



# Series SY3000/5000/7000/9000 Body Ported Valve Single Unit

## How to Order

**SY 5 1 20** — **5 L** — **01**

**Series**

3	SY3000
5	SY5000
7	SY7000
9	SY9000

**Type of actuation**

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)

**Coil specifications**

Nil	Standard
T	With power saving circuit (24, 12 VDC only)

\* Power saving circuit is not available in the case of "D", "DO" or "W□" type.

**Rated voltage**

**DC**

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

**AC (50/60Hz)**

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

\* DC specifications of type "D" and "DO" is only available with 12 and 24 VDC.  
\* For type "W□", DC voltage is only available.

**Electrical entry**

24, 12, 6, 5, 3 VDC/100, 110, 200, 220 VAC				24, 12 VDC/ 100, 110, 200, 220 VAC
Grommet	L plug connector	M plug connector	MN: Without lead wire	DIN terminal
G: Lead wire length 300 mm	L: With lead wire (Length 300 mm)	M: With lead wire (Length 300 mm)	MN: Without lead wire	
H: Lead wire length 600 mm	LN: Without lead wire	LO: Without connector	MO: Without connector	DO: Without connector

**24, 12, 6, 5, 3 VDC**

**M8 connector**

WO: Without connector cable

\* "LN", "MN" type: with 2 sockets.  
\* For DIN terminal of SY3000 series, refer to page 1-4-207.  
\* DIN terminal type "Y" conforming to DIN 43650C is available, too. For details, refer to page 1-4-201.  
\* For connector cable of M8 connector, refer to page 1-4-209.

**A, B port size Thread piping**

Symbol	Port size	Applicable series
M5	M5 x 0.8	SY3000
O1	1/8	SY5000
O2	1/4	SY7000
O2	1/4	SY9000
O3	3/8	

**One-touch fitting (Metric size)**

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

**One-touch fitting (Inch size)**

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

**Bracket**

Nil: Without bracket  
F1: With foot bracket (2 position single only)  
F2: With side bracket

\* SY9000 has no bracket.

**Thread type**

Nil	Rc
F	G
N	NPT
T	NPTF

**Manual override**

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

**Light/Surge voltage suppressor**

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

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

\* For AC voltage valves there is no "S" option. It is already built-in to the rectifier circuit.  
\* For "R" and "U", DC voltage is only available.  
\* Power saving circuit is only available in the "Z" type.

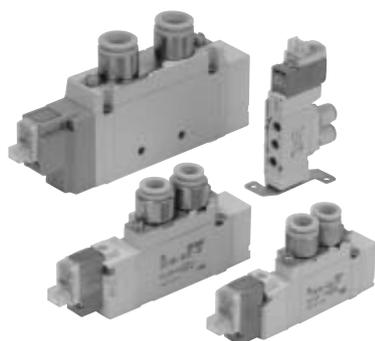
**Electrical entry for D**

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

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

Note) When placing an order for body ported solenoid valve as a single unit, mounting bolt for manifold and gasket are not attached. Order them separately, if necessary. (For details, refer to catalog on page 1-4-61.)

### Specifications



Series		SY3000	SY5000	SY7000	SY9000
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 (°C)		-10 to 50 (No freezing. Refer to page 1-7-5.)			
Max. operating frequency (Hz)	2 position single, double	10	5	5	5
	3 position	3	3	3	3
Manual override (Manual operation)		Non-locking push type, Push-turn locking slotted type, Push-turn locking lever type			
Pilot exhaust method		Common exhaust type for main and pilot valve			
Lubrication		Not required			
Mounting orientation		Unrestricted			
Impact/Vibration resistance (m/s <sup>2</sup> ) <sup>Note)</sup>		150/30			
Enclosure		Dustproof (* DIN terminal, M8 connector conforms to IP65)			

\* Based on IEC529)  
 Note) Impact resistance: No malfunction occurred when it is tested with a drop tester in the axial direction and at the right angles to the main valve and armature in both energized and de-energized states every once for each condition. (Values at the initial period)  
 Vibration resistance: No malfunction occurred in a one-sweep test between 45 and 2000 Hz. Test was performed at both energized and de-energized states in the axial direction and at the right angles to the main valve and armature. (Values at the initial period)

SV  
 SZ  
 SY  
 SYJ  
 SX

**Made to Order** Made to Order Specifications  
 (For details, refer to pages 1-4-188 to 202.)

### Solenoid Specifications

Electrical entry		Grommet (G), (H) L plug connector (L) M plug connector (M)	DIN terminal (D) M8 connector (W)
Coil rated voltage (V)	DC	24, 12, 6, 5, 3	
	AC 50/60 Hz	100, 110, 200, 220*	
Allowable voltage fluctuation (%)		±10% of rated voltage	
Power consumption (W)	DC	Standard	0.35 (With indicator light: 0.4 DIN terminal with indicator light: 0.45)
		With power saving circuit	0.1 (With indicator light only)
Apparent power (VA)	AC	100 V	1.4 (With indicator light: 1.5)
		110 V	1.6 (With indicator light: 1.7)
		[115 V]	[1.7 (With indicator light: 1.8)]
		200 V	2.3 (With indicator light: 2.4)
		220 V [230 V]	2.5 (With indicator light: 2.6) [2.7 (With indicator light: 2.8)]
Surge voltage suppressor		Diode (DIN terminal is ZNR. G, L or M (Non-polar) is zener diode.)	
Indicator light		LED	

\* In common between 110 VAC and 115 VAC, and between 220 VAC and 230 VAC.  
 \* For 115 VAC and 230 VAC, the allowable voltage is -15% to +5% of rated voltage.

### Response Time

Note) Based on dynamic performance test, JIS B 8375-1981. (Coil temperature: 20°C, at rated voltage, without surge suppressor)

#### SY3000

Type of actuation	Response time (ms) (at the pressure of 0.5 MPa)		
	Without light/surge voltage suppressor	With light/surge voltage suppressor	
		Type S, Z	Type R, U
2 position single	12 or less	15 or less	12 or less
2 position double	10 or less	13 or less	10 or less
3 position	15 or less	20 or less	16 or less

#### SY5000

Type of actuation	Response time (ms) (at the pressure of 0.5 MPa)		
	Without light/surge voltage suppressor	With light/surge voltage suppressor	
		Type S, Z	Type R, U
2 position single	19 or less	26 or less	19 or less
2 position double	18 or less	22 or less	18 or less
3 position	32 or less	38 or less	32 or less

#### SY7000

Type of actuation	Response time (ms) (at the pressure of 0.5 MPa)		
	Without light/surge voltage suppressor	With light/surge voltage suppressor	
		Type S, Z	Type R, U
2 position single	31 or less	38 or less	33 or less
2 position double	27 or less	30 or less	28 or less
3 position	50 or less	56 or less	50 or less

#### SY9000

Type of actuation	Response time (ms) (at the pressure of 0.5 MPa)		
	Without light/surge voltage suppressor	With light/surge voltage suppressor	
		Type S, Z	Type R, U
2 position single	35 or less	41 or less	35 or less
2 position double	35 or less	41 or less	35 or less
3 position	62 or less	64 or less	62 or less

Series SY3000/5000/7000/9000

Flow Characteristics/Weight

Series SY3000

Valve model	Type of actuation		Port size		Flow characteristics						Weight (g)		
			1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1→4/2 (P→A/B)			4/2→5/3 (A/B→EA/EB)			Grom- met	L, M plug connector	W M8 connector
			C (dm <sup>3</sup> /s-bar)	b	Cv	C (dm <sup>3</sup> /s-bar)	b	Cv					
SY3□20 -□-M5	2 position	Single	M5 x 0.8										
		Double											
	3 position	Closed center											
		Exhaust center											
SY3□20 -□-C4	2 position	Single	M5 x 0.8	C4 (One-touch fitting for ø4)									
		Double											
	3 position	Closed center											
		Exhaust center											
SY3□20 -□-C6	2 position	Single	M5 x 0.8	C6 (One-touch fitting for ø6)									
		Double											
	3 position	Closed center											
		Exhaust center											

Note [ ] : Denotes normal position.

Series SY7000

Valve model	Type of actuation		Port size		Flow characteristics						Weight (g)			
			1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1→4/2 (P→A/B)			4/2→5/3 (A/B→EA/EB)			Grom- met	L, M plug connector	DIN terminal	W M8 connector
			C (dm <sup>3</sup> /s-bar)	b	Cv	C (dm <sup>3</sup> /s-bar)	b	Cv						
SY7□20 -□-02	2 position	Single	1/4											
		Double												
	3 position	Closed center												
		Exhaust center												
SY7□20 -□-C8	2 position	Single	1/4	C8 (One-touch fitting for ø8)										
		Double												
	3 position	Closed center												
		Exhaust center												
SY7□20 -□-C10	2 position	Single	1/4	C10 (One-touch fitting for ø10)										
		Double												
	3 position	Closed center												
		Exhaust center												

Note [ ] : Denotes normal position.

Series SY5000

Valve model	Type of actuation		Port size		Flow characteristics						Weight (g)			
			1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1→4/2 (P→A/B)			4/2→5/3 (A/B→EA/EB)			Grom- met	L, M plug connector	DIN terminal	W M8 connector
			C (dm <sup>3</sup> /s-bar)	b	Cv	C (dm <sup>3</sup> /s-bar)	b	Cv						
SY5□20 -□-01	2 position	Single	1/8											
		Double												
	3 position	Closed center												
		Exhaust center												
SY5□20 -□-C4	2 position	Single	1/8	C4 (One-touch fitting for ø4)										
		Double												
	3 position	Closed center												
		Exhaust center												
SY5□20 -□-C6	2 position	Single	1/8	C6 (One-touch fitting for ø6)										
		Double												
	3 position	Closed center												
		Exhaust center												
SY5□20 -□-C8	2 position	Single	1/8	C8 (One-touch fitting for ø8)										
		Double												
	3 position	Closed center												
		Exhaust center												

Note [ ] : Denotes normal position.

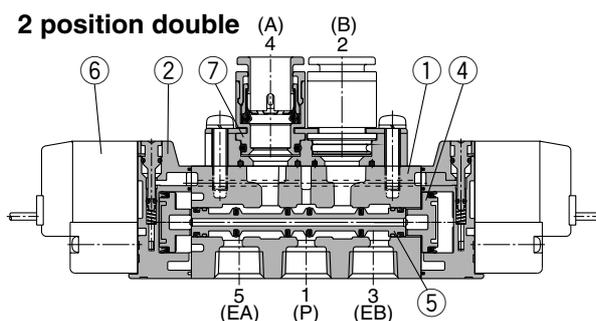
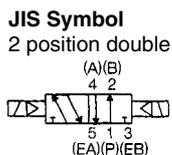
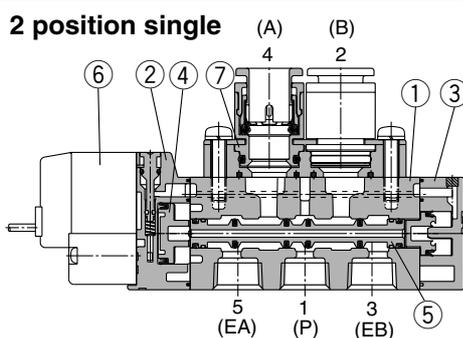
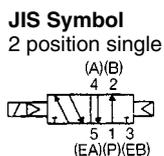
Series SY9000

Valve model	Type of actuation		Port size		Flow characteristics						Weight (g)			
			1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1→4/2 (P→A/B)			4/2→5/3 (A/B→EA/EB)			Grom- met	L, M plug connector	DIN terminal	W M8 connector
			C (dm <sup>3</sup> /s-bar)	b	Cv	C (dm <sup>3</sup> /s-bar)	b	Cv						
SY9□20 -□-02	2 position	Single	1/4											
		Double												
	3 position	Closed center												
		Exhaust center												
SY9□20 -□-03	2 position	Single	3/8											
		Double												
	3 position	Closed center												
		Exhaust center												
SY9□20 -□-C8	2 position	Single	1/4	C8 (One-touch fitting for ø8)										
		Double												
	3 position	Closed center												
		Exhaust center												
SY9□20 -□-C10	2 position	Single	1/4	C10 (One-touch fitting for ø10)										
		Double												
	3 position	Closed center												
		Exhaust center												
SY9□20 -□-C12	2 position	Single	1/4	C12 (One-touch fitting for ø12)										
		Double												
	3 position	Closed center												
		Exhaust center												

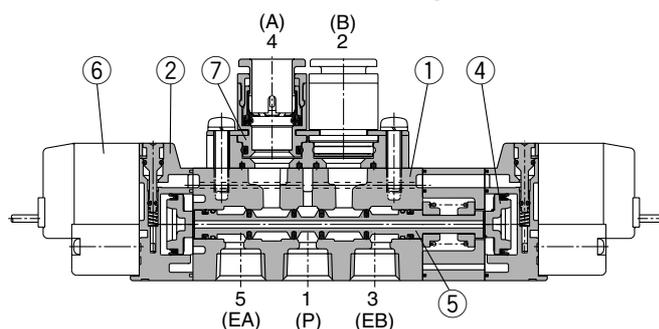
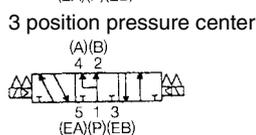
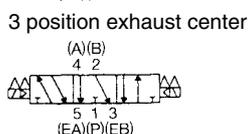
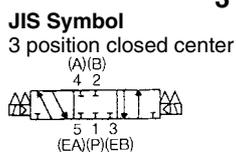
Note [ ] : Denotes normal position.

## Construction

### Series SY



### 3 position closed center/exhaust center/pressure center



(This figure shows a closed center type.)

### Component Parts

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

### Replacement Parts

No.	Description	Part no.
⑥	Pilot valve assembly	Refer to "How to Order Pilot Valve Assembly" on page 1-4-10.
⑦	M5 port block assembly	Refer to "How to Order Port Block Assembly" on page 1-4-11.

### Bracket Assembly Part No.

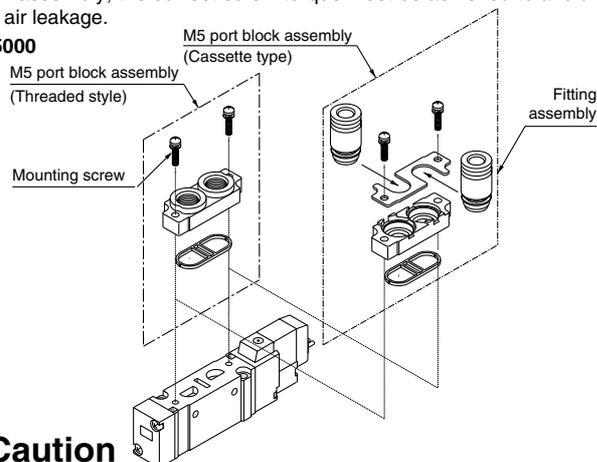
Description	part no.
Bracket (For F1)	SX <sup>3</sup> 000-16-2A (with mounting screw)
Bracket (For F2)	SX <sup>3</sup> 000-16-1A (with mounting screw)

\* SY9000 has no bracket.

### How to Change Port Block Assembly

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

For SY5000



### Caution

#### Mounting screw tightening torques

SY3000 (M2): 0.12 N·m  
SY<sup>5</sup>000 (M3): 0.6 N·m  
SY9000 (M4): 1.4 N·m

\* Refer to "How to Order Port Block Assembly" on page 1-4-11 for part no.

SV

SZ

SY

SYJ

SX

## How to Order Pilot Valve Assembly

## How to Order Connector Assembly for L/M Plug Connector

V111-5-G

### Coil specifications

<b>Nil</b>	Standard: DC specifications
<b>A</b>	Standard: AC specifications
<b>T</b>	With power saving circuit (24 VDC, 12 VDC only)

\* Power saving circuit is not available in the case of "D", "DO" or "W□" type.

### Rated voltage

<b>5</b>	24 VDC
<b>6</b>	12 VDC
<b>V</b>	6 VDC
<b>S</b>	5 VDC
<b>R</b>	3 VDC
<b>1</b>	100 VDC <sup>50/60</sup> Hz
<b>2</b>	200 VAC <sup>50/60</sup> Hz
<b>3</b>	110 VAC <sup>50/60</sup> Hz [115 VAC <sup>50/60</sup> Hz]
<b>4</b>	220 VAC <sup>50/60</sup> Hz [230 VAC <sup>50/60</sup> Hz]

\* For type "W□", DC voltage is only available.

### Light/Surge voltage suppressor

<b>Nil</b>	Without light/surge voltage suppressor
<b>S</b>	With surge voltage suppressor
<b>Z</b>	With light/surge voltage suppressor
<b>R</b>	With surge voltage suppressor (Non-polar type)
<b>U</b>	With light/surge voltage suppressor (Non-polar type)

\* For AC voltage valves there is no "S" option. It is already built-in to the rectifier circuit.  
\* For "R" and "U", DC voltage is only available.  
\* Power saving circuit is only available in the "Z" type.

### Electrical entry

<b>G</b>	Grommet, 300 mm lead wire	
<b>H</b>	Grommet, 600 mm lead wire	
<b>L</b>	L plug connector	With lead wire
<b>LN</b>		Without lead wire
<b>LO</b>	Without connector	
<b>M</b>	M plug connector	With lead wire
<b>MN</b>		Without lead wire
<b>MO</b>		Without connector
<b>WO</b>	M8 connector Without connector cable	

Note) For connector cable of M8 connector, refer to page 1-4-209.

For DC: SY100-30-4A

For 100 VAC: SY100-30-1A

For 200 VAC: SY100-30-2A

For other voltages of AC: SY100-30-3A

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

### Lead wire length

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

## How to Order M8 Connector Cable

### Straight type

V100-49-1-

### Cable length

<b>1</b>	300 mm
<b>2</b>	500 mm
<b>3</b>	1000 mm
<b>4</b>	2000 mm
<b>7</b>	5000 mm

### DIN terminal type

V115-5-D

### Rated voltage

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

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

### Light/Surge voltage suppressor

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

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

### Electrical entry

<b>D</b>	DIN	With connector
<b>DO</b>	terminal	Without connector

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

## How to Order Port Block Assembly

SY   000—6A—   

Series

3	SY3000
5	SY5000
7	SY7000
9	SY9000

Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

A, B port size

Thread piping

Symbol	Port size	Applicable series
M5	M5 x 0.8	SY3000
01	1/8	SY5000
02	1/4	SY7000
02	1/4	SY9000
03	3/8	

One-touch fitting (Metric size)

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

One-touch fitting (Inch size)

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

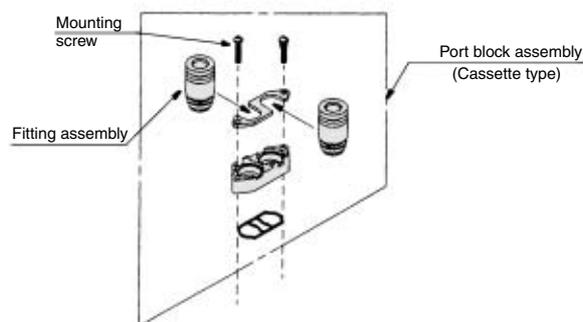
\* Only replacement of the fittings assembly is possible.

Metric size

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

Inch size

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



SV

SZ

**SY**

SYJ

SX

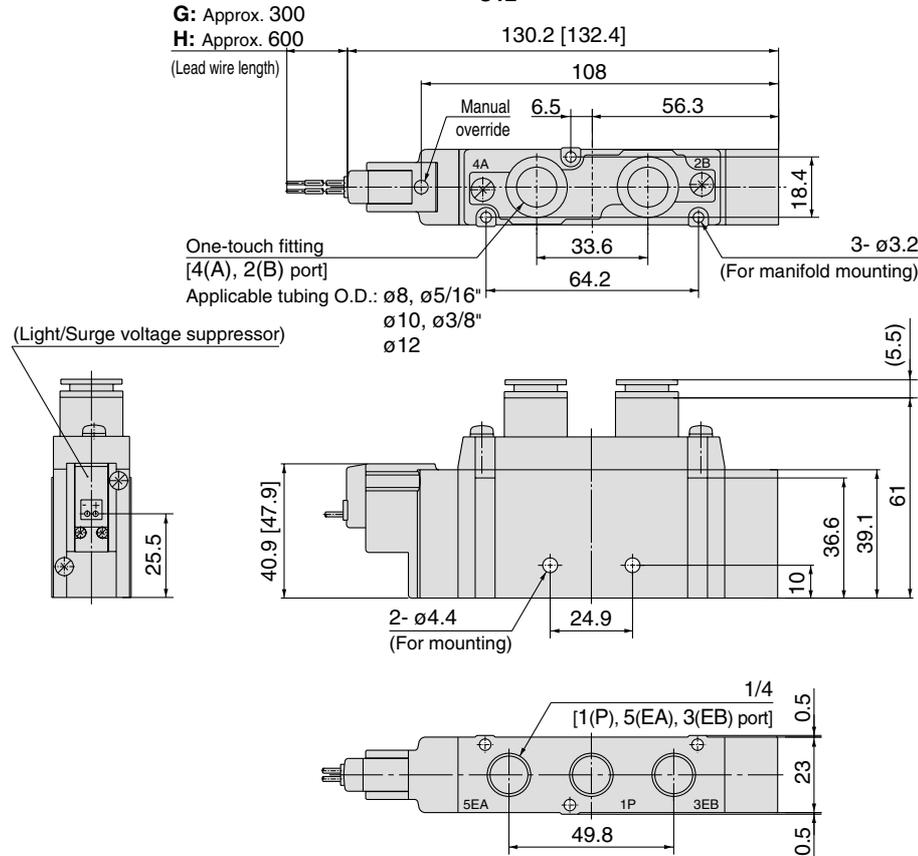
Dimensions: Series SY9000



2 position single

Grommet (G), (H): SYJ9120-□<sup>G</sup>□□<sup>C8, N9</sup>-□□<sup>C10, N11</sup>□□<sup>C12</sup>

SY9120-□<sup>G</sup>□□<sup>C8, N9</sup>-□□<sup>C10, N11</sup>□□<sup>C12</sup>-02□□<sup>03</sup>



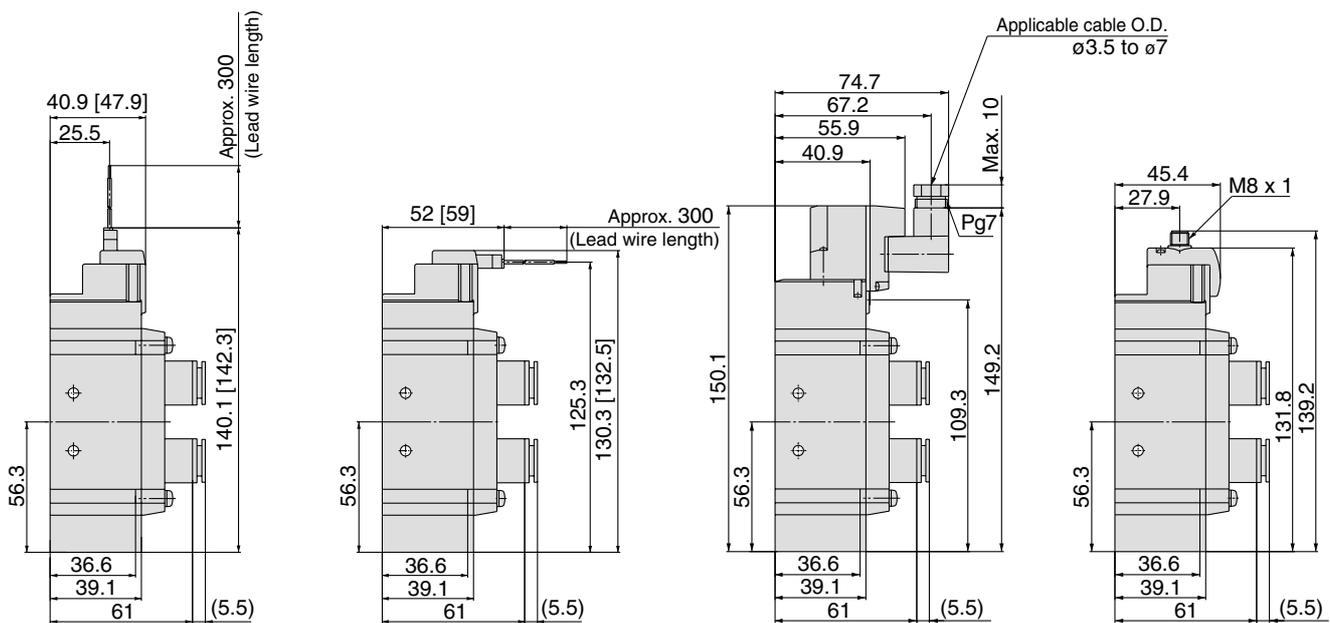
- SV
- SZ
- SY**
- SYJ
- SX

L plug connector (L): SY9120-□<sup>L</sup>□□<sup>C8, N9</sup>-□□<sup>C10, N11</sup>□□<sup>C12</sup>

M plug connector (M): SY9120-□<sup>M</sup>□□<sup>C8, N9</sup>-□□<sup>C10, N11</sup>□□<sup>C12</sup>

DIN terminal (D): SY9120-□<sup>D</sup>□□<sup>C8, N9</sup>-□□<sup>C10, N11</sup>□□<sup>C12</sup>

M8 connector (WO): SY9120-□<sup>WO</sup>□□<sup>C8, N9</sup>-□□<sup>C10, N11</sup>□□<sup>C12</sup>



Note) Refer to page 1-4-210 for dimensions of connector types.



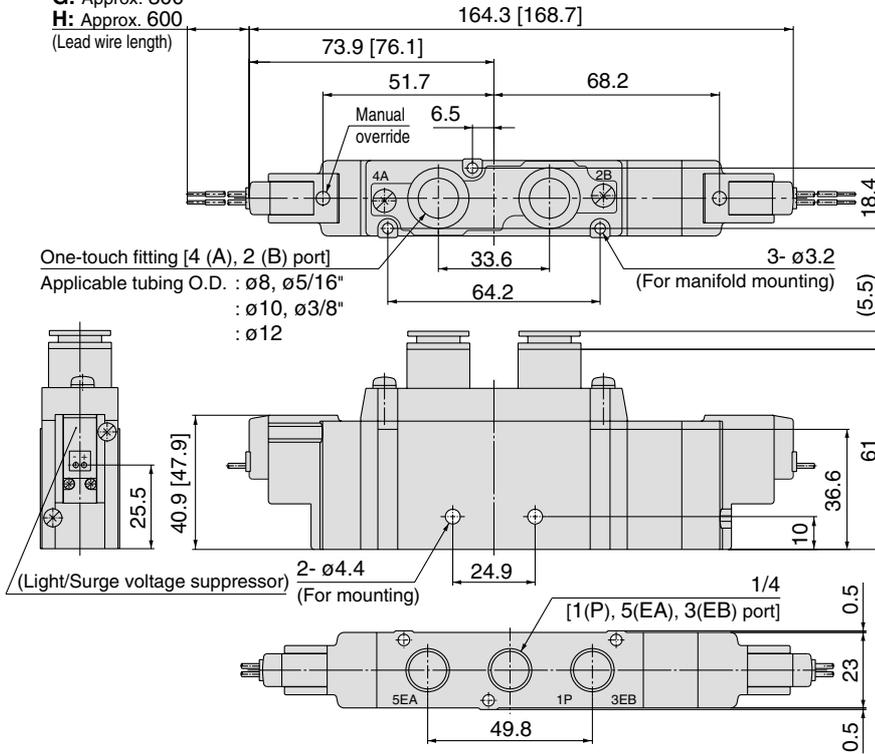


Dimensions: Series SY9000

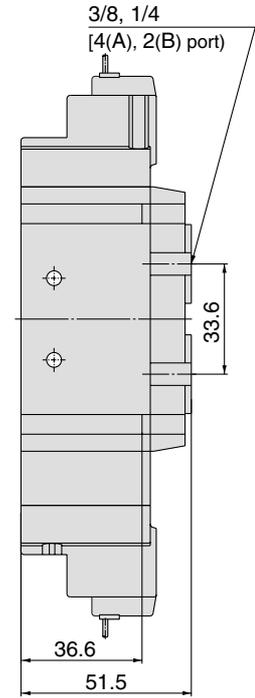
3 position closed center/exhaust center/pressure

Grommet (G), (H): SY9<sup>3</sup>/<sub>5</sub>420-□<sup>G</sup>□□-C8, N9  
C10, N11 □  
C12

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



SY9<sup>3</sup>/<sub>5</sub>420-□<sup>G</sup>□□-02 □  
03 □



- SV
- SZ
- SY**
- SYJ
- SX

L plug connector (L):

SY9<sup>3</sup>/<sub>5</sub>420-□<sup>L</sup>□□-C8, N9  
C10, N11 □  
C12

M plug connector (M):

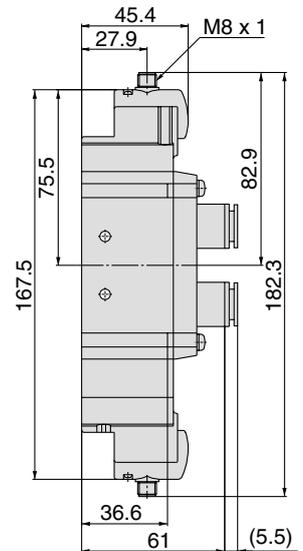
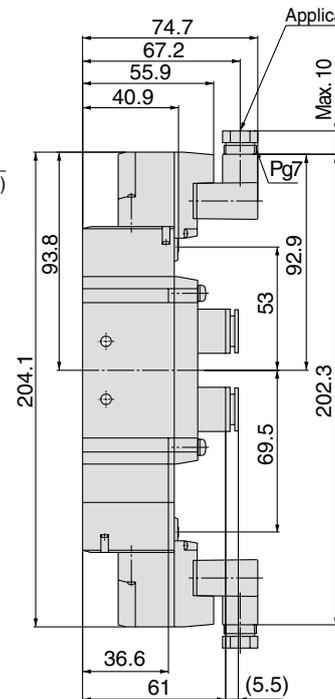
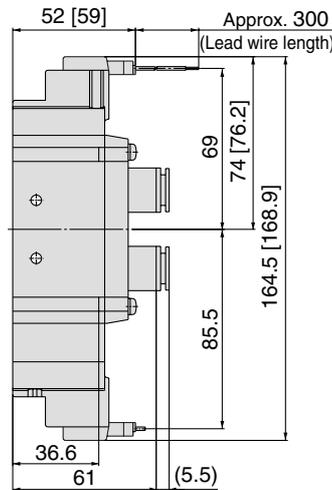
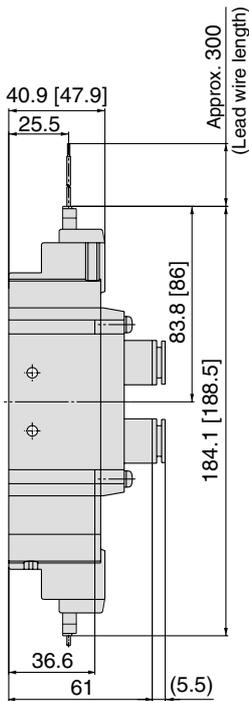
SY9<sup>3</sup>/<sub>5</sub>420-□<sup>M</sup>□□-C8, N9  
C10, N11 □  
C12

DIN terminal (D):

SY9<sup>3</sup>/<sub>5</sub>420-□<sup>D</sup>□□-C8, N9  
C10, N11 □  
C12

M8 connector (WO):

SY9<sup>3</sup>/<sub>5</sub>420-□<sup>WO</sup>□□-C8, N9  
C10, N11 □  
C12



Note) Refer to page 1-4-210 for dimensions of connector types.



# Series SY3000/5000/7000/9000 Base Mounted Valve Single Unit

## How to Order

**SY 5 2 40** **5 L**

**Series**

3	SY3000
5	SY5000
7	SY7000
9	SY9000

**Type of actuation**

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

**Pilot type**

Nil	Internal pilot
R	External pilot

**Coil specifications**

Nil	Standard
T	With power saving circuit (24, 12 VDC only)

\* Power saving circuit is not available in the case of "D", "DO" or "W□" type.

**Rated voltage**

**DC**

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

**AC (50/60 Hz)**

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

\* DC specifications of type "D" and "DO" is only available with 12 and 24 VDC.  
\* For type "W□", DC voltage is only available.

**Port size**

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

**Thread type**

Nil	Rc
F	G
N	NPT
T	NPTF

**Manual override**

<b>Nil:</b> Non-locking push type 	<b>D:</b> Push-turn locking slotted type 	<b>E:</b> Push-turn locking lever type 
---------------------------------------	--	--

**(Light/Surge voltage suppressor)**

Electrical entry for G, H, L, M, W		Electrical entry for D	
Nil	Without light/surge voltage suppressor	Nil	Without light/surge voltage suppressor
S	With surge voltage suppressor	S	With surge voltage suppressor (Non-polar type)
Z	With light/surge voltage suppressor	Z	With light/surge voltage suppressor (Non-polar type)
R	With surge voltage suppressor (Non-polar type)		
U	With light/surge voltage suppressor (Non-polar type)		

\* For AC voltage valves there is no "S" option. It is already built-in to the rectifier circuit.  
\* For "R" and "U", DC voltage is only available.  
\* Power saving circuit is only available in the "Z" type.

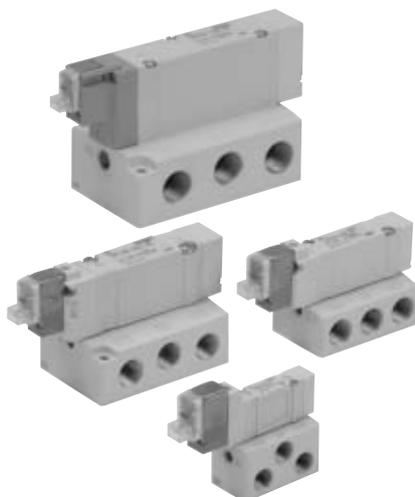
\* "DOZ" is not available.  
\* For AC voltage valves there is no "S" option. It is already built-in to the rectifier circuit.

**Electrical entry**

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

\* "LN", "MN" type: with 2 sockets.  
\* For DIN terminal of SY3000 series, refer to page 1-4-207.  
\* DIN terminal type "Y" conforming to DIN43650C standard is also available. For details, refer to page 1-4-201.  
\* For connector cable of M8 connector, refer to page 1-4-210.

## Specifications



**Made to Order Specification**  
(For details, refer to pages 1-4-188 to 202.)

Series		SY3000	SY5000	SY7000	SY9000
Fluid		Air			
Internal pilot Operating pressure range (MPa)	2 position single	0.15 to 0.7			
	2 position double	0.1 to 0.7			
	3 position	0.2 to 0.7			
External pilot Operating pressure range (MPa)	Operating pressure range		-100 kPa to 0.7		
	Pilot pressure range	2 position single	0.25 to 0.7		
		2 position double	0.25 to 0.7		
		3 position	0.25 to 0.7		
Ambient and fluid temperature (°C)		-10 to 50 (No freezing. Refer to page 1-7-4.)			
Max. operating frequency (Hz)	2 position single, double	10	5	5	5
	3 position	3	3	3	3
Manual override (Manual operation)		Non-locking push type, Push-turn locking slotted type, Push-turn locking lever type			
Pilot exhaust method	Internal pilot	Common exhaust type for main and pilot valve			
	External pilot	Pilot valve individual exhaust			
Lubrication		Not required			
Mounting orientation		Unrestricted			
Impact/Vibration resistance (m/s <sup>2</sup> ) <sup>Note)</sup>		150/30			
Enclosure		Dustproof (* DIN terminal, M8 connector conforms to IP65)			

\* Based on IEC529)

Note) Impact resistance: No malfunction occurred when it is tested with a drop tester in the axial direction and at the right angles to the main valve and armature in both energized and de-energized states every once for each condition. (Values at the initial period)

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

SV

SZ

SY

SYJ

SX

## Response Time



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

### SY3000

Type of actuation	Response time (ms) (at the pressure of 0.5 MPa)			
	Without light/surge voltage suppressor		With light/surge voltage suppressor	
	Type S, Z	Type R, U	Type S, Z	Type R, U
2 position single	12 or less	15 or less	12 or less	15 or less
2 position double	10 or less	13 or less	10 or less	13 or less
3 position	15 or less	20 or less	16 or less	20 or less

### SY5000

Type of actuation	Response time (ms) (at the pressure of 0.5 MPa)			
	Without light/surge voltage suppressor		With light/surge voltage suppressor	
	Type S, Z	Type R, U	Type S, Z	Type R, U
2 position single	19 or less	26 or less	19 or less	26 or less
2 position double	18 or less	22 or less	18 or less	22 or less
3 position	32 or less	38 or less	32 or less	38 or less

### SY7000

Type of actuation	Response time (ms) (at the pressure of 0.5 MPa)			
	Without light/surge voltage suppressor		With light/surge voltage suppressor	
	Type S, Z	Type R, U	Type S, Z	Type R, U
2 position single	31 or less	38 or less	33 or less	40 or less
2 position double	27 or less	30 or less	28 or less	35 or less
3 position	50 or less	56 or less	50 or less	56 or less

### SY9000

Type of actuation	Response time (ms) (at the pressure of 0.5 MPa)			
	Without light/surge voltage suppressor		With light/surge voltage suppressor	
	Type S, Z	Type R, U	Type S, Z	Type R, U
2 position single	35 or less	41 or less	35 or less	41 or less
2 position double	35 or less	41 or less	35 or less	41 or less
3 position	62 or less	64 or less	62 or less	64 or less

## Solenoid Specifications

Electrical entry		Grommet (G), (H) L plug connector: L M plug connector: M DIN terminal (D) M8 connector (W)	
Coil rated voltage (V)	DC	24, 12, 6, 5, 3	
	AC 50/60Hz	100, 110, 200, 220 *	
Allowable voltage fluctuation (%)		±10% of rated voltage	
Power consumption (W)	DC	Standard 0.35 (with indicator light: 0.4 DIN terminal with indicator light: 0.45)	
	AC	With power saving circuit 0.1 (With indicator light only)	
Apparent power	AC	100 V	1.4 (With indicator light: 1.5)
		110 V [115 V]	1.6 (With indicator light: 1.7) 1.7 (With indicator light: 1.8)
		200 V	2.3 (With indicator light: 2.4)
		220 V [230 V]	2.5 (With indicator light: 2.6) 2.7 (With indicator light: 2.8)
		Surge voltage suppressor	Diode (Varistor is for DIN terminal and Non-polar type.)
Indicator light		LED (AC of DIN terminal is neon bulb.)	



\* In common between 110 VAC and 115 VAC, and between 220 VAC and 230 VAC.

\* For 115 VAC and 230 VAC, the allowable voltage is -15% to 5% of rated voltage.

Flow Characteristics/Weight

Series SY3000

Valve model	Type of actuation		Port size	Flow characteristics <sup>Note 1)</sup>						Weight (g) <sup>Note 2)</sup>		
				1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → EA/EB)			Grommet	L plug connector, M plug connector	W M8 connector
				C (dm <sup>3</sup> /(s·bar))	b	Cv	C (dm <sup>3</sup> /(s·bar))	b	Cv			
SY3□40-□-01	2 position	Single	1/8	1.0	0.30	0.24	1.1	0.30	0.26	84 (50)	85 (53)	89 (57)
		Double										
	3 position	Closed center		0.77	0.28	0.18	0.85	0.30	0.19			
		Exhaust center		0.73	0.31	0.18	1.1 (0.55)	0.26 (0.52)	0.24 (0.16)			
	Pressure center	1.2 (0.51)	0.24 (0.45)	0.29 (0.14)	0.89	0.47	0.24	104 (69)	109 (74)	117 (82)		

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

Series SY5000

Valve model	Type of actuation		Port size	Flow characteristics <sup>Note 1)</sup>						Weight (g) <sup>Note 2)</sup>			
				1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → EA/EB)			Grommet	L plug connector, M plug connector	DIN terminal	W M8 connector
				C (dm <sup>3</sup> /(s·bar))	b	Cv	C (dm <sup>3</sup> /(s·bar))	b	Cv				
SY5□40-□-02	2 position	Single	1/4	2.4	0.41	0.64	2.8	0.29	0.66	121 (58)	123 (61)	154 (82)	127 (65)
		Double											
	3 position	Closed center		1.8	0.47	0.50	1.8	0.40	0.47				
		Exhaust center		1.4	0.55	0.44	3.0 (1.2)	0.33 (0.48)	0.72 (0.37)				
	Pressure center	3.3 (0.84)	0.36 (0.60)	0.85 (0.28)	1.8	0.40	0.48	144 (82)	150 (87)	192 (129)	158 (95)		

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

Series SY7000

Valve model	Type of actuation		Port size	Flow characteristics <sup>Note 1)</sup>						Weight (g) <sup>Note 2)</sup>			
				1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → EA/EB)			Grommet	L plug connector, M plug connector	DIN terminal	W M8 connector
				C (dm <sup>3</sup> /(s·bar))	b	Cv	C (dm <sup>3</sup> /(s·bar))	b	Cv				
SY7□40-□-02	2 position	Single	1/4	4.1	0.41	1.1	4.1	0.29	1.0	218 (89)	221 (92)	242 (113)	225 (96)
		Double											
	3 position	Closed center		3.0	0.43	0.80	2.6	0.41	0.72				
		Exhaust center		2.6	0.42	0.71	4.7 (1.7)	0.35 (0.48)	1.1 (0.49)				
	Pressure center	5.3 (2.3)	0.39 (0.49)	1.3 (0.65)	2.2	0.49	0.63	239 (110)	245 (116)	287 (158)	253 (124)		
SY7□40-□-03	2 position	Single	3/8	4.9	0.29	1.2	4.5	0.27	1.1	218 (89)	221 (92)	242 (113)	225 (96)
		Double											
	3 position	Closed center		3.0	0.40	0.80	2.6	0.45	0.73				
		Exhaust center		2.6	0.42	0.71	4.8 (1.7)	0.35 (0.48)	1.1 (0.49)				
	Pressure center	5.3 (2.3)	0.31 (0.51)	1.3 (0.64)	2.3	0.45	0.66	237 (108)	242 (113)	284 (155)	250 (121)		

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

Series SY9000

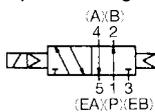
Valve model	Type of actuation		Port size	Flow characteristics <sup>Note 1)</sup>						Weight (g) <sup>Note 2)</sup>			
				1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → EA/EB)			Grommet	L plug connector, M plug connector	DIN terminal	W M8 connector
				C (dm <sup>3</sup> /(s·bar))	b	Cv	C (dm <sup>3</sup> /(s·bar))	b	Cv				
SY9□40-□-03	2 position	Single	3/8	7.9	0.34	2.0	9.6	0.43	2.6	469(172)	472(175)	493(196)	476(179)
		Double											
	3 position	Closed center		7.5	0.33	1.8	7.3	0.30	1.7				
		Exhaust center		7.2	0.34	1.7	13 (4.0)	0.23 (0.41)	2.8 (0.95)				
	Pressure center	12 (3.3)	0.26 (0.41)	2.8 (0.84)	6.7	0.40	1.9	512(215)	518(221)	560(263)	526(229)		
SY9□40-□-04	2 position	Single	1/2	8.0	0.48	2.2	10	0.29	2.5	448 (151)	453 (156)	472	457(160)
		Double											
	3 position	Closed center		7.6	0.32	1.8	7.3	0.32	1.8				
		Exhaust center		7.3	0.42	2.0	13 (4.7)	0.32 (0.54)	3.6 (1.5)				
	Pressure center	12 (3.3)	0.33 (0.51)	3.3 (0.94)	7.4	0.33	1.9	467 (170)	473 (176)	515	481(184)		

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

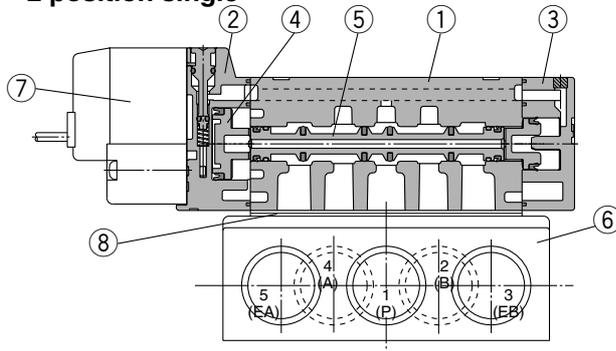
## Construction

### Series SY

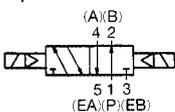
**JIS Symbol**  
2 position single



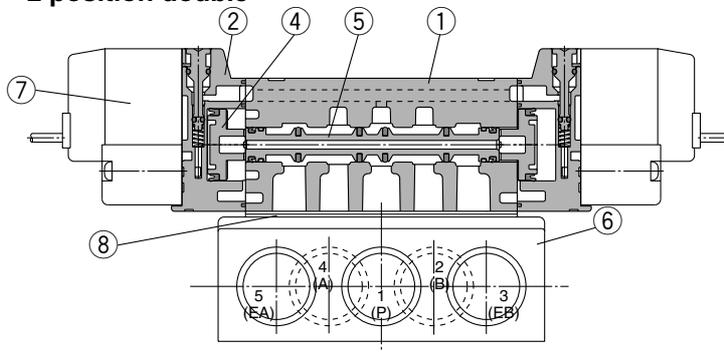
**2 position single**



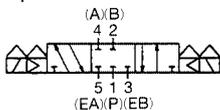
**JIS Symbol**  
2 position double



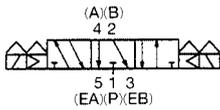
**2 position double**



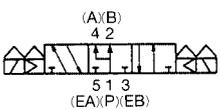
**JIS Symbol**  
3 position closed center



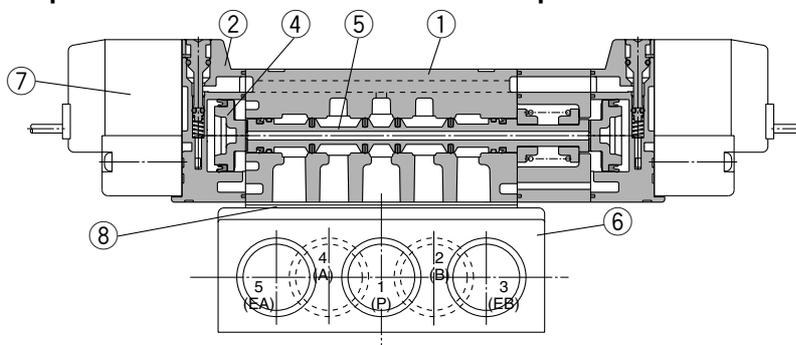
3 position exhaust center



3 position pressure center



**3 position closed center/exhaust center/pressure center**



(This figure shows a closed center type.)

### Component Parts

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

### Replacement Parts

No.	Description	Part no.				Note
		SY3□40	SY5□40	SY7□40	SY9□40	
⑥	Sub-plate	SY3000-27-1*	SY5000-27-1*	1/4: SY7000-27-1* 3/8: SY7000-27-2*	3/8: SY9000-27-1* 1/2: SY9000-27-2*	Aluminum die-casted
⑦	Pilot valve assembly	Refer to "How to Order Pilot Valve Assembly" on page 1-4-187.				
⑧	Gasket	SY3000-11-25	SY5000-11-15	SY7000-11-11	SY9000-11-2	HNBR
—	Round head combination screw	SY3000-23-4 (M2 x 21)	M3 x 26	M4 x 31	SY9000-18-2 (M3 x 42)	For valve mounting (Matt nickel plated)

\* Thread type

SV

SZ

**SY**

SYJ

SX

### ⚠ Caution

Mounting screw  
tightening torques

**M2: 0.16 N·m**  
**M3: 0.8 N·m**  
**M4: 1.4 N·m**

### How to Order Pilot Valve Assembly



Coil specifications

Nil	Standard: DC specifications
A	Standard: AC specifications
T	With power saving circuit (24 VDC, 12 VDC only)

\* Power saving circuit is not available in the case of "D", "DO" or "W□" type.

Rated voltage

5	24 VDC
6	12 VDC
V	6 VDC
S	5 VDC
R	3 VDC
1	100 VAC $\frac{50}{60}$ Hz
2	200 VAC $\frac{50}{60}$ Hz
3	110 VAC $\frac{50}{60}$ Hz [115 VAC $\frac{50}{60}$ Hz]
4	220 VAC $\frac{50}{60}$ Hz [230 VAC $\frac{50}{60}$ Hz]

\* For type "W□", DC voltage is only available.

Light/Surge voltage suppressor

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

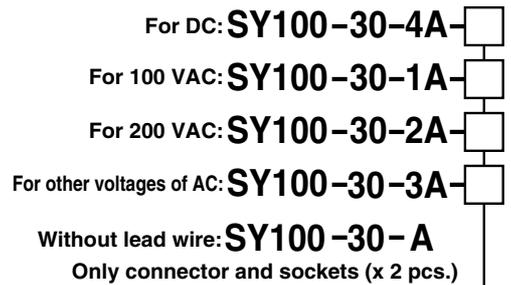
\* For AC voltage valves there is no "S" option. It is already built-in to the rectifier circuit.  
\* For "R" and "U", DC voltage is only available.  
\* Power saving circuit is only available in the "Z" type.

Electrical entry

G	Grommet, 300 mm lead wire	
H	Grommet, 600 mm lead wire	
L	L plug connector	With lead wire
LN		Without lead wire
LO	Without connector	
M	M plug connector	With lead wire
MN		Without lead wire
MO		Without connector
WO	M8 connector Without connector cable	

Note) For connector cable of M8 connector, refer to page 1-4-210.

### How to Order Connector Assembly for L/M Plug Connector



Only connector and sockets (x 2 pcs.)

Lead wire length

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

### DIN terminal type



Rated voltage

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

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

Light/Surge voltage suppressor

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

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

Electrical entry

D	DIN terminal	With connector
DO	terminal	Without connector

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

### How to Order M8 Connector Cable

#### Straight type



Cable length

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

### How to Order Interface Regulator

#### Series SY3000

**ARBY3000-05-P-2**

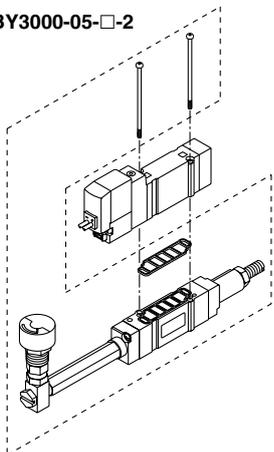
Pressure gauge connection port

<b>05</b>	Pressure gauge (G15-10-01)
<b>M1</b>	Plug (M-5P)

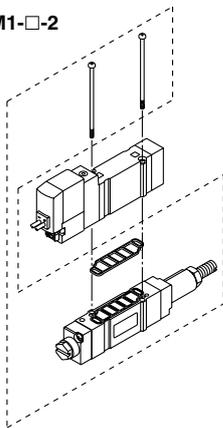
Regulating port

<b>P</b>	P port
<b>A1</b>	A port (P controlled type, A port regulation)
<b>B1</b>	B port (P controlled type, B port regulation)

ARBY3000-05-□-2



ARBY3000-M1-□-2



#### Series SY5000

**ARBY5000-00-P-2**

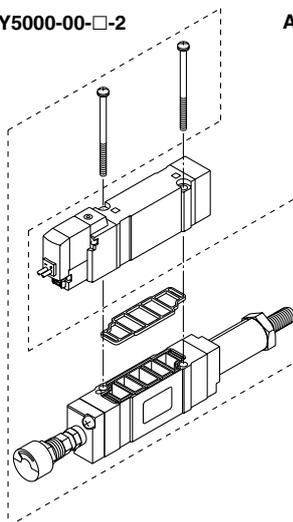
Pressure gauge connection port

<b>00</b>	Pressure gauge (G15-10-01)
<b>M1</b>	Plug (M-5P)

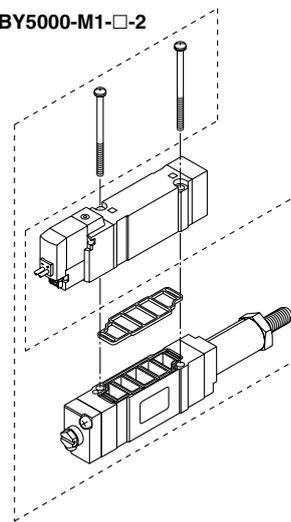
Regulating port

<b>P</b>	P port
<b>A1</b>	A port (P controlled type, A port regulation)
<b>B1</b>	B port (P controlled type, B port regulation)

ARBY5000-00-□-2



ARBY5000-M1-□-2



#### Series SY7000

**ARBY7000-00-P-2**

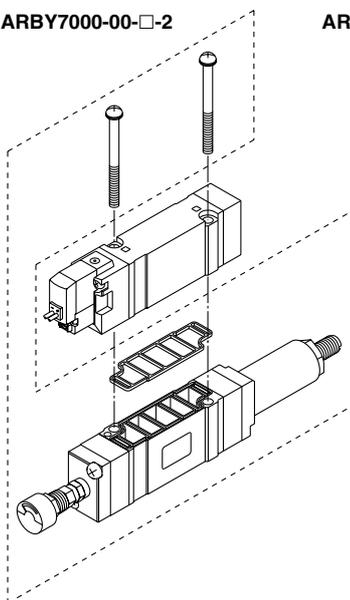
Pressure gauge connection port

<b>00</b>	Pressure gauge (G15-10-01)
<b>M1</b>	Plug (M-5P)

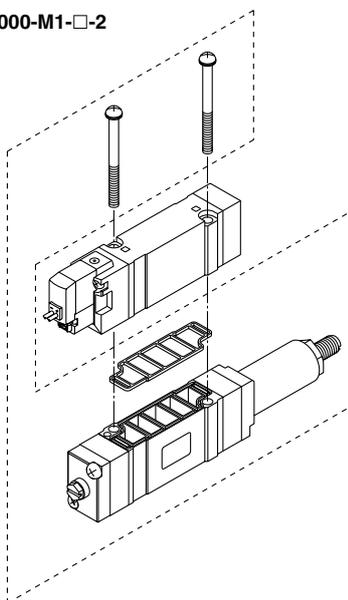
Regulating port

<b>P</b>	P port
<b>A1</b>	A port (P controlled type, A port regulation)
<b>B1</b>	B port (P controlled type, B port regulation)

ARBY7000-00-□-2



ARBY7000-M1-□-2



#### Accessory

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

#### Caution

Mounting screw tightening torques

M2: 0.16 N·m  
M3: 0.8 N·m  
M4: 1.4 N·m

SV

SZ

SY

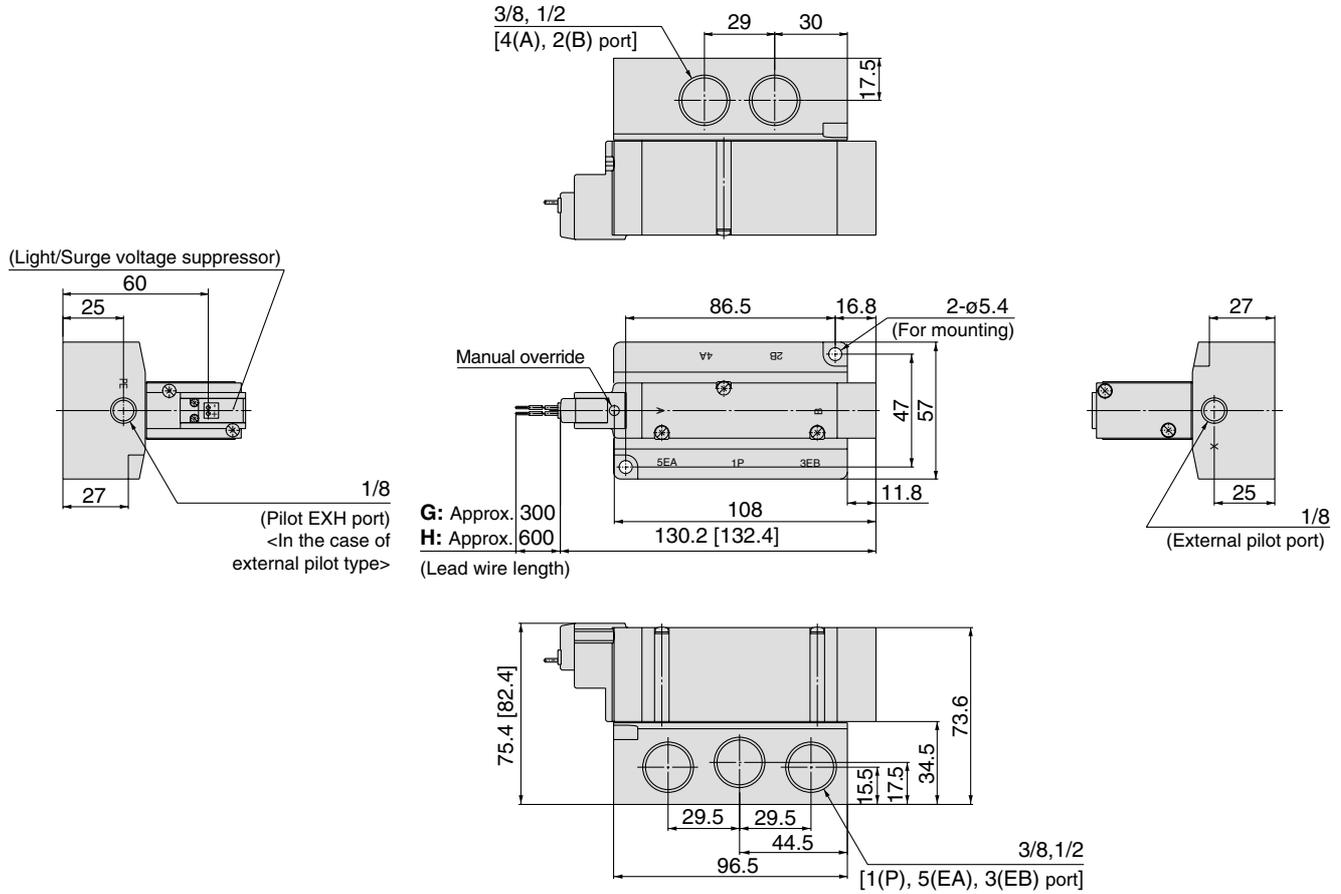
SYJ

SX

Dimensions: Series SY9000



2 position single  
Grommet (G), (H): SYJ9140-□<sup>G</sup><sub>H</sub>□□-03□



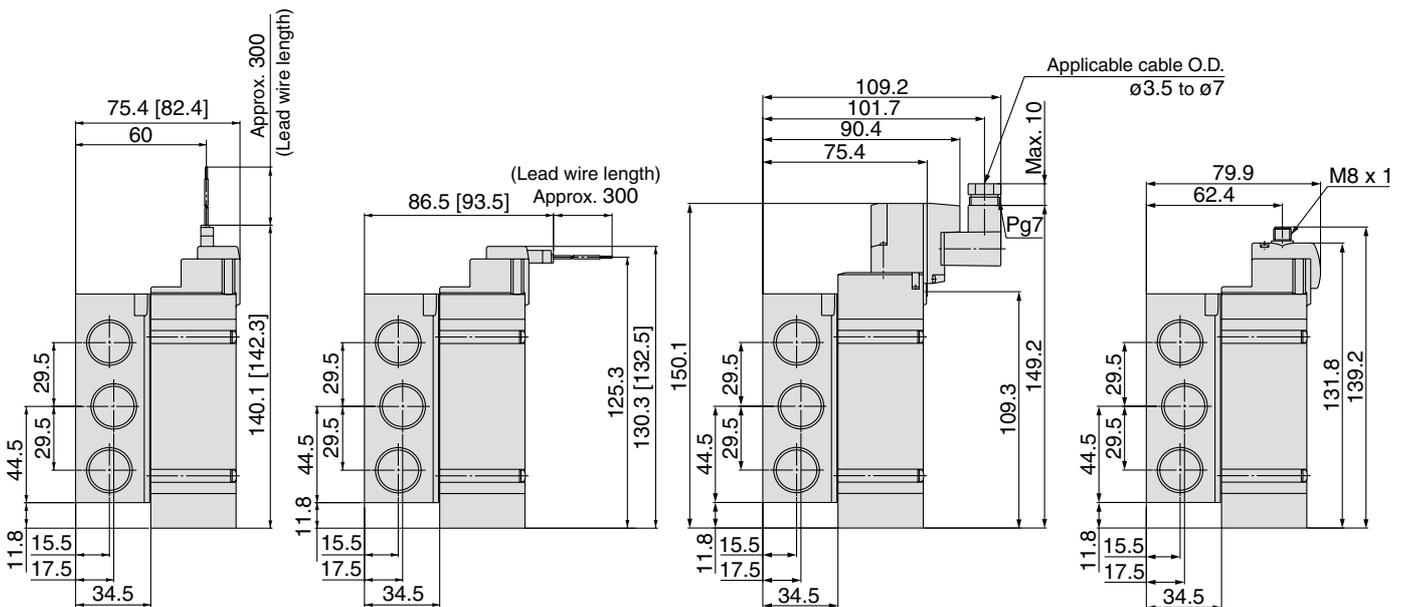
- SV
- SZ
- SY**
- SYJ
- SX

L plug connector (L):  
SY9140(R)-□L□□-03□

M plug connector (M):  
SY9140(R)-□M□□-03□

DIN terminal (D):  
SY9140(R)-□D□□-03□

M8 connector (WO):  
SY9140(R)-□WO□□-03□



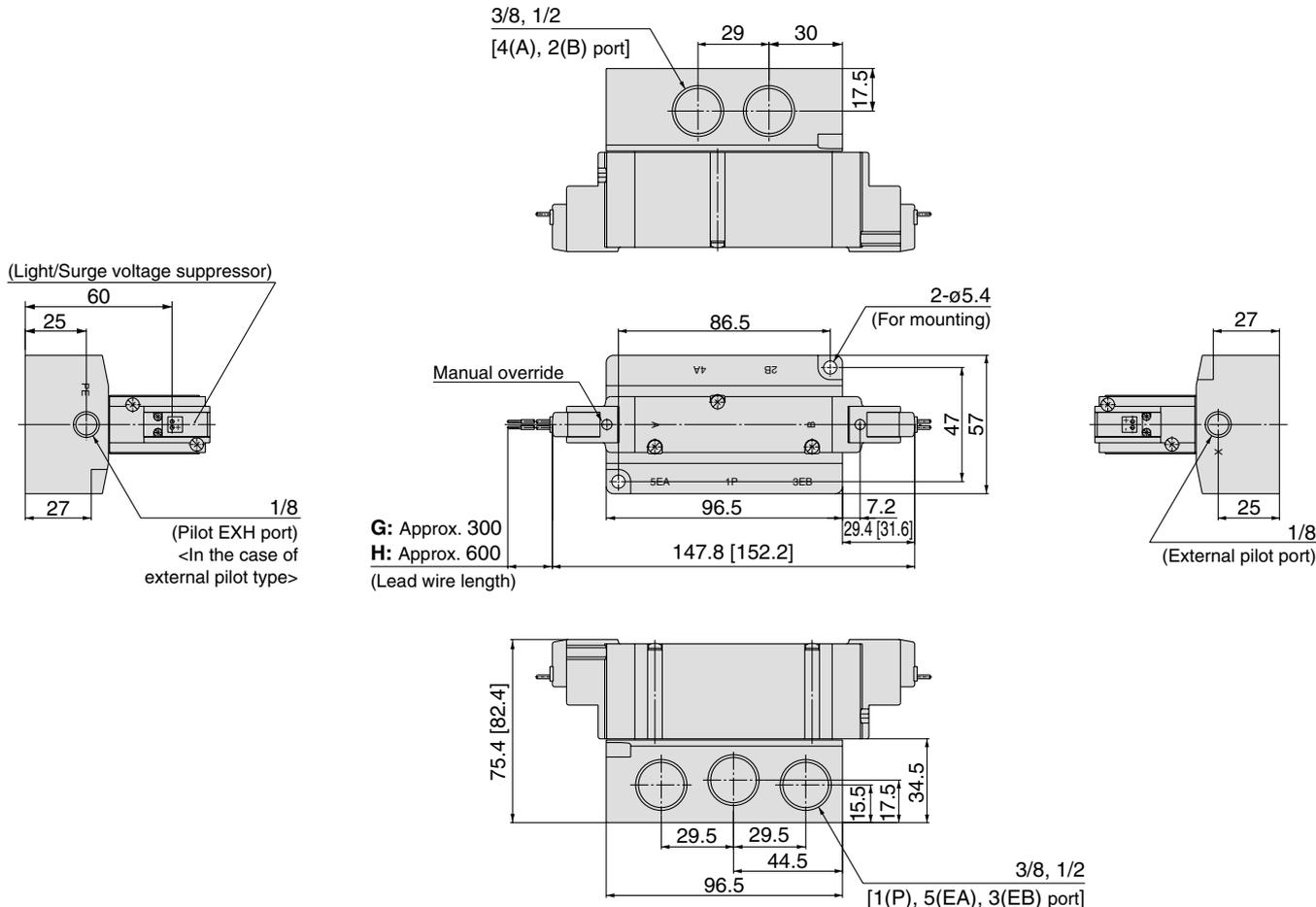
Note) Refer to page 1-4-210 for dimensions of connector types.

Dimensions: Series SY9000



2 position double

Grommet (G), (H): SY9240(R)-□<sub>G</sub>□□□-03□<sub>04</sub>□

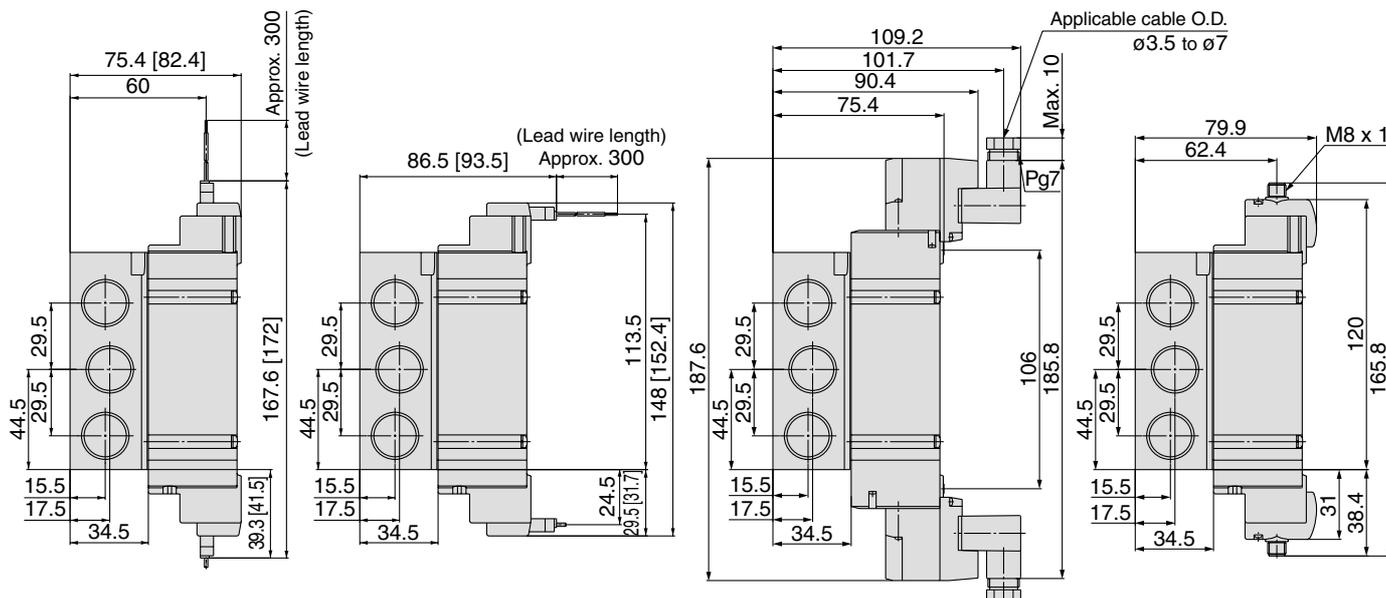


L plug connector (L):  
SY9240(R)-□L□□□-03□<sub>04</sub>□

M plug connector (M):  
SY9240(R)-□M□□□-03□<sub>04</sub>□

DIN terminal (D):  
SY9240(R)-□D□□□-03□<sub>04</sub>□

M8 connector (WO):  
SY9240(R)-□WO□□□-03□<sub>04</sub>□



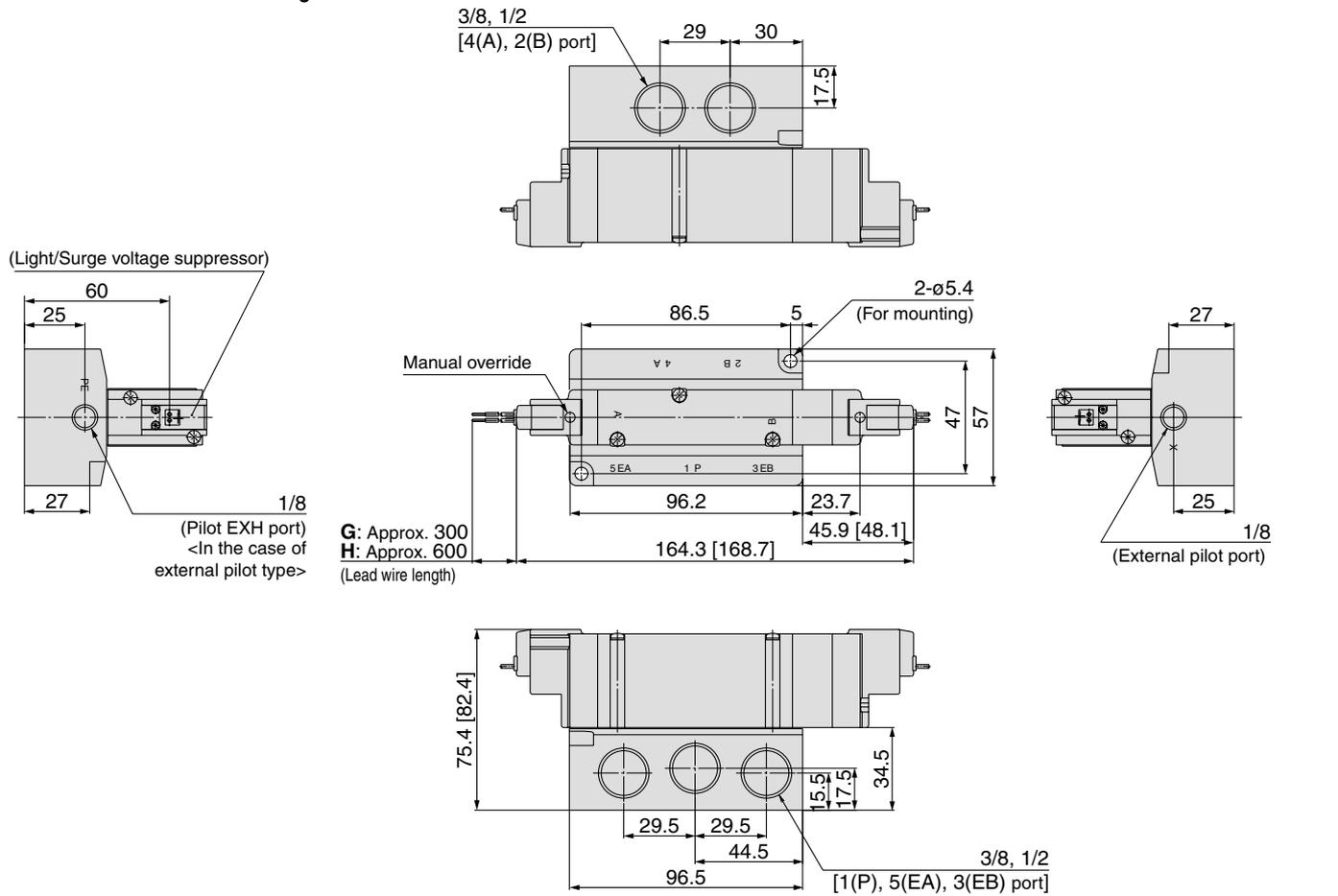
Note) Refer to page 1-4-210 for dimensions of connector types.



Dimensions: Series SY9000

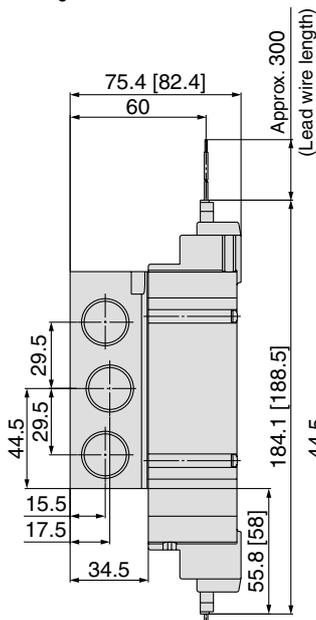
3 position closed center/exhaust center/pressure center

Grommet (G), (H): SY9<sup>3</sup><sub>4</sub>40-□G□□-<sup>03</sup><sub>04</sub>□

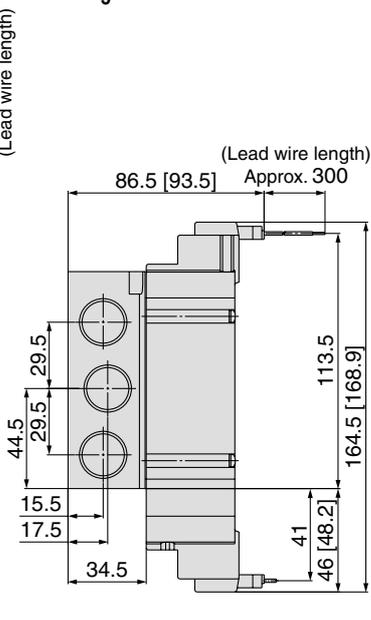


- SV
- SZ
- SY**
- SYJ
- SX

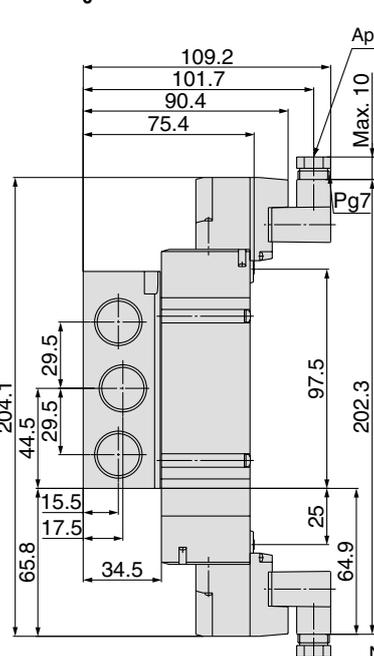
L plug connector (L):  
SY9<sup>3</sup><sub>4</sub>40(R)-□L□□-<sup>03</sup><sub>04</sub>□



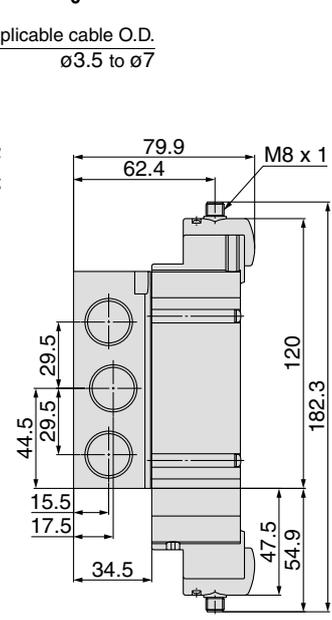
M plug connector (M):  
SY9<sup>3</sup><sub>4</sub>40(R)-□M□□-<sup>03</sup><sub>04</sub>□



DIN terminal (D):  
SY9<sup>3</sup><sub>4</sub>40(R)-□D□□-<sup>03</sup><sub>04</sub>□



M8 connector (WO):  
SY9<sup>3</sup><sub>4</sub>40(R)-□WO□□-<sup>03</sup><sub>04</sub>□



Note) Refer to page 1-4-210 for dimensions of connector types.

# Series SY9000 Body Ported Manifold Stacking Type Individual Wiring

Type **23**

## How to Order Manifold

SS5Y 9 — 23 — 05

### Manifold series

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

### Valve stations

Symbol	Stations
02	2 stations
⋮	⋮
20	20 stations



\* This also includes the number of blanking plate assemblies.

### Thread type

Nil	Rc
00F	G
00N	NPT
00T	NPTF

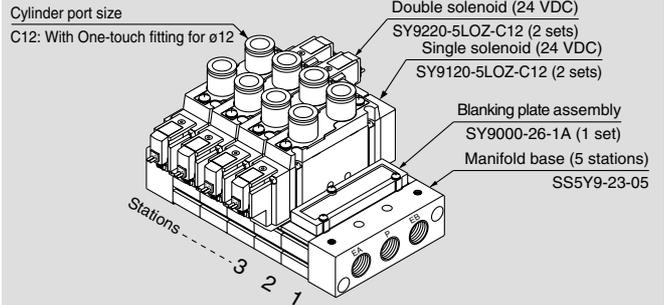
### Option

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

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

## How to Order Valve Manifold Assembly

### Ordering example

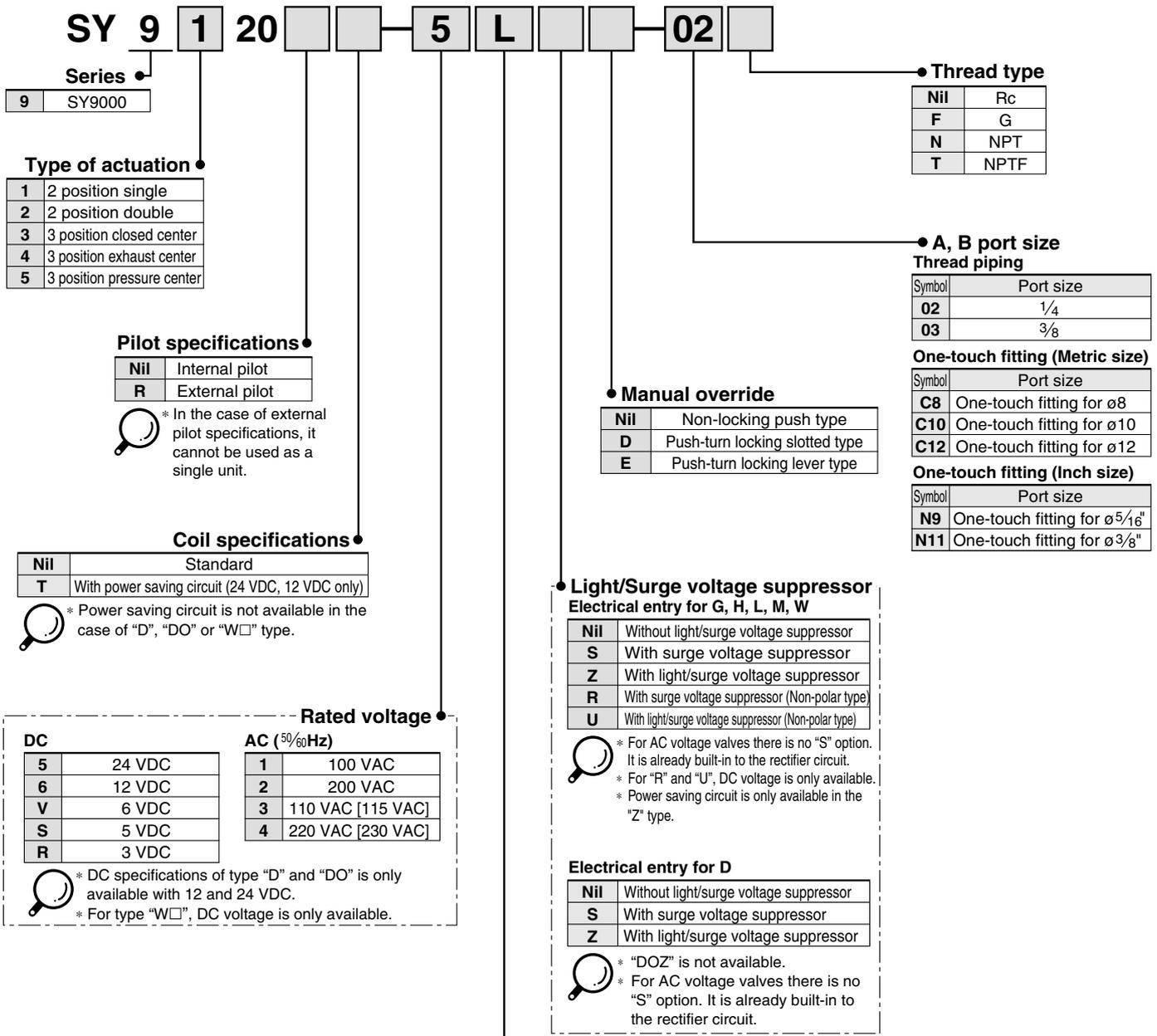


**SS5Y9-23-05** 1 set (Type 23, 5 stations manifold base part no.)  
 \* **SY9000-26-1A** 1 set (Blanking plate assembly part no.)  
 \* **SY9120-5LOZ-C12** 2 sets (Single solenoid part no.)  
 \* **SY9220-5LOZ-C12** 2 sets (Double solenoid part no.)

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

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

## How to Order Valves



SV  
SZ  
SY  
SYJ  
SX

**Series**

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

**Type of actuation**

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

**Pilot specifications**

Nil	Internal pilot
R	External pilot

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

**Coil specifications**

Nil	Standard
T	With power saving circuit (24 VDC, 12 VDC only)

\* Power saving circuit is not available in the case of "D", "DO" or "W□" type.

**Rated voltage**

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

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

\* For type "W□", DC voltage is only available.

**Thread type**

Nil	Rc
F	G
N	NPT
T	NPTF

**A, B port size Thread piping**

Symbol	Port size
02	1/4
03	3/8

**One-touch fitting (Metric size)**

Symbol	Port size
C8	One-touch fitting for ø8
C10	One-touch fitting for ø10
C12	One-touch fitting for ø12

**One-touch fitting (Inch size)**

Symbol	Port size
N9	One-touch fitting for ø5/16"
N11	One-touch fitting for ø3/8"

**Manual override**

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

**Light/Surge voltage suppressor Electrical entry for G, H, L, M, W**

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

\* For AC voltage valves there is no "S" option. It is already built-in to the rectifier circuit.  
 \* For "R" and "U", DC voltage is only available.  
 \* Power saving circuit is only available in the "Z" type.

**Electrical entry for D**

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

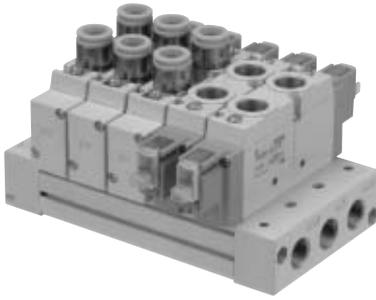
\* "DOZ" is not available.  
 \* For AC voltage valves there is no "S" option. It is already built-in to the rectifier circuit.

**Electrical entry**

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

\* "LN", "MN" type: with 2 sockets.  
 \* DIN terminal type "Y" conforming to DIN4365C standard is also available. For details, refer to catalog on page 1-4-201.  
 \* For connector cable of M8 connector, refer to page 1-4-209.

Note) When placing an order for body ported solenoid valve as a single unit, mounting bolt for manifold and gasket are not attached. Order them separately, if necessary. For details, refer to page 1-4-61.



## Manifold Specifications

Model	<b>SS5Y9-23</b>	
Applicable valve	<b>SY9□20</b>	
Manifold type	Stacking type	
P (SUP)/R (EXH)	Common SUP, Common EXH	
Valve stations	2 to 20 stations <small>Note 1)</small>	
A, B port location	Valve	
Port size	P, EA, EB port	3/8
	A, B port	1/4 3/8 C8 (One-touch fitting for ø8) C10 (One-touch fitting for ø10) C12 (One-touch fitting for ø12)
Manifold base weight W (g) n: Stations	W = 66n + 246	



Note 1) For more than 10 stations, supply pressure to P port on both sides and exhaust from EA/EB port on both sides.

Note 2) Refer to "Manifold Option" on page 1-4-61.

## Flow Characteristics

Model	Port size		Flow characteristics					
	1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1→4/2 (P→A/B)			4/2→5/3 (A/B→EA/EB)		
			C (dm <sup>3</sup> /(s·bar))	b	Cv	C (dm <sup>3</sup> /(s·bar))	b	Cv
<b>SS5Y9-23</b>	3/8	C12	6.3	0.20	1.5	8.2	0.28	1.9

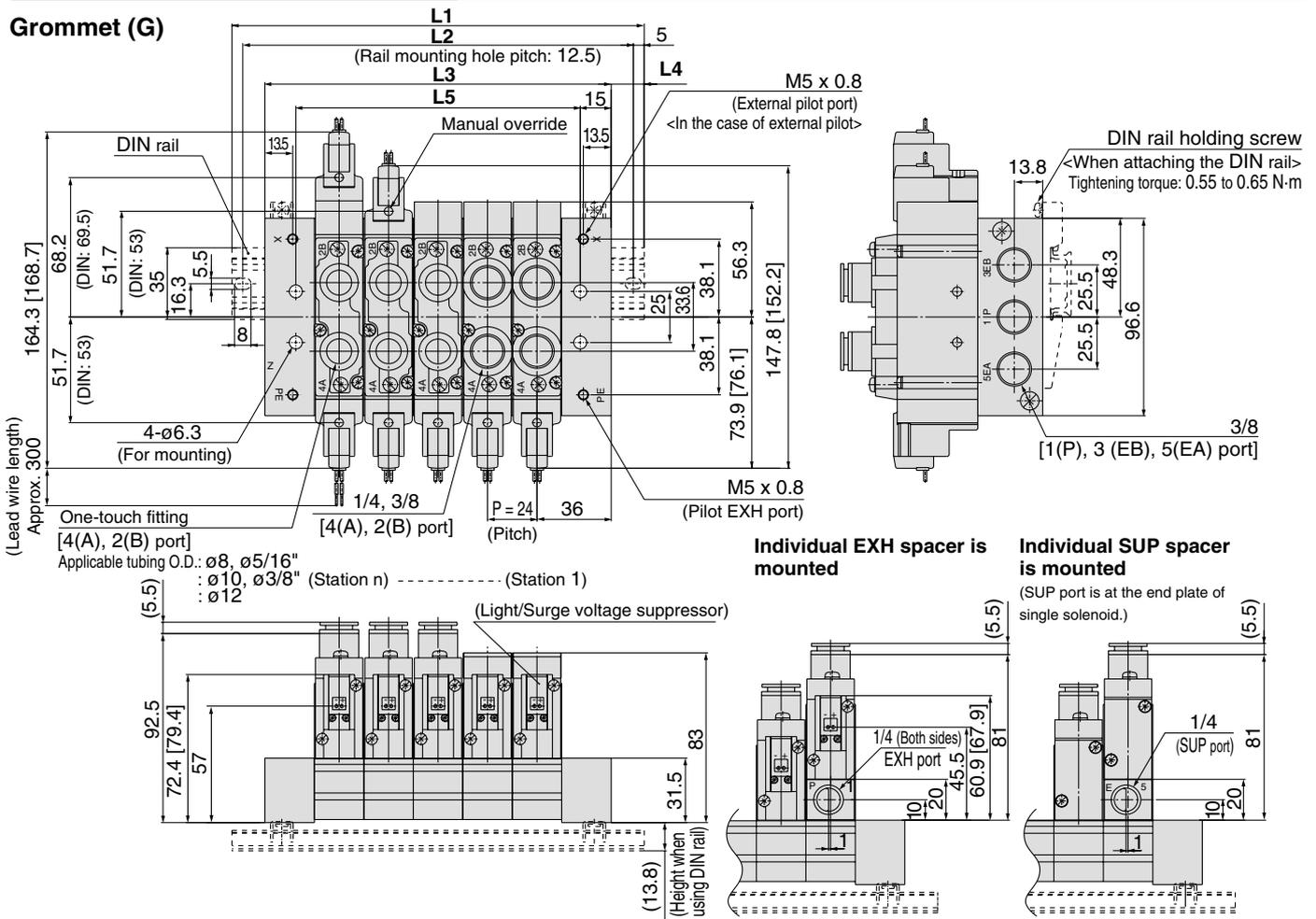


Note) The value is for manifold base with 5 stations and individually operated 2 position type.

SY9000: SS5Y9-23- Stations -(D)



Grommet (G)



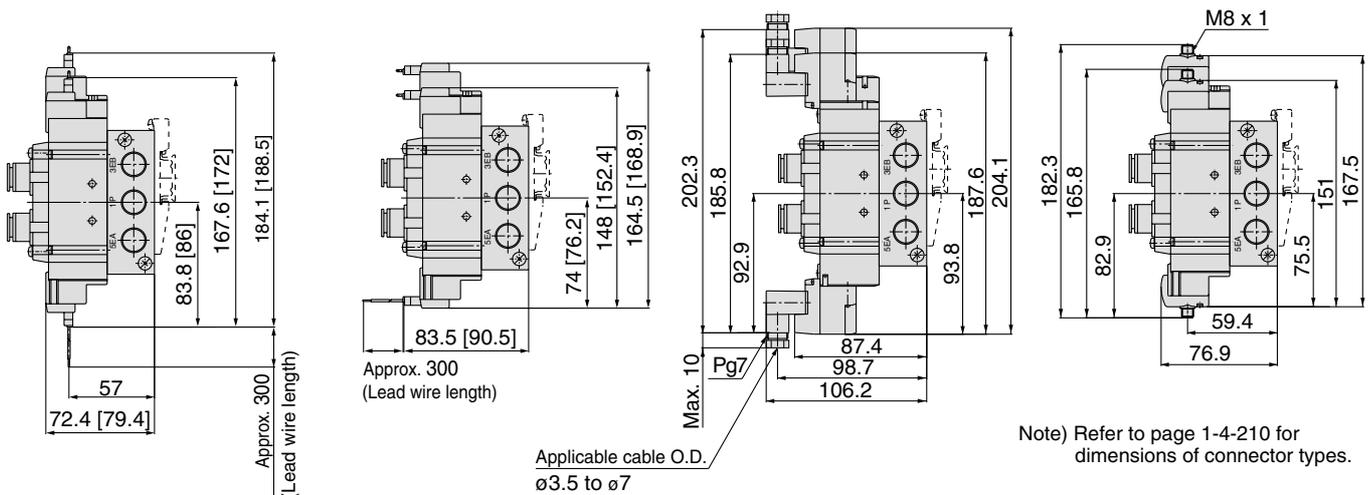
- SV
- SZ
- SY
- SYJ
- SX

L plug connector (L)

M plug connector (M)

DIN terminal (D)

M8 connector (WO)



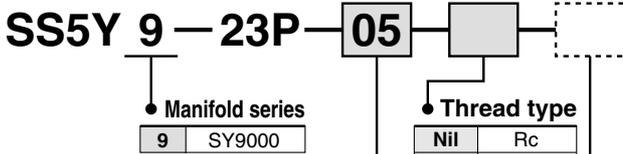
Stations n	2 stations	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 stations
<b>L1</b>	123	148	173	198	223	248	273	298	323	335.5	360.5	385.5	410.5	435.5	460.5	485.5	510.5	535.5	560.5
<b>L2</b>	112.5	137.5	162.5	187.5	212.5	237.5	262.5	287.5	312.5	325	350	375	400	425	450	475	500	525	550
<b>L3</b>	96	120	144	168	192	216	240	264	288	312	336	360	384	408	432	456	480	504	528
<b>L4</b>	13.5	14	14.5	15	15.5	16	16.5	17	17.5	12	12.5	13	13.5	14	14.5	15	15.5	16	16.5
<b>L5</b>	66	90	114	138	162	186	210	234	258	282	306	330	354	378	402	426	450	474	498

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

# Series SY9000 Body Ported Manifold Stacking Type Flat Ribbon Cable

Type **23P**

## How to Order Manifold



Manifold series

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

Thread type

Nil	Rc
00F	G
00N	NPT
00T	NPTF

Valve stations

Symbol	Stations
04	4 stations
⋮	⋮
12	12 stations

\* This also includes the number of blanking plate assemblies.

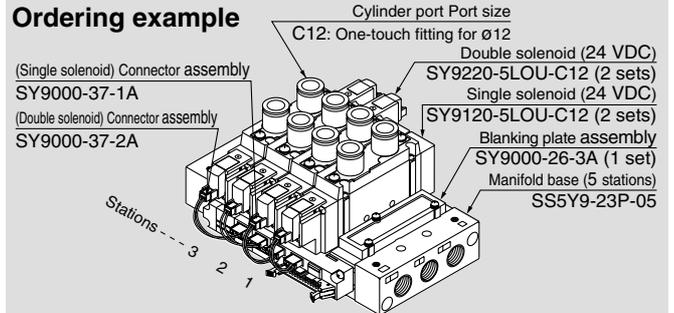
\* Type 23P manifold of Series SY9000 is concurrently used for the internal and external pilot.

Option

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

## How to Order Valve Manifold Assembly

### Ordering example

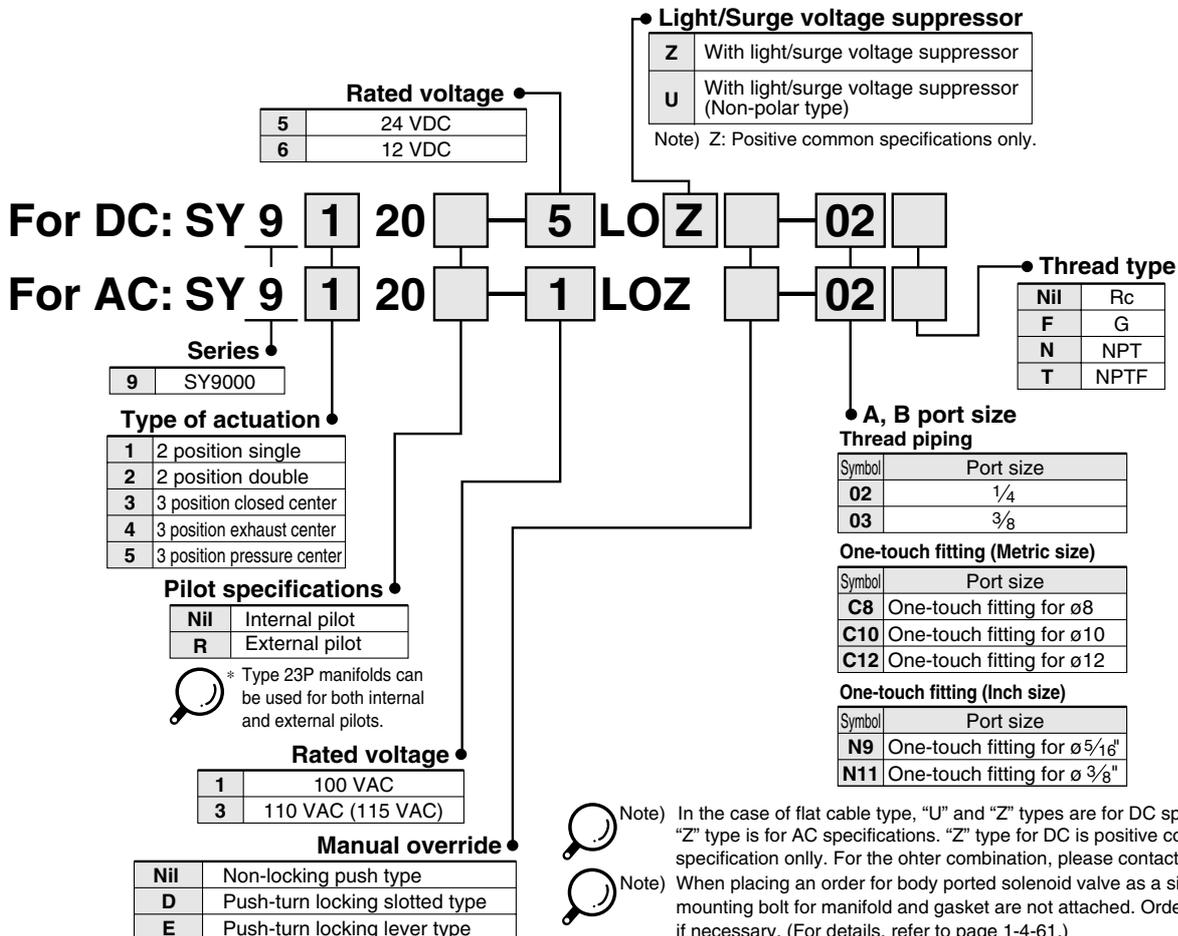


- |                     |  |
|---------------------|--|
| <b>SS5Y9-23P-05</b> | 1 set (Type 23, 5 stations manifold base part no.) |
| *SY9000-26-3A       | 1 set (Blanking plate assembly part no.)           |
| *SY9120-5LOU-C12    | 2 sets (Single solenoid part no.)                  |
| *SY9220-5LOU-C12    | 2 sets (Double solenoid part no.)                  |
| *SY9000-37-1A       | 2 sets (Connector assembly part no.)               |
| *SY9000-37-2A       | 2 sets (Connector assembly part no.)               |

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

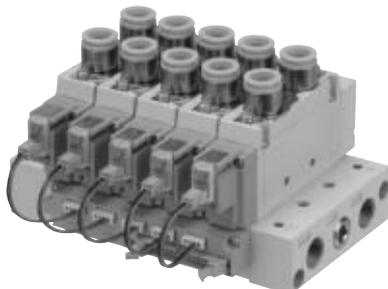
Add the valve and option part number under the manifold base part number. In the case of complex arrangement, specify them on the manifold specification sheet.

## How to Order Valves



- Multiple valve wiring is simplified through the use of the flat cable connector.
- Clean appearance

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



### How to Order Connector Assembly

#### For 12/24 VDC

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

#### For 100 VAC

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

#### For 110 VAC (115 VAC)

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

## Manifold Specifications

Model	SS5Y9-23P	
Applicable valve	SY9□20	
Manifold type	Stacking type	
P (SUP)/R (EXH)	Common SUP, Common EXH	
Valve stations	4 to 12 stations <sup>Note 1)</sup>	
A, B port location	Valve	
Port size	P, EA, EB port	3/8
	A, B port	1/4
		3/8
		C8 (One-touch fitting for ø8) C10 (One-touch fitting for ø10) C12 (One-touch fitting for ø12)
Manifold base weight W (g)	W = 73n + 259	
n: Stations		
Applicable flat ribbon cable connector	Flat ribbon cable connector, Socket: 26 pins MIL with strain relief, Conforming to MIL-C-83503	
Internal wiring	In common between +COM and -COM (Z type: +COM only)	
Rated voltage	12, 24 VDC, 100, 110 VAC	

- Note 1) For more than 10 stations, supply pressure to P port on both sides and exhaust from EA/EB port on both sides.  
 Note 2) The withstand voltage specification for the wiring unit section is JIS C 0704, Grade 1 or its equivalent.  
 Note 3) Refer to "Manifold Option" on page 1-4-61.

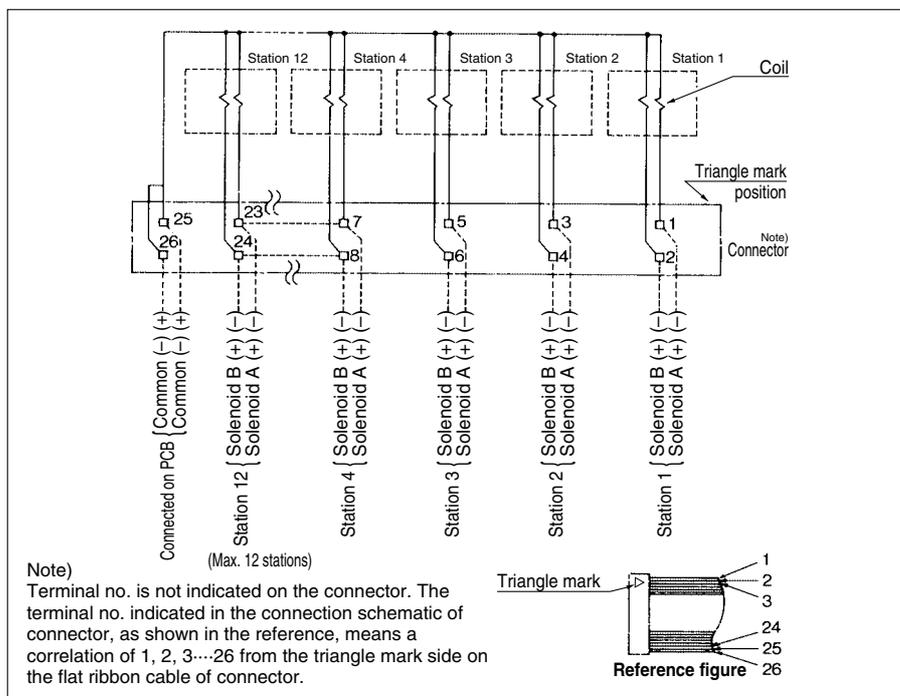
SV  
SZ  
SY  
SYJ  
SX

## Flow Characteristics

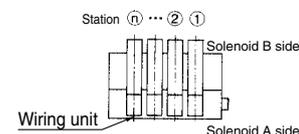
Model	Port size		Flow characteristics					
	1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → EA/EB)		
			C (dm <sup>3</sup> /(s·bar))	b	Cv	C (dm <sup>3</sup> /(s·bar))	b	Cv
SS5Y9-23P	3/8	C12	6.3	0.20	1.5	8.2	0.28	1.9

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

## Internal Wiring of Manifold (Non-polar type)



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

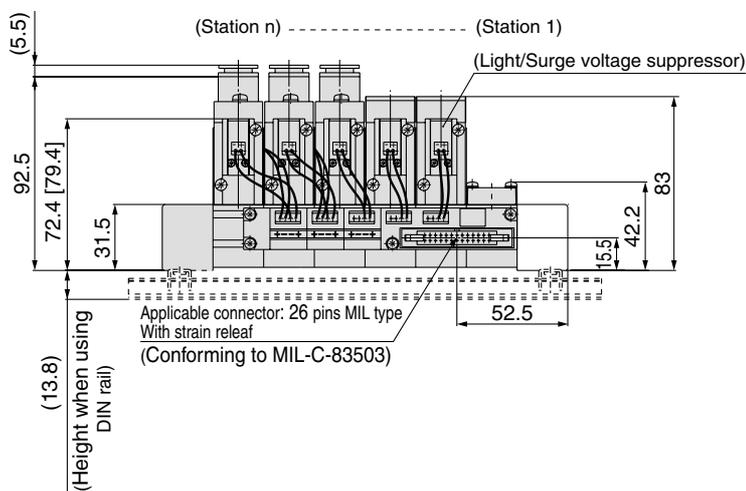
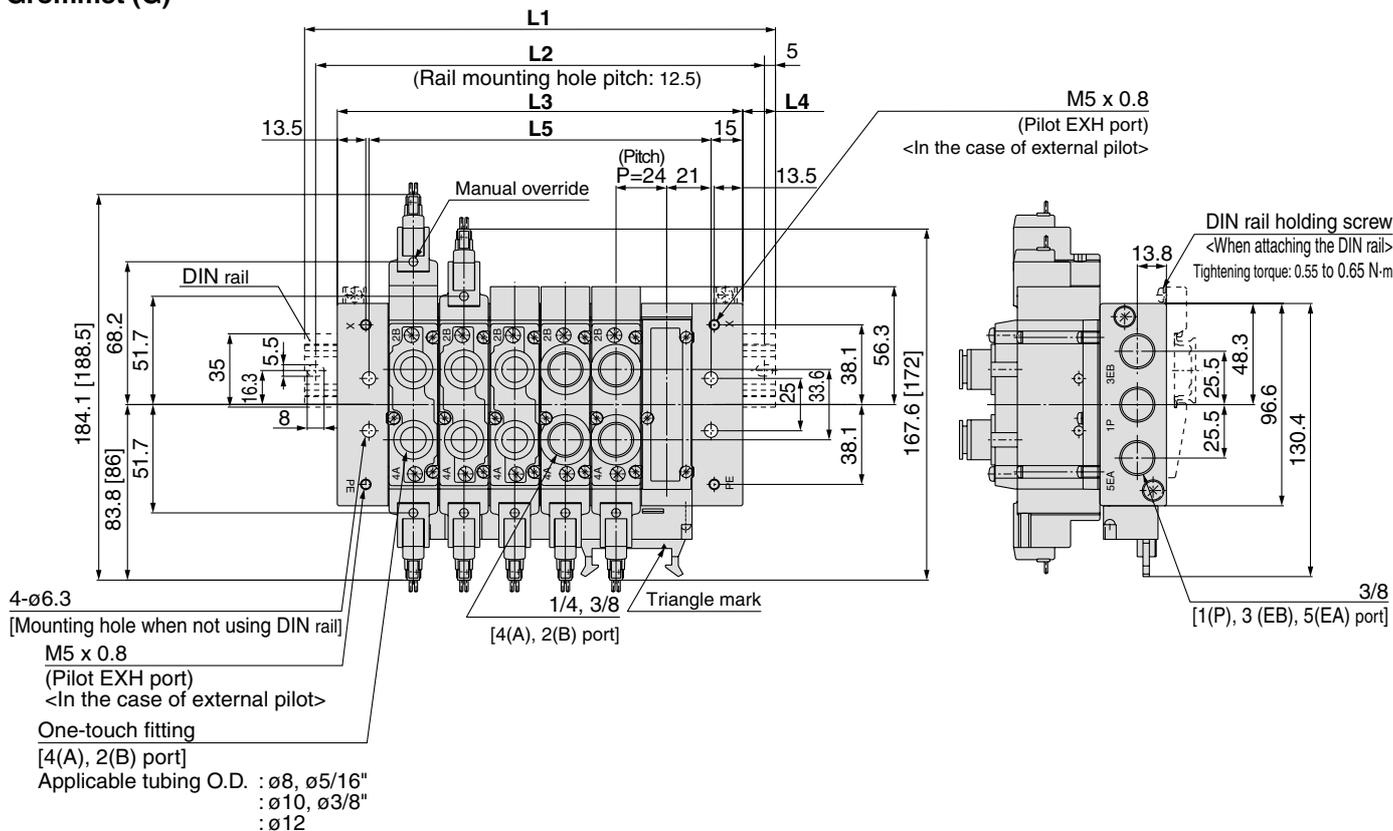


## Caution

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

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

**Grommet (G)**

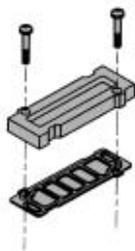


Stations n	4 stations	5	6	7	8	9	10	11	12 stations
<b>L1</b>	173	198	223	248	273	298	323	335.5	360.5
<b>L2</b>	162.5	187.5	212.5	237.5	262.5	287.5	312.5	325	350
<b>L3</b>	144	168	192	216	240	264	288	312	336
<b>L4</b>	14.5	15	15.5	16	16.5	17	17.5	12	12.5
<b>L5</b>	114	138	162	186	210	234	258	282	306

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

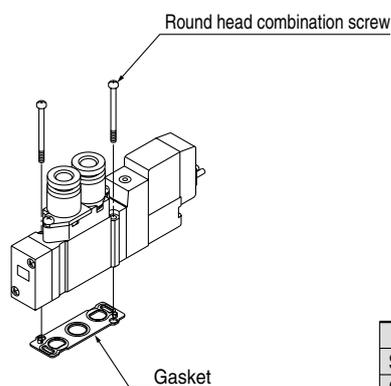
## Manifold Option

### ■ Type 20, 23 Blanking plate assembly



Series	Assembly part no.
SY3000	SY3000-26-9A
SY5000	SY5000-26-20A
SY7000	SY7000-26-22A
SY9000	SY9000-26-1A

### ■ Gasket assembly part no.



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

Note) Gasket assembly consists of mounting screws (2 pcs.) and a gasket.

### ⚠ Caution

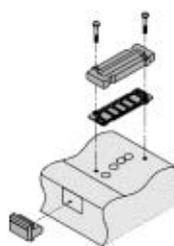
#### Mounting screw tightening torques

M2: 0.16 N·m  
M3: 0.8 N·m  
M4: 1.4 N·m

### ⚠ Warning

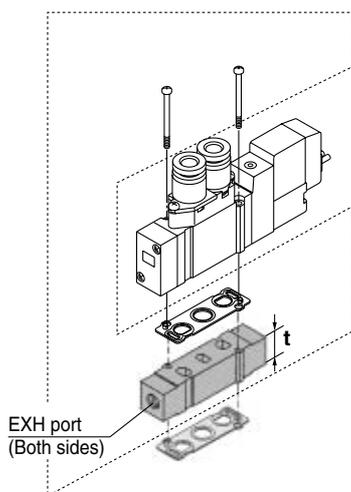
When mounting a valve or spacer on the manifold base or sub-plate, etc., those mounting directions are determined. If mounted in the wrong direction, the equipment to be connected may cause malfunction. Refer to external dimensions, and then mount it.

### ■ Type 20P, 23P Blanking plate assembly



Series	Assembly part no.
SY3000	SY3000-26-10A
SY5000	SY5000-26-21A
SY7000	SY7000-26-23A
SY9000	SY9000-26-3A

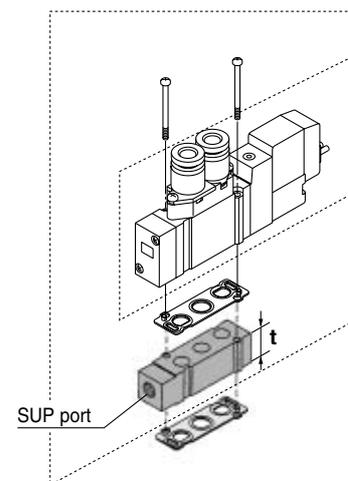
### ■ Individual EXH spacer assembly



Series	Assembly part no.	Port size	t
SY3000	SY3000-39-20A	M5 x 0.8	10.5
SY5000	SY5000-39-1*A	1/8	15
SY7000	SY7000-39-1*A	1/4	18
SY9000	SY9000-39-1*A	1/4	20

Note) In case of 20P and 23P, for protection of the wiring unit section from drainage, piping at the EA port should be arranged so that it will not be directly exposed to exhaust from the valve.

### ■ Individual SUP spacer assembly

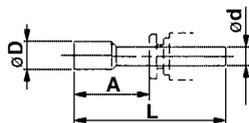


Series	Assembly part no.	Port size	t
SY3000	SY3000-38-20A	M5 x 0.8	10.5
SY5000	SY5000-38-1*A	1/8	15
SY7000	SY7000-38-1*A	1/4	18
SY9000	SY9000-38-1*A	1/4	20

Note) The SUP port of SY3000/5000/7000 may be either on the lead wire side on the end plate side. (An assembly is shipped under the conditions shown in the figure.)  
The end plate side is only available to SY9000.

### ■ Plug (white)

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



### Dimensions

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

### \* Thread type

Nll	Rc
F	G
N	NPT
T	NPTF

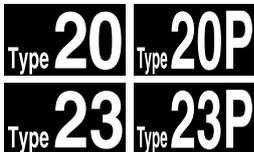
SV

SZ

SY

SYJ

SX



Manifold Option

▪ SUP block disk (For SY9000)

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



Series	Part no.
SY9000	SY9000-61-2A

▪ EXH block disk (For SY9000)

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



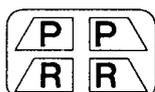
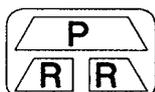
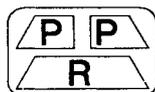
Series	Part no.
SY9000	SY9000-61-2A

▪ Label for block disk (For SY9000)

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

VZ3000-123-1A

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



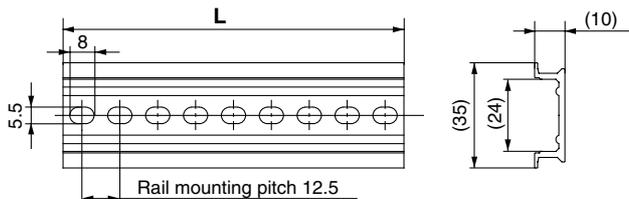
\* When a block disk is concurrently ordered by specifying on the manifold specification sheet, etc., a label will be stuck on the position where block disk is mounted.

▪ DIN Rail Dimensions/Weight for SY9000

VZ1000-11-4-□

• Refer to L dimensions

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

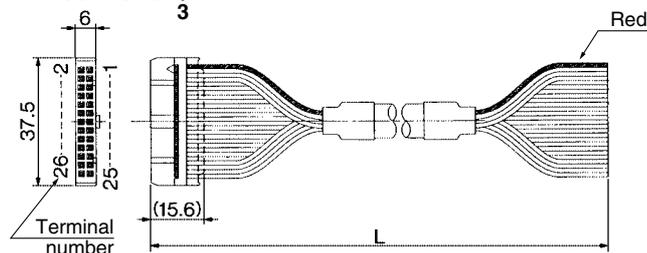


No.	0	1	2	3	4	5	6	7	8	9
L Dimension	98	110.5	123	135.5	148	160.5	173	185.5	198	210.5
Weight (g)	24.8	28	31.1	34.3	37.4	40.6	43.8	46.9	50.1	53.3
No.	10	11	12	13	14	15	16	17	18	19
L Dimension	223	235.5	248	260.5	273	285.5	298	310.5	323	335.5
Weight (g)	56.4	59.6	62.7	65.9	69.1	72.2	75.4	78.6	81.7	84.9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

Note) · For DIN rail, refer to page 1-4-207.  
· Refer to L1 dimension on pages starting with page 1-4-60 for lengths that correspond to the number of manifold stations.

▪ Cable assembly (For 20P, 23P)

AXT100-FC26-



Connector Assembly for Flat Ribbon Cable

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

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

Connector manufacturers' example

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

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

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

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

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

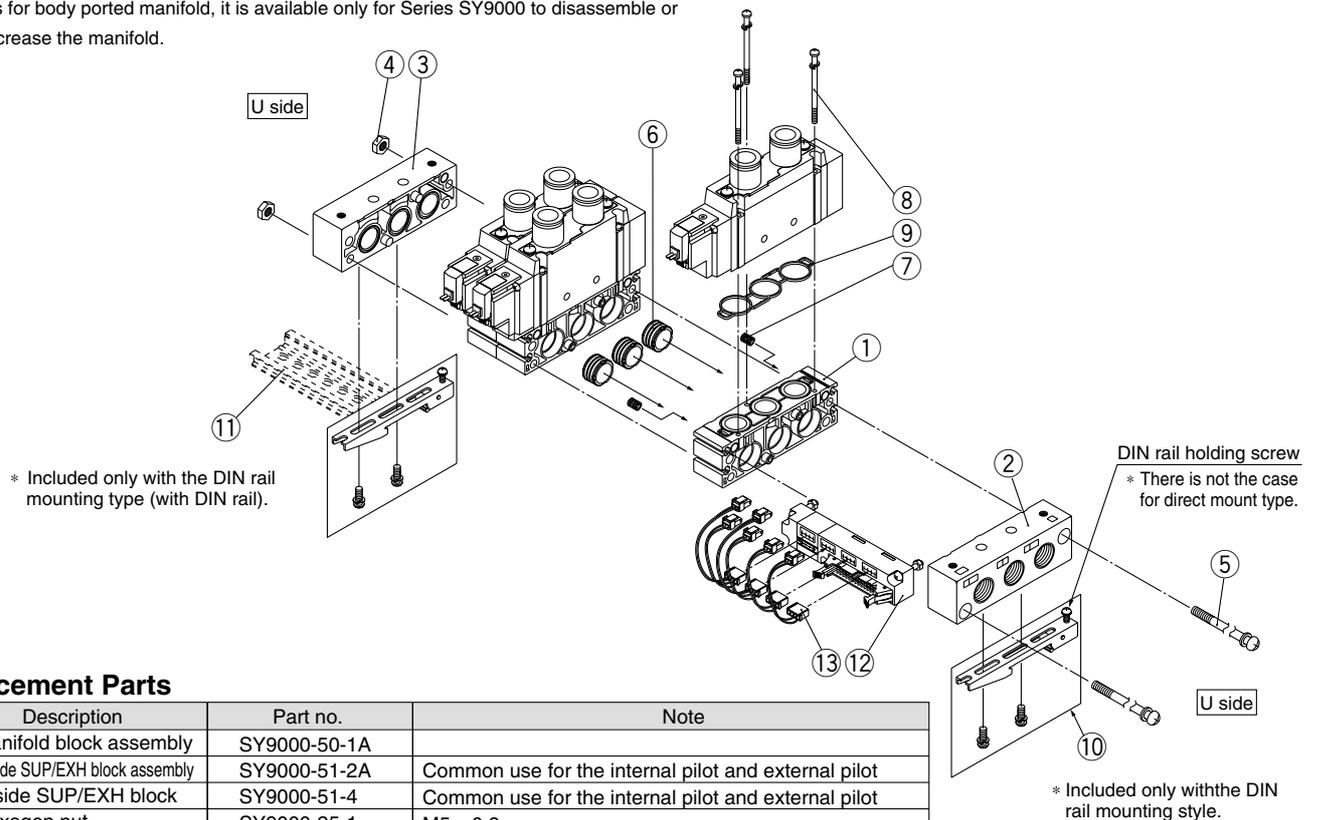
**⚠ Caution**

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

SV  
SZ  
SY  
SYJ  
SX

**Body Ported Manifold Exploded View: 23/23P Common**

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



**Replacement Parts**

No.	Description	Part no.	Note
①	Manifold block assembly	SY9000-50-1A	
②	D side SUP/EXH block assembly	SY9000-51-2A	Common use for the internal pilot and external pilot
③	U side SUP/EXH block	SY9000-51-4	Common use for the internal pilot and external pilot
④	Hexagon nut	SY9000-25-1	M5 x 0.8
⑤	Tension bolt	SY9000-23-□	Since □ at the end of part number corresponds with the number of stations, fill in the same number as the number of stations.
⑥	SUP block bush assembly	SY9000-61-1A	Included in the Manifold block assembly and the D side SUP/EXH block assembly.
⑦	SUP block bush assembly	SY9000-61-3A	Included in the Manifold block assembly and the D side SUP/EXH block assembly.
⑧	Round head combination screw	SY9000-18-2	Included in the Manifold block assembly.
⑨	Manifold gasket	SY9000-11-1	Included in the Manifold block assembly.
⑩	Clamp sub assembly	SY9000-29-1A	
⑪	DIN rail	VZ1000-11-4-□	Refer to page 1-4-62.
⑫	Wiring unit assembly	SY9000-36-□A	Since □ in part number corresponds with the number of stations, fill in the number of stations (4 to 12).
⑬	Connector assembly	SY9000-37-□□	Refer to page 1-4-59.

# Series SY9000 Base Mounted Manifold Stacking Type Individual Wiring

Type **43**

## How to Order Manifold

**SS5Y9-43-05U** **C8**

**Manifold series**  
9 SY9000

**Valve stations**

Symbol	Stations
02	2 stations
⋮	⋮
20	20 stations

\* This also includes the number of blanking plate assemblies.

### P, R port outlets

Symbol	Port outlet	Applicable stations
U	U side	2 to 10 stations
D	D side	
B	Both sides	2 to 20 stations

### SUP/EXH block assembly specifications

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

### Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

### Option

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

### A, B port size

Symbol	Port size
02	1/4
03	3/8

### One-touch fitting (Metric size)

Symbol	Port size
C8	One-touch fitting for $\phi 8$
C10	One-touch fitting for $\phi 10$
C12	One-touch fitting for $\phi 12$
M	Mixed

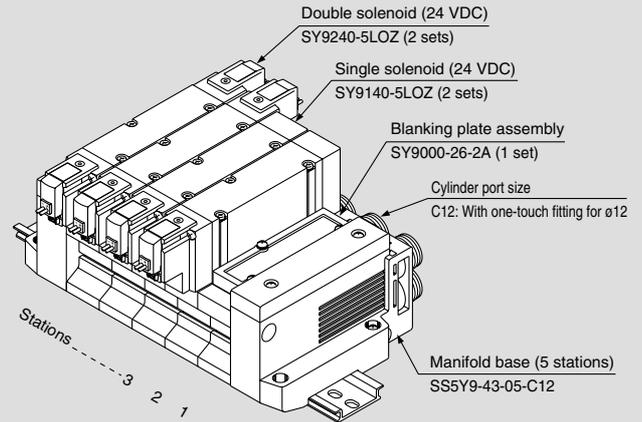
### One-touch fitting (Inch size)

Symbol	Port size
N9	One-touch fitting for $\phi 5/16$ "
N11	One-touch fitting for $\phi 3/8$ "
M	Mixed

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

## How to Order Valve Manifold Assembly

### Ordering example



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

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

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

## How to Order Valves

**SY 9 2 40** [ ] [ ] **5 L** [ ] [ ]

• **Series**

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

• **Type of actuation**

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

• **Pilot type**

Nil	Internal pilot
R	External pilot

• **Coil specifications**

Nil	Standard
T	With power saving circuit (24, 12 VDC only)

 \* Power saving circuit is not available in the case of "D", "DO" or "W□" type.

• **Rated voltage**

**For DC**

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

**For AC (50/60 Hz)**

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

 \* DC specifications of type "D" and "DO" is only available with 12 and 24 VDC.  
 \* For type "W□", DC voltage is only available.

• **Manual override**

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

• **Light/Surge voltage suppressor**

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

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

 \* For AC voltage valves there is no "S" option. It is already built-in to the rectifier circuit.  
 \* For "R" and "U", DC voltage is only available.  
 \* Power saving circuit is only available in the "Z" type.

**Electrical entry for D**

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

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

• **Electrical entry**

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

 \* "LN", "MN" type: with 2 sockets.  
 \* DIN terminal type "Y" conforming to DIN43650C standard is also available. For details, refer to page 1-4-201.  
 \* For connector cable of M8 connector, refer to page 1-4-210.

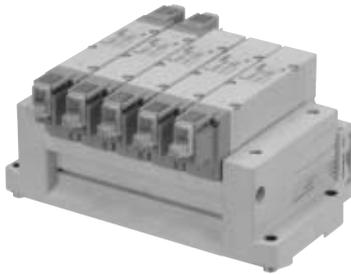
SV

SZ

SY

SYJ

SX



## Manifold Specifications

Model		<b>SS5Y9-43</b>
Applicable valve		<b>SY9□40</b>
Manifold type		Stacking type
P(SUP)/R(EXH)		Common SUP, Common EXH
Valve stations		2 to 20 stations <sup>(1)</sup>
A, B port	Location	Base
Porting specifications		Side
Port size	P, EA, EB port	C12 (One-touch fitting for ø12)
	A, B port	1/4 3/8 C8 (One-touch fitting for ø8) C10 (One-touch fitting for ø10) C12 (One-touch fitting for ø12)
Manifold base weight W (g), n: Stations		W = 107n + 330



Note 1) For more than 10 stations, supply pressure to P port on both sides and exhaust from EA/EB port on both sides.

Note 2) Refer to "Manifold Option" on page 1-4-114.

## Flow Characteristics

Model	Port size		Flow characteristics					
	1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1→4/2 (P→A/B)			4/2→5/3 (A/B→EA/EB)		
			C (dm <sup>3</sup> /(s·bar))	b	Cv	C (dm <sup>3</sup> /(s·bar))	b	Cv
<b>SS5Y9-43</b>	C12	C12	6.4	0.29	1.6	7.3	0.29	1.8



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

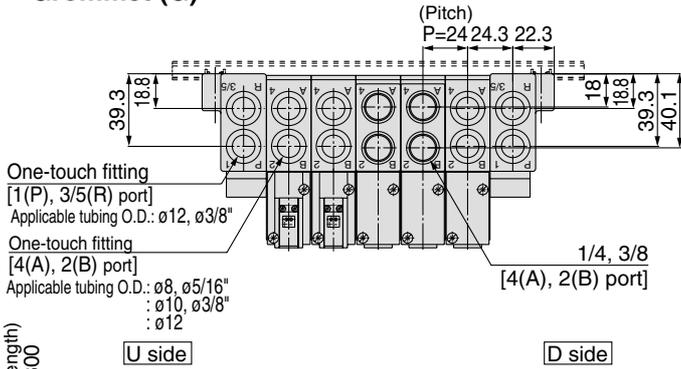




SY9000: SS5Y9-43- Stations B  -  <sup>02, C8, N9</sup> <sub>03, C10, N11</sub>  (-D)

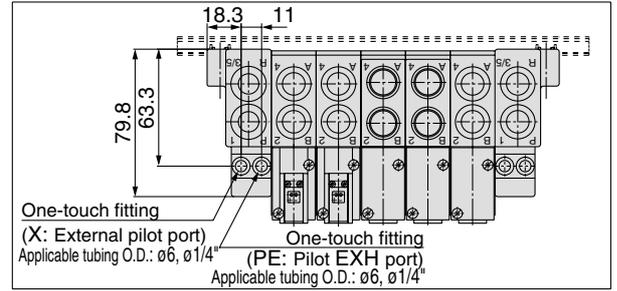


Grommet (G)

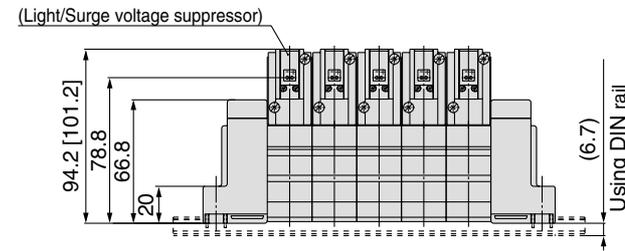
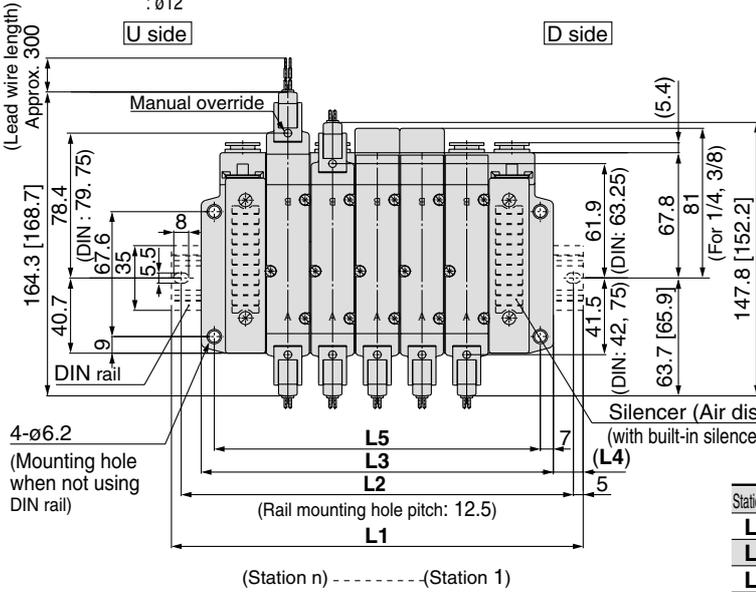


\* When P, R port outlets are indicated on the B side, the P, R ports on the both sides are in the open state.

With External Pilot Specifications



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



- SV
- SZ
- SY
- SYJ
- SX

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

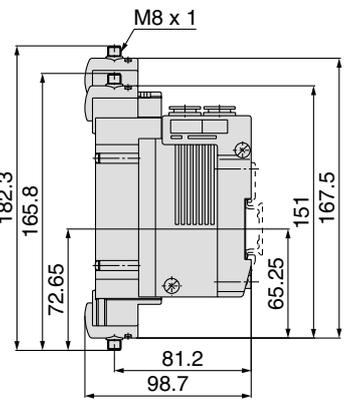
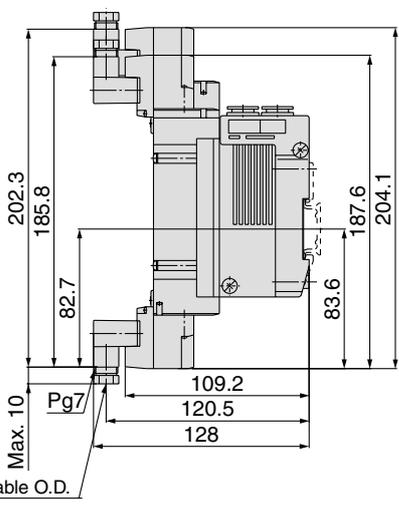
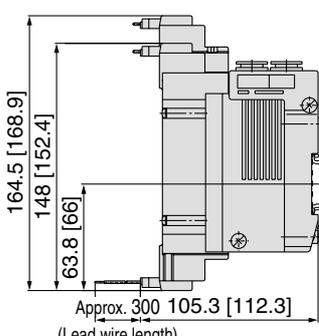
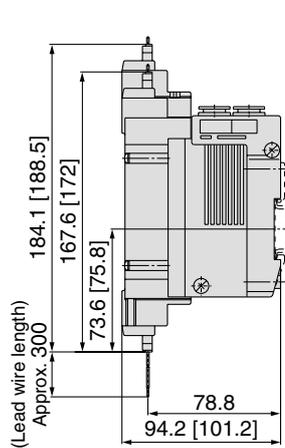
Stations n	11 stations	12	13	14	15	16	17	18	19	20 stations
L1	360.5	385.5	410.5	435.5	460.5	485.5	510.5	535.5	560.5	573
L2	350	375	400	425	450	475	500	525	550	562.5
L3	333	357	381	405	429	453	477	501	525	549
L4	14	14.5	15	15.5	16	16.5	17	17.5	18	12
L5	319	343	367	391	415	439	463	487	511	535

L plug connector (L)

M plug connector (M)

DIN terminal (D)

M8 connector (WO)



Note) Refer to page 1-4-210 for dimensions of connector types.

# Series SY9000 Base Mounted Manifold Stacking Type Flat Ribbon Cable

Type **43P**

## How to Order Manifold

**SS5Y9 - 43P - 05 U [ ] C8 [ ] [ ]**

Manifold series

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

Valve stations

Symbol	Stations
04	4 stations
:	:
12	12 stations

\* This also includes the number of blanking plate assemblies.

P, R port outlets

Symbol	Port outlet	Applicable stations
U	U side	4 to 10 stations
D	D side	
B	Both sides	

SUP/EXH block assembly specifications

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

Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

Option

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

A, B port size

Thread piping

Symbol	Port size
02	1/4
03	3/8

One-touch fitting (Metric size)

Symbol	Port size
C8	One-touch fitting for $\phi 8$
C10	One-touch fitting for $\phi 10$
C12	One-touch fitting for $\phi 12$
M	Mixed

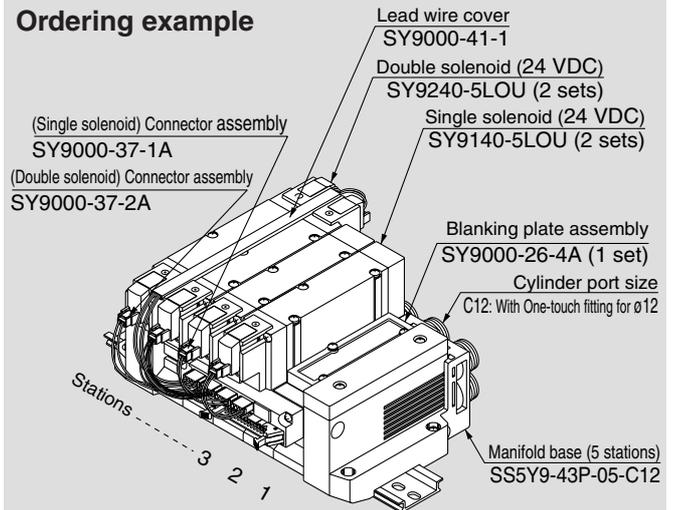
One-touch fitting (Inch size)

Symbol	Port size
N9	One-touch fitting for $\phi 5/16$ "
N11	One-touch fitting for $\phi 3/8$ "
M	Mixed

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

## How to Order Valve Manifold Assembly

### Ordering example

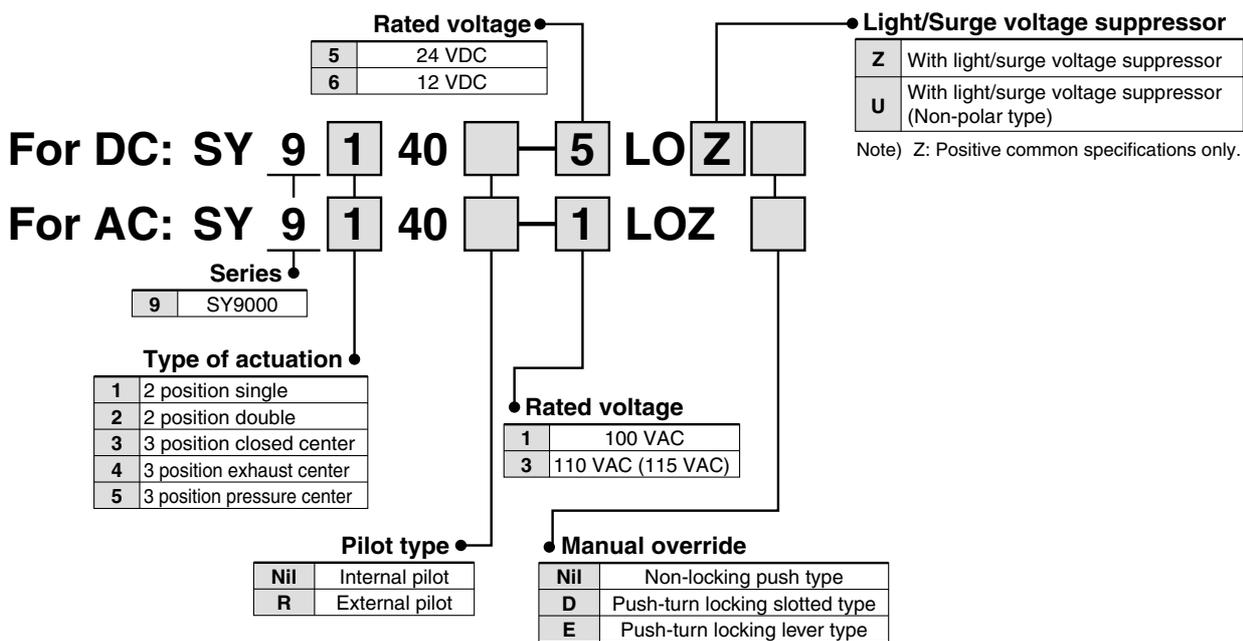


<b>SS5Y9-43P-05B-C12</b>	1 set (Type 43, 5 stations manifold base part no.)
* SY9000-26-4A	1 set (Blanking plate assembly part no.)
* SY9140-5LOU	2 sets (Single solenoid part no.)
* SY9240-5LOU	2 sets (Double solenoid part no.)
* SY9000-37-1A	2 sets (Connector assembly part no.)
* SY9000-37-2A	2 sets (Connector assembly part no.)
* SY9000-41-1	1 set (Lead wire cover)

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

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

## How to Order Valves



- SV
- SZ
- SY**
- SYJ
- SX

Note) In the case of flat cable type, "U" and "Z" types are for DC specifications and "Z" type is for AC specifications. "Z" type for DC is positive common specification only. For the other combination, please contact SMC.

## How to Order Connector Assembly

### For 12/24 VDC

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

### For 100 VAC

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

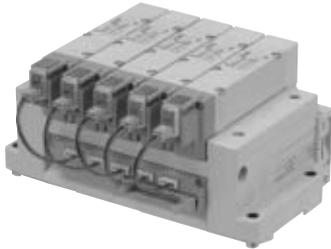
### For 110 VAC (115 VAC)

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

- Multiple valve wiring is simplified through the use of the flat cable connector.

• Clean appearance

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



### Flat Ribbon Cable Manifold Specifications

Model	SS5Y9-43P	
Applicable valve	SY9□40	
Manifold type	Stacking type	
P (SUP)/R (EXH)	Common SUP, Common EXH	
Valve stations	4 to 12 stations <sup>Note 1)</sup>	
A, B port Porting specifications	Location	Base
	Direction	Side
Port size	P, EA, EB port	C12 (One-touch fitting for ø12)
	A, B port	1/4 3/8 C8 (One-touch fitting for ø8) C10 (One-touch fitting for ø10) C12 (One-touch fitting for ø12)
Manifold base weight W (g) n: Stations	W = 114n + 343	
Applicable flat ribbon cable connector	Flat ribbon cable connection, Socket: 26 pins MIL with strain relief, Conforming to MIL-C-83503	
Internal wiring	In common between +COM and -COM (Z type: +COM only)	
Rated voltage	12, 24 VDC, 100, 110 VAC	

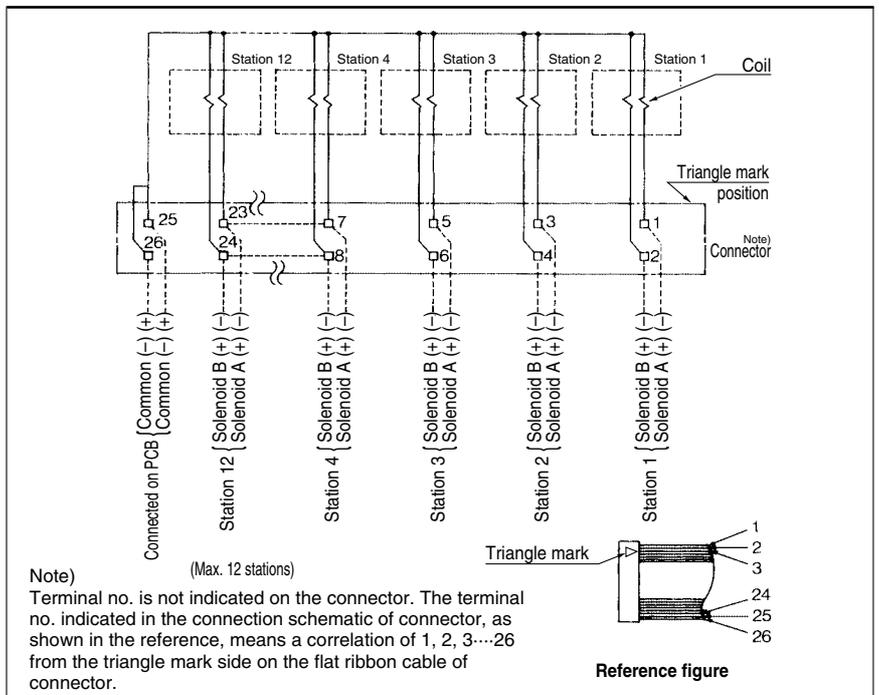
- Note 1) For more than 10 stations, supply pressure to P port on both sides and exhaust from EA/EB port on both sides.  
 Note 2) The withstand voltage specification for the wiring unit section is JIS C 0704, Grade 1 or its equivalent.  
 Note 3) Refer to "Manifold Option" on page 1-4-114.

### Flow Characteristics

Model	Port size		Flow characteristics					
	1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → EA/EB)		
			C (dm <sup>3</sup> /s-bar)	b	Cv	C (dm <sup>3</sup> /s-bar)	b	Cv
SS5Y9-43P	C12	C12	6.4	0.29	1.6	7.3	0.29	1.8

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

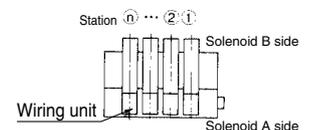
### Internal Wiring of Manifold (Non-polar type)



**Caution**

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

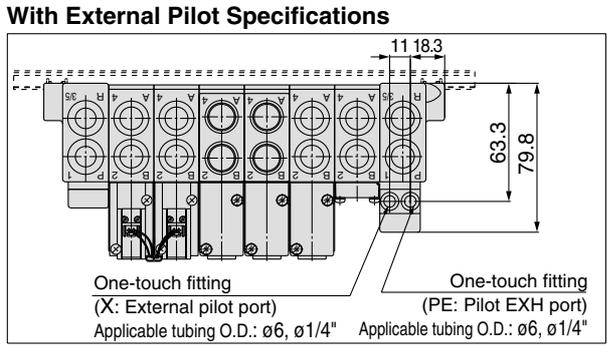
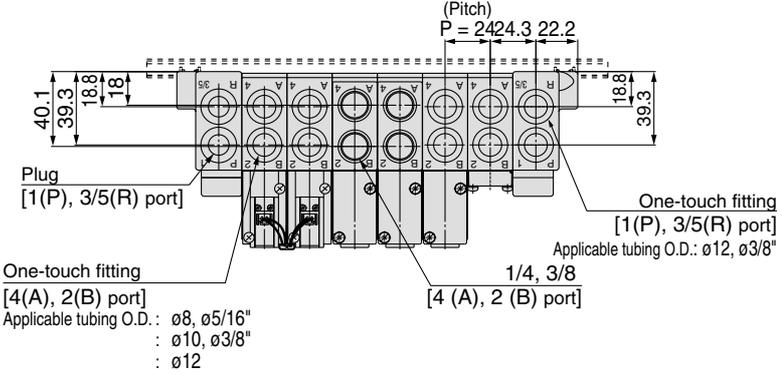
- For more than 10 stations, both poles of the common should be wired.
- For single solenoid, connect to the solenoid A side.
- The maximum number of stations that can be accommodated is 12. For more stations, please contact SMC.



**SY9000: SS5Y9-43P- Stations D**  <sup>02</sup>  <sup>03</sup>  <sup>C8, N9</sup>  <sup>C10, N11</sup>  <sup>C12</sup> **(-D)**

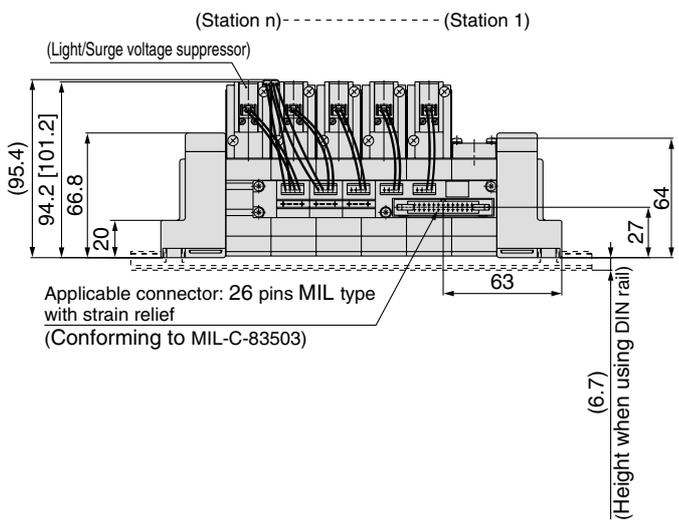
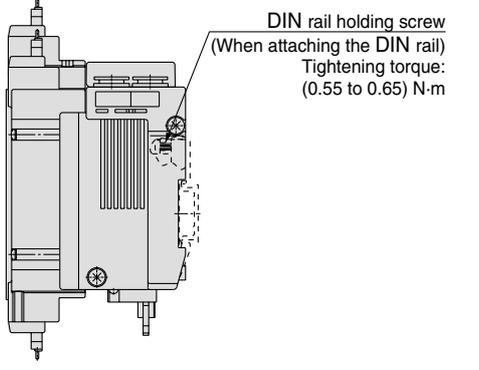
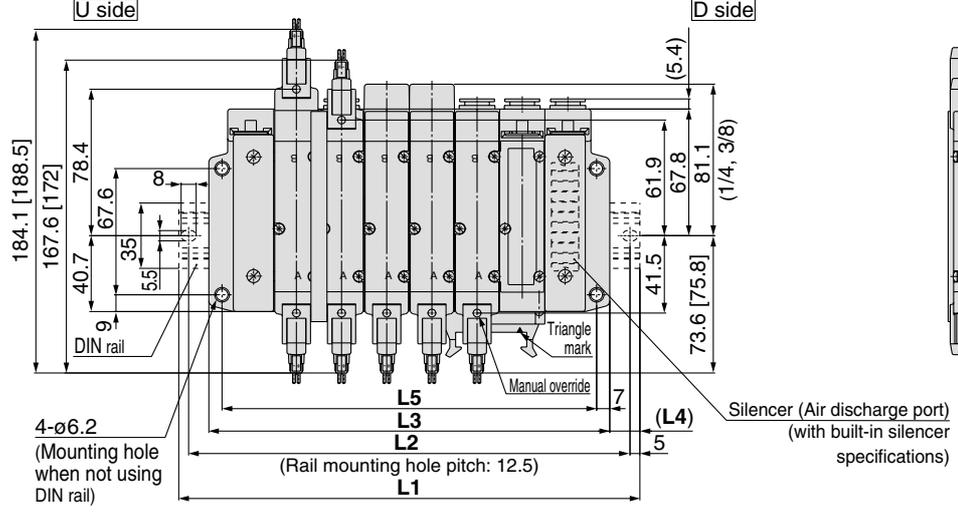
[ ]: AC

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



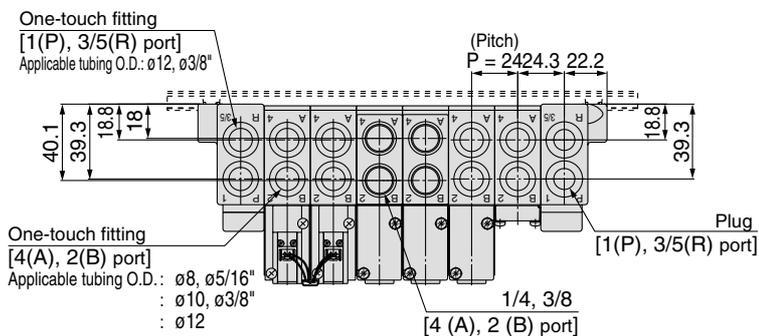
\* Air discharge port on the built-in silencer type and the external pilot's extracting position are in the D side.

- SV
- SZ
- SY
- SYJ
- SX

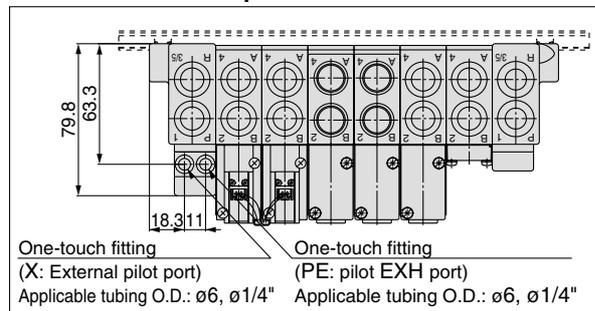


Stations n	4 stations	5	6	7	8	9	10 stations
L1	198	223	248	260.5	285.5	310.5	335.5
L2	187.5	212.5	237.5	250	275	300	325
L3	165	189	213	237	261	285	309
L4	16.5	17	17.5	12	12.5	13	13.5
L5	151	175	199	223	247	271	295

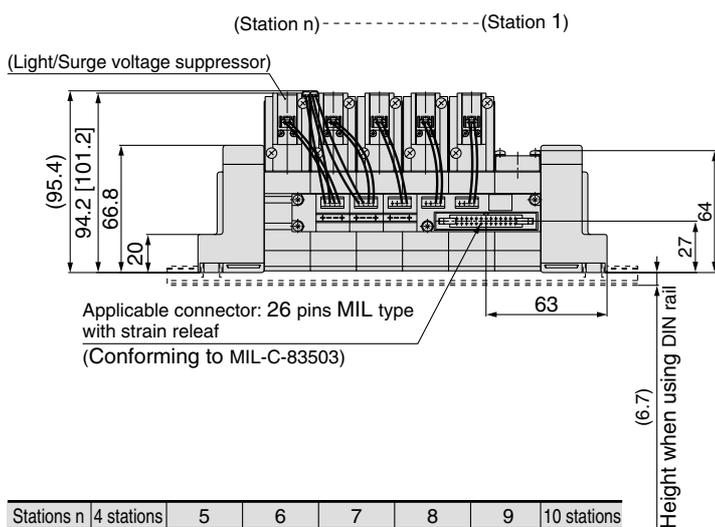
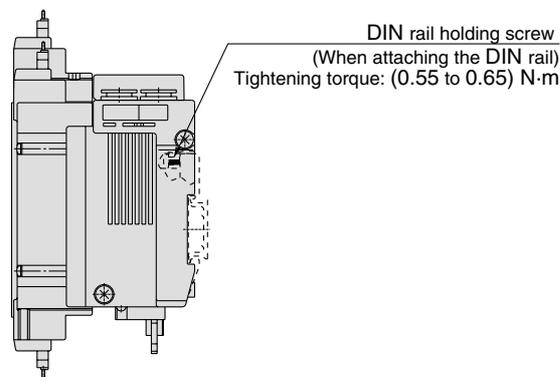
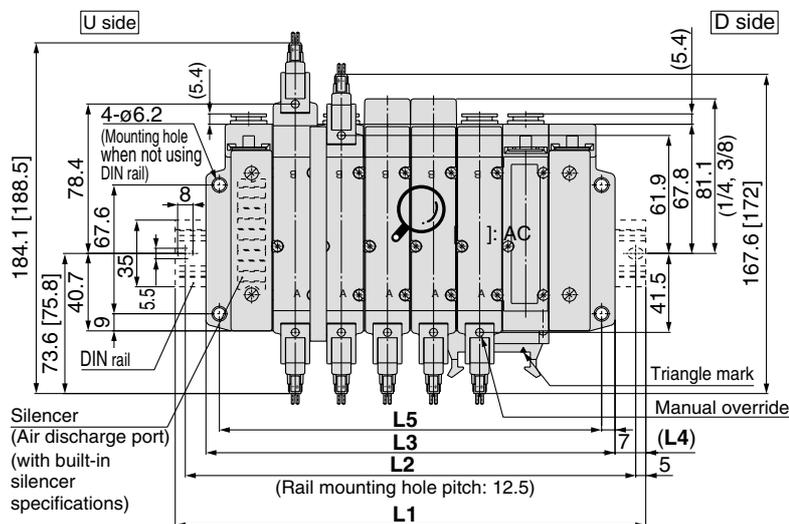
\* When P, R port outlets are indicated on the U side, the P, R ports on the opposite side are plugged.



**With External Pilot Specifications**



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

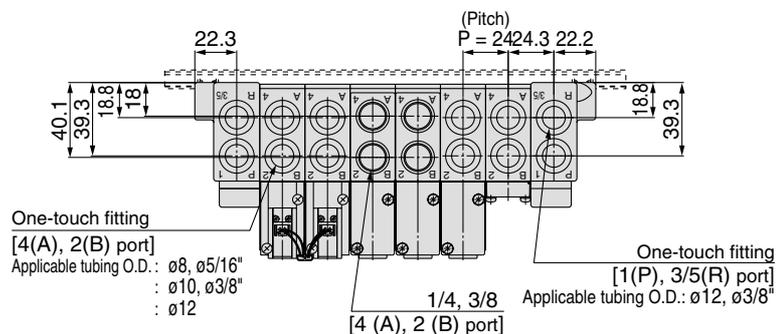


Stations n	4 stations	5	6	7	8	9	10 stations
L1	198	223	248	260.5	285.5	310.5	335.5
L2	187.5	212.5	237.5	250	275	300	325
L3	165	189	213	237	261	285	309
L4	16.5	17	17.5	12	12.5	13	13.5
L5	151	175	199	223	247	271	295

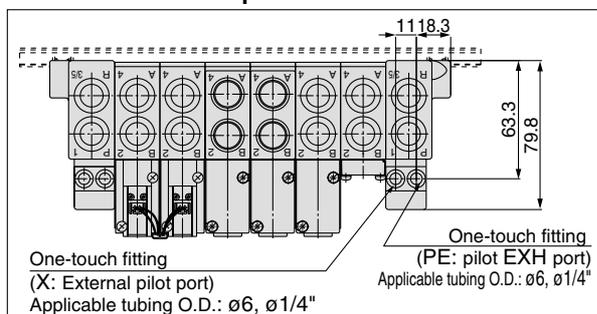
**SY9000: SS5Y9-43P- Stations B**  <sup>02</sup> <sub>03</sub>  C8, N9  
 C10, N11  
 C12  (-D)



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



**With External Pilot Specifications**



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

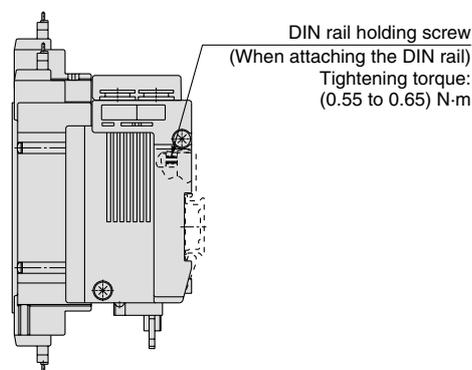
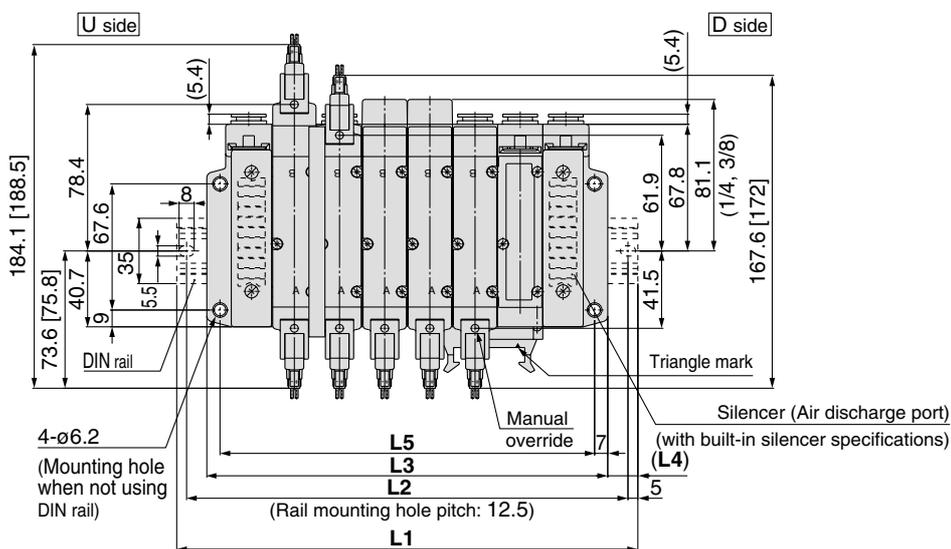
SV

SZ

SY

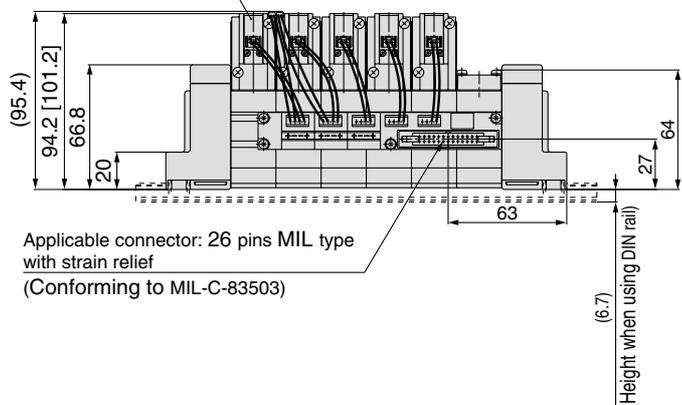
SYJ

SX

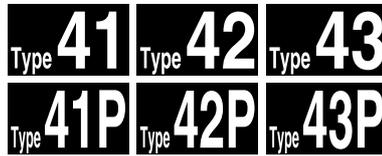


(Station n)------(Station 1)

(Light/Surge voltage suppressor)

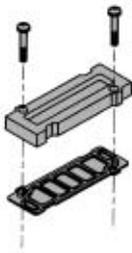


Stations n	4 stations	5	6	7	8	9	10	11	12 stations
L1	198	223	248	260.5	285.5	310.5	335.5	360.5	385.5
L2	187.5	212.5	237.5	250	275	300	325	350	375
L3	165	189	213	237	261	285	309	333	357
L4	16.5	17	17.5	12	12.5	13	13.5	14	14.5
L5	151	175	199	223	247	271	295	319	343



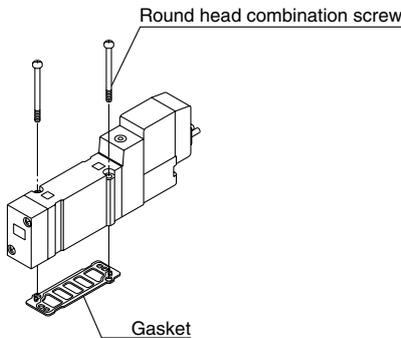
Manifold Option

■ Type 41, 42, 43  
Blanking plate assembly



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

■ Gasket assembly part no.



Series	Gasket assembly
SY3000	SY3000-GS-2
SY5000	SY5000-GS-2
SY7000	SY7000-GS-2
SY9000	SY9000-GS-2

Note) Gasket assembly consists of mounting screws (2 pcs.) and a gasket.

**Caution**

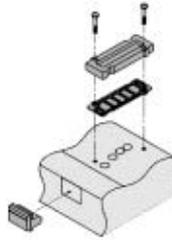
Mounting screw tightening torques

- M2: 0.16 N·m
- M3: 0.8 N·m
- M4: 1.4 N·m

**Warning**

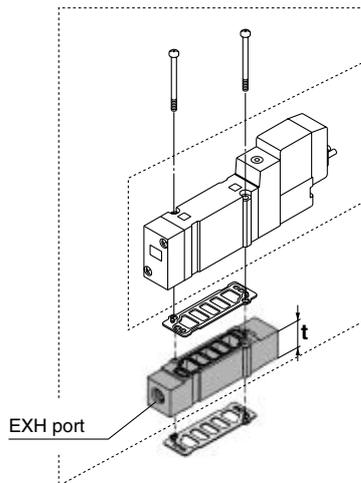
When mounting a valve or spacer on the manifold base or sub-plate, etc., those mounting directions are determined. If mounted in the wrong direction, the equipment to be connected may cause malfunction. Refer to external dimensions, and then mount it.

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



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

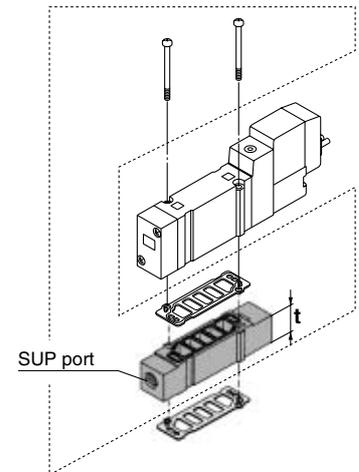
■ Individual EXH spacer assembly



Series	Assembly part no.	Port size	t
SY3000	SY3000-39-2A	M5 x 0.8	11
SY5000	SY5000-39-16*A	1/8	15
SY7000	SY7000-39-16*A	1/4	18
SY9000	SY9000-39-2*A	1/4	20

Note) In case of 41P, 42P and 43P, for protection of the wiring unit section from drainage, piping at the EA port should be arranged so that it will not be directly exposed to exhaust from the valve.

■ Individual SUP spacer assembly

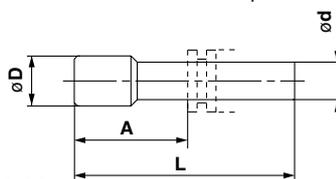


Series	Assembly part no.	Port size	t
SY3000	SY3000-38-2A	M5 x 0.8	11
SY5000	SY5000-38-16*A	1/8	15
SY7000	SY7000-38-16*A	1/4	18
SY9000	SY9000-38-2*A	1/4	20

Note) • The SUP port of SY3000, 5000 and 7000 may be either on the lead wire side or on the end plate side. (An assembly is shipped under the condition shown in the figure.)  
• The end plate side is only available to SY9000.

■ Plug (white)

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



Dimensions

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

\* Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

## Manifold Option

### ■ SUP block disk (For SY9000)

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



Series	Part no.
SY9000	SY9000-57-1A

### ■ EXH block disk (For SY9000)

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



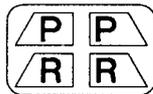
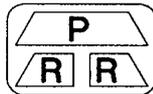
Series	Part no.
SY9000	SY9000-57-1A

### ■ Label for block disk (For SY9000)

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

#### VZ3000-123-1A

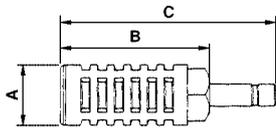
Label for SUP block disk    Label for EXH block disk    Label for SUP/EXH block disk



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

### ■ Silencer with One-touch fitting (For SY9000)

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



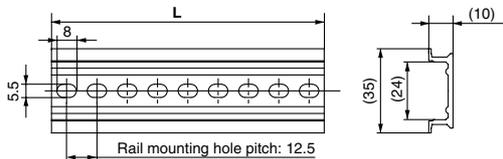
For Series	Model	Effective area	A	B	C
SY9000 (ø12)	AN300-KM12	41 mm <sup>2</sup>	ø25	70	98

### ■ DIN Rail Dimensions/Weight for SY9000

VZ1000-11-4-□

#### ● Refer to L dimensions

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

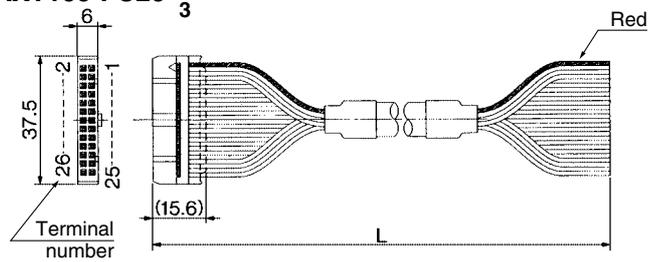


No.	0	1	2	3	4	5	6	7	8	9
L Dimension	98	110.5	123	135.5	148	160.5	173	185.5	198	210.5
Weight (g)	24.8	28	31.1	34.3	37.4	40.6	43.8	46.9	50.1	53.3
No.	10	11	12	13	14	15	16	17	18	19
L Dimension	223	235.5	248	260.5	273	285.5	298	310.5	323	335.5
Weight (g)	56.4	59.6	62.7	65.9	69.1	72.2	75.4	78.6	81.7	84.9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

Note) • For DIN rail, refer to page 1-4-208.  
• Refer to L1 dimension on pages starting with pages 1-4-111 to 113 for lengths that correspond to the number of manifold stations.

### ■ Cable assembly

AXT100-FC26-1



### Connector assembly for flat ribbon cables

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

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

### Connector manufacturers' example

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

SV

SZ

SY

SYJ

SX

## Manifold Option

### How to Order Interface Regulator

#### Series SY3000

ARBY3000-05-P-2

Pressure gauge connection port

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



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

Regulating port

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

#### Series SY5000

ARBY5000-00-P-2

Pressure gauge connection port

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

Regulating port

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

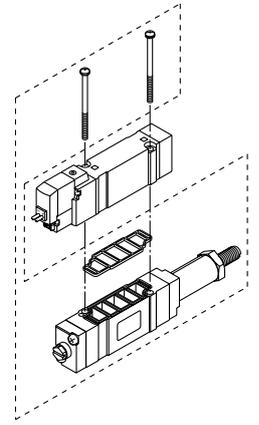
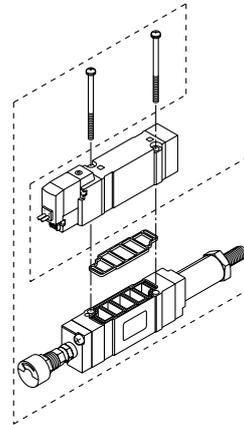
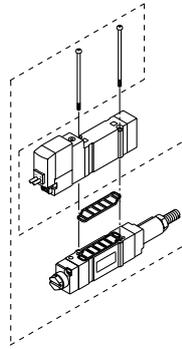
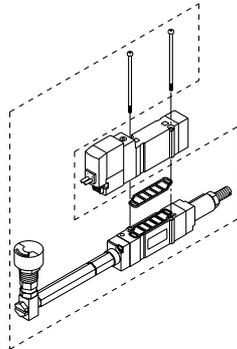
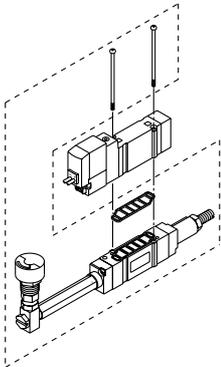
ARBY3000-05-□-2  
(For odd number stations)

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

ARBY3000-M1-□-2

ARBY5000-00-□-2

ARBY5000-M1-□-2



#### Series SY7000

ARBY7000-00-P-2

Pressure gauge connection port

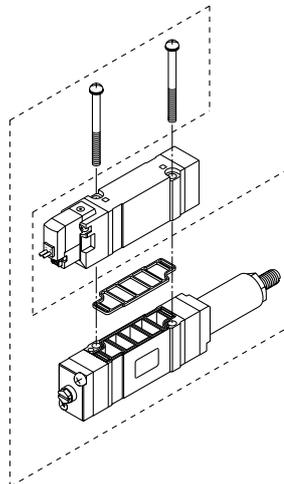
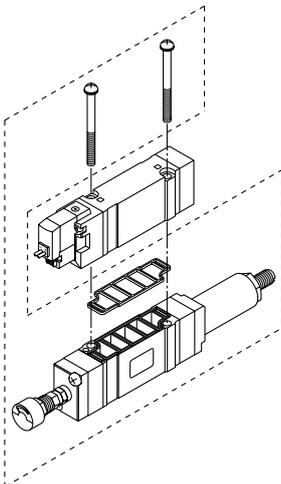
00	Pressure gauge (G15-10-01)
M1	Plug (M-5P)

Regulating port

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

ARBY7000-00-□-2

ARBY7000-M1-□-2



### Accessory

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

### Caution

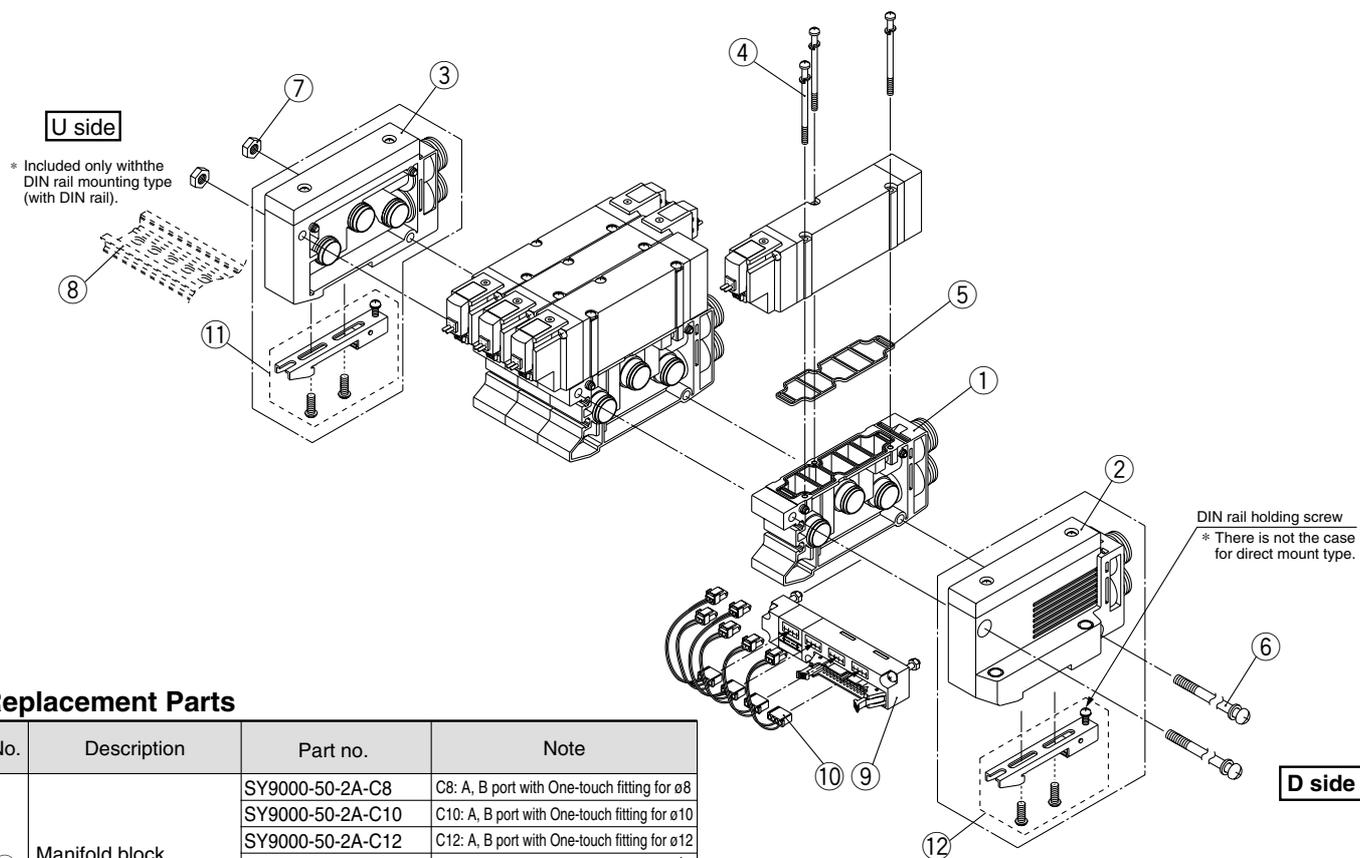
Mounting screw tightening torques

M2: 0.16 N·m

M3: 0.8 N·m

M4: 1.4 N·m

## Base Mounted Manifold Exploded View

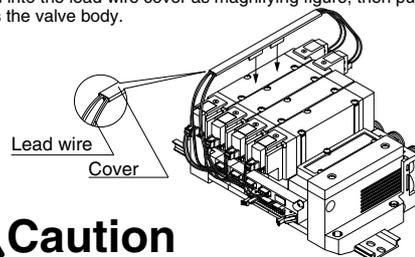


- SV
- SZ
- SY
- SYJ
- SX

### Replacement Parts

No.	Description	Part no.	Note
①	Manifold block assembly	SY9000-50-2A-C8	C8: A, B port with One-touch fitting for $\phi 8$
		SY9000-50-2A-C10	C10: A, B port with One-touch fitting for $\phi 10$
		SY9000-50-2A-C12	C12: A, B port with One-touch fitting for $\phi 12$
		SY9000-50-2A-N9	N9: A, B port with One-touch fitting for $\phi 5/16"$
		SY9000-50-2A-N11	N11: A, B port with One-touch fitting for $\phi 3/8"$
		SY9000-50-2A-02*	02: A, B port $1/4"$ (* thread type)
		SY9000-50-2A-03*	03: A, B port $3/8"$ (* thread type)
④	Round head combination screw	SY9000-18-2	M3 x 42, Matt nickel plated
⑤	Gasket	SY9000-11-2	
⑥	Tension bolt	SY9000-23-□	□ at the end of part number corresponds with the number of manifold station. Specify the same number as the number of stations.
⑦	Hexagon nut	SY9000-25-1	
⑧	DIN rail	VZ1000-11-4-□	Refer to page 1-4-115.
⑨	Wiring unit assembly	SY9000-36-□A	□ at the end of part number corresponds with the number of manifold station. Specify the same number as the number of stations (4 to 12 stations)
⑩	Connector assembly	SY9000-37-□□	Refer to page 1-4-109.
⑪	Lead wire cover	SY9000-41-1	
⑫	Clamp sub assembly	SY9000-30-1A	Included only with the DIN rail mounting type.

⑪ **How to assemble lead wire cover**  
 Lead wire cover is only usable for double solenoid valves. Lead wire is inserted into the lead wire cover as magnifying figure, then push it until it touches the valve body.



### Caution

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

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

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

#### • P, R port

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

#### • Specifications

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

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

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

#### • P, R port

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

#### • Specifications

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

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

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

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

**⚠ Caution** (Tightening torque: 2.9 N·m)

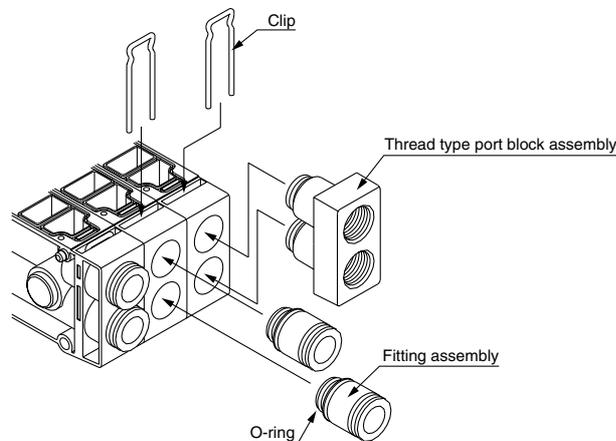
(When equipped with a DIN rail, be sure to tighten the DIN rail holding screws after tightening the tension bolts. Tightening torque: 1.4 N·m)

**⚠ Caution**

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

**How to Replace A, B Port Fitting Assembly**

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

**Fitting Assembly Part No.**

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

Note 1) Be careful to avoid damage or contamination of O-rings, as this can cause air leakage.

Note 2) Although replacing One-touch fittings of P, R port is also possible, use caution to the cases, etc. in which solenoid valves are often used at the same time by using the smaller sized fittings than the standard size ( $\phi 12$ ). Because there may not be able to supply or exhaust air sufficiently in comparison with the valve performances. Besides, although fittings used for A, B port are the same, it is not possible to use the threaded type port block assembly.

