



Benefits:

- Smaller, more compact, with higher flow
- Different sized valves mounted on the same manifold for added flexibility
- Low power consumption models with improved safety features
- Outstanding reliability and increased lifetime performance

5 Port Solenoid Valve Series SY3000/5000



Improve the performance and reliability of your machine with the next generation of solenoid valves and manifolds from SMC

Solenoid valves - the interface between electronic controllers and pneumatic systems.

During the last 30 years, we have witnessed some dramatic advances in solenoid valve technology.

Many automation experts would agree that programmable logic controllers (PLCs) are the brains behind the majority of automated processes with integrated solenoid valves and manifolds being the heart of a machine – effectively controlling the power to drive the machine's moving parts.

And, just like a human being, when a machine's operational health suffers and downtime costs start to spiral out of control, problems of reliability can often be traced back its heart – the solenoid valves and manifolds.

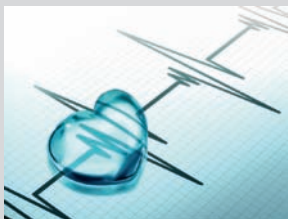
Gain competitive advantage by discovering the operational and production benefits of our latest SY solenoid valves

Series SY 3000/5000 - the next generation of solenoid valves:

Incorporating cutting edge valve technology, our new SY 3000/5000 valves offer outstanding performance benefits and cost-effective solutions.

Our new SY valves:

- are extremely compact and offer high flow rates - same performance is achieved at a reduced cost.
- operate with reduced power consumption - lower operational costs.
- provide outstanding reliability delivering extended lifetime performance - downtime is reduced.



Reduce cost, minimize space requirements and improve system reliability by discovering our new Series SY manifolds

Series SY 3000/5000 manifolds – the next generation of integrated manifolds:

Integrated solenoid valve manifolds can reduce cost, minimize space requirements and enhance system integrity and reliability by eliminating redundant piping and fittings that can leak, break or degrade over time. Our integrated manifold valves can also reduce the overall footprint of the assembly and include multiple wiring options.

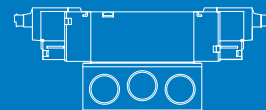
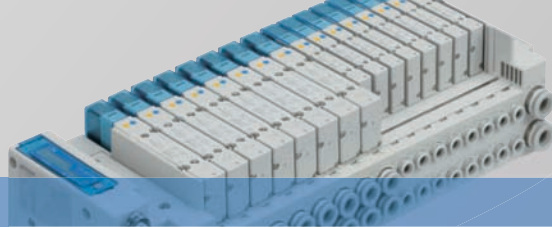
Our new SY integrated manifolds offer:

- outstanding valve mounting flexibility
- reduced installation costs and assembly time
- energy saving benefits
- improved safety features
- multiple parallel and serial interface wiring options and variations



Our next generation of solenoid valves and manifolds can help ensure that the heart of your machine stays healthy!

Features



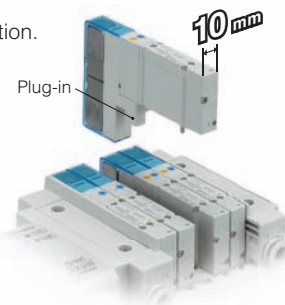
Compact size and high flow

Outstanding flow characteristics while maintaining compact size, ensures the required flow in your application. 68% and 44% increase in flow from previous models.

Speed	Serie	Suitable cylinder											
		ø6	ø10	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100	ø125
300 mm/s	SY3000							→	●				
	SY5000							→	●				

Benefit:

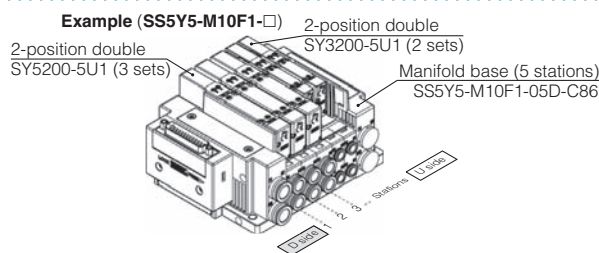
- Improve flow rate contributes to a reduction of the application cycle time, improving productivity.
- Size and cost saving when operating medium size cylinder (ø50, ø63).



Mixed mounting is possible in the same manifold

Both sizes SY3000 and SY5000 can be mounted on the same manifold.

Benefit: actuators of different sizes and with different flow requirements can be handled with same manifold, enabling air saving.

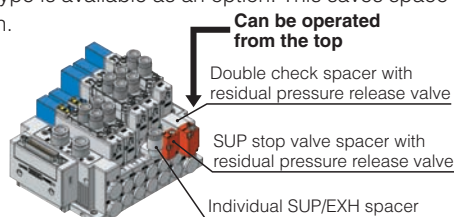


Simple and quick valve replacement offers labour saving

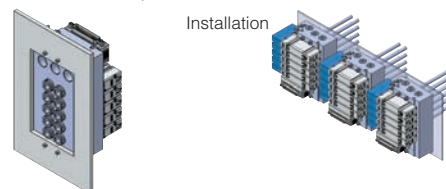
Easy replacement compared to stacking manifold types.

Space saving / Improved operability

Wiring, piping and operation are integrated on one side. Multiple layer type is available as an option. This saves space in the lateral direction.



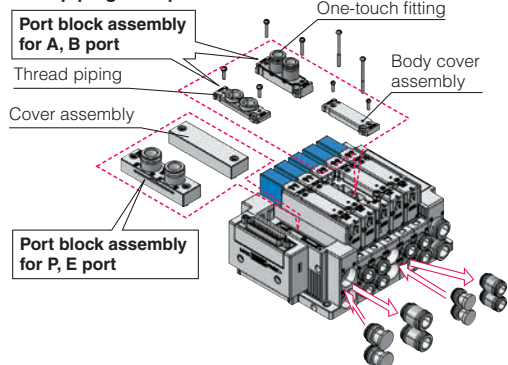
Bottom ported is also available providing. Space saving. Bottom ported reduces the footprint and enables the separation of electrical and pneumatic connection.



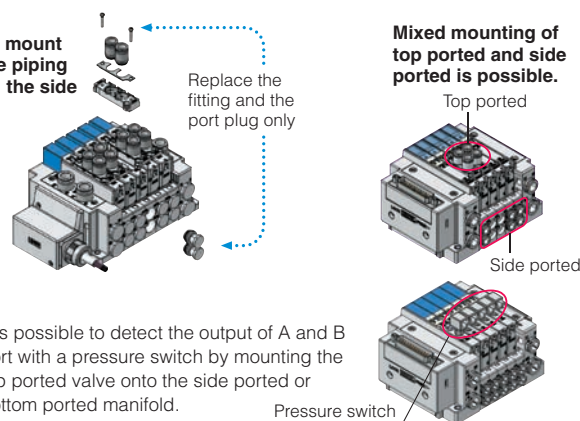
Flexible piping

Direction, size and type of the piping can be changed

To mount the piping on top

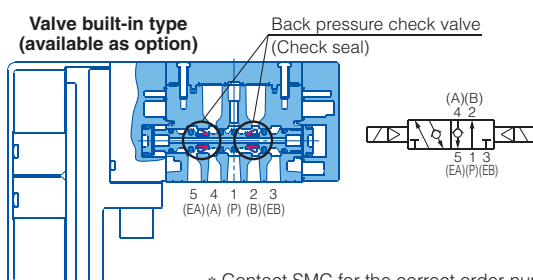


To mount the piping on the side



Back pressure check valve

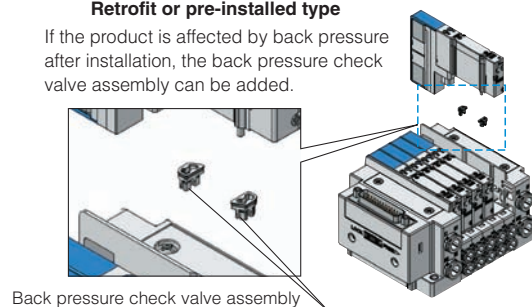
This prevents cylinder malfunction caused by the exhaust from other valves.



* Contact SMC for the correct order number.

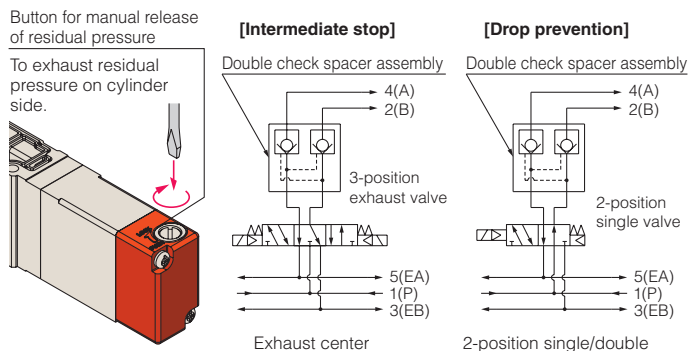
Retrofit or pre-installed type

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



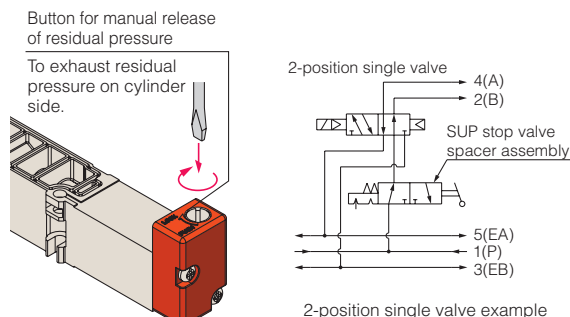
■ Double check spacer with residual pressure release valve

Long time of intermediate stop and position holding are possible.



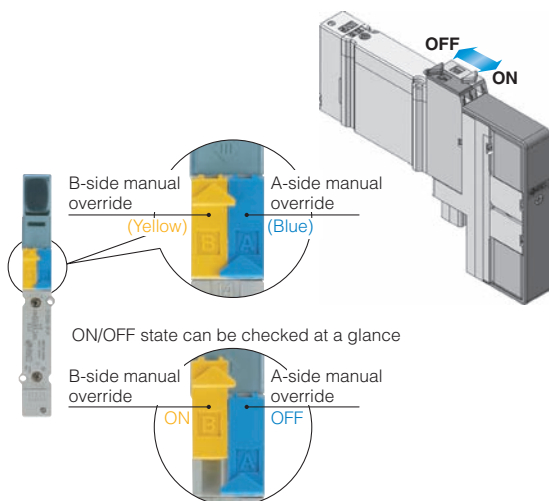
■ SUP stop valve spacer with residual pressure release valve

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



■ Slide manual override provides better visibility

ON/OFF operation and locking can be performed with the manual slide (available as option).



■ 4-position dual 3-port valve available

(Rubber seal type only)

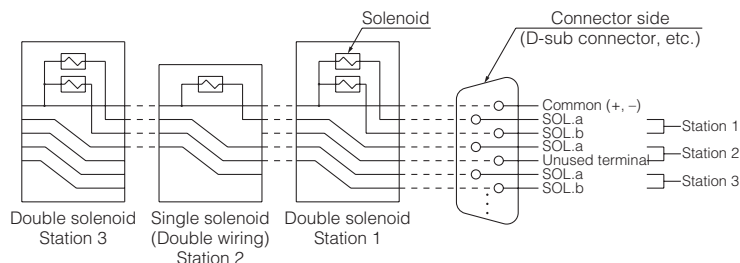
- Two 3-port valves built into one body.
- 3-port valves on the A and B sides can operate independently.
- When used as a 3-port valve, only half the number of stations is required.
- Can also be used as a 4-position, 5-port valve.
- 4-position dual 3-port valve with back pressure check valve is available.

A side	B side	Symbol
N.C. valve	N.C. valve	
N.O. valve	N.O. valve	
N.C. valve	N.O. valve	

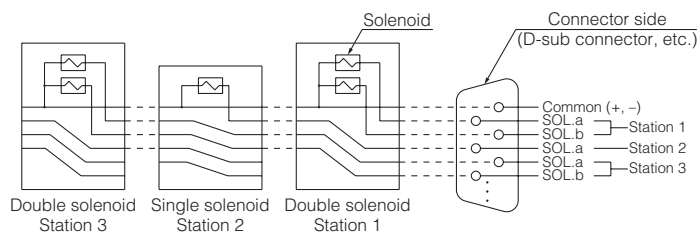
Connector Wiring Layout

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

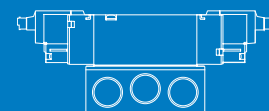
■ Single solenoid valve is installed to all double wiring (in case of all double wiring)



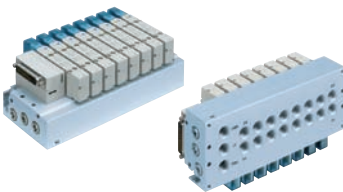
■ Single/double wiring are mixed



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



Valve size selection chart	page 6
Manifold characteristics: flow rate / weight	page 7
Valve specifications	page 8
How to order valves.....	page 9
Plug-in metal base manifolds.....	page 10

Plug-in metal base		D-sub
Strong and rigid construction one piece metal base manifolds (4 to 12 stations)		
Side ported	 Type 50□ Page 10	 (IP40)
Bottom ported	 Type 51□ Page 10	 (IP40)

Plug-in connector connecting base manifolds.....	page 12
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Plug-in connector connecting base	D-sub	Circular connector	EX600 Digital/Analogue Input/Output System	EX250 Digital Input / Output System	EX260 Output System
Lightweight flexible construction (number of station and manifold configuration can be changed) (2 to 24 stations)			 PROFIBUS DP DeviceNet™ EtherNET/IP™ EtherCAT Page 13	 PROFIBUS DP DeviceNet™ AS-Interface CANopen ControlNet™ EtherNET/IP™ Page 14	 PROFIBUS DP DeviceNet™ EtherCAT PROFINET Page 15
Side ported	 Type 10□ (IP40)	(IP67)	 IP67: M8/M12 IP40: D-sub/Spring type	 IP67 (IP40 ControlNet)	 IP67 (IP40 for D-sub)
Bottom ported	 Type 11□ (IP40)	(IP67)	 IP67: with M8/M12 IP40: D-sub/Spring type	 IP67 (IP40 ControlNet)	 IP67 (IP40 for D-sub)

Manifold options.....	page 19
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Valve size selection chart

■ Optimum Actuation Size Chart of Air Cylinder

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

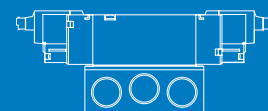
[Common conditions]

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

* Use as a guide for selection.

Please confirm the actual conditions with SMC Sizing Program.

Manifold characteristics



■ Manifold Flow-rate Characteristics ^{Note 1)} / Manifold Weight – Metal base

Valve Seal Type: Rubber Seal

Model	Port size		Valve flow-rate characteristics						Weight: W [g] ^{Note 2)} (n: stations)
	1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1 → 4/2 (P → A/B)			4/2 → 3/5 (A/B → E)			
			C [dm³/(s·bar)]	b	Qn [ℓ/min]	C [dm³/(s·bar)]	b	Qn [ℓ/min]	
SS5Y3-50 (Side ported)	G 1/8	ø6	1.1	0.19	262	1.1	0.15	256	43.5n + 247
SS5Y3-51 (Bottom ported)	G 1/8	ø6	1.2	0.31	307	1.2	0.14	278	48.5n + 251
SS5Y5-50 (Side ported)	G 1/4	ø8	2.6	0.28	652	2.6	0.14	602	110n + 379
SS5Y5-51 (Bottom ported)	G 1/4	ø8	2.7	0.35	709	2.8	0.20	670	113n + 413

Valve Seal Type: Metal Seal

Model	Port size		Valve flow-rate characteristics						Weight: W [g] ^{Note 2)} (n: stations)
	1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1 → 4/2 (P → A/B)			4/2 → 3/5 (A/B → E)			
			C [dm³/(s·bar)]	b	Qn [ℓ/min]	C [dm³/(s·bar)]	b	Qn [ℓ/min]	
SS5Y3-50 (Side ported)	G 1/8	ø6	0.9	0.14	208	1.0	0.12	230	43.5n + 247
SS5Y3-51 (Bottom ported)	G 1/8	ø6	1.0	0.21	240	1.1	0.10	250	48.5n + 251
SS5Y5-50 (Side ported)	G 1/4	ø8	2.2	0.20	527	2.3	0.13	530	110n + 379
SS5Y5-51 (Bottom ported)	G 1/4	ø8	2.4	0.26	595	2.5	0.16	585	113n + 413

■ Manifold Flow-rate Characteristics ^{Note 1)} / Manifold Weight – Resin base

Valve Seal Type: Rubber Seal

Model	Port size		Valve flow-rate characteristics						Weight: W [g] ^{Note 2)} (n: stations)
	1, 3/5 (P, E)	4, 2 (A, B)	1 → 4/2 (P → A/B)			4/2 → 3/5 (A/B → E)			
			C [dm³/(s·bar)]	b	Qn [ℓ/min]	C [dm³/(s·bar)]	b	Qn [ℓ/min]	
SS5Y3-10 (Side ported)	ø8	ø6	1.4	0.30	356	1.6	0.19	381	28.9n + 293
SS5Y5-10 (Side ported)	ø10	ø8	3.3	0.30	839	3.6	0.17	848	74.7n + 398
SS5Y5-11 (Bottom ported)	ø10	ø8	3.3	0.29	833	4.2	0.26	1041	76.8n + 445

Valve Seal Type: Metal Seal

Model	Port size		Valve flow-rate characteristics						Weight: W [g] ^{Note 2)} (n: stations)
	1, 3/5 (P, E)	4, 2 (A, B)	1→ 4/2 (P→ A/B)			4/2→ 3/5 (A/B→ E)			
			C [dm³/(s·bar)]	b	Qn [ℓ/min]	C [dm³/(s·bar)]	b	Qn [ℓ/min]	
SS5Y3-10 (Side ported)	ø8	ø6	1.2	0.19	286	1.3	0.18	308	28.9n + 293
SS5Y5-10 (Side ported)	ø10	ø8	2.7	0.24	662	3.1	0.17	730	74.7n + 398
SS5Y5-11 (Bottom ported)	ø10	ø8	2.8	0.25	690	3.5	0.15	816	76.8n + 445

* Qn (ANR): Pressure condition of flow described in litres per minutes, inlet side 0.6 MPa, outlet side 0.5 MPa.

Note 1) The value is for manifold base with 5 stations and individually operated 2-position type.

Note 2) Weight: W is the value of the internal pilot, and D-sub connector manifold with One-touch fitting straight piping type.

To obtain the weight with valves attached, add the valve weights given on page 8 for the appropriate number of stations.

Valve Specifications

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

Note 1) Impact resistance: No malfunction occurred when it is tested in the axial direction and at the right angles to the main valve and armature in both energized and de-energized states every once for each condition. (Values at the initial period)
Vibration resistance: No malfunction occurred in a one-sweep test between 45 and 2000 Hz. Test was performed at both energized and de-energized states in the axial direction and at the right angles to the main valve and armature. (Values at the initial period)

Response Time

Series	Seal type	Model	Type of actuation	Response time (ms)
SY3000	Rubber seal	SY31□0	2-position single	15 or less
	Metal seal	SY31□1		15 or less
	Rubber seal	SY32□0	2-position double	12 or less
	Metal seal	SY32□1		12 or less
	Rubber seal	SY33/4/5□0	3-position	18 or less
	Metal seal	SY33/4/5□1		18 or less
	Rubber seal	SY3A/B/C□0	4-position dual 3-port valve	18 or less
SY5000	Rubber seal	SY51□0	2-position single	24 or less
	Metal seal	SY51□1		24 or less
	Rubber seal	SY52□0	2-position double	12 or less
	Metal seal	SY52□1		12 or less
	Rubber seal	SY53/4/5□0	3-position	30 or less
	Metal seal	SY53/4/5□1		28 or less
	Rubber seal	SY5A/B/C□0	4-position dual 3-port valve	35 or less

Valve Weight

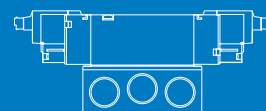
Valve model	Seal type	Type of actuation		Weight g
SY3□00	Rubber seal	2-position	Single	74
			Double	83
		3-position	Closed center	87
			Exhaust center	
			Pressure center	
		4-position	Dual 3-port valve	83

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

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

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

How to order valves



■ How to Order Valves (With two mounting screws)

SY **3** **1** **0** **0** **—** **5** **U** **—** **1**

1 2 3 4 5 6 7

1 Series

3	SY3000
5	SY5000

2 Type of actuation

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

* 4-position dual 3-port valve has rubber seal type only.

3 Seal type

0	Rubber seal
1	Metal seal

4 Pilot specification

—	Internal pilot
R	External pilot

Base mounted

5 Rated voltage

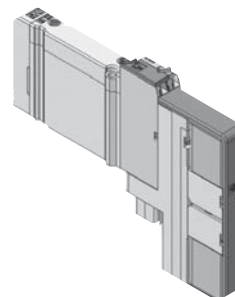
5	24 VDC
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6 Light/surge voltage suppressor and common specification

U	With light/surge voltage suppressor (Non-polar)
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7 Manual override

—: Non-locking push type	F: Slide locking type
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■ How to Order Port Block Assembly (replacement part)

For changing the piping from side ported to top porter

SY **—** **0V** **—** **6A** **—** **—**

Series

3	3000
5	5000

Pilot specifications

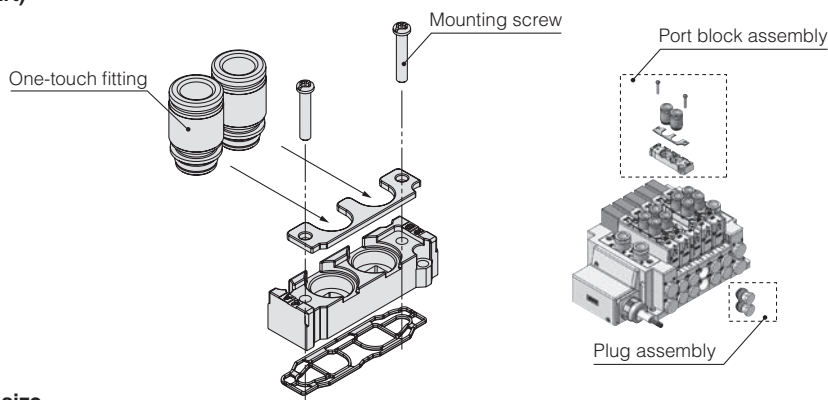
—	Internal pilot
R	External pilot

A, B port size Thread piping

Symbol	Port size	Applicable series
M5	M5	SY3000
01F	G 1/8	SY5000

Plug assembly (replacement part)

	SY3000	SY5000
A, B port	VVQ0000-58A	VVQ1000-58A

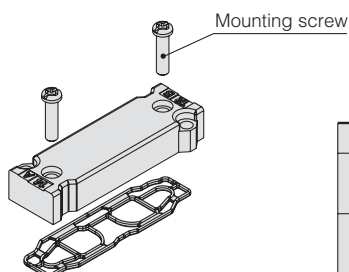


One-touch fittings (Metric size)

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

■ Body Cover Assembly (replacement part)

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



	Series	Part no.
SY3000	Internal pilot	SY30V-16A
	External pilot	SY30V-16AR
SY5000	Internal pilot	SY50V-16A
	External pilot	SY50V-16AR

Plug-in Metal Base Manifolds

■ Plug-in Metal Base: D-sub Connector

Type 50 Side Ported

Type 51 Bottom Ported

SS5Y **3** - **50** **F1** - **06** **B** - **KC6** **F**

1
2
3
4
5
6
7

1 Series

3	SY3000
5	SY5000

2 Model

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

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

4 Valve stations

F: D-sub connector (25 pins)

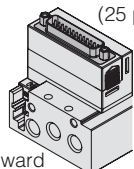
Symbol	Stations
04	4 stations
06	6 stations
08	8 stations
10	10 stations
12	12 stations

7 Thread type

F	G
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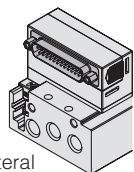
3 Connector type

F1: D-sub connector (25 pins)



Upward

Can be changed to



Lateral

IP40

5 P, E port location

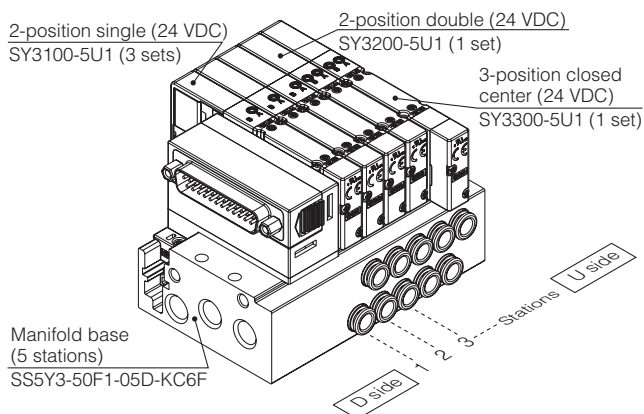
B	Both sides	Model 50/50R
D	D side	Model 51

6 A, B port size (Replaceable fittings)

Symbol	A, B port	SY3000	SY5000
KC6	ø6 One-touch fitting	●	—
KC8	ø8 One-touch fitting	—	●

■ How to Order Manifold Assembly

Example (SS5Y3-50F1-□)

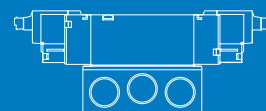
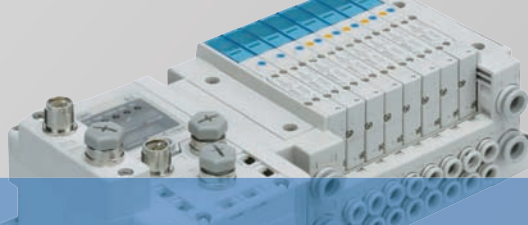


SS5Y3-50F1-05D-KC6F... 1 set (Type 50 5-station manifold base part no.)
SY3100-5U1 3 sets (2-position single part no.)
SY3200-5U1 1 set (2-position double part no.)
SY3300-5U1 1 set (3-position closed center part no.)

- The valve arrangement is numbered as the 1st station from D side.

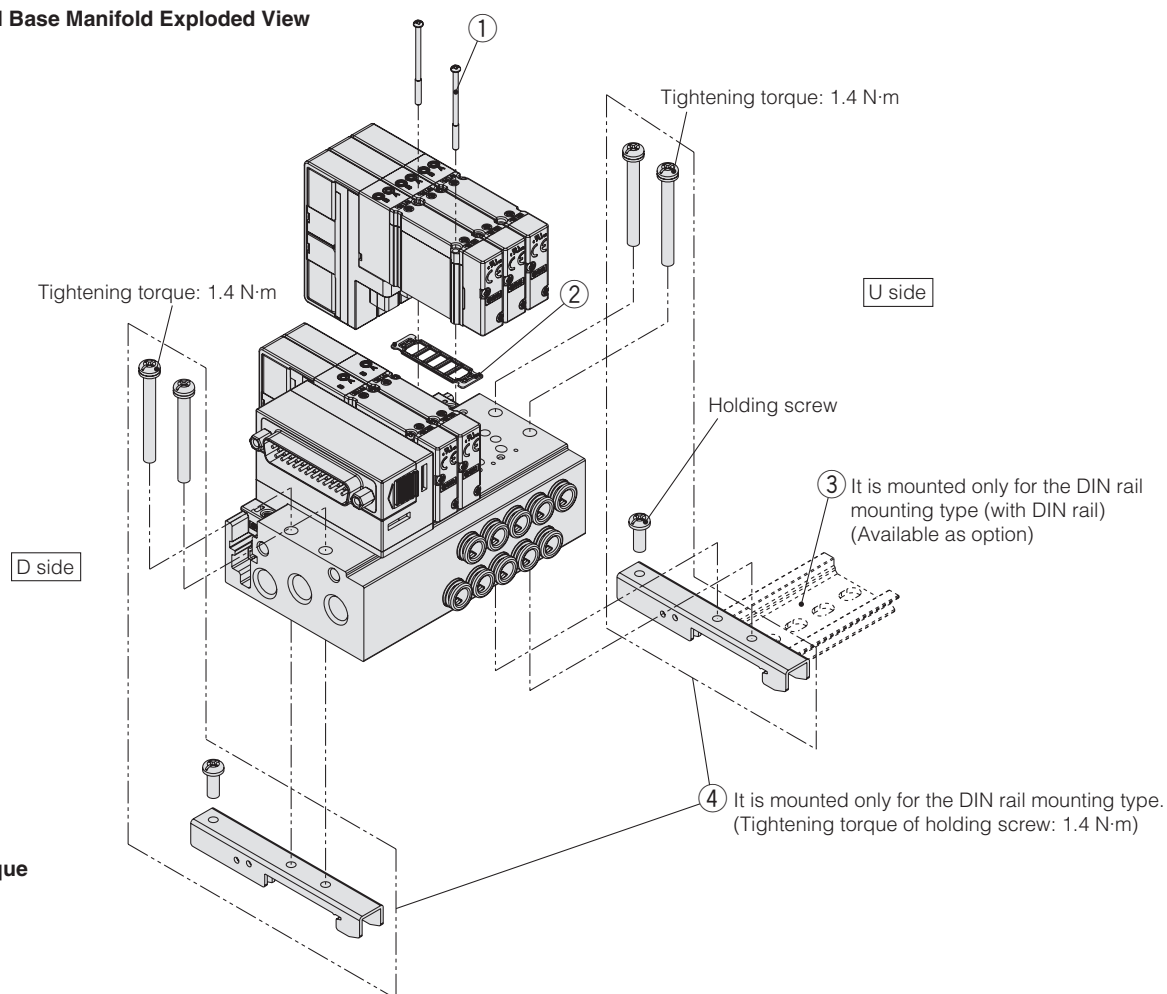


For complete units (valves and manifold) please use our SY valve configurator software.



■ Plug-in Metal Base Manifold Exploded View

Type 50, 51



⚠ Caution

Tightening torque

M2: 0.16 N·m

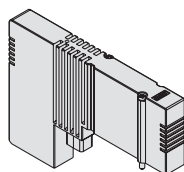
M3: 0.8 N·m

■ Manifold Parts No.

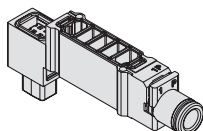
No.	Description		Part no.		Note
			SY3000	SY5000	
①	Valve mounting screw	Round head combination screw	SY3000-23-24A (M2 x 32)	SY5000-221-1A (M3 x 32.5)	Part numbers shown on the left are for 10 valves (20 pcs.)
		Hexagon socket head cap screw	SY3000-222-1A (M2 x 32)	SY5000-222-1A (M3 x 32.5)	Part numbers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

■ Manifold options please refer to page 19

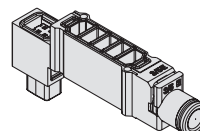
Blanking plate



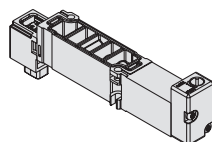
Individual SUP spacer



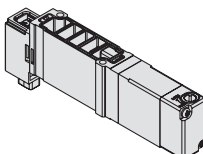
Individual EXH spacer



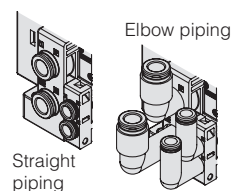
SUP stop valve spacer with residual pressure release valve



Double check spacer with residual pressure release valve



One-touch fittings



Plug-in Connector Connecting Base Manifolds

■ How to order Manifold: D-sub Connector/Circular Connector

SS5Y **3** - **10** **F1** - **05** **U** **□** - **C6** **□**

1 2 3 4 5 6 7 8

1 Series

3	SY3000
5	SY5000

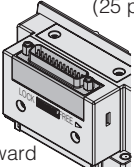
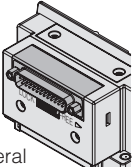
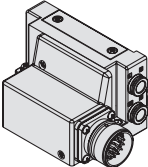
* The SY5000 manifold base is used for mixed mounting of SY3000/5000 and bottom ported of SY3000. When ordering, please refer to page 18 (manifold block assembly) or use our SY valve configurator.

2 Model

10	Side ported
11	Bottom ported

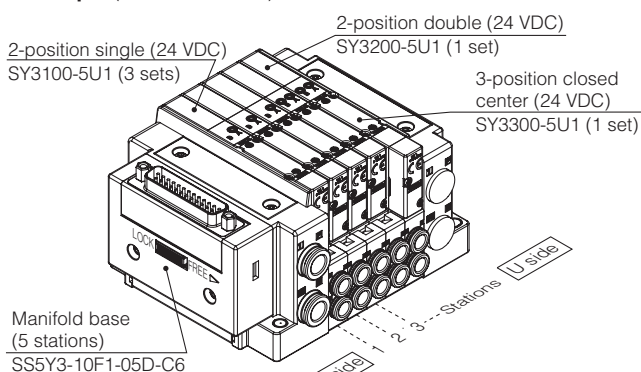
* Type 11 (Bottom ported) is available only for the SY5000.

3 Connector type

F1 : D-sub connector (25 pins)	M : Circular connector (26 pins)
 Upward Can be changed to  Lateral IP40	 IP67

■ How to order Manifold Assembly

Example (SS5Y3-10F1-□)



SS5Y3-10F1-05D-C6 ... 1 set (Type 10 5-station manifold base part no.)
 SY3100-5U1 3 sets (2-position single part no.)
 SY3200-5U1 1 set (2-position double part no.)
 SY3300-5U1 1 set (3-position closed center part no.)

• The valve arrangement is numbered as the 1st station from D side.



For complete units (valves and manifold) please use our SY valve configurator software.

4 Valve stations

F: D-sub connector (25 pins)

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

Note 1) Double wiring: 2-position single, double, 3-position and 4-position valves can be used on all manifold stations.

Use of a 2-position single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.

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

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

5 P, E port location

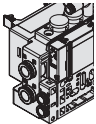
U	U side (2 to 10 stations)
D	D side (2 to 10 stations)
B	Both sides (2 to 24 stations)

6 SUP/EXH block assembly specification

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

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

7 A, B port size (Metric size)

Symbol	A, B port	Type 10 Side ported		Type 11 Bottom ported	
		SY3000	SY5000	SY5000	
C6	ø6 One-touch fitting	●	—	—	
C8	ø8 One-touch fitting	—	●	●	

8 Mounting

—	Direct mounting
D	DIN rail mounting (With DIN rail)
D0	DIN rail mounting (Without DIN rail)

* Only direct mounting for Type 11 (Bottom ported)

■ Cable Assembly (DIN 47100)

D-sub connector cable assembly

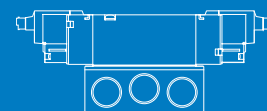
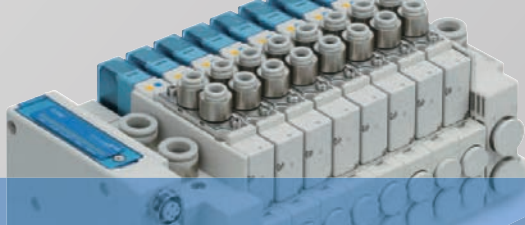
Cable length (L)	Assembly part no.
3 m	GVVZS3000-21A-2
5 m	GVVZS3000-21A-3
8 m	GVVZS3000-21A-4

Circular connector cable assembly

Cable length (L)	Assembly part no.
1.5 m	GAXT100-MC26-015
3 m	GAXT100-MC26-030
5 m	GAXT100-MC26-050

* Cannot be used for movable wiring.

* Lengths other than the above is also available. Please contact SMC for details.



■ How to order Manifold: SI Unit I/O System Series EX600, IP67 for M8/M12 (IP40 for D-Sub/Spring type)

SS5Y **3** - **10** **S6** **Q** **2** - **05** **U** - **C6**

1 2 3 4 5 6 7 8 9

1 Series

3	SY3000
5	SY5000

* The SY5000 manifold base is used for mixed mounting of SY3000/5000 and bottom ported of SY3000. When ordering, please refer to page 18 (manifold block assembly) or use our SY valve configurator.

2 Model

10	Side ported
11	Bottom ported

* Type 11 (Bottom ported) is available only for the SY5000.

3 SI unit specification

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

Note 1) I/O unit cannot be mounted without SI unit.

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

4 SI unit common, end plate specification

SI unit common	Power supply with M12 connector	Power supply with 7/8 inch connector
Without SI unit	—	
SI unit Negative common	4	5

5 I/O unit stations

—	None
1	1 station
⋮	⋮
9	9 stations

Note 1) Without SI unit, the symbol is nil.

Note 2) SI unit is not included in I/O unit stations.

Note 3) When I/O unit is selected, it is shipped separately, and assembled by customer. Refer to the attached operation manual for mounting. Available units refer to page 17.

6 Valve stations

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

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

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

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

7 P, E port location, SUP/EXH block assembly specification

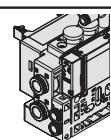
	Internal pilot	Internal pilot/ Built-in silencer	External pilot
P, E port location U side	U	C	G
P, E port location D side	D	E	H
P, E port location both sides	B	F	J

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

* When the built-in silencer type is used, keep the exhaust port from coming in direct contact with water or other liquids.

8 A, B port size (Metric size)

Symbol	A, B port	Type 10 Side ported		Type 11 Bottom ported
		SY3000	SY5000	SY5000
C6	ø6 One-touch fitting	●	—	—
C8	ø8 One-touch fitting	—	●	●



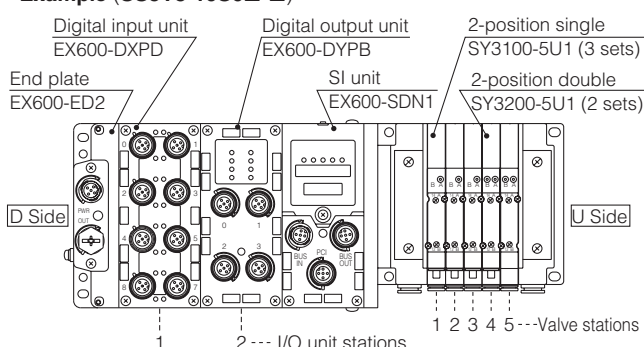
9 Mounting

—	Direct mounting
D	DIN rail mounting (With DIN rail)
D0	DIN rail mounting (Without DIN rail)

* Only direct mounting for Type 11 (Bottom ported) DIN rail (D) cannot be selected for the product without SI unit (10S60 type).

■ How to order Manifold Assembly

Example (SS5Y3-10S6□-□)



SS5Y3-10S6Q22-05B-C6... 1 set (Type 10 5-station manifold base part no.)
SY3100-5U1 3 sets (2-position single part no.)
SY3200-5U1 2 sets (2-position double part no.)
 * **EX600-DXPD** 1 set I/O unit part number (Station 1)
 * **EX600-DYPB** 1 set I/O unit part number (Station 2)

→ Refer to page 17 for more units.

• The valve arrangement is numbered as the 1st station from D side.



For complete units (valves and manifold) please use our SY valve configurator software.

Plug-in Connector Connecting Base Manifolds

■ How to order Manifold: SI Unit I/O System Series EX250, IP67 (IP40 ControlNet)

SS5Y 3 - 10 **S** Q - 05 **U** - C6

1
 2
 3
 4
 5
 6
 7
 8
 9

1 Series

3	SY3000
5	SY5000

* The SY5000 manifold base is used for mixed mounting of SY3000/5000 and bottom ported of SY3000. When ordering, please refer to page 18 (manifold block assembly) or use our SY valve configurator.

2 Model

10	Side ported
11	Bottom ported

* Type 11 (Bottom ported) is available only for the SY5000.

4 Input block stations

—	None
1	1 station
⋮	⋮
8	8 stations

Note) Without SI unit, the symbol is nil. The maximum number of stations is limited for the AS-Interface applicable SI unit.

3 SI unit specification

0	Without SI unit
Q	DeviceNet™
N	PROFIBUS DP
TA	AS-Interface, 8 in/8 out, 31 slave modes, 2 power supply systems
TB	AS-Interface, 4 in/4 out, 31 slave modes, 2 power supply systems
TC	AS-Interface, 8 in/8 out, 31 slave modes, 1 power supply system
TD	AS-Interface, 4 in/4 out, 31 slave modes, 1 power supply system
Y	CANopen
ZC	ControlNet™
ZE	EtherNet/IP™

Note 1) Input block cannot be mounted without SI unit.

Note 2) The supply current from the SI unit of AS-Interface applicable 1 power supply system specification to the input block and valve is limited.

Note 3) IP40 for the ControlNet™ applicable SI unit specification.

5 Input block type, common specification

	Negative common
Without input block	—
M12, 2 inputs	D
M12, 4 inputs	E
M8, 4 inputs	F

Note) Input blocks refer to page 17.

6 Valve stations

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

Note 1) Double wiring: 2-position single, double, 3-position and 4-position valves can be used on all manifold stations.

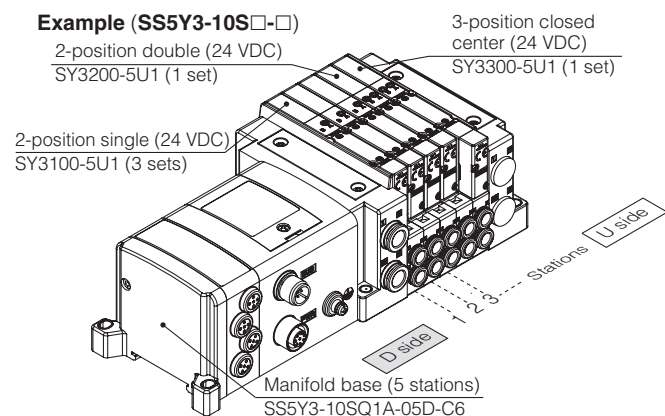
Use of a 2-position single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.

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

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

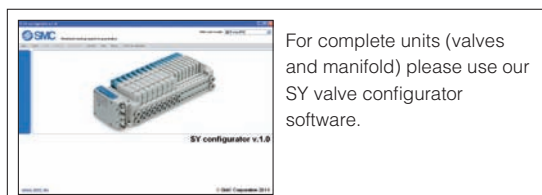
■ How to order Manifold Assembly

Example (SS5Y3-10S□-□)



SS5Y3-10SQ1A-05D-C6 ... 1 set (Type 10 5-station manifold base part no.)
 SY3100-5U1 3 sets (2-position single part no.)
 SY3200-5U1 1 set (2-position double part no.)
 SY3300-5U1 1 set (3-position closed center part no.)

- The valve arrangement is numbered as the 1st station from D side.
- I/O units refer to page 17.



7 P, E port location, SUP/EXH block assembly specification

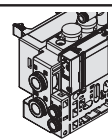
	Internal pilot	Internal pilot/ Built-in silencer	External pilot
P, E port location U side	U	C	G
P, E port location D side	D	E	H
P, E port location both sides	B	F	J

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

* When the built-in silencer type is used, keep the exhaust port from coming in direct contact with water or other liquids.

8 A, B port size (Metric size)

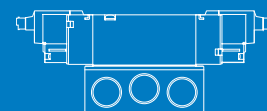
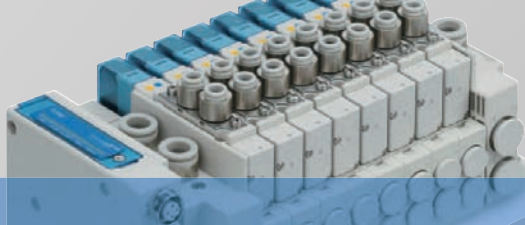
Symbol	A, B port	Type 10 Side ported		Type 11 Bottom ported
		SY3000	SY5000	SY5000
C6	ø6 One-touch fitting	●	—	—
C8	ø8 One-touch fitting	—	●	●



9 Mounting

—	Direct mounting
D	DIN rail mounting (With DIN rail)
D0	DIN rail mounting (Without DIN rail)

* Only direct mounting for Type 11 (Bottom ported)
 DIN rail (D) cannot be selected for the product without SI unit (10S0 type).



■ How to order Manifold: SI Unit Output System Series EX260, IP67 (IP40 for D-Sub)

SS5Y 3 - 10 S N A N - 05 U - C6

1 2 3 4 5 6 7 8 9

1 Series

3	SY3000
5	SY5000

2 Model

10	Side ported
11	Bottom ported

* The SY manifold base is used for mixed mounting of SY3000/5000 and bottom ported of SY3000. When ordering, please refer to page 18 (manifold block assembly) or use our SY valve configurator.

3 SI unit specifications

Symbol	Protocol	Number of outputs	Communication connector
0	Without SI unit		
QA	DeviceNet™	32	M12
QB		16	
NA	PROFIBUS DP	32	M12
NB		16	
NC		32	
ND	EtherCAT	16	D-sub (Note)
DA		32	
DB	ProfiNet	16	M12
FA		32	
FB		16	

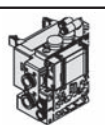
Note) IP40 for the D-sub applicable communication connector specification. For SI unit part number, refer to page 17. DIN rail cannot be selected for the product without SI unit.

4 SI unit output polarity

N	Negative common
---	-----------------

8 A, B port size (Metric size)

Symbol	A, B port	Type 10/Side ported SY3000 SY5000	Type 11 Bottom ported SY5000
C6	ø6 One-touch fitting	●	—
C8	ø8 One-touch fitting	—	●



5 Valve stations

In case of the 32 Outputs SI unit

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

In case of the 16 Outputs SI unit

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

Note 1) Double wiring: 2-position single, double, 3-position and 4-position valves can be used on all manifold stations.

Use of a 2-position single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.

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

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

Note 4) For the model without the SI unit (S0), note the maximum number of solenoids of the SI unit that will be mounted. If the layout is specified, indicate it on the SY valve configurator.

6 P, E port location

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

7 SUP/EXH block assembly specifications

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

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

* When the built-in silencer type is used, keep the air outlet from coming in direct contact with water or other liquids.

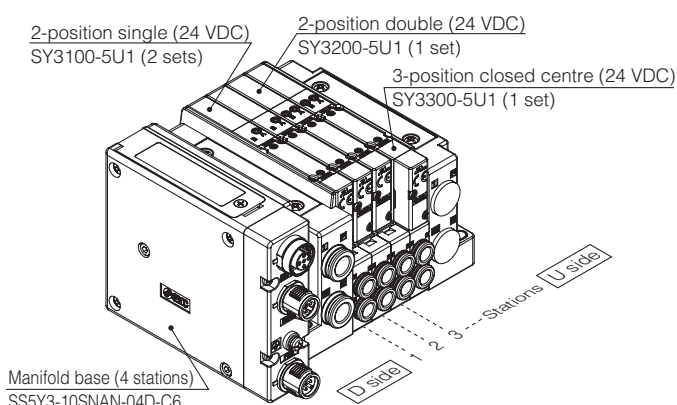
9 Mounting

—	Direct mounting
D	DIN rail mounting (With DIN rail)
D0	DIN rail mounting (Without DIN rail)

* Only direct mounting for Type 11 (Bottom ported). When mounted on the DIN rail without the SI unit, please select D0 and contact SMC for the length of the DIN rail.

■ How to order Manifold Assembly

Example (SS5Y3-10SNAN-□)



SS5Y3-10SNAN-04D-C6 ... 1 set (Type 10 4-station manifold base part no.)
SY3100-5U1 2 sets (2-position single part no.)
SY3200-5U1 1 set (2-position double part no.)
SY3300-5U1 1 set (3-position closed centre part no.)

• The valve arrangement is numbered as the 1st station from D side.

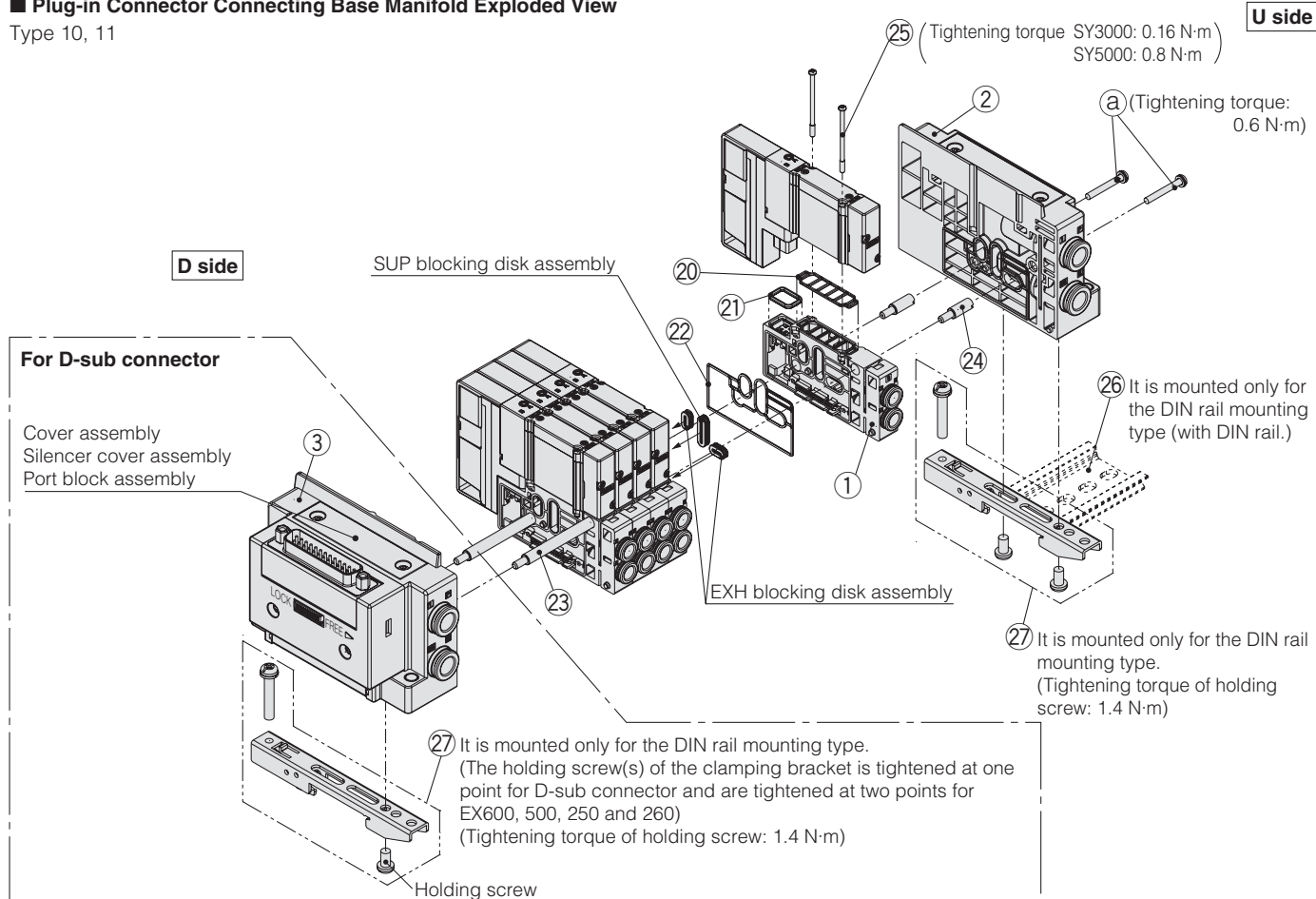


For complete units (valves and manifold) please use our SY valve configurator software.

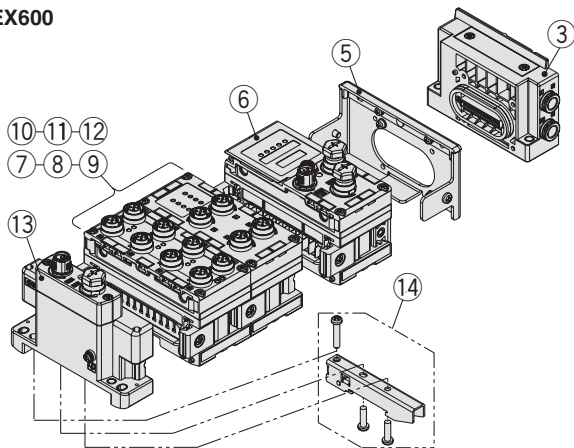
Plug-in Connector Connecting Base Manifolds

■ Plug-in Connector Connecting Base Manifold Exploded View

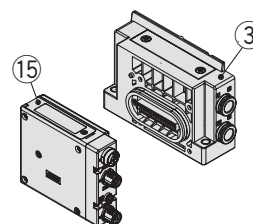
Type 10, 11



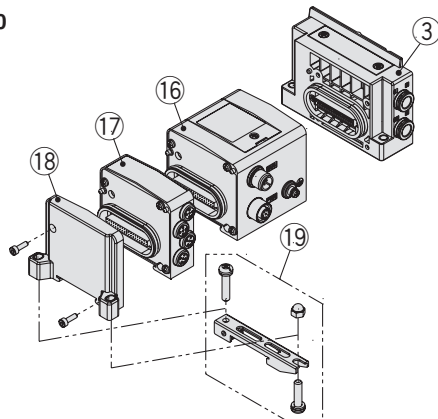
For EX600



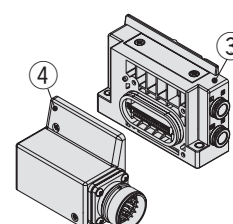
For EX260

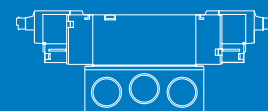
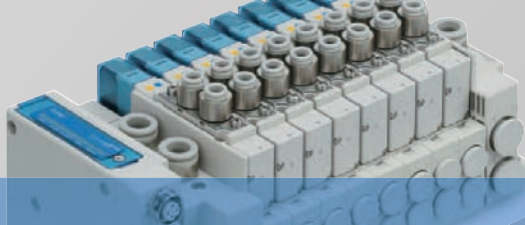


For EX250



For Circular connector





■ Manifold Parts No.

No.	Description	Part no.		Note
		SY3000	SY5000	
①	Manifold block assembly	Refer to page 18		
②	SUP/EXH end block assembly	Refer to page 18		
③	SUP/EXH block assembly	Refer to page 18		
④	Circular connector block assembly	SY30M-14-5A		26 pins
⑤	Valve plate	EX600-ZMV2		With mounting screws (2 pcs. of M4 x 6 and 2 pcs. of M3 x 8)
⑥	EX600 SI unit	EX600-SDN1A		DeviceNet™ PNP (–COM.)
		EX600-SPR1A		PROFIBUS DP PNP (–COM.)
		EX600-SEN1		EtherNet/IP™ (–COM.)
		EX600-SEC1		EtherCAT (–COM.)
⑦	EX600 digital input unit	EX600-DXPB		PNP input, M12 connector, 5 pins (4 pcs.), 8 inputs
		EX600-DXPC		PNP input, M8 connector, 3 pins (8 pcs.), 8 inputs
		EX600-DXPC1		PNP input, M8 connector, 3 pins (8 pcs.), 8 inputs, with broken wire detection function
		EX600-DXPD		PNP input, M12 connector, 5 pins (8 pcs.), 16 inputs
		EX600-DXPE		D-sub connector (25 pins), 16 inputs (–COM.)
		EX600-DXPF		Spring type terminal block (32 pins), 16 inputs (–COM.)
⑧	EX600 digital output unit	EX600-DYPB		PNP output, M12 connector, 5 pins (4 pcs.), 8 inputs
		EX600-DYPE		D-sub connector (25 pins), 16 inputs (–COM.)
		EX600-DYPF		Spring type terminal block (32 pins), 16 inputs (–COM.)
⑨	EX600 digital input/output unit	EX600-DMPE		D-sub connector (25 pins), 8 inputs/8 outputs (–COM.)
		EX600-DMPF		Spring type terminal block (32 pins), 8 inputs/8 outputs (–COM.)
⑩	EX600 analogue input unit	EX600-AXA		M12 connector, 5 pins (2 pcs.), 2-channel input
⑪	EX600 analogue output unit	EX600-AYA		M12 connector, 5 pins (2 pcs.), 2-channel output
⑫	EX600 analogue input/output unit	EX600-AMB		M12 connector, 5 pins (4 pcs.), 2-channel input/2-channel output
⑬	EX600 end plate	EX600-ED2		M12 connector, 5 pins, Max. supply current 2 A
		EX600-ED2-3		M12 connector, 5 pins, Max. supply current 2 A, with DIN rail mounting bracket
		EX600-ED3		7/8 inch connector, 5 pins, Max. supply current 8 A
		EX600-ED3-3		7/8 inch connector, 5 pins, Max. supply current 8 A, with DIN rail mounting bracket
⑭	Clamp bracket for EX600	EX600-ZMA2		With mounting screws (1 pc. of M4 x 20 and 2 pcs. of M4 x 14)
⑮	EX260 SI unit	EX260-SDN1		DeviceNet™ PNP (–COM.), M12 connector, 32 outputs
		EX260-SDN3		DeviceNet™ PNP (–COM.), M12 connector, 16 outputs
		EX260-SPR1		PROFIBUS DP (–COM.), M12 connector, 32 outputs
		EX260-SPR3		PROFIBUS DP (–COM.), M12 connector, 16 outputs
		EX260-SPR5		PROFIBUS DP (–COM.), D-sub connector, 32 outputs
		EX260-SPR7		PROFIBUS DP (–COM.), D-sub connector, 16 outputs
		EX260-SEC1		EtherCAT PNP (–COM.), M12 connector, 32 outputs
		EX260-SEC3		EtherCAT PNP (–COM.), M12 connector, 16 outputs
		EX260-SPN1		PROFINET PNP (–COM.) M12 connector, 32 outputs
⑯	EX250 SI unit	EX260-SPN3		PROFINET PNP (–COM.) M12 connector, 16 outputs
		EX250-SDN1		DeviceNet™ (–COM.)
		EX250-SPR1		PROFIBUS DP (–COM.)
		EX250-SAS3		AS-Interface, 8 in/8 out, 31 slave modes, 2 power supply systems (–COM.)
		EX250-SAS5		AS-Interface, 4 in/4 out, 31 slave modes, 2 power supply systems (–COM.)
		EX250-SAS7		AS-Interface, 8 in/8 out, 31 slave modes, 1 power supply system (–COM.)
		EX250-SAS9		AS-Interface, 4 in/4 out, 31 slave modes, 1 power supply system (–COM.)
		EX250-SCA1A		CANopen (–COM.)
		EX250-SCN1		ControlNet™ (–COM.), IP40
⑰	EX250 input block	EX250-SEN1		EtherNet/IP™ (–COM.)
		EX250-IE1		M12, 2 inputs, PNP/NPN (selectable by switch)
		EX250-IE2		M12, 4 inputs, PNP/NPN (selectable by switch)
		EX250-IE3		M8, 4 inputs, PNP/NPN (selectable by switch)
⑱	EX250 end plate assembly	EX250-EA1		With mounting screws (2 pcs. of M3 x 10)
⑲	Clamp bracket assembly for EX250	SY30M-15-3A		Supplied individually
⑳	Base gasket (for connector connecting base)	SY30M-9-1A	SY50M-9-1A	Part numbers shown on the left are for 10 valves (10 pcs.).
㉑	Connector gasket	SX3000-146-2		Supplied individually
㉒	Manifold block gasket	SY30M-9-2	SY50M-9-2	Supplied individually
㉓	Tie-rod	VVQ1000W-27-□	SV2000-55-1-□	□: Manifold stations Place order for 2 pcs. for SY3000 and 3 pcs. for SY5000
㉔	Tie-rods for additional stations	VVQ1000W-27-1	SV2000-55-2A	Place order for 2 pcs. for each station of SY3000 and 3 pcs. for each station of SY5000
	Tie-rods for additional stations (for mixed mounting)	—	SY50M-49-2	Place order for 3 pcs. for each station
㉕	Valve mounting screw	Round head combination screw SY3000-23-24A (M2 x 32)	SY5000-221-1A (M3 x 32.5)	Part numbers shown on the left are for 10 valves (20 pcs.)
		Hexagon socket head cap screw SY3000-222-1A (M2 x 32)	SY5000-222-1A (M3 x 32.5)	Part numbers shown on the left are for 10 valves (20 pcs.)
㉖	DIN rail	VZ1000-11-1-□		□: Manifold stations
㉗	Clamp bracket assembly (for connector connecting base)	SY30M-15-1A	SY50M-15-1A	Supplied individually

■ Manifold Parts No.

① Manifold block assembly

SY **0M-2-** **A-**

● **Series**

3	SY3000
5	SY5000

● **A, B port size**

Symbol	A, B port	SY3000	SY5000	Note
C6	ø6 One-touch fitting	●	—	Side/Bottom ported Metric size
C8	ø8 One-touch fitting	—	●	

● **Piping direction**

1	Side ported
2	Bottom ported

● **Wiring specification**

S	Single wiring
D	Double wiring

① Mixed mounting of SY3000 and SY5000, Manifold block assembly for mounting SY3000

SY50M-2- **A-**

● **Piping direction**

3	Side ported
4	Bottom ported

● **A, B port size**

Symbol	A, B port	Note
C6	ø6 One-touch fitting	Side/Bottom ported Metric size

● **Wiring specification**

S	Single wiring
D	Double wiring

② SUP/EXH end block assembly

U side

SY **0M-3- 1 A**

③ SUP/EXH block assembly

D side

SY **0M-1-** **A**

● **Series**

3	SY3000
5	SY5000

● **SUP/EXH block assembly specification**

1	For EX600/500/250/260, Circular connector
11	For D-sub connector

● **Pilot/Piping specification**

Symbol	Specifications	Note
—	Internal pilot	Side ported
S	Internal pilot/Built-in silencer	
R	External pilot	
B	Internal pilot	Bottom ported
BS	Internal pilot/Built-in silencer	
BR	External pilot	

● **Mounting**

—	Direct mounting
D0	DIN rail mounting (Without DIN rail)

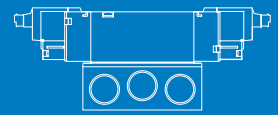
● **P, E port size**

Symbol	P, E port	SY3000	SY5000	Note
C8	ø8 One-touch fitting	●	—	Side/Bottom/Top ported Metric size
C10	ø10 One-touch fitting	—	●	

● **Connector entry direction (for D-sub)**

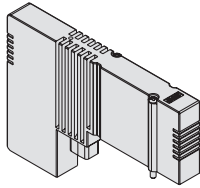
1	Upward
---	--------

Manifold options overview



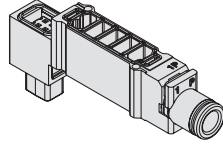
■ Manifold options

Blanking plate



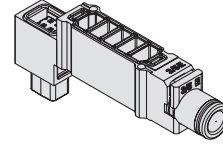
Page 20

Individual
SUP spacer



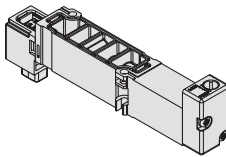
Page 20

Individual
EXH spacer



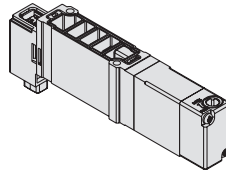
Page 20

SUP stop valve spacer
with residual pressure
release valve



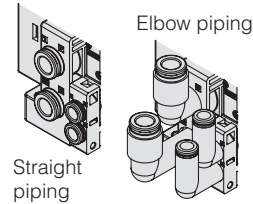
Page 21

Double check spacer
with residual pressure
release valve

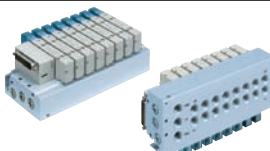
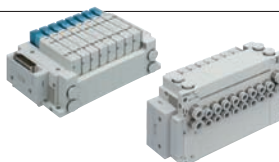


Page 22

One-touch fittings



Page 23

Manifold Variations			Valve Series	Manifold Options										Valve Options						
				Blanking plate	Individual SUP spacer	Individual EXH spacer	Double check spacer with residual pressure release valve	SUP stop valve spacer with residual pressure release valve	SUP/EXH blocking disk	Label for blocking disk	Back pressure check valve assembly	Silencer (One-touch fitting connection type)	Plug (White)	Vacuum specifications	Low pressure specifications	Different pressures	Reverse pressure	Exhaust throttle	Mixed fitting sizes	
Plug-in Metal Base	Side ported		Type 50□	SY3□0□	☐	☐	☐	☐	☐	—	—	—	—	☐	☒ External P	☒ External P	☐ Individual SUP	☒ External P	☐ Individual EXH	☒
			SY5□0□																	
	Bottom ported		Type 51□	SY3□0□	☐	☐	☐	☐	☐	—	—	—	—	☐	—	—	☐ Individual SUP	—	☐ Individual EXH	☒
			SY5□0□																	
Plug-in Connector Connecting Base	Side ported		Type 10□	SY3□0□	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☒ External P	☒ External P	☐ Individual SUP	☒ External P	☐ Individual EXH	☒
			SY5□0□																	
	Bottom ported		Type 11□	SY5□0□	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☒ External P	☒ External P	☐ Individual SUP	☒ External P	☐ Individual EXH	☒

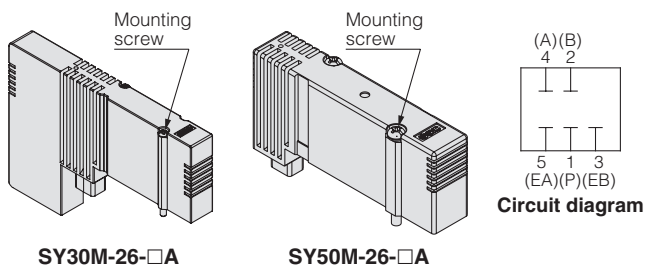
● Standard ○ Option

Manifold Options

Blanking plate assembly

(With two mounting screws)

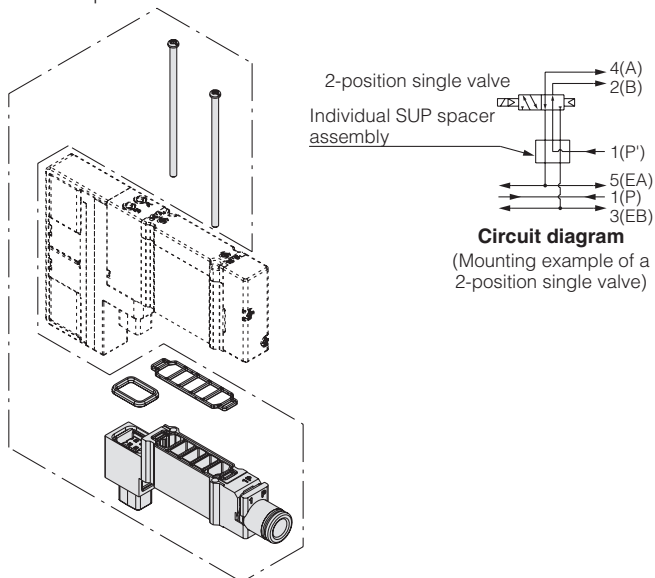
Used in situations when valves will be added in the future.



Individual SUP spacer assembly

(With a connector gasket, a base gasket, and two mounting screws)

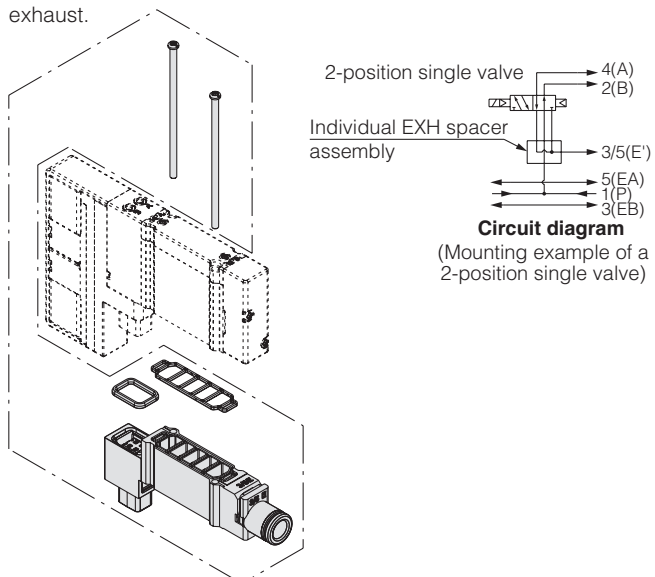
When the same manifold is used for different pressures, an individual SUP spacer assembly is used as a supply port for different pressures.



Individual EXH spacer assembly

(With a connector gasket, a base gasket, and two mounting screws)

When valve exhaust affects other stations due to the circuit configuration, this spacer assembly is used for individual valve exhaust.



Caution

Tightening torque for mounting screw
M2: 0.16 N·m
M3: 0.8 N·m

How to Order Blanking Plate Assembly

SY □ **0M-26-□A**

Series

3	SY3000
5	SY5000

Base specification

1	For plug-in connector connecting base
2	For plug-in metal base

How to Order Individual SUP/EXH Spacer Assembly

One-touch fitting Straight type **SY** □ **0M-□-1A-□**

One-touch fitting Elbow type **SY** □ **0M-□-□A-□**

Series

3	SY3000
5	SY5000

Spacer type

38	Individual SUP spacer
39	Individual EXH spacer

Individual SUP/EXH spacer assembly specification

2	Short elbow type
3	Long elbow type

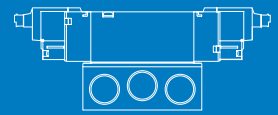
Note) Select the long elbow type for a 3-position valve.

Port size (Metric size)

Symbol	P, E port	SY3000	SY5000
L6	ø6 One-touch fitting	●	—
L8	ø8 One-touch fitting	—	●

Port size (Metric size)

Symbol	P, E port	SY3000	SY5000
C6	ø6 One-touch fitting	●	—
C8	ø8 One-touch fitting	—	●

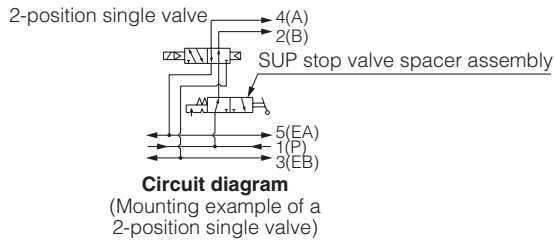


■ Manifold Options

• SUP stop valve spacer assembly with residual pressure release valve

(With a connector gasket, a base gasket and two mounting screws.)
It is used to shut off the supply air to valves individually.

Series	Part no.
SY3000	SY30M-50-1A
SY5000	SY50M-50-1A



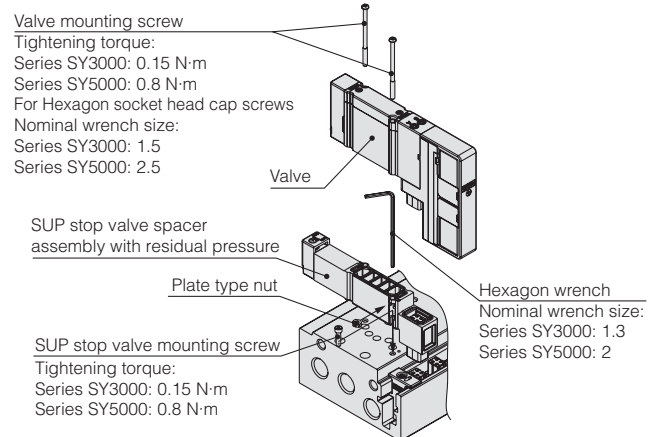
[Mounting of SUP stop valve spacer assembly with residual pressure release valve]

Insert the SUP stop valve mounting screw from the side of the spacer assembly, and mount it to the manifold.

Tighten the SUP stop valve mounting screw to the specified tightening torque.

Mount the valve and tighten the valve mounting screws to the specified tightening torque after mounting the SUP stop valve spacer assembly with residual pressure exhaust valve.

Note) Install the plate type nut to the spacer assembly as shown in the figure if it comes off. The SUP stop valve mounting screws can be tightened with a hexagon wrench without removing the plate type nut.



• Back pressure check valve assembly (for connector type manifold type 10, 11)

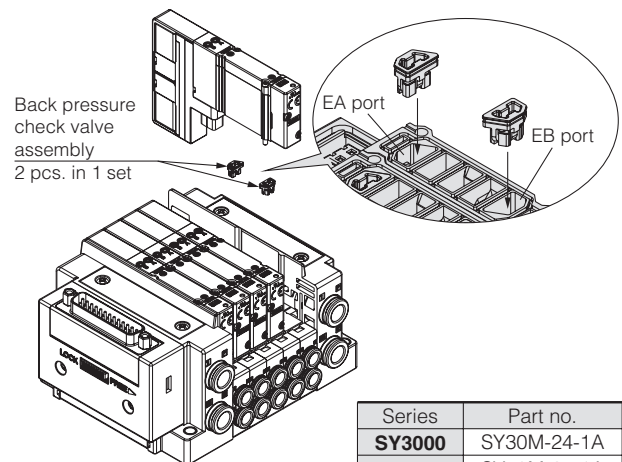
It prevents cylinder malfunction caused by other valve exhaust entry. Insert it into EA/EB port (valve mounting side) on the manifold side of a valve which is affected. It is effective when a single-acting cylinder is used.

* When ordering assemblies incorporated with a manifold, refer to the Ordering Example below (when installed in all stations.)

Note) When a check valve for back pressure prevention is desired and is to be installed only in certain manifold stations, clearly indicate the part number and specify the mounting position with the manifold specification sheet.

(Precautions)

1. The back pressure check valve assembly is assembly parts with a check valve structure. However, since the valve has slight air leakage, take precautions for the exhaust air not to be restricted at the exhaust port.
2. When a back pressure check valve assembly is mounted, please contact SMC for valve flow-rate characteristics.



Series	Part no.
SY3000	SY30M-24-1A
SY5000	SY50M-24-1A

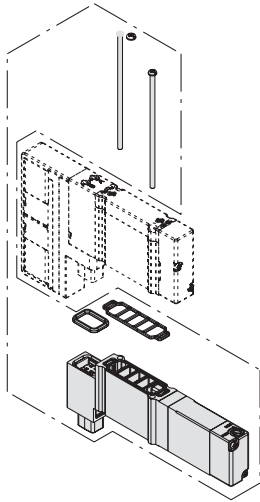
Manifold Options

Double check spacer assembly with residual pressure release valve

(With a connector gasket, a base gasket and two mounting screws.)

It is used to hold the intermediate position of the cylinder for a long period of time. Use a 3-position exhaust center valve when the double check spacer assembly with residual exhaust valve is used.

It can also be used for drop prevention at the cylinder stroke end when supply residual pressure is released by using a 2-position single/double valve.



Series	Part no.
SY3000	SY30M-60-1A
SY5000	SY50M-60-1A

Caution

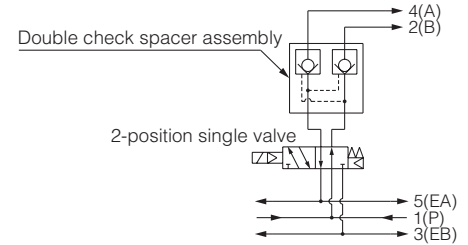
- Air leakage from the pipe between the valve and cylinder or from the fittings will prevent the cylinder from stopping for a long period of time. Check the leakage using neutral household detergent, such as dish washing soap. Also, check the cylinder's tube gasket, piston packing and rod packing for air leakage.
- Combining with 3-position closed center or pressure center valve will not work.
- If the exhaust of the double check spacer is restricted too much, the cylinder may not operate properly and may not stop intermediately.
- Set the cylinder load so that the cylinder pressure will be within two times that of the supply pressure.

Caution

Tightening torque for mounting screw
M2: 0.16 N·m
M3: 0.8 N·m

<Example>

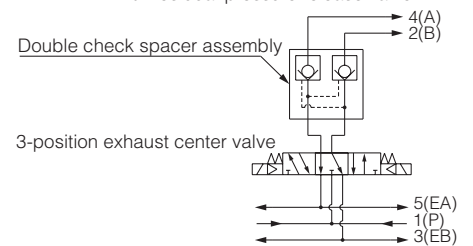
Double check spacer assembly with residual pressure release valve



Circuit diagram

(Drop prevention: When 2-position single valve is mounted)

Double check spacer assembly with residual pressure release valve



Circuit diagram

(Intermediate stop: When 3-position exhaust center valve is mounted)

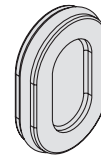
SUP/EXH blocking disk assembly (for Connector type manifold, type 10, 11)

[SUP blocking disk]

Two different high and low pressures can be supplied to one manifold by installing a supply blocking disk assembly in the pressure supply passage of the manifold.

[EXH blocking disk]

The exhaust passage of the manifold valve can be separated by installing an exhaust blocking disk assembly in the exhaust passage in order to prevent the exhaust air from the valve from affecting other valves. It can be used for a manifold which is operated with the mixed pressure of positive and vacuum. (It requires 2 pieces because they are used to block the exhaust air on both sides.)

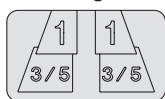


Series	SUP blocking disk assembly	EXH blocking disk assembly
SY3000	SY30M-40-1A	SY30M-40-2A
SY5000	SV2000-59-2A	SV2000-59-2A

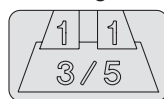
Label for blocking disk

This label is affixed to the manifold where the supply or exhaust blocking disk assembly has been installed, to confirm its position. (3 labels contained in one kit)

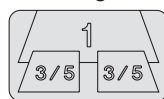
Label for SUP/EXH blocking disk



Label for SUP blocking disk

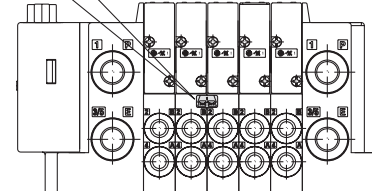


Label for EXH blocking disk



Series	Part no.
SY3000	SJ3000-155-1A
SY5000	

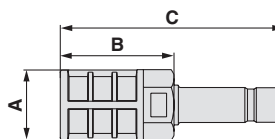
* If a blocking disk assembly is specified on the manifold specification sheet when the manifold is ordered, it will be delivered with the label affixed to indicate the position where the blocking disk assembly is installed.



Silencer

(One-touch fitting connection type)

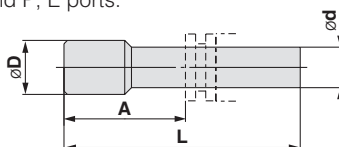
This silencer can be mounted to the 3/5 (E: EXH) port of the manifold in one step.



Series	Model	Effective area	A	B	C
For SY3000 (ø8)	AN15-C08	20 mm ²	ø13	20	45
For SY5000 (ø10)	AN20-C10	30 mm ²	ø16.5	30.5	57.5

Plug (White)

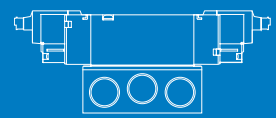
These are inserted in unused cylinder ports and P, E ports.



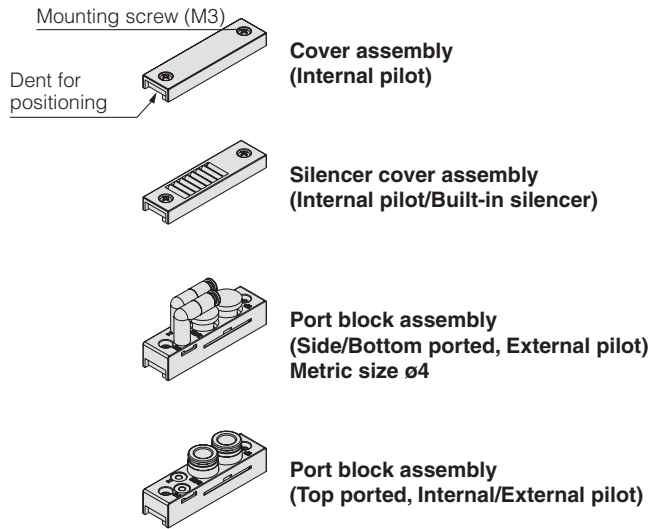
Dimensions

Applicable fitting size ød (Metric size)	Model	A	L	D
2	KJP-02	8.2	17	3
3.2	KQ2P-23	5	31.5	16
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

Manifold replacement parts



• Cover assembly/Silencer cover assembly/Port block assembly for SUP/EXH (end) block assembly



* Cover assembly, silencer cover assembly and port block assembly are included in the SUP/EXH (end) block assembly, but they need to be ordered for piping direction change.

Tightening torque for mounting screw (M3): 0.6 N·m

SY 3 0M-4- 1A

SY 3 0M-5- 1A

SY 3 0M-6- 1AR - 00

SY 3 0M-6- 1A V - C8

Series	
3	SY3000
5	SY5000

Pilot specification	
—	Internal pilot
R	External pilot

P, E port size

Symbol	P, E port	SY3000	SY5000
C8	ø8 One-touch fitting	●	—
C10	ø10 One-touch fitting	—	●

■ One-touch Fittings and Plug Assembly/Part No.

• One-touch fittings

Port size			SY3000	SY5000
A, B port	Metric size	ø2 One-touch fitting (Straight type)	VVQ1000-50A-C2	—
		ø3.2 One-touch fitting (Straight type)	VVQ1000-50A-C3	—
		ø4 One-touch fitting (Straight type)	VVQ1000-50A-C4	VVQ1000-51A-C4
		ø6 One-touch fitting (Straight type)	VVQ1000-50A-C6	VVQ1000-51A-C6
		ø8 One-touch fitting (Straight type)	—	VVQ1000-51A-C8
		ø4 One-touch fitting (Elbow type)	SZ3000-73-1A-L4	SZ3000-74-1A-L4
		ø6 One-touch fitting (Elbow type)	SZ3000-73-1A-L6	SZ3000-74-1A-L6
		ø8 One-touch fitting (Elbow type)	—	SZ3000-74-1A-L8
		ø4 One-touch fitting (Long elbow type)	SZ3000-73-2A-L4	SZ3000-74-2A-L4
		ø6 One-touch fitting (Long elbow type)	SZ3000-73-2A-L6	SZ3000-74-2A-L6
		ø8 One-touch fitting (Long elbow type)	—	SZ3000-74-2A-L8
P, E port	Metric size	ø8 One-touch fitting (Straight type)	VVQ1000-51A-C8	—
		ø10 One-touch fitting (Straight type)	—	VVQ2000-51A-C10
		ø8 One-touch fitting (Elbow type)	SZ3000-74-1A-L8	—
		ø10 One-touch fitting (Elbow type)	—	SZ3000-83-1A-L10
		ø8 One-touch fitting (Long elbow type)	SZ3000-74-2A-L8	—
		ø10 One-touch fitting (Long elbow type)	—	SZ3000-83-2A-L10

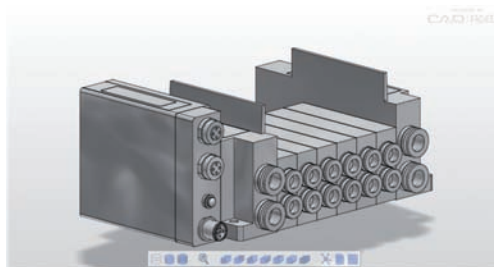
• Plug assembly

	SY3000	SY5000
A, B port	VVQ0000-58A	VVQ1000-58A
P, E port	VVQ1000-58A	VVQ2000-58A

■ For more information about the new SY3000/5000 series:

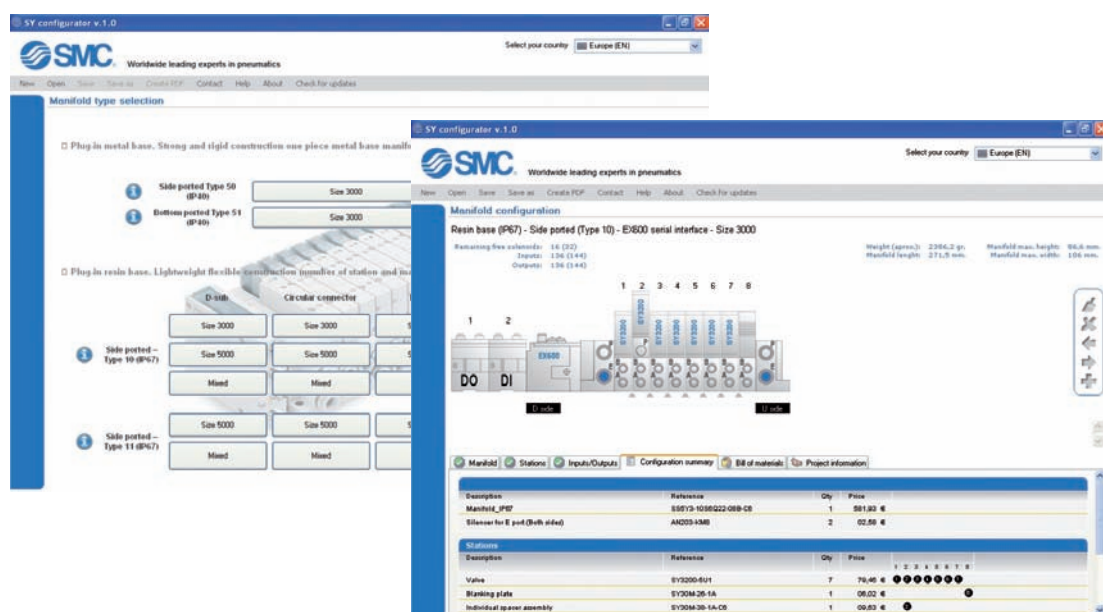
• **Digital catalogue:** www.smc.eu

- Select the product you need
- Validate the part number
- Download the required information
 - PDF documentation
 - 3D CAD



• **SY Valve Configurator:** www.smc.eu

- Select the manifold type
- Configure the complete manifold
- Contact SMC



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