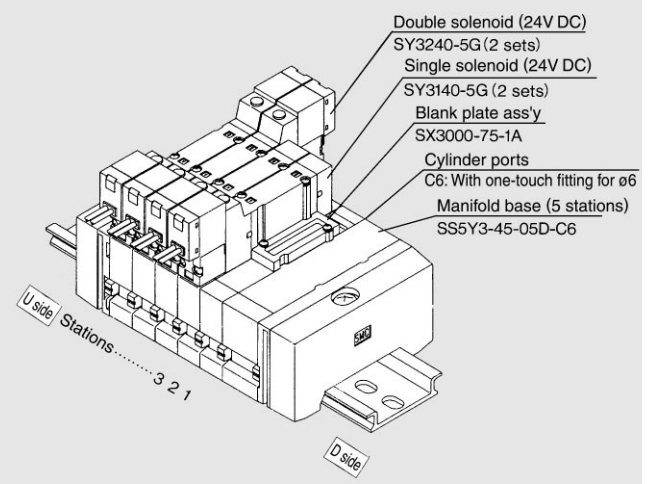
* Order with "Valve Manifold Ass'y Specification Form".

Option

When a DIN rail longer than std. is required, enter the number of manifold stations that corresponds with the length of DIN rail needed. (20 stations max.)

How to Order Valve Manifold Ass'y (Example)

Ordering example



- SS5Y3-45-05D-C6 1 set (45 type 5 stations manifold base part No.)
- *SX3000-75-1A 1 set (Blank plate ass'y part No.)
- *SY3140-5G 2 sets (Single solenoid part No.)
- *SY3240-5G 2 sets (Double solenoid part No.)

To order valves and options mounted onto the manifold at the factory, list the valves/options with an asterisk in front of each part number.

They will be assembled in the order listed starting at the first station at the D side even if the air supply/exhaust block assembly is located at either end. For more complicated assemblies, specify in the manifold specification from.

How to Order Valve

SY 5 2 40 — 5 L

Series

3	SY3000
5	SY5000

Configuration

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

Voltage

DC specifications

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

AC specifications (50/60Hz)

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

* "D" and "DO" only available for 12V and 24V in case of DC.

* "D" and "DO" only available on SY5000.

Manual override

—	Non-locking push style
D	Push-turn locking slotted style
E	Push-turn locking lever style

Indicator light and surge voltage suppressor

Electrical entry for G, H, L, M

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

* "R" and "U" types: DC only.

* For AC, there is No "S" specification since it is integrated with converter.

Electrical entry for D

—	Without indicator and surge suppressor
S	With surge suppressor (Non-polar)
Z	With indicator light and surge suppressor (Non-polar)

* "DOZ" is unavailable.

* For AC, there is No "S" specification since it is integrated with converter.

Electrical entry

24V, 12V, 6V, 5V, 3V DC/100V, 110V, 200V, 220V AC			24V, 12V DC 100V, 110V AC, 200V, 220V AC
Grommet	L plug connector	M plug connector	DIN connector
G: 300mm lead wire H: 600mm lead wire	L: 300mm lead wire LN: Without lead wire LO: Without connector	M: 300mm lead wire MN: Without lead wire MO: Without connector	(SY5000 only) D: With connector DO: Without connector



* "LN" and "MN" include 2 sockets.

* "D" and "DO": SY5000 only.

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VP4

VQ

VQ4

VQZ

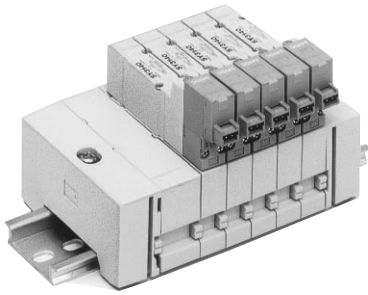
VQD

VZS

VFS

VS

VS7



Manifold Specifications

Model		SS5Y3-45	SS5Y5-45
Applicable valve		SY3□40	SY5□40
Manifold style		Stacking, DIN rail mounted	
P(SUP)/R(EXH)		Common SUP/Common EXH	
Valve stations		2 to 20 ⁽¹⁾	
A/B porting Specifications	Location	Base	
	Direction	Side	
Port size	P, R port	C8 (One-touch fittings for ø8)	C10 (One-touch fittings for ø10)
	A, B port	C4 (One-touch fittings for ø4) C6 (One-touch fittings for ø6)	C4 (One-touch fittings for ø4) C6 (One-touch fittings for ø6) C8 (One-touch fittings for ø8)
Valve effective area (mm ²)(Cv) ⁽²⁾		P → A/B 4.68 (0.26) C6: A/B → R 4.68 (0.26)	P → A/B 12.6 (0.7) C8: A/B → R 12.6 (0.7)
Manifold base weight W(g)		2 to 10 stations: W=22n+118	2 to 10 stations: W=47n+156
n: Stations		11 to 20 stations: W=22n+140	11 to 20 stations: W=47n+190

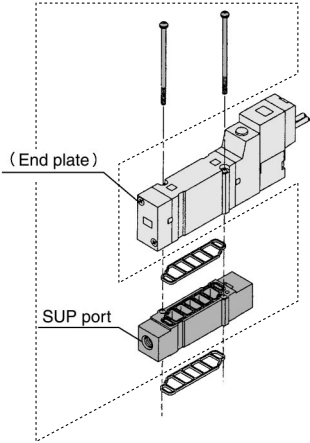


Note 1) For more than 11 stations, supply pressure to P port on both sides and exhaust from R port on both sides.

Note 2) Valve when manifold base (5 stations) is installed and in single operation of 2 positions style.

Manifold Options

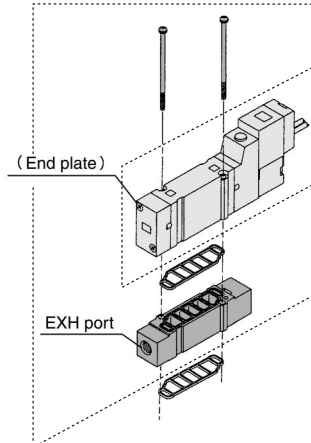
Individual SUP spacer ass'y



Series	Ass'y part No.	Port size
SY3000	SY3000-38-2A	M5 X 0.8
SY5000	SY5000-38-2A	Rc(PT)1/8

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

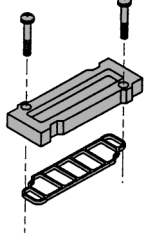
Individual EXH spacer ass'y



Series	Ass'y part No.	Port size
SY3000	SY3000-39-2A	M5 X 0.8
SY5000	SY5000-39-2A	Rc(PT)1/8

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

Blank plate assembly



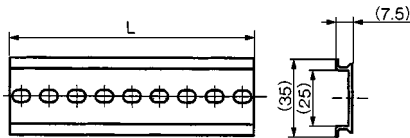
Series	Ass'y part No.
SY3000	SX3000-75-1A
SY5000	SX5000-76-1A

Dimensions/DIN rail

VZ1000-11-1-□

See L dimensions

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



No.	0	1	2	3	4	5	6	7	8	9	10
L	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	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	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	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	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	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	923	935.5	948	960.5	973	985.5					

SUP block disc

When supplying manifold with more than one pressure, insert a block disc in between the stations subjected to different pressures.



Series	Ass'y part No.
SY3000	SX3000-77-1A
SY5000	SX5000-77-1A

EXH block disc

When valve exhaust affects the other stations on the circuit, insert EXH block disc(s) in between the stations to isolate exhaust. (Two discs are required to block both EXH.)

Block disc indication label

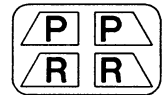
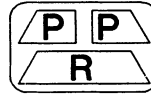
These labels are stuck on the block with SUP and EXH block discs inside for confirmation from outside. (3 sheets respectively)

VZ3000-123-1A

Label for SUP block disc

Label for EXH block disc

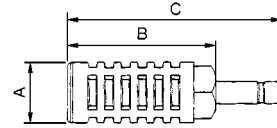
Label for SUP, EXH block disc



Note) When ordering block disc installed at the factory, labels will be attached to the manifold showing the locations

Silencer for One-touch fittings

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

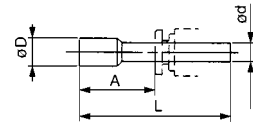


Series	Part No.	Eff. orifice	A	B	C
SY3000 (ø8)	AN203-KM8	14mm ²	ø16	26	51
SY5000 (ø10)	AN200-KM10	26mm ²	ø22	53.8	80.8
	AN300-KM10	30mm ²	ø25	70	97

Plug

It is inserted into an unused cylinder ports and SUP/EXH port. The minimum order quantity is 10 pcs. Order in multiples of 10.

KQP-⁰⁴/₀₆/₀₈/₁₀-X19
● White color



Dimensions

Applicable fittings size ød	Part No.	A	L	D
4	KQP-04-X19	16	32	6
6	KQP-06-X19	18	35	8
8	KQP-08-X19	20.5	39	10
10	KQP-10-X19	22	43	12

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VP4

VQ

VQ4

VQZ

VQD

VZS

VFS

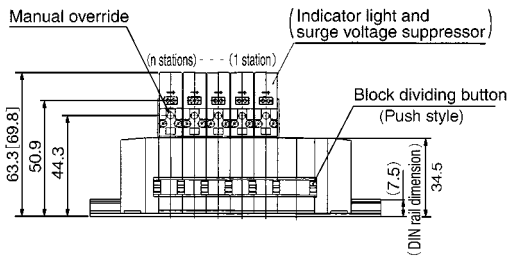
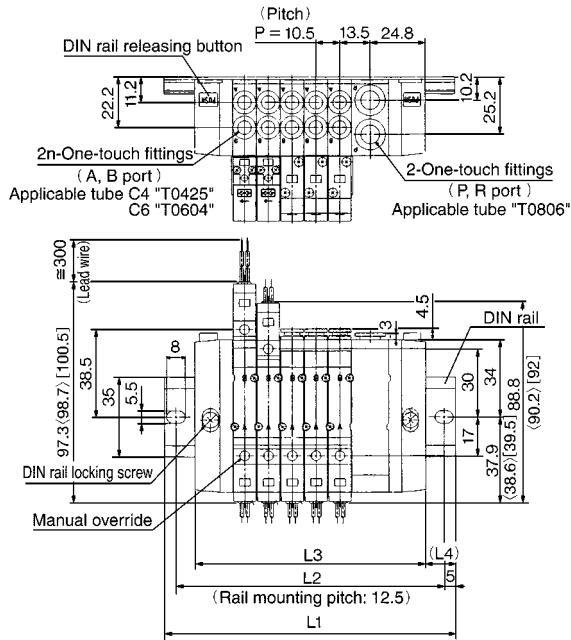
VS

VS7

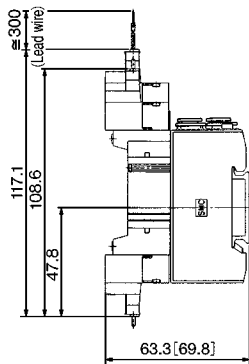
Dimensions /Series SY3000

Note [] : Values for AC
 < > : Values with surge voltage suppressor.

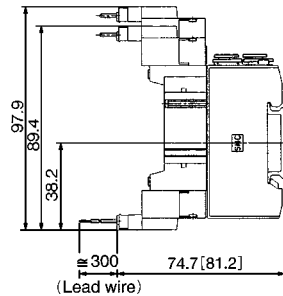
SS5Y3-45- Station D-C4 C6



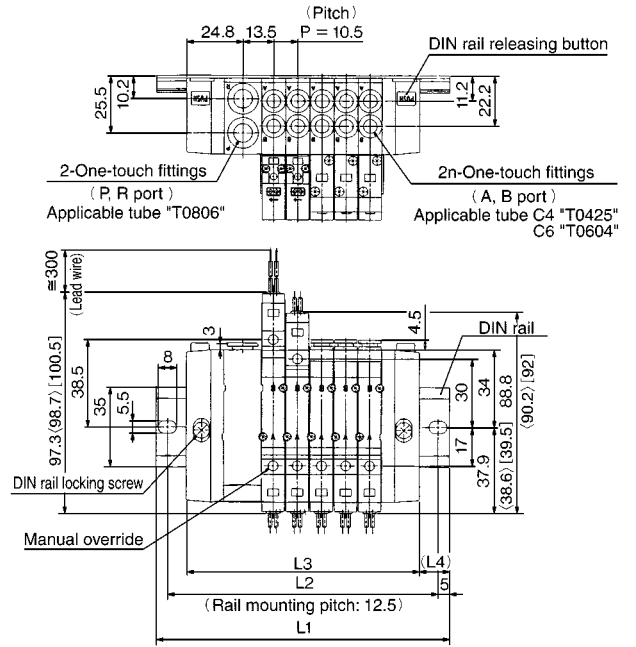
L plug connector



M plug connector

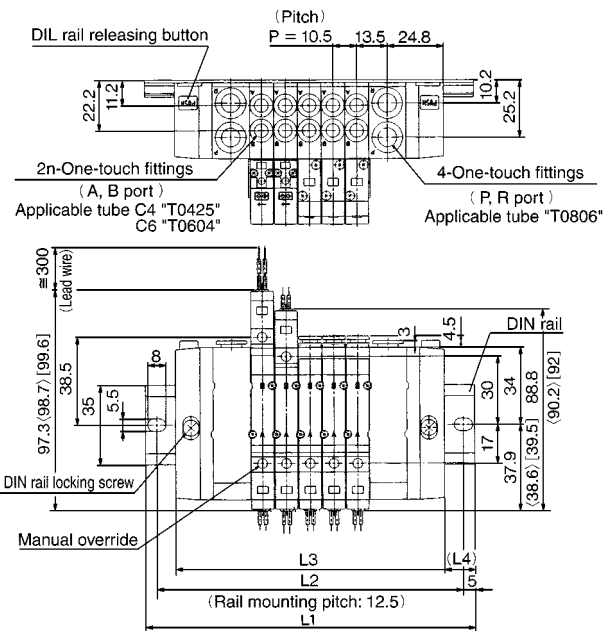


SS5Y3-45- Stations U-C4 C6



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

SS5Y3-45- Station B-C4 C6

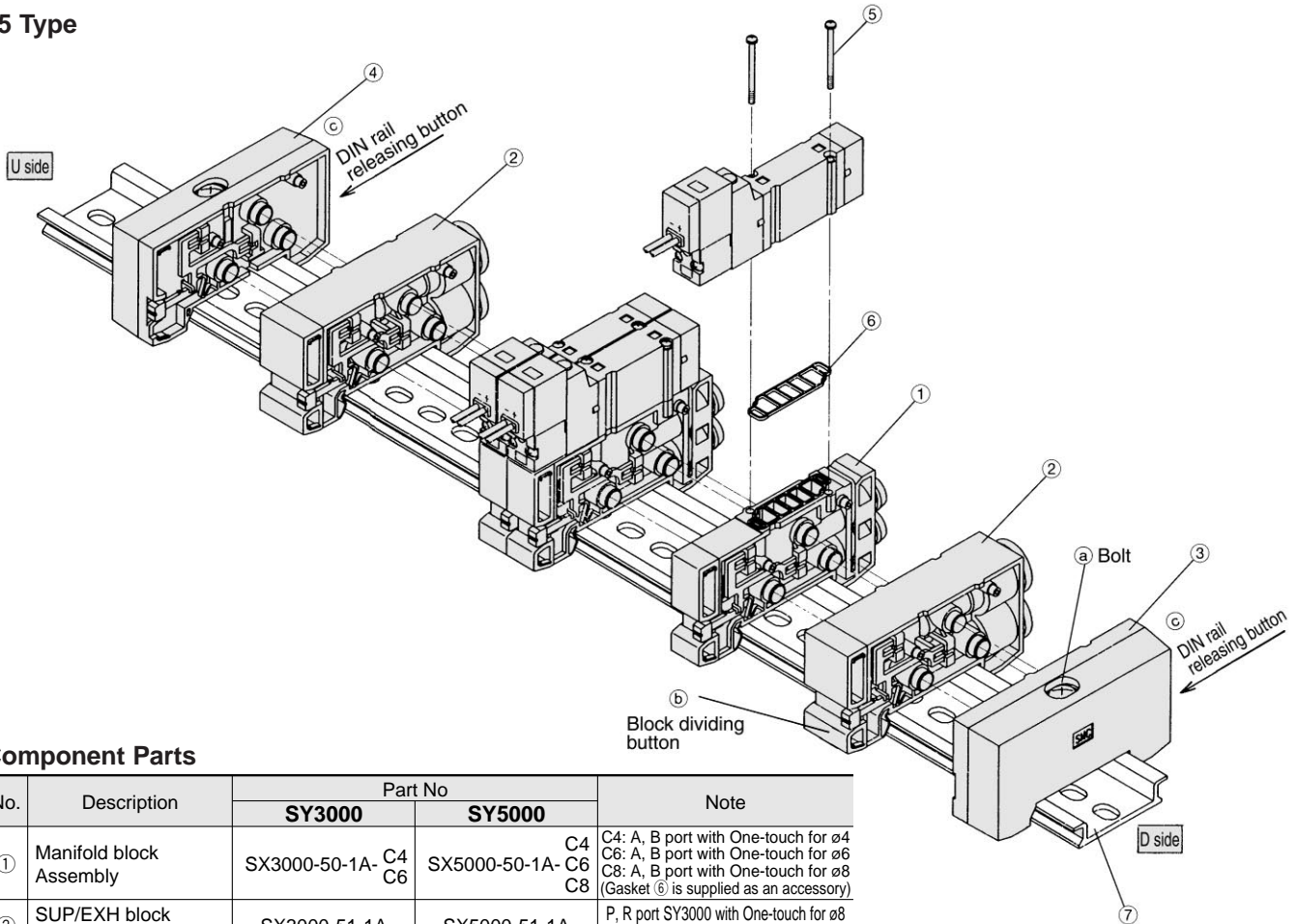


Stations	2	3	4	5	6	7	8	9	10
L1	110.5	123	135.5	148	160.5	173	185.5	185.5	198
L2	100	112.5	125	137.5	150	162.5	175	175	187.5
L3	87	97.5	108	118.5	129	139.5	150	160.5	171
L4	11.5	12.5	13.5	14.5	15.5	16.5	17.5	12.5	13.5

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

Exploded View/DIN Rail Manifold

45 Type



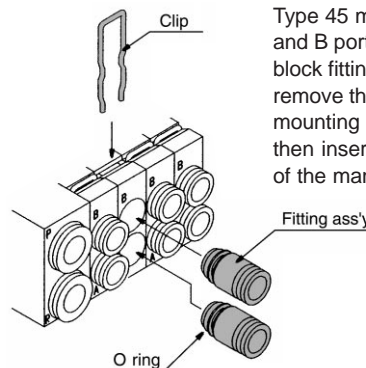
Component Parts

No.	Description	Part No		Note
		SY3000	SY5000	
①	Manifold block Assembly	SX3000-50-1A- C4 C6	SX5000-50-1A- C4 C6	C4: A, B port with One-touch for $\phi 4$ C6: A, B port with One-touch for $\phi 6$ C8: A, B port with One-touch for $\phi 8$ (Gasket ⑥ is supplied as an accessory)
②	SUP/EXH block Assembly	SX3000-51-1A	SX5000-51-1A	P, R port SY3000 with One-touch for $\phi 8$ P, R port SY5000 with One-touch for $\phi 10$
③	End block Ass'y R	SX3000-52-1A	SX5000-52-1A	For D side
④	End block Ass'y L	SX3000-53-1A	SX5000-53-1A	For U side
⑤	Phillips round head screw	SY3000-23-4	M3 X 26 (Mat nickel plated)	
⑥	Gasket	SX3000-57-4	SX5000-57-1	
⑦	DIN rail	VZ1000-11-1-□		Refer to p.1.1-73

How to Increase Manifold Base (manifold base can be added at any location.)

- Loosen bolt (a) fixing the manifold base until it begins to turn idly. (While pressing DIN rail releasing buttons (c), at two locations, separate the manifold base from the DIN rail.)
- Press manifold block ass'y dividing button (b), that are at the location where manifold bases are to be added, until button (b) locks, and then separate the block ass'y.
- Mount additional manifold block ass'y on the DIN rail as shown in the figure.
- Press block ass'y until a click sound is produced, and tighten bolt (a) to fix them to the DIN rail. **Caution** (Tightening torque: 1.4 Nm) (While lightly holding blocks with hands after fixing an end block on one side, tighten the other end block for better sealing.)

How to Change Fitting Assembly



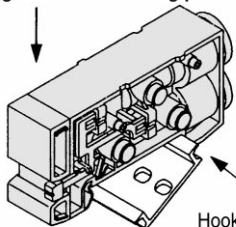
Type 45 manifold permits change in the A and B port sizes by changing the manifold block fitting ass'y. After removing the valve, remove the clip with a screwdriver, etc. For mounting a new fitting ass'y, insert it and then insert a clip until it will not come out of the manifold block.

Fitting ass'y part number

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

- Note 1) P and R ports cannot be changed.
 Note 2) Protect O rings from scratches and dust to prevent air leakage.

Fig. 1 Block mounting procedure



Hook this part on the DIN rail and press in the direction the arrow until a click sound is produced.

45-A
NA Type

SY3000/5000 Base Mounted Stacking Manifold: DIN Rail Mounted Connector Box

How to Order Manifold

SS5Y **3** -45- [] [] [] [] [] []

Manifold series

3	SY3000
5	SY5000

Specifications

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

The style of attached lead wire is different.

Connector box mounting position

Symbol	Mounting position
U	U side
D	D side

Station

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

SUP/EXH blocks ass'y mounting position

Symbol	Mounting position	Stations
U	U side	2 to 10 station
D	D side	
B	Both side	2 to 16 station
M*	Special spec.	

* Order with "Valve Manifold Ass'y Specification Form".

A/B port size

SY3000		SY5000	
Symbol	Port size	Symbol	Port size
C4	One-touch fittings for ø4	C4	One-touch fittings for ø4
C6	One-touch fittings for ø6	C6	One-touch fittings for ø6
M*	Mixed	C8	One-touch fittings for ø8
		M*	Mixed

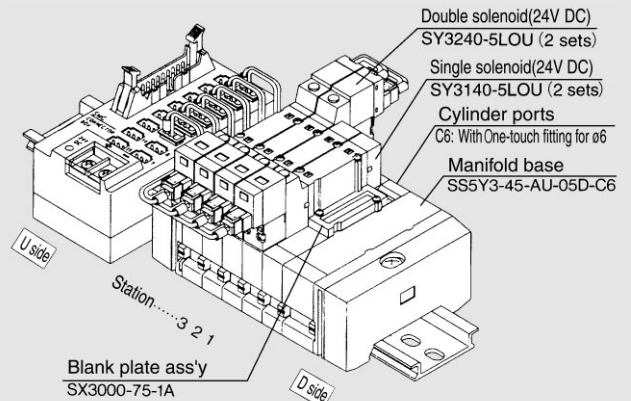
* Order with "Valve Manifold Ass'y Specification Form".

Option

When a DIN rail longer than std. is required, enter the number of manifold station corresponds with the length of DIN rail needed. (20 stations max.)

How to Order Valve Manifold Ass'y (Example)

Ordering example (SY3000, +COM, U side)



SS5Y3-45-AU-05D-C6.....1 set (45 type 5 station manifold base No.)
 *SX3000-75-1A.....1 set (Blank plate ass'y No.)
 *SY3140-5LOU.....2 sets (Single solenoid No.)
 *SY3240-5LOU.....2 sets (Double solenoid No.)

To order valve and options mounted onto the manifold at the factory, list the valves/options with an asterisk in front of each part number.

Valves will be assembled in the order listed staring at the first station at the D side even if the connector box is located at either end.

For more complicated assemblies, refer to the manifold specification form.

SS5Y₂-45-A_U-□□-□□-□□ is assembled with solenoid valve and lead wire ass'y when shipping.

When ordering manifold only (without valves/wires/options), refer to how to order on p.1.1-70 and list the connector box (VZ3000-106-1A) and the rail stopper (TXE1-SMC) below the manifold to allow for the connector box mounting at U side. (Be sure to order DIN rail 3 station longer than number of the manifold stations.) In this case, please note that dimensions, L1 and L2 on p.1.1-80 and 1.1-81 may vary slightly.)

For other components, refer to p.1.1-82.

How to Order Valve

SY **5** **2** 40 - **5** LOU []

Series

3	SY3000
5	SY5000

Configuration

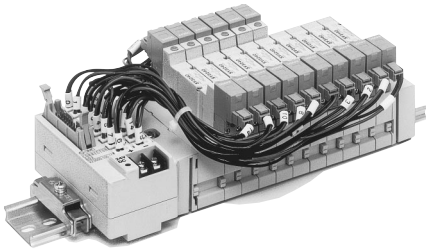
1	2 position single
2	2 position double
3	3 position closed center
4	3 position exhaust center
5	3 position pressure center

Manual override

—	Non-locking push style
D	Push-turn locking spotted style
E	Push-turn locking lever style

Voltage

5	24V DC
---	--------

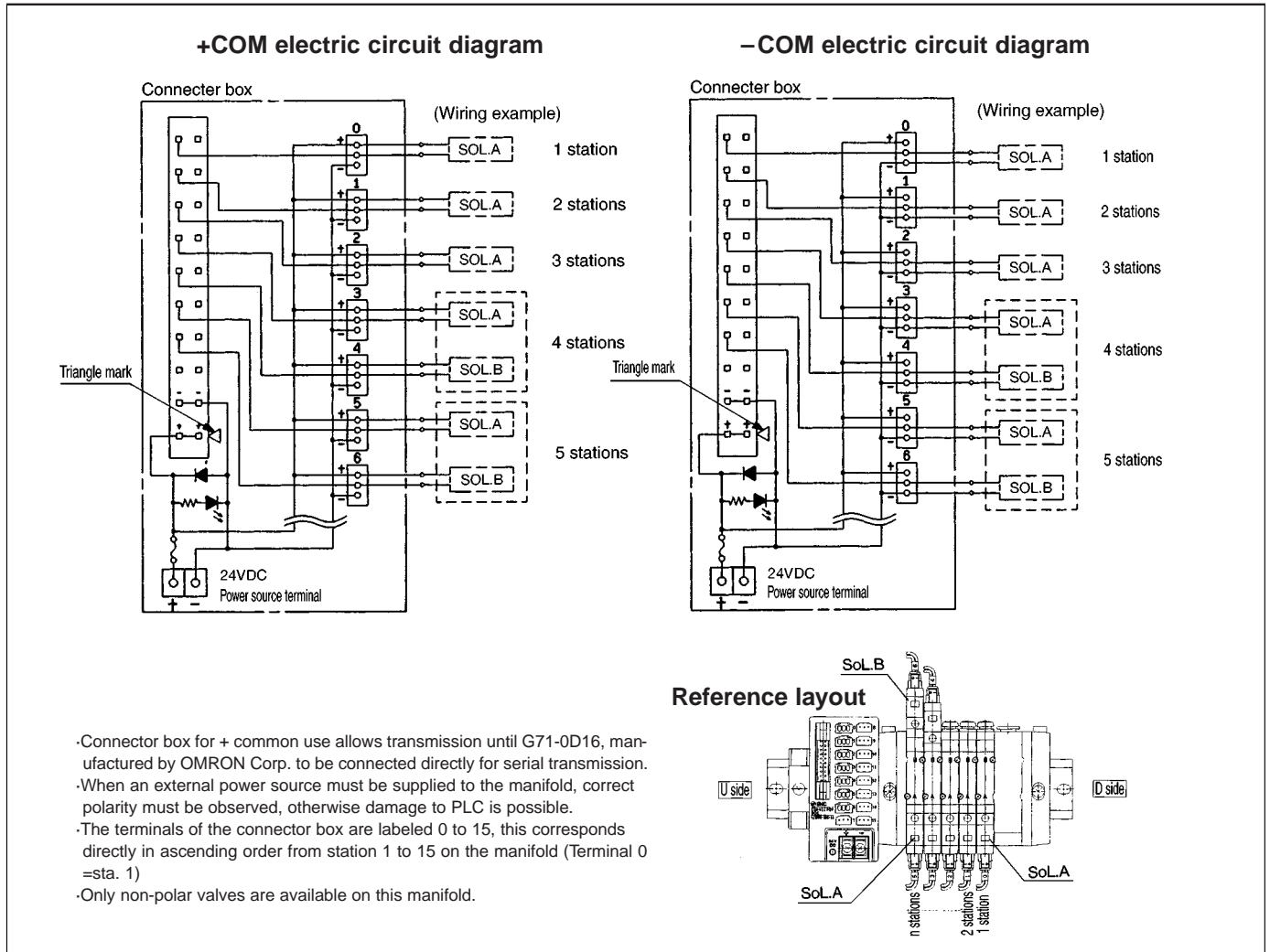


Manifold Specifications

Model		SS5Y3-45 ^A _{NA}	SS5Y5-45 ^A _{NA}
Applicable valve		SY3□40	SY5□40
Manifold style		Stacking, DIN rail mounted	
P(SUP)/R(EXH)		Common SUP/EXH	
Valves stations		2 to 16 ^(1,2)	
A/B porting specification	Location	Base	
	Direction	Side	
Port size	P, R port	C8 (One-touch fittings for ø8)	C10 (One-touch fittings for ø10)
	A, B port	C4 (One-touch fittings for ø4) C6 (One-touch fittings for ø6)	C4 (One-touch fittings for ø4) C6 (One-touch fittings for ø6) C8 (One-touch fittings for ø8)
Valve effective area (mm ²)(CV) ⁽³⁾		P→A/B 4.68 (0.26) C6: A/B→R 4.68 (0.26)	P→A/B 12.6 (0.7) C8: A/B→R 12.6 (0.7)
Manifold base weight W(g) n: Stations		2 to 10 stations: W=26n+207 11 to 20 stations: W=26n+229	2 to 10 stations: W=52n+245 11 to 16 stations: W=52n+279
Connector		Flat cable connector socket: 20 pin MIL with strain relief, conforms to MIL-C-83503	
Wiring specification		+COM specifications (45-A type), -COM specifications (45-NA type)	

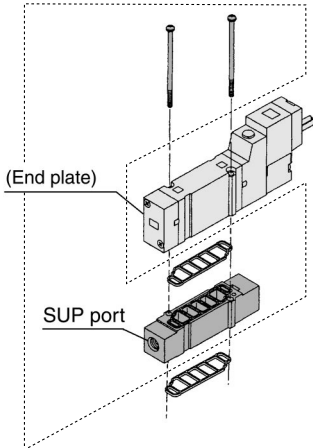
- Note 1) For more than 11 stations, supply pressure P port on both sides and exhaust from R port on both sides.
 Note 2) There is limit depending on the number of solenoid. Refer to "How to Order".
 Note 3) Valve when manifold base (5 stations) is installed and single operation of 2 position style.

Manifold Wiring Diagram (Circuit diagram for the reference layout)



Manifold Options

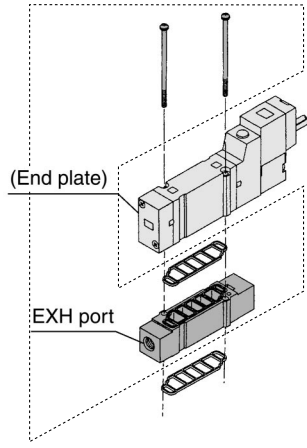
Individual SUP spacer ass'y



Series	Ass'y part No.	Port size
SY3000	SY3000-38-2A	M5 X 0.8
SY5000	SY5000-38-2A	Rc(PT)1/8

Note) The SUP port may be either on the lead wire side or on the end plate side.
(An ass'y is shipped under the condition

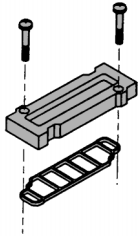
Individual EXH spacer ass'y



Series	Ass'y part No.	Port size
SY3000	SY3000-39-2A	M5 X 0.8
SY5000	SY5000-39-2A	Rc(PT)1/8

Note) The EXH port may be either on the lead wire side or on the end plate side.
(An ass'y is shipped under the condition

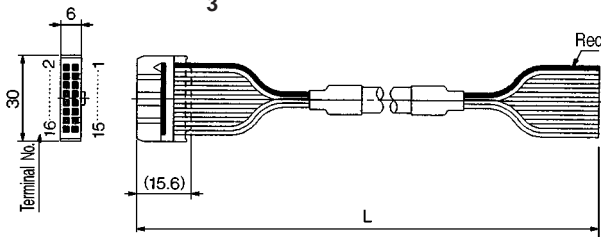
Blank plate assembly



Series	Ass'y part No.
SY3000	SX3000-75-1A
SY5000	SX5000-76-1A

Flat cable connector assembly

AXT100-FC20-¹/₂/₃



Cable length(L)	Ass'y part No.	Note
1.5m	AXT100-FC20-1	Cable 20 core X 22AWG
3m	AXT100-FC20-2	
5m	AXT100-FC20-3	

* For other commercial connectors, use 20 pin style with strain relief made in conformity with MIL-C-83503.

SUP block disc

When supplying manifold with more than one pressure, insert a block disc in between the stations subjected to different pressures.



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

EXH block disc

When valve exhaust affects the other stations on the circuit, insert EXH block disc(s) in between stations to isolate exhaust. (Two discs are required to block both EXH.)



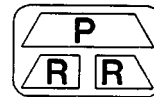
Series	Part No.
SY3000	SX3000-77-1A
SY5000	SX5000-77-1A

Block disc indication label

These labels are stuck on the block with SUP and EXH block discs inside for confirmation from outside. (3 sheets respectively)

VZ3000-123-1A

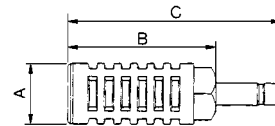
Label for SUP block disc Label for EXH block disc Label for SUP, EXH block disc



Note) When ordering block disc installed at the factory, labels will be attached to the manifold showing the locations.

Silencer for One-touch fitting

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

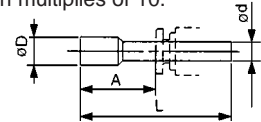


Series	Part No.	Eff. area	A	B	C
SY3000(ø8)	AN203-KM8	14mm ²	ø16	26	51
SY5000(ø10)	AN200-KM10	26mm ²	ø22	53.8	80.8
	AN300-KM10	30mm ²	ø25	70	97

Plug

It is inserted into an unused cylinder ports and SUP/EXH port. The minimum order quantity is 10 pcs. Order in multiples of 10.

KQP-⁰⁴/₀₆/₀₈/₁₀ - X19
● White color



Dimensions

Applicable fittings size ød	Part No.	A	L	D
4	KQP-04-X19	16	32	6
6	KQP-06-X19	18	35	8
8	KQP-08-X19	20.5	39	10
10	KQP-10-X19	22	43	12

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VP4

VQ

VQ4

VQZ

VQD

VZS

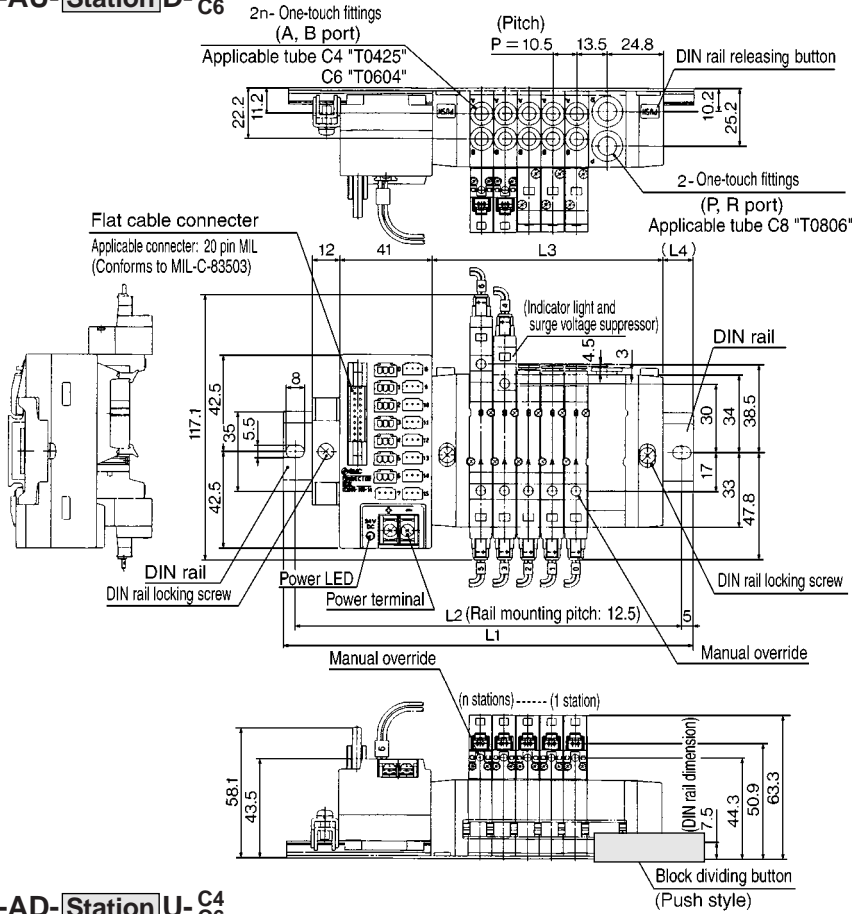
VFS

VS

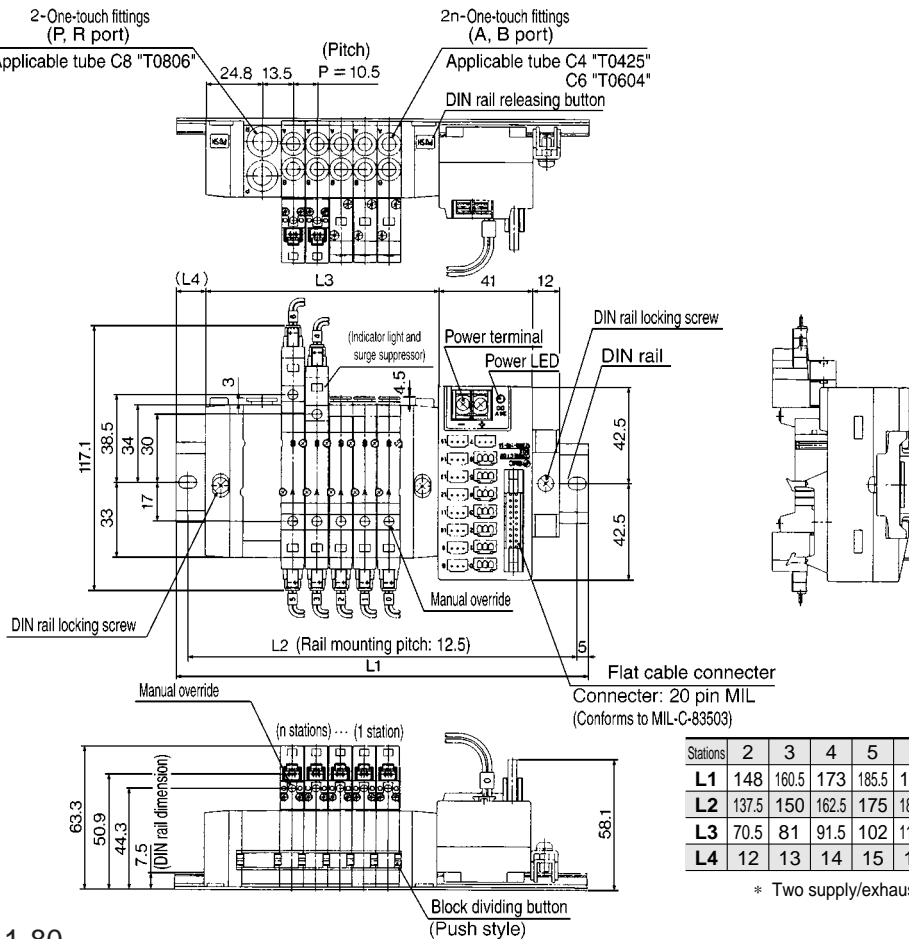
VS7

Dimensions/Series SY3000

SS5Y3-45-AU-Station D- C4 C6



SS5Y3-45-AD-Station U- C4 C6

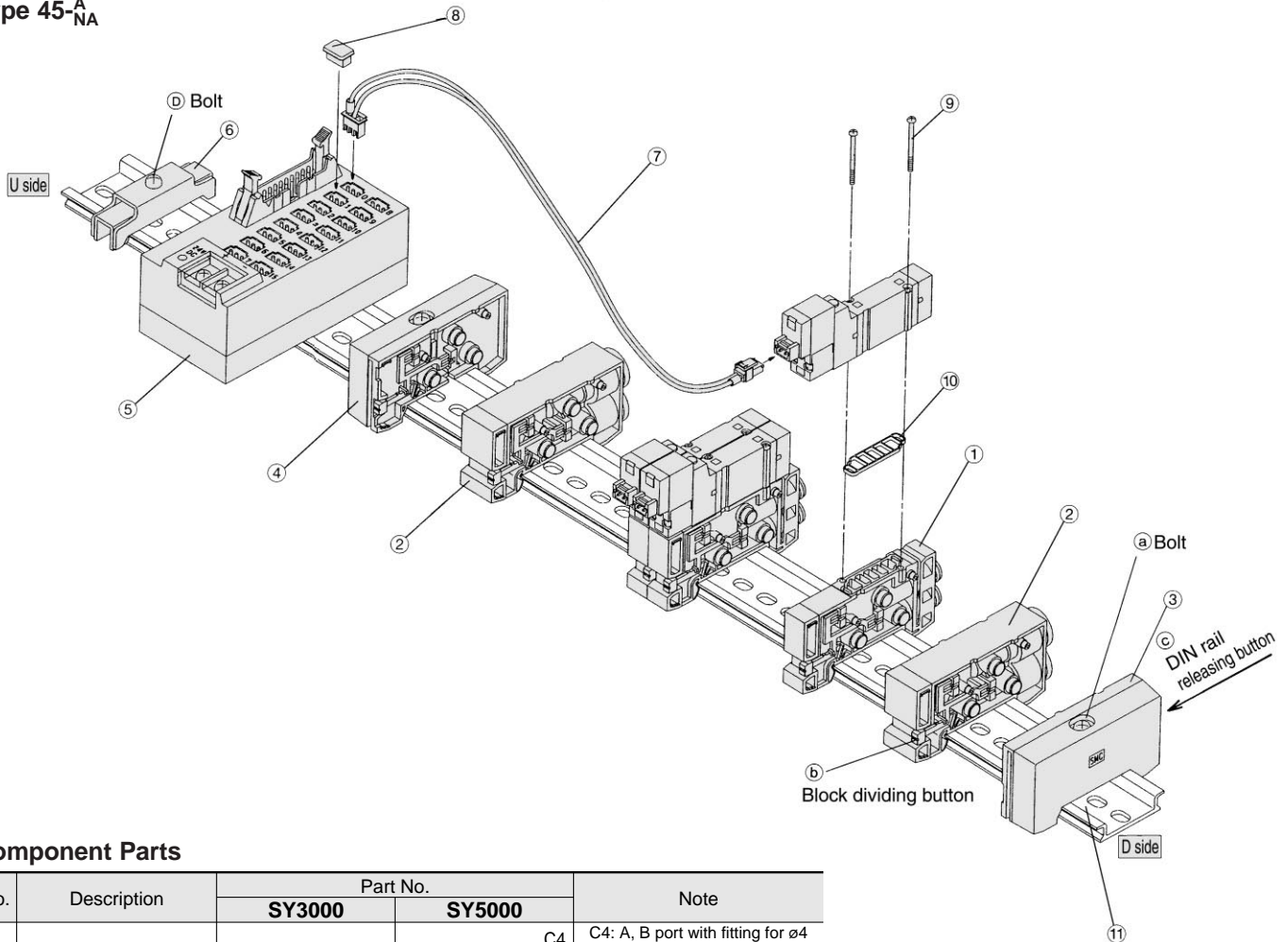


Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	148	160.5	173	185.5	198	210.5	210.5	223	235.5	260.5	273	285.5	298	310.5	310.5
L2	137.5	150	162.5	175	187.5	200	200	212.5	225	250	262.5	275	287.5	300	300
L3	70.5	81	91.5	102	112.5	123	133.5	144	154.5	181.5	192	202.5	213	223.5	234
L4	12	13	14	15	16	17	12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

* Two supply/exhaust blocks are provided for models with 11 stations or more.

Exploded View/DIN Rail Manifold

Type 45-A_{NA}



Component Parts

No.	Description	Part No.		Note
		SY3000	SY5000	
①	Manifold block ass'y	SX3000-50-1A- C4 C6	SX5000-50-1A- C6 C8	C4: A, B port with fitting for $\phi 4$ C6: A, B port with fitting for $\phi 6$ C8: A, B port with fitting for $\phi 8$ (Gasket ⑩ is supplied as an accessory.)
②	SUP/EXH block ass'y	SX3000-51-1A	SX5000-51-1A	P, R port SY3000 with fitting for $\phi 8$ P, R port SY5000 with fitting for $\phi 8$
③	End block ass'y R	SX3000-52-1A	SX5000-52-1A	For D side
④	End block ass'y L	SX3000-53-1A	SX5000-53-1A	For U side
⑤	Connector box	VZ3000-106-1A		For 24 VDC only
⑥	Rail stopper	TXE1-SMC		Made by Kasuga Electric Works
⑦	Connector ass'y	SY3000-43-1A-□	SY3000-43-2A-□	+COM Type D, 2 to 8 stations Type U, 9 to 16 stations
		SY3000-43-2A-□	SY3000-43-3A-□	+COM Type D, 9 to 16 stations Type U, 2 to 8 stations
		SY3000-43-1NA-□	SY3000-43-2NA-□	-COM Type D, 2 to 8 stations Type U, 9 to 16 stations
		SY3000-43-2NA-□	SY3000-43-3NA-□	-COM Type D, 9 to 16 stations Type U, 2 to 8 stations
⑧	Dust cap	VZ3000-63-2		
⑨	Philips round head screw	SY3000-23-4	M3 X 26 (Mat nickel plated)	
⑩	Gasket	SX3000-57-4	SX5000-57-1	
⑪	DIN rail	VZ1000-11-1-□		Refer to p.1.1-73

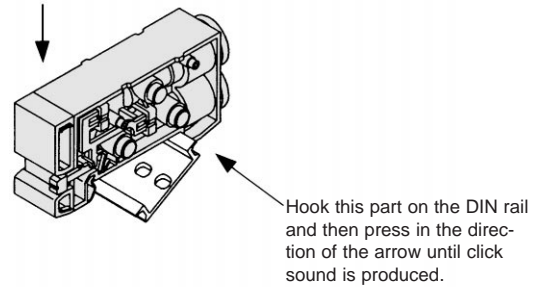
How to Increase Manifold Bases

(Manifold bases can be added at any location.)

Cut off air supply to confirm that no air is left in the manifold before starting operation. Remaining air or inappropriate installation may cause an accident.

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

Fig.1 Block mounting procedure



⚠ Caution

- Note 1) When adding manifold bases to use more than 11 stations, and SUP/ EXH block assemblies, as well.
- Note 2) When bolt (a) for the end block is not sufficiently tightened during ressembly, 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.
- Note 3) One connector assembly is necessary for one solenoid.
When a number is necessary for the connector assembly mark tube, suffix the number to the part No. (0 to 15 are provided as mark tube numbers.)
Ex) +COM spec.: D type for 2 to 8 stations: No. 10
SY3000-43-1A-10

- SY
- SYJ
- SX
- VK
- VZ
- VF
- VFR
- VP7
- VP4

- VQ
- VQ4
- VQZ
- VQD
- VZS
- VFS
- VS
- VS7

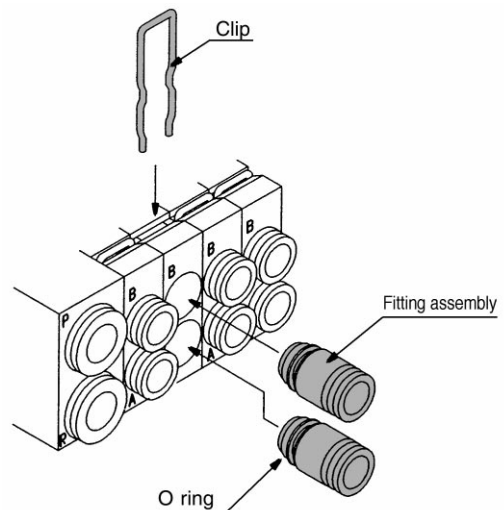
How to Change Fitting Assembly

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

Fitting assembly part No.

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

- Note1) P and R port cannot be changed.
Note2) Protect O rings from scratches and dust to prevent air leakage.



45  Type

SY3000/5000 Base Mounted Stacking Manifold/DIN Rail Mounted Plug-in

How to Order Manifold

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

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

Series

3	SY3000
5	SY5000

Common specifications

—	Positive common
N	Negative common

Connector box mounting position

Symbol	Mounting position
U	U side
D	D side

Stations

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

- The number of blank plate ass'y is included.
- Two stations are necessary for the double, 3 position (Dual body style).

SUP/EXH block ass'y mounting position

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

* Order with "Valve Manifold Ass'y Specification Form".

A/B port size

SY3000

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

SY5000

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

* Order with "Valve Manifold Ass'y specification Form".

Voltage

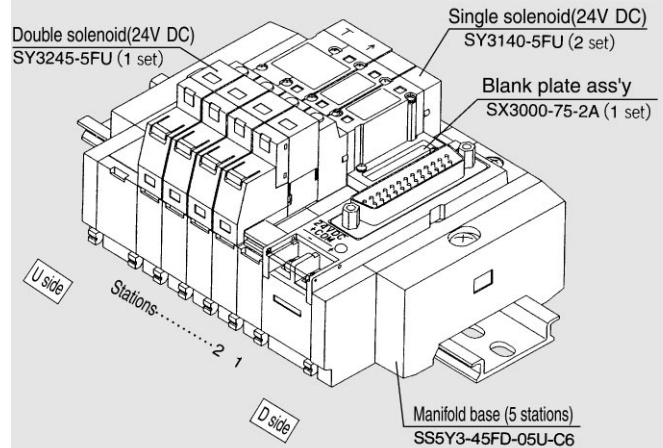
—	24V DC
12V	12V DC

Option

When a DIN rail longer than std. is required, enter the number of manifold station corresponds with the length of DIN rail needed. (20 stations max.)

How to Order Valve Manifold Ass'y (Example)

Ordering example (45F type/D-sub connector (25 pin))



SS5Y3-45FD-05U-C61 set (45F type D-sub connector 5 station manifold base No.)
 *SX3000-75-2A1 set (Blank plate ass Ey No.)
 *SY3140-5FU2 sets (Single solenoid No.)
 *SY3245-5FU1 set (Double solenoid No.)

To order valves and options mounted onto the manifold at the factory, list the valves/options with an asterisk in front of each part number.

- They will be assembled in the order listed starting at the first station at the D side even if the connector box is located at either end.
- When ordering double solenoid valves/3 position (dual body style), please keep in mind that they require two manifold stations.

How to Order Valve

(Type 45F, 45P, 45T, 45T1)

2 position single SY 3 1 4 0 — 5 FU

Double, 3 position SY 3 2 4 5 — 5 FU

Series

3	SY3000
5	SY5000

Configuration

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

Dual body style(Double 3 position)

Voltage

5	24V DC
6	12V DC

Manual override

—	Non-locking push style
D	Push-turn locking slotted style
E	Push-turn locking lever style

How to Order Manifold

45P□ type (Flat cable)

SS5Y 3-45 P D 05 U C4

Manifold series

3	SY3000
5	SY5000

Common specifications

—	Positive common
N	Negative common

Connector poles

Symbol	Poles	Applicable station
—	26	2 to 20 stations
G	20	2 to 16 stations
H	10	2 to 8 stations

Connector mounting position

Symbol	Mounting position
U	U side
D	D side

Option
When a DIN rail longer than std. is required, enter the number of manifold station corresponds with the length of DIN rail needed. (20 stations max.)

Voltage

—	24V DC
12V	12V DC

A, B port size

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

* Order with "Valve Manifold Ass'y Specification Form".

SUP/EXH block ass'y mounting position

Symbol	Mounting position	Applicable stations
U	U side	2 to 10 stations
D	D side	2 to 10 stations
B	Both side	2 to 20 stations
M		Special spec.

* Order with "Valve Manifold Ass'y Specification Form".

- SY
- SYJ
- SX
- VK
- VZ
- VF
- VFR
- VP7
- VP4

- VQ
- VQ4
- VQZ
- VQD
- VZS
- VFS
- VS
- VS7

Valve stations(Blank plate ass'y included.)

26 pin(P) connector

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

20 pin(PG) connector

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

10 pin(PH) connector

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

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

45T type (9 pole terminal block)

SS5Y 3-45T D 05 U C4

Series

3	SY3000
5	SY5000

Terminal block mounting position

Symbol	Mounting position
U	U side
D	D side

Option
When a DIN rail longer than std. is required, enter the number of manifold stations corresponds with the length of DIN rail needed. (20 stations max.)

Valve stations

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

• The number of blank plate ass'y is included.
• Two stations are necessary for the double, 3 position (Dual body style).
3 position type (Dual body type).

SUP/EXH block ass'y mounting position

Symbol	Mounting position	Stations
U	U side	2 to 8 stations
D	D side	2 to 8 stations
B	Both side	2 to 8 stations
M		Special spec.

* Order with "Valve Manifold Ass'y Specification Form".

45T1 type (18 pole terminal block)

SS5Y 3-45T1 D 15 B C4

Series

3	SY3000
5	SY5000

Terminal block mounting position

Symbol	Mounting position
U	U side
D	D side

Option
When a DIN rail longer than std. is required, enter the number of manifold stations corresponds with the length of DIN rail needed. (20 stations max.)

Valve stations

Symbol	Stations	Note
02	2 stations	Single wiring spec. (Applicable up to 8 solenoid valves)
⋮	⋮	
17	17 stations	

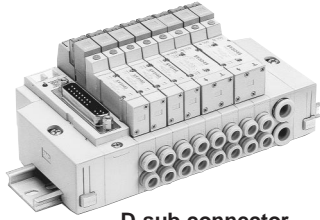
• The number of blank plate ass'y is included.
• Two stations are necessary for the double, 3 position (Dual body style).
3 position type (Dual body type).

SUP/EXH block ass'y mounting position

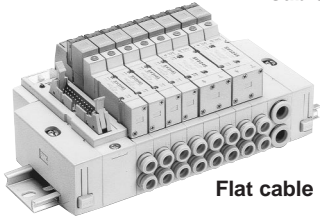
Symbol	Mounting position	Stations
U	U side	2 to 10 stations
D	D side	2 to 10 stations
B	Both side	2 to 17 stations
M		Special spec.

* Order with "Valve Manifold Ass'y Specification Form".

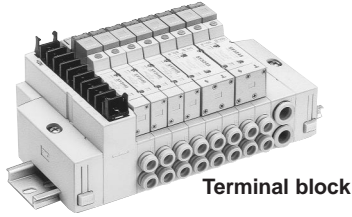
Note) The terminal block (45T1) manifold has no common polarity. It can be used for both positive and negative common.



D-sub connector



Flat cable



Terminal block

Manifold Specifications

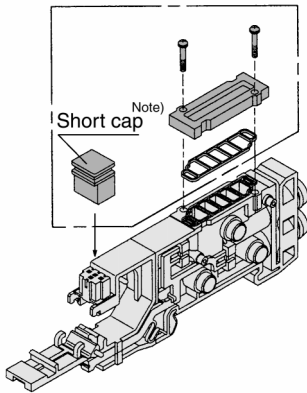
Model	D-sub connector type 45F	Flat cable 45P□			Terminal block		
		45P	45PG	45PH	45T	45T1	
Manifold style		Plug-in style					
P(SUP), R(EXH)		Common SUP/EXH					
Valve stations ^(1,2)		2 to 20	2 to 16	2 to 8	2 to 17		
A-B porting	Location	Base					
	Direction	Side					
Port size	P-R port	SY3000	C8 (One-touch fittings for ø8)				
		SY5000	C10 (One-touch fittings for ø10)				
	A-B port	SY3000	C4 (One-touch fittings for ø4)/C6 (One-touch fittings for ø6)				
		SY5000	C4 (One-touch fitting for ø4)/C6 (One-touch fitting for ø6)/C8 (One-touch fitting for ø8)				
Valve effective area (mm ²)(Cv) ⁽³⁾		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)				
Connector		D-sub connect conforms to MIL-C-24308 JIS-X-5101	Flat cable connector socket: 26 pin MIL with strain relief, conforms to MIL-C-83503	Flat cable connector socket: 20 pin MIL with strain relief, conforms to MIL-C-83503	Flat cable connector socket: 10 pin MIL with strain relief, conforms to MIL-C-83503	9 pole terminal block (M3)	18 pole terminal block (M3)
Internal wiring		+COM (45□type), -COM (45N□type)			Both for +COM,-COM		
Manifold base weight W(g)	n: Stations (D-sub connector)	SY3000	2 to 10 stations : W=26n+172	Valve weight	Single : 51		
			11 to 20 stations: W=26n+199		Double : 77		
		SY5000	2 to 10 stations : W=54n+227	Valve weight	Single : 59		
			11 to 20 stations: W=54n+264		Double : 102		
					3 position : 112.6		



Note 1) For more than 11 stations, supply pressure P port on both side and exhaust from R port on both side
 Note 2) There is limit depending on the number of solenoid. Refer to "How to Order".
 Note 3) Valve when manifold base (5 stations) is installed and single operation of 2 position style.

Manifold Options

Blank plate assembly



Series	Ass'y part No.
SY3000	SX3000-75-2A
SY5000	SX5000-76-2A

Note) • When mounting blank plate, be sure to mount a short cap.
 • Two are necessary for the double, 3 position style(dual body style).

SUP block disc

When supplying manifold with more than one pressure, insert a block disc in between the stations subjected to different pressures.



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

EXH block disc

When valve exhaust affects the other stations on the circuit, insert EXH block disc(s) in between the stations to isolate exhaust. (Two discs are required to block both EXH.)



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

Block disc individual label

These labels are stuck on the block with SUP and EXH block discs inside for confirmation from outside. (3 sheets respectively)

VZ3000-123-1A (Both for SX3000/5000)

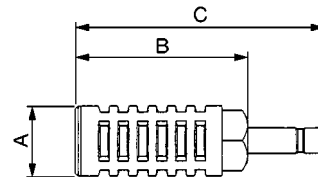
Label for SUP block disc Label for EXH block disc Label for SUP / EXH block disc



Note) When ordering block disc installed at the factory, labels will be attached to the manifold showing the locations.

Silencer for One-touch fitting

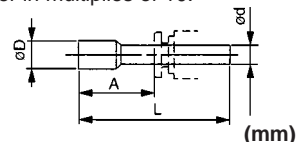
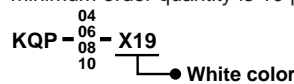
The silencer plugs directly into the One-touch fitting (R port) of the manifold.



Series	Part No.	Eff. area	A	B	C
SY3000 (ø8)	AN203-KM8	14mm ²	ø16	26	51
SY5000 (ø10)	AN200-KM10	26mm ²	ø22	53.8	80.8
	AN300-KM10	30mm ²	ø25	70	97

Plug

It is inserted into an unused cylinder ports and SUP/EXH ports. The minimum order quantity is 10 pcs. Order in multiples of 10.



Dimensions

Applicable fittings size ød	Part No.	A	L	D
4	KQP-04-X19	16	32	6
6	KQP-06-X19	18	35	8
8	KQP-08-X19	20.5	39	10
10	KQP-10-X19	22	43	12

Caution

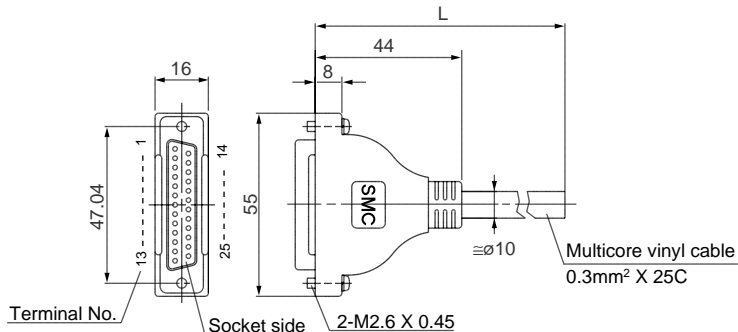
Torque for mounting screws

- M2: 0.15Nm
- M3: 0.6Nm
- M4: 1.4Nm

Manifold Options

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

AXT100-DS25-⁰¹⁵₀₃₀₀₅₀



D-sub connector cable ass'y

Cable length(L)	Ass'y part No.	Note
1.5m	AXT100-DS25-015	Cable 25 core X 24AWG
3m	AXT100-DS25-030	
5m	AXT100-DS25-050	

* For other commercial connectors, use a 25 pole female connector made in conformity with MIL-C-24308

Electric characteristics

Item	Characteristics
Conductor resistance $\Omega/\text{km}, 20^\circ\text{C}$	65 or less
Voltage limit V, 1min, AC	1000
Insulation resistance $M\Omega/\text{km}, 20^\circ\text{C}$	5 or more

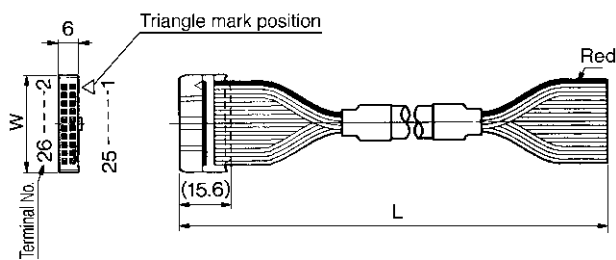
* The min. bending radius of D-sub connector cable ass'y is 20mm.

Wire color table by terminal number of D-sub connector cable assembly

Terminal No.	Lead wire color	Dot marking
1	Black	—
2	Brown	—
3	Red	—
4	Orange	—
5	Yellow	—
6	Pink	—
7	Blue	—
8	Violet	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	Violet	-
18	Gray	-
19	Orange	Black
20	Red	White
21	Brown	White
22	Pink	Red
23	Gray	Red
24	Black	White
25	White	-

■ Flat cable connector/Cable assembly

AXT100-FC □ - ¹/₂/₃



Flat cable connector assembly

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

* For other commercial connectors, use with strain relief made in conformity with MIL-C-83503.

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VP4

VQ

VQ4

VQZ

VQD

VZS

VFS

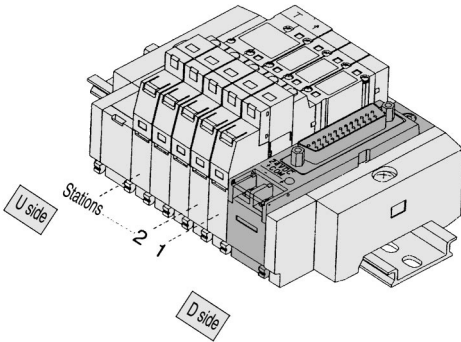
VS

VS7

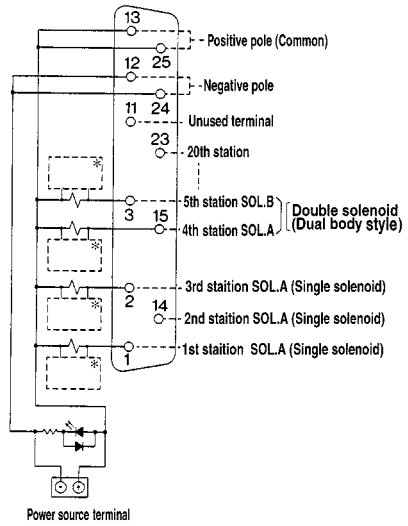
Manifold Internal Wiring

45 (N) F/D-sub Connector

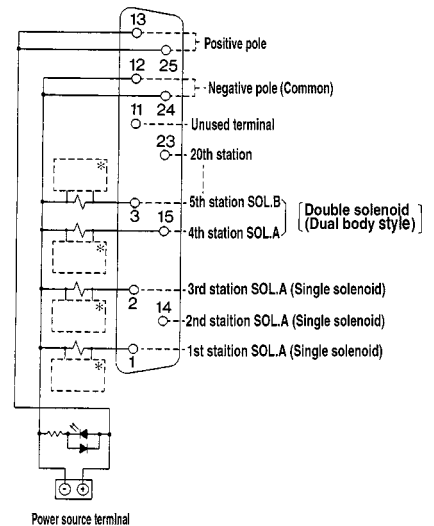
A D-sub connector used for electric wiring permits labor-saving for wiring operation. Connectors conforming to MIL are used for wide interchangeability.



<Positive COM (45F)>



<Negative COM (45NF)>

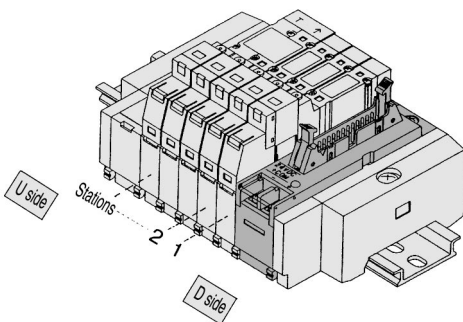


* Indicator light and surge voltage suppressor

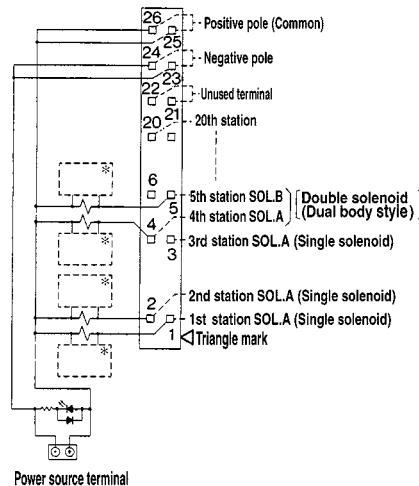
- The power source terminal is used for connecting an external power source.
- The maximum number of stations is 20 in terms of manifold bases, as well as solenoid. (Contact SMC for more stations.)
- Irrespective of the connector mounting position, stations are counted from the D side.

45 (N) P/Flat Cable (26 Pin)

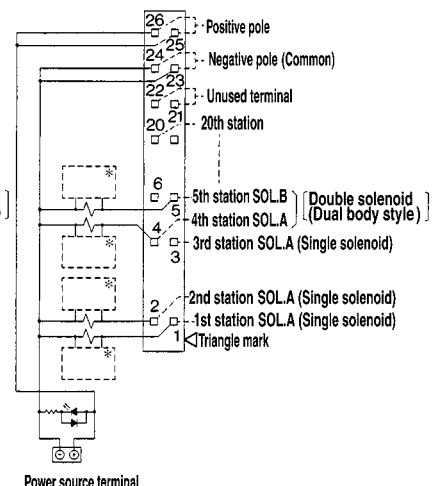
A flat cable connector used for electric wiring permits rationalization and labor-saving for wiring operation. Connectors conforming to MIL are used for wide interchangeability.



<Positive COM (45P)>

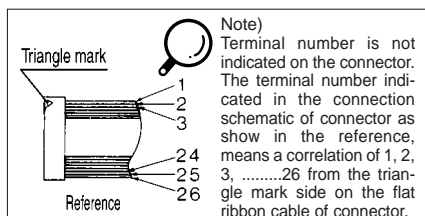


<Negative COM (45NP)>



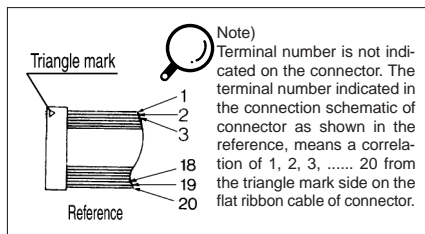
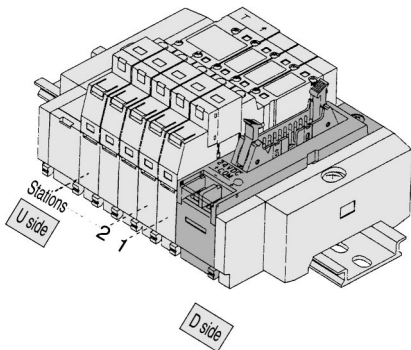
* Indicator light and surge voltage suppressor

- The power source terminal is used for connecting an external power source.
- The maximum number of stations is 20 in terms of manifold bases, as well as solenoid. (Contact SMC for more stations.)
- Irrespective of the connector mounting position, stations are counted from the D side.



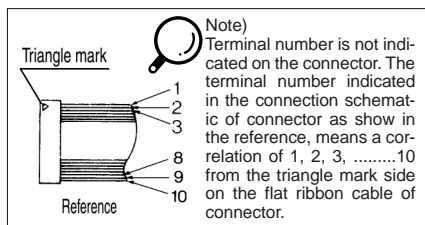
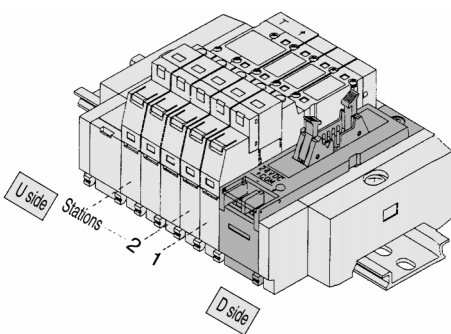
45 (N) PG/Flat Cable (20 Pin)

A flat cable connector used for electric wiring permits labor-saving for wiring operation. Connectors conforming to MIL are used for wide interchangeability.

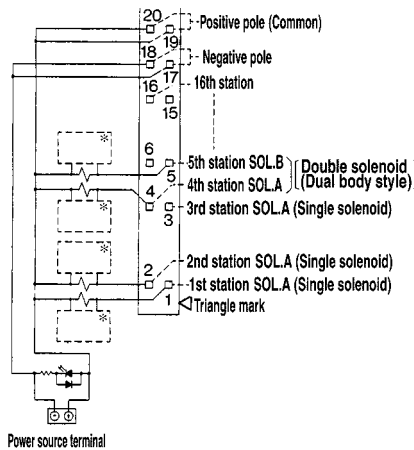


45 (N) PH/Flat Cable (10 Pin)

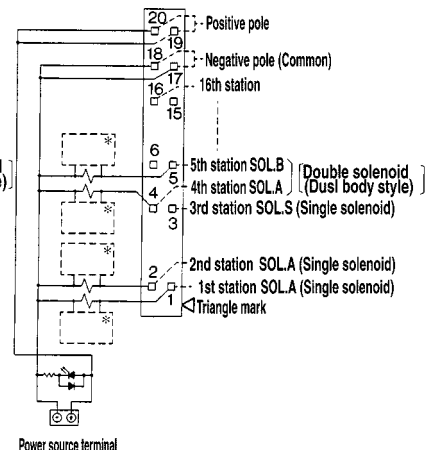
A flat cable connector used for electric wiring permits rationalization and labor-saving for wiring operation. Connectors conforming to MIL are used for wide interchangeability.



<Positive COM (45PG)>



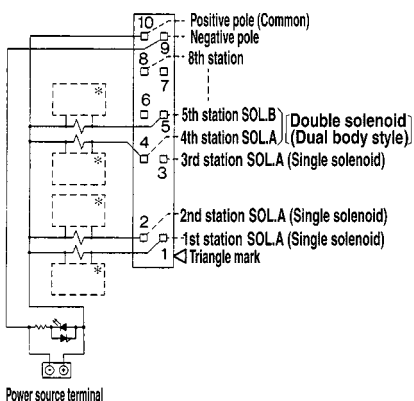
<Negative COM (45NPG)>



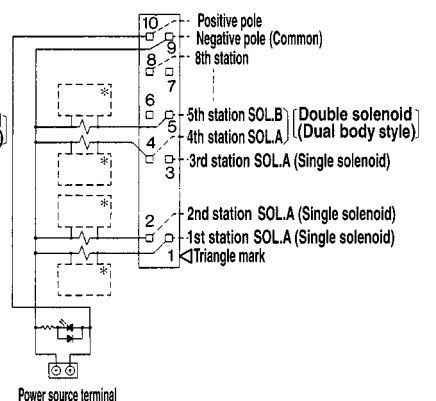
* Indicator light and surge voltage suppressor

- The power source terminal is used for connecting an external power source.
- The maximum number of stations is 16 in terms of manifold bases, as well as solenoid. (Contact SMC for more stations.)
- Irrespective of the connector mounting position, stations are counted from the D side.

<Positive COM (45PH)>



<Negative COM (45NPH)>



* Indicator light and surge voltage suppressor

- The power source terminal is used for connecting an external power source.
- The maximum number of stations is 8 in terms of manifold bases, as well as solenoid. (Contact SMC for more stations.)
- Irrespective of the connector mounting position, stations are counted from the D side.

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VP4

VQ

VQ4

VQZ

VQD

VZS

VFS

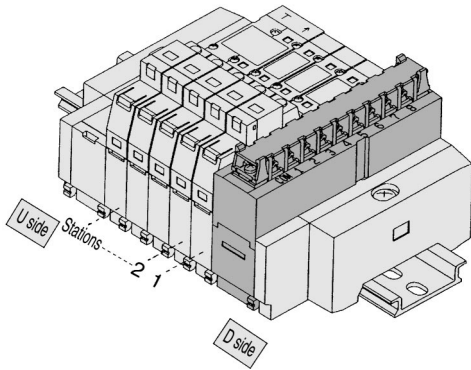
VS

VS7

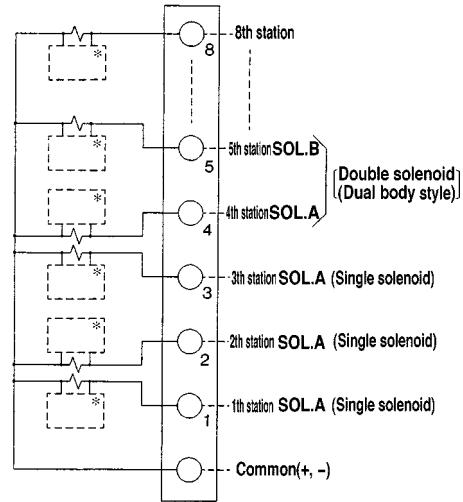
Manifold Internal Wiring

45T/Terminal Block

A terminal block style permits direct cable connection without treatment of lead wires.



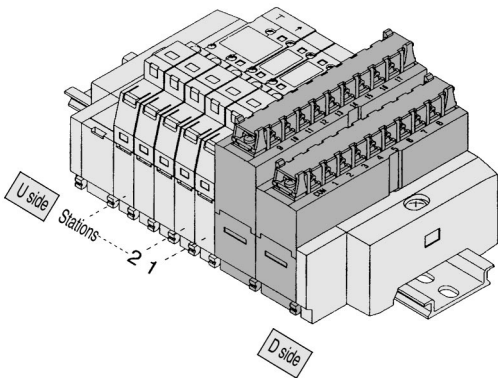
<45T>



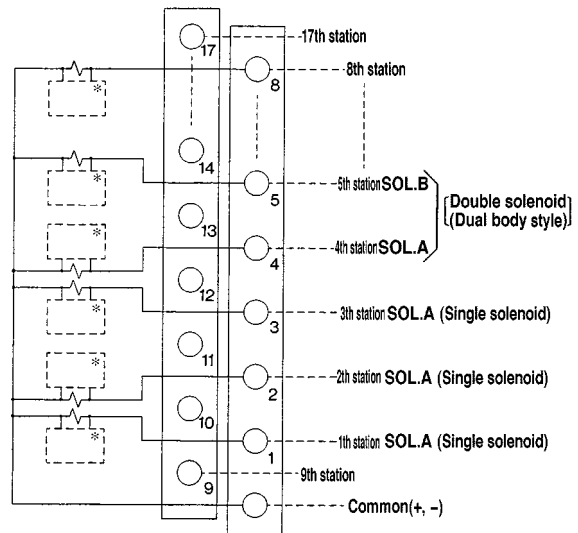
* Indicator light and surge voltage suppressor

- The maximum number of stations is 8 in terms of manifold bases, as well as solenoids. (Contact SMC for more stations.)
- Irrespective of the connector mounting position, stations are counted from the D side.
- There is no polarity in the COM wiring. Supply positive power for +COM spec. and negative power for -COM spec.

45T1/Terminal Block



<45T1>



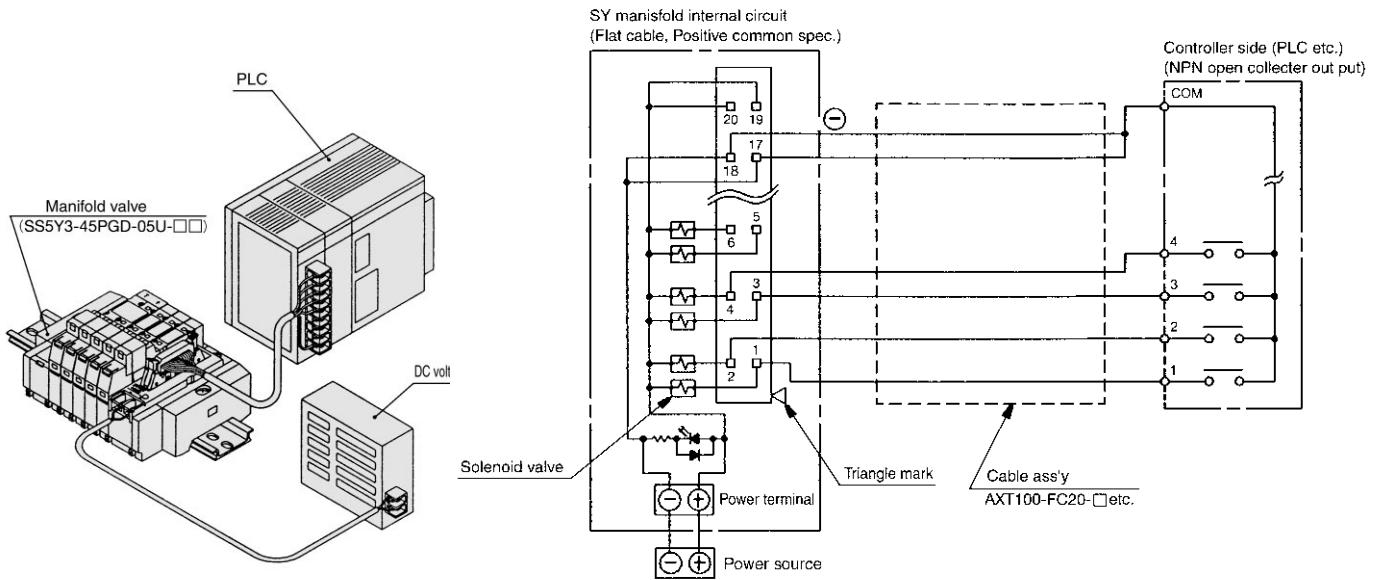
* Indicator light and surge voltage suppressor

- The maximum number of stations is 17 in terms of manifold bases, as well as solenoids. (Contact SMC for more stations.)
- Irrespective of the connector mounting position, stations are counted from the D side.
- There is no polarity in the COM wiring. Supply positive power for +COM spec. and negative power for -COM spec.

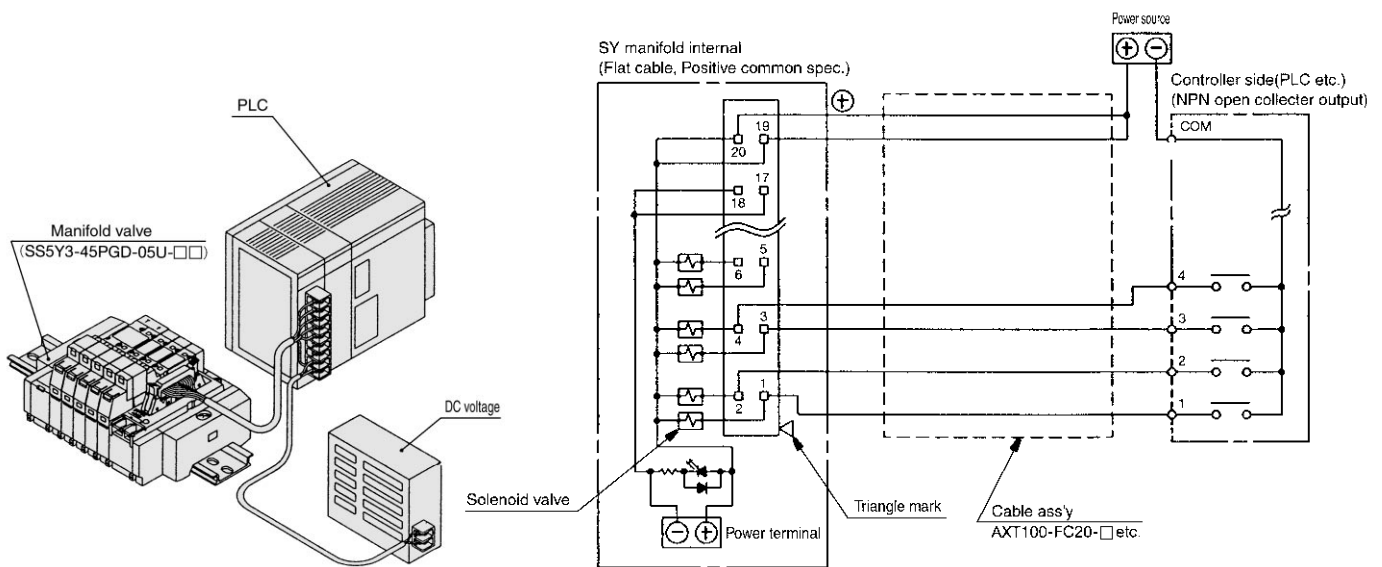
How to Connect SS5Y-□-45□ (Plug-in)

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

1. Connection example with the use of manifold power terminal



2. Connection example without the use of manifold power terminal (Power supplied at controller or in wiring)



⚠ Caution

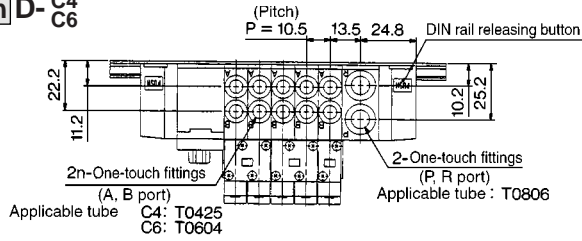
Single wire, COM position, etc. of PLC are different from each manufacture. When connecting with PLC, read the specifications carefully and understand the electrical circuit. Poor wiring could cause damage to PLC, power source, etc. as well as manifold and valve.

- SY
- SYJ
- SX
- VK
- VZ
- VF
- VFR
- VP7
- VP4

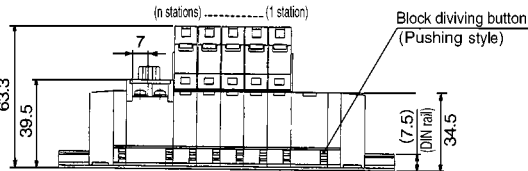
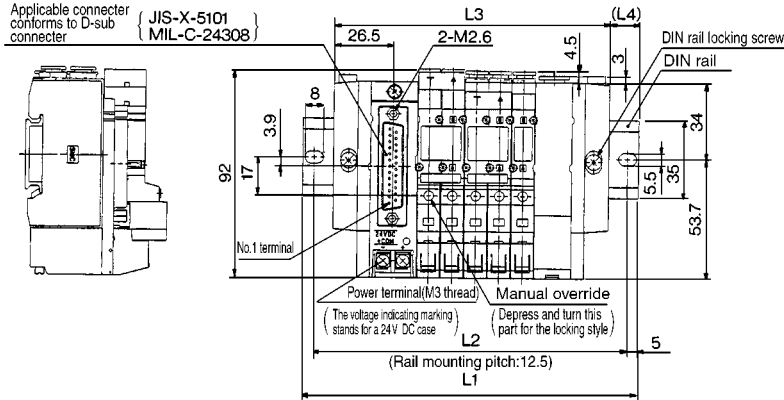
- VQ
- VQ4
- VQZ
- VQD
- VZS
- VFS
- VS
- VS7

SY3000: D-sub Connector/Plug-in

SS5Y3-45FU-Station D- C4 C6

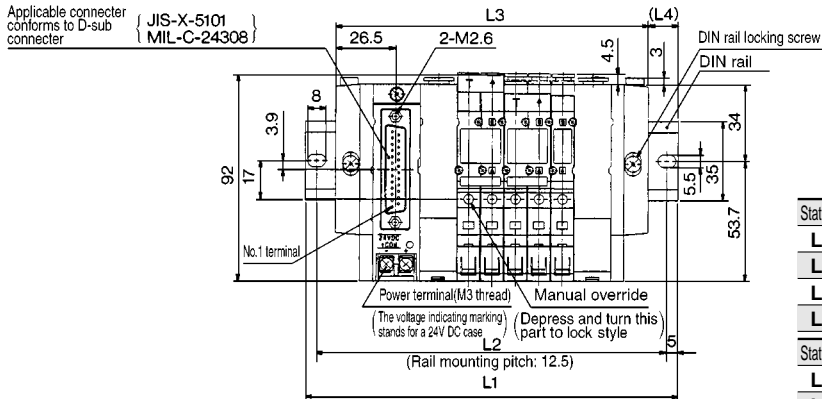
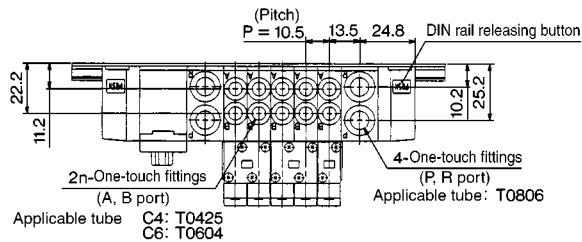


Note) The L1 to L4 dimensions of SS5Y3-45FU-Station U- C4 C6 are identical to those of SS5Y3-45FU-Station D- C4 C6



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

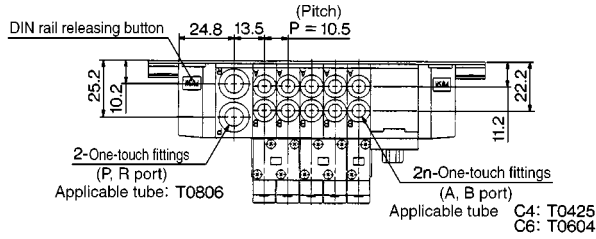
SS5Y3-45FU-Station B- C4 C6



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

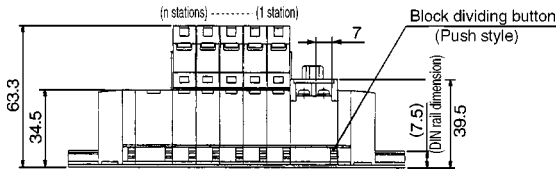
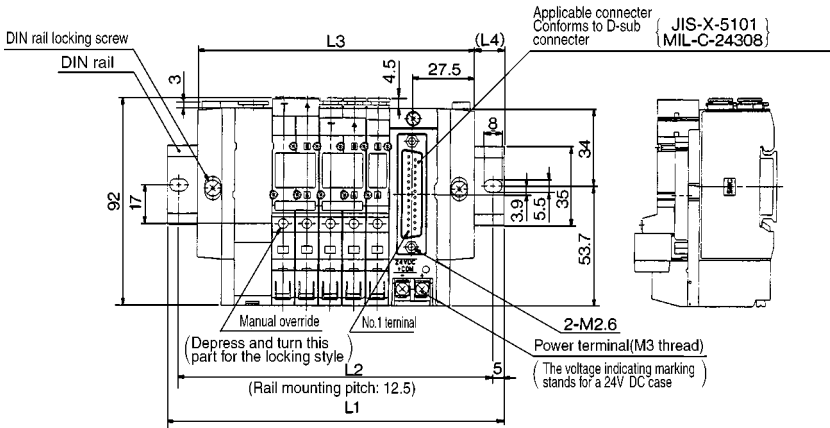
Stations	11	12	13	14	15	16	17	18	19	20
L1	235.5	248	248	260.5	273	285.5	298	310.5	310.5	323
L2	225	237.5	237.5	250	262.5	275	287.5	300	300	312.5
L3	202.5	213	223.5	234	244.5	255	265.5	276	286.5	297
L4	16.5	17.5	12	13	14	15	16	17	12	13

SS5Y3-45FD-Station U- C4 C6



Note) The L1 to L4 dimensions of SS5Y3-45FD-Station D- C4 C6 are identical to those of SS5Y3-45FD-Station U- C4 C6

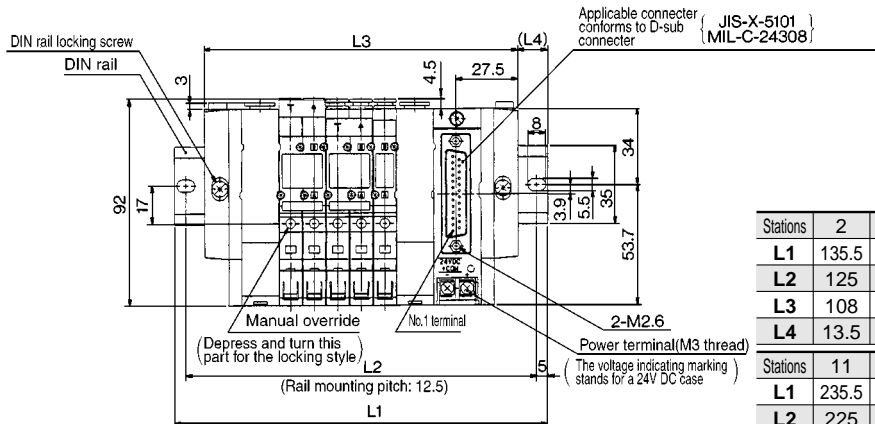
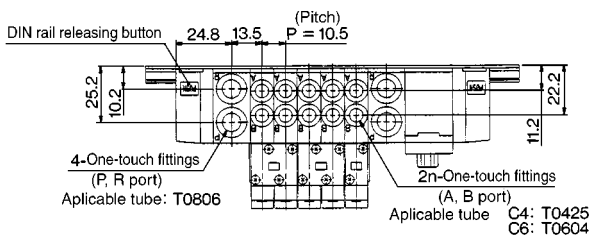
- SY
- SYJ
- SX
- VK
- VZ
- VF
- VFR
- VP7
- VP4



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

- VQ
- VQ4
- VQZ
- VQD
- VZS
- VFS
- VS
- VS7

SS5Y3-45FD-Station B- C4 C6

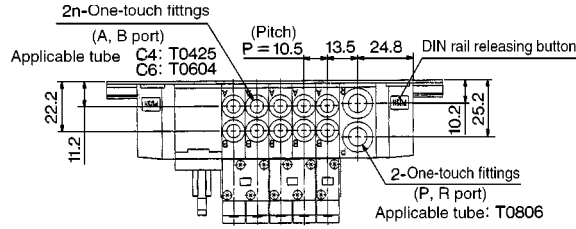


Stations	2	3	4	5	6	7	8	9	10
L1	135.5	148	160.5	173	185.5	185.5	198	210.5	223
L2	125	137.5	150	162.5	175	175	187.5	200	212.5
L3	108	118.5	129	139.5	150	160.5	171	181.5	192
L4	13.5	14.5	15.5	16.5	17.5	12.5	13.5	14.5	15.5

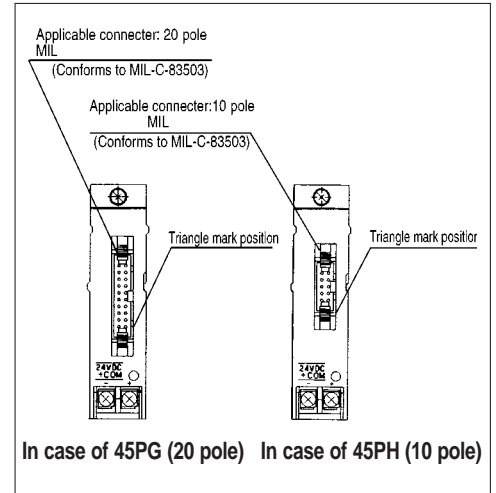
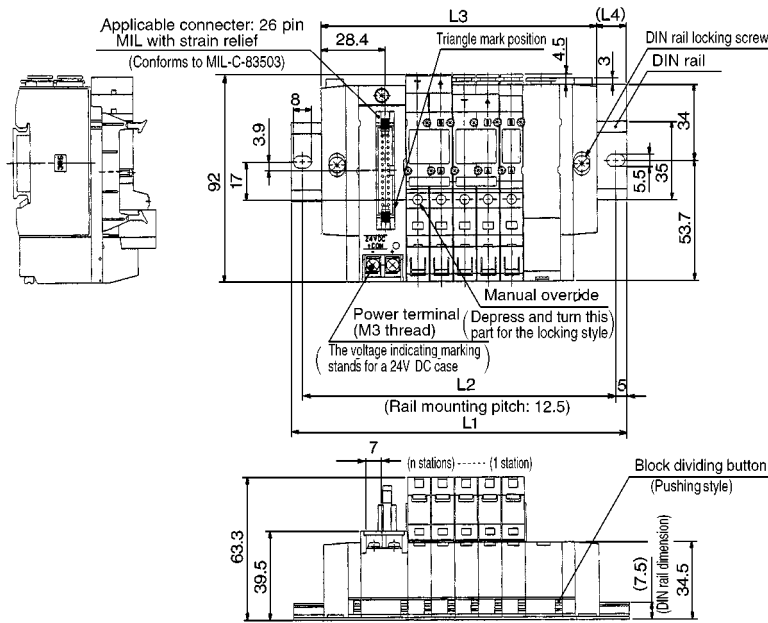
Stations	11	12	13	14	15	16	17	18	19	20
L1	235.5	248	248	260.5	273	285.5	298	310.5	310.5	323
L2	225	237.5	237.5	250	262.5	275	287.5	300	300	312.5
L3	202.5	213	223.5	234	244.5	255	265.5	276	286.5	297
L4	16.5	17.5	12	13	14	15	16	17	12	13

SY3000: Flat Cable Type/Plug-in

SS5Y3-45PU-Station D-C₄C₆ (26 pin)

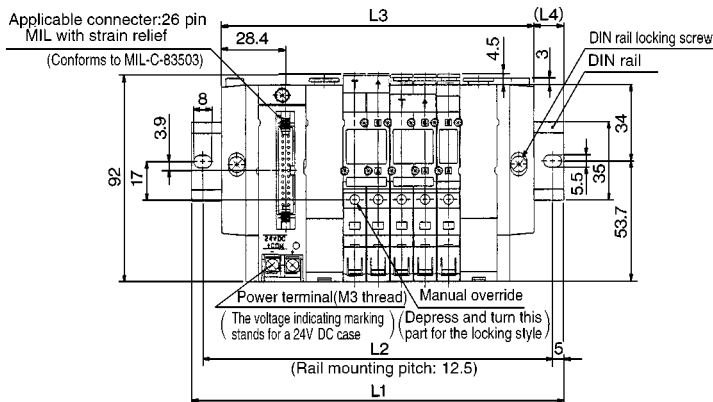
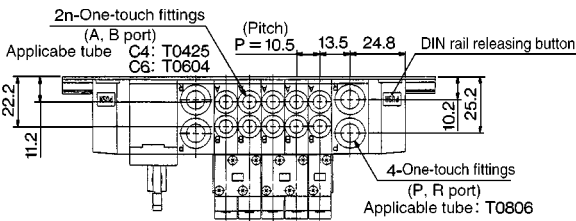


Note) The L1 to L4 dimensions of SS5Y3-45P□U-Station U-C₄C₆ are identical to those of SS5Y3-45P□U-Station D-C₄C₆



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

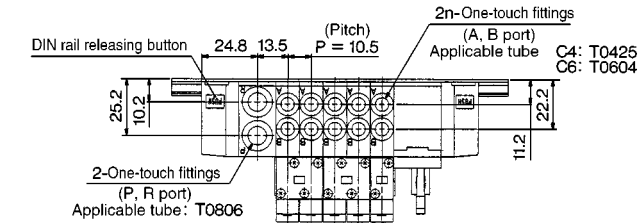
SS5Y3-45PU-Station B-C₄C₆ (26 pin)



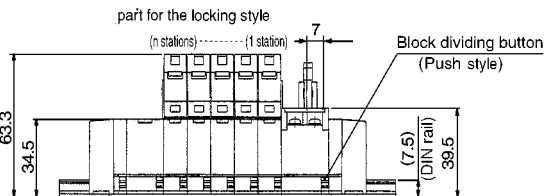
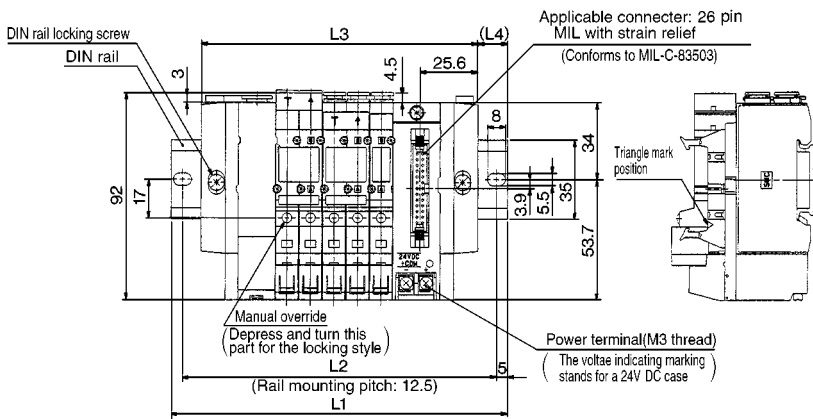
Stations	2	3	4	5	6	7	8	9	10
L1	135.5	148	160.5	173	185.5	185.5	198	210.5	223
L2	125	137.5	150	162.5	175	175	187.5	200	212.5
L3	108	118.5	129	139.5	150	160.5	171	181.5	192
L4	13.5	14.5	15.5	16.5	17.5	12.5	13.5	14.5	15.5

Stations	11	12	13	14	15	16	17	18	19	20
L1	235.5	248	248	260.5	273	285.5	298	310.5	310.5	323
L2	225	237.5	237.5	250	262.5	275	287.5	300	300	312.5
L3	202.5	213	223.5	234	244.5	255	265.5	276	286.5	297
L4	16.5	17.5	12	13	14	15	16	17	12	13

SS5Y3-45PD-Station U-C₆ (26 pin)

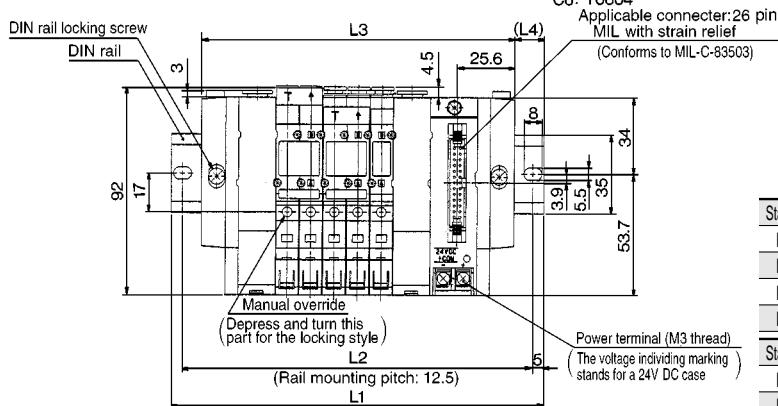
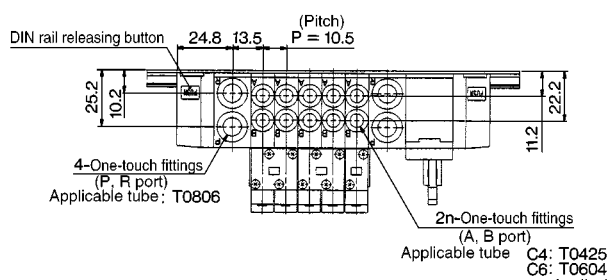


Note) The L1 to L4 dimensions of SS5Y3-45PD-Station D-C₆ are identical to those of SS5Y3-45PD-Station U-C₆



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

SS5Y3-45PD-Station B-C₆ (26 pin)



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	17	18	19	20
L1	235.5	248	248	260.5	273	285.5	298	310.5	310.5	323
L2	225	237.5	237.5	250	262.5	275	287.5	300	300	312.5
L3	202.5	213	223.5	234	244.5	255	265.5	276	286.5	297
L4	16.5	17.5	12	13	14	15	16	17	12	13

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VP4

VQ

VQ4

VQZ

VQD

VZS

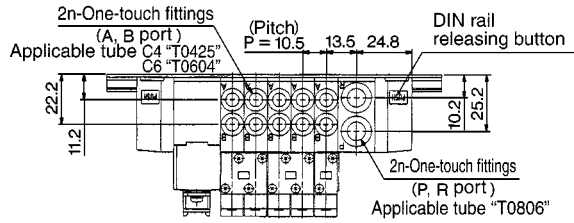
VFS

VS

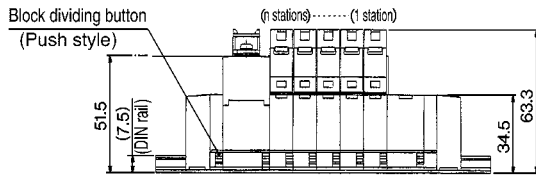
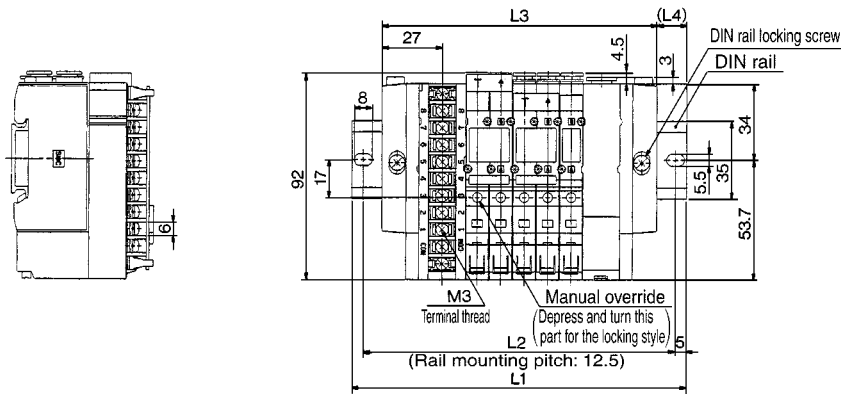
VS7

SY3000: 9 Pole Terminal Block/Plug-in

SS5Y3-45TU- Station D-C₆ (9 pole)

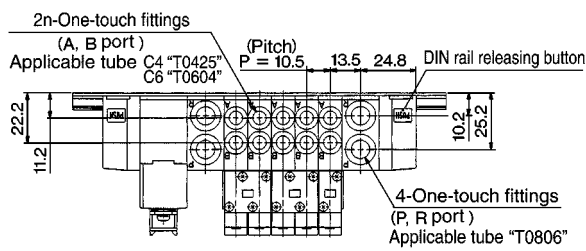


Note) The L1 to L4 dimensions of
SS5Y3-45TU- Station U-C₆
SS5Y3-45TD- Station U-C₆
SS5Y3-45TD- Station D-C₆
 are identical to those of SS5Y3-45TU- Station D-C₆

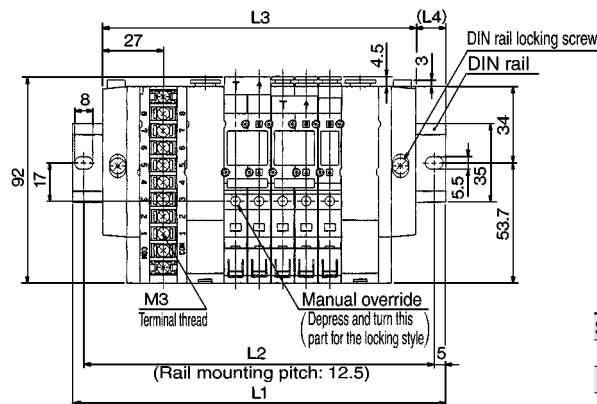


Stations	2	3	4	5	6	7	8
L1	123	135.5	148	148	160.5	173	185.5
L2	112.5	125	137.5	137.5	150	162.5	175
L3	91.5	102	112.5	123	133.5	144	154.5
L4	15.5	16.5	17.5	12.5	13.5	14.5	15.5

SS5Y3-45TU- Station B-C₆ (9 pole)



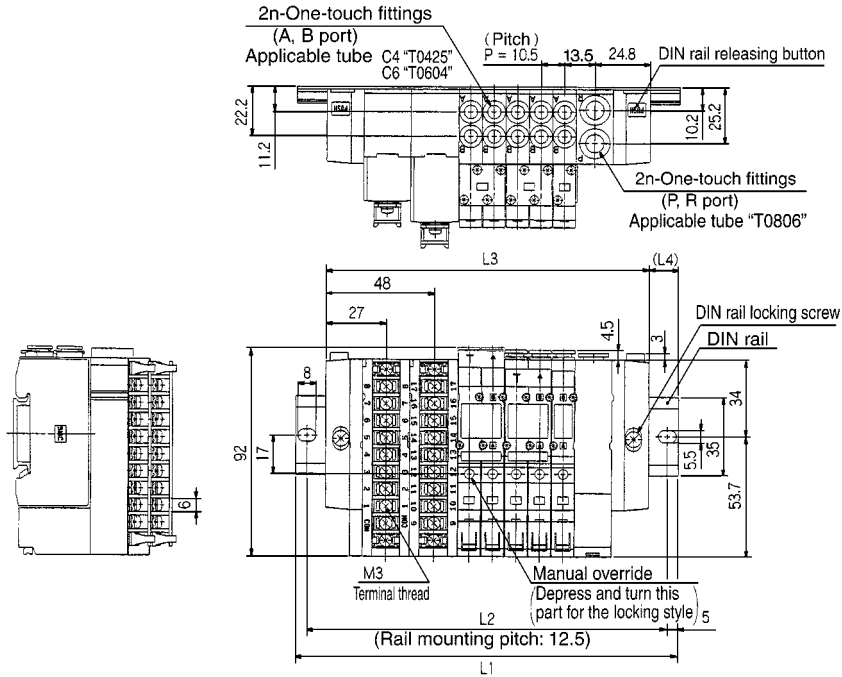
Note) The L1 to L4 dimensions of **SS5Y3-45TD- Station B-C₆**
 are identical to those of SS5Y3-45TU- Station B-C₆



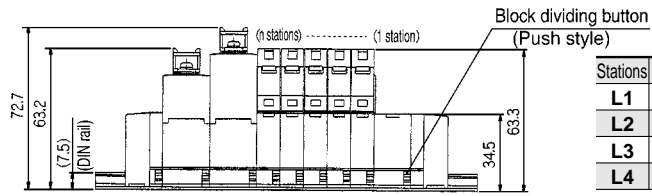
Stations	2	3	4	5	6	7	8
L1	135.5	148	160.5	173	185.5	185.5	198
L2	125	137.5	150	162.5	175	175	187.5
L3	108	118.5	129	139.5	150	160.5	171
L4	13.5	14.5	15.5	16.5	17.5	12.5	13.5

SY3000: 18 Pole Terminal Block/Plug-in

SS5Y3-45T1U- Station D- C₄ C₆ (18 pole)

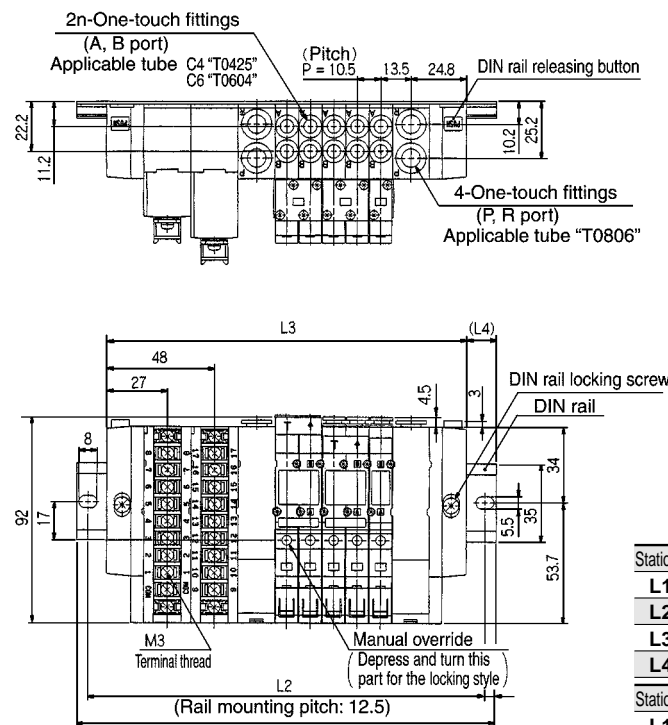


Note) The L1 to L4 dimensions of SS5Y3-45T1U- Station U- are identical to those of SS5Y3-45T1U- Station D-



Stations	2	3	4	5	6	7	8	9	10
L1	148	148	160.5	173	185.5	198	210.5	210.5	223
L2	137.5	137.5	150	162.5	175	187.5	200	200	212.5
L3	112.5	123	133.5	144	154.5	165	175.5	186	196.5
L4	17.5	12.5	13.5	14.5	15.5	16.5	17.5	12	13

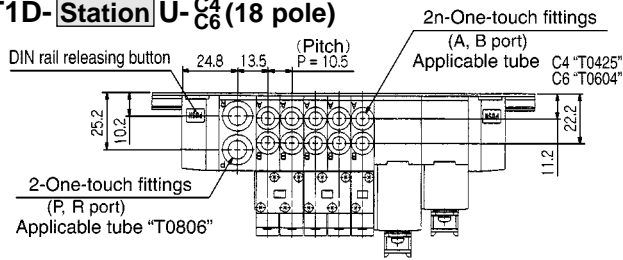
SS5Y3-45T1U- Station B- C₄ C₆ (18 pole)



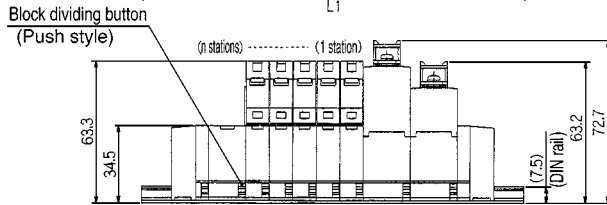
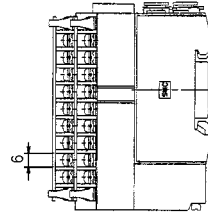
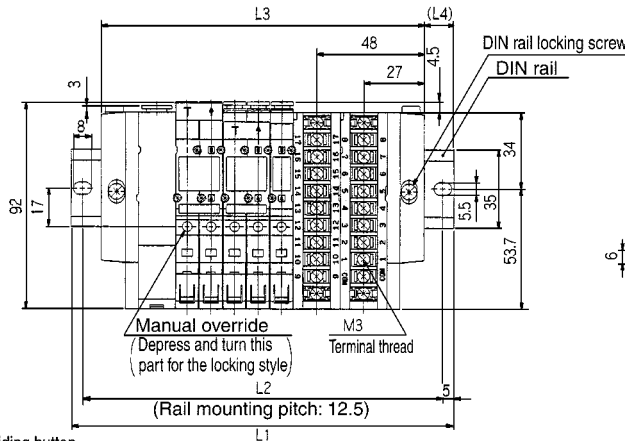
Stations	2	3	4	5	6	7	8	9
L1	160.5	173	185.5	185.5	198	210.5	223	235.5
L2	150	162.5	175	175	187.5	200	212.5	225
L3	129	139.5	150	160.5	171	181.5	192	202.5
L4	15.5	16.5	17.5	12.5	13.5	14.5	15.5	16.5

Stations	10	11	12	13	14	15	16	17
L1	248	248	260.5	273	285.5	298	310.5	310.5
L2	237.5	237.5	250	262.5	275	287.5	300	300
L3	213	223.5	234	244.5	255	265.5	276	286.5
L4	17.5	12	13	14	15	16	17	12

SS5Y3-45T1D-Station U-C₆^{C4} (18 pole)

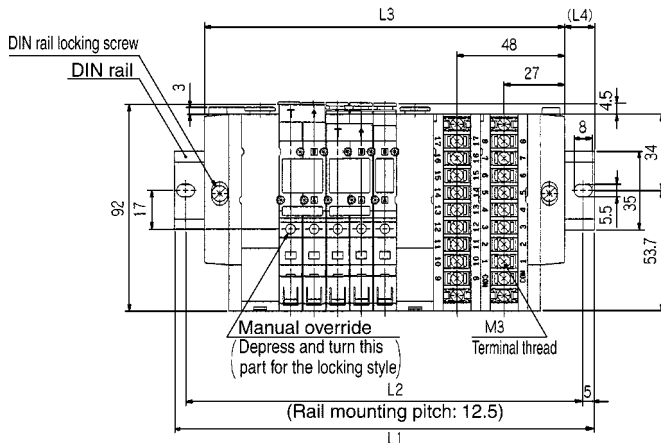
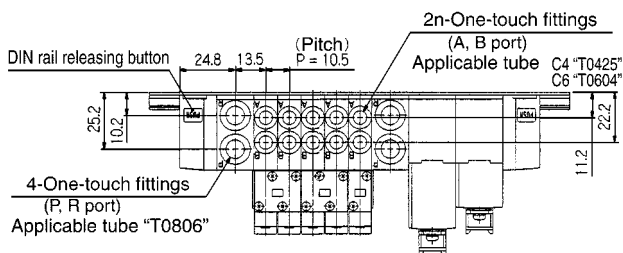


Note) The L1 to L4 dimensions of SS5Y3-45T1D-Station D-C₆^{C4} are identical to those of SS5Y3-45T1D-Station U-C₆^{C4}



Stations	2	3	4	5	6	7	8	9	10
L1	148	148	160.5	173	185.5	198	210.5	210.5	223
L2	137.5	137.5	150	162.5	175	187.5	200	200	212.5
L3	112.5	123	133.5	144	154.5	165	175.5	186	196.5
L4	17.5	12.5	13.5	14.5	15.5	16.5	17.5	12	13

SS5Y3-45T1D-Station B-C₆^{C4} (18 pole)



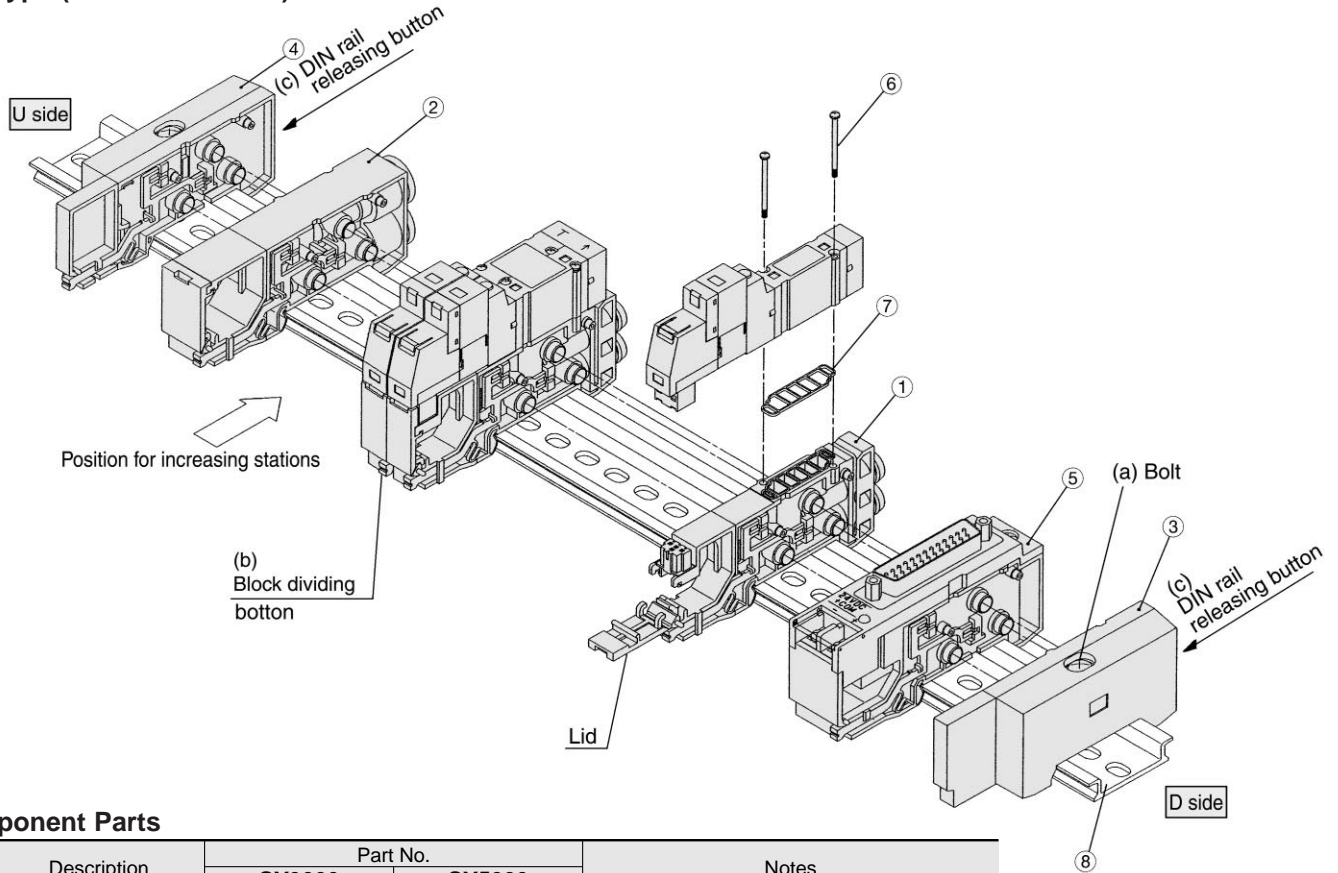
Stations	2	3	4	5	6	7	8	9
L1	160.5	173	185.5	185.5	198	210.5	223	235.5
L2	150	162.5	175	175	187.5	200	212.5	225
L3	129	139.5	150	160.5	171	181.5	192	202.5
L4	15.5	16.5	17.5	12.5	13.5	14.5	15.5	16.5

Stations	10	11	12	13	14	15	16	17
L1	248	248	260.5	273	285.5	298	310.5	310.5
L2	237.5	237.5	250	262.5	275	287.5	300	300
L3	213	223.5	234	244.5	255	265.5	276	286.5
L4	17.5	12	13	14	15	16	17	12

- SY
- SYJ
- SX
- VK
- VZ
- VF
- VFR
- VP7
- VP4
- VQ
- VQ4
- VQZ
- VQD
- VZS
- VFS
- VS
- VS7

Exploded View/DIN Rail Manifold

45F Type (D-sub connector) Manifold



Component Parts

No.	Description	Part No.		Notes	
		SY3000	SY5000		
①	Manifold block ass'y	The manifold block ass'y part number differs according to an attached lead wire ass'y based on the connector spec. Select an appropriate part number from the table of manifold block ass'y part number shown below. (Gasket⑦ is supplied as an accessory.)			
②	SUP/EXH block ass'y	SX3000-51-2A	SX5000-51-2A	SY3000: P, R port with ø8 One-touch fittings SY5000: P, R port with ø10 One-touch fittings	
③	End block ass'y R	SX3000-52-2A	SX5000-52-2A	For D side	
④	End block ass'y L	SX3000-53-2A	SX5000-53-2A	For U side	
⑤-1	Connector block ass'y (for D-sub connector)	SX3000-64- ^{1A} _{1NA}	SX5000-64- ^{1A} _{1NA}	-1A: +COM. -1NA: -COM.	
⑤-2	Connector block ass'y (for 26 pin flat cable)	SX3000-64- ^{2A} _{2NA} -26	SX5000-64- ^{2A} _{2NA} -26	(1) 24 V DC spec.	
⑤-3	Connector block ass'y (for 20 pin flat cable)	SX3000-64- ^{2A} _{2NA} -20	SX5000-64- ^{2A} _{2NA} -20		-2A: +COM. -2NA: -COM.
⑤-4	Connector block ass'y (for 10 pin flat cable)	SX3000-64- ^{2A} _{2NA} -10	SX5000-64- ^{2A} _{2NA} -10		
⑤-5	Connector block ass'y (For 2 to 8-station (T,T1) terminal block)	SX3000-64-3A	SX5000-64-3A	Both for +COM and -COM	
⑤-6	Connector block ass'y (For 9 to 17-station (T1) terminal block)	SX3000-64-8A	SX5000-64-8A		
⑥	Phillips round head screw	SY3000-23-4	M3 X 26 (Non-gloss nickel plated)		
⑦	Gasket	SX3000-57-4	SX5000-57-1		
⑧	DIN rail	VZ1000-11-1-□		Refer to P.1.1-73	

Note1) The numbers ⑤ -1 to 4 are for 24 V DC. For 12 V DC, suffix "-12V" to the parts number. (Ex.) SX3000-64-1A-12V
 Note2) Two manifold block assemblies are necessary for the double, 3 position style (Dual body style).

Manifold Block Assembly Part No.

Style of manifold	Manifold block ass'y part No.	Notes
For 45 (N) F (D-sub connector)	SX ³ 000-50-3A-□□	□□: - SY 3000 C4: With One-touch fittings for ø4 C6: With One-touch fittings for ø6 - SY 5000 C4: With One-touch fittings for ø4 C6: With One-touch fittings for ø6 C8: With One-touch fittings for ø8
For 45 (N) _{PG} ^P (Flat)	SX ³ 000-50-5A-□□	
For 45 T _{T1} (Terminal block)	SX ³ 000-50-7A-□□	

How to Increase Manifold Bases

- 1 Loosen bolt (a) fixing the manifold base until it begins to turn idly. (While pressing DIN rail release button (c), separate the manifold base from the DIN rail.)
- 2 Additional bases are to be added to the U side. Press splitting button (b) of the manifold block assembly on the U side until button (b) locks, and then separate the block assemblies.
- 3 Separate the connector block assembly in the same manner as 2, and remove the connector mounting screw shown in Fig.1.
- 4 Loosen the valve mounting screw on the U side, remove the valve, and take out the receptacle housing. (See Fig.2.)
- 5 Insert the common wire (red) of the manifold block assembly to be added into the pin insertion section (N mark) of the receptacle housing that was taken out in 4, mount it on the manifold block, and mount the removed valve.
- 6 As shown in Fig.3, mount the additional manifold block assembly on the DIN rail on the U side. Refer to the circuit diagram, and insert the lead wire (black) as shown in Fig.4.
- 7 Press blocks against each other until a click sound is produced, put the lead wire in the manifold block, and close the lid without pinching the lead wire.
- 8 Lightly hole blocks so that there will be no gap between them, and them, and tighten bolt (a) to fix them to the DIN rail. ⚠ (Tightening torque: 1.4 Nm)

- ⚠ Cautions**
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 ass'y mounting position for addition of 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.

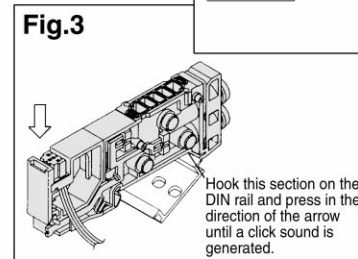
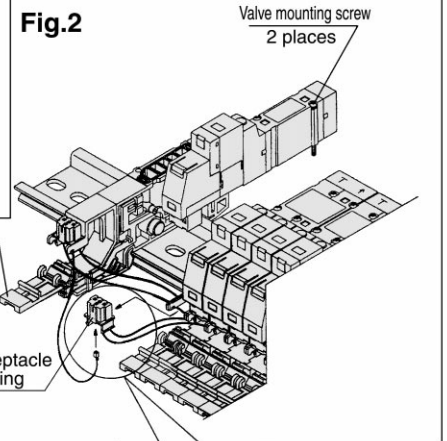
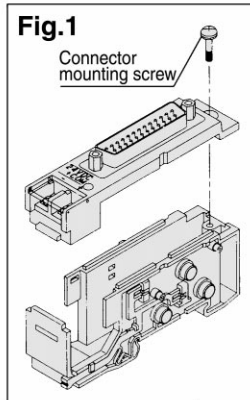
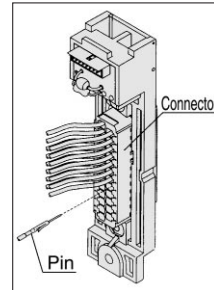
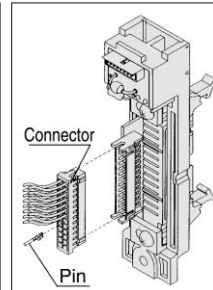


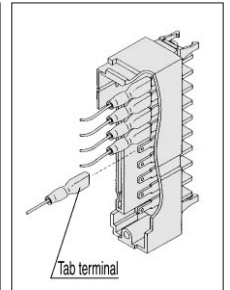
Fig.4
D-sub connector (45F) Flat cable (45P□) Terminal Block (45T₁)



Note) After inserting pins, lightly pull lead wires to check that pins are locked.



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



Note) Insert tab terminals completely.

- SY
- SYJ
- SX
- VK
- VZ
- VF
- VFR
- VP7
- VP4
- VQ
- VQ4
- VQZ
- VQD
- VZS
- VFS
- VS
- VS7

How to change fitting assembly

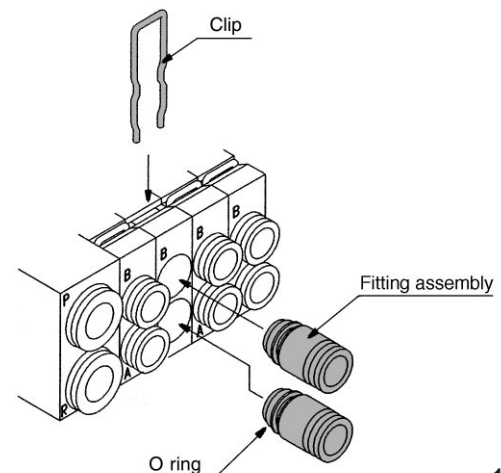
Cut off the air supply to confirm that no air is left in the manifold before starting operation. Remaining air or inappropriate installation may cause an accident.

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 come out of the manifold block.

Fitting assembly part number

Port size	SY3000	SY5000
One-touch fittings for ø4	VVQ1000-50A-C4	VVQ1000-51A-C4
One-touch fittings for ø6	VVQ1000-50A-C6	VVQ1000-51A-C6
One-touch fittings for ø8	—	VVQ1000-51A-C8

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



SY3000/5000 Base Mounted Stacking Manifold/DIN Rail Mounted Serial Transmission Unit (Integrated)

How to Order Manifold

SS5Y **3** - 45S **A** - 05 **U** - C6

Manifold Series

3	SY3000
5	SY5000

Applicable models

Symbol	Specifications
O	Without SI unit
A	With general style, Series EX300
B	MELSECNET/mini-S3 Data Link System (Mitsubishi Electric)
C	SYSBUS Wire System (OMRON)
D	Satellite I/O Link System (Sharp)
E	MEWNET-F System (Matsushita Electric Works Ltd.)
F1	16 point Uni-wire System (NKE)
G	Remote I/O (RIO) System (Allen-Bradley Co.)
J1	16 point S-LINK System (Sunx)
J2	8 point S-LINK System (Sunx)
K	T-LINK Mini System (Fuji Electric)
Q	Device Net and Compo Bus/D (OMRON)
R1	16 point Compo Bus/S (OMRON)
R2	8 point Compo Bus/S (OMRON)

- Transmission unit at CPU side required.
- DIN rail length includes SI unit mounting length. When shorter rail is required (Same as 45□), enter "0" in the optional bank.

Stations

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

- The number of blank plate ass'ys is included.
- Two stations are necessary for the double, 3-position style (Dual body style).

SUP/EXH block ass'y mounting position

Symbol	Mounting position	Stations
U	U side	2 to 10 stations
D	D side	2 to 10 stations
B	Both side	2 to 16 stations
M	Special spec.	

*Order with "Valve Manifold Ass'y Specification Form".

A/B port size

SY3000

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

SY5000

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

*Order with "Valve Manifold Ass'y Specification Form."

Option

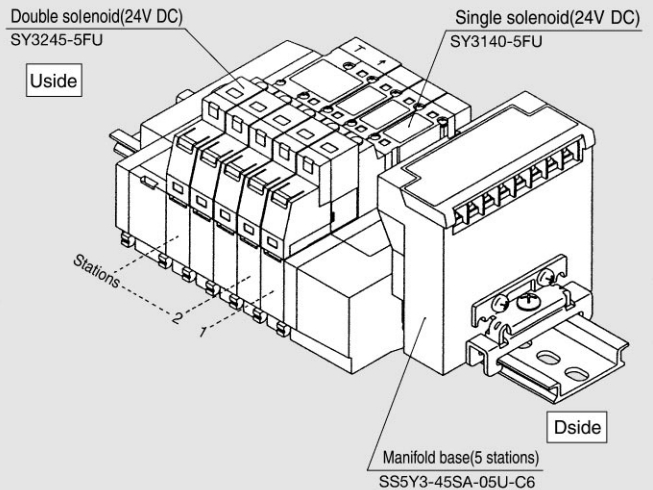
When a DIN rail longer than std. is required, enter the number of manifold stations that corresponds with the length of DIN rail needed. (20 stations max.)

SI Unit Part No.

Symbol	Specifications	For SS5Y□-45S	Symbol	Specifications	For SS5Y□-45S
A	With general style, Series EX300	EX322-S001	J1	16 point S-LINK System (Sunx)	EX122-SSL1
B	MELSECNET/mini-S3 Data Link System (Mitsubishi Electric)	EX122-SMB1	J2	8 point S-LINK System (Sunx)	EX122-SSL2
C	SYSBUS Wire System (OMRON)	EX122-STA1	K	T-LINK Mini System (Fuji Electric)	EX122-SFU1
D	Satellite I/O Link System (Sharp)	EX122-SSH1	Q	Device Net and Compo Bus/D (OMRON)	EX122-SDN1
E	MEWNET-F System (Matsushita Electric Works Ltd.)	EX122-SPA1	R1	16 point Compo Bus/S (OMRON)	EX122-SCS1
F1	16 point Uni-wire System (NKE)	EX122-SUW1	R2	8 point Compo Bus/S (OMRON)	EX122-SCS2
G	Remote I/O (RIO) System (Allen-Bradley Co.)	EX122-SAB1			

How to Order Valve Manifold Ass'y (Example)

Ordering example



SS5Y3-45SA-05U-C6.....1 set (45S1 with serial unit 5 station manifold base part No.)
 *SY3140-5FU3 sets (Single solenoid part No.)
 *SY3245-5FU1 set (Double solenoid part No.)

To order valves and options mounted onto the manifold at the factory, list the valves/options with an asterisk in front of each part number.

- They will be assembled in the order listed starting at the first station at the D side whether the connector box is located at either end.
- When ordering double solenoid valves/3 position (dual body style), please keep in mind that they require two manifold stations.
- Serial unit can be mounted on D side only.

How to Order Valve

Single, 2 position SY **3** 1 4 0 - 5 FU □

Double, 3 position SY **3** **2** 4 5 - 5 FU □

Series

3	SY3000
5	SY5000

Configuration

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

Dual body style (double, 3 position)

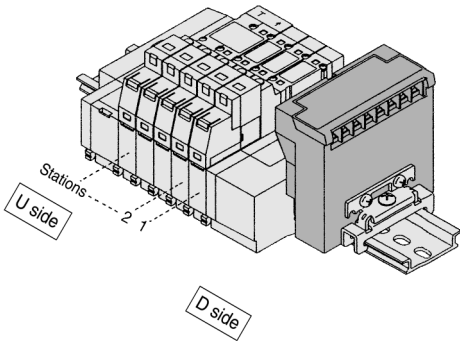
Voltage

5	24V DC
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Manual override

—	Non-locking push style
D	Push-turn locking slotted style
E	Push-turn locking lever style

- The serial transmission system minimizes wire mass and wire connection labor and promotes space-savings.
- 16 stations max. (Specify a model with more than 9 stations by using Valve Manifold Specification Form.)



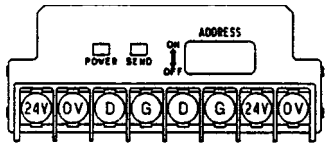
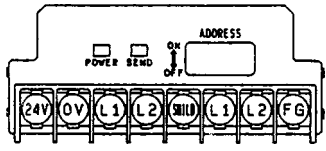
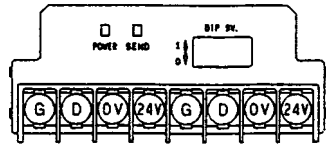
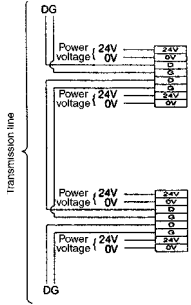
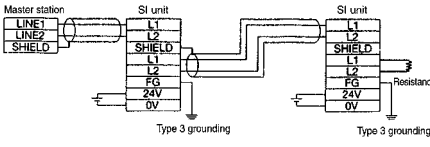
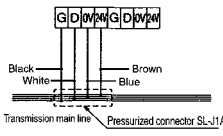
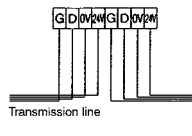
- Stations are sequentially numbered from the D side.
- The number of solenoids is 16 Maximum. (16 stations for single solenoid.)

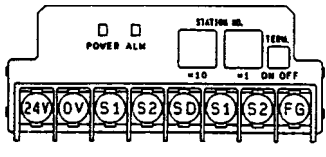
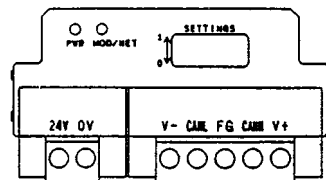
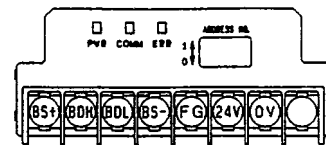
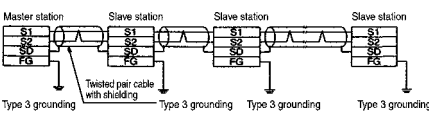
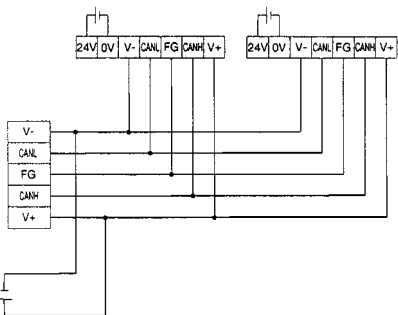
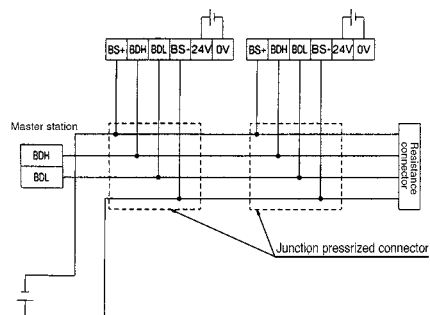
Item	Specifications
External pilot supply	24V DC±10%
Current consumption (Internal unit)	0.1A SA, SB, SD, SE, SF1, SG, SJ1, SJ2, SK, SR1, SR2
	0.3A SC, SQ

	SA for EX300 series	SB applicable to Mitsubishi MELSECNET/mini-S3																		
Name of terminal block (LED)	<table border="1" style="margin: 5px auto;"> <thead> <tr> <th>LED</th> <th>Details</th> </tr> </thead> <tbody> <tr> <td>TRD</td> <td>Lighting during data reception</td> </tr> <tr> <td>RUN/ERR</td> <td>Blinking when received data is normal lighting when data is abnormal.</td> </tr> </tbody> </table>	LED	Details	TRD	Lighting during data reception	RUN/ERR	Blinking when received data is normal lighting when data is abnormal.	<table border="1" style="margin: 5px auto;"> <thead> <tr> <th>LED</th> <th>Details</th> </tr> </thead> <tbody> <tr> <td>POWER</td> <td>Lighting when power is turned ON.</td> </tr> <tr> <td>RUN</td> <td>Lighting when data is normal</td> </tr> <tr> <td>RD</td> <td>Lighting during data reception</td> </tr> <tr> <td>SD</td> <td>Lighting during data reception</td> </tr> <tr> <td>ERR.</td> <td>Blinking when received data is abnormal.</td> </tr> </tbody> </table>	LED	Details	POWER	Lighting when power is turned ON.	RUN	Lighting when data is normal	RD	Lighting during data reception	SD	Lighting during data reception	ERR.	Blinking when received data is abnormal.
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Note	<ul style="list-style-type: none"> • Applicable Transmission unit PLC manufacturer EX300-TMB1 for Mitsubishi EX300-TTA1 for OMRON EX300-TFU1 for Fuji Electric EX300-T001 for general purpose *Up to 32 points per Transmission unit • 16 output points 	<ul style="list-style-type: none"> • Master station unit: AJ71PT32-S3 AJ71T32-S3 A1JSJ71PT32-S3 • 16 output points. 2 occupied stations. 																		
Twisted pair cable wiring	<p style="text-align: center;">*The shielding of the shield wire should be grounded on the reception or transmission side.</p>	<p style="text-align: center;">*The shielding of the shield wire should be grounded on the reception or transmission side.</p>																		

	SC for OMRON SYSBUS	SD for SHARP Satellite I/O link system	SE for Matsushita MEWNET-F																												
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Note	<ul style="list-style-type: none"> • Master station unit: C500-RM201 C200H-RM201 • 16 output points 	<ul style="list-style-type: none"> • Master station unit: ZW-31LM JW-31LM JW-23LM • 16 output points 	<ul style="list-style-type: none"> • Master station unit: AFP3740 AFP5740 • 16 output points. 																												
Twisted pair cable wiring	<p style="text-align: center;">Type 3 grounding</p>	<p>a) 2 cable wiring Signal grounding cable (SG) is excluded.</p> <p>b) 3 cable wiring Signal grounding cable (SG) is excluded.</p> <p style="text-align: center;">Type 3 grounding</p>	<p style="text-align: center;">Type 3 grounding</p>																												

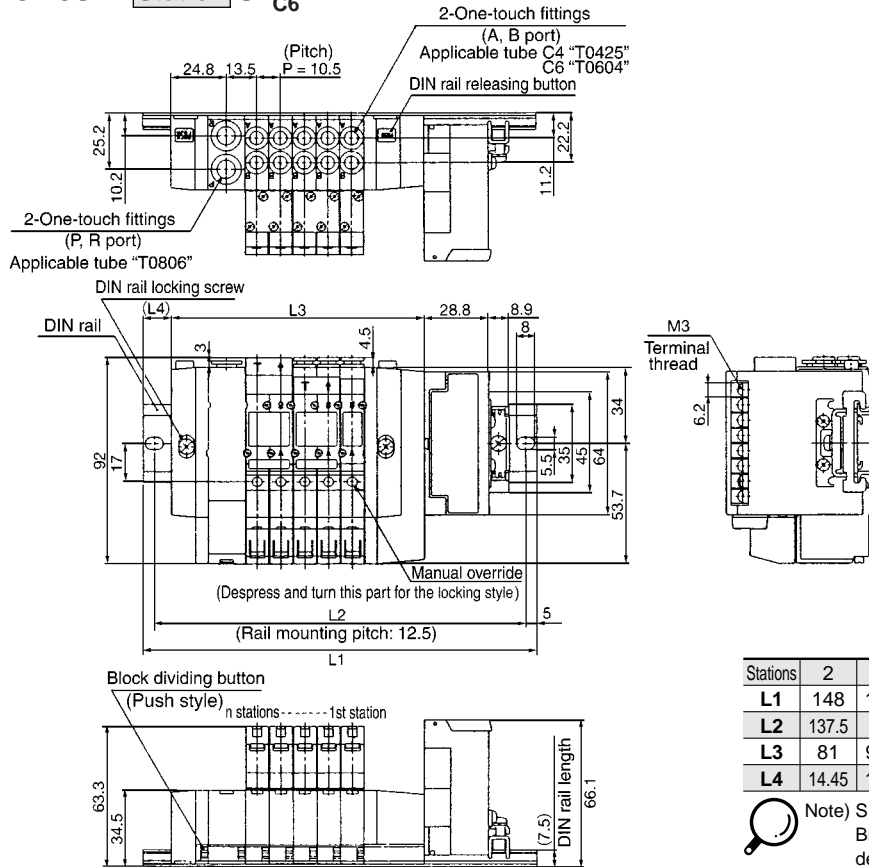
- SY
- SYJ
- SX
- VK
- VZ
- VF
- VFR
- VP7
- VP4
- VQ
- VQ4
- VQZ
- VQD
- VZS
- VFS
- VS
- VS7

	SF1 for NKE Wire-saving system	SG for Allen-Bradley Co. Remote I/O system	SJ1, SJ2 for Sunks S-LINK system																				
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Note	<ul style="list-style-type: none"> • SEND unit: SD-120 • 16 output points. 	<ul style="list-style-type: none"> • I/O(RIO) system • 16 output points 	<ul style="list-style-type: none"> • S-LINK Controller: SL-CU1 • 16 output points for SJ1 • 8 output points for SJ2 																				
Twisted pair cable wiring			<p>a) T-shape multi-drop wiring (S-LINK system)</p>  <p>b) Sensor link system</p>  <p>Examples shown above is with the use of flat cable SL-RCM*00 for S-LINK.</p>																				

	SK for Fuji Electric T-link mini-system	SQ for Device Net	SR1, SR2 for OMRON Compo Bus/S																				
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Note	<ul style="list-style-type: none"> • Master station unit: FTM100B • Converter: FRC100A-G02 • Repeater: FRC200A-C10 • 16 output points. 	<ul style="list-style-type: none"> • Device Net • Omron Compo Bus/D system • Master station unit: C200HW-DSM21 • 16 output points 	<ul style="list-style-type: none"> • Master station unit: C200HW-SRM21 • Master station unit: CQM1-SRM21 • 16 output points for SR1 • 8 output points for SR2 																				
Twisted pair cable wiring	 <p>Connect the shield wire with SD terminal, or transmission may become incorrect even when transmission length is short. Do not ground the shield wire (SD)</p>																						

SY3000: Serial Transmission Unit/Plug-in

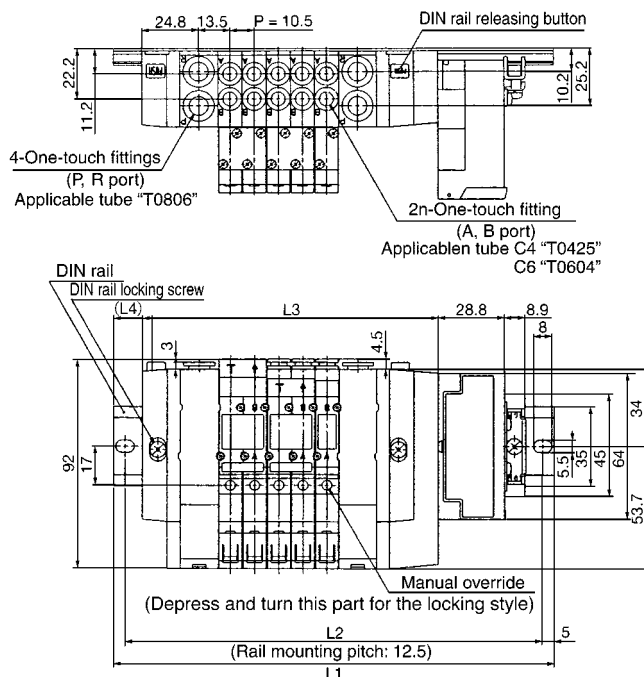
SS5Y3-45S □ - Station U- C4 C6



Stations	2	3	4	5	6	7	8	9	10
L1	148	160.5	173	185.5	185.5	198	210.5	223	235.5
L2	137.5	150	162.5	175	175	187.5	200	212.5	225
L3	81	91.5	102	112.5	123	133.5	144	154.5	165
L4	14.45	15.45	16.45	17.45	12.2	13.2	14.2	15.2	16.2

Note) SI unit for Matsushita Electric Works, Ltd. (E) or Allen-Bradley Co (G) is 24.3mm longer. Contact SMC for details.

SS5Y3-45S □ - Station B- C4 C6



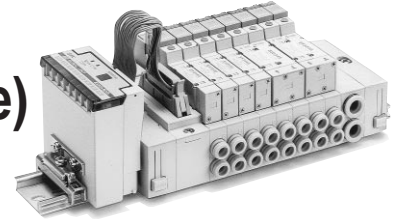
Stations	2	3	4	5	6	7	8	9	10
L1	160.5	173	185.5	198	210.5	223	223	235.5	248
L2	150	162.5	175	187.5	200	212.5	212.5	225	237.5
L3	97.5	108	118.5	129	139.5	150	160.5	171	181.5
L4	12.45	13.45	14.45	15.45	16.45	17.45	12.2	13.2	14.2

Stations	11	12	13	14	15	16
L1	260.5	273	285.5	285.5	298	310.5
L2	250	262.5	275	275	287.5	300
L3	192	202.5	213	223.5	234	244.5
L4	15.2	16.2	17.2	11.95	12.95	13.95

Note) SI unit applicable to PANASONIC (E) or Allen-Bradley Co. (G) is 24.3mm longer. Contact SMC for details.

- SY
- SYJ
- SX
- VK
- VZ
- VF
- VFR
- VP7
- VP4
- VQ
- VQ4
- VQZ
- VQD
- VZS
- VFS
- VS
- VS7

SY3000/5000 Base Mounted Stacking Manifold/DIN Rail Mounted Serial Transmission Unit (Separate)



How to Order Manifold

SS5Y **3** - 45S1 **A D** - **05** **U** - **C4** □

- Manifold Series**
- 3 SY3000
 - 5 SY5000
- Applicable models**

Symbol	Specifications
O	Without SI unit
A	With general style, Series EX300
B	MELSECNET/MINI-S3 Data Link System (Mitsubishi Electric)
C	SYSBUS Wire System (OMRON)
D	Satellite I/O Link System (Sharp)
E	MEWNET-F System (Matsushita Electric Works Ltd.)
F1	16 point Uni-wire System (NKE)
G	Remote I/O (RIO) System (Allen-Bradley Co.)
J1	16 point S-LINK System (Sunx)
J2	8 point S-LINK System (Sunx)
K	T-LINK Mini System (Fuji Electric)
Q	Device Net and Compo Bus/D (OMRON)
R1	16 point Compo Bus/S (OMRON)
R2	8 point Compo Bus/S (OMRON)

- Transmission unit at CPU side required.
- DIN rail length includes SI unit mounting length. When shorter rail is required (Same as 45□), enter "0" in the optional blank.
- Refer to p.1.1-109 and 1.1-110 for SI unit specifications.

SI unit mounting position

Symbol	Mounting position
U	U side
D	D side

Stations ● **SUP/EXH block ass'y mounting position**

Symbol	Stations	Note	Symbol	Mounting position	Stations
02	2 stations	Single wiring spec. (Applicable up to 16 solenoid valves.)	U	U side	2 to 10 stations
⋮	⋮		D	D side	2 to 10 stations
16	16 stations		B	Both sides	2 to 16 stations
			M	Special spec.	

- The number of blank plate ass'y is included.
 - Two stations are necessary for the double. 3 position style (Dual body style)
- * Order with "Valve Manifold Ass'y Specification From."

A, B port size

SY3000		SY5000	
Symbol	Port size	Symbol	Port size
C4	One-touch fittings for φ4	C4	One-touch fittings for φ4
C6	One-touch fittings for φ6	C6	One-touch fittings for φ6
M	Mixed	C8	One-touch fittings for φ8
		M	Mixed

* Order with "Valve Manifold Ass'y Specification From."

Option

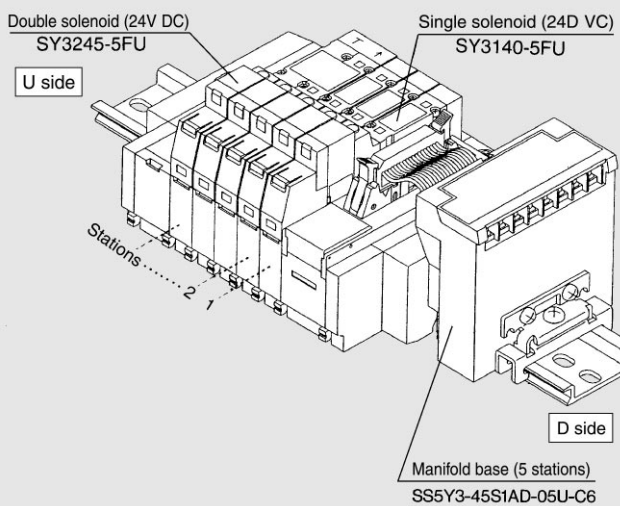
When a DIN rail longer than std is required, enter the number of manifold stations that corresponds with the length of DIN rail needed. (20 stations max.)

SI Unit Part No.

Symbol	Specifications	For SS5Y□-45S1	Symbol	Specifications	For SS5Y□-45S1
A	With general style, Series EX300	EX321-S001	J1	16 point S-LINK System (Sunx)	EX121-SSL1
B	MELSECNET/MINI-S3 Data Link System (Mitsubishi Electric)	EX121-SMB1	J2	8 point S-LINK System (Sunx)	EX121-SSL2
C	SYSBUS Wire System (OMRON)	EX121-STA1	K	T-LINK Mini System (Fuji Electric)	EX121-SFU1
D	Satellite I/O Link System (Sharp)	EX121-SSH1	Q	Device Net and Compo Bus/D (OMRON)	EX121-SDN1
E	MEWNET-F System (Matsushita Electric Works Ltd.)	EX121-SPA1	R1	16 point Compo Bus/S (OMRON)	EX121-SCS1
F1	16 point Uni-wire System (NKE)	EX121-SUW1	R2	8 point Compo Bus/S (OMRON)	EX121-SCS2
G	Remote I/O (RIO) System (Allen-Bradley Co.)	EX121-SAB1			

How to Order Valve Manifold Ass'y (Example)

Ordering example



SS5Y3-45S1AD-05U-C6.....1 set (45S1 with serial unit 5 station manifold base No.)
 *SY3140-5FU.....3 sets (Single solenoid part No.)
 *SY3245-5FU.....1 set (Double solenoid part No.)

*To order valves and options mounted onto the manifold at the factory, list the valves/options with an asterisk in front of each part number.

- They will be assembled in the order listed starting at the first station at the D side whether the connector box is located at either end.
- When ordering double solenoid valves/3 position (dual body), please keep in mind that they require two manifold stations.

How to Order Valve

Single, 2 position SY **3** 1 4 0 - 5 FU □

Double, 3 position SY **3** **2** 4 5 - 5 FU □

Series

3	SY3000
5	SY5000

Configuration

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

Double body style (double, 3 position)

Voltage

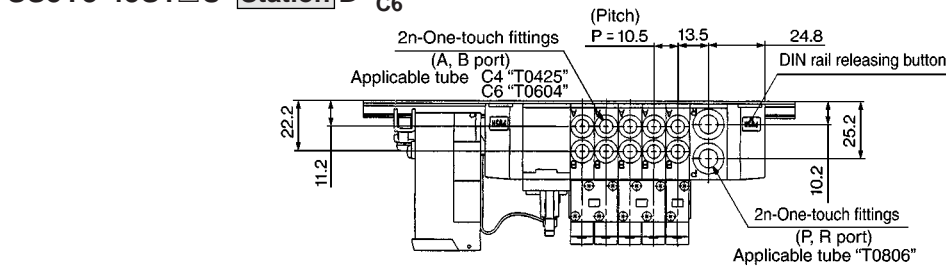
5	24V DC
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Manual override

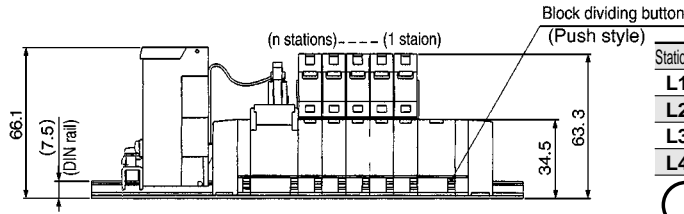
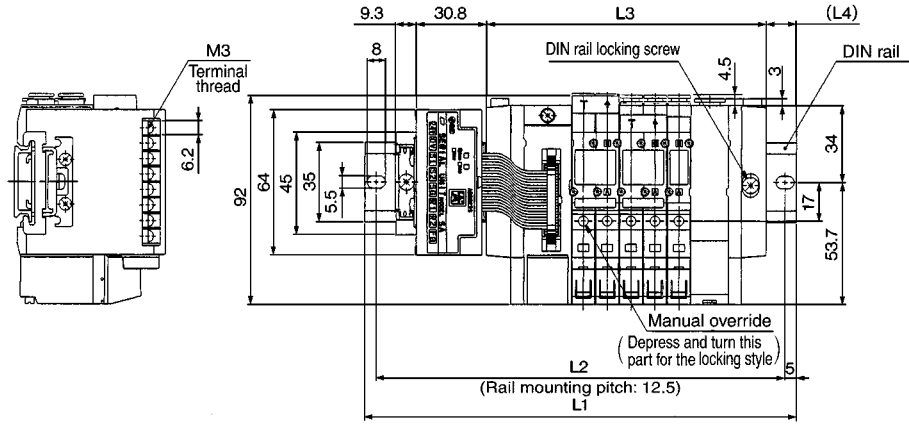
—	Non-locking push style
D	Push-turn locking slotted style
E	Push-turn locking lever style

SY3000: Serial Transmission Unit/Plug-in

SS5Y3-45S1 □ U-Station D- C4 C6



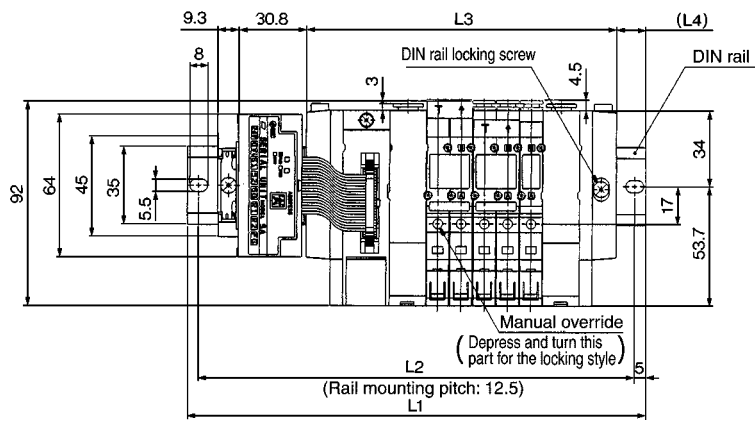
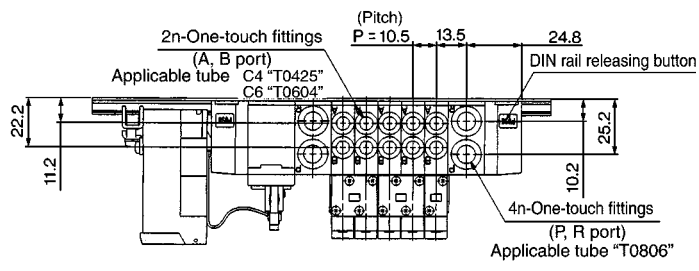
Note) The L1 to L4 dimensions of SS5Y3-45S1 □ U-Station D- C4 C6 are identical to those of SS5Y3-45S1 □ U-Station D- C4 C6.



Stations	2	3	4	5	6	7	8	9	10
L1	160.5	173	185.5	198	198	210.5	223	235.5	248
L2	150	162.5	175	187.5	187.5	200	212.5	225	237.5
L3	91.5	102	112.5	123	133.5	144	154.5	165	175.5
L4	14	15	16	17	12	13	14	15	16

Note) SI unit applicable to Matsushita Electric Works, Ltd. (E) or Allen-Bradley Co. (G) is 24.3 mm longer. Contact SMC for details.

SS5Y3-45S1 □ U-Station B- C4 C6

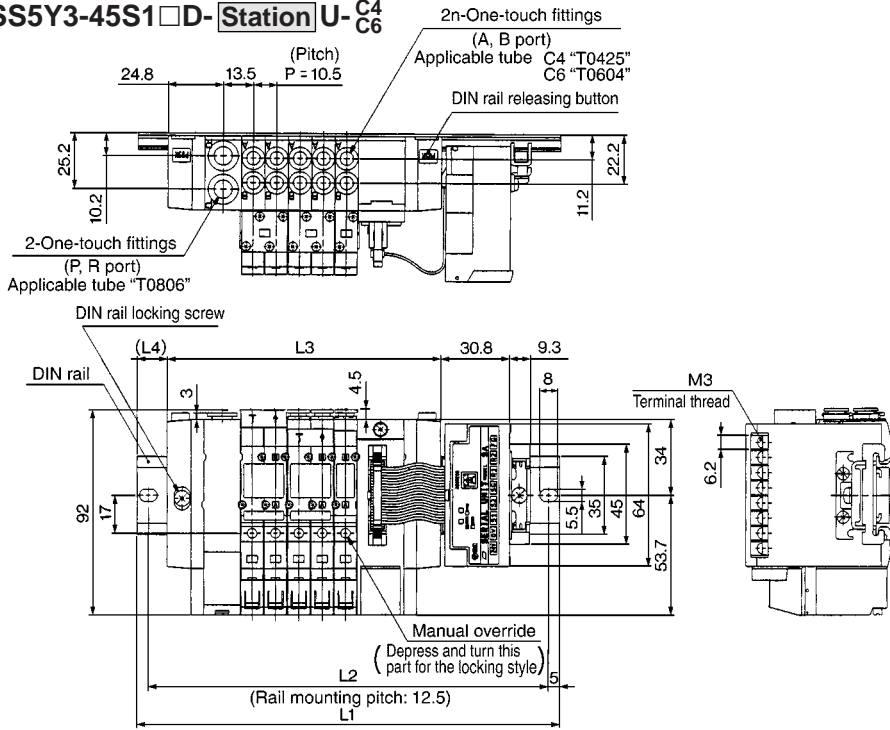


Stations	2	3	4	5	6	7	8	9	10
L1	173	185.5	198	210.5	223	235.5	235.5	248	260.5
L2	162.5	175	187.5	200	212.5	225	225	237.5	250
L3	108	118.5	129	139.5	150	160.5	171	181.5	192
L4	12	13	14	15	16	17	12	13	14

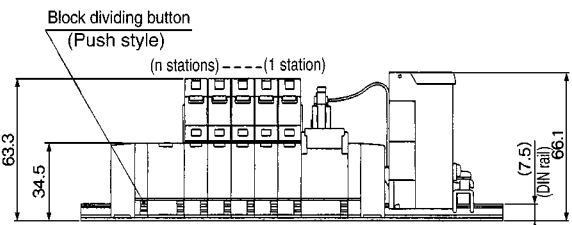
Stations	11	12	13	14	15	16
L1	273	285.5	298	298	310.5	323
L2	262.5	275	287.5	287.5	300	312.5
L3	202.5	213	223.5	234	244.5	255
L4	15	16	17	11.5	12.5	13.5

Note) SI unit applicable to Matsushita Electric Works, Ltd. (E) or Allen-Bradley Co. (G) is 24.3 mm longer. Contact SMC for details.

SS5Y3-45S1 □D-Station U- C4 C6



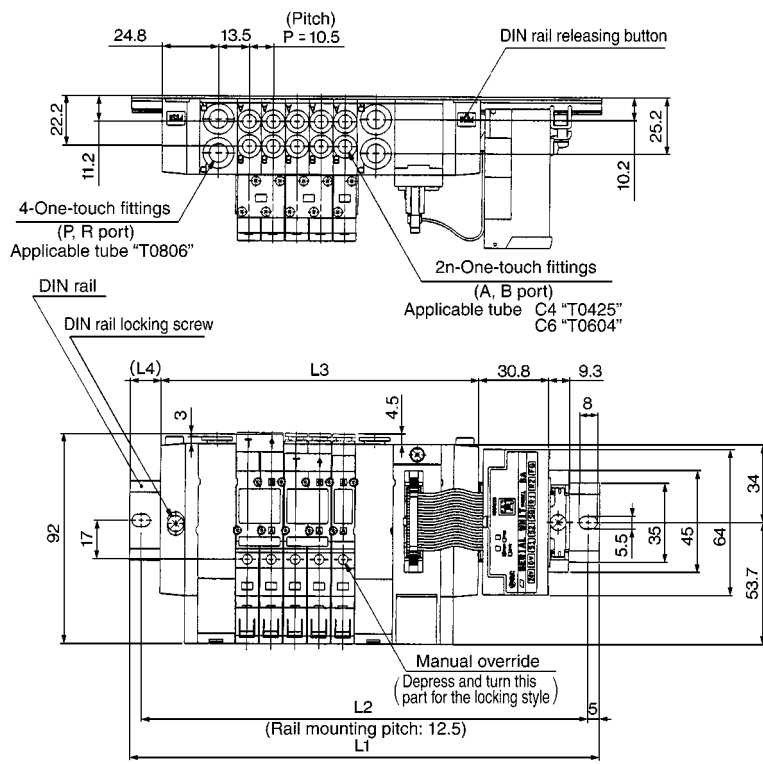
Note) The L1 to L4 dimensions of SS5Y3-45S1 □D-Station U- C4 C6 are identical to those of SS5Y3-45S1 □D-Station U- C4 C6



Stations	2	3	4	5	6	7	8	9	10
L1	160.5	173	185.5	198	198	210.5	223	235.5	248
L2	150	162.5	175	187.5	187.5	200	212.5	225	237.5
L3	91.5	102	112.5	123	133.5	144	154.5	165	175.5
L4	14	15	16	17	12	13	14	15	16

Note) SI unit applicable to Matsushita Electric Works, Ltd. (E) or Allen-Bradley Co. (G) is 24.3 mm longer. Contact SMC for details.

SS5Y3-45S1 □D-Station B- C4 C6



Stations	2	3	4	5	6	7	8	9	10
L1	173	185.5	198	210.5	223	235.5	235.5	248	260.5
L2	162.5	175	187.5	200	212.5	225	225	237.5	250
L3	108	118.5	129	139.5	150	160.5	171	181.5	192
L4	12	13	14	15	16	17	12	13	14

Stations	11	12	13	14	15	16
L1	273	285.5	298	298	310.5	323
L2	262.5	275	287.5	287.5	300	312.5
L3	202.5	213	223.5	234	244.5	255
L4	15	16	17	11.5	12.5	13.5

Note) SI unit applicable to Matsushita Electric Works, Ltd. (E) or Allen-Bradley Co. (G) is 24.3 mm longer. Contact SMC for details.

- SY
- SYJ
- SX
- VK
- VZ
- VF
- VFR
- VP7
- VP4
- VQ
- VQ4
- VQZ
- VQD
- VZS
- VFS
- VS
- VS7

SY300/SY500 3 Port Valve Mixed Mounting Style on 5 Port Valve Manifold

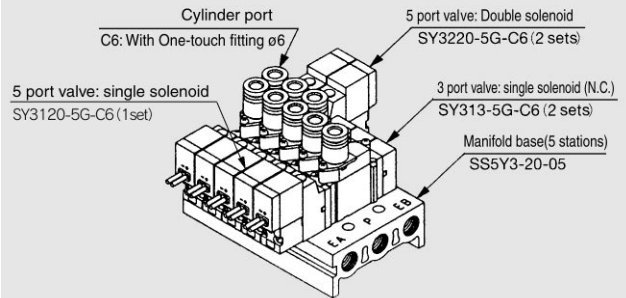
3 port valve can be mounted on manifold for 5 port valve.

Applications

Possible to be mounted on all styles of manifolds for series SY3000/5000.
Refer to "How to Order Manifold" for the details.

How to Order Valve Manifold Ass'y (Example)

Ordering example



SS5Y3-20-05.....1 set (20 type 5 station manifold base part No.)
 *SY313-5G-C6.....2 sets (3 port valve N.C. type part No.)
 *SY3120-5G-C6.....1 set (5 port valve single solenoid part No.)
 *SY3220-5G-C6.....2 sets (5 port valve double solenoid part No.)

To order valves and options mounted onto the manifold at the factory, list the valves/options with an asterisk in front of each part number.

Add the valve and option Nos. under the manifold base No. When arrangement is complicated, specify it in the manifold specifications.

Body Ported/How to Order Valve

Individual wiring: For SS5Y₅³-20

SY 5 1 3 [] 5 L Z [] 01

Series

3	SY300
5	SY500

Configuration

1	Normally closed (N.C.)
2	Normally open (N.O.)

Solenoid style

—	Single
D	Double

Voltage

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

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

A port size

Symbol	Port size	Applicable series
M5	M5 X 0.8	SY300
C4	One-touch fittings for ø4	
C6	One-touch fittings for ø6	SY500
01	Rc(PT) 1/8	
C4	One-touch fittings for ø4	
C6	One-touch fittings for ø6	
C8	One-touch fittings for ø8	

Manual override

—	Non-locking push style
D	Push-turn locking slotted style
E	Push-turn locking lever style

Indicator light and surge voltage suppressor

Electrical entry for G, H, L, M

—	W/o indicator light and surge suppressor
S	W/ surge voltage suppressor
Z	W/ indicator light and surge suppressor
R	W/ surge suppressor (Non-polar)
U	W/ indicator light and surge suppressor (Non-polar)

* For AC, there is no "S" specification since it is integrated with converter.
 * "R" and "U": DC only.

Electrical entry for D (SY500 only)

—	W/o indicator light and surge suppressor
S	W/ surge suppressor (Non-polar)
Z	W/ indicator light and surge suppressor (Non-polar)

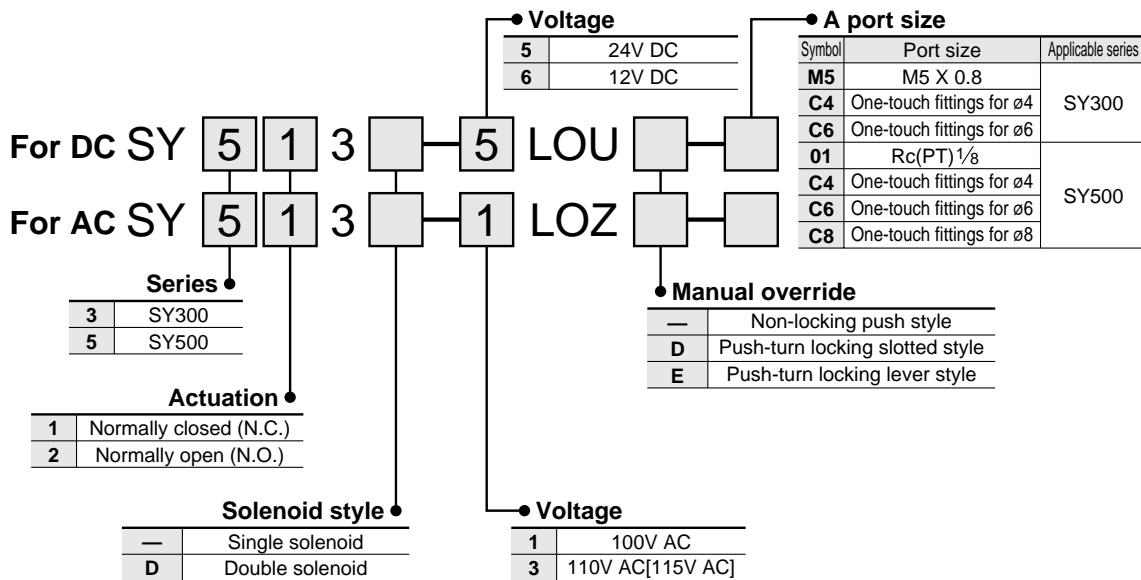
* "DOZ" is unavailable.
 * For AC, there is no "S" specification with converter.

Electrical entry

24V, 12V, 6V, 5V, 3V DC/100V, 110V, 200V, 220V AC			24V, 12V DC 100V, 110V AC, 200V, 220V AC
Grommet	L plug connector	M plug connector	DIN connector
G: 300mm lead wire H: 600mm lead wire	L: 300mm lead wire LN: Without lead wire LO: Without connector	M: 300mm lead wire MN: Without lead wire MO: Without connector	(SY500 only) D: With connector DO: Without connector

Body Ported/How to Order Valve

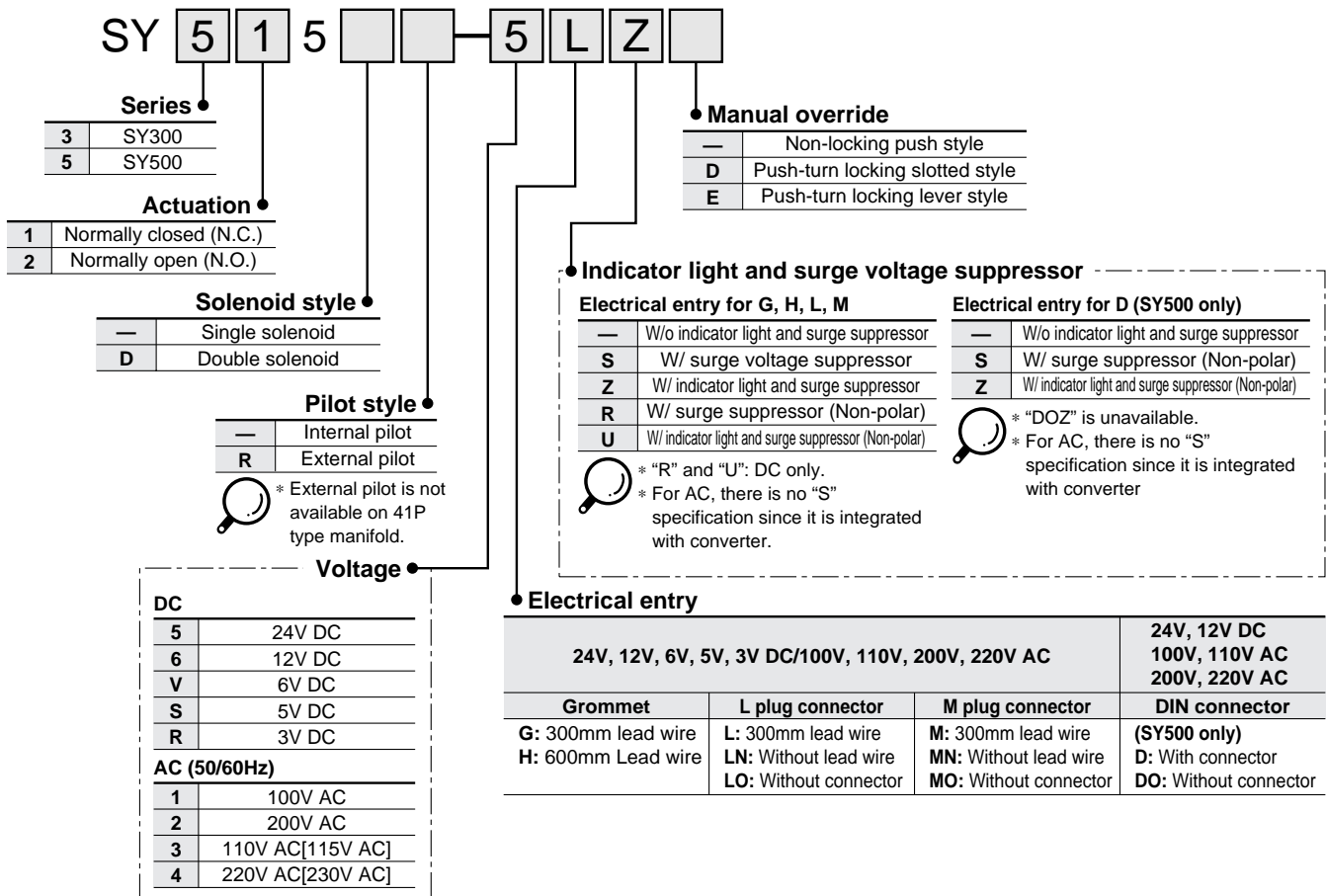
Flat cable: For SS5Y₅³-20P



- SY
- SYJ
- SX
- VK
- VZ
- VF
- VFR
- VP7
- VP4

Base Mounted/How to Order Valve

Individual wiring: For SS5Y₅³-41/42/45

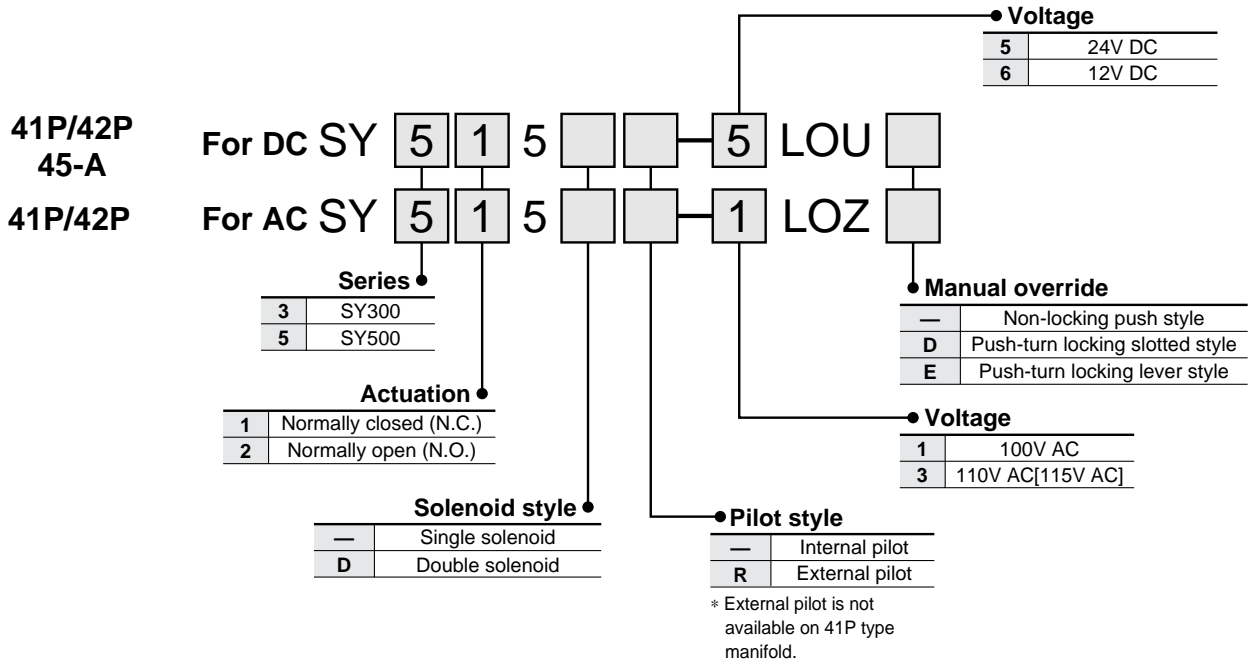


- VQ
- VQ4
- VQZ
- VQD
- VZS
- VFS
- VS
- VS7

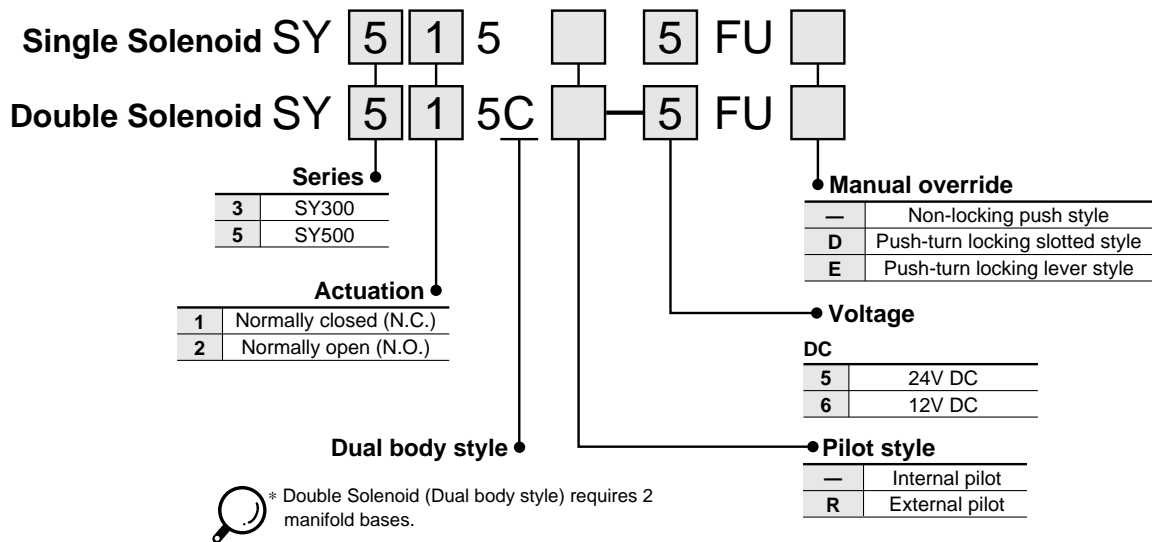
SY300/500

Base Mounted/How to Order Valve

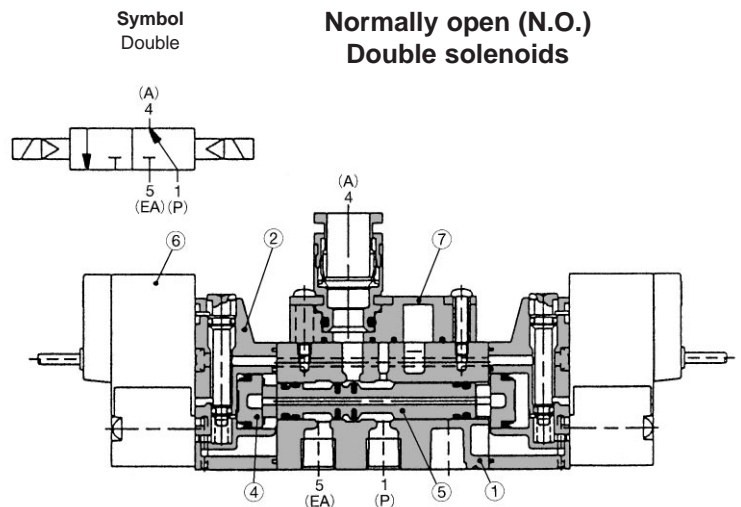
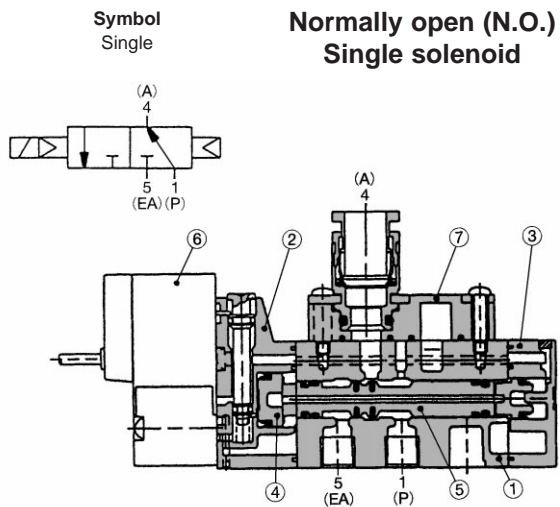
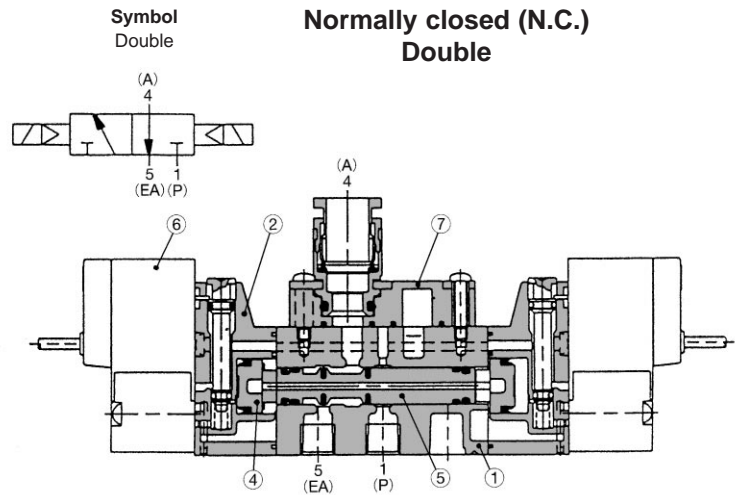
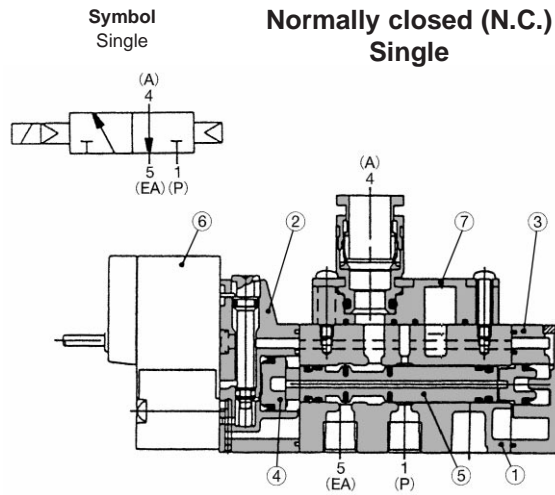
Flat cable:
Connector box: For SS5Y³-41P/42P/45-A



Plug-in: For SS5Y³-45□



Construction



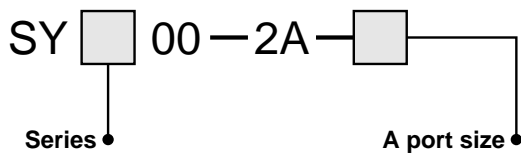
Component Parts

No.	Description	Material	Note
①	Body	Aluminum die cast (SY300: Zinc die cast)	Color: White
②	Adaptor plate	Resin	Color: White
③	End plate	Resin	Color: White
④	Piston	Resin	-
⑤	Spool valve ass'y	Aluminum/NBR	-

Replacement Parts

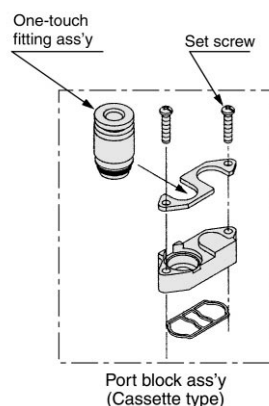
No.	Description	Part No.
⑥	Pilot valve ass'y	Refer to p.1.1-14.
⑦	Port block ass'y	Refer to "How to Order Port Block Ass'y" below.

How to Order Port Block Assembly



3	SY300
5	SY500

Symbol	Port size	Applicable series
M5	M5 X 0.8	
C4	One-touch fittings for ø4	SY300
C6	One-touch fittings for ø6	
O1	Rc(PT) 1/8	
C4	One-touch fittings for ø4	SY500
C6	One-touch fittings for ø6	
C8	One-touch fittings for ø8	



In case where One-touch fitting ass'y only is replaced.

Symbol	Part No.	Applicable series
C4	VVQ1000-50A-C4	SY300
C6	VVQ1000-50A-C6	
C4	VVQ1000-51A-C4	SY500
C6	VVQ1000-51A-C6	
C8	VVQ1000-51A-C8	

SY
SYJ
SX
VK
VZ
VF
VFR
VP7
VP4

VQ
VQ4
VQZ
VQD
VZS
VFS
VS
VS7

SY300/500

Specifications

Dimensions, specifications, response time, effective area are the same as 5 port valve.

Weight

Model/Series SY300

Model	Configuration	Weight (g)	
		Grommet	L/M Plug connector
SY3□3-□□-M5	Single	48	51
	Double	63	70
SY3□3-□□-C4	Single	53	57
	Double	68	75
SY3□3-□□-C6	Single	51	55
	Double	66	73
SY3□5-□□	Single	44	48
	Double	59	66

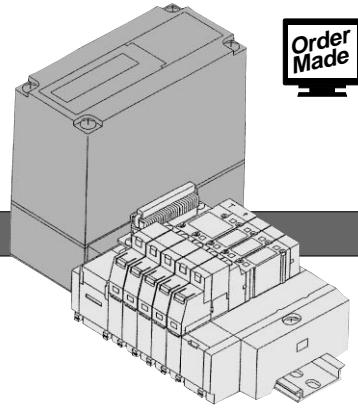
Model/Series SY500

Model	Configuration	Weight (g)		
		Grommet	L/M plug connector	DIN connector
SY5□3-□□-01	Single	66	70	93
	Double	81	89	135
SY5□3-□□-C4	Single	79	80	103
	Double	94	98	144
SY5□3-□□-C6	Single	76	75	98
	Double	91	94	140
SY5□3-□□-C8	Single	72	82	105
	Double	87	101	147
SY5□5-□□	Single	52	56	79
	Double	67	74	120

45S2 Type

Made to Order
SY3000/5000

Serial Transmission Unit IN 313



Serial Transmission Manifold Equipped with IN 313

How to Order Manifold

45S2 Type (Serial style with IN313)

SS5Y **3** - 45S2 **U** - **06** **D** - **C4** -

Series

3	SY3000
5	SY5000

SI unit mounting position

Symbol	Mounting position
U	U side
D	D side

Stations

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

- The number of blank plate ass'y is included.
- Two stations are necessary for the double, 3 position style (Dual body style).

SUP/EXH block ass'y mounting position

Symbol	Mounting position	Stations
U	U side	2 to 10 Stations
D	D side	2 to 10 Stations
B	Both sides	2 to 16 Stations
M		Special spec.

* Order with "Valve Manifold Ass'y Specification Form."

A/B port size

SY3000

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

SY5000

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

* Order with "Valve Manifold Ass'y Specification Form."

Option

When a DIN rail longer than std is required, enter the number of manifold stations that corresponds with the length of DIN rail needed. (20 stations max.)

How to Order Applicable SI Unit

IN313 - **MB1**

Applicable makers

MB1	For Mitsubishi Electric
TA1	For OMRON
FU1	For Fuji Electric
SH1	For Sharp
TY1	For Toyota Machine Works
TY2	
PA1	For Matsushita Electric Works
HT1	For Hitachi
AB1	For Allen Bradley
TS1	For Toshiba

How to Order Valve

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

Configuration

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

Dual body style (Double, 3 position)

Voltage

5	24V DC
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Manual override

—	Non-locking push style
D	Push-turn locking slotted style
E	Push-turn locking lever style

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VP4

VQ

VQ4

VQZ

VQD

VZS

VFS

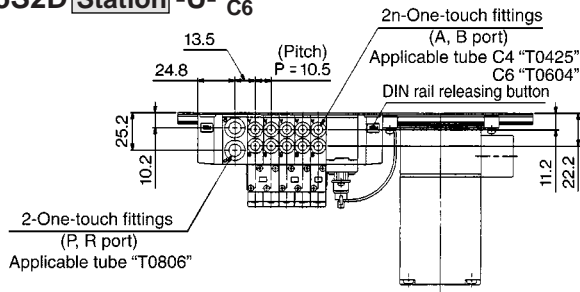
VS

VS7

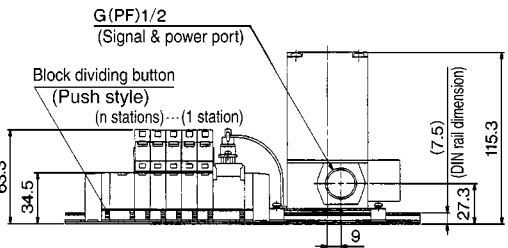
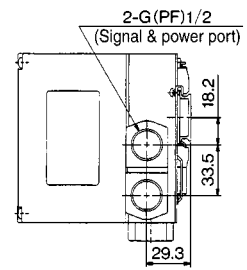
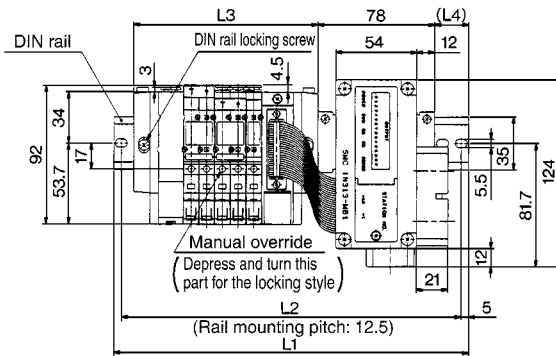
SY3000/5000

45S2_{Type} SY3000: Serial Transmission Unit/Plug-in

SS5Y3-45S2D-Station U- C4 C6



Note) The L1 to L4 dimensions of
SS5Y3-45S2D-Station D- C4 C6
SS5Y3-45S2U-Station D- C4 C6
SS5Y3-45S2U-Station U- C4 C6
 are identical to those of SS5Y3-45S2D-Station U- C4 C6

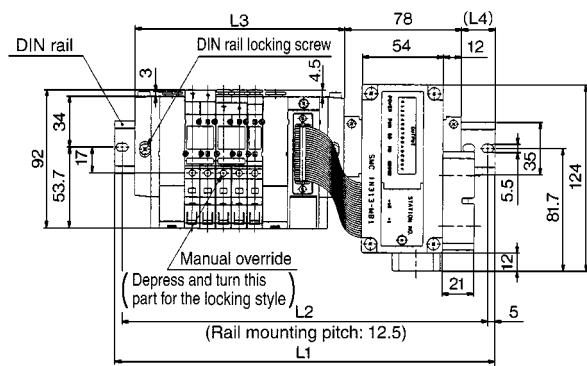
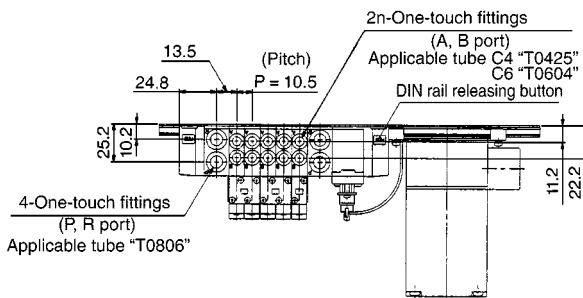


Stations	2	3	4	5	6	7	8	9	10
L1	198	210.5	223	235.5	235.5	248	260.5	273	285.5
L2	187.5	200	212.5	225	225	237.5	250	262.5	275
L3	91.5	102	112.5	123	133.5	144	154.5	165	175.5
L4	14	15	16	17	12	13	14	15	16



Note) The L1 to L4 dimensions of **SS5Y3-45SU-Station B- C4 C6**
 are identical to those of SS5Y3-45SD-Station B- C4 C6

SS5Y3-45S2U-Station B- C4 C6

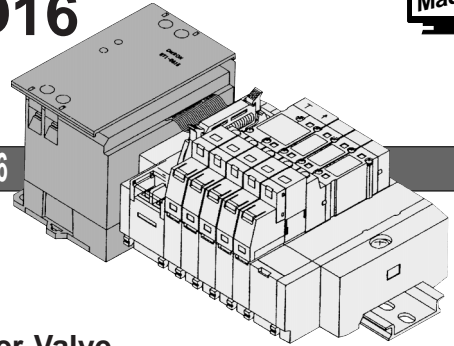


Stations	2	3	4	5	6	7	8	9
L1	210.5	223	235.5	248	260.5	273	273	285.5
L2	200	212.5	225	237.5	250	262.5	262.5	275
L3	108	118.5	129	139.5	150	160.5	171	181.5
L4	12	13	14	15	16	17	12	13

Stations	10	11	12	13	14	15	16
L1	298	310.5	323	335.5	335.5	348	360.5
L2	287.5	300	312.5	325	325	337.5	350
L3	192	202.5	213	223.5	234	244.5	255
L4	14	15	16	17	11.5	12.5	13.5

45S3 Type

Made to Order SY3000/5000 Serial Transmission With OMRON's G71-OD16



Serial Transmission Manifold Equipped with OMRON's Transmission Unit G71-OD16

How to Order Manifold

45S3 Type (Serial style with transmission unit)

SS5Y **3** - 45S3 **U** - **06** **D** - **C4** - **02**

Series

3	SY3000
5	SY5000

Specifications

Symbol	Specifications
—	With transmission unit
O ⁽¹⁾	Without transmission unit

Note 1) Models without a transmission unit have a DIN rail that have an additional length as long as the transmission unit mounting space. Enter "0" in the optional blank when requiring a shorter style (Same as 45□)

Transmission unit mounting position

Symbol	Mounting position
U	U side
D	D side

Stations

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

- The number of blank plate ass'ys is included.
- Two stations are necessary for the double, 3 position style (Dual body style).

SUP/EXH block ass'y mounting position

Symbol	Mounting position	Stations
U	U side	2 to 10 stations
D	D side	2 to 10 stations
B	Both sides	2 to 16 stations
M		Special spec.

* Order with "Valve Manifold Ass'y Specification Form."

A/B port size

SY3000		SY5000	
Symbol	Port size	Symbol	Port size
C4	One-touch fittings for ø4	C4	One-touch fittings for ø4
C6	One-touch fittings for ø6	C6	One-touch fittings for ø6
M	Mixed	C8	One-touch fittings for ø8
		M	Mixed

* Order with "Valve Manifold Ass'y Specification Form."

Option

When a DIN rail longer than std is required, enter the number of manifold stations that corresponds with the length (20 stations max.)

How to Order Valve

Single, 2 position SY **3** **1** **4** **0** - **5** **FU** **□**

Double, 3 position SY **3** **2** **4** **5** - **5** **FU** **□**

Series

3	SY3000
5	SY5000

Configuration

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

Dual body style (Double, 3 position)

Voltage

5	24V DC
---	--------

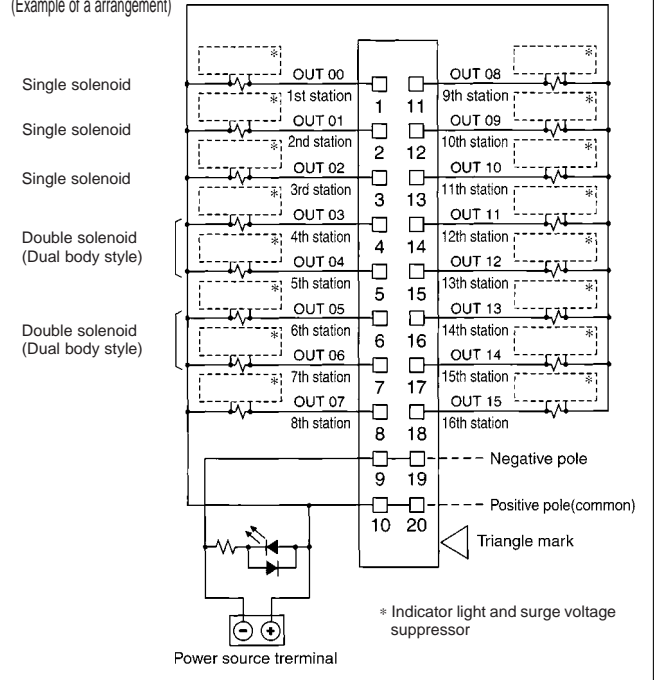
Manual override

—	Non-locking push style
D	Push-turn locking slotted style
E	Push-turn locking lever style

Manifold Internal Wiring

Serial style 45S3

(Example of a arrangement)



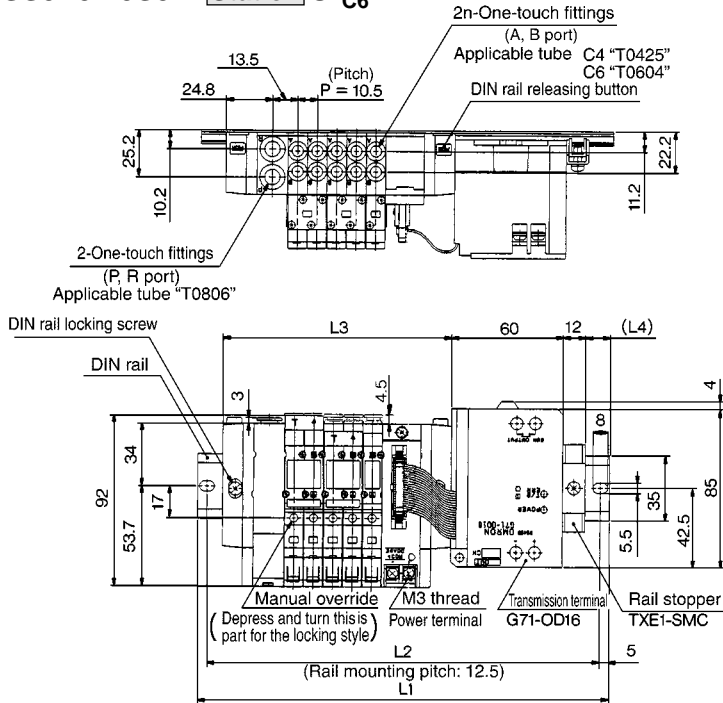
* Refer to the instruction manual or the catalog of transmitter terminals for the specifications of OMRON's Terminals.
* Max. 16 solenoids are applicable. Cannot SMC for more solenoids.

Caution

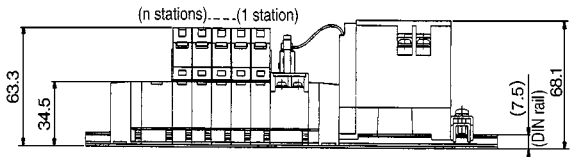
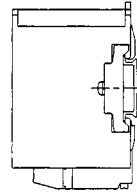
* The wiring specifications for SS5Y $\frac{3}{5}$ -45S30 are different from those for SS5Y $\frac{3}{5}$ -45PG.

45S3 Type **SY3000: Serial Transmission Unit/Plug-in**

SS5Y3-45S3D- Station U- C4 C6

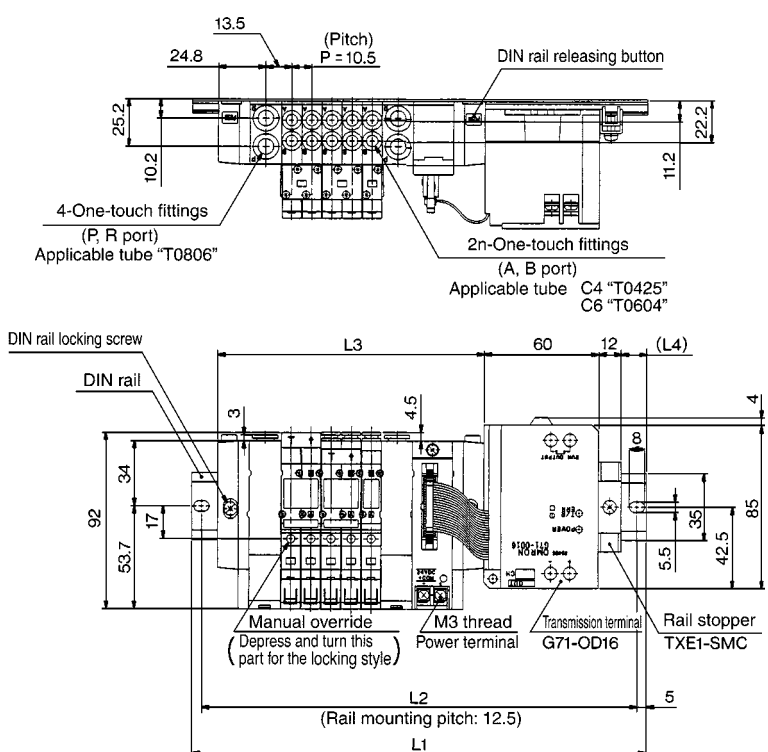


Note) The L1 to L4 dimensions of
SS5Y3-45S3D- Station D- C4 C6
SS5Y3-45S3U- Station D- C4 C6
SS5Y3-45S3U- Station U- C4 C6
 are identical to those of **SS5Y3-45S3D- Station U- C4 C6**



Stations	2	3	4	5	6	7	8	9	10
L1	198	198	210.5	223	235.5	248	260.5	260.5	273
L2	187.5	187.5	200	212.5	225	237.5	250	250	262.5
L3	91.5	102	112.5	123	133.5	144	154.5	165	175.5
L4	17	12	13	14	15	16	17	11.5	12.5

SS5Y3-45S3D- Station B- C4 C6



Note) The L1 to L4 dimensions of **SS5Y3-45S3U- Station B- C4 C6**
 are identical to those of **SS5Y3-45S3D- Station B- C4 C6**

Stations	2	3	4	5	6	7	8	9
L1	210.5	223	235.5	235.5	248	260.5	273	285.5
L2	200	212.5	225	225	237.5	250	262.5	275
L3	108	118.5	129	139.5	150	160.5	171	181.5
L4	15	16	17	12	13	14	15	16

Stations	10	11	12	13	14	15	16
L1	298	298	310.5	323	335.5	348	360.5
L2	287.5	287.5	300	312.5	325	337.5	350
L3	192	202.5	213	223.5	234	244.5	255
L4	17	11.5	12.5	13.5	14.5	15.5	16.5

- SY**
- SYJ**
- SX**
- VK**
- VZ**
- VF**
- VFR**
- VP7**
- VP4**
- VQ**
- VQ4**
- VQZ**
- VQD**
- VZS**
- VFS**
- VS**
- VS7**

Made to Order SY3000/5000

External Pilot with Built-in Silencer

External pilot manifold bases for low-pressure/vacuum use are added to split style/DIN rail manifolds. The built-in silencer has materialized a clear-cut appearance.



45 Type Individual wiring

How to Order Manifold

45 Type

SS5Y³/₅-45-05 U R C6

Series

3	SY3000
5	SY5000

Stations

Symbol	Stations	SUP/EXH block ass'y mounting position
02	2stations	Symbol Mounting position Stations
⋮	⋮	U U side 2 to 10
20	16stations	D D side 2 to 10
		B Both sides 2 to 20
		M Special spec. 2 to 20

The number of blank plate ass'y is included.

Special spec. available by special order.

SUP/EXH block ass'y specifications

Symbol	Specification
R	External pilot spec.
S	Internal pilot spec./with silencer
RS	External pilot spec./with silencer

A/B port sizes

SY3000

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

SY5000

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

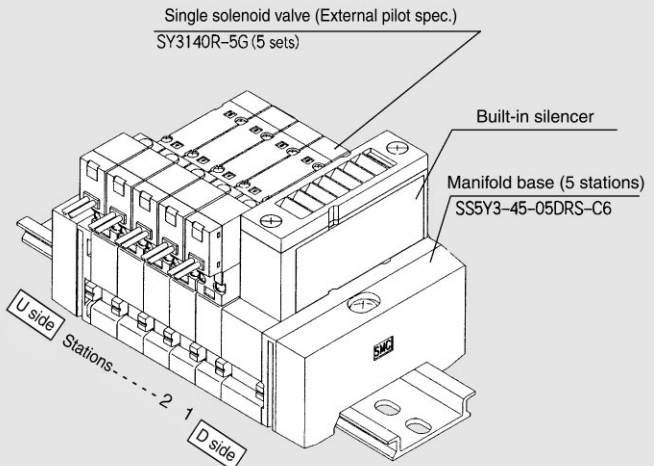
Mixed porting available by special order.

Option

When a DIN rail longer than std. is required enter the number of manifold stations that corresponds with the length of DIN rail needed. (20 stations max.)

How to Order Valve Manifold Ass'y (Example)

Ordering example



SS5Y3-45-05DRS-C6.....1 set (External pilot style with built-in silencer part No.)
 * SY3140R-5G5 sets (Single solenoid part No.)

To order valves and options mounted onto the manifold at the factory, list the valves/options with an asterisk in front of each part number.

They will be assembled in the order listed starting at the first station at the D side even if supply/exhaust block ass'y is located at either end.

For more complicated assemblies, refer to the manifold specification form.

For manifolds with supply/exhaust block at each end of the manifold, external pilot ports and silencers will be also located at each end of the manifold.

To order the supply/exhaust block ass'y (SX3/5000-51-1A) mounted at a location order than the ends of manifold, refer to the manifold specification form.

How to Order Valve

SY 5 2 40 [] - 5 L [] []

Series

3	SY3000
5	SY5000

Pilot

-	Internal pilot
R	External pilot

Configuration

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

Voltage

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

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

* "D" and "DO" types only available for 12V DC/24V DC.
 * "D" and "DO" only available on SY5000.

Manual override

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

Indicator light and surge voltage suppressor

Electrical entry for G, H, L, M

-	W/o indicator light and surge suppressor
S	W/ surge voltage suppressor
Z	W/ indicator light and surge suppressor
R	W/ surge suppressor (Non-polar)
U	W/ indicator light and surge suppressor (Non-polar)

* "R" and "U" types: DC only.
 * For AC, there is No "S" specification since it is integrated with converter.

Electrical entry for D (SY5000 only)

-	W/o indicator light and surge suppressor
S	W/ surge voltage suppressor (Non-polar)
Z	W/ indicator light and surge suppressor (Non-polar)

* "DOZ" is unavailable.
 * For AC, there is No "S" specification since it is integrated with converter.

Electrical entry

24V, 12V, 6V, 5V, 3V DC/100V, 110V, 200V, 220V AC			24V, 12V DC 100V, 110V AC, 200V, 220V AC
Grommet	L plug connector	M plug connector	DIN connector
G: 300mm lead wire H: 600mm lead wire	L: 300mm lead wire LN: Without lead wire LO: Without connector	M: 300mm lead wire MN: Without lead wire MO: Without connector	(SY5000 only) D: With connector DO: Without connector

* "LN" and "MN" types include 2 sockets.
 * "D" and "DO": SY5000 only.

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VP4

VQ

VQ4

VQZ

VQD

VZS

VFS

VS

VS7

45□ Type Plug-in

How to Order Manifold

45□ type

SS5Y³₅-45 [F][U][05][U][R] □ □ □

Series ●

3	SY3000
5	SY5000

Common specifications ●

—	Positive common
N	Negative common

No symbol is used for T, T1, S□ types.

Connector style ●

Symbol	Mounting position
F	D-sub connector
P	Flat cable 26-pole
PG	Flat cable 20-pole
PH	Flat cable 10-pole
T	Terminal block 9-pole
T1	Terminal block 18-pole
S□	Serial transmission unit

● See p.1.1-84 for details.

Connector box mounting position ●

Symbol	Mounting position
U	U side
D	D side

Valve stations ●

Symbol	Stations	Note
02	2	Single wiring spec.
⋮	⋮	
20	20	

- The number of blank plate ass'y is included.
- Depending on the connector, the number of stations is limited. See p.1.1-84
- Two stations are necessary for the double, 3 position style (Dual body style).

SUP/EXH block ass'y mounting position ●

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

* Special spec. available by special order.

SUP/EXH block ass'y specifications ●

Symbol	Specifications
R	External pilot spec.
S	Internal pilot spec./with silencer
RS	External pilot spec./with silencer

A/B port size

SY3000		SY5000 ●	
Symbol	Port size	Symbol	Port size
C4	One-touch fittings for ø4	C4	One-touch fittings for ø4
C6	One-touch fittings for ø6	C6	One-touch fittings for ø6
M	Mixed	C8	One-touch fittings for ø8
		M	Mixed

* Mixed porting available by special order.

Voltage ●

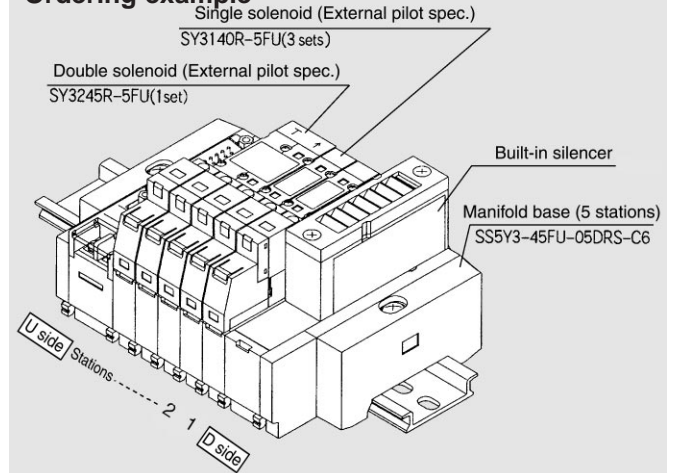
—	24V DC
12V	12V DC

Option ●

When DIN rail longer than standard is required, enter the number of manifold stations that corresponds with the length of DIN rail needed. (20 stations max.)

How to Order Valve Manifold Ass'y (Example)

Ordering example



SS5Y3-45FU-05DRS-C6.....1 set (External pilot spec. /with silencer part No.)
 * SY3140R-5FU3 sets (Single solenoid part No.)
 * SY3245R-5FU1 set (Double solenoid part No.)

To order valves and options mounted onto the manifold at the factory list the valves/options with an asterisk in front of each part number.

They will be assembled in the order listed starting at the first station at the D side even if supply/exhaust block ass'y is located at either end.
 For more complicated assemblies, refer to the manifold specification form.
 For manifolds with supply/exhaust block at each end of the manifold, external pilot ports and silencers will also be located at each end of the manifold.
 To order the supply/exhaust block ass'y (SX3/5000-51-2A) mounted at a location other than the ends of manifold, refer to the manifold specification form.
 When ordering double solenoid valves, please keep in mind that they require two manifold stations.

How to Order Valve

SY 3 1 4 □ □ - 5 FU □

Series ●

3	SY3000
5	SY5000

Configuration ●

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

Body option ●

0	Standard (Single only)
5	Dual body type (Double/3 position)

Pilot ●

—	Internal pilot
R	External pilot

Voltage ●

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

Manual override ●

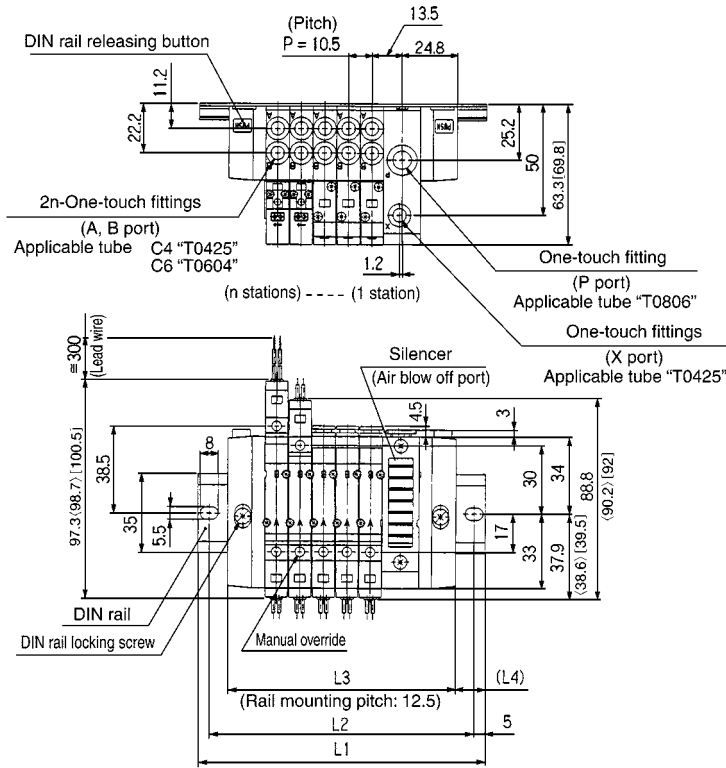
—	Non-locking push style
D	Push-turn locking slotted style
E	Push-turn locking lever style

* Mark: 45T and T1 only
 S□ type: 24VDC only

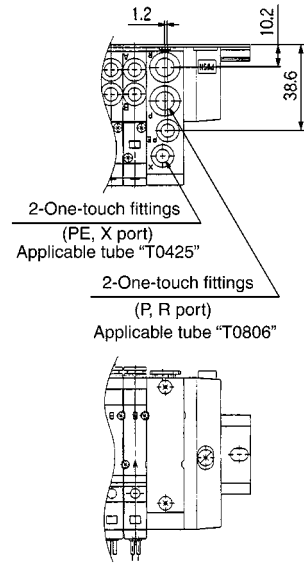
45 Type External Pilot/Built-in Silencer

Note [] : Valves for AC
< > : Valves with surge voltage suppressor

SY3000: SS5Y3-45-Station DRS-^{C4}/_{C6}

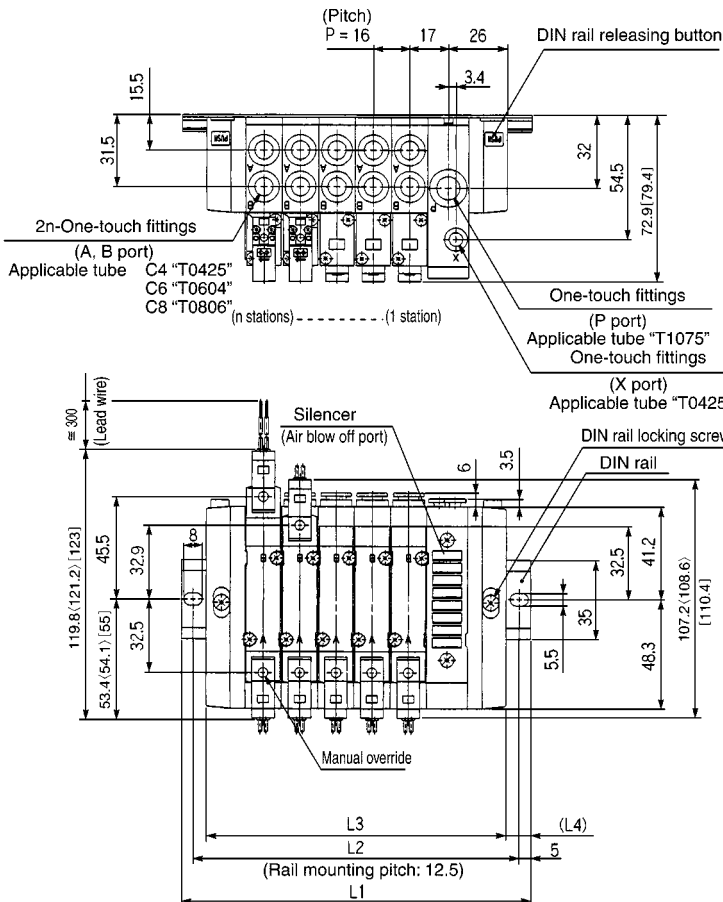


SS5Y3-45-Station DR-^{C4}/_{C6}

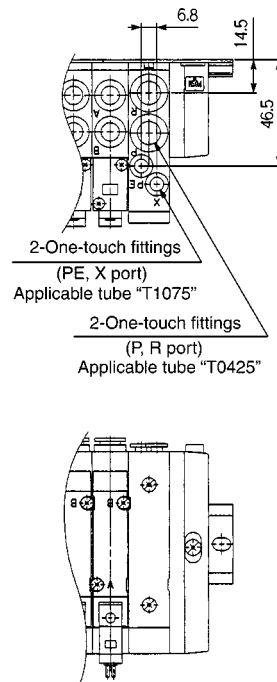


* The dimensions L1 to L4 are identical to SS5Y3-45-Station ^U_D ^{C4}_{C6} (P.1.1-74).

SY5000: SS5Y5-45-Station DRS-^{C4}/_{C6}



SS5Y5-45-Station DR-^{C4}/_{C6}



* The dimensions L1 to L4 are identical to SS5Y3-45-Station ^U_D ^{C4}_{C6} (P.1.1-75).

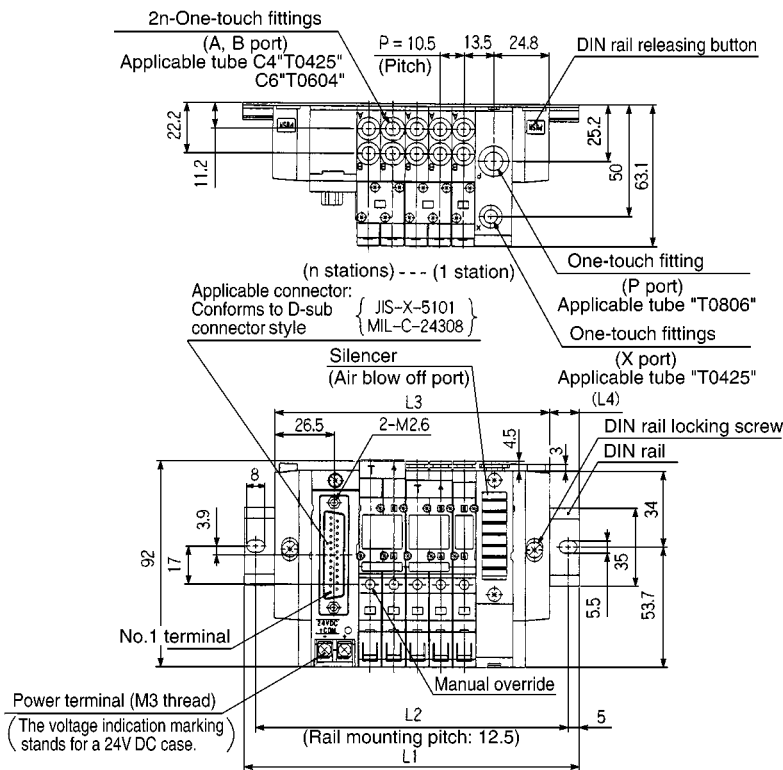
* The dimensions of SS5Y₅-45-Station URS is identical to that of SS5Y₅-45-Station DRS.

- SY
- SYJ
- SX
- VK
- VZ
- VF
- VFR
- VP7
- VP4
- VQ
- VQ4
- VQZ
- VQD
- VZS
- VFS
- VS
- VS7

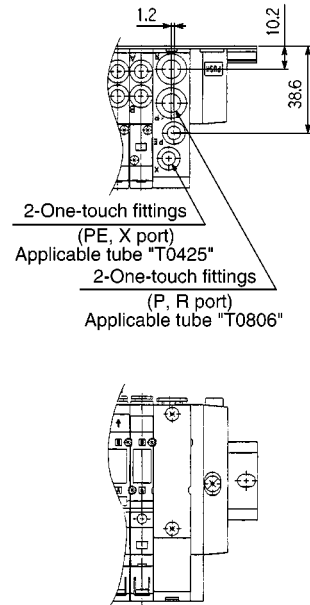
SY3000/5000

45 Type External Pilot/Built-in Silencer

SY3000: SS5Y3-45FU-Station DRS-C4 C6

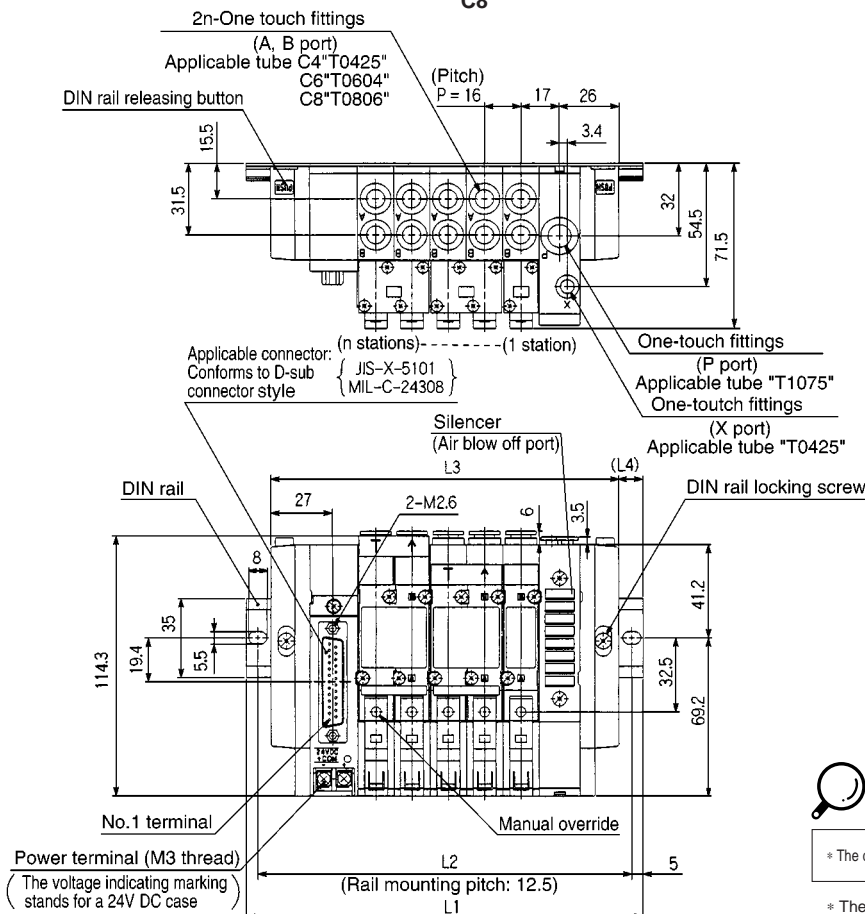


SS5Y3-45FU-Station DR-C4 C6

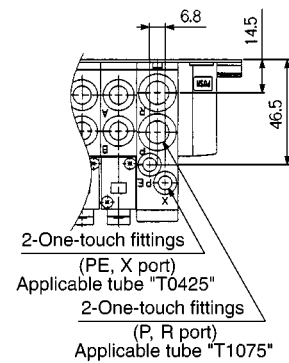


* The dimensions L1 to L4 are identical to SS5Y3-45FU-Station DRS-C4 C6 (P.1.1-92).

SY5000: SS5Y5-45FU-Station DRS-C4 C6 C8



SS5Y3-45FU-Station DRS-C4 C6 C8



* The dimensions L1 to L4 are identical to SS5Y5-45FU-Station DRS-C4 C6 C8 (P.1.1-94).

* The dimensions of SS5Y3-45FU-Station DRS is identical to that of SS5Y5-45FU-Station DRS.

Made to Order SY3000/5000 Mixed Mounting



M45
Type

Non plug-in

Use SY3000 together with SY5000, which has a large Cv and is mounted only in a place where it is needed, permits a selection of economic manifold bases.

How to Order Manifold

M45 Type (Mixed mounting style)

SS5Y5-M45-05 U C86

Mixed mounting style

Valve station

Symbol	Stations	SUP/EXH block ass'y mounting position	Stations
02	2	U U side	2 to 10 stations
20	20	D D side	2 to 10 stations
		B Both side	2 to 20 stations
		M Special spec.	

The number of blank plate ass'y is included. * Order with "Valve Manifold Ass'y Specification Form".

SUP/EXH block ass'y specifications

Symbol	Specification
—	Standard/Internal pilot spec.
S	With silencer

* External pilot spec. is unavailable for mixed mounting style.

Option

When a DIN rail longer than std. is required enter the number of manifold stations that corresponds with the length of DIN rail needed. (20 stations max.)

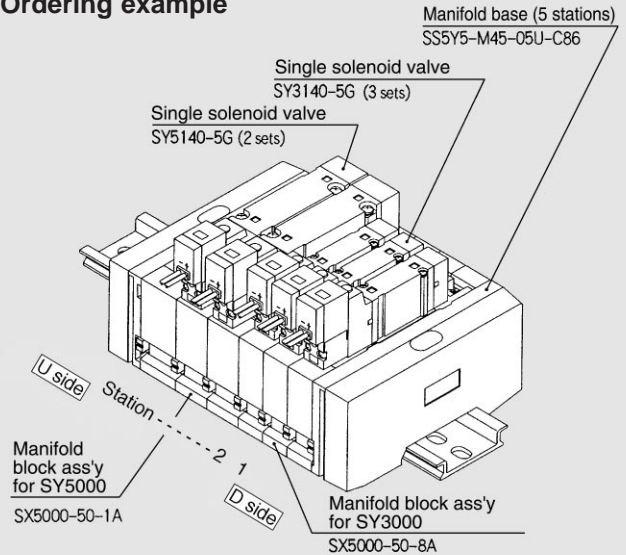
A/B port size

Symbol	Port size	Symbol	Port size
C44	SY5000: One-touch fittings for ø4 SY3000: One-touch fittings for ø4	C66	SY5000: One-touch fittings for ø4 SY3000: One-touch fittings for ø4
C46	SY5000: One-touch fittings for ø4 SY3000: One-touch fittings for ø6	C84	SY5000: One-touch fittings for ø4 SY3000: One-touch fittings for ø4
C64	SY5000: One-touch fittings for ø6 SY3000: One-touch fittings for ø4	C86	SY5000: One-touch fittings for ø4 SY3000: One-touch fittings for ø4
		M	Mixed

Order with "Valve Manifold Ass'y Specification Form".

How to Order Valve Manifold Ass'y (Example)

Ordering example



SS5Y5-M45-05U-C86.....1 set (M45 manifold base part No.)
* SY3140-5G.....3 sets (Single solenoid part No.)
* SY5140-5G.....2 sets (double solenoid part No.)

To order valves and options mounted onto the manifold at the factory list the valves/options with an asterisk in front of each part number.

They will be assembled in the order listed starting at the first station at the D side even if supply/exhaust block ass'y is located at either end. For more complicated assemblies, refer to the manifold specification form.

How to Order Valve

SY 5 2 40-5 L

Series

3	SY3000
5	SY5000

Configuration

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

Voltage

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

Indicator light and surge voltage suppressor
Electrical entry for G, H, L, M

—	W/o indicator light and surge suppressor
S	W/ surge voltage suppressor
Z	W/ indicator light and surge suppressor
R	W/o surge suppressor (Non-polar)
U	W/o indicator light and surge suppressor (Non-polar)

* "R", "U" types: DC only.
* For AC type, there is no "S" specification since it is intergrated with converter.

Electrical entry

24V, 12V, 6V, 5V, 3V DC/100V, 110V, 200V, 220V AC

Grommet	L plug connector	M plug connector
G: 300mm lead wire H: 600mm lead wire	L: 300mm lead wire LN: Without lead wire LO: Without connector	M: 300mm lead wire MN: Without lead wire MO: Without connector

* "LN" and "MN" include 2 sockets.

Manual override

—	Non-locking push style
D	Push-turn locking slotted style
E	Push-turn locking lever style

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VP4

VQ

VQ4

VQZ

VQD

VZS

VFS

VS

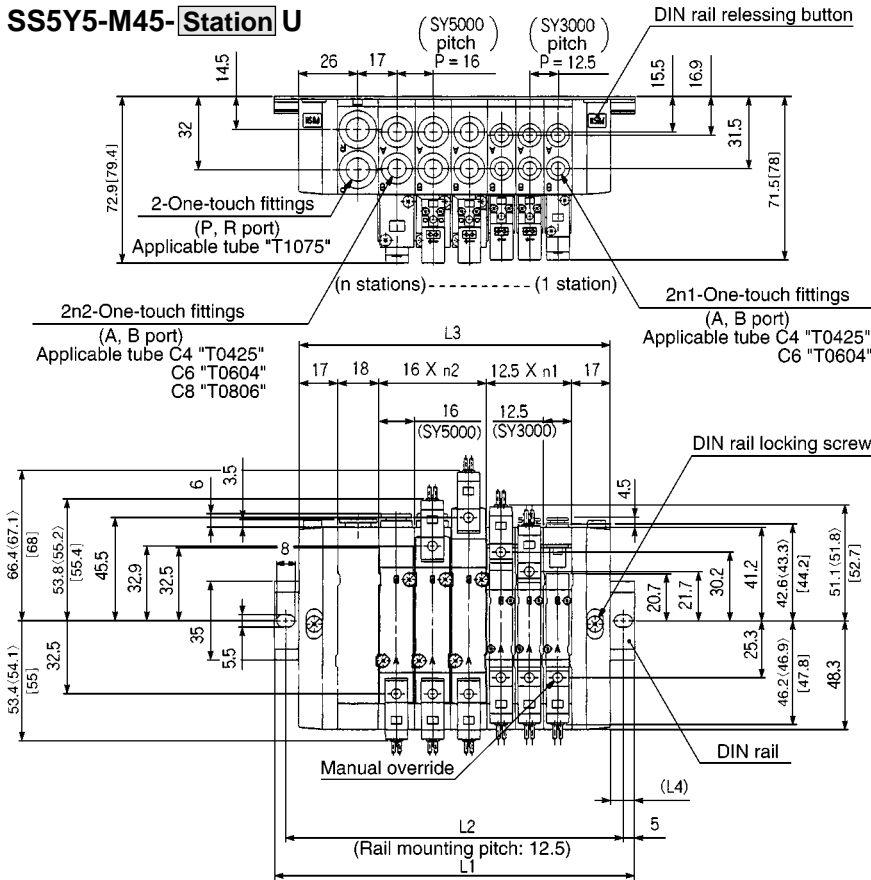
VS7

SY3000/5000

M45 Type Dimensions/Mixed mounting

Note [] : Valves for AC
 < > : Valves with surge voltage suppressor (mm)

SS5Y5-M45-Station U

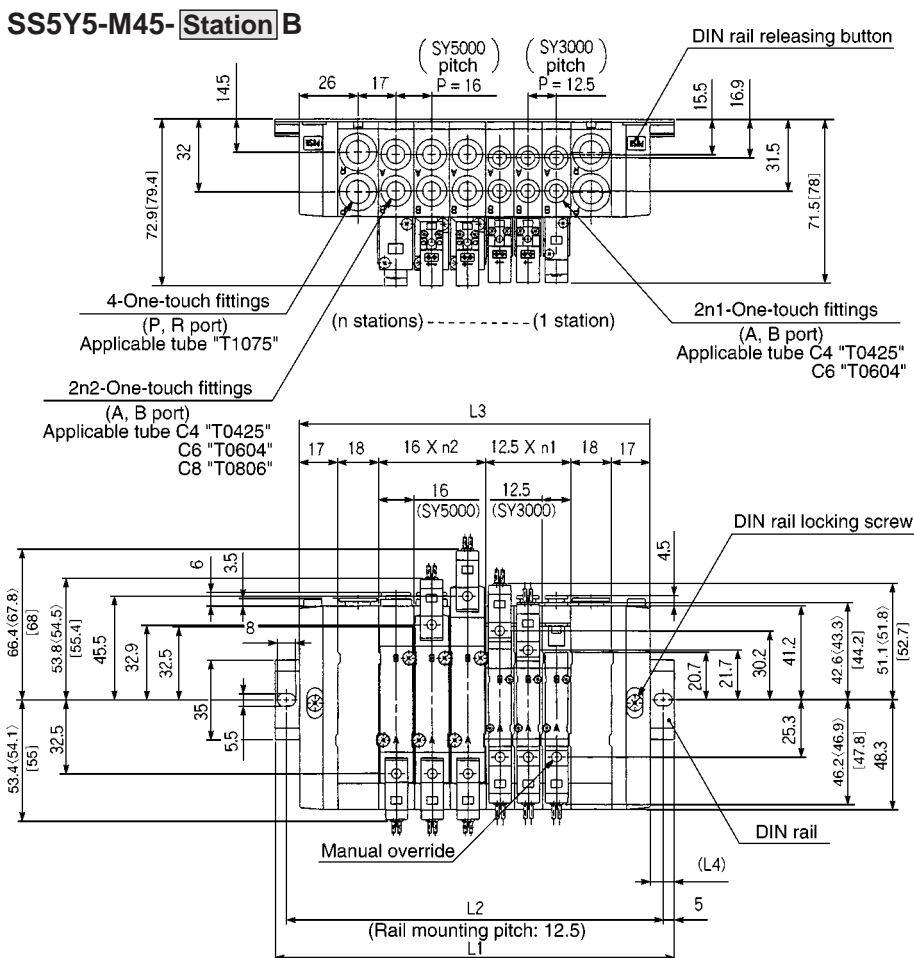


L size: Equations for L1 to L4
 $L3 = 12.5 \times n1 + 16 \times n2 + 52$
 $M = \left(\frac{L3}{12.5} + 1 \right)$ Omit decimals
 $L1 = 12.5 \times M + 23$
 $L2 = L1 - 10.5$
 $L4 = (L1 - L3) / 2$

n1: Number of SY3000's stations
 n2: Number of SY5000's stations

* The L1 to L4 dimensions of SS5Y5-M45-Station D are identical to those of SS5Y5-M45-Station U.

SS5Y5-M45-Station B



L size: Equations for L1 to L4
 $L3 = 12.5 \times n1 + 16 \times n2 + 70$
 $M = \left(\frac{L3}{12.5} + 1 \right)$ Omit decimals
 $L1 = 12.5 \times M + 23$
 $L2 = L1 - 10.5$
 $L4 = (L1 - L3) / 2$

n1: Number of SY3000's stations
 n2: Number of SY5000's stations

Made to Order DIN Connector Conformed to DIN 43650C (Applicable to Series SY5000/7000, SY500)

DIN terminal pitch: 8mm



How to Order Valve

3 port valve
(5 port valve mixed mounting style)

5 port valve

Series

5	SY500
---	-------

Actuation

1	Normally open
2	Normally closed

Style

3	Body ported
5	Base mounted

A port size

Symbol	Port size
—	Base mounted style
01	Rc(PT) 1/8
C4	One-touch fittings for ø4
C6	One-touch fittings for ø6
C8	One-touch fittings for ø8

Series

5	SY5000
7	SY7000

Configuration

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

Style

2	Body ported
4	2 position single

Pilot style

—	Internal pilot
R	External pilot

* Base mounted style only.

Voltage

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

Electrical entry

Y: With connector

YO: Without connector

A/B ported

Symbol	Port size	Applicable series
01	Rc(PT) 1/8	SY5000
C4	One-touch fittings for ø4	
C6	One-touch fittings for ø6	
C8	One-touch fittings for ø8	SY7000
02	Rc(PT) 1/4	
C8	One-touch fittings for ø8	
C10	One-touch fittings for ø10	

For Base mounted

Symbol	Port size	Applicable series
—	Without sub-plate	
02	Rc(PT) 1/4	SY5000
	With sub-plate	SY7000
03	Rc(PT) 3/8	SY7000
	With sub-plate	

Electrical entry

—	Without indicator light and surge suppressor
S	With surge suppressor (Non-polar)
Z	With indicator light and surge suppressor (Non-polar)

Manual override

—	Non-locking push style
D	Push-turn locking slotted style
E	Push-turn locking sliver style

* "YOZ" is unavailable.
* For AC, there is No "S" specification since it is integrated with converter.

- SY
- SYJ
- SX
- VK
- VZ
- VF
- VFR
- VP7
- VP4
- VQ
- VQ4
- VQZ
- VQD
- VZS
- VFS
- VS
- VS7

How to Order Pilot Valve Ass'y

SY115—5 Y Z

Voltage

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

Indicator light and surge voltage suppressor

—	Without indicator light and surge suppressor
S	With surge suppressor (Non-polar)
Z	Without indicator light and surge suppressor (Non-polar)

* "YOZ" is unavailable.
* For AC, there is No "S" specification since it is integral with converter.

Electrical entry

Y	DIN	With connector
YO	connector	Without connector

DIN Connector Part No.

Without light		SY100-82-1
With light		
Rated voltage	Symbol	Part No.
24V DC	24VN	SY100-82-3-05
12V DC	12VN	SY100-82-3-06
100V AC	100VN	SY100-82-3-01
200V AC	200VN	SY100-82-3-02
110V AC (115V AC)	110VN	SY100-82-3-03
220V AC (230V AC)	220VN	SY100-82-3-04

Caution

- Use the heavy insulation cable with the specified size (ø3.5 to ø7.5), otherwise protective construction IP65 can not be satisfied. Tighten the ground nut and set screw within the specified range of torque. Refer to "How to Use DIN Terminal" in p.1.1-8 for the details.
- D type DIN connector with 9.4mm pitch between terminals if not interchangeable.
- DIN connector except D type has the "N" indication in the end of voltage symbol. In case of DIN connector without light, "N" is not indicated. Please refer to the name plate to distinguish.
- Dimensions are completely same as D type connector.
- When exchanging the pilot valve ass'y only, "SY115-□D" is interchangeable with "SY115-□Y." Be careful that "SY114"(G, L, M) is not interchangeable with "SY115-□D/Y"

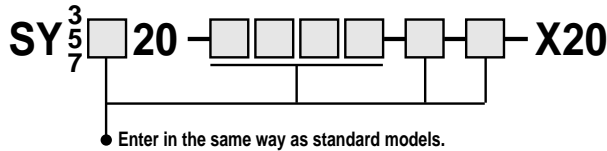
Made to Order SY3000/5000/7000



Body Ported, External Pilot/Fluoro Rubber for Main Value

Body Ported External Pilot

Applicable solenoid valves, Series SY3□20, SY5□20 and SY7□20



Operating pressure range MPa

Operating pressure range	-100kPa to 0.7
Pilot pressure range	0.25 to 0.7

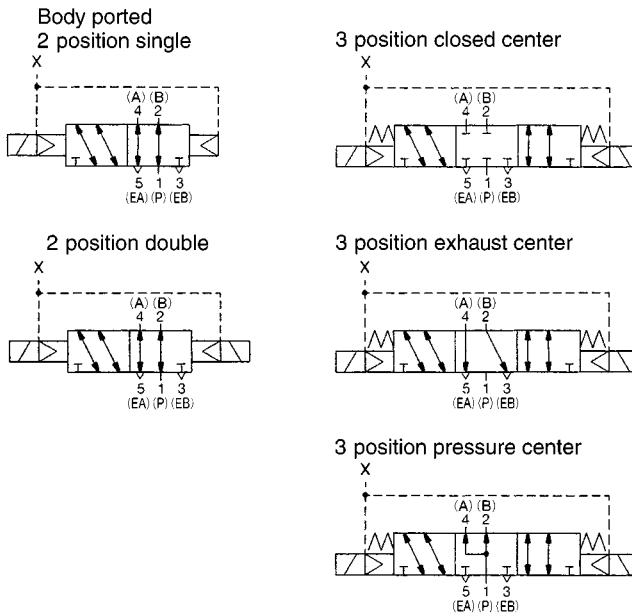
External dimensions:

SY3000 becomes 6.5 mm longer, while SY5000 and SY7000 becomes 10mm longer.

External pilot port size

Series	Bore size
SY3000	M3 X 0.5
SY5000	M5 X 0.8

JIS Symbol

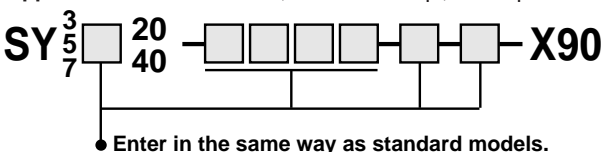


Fluoro Rubber for Main Valve

The rubber section of the main valve if made of fluoro rubber, so these models are applicable to the following use.

1. When malfunction occurs or is expected to occur due to swelling of the spool valve packing when oil other than the recommended turbine oil is used.
2. When ozone enters the air source or is generated in the air source.

Applicable solenoid valves, Series SY3□40, SY5□40 and SY7□40



The specifications and performance are the same as those of standard models.

Power Saver (Contact SMC for the detailed specifications and delivery.)

Power consumption is decreased by 1/3 by reducing the wattage required to hold the valve in an energized state. (Effective energizing time is over 62ms at 24V DC.)

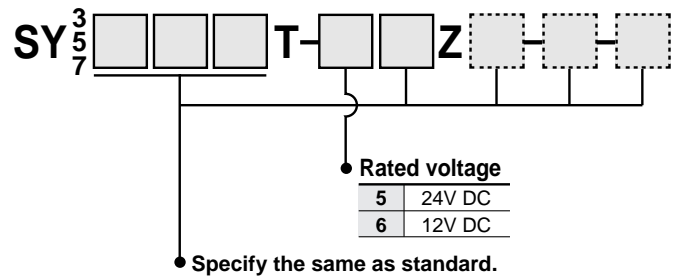
Specifications

Series	SY ³⁰⁰⁰ ₅₀₀₀ ^T ₇₀₀₀	
Coil rated voltage (V)	24,12DC	
Power consumption (W)	Starting	0.55
	Holding	0.22

Specifications other than above are the same as standard models.

Applicable solenoid valves, Series SY3□40, SY5□40 and SY7□40 (DIN terminal styles are excluded.)

How to Order

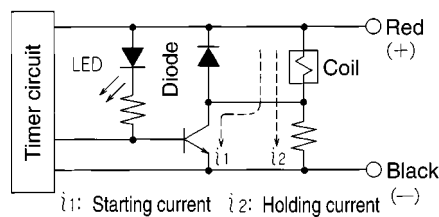


Dimensions are the same as standard.

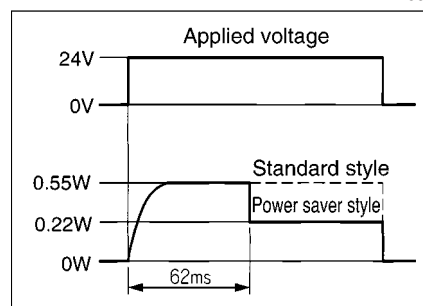
Operating Principles

The circuit shown below reduces current consumption at holding which reduces the overall power consumption. Refer to following power wave form.

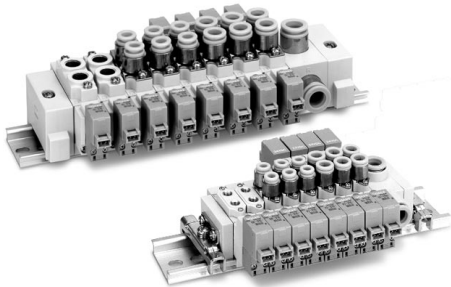
Electrical circuit (For power saving style)



<Power saver: power wave on SY³⁰⁰⁰₅₀₀₀^T₇₀₀₀>



5 Port Solenoid Valve Series SY3000/5000 Body Ported Cassette Style Manifold



Low power consumption: 0.5W (Current draw: 21mA at 24V DC)

Valve can be operated directly by a PLC without the need for relays. Lower power consumption and a compact switching device result in an overall cost reduction.

Response time (10ms or less) (SY3000 single solenoid, 0.5MPa)

Response time of 10ms or less is achieved by the innovated pilot valve structure with lower power consumption.

Long life exceeding 50 million cycles

The newly developed pilot valve and guide ring design prevents main valve eccentricity and increases the return force ensuring 50 million cycles. (50 million cycles was attained under test conditions, actual valve life may vary depending on actual operating conditions.)

No pilot valve exhaust mist or noise

(Common exhaust for the pilot valve and the main valve.)

There is no exhaust mist or noise because the pilot valve is not directly exhausted to atmosphere.

When the A/B ports need replaced, or a different port size is required, the port block can easily be changed

Series	Port size available
SY3000	C4, C6, M5
SY5000	C4, C6, C8, Rc(PT)1/8

Improved anti-drain performance (In-house comparison)

Main valve seals are made of a newly developed rubber compound. Problems caused by drain have been greatly reduced.

State of the art design

The high-tech look of the new series SY has been chosen to complement the surrounding operational environment.

How to Order

SS5Y **3** - 60 - **05** **D** - []

Series	
3	SY3000
5	SY5000

Stations	
02	2 stations
⋮	⋮
20	20 stations

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

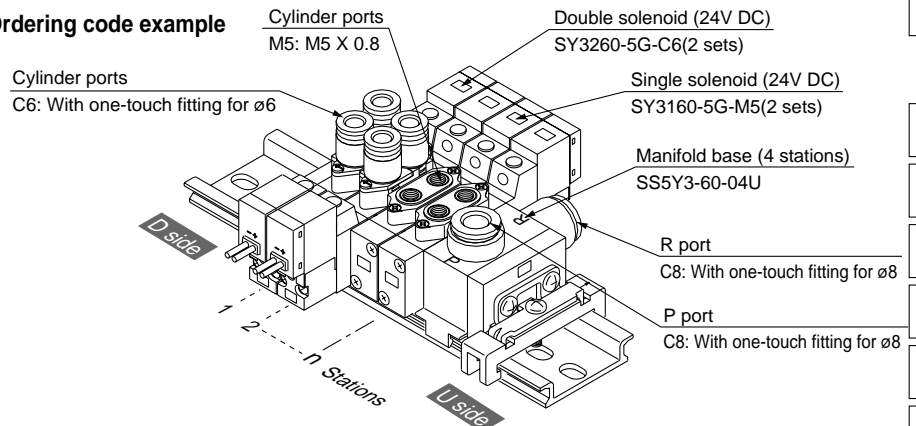
SUP/EXH block ass'y mounting position

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

* Specify special location in the "Manifold Specification Form."

How to Order Manifold Assembly (Order example)

Ordering code example



SS5Y3-60-04U.....1 set (60 type 4 station manifold base part No.)
SY3260-5G-C6.....2 sets (Double solenoid part No.)
SY3160-5G-M5.....2 sets (Single solenoid part No.)

Add the valve and option numbers under the manifold base No. When arrangement is complicated specify it in the "Manifold Specification Form."

Manifold Specifications

Model	SS5Y3-60	SS5Y5-60	
Applicable valve	SY3□60	SY5□60	
Manifold style	Stacking DIN rail mounted		
P(SUP)/R(EXH)	Common SUP/Common EXH		
Valve stations	2 to 20 ⁽¹⁾		
A, B port location	Valve		
Port size	P, R port	C8 (One-touch fitting for ø8)	C10 (One-touch fitting for ø10)
	A, B port	M5 X 0.8 C4 (One-touch fitting for ø4) C6 (One-touch fitting for ø6)	Rc(PT)1/8 C4 (One-touch fitting for ø4) C6 (One-touch fitting for ø6) C8 (One-touch fitting for ø8)
Valve effective area (mm ²)(Cv) ⁽²⁾	M5: P→A/B 3.6(0.2) A/B→R 3.24(0.18)	Rc(PT)1/8: P→A/B 9.2(0.51) A/B→R 10.3(0.57)	
	C4: P→A/B 3.42(0.19) A/B→R 3.24(0.18)	C4: P→A/B 5.2(0.29) A/B→R 3.8(0.21)	
	C6: P→A/B 3.6(0.2) A/B→R 3.6(0.2)	C6: P→A/B 8.1(0.45) A/B→R 8.5(0.47)	
Manifold base weight W(g) ⁽³⁾ (n: Number of SUP/EXH block, m: DIN rail weight)	W=13n+m+36		W=41.2n+m+77.6



Note 1) When multiple valves must operate at the same time, order supply blocks on both ends of the valve stack and supply pressure to both P ports and exhaust from both R ports.

Note 2) Cv factor was determined by using a 5 station manifold and only operating one valve at a time.

Note 3) Refer to p.1.1-148 for DIN rail weight.

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VP4

VQ

VQ4

VQZ

VQD

VZS

VFS

VS

VS7

Series SY3000/5000

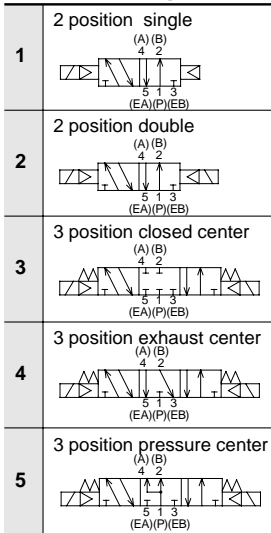
How to Order Valve

SY 3 1 60 — 5 L — C6

Series

3	SY3000
5	SY5000

Configuration



Rated voltage

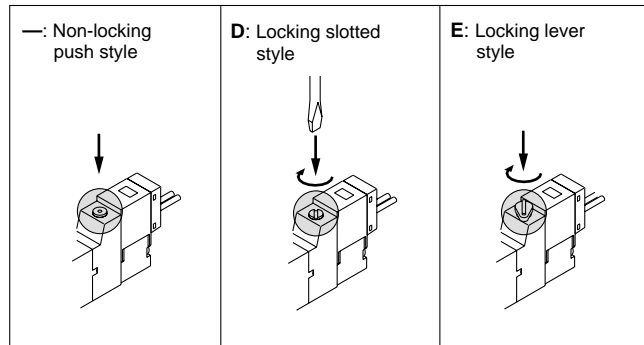
DC	
5	24V DC
6	12V DC
V	6V DC
S	5V DC
R	3V DC
AC (50/60Hz)	
1	100V AC
2	200V AC
3	110V AC[115V AC]
4	220V AC[230V AC]

* "D" and "DO" with VDC specifications are only available for 24V and 12V.
* "D" and "DO" are available only on SY5000.

A, B port size

Symbol	Port size	Applicable series
M5	M5 X 0.8	SY3000
C4	One-touch fitting for ø4	
C6	One-touch fitting for ø6	SY5000
01	Rc(PT)1/8	
C4	One-touch fitting for ø4	
C6	One-touch fitting for ø6	
C8	One-touch fitting for ø8	

Manual override



Indicator light and surge voltage suppressor

Electrical entry G, H, L, M type

—	W/o indicator light and surge suppressor
S	W/ surge suppressor*
Z	W/ indicator light and surge suppressor
R	W/ surge suppressor (Non-polar)
U	W/ indicator light and surge suppressor (Non-polar)

* For AC, there is no "S" specification since it is integrated with converter.

Electrical entry D type

—	W/o indicator light and surge suppressor
S	W/ surge suppressor (Non-polar)
Z	W/ indicator light and surge suppressor (Non-polar)

* "Z" is not available for "DO" type
* For AC voltage, "S" specification is not required it is already built into the converter.

Electrical entry


24V, 12V, 6V, 5V, 3V DC/100V, 110V, 200V, 220V AC				24V, 12V DC 100V, 110V, 200V, 220V AC
Grommet	L plug connector	M plug connector		DIN terminal
G: 300mm lead wire 	L: 300mm lead wire 	M: 300mm lead wire 	MN: Without lead wire 	(Only SY5000) D: With connector
H: 600mm lead wire 	LN: Without lead wire 	LO: Without connector 	MO: Without connector 	DO: Without connector

* LN, MN types include 2 sockets.

Cassette Style Manifold Series SY3000/5000


Valve Specifications

Series		SY3000	SY5000
Fluid		Air	
Internal pilot operating pressure range (MPa)	2 position single	0.15 to 0.7	
	3 position double	0.1 to 0.7	
	3 position	0.2 to 0.7	
Ambient and fluid temp. (°C)		Max. 50 °C	
Max. operating frequency (Hz)	2 position single, double	10	5
	3 position	3	3
Manual override		Non-locking push style, Locking slotted style, Locking lever style	
Pilot exhaust		Common exhaust for main and pilot valve	
Lubrication		Not required	
Mounting position		Free	
Impact/Vibration resistance ⁽¹⁾		150/30 m/s ²	
Protection structure		Dust proof	


 Note1) Impact resistance: No malfunction from test using drop impact tester, to axis and right angle directions of main valve and armature, each one time when energized and de-energized.
Vibration resistance: No malfunction from test with from 8.3 to 2000Hz 1 sweep, to axis and right angle directions of main valve and armature, each one time when energized and de-energized. (Value in the initial stage.)

Solenoid Specifications

Electrical entry		Grommet(G)/(H), L plug connector(L) M plug connector(M), DIN terminal(D)	
Coil rated voltage (V)	DC	24, 12, 6, 5, 3	
	AC50/60 Hz	100, 110, 200, 220 ⁽¹⁾	
Allowable voltage		Rated voltage ±10%	
Power consumption (W)	DC	0.5(With light: 0.55, DIN terminal with light: 0.6)	
	AC		
Apparent power (VA)	100V 110V [115V] 200V 220V [230V]	0.9 {with light: 1.0}	
		1.0 {with light: 1.1}	
		[1.1 {with light: 1.2}]	
		1.8 {with light: 1.9}	
		1.9 {with light: 2.0}	
[2.2 {with light: 2.3}]			
Surge voltage suppressor		DC: Diode(DIN type: ZNR), (G, L, M non-polar style: Zener diode) AC: ZNR	
Indicator light		LED (DIN terminal of AC specification is used neon slim light.)	

 Note 1) DIN terminal (D) is only available for SY5000.
Note 2) 110V AC can be used for 115, 220V AC can be used for 230.

Response Time

 Note) By dynamic performance test JISB8375-1981 (Coil temperature 20°C, at rated voltage.)

SY3000

Configuration	Response time (ms) (0.5MPa)		
	Without indicator light and surge voltage suppressor	Without indicator light and surge voltage suppressor	
		S, Z type	R, U type
2 position single	12 or less	15 or less	12 or less
2 position double	10 or less	13 or less	10 or less
3 position	15 or less	20 or less	16 or less


SY5000

Configuration	Response time (ms) (0.5MPa)		
	Without indicator light and surge voltage suppressor	Without indicator light and surge voltage suppressor	
		S, Z type	R, U type
2 position single	19 or less	26 or less	19 or less
2 position double	18 or less	22 or less	18 or less
3 position	32 or less	38 or less	32 or less

Weight List

SY3000

Valve model	Configuration		Port size	Weight (g)	
			A, B	Grommet	L, M plug connector
SY3□60-□-M5	2 position	Single	M5 X 0.8	43	47
		Double		58	65
	3 position	Closed center		61	68
		Exhaust center Pressure center			
SY3□60-□-C4	2 position	Single	C4 (One-touch fitting for ø4)	53	57
		Double		68	75
	3 position	Closed center		70	78
		Exhaust center Pressure center			
SY3□60-□-C6	2 position	Single	C6 (One-touch fitting for ø6)	49	53
		Double		64	71
	3 position	Closed center		66	74
		Exhaust center Pressure center			

 (): For normal position

SY5000

Valve model	Configuration		Port size	Weight (g)		
			A, B	Grommet	L, M plug connector	DIN terminal
SY5□60-□-01	2 position	Single	Rc(PT)1/8	61	65	88
		Double		79	86	132
	3 position	Closed center		85	92	138
		Exhaust center Pressure center				
SY5□60-□-C4	2 position	Single	C4 (One-touch fitting for ø4)	85	89	112
		Double		101	108	154
	3 position	Closed center		107	114	160
		Exhaust center Pressure center				
SY5□60-□-C6	2 position	Single	C6 (One-touch fitting for ø6)	80	84	107
		Double		96	103	149
	3 position	Closed center		102	109	155
		Exhaust center Pressure center				
SY5□60-□-C8	2 position	Single	C8 (One-touch fitting for ø8)	72	76	99
		Double		88	95	141
	3 position	Closed center		94	101	147
		Exhaust center Pressure center				

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VP4

VQ

VQ4

VQZ

VQD

VZS

VFS

VS

VS7

Series SY3000/5000

How to Order Pilot Assembly

SY114—5 G

Rated Voltage

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

Indicator light and surge voltage suppressor

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

* For AC, there is no "S" specification since it is integrated with converter.
* R and U are available for DC.

Electrical entry

G	Grommet (300mm lead wire)	
H	Grommet (600mm lead wire)	
L	L plug	With lead wire
LN	connector	Without lead wire
LO		Without connector
M	M plug	With lead wire
MN	connector	Without lead wire
MO		Without connector

SY115—5 D

Rated voltage

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

Indicator light and surge voltage suppressor

—	Without indicator light and surge voltage suppressor
S	With surge voltage suppressor (Non-polar)
Z	With indicator light and surge voltage suppressor (Non-polar)

* "Z" is not available for "DO".
* For AC, there is no "S" specification since it is integrated with converter.

Electrical entry

D	DIN terminal	With connector
DO		Without connector

Note) Do not replace SY114 (G, H, L, M) to SY115 (DIN terminal) and vice versa when replacing pilot valve ass'y only.

How to Order Connector Assembly

DC : SY100-30-4A-

100V AC : SY100-30-1A-

200V AC : SY100-30-2A-

AC others : SY100-30-3A-

Without lead wire : SY100-30-A

(Connector, socket (2pcs.))

Lead wire length

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

How to Order Port Block Assembly

SY 000—6A—

Series

3	SY3000
5	SY5000

A, B port size

Symbol	Port size	Applicable Series
M5	M5 X 0.8	SY3000
C4	One-touch fitting for ø4	
C6	One-touch fitting for ø6	SY5000
O1	Rc(PT)1/8	
C4	One-touch fitting for ø4	
C6	One-touch fitting for ø6	
C8	One-touch fitting for ø8	

How to Change Port Block Assembly

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

With the One-touch fitting port block assembly, it is only necessary to change the fitting and not the whole block.

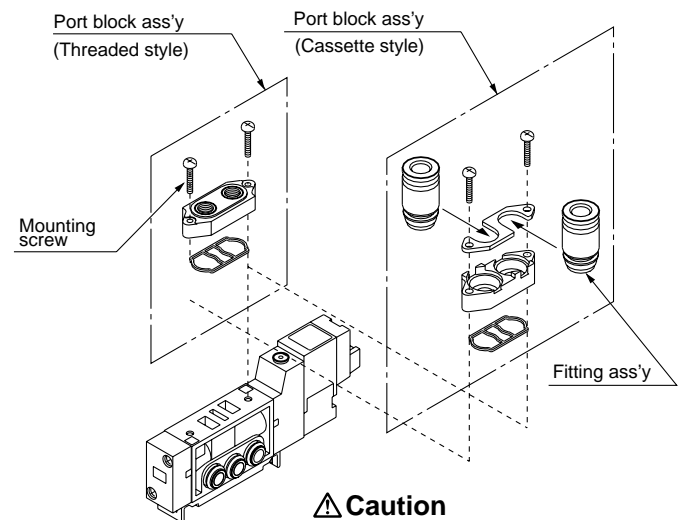
Refer to following part numbers.

Series SY3000

Port size	Fitting Ass'y P/N
One-touch fitting for ø4	VVQ1000-50A-C4
One-touch fitting for ø6	VVQ1000-50A-C6

Series SY5000

Port size	Fitting Ass'y P/N
One-touch fitting for ø4	VVQ1000-51A-C4
One-touch fitting for ø6	VVQ1000-51A-C6
One-touch fitting for ø6	VVQ1000-51A-C8



Caution

Torque for mounting screws

SY3000(M2): 0.09Nm

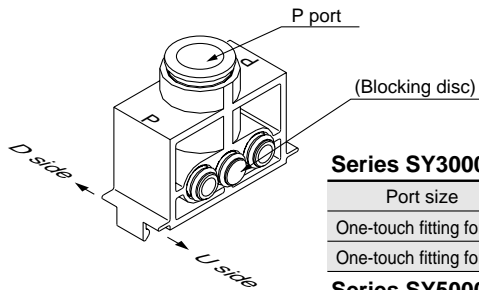
SY5000(M3): 0.6Nm

* Refer "How to Order Port Block Ass'y" part numbers.

Cassette Style Manifold Series SY3000/5000

Manifold Options

Individual SUP Block Assembly



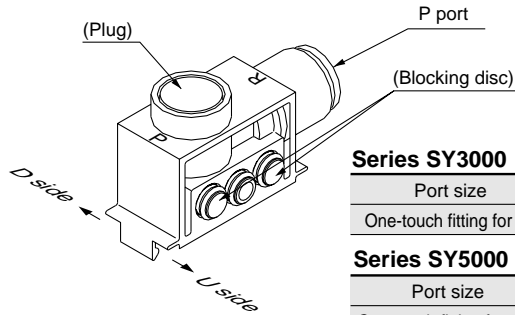
Series SY3000

Port size	Ass'y part No.
One-touch fitting for $\phi 8$	SY3000-54-1C
One-touch fitting for $\phi 6$	SY3000-54-2C

Series SY5000

Port size	Ass'y part No.
One-touch fitting for $\phi 6$	SY5000-54-1C

Individual SUP Block Assembly



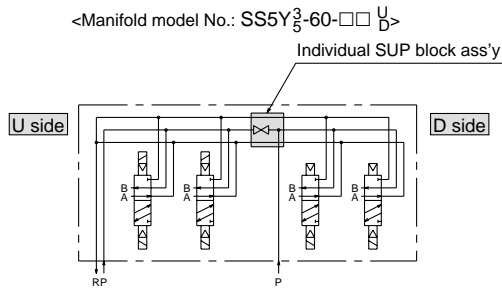
Series SY3000

Port size	Ass'y part No.
One-touch fitting for $\phi 8$	SY3000-55-1B

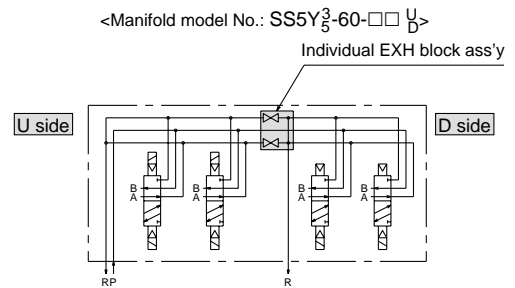
Series SY5000

Port size	Ass'y part No.
One-touch fitting for $\phi 10$	SY5000-55-1B

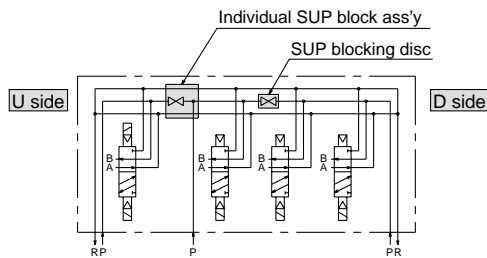
[When supplying the manifold with 2 different supply pressures.]
Specify arrangement of individual SUP block ass'y on manifold specification form. (When using SS5Y₃-60-□□D, blocking disc is assembled on D side.)



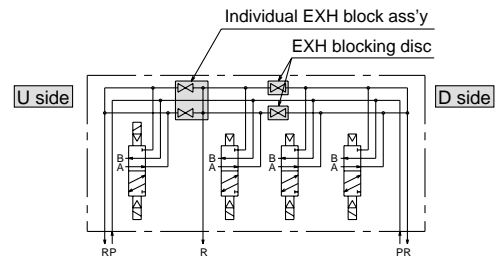
[When 2 different exhaust passages are required.]
Specify arrangement of individual EXH block ass'y on manifold specification form. (When using SS5Y₃-60-□□D, blocking disc is assembled on D side.)



[When a different supply pressure is required for only 1 valve.]
Specify arrangement of individual SUP block ass'y and SUP blocking disc on manifold specification form.
(Applicable manifold model No. SS5Y₃-60-□□B)



[When a separate exhaust passage is needed on only 1 valve.]
Specify arrangement of individual EXH block ass'y and EXH blocking disc on manifold specification form.
(Applicable manifold model No. SS5Y₃-60-□□B)



- SY
- SYJ
- SX
- VK
- VZ
- VF
- VFR
- VP7
- VP4
- VQ
- VQ4
- VQZ
- VQD
- VZS
- VFS
- VS
- VS7

Series SY3000/5000

Manifold Options

■ SUP block disc

When more than one supply pressure is required on a manifold, insert the blocking disc in between the stations subjected to different pressures. (This is the same block disc used with the individual supply block ass'y.)



Series	Part No.
SY3000	SY3000-52-2A
SY5000	SY5000-52-2A

■ EXH block disc

By placing an EXH blocking disc in the exhaust passage of the manifold valve, the exhaust air of the valve can be separated so as not to affect the other valves. (Two blocking discs are needed to separate both EXH passages. It is the same block disc that is used in the individual EXH block assembly.)



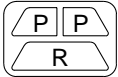
Series	Part No.
SY3000	SY3000-52-2A
SY5000	SY5000-52-2A

■ Block disc indication seal

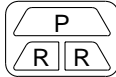
The labels shown below are used on manifold stations containing SUP/EXH block disc(s) to show their location. (3 pcs. each)

VZ3000-123-1A

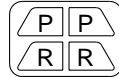
Label for SUP block disc



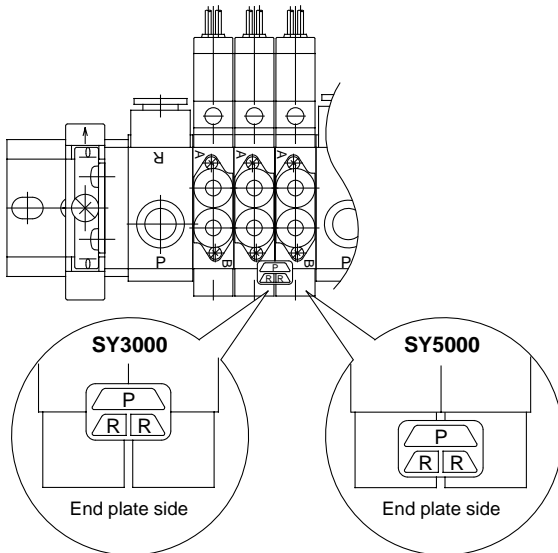
Label for EXH block disc



Label for both SUP and EXH block disc

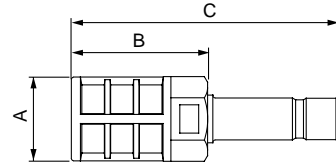


* When ordering block disc installed at the factory, labels will be attached to the manifold showing the locations.



■ Silencer for One-touch fittings

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



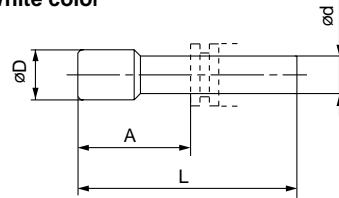
Series	Part No.	Effective area	A	B	C
SY3000 for $\phi 8$	AN203-KM8	14mm ²	$\phi 16$	26	51
SY5000 for $\phi 10$	AN200-KM10	26mm ²	$\phi 22$	53.8	80.8
	AN300-KM10	30mm ²	$\phi 25$	70	97

■ Plug

It is inserted into an unused cylinder port and SUP/EXH ports. Minimum order quantity 10 pieces. Order in multiples of 10.

04
KQP-06-X19
08

• White color



Dimensions

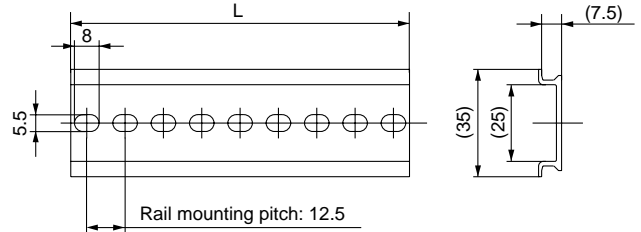
Applicable fitting size ϕd	Model	A	L	D
4	KQP-04-X19	16	32	6
6	KQP-06-X19	18	35	8
8	KQP-08-X19	20.5	39	10
10	KQP-10-X19	22	43	12

■ DIN rail dimensions/weight

VZ1000-11-1-□

• Refer to the L dimension

*Select a number from the table below that corresponds with the length needed.



Number	0	1	2	3	4	5	6	7	8	9
L	98	110.5	123	135.5	148	160.5	173	185.5	198	210.5
Weight (g)	17.6	19.9	22.1	24.4	26.6	28.9	31.1	33.4	35.6	37.9

Number	10	11	12	13	14	15	16	17	18	19
L	223	235.5	248	260.5	273	285.5	298	310.5	323	335.5
Weight (g)	40.1	42.4	44.6	46.9	49.1	51.4	53.6	55.9	58.1	60.4

Number	20	21	22	23	24	25	26	27	28	29
L	348	360.5	373	385.5	398	410.5	423	435.5	448	460.5
Weight (g)	62.6	64.9	67.1	69.4	71.6	73.9	76.1	78.4	80.6	82.9

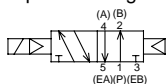
Cassette Style Manifold *Series SY3000/5000*

Construction

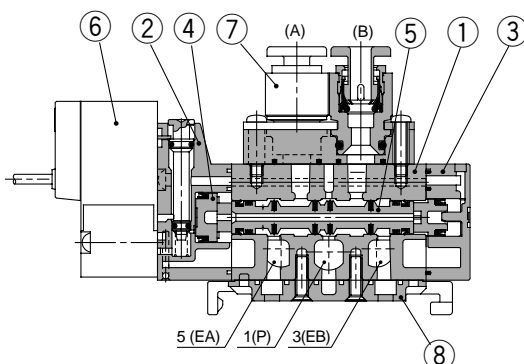
Series SY

JIS Symbol

2 position single solenoid

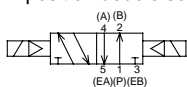


2 position single solenoid

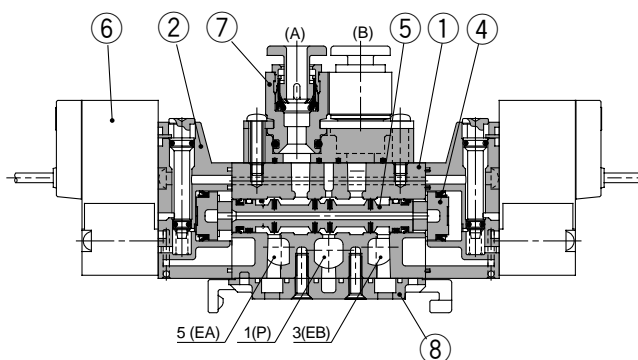


JIS Symbol

2 position double solenoid

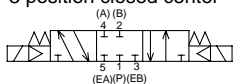


2 position double solenoid

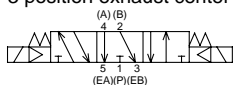


JIS Symbol

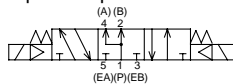
3 position closed center



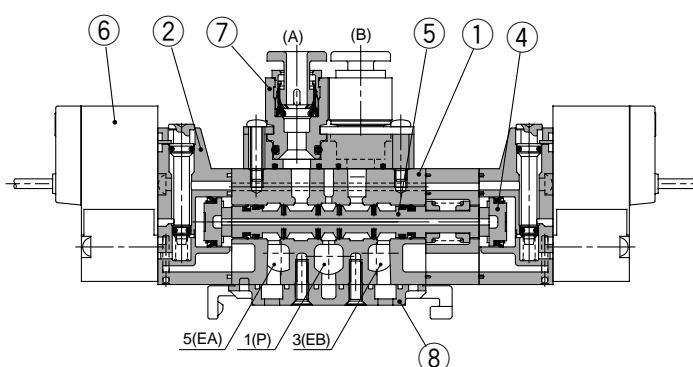
3 position exhaust center



3 position pressure center



3 position closed center/exhaust center/pressure center



(The figure shows closed center style)

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VP4

VQ

VQ4

VQZ

VQD

VZS

VFS

VS

VS7

Component Parts

No.	Description	Material	Note
①	Body	Aluminum die cast (SY3000: Zinc die cast)	White
②	Adaptor plate	Resin	White
③	End plate	Resin	White
④	Piston	Resin	—
⑤	Spool ass'y	Aluminium/NBR	—

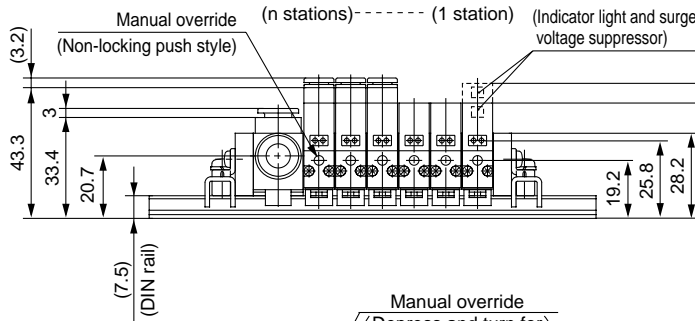
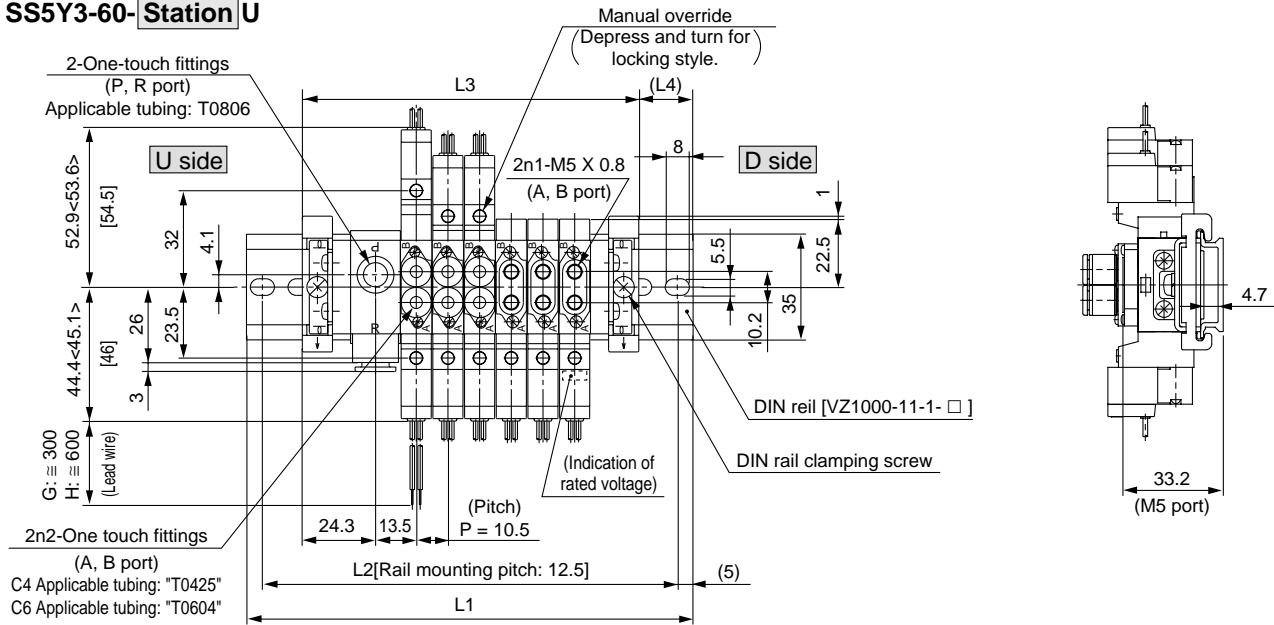
Replacement Parts

No.	Description	Parts No.
⑥	Pilot valve ass'y	Refer to "How to Order Pilot Valve Ass'y" on p.1.1-146
⑦	Port block ass'y	Refer to "How to Order Port Block Ass'y" on p.1.1-146
⑧	Bottom cover ass'y	SY3000-41-2A (With screw and gasket)
		SY5000-41-2A (With screw and gasket)

Series SY3000/5000

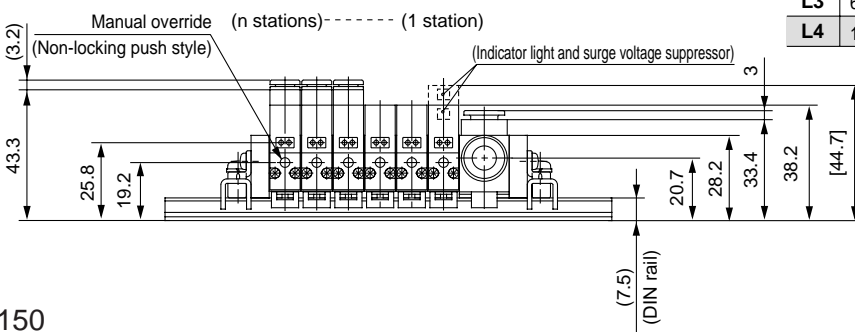
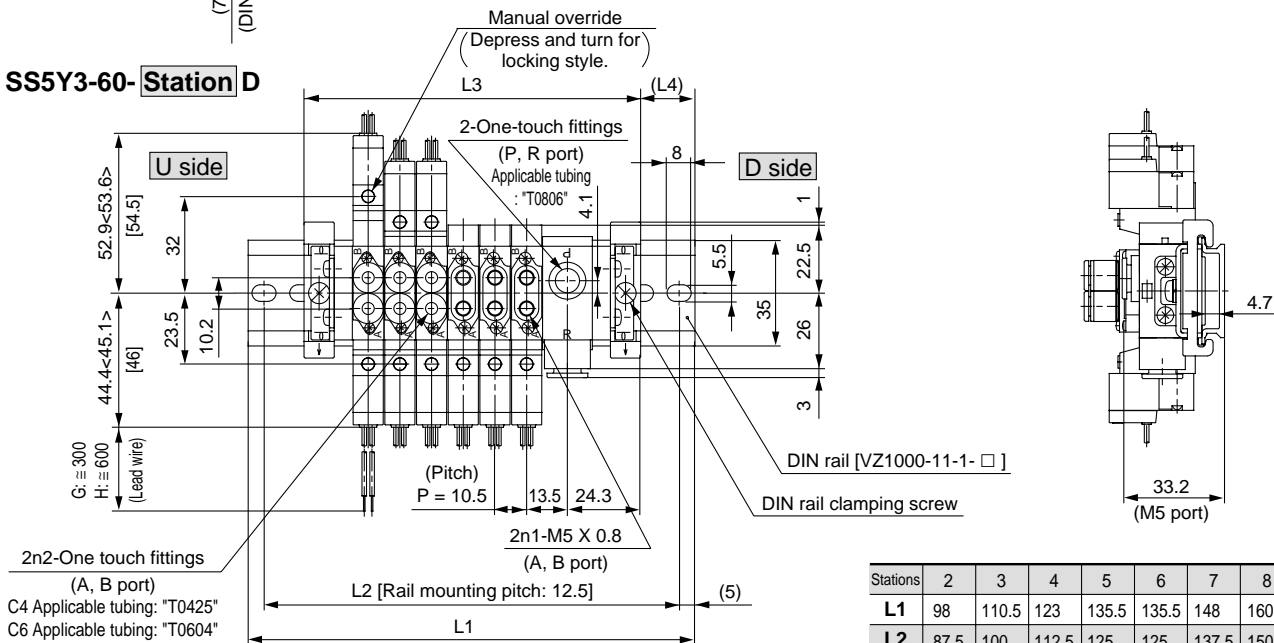
Dimensions

SS5Y3-60-Station U



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

SS5Y3-60-Station D

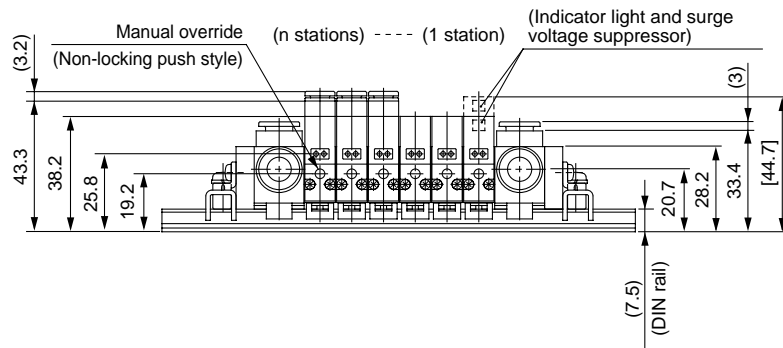
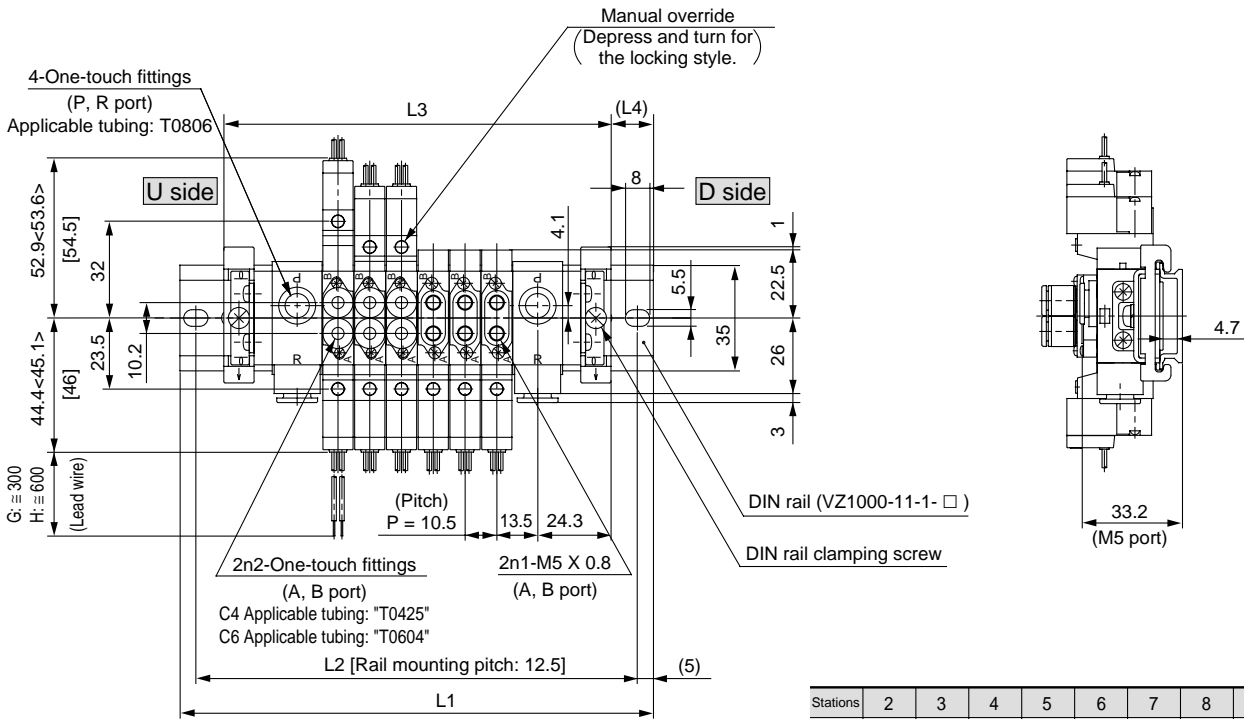


Stations	2	3	4	5	6	7	8	9	10
L1	98	110.5	123	135.5	135.5	148	160.5	173	185.5
L2	87.5	100	112.5	125	125	137.5	150	162.5	175
L3	69.5	80	90.5	101	111.5	122	132.5	143	153.5
L4	14	15	16	17	12	13	14	15	16

Cassette Style Manifold Series SY3000/5000

Note[]: AC, < >: With surge voltage suppressor

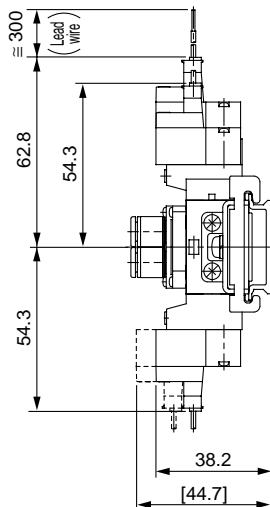
SS5Y3-60-Station B



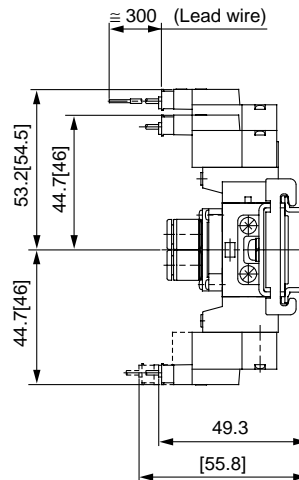
Stations	2	3	4	5	6	7	8	9	10
L1	110.5	123	135.5	148	160.5	173	173	185.5	198
L2	100	112.5	125	137.5	150	162.5	162.5	175	187.5
L3	86	96.5	107	117.5	128	138.5	149	159.5	170
L4	12	13	14	15	16	17	12	13	14

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

L plug connector



M plug connector



SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VP4

VQ

VQ4

VQZ

VQD

VZS

VFS

VS

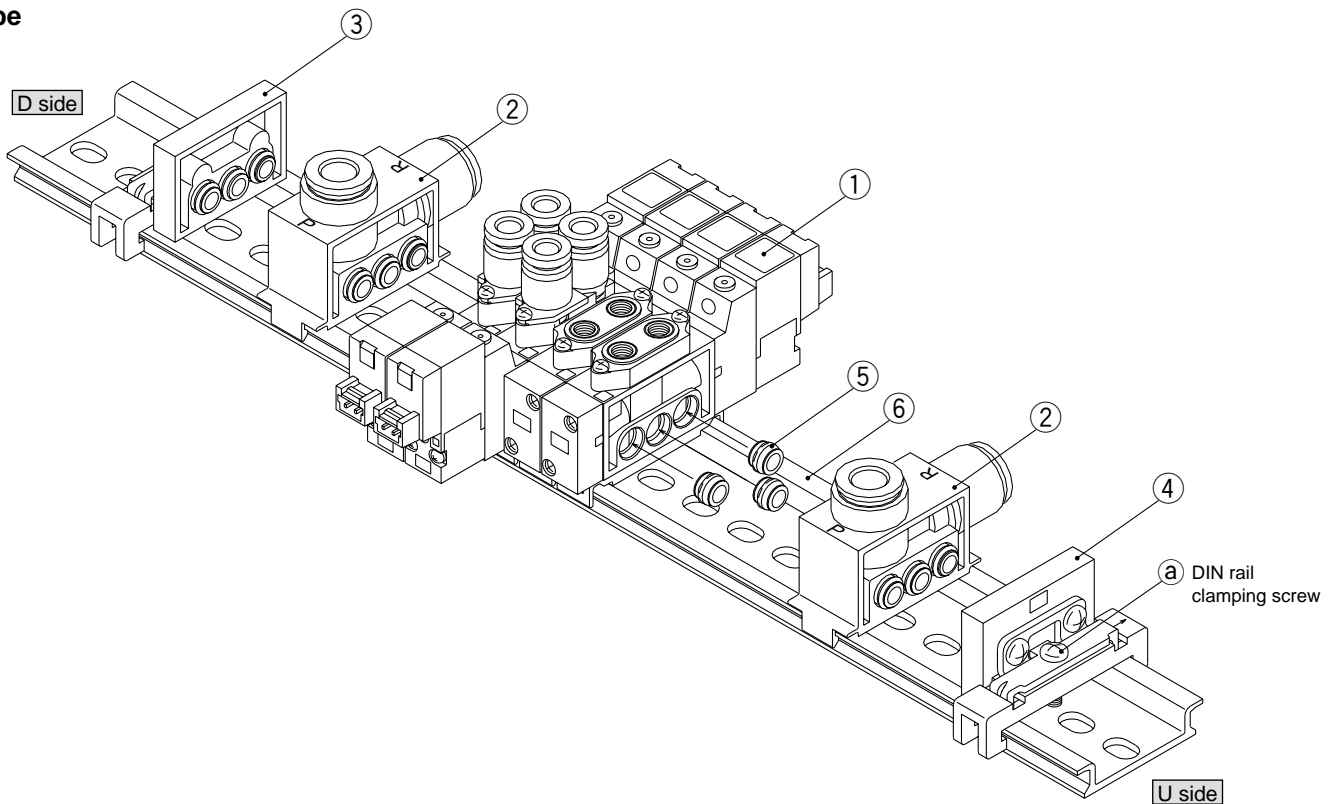
VS7

Series SY3000/5000

Exploded View/DIN Rail Manifold

SY3000

60 Type



Replacement Parts

No.	Description	Part No.	Note
①	Valve	SY3□60-□□- ^{M5} _{C4} _{C6}	Includes bushing assembly (SY3000-52-1A) 3 pcs.
②	SUP/EXH block ass'y	SY3000-55-1A	P, R port: With One-touch fitting for 8 Includes bushing assembly(SY3000-52-1A) 3 pcs.
③	End block ass'y	SY3000-56-1A	For D side(Bushing assembly: Not available for SY3000-52-1A)
④	End block ass'y	SY3000-56-1B	For U side(Bushing assembly: Not available for SY3000-52-1A)
⑤	Bushing ass'y	SY3000-52-1A	
⑥	DIN rail	VZ1000-11-1-□	Refer to p.1.1-148