

5 Port Solenoid Valve

New

Increased Flow For The SY Series



SY3000

ø32 [Conventional]

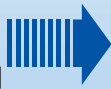


Increased up to ø50 (300 mm/s)*

10 mm width can drive a ø50 cylinder.

SY5000

ø50 [Conventional]



Increased up to ø63 (300 mm/s)*

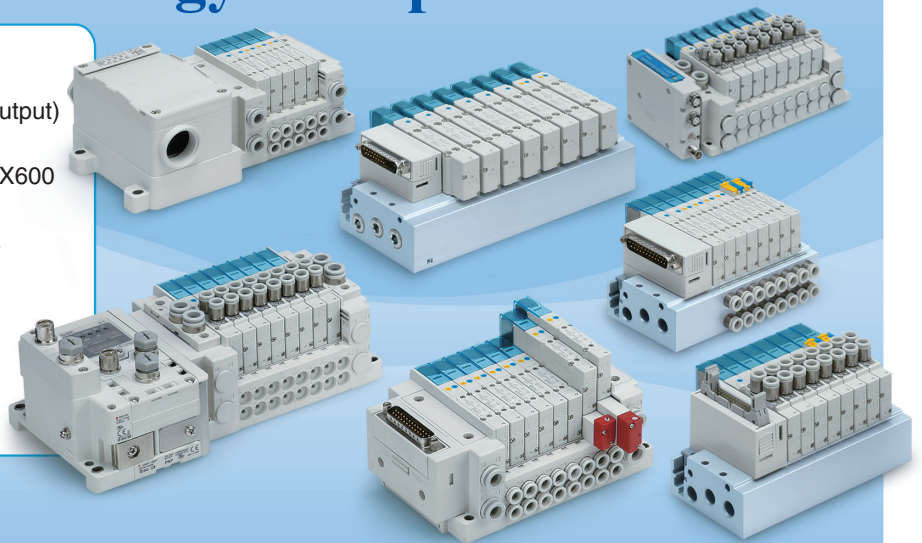
15 mm width can drive a ø63 cylinder.

*Values based on comparison with the conventional SMC model. Refer to page 4 for common conditions.

Thanks to the flow increase, valve size can be reduced. Saves energy and space.

New

- Added the EX260 Integrated-type (For Output) Serial Transmission System.
- Added EtherNet/IP™, EtherCAT to the EX600 Integrated-type (For Input/Output) Serial Transmission System (Fieldbus System).
- Additional Options:
Interface regulator assembly
Individual SUP block assembly
Individual EXH block assembly
Dual flow fitting
Name plate for manifolds



Power Consumption

0.1 W 0.35 W

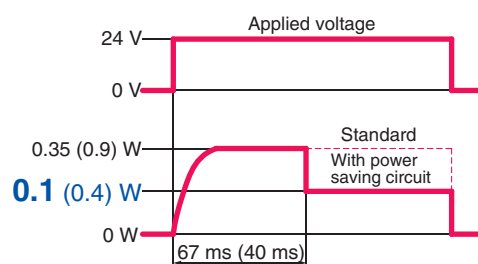
With power saving circuit

Standard

Power consumption is reduced by power saving circuit.

Power consumption is decreased by approx. 1/3 by reducing the wattage required to hold the valve in an energized state. (Effective energizing time is over 67 ms at 24 VDC.) Refer to the electrical power waveform as shown on the right.

[Electrical power waveform with power saving circuit]



The value in () are for the quick response and high pressure types.

Rubber seal
Metal seal

Life*

70 million cycles
(Rubber seal)

200 million cycles
(Metal seal)

* According to SMC life test conditions

Series SY3000/5000

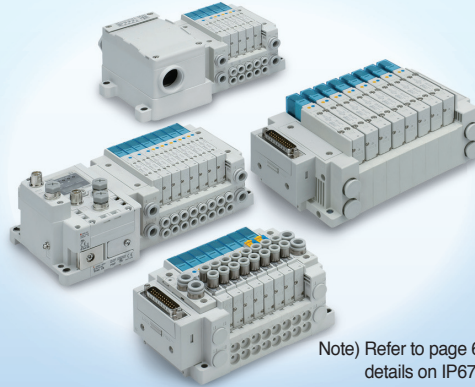
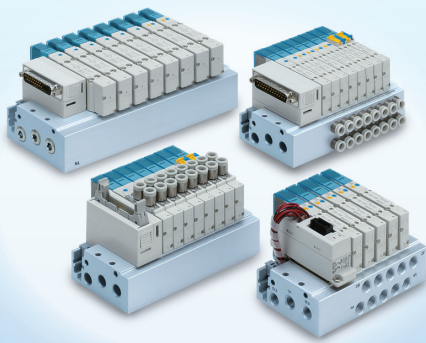


CAT.ES11-103B

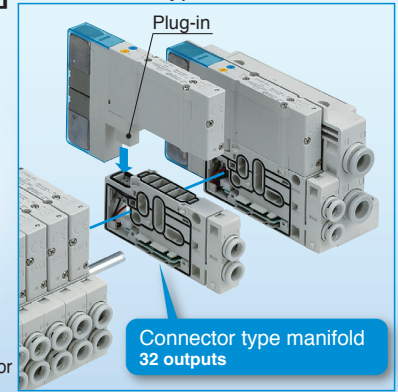
5 Port Solenoid Valve

Series **SY3000/5000**

Plug-in metal base [IP40] Plug-in connector connecting base [IP67^{Note)}] ● Connector type manifold



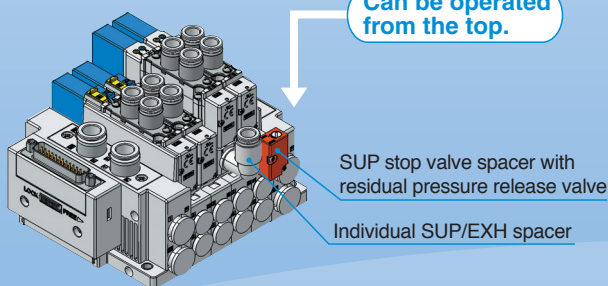
Note) Refer to page 6 for details on IP67.



Space saving / Improved operability

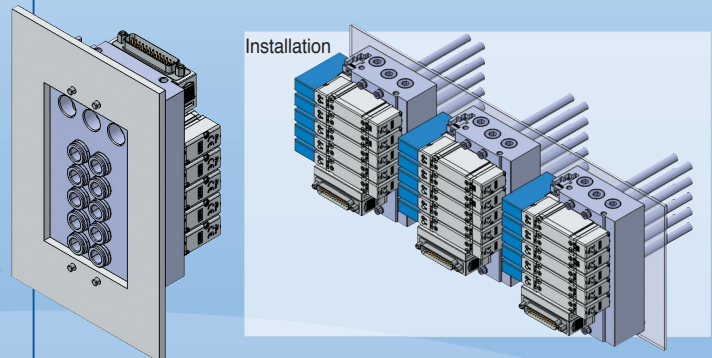
Wiring, piping and operation are integrated on one side.

Multiple layer type is available as an option. This saves space in the lateral direction.



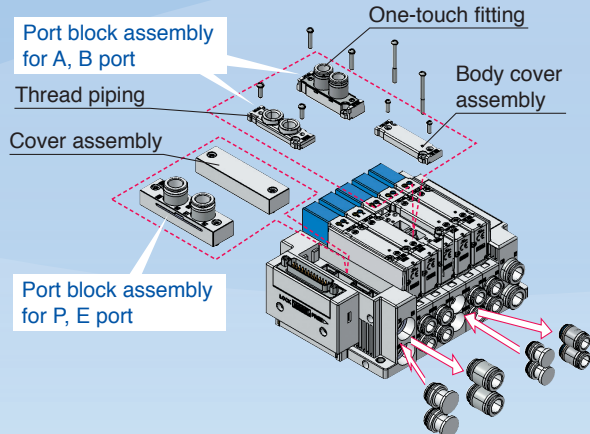
Bottom ported is prepared. Space saving

Bottom ported reduces the footprint.

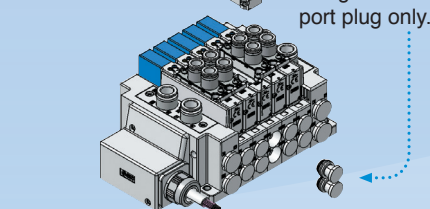


Direction, size and type of the piping can be changed.

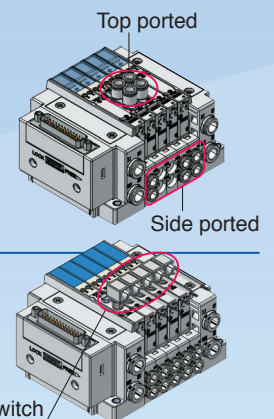
To mount the piping on top



To mount the piping on the side



Mixed mounting of top ported and side ported is possible.

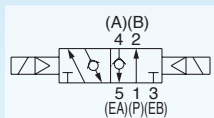
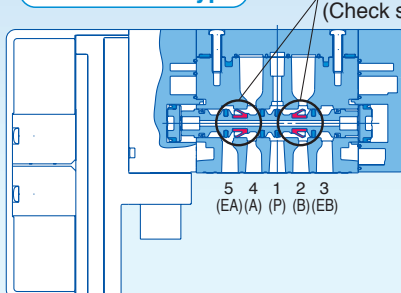


It is possible to detect the output of A and B port with a pressure switch by mounting the top ported valve onto the side ported or bottom ported manifold.

Back pressure check valve

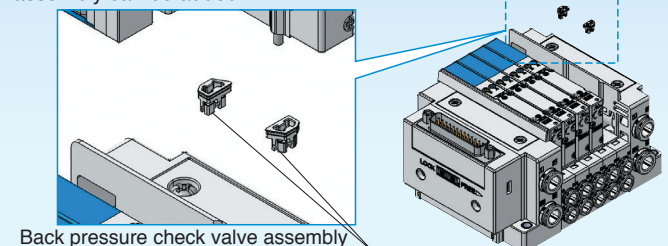
This prevents cylinder malfunction caused by the exhaust from other valves.

Built-in valve type



Retrofit or pre-installed type

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

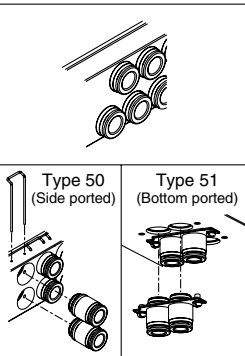


8 A, B port size (Thread piping)

Symbol	A, B port	SY3000	SY5000
M5	M5 x 0.8	●	—
01	1/8	●	●
02	1/4	—	●

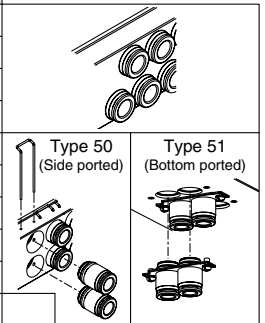
A, B port size (Metric)

Symbol	A, B port	SY3000	SY5000
Fixed	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	—	●
Replaceable	KC2 ø2 One-touch fitting	●	—
	KC3 ø3.2 One-touch fitting	●	—
	KC4 ø4 One-touch fitting	●	●
	KC6 ø6 One-touch fitting	●	●
	KC8 ø8 One-touch fitting	—	●
M*	Mixed sizes	●	●
P, E port size (Thread piping)		1/8	1/4



A, B port size (Inch)

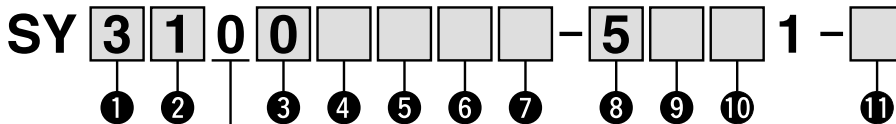
Symbol	A, B port	SY3000	SY5000
Fixed	N1 ø1/8" One-touch fitting	●	—
	N3 ø5/32" One-touch fitting	●	●
	N7 ø1/4" One-touch fitting	●	●
	N9 ø5/16" One-touch fitting	—	●
Replaceable	KN1 ø1/8" One-touch fitting	●	—
	KN3 ø5/32" One-touch fitting	●	●
	KN7 ø1/4" One-touch fitting	●	●
	KN9 ø5/16" One-touch fitting	—	●
M*	Mixed sizes	●	●
P, E port size (Thread piping)		1/8	1/4



* When ports are mixed sizes, indicate the piping specifications on the manifold specification sheet.

How to Order Valves (With two mounting screws)

Refer to page 8 for valve specifications.



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.)

* Only rubber seal type is available for the 4-position dual 3-port valve.

3 Seal type

0	Rubber seal
1	Metal seal

4 Pilot type

Nil	Internal pilot
R	External pilot

5 Back pressure check valve (Built-in valve type)

Nil	None
H	Built-in

* Only rubber seal type
* The built-in valve type back pressure check valve is not available for the 3-position type.

Base mounted

6 Pilot valve option

Nil	Standard (0.7 MPa)
B	Quick response type (0.7 MPa)
K*	High pressure type (1.0 MPa)

* Only metal seal type is available for the high pressure type.

7 Coil type

Nil	Standard
T	With power saving circuit (Continuous duty type)

* Be sure to select the power saving circuit type when the valve is continuously energized for long periods of time.

* Note the specified energizing time when power saving circuit is selected. Refer to page 154.

8 Rated voltage

5	24 VDC
6	12 VDC

9 Light/surge voltage suppressor and common specification

Nil	Without light/surge voltage suppressor (Non-polar)
R	With surge voltage suppressor (Non-polar)
U	With light/surge voltage suppressor (Non-polar)
S	With surge voltage suppressor (Positive common)
Z	With light/surge voltage suppressor (Positive common)
NS	With surge voltage suppressor (Negative common)
NZ	With light/surge voltage suppressor (Negative common)

* Only "Z" and "NZ" types are available for the product with power saving circuit.

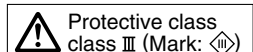
10 Manual override

Nil: Non-locking push type	D: Push-turn locking slotted type	F: Slide locking type
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11 Type of mounting screw

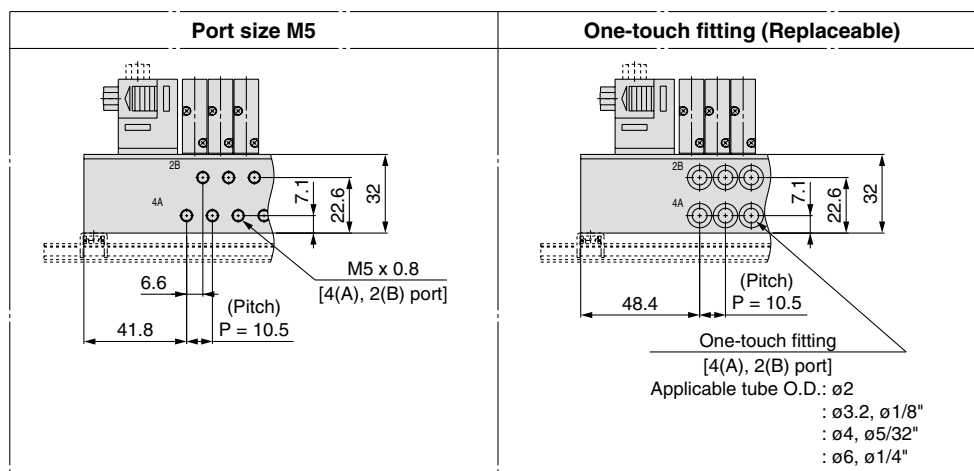
Nil	Round head combination screw
B	Hexagon socket head cap screw
K	Round head combination screw (Falling-out-prevention type)
H	Hexagon socket head cap screw (Falling-out-prevention type)

* For "K" and "H", the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance etc.
* When ordering a valve individually, the base gasket is not included. Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance service.
Refer to page 47 for part numbers of the base gasket and mounting screw.
* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly or double check spacer assembly with residual pressure release valve.



Dimensions: Type 50/D-sub Connector/Series SY3000

Note) These figures show the “SS5Y3-50F2-05B-C6”.



n: Stations	2	3	4	5	6	7	8	9	10	11	12
L1	71.5	82	92.5	103	113.5	124	134.5	145	155.5	166	176.5
L2	63.5	74	84.5	95	105.5	116	126.5	137	147.5	158	168.5
L3	98	110.5	123	135.5	148	160.5	160.5	173	185.5	198	210.5
L4	87.5	100	112.5	125	137.5	150	150	162.5	175	187.5	200
L5	13.5	14.5	15.5	16.5	17.5	18.5	13	14	15	16	17