

5-Port Solenoid Valve

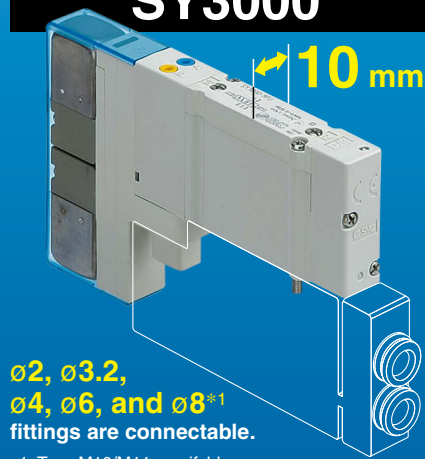
Plug-in Type



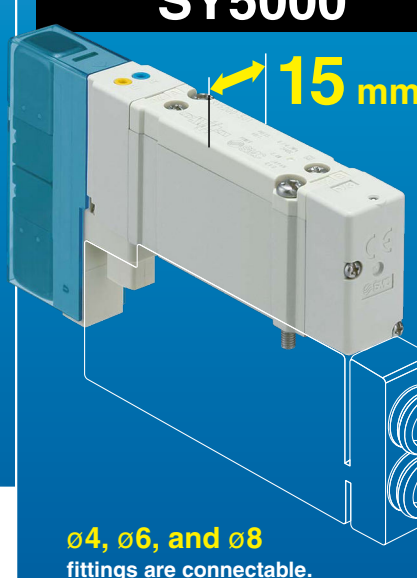
**Due to the flow increase,
the valve size can be reduced!**

Saves energy and space

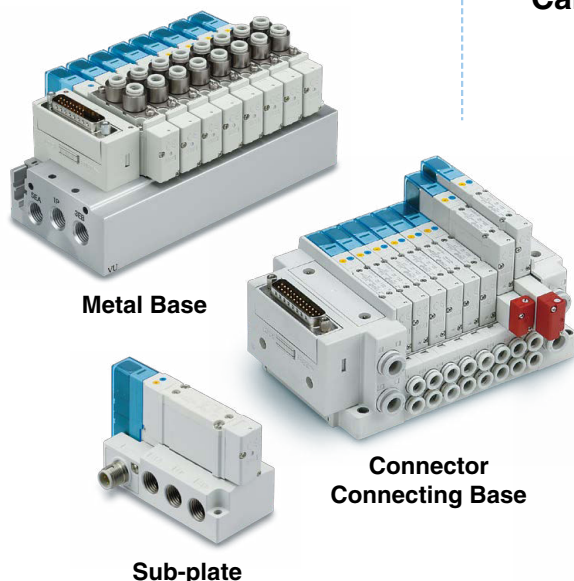
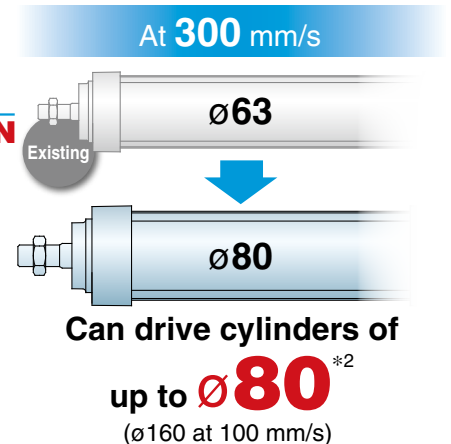
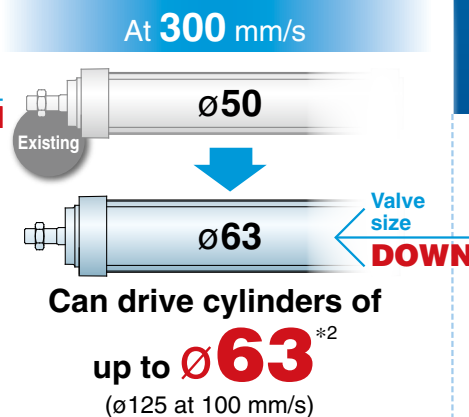
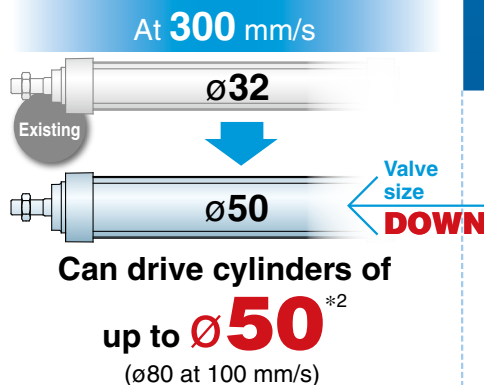
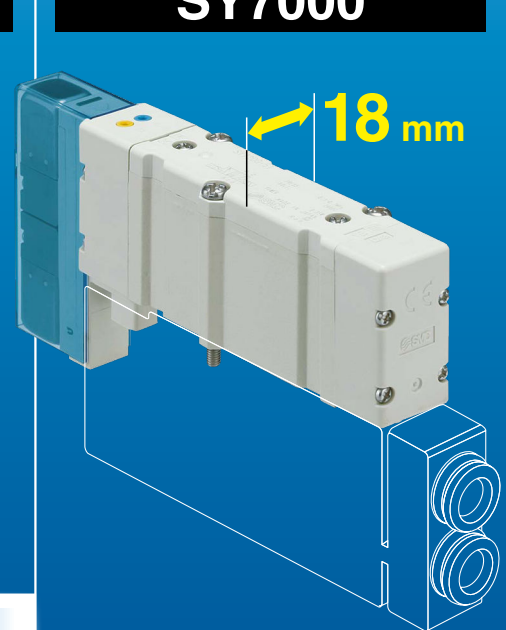
SY3000



SY5000



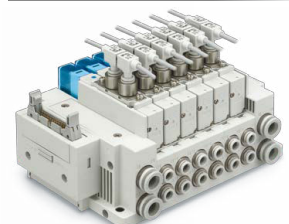
SY7000



*2 Values based on comparison with the existing SMC model
For details, refer to page 13.

Compatible with wireless systems

With pressure sensor



SY3000/5000/7000 Series



CAT.ES11-103E

5-Port Solenoid Valve

Plug-in Connector Connecting Base [IP67*1]

*1 Refer to page 37 for details on IP67.

Manifold

Side ported From p. 41

Bottom ported From p. 41

Top ported From p. 53

Plug-in

Compatible sub-plate type

From p. 280

Connector type manifold

Plug-in

<Enlarged view of the connector>

Connector type manifold with 32 outputs

- IP67 enclosure for standard specifications
- The M12 waterproof connector type ensures easy attaching/detaching and wiring.
- Applicable to the side, top, and bottom-port types (4A and 2B ports)

Plug-in Metal Base [IP40]

Side ported From p. 223

Bottom ported From p. 223

Top ported From p. 243

Wiring

D-sub Connector

Flat Ribbon Cable

Terminal Block Box

Lead Wire

Circular Connector

Serial Transmission

Serial Transmission Variations

| Series | Gateway-type | | Integrated-type (for input/output) | | | | Integrated-type (for output) | | |
|---------------------------------------|--------------|-------|------------------------------------|-------|-------|-------|------------------------------|-------|-------|
| | EX510 | EX500 | EX600 | EX245 | EX250 | EX260 | EX126 | EX120 | EX180 |
| Applicable protocol | | | | | | | | | |
| DeviceNet™ | ● | ● | ● | | ● | ● | | ● | ● |
| PROFIBUS DP | ● | ● | ● | | ● | ● | | ● | ● |
| CC-Link | ● | | ● | | ● | ● | ● | ● | ● |
| EtherNet/IP™ | | ● | ● | | ● | ● | | ● | |
| EtherCAT | | | ● | | ● | ● | | | |
| PROFINET | | ● | ● | ● | | ● | | | |
| CANopen | | | | | ● | | | | |
| AS-Interface | | | | | ● | | | | |
| OMRON CompoBus/S | | | | | | | | ● | |
| CompoNet™ | | | | | | | | ● | |
| Ethernet POWERLINK | | | | | | ● | | | |
| IO-Link | | | | | | ● | | | |
| EtherNet/IP™ compatible wireless base | | | ● | | | | | | |
| PROFINET compatible wireless base | | | ● | | | | | | |
| PROFIsafe | | | | | | ● | | | |

Power Saving

Power Consumption

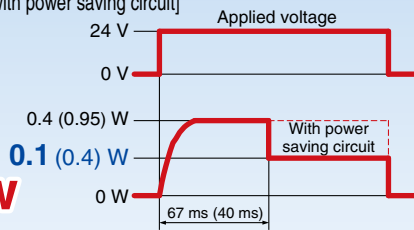
[Electrical power waveform with power saving circuit]

With power saving circuit

0.1 w

Standard

0.35 w



Power consumption is reduced by the power saving circuit.

Power consumption is decreased to 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 to the left.

- * Only products with an indicator light are equipped with the power saving circuit.
- * The value in () is for the quick response and high pressure types.

Long Service Life

Metal seal

(Service life: 200 million cycles)*1

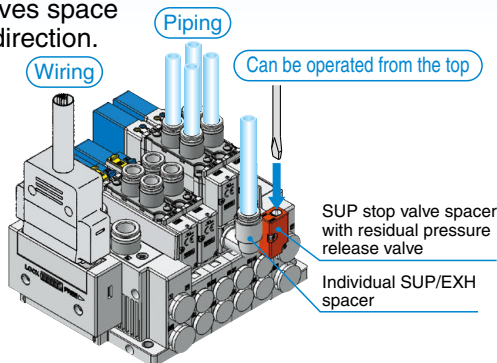
- *1 According to SMC life test conditions
- *2 Please contact SMC if life test data is required.

Space Saving / Improved Operability

Wiring, piping, and operation are integrated on one side.

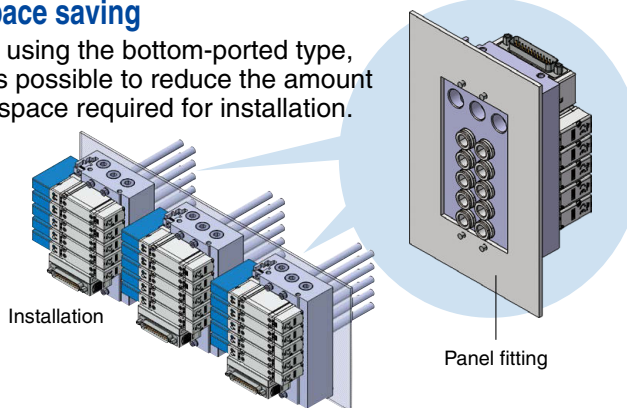
A multiple-layer type is available as an option that saves space in the lateral direction.

From p. 204



A bottom-ported type is available (A and B ports). Space saving

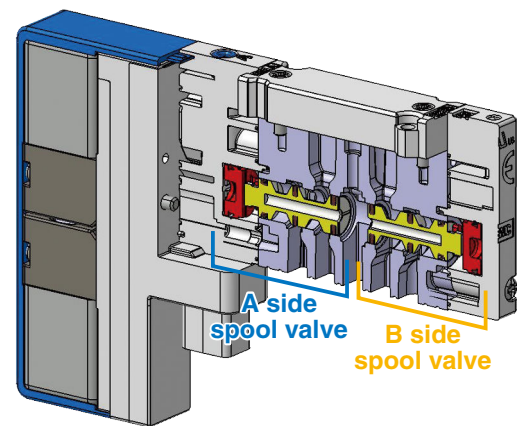
By using the bottom-ported type, it is possible to reduce the amount of space required for installation.



A 4-position dual 3-port valve is available.

(Only for the rubber seal type)

• **Two 3-port valves built into one body**



- 3-port valves on the A and B sides can be operated 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
- A 4-position dual 3-port valve with a back pressure check valve is also available.
- Combination examples

| Series | A side | B side |
|---------------------|------------|------------|
| SY□A ₃ 0 | N.C. valve | N.C. valve |
| SY□B ₃ 0 | N.O. valve | N.O. valve |
| SY□C ₃ 0 | N.C. valve | N.O. valve |

Different sizes (SY3000/5000 or SY5000/7000) can be mixed!

From p. 165

It is possible to reduce installation space, the number of serial units, and the amount of wiring.

Overall manifold length
Approx. 29% reduction

For serial transmission EX260

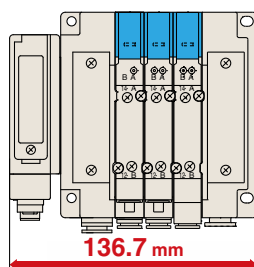
SY5000 manifold
SY5000: 3 stations

SY3000 manifold
SY3000: 4 stations

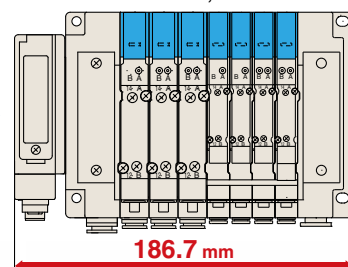
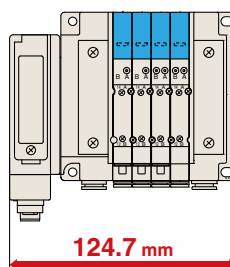
Mixed manifold

SY5000: 3 stations, SY3000: 4 stations

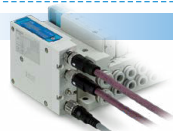
Installation space



+



Number of serial units



2 sets



1 set

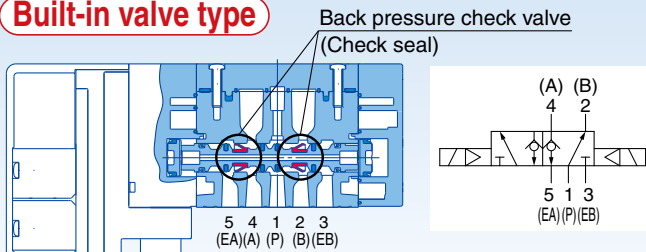
5-Port Solenoid Valve

Improved Safety

Back Pressure Check Valve

This prevents actuator and air operated valve malfunctions caused by the exhaust from other valves.*1

Built-in valve type

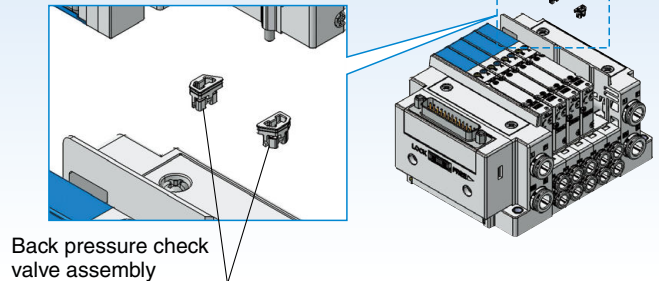


*1 For back pressure check valve precautions, refer to the "Specific Product Precautions" on page 291.

Retrofit or pre-installed type

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

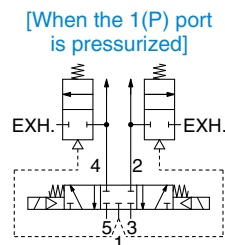
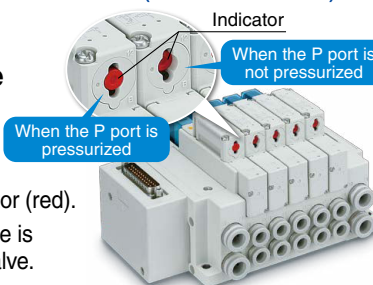
p. 212



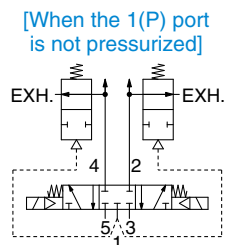
With residual pressure release valve (SY5000/7000) p. 24

For residual pressure release of the 3-position closed center valve

- The pressure of the 4 (A) and 2 (B) ports is exhausted automatically when the pressure of the 1 (P) port is exhausted.
- The pressure can be visualized using the indicator (red).
- Since this valve is not a spacer type, the flow rate is equivalent to that of the normal closed center valve.



IP67 compliant

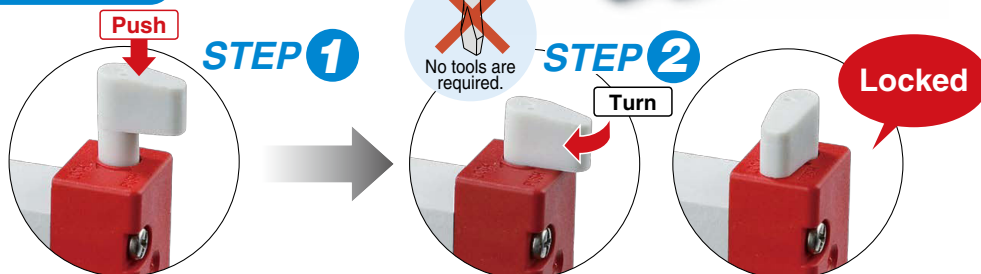


Lever Type SUP Stop Valve Spacer (With residual pressure release valve) p. 205

A lever has been added to manual override button!

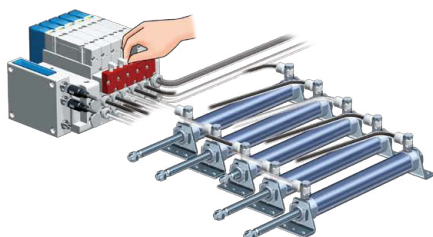
Solenoid valves can be replaced individually without shutting off the main pressure!*

2-action operation



Air for solenoid valves can be shut off individually!

The operation of an actuator can be checked by individually shutting off the air for the solenoid valves on the base while the main air is being supplied during a trial operation.

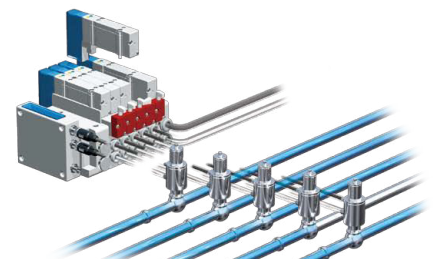


Solenoid valves can be replaced individually!

The solenoid valves can be replaced individually without stopping the equipment during maintenance.

<Application example>

For air operated valves, such as sanitary valves, and automatic valve control



*1 This product is only for internal pilot specifications as the external pilot air cannot be shut off.

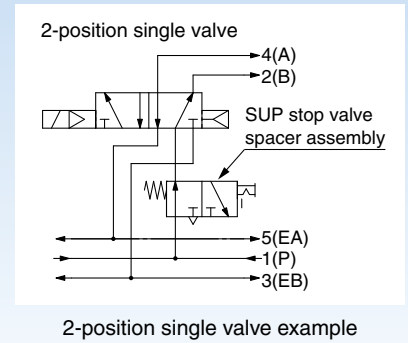
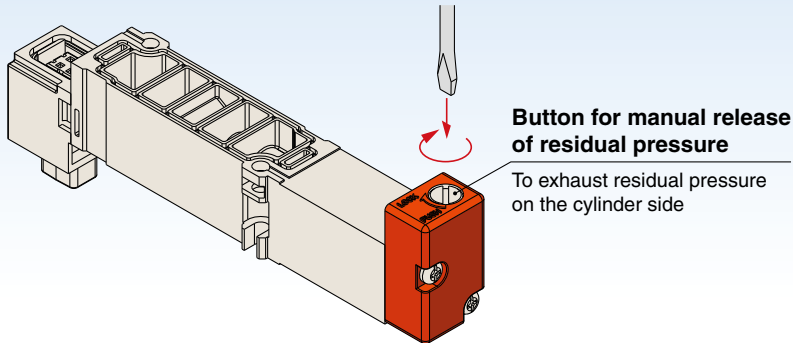
Improved Safety

Slotted Type

SUP Stop Valve Spacer

(With residual pressure release valve) p. 205

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

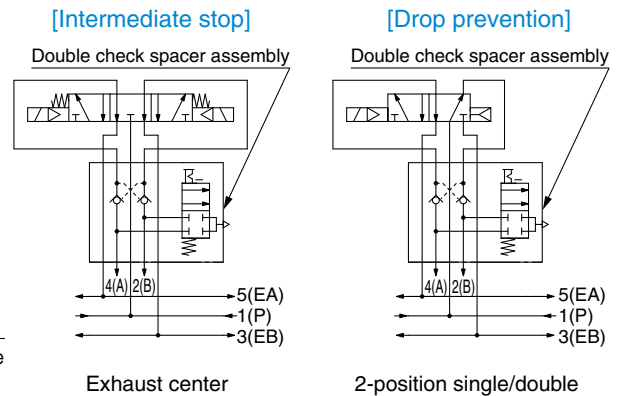
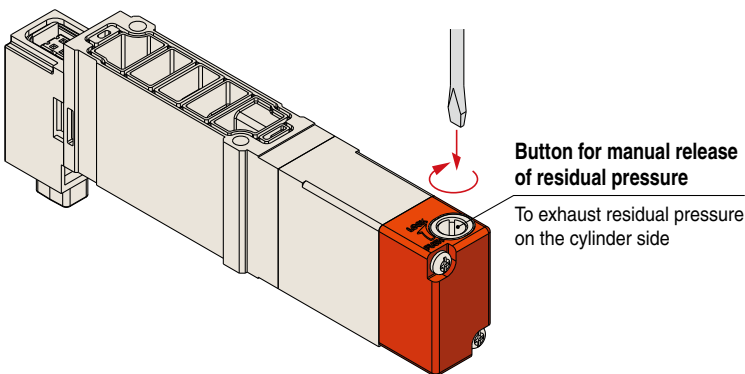


Slotted Type

Double Check Spacer

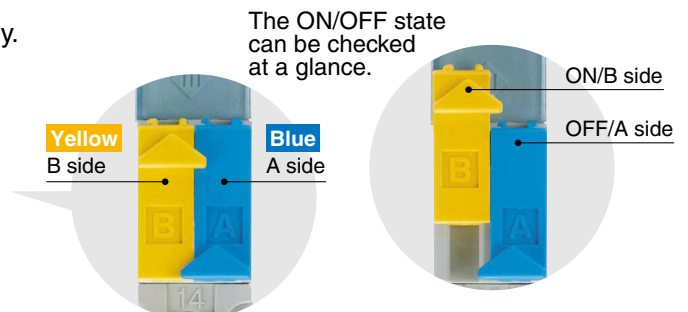
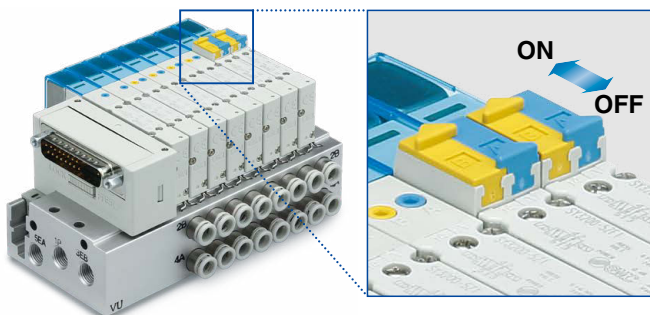
(With residual pressure release valve) p. 206

Long intermediate stops and position holding are possible.



With slide locking manual override

ON/OFF operation and locking can be performed manually.



5-Port Solenoid Valve

Improved Safety

Made to Order

With safety slide locking manual override
SY3000/5000/7000-X13 p. 34

The double action manual override prevents accidental operation!

SY7000-X13

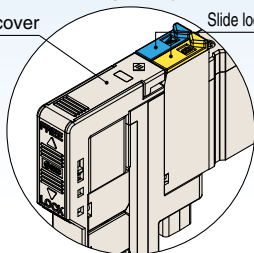
SY5000-X13

SY3000-X13

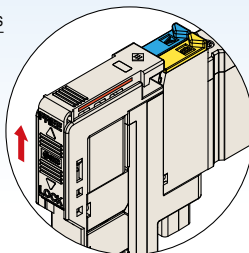
● Double-action operation

Before operation The slide locking manual overrides cannot be turned ON with the safety slide cover in place. (OFF status: Locked)

Safety slide cover Slide locking manual overrides



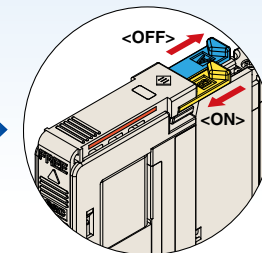
Operation 1 The safety slide cover is operated and moves upward. (Unlocked)



<Vertical sliding>

* The safety slide cover cannot be locked when the slide locking manual override is turned ON.

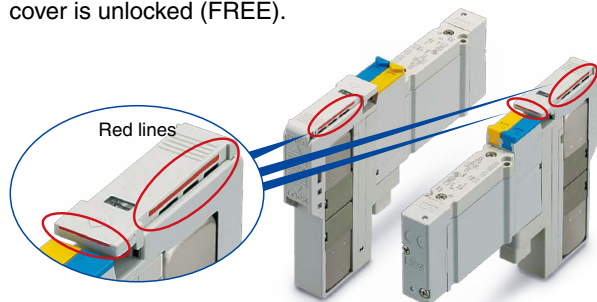
Operation 2 The slide locking manual overrides can be operated.



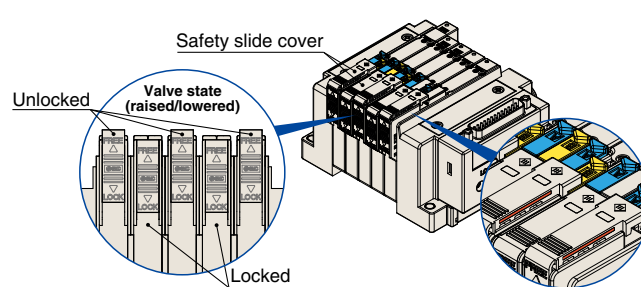
<Horizontal sliding>

● Visual check

Red lines visible from three directions can be checked to confirm whether the safety slide cover is unlocked (FREE).



Safety slide covers can be checked from their raised and lowered positions.

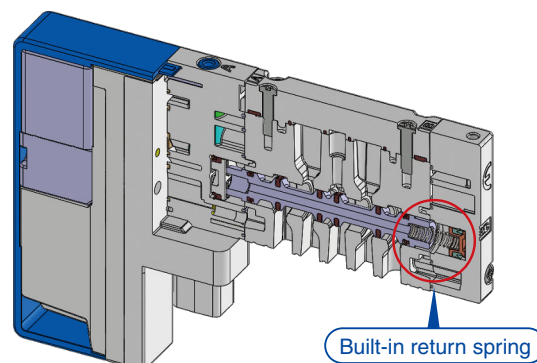


Made to Order

2-Position Single Solenoid Valve with Built-in Return Spring (Only rubber seal type)
SY3000/5000/7000-X350 p. 34

The main valve returns to the OFF position when it is not pressurized.

The main valve has a built-in spring which allows it to return to origin (the OFF position) when the supply pressure is stopped. This product can be used in SRP/CS (safety-related parts of control systems) constructions in accordance with safety standards (ISO 13849).

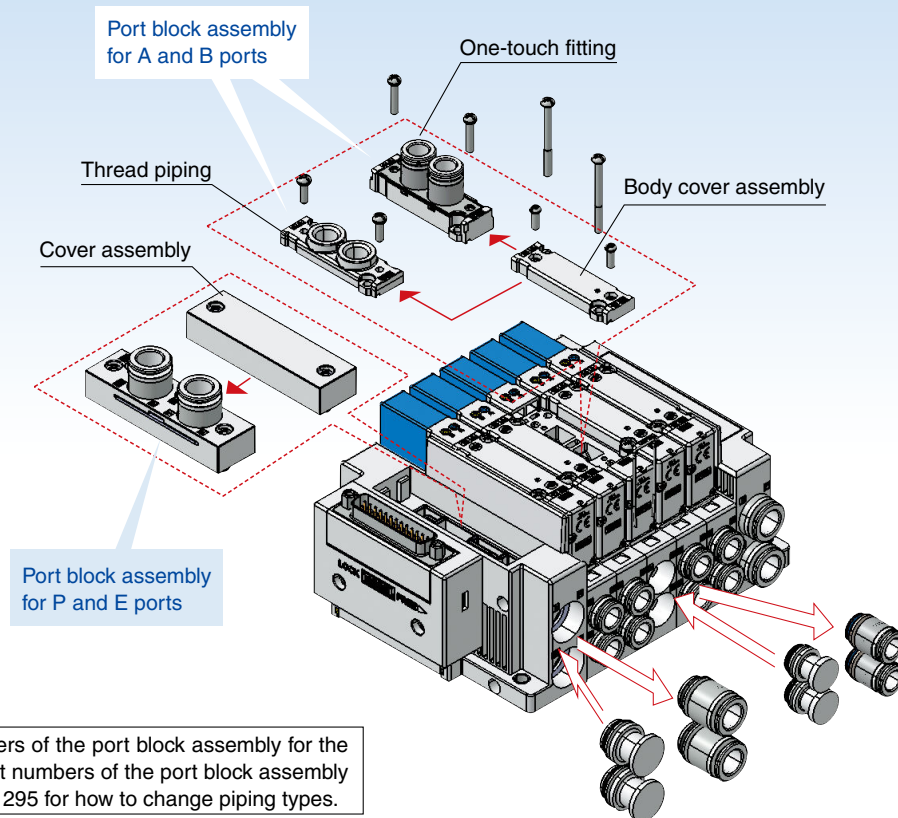


Built-in return spring

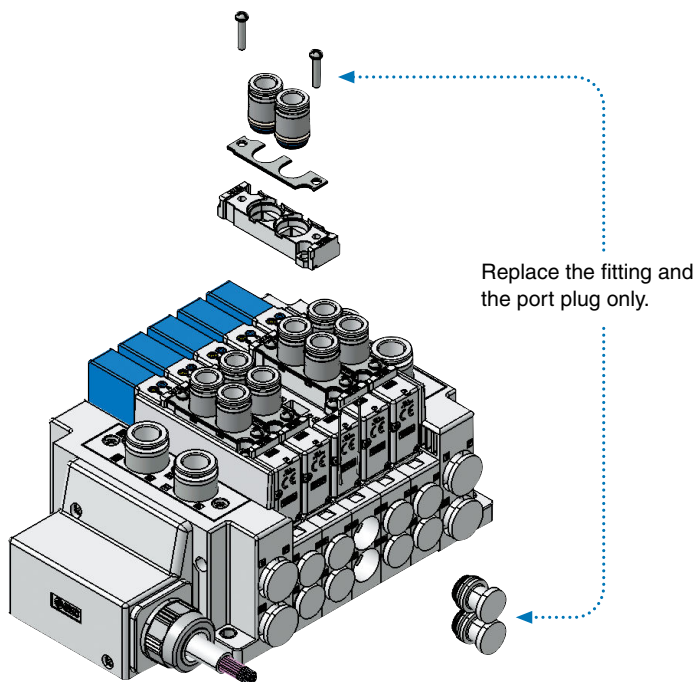


5-Port Solenoid Valve

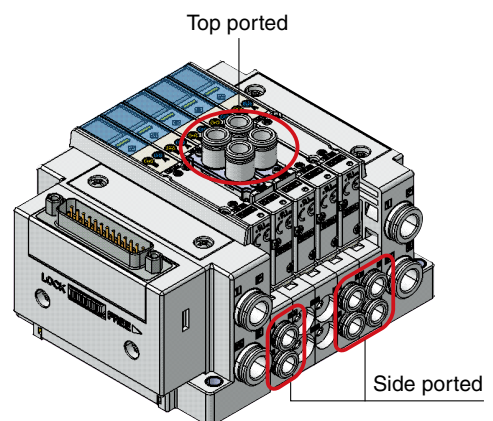
To mount the piping on top



To mount the piping on the side



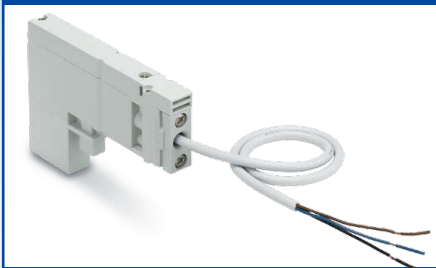
Mixed top-ported and side-ported mounting is possible.



For SY3000 **Blanking Plate with Output** p. 211

■ The blanking plate extracts the individual signal of the manifold valve.

Without connector



With M12 connector

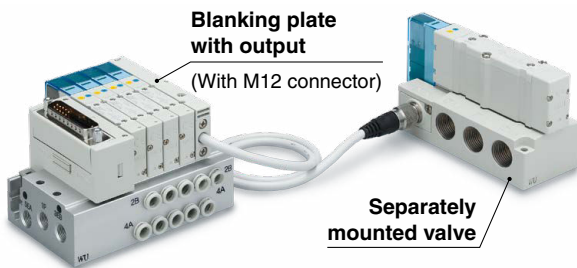


With connector



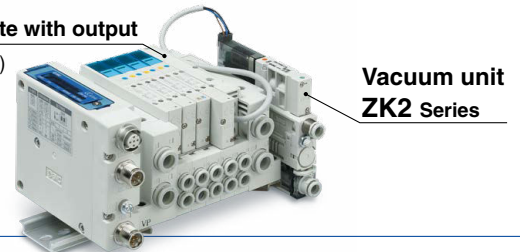
Application Examples

■ For the control of separately mounted valves



■ For the control of vacuum ejectors by means of Fieldbus unit signals

Blanking plate with output
(With connector)



Valve with Pressure Sensor p. 32

■ Monitoring the output pressure of the solenoid valve contributes to preventive maintenance.

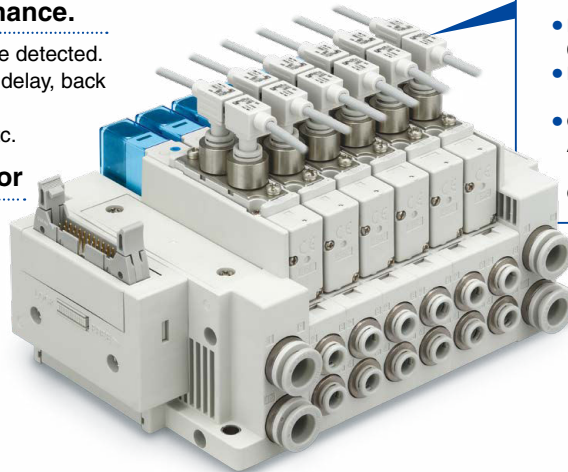
- The output pressure of the 4(A) and 2(B) ports can be detected.
- Detects errors such as incorrect switching, response delay, back pressure interference, pressure drop, etc.
- Identifies faulty parts of actuators, solenoid valves, etc.

■ Space saving, Reduced installation labor

- The required amount of space and installation labor can be reduced by directly mounting pressure switches on the solenoid valves.

Pressure sensor

- Rated pressure range: 0 to 1 MPa
- Power supply voltage: 12 to 24 VDC $\pm 10\%$
- Output specifications: Analog output 1 to 5 V (In rated pressure range) Output impedance: Approx. 1 k Ω



Mountable manifolds

Metal base

Side ported/Type 50□
Bottom ported/Type 51□

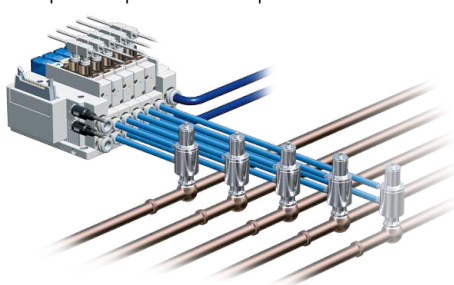
Connector connecting base

Side ported/Type 10□
Bottom ported/Type 11□

Application Examples

■ For the detection of output pressure

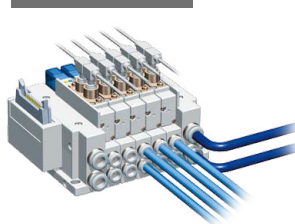
Operation can be checked by monitoring the pressure required to open or close air operated valves.



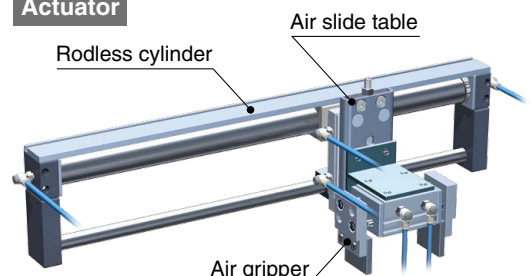
■ For the identification of faulty parts

A faulty part can quickly be identified by monitoring the operation of solenoid valves.

Solenoid valve



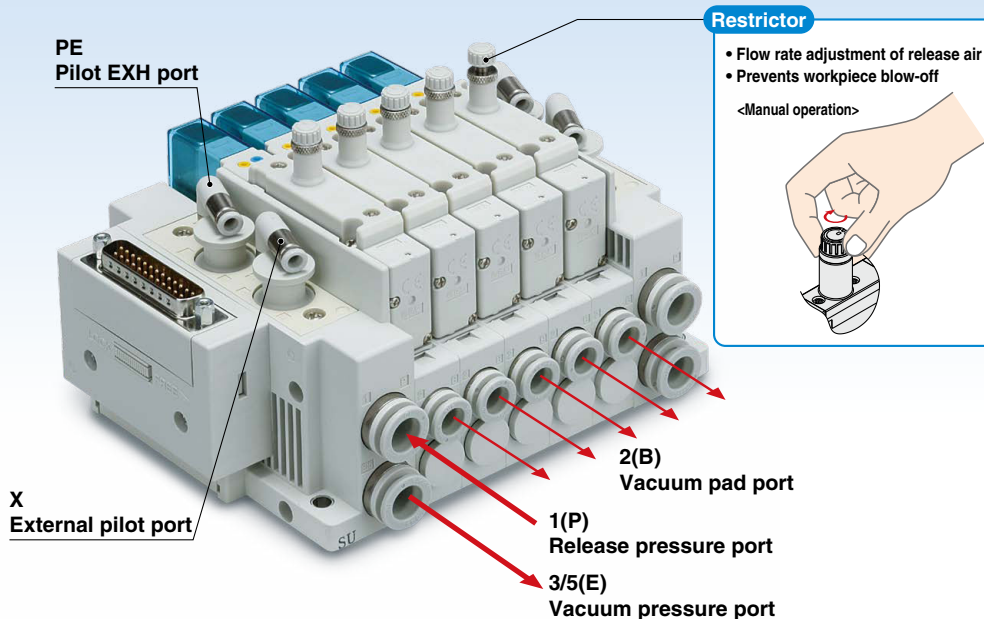
Actuator



5-Port Solenoid Valve

Only for External Pilot Vacuum Release Valve with Restrictor SY³A□R Series p. 26

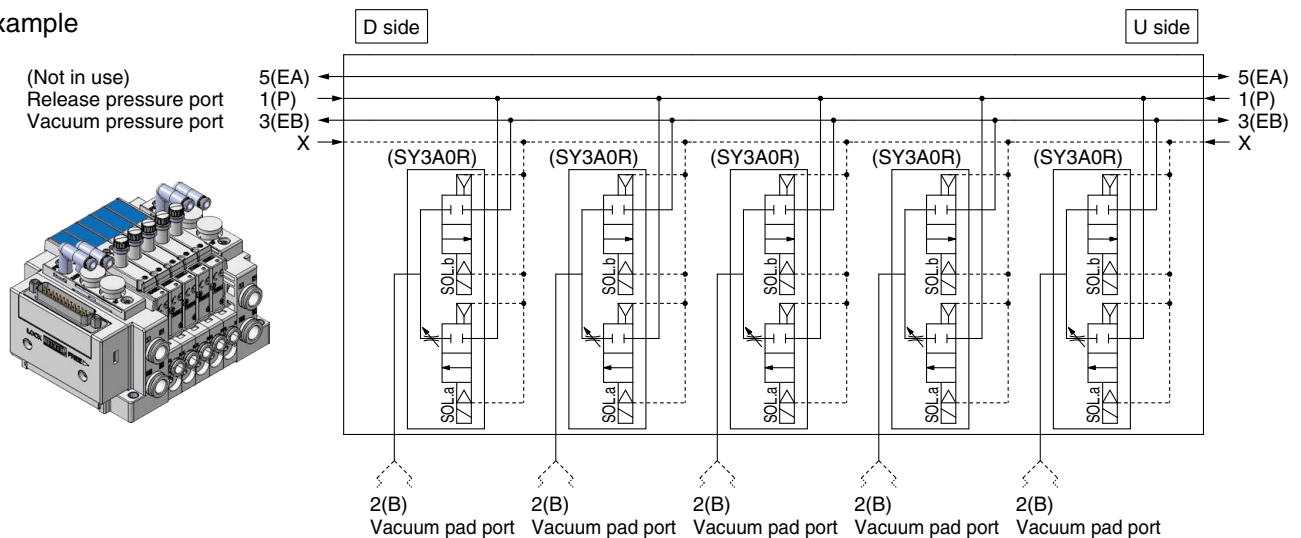
Vacuum suction and release can be controlled with a single valve!



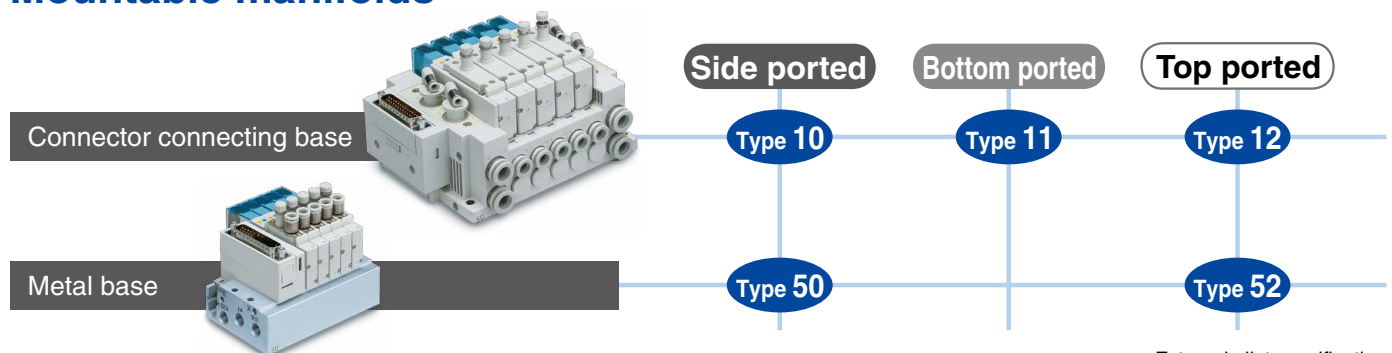
■ Can be mounted on the same manifold as standard valves

* When an individual EXH spacer is used

■ Example



Mountable manifolds



* External pilot specification

Applicable to EX600-W Series Wireless Systems p. 113 p. 123 p. 165 p. 169 p. 177

Noise resistance

- Uses the 2.4 GHz ISM frequency band
- Frequency hopping: Every 5 ms

High-speed connection

- From power supply ON to start of communication:
Min. 250 ms*

*1 For wireless remote

Communication response

- Wireless communication signal
Response time: **5 ms**

Communication cables not required

- Reduced wiring work, space, and cost
- Minimized disconnection risk

Number of I/O points

- Max. 1280 inputs/1280 outputs
(Max. 128 inputs/128 outputs per module)

Compatible protocol

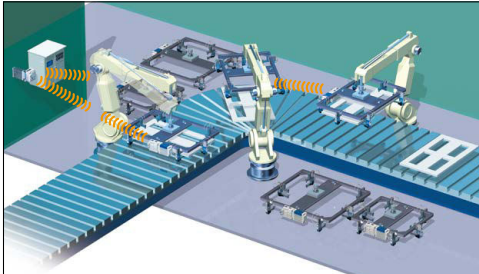
EtherNet/IP™

PROFINET®



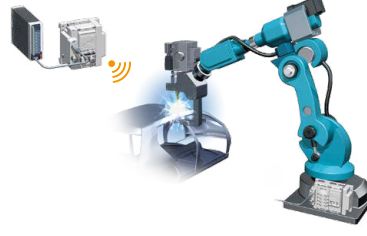
Application Examples

For tool changing

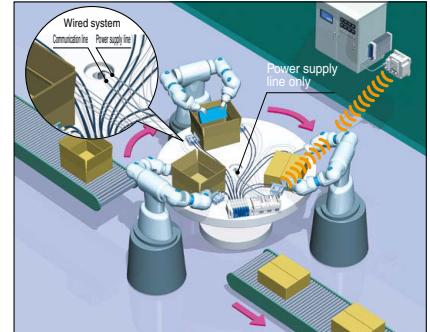


For spot welding

Welding environment



For rotary tables



The EX260 series supports safety communication (PROFIsafe). p. 135-1

■ This is a Fieldbus unit which supports safety standard ISO 13849-compliant safety circuit constructions.



PROFIsafe is established as an international standard (IEC 61784-3-3). It is a communication protocol that transmits safety-related data by PROFINET communication and can be used up until safety standards ISO 13849-1 PL e and IEC 61508/IEC 62061 SIL 3.

Using the safety communication protocol

Refer to the EX260 **Web Catalog** for details on units that support the safety communication protocol.

When using a manifold valve within an ISO 13849-compliant safety system, the device needs to be considered from both the pneumatic circuit and the electric side.

Devices (including valves) need to be selected based on whether their functions are in line with the safety level of the equipment as a whole.

The use of valves that have been validated as being compliant with ISO 13849-2 may be required.


For details on valves that have been validated, please contact SMC.

In addition, refer to "Safety Instructions" for precautions on model selection.



5-Port Solenoid Valve

Variations

| Variations | | | | Valve Series | Wiring | | | | | | | | | | | | | | A, B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | | | | | 5 ports | D-sub connector | Flat ribbon cable | Terminal block box (Spring type) | Terminal block box | Lead wire | Circular connector | M12 connector | Serial transmission | | | | | | | | Positive common | Negative common | M5 | 1/8 | 1/4 | 3/8 | C2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EX510 | EX500 (128 points) | EX500 (64 points) | EX600 | EX245 | | | | | | | | | EX250 | EX260 | EX126 | EX120 | EX180 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <div>Plug-in</div> Connector Connecting Base | Side ported |  | Type 10 From p. 41 | SY3□0□ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

● Standard ○ Option ▲ Made to order (Refer to page 34.)

[illegible]

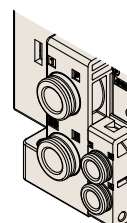
*1 For elbow piping, the size can only be specified in millimeters for certain port sizes. Refer to "How to Order Manifolds" for details.

*2 Refer to the "Manifold Specifications" on page 37 for details on IP67.

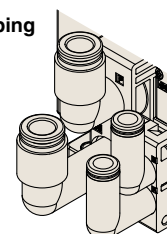
*3 Only the SY5000/7000 applies.

*4 Only the SY3000/5000 applies.

● **One-touch fittings** Straight piping



Elbow piping
(Upward)



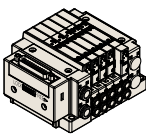
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| | |
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| Valve Specifications (Specifications, Response Time, Weight) | p. 15 |
| Valve Construction | p. 19 |

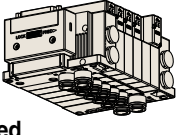
Manifold
Plug-in

Connector Connecting Base

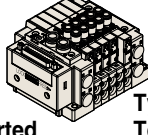
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**Type 10/
Side ported**



















**Type 11/
Bottom ported**

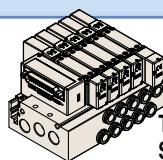
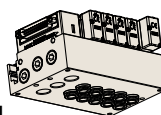
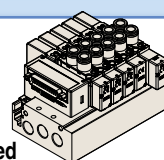


**Type 12/
Top ported**

Type 10/Side Ported, Type 11/Bottom Ported, Type 12/Top Ported

| | | | |
|---|---|---|--------------|
|  | D-sub connector | Plug-in Connector Connecting Base | p. 37 |
|  | Flat ribbon cable | D-sub Connector, Flat Ribbon Cable [IP40/67] | p. 41 |
|  | Terminal block box | Terminal Block Box (Spring Type) [IP67] | p. 59 |
|  | Lead wire | Terminal Block Box [IP67] | p. 64 |
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|  | EX500 | EX500 Gateway Decentralized System 2 (128 Points) [IP67] | pp. 97, 109 |
|  | EX600 | EX500 Gateway Decentralized System (64 Points) [IP67] | pp. 103, 111 |
|  | EX245 | EX600 Integrated Type (For Input/Output) Serial Transmission System (Fieldbus System) [IP67] | p. 113 |
|  | EX250 | EX245 Integrated Type (For Input/Output) Serial Transmission System [IP65] | p. 124-1 |
|  | EX260 | EX250 Integrated Type (For Input/Output) Serial Transmission System [IP67] | p. 125 |
|  | EX126 | EX260 Integrated Type (For Output) Serial Transmission System [IP67] | p. 133 |
|  | EX120 | EX126 Integrated Type (For Output) Serial Transmission System [IP67] | p. 141 |
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|  | Mixed mounting | Type 10/Side Ported: Common Dimensions (External Pilot, Silencer, Elbow Fittings, Slide Locking Manual Override) | p. 157 |
| | | Type 11/Bottom Ported: Common Dimensions | p. 160 |
| | | Type 12/Top Ported: Common Dimensions | p. 162 |
| | | Plug-in Mixed Mounting Type Manifold | p. 165 |
| | | Manifold Exploded View [Exploded View, Manifold Parts Nos.] | p. 181 |
| | | How to Increase Connector Type Manifolds | p. 197 |
| | | One-touch Fitting, Plug Assembly Part Nos. | p. 202 |
| | | Manifold Options | p. 203 |

Manifold

Plug-in Metal Base p. 220Type 50/
Side portedType 51/
Bottom portedType 52/
Top ported

D-sub connector



Flat ribbon cable



EX510

Type 50/Side Ported, Type 51/Bottom Ported, Type 52/Top Ported**Plug-in** Metal Base p. 221

D-sub Connector, Flat Ribbon Cable [IP40]

Type 50/Side Ported p. 223

Type 51/Bottom Ported p. 223

Type 52/Top Ported p. 243

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EX510 Gateway Type Serial Transmission System [IP20]

Type 50/Side Ported p. 251

Type 51/Bottom Ported p. 251

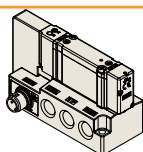
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Sub-plate

Plug-in Sub-plate p. 280

M12 connector

**Plug-in** Sub-plate Specifications (M12 Connector) p. 281

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Valve Replacement Parts p. 22

With Residual Pressure Release Valve p. 24

Vacuum Release Valve with Restrictor p. 26

Valve with Pressure Sensor p. 32

Made to Order for Valves p. 34

Specific Product Precautions p. 290

Model Index p. 298

Optimum Actuation Size Chart of Air Cylinder

| Applicable cylinder speed | Main valve seal type | Series | Applicable cylinder | | | | | |
|---------------------------|----------------------|--------|---------------------|-----|-----|-----|-----|--|
| | | | ø6 | ø10 | ø16 | ø20 | ø25 | |
| 100 mm/s or less | Rubber seal | SY3000 | | | | | | |
| | | SY5000 | | | | | | |
| | | SY7000 | | | | | | |
| | Metal seal | SY3000 | | | | | | |
| | | SY5000 | | | | | | |
| | | SY7000 | | | | | | |
| 300 mm/s or less | Rubber seal | SY3000 | | | | | | |
| | | SY5000 | | | | | | |
| | | SY7000 | | | | | | |
| | Metal seal | SY3000 | | | | | | |
| | | SY5000 | | | | | | |
| | | SY7000 | | | | | | |
| 500 mm/s or less | Rubber seal | SY3000 | | | | | | |
| | | SY5000 | | | | | | |
| | | SY7000 | | | | | | |
| | Metal seal | SY3000 | | | | | | |
| | | SY5000 | | | | | | |
| | | SY7000 | | | | | | |

[Common conditions]

- Pressure: 0.5 MPa
- Piping length: 1 m
- Load ratio: 50%
- Stroke: 200 mm

Connector type manifold (for the side and bottom-ported types)

* Use as a guide for selection.

Please check the actual conditions with SMC Model Selection Software.

SY3000/5000/7000 Series Valve Specifications

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 (High pressure type: 0.1 to 1) |
| | 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) | −100 kPa to 0.7 (High pressure type: −100 kPa to 1) |
| | Pilot pressure range | 2-position single | 0.25 to 0.7 | 0.1 to 0.7 (High pressure type: 0.1 to 1) |
| | | 2-position double | | |
| | | 3-position | | |
| | 4-position dual 3-port valve | | Operating pressure + 0.1 or more (Min. 0.25) to 0.7 | — |
| Ambient and fluid temperatures [°C] | | | −10 to 50 (No freezing) | |
| Max. operating frequency [Hz] | SY3000 SY5000 | 2-position single/double | 5 | 20*1 |
| | | 4-position dual 3-port valve | | |
| | | 3-position | | |
| | SY7000 | 2-position single/double | 5 | 10*1 |
| | | 4-position dual 3-port valve | 3 | — |
| | | 3-position | 3 | 10*1 |
| Manual override | | | Non-locking push type | |
| | | | Push-turn locking slotted type | |
| | | | Push-turn locking lever type | |
| | | | Slide locking type | |
| Pilot exhaust type | Internal pilot | | Main/Pilot valve common exhaust | Main/Pilot valve individual exhaust |
| | External pilot | | Pilot valve individual exhaust | |
| Lubrication | | | Not required | |
| Mounting orientation*2 | | | Unrestricted | Single: Unrestricted Double/3-position: Main valve is horizontal. |
| Impact/Vibration resistance*2 [m/s²] | | | 150/30 | |
| Enclosure | | | IP67 (Based on IEC60529)*3 | |
| Coil rated voltage [DC] | | | 24, 12 V | |
| Allowable voltage fluctuation [V] | | | ±10% of rated voltage*4 | |
| Power consumption [W] | Standard | | 0.35 (With indicator light: 0.4) | |
| | High pressure type, Quick response type | | 0.9 (With indicator light: 0.95) | |
| | With power saving circuit | | Standard: 0.1*5 (With indicator light only) [Inrush 0.4, Holding 0.1], High pressure type: 0.4*5 (With indicator light only) [Inrush 0.95, Holding 0.4] | |
| Surge voltage suppressor | | | Diode (Varistor for non-polar type) | |
| Indicator light | | | LED | |

*1 Use below 5 Hz for with the power saving circuit.

*2 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. The 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)
Refer to page 295 for the fixation of DIN rail mounting type manifold.

*3 In the case of a metal seal, there are restrictions in the operating environment. Refer to the "Specific Product Precautions" on page 290.

*4 Due to voltage drops by the internal circuit in S/Z type and T type (with power saving circuit), use within the allowable voltage fluctuation as follows.

S/Z type { 24 VDC: –7% to +10%
12 VDC: –4% to +10% } T type { 24 VDC: –8% to +10%
12 VDC: –6% to +10% }

*5 For details, refer to page 292.

Response Time

| Series | Seal type | Model | Type of actuation | Response time [ms] (at 0.5 MPa)*1 | | | | | |
|--------|-------------|------------|------------------------------|---|--|------------|---|--|------------|
| | | | | Standard | | | Quick response type | | |
| | | | | Without light/ surge voltage suppressor | With light/surge voltage suppressor | | Without light/ surge voltage suppressor | With light/surge voltage suppressor | |
| | | | | | S/Z type | R/U type | | S/Z type | R/U type |
| SY3000 | Rubber seal | SY31□0 | 2-position single | 15 or less | 20 or less | 15 or less | 12 or less | 15 or less | 12 or less |
| | Metal seal | SY31□1 | | 15 or less | 20 or less | 15 or less | 12 or less | 15 or less | 12 or less |
| | Rubber seal | SY32□0 | 2-position double | 12 or less | 15 or less | 12 or less | 10 or less | 13 or less | 10 or less |
| | Metal seal | SY32□1 | | 12 or less | 15 or less | 12 or less | 10 or less | 13 or less | 10 or less |
| | Rubber seal | SY33/4/5□0 | 3-position | 18 or less | 22 or less | 18 or less | 14 or less | 18 or less | 14 or less |
| | Metal seal | SY33/4/5□1 | | 18 or less | 22 or less | 18 or less | 14 or less | 18 or less | 14 or less |
| | Rubber seal | SY3A/B/C□0 | 4-position dual 3-port valve | 18 or less | 22 or less | 18 or less | 15 or less | 19 or less | 15 or less |
| SY5000 | Rubber seal | SY51□0 | 2-position single | 24 or less | 31 or less | 24 or less | 18 or less | 25 or less | 18 or less |
| | Metal seal | SY51□1 | | 24 or less | 31 or less | 24 or less | 18 or less | 25 or less | 18 or less |
| | Rubber seal | SY52□0 | 2-position double | 12 or less | 15 or less | 12 or less | 10 or less | 13 or less | 10 or less |
| | Metal seal | SY52□1 | | 12 or less | 15 or less | 12 or less | 10 or less | 13 or less | 10 or less |
| | Rubber seal | SY53/4/5□0 | 3-position | 30 or less | 34 or less | 30 or less | 24 or less | 28 or less | 24 or less |
| | Metal seal | SY53/4/5□1 | | 28 or less | 30 or less | 28 or less | 23 or less | 25 or less | 23 or less |
| | Rubber seal | SY5A/B/C□0 | 4-position dual 3-port valve | 35 or less | 42 or less | 35 or less | 28 or less | 35 or less | 28 or less |
| SY7000 | Rubber seal | SY71□0 | 2-position single | 47 or less | 58 or less | 53 or less | 42 or less | 52 or less | 44 or less |
| | Metal seal | SY71□1 | | 39 or less | 48 or less | 39 or less | 34 or less | 43 or less | 34 or less |
| | Rubber seal | SY72□0 | 2-position double | 18 or less | 19 or less | 19 or less | 18 or less | 17 or less | 17 or less |
| | Metal seal | SY72□1 | | 17 or less | 17 or less | 16 or less | 16 or less | 16 or less | 16 or less |
| | Rubber seal | SY73/4/5□0 | 3-position | 52 or less | 54 or less | 47 or less | 42 or less | 46 or less | 40 or less |
| | Metal seal | SY73/4/5□1 | | 38 or less | 45 or less | 39 or less | 33 or less | 38 or less | 34 or less |
| | Rubber seal | SY7A/B/C□0 | 4-position dual 3-port valve | 52 or less | 60 or less | 54 or less | 49 or less | 53 or less | 48 or less |

*1 Based on dynamic performance test, JIS B 8419-2010 (Coil temperature: 20°C, at rated voltage)

Since the response time of the external pilot type of the 4-position dual 3-port valve differs from the above table, please contact SMC.

Chart

Valve
Specifications

Valve
Construction

Valve
Replacement
Parts

With Residual
Pressure
Release Valve

Vacuum
Release Valve
with Restrictor

With
Pressure
Sensor

Made to
Order

Connector
Connecting Base

Metal Base

Sub-plate

Specific
Product
Precautions

SY3000/5000/7000 Series

Valve Weight

SY3000 series

| 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] |
|-------------|------------|-------------------|-----------------|------------|
| 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 | | Port size 4, 2 (A, B) | Weight [g] |
|-------------|-------------------|-------------------|----------------------------|------------------------------|---------------|
| SY3□30-M5 | Rubber seal | 2-position | Single | M5 x 0.8 | 74 |
| | | | Double | | 83 |
| | | 3-position | Closed center | | 87 |
| | | | Exhaust center | | |
| | | | Pressure center | | |
| 4-position | | Dual 3-port valve | 83 | | |
| SY3□30-C2 | | 2-position | Single | C2 ø2 One-touch fitting | 82 |
| | | | Double | | 91 |
| | | 3-position | Closed center | | 95 |
| | | | Exhaust center | | |
| | | | Pressure center | | |
| 4-position | | Dual 3-port valve | 91 | | |
| SY3□30-C3 | | 2-position | Single | C3 ø3.2 One-touch fitting | 85 |
| | | | Double | | 94 |
| | | 3-position | Closed center | | 98 |
| | | | Exhaust center | | |
| | | | Pressure center | | |
| 4-position | | Dual 3-port valve | 94 | | |
| SY3□30-C4 | | 2-position | Single | C4 ø4 One-touch fitting | 77 |
| | | | Double | | 86 |
| | 3-position | Closed center | 90 | | |
| | | Exhaust center | | | |
| | | Pressure center | | | |
| 4-position | Dual 3-port valve | 86 | | | |
| SY3□30-C6 | 2-position | Single | C6 ø6 One-touch fitting | 80 | |
| | | Double | | 89 | |
| | 3-position | Closed center | | 93 | |
| | | Exhaust center | | | |
| | | Pressure center | | | |
| 4-position | Dual 3-port valve | 89 | | | |

| Valve model | Seal type | Type of actuation | | Port size 4, 2 (A, B) | Weight [g] |
|-------------|------------|-------------------|-----------------|------------------------------|---------------|
| SY3□31-M5 | Metal seal | 2-position | Single | M5 x 0.8 | 76 |
| | | | Double | | 86 |
| | | 3-position | Closed center | | 90 |
| | | | Exhaust center | | |
| | | | Pressure center | | |
| SY3□31-C2 | | 2-position | Single | C2 ø2 One-touch fitting | 84 |
| | | | Double | | 94 |
| | | 3-position | Closed center | | 98 |
| | | | Exhaust center | | |
| | | | Pressure center | | |
| SY3□31-C3 | | 2-position | Single | C3 ø3.2 One-touch fitting | 87 |
| | | | Double | | 97 |
| | | 3-position | Closed center | | 101 |
| | | | Exhaust center | | |
| | | | Pressure center | | |
| SY3□31-C4 | | 2-position | Single | C4 ø4 One-touch fitting | 79 |
| | | | Double | | 89 |
| | | 3-position | Closed center | | 93 |
| | | | Exhaust center | | |
| | | | Pressure center | | |
| SY3□31-C6 | | 2-position | Single | C6 ø6 One-touch fitting | 82 |
| | | | Double | | 92 |
| | | 3-position | Closed center | | 96 |
| | | | Exhaust center | | |
| | | | Pressure center | | |

SY5000 series

| 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] |
|-------------|------------|-------------------|-----------------|------------|
| SY5□01 | Metal seal | 2-position | Single | 91 |
| | | | Double | 101 |
| | | 3-position | Closed center | 111 |
| | | | Exhaust center | |
| | | | Pressure center | |

| Valve model | Seal type | Type of actuation | | Port size 4, 2 (A, B) | Weight [g] |
|-------------|-------------|-------------------|-----------------|----------------------------|---------------|
| SY5□30-01 | Rubber seal | 2-position | Single | 1/8 | 102 |
| | | | Double | | 110 |
| | | 3-position | Closed center | | 120 |
| | | | Exhaust center | | |
| | | | Pressure center | | |
| 4-position | | Dual 3-port valve | 110 | | |
| SY5□30-C4 | | 2-position | Single | C4 ø4 One-touch fitting | 115 |
| | | | Double | | 123 |
| | | 3-position | Closed center | | 133 |
| | | | Exhaust center | | |
| | | | Pressure center | | |
| 4-position | | Dual 3-port valve | 123 | | |
| SY5□30-C6 | | 2-position | Single | C6 ø6 One-touch fitting | 110 |
| | | | Double | | 118 |
| | | 3-position | Closed center | | 128 |
| | | | Exhaust center | | |
| | | | Pressure center | | |
| 4-position | | Dual 3-port valve | 118 | | |
| SY5□30-C8 | | 2-position | Single | C8 ø8 One-touch fitting | 99 |
| | | | Double | | 107 |
| | | 3-position | Closed center | | 117 |
| | | | Exhaust center | | |
| | | | Pressure center | | |
| 4-position | | Dual 3-port valve | 107 | | |

| Valve model | Seal type | Type of actuation | | Port size | Weight |
|-------------|-----------------|-------------------|----------------------------|----------------------------|--------|
| | | | | 4, 2 (A, B) | [g] |
| SY5□31-01 | Metal seal | 2-position | Single | 1/8 | 111 |
| | | | Double | | 121 |
| | | 3-position | Closed center | | 131 |
| | | | Exhaust center | | |
| | | | Pressure center | | |
| SY5□31-C4 | | 2-position | Single | C4 ø4 One-touch fitting | 124 |
| | | | Double | | 134 |
| | | 3-position | Closed center | | 144 |
| | | | Exhaust center | | |
| | | | Pressure center | | |
| SY5□31-C6 | | 2-position | Single | C6 ø6 One-touch fitting | 120 |
| | | | Double | | 130 |
| | | 3-position | Closed center | | 140 |
| | | | Exhaust center | | |
| | Pressure center | | | | |
| SY5□31-C8 | 2-position | Single | C8 ø8 One-touch fitting | 108 | |
| | | Double | | 118 | |
| | 3-position | Closed center | | 128 | |
| | | Exhaust center | | | |
| | | Pressure center | | | |

Valve Weight

SY7000 series

| Valve model | Seal type | Type of actuation | Weight [g] |
|-------------|-------------|-------------------|-------------------|
| SY7□00 | Rubber seal | 2-position | Single |
| | | | Double |
| | | 3-position | Closed center |
| | | | Exhaust center |
| | | | Pressure center |
| | | 4-position | Dual 3-port valve |
| | | | 110 |
| | | | 118 |
| | | | 133 |
| | | | 114 |

| Valve model | Seal type | Type of actuation | | Port size | Weight [g] |
|-------------|-------------|-------------------|-------------------|------------------------------|------------|
| | | | | 4, 2 (A, B) | |
| SY7□30-02 | Rubber seal | 2-position | Single | 1/4 | 125 |
| | | | Double | | 133 |
| | | 3-position | Closed center | | 147 |
| | | | Exhaust center | | |
| | | | Pressure center | | |
| | | 4-position | Dual 3-port valve | | 129 |
| SY7□30-C6 | | 2-position | Single | C6 ø6 One-touch fitting | 163 |
| | | | Double | | 171 |
| | | 3-position | Closed center | | 186 |
| | | | Exhaust center | | |
| | | | Pressure center | | |
| | | 4-position | Dual 3-port valve | | 167 |
| SY7□30-C8 | | 2-position | Single | C8 ø8 One-touch fitting | 151 |
| | | | Double | | 159 |
| | | 3-position | Closed center | | 174 |
| | | | Exhaust center | | |
| | | | Pressure center | | |
| | | 4-position | Dual 3-port valve | | 155 |
| SY7□30-C10 | | 2-position | Single | C10 ø10 One-touch fitting | 136 |
| | | | Double | | 144 |
| | | 3-position | Closed center | | 159 |
| | | | Exhaust center | | |
| | | | Pressure center | | |
| | | 4-position | Dual 3-port valve | | 140 |
| SY7□30-C12 | | 2-position | Single | C12 ø12 One-touch fitting | 146 |
| | | | Double | | 154 |
| | | 3-position | Closed center | | 169 |
| | | | Exhaust center | | |
| | | | Pressure center | | |
| | | 4-position | Dual 3-port valve | | 150 |

| Valve model | Seal type | Type of actuation | Weight [g] |
|-------------|------------|-------------------|-----------------|
| SY7□01 | Metal seal | 2-position | Single |
| | | | Double |
| | | 3-position | Closed center |
| | | | Exhaust center |
| | | | Pressure center |
| | | | 122 |
| | | | 133 |
| | | | 150 |

| Valve model | Seal type | Type of actuation | | Port size 4, 2 (A, B) | Weight [g] | |
|-------------|------------|-------------------|------------------------------|------------------------------|---------------|-----|
| SY7□31-02 | Metal seal | 2-position | Single | 1/4 | 136 | |
| | | | Double | | 148 | |
| | | 3-position | Closed center | | 164 | |
| | | | Exhaust center | | | |
| | | | Pressure center | | | |
| SY7□31-C6 | | 2-position | Single | C6 ø6 One-touch fitting | | 174 |
| | | | Double | | | 186 |
| | | 3-position | Closed center | | 202 | |
| | | | Exhaust center | | | |
| | | | Pressure center | | | |
| SY7□31-C8 | | 2-position | Single | C8 ø8 One-touch fitting | | 162 |
| | | | Double | | | 174 |
| | | 3-position | Closed center | | 190 | |
| | | | Exhaust center | | | |
| | | | Pressure center | | | |
| SY7□31-C10 | | 2-position | Single | C10 ø10 One-touch fitting | | 148 |
| | | | Double | | | 159 |
| | | 3-position | Closed center | | 176 | |
| | | | Exhaust center | | | |
| | | | Pressure center | | | |
| SY7□31-C12 | 2-position | Single | C12 ø12 One-touch fitting | 157 | | |
| | | Double | | 169 | | |
| | 3-position | Closed center | | 185 | | |
| | | Exhaust center | | | | |
| | | Pressure center | | | | |

Chart

Valve Specifications

Valve Construction

Valve Replacement Parts

With Residual Pressure Release Valve

Vacuum Release Valve with Restrictor

With Pressure Sensor

Made to Order

Connector Connecting Base

Metal Base

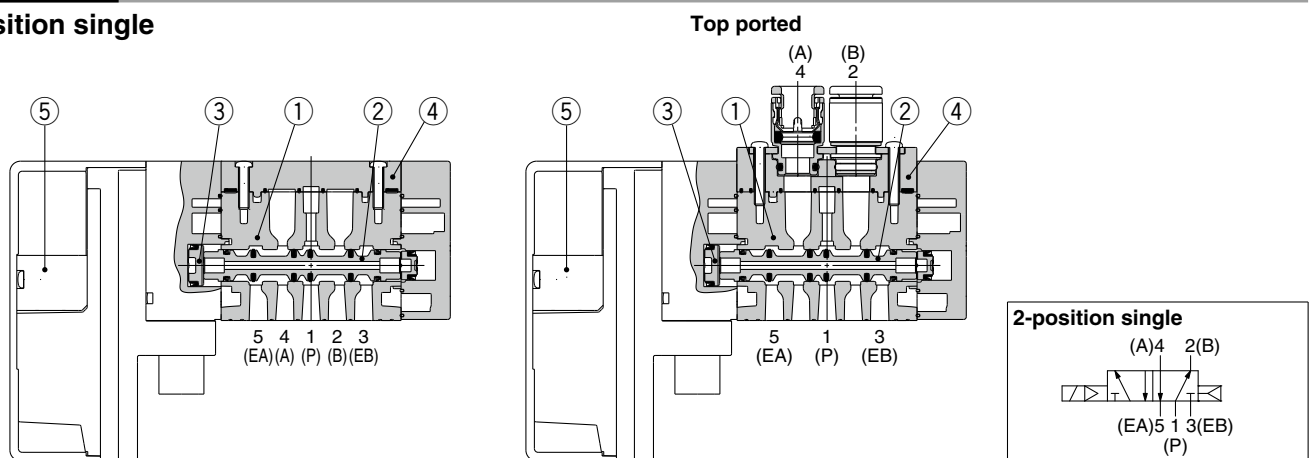
Sub-plate

Specific Product Precautions

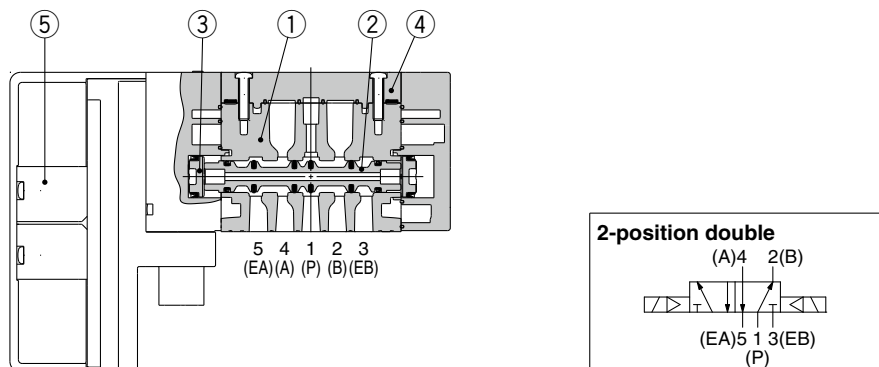
SY3000/5000/7000 Series Valve Construction

Rubber Seal

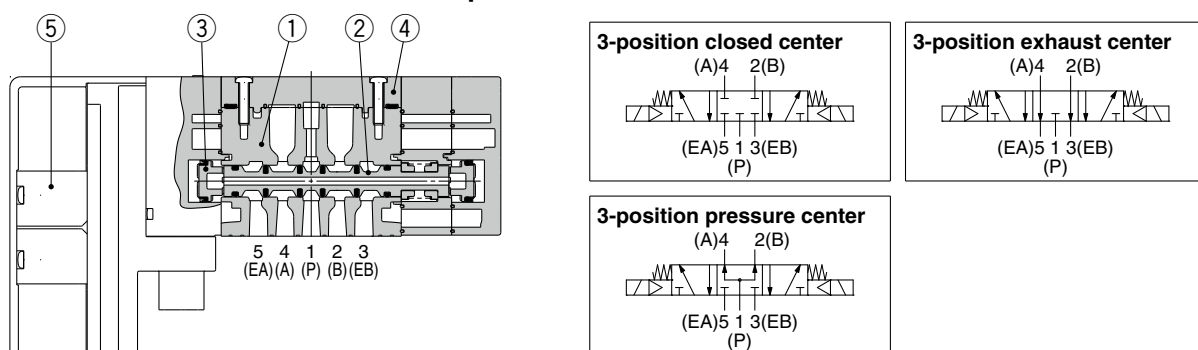
2-position single



2-position double



3-position closed center/exhaust center/pressure center

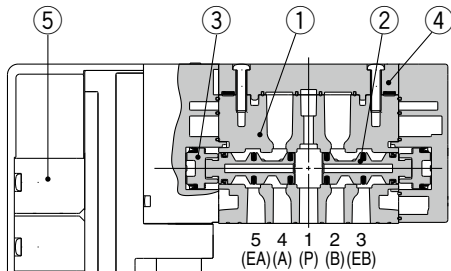


Component Parts

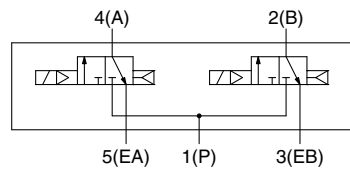
| No. | Description | Material | Note |
|-----|----------------------|--|---------------------------------|
| 1 | Body | SY3000: Zinc die-casted SY5000/SY7000: Aluminum die-casted | |
| 2 | Spool valve | Special resin/HNBR (3-position valve:) Aluminum/HNBR | |
| 3 | Piston | Resin | |
| | Body cover assembly | Resin | For the side/bottom-ported type |
| 4 | Port block assembly | SY3000: Resin SY5000: Zinc die-casted (Thread piping) SY5000: Resin (Fitting) SY7000: Aluminum die-casted | For the top-ported type |
| 5 | Pilot valve assembly | — | Refer to page 23. |

Rubber Seal

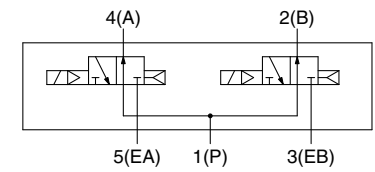
4-position dual 3-port valve



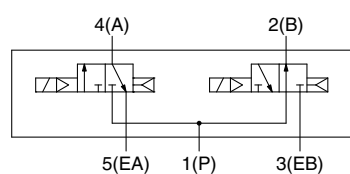
4-position dual 3-port valve N.C. valve x 2 pcs.



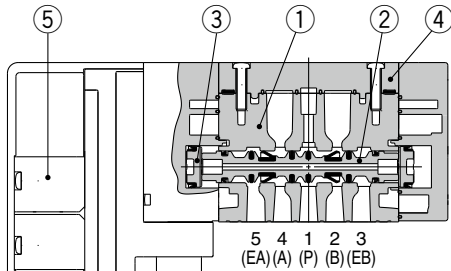
N.O. valve x 2 pcs.



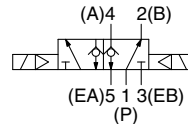
N.C. valve, N.O. valve 1 pc. of each



2-position double with back pressure check valve (Built-in valve type)

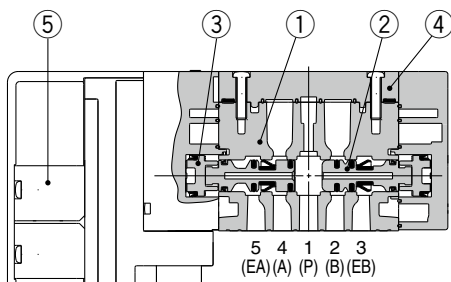


2-position double with back pressure check valve

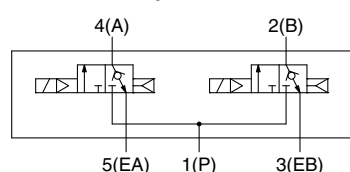


* The built-in valve type back pressure check valve is not available for the SY7000.

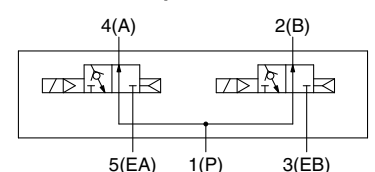
4-position dual 3-port valve with back pressure check valve (Built-in valve type)



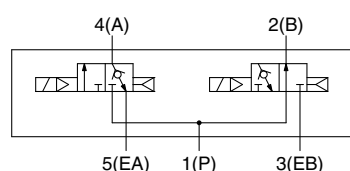
4-position dual 3-port valve with back pressure check valve N.C. valve x 2 pcs.



N.O. valve x 2 pcs.



N.C. valve, N.O. valve 1 pc. of each



* The built-in valve type back pressure check valve is not available for the SY7000.

Chart

Valve
Specifications

Valve
Construction

Valve
Replacement
Parts

With Residual
Pressure
Release Valve

Vacuum
Release Valve
with Restrictor

With
Pressure
Sensor

Made to
Order

Connector
Connecting Base

Metal Base

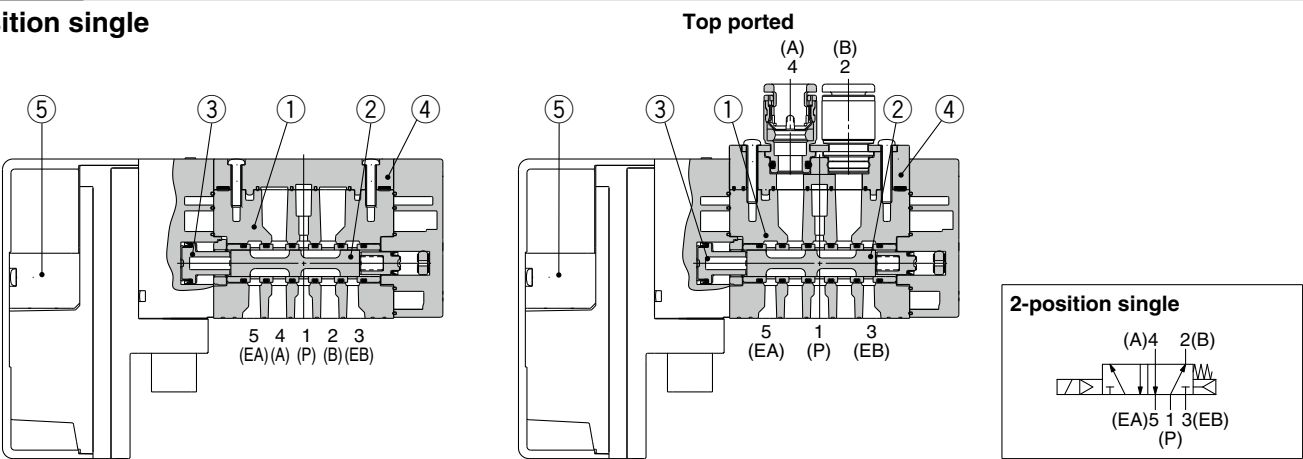
Sub-plate

Specific
Product
Precautions

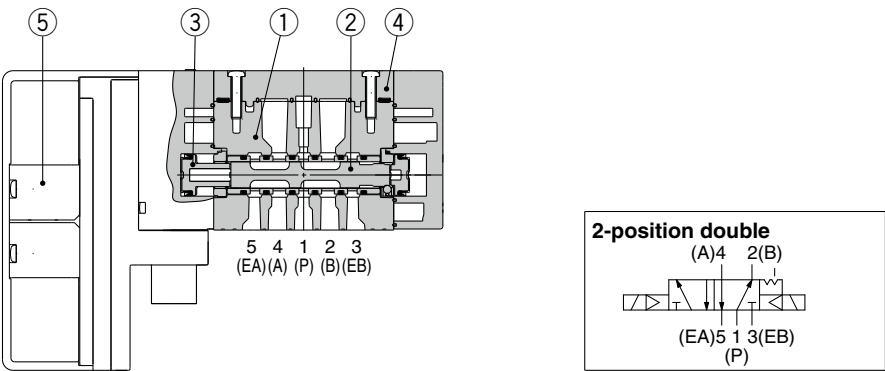
SY3000/5000/7000 Series

Metal Seal

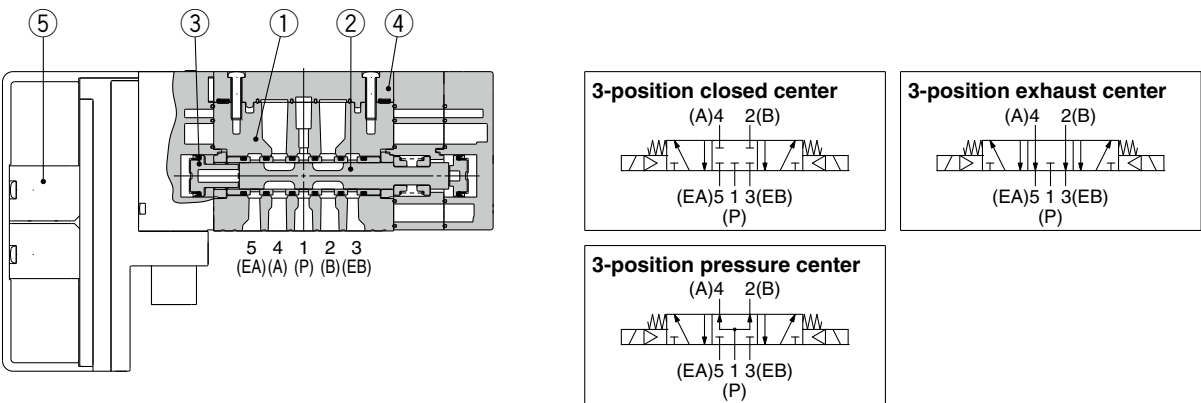
2-position single



2-position double



3-position closed center/exhaust center/pressure center



Component Parts

| No. | Description | Material | Note |
|-----|----------------------|--|---------------------------------|
| 1 | Body | SY3000: Zinc die-casted SY5000/7000: Aluminum die-casted | |
| 2 | Spool, Sleeve | Stainless steel/HNBR | |
| 3 | Piston | Resin | |
| | Body cover assembly | Resin | For the side/bottom-ported type |
| 4 | Port block assembly | SY3000: Resin SY5000: Zinc die-casted (Thread piping) SY5000: Resin (Fitting) SY7000: Aluminum die-casted | For the top-ported type |
| 5 | Pilot valve assembly | — | Refer to page 23. |

SY3000/5000/7000 Series Valve Replacement Parts

How to Order Port Block Assembly

SY 0V-6A - -

Series

| | |
|---|------|
| 3 | 3000 |
| 5 | 5000 |
| 7 | 7000 |

Pilot type

| | |
|-----|----------------|
| Nil | Internal pilot |
| R | External pilot |

Option for mounting

| | |
|-----|---|
| Nil | Standard (Valve mounting screw without drop prevention) |
| 1 | Drop prevention type valve mounting screw |

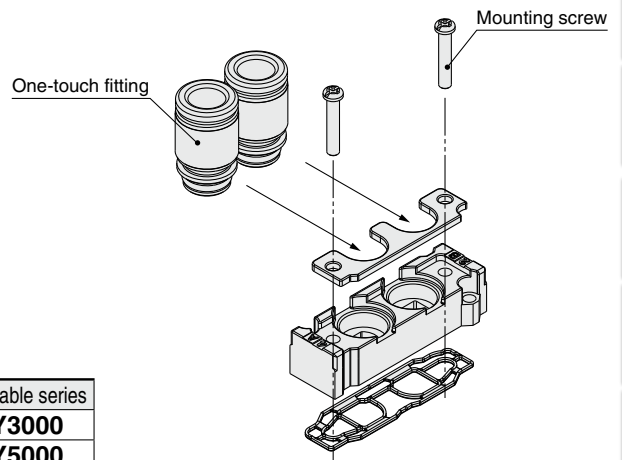
Thread type

| | |
|-----|------|
| Nil | Rc |
| F | G |
| N | NPT |
| T | NPTF |

* Except M5

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 |



Metric size (One-touch fitting)

| Symbol | Port size | Applicable series | | |
|--------|-----------|-------------------|--------|--------|
| | | SY3000 | SY5000 | SY7000 |
| C2 | ø2 | ● | — | — |
| C3 | ø3.2 | ● | — | — |
| C4 | ø4 | ● | ● | — |
| C6 | ø6 | ● | ● | ● |
| C8 | ø8 | — | ● | ● |
| C10 | ø10 | — | — | ● |
| C12 | ø12 | — | — | ● |

Inch size (One-touch fitting)

| Symbol | Port size | Applicable series | | |
|--------|-----------|-------------------|--------|--------|
| | | SY3000 | SY5000 | SY7000 |
| N1 | ø1/8" | ● | — | — |
| N3 | ø5/32" | ● | ● | — |
| N7 | ø1/4" | ● | ● | ● |
| N9 | ø5/16" | — | ● | ● |
| N11 | ø3/8" | — | — | ● |

Possible to replace only the One-touch fitting

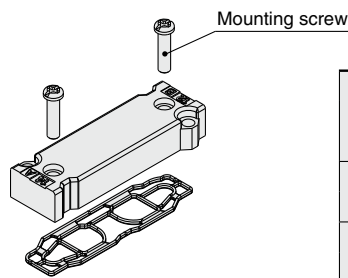
| | Port size | SY3000 | SY5000 | SY7000 |
|-------------|-----------|----------------|----------------|-----------------|
| Metric size | ø2 | VVQ1000-50A-C2 | — | — |
| | ø3.2 | VVQ1000-50A-C3 | — | — |
| | ø4 | VVQ1000-50A-C4 | VVQ1000-51A-C4 | — |
| | ø6 | VVQ1000-50A-C6 | VVQ1000-51A-C6 | VVQ2000-51A-C6 |
| | ø8 | — | VVQ1000-51A-C8 | VVQ2000-51A-C8 |
| | ø10 | — | — | VVQ2000-51A-C10 |
| | ø12 | — | — | KQ2H12-17-X224 |
| Inch size | ø1/8" | VVQ1000-50A-N1 | — | — |
| | ø5/32" | VVQ1000-50A-N3 | VVQ1000-51A-N3 | — |
| | ø1/4" | VVQ1000-50A-N7 | VVQ1000-51A-N7 | VVQ2000-51A-N7 |
| | ø5/16" | — | VVQ1000-51A-N9 | VVQ2000-51A-N9 |
| | ø3/8" | — | — | VVQ2000-51A-N11 |

Refer to pages 295 and 296 for how to replace the port block assembly, One-touch fitting, and body cover assembly.

SY3000/5000/7000 Series

Body Cover Assembly

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



| Series | | Part no. | |
|--------|----------------|---|---|
| | | Standard (Valve mounting screw without drop prevention) | Drop prevention type valve mounting screw |
| SY3000 | Internal pilot | SY30V-16A | SY30V-16A-1 |
| | External pilot | SY30V-16AR | SY30V-16AR-1 |
| SY5000 | Internal pilot | SY50V-16A | SY50V-16A-1 |
| | External pilot | SY50V-16AR | SY50V-16AR-1 |
| SY7000 | Internal pilot | SY70V-16A | SY70V-16A-1 |
| | External pilot | SY70V-16AR | SY70V-16AR-1 |

* The part number is not indicated on the product.

How to Order Pilot Valve Assembly (With a gasket and two mounting screws)

V112 - A

Pilot valve option

| | |
|-----|--------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K | High pressure type (1.0 MPa)*1 |

*1 Only the metal seal type is available for the high pressure type. (1.0 MPa)

Coil type

| | |
|-----|---------------------------|
| Nil | Standard |
| T | With power saving circuit |

Rated voltage

| | |
|---|--------|
| 5 | 24 VDC |
| 6 | 12 VDC |

Caution

1. The coil specification and voltage (including light/surge voltage suppressor) cannot be changed by changing the pilot valve assembly.
2. When selecting the coil type with power saving circuit, it is not possible to change to high pressure/power saving circuit type.

How to replace pilot valves

Pilot cover assembly

| Series | Part no. |
|--------|-----------|
| SY3000 | SY30V-25A |
| SY5000 | SY50V-25A |
| SY7000 | |

* Pilot cover x 1 + B tight flat head screw x 1

A detailed diagram showing the removal of the pilot cover and pilot valve assembly. It includes labels for the 'Pilot cover', 'a-side pilot valve', 'b-side pilot valve', 'Gasket', 'Socket', 'Pilot valve assembly', 'Pilot valve mounting screw (M2 x 16.5)', and 'Pilot valve mounting screw (M2 x 25)'. Arrows 1 and 2 indicate the removal directions. A note specifies 'B tight flat head screw (M1.7) Tightening torque: 0.12 N-m'.

Loosen B tight flat head screw to remove the pilot cover in the direction indicated by the arrow ①.

Remove the pilot valve mounting screws.

Remove the pilot valve in the direction indicated by the arrow ②.

* Assemble by following the removal procedure in reverse.

* Ensure the gasket is mounted, and take care not to bend the socket.

* Be noted for mounting that there are two types of lengths for the pilot valve mounting screws.

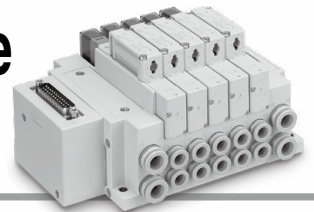
SY5000/7000 Series

With Residual Pressure Release Valve



Mountable manifold
SS5Y5/7-50/51 type manifold
SS5Y5/7-(M)10/11 type manifold
Sub-plate single unit (Except top-ported type)

How to Order (With mounting screw)



SY 5 3 0 0 0 0 - 5 0 0 1 - E

Series 1 2 3 4 5 6

| | |
|---|--------|
| 5 | SY5000 |
| 7 | SY7000 |

Base mounted
(The top-ported type is not available.)

Type of actuation

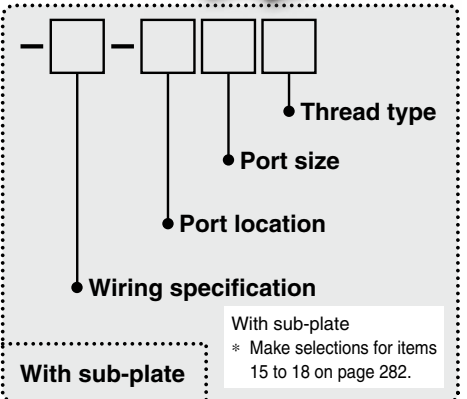
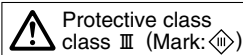
| | |
|---|----------------------------|
| 3 | 3-position closed center*1 |
|---|----------------------------|

*1 Only the closed center type is available.

With residual pressure release valve

| | |
|---|--|
| E | With residual pressure release valve*1 |
|---|--|

*1 Mounting screw types, hexagon socket head cap screw B and drop prevention type K, H are not available.



1 Seal type

| | |
|---|-------------|
| 0 | Rubber seal |
| 1 | Metal seal |

2 Pilot valve option

| | |
|-----|-------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K*1 | High pressure type (1.0 MPa) |

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

3 Coil type

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

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

* Be careful of the energizing time when the power saving circuit is selected. Refer to page 292 for details.

4 Rated voltage

| | |
|---|--------|
| 5 | 24 VDC |
| 6 | 12 VDC |

* The applicable rated voltage varies depending on the manifold wiring type. Refer to the "How to Order Manifolds" pages.

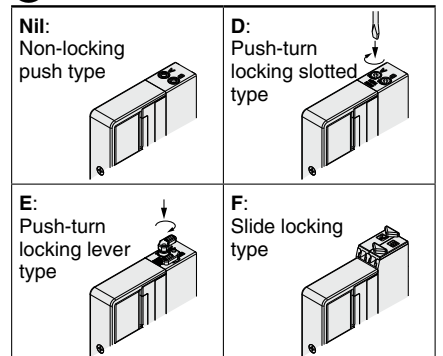
5 Light/surge voltage suppressor and common specification

| Symbol | With light | Surge voltage suppressor | Common specification |
|--------|------------|--------------------------|----------------------|
| Nil | — | — | Non-polar |
| R | — | — | |
| U | ● | — | |
| S | — | ● | Positive common |
| Z | ● | | Negative common |
| NS | — | | |
| NZ | ● | — | |

* For the non-polar type, be careful of surge voltage intrusion. Refer to page 293 for details.

* Only "Z" and "NZ" types are available with a power saving circuit.

6 Manual override



* Refer to page 34 for the safety slide locking manual override.

* **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. Refer to page 198 or 266 for base gasket part numbers. Refer to Table 1 for mounting screw part numbers.

Table 1. Valve mounting screw

| SY5000 | SY7000 |
|---------------------------|----------------------------|
| SY5000-221-2A (2 pcs.) | SY7000-221-10A (3 pcs.) |

Valve Specifications

| Valve construction | Rubber seal | Metal seal |
|----------------------------------|---|--------------------------------------|
| | 3-position closed center valve with residual pressure release valve*1 | |
| Fluid | Air | |
| Operating pressure range [MPa]*2 | 0.3 to 0.7 | 0.3 to 0.7 (High pressure: 0.3 to 1) |
| Weight [g] | SY5000 | 117 |
| | SY7000 | 156 |
| | | 128 |
| | | 177 |

*1 Rubber seal is used for the residual pressure release valve.

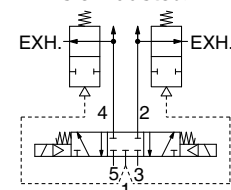
*2 Internal pilot type only

* Other specifications are common to the valve specifications on page 15.

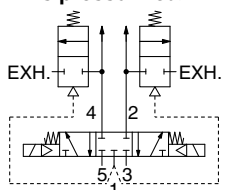
* When using in combination with an individual SUP/EXH spacer or an interface regulator, the length of the required mounting screws will differ. Please contact SMC for details.

Symbol

<When the 1(P) port is exhausted>



<When the 1(P) port is pressurized>



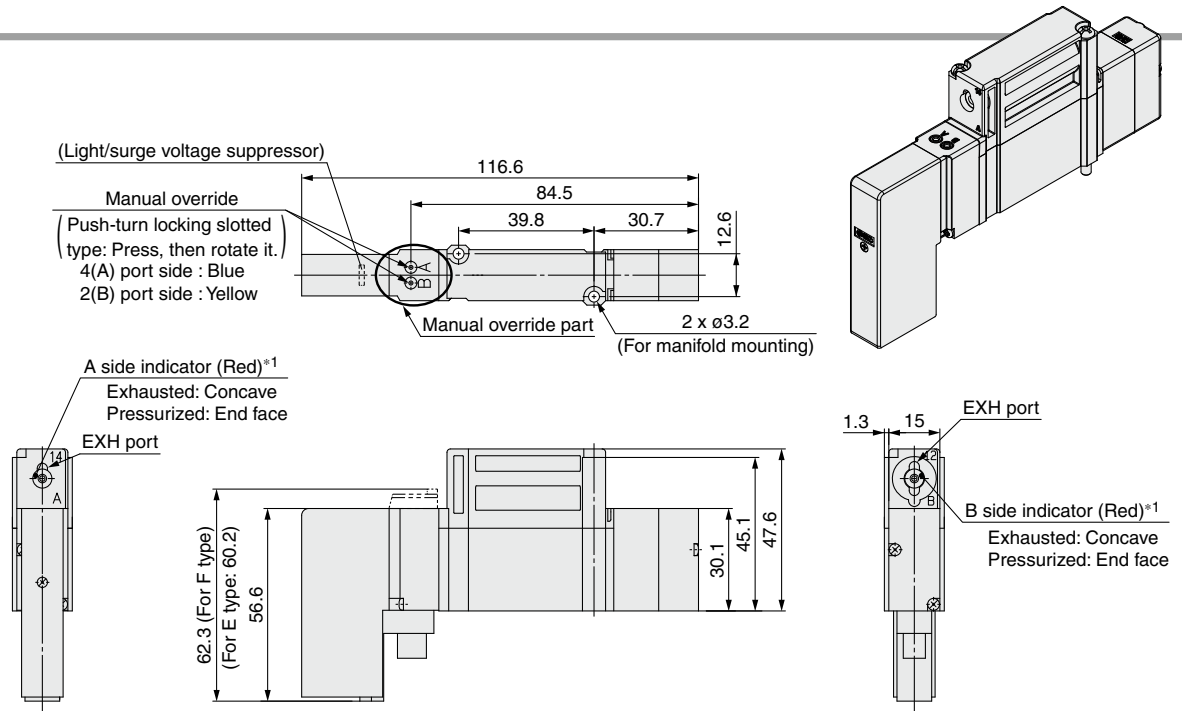
A mechanism is used that exhausts the pressure of the cylinder port when the P port supply pressure of the 3-position closed center valve is exhausted.

Chart
Valve Specifications
Valve Construction
Valve Replacement Parts
With Residual Pressure Release Valve
Vacuum Release Valve with Restrictor
With Pressure Sensor
Made to Order
Connector Base
Metal Base
Sub-plate
Specific Product Precautions

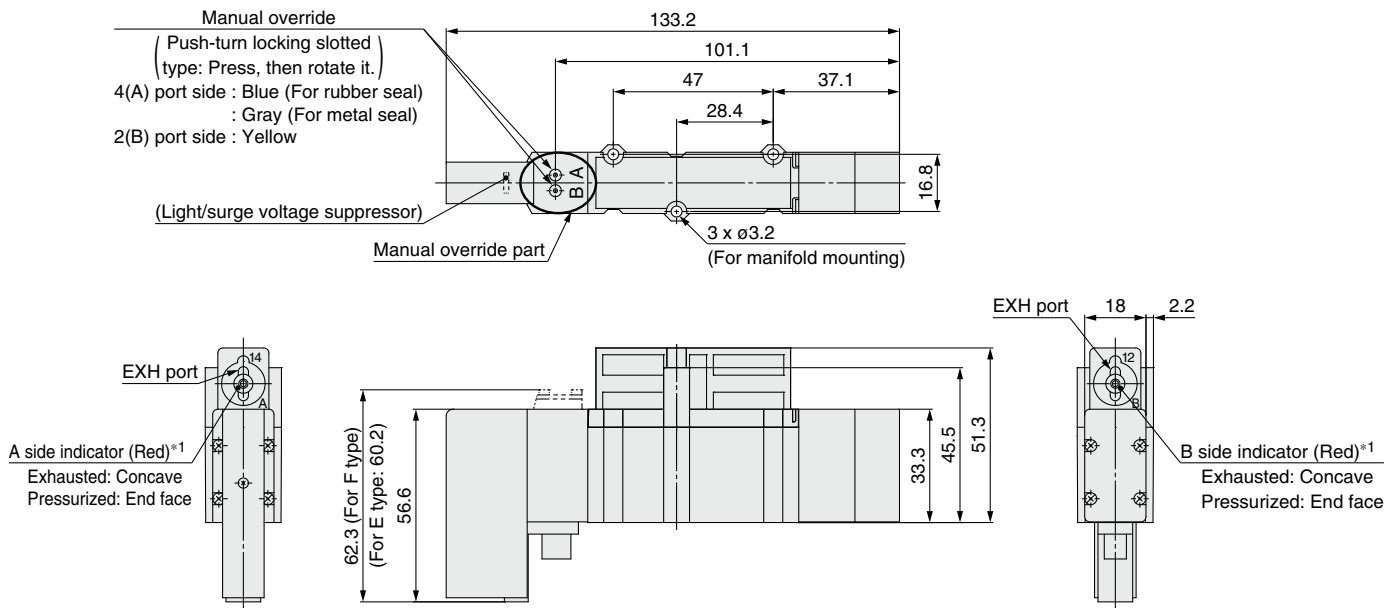
SY5000/7000 Series

Dimensions

SY5000



SY7000



*1 The indicator shows the pressurization status.
Do not push it.

SY3000/5000 Series

Only for
External Pilot

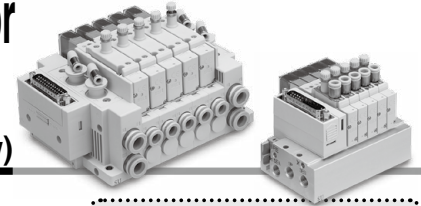
Vacuum Release Valve with Restrictor



RoHS

Mountable manifold [External pilot]
SS5Y3/5-50/52 type manifold
SS5Y3/5-(M)10/11/12 type manifold
Sub-plate single unit (Except SS5Y3-11 type)

How to Order (With mounting screw)



Side ported/
Bottom ported

Top ported

SY 3 A 0 R 5 1 - C6

SY 3 A 3 R 5 1 - C6

Thread type

Port size

Port location

Wiring specification

① Series

② Pilot type

④ Rated voltage

⑥ Manual override

③ Coil type

⑤ Light/surge voltage suppressor and common specification

With sub-plate

* Make selections for items 15 to 18 on page 282.

With sub-plate

| | |
|----------|--------|
| ① Series | |
| 3 | SY3000 |
| 5 | SY5000 |

| | |
|--------------|----------------|
| ② Pilot type | |
| R | External pilot |

| | |
|-----------------|--------|
| ④ Rated voltage | |
| 5 | 24 VDC |
| 6 | 12 VDC |

| | |
|-------------|--|
| ③ Coil type | |
| Nil | Standard |
| T | With power saving circuit (Continuous duty type) |

- * Be sure to select the power saving circuit type if the valve is to be continuously energized for long periods of time.
 - * Be careful of the energizing time when the power saving circuit is selected.
- Refer to page 292 for details.

5

Light/surge voltage suppressor and common specification

| Symbol | With light | Surge voltage suppressor | Common specification |
|--------|------------|--------------------------|----------------------|
| Nil | — | — | Non-polar |
| R | — | ● | |
| U | ● | | |
| S | — | | |
| Z | ● | | Positive common |
| NS | — | | Negative common |
| NZ | ● | | |

- * For the non-polar type, be careful of surge voltage intrusion. Refer to page 293 for details.
- * Only "Z" and "NZ" types are available with a power saving circuit.

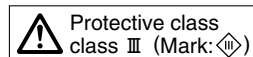
Nil:
Non-locking push type

D:
Push-turn locking slotted type

E:
Push-turn locking lever type

F:
Slide locking type

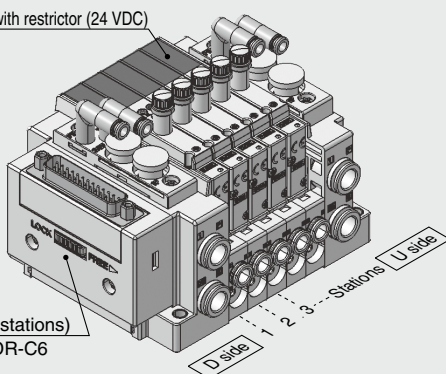
- * Refer to page 34 for the safety slide locking manual override.



How to Order Manifold Assembly

Example (SS5Y3-10F1-□□R)

3-position 3-port valve with restrictor (24 VDC)
SY3A0R-5U1



Manifold base (5 stations)
SS5Y3-10F1-05DR-C6

SS5Y3-10F1-05DR-C6...1 set (Type 10 5-station manifold base part no.)
*SY3A0R-5U1 (3-position 3-port with restrictor part no.)...5 sets

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

- * For the valve arrangement, the valve closest to the D side is considered the 1st station.
- * Under the manifold part number, state the valves to be mounted in order starting with the 1st station as shown in the figure above. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.

⑦ B port size

One-touch fitting (Metric size)

| Symbol | B port | SY3000 | SY5000 |
|--------|----------------------|--------|--------|
| C4 | ø4 One-touch fitting | ● | ● |
| C6 | ø6 One-touch fitting | ● | ● |
| C8 | ø8 One-touch fitting | — | ● |

One-touch fitting (Inch size)

| Symbol | B port | SY3000 | SY5000 |
|--------|--------------------------|--------|--------|
| N3 | ø5/32" One-touch fitting | ● | ● |
| N7 | ø1/4" One-touch fitting | ● | ● |
| N9 | ø5/16" One-touch fitting | — | ● |

- * When selecting the port size for each station, specify on a manifold specification sheet separately.
- * When mounting on the manifold base or sub-plate, the A port is plugged. When a manifold base or sub-plate is ordered separately, mount a plug on the A port.

⑧ Type of mounting screw

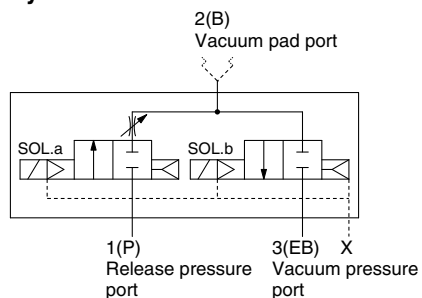
| | |
|-----|-------------------------------|
| Nil | Round head combination screw |
| B | Hexagon socket head cap screw |

- * 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. Refer to page 198 or 266 for base gasket and mounting screw part numbers.
- * "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly or interface regulator.

SY3000/5000 Series



Symbol



Valve Specifications

| | | |
|--------------------------------|------------------------------------|---|
| Valve construction | | 3-position 3-port valve with restrictor |
| Seal | | Rubber seal |
| Fluid | | Air |
| Type of actuation | | Normally closed |
| Operating pressure range [MPa] | Release pressure port 1(P) | 0 to 0.6 |
| | Vacuum pressure port 3(EB), 3/5(E) | -100 kPa to 0.7*1 |
| | Pilot X port | Release pressure + 0.1 or more (Min. 0.25) to 0.7 |
| Restrictor operation | | Manual |

*1 Can be used with positive pressure to suit the application

* Other specifications are common to the valve specifications on page 15.

* Quick response type is not available.

Weight

| | | |
|---------------|------------|------------|
| Valve model | Weight [g] | |
| SY3A0R | 90 | |
| Valve model | Port size | Weight [g] |
| | 2(B) port | |
| | C4 | |
| SY3A3R | C6 | 91 |
| | C8 | 93 |
| Valve model | Weight [g] | |
| SY5A0R | 94 | |
| Valve model | Port size | Weight [g] |
| | 2(B) port | |
| | C4 | |
| SY5A3R | C6 | 118 |
| | C8 | 115 |
| | C10 | 121 |

Response Time

| Valve model | Without light/surge voltage suppressor | With light/surge voltage suppressor | |
|---------------|--|-------------------------------------|----------|
| | | S/Z type | R/U type |
| SY3A□R | 18 | 26 | 18 |
| SY5A□R | 27 | 32 | 27 |

* P = 0.1 MPa X = 0.5 MPa

Manifold Flow Rate Characteristics*1

Flow Rate Characteristics (When restrictor is fully open)

① Plug-in Metal Base

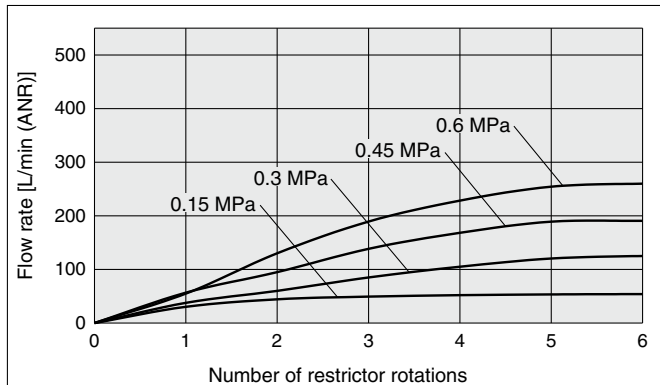
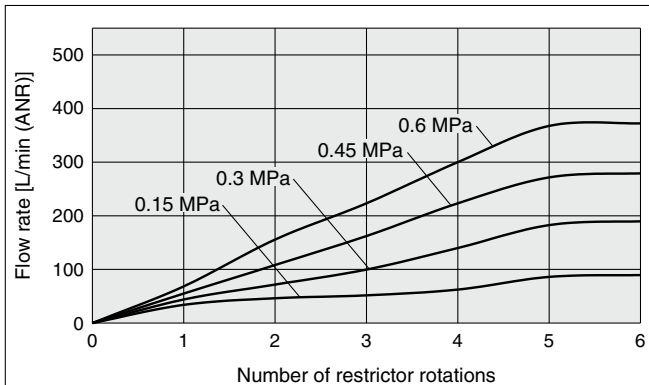
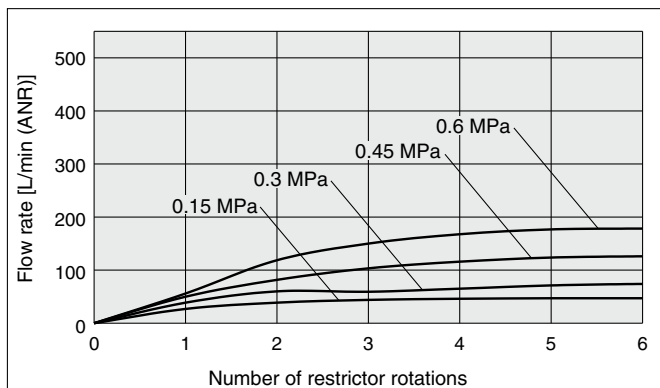
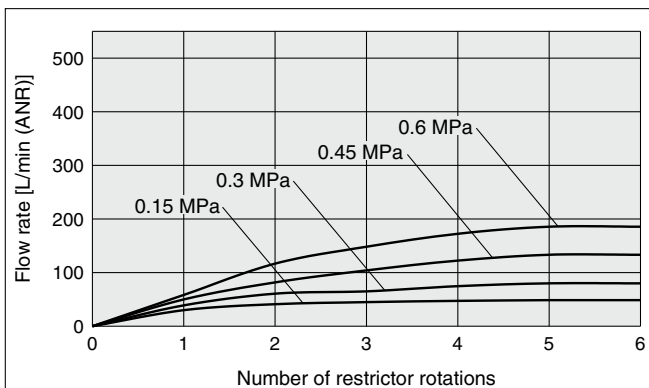
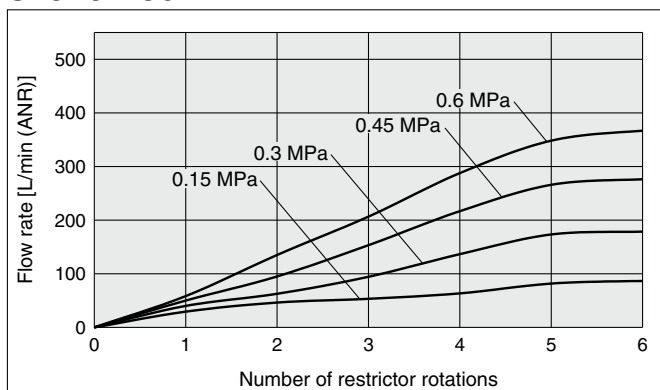
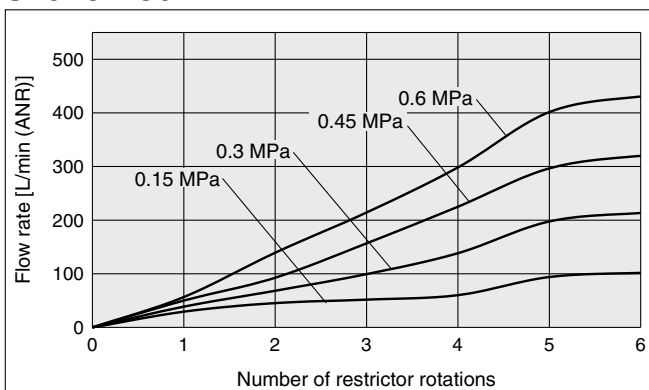
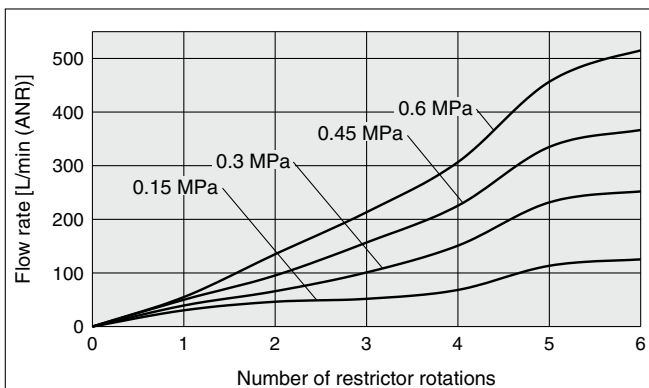
| Manifold type | Port size | | Valve flow rate characteristics | | | |
|--------------------------------|-----------------|----------|---------------------------------|------|-----------------|------|
| | 1, 3 (P, EB) | 2 (B) | 1→2 (P→B) | | 2→3 (B→EB) | |
| | | | C [dm³/(s·bar)] | b | C [dm³/(s·bar)] | b |
| SS5Y3-50R (Side ported) | 1/8 | C6 | 0.7 | 0.24 | 1.0 | 0.16 |
| SS5Y3-52R (Top ported) | 1/8 | C6 | 1.0 | 0.25 | 1.1 | 0.25 |
| SS5Y5-50R (Side ported) | 1/4 | C8 | 1.0 | 0.30 | 2.3 | 0.10 |
| SS5Y5-52R (Top ported) | 1/4 | C8 | 1.4 | 0.16 | 2.4 | 0.14 |

② Plug-in Connector Connecting Base

| Manifold type | Port size | | Valve flow rate characteristics | | | |
|----------------------------------|-----------------|----------|---------------------------------|------|-----------------|------|
| | 1, 3 (P, EB) | 2 (B) | 1→2 (P→B) | | 2→3 (B→EB) | |
| | | | C [dm³/(s·bar)] | b | C [dm³/(s·bar)] | b |
| SS5Y3-10R (Side ported) | C8 | C6 | 0.7 | 0.36 | 1.2 | 0.22 |
| SS5Y3-12R (Top ported) | C8 | C6 | 1.0 | 0.26 | 1.2 | 0.20 |
| SS5Y5-10R (Side ported) | C10 | C8 | 1.0 | 0.20 | 2.9 | 0.17 |
| SS5Y5-11R (Bottom ported) | C10 | C8 | 1.0 | 0.30 | 3.3 | 0.24 |
| SS5Y5-12R (Top ported) | C10 | C8 | 1.4 | 0.15 | 2.6 | 0.24 |

*1 The value is for manifold base with 5 stations.

* Calculation of effective area S and sonic conductance C: $S = 5.0 \times C$

Restrictor Flow Rate Characteristics [Fluid passage: 1(P)→2(B)]**SY3A0R****SY5A0R****SY3A3R-C4****SY5A3R-C4****SY3A3R-C6****SY5A3R-C6****SY5A3R-C8**

Chart

Valve
SpecificationsValve
ConstructionValve
Replacement
PartsWith Residual
Pressure
Release ValveVacuum
Release Valve
with RestrictorWith
Pressure
SensorMade to
OrderConnector
Connecting Base

Metal Base

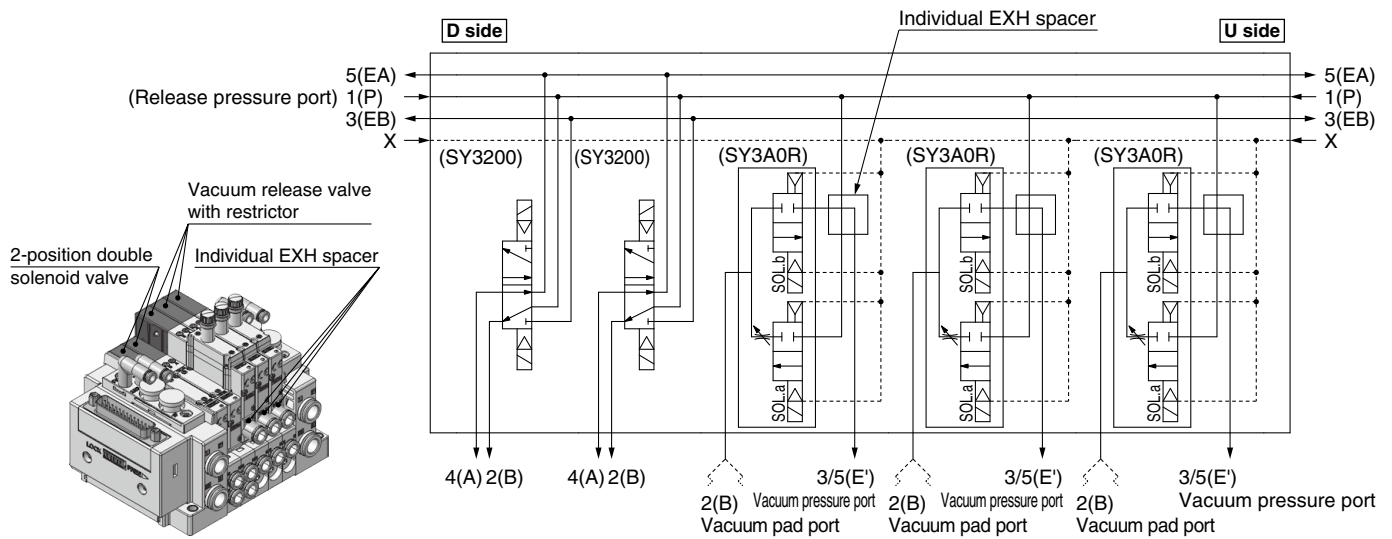
Sub-plate

Specific
Product
Precautions

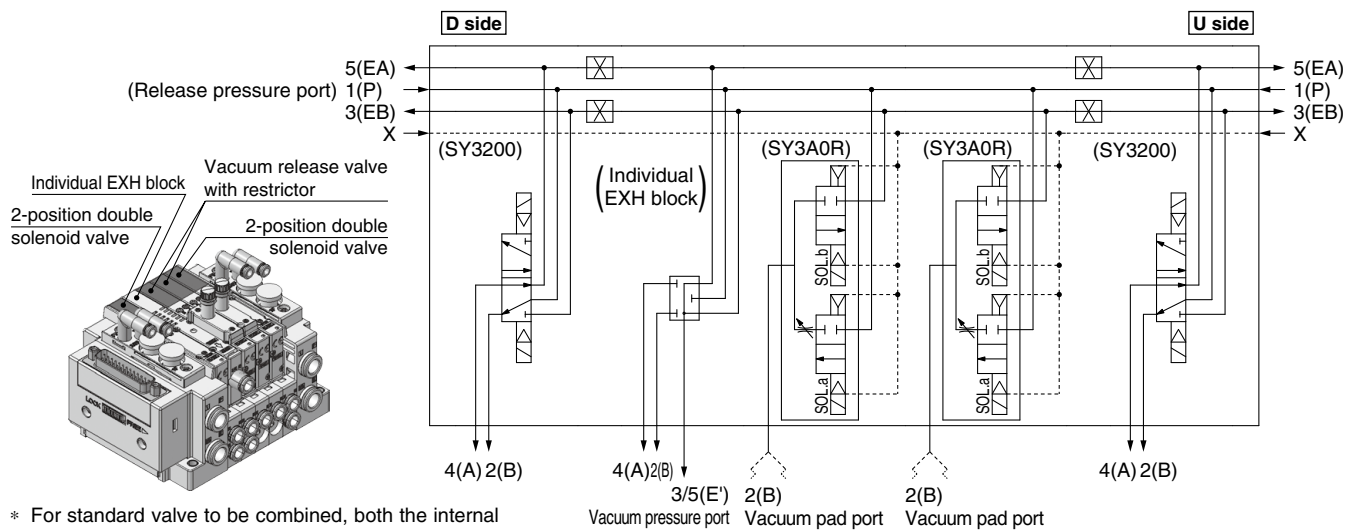
SY3000/5000 Series

Circuit Example

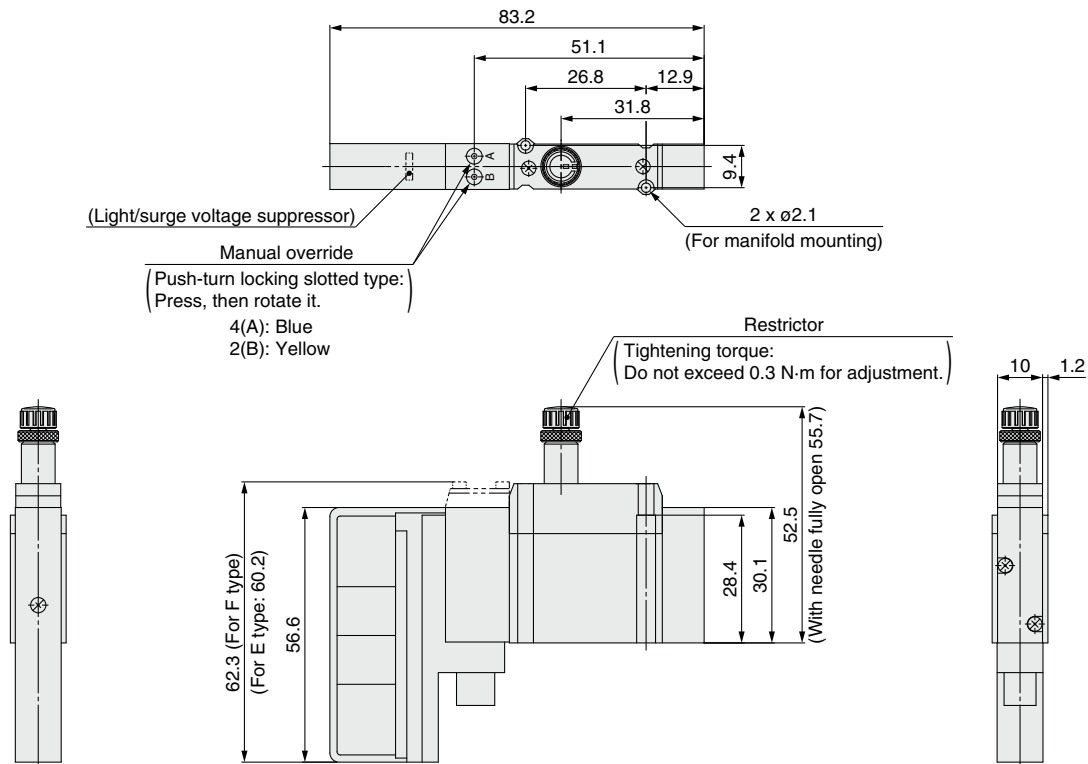
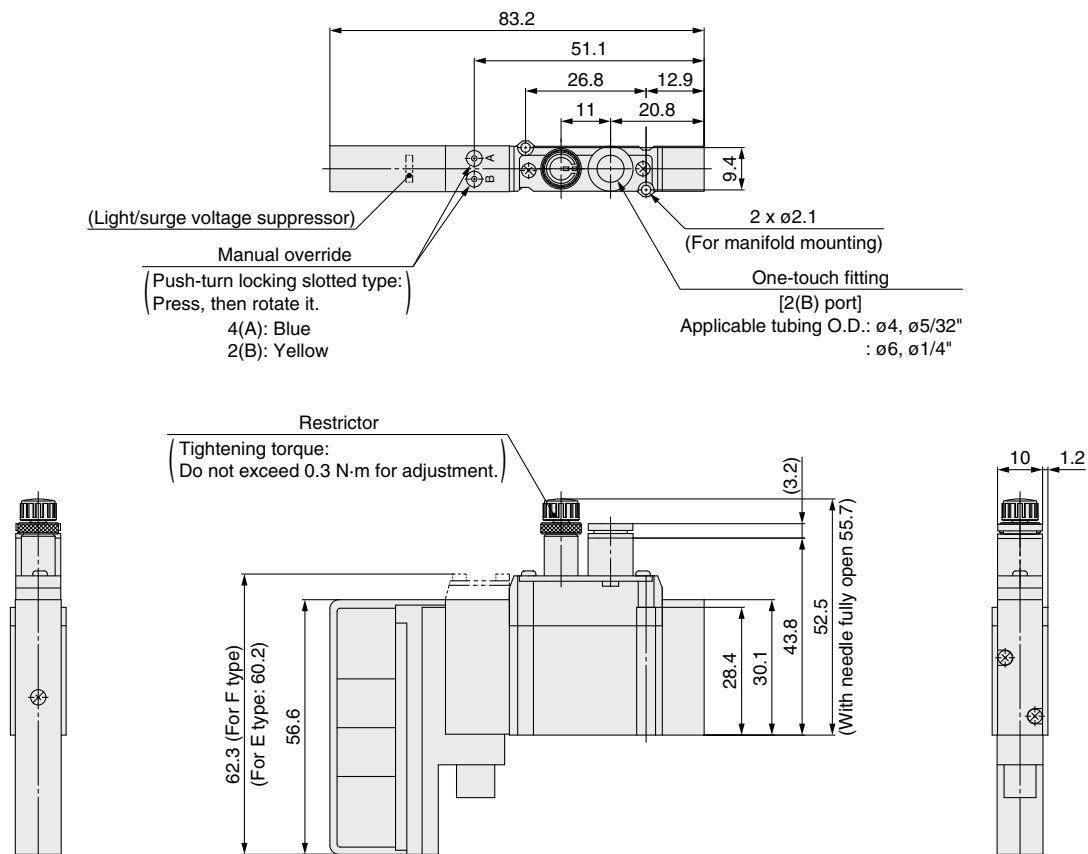
<Example 1: When the 2-position double solenoid valve is combined with the individual EXH spacer>



<Example 2: When the 2-position double solenoid valve is combined with the individual EXH block and blocking disk>



* For standard valve to be combined, both the internal pilot and external pilot can be selected. If the pressure drop may occur when the 1(P) port releases the vacuum, use the external pilot type.

Dimensions: SY3000**Side ported SY3A0R****Top ported SY3A3R**

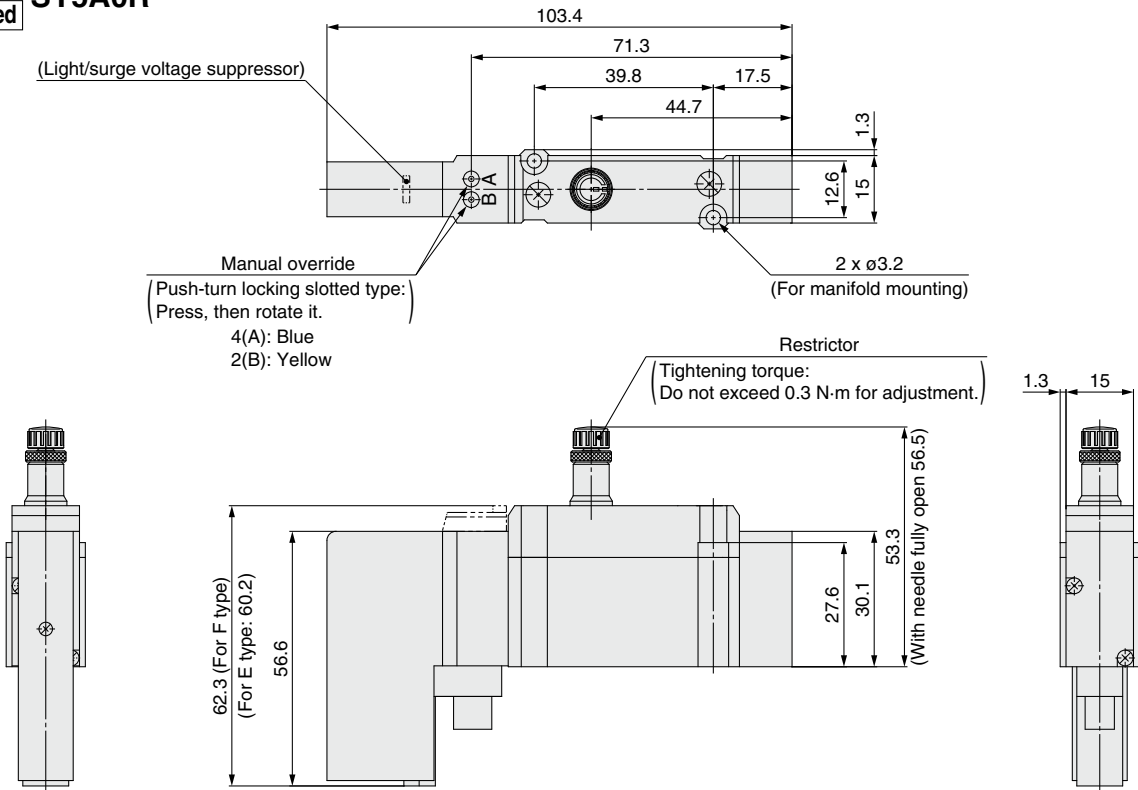
SY3000/5000 Series

Dimensions: SY5000

Side ported

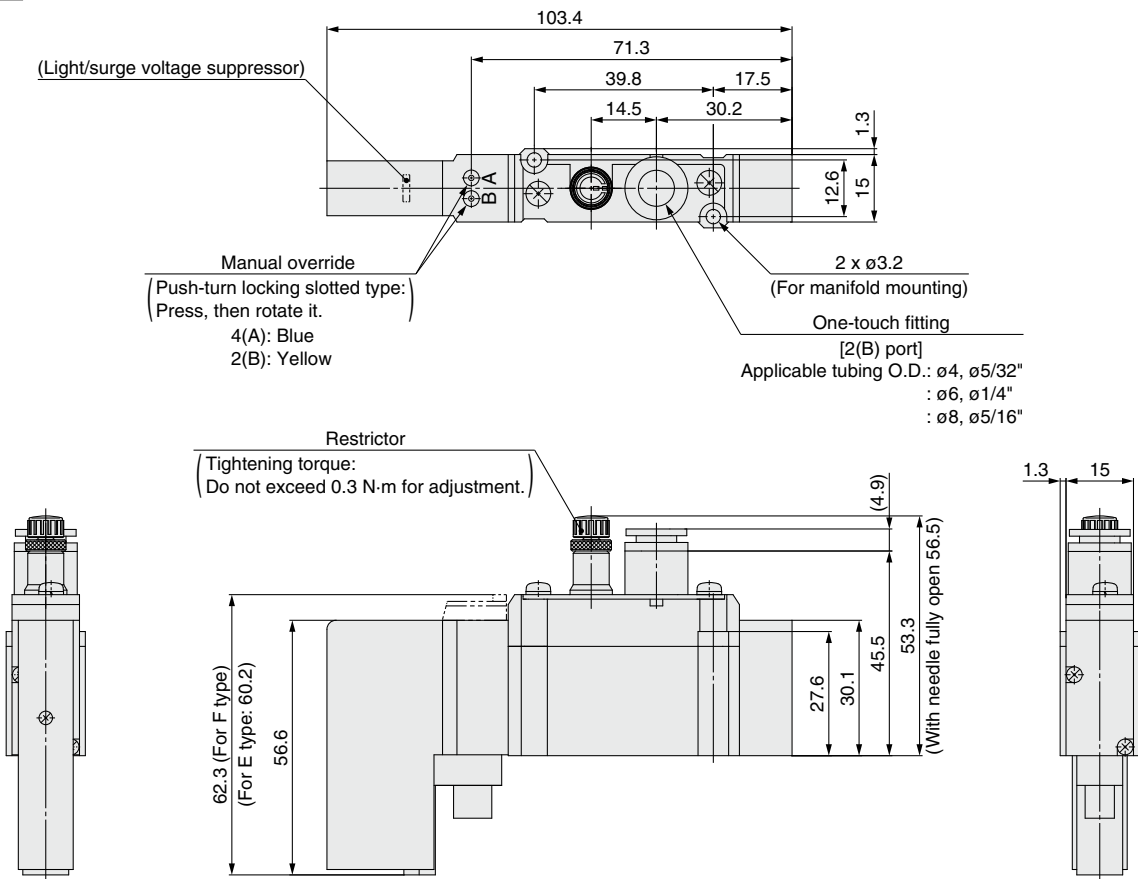
Bottom ported

SY5A0R

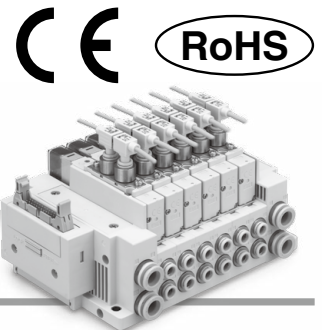


Top ported

SY5A3R

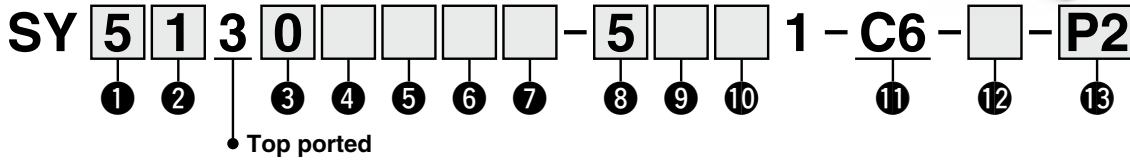


SY5000/7000 Series Valve with Pressure Sensor



Mountable manifold
Metal base: SS5Y5/7-50/51 type manifold
Connector connecting base: SS5Y5/7-10/11 type manifold

How to Order Valves (With mounting screw)



① Series

| | |
|---|--------|
| 5 | SY5000 |
| 7 | SY7000 |

② Type of actuation

| | | |
|-----|------------------------|-----------------|
| 1 | 2-position | Single |
| 2 | | Double |
| 3 | 3-position | Closed center |
| 4 | | Exhaust center |
| 5 | | Pressure center |
| A*1 | 4-position dual 3-port | N.C./N.C. |
| B*1 | | N.O./N.O. |
| C*1 | | N.C./N.O. |

*1 Only the 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 the rubber seal type is available. A manifold installed type is available if a back pressure check valve with a metal seal is required. Refer to page 212 for ordering examples. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

* The built-in valve type back pressure check valve is not available for the 3-position type or the SY7000.

⑥ Pilot valve option

| | |
|-----|-------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K*1 | High pressure type (1.0 MPa) |

*1 Only the 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 if the valve is to be continuously energized for long periods of time.

* Be careful of the energizing time when the power saving circuit is selected. Refer to page 292 for details.

⑧ Rated voltage

| | |
|---|--------|
| 5 | 24 VDC |
| 6 | 12 VDC |

* The applicable rated voltage varies depending on the manifold wiring type.

⑨ Light/surge voltage suppressor and common specification

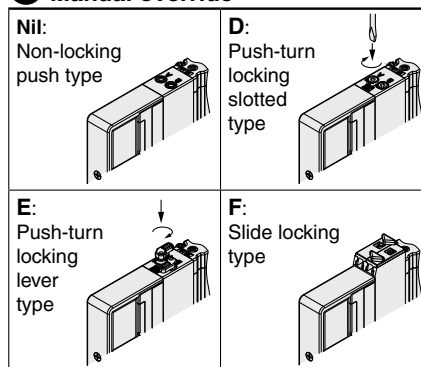
| Symbol | With light | Surge voltage suppressor | Common specification |
|--------|------------|--------------------------|----------------------|
| Nil | — | — | Non-polar |
| R | — | — | |
| U | ● | — | |
| S | — | ● | Positive common |
| Z | ● | — | Negative common |
| NS | — | — | Negative common |
| NZ | ● | — | |

* For the non-polar type, be careful of surge voltage intrusion. Refer to page 293 for details.

* Only "Z" and "NZ" are available with a power saving circuit.

* Select "R," "U," "S," or "Z" for the valve when the SI unit output polarity is positive common. Select "R," "U," "NS," or "NZ" for the valve when the SI unit output polarity is negative common.

⑩ Manual override



⑪ A, B port size

One-touch fitting (Metric)

| Symbol | A, B port | SY5000 | SY7000 |
|--------|-----------|--------|--------|
| C6 | ø6 | ● | ● |

⑫ Type of mounting screw

| | |
|-----|--|
| Nil | Round head combination screw |
| B | Hexagon socket head cap screw |
| K | Round head combination screw (Drop prevention type) |
| H | Hexagon socket head cap screw (Drop 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. Refer to page 198 for base gasket and mounting screw part numbers

* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly or interface regulator.

⑬ Pressure sensor

| Symbol | Included quantity |
|--------|-------------------|
| P1 | 1 pc. |
| P2 | 2 pcs. |

* The top-ported type valve and the C6 (ø6) One-touch fitting are used.

* The PSE540-R06 pressure sensor is included in the product package.

* When "P1" is selected, one plug (KQ2P-06) is included in the product package.

How to Order Manifold Assembly

Example (SS5Y5-10F1-□)

SS5Y5-10F1-05D-C8

...1 set (Type 10 5-station manifold base part no.)

* SY5130-5U1-C6-P1

...2 sets (2-position single part no.)

* SY5130-5U1-C6-P2

...1 set (2-position double part no.)

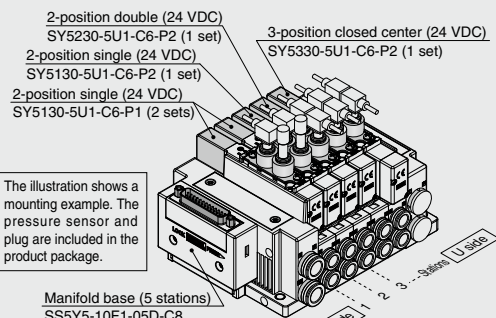
* SY5230-5U1-C6-P2

...1 set (2-position double part no.)

* SY5330-5U1-C6-P2

...1 set (3-position closed center part no.)

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



• For the valve arrangement, the valve closest to the D side is considered the 1st station.

• Under the manifold part number, state the valves to be mounted in order starting with the 1st station as shown in the figure above. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.

SY5000/7000 Series

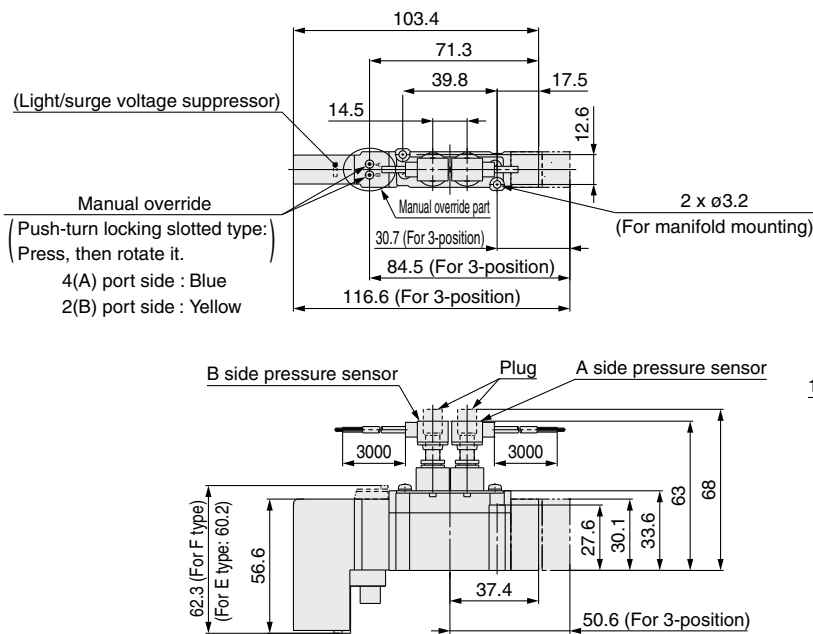
Pressure Sensor Specifications

| Model | | PSE540 |
|-----------------------------|-------------|---|
| Rated pressure range | | 0 to 1 MPa*1 |
| Power supply voltage | | 12 to 24 VDC ±10%, Ripple (p-p) 10% or less (with reverse connection protection) |
| Current consumption | | 15 mA or less |
| Output specifications | | Analog output 1 to 5 V (within rated pressure range), 0.6 to 1 V (within extension analog output range), Output impedance: Approx. 1 kΩ |
| Linearity | | ±0.7% F.S. or less |
| Environment | Enclosure*2 | IP40 |
| Temperature characteristics | | ±2% F.S. (25°C reference) |
| Sensor cable | | Oilproof heavy-duty vinyl cable (ellipse), 3 cores, 2.7 x 3.2, 3 m, Conductor area: 0.15 mm², Insulator O.D.: 0.9 mm |

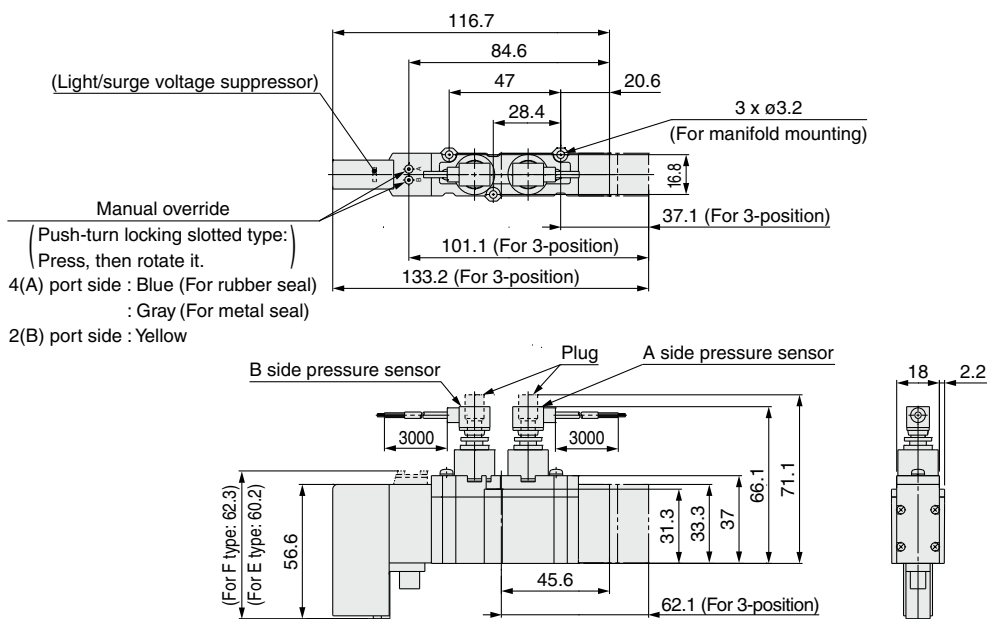
*1 Set the pressure within the operating pressure range of the valve.
 *2 Please note that even if the manifold is IP67, the product will remain IP40.

Dimensions

SY5000-P2



SY7000-P2



Please contact SMC for detailed dimensions, specifications, and lead times.



Chart

Valve Specifications

Valve Construction

Replacement Parts

**Pressure
Release Valve**

Release Valve with Restriction

Pressure Sensor

Made to Order

Connector Connecting Base

Metal Base

Sub-plate

Product Precautions

1 Main Valve Fluororubber Specification

Symbol

-X90

Fluororubber is used for rubber parts of the main valve to allow use in applications such as the following.

- When using a lubricant other than the recommended turbine oil, and there is a possibility of malfunction due to swelling of the spool valve seals.

Applicable valves series SY3□₃0, SY5□₃0, SY7□₃0 (Only rubber seal type)

SY ³₅ ⁰₃ 0 - 1 - - - X90

- **Entry is the same as standard products.**
Specifications and performance are the same as standard products.

2 With Safety Slide Locking Manual Override

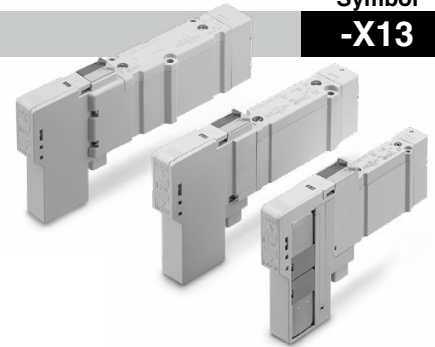
Symbol

-X13

**A safety lock is added to the slide locking manual override.
(Refer to page 4.)**

SY³₅₇ 00 - G1 - - X13

- **Entry is the same as standard products.**
Specifications and performance are the same as standard products.



3 2-Position Single Solenoid Valve with Built-in Return Spring (Only rubber seal type)

Symbol

-X350

A 2-position single solenoid valve with a spring built into the main valve

The main valve returns to origin (the OFF position) via the spring when it is not pressurized.

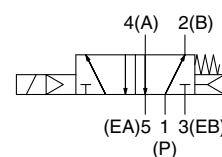
$$\text{SY} \begin{smallmatrix} 3 \\ 5 \\ 7 \end{smallmatrix} 1 \begin{smallmatrix} 0 \\ 3 \end{smallmatrix} 0 \boxed{} \boxed{} \boxed{} \boxed{} - \boxed{} \boxed{} 1 - \boxed{} \boxed{} - \boxed{} - \text{X350}$$

- | | |
|------------------|---|
| Rubber seal type | Entry is the same as standard products. Specifications and performance are the same as standard products. |
|------------------|---|

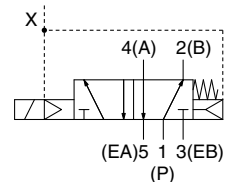
* For the external pilot type, exhaust the external pilot (X) port and the main pressure simultaneously.
If the main pressure cannot be exhausted due to the system specifications, please contact SMC separately.

* The manual option is only applicable to the non-locking push type.

Internal pilot type



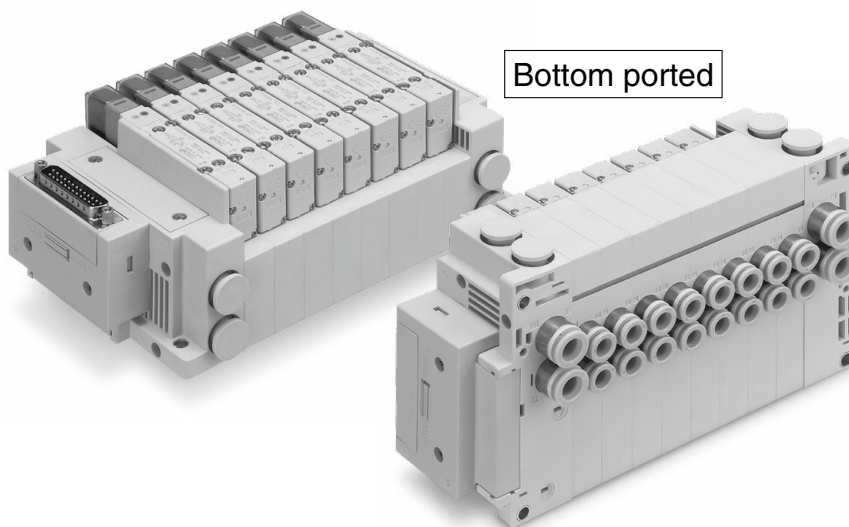
External pilot type



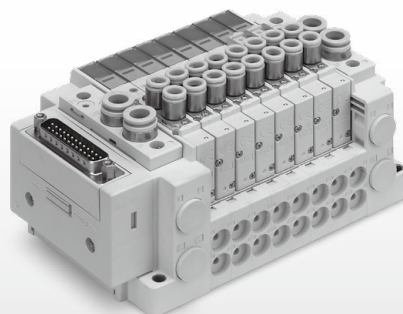
Plug-in Connector Connecting Base



Side ported



Bottom ported



Top ported

Chart

Valve
Specifications

Valve
Construction

Valve
Replacement
Parts

With Residual
Pressure
Release Valve

Vacuum
Release Valve
with Restrictor

With
Pressure
Sensor

Made to
Order

Connector
Connecting Base

Metal Base

Sub-plate

Specific
Product
Precautions

Plug-in Connector Connecting Base



Manifold Specifications

| Model | | | D-sub connector | | Flat ribbon cable | | | Terminal block box (Spring type) | Terminal block box | Lead wire | Circular connector | Serial wiring | | | | | |
|-------------------------------|-------------------|--------|--|--|--|-----------------------------|-----------------|----------------------------------|--------------------|------------------|------------------------------------|------------------|---|--|--|--------------------------------------|--|
| | | | F type | FW type | P type | PG type | PH type | TC type | T type | L type | M type | S6□ type (EX600) | SA□ type (EX245) | SA2 type (EX500) S4□ type (EX126) | SA3 type (EX500) S□ type (EX250) (EX260) | S3□ type (EX120) S8□ type (EX180) | |
| Manifold type | | | Plug-in connector connecting base | | | | | | | | | | | | | | |
| SUP/EXH port type | | | Common SUP/EXH (Common for 3/5 port) | | | | | | | | | | | | | | |
| Valve stations | | | 2 to 24 stations | | | 2 to 18 stations | 2 to 8 stations | 2 to 24 stations | 2 to 20 stations | 2 to 24 stations | | | 2 to 16 stations | 2 to 24 stations | 2 to 16 stations (EX120) 2 to 24 stations (EX180) | | |
| Applicable connector | | | D-sub connector Conforming to MIL-C-24308 JIS-X-5101 (Refer to page 55.) | Dedicated connector (Refer to page 55.) | Flat ribbon cable connector with strain relief Conforming to MIL-C-83503 (Refer to page 57.) | | | — | | | | | | | | | |
| | | | Socket: 26 pins MIL type | | Socket: 20 pins MIL type | Socket: 10 pins MIL type | | | | | | | | | | | |
| Internal wiring | | | Positive common, Negative common | | | | | | | | | | Negative common | Positive common, Negative common | | | |
| Port size | 1(P), 3/5(E) port | SY3000 | ø8 One-touch fitting ø5/16" One-touch fitting | | | | | | | | | | | | | | |
| | | SY5000 | ø10 One-touch fitting ø3/8" One-touch fitting | | | | | | | | | | | | | | |
| | | SY7000 | ø12 One-touch fitting ø1/2" One-touch fitting | | | | | | | | | | | | | | |
| | 4(A), 2(B) port | SY3000 | ø2 One-touch fitting, ø3.2 One-touch fitting, ø4 One-touch fitting, ø6 One-touch fitting ø1/8" One-touch fitting, ø5/32" One-touch fitting, ø1/4" One-touch fitting | | | | | | | | | | | | | | |
| | | SY5000 | ø4 One-touch fitting, ø6 One-touch fitting, ø8 One-touch fitting ø5/32" One-touch fitting, ø1/4" One-touch fitting, ø5/16" One-touch fitting | | | | | | | | | | | | | | |
| | | SY7000 | ø6 One-touch fitting, ø8 One-touch fitting, ø10 One-touch fitting, ø12 One-touch fitting ø1/4" One-touch fitting, ø5/16" One-touch fitting, ø3/8" One-touch fitting | | | | | | | | | | | | | | |
| Enclosure (Based on IEC60529) | | | IP40 | IP67*1 | IP40 | | | IP67*1 | | | IP67*1 I/O Unit: partially IP40 | IP65 | IP67*1 EX500 GW Unit, Input Unit: IP65 | IP67*1 EX260 D-sub communication connector: IP40 EX500 GW Unit: IP65 | IP20 | | |

*1 In the case of a metal seal, there are restrictions in the operating environment. Refer to the "Specific Product Precautions" on page 290.

Manifold Flow Rate Characteristics^{*1} /Manifold Weight

Valve Seal Type: Rubber Seal
Side Ported (Type 10)

| Manifold model | Valve model | Port size | | Flow rate characteristics | | | | Weight: W [g]*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 | C [dm³/(s·bar)] | b | |
| SS5Y3 | SY3100 SY3200 | C8 | C6 | 1.4 | 0.30 | 1.6 | 0.19 | 28.9 n + 293 |
| | SY3300 | | | 1.3 | 0.28 | 1.2 | 0.40 | |
| | SY3400 | | | 1.2 | 0.27 | 1.6 | 0.29 | |
| | SY3500 | | | 1.4 | 0.31 | 1.1 | 0.36 | |
| | SY3A00 | | | 1.3 | 0.26 | 1.5 | 0.27 | |
| | SY3B00 | | | 1.3 | 0.26 | 1.5 | 0.27 | |
| | SY3C00 | | | 1.3 | 0.26 | 1.5 | 0.27 | |
| SS5Y5 | SY5100 SY5200 | C10 | C8 | 3.3 | 0.30 | 3.6 | 0.17 | 74.7 n + 398 |
| | SY5300 | | | 3.1 | 0.32 | 2.9 | 0.31 | |
| | SY5400 | | | 3.1 | 0.32 | 3.7 | 0.23 | |
| | SY5500 | | | 3.4 | 0.32 | 2.9 | 0.31 | |
| | SY5A00 | | | 2.9 | 0.32 | 3.2 | 0.25 | |
| | SY5B00 | | | 2.8 | 0.31 | 2.9 | 0.26 | |
| | SY5C00 | | | 2.9 | 0.32 | 3.1 | 0.25 | |
| SS5Y7 | SY7100 SY7200 | C12 | C12 | 6.2 | 0.23 | 5.9 | 0.20 | 106.6 n + 496 |
| | SY7300 | | | 4.8 | 0.25 | 4.4 | 0.36 | |
| | SY7400 | | | 4.8 | 0.25 | 6.6 | 0.27 | |
| | SY7500 | | | 7.1 | 0.25 | 4.4 | 0.36 | |
| | SY7A00 | | | 5.4 | 0.25 | 5.1 | 0.29 | |
| | SY7B00 | | | 5.4 | 0.24 | 5.1 | 0.31 | |
| | SY7C00 | | | 5.4 | 0.25 | 5.1 | 0.29 | |

Valve Seal Type: Rubber Seal
Bottom Ported (Type 11)

| Manifold model | Valve model | Port size | | Flow rate characteristics | | | | Weight: W[g]*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 | C [dm³/(s·bar)] | b | |
| SS5Y5 | SY5100 SY5200 | C10 | C8 | 3.3 | 0.29 | 4.2 | 0.26 | 76.8 n + 445 |
| SS5Y7 | SY7100 SY7200 | C12 | C12 | 6.2 | 0.25 | 6.6 | 0.21 | 117.9 n + 532 |

Valve Seal Type: Rubber Seal
Top Ported (Type 12)

| Manifold model | Valve model | Port size | | Flow rate characteristics | | | | Weight: W [g]*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 | C [dm³/(s·bar)] | b | |
| SS5Y3 | SY3130 SY3230 | C8 | C6 | 1.2 | 0.29 | 1.3 | 0.19 | 25.1 n + 314 |
| SS5Y5 | SY5130 SY5230 | C10 | C8 | 2.8 | 0.27 | 3.8 | 0.23 | 66.3 n + 417 |
| SS5Y7 | SY7130 SY7230 | C12 | C12 | 5.6 | 0.31 | 5.7 | 0.24 | 84.1 n + 519 |

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

*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 17 for the appropriate number of stations.

* Calculation of effective area S and sonic conductance C: $S = 5.0 \times C$



SY3000/5000/7000 Series

Manifold Flow Rate Characteristics^{*1}/Manifold Weight

Valve Seal Type: Metal Seal Side Ported (Type 10)

| Manifold model | Valve model | Port size | | Flow rate characteristics | | | | Weight: W [g] ^{*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 | C [dm³/(s·bar)] | b | |
| SS5Y3 | SY3101 SY3201 | C8 | C6 | 1.2 | 0.19 | 1.3 | 0.18 | 28.9 n + 293 |
| | SY3301 | | | 0.8 | 0.19 | 0.8 | 0.35 | |
| | SY3401 | | | 0.8 | 0.19 | 1.1 | 0.26 | |
| | SY3501 | | | 0.9 | 0.21 | 0.7 | 0.32 | |
| SS5Y5 | SY5101 SY5201 | C10 | C8 | 2.7 | 0.24 | 3.1 | 0.17 | 74.7 n + 398 |
| | SY5301 | | | 2.3 | 0.21 | 2.0 | 0.24 | |
| | SY5401 | | | 2.3 | 0.21 | 2.7 | 0.18 | |
| | SY5501 | | | 2.5 | 0.21 | 2.0 | 0.24 | |
| SS5Y7 | SY7101 SY7201 | C12 | C12 | 4.4 | 0.14 | 4.4 | 0.17 | 106.6 n + 496 |
| | SY7301 | | | 3.4 | 0.12 | 3.3 | 0.24 | |
| | SY7401 | | | 3.4 | 0.12 | 4.9 | 0.18 | |
| | SY7501 | | | 5.0 | 0.12 | 3.3 | 0.24 | |

Valve Seal Type: Metal Seal Bottom Ported (Type 11)

| Manifold model | Valve model | Port size | | Flow rate characteristics | | | | Weight: W [g]*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 | C [dm³/(s·bar)] | b | |
| SS5Y5 | SY5101 SY5201 | C10 | C8 | 2.8 | 0.25 | 3.5 | 0.15 | 76.8 n + 445 |
| SS5Y7 | SY7101 SY7201 | C12 | C12 | 4.6 | 0.16 | 4.7 | 0.18 | 117.9 n + 532 |

Valve Seal Type: Metal Seal Top Ported (Type 12)

| Manifold model | Valve model | Port size | | Flow rate characteristics | | | | Weight: W [g]*2 (n: stations) |
|----------------|------------------|------------------|----------------|---------------------------|------|-----------------------|------|----------------------------------|
| | | 1, 3/5 (P, E) | 4, 2 (A, B) | 1 → 4/2 (P1 → A/B) | | 4/21 → 3/5 (A/B1 → E) | | |
| | | | | C [dm³/(s·bar)] | b | C [dm³/(s·bar)] | b | |
| SS5Y3 | SY3131 SY3231 | C8 | C6 | 1.2 | 0.16 | 1.3 | 0.18 | 25.1 n + 314 |
| SS5Y5 | SY5131 SY5231 | C10 | C8 | 2.6 | 0.18 | 3.0 | 0.16 | 66.3 n + 417 |
| SS5Y7 | SY7131 SY7231 | C12 | C12 | 3.9 | 0.21 | 4.1 | 0.14 | 84.1 n + 519 |

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

*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 17 for the appropriate number of stations.

* Calculation of effective area S and sonic conductance C: $S = 5.0 \times C$

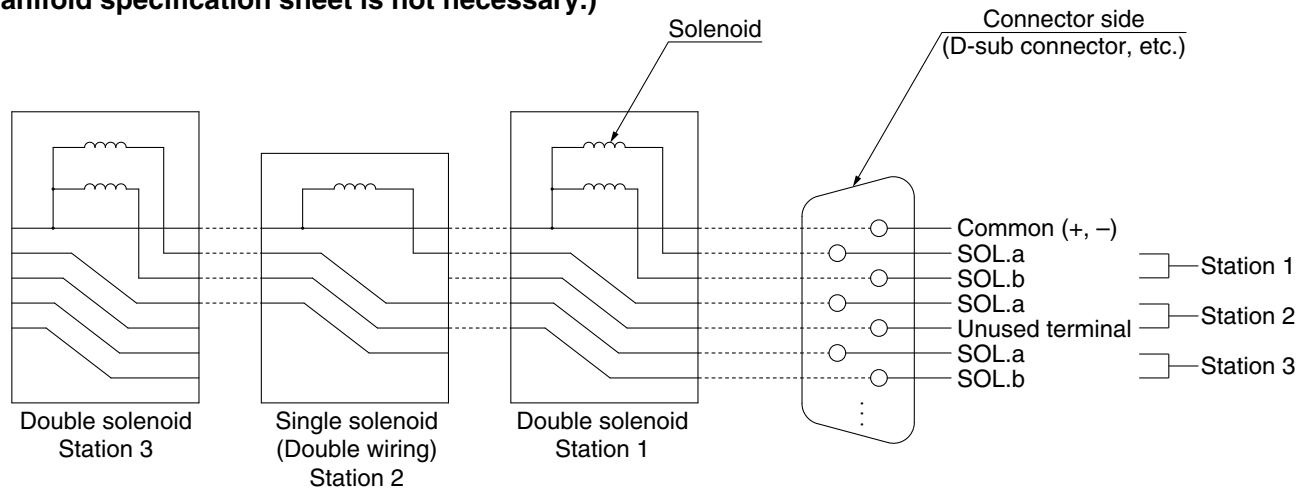


SY3000/5000/7000 Series

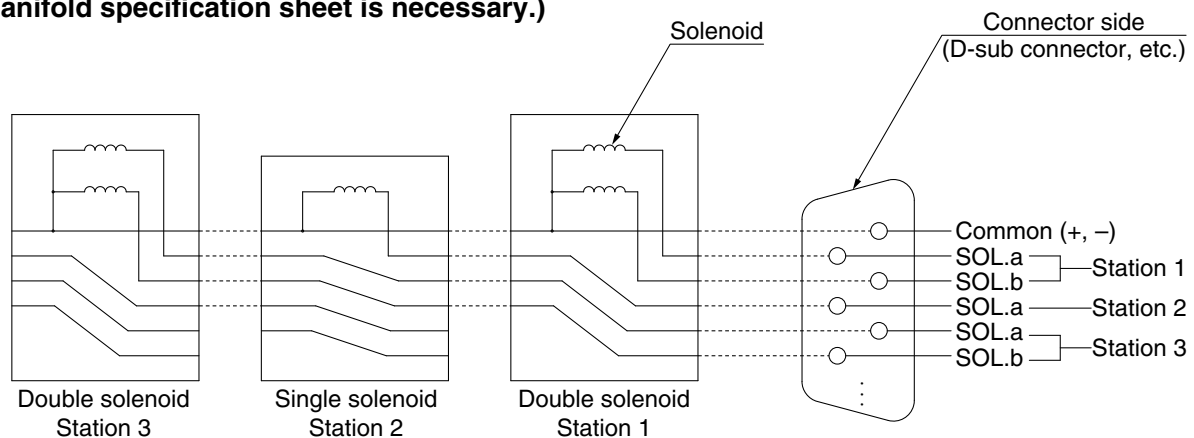
Connector Wiring Layout

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

■ Single solenoid valve is installed to all double wiring. (in the case of all double wiring) (Manifold specification sheet is not necessary.)



■ Single/double wiring are mixed. (Manifold specification sheet is necessary.)



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

Type 10
Side Ported

Type 11
Bottom Ported

Plug-in Connector Connecting Base

D-sub Connector Flat Ribbon Cable

SY3000/5000/7000 Series



How to Order Manifolds

Refer to pages 160 (SY5000) and 161 (SY7000) for the dimensions of Type 11/Bottom-ported type.

SS5Y **3** - **10** **F** **1** - **05** **U** - **C6**

1 2 3 4 5 6 7 8 9

1 Series

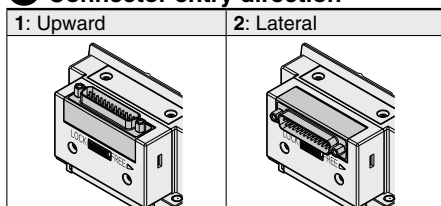
| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type

| | |
|----|-----------------|
| 10 | Side ported |
| 11 | Bottom ported*1 |

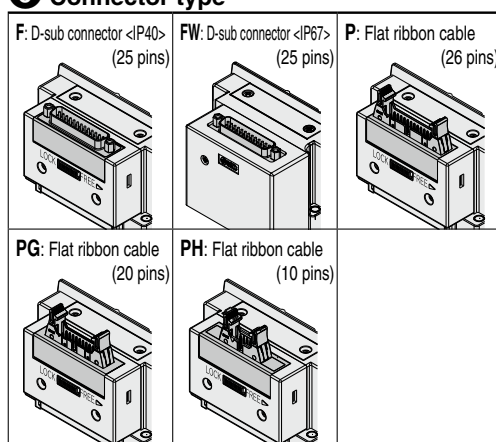
*1 The SY5000 manifold base is used for the bottom-ported SY3000. When ordering, refer to the "Plug-in Mixed Mounting Type Manifold" (from page 165).

4 Connector entry direction



* The connector entry direction for connector type "FW" D-sub connector <IP67> cannot be rotated. If it is necessary to change, order the connector block assembly (page 183) separately.

3 Connector type



5 Valve stations

F/FW: D-sub connector (25 pins)

| Symbol | Stations | Note |
|--------|-------------|--|
| 02 | 2 stations | Double wiring*1 |
| ⋮ | ⋮ | |
| 12 | 12 stations | |
| 02 | 2 stations | Specified layout*2 (Up to 24 solenoids available) |
| ⋮ | ⋮ | |
| 24 | 24 stations | |

PG: Flat ribbon cable (20 pins)

| Symbol | Stations | Note |
|--------|-------------|--|
| 02 | 2 stations | Double wiring*1 |
| ⋮ | ⋮ | |
| 09 | 9 stations | |
| 02 | 2 stations | Specified layout*2 (Up to 18 solenoids available) |
| ⋮ | ⋮ | |
| 18 | 18 stations | |

P: Flat ribbon cable (26 pins)

| Symbol | Stations | Note |
|--------|-------------|--|
| 02 | 2 stations | Double wiring*1 |
| ⋮ | ⋮ | |
| 12 | 12 stations | |
| 02 | 2 stations | Specified layout*2 (Up to 24 solenoids available) |
| ⋮ | ⋮ | |
| 24 | 24 stations | |

PH: Flat ribbon cable (10 pins)

| Symbol | Stations | Note |
|--------|------------|---|
| 02 | 2 stations | Double wiring*1 |
| ⋮ | ⋮ | |
| 04 | 4 stations | |
| 02 | 2 stations | Specified layout*2 (Up to 8 solenoids available) |
| ⋮ | ⋮ | |
| 08 | 8 stations | |

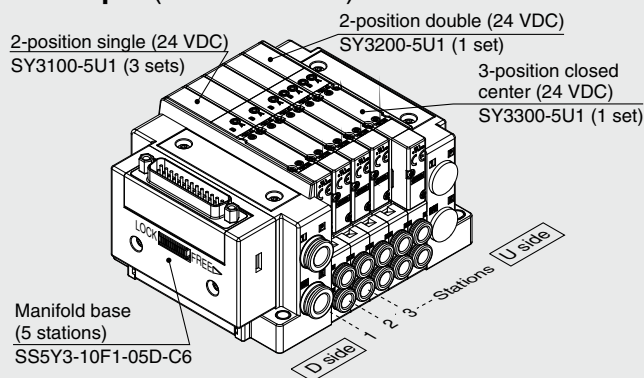
*1 Double wiring: 2-position single, double, 3-position, and 4-position valves can be used on all manifold stations. Use of a 2-position single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.

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

* This also includes the number of the blanking plate assembly.

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 asterisk denotes the symbol for the assembly. Prefix it to the part numbers of the valve, etc.

- For the valve arrangement, the valve closest to the D side is considered the 1st station.
- Under the manifold part number, state the valves to be mounted in order starting with the 1st station as shown in the figure above. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.

* When mixing top-ported configurations, select from those listed on page 54. In such cases, use caution as there is also output on the A and B ports on the base side. Specify on the manifold specification sheet if plugs are required for the A and B ports on the base side.

6 P, E port entry

| | |
|----------|-------------------------------|
| 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

| | |
|------------|--------------------------------------|
| Nil | Internal pilot |
| S | Internal pilot, Built-in silencer |
| R | External pilot |

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

9 Mounting and Option

| Symbol | Mounting | Option | |
|------------|-------------------|------------|----------------|
| | | Name plate | Station number |
| Nil | Direct mounting | — | — |
| AA | | ● | ● |
| BA | | ● | — |
| D □ | DIN rail mounting | — | — |
| A □ | | ● | ● |
| B □ | | ● | — |

DIN Rail Option

| Nil | Direct mounting | |
|------------|---------------------------------|--|
| 0 | Without DIN rail (with bracket) | |
| 3 | For 3 stations | Specify a longer rail than the total length of specified stations. |
| 24 | For 24 stations | |

* Enter the number of stations inside □ when it is larger than the number of valve stations. (Refer to "DIN Rail Option" above.)

* Only direct mounting is available for the type 11 bottom-ported type.

* Refer to page 295 for the fixation of DIN rail mounting type manifold.

8 A, B port size (Metric/One-touch fitting)

| Symbol | A, B port | Type 10/Side ported | | | Type 11/Bottom ported | |
|-------------------------------------|--|---------------------|--------|--------|-----------------------|--------|
| | | SY3000 | SY5000 | SY7000 | SY5000 | SY7000 |
| C2 | ø2 | ● | — | — | — | — |
| C3 | ø3.2 | ● | — | — | — | — |
| C4 | ø4 | ● | ● | — | ● | — |
| C6 | ø6 | ● | ● | ● | ● | ● |
| C8 | ø8 | — | ● | ● | ● | ● |
| C10 | ø10 | — | — | ● | — | ● |
| C12 | ø12 | — | — | ● | — | ● |
| CM*1 | Straight port, mixed sizes | ● | ● | ● | ● | ● |
| L4 | ø4 | ● | ● | — | — | — |
| L6 | ø6 | ● | ● | ● | — | — |
| L8 | ø8 | — | ● | ● | — | — |
| L10 | ø10 | — | — | ● | — | — |
| L12 | ø12 | — | — | ● | — | — |
| B4 | ø4 | ● | ● | — | — | — |
| B6 | ø6 | ● | ● | ● | — | — |
| B8 | ø8 | — | ● | ● | — | — |
| B10 | ø10 | — | — | ● | — | — |
| B12 | ø12 | — | — | ● | — | — |
| LM*1 | Elbow port, mixed sizes (Including upward and downward piping) | ● | ● | ● | — | — |
| P, E port size (One-touch fittings) | | ø8 | ø10 | ø12 | ø10 | ø12 |

A, B port size (Inch/One-touch fitting)

| Symbol | A, B port | Type 10/Side ported | | | Type 11/Bottom ported | |
|-------------------------------------|--|---------------------|--------|--------|-----------------------|--------|
| | | SY3000 | SY5000 | SY7000 | SY5000 | SY7000 |
| N1 | ø1/8" | ● | — | — | — | — |
| N3 | ø5/32" | ● | ● | — | ● | — |
| N7 | ø1/4" | ● | ● | ● | ● | ● |
| N9 | ø5/16" | — | ● | ● | ● | ● |
| N11 | ø3/8" | — | — | ● | — | ● |
| CM*1 | Straight port, mixed sizes | ● | ● | ● | ● | ● |
| LN3 | ø5/32" | ● | — | — | — | — |
| LN7 | ø1/4" | ● | ● | — | — | — |
| LN9 | ø5/16" | — | ● | — | — | — |
| LN11 | ø3/8" | — | — | ● | — | — |
| BN3 | ø5/32" | ● | — | — | — | — |
| BN7 | ø1/4" | ● | ● | — | — | — |
| BN9 | ø5/16" | — | ● | — | — | — |
| BN11 | ø3/8" | — | — | ● | — | — |
| LM*1 | Elbow port, mixed sizes (Including upward and downward piping) | ● | ● | ● | — | — |
| P, E port size (One-touch fittings) | | ø5/16" | ø3/8" | ø1/2" | ø3/8" | ø1/2" |

*1 Indicate the sizes on the manifold specification sheet in the case of "CM" or "LM."

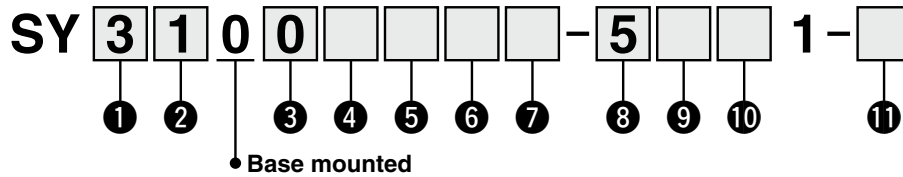
The direction of P, E port fittings is the same as for the A, B port. If selecting "LM," indicate it on the manifold specification sheet for the P, E port fitting direction.

*2 To avoid interference with the body or piping, select a downward elbow port when mounting the optional spacer assembly (pages 204 to 206).

SY3000/5000/7000 Series

How to Order Valves (With mounting screw)

Refer to page 15 for valve specifications.



1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type of actuation

| | | |
|-----|------------------------|-----------------|
| 1 | 2-position | Single |
| 2 | | Double |
| 3 | 3-position | Closed center |
| 4 | | Exhaust center |
| 5 | | Pressure center |
| A*1 | 4-position dual 3-port | N.C./N.C. |
| B*1 | | N.O./N.O. |
| C*1 | | N.C./N.O. |

*1 Only the 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 the rubber seal type is available. A manifold installed type is available if a back pressure check valve with a metal seal is required. Refer to page 212 for ordering examples. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

* The built-in valve type back pressure check valve is not available for the 3-position type or the SY7000.

6 Pilot valve option

| | |
|-----|-------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K*1 | High pressure type (1.0 MPa) |

*1 Only the 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 if the valve is to be continuously energized for long periods of time.

* Be careful of the energizing time when the power saving circuit is selected. Refer to page 292 for details.

8 Rated voltage

| | |
|---|--------|
| 5 | 24 VDC |
| 6 | 12 VDC |

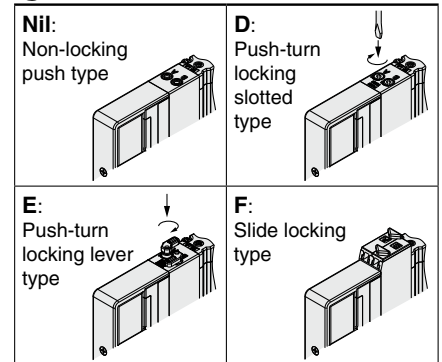
9 Light/surge voltage suppressor and common specification

| Symbol | With light | Surge voltage suppressor | Common specification |
|--------|------------|--------------------------|----------------------|
| Nil | — | — | Non-polar |
| R | — | — | |
| U | ● | — | |
| S | — | ● | Positive common |
| Z | ● | | Negative common |
| NS | — | | |
| NZ | ● | | |

* For the non-polar type, be careful of surge voltage intrusion. Refer to page 293 for details.

* Only "Z" and "NZ" types are available with a power saving circuit.

10 Manual override



* Refer to page 34 for the safety slide locking manual override.

11 Type of mounting screw

| | |
|-----|--|
| Nil | Round head combination screw |
| B | Hexagon socket head cap screw |
| K | Round head combination screw (Drop prevention type) |
| H | Hexagon socket head cap screw (Drop 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. Refer to page 198 for base gasket and mounting screw part numbers.

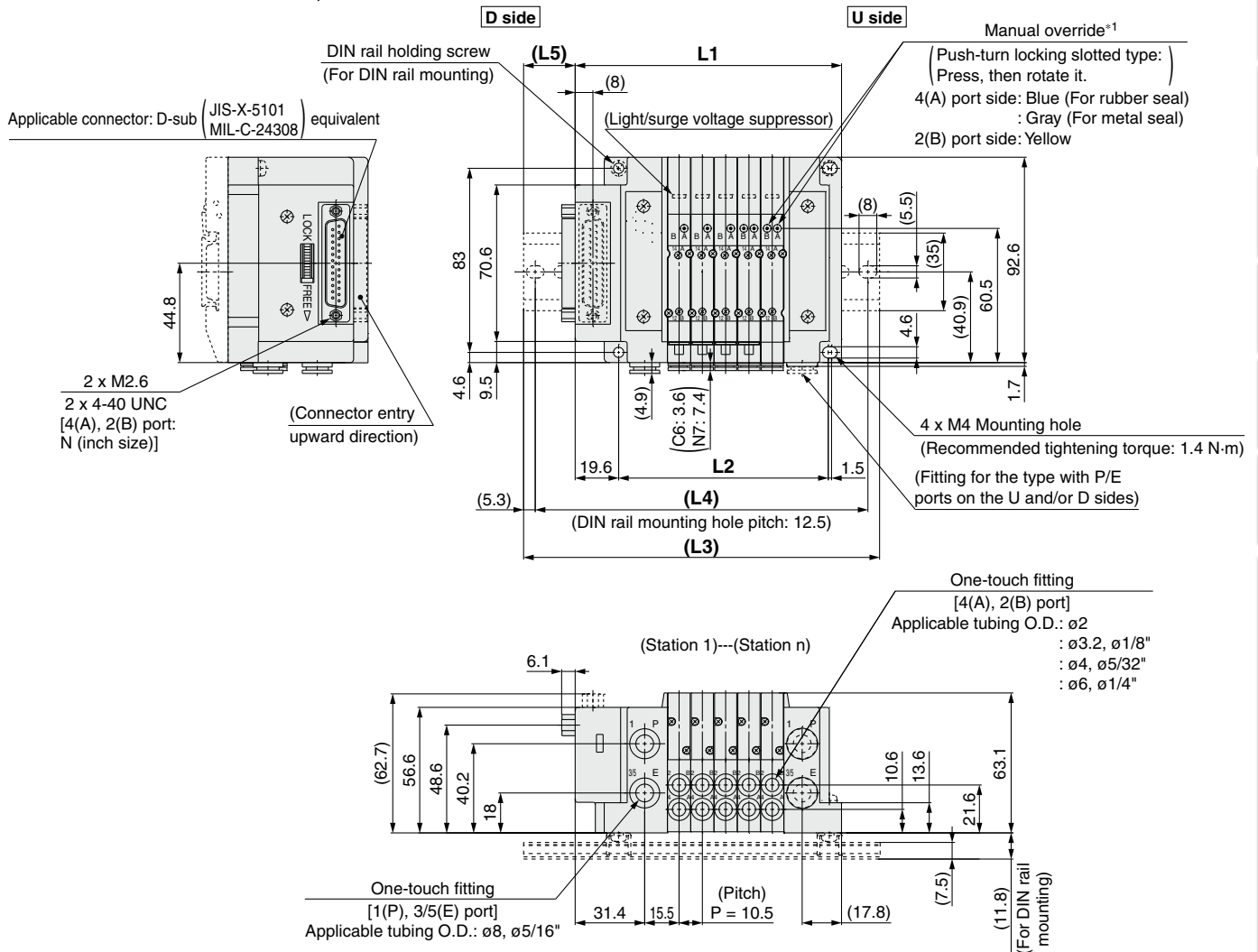
* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly, interface regulator, or double check spacer assembly with residual pressure release valve.

Dimensions: **SY3000 Series**

Plug-in
Connector Connecting Base

Type 10/Side Ported
D-sub Connector (IP40)

SS5Y3-10F₁²-Stations $\begin{matrix} \text{U} \\ \text{D} \\ \text{B} \end{matrix} \begin{matrix} \text{C2} \\ \text{C3} \\ \text{C4} \end{matrix} \begin{matrix} \text{N1} \\ \text{N3} \\ \text{C6}, \text{N7} \end{matrix} \text{(D)}$



*1 Refer to page 157 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.

* These figures show the "SS5Y3-10F2-05D-C6."

* Refer to page 162 for dimensions of A or B port top-ported type.

| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 88.6 | 99.1 | 109.6 | 120.1 | 130.6 | 141.1 | 151.6 | 162.1 | 172.6 | 183.1 | 193.6 | 204.1 | 214.6 | 225.1 | 235.6 | 246.1 | 256.6 | 267.1 | 277.6 | 288.1 | 298.6 | 309.1 | 319.6 |
| L2 | 63 | 73.5 | 84 | 94.5 | 105 | 115.5 | 126 | 136.5 | 147 | 157.5 | 168 | 178.5 | 189 | 199.5 | 210 | 220.5 | 231 | 241.5 | 252 | 262.5 | 273 | 283.5 | 294 |
| L3 | 123 | 135.5 | 148 | 160.5 | 160.5 | 173 | 185.5 | 198 | 210.5 | 223 | 223 | 235.5 | 248 | 260.5 | 273 | 285.5 | 298 | 298 | 310.5 | 323 | 335.5 | 348 | 360.5 |
| L4 | 112.5 | 125 | 137.5 | 150 | 150 | 162.5 | 175 | 187.5 | 200 | 212.5 | 212.5 | 225 | 237.5 | 250 | 262.5 | 275 | 287.5 | 287.5 | 300 | 312.5 | 325 | 337.5 | 350 |
| L5 | 20.5 | 21.5 | 22.5 | 23.5 | 18 | 19 | 20 | 21 | 22 | 23 | 18 | 19 | 20 | 21 | 22 | 23 | 23.5 | 18.5 | 19.5 | 20.5 | 21.5 | 22.5 | 23.5 |

SY3000/5000/7000 Series

Dimensions: SY5000 Series

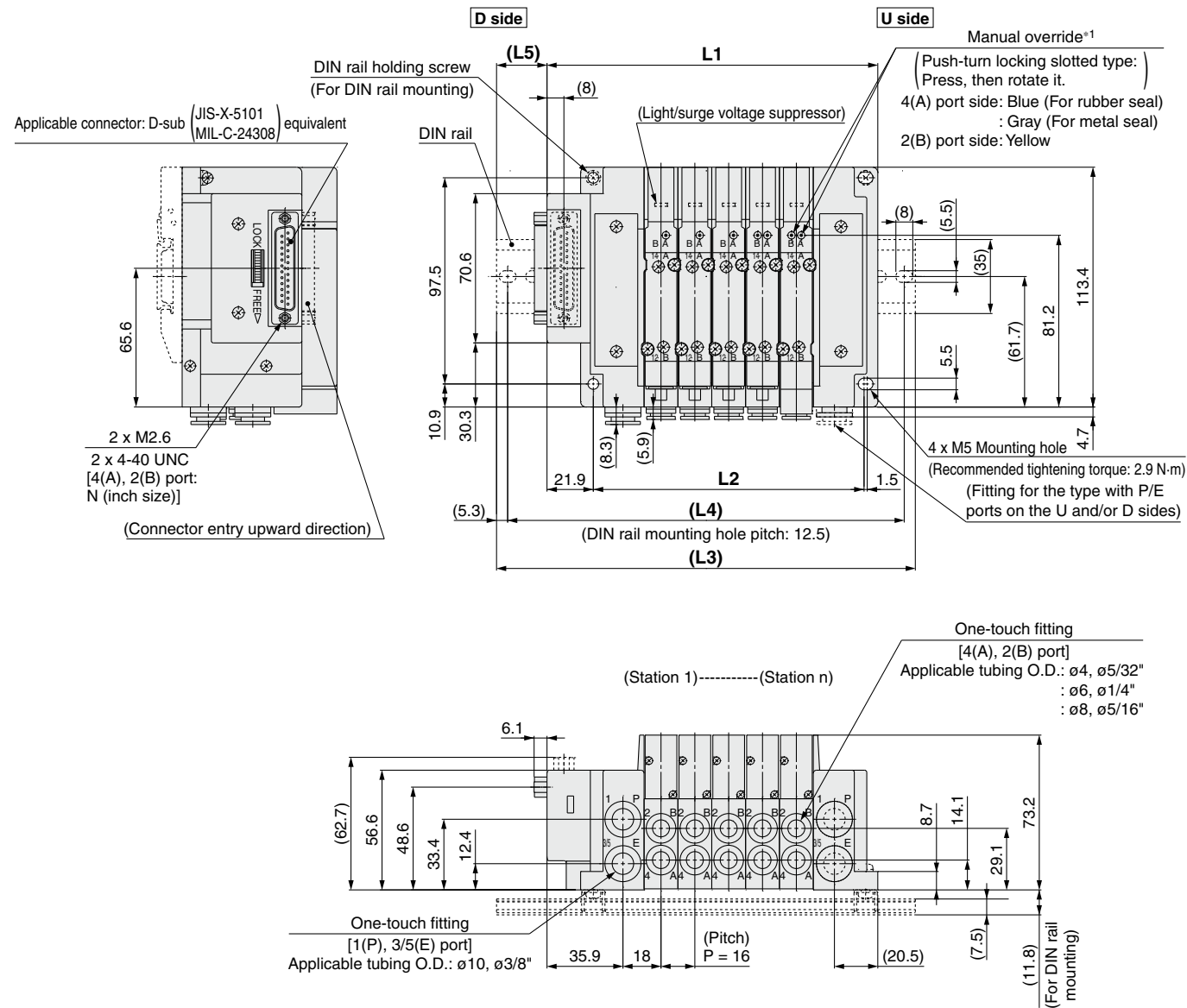
Plug-in
Connector Connecting Base

Type 10/Side Ported
D-sub Connector (IP40)

SS5Y5-10F₂¹-Stations

| | |
|---|--------|
| U | C4, N3 |
| D | C6, N7 |
| B | C8, N9 |

 (D)



*1 Refer to page 158 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.
* These figures show the "SS5Y5-10F2-05D-C8."
* Refer to page 163 for dimensions of A or B port top-ported type.

| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 108.4 | 124.4 | 140.4 | 156.4 | 172.4 | 188.4 | 204.4 | 220.4 | 236.4 | 252.4 | 268.4 | 284.4 | 300.4 | 316.4 | 332.4 | 348.4 | 364.4 | 380.4 | 396.4 | 412.4 | 428.4 | 444.4 | 460.4 |
| L2 | 80 | 96 | 112 | 128 | 144 | 160 | 176 | 192 | 208 | 224 | 240 | 256 | 272 | 288 | 304 | 320 | 336 | 352 | 368 | 384 | 400 | 416 | 432 |
| L3 | 148 | 160.5 | 173 | 198 | 210.5 | 223 | 235.5 | 260.5 | 273 | 285.5 | 298 | 323 | 335.5 | 348 | 373 | 385.5 | 398 | 410.5 | 435.5 | 448 | 460.5 | 485.5 | 498 |
| L4 | 137.5 | 150 | 162.5 | 187.5 | 200 | 212.5 | 225 | 250 | 262.5 | 275 | 287.5 | 312.5 | 325 | 337.5 | 362.5 | 375 | 387.5 | 400 | 425 | 437.5 | 450 | 475 | 487.5 |
| L5 | 23 | 21 | 19.5 | 24 | 22 | 20.5 | 18.5 | 23 | 21.5 | 19.5 | 18 | 22.5 | 20.5 | 19 | 23.5 | 21.5 | 20 | 18 | 22.5 | 21 | 19 | 23.5 | 22 |

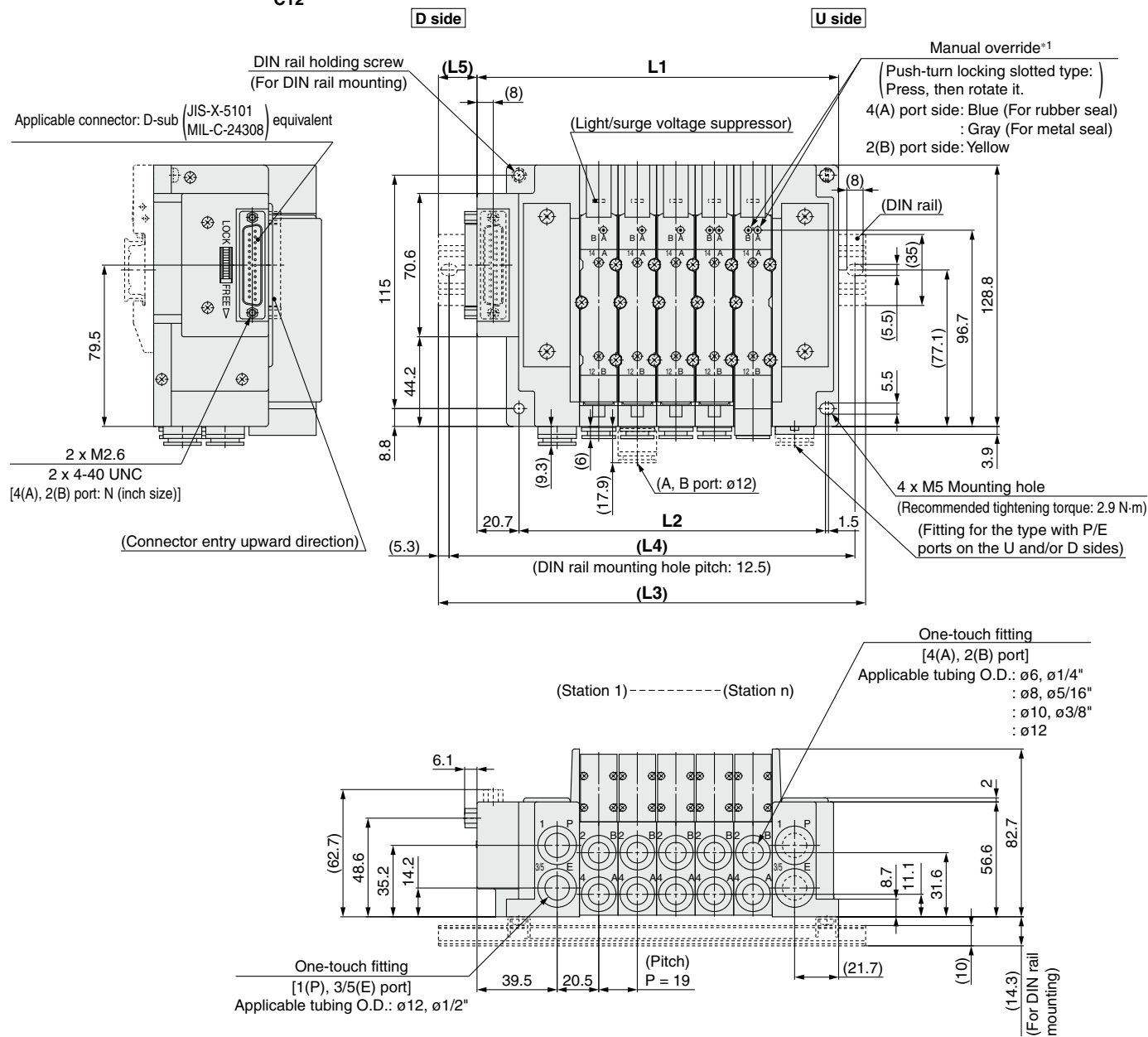
Dimensions: SY7000 Series

SS5Y7-10F₂-Stations $\begin{matrix} \text{U} \\ \text{D} \\ \text{B} \end{matrix} \begin{matrix} \text{C6, N7} \\ \text{C8, N9} \\ \text{C10, N11} \\ \text{C12} \end{matrix} \text{(D)}$

Plug-in Connector Connecting Base

Type 10/Side Ported

D-sub Connector (IP40)



- * 1 Refer to page 159 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.
* These figures show the "SS5Y7-10F2-05D-C10."
* Refer to page 164 for dimensions of A or B port top-ported type.

| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 121.2 | 140.2 | 159.2 | 178.2 | 197.2 | 216.2 | 235.2 | 254.2 | 273.2 | 292.2 | 311.2 | 330.2 | 349.2 | 368.2 | 387.2 | 406.2 | 425.2 | 444.2 | 463.2 | 482.2 | 501.2 | 520.2 | 539.2 |
| L2 | 94 | 113 | 132 | 151 | 170 | 189 | 208 | 227 | 246 | 265 | 284 | 303 | 322 | 341 | 360 | 379 | 398 | 417 | 436 | 455 | 474 | 493 | 512 |
| L3 | 160.5 | 173 | 198 | 210.5 | 235.5 | 248 | 273 | 285.5 | 310.5 | 323 | 348 | 360.5 | 385.5 | 398 | 423 | 435.5 | 460.5 | 485.5 | 498 | 523 | 535.5 | 560.5 | 573 |
| L4 | 150 | 162.5 | 187.5 | 200 | 225 | 237.5 | 262.5 | 275 | 300 | 312.5 | 337.5 | 350 | 375 | 387.5 | 412.5 | 425 | 450 | 475 | 487.5 | 512.5 | 525 | 550 | 562.5 |
| L5 | 22.5 | 19.5 | 22.5 | 19 | 22 | 19 | 22 | 18.5 | 21.5 | 18.5 | 21.5 | 18 | 21 | 18 | 21 | 17.5 | 20.5 | 23.5 | 20.5 | 23.5 | 20 | 23 | 20 |

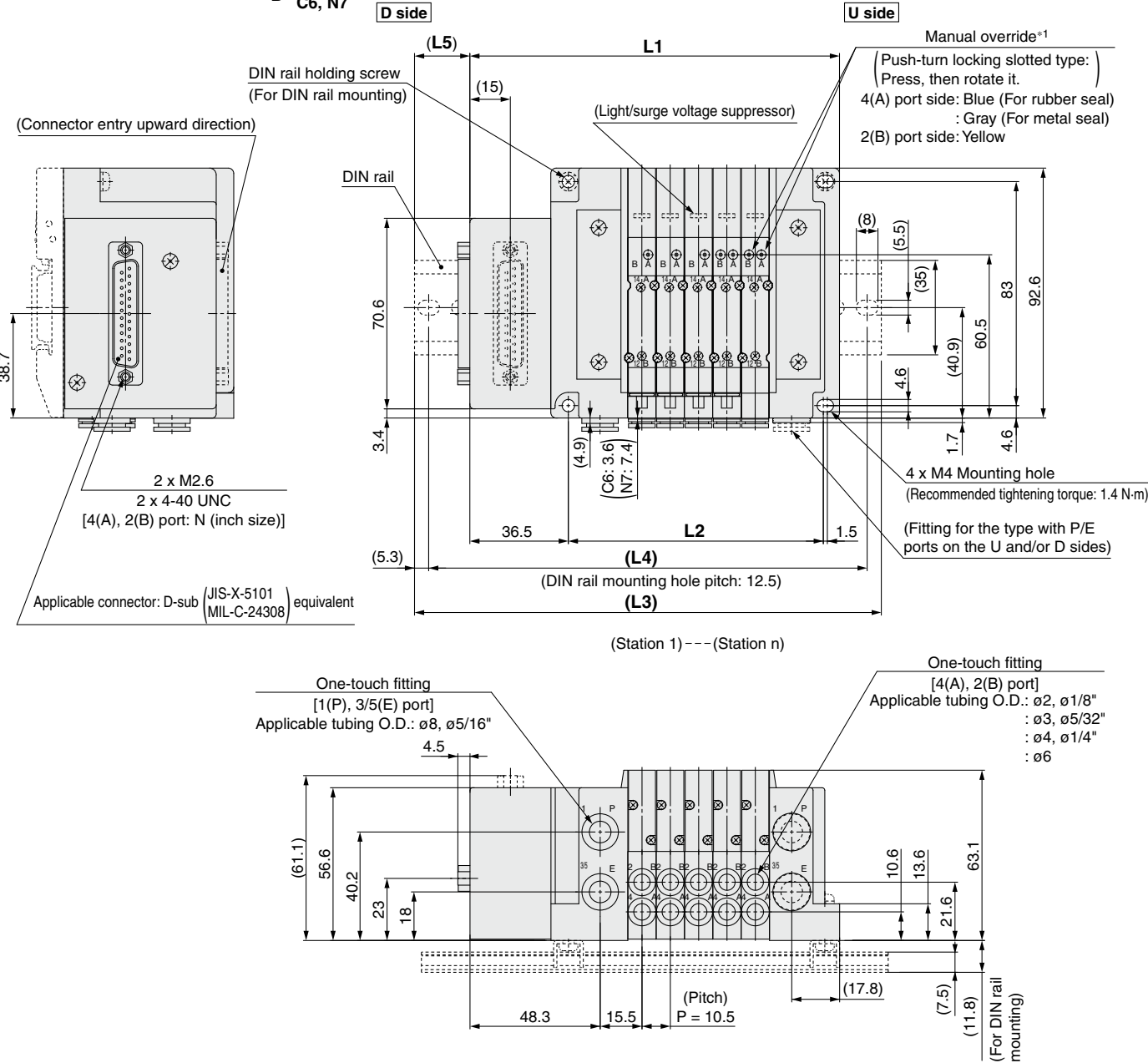
SY3000/5000/7000 Series

Dimensions: SY3000 Series

Plug-in
Connector Connecting Base

Type 10/Side Ported
D-sub Connector (IP67)

SS5Y3-10FW₂ - Stations $\begin{matrix} \text{U} \\ \text{D} \end{matrix} \begin{matrix} \text{C}2 \\ \text{C}3, \text{N}1 \\ \text{C}4, \text{N}3 \\ \text{C}6, \text{N}7 \end{matrix} \text{(D)}$



*1 Refer to page 157 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.
* These figures show the "SS5Y3-10FW2-05D-C6."
* Refer to page 162 for dimensions of A or B port top-ported type.

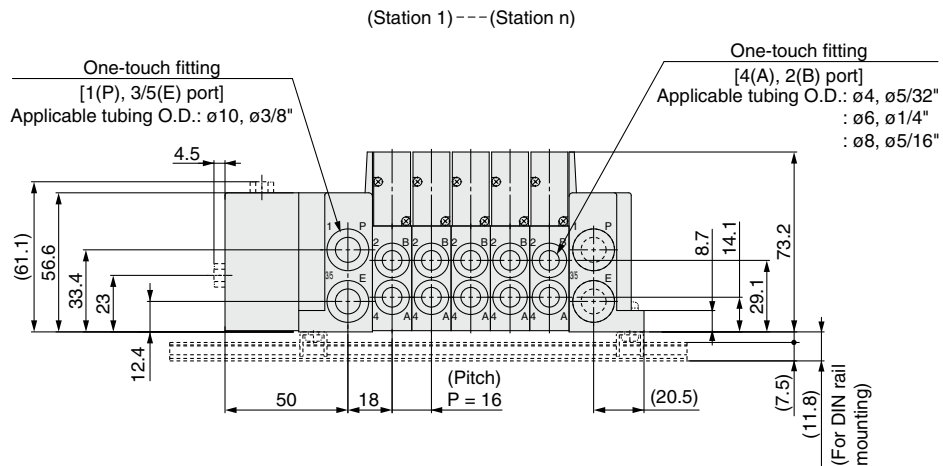
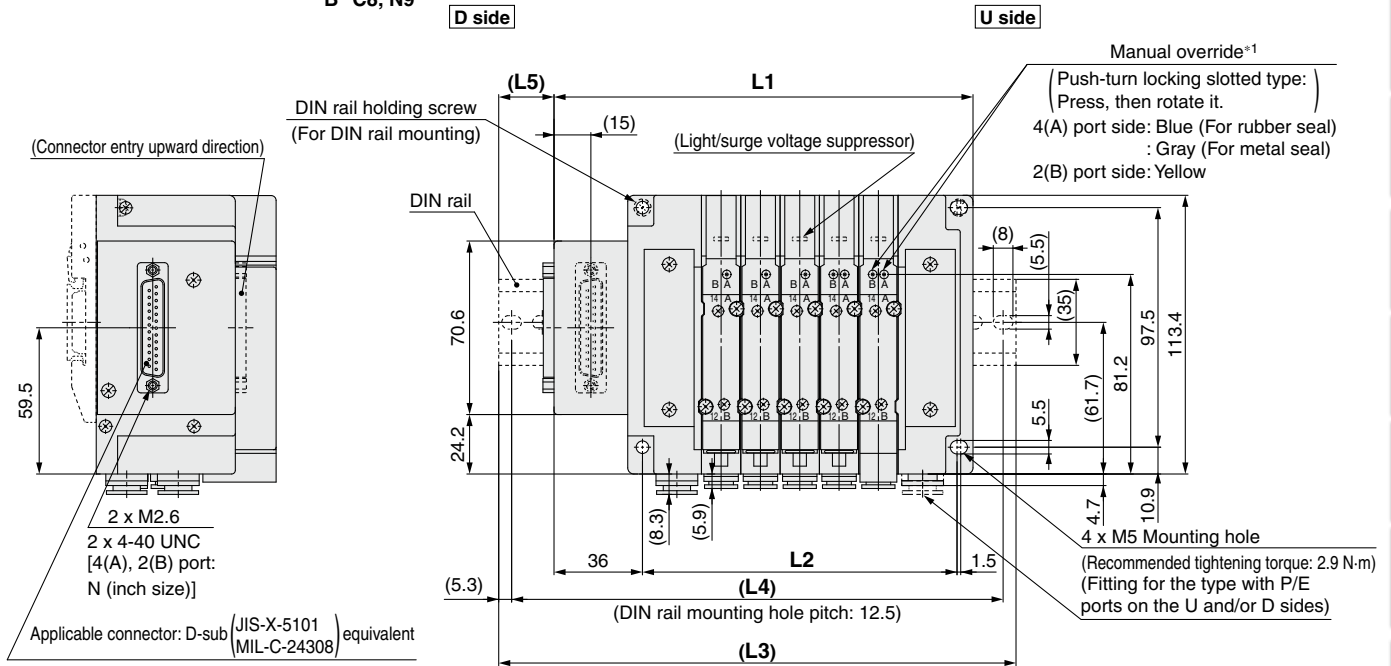
| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 105.5 | 116 | 126.5 | 137 | 147.5 | 158 | 168.5 | 179 | 189.5 | 200 | 210.5 | 221 | 231.5 | 242 | 252.5 | 263 | 273.5 | 284 | 294.5 | 305 | 315.5 | 326 | 336.5 |
| L2 | 63 | 73.5 | 84 | 94.5 | 105 | 115.5 | 126 | 136.5 | 147 | 157.5 | 168 | 178.5 | 189 | 199.5 | 210 | 220.5 | 231 | 241.5 | 252 | 262.5 | 273 | 283.5 | 294 |
| L3 | 135.5 | 148 | 160.5 | 173 | 185.5 | 198 | 198 | 210.5 | 223 | 235.5 | 248 | 260.5 | 260.5 | 273 | 285.5 | 298 | 310.5 | 323 | 323 | 335.5 | 348 | 360.5 | 373 |
| L4 | 125 | 137.5 | 150 | 162.5 | 175 | 187.5 | 187.5 | 200 | 212.5 | 225 | 237.5 | 250 | 250 | 262.5 | 275 | 287.5 | 300 | 312.5 | 312.5 | 325 | 337.5 | 350 | 362.5 |
| L5 | 17.5 | 18.5 | 19.5 | 20.5 | 21.5 | 22.5 | 17 | 18 | 19 | 20 | 21 | 22 | 17 | 18 | 19 | 20 | 21 | 22 | 16.5 | 17.5 | 18.5 | 19.5 | 20.5 |

Dimensions: **SY5000 Series**

**Plug-in
Connector Connecting Base**

Type 10/Side Ported
D-sub Connector (IP67)

SS5Y5-10FW₂¹ - Stations $\begin{matrix} \text{U} & \text{C4, N3} \\ \text{D} & \text{C6, N7} \\ \text{B} & \text{C8, N9} \end{matrix}$ (D)



- *1 Refer to page 158 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.
- * These figures show the "SS5Y5-10FW2-05D-C8."
- * Refer to page 163 for dimensions of A or B port top-ported type.

| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 122.5 | 138.5 | 154.5 | 170.5 | 186.5 | 202.5 | 218.5 | 234.5 | 250.5 | 266.5 | 282.5 | 298.5 | 314.5 | 330.5 | 346.5 | 362.5 | 378.5 | 394.5 | 410.5 | 426.5 | 442.5 | 458.5 | 474.5 |
| L2 | 80 | 96 | 112 | 128 | 144 | 160 | 176 | 192 | 208 | 224 | 240 | 256 | 272 | 288 | 304 | 320 | 336 | 352 | 368 | 384 | 400 | 416 | 432 |
| L3 | 160.5 | 173 | 185.5 | 210.5 | 223 | 235.5 | 248 | 273 | 285.5 | 298 | 310.5 | 335.5 | 348 | 360.5 | 385.5 | 398 | 410.5 | 423 | 448 | 460.5 | 473 | 498 | 510.5 |
| L4 | 150 | 162.5 | 175 | 200 | 212.5 | 225 | 237.5 | 262.5 | 275 | 287.5 | 300 | 325 | 337.5 | 350 | 375 | 387.5 | 400 | 412.5 | 437.5 | 450 | 462.5 | 487.5 | 500 |
| L5 | 21.5 | 19.5 | 18 | 22.5 | 20.5 | 19 | 17 | 21.5 | 20 | 18 | 16.5 | 21 | 19 | 17.5 | 22 | 20 | 18.5 | 16.5 | 21 | 19.5 | 17.5 | 22 | 20.5 |

SY3000/5000/7000 Series

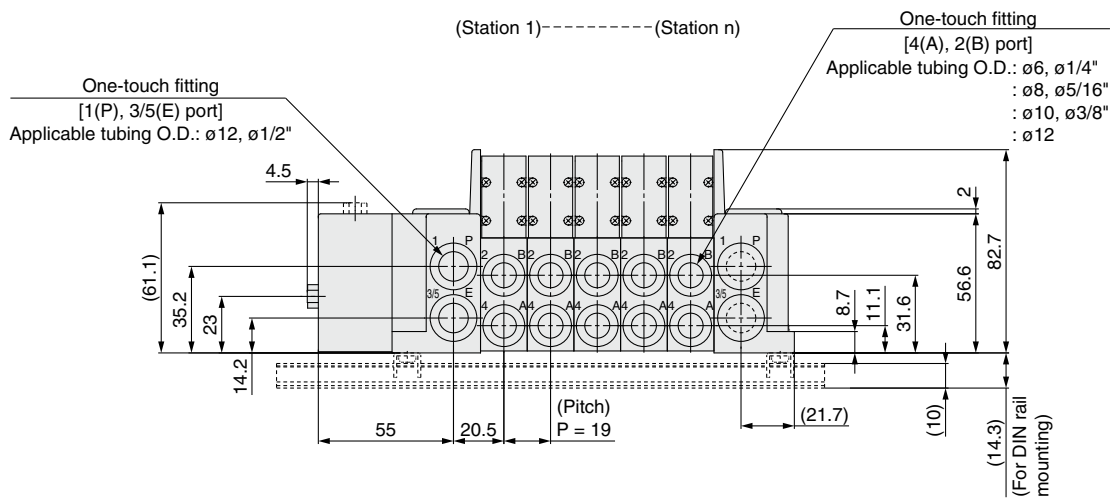
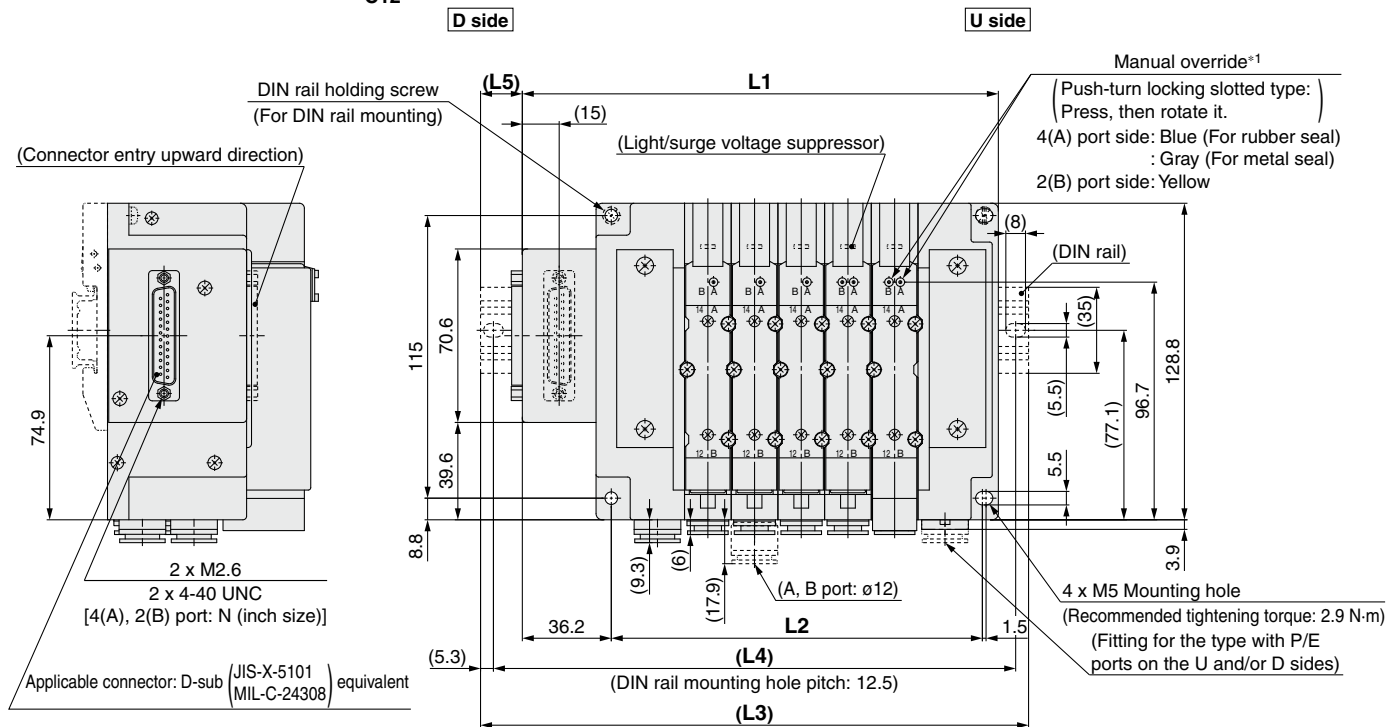
Dimensions: SY7000 Series

SS5Y7-10FW₂ - Stations $\begin{matrix} \text{U} \\ \text{D} \\ \text{B} \end{matrix}$ $\begin{matrix} \text{C6, N7} \\ \text{C8, N9} \\ \text{C10, N11} \\ \text{C12} \end{matrix}$ **(D)**

Plug-in Connector Connecting Base

Type 10/Side Ported

D-sub Connector (IP67)



- *1 Refer to page 159 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.
* These figures show the "SS5Y7-10FW2-05D-C10."
* Refer to page 164 for dimensions of A or B port top-ported type.

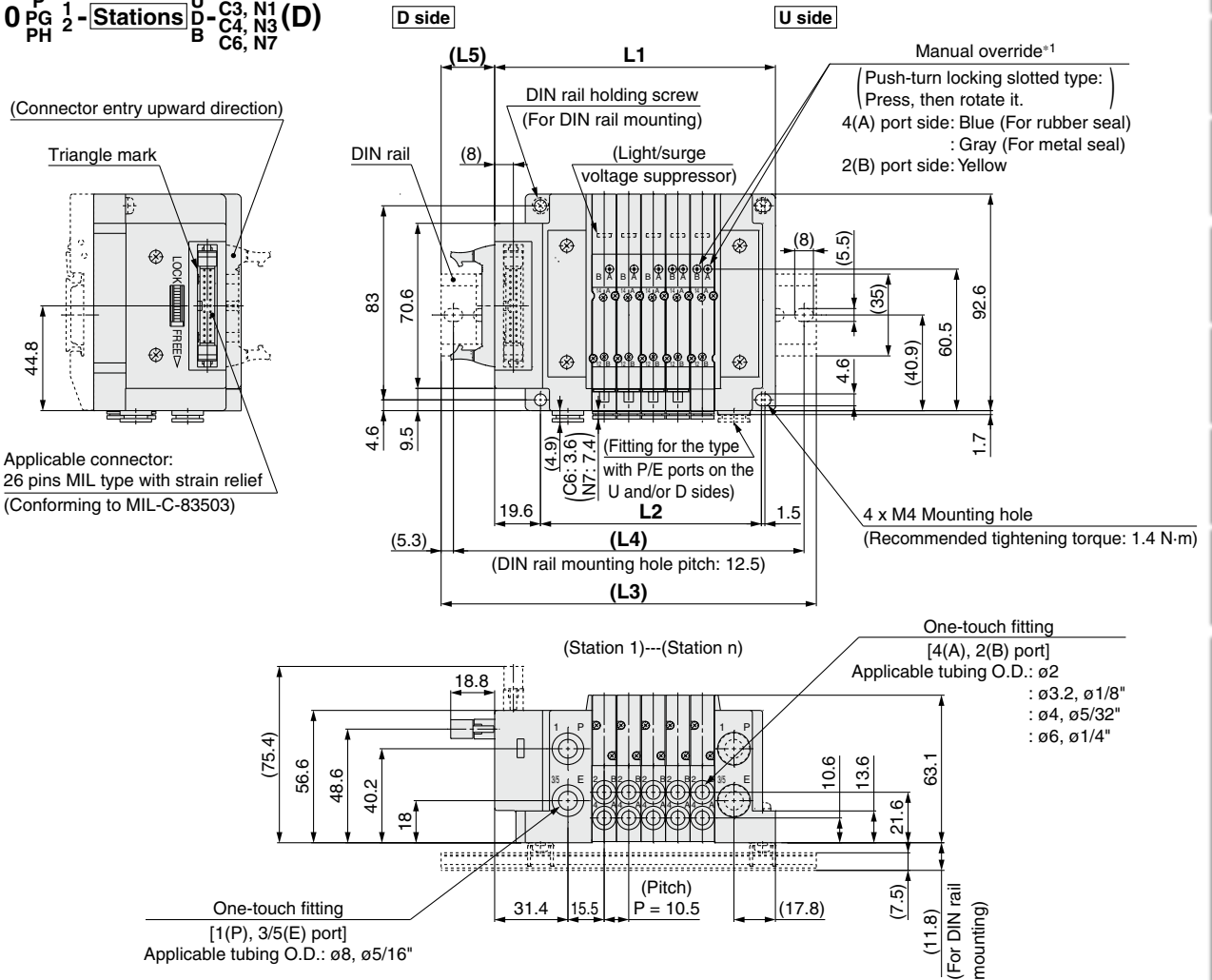
| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 136.7 | 155.7 | 174.7 | 193.7 | 212.7 | 231.7 | 250.7 | 269.7 | 288.7 | 307.7 | 326.7 | 345.7 | 364.7 | 383.7 | 402.7 | 421.7 | 440.7 | 459.7 | 478.7 | 497.7 | 516.7 | 535.7 | 554.7 |
| L2 | 94 | 113 | 132 | 151 | 170 | 189 | 208 | 227 | 246 | 265 | 284 | 303 | 322 | 341 | 360 | 379 | 398 | 417 | 436 | 455 | 474 | 493 | 512 |
| L3 | 173 | 185.5 | 210.5 | 223 | 248 | 260.5 | 285.5 | 298 | 323 | 335.5 | 360.5 | 385.5 | 398 | 423 | 435.5 | 460.5 | 473 | 498 | 510.5 | 535.5 | 548 | 573 | 585.5 |
| L4 | 162.5 | 175 | 200 | 212.5 | 237.5 | 250 | 275 | 287.5 | 312.5 | 325 | 350 | 375 | 387.5 | 412.5 | 425 | 450 | 462.5 | 487.5 | 500 | 525 | 537.5 | 562.5 | 575 |
| L5 | 20.5 | 17 | 20 | 17 | 20 | 16.5 | 19.5 | 16.5 | 19.5 | 16 | 19 | 22 | 19 | 22 | 18.5 | 21.5 | 18.5 | 21.5 | 18 | 21 | 18 | 21 | 17.5 |

Dimensions: **SY3000 Series**

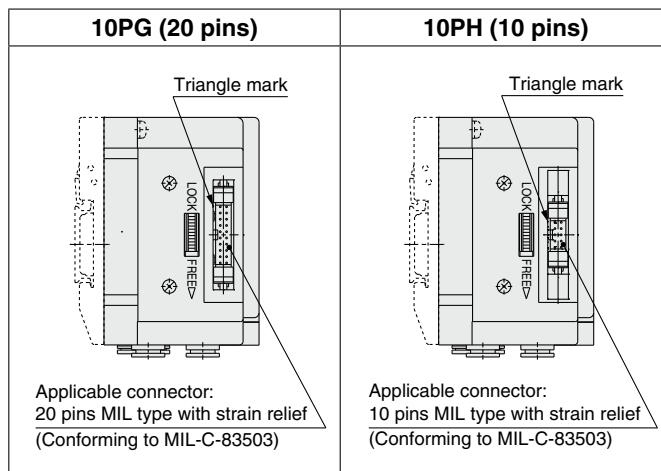
**Plug-in
Connector Connecting Base**

Type 10/Side Ported
Flat Ribbon Cable

SS5Y3-10 ^PPG 1 ^UD - Stations ^{C2}C3, ^{N1}N3 (D)
^{PH}2 ^BC4, ^{N3}C6, ^{N7}



- *1 Refer to page 157 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.
- * These figures show the "SS5Y3-10P2-05D-C6."
- * Refer to page 162 for dimensions of A or B port top-ported type.
- * Only connectors are different for 10PG and 10PH. L1 to L5 dimensions are the same as 10P type.



| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 88.6 | 99.1 | 109.6 | 120.1 | 130.6 | 141.1 | 151.6 | 162.1 | 172.6 | 183.1 | 193.6 | 204.1 | 214.6 | 225.1 | 235.6 | 246.1 | 256.6 | 267.1 | 277.6 | 288.1 | 298.6 | 309.1 | 319.6 |
| L2 | 63 | 73.5 | 84 | 94.5 | 105 | 115.5 | 126 | 136.5 | 147 | 157.5 | 168 | 178.5 | 189 | 199.5 | 210 | 220.5 | 231 | 241.5 | 252 | 262.5 | 273 | 283.5 | 294 |
| L3 | 123 | 135.5 | 148 | 160.5 | 173 | 185.5 | 198 | 210.5 | 223 | 235.5 | 248 | 260.5 | 273 | 285.5 | 298 | 310.5 | 323 | 335.5 | 348 | 360.5 | | | |
| L4 | 112.5 | 125 | 137.5 | 150 | 162.5 | 175 | 187.5 | 200 | 212.5 | 225 | 237.5 | 250 | 262.5 | 275 | 287.5 | 300 | 312.5 | 325 | 337.5 | 350 | | | |
| L5 | 20.5 | 21.5 | 22.5 | 23.5 | 18 | 19 | 20 | 21 | 22 | 23 | 18 | 19 | 20 | 21 | 22 | 23 | 23.5 | 18.5 | 19.5 | 20.5 | 21.5 | 22.5 | 23.5 |

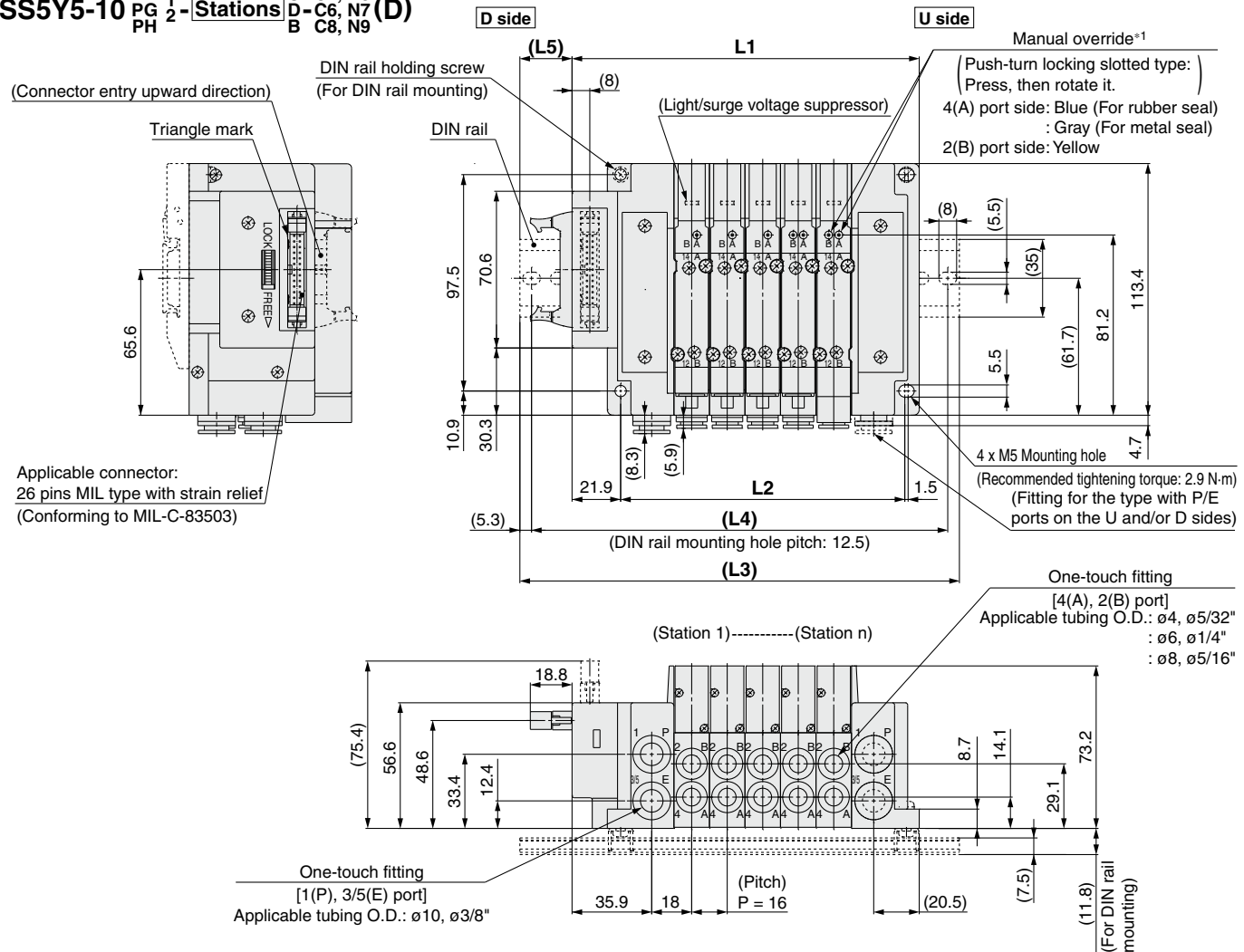
SY3000/5000/7000 Series

Dimensions: SY5000 Series

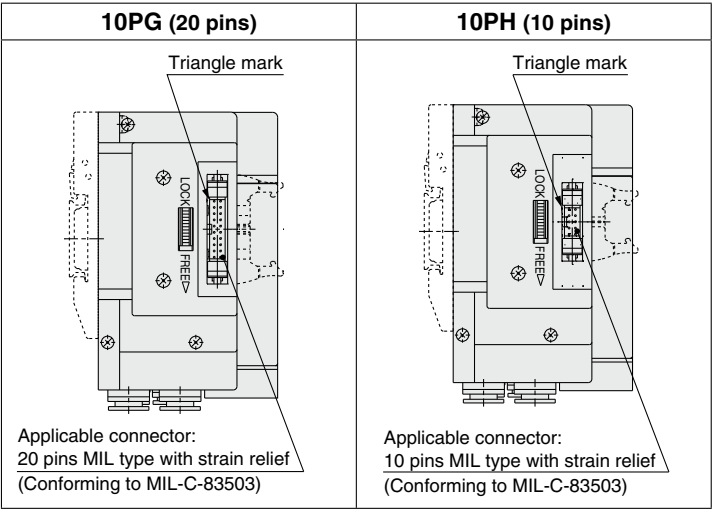
Plug-in
Connector Connecting Base

Type 10/Side Ported
Flat Ribbon Cable

SS5Y5-10 P PG 1 2 - Stations U D C4, N3 C6, N7 (D) B C8, N9



- *1 Refer to page 158 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.
- * These figures show the "SS5Y5-10P2-05D-C8."
- * Refer to page 163 for dimensions of A or B port top-ported type.
- * Only connectors are different for 10PG and 10PH. L1 to L5 dimensions are the same as 10P type.



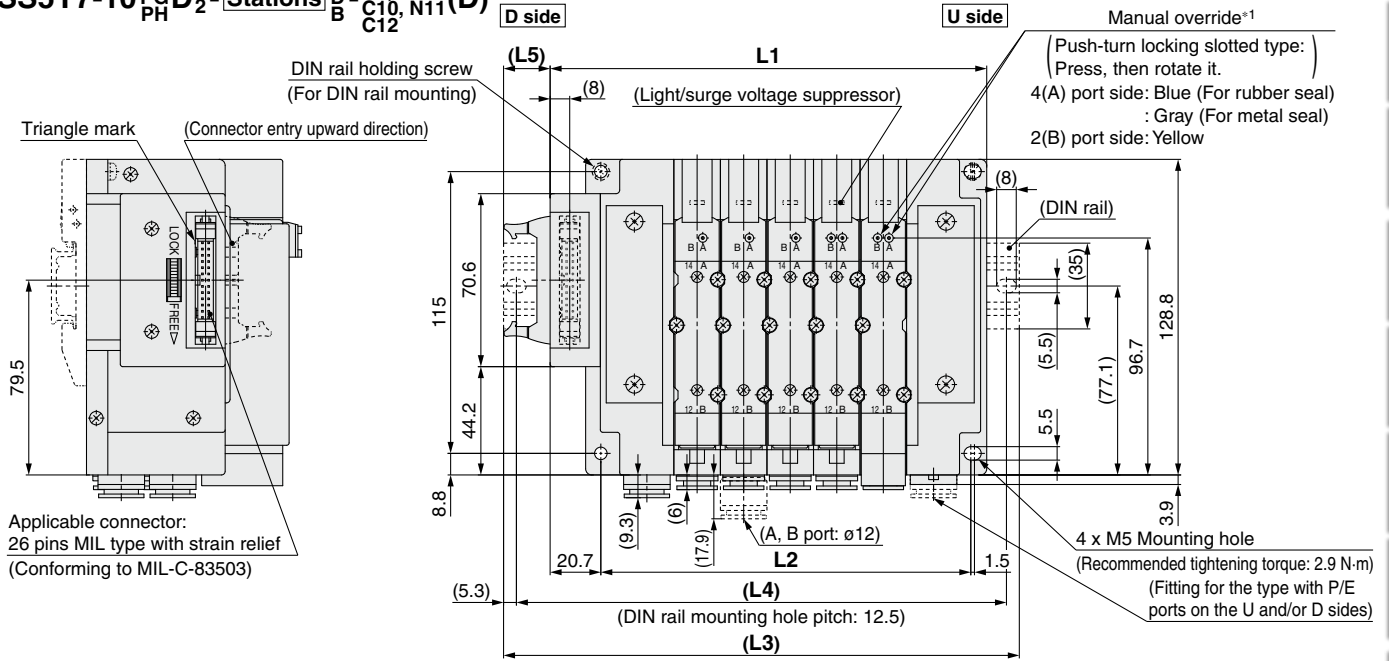
| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 108.4 | 124.4 | 140.4 | 156.4 | 172.4 | 188.4 | 204.4 | 220.4 | 236.4 | 252.4 | 268.4 | 284.4 | 300.4 | 316.4 | 332.4 | 348.4 | 364.4 | 380.4 | 396.4 | 412.4 | 428.4 | 444.4 | 460.4 |
| L2 | 80 | 96 | 112 | 128 | 144 | 160 | 176 | 192 | 208 | 224 | 240 | 256 | 272 | 288 | 304 | 320 | 336 | 352 | 368 | 384 | 400 | 416 | 432 |
| L3 | 148 | 160.5 | 173 | 198 | 210.5 | 223 | 235.5 | 260.5 | 273 | 285.5 | 298 | 323 | 335.5 | 348 | 373 | 385.5 | 398 | 410.5 | 435.5 | 448 | 460.5 | 485.5 | 498 |
| L4 | 137.5 | 150 | 162.5 | 187.5 | 200 | 212.5 | 225 | 250 | 262.5 | 275 | 287.5 | 312.5 | 325 | 337.5 | 362.5 | 375 | 387.5 | 400 | 425 | 437.5 | 450 | 475 | 487.5 |
| L5 | 23 | 21 | 19.5 | 24 | 22 | 20.5 | 18.5 | 23 | 21.5 | 19.5 | 18 | 22.5 | 20.5 | 19 | 23.5 | 21.5 | 20 | 18 | 22.5 | 21 | 19 | 23.5 | 22 |

Dimensions: **SY7000 Series**

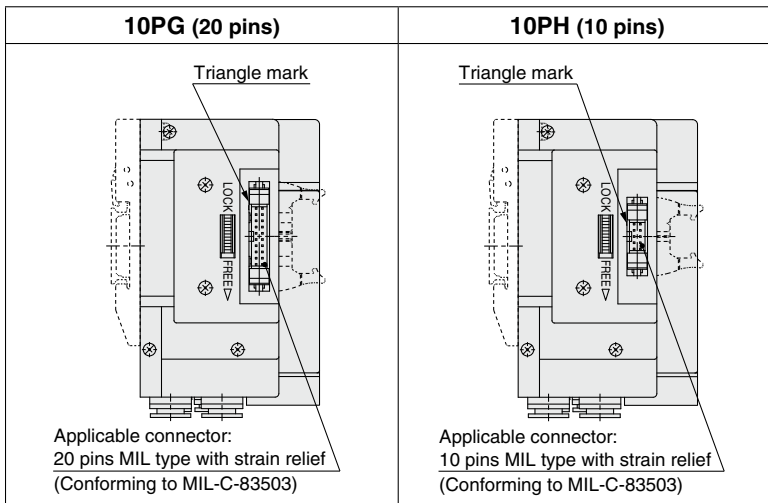
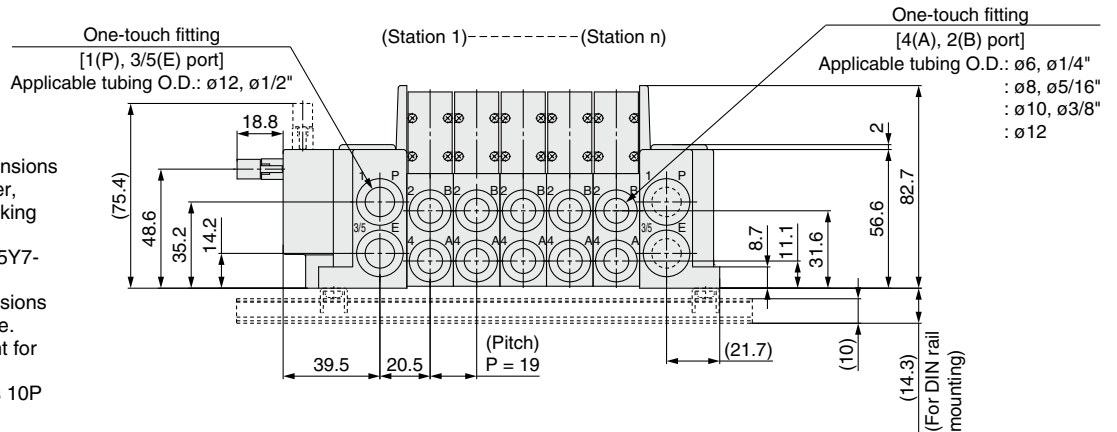
**Plug-in
Connector Connecting Base**

Type 10/Side Ported
Flat Ribbon Cable

SS5Y7-10^P_{PH}D₂¹ - Stations^U_D - C₆, N₇
C₈, N₉
C₁₀, N₁₁ (D)



- *1 Refer to page 159 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.
- * These figures show the "SS5Y7-10P2-05D-C8."
- * Refer to page 164 for dimensions of A or B port top-ported type.
- * Only connectors are different for 10PG and 10PH. L1 to L5 dimensions are the same as 10P type.



| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 121.2 | 140.2 | 159.2 | 178.2 | 197.2 | 216.2 | 235.2 | 254.2 | 273.2 | 292.2 | 311.2 | 330.2 | 349.2 | 368.2 | 387.2 | 406.2 | 425.2 | 444.2 | 463.2 | 482.2 | 501.2 | 520.2 | 539.2 |
| L2 | 94 | 113 | 132 | 151 | 170 | 189 | 208 | 227 | 246 | 265 | 284 | 303 | 322 | 341 | 360 | 379 | 398 | 417 | 436 | 455 | 474 | 493 | 512 |
| L3 | 160.5 | 173 | 198 | 210.5 | 235.5 | 248 | 273 | 285.5 | 310.5 | 323 | 348 | 360.5 | 385.5 | 398 | 423 | 435.5 | 460.5 | 485.5 | 498 | 523 | 535.5 | 560.5 | 573 |
| L4 | 150 | 162.5 | 187.5 | 200 | 225 | 237.5 | 262.5 | 275 | 300 | 312.5 | 337.5 | 350 | 375 | 387.5 | 412.5 | 425 | 450 | 475 | 487.5 | 512.5 | 525 | 550 | 562.5 |
| L5 | 22.5 | 19.5 | 22.5 | 19 | 22 | 19 | 22 | 18.5 | 21.5 | 18.5 | 21.5 | 18 | 21 | 18 | 21 | 17.5 | 20.5 | 23.5 | 20.5 | 23.5 | 20 | 23 | 20 |

Plug-in Connector Connecting Base

D-sub Connector Flat Ribbon Cable



Type 12
Top Ported

SY3000/5000/7000 Series



RoHS

How to Order Manifolds

Refer to pages 162 to 164 for the dimensions of Type 12/Top ported type.

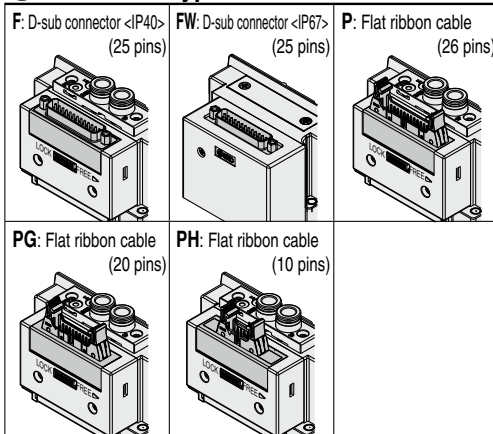
SS5Y **3** - 12 **F** **1** - 05 **U** - - -

1 2 3 4 5 6 7 8

1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Connector type

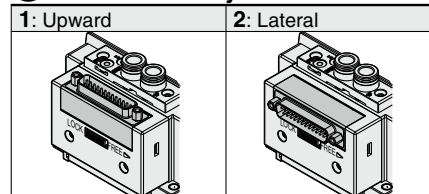


5 P, E port entry

| | |
|-----|-------------------------------|
| U*1 | U side (2 to 10 stations) |
| D*1 | D side (2 to 10 stations) |
| B | Both sides (2 to 24 stations) |

*1 For type "S", SUP/EXH block assembly with a built-in silencer, choose U or D for P, E port entry.

3 Connector entry direction



* The connector entry direction for connector type "FW" D-sub connector <IP67> cannot be rotated. If it is necessary to change, order the connector block assembly (page 183) separately.

4 Valve stations

F/FW: D-sub connector (25 pins)

| Symbol | Stations | Note |
|--------|-------------|---|
| 02 | 2 stations | Double wiring*1 |
| 12 | 12 stations | |
| 02 | 2 stations | Specified layout*2 (Up to 24 solenoids available) |
| 24 | 24 stations | |

P: Flat ribbon cable (26 pins)

| Symbol | Stations | Note |
|--------|-------------|---|
| 02 | 2 stations | Double wiring*1 |
| 12 | 12 stations | |
| 02 | 2 stations | Specified layout*2 (Up to 24 solenoids available) |
| 24 | 24 stations | |

PG: Flat ribbon cable (20 pins)

| Symbol | Stations | Note |
|--------|-------------|---|
| 02 | 2 stations | Double wiring*1 |
| 09 | 9 stations | |
| 02 | 2 stations | Specified layout*2 (Up to 18 solenoids available) |
| 18 | 18 stations | |

PH: Flat ribbon cable (10 pins)

| Symbol | Stations | Note |
|--------|------------|--|
| 02 | 2 stations | Double wiring*1 |
| 04 | 4 stations | |
| 02 | 2 stations | Specified layout*2 (Up to 8 solenoids available) |
| 08 | 8 stations | |

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

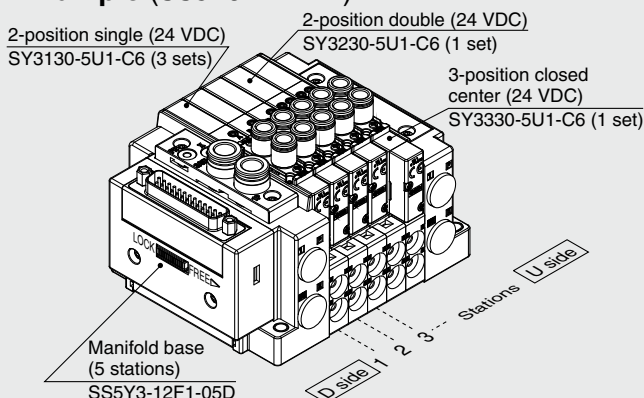
Use of a 2-position single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.

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

* This also includes the number of the blanking plate assembly.

How to Order Manifold Assembly

Example (SS5Y3-12F1-□)



SS5Y3-12F1-05D 1 set (Type 12 5-station manifold base part no.)
 *SY3130-5U1-C6 3 sets (2-position single part no.)
 *SY3230-5U1-C6 1 set (2-position double part no.)
 *SY3330-5U1-C6 1 set (3-position closed center part no.)

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

- For the valve arrangement, the valve closest to the D side is considered the 1st station.
- Under the manifold part number, state the valves to be mounted in order starting with the 1st station as shown in the figure above. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.

6 SUP/EXH block assembly

| | |
|-----|-----------------------------------|
| Nil | Internal pilot |
| S | Internal pilot, Built-in silencer |
| R | External pilot |

* The P and E ports are only available on the U and D sides for the built-in silencer type. 3/5(E) port is plugged. The silencer exhaust port is located on the opposite side of the P and E port entry. (Example: When the P and E port entry is on the D side, the silencer exhaust port is on the U side.)

8 Mounting

| | |
|-----|---|
| Nil | Direct mounting |
| D | DIN rail mounting (With DIN rail) |
| D0 | DIN rail mounting (Without DIN rail) |
| D3 | For 3 stations |
| ... | Specify a length longer than that of the standard rail. |
| D24 | For 24 stations |

* Refer to page 295 for the fixation of DIN rail mounting type manifold.

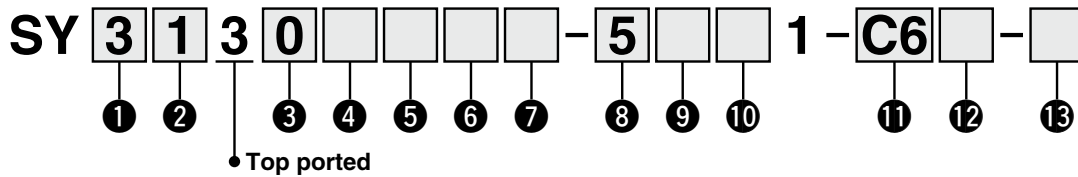
7 P, E port size (One-touch fittings)

| Symbol | SY3000 | SY5000 | SY7000 |
|--------|--------|--------|--------|
| Nil | ø8 | ø10 | ø12 |
| N | ø5/16" | ø3/8" | ø1/2" |

* For N, sizes are in inches.

How to Order Valves (With mounting screw)

Refer to page 15 for valve specifications.



1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type of actuation

| | | |
|-----|------------|-----------------|
| 1 | 2-position | Single |
| 2 | | Double |
| 3 | 3-position | Closed center |
| 4 | | Exhaust center |
| 5 | | Pressure center |
| A*1 | 4-position | N.C./N.C. |
| B*1 | dual | N.O./N.O. |
| C*1 | 3-port | N.C./N.O. |

*1 Only the 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 the rubber seal type is available. A manifold installed type is available if a back pressure check valve with a metal seal is required. Refer to page 212 for ordering examples. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

* The built-in valve type back pressure check valve is not available for the 3-position type or the SY7000.

6 Pilot valve option

| | |
|-----|-------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K*1 | High pressure type (1.0 MPa) |

*1 Only the 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 if the valve is to be continuously energized for long periods of time.

* Be careful of the energizing time when the power saving circuit is selected. Refer to page 292 for details.

8 Rated voltage

| | |
|---|--------|
| 5 | 24 VDC |
| 6 | 12 VDC |

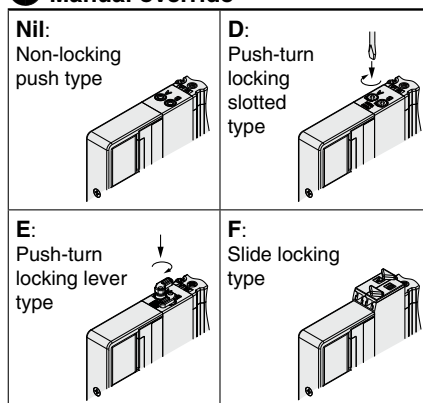
9 Light/surge voltage suppressor and common specification

| Symbol | With light | Surge voltage suppressor | Common specification |
|--------|------------|--------------------------|----------------------|
| Nil | — | — | Non-polar |
| R | — | — | |
| U | ● | — | |
| S | — | — | |
| Z | ● | ● | Positive common |
| NS | — | — | Negative common |
| NZ | ● | — | Negative common |

* For the non-polar type, be careful of surge voltage intrusion. Refer to page 293 for details.

* Only "Z" and "NZ" types are available with a power saving circuit.

10 Manual override



* Refer to page 34 for the safety slide locking manual override.

11 A, B port size

| Symbol | Port size | Applicable series |
|--------|-----------|-------------------|
| M5 | M5 x 0.8 | SY3000 |
| 01 | 1/8 | SY5000 |
| 02 | 1/4 | SY7000 |

One-touch fitting (Metric)

| Symbol | A, B port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| C2 | ø2 | ● | — | — |
| C3 | ø3.2 | ● | — | — |
| C4 | ø4 | ● | ● | — |
| C6 | ø6 | ● | ● | ● |
| C8 | ø8 | — | ● | ● |
| C10 | ø10 | — | — | ● |
| C12 | ø12 | — | — | ● |

One-touch fitting (Inch)

| Symbol | A, B port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| N1 | ø1/8" | ● | — | — |
| N3 | ø5/32" | ● | ● | — |
| N7 | ø1/4" | ● | ● | ● |
| N9 | ø5/16" | — | ● | ● |
| N11 | ø3/8" | — | — | ● |

12 Thread type

| | |
|-----|------|
| Nil | Rc |
| F | G |
| N | NPT |
| T | NPTF |

* Only Nil is available for M5.

13 Type of mounting screw

| | |
|-----|--|
| Nil | Round head combination screw |
| B | Hexagon socket head cap screw |
| K | Round head combination screw (Drop prevention type) |
| H | Hexagon socket head cap screw (Drop 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. Refer to page 198 for base gasket and mounting screw part numbers.

* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly or interface regulator.

SY3000/5000/7000 Series

Electrical Wiring Specifications

D-sub connector

If alignment is not specified, the internal wiring will be double wiring (connected to SOL. a and SOL. b) regardless of number of stations, valve types, and option types.

Connector terminal no.

| | Terminal no. | Polarity |
|------------|--------------|----------|
| Station 1 | SOL.a 1 | (-) (+) |
| | SOL.b 14 | (-) (+) |
| Station 2 | SOL.a 2 | (-) (+) |
| | SOL.b 15 | (-) (+) |
| Station 3 | SOL.a 3 | (-) (+) |
| | SOL.b 16 | (-) (+) |
| Station 4 | SOL.a 4 | (-) (+) |
| | SOL.b 17 | (-) (+) |
| Station 5 | SOL.a 5 | (-) (+) |
| | SOL.b 18 | (-) (+) |
| Station 6 | SOL.a 6 | (-) (+) |
| | SOL.b 19 | (-) (+) |
| Station 7 | SOL.a 7 | (-) (+) |
| | SOL.b 20 | (-) (+) |
| Station 8 | SOL.a 8 | (-) (+) |
| | SOL.b 21 | (-) (+) |
| Station 9 | SOL.a 9 | (-) (+) |
| | SOL.b 22 | (-) (+) |
| Station 10 | SOL.a 10 | (-) (+) |
| | SOL.b 23 | (-) (+) |
| Station 11 | SOL.a 11 | (-) (+) |
| | SOL.b 24 | (-) (+) |
| Station 12 | SOL.a 12 | (-) (+) |
| | SOL.b 25 | (-) (+) |
| COM. | 13 | (+) (-) |

Positive common Negative common

* When using a valve with no polarity, either positive common or negative common can be used.

Specified Layout

(25 pins)

COM.

A mixture of single and double wiring can be specified on the manifold specification sheet. The maximum number of stations is determined according to the number of solenoids. The total number of solenoids should be 24 or less. 1 solenoid is required for the 2-position single, and 2 solenoids for the 2-position double, 3-position, and 4-position.

Cable Assembly

AXT100-DS25-030 (N) [IP40]

015 050
Nil: Metric
N: Inch

Cable 0.3 mm² x 25 cores
O.D. ø1.4

Approx. ø10

Seal (Length)

Molded cover

2 x M2.6 x 0.45
or
2 x 4 - 40 UNC

Connector JBZ-25S-3
made by J.S.T. Mfg.
Co., Ltd.

Socket side

Terminal no.

14 25

1 13

47.04

SY30M-DS25-030 (N) [IP67]

015 050
Nil: Metric
N: Inch

Cable 0.3 mm² x 25 cores
O.D. ø1.4

Approx. ø8

Seal (Length)

Connector hood

2 x M2.6 x 0.45
or
2 x 4 - 40 UNC

Connector
JBZ-25S-3 made by
J.S.T. Mfg. Co., Ltd.

Socket side

Terminal no.

14 25

1 13

47.04

D-sub connector cable assembly [IP40]

| Cable length (L) | Assembly part no. | Note |
|------------------|-------------------|--------------------------|
| 1.5 m | AXT100-DS25-015 | Cable 0.3 mm² x 25 cores |
| 3 m | AXT100-DS25-030 | |
| 5 m | AXT100-DS25-050 | |

* When using a standard commercial connector, use a 25-pin type female connector conforming to MIL-C-24308.

* Cannot be used for movable wiring

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

D-sub connector cable assembly [IP67]

| Cable length (L) | Assembly part no. | Note |
|------------------|-------------------|--------------------------|
| 1.5 m | SY30M-DS25-015 | Cable 0.3 mm² x 25 cores |
| 3 m | SY30M-DS25-030 | |
| 5 m | SY30M-DS25-050 | |

* Be sure to use the connector cable assembly in the table, to satisfy enclosure IP67.

* Cannot be used for movable wiring

Electrical characteristics

| Item | Property |
|--------------------------------------|------------|
| Conductor resistance Ω/km, 20°C | 65 or less |
| Voltage limit V, 1 minute, AC | 1000 |
| Insulation resistance MΩ/km, 20°C | 5 or more |

* The minimum bending radius of the D-sub connector cable is 20 mm.

Connector Manufacturer's Example

- Fujitsu Limited
- Japan Aviation Electronics Industry, Limited
- J.S.T. Mfg. Co., Ltd.
- HIROSE ELECTRIC CO., LTD.

D-sub connector cable assembly terminal numbers

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

Electrical Wiring Specifications

Flat ribbon cable connector

| |
|-----------|
| 26 □ □ 25 |
| 24 □ □ 23 |
| 22 □ □ 21 |
| 20 □ □ 19 |
| 18 □ □ 17 |
| 16 □ □ 15 |
| 14 □ □ 13 |
| 12 □ □ 11 |
| 10 □ □ 9 |
| 8 □ □ 7 |
| 6 □ □ 5 |
| 4 □ □ 3 |
| 2 □ □ 1 |

Connector terminal no.

Triangle mark indicator position

If alignment is not specified, the internal wiring will be double wiring (connected to SOL. a and SOL. b) regardless of number of stations, valve types, and option types.

P: Flat ribbon cable (26 pins)

<Double wiring>

| | Terminal no. | Polarity |
|------------|--------------|------------------------------------|
| Station 1 | SOL.a | 1 (-) (+) |
| | SOL.b | 2 (-) (+) |
| Station 2 | SOL.a | 3 (-) (+) |
| | SOL.b | 4 (-) (+) |
| Station 3 | SOL.a | 5 (-) (+) |
| | SOL.b | 6 (-) (+) |
| Station 4 | SOL.a | 7 (-) (+) |
| | SOL.b | 8 (-) (+) |
| Station 5 | SOL.a | 9 (-) (+) |
| | SOL.b | 10 (-) (+) |
| Station 6 | SOL.a | 11 (-) (+) |
| | SOL.b | 12 (-) (+) |
| Station 7 | SOL.a | 13 (-) (+) |
| | SOL.b | 14 (-) (+) |
| Station 8 | SOL.a | 15 (-) (+) |
| | SOL.b | 16 (-) (+) |
| Station 9 | SOL.a | 17 (-) (+) |
| | SOL.b | 18 (-) (+) |
| Station 10 | SOL.a | 19 (-) (+) |
| | SOL.b | 20 (-) (+) |
| Station 11 | SOL.a | 21 (-) (+) |
| | SOL.b | 22 (-) (+) |
| Station 12 | SOL.a | 23 (-) (+) |
| | SOL.b | 24 (-) (+) |
| COM. | 25 (+) (-) | |
| COM. | 26 (+) (-) | |
| | | Positive Negative common common |

PG: Flat ribbon cable (20 pins)

<Double wiring>

| | Terminal no. | Polarity |
|-----------|--------------|------------------------------------|
| Station 1 | SOL.a | 1 (-) (+) |
| | SOL.b | 2 (-) (+) |
| Station 2 | SOL.a | 3 (-) (+) |
| | SOL.b | 4 (-) (+) |
| Station 3 | SOL.a | 5 (-) (+) |
| | SOL.b | 6 (-) (+) |
| Station 4 | SOL.a | 7 (-) (+) |
| | SOL.b | 8 (-) (+) |
| Station 5 | SOL.a | 9 (-) (+) |
| | SOL.b | 10 (-) (+) |
| Station 6 | SOL.a | 11 (-) (+) |
| | SOL.b | 12 (-) (+) |
| Station 7 | SOL.a | 13 (-) (+) |
| | SOL.b | 14 (-) (+) |
| Station 8 | SOL.a | 15 (-) (+) |
| | SOL.b | 16 (-) (+) |
| Station 9 | SOL.a | 17 (-) (+) |
| | SOL.b | 18 (-) (+) |
| COM. | 19 (+) (-) | |
| COM. | 20 (+) (-) | |
| | | Positive Negative common common |

PH: Flat ribbon cable (10 pins)

<Double wiring>

| | Terminal no. | Polarity |
|-----------|--------------|------------------------------------|
| Station 1 | SOL.a | 1 (-) (+) |
| | SOL.b | 2 (-) (+) |
| Station 2 | SOL.a | 3 (-) (+) |
| | SOL.b | 4 (-) (+) |
| Station 3 | SOL.a | 5 (-) (+) |
| | SOL.b | 6 (-) (+) |
| Station 4 | SOL.a | 7 (-) (+) |
| | SOL.b | 8 (-) (+) |
| COM. | 9 (+) (-) | |
| COM. | 10 (+) (-) | |
| | | Positive Negative common common |

* When using a valve with no polarity, either positive common or negative common can be used.

Chart

Valve
Specifications

Valve
Construction

Valve
Replacement
Parts

With Residual
Pressure
Release Valve

Vacuum
Release Valve
with Restrictor

With
Pressure
Sensor

Made to
Order

Connector
Connecting Base

D-sub,
Flat
Ribbon

Terminal
Block

Lead
Wire

Circular
Connector

EX500

EX600

EX250

EX260

EX126

EX120

Common
Dimensions

Mixed
Mounting

Manifold
Exploded
View

Fitting,
Plug
Part Nos.

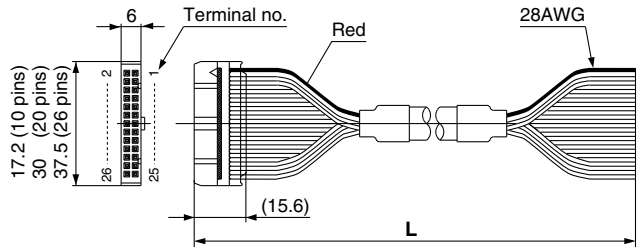
Manifold
Options

Specific
Product
Precautions

SY3000/5000/7000 Series

Flat Ribbon Cable Assembly

AXT100-FC^{10 1}₂₀₋₂
26 3



Flat ribbon cable connector assembly

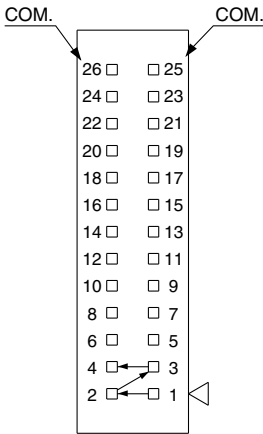
| Cable length (L) | Assembly part no. | | |
|------------------|-------------------|---------------|---------------|
| | 26 pins | 20 pins | 10 pins |
| 1.5 m | AXT100-FC26-1 | AXT100-FC20-1 | AXT100-FC10-1 |
| 3 m | AXT100-FC26-2 | AXT100-FC20-2 | AXT100-FC10-2 |
| 5 m | AXT100-FC26-3 | AXT100-FC20-3 | AXT100-FC10-3 |

- * When using a standard commercial connector, use a 26-pin, 20-pin, or 10-pin type connector conforming to MIL-C-83503 with strain relief.
- * Cannot be used for movable wiring
- * Lengths other than the above are also available. Please contact SMC for details.

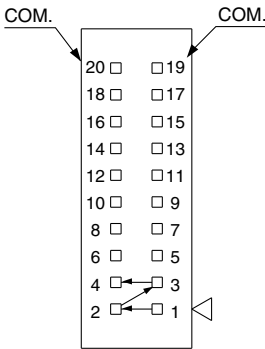
Connector Manufacturer's Example

- HIROSE ELECTRIC CO., LTD.
- 3M Japan Limited
- Fujitsu Limited
- Japan Aviation Electronics Industry, Limited
- J.S.T. Mfg. Co., Ltd.
- Oki Electric Cable Co., Ltd.

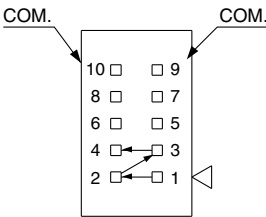
Specified Layout



(P: 26 pins)



(PG: 20 pins)



(PH: 10 pins)

A mixture of single and double wiring can be specified on the manifold specification. The maximum number of stations is determined according to the number of solenoids. The total number of solenoids should be 24 or less for P, 18 or less for PG, and 8 or less for PH. 1 solenoid is required for the 2-position single, and 2 solenoids for the 2-position double, 3-position, and 4-position.

| |
|--------------------------------------|
| Chart |
| Valve Specifications |
| Valve Construction |
| Valve Replacement Parts |
| With Residual Pressure Release Valve |
| Vacuum Release Valve with Restrictor |
| With Pressure Sensor |
| Made to Order |
| Connector Connecting Base |
| D-sub, Flat Ribbon |
| Terminal Block |
| Lead Wire |
| Circular Connector |
| EX500 |
| EX600 |
| EX250 |
| EX260 |
| EX126 |
| EX120 |
| Common Dimensions |
| Mixed Mounting |
| Manifold Exploded View |
| Fitting, Plug Part Nos. |
| Manifold Options |
| Specific Product Precautions |

Type 10
Side Ported

Type 11
Bottom Ported

Plug-in Connector Connecting Base

Terminal Block Box (Spring Type)

SY3000/5000/7000 Series



How to Order Manifolds

Refer to pages 160 (SY5000) and 161 (SY7000) for the dimensions of Type 11/Bottom-ported type.

SS5Y **3** - **10** **TC** - **05** **D** - **C6**

1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type

| | |
|----|------------------|
| 10 | Side ported |
| 11 | Bottom ported *1 |

*1 The SY5000 manifold base is used for the bottom-ported SY3000. When ordering, refer to the "Plug-in Mixed Mounting Type Manifold" (from page 165).

4 P, E port entry

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

5 SUP/EXH block assembly

| | |
|-----|-----------------------------------|
| Nil | 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 exhaust port from coming into direct contact with water or other liquids.

3 Valve stations

TC: Spring type terminal block box

| Symbol | Stations | Note |
|--------|-------------|---|
| 02 | 2 stations | Double wiring *1 |
| : | : | |
| 16 | 16 stations | Specified layout *2 (Up to 32 solenoids available) |
| 02 | 2 stations | |
| : | : | |
| 24 | 24 stations | |

*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.

*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.)

* This also includes the number of the blanking plate assembly.

7 Mounting and Option

| Symbol | Mounting | Option |
|--------|-------------------|-------------------------------------|
| Nil | Direct mounting | None |
| AA | | Name plate (with station number) |
| BA | | Name plate (without station number) |
| D | DIN rail mounting | Without name plate |
| A | | Name plate (with station number) |
| B | | Name plate (without station number) |

DIN Rail Option

| Nil | DIN rail mounting (with DIN rail) |
|-----|---|
| 0 | DIN rail mounting (without DIN rail) |
| 3 | For 3 stations |
| : | Specify a length longer than that of the standard rail. |
| 24 | For 24 stations |

* Enter the number of stations inside □. (Refer to "DIN Rail Option" above.)
* Only direct mounting is available for the type 11 bottom-ported type.

6 A, B port size (Metric/One-touch fitting)

| Symbol | A, B port | Type 10/Side ported | | | Type 11/Bottom ported | |
|-------------------------------------|--|---------------------|--------|--------|-----------------------|--------|
| | | SY3000 | SY5000 | SY7000 | SY5000 | SY7000 |
| C2 | ø2 | ● | — | — | — | — |
| C3 | ø3.2 | ● | — | — | — | — |
| C4 | ø4 | ● | ● | — | ● | — |
| C6 | ø6 | ● | ● | ● | ● | ● |
| C8 | ø8 | — | ● | ● | ● | ● |
| C10 | ø10 | — | — | ● | — | ● |
| C12 | ø12 | — | — | ● | — | ● |
| CM*1 | Straight port, mixed sizes | ● | ● | ● | ● | ● |
| L4 | ø4 | ● | ● | — | — | — |
| L6 | ø6 | ● | ● | ● | — | — |
| L8 | ø8 | — | ● | ● | — | — |
| L10 | ø10 | — | — | ● | — | — |
| L12 | ø12 | — | — | ● | — | — |
| B4 | ø4 | ● | ● | — | — | — |
| B6 | ø6 | ● | ● | ● | — | — |
| B8 | ø8 | — | ● | ● | — | — |
| B10 | ø10 | — | — | ● | — | — |
| B12 | ø12 | — | — | ● | — | — |
| LM*1 | Elbow port, mixed sizes (Including upward and downward piping) | ● | ● | ● | — | — |
| P, E port size (One-touch fittings) | | ø8 | ø10 | ø12 | ø10 | ø12 |

A, B port size (Inch/One-touch fitting)

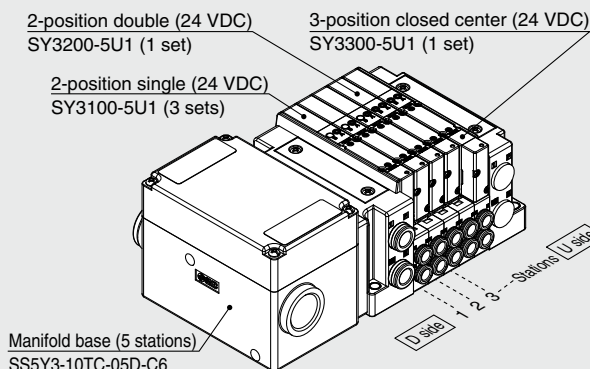
| Symbol | A, B port | Type 10/Side ported | | | Type 11/Bottom ported | |
|-------------------------------------|--|---------------------|--------|--------|-----------------------|--------|
| | | SY3000 | SY5000 | SY7000 | SY5000 | SY7000 |
| N1 | ø1/8" | ● | — | — | — | — |
| N3 | ø5/32" | ● | ● | — | ● | — |
| N7 | ø1/4" | ● | ● | ● | ● | ● |
| N9 | ø5/16" | — | ● | ● | ● | ● |
| N11 | ø3/8" | — | — | ● | — | ● |
| CM*1 | Straight port, mixed sizes | ● | ● | ● | ● | ● |
| LN3 | ø5/32" | ● | — | — | — | — |
| LN7 | ø1/4" | ● | ● | — | — | — |
| LN9 | ø5/16" | — | ● | — | — | — |
| LN11 | ø3/8" | — | — | ● | — | — |
| BN3 | ø5/32" | ● | — | — | — | — |
| BN7 | ø1/4" | ● | ● | — | — | — |
| BN9 | ø5/16" | — | ● | — | — | — |
| BN11 | ø3/8" | — | — | ● | — | — |
| LM*1 | Elbow port, mixed sizes (Including upward and downward piping) | ● | ● | ● | — | — |
| P, E port size (One-touch fittings) | | ø5/16" | ø3/8" | ø1/2" | ø3/8" | ø1/2" |

*1 Indicate the sizes on the manifold specification sheet in the case of "CM" or "LM." The direction of P, E port fittings is the same as for the A, B port. If selecting "LM," indicate it on the manifold specification sheet for the P, E port fitting direction.

*2 To avoid interference with the body or piping, select a downward elbow port when mounting the optional spacer assembly.

How to Order Manifold Assembly

Example (SS5Y3-10TC-□)



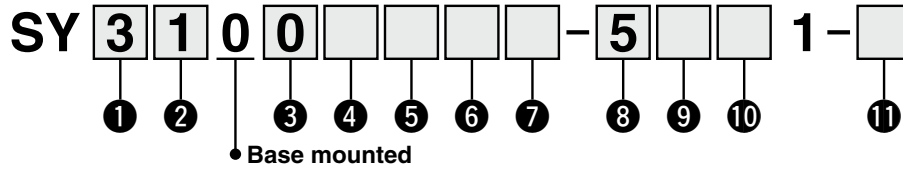
SS5Y3-10TC-05D-C6.....1 set (Type 10 5-station manifold base part no.)
* **SY3100-5U1.....3 sets** (2-position single part no.)
* **SY3200-5U1.....1 set** (2-position double part no.)
* **SY3300-5U1.....1 set** (3-position closed center part no.)

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

- For the valve arrangement, the valve closest to the D side is considered the 1st station.
- Under the manifold part number, state the valves to be mounted in order starting with the 1st station as shown in the figure above. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.

How to Order Valves (With mounting screw)

Refer to page 15 for valve specifications.



1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type of actuation

| | | |
|-----|------------------------|-----------------|
| 1 | 2-position | Single |
| 2 | | Double |
| 3 | 3-position | Closed center |
| 4 | | Exhaust center |
| 5 | | Pressure center |
| A*1 | 4-position dual 3-port | N.C./N.C. |
| B*1 | | N.O./N.O. |
| C*1 | | N.C./N.O. |

*1 Only the 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 the rubber seal type is available. A manifold installed type is available if a back pressure check valve with a metal seal is required. Refer to page 212 for ordering examples. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

* The built-in valve type back pressure check valve is not available for the 3-position type or the SY7000.

6 Pilot valve option

| | |
|-----|-------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K*1 | High pressure type (1.0 MPa) |

*1 Only the 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 if the valve is to be continuously energized for long periods of time.

* Be careful of the energizing time when the power saving circuit is selected. Refer to page 292 for details.

8 Rated voltage

| | |
|---|--------|
| 5 | 24 VDC |
| 6 | 12 VDC |

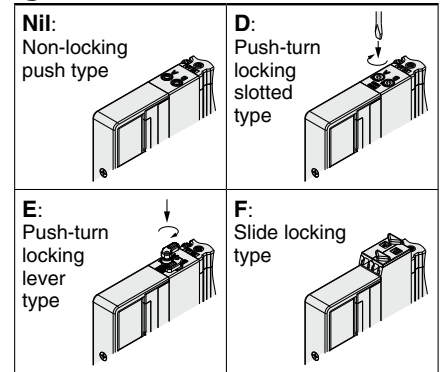
9 Light/surge voltage suppressor and common specification

| Symbol | With light | Surge voltage suppressor | Common specification |
|--------|------------|--------------------------|----------------------|
| Nil | — | — | Non-polar |
| R | — | ● | |
| U | ● | | |
| S | — | | Positive common |
| Z | ● | | |
| NS | — | | Negative common |
| NZ | ● | | |

* For the non-polar type, be careful of surge voltage intrusion. Refer to page 293 for details.

* Only "Z" and "NZ" types are available with a power saving circuit.

10 Manual override



* Refer to page 34 for the safety slide locking manual override.

11 Type of mounting screw

| | |
|-----|--|
| Nil | Round head combination screw |
| B | Hexagon socket head cap screw |
| K | Round head combination screw (Drop prevention type) |
| H | Hexagon socket head cap screw (Drop 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. Refer to page 198 for base gasket and mounting screw part numbers.

* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly, interface regulator, or double check spacer assembly with residual pressure release valve.

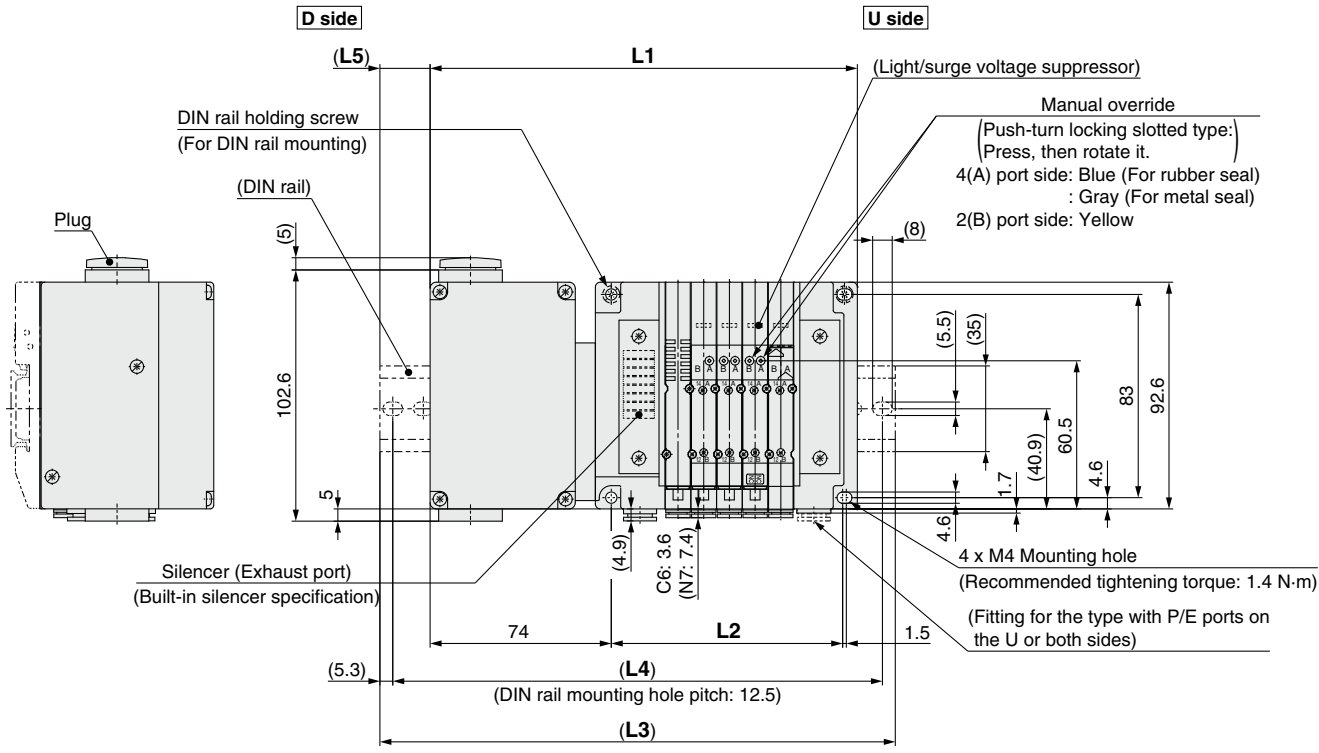
SY3000/5000/7000 Series

Dimensions: SY3000 Series

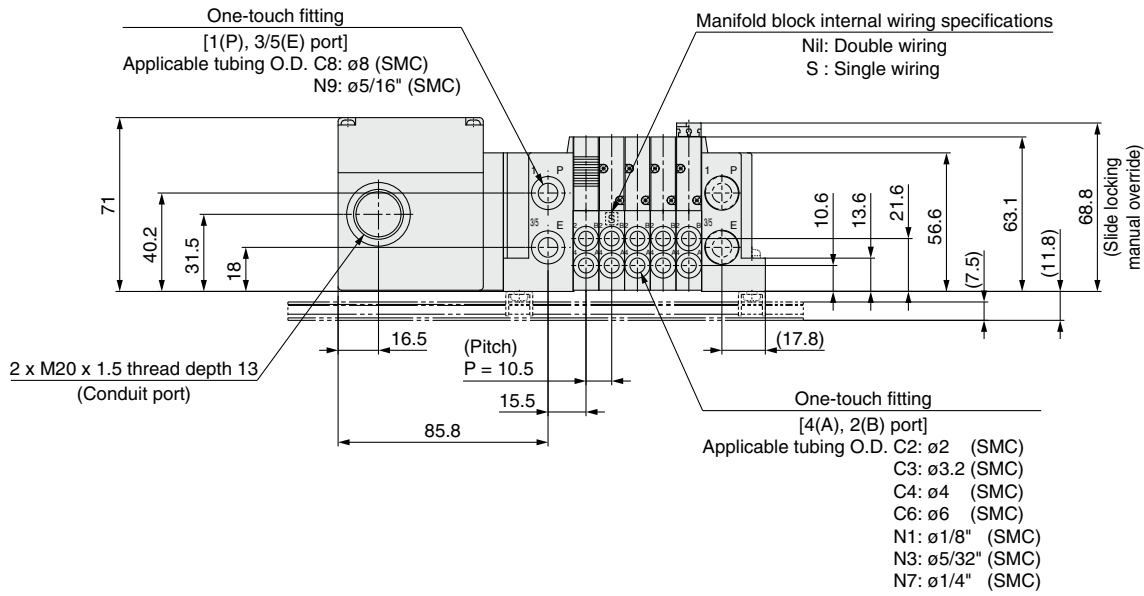
Plug-in
Connector Connecting Base

Type 10/Side Ported
Terminal Block Box

SS5Y3-10TC- Stations $\begin{matrix} \text{U} \\ \text{D} \end{matrix} \square - \begin{matrix} \text{C2} \\ \text{C3}, \text{N1} \\ \text{C4}, \text{N3} \\ \text{C6}, \text{N7} \end{matrix} \text{(D)}$



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



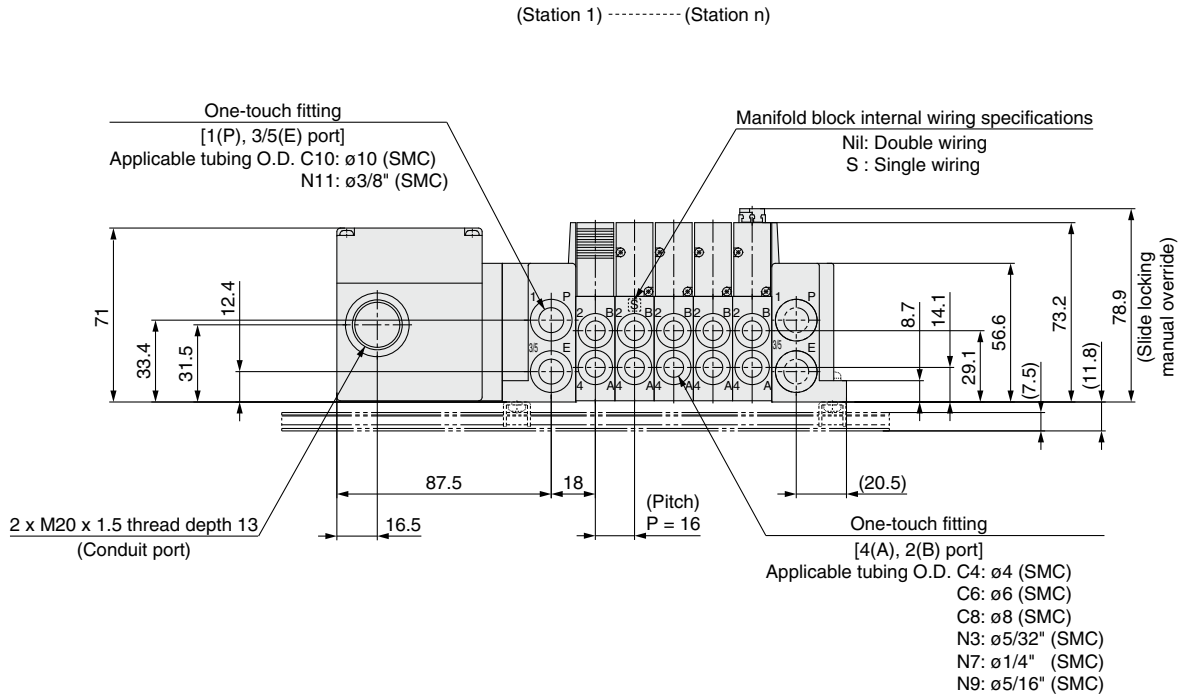
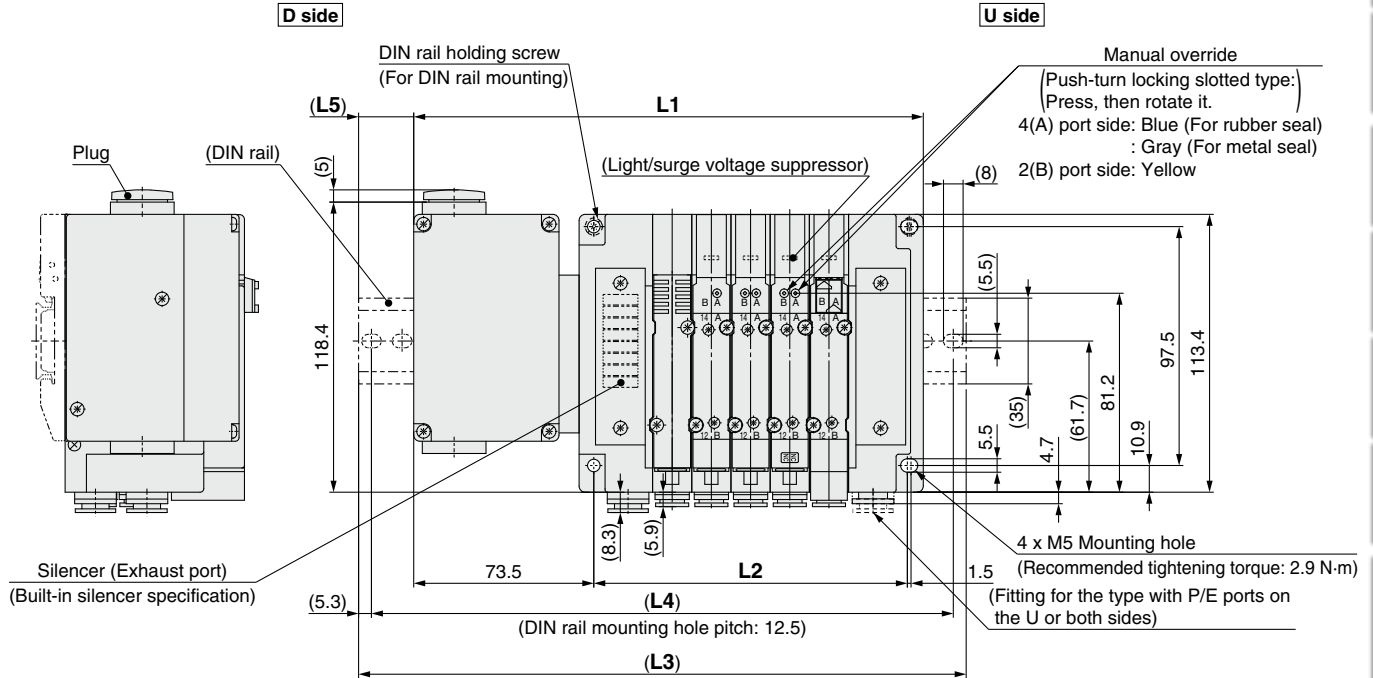
| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 143 | 153.5 | 164 | 174.5 | 185 | 195.5 | 206 | 216.5 | 227 | 237.5 | 248 | 258.5 | 269 | 279.5 | 290 | 300.5 | 311 | 321.5 | 332 | 342.5 | 353 | 363.5 | 374 |
| L2 | 63 | 73.5 | 84 | 94.5 | 105 | 115.5 | 126 | 136.5 | 147 | 157.5 | 168 | 178.5 | 189 | 199.5 | 210 | 220.5 | 231 | 241.5 | 252 | 262.5 | 273 | 283.5 | 294 |
| L3 | 173 | 185.5 | 198 | 210.5 | 223 | 235.5 | 235.5 | 248 | 260.5 | 273 | 285.5 | 298 | 298 | 310.5 | 323 | 335.5 | 348 | 360.5 | 360.5 | 373 | 385.5 | 398 | 410.5 |
| L4 | 162.5 | 175 | 187.5 | 200 | 212.5 | 225 | 225 | 237.5 | 250 | 262.5 | 275 | 287.5 | 287.5 | 300 | 312.5 | 325 | 337.5 | 350 | 350 | 362.5 | 375 | 387.5 | 400 |
| L5 | 17.5 | 18.5 | 19.5 | 20.5 | 21.5 | 22.5 | 17 | 18 | 19 | 20 | 21 | 22 | 17 | 18 | 19 | 20 | 21 | 22 | 16.5 | 17.5 | 18.5 | 19.5 | 20.5 |

Dimensions: **SY5000 Series**

Plug-in
Connector Connecting Base

Type 10/Side Ported
Terminal Block Box

SS5Y5-10TC-Stations $\begin{matrix} U \\ D \\ B \end{matrix}$ $\begin{matrix} C4, N3 \\ C6, N7 \\ C8, N9 \end{matrix}$ (D)



| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 160 | 176 | 192 | 208 | 224 | 240 | 256 | 272 | 288 | 304 | 320 | 336 | 352 | 368 | 384 | 400 | 416 | 432 | 448 | 464 | 480 | 496 | 512 |
| L2 | 80 | 96 | 112 | 128 | 144 | 160 | 176 | 192 | 208 | 224 | 240 | 256 | 272 | 288 | 304 | 320 | 336 | 352 | 368 | 384 | 400 | 416 | 432 |
| L3 | 198 | 210.5 | 223 | 248 | 260.5 | 273 | 285.5 | 310.5 | 323 | 335.5 | 348 | 373 | 385.5 | 398 | 423 | 435.5 | 448 | 460.5 | 485.5 | 498 | 510.5 | 535.5 | 548 |
| L4 | 187.5 | 200 | 212.5 | 237.5 | 250 | 262.5 | 275 | 300 | 312.5 | 325 | 337.5 | 362.5 | 375 | 387.5 | 412.5 | 425 | 437.5 | 450 | 475 | 487.5 | 500 | 525 | 537.5 |
| L5 | 21.5 | 19.5 | 18 | 22.5 | 20.5 | 19 | 17 | 21.5 | 20 | 18 | 16.5 | 21 | 19 | 17.5 | 22 | 20 | 18.5 | 16.5 | 21 | 19.5 | 17.5 | 22 | 20.5 |

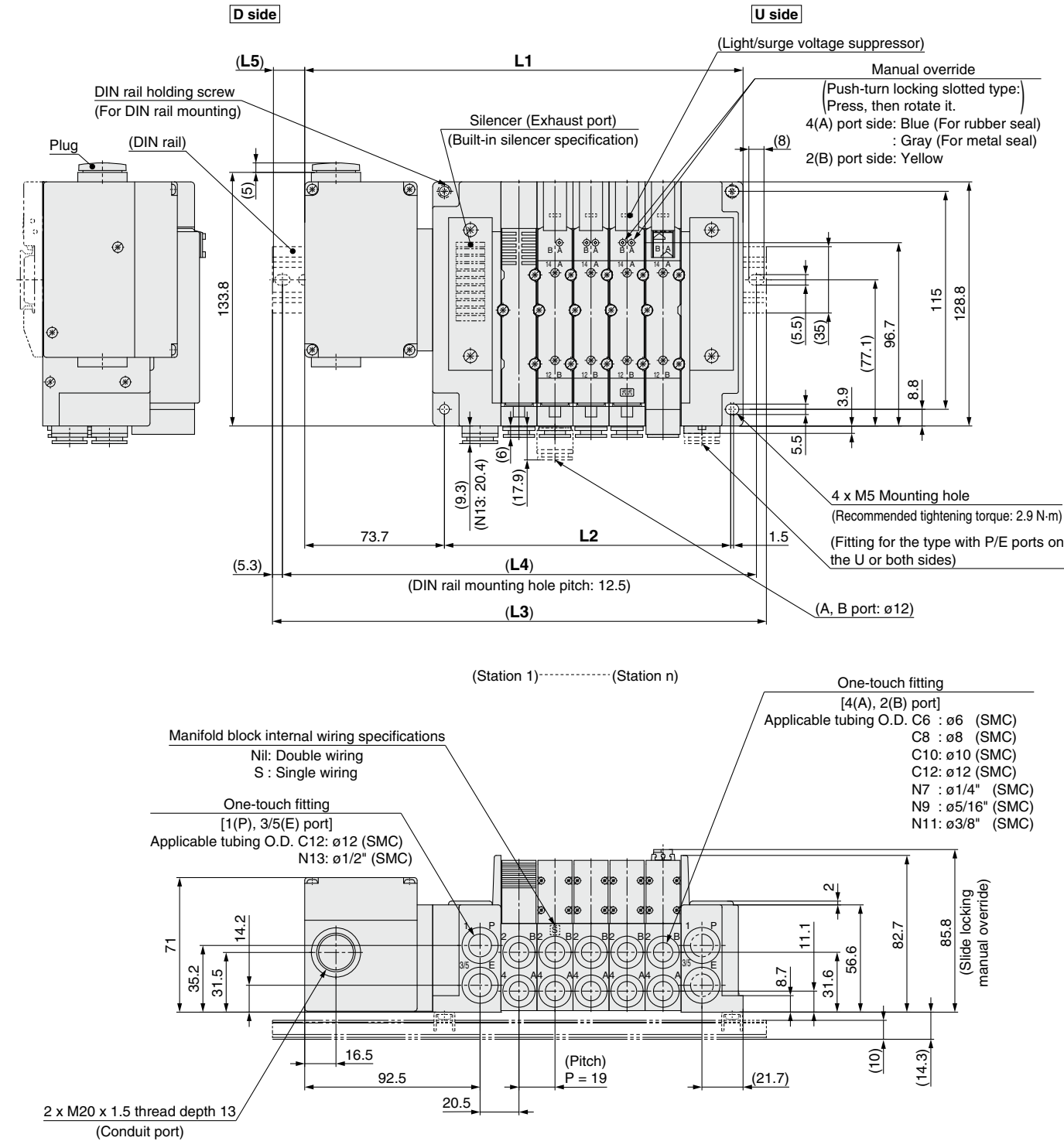
SY3000/5000/7000 Series

Dimensions: SY7000 Series

Plug-in
Connector Connecting Base

Type 10/Side Ported
Terminal Block Box

SS5Y7-10TC- Stations $\begin{matrix} \text{U} \\ \text{D} \end{matrix} \square - \begin{matrix} \text{C6, N7} \\ \text{C8, N9} \\ \text{C10, N11} \end{matrix} \text{ (D)} \\ \text{C12}$



| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 174.2 | 193.2 | 212.2 | 231.2 | 250.2 | 269.2 | 288.2 | 307.2 | 326.2 | 345.2 | 364.2 | 383.2 | 402.2 | 421.2 | 440.2 | 459.2 | 478.2 | 497.2 | 516.2 | 535.2 | 554.2 | 573.2 | 592.2 |
| L2 | 94 | 113 | 132 | 151 | 170 | 189 | 208 | 227 | 246 | 265 | 284 | 303 | 322 | 341 | 360 | 379 | 398 | 417 | 436 | 455 | 474 | 493 | 512 |
| L3 | 210.5 | 223 | 248 | 260.5 | 285.5 | 298 | 323 | 335.5 | 360.5 | 373 | 398 | 423 | 435.5 | 460.5 | 473 | 498 | 510.5 | 535.5 | 548 | 573 | 585.5 | 610.5 | 623 |
| L4 | 200 | 212.5 | 237.5 | 250 | 275 | 287.5 | 312.5 | 325 | 350 | 362.5 | 387.5 | 412.5 | 425 | 450 | 462.5 | 487.5 | 500 | 525 | 537.5 | 562.5 | 575 | 600 | 612.5 |
| L5 | 20.5 | 17 | 20 | 17 | 20 | 16.5 | 19.5 | 16.5 | 19.5 | 16 | 19 | 22 | 19 | 22 | 18.5 | 21.5 | 18.5 | 21.5 | 18 | 21 | 18 | 21 | 17.5 |

Plug-in Connector Connecting Base

Terminal Block Box (Spring Type)

Type 12
Top Ported

SY3000/5000/7000 Series



How to Order Manifolds

Refer to pages 162 to 164
for the dimensions of
Type 12/Top-ported type.

SS5Y **3** - **12** TC - **05** **D** - - -

1 2 3 4 5 6 7

1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type

| | |
|----|------------|
| 12 | Top ported |
|----|------------|

3 Valve stations

TC: Spring type terminal block box

| Symbol | Stations | Note |
|--------|-------------|---|
| 02 | 2 stations | Double wiring *1 |
| ⋮ | ⋮ | |
| 16 | 16 stations | Specified layout *2 (Up to 32 solenoids available) |
| 02 | 2 stations | |
| ⋮ | ⋮ | |
| 24 | 24 stations | |

*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.

*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.)

* This also includes the number of the blanking plate assembly.

4 P, E port entry

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

5 SUP/EXH block assembly

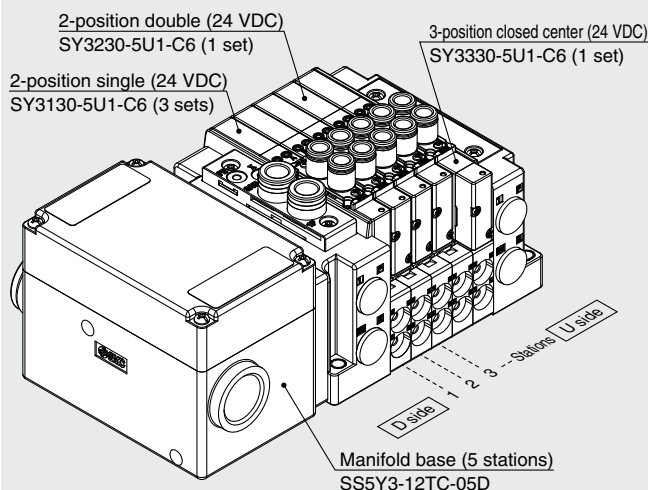
| | |
|-----|-----------------------------------|
| Nil | Internal pilot |
| S | Internal pilot, Built-in silencer |
| R | External pilot |

* The P and E ports are only available on the U and D sides for the built-in silencer type. 3/5(E) port is plugged. The silencer exhaust port is located on the opposite side of the P and E port entry. (Example: When the P and E port entry is on the D side, the silencer exhaust port is on the U side.)

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

How to Order Manifold Assembly

Example (SS5Y3-12TC-□)



SS5Y3-12TC-05D 1 set (Type 12 5-station manifold base part no.)

* SY3130-5U1-C6 3 sets (2-position single part no.)

* SY3230-5U1-C6 1 set (2-position double part no.)

* SY3330-5U1-C6 1 set (3-position closed center part no.)

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

- For the valve arrangement, the valve closest to the D side is considered the 1st station.
- Under the manifold part number, state the valves to be mounted in order starting with the 1st station as shown in the figure above. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.

6 P, E port size (One-touch fittings)

| Symbol | SY3000 | SY5000 | SY7000 |
|--------|--------|--------|--------|
| Nil | ø8 | ø10 | ø12 |
| N | ø5/16" | ø3/8" | ø1/2" |

* For N, sizes are in inches.

7 Mounting

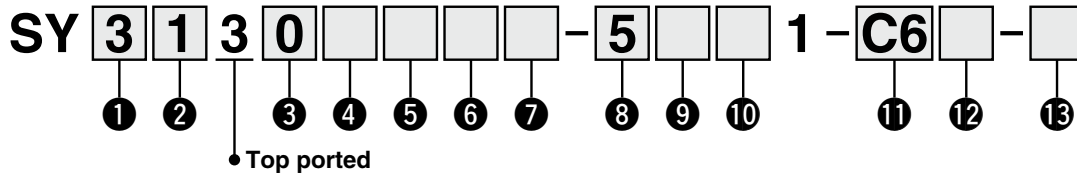
| | | |
|------------|--------------------------------------|---|
| Nil | Direct mounting | |
| D | DIN rail mounting (with DIN rail) | |
| D0 | DIN rail mounting (without DIN rail) | |
| D3 | For 3 stations | Specify a length longer than that of the standard rail. |
| : | : | |
| D24 | For 24 stations | |

* Refer to page 295 (SY3000/5000/7000 series: Specific product precautions 6) for instructions on fastening the DIN rail mounting type manifold.

SY3000/5000/7000 Series

How to Order Valves (With mounting screw)

Refer to page 15 for valve specifications.



1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type of actuation

| | | |
|-----|-------------|-----------------|
| 1 | 2-position | Single |
| 2 | | Double |
| 3 | 3-position | Closed center |
| 4 | | Exhaust center |
| 5 | | Pressure center |
| A*1 | 4-position | N.C./N.C. |
| B*1 | dual 3-port | N.O./N.O. |
| C*1 | | N.C./N.O. |

*1 Only the 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 the rubber seal type is available. A manifold installed type is available if a back pressure check valve with a metal seal is required. Refer to page 212 for ordering examples. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

* The built-in valve type back pressure check valve is not available for the 3-position type or the SY7000.

6 Pilot valve option

| | |
|-----|-------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K*1 | High pressure type (1.0 MPa) |

*1 Only the 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 if the valve is to be continuously energized for long periods of time.
* Be careful of the energizing time when the power saving circuit is selected. Refer to page 292 for details.

8 Rated voltage

| | |
|---|--------|
| 5 | 24 VDC |
| 6 | 12 VDC |

9 Light/surge voltage suppressor and common specification

| Symbol | With light | Surge voltage suppressor | Common specification |
|--------|------------|--------------------------|----------------------|
| Nil | — | — | Non-polar |
| R | — | — | |
| U | ● | — | |
| S | — | ● | Positive common |
| Z | ● | | Negative common |
| NS | — | | |
| NZ | ● | — | |

* For the non-polar type, be careful of surge voltage intrusion.
Refer to page 293 for details.

* Only "Z" and "NZ" types are available with a power saving circuit.

10 Manual override

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

* Refer to page 34 for the safety slide locking manual override.

11 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 |

One-touch fitting (Metric)

| Symbol | A, B port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| C2 | ø2 | ● | — | — |
| C3 | ø3.2 | ● | — | — |
| C4 | ø4 | ● | ● | — |
| C6 | ø6 | ● | ● | ● |
| C8 | ø8 | — | ● | ● |
| C10 | ø10 | — | — | ● |
| C12 | ø12 | — | — | ● |

One-touch fitting (Inch)

| Symbol | A, B port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| N1 | ø1/8" | ● | — | — |
| N3 | ø5/32" | ● | ● | — |
| N7 | ø1/4" | ● | ● | ● |
| N9 | ø5/16" | — | ● | ● |
| N11 | ø3/8" | — | — | ● |

12 Thread type

| | |
|-----|------|
| Nil | Rc |
| F | G |
| N | NPT |
| T | NPTF |

* Only Nil is available for M5.

13 Type of mounting screw

| | |
|-----|--|
| Nil | Round head combination screw |
| B | Hexagon socket head cap screw |
| K | Round head combination screw (Drop prevention type) |
| H | Hexagon socket head cap screw (Drop 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.**

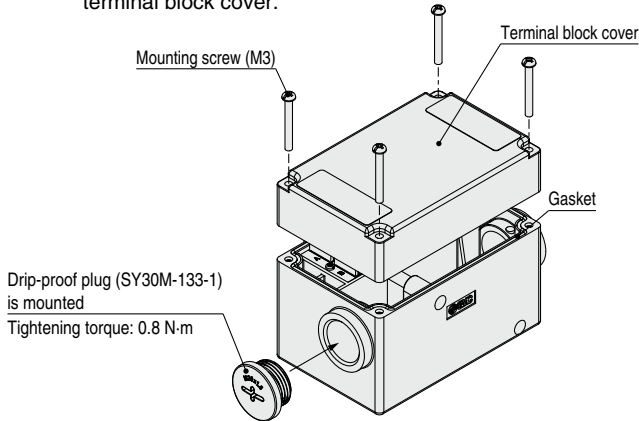
Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance. Refer to page 198 for base gasket and mounting screw part numbers.

* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly or interface regulator.

Terminal Block Connection

Step 1. Remove the terminal block cover

Loosen the 4 mounting screws (M3) to remove the terminal block cover.



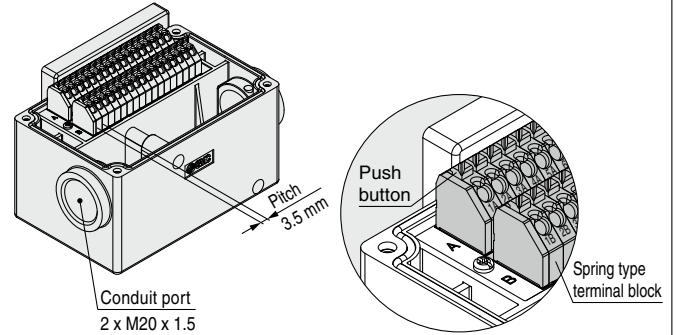
Step 3. Mount the terminal block cover

Securely tighten the mounting screws (M3) to the torque shown in the table below only after confirming that the gasket is installed correctly.

| Proper tightening torque [N·m] |
|--------------------------------|
| 0.54 to 0.66 |

Step 2. The diagram below shows the terminal block wiring. All stations are provided with double wiring regardless of the mounted valves.

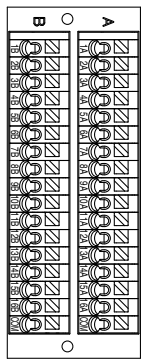
Connect each wire to the power supply side, according to the markings provided inside the terminal block. Be sure to connect the wire with the push button pressed down.



• Applicable wire range: Conductor diameter $\phi 0.5$ to $\phi 1.2$ mm, Stranded wire AWG24 to 16

Electrical Wiring Specifications (IP67 compatible)

Standard wiring



If alignment is not specified, the internal wiring will be double wiring (connected to SOL. a and SOL. b) regardless of number of stations, valve types, and option types.

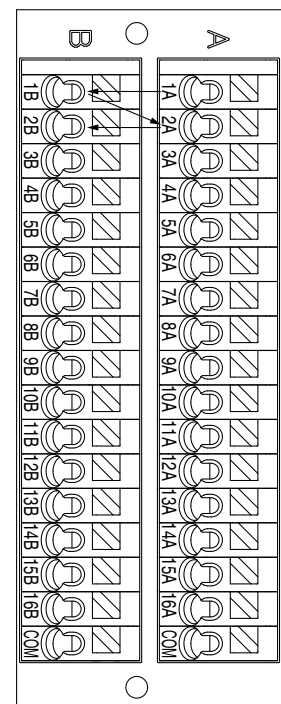
* When using a valve with no polarity, either positive common or negative common can be used.

| | Terminal no. | Polarity |
|------------|--------------|----------|
| Station 1 | SOL.a 1A | (-) (+) |
| | SOL.b 1B | (-) (+) |
| Station 2 | SOL.a 2A | (-) (+) |
| | SOL.b 2B | (-) (+) |
| Station 3 | SOL.a 3A | (-) (+) |
| | SOL.b 3B | (-) (+) |
| Station 4 | SOL.a 4A | (-) (+) |
| | SOL.b 4B | (-) (+) |
| Station 5 | SOL.a 5A | (-) (+) |
| | SOL.b 5B | (-) (+) |
| Station 6 | SOL.a 6A | (-) (+) |
| | SOL.b 6B | (-) (+) |
| Station 7 | SOL.a 7A | (-) (+) |
| | SOL.b 7B | (-) (+) |
| Station 8 | SOL.a 8A | (-) (+) |
| | SOL.b 8B | (-) (+) |
| Station 9 | SOL.a 9A | (-) (+) |
| | SOL.b 9B | (-) (+) |
| Station 10 | SOL.a 10A | (-) (+) |
| | SOL.b 10B | (-) (+) |
| Station 11 | SOL.a 11A | (-) (+) |
| | SOL.b 11B | (-) (+) |
| Station 12 | SOL.a 12A | (-) (+) |
| | SOL.b 12B | (-) (+) |
| Station 13 | SOL.a 13A | (-) (+) |
| | SOL.b 13B | (-) (+) |
| Station 14 | SOL.a 14A | (-) (+) |
| | SOL.b 14B | (-) (+) |
| Station 15 | SOL.a 15A | (-) (+) |
| | SOL.b 15B | (-) (+) |
| Station 16 | SOL.a 16A | (-) (+) |
| | SOL.b 16B | (-) (+) |
| | COM. | (+) (-) |
| | COM. | (+) (-) |

Positive Negative
common common

Specified Layout

A mixture of single and double wiring can be specified on the manifold specification sheet. The maximum number of stations is determined according to the number of solenoids. The total number of solenoids should be 32 or less. 1 solenoid is required for the 2-position single, and 2 solenoids for the 2-position double, 3-position, and 4-position.



Type 10
Side Ported

Type 11
Bottom Ported

Plug-in Connector Connecting Base

Terminal Block Box

SY3000/5000/7000 Series



How to Order Manifolds

Refer to pages 160 (SY5000) and 161 (SY7000) for the dimensions of Type 11/Bottom-ported type.

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

1 2 3 4 5 6 7

1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type

| | |
|----|-----------------|
| 10 | Side ported |
| 11 | Bottom ported*1 |

*1 The SY5000 manifold base is used for the bottom-ported SY3000. When ordering, refer to the "Plug-in Mixed Mounting Type Manifold" (from page 165).

3 Valve stations

| Symbol | Stations | Note |
|--------|-------------|--|
| 02 | 2 stations | Double wiring*1 |
| 10 | 10 stations | |
| 02 | 2 stations | Specified layout*2 (Up to 20 solenoids available) |
| 20 | 20 stations | |

*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.

*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.)

* This also includes the number of the blanking plate assembly.

4 P, E port entry

| | |
|---|-------------------------------|
| U | U side (2 to 10 stations) |
| D | D side (2 to 10 stations) |
| B | Both sides (2 to 20 stations) |

5 SUP/EXH block assembly

| | |
|-----|-----------------------------------|
| Nil | Internal pilot |
| S | Internal pilot, Built-in silencer |
| R | External pilot |

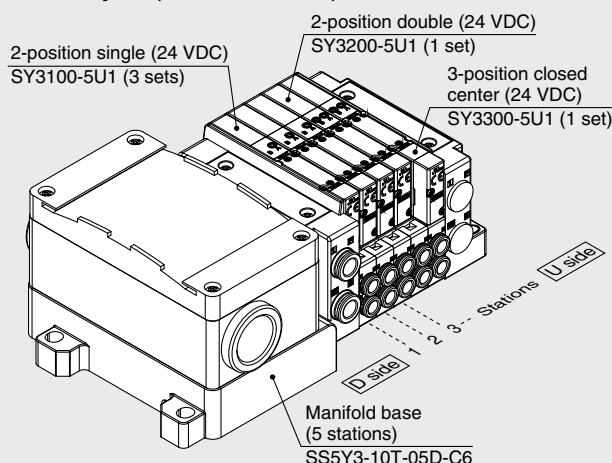
* 3/5(E) port is plugged for the built-in silencer type.

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

Refer to the page on the right for 6.

How to Order Manifold Assembly

Example (SS5Y3-10T-□)



SS5Y3-10T-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 asterisk denotes the symbol for the assembly.
Prefix it to the part numbers of the valve, etc.

- For the valve arrangement, the valve closest to the D side is considered the 1st station.
- Under the manifold part number, state the valves to be mounted in order starting with the 1st station as shown in the figure above. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.

* When mixing top-ported configurations, select from those listed on page 74. In such cases, use caution as there is also output on the A and B ports on the base side. Specify on the manifold specification sheet if plugs are required for the A and B ports on the base side.

7 Mounting and Option

| Symbol | Mounting | Option | |
|--------|-------------------|------------|----------------|
| | | Name plate | Station number |
| Nil | Direct mounting | — | — |
| AA | | ● | ● |
| BA | | ● | — |
| D□ | DIN rail mounting | — | — |
| A□ | | ● | ● |
| B□ | | ● | — |

* Enter the number of stations inside □ when it is larger than the number of valve stations. (Refer to "DIN Rail Option" below.)

* Only direct mounting is available for the type 11 bottom-ported type.

* Refer to page 295 for the fixation of DIN rail mounting type manifold.

DIN Rail Option

| | | |
|-----|---------------------------------|--|
| Nil | Standard length | |
| 0 | Without DIN rail (with bracket) | |
| 3 | For 3 stations | Specify a longer rail than the total length of specified stations. |
| ... | ... | |
| 20 | For 20 stations | |

6 A, B port size (Metric/One-touch fitting)

| Symbol | A, B port | Type 10/Side ported | | | Type 11/Bottom ported | | |
|-------------------------------------|--|---------------------|--------|--------|-----------------------|--------|--|
| | | SY3000 | SY5000 | SY7000 | SY5000 | SY7000 | |
| C2 | ø2 | ● | — | — | — | — | |
| C3 | ø3.2 | ● | — | — | — | — | |
| C4 | ø4 | ● | ● | — | ● | — | |
| C6 | ø6 | ● | ● | ● | ● | ● | |
| C8 | ø8 | — | ● | ● | ● | ● | |
| C10 | ø10 | — | — | ● | — | ● | |
| C12 | ø12 | — | — | ● | — | ● | |
| CM*1 | Straight port, mixed sizes | ● | ● | ● | ● | ● | |
| L4 | ø4 | ● | ● | — | — | — | |
| L6 | ø6 | ● | ● | ● | — | — | |
| L8 | ø8 | — | ● | ● | — | — | |
| L10 | ø10 | — | — | ● | — | — | |
| L12 | ø12 | — | — | ● | — | — | |
| B4 | ø4 | ● | ● | — | — | — | |
| B6 | ø6 | ● | ● | ● | — | — | |
| B8 | ø8 | — | ● | ● | — | — | |
| B10 | ø10 | — | — | ● | — | — | |
| B12 | ø12 | — | — | ● | — | — | |
| LM*1 | Elbow port, mixed sizes (Including upward and downward piping) | ● | ● | ● | — | — | |
| P, E port size (One-touch fittings) | | ø8 | ø10 | ø12 | ø10 | ø12 | |

*1 Indicate the sizes on the manifold specification sheet in the case of "CM" or "LM."

The direction of P, E port fittings is the same as for the A, B port. If selecting "LM," indicate it on the manifold specification sheet for the P, E port fitting direction.

*2 To avoid interference with the body or piping, select a downward elbow port when mounting the optional spacer assembly (pages 204 to 206).

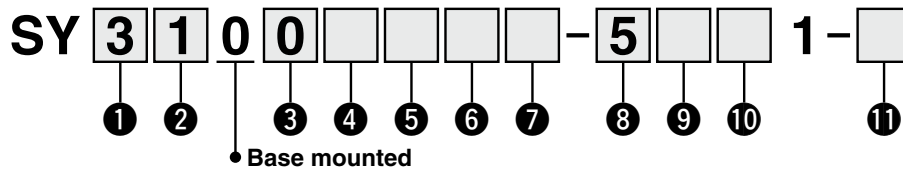
A, B port size (Inch/One-touch fitting)

| Symbol | A, B port | Type 10/Side ported | | | Type 11/Bottom ported | | |
|-------------------------------------|--|---------------------|--------|--------|-----------------------|--------|--|
| | | SY3000 | SY5000 | SY7000 | SY5000 | SY7000 | |
| N1 | ø1/8" | ● | — | — | — | — | |
| N3 | ø5/32" | ● | ● | — | ● | — | |
| N7 | ø1/4" | ● | ● | ● | ● | ● | |
| N9 | ø5/16" | — | ● | ● | ● | ● | |
| N11 | ø3/8" | — | — | ● | — | ● | |
| CM*1 | Straight port, mixed sizes | ● | ● | ● | ● | ● | |
| LN3 | ø5/32" | ● | — | — | — | — | |
| LN7 | ø1/4" | ● | ● | — | — | — | |
| LN9 | ø5/16" | — | ● | — | — | — | |
| LN11 | ø3/8" | — | — | ● | — | — | |
| BN3 | ø5/32" | ● | — | — | — | — | |
| BN7 | ø1/4" | ● | ● | — | — | — | |
| BN9 | ø5/16" | — | ● | — | — | — | |
| BN11 | ø3/8" | — | — | ● | — | — | |
| LM*1 | Elbow port, mixed sizes (Including upward and downward piping) | ● | ● | ● | — | — | |
| P, E port size (One-touch fittings) | | ø5/16" | ø3/8" | ø1/2" | ø3/8" | ø1/2" | |

SY3000/5000/7000 Series

How to Order Valves (With mounting screw)

Refer to page 15 for valve specifications.



1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type of actuation

| | | |
|-----|------------------------|-----------------|
| 1 | 2-position | Single |
| 2 | | Double |
| 3 | 3-position | Closed center |
| 4 | | Exhaust center |
| 5 | | Pressure center |
| A*1 | 4-position dual 3-port | N.C./N.C. |
| B*1 | | N.O./N.O. |
| C*1 | | N.C./N.O. |

*1 Only the 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 the rubber seal type is available. A manifold installed type is available if a back pressure check valve with a metal seal is required. Refer to page 212 for ordering examples. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

* The built-in valve type back pressure check valve is not available for the 3-position type or the SY7000.

6 Pilot valve option

| | |
|-----|-------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K*1 | High pressure type (1.0 MPa) |

*1 Only the 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 if the valve is to be continuously energized for long periods of time.

* Be careful of the energizing time when the power saving circuit is selected. Refer to page 292 for details.

8 Rated voltage

| | |
|---|--------|
| 5 | 24 VDC |
| 6 | 12 VDC |

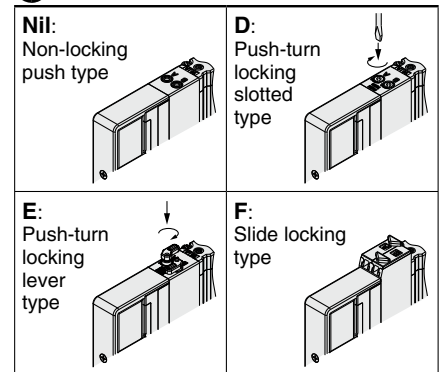
9 Light/surge voltage suppressor and common specification

| Symbol | With light | Surge voltage suppressor | Common specification |
|--------|------------|--------------------------|----------------------|
| Nil | — | — | Non-polar |
| R | — | ● | |
| U | ● | | |
| S | — | | Positive common |
| Z | ● | | |
| NS | — | | Negative common |
| NZ | ● | | |

* For the non-polar type, be careful of surge voltage intrusion. Refer to page 293 for details.

* Only "Z" and "NZ" types are available with a power saving circuit.

10 Manual override



* Refer to page 34 for the safety slide locking manual override.

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. Refer to page 198 for base gasket and mounting screw part numbers.

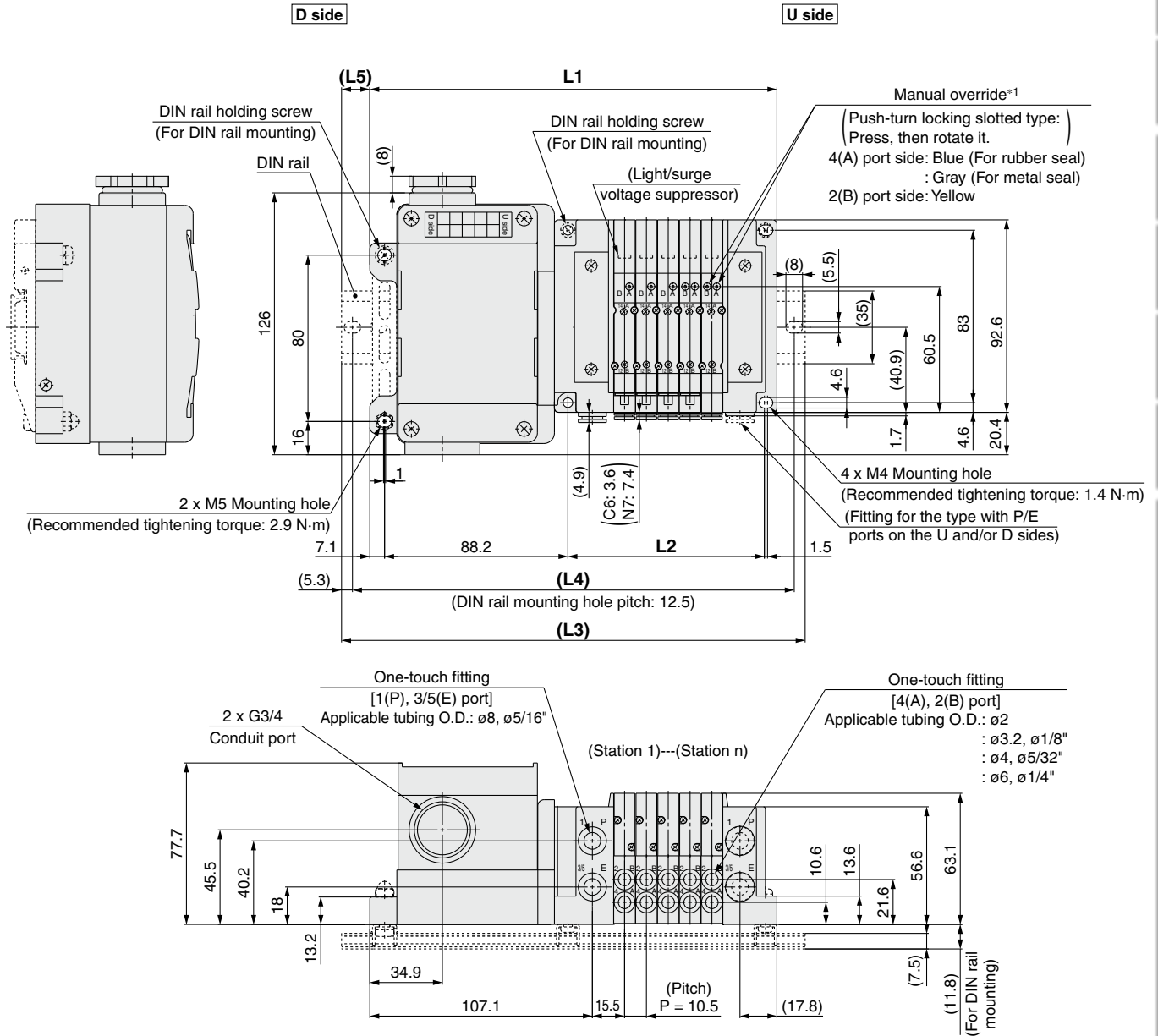
* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly, interface regulator, or double check spacer assembly with residual pressure release valve.

Dimensions: **SY3000 Series**

**Plug-in
Connector Connecting Base**

Type 10/Side Ported
Terminal Block Box

SS5Y3-10T- Stations $\begin{matrix} U \\ D \\ B \end{matrix}$ $\begin{matrix} C2 \\ C3, N1 \\ C4, N3 \\ C6, N7 \end{matrix}$ (D)



- *1 Refer to page 157 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.
* These figures show the "SS5Y3-10T-05D-C6."
* Refer to page 162 for dimensions of A or B port top-ported type.

| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 164.3 | 174.8 | 185.3 | 195.8 | 206.3 | 216.8 | 227.3 | 237.8 | 248.3 | 258.8 | 269.3 | 279.8 | 290.3 | 300.8 | 311.3 | 321.8 | 332.3 | 342.8 | 353.3 |
| L2 | 63 | 73.5 | 84 | 94.5 | 105 | 115.5 | 126 | 136.5 | 147 | 157.5 | 168 | 178.5 | 189 | 199.5 | 210 | 220.5 | 231 | 241.5 | 252 |
| L3 | 198 | 198 | 210.5 | 223 | 235.5 | 248 | 260.5 | 273 | 273 | 285.5 | 298 | 310.5 | 323 | 335.5 | 335.5 | 348 | 360.5 | 373 | 385.5 |
| L4 | 187.5 | 187.5 | 200 | 212.5 | 225 | 237.5 | 250 | 262.5 | 262.5 | 275 | 287.5 | 300 | 312.5 | 325 | 325 | 337.5 | 350 | 362.5 | 375 |
| L5 | 17 | 11.5 | 12.5 | 13.5 | 14.5 | 15.5 | 16.5 | 17.5 | 12.5 | 13.5 | 14.5 | 15.5 | 16.5 | 17.5 | 12 | 13 | 14 | 15 | 16 |

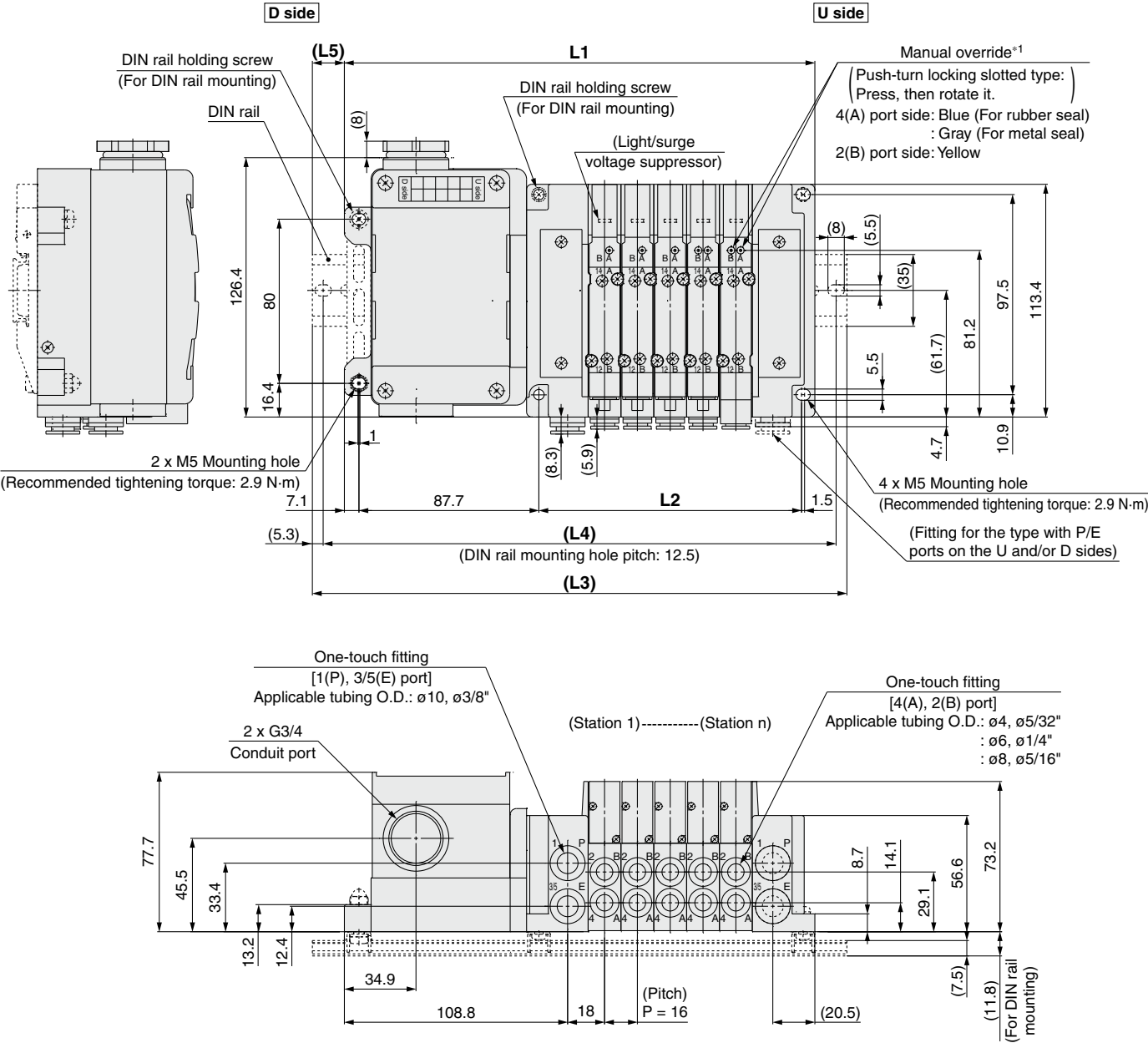
SY3000/5000/7000 Series

Dimensions: SY5000 Series

Plug-in
Connector Connecting Base

Type 10/Side Ported
Terminal Block Box

SS5Y5-10T- Stations U C4, N3
D-C6, N7 (D)
B C8, N9



*1 Refer to page 158 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.
* These figures show the "SS5Y5-10T-05D-C8."
* Refer to page 163 for dimensions of A or B port top-ported type.

| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 181.3 | 197.3 | 213.3 | 229.3 | 245.3 | 261.3 | 277.3 | 293.3 | 309.3 | 325.3 | 341.3 | 357.3 | 373.3 | 389.3 | 405.3 | 421.3 | 437.3 | 453.3 | 469.3 |
| L2 | 80 | 96 | 112 | 128 | 144 | 160 | 176 | 192 | 208 | 224 | 240 | 256 | 272 | 288 | 304 | 320 | 336 | 352 | 368 |
| L3 | 210.5 | 223 | 248 | 260.5 | 273 | 285.5 | 310.5 | 323 | 335.5 | 360.5 | 373 | 385.5 | 398 | 423 | 435.5 | 448 | 460.5 | 485.5 | 498 |
| L4 | 200 | 212.5 | 237.5 | 250 | 262.5 | 275 | 300 | 312.5 | 325 | 350 | 362.5 | 375 | 387.5 | 412.5 | 425 | 437.5 | 450 | 475 | 487.5 |
| L5 | 14.5 | 13 | 17.5 | 15.5 | 14 | 12 | 16.5 | 15 | 13 | 17.5 | 16 | 14 | 12.5 | 17 | 15 | 13.5 | 11.5 | 16 | 14.5 |

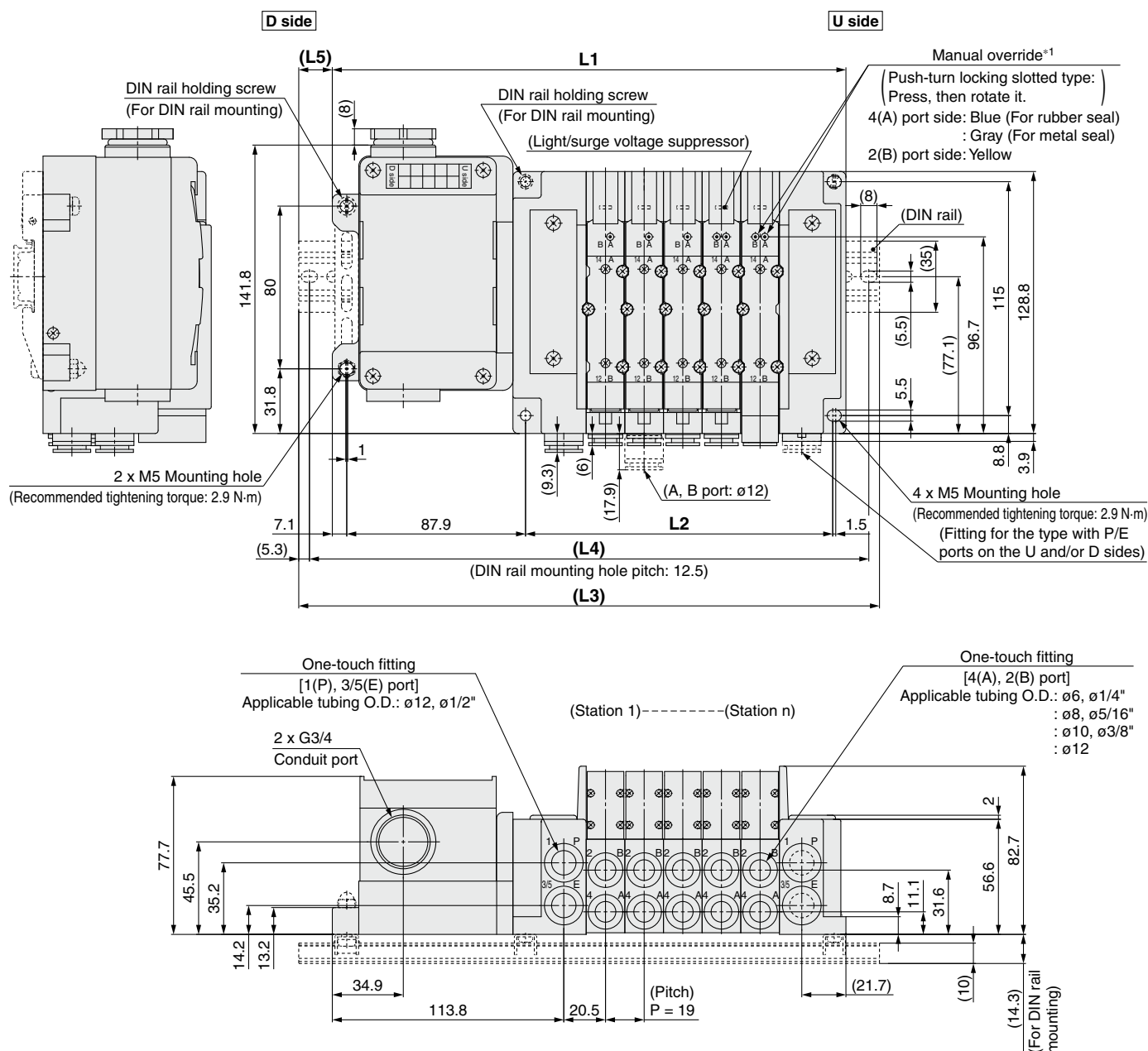
Dimensions: SY7000 Series

Plug-in Connector Connecting Base

Type 10/Side Ported

Terminal Block Box

SS5Y7-10T-StationsU
D-
BC6, N7
C8, N9
C10, N11
C12**(D)**



- *1 Refer to page 159 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.
* These figures show the "SS5Y7-10T-05D-C10."
* Refer to page 164 for dimensions of A or B port top-ported type.

| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 195.5 | 214.5 | 233.5 | 252.5 | 271.5 | 290.5 | 309.5 | 328.5 | 347.5 | 366.5 | 385.5 | 404.5 | 423.5 | 442.5 | 461.5 | 480.5 | 499.5 | 518.5 | 537.5 |
| L2 | 94 | 113 | 132 | 151 | 170 | 189 | 208 | 227 | 246 | 265 | 284 | 303 | 322 | 341 | 360 | 379 | 398 | 417 | 436 |
| L3 | 223 | 248 | 260.5 | 285.5 | 298 | 323 | 335.5 | 360.5 | 373 | 398 | 410.5 | 435.5 | 448 | 473 | 485.5 | 510.5 | 523 | 548 | 573 |
| L4 | 212.5 | 237.5 | 250 | 275 | 287.5 | 312.5 | 325 | 350 | 362.5 | 387.5 | 400 | 425 | 437.5 | 462.5 | 475 | 500 | 512.5 | 537.5 | 562.5 |
| L5 | 14 | 17 | 13.5 | 16.5 | 13.5 | 16.5 | 13 | 16 | 13 | 16 | 12.5 | 15.5 | 12.5 | 15.5 | 12 | 15 | 12 | 15 | 18 |

Plug-in Connector Connecting Base

Terminal Block Box

Type 12
Top Ported

SY3000/5000/7000 Series



How to Order Manifolds

Refer to pages 162 to 164
for the dimensions of
Type 12/Top-ported type.

SS5Y **3** - 12T - **05** **U** - - -

1 2 3 4 5 6

1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

3 P, E port entry

| | |
|-----|-------------------------------|
| U*1 | U side (2 to 10 stations) |
| D*1 | D side (2 to 10 stations) |
| B | Both sides (2 to 20 stations) |

*1 4 For type "S", SUP/EXH block assembly with a built-in silencer, choose U or D for P, E port entry.

2 Valve stations

| Symbol | Stations | Note |
|--------|-------------|--|
| 02 | 2 stations | Double wiring*1 |
| 10 | 10 stations | |
| 02 | 2 stations | Specified layout*2 (Up to 20 solenoids available) |
| 20 | 20 stations | |

- *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.
- *2 Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position, and 4-position valves cannot be used where single wiring has been specified.)
- * This also includes the number of the blanking plate assembly.

4 SUP/EXH block assembly

| | |
|-----|-----------------------------------|
| Nil | Internal pilot |
| S | Internal pilot, Built-in silencer |
| R | External pilot |

- * The P and E ports are only available on the U and D sides for the built-in silencer type. 3/5(E) port is plugged. The silencer exhaust port is located on the opposite side of the P and E port entry. (Example: When the P and E port entry is on the D side, the silencer exhaust port is on the U side.)
- * When the built-in silencer type is used, keep the exhaust port from coming into direct contact with water or other liquids.

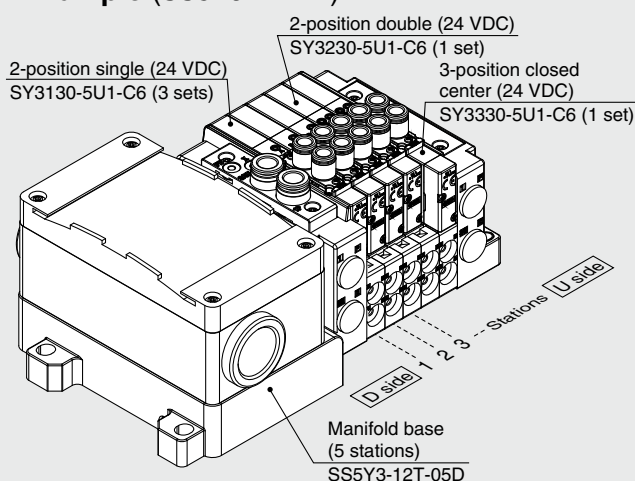
5 P, E port size (One-touch fittings)

| Symbol | SY3000 | SY5000 | SY7000 |
|--------|--------|--------|--------|
| Nil | ø8 | ø10 | ø12 |
| N | ø5/16" | ø3/8" | ø1/2" |

* For N, sizes are in inches.

How to Order Manifold Assembly

Example (SS5Y3-12T-□)



SS5Y3-12T-05D 1 set (Type 12 5-station manifold base part no.)
 *SY3130-5U1-C6 3 sets (2-position single part no.)
 *SY3230-5U1-C6 1 set (2-position double part no.)
 *SY3330-5U1-C6 1 set (3-position closed center part no.)

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

- For the valve arrangement, the valve closest to the D side is considered the 1st station.
- Under the manifold part number, state the valves to be mounted in order starting with the 1st station as shown in the figure above. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.

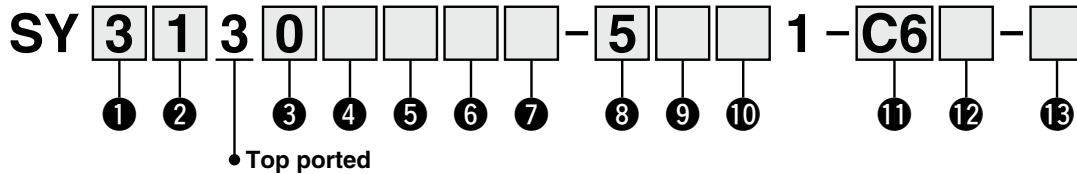
6 Mounting

| | |
|-----|---|
| Nil | Direct mounting |
| D | DIN rail mounting (With DIN rail) |
| D0 | DIN rail mounting (Without DIN rail) |
| D3 | For 3 stations |
| ⋮ | ⋮ |
| D20 | For 20 stations |

* Refer to page 295 for the fixation of DIN rail mounting type manifold.

How to Order Valves (With mounting screw)

Refer to page 15 for valve specifications.



1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type of actuation

| | | |
|-----|-------------|-----------------|
| 1 | 2-position | Single |
| 2 | | Double |
| 3 | 3-position | Closed center |
| 4 | | Exhaust center |
| 5 | | Pressure center |
| A*1 | 4-position | N.C./N.C. |
| B*1 | dual 3-port | N.O./N.O. |
| C*1 | | N.C./N.O. |

*1 Only the 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 the rubber seal type is available. A manifold installed type is available if a back pressure check valve with a metal seal is required. Refer to page 212 for ordering examples. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

* The built-in valve type back pressure check valve is not available for the 3-position type or the SY7000.

6 Pilot valve option

| | |
|-----|-------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K*1 | High pressure type (1.0 MPa) |

*1 Only the 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 if the valve is to be continuously energized for long periods of time.

* Be careful of the energizing time when the power saving circuit is selected. Refer to page 292 for details.

8 Rated voltage

| | |
|---|--------|
| 5 | 24 VDC |
| 6 | 12 VDC |

9 Light/surge voltage suppressor and common specification

| Symbol | With light | Surge voltage suppressor | Common specification |
|--------|------------|--------------------------|----------------------|
| Nil | — | — | Non-polar |
| R | — | — | |
| U | ● | — | |
| S | — | ● | Positive common |
| Z | ● | | Negative common |
| NS | — | | |
| NZ | ● | — | |

* For the non-polar type, be careful of surge voltage intrusion. Refer to page 293 for details.

* Only "Z" and "NZ" types are available with a power saving circuit.

10 Manual override

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

* Refer to page 34 for the safety slide locking manual override.

11 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 |

One-touch fitting (Metric)

| Symbol | A, B port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| C2 | ø2 | ● | — | — |
| C3 | ø3.2 | ● | — | — |
| C4 | ø4 | ● | ● | — |
| C6 | ø6 | ● | ● | ● |
| C8 | ø8 | — | ● | ● |
| C10 | ø10 | — | — | ● |
| C12 | ø12 | — | — | ● |

One-touch fitting (Inch)

| Symbol | A, B port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| N1 | ø1/8" | ● | — | — |
| N3 | ø5/32" | ● | ● | — |
| N7 | ø1/4" | ● | ● | — |
| N9 | ø5/16" | — | ● | ● |
| N11 | ø3/8" | — | — | ● |

12 Thread type

| | |
|-----|------|
| Nil | Rc |
| F | G |
| N | NPT |
| T | NPTF |

* Only Nil is available for M5.

13 Type of mounting screw

| | |
|-----|--|
| Nil | Round head combination screw |
| B | Hexagon socket head cap screw |
| K | Round head combination screw (Drop prevention type) |
| H | Hexagon socket head cap screw (Drop 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. Refer to page 198 for base gasket and mounting screw part numbers.

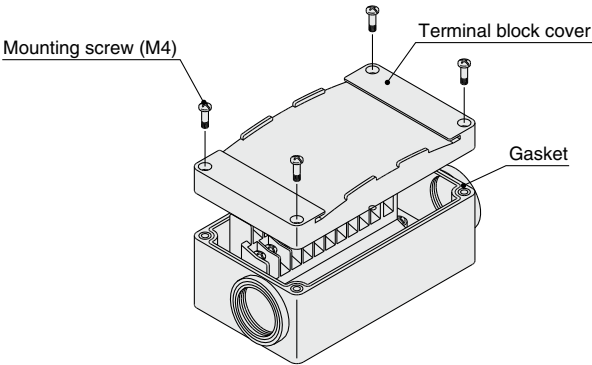
* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly or interface regulator.

SY3000/5000/7000 Series

Terminal Block Connection

Step 1. Remove the terminal block cover

Loosen the 4 mounting screws (M4) to remove the terminal block cover.



Step 3. Mount the terminal block cover

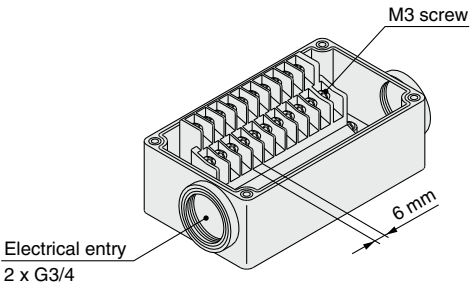
Securely tighten the screws to the torque shown in the table below only after confirming that the gasket is installed correctly.

| Proper tightening torque [N·m] |
|--------------------------------|
| 0.7 to 1.2 |

Step 2. The diagram below shows the terminal block wiring.

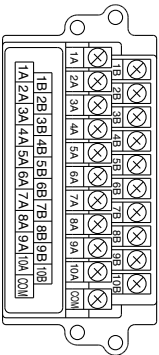
All stations are provided with double wiring regardless of the mounted valves.

Connect each wire to the power supply side, according to the markings provided inside the terminal block.



- Applicable crimped terminal: 1.25-3S, 1.25Y-3, 1.25Y-3N, 1.25Y-3.5
- Name plate: VVQ5000-N-T
- Drip-proof plug assembly (for G3/4): AXT100-B06A

Electrical Wiring Specifications (IP67 compatible)



| |
|--------------------------------------|
| Chart |
| Valve Specifications |
| Valve Construction |
| Valve Replacement Parts |
| With Residual Pressure Release Valve |
| Vacuum Release Valve with Restrictor |
| With Pressure Sensor |
| Made to Order |
| Connector Connecting Base |
| D-sub, Flat Ribbon |
| Terminal Block |
| Lead Wire |
| Circular Connector |
| EX500 |
| EX600 |
| EX250 |
| EX260 |
| EX126 |
| EX120 |
| Common Dimensions |
| Mixed Mounting |
| Manifold Exploded View |
| Fitting, Plug Part Nos. |
| Manifold Options |
| Specific Product Precautions |

Type 10
Side Ported

Type 11
Bottom Ported

Plug-in Connector Connecting Base

Lead Wire

SY3000/5000/7000 Series



How to Order Manifolds

Refer to pages 160 (SY5000) and 161 (SY7000) for the dimensions of Type 11/Bottom-ported type.

SS5Y **3** - **10** **L1** **1** - **05** **U** - **C6**

1 2 3 4 5 6 7 8 9

1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type

| | |
|----|-----------------|
| 10 | Side ported |
| 11 | Bottom ported*1 |

*1 The SY5000 manifold base is used for the bottom-ported SY3000. When ordering, refer to the "Plug-in Mixed Mounting Type Manifold" (from page 165).

3 Number of cores (Lead wire)

| | |
|----|----------|
| L1 | 34 cores |
| L2 | 17 cores |
| L3 | 9 cores |

4 Lead wire length

| | |
|---|-------|
| 1 | 0.6 m |
| 2 | 1.5 m |
| 3 | 3 m |

5 Valve stations

(L1□)

| Symbol | Stations | Note |
|--------|-------------|--|
| 02 | 2 stations | Double wiring*1 |
| 16 | 16 stations | |
| 02 | 2 stations | Specified layout*2 (Up to 32 solenoids available) |
| 24 | 24 stations | |

(L3□)

| Symbol | Stations | Note |
|--------|------------|---|
| 02 | 2 stations | Double wiring*1 |
| 04 | 4 stations | |
| 02 | 2 stations | Specified layout*2 (Up to 8 solenoids available) |
| 08 | 8 stations | |

(L2□)

| Symbol | Stations | Note |
|--------|-------------|--|
| 02 | 2 stations | Double wiring*1 |
| 08 | 8 stations | |
| 02 | 2 stations | Specified layout*2 (Up to 16 solenoids available) |
| 16 | 16 stations | |

*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.

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

* This also includes the number of the blanking plate assembly.

6 P, E port entry

| | |
|---|-------------------------------|
| 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

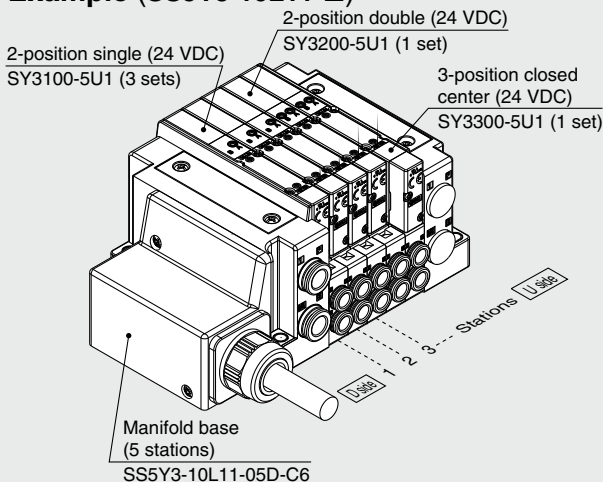
| | |
|-----|-----------------------------------|
| Nil | Internal pilot |
| S | Internal pilot, Built-in silencer |
| R | External pilot |

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

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

How to Order Manifold Assembly

Example (SS5Y3-10L11-□)



SS5Y3-10L11-05D-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.)

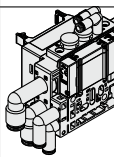
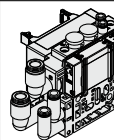
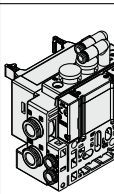
The asterisk denotes the symbol for the assembly.
 Prefix it to the part numbers of the valve, etc.

- For the valve arrangement, the valve closest to the D side is considered the 1st station.
- Under the manifold part number, state the valves to be mounted in order starting with the 1st station as shown in the figure above. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.

* When mixing top-ported configurations, select from those listed on page 84.
 In such cases, use caution as there is also output on the A and B ports on the base side. Specify on the manifold specification sheet if plugs are required for the A and B ports on the base side.

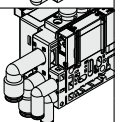
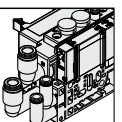
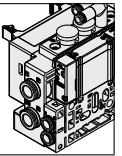
8 A, B port size (Metric/One-touch fitting)

| Symbol | A, B port | Type 10/Side ported | | | Type 11/Bottom ported | |
|-------------------------------------|--|---------------------|--------|--------|-----------------------|--------|
| | | SY3000 | SY5000 | SY7000 | SY5000 | SY7000 |
| C2 | ø2 | ● | — | — | — | — |
| C3 | ø3.2 | ● | — | — | — | — |
| C4 | ø4 | ● | ● | — | ● | — |
| C6 | ø6 | ● | ● | ● | ● | ● |
| C8 | ø8 | — | ● | ● | ● | ● |
| C10 | ø10 | — | — | ● | — | ● |
| C12 | ø12 | — | — | ● | — | ● |
| CM*1 | Straight port, mixed sizes | ● | ● | ● | ● | ● |
| L4 | ø4 | ● | ● | — | — | — |
| L6 | ø6 | ● | ● | ● | — | — |
| L8 | ø8 | — | ● | ● | — | — |
| L10 | ø10 | — | — | ● | — | — |
| L12 | ø12 | — | — | ● | — | — |
| B4 | ø4 | ● | ● | — | — | — |
| B6 | ø6 | ● | ● | ● | — | — |
| B8 | ø8 | — | ● | ● | — | — |
| B10 | ø10 | — | — | ● | — | — |
| B12 | ø12 | — | — | ● | — | — |
| LM*1 | Elbow port, mixed sizes (Including upward and downward piping) | ● | ● | ● | — | — |
| P, E port size (One-touch fittings) | | ø8 | ø10 | ø12 | ø10 | ø12 |



A, B port size (Inch/One-touch fitting)

| Symbol | A, B port | Type 10/Side ported | | | Type 11/Bottom ported | |
|-------------------------------------|--|---------------------|--------|--------|-----------------------|--------|
| | | SY3000 | SY5000 | SY7000 | SY5000 | SY7000 |
| N1 | ø1/8" | ● | — | — | — | — |
| N3 | ø5/32" | ● | ● | — | ● | — |
| N7 | ø1/4" | ● | ● | ● | ● | ● |
| N9 | ø5/16" | — | ● | ● | ● | ● |
| N11 | ø3/8" | — | — | ● | — | ● |
| CM*1 | Straight port, mixed sizes | ● | ● | ● | ● | ● |
| LN3 | ø5/32" | ● | — | — | — | — |
| LN7 | ø1/4" | ● | ● | — | — | — |
| LN9 | ø5/16" | — | ● | — | — | — |
| LN11 | ø3/8" | — | — | ● | — | — |
| BN3 | ø5/32" | ● | — | — | — | — |
| BN7 | ø1/4" | ● | ● | — | — | — |
| BN9 | ø5/16" | — | ● | — | — | — |
| BN11 | ø3/8" | — | — | ● | — | — |
| LM*1 | Elbow port, mixed sizes (Including upward and downward piping) | ● | ● | ● | — | — |
| P, E port size (One-touch fittings) | | ø5/16" | ø3/8" | ø1/2" | ø3/8" | ø1/2" |



*1 Indicate the sizes on the manifold specification sheet in the case of "CM" or "LM."

The direction of P, E port fittings is the same as for the A, B port. If selecting "LM," indicate it on the manifold specification sheet for the P, E port fitting direction.

*2 To avoid interference with the body or piping, select a downward elbow port when mounting the optional spacer assembly (pages 204 to 206).

9 Mounting and Option

| Symbol | Mounting | Option | |
|--------|-------------------|------------|----------------|
| | | Name plate | Station number |
| Nil | Direct mounting | — | — |
| AA | | ● | ● |
| BA | | ● | — |
| D□ | DIN rail mounting | — | — |
| A□ | | ● | ● |
| B□ | | ● | — |

DIN Rail Option

| | | |
|-----|---------------------------------|--|
| Nil | Standard length | |
| 0 | Without DIN rail (with bracket) | |
| 3 | For 3 stations | Specify a longer rail than the total length of specified stations. |
| ⋮ | ⋮ | |
| 24 | For 24 stations | |

* Enter the number of stations inside □ when it is larger than the number of valve stations. (Refer to "DIN Rail Option" above.)

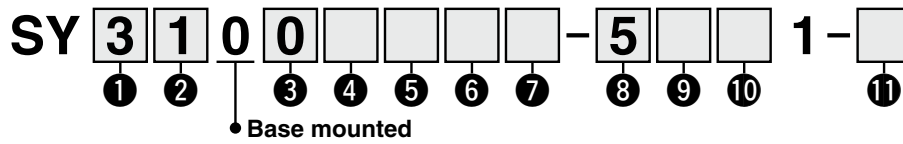
* Only direct mounting is available for the type 11 bottom-ported type.

* Refer to page 295 for the fixation of DIN rail mounting type manifold.

SY3000/5000/7000 Series

How to Order Valves (With mounting screw)

Refer to page 15 for valve specifications.



1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type of actuation

| | | |
|-----|-------------|-----------------|
| 1 | 2-position | Single |
| 2 | | Double |
| 3 | 3-position | Closed center |
| 4 | | Exhaust center |
| 5 | | Pressure center |
| A*1 | 4-position | N.C./N.C. |
| B*1 | dual 3-port | N.O./N.O. |
| C*1 | | N.C./N.O. |

*1 Only the 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 the rubber seal type is available. A manifold installed type is available if a back pressure check valve with a metal seal is required. Refer to page 212 for ordering examples. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

* The built-in valve type back pressure check valve is not available for the 3-position type or the SY7000.

6 Pilot valve option

| | |
|-----|-------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K*1 | High pressure type (1.0 MPa) |

*1 Only the 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 if the valve is to be continuously energized for long periods of time.

* Be careful of the energizing time when the power saving circuit is selected. Refer to page 292 for details.

8 Rated voltage

| | |
|---|--------|
| 5 | 24 VDC |
| 6 | 12 VDC |

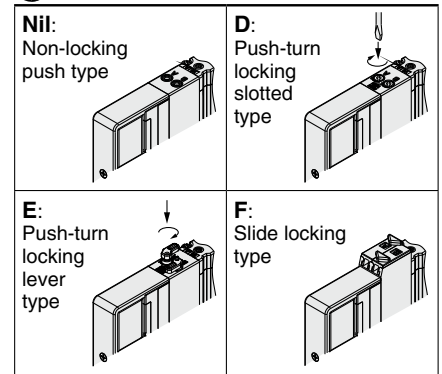
9 Light/surge voltage suppressor and common specification

| Symbol | With light | Surge voltage suppressor | Common specification |
|--------|------------|--------------------------|----------------------|
| Nil | — | — | Non-polar |
| R | — | — | |
| U | ● | — | |
| S | — | ● | Positive common |
| Z | ● | — | Negative common |
| NS | — | — | |
| NZ | ● | — | |

* For the non-polar type, be careful of surge voltage intrusion. Refer to page 293 for details.

* Only "Z" and "NZ" types are available with a power saving circuit.

10 Manual override



* Refer to page 34 for the safety slide locking manual override.

11 Type of mounting screw

| | |
|-----|--|
| Nil | Round head combination screw |
| B | Hexagon socket head cap screw |
| K | Round head combination screw (Drop prevention type) |
| H | Hexagon socket head cap screw (Drop 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. Refer to page 198 for base gasket and mounting screw part numbers.

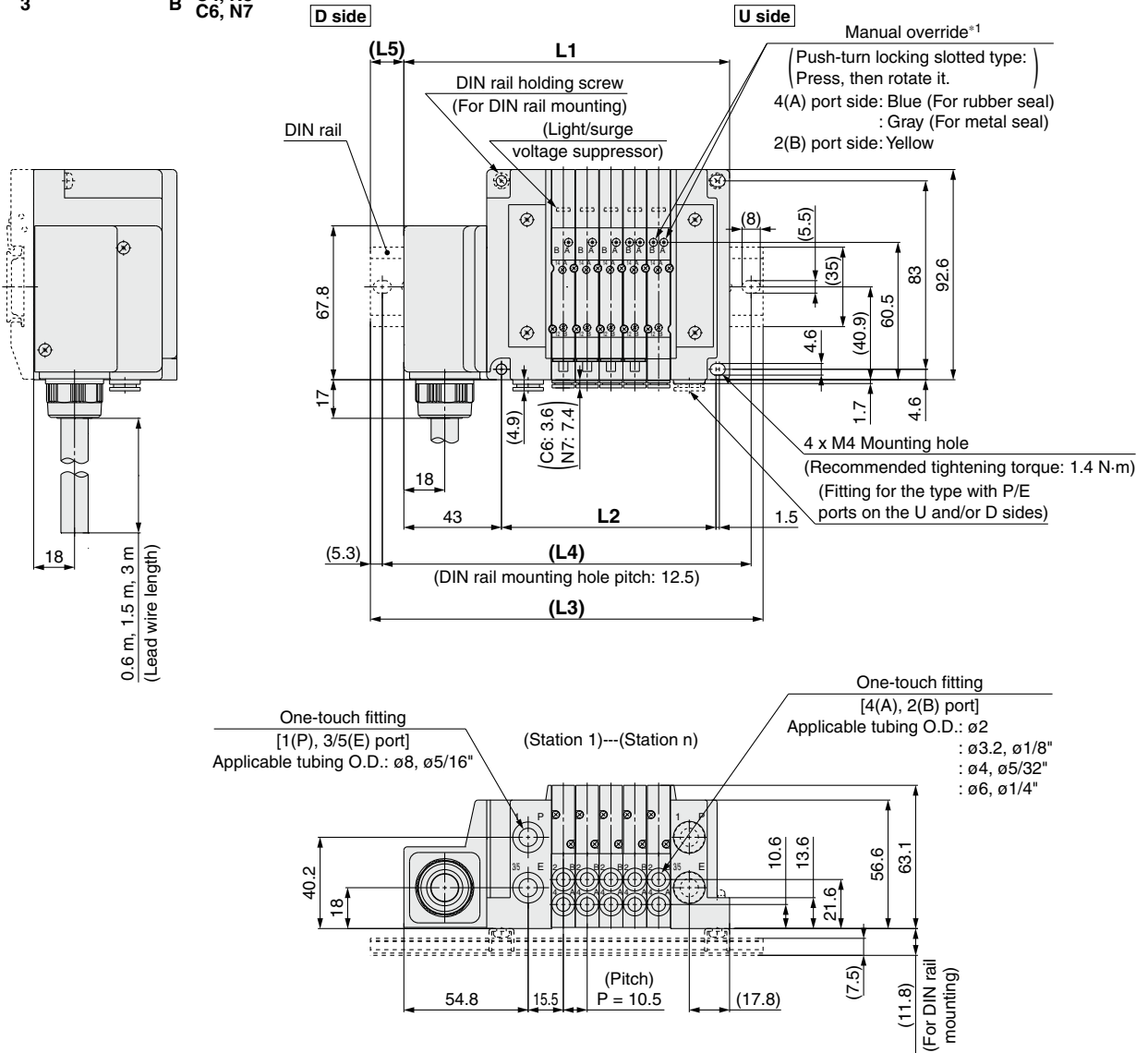
* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly, interface regulator, or double check spacer assembly with residual pressure release valve.

Dimensions: **SY3000 Series**

**Plug-in
Connector Connecting Base**

Type 10/Side Ported
Lead Wire

SS5Y3-10L₁₂₃□- Stations U_D C₂₃, N₁ (D)
B C₄, N₃
C₆, N₇



- *1 Refer to page 157 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.
- * These figures show the "SS5Y3-10L1□-05D-C6."
- * Refer to page 162 for dimensions of A or B port top-ported type.

| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 112 | 122.5 | 133 | 143.5 | 154 | 164.5 | 175 | 185.5 | 196 | 206.5 | 217 | 227.5 | 238 | 248.5 | 259 | 269.5 | 280 | 290.5 | 301 | 311.5 | 322 | 332.5 | 343 |
| L2 | 63 | 73.5 | 84 | 94.5 | 105 | 115.5 | 126 | 136.5 | 147 | 157.5 | 168 | 178.5 | 189 | 199.5 | 210 | 220.5 | 231 | 241.5 | 252 | 262.5 | 273 | 283.5 | 294 |
| L3 | 135.5 | 148 | 160.5 | 173 | 185.5 | 198 | 210.5 | 210.5 | 223 | 235.5 | 248 | 260.5 | 273 | 273 | 285.5 | 298 | 310.5 | 323 | 335.5 | 335.5 | 348 | 360.5 | 373 |
| L4 | 125 | 137.5 | 150 | 162.5 | 175 | 187.5 | 200 | 200 | 212.5 | 225 | 237.5 | 250 | 262.5 | 262.5 | 275 | 287.5 | 300 | 312.5 | 325 | 325 | 337.5 | 350 | 362.5 |
| L5 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 12.5 | 13.5 | 14.5 | 15.5 | 16.5 | 17.5 | 12.5 | 13.5 | 14.5 | 15.5 | 16.5 | 17.5 | 12 | 13 | 14 | 15 |

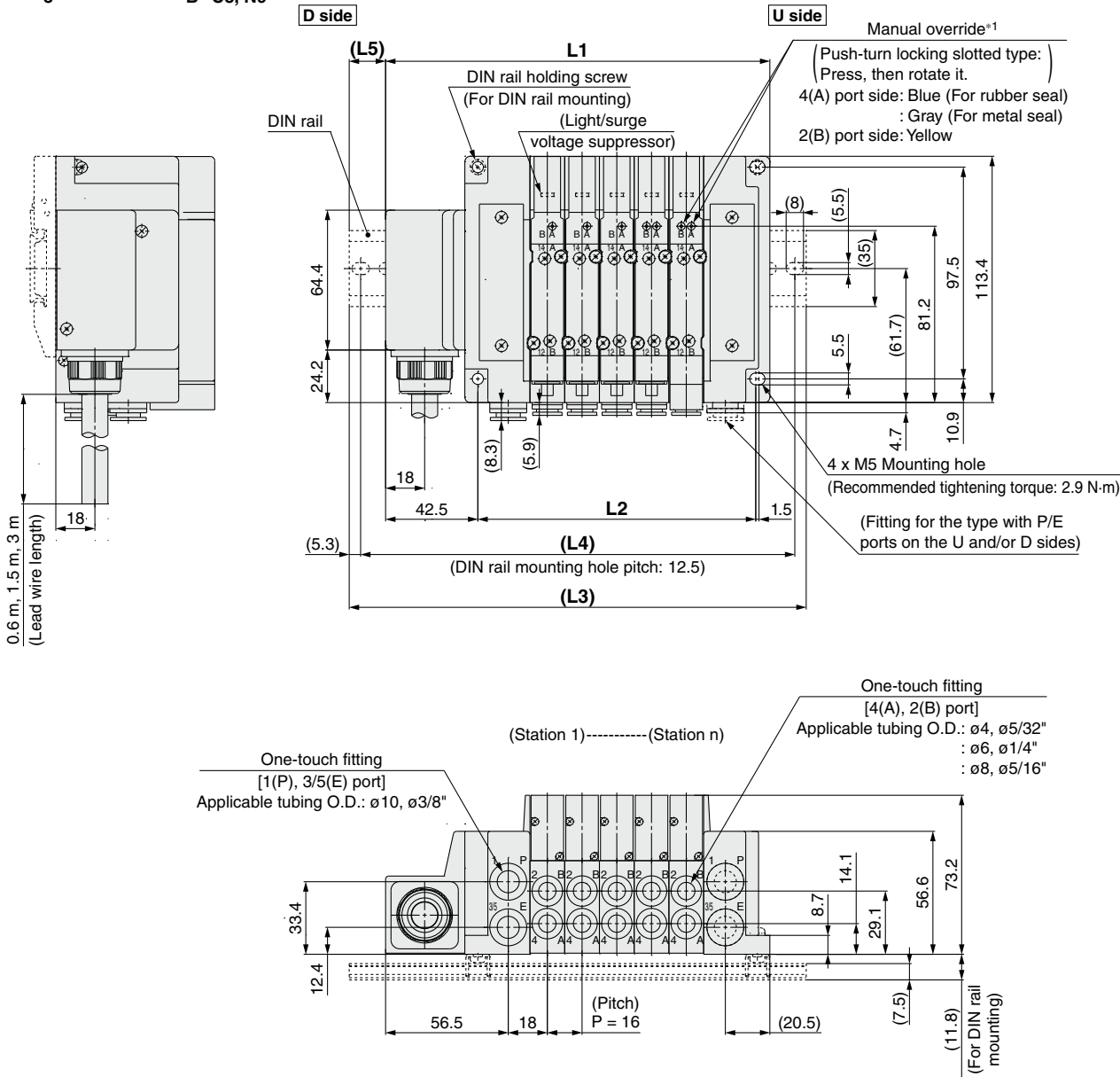
SY3000/5000/7000 Series

Dimensions: SY5000 Series

Plug-in
Connector Connecting Base

Type 10/Side Ported
Lead Wire

SS5Y5-10L1□-Stations U C4, N3
2 D-C6, N7 (D)
3 B C8, N9



*1 Refer to page 158 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.
* These figures show the "SS5Y5-10L1□-05D-C8."
* Refer to page 163 for dimensions of A or B port top-ported type.

| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 129 | 145 | 161 | 177 | 193 | 209 | 225 | 241 | 257 | 273 | 289 | 305 | 321 | 337 | 353 | 369 | 385 | 401 | 417 | 433 | 449 | 465 | 481 |
| L2 | 80 | 96 | 112 | 128 | 144 | 160 | 176 | 192 | 208 | 224 | 240 | 256 | 272 | 288 | 304 | 320 | 336 | 352 | 368 | 384 | 400 | 416 | 432 |
| L3 | 160.5 | 173 | 185.5 | 210.5 | 223 | 235.5 | 260.5 | 273 | 285.5 | 298 | 323 | 335.5 | 348 | 360.5 | 385.5 | 398 | 410.5 | 435.5 | 448 | 460.5 | 473 | 498 | 510.5 |
| L4 | 150 | 162.5 | 175 | 200 | 212.5 | 225 | 250 | 262.5 | 275 | 287.5 | 312.5 | 325 | 337.5 | 350 | 375 | 387.5 | 400 | 425 | 437.5 | 450 | 462.5 | 487.5 | 500 |
| L5 | 16 | 14 | 12.5 | 17 | 15 | 13.5 | 18 | 16 | 14.5 | 12.5 | 17 | 15.5 | 13.5 | 12 | 16.5 | 14.5 | 13 | 17.5 | 15.5 | 14 | 12 | 16.5 | 15 |

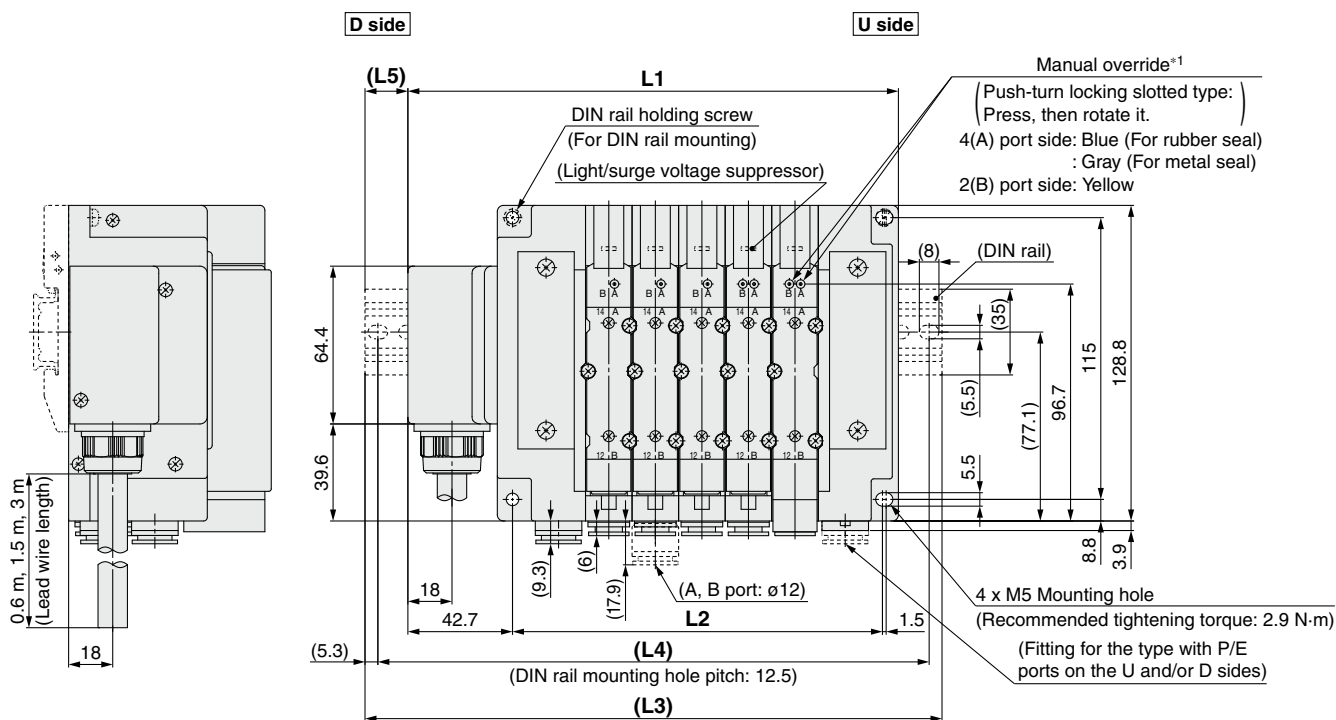
Dimensions: SY7000 Series

SS5Y7-10L₂¹₃ - Stations^U_{D-B}-^{C6, N7}_{C8, N9}^{C10, N11}_{C12} (D)

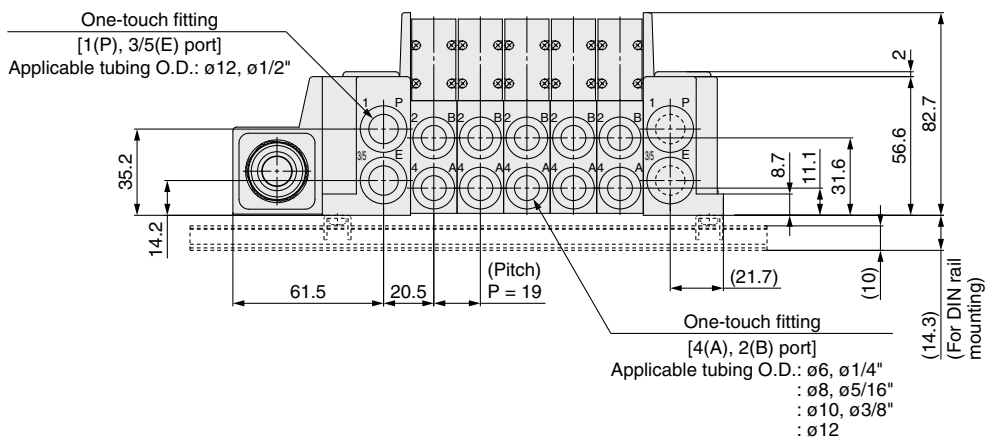
Plug-in Connector Connecting Base

Type 10/Side Ported

Lead Wire



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



- * 1 Refer to page 159 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.
* These figures show the "SS5Y7-10L1□-05D-C10."
* Refer to page 164 for dimensions of A or B port top-ported type.

| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 143.2 | 162.2 | 181.2 | 200.2 | 219.2 | 238.2 | 257.2 | 276.2 | 295.2 | 314.2 | 333.2 | 352.2 | 371.2 | 390.2 | 409.2 | 428.2 | 447.2 | 466.2 | 485.2 | 504.2 | 523.2 | 542.2 | 561.2 |
| L2 | 94 | 113 | 132 | 151 | 170 | 189 | 208 | 227 | 246 | 265 | 284 | 303 | 322 | 341 | 360 | 379 | 398 | 417 | 436 | 455 | 474 | 493 | 512 |
| L3 | 173 | 185.5 | 210.5 | 235.5 | 248 | 273 | 285.5 | 310.5 | 323 | 348 | 360.5 | 385.5 | 398 | 423 | 435.5 | 460.5 | 473 | 498 | 510.5 | 535.5 | 548 | 573 | 585.5 |
| L4 | 162.5 | 175 | 200 | 225 | 237.5 | 262.5 | 275 | 300 | 312.5 | 337.5 | 350 | 375 | 387.5 | 412.5 | 425 | 450 | 462.5 | 487.5 | 500 | 525 | 537.5 | 562.5 | 575 |
| L5 | 15 | 11.5 | 14.5 | 17.5 | 14.5 | 17.5 | 14 | 17 | 14 | 17 | 13.5 | 16.5 | 13.5 | 16.5 | 13 | 16 | 13 | 16 | 12.5 | 15.5 | 12.5 | 15.5 | 12 |

Plug-in Connector Connecting Base

Lead Wire

Type 12
Top Ported

SY3000/5000/7000 Series



How to Order Manifolds

SS5Y **3** - 12 **L1** **1** - **05** **U** **□** - **□** **□**

1 2 3 4 5 6 7 8

Refer to pages 162 to 164 for the dimensions of Type 12/Top-ported type.

1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Number of cores (Lead wire)

| | |
|----|----------|
| L1 | 34 cores |
| L2 | 17 cores |
| L3 | 9 cores |

3 Lead wire length

| | |
|---|-------|
| 1 | 0.6 m |
| 2 | 1.5 m |
| 3 | 3 m |

5 P, E port entry

| | |
|-----|-------------------------------|
| U*1 | U side (2 to 10 stations) |
| D*1 | D side (2 to 10 stations) |
| B | Both sides (2 to 24 stations) |

*1 For type "S", SUP/EXH block assembly with a built-in silencer, choose U or D for P, E port entry.

4 Valve stations

(L1□)

| Symbol | Stations | Note |
|--------|-------------|--|
| 02 | 2 stations | Double wiring*1 |
| 16 | 16 stations | |
| 02 | 2 stations | Specified layout*2 (Up to 32 solenoids available) |
| 24 | 24 stations | |

(L3□)

| Symbol | Stations | Note |
|--------|------------|---|
| 02 | 2 stations | Double wiring*1 |
| 04 | 4 stations | |
| 02 | 2 stations | Specified layout*2 (Up to 8 solenoids available) |
| 08 | 8 stations | |

(L2□)

| Symbol | Stations | Note |
|--------|-------------|--|
| 02 | 2 stations | Double wiring*1 |
| 08 | 8 stations | |
| 02 | 2 stations | Specified layout*2 (Up to 16 solenoids available) |
| 16 | 16 stations | |

*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.

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

* This also includes the number of the blanking plate assembly.

6 SUP/EXH block assembly

| | |
|-----|-----------------------------------|
| Nil | Internal pilot |
| S | Internal pilot, Built-in silencer |
| R | External pilot |

* The P and E ports are only available on the U and D sides for the built-in silencer type. 3/5(E) port is plugged. The silencer exhaust port is located on the opposite side of the P and E port entry. (Example: When the P and E port entry is on the D side, the silencer exhaust port is on the U side.)

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

7 P, E port size (One-touch fittings)

| Symbol | SY3000 | SY5000 | SY7000 |
|--------|--------|--------|--------|
| Nil | ø8 | ø10 | ø12 |
| N | ø5/16" | ø3/8" | ø1/2" |

* For N, sizes are in inches.

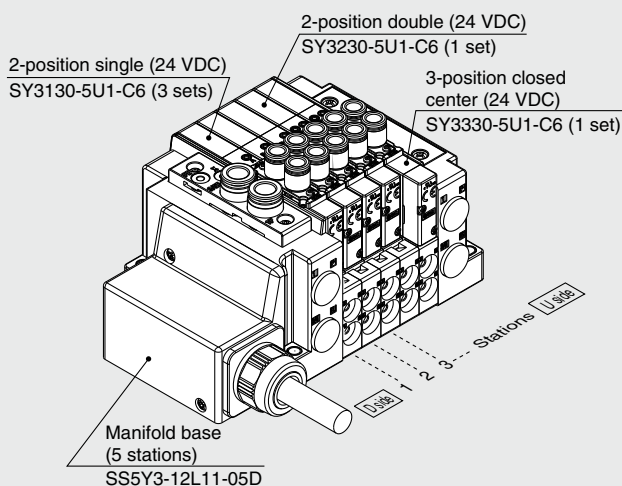
8 Mounting

| | |
|-----|---|
| Nil | Direct mounting |
| D | DIN rail mounting (With DIN rail) |
| D0 | DIN rail mounting (Without DIN rail) |
| D3 | For 3 stations |
| ... | Specify a length longer than that of the standard rail. |
| D24 | For 24 stations |

* Refer to page 295 for the fixation of DIN rail mounting type manifold.

How to Order Manifold Assembly

Example (SS5Y3-12L11-□)



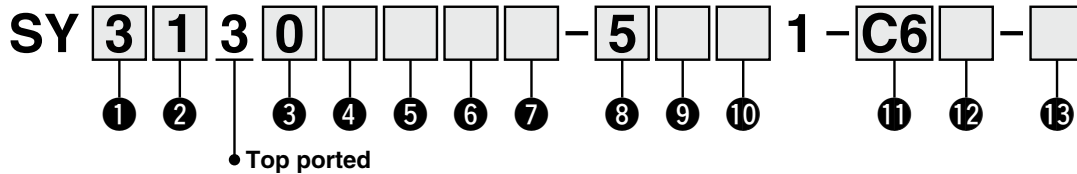
SS5Y3-12L11-05D ... 1 set (Type 12 5-station manifold base part no.)
 *SY3130-5U1-C6 3 sets (2-position single part no.)
 *SY3230-5U1-C6 1 set (2-position double part no.)
 *SY3330-5U1-C6 1 set (3-position closed center part no.)

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

- For the valve arrangement, the valve closest to the D side is considered the 1st station.
- Under the manifold part number, state the valves to be mounted in order starting with the 1st station as shown in the figure above. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.

How to Order Valves (With mounting screw)

Refer to page 15 for valve specifications.



1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type of actuation

| | | |
|-----|-------------|-----------------|
| 1 | 2-position | Single |
| 2 | | Double |
| 3 | 3-position | Closed center |
| 4 | | Exhaust center |
| 5 | | Pressure center |
| A*1 | 4-position | N.C./N.C. |
| B*1 | dual 3-port | N.O./N.O. |
| C*1 | | N.C./N.O. |

*1 Only the 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 the rubber seal type is available. A manifold installed type is available if a back pressure check valve with a metal seal is required. Refer to page 212 for ordering examples. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

* The built-in valve type back pressure check valve is not available for the 3-position type or the SY7000.

6 Pilot valve option

| | |
|-----|-------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K*1 | High pressure type (1.0 MPa) |

*1 Only the 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 if the valve is to be continuously energized for long periods of time.

* Be careful of the energizing time when the power saving circuit is selected. Refer to page 292 for details.

8 Rated voltage

| | |
|---|--------|
| 5 | 24 VDC |
| 6 | 12 VDC |

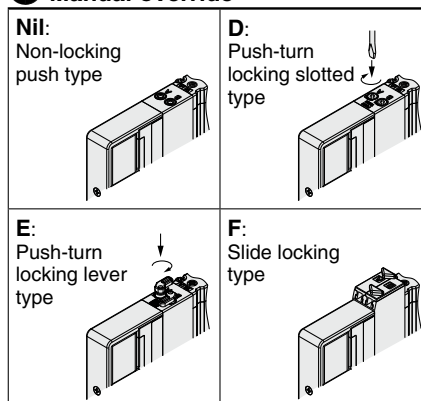
9 Light/surge voltage suppressor and common specification

| Symbol | With light | Surge voltage suppressor | Common specification |
|--------|------------|--------------------------|----------------------|
| Nil | — | — | Non-polar |
| R | — | — | |
| U | ● | — | |
| S | — | ● | Positive common |
| Z | ● | — | Negative common |
| NS | — | — | |
| NZ | ● | — | |

* For the non-polar type, be careful of surge voltage intrusion. Refer to page 293 for details.

* Only "Z" and "NZ" types are available with a power saving circuit.

10 Manual override



* Refer to page 34 for the safety slide locking manual override.

11 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 |

One-touch fitting (Metric)

| Symbol | A, B port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| C2 | ø2 | ● | — | — |
| C3 | ø3.2 | ● | — | — |
| C4 | ø4 | ● | ● | — |
| C6 | ø6 | ● | ● | ● |
| C8 | ø8 | — | ● | ● |
| C10 | ø10 | — | — | ● |
| C12 | ø12 | — | — | ● |

One-touch fitting (Inch)

| Symbol | A, B port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| N1 | ø1/8" | ● | — | — |
| N3 | ø5/32" | ● | ● | — |
| N7 | ø1/4" | ● | ● | — |
| N9 | ø5/16" | — | ● | ● |
| N11 | ø3/8" | — | — | ● |

12 Thread type

| | |
|-----|------|
| Nil | Rc |
| F | G |
| N | NPT |
| T | NPTF |

* Only Nil is available for M5.

13 Type of mounting screw

| | |
|-----|--|
| Nil | Round head combination screw |
| B | Hexagon socket head cap screw |
| K | Round head combination screw (Drop prevention type) |
| H | Hexagon socket head cap screw (Drop 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. Refer to page 198 for base gasket and mounting screw part numbers.

* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly or interface regulator.

SY3000/5000/7000 Series

Electrical Wiring Specifications

Lead wire

34 cores

Lead wire

AWG26 (0.14 mm²) x 34 cores

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

Sheath O.D.

Approx. ø8.8

If alignment is not specified, the internal wiring will be double wiring (connected to SOL. a and SOL. b) regardless of number of stations, valve types, and option types.

Lead wire no.

Polarity

Station 1

SOL.a

SOL.b

1

2

(-)

(+)

Station 2

SOL.a

SOL.b

3

4

(-)

(+)

Station 3

SOL.a

SOL.b

5

6

(-)

(+)

Station 4

SOL.a

SOL.b

7

8

(-)

(+)

Station 5

SOL.a

SOL.b

9

10

(-)

(+)

Station 6

SOL.a

SOL.b

11

12

(-)

(+)

Station 7

SOL.a

SOL.b

13

14

(-)

(+)

Station 8

SOL.a

SOL.b

15

16

(-)

(+)

Station 9

SOL.a

SOL.b

17

18

(-)

(+)

Station 10

SOL.a

SOL.b

19

20

(-)

(+)

Station 11

SOL.a

SOL.b

21

22

(-)

(+)

Station 12

SOL.a

SOL.b

23

24

(-)

(+)

Station 13

SOL.a

SOL.b

25

26

(-)

(+)

Station 14

SOL.a

SOL.b

27

28

(-)

(+)

Station 15

SOL.a

SOL.b

29

30

(-)

(+)

Station 16

SOL.a

SOL.b

COM.

COM.

31

32

33

34

(-)

(+)

(+)

(-)

Positive common

Negative common

Lead wire color

Printed mark (Both sides)

Type

Color

Orange

—

Red

Black

Light gray

—

Red

Black

White

—

Red

Black

Yellow

—

Red

Black

Pink

—

Red

Black

Orange

— —

Red

Black

Light gray

— —

Red

Black

White

— —

Red

Black

Yellow

— —

Red

Black

Pink

— —

Red

Black

Orange

— — —

Red

Black

Light gray

— — —

Red

Black

White

— — —

Red

Black

Yellow

— — —

Red

Black

Pink

— — —

Red

Black

Orange

— — — —

Red

Black

Light gray

— — — —

Red

Black

Electrical characteristics

Item

Property

Conductor resistance
Ω/km, 20°C

143 or less

Voltage limit
V, 1 minute, AC

2000

Insulation resistance
MΩ/km, 20°C

10 or more

* Cannot be used for movable wiring
The minimum bending radius of the cable is 55 mm.

Specified Layout

A mixture of single and double wiring can be specified on the manifold specification. The maximum number of stations is determined according to the number of solenoids. The total number of solenoids should be 32 or less. 1 solenoid is required for the 2-position single, and 2 solenoids for the 2-position double, 3-position, and 4-position.

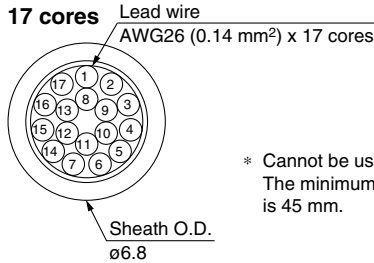
85

SMC

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Electrical Wiring Specifications

Lead wire



* Cannot be used for movable wiring
The minimum bending radius of the cable is 45 mm.

| | Lead wire no. | Polarity | Lead wire color | Printed mark (Both sides) | |
|-----------|---------------|------------|-----------------|---------------------------|-------|
| | | | | Type | Color |
| Station 1 | SOL.a | 1 (-) (+) | Orange | — | Red |
| | SOL.b | 2 (-) (+) | | | Black |
| Station 2 | SOL.a | 3 (-) (+) | Light gray | — | Red |
| | SOL.b | 4 (-) (+) | | | Black |
| Station 3 | SOL.a | 5 (-) (+) | White | — | Red |
| | SOL.b | 6 (-) (+) | | | Black |
| Station 4 | SOL.a | 7 (-) (+) | Yellow | — | Red |
| | SOL.b | 8 (-) (+) | | | Black |
| Station 5 | SOL.a | 9 (-) (+) | Pink | — | Red |
| | SOL.b | 10 (-) (+) | | | Black |
| Station 6 | SOL.a | 11 (-) (+) | Orange | — | Red |
| | SOL.b | 12 (-) (+) | | | Black |
| Station 7 | SOL.a | 13 (-) (+) | Light gray | — | Red |
| | SOL.b | 14 (-) (+) | | | Black |
| Station 8 | SOL.a | 15 (-) (+) | White | — | Red |
| | SOL.b | 16 (-) (+) | | | Black |
| | COM. | 17 (+) (-) | Yellow | — | Red |

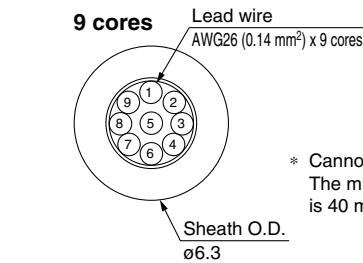
Positive common **Negative common**

* For negative common specification, a valve for negative common or a valve without polarity should be used.

Electrical characteristics

| Item | Property |
|--------------------------------------|-------------|
| Conductor resistance Ω/km, 20°C | 143 or less |
| Voltage limit V, 1 minute, AC | 2000 |
| Insulation resistance MΩ/km, 20°C | 10 or more |

* Cannot be used for movable wiring
The minimum bending radius of the cable is 40 mm.



| | Lead wire no. | Polarity | Lead wire color | Printed mark (Both sides) | |
|-----------|---------------|-----------|-----------------|---------------------------|-------|
| | | | | Type | Color |
| Station 1 | SOL.a | 1 (-) (+) | Orange | — | Red |
| | SOL.b | 2 (-) (+) | | | Black |
| Station 2 | SOL.a | 3 (-) (+) | Light gray | — | Red |
| | SOL.b | 4 (-) (+) | | | Black |
| Station 3 | SOL.a | 5 (-) (+) | White | — | Red |
| | SOL.b | 6 (-) (+) | | | Black |
| Station 4 | SOL.a | 7 (-) (+) | Yellow | — | Red |
| | SOL.b | 8 (-) (+) | | | Black |
| | COM. | 9 (+) (-) | Pink | — | Red |

Positive common **Negative common**

Chart

Valve Specifications

Valve Construction

Valve Replacement Parts

With Residual Pressure Release Valve

Vacuum Release Valve with Restrictor

With Pressure Sensor

Made to Order

Connector Connecting Base

D-sub, Flat Ribbon

Terminal Block

Lead Wire

Circular Connector

EX500

EX600

EX250

EX260

EX126

EX120

Common Dimensions

Mixed Mounting

Manifold Exploded View

Fitting, Plug Part Nos.

Manifold Options

Specific Product Precautions

Type 10
Side Ported

Type 11
Bottom Ported

Plug-in Connector Connecting Base

Circular Connector

SY3000/5000/7000 Series



How to Order Manifolds

Refer to pages 160 (SY5000) and 161 (SY7000) for the dimensions of Type 11/Bottom-ported type.

SS5Y **5** - **10** **M** - **05** **U** **□** - **C6** **□**

1 2 3 4 5 6 7

1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type

| | |
|----|-----------------|
| 10 | Side ported |
| 11 | Bottom ported*1 |

*1 The SY5000 manifold base is used for the bottom-ported SY3000. When ordering, refer to the "Plug-in Mixed Mounting Type Manifold" (from page 165).

3 Valve stations

| Symbol | Stations | Note |
|--------|-------------|--|
| 02 | 2 stations | Double wiring*1 |
| 12 | 12 stations | |
| 02 | 2 stations | Specified layout*2 (Up to 24 solenoids available) |
| 24 | 24 stations | |

*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.

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

* This also includes the number of the blanking plate assembly.

4 P, E port entry

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

5 SUP/EXH block assembly

| | |
|-----|-----------------------------------|
| Nil | Internal pilot |
| S | Internal pilot, Built-in silencer |
| R | External pilot |

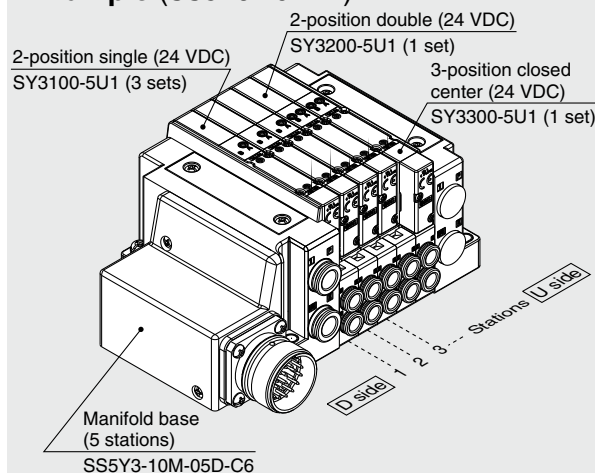
* 3/5(E) port is plugged for the built-in silencer type.

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

Refer to the page on the right for 6.

How to Order Manifold Assembly

Example (SS5Y3-10M-□)



SS5Y3-10M-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 asterisk denotes the symbol for the assembly.
Prefix it to the part numbers of the valve, etc.

- For the valve arrangement, the valve closest to the D side is considered the 1st station.
- Under the manifold part number, state the valves to be mounted in order starting with the 1st station as shown in the figure above. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.

* When mixing top-ported configurations, select from those listed on page 94.
In such cases, use caution as there is also output on the A and B ports on the base side.
Specify on the manifold specification sheet if plugs are required for the A and B ports on the base side.

7 Mounting and Option

| Symbol | Mounting | Option | |
|--------|-------------------|------------|----------------|
| | | Name plate | Station number |
| Nil | Direct mounting | — | — |
| AA | | ● | ● |
| BA | | ● | — |
| D□ | DIN rail mounting | — | — |
| A□ | | ● | ● |
| B□ | | ● | — |

* Enter the number of stations inside □ when it is larger than the number of valve stations. (Refer to "DIN Rail Option" below.)

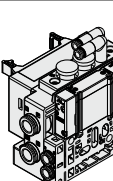
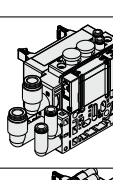
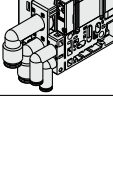
* Only direct mounting is available for the type 11 bottom-ported type.

* Refer to page 295 for the fixation of DIN rail mounting type manifold.

DIN Rail Option

| | | |
|-----|---------------------------------|--|
| Nil | Standard length | |
| 0 | Without DIN rail (with bracket) | |
| 3 | For 3 stations | Specify a longer rail than the total length of specified stations. |
| 24 | For 24 stations | |

6 A, B port size (Metric/One-touch fitting)

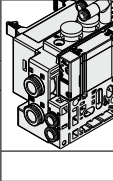
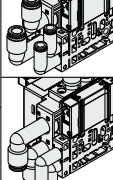

| Symbol | A, B port | Type 10/Side ported | | | Type 11/Bottom ported | | |
|-------------------------------------|--|---------------------|--------|--------|-----------------------|--------|---|
| | | SY3000 | SY5000 | SY7000 | SY5000 | SY7000 | |
| C2 | ø2 | ● | — | — | — | — |  |
| C3 | ø3.2 | ● | — | — | — | — | |
| C4 | ø4 | ● | ● | — | ● | — | |
| C6 | ø6 | ● | ● | ● | ● | ● | |
| C8 | ø8 | — | ● | ● | ● | ● | |
| C10 | ø10 | — | — | ● | — | ● | |
| C12 | ø12 | — | — | ● | — | ● |  |
| CM*1 | Straight port, mixed sizes | ● | ● | ● | ● | ● | |
| L4 | ø4 | ● | ● | — | — | — | |
| L6 | ø6 | ● | ● | ● | — | — | |
| L8 | ø8 | — | ● | ● | — | — | |
| L10 | ø10 | — | — | ● | — | — | |
| L12 | ø12 | — | — | ● | — | — |  |
| B4 | ø4 | ● | ● | — | — | — | |
| B6 | ø6 | ● | ● | ● | — | — | |
| B8 | ø8 | — | ● | ● | — | — | |
| B10 | ø10 | — | — | ● | — | — | |
| B12 | ø12 | — | — | ● | — | — | |
| LM*1 | Elbow port, mixed sizes (Including upward and downward piping) | ● | ● | ● | — | — | |
| P, E port size (One-touch fittings) | | ø8 | ø10 | ø12 | ø10 | ø12 | |

*1 Indicate the sizes on the manifold specification sheet in the case of "CM" or "LM."

The direction of P, E port fittings is the same as for the A, B port. If selecting "LM," indicate it on the manifold specification sheet for the P, E port fitting direction.

*2 To avoid interference with the body or piping, select a downward elbow port when mounting the optional spacer assembly (pages 204 to 206).

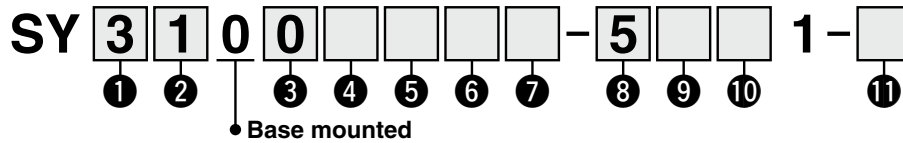
A, B port size (Inch/One-touch fitting)

| Symbol | A, B port | Type 10/Side ported | | | Type 11/Bottom ported | | |
|-------------------------------------|--|---------------------|--------|--------|-----------------------|--------|---|
| | | SY3000 | SY5000 | SY7000 | SY5000 | SY7000 | |
| N1 | ø1/8" | ● | — | — | — | — |  |
| N3 | ø5/32" | ● | ● | — | ● | — | |
| N7 | ø1/4" | ● | ● | ● | ● | ● | |
| N9 | ø5/16" | — | ● | ● | ● | ● | |
| N11 | ø3/8" | — | — | ● | — | ● | |
| CM*1 | Straight port, mixed sizes | ● | ● | ● | ● | ● | |
| LN3 | ø5/32" | ● | — | — | — | — |  |
| LN7 | ø1/4" | ● | ● | — | — | — | |
| LN9 | ø5/16" | — | ● | — | — | — | |
| LN11 | ø3/8" | — | — | ● | — | — | |
| BN3 | ø5/32" | ● | — | — | — | — | |
| BN7 | ø1/4" | ● | ● | — | — | — | |
| BN9 | ø5/16" | — | ● | — | — | — |  |
| BN11 | ø3/8" | — | — | ● | — | — | |
| LM*1 | Elbow port, mixed sizes (Including upward and downward piping) | ● | ● | ● | — | — | |
| P, E port size (One-touch fittings) | | ø5/16" | ø3/8" | ø1/2" | ø3/8" | ø1/2" | |

SY3000/5000/7000 Series

How to Order Valves (With mounting screw)

Refer to page 15 for valve specifications.



1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type of actuation

| | | |
|-----|------------------------|-----------------|
| 1 | 2-position | Single |
| 2 | | Double |
| 3 | 3-position | Closed center |
| 4 | | Exhaust center |
| 5 | | Pressure center |
| A*1 | 4-position dual 3-port | N.C./N.C. |
| B*1 | | N.O./N.O. |
| C*1 | | N.C./N.O. |

*1 Only the 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 the rubber seal type is available. A manifold installed type is available if a back pressure check valve with a metal seal is required. Refer to page 212 for ordering examples. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

* The built-in valve type back pressure check valve is not available for the 3-position type or the SY7000.

6 Pilot valve option

| | |
|-----|-------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K*1 | High pressure type (1.0 MPa) |

*1 Only the 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 if the valve is to be continuously energized for long periods of time.

* Be careful of the energizing time when the power saving circuit is selected. Refer to page 292 for details.

8 Rated voltage

| | |
|---|--------|
| 5 | 24 VDC |
| 6 | 12 VDC |

9 Light/surge voltage suppressor and common specification

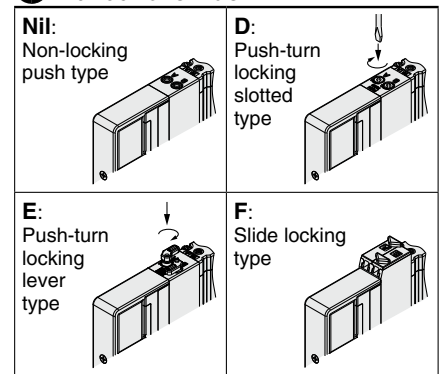
| Symbol | With light | Surge voltage suppressor | Common specification |
|--------|------------|--------------------------|----------------------|
| Nil | — | — | Non-polar |
| R | — | — | |
| U | ● | — | |
| S | — | ● | Positive common |
| Z | ● | | Negative common |
| NS | — | | |
| NZ | ● | — | |

* For the non-polar type, be careful of surge voltage intrusion.

Refer to page 293 for details.

* Only "Z" and "NZ" types are available with a power saving circuit.

10 Manual override



* Refer to page 34 for the safety slide locking manual override.

11 Type of mounting screw

| | |
|-----|--|
| Nil | Round head combination screw |
| B | Hexagon socket head cap screw |
| K | Round head combination screw (Drop prevention type) |
| H | Hexagon socket head cap screw (Drop 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. Refer to page 198 for base gasket and mounting screw part numbers.

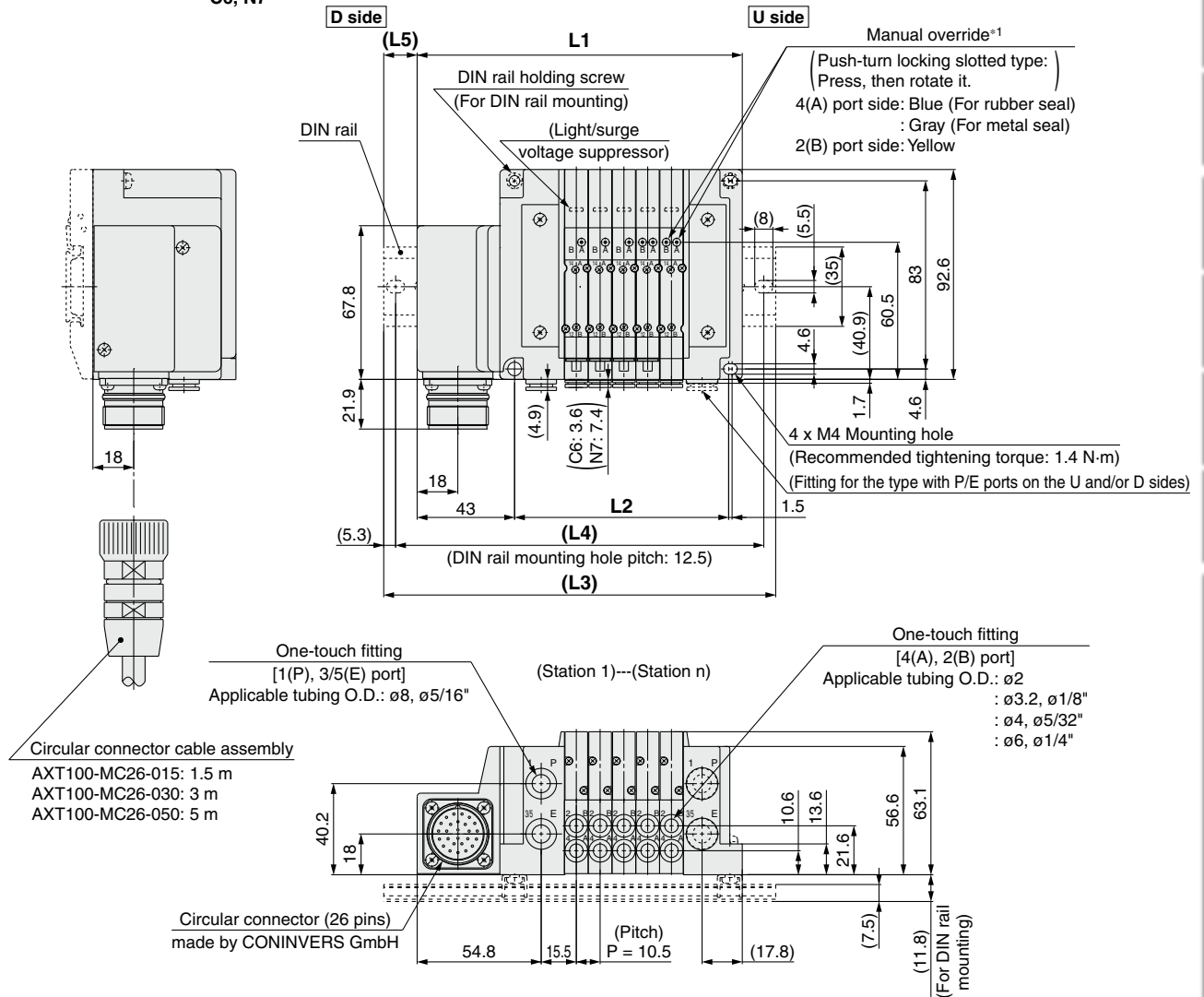
* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly, interface regulator, or double check spacer assembly with residual pressure release valve.

Dimensions: SY3000 Series

Plug-in Connector Connecting Base

Type 10/Side Ported
Circular Connector

SS5Y3-10M- Stations $\begin{matrix} U \\ D \\ B \end{matrix}$ $\begin{matrix} C2 \\ C3, N1 \\ C4, N3 \\ C6, N7 \end{matrix}$ (D)



- *1 Refer to page 157 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.
- * These figures show the "SS5Y3-10M-05D-C6."
- * Refer to page 162 for dimensions of A or B port top-ported type.

| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 112 | 122.5 | 133 | 143.5 | 154 | 164.5 | 175 | 185.5 | 196 | 206.5 | 217 | 227.5 | 238 | 248.5 | 259 | 269.5 | 280 | 290.5 | 301 | 311.5 | 322 | 332.5 | 343 |
| L2 | 63 | 73.5 | 84 | 94.5 | 105 | 115.5 | 126 | 136.5 | 147 | 157.5 | 168 | 178.5 | 189 | 199.5 | 210 | 220.5 | 231 | 241.5 | 252 | 262.5 | 273 | 283.5 | 294 |
| L3 | 135.5 | 148 | 160.5 | 173 | 185.5 | 198 | 210.5 | 210.5 | 223 | 235.5 | 248 | 260.5 | 273 | 273 | 285.5 | 298 | 310.5 | 323 | 335.5 | 335.5 | 348 | 360.5 | 373 |
| L4 | 125 | 137.5 | 150 | 162.5 | 175 | 187.5 | 200 | 200 | 212.5 | 225 | 237.5 | 250 | 262.5 | 262.5 | 275 | 287.5 | 300 | 312.5 | 325 | 325 | 337.5 | 350 | 362.5 |
| L5 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 12.5 | 13.5 | 14.5 | 15.5 | 16.5 | 17.5 | 12.5 | 13.5 | 14.5 | 15.5 | 16.5 | 17.5 | 12 | 13 | 14 | 15 |

SY3000/5000/7000 Series

Dimensions: SY5000 Series

SS5Y5-10M-

| |
|-----------------|
| Stations |
|-----------------|

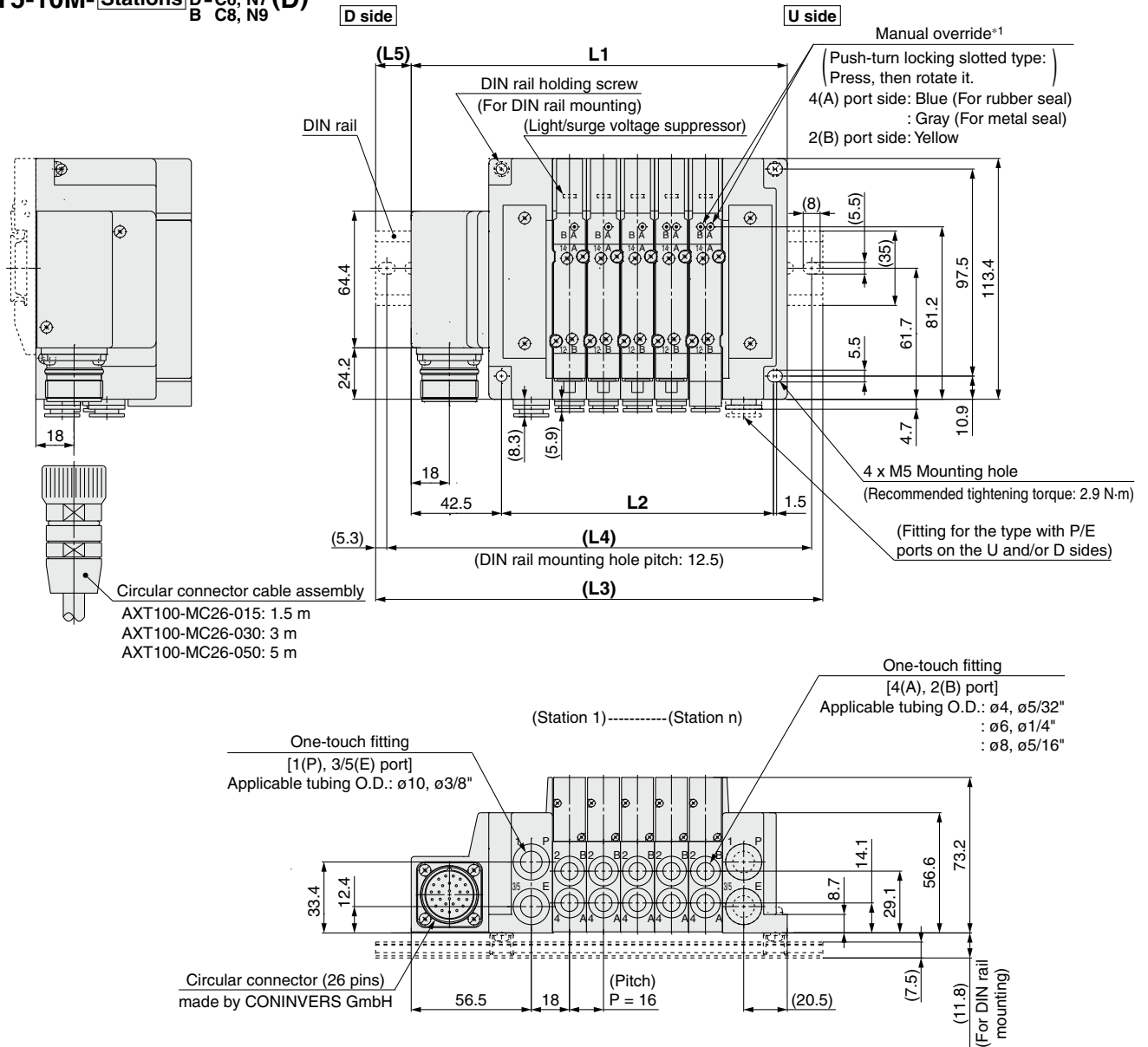
| | |
|---|--------|
| U | C4, N3 |
| D | C6, N7 |
| B | C8, N9 |

(D)

Plug-in Connector Connecting Base

Type 10/Side Ported

Circular Connector



*1 Refer to page 158 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.

* These figures show the “SS5Y5-10M-05D-C8.”

* Refer to page 163 for dimensions of A or B port top-ported type.

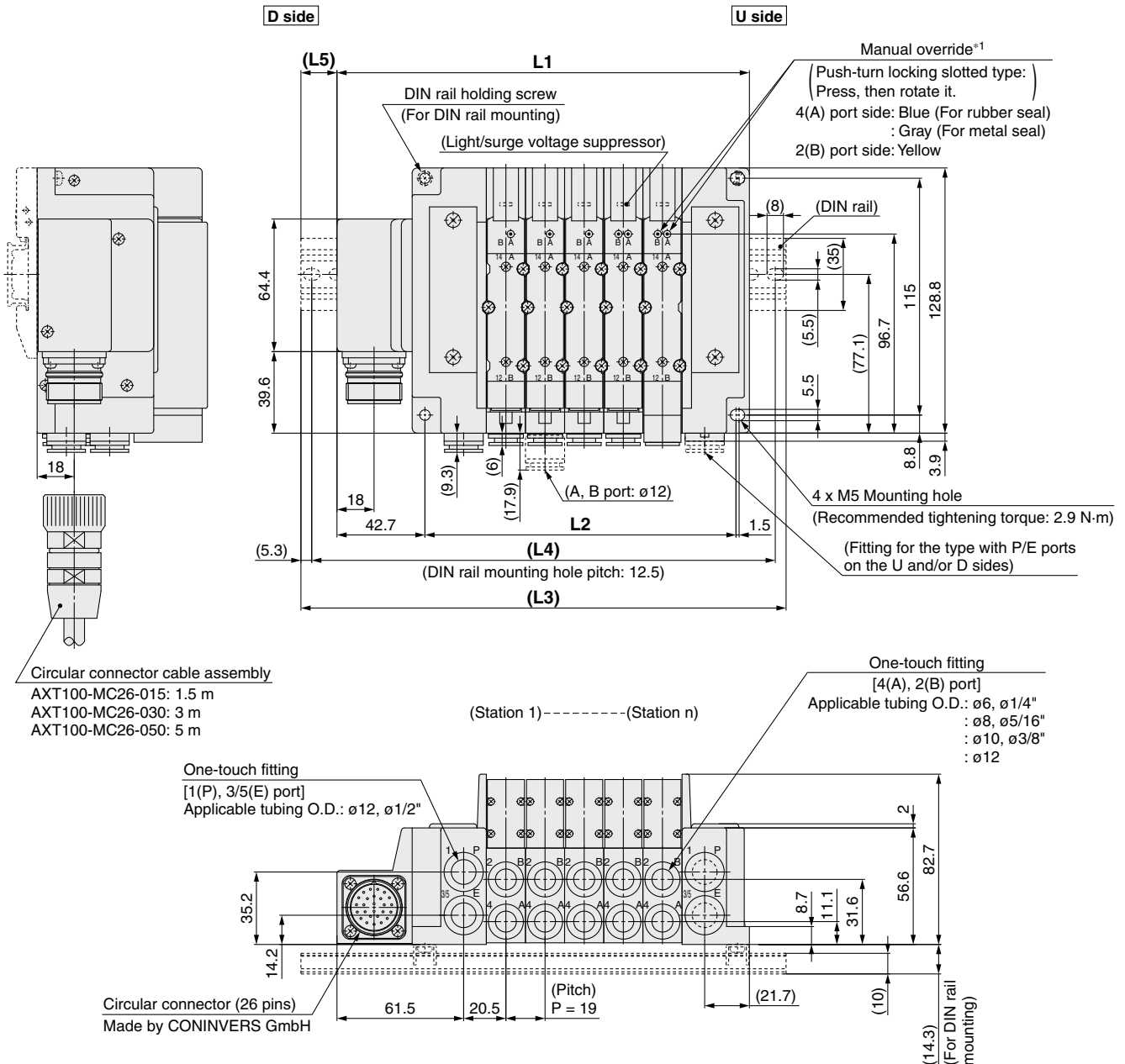
| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 129 | 145 | 161 | 177 | 193 | 209 | 225 | 241 | 257 | 273 | 289 | 305 | 321 | 337 | 353 | 369 | 385 | 401 | 417 | 433 | 449 | 465 | 481 |
| L2 | 80 | 96 | 112 | 128 | 144 | 160 | 176 | 192 | 208 | 224 | 240 | 256 | 272 | 288 | 304 | 320 | 336 | 352 | 368 | 384 | 400 | 416 | 432 |
| L3 | 160.5 | 173 | 185.5 | 210.5 | 223 | 235.5 | 260.5 | 273 | 285.5 | 298 | 323 | 335.5 | 348 | 360.5 | 385.5 | 398 | 410.5 | 435.5 | 448 | 460.5 | 473 | 498 | 510.5 |
| L4 | 150 | 162.5 | 175 | 200 | 212.5 | 225 | 250 | 262.5 | 275 | 287.5 | 312.5 | 325 | 337.5 | 350 | 375 | 387.5 | 400 | 425 | 437.5 | 450 | 462.5 | 487.5 | 500 |
| L5 | 16 | 14 | 12.5 | 17 | 15 | 13.5 | 18 | 16 | 14.5 | 12.5 | 17 | 15.5 | 13.5 | 12 | 16.5 | 14.5 | 13 | 17.5 | 15.5 | 14 | 12 | 16.5 | 15 |

Dimensions: SY7000 Series

Plug-in Connector Connecting Base

Type 10/Side Ported
Circular Connector

SS5Y7-10M- Stations $\begin{matrix} \text{U} \\ \text{D} \\ \text{B} \end{matrix}$ $\begin{matrix} \text{C6, N7} \\ \text{C8, N9} \\ \text{C10, N11} \\ \text{C12} \end{matrix}$ (D)



- *1 Refer to page 159 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.
- * These figures show the "SS5Y7-10M-05D-C10."
- * Refer to page 164 for dimensions of A or B port top-ported type.

| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 143.2 | 162.2 | 181.2 | 200.2 | 219.2 | 238.2 | 257.2 | 276.2 | 295.2 | 314.2 | 333.2 | 352.2 | 371.2 | 390.2 | 409.2 | 428.2 | 447.2 | 466.2 | 485.2 | 504.2 | 523.2 | 542.2 | 561.2 |
| L2 | 94 | 113 | 132 | 151 | 170 | 189 | 208 | 227 | 246 | 265 | 284 | 303 | 322 | 341 | 360 | 379 | 398 | 417 | 436 | 455 | 474 | 493 | 512 |
| L3 | 173 | 185.5 | 210.5 | 235.5 | 248 | 273 | 285.5 | 310.5 | 323 | 348 | 360.5 | 385.5 | 398 | 423 | 435.5 | 460.5 | 473 | 498 | 510.5 | 535.5 | 548 | 573 | 585.5 |
| L4 | 162.5 | 175 | 200 | 225 | 237.5 | 262.5 | 275 | 300 | 312.5 | 337.5 | 350 | 375 | 387.5 | 412.5 | 425 | 450 | 462.5 | 487.5 | 500 | 525 | 537.5 | 562.5 | 575 |
| L5 | 15 | 11.5 | 14.5 | 17.5 | 14.5 | 17.5 | 14 | 17 | 14 | 17 | 13.5 | 16.5 | 13.5 | 16.5 | 13 | 16 | 13 | 16 | 12.5 | 15.5 | 12.5 | 15.5 | 12 |

Plug-in Connector Connecting Base

Circular Connector

Type 12
Top Ported

SY3000/5000/7000 Series



How to Order Manifolds

SS5Y **3** - 12M - **05** **U** **□** - **□** **□**

1 2 3 4 5 6

Refer to pages 162 to 164
for the dimensions of
Type 12/Top ported type.

1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Valve stations

| Symbol | Stations | Note |
|--------|-------------|--|
| 02 | 2 stations | Double wiring*1 |
| ⋮ | ⋮ | |
| 12 | 12 stations | |
| 02 | 2 stations | Specified layout*2 (Up to 24 solenoids available) |
| ⋮ | ⋮ | |
| 24 | 24 stations | |

- *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.
- *2 Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position, and 4-position valves cannot be used where single wiring has been specified.)
- * This also includes the number of the blanking plate assembly.

3 P, E port entry

| | |
|-----|-------------------------------|
| U*1 | U side (2 to 10 stations) |
| D*1 | D side (2 to 10 stations) |
| B | Both sides (2 to 24 stations) |

- *1 4 For type "S", SUP/EXH block assembly with a built-in silencer, choose U or D for P, E port entry.

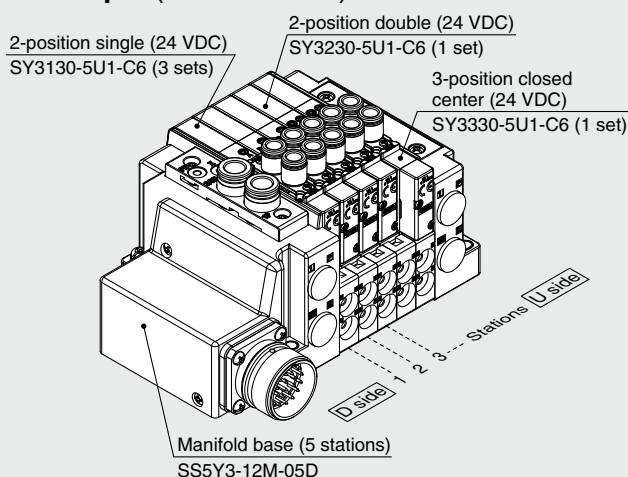
4 SUP/EXH block assembly

| | |
|-----|-----------------------------------|
| Nil | Internal pilot |
| S | Internal pilot, Built-in silencer |
| R | External pilot |

- * The P and E ports are only available on the U and D sides for the built-in silencer type. 3/5(E) port is plugged. The silencer exhaust port is located on the opposite side of the P and E port entry. (Example: When the P and E port entry is on the D side, the silencer exhaust port is on the U side.)
- * When the built-in silencer type is used, keep the exhaust port from coming into direct contact with water or other liquids.

How to Order Manifold Assembly

Example (SS5Y3-12M-□)



SS5Y3-12M-05D 1 set (Type 12 5-station manifold base part no.)
 *SY3130-5U1-C6 3 sets (2-position single part no.)
 *SY3230-5U1-C6 1 set (2-position double part no.)
 *SY3330-5U1-C6 1 set (3-position closed center part no.)

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

- For the valve arrangement, the valve closest to the D side is considered the 1st station.
- Under the manifold part number, state the valves to be mounted in order starting with the 1st station as shown in the figure above. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.

5 P, E port size (One-touch fittings)

| Symbol | SY3000 | SY5000 | SY7000 |
|--------|--------|--------|--------|
| Nil | ø8 | ø10 | ø12 |
| N | ø5/16" | ø3/8" | ø1/2" |

- * For N, sizes are in inches.

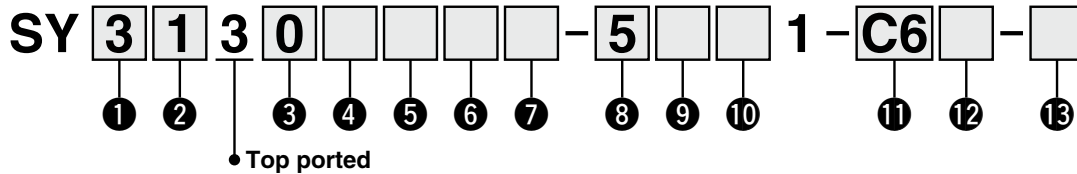
6 Mounting

| | |
|-----|---|
| Nil | Direct mounting |
| D | DIN rail mounting (With DIN rail) |
| D0 | DIN rail mounting (Without DIN rail) |
| D3 | For 3 stations |
| ⋮ | ⋮ |
| D24 | For 24 stations |

- * Refer to page 295 for the fixation of DIN rail mounting type manifold.

How to Order Valves (With mounting screw)

Refer to page 15 for valve specifications.



1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type of actuation

| | | |
|-----|-------------|-----------------|
| 1 | 2-position | Single |
| 2 | | Double |
| 3 | 3-position | Closed center |
| 4 | | Exhaust center |
| 5 | | Pressure center |
| A*1 | 4-position | N.C./N.C. |
| B*1 | dual 3-port | N.O./N.O. |
| C*1 | | N.C./N.O. |

*1 Only the rubber seal 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 the rubber seal type is available. A manifold installed type is available if a back pressure check valve with a metal seal is required. Refer to page 212 for ordering examples. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

* The built-in valve type back pressure check valve is not available for the 3-position type or the SY7000.

6 Pilot valve option

| | |
|-----|-------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K*1 | High pressure type (1.0 MPa) |

*1 Only the 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 if the valve is to be continuously energized for long periods of time.

* Be careful of the energizing time when the power saving circuit is selected. Refer to page 292 for details.

8 Rated voltage

| | |
|---|--------|
| 5 | 24 VDC |
| 6 | 12 VDC |

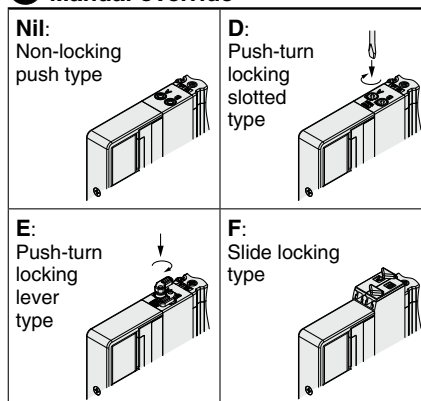
9 Light/surge voltage suppressor and common specification

| Symbol | With light | Surge voltage suppressor | Common specification |
|--------|------------|--------------------------|----------------------|
| Nil | — | — | Non-polar |
| R | — | — | |
| U | ● | — | |
| S | — | ● | Positive common |
| Z | ● | — | Negative common |
| NS | — | — | |
| NZ | ● | — | |

* For the non-polar type, be careful of surge voltage intrusion. Refer to page 293 for details.

* Only "Z" and "NZ" types are available with a power saving circuit.

10 Manual override



* Refer to page 34 for the safety slide locking manual override.

11 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 |

One-touch fitting (Metric)

| Symbol | A, B port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| C2 | ø2 | ● | — | — |
| C3 | ø3.2 | ● | — | — |
| C4 | ø4 | ● | ● | — |
| C6 | ø6 | ● | ● | ● |
| C8 | ø8 | — | ● | ● |
| C10 | ø10 | — | — | ● |
| C12 | ø12 | — | — | ● |

One-touch fitting (Inch)

| Symbol | A, B port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| N1 | ø1/8" | ● | — | — |
| N3 | ø5/32" | ● | ● | — |
| N7 | ø1/4" | ● | ● | — |
| N9 | ø5/16" | — | ● | ● |
| N11 | ø3/8" | — | — | ● |

12 Thread type

| | |
|-----|------|
| Nil | Rc |
| F | G |
| N | NPT |
| T | NPTF |

* Only Nil is available for M5.

13 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.**

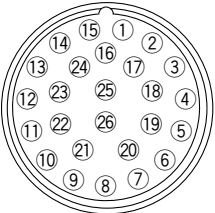
Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance. Refer to page 198 for base gasket and mounting screw part numbers.

* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly or interface regulator.

SY3000/5000/7000 Series

Electrical Wiring Specifications

Circular connector



If alignment is not specified, the internal wiring will be double wiring (connected to SOL. a and SOL. b) regardless of number of stations, valve types, and option types.

| | Terminal no. | Polarity |
|------------|--------------|------------|
| Station 1 | SOL.a | 1 (-) (+) |
| | SOL.b | 2 (-) (+) |
| Station 2 | SOL.a | 3 (-) (+) |
| | SOL.b | 4 (-) (+) |
| Station 3 | SOL.a | 5 (-) (+) |
| | SOL.b | 6 (-) (+) |
| Station 4 | SOL.a | 7 (-) (+) |
| | SOL.b | 8 (-) (+) |
| Station 5 | SOL.a | 9 (-) (+) |
| | SOL.b | 10 (-) (+) |
| Station 6 | SOL.a | 11 (-) (+) |
| | SOL.b | 12 (-) (+) |
| Station 7 | SOL.a | 13 (-) (+) |
| | SOL.b | 14 (-) (+) |
| Station 8 | SOL.a | 15 (-) (+) |
| | SOL.b | 16 (-) (+) |
| Station 9 | SOL.a | 17 (-) (+) |
| | SOL.b | 18 (-) (+) |
| Station 10 | SOL.a | 19 (-) (+) |
| | SOL.b | 20 (-) (+) |
| Station 11 | SOL.a | 21 (-) (+) |
| | SOL.b | 22 (-) (+) |
| Station 12 | SOL.a | 23 (-) (+) |
| | SOL.b | 24 (-) (+) |
| COM. | | 25 (+) (-) |
| | | 26 (+) (-) |

Positive common

Negative common

* When using a valve with no polarity, either positive common or negative common can be used.

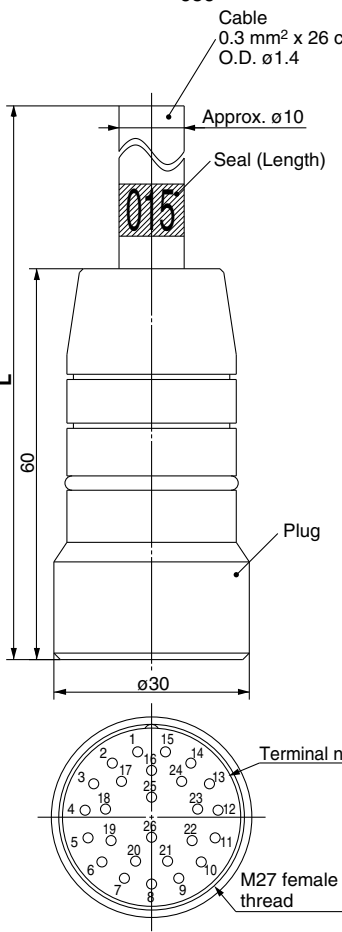
Specified Layout

A mixture of single and double wiring can be specified on the manifold specification sheet. The maximum number of stations is determined according to the number of solenoids. The total number of solenoids should be 24 or less. 1 solenoid is required for the 2-position single, and 2 solenoids for the 2-position double, 3-position, and 4-position.

Cable Assembly

015
AXT100-MC26-030
050

Cable
0.3 mm² x 26 cores
O.D. ø1.4



| Terminal no. | Lead wire color | Dot marking |
|--------------|-----------------|-------------|
| 1 | Black | None |
| 2 | Brown | None |
| 3 | Red | None |
| 4 | Orange | None |
| 5 | Yellow | None |
| 6 | Pink | None |
| 7 | Blue | None |
| 8 | Purple | White |
| 9 | Gray | Black |
| 10 | White | Black |
| 11 | White | Red |
| 12 | Yellow | Red |
| 13 | Orange | Red |
| 14 | Yellow | Black |
| 15 | Pink | Black |
| 16 | Blue | White |
| 17 | Purple | None |
| 18 | Gray | None |
| 19 | Orange | Black |
| 20 | Red | White |
| 21 | Brown | White |
| 22 | Pink | Red |
| 23 | Gray | Red |
| 24 | Black | White |
| 25 | White | None |
| 26 | White | None |

Circular connector cable assembly

| Cable length (L) | Assembly part no. |
|------------------|-------------------|
| 1.5 m | AXT100-MC26-015 |
| 3 m | AXT100-MC26-030 |
| 5 m | AXT100-MC26-050 |

Electrical characteristics

| Item | Property |
|--------------------------------------|------------|
| Conductor resistance Ω/km, 20°C | 65 or less |
| Voltage limit V, 1 minute, AC | 1000 |
| Insulation resistance MΩ/km, 20°C | 5 or more |

* The minimum bending radius of the circular connector cable is 20 mm.

* Cannot be used for movable wiring

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

| |
|--------------------------------------|
| Chart |
| Valve Specifications |
| Valve Construction |
| Valve Replacement Parts |
| With Residual Pressure Release Valve |
| Vacuum Release Valve with Restrictor |
| With Pressure Sensor |
| Made to Order |
| Connector Connecting Base |
| D-sub, Flat Ribbon |
| Terminal Block |
| Lead Wire |
| Circular Connector |
| EX500 |
| EX600 |
| EX250 |
| EX260 |
| EX126 |
| EX120 |
| Common Dimensions |
| Mixed Mounting |
| Manifold Exploded View |
| Fitting, Plug Part Nos. |
| Manifold Options |
| Specific Product Precautions |

Type 10
Side Ported

Type 11
Bottom Ported

Plug-in Connector Connecting Base

EX500 Gateway Decentralized System 2 (128 Points)

SY3000/5000/7000 Series



How to Order Manifolds

Refer to pages 160 (SY5000) and 161 (SY7000) for the dimensions of Type 11/Bottom-ported type.

SS5Y **3** - **10** S **A3N** - **05** **U** - **C6**

1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

* For mixed mounting, refer to page 165 and later.

2 Type

| | |
|----|-----------------------------|
| 10 | Side ported |
| 11 | Bottom ported ^{*1} |

- *1 The SY5000 manifold base is used for the bottom-ported SY3000. When ordering, refer to the "Plug-in Mixed Mounting Type Manifold" (from page 165).
- * When mixing top-ported configurations, select from those listed on page 110. In such cases, use caution as there is also output on the A and B ports on the base side. Specify on the manifold specification sheet if plugs are required for the A and B ports on the base side.

3 SI unit (Number of outputs, Output polarity, Max. number of valve stations)

| | |
|-----|---|
| 0 | Without SI unit |
| A3N | 32 outputs ^{*1*4} , 2 to 16 stations (24 stations ^{*3}), Negative common ^{*2} |

- *1 16 outputs can be set by switching the built-in setting switch.
- *2 Ensure a match with the common specification of the valve.
- *3 (): Maximum number of stations for mixed single and double wiring
- *4 When using the SI unit with 32 outputs, use the GW unit compatible with the EX500 Gateway Decentralized System 2 (128 points).

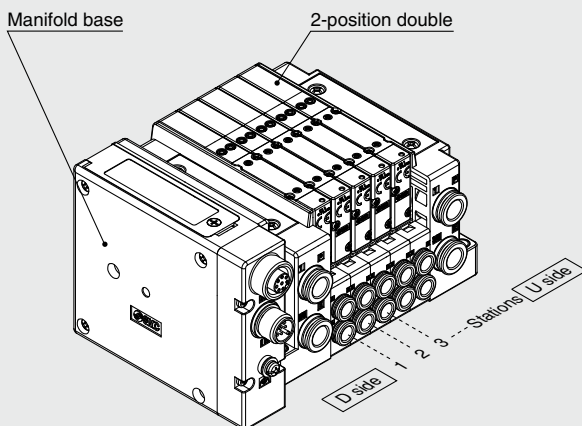
4 Valve stations

| Stations | Note |
|----------|-------------|
| 02 | 2 stations |
| ⋮ | ⋮ |
| 16 | 16 stations |
| 02 | 2 stations |
| ⋮ | ⋮ |
| 24 | 24 stations |

- *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.
- *2 Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position, and 4-position valves cannot be used where single wiring has been specified.)
- * When the product without the SI unit (S0) is selected, note the maximum number of solenoids of the SI unit that will be mounted. If the layout is specified, indicate it on the manifold specification sheet.
- * This also includes the number of the blanking plate assembly.

How to Order Manifold Assembly

Example



SS5Y3-10SA3N-05D-C6...1 set (Manifold base part number)
 * SY3200-5U15 sets (2-position double part number)
 The asterisk denotes the symbol for the assembly.
 Prefix it to the part numbers of the valve, etc.

- For the valve arrangement, the valve closest to the D side is considered the 1st station.
- Under the manifold base part number, state the valves to be mounted in order starting with the 1st station as shown in the figure above. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.

5 P, E port entry

| | |
|---|-------------------------------|
| 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

| | |
|-----|---|
| Nil | Internal pilot |
| S | Internal pilot, Built-in silencer ^{*1*2} |
| R | External pilot |

- *1 3/5(E) port is plugged for the built-in silencer type.
- *2 When built-in silencer type is used, keep the exhaust port from coming into direct contact with water or other liquids.

* A separate GW unit and communication cable are required.

For details on the EX500 Gateway Type Serial Transmission System, refer to the **Web Catalog** and the Operation Manual. For the part numbers of the SI units to be mounted, refer to page 188. Please download the Operation Manual via the SMC website, <https://www.smcworld.com>

7 A, B port size (Metric/One-touch fitting)

| | A, B port | Type 10/Side ported | | | Type 11/Bottom ported | |
|-------------|-------------|---------------------|--------|--------|-----------------------|--------|
| | | SY3000 | SY5000 | SY7000 | SY5000 | SY7000 |
| C2 | ø2 | ● | — | — | — | — |
| C3 | ø3.2 | ● | — | — | — | — |
| C4 | ø4 | ● | ● | — | ● | — |
| C6 | ø6 | ● | ● | ● | ● | ● |
| C8 | ø8 | — | ● | ● | ● | ● |
| C10 | ø10 | — | — | ● | — | ● |
| C12 | ø12 | — | — | ● | — | ● |
| CM*1 | Mixed sizes | ● | ● | ● | ● | ● |
| L4 | ø4 | ● | ● | — | — | — |
| L6 | ø6 | ● | ● | ● | — | — |
| L8 | ø8 | — | ● | ● | — | — |
| L10 | ø10 | — | — | ● | — | — |
| L12 | ø12 | — | — | ● | — | — |
| B4 | ø4 | ● | ● | — | — | — |
| B6 | ø6 | ● | ● | ● | — | — |
| B8 | ø8 | — | ● | ● | — | — |
| B10 | ø10 | — | — | ● | — | — |
| B12 | ø12 | — | — | ● | — | — |
| LM*1 | Mixed sizes | ● | ● | ● | — | — |
| P, E port*3 | | ø8 | ø10 | ø12 | ø10 | ø12 |

A, B port size (Inch/One-touch fitting)

| | A, B port | Type 10/Side ported | | | Type 11/Bottom ported | |
|-------------|-------------|---------------------|--------|--------|-----------------------|--------|
| | | SY3000 | SY5000 | SY7000 | SY5000 | SY7000 |
| N1 | ø1/8" | ● | — | — | — | — |
| N3 | ø5/32" | ● | ● | — | ● | — |
| N7 | ø1/4" | ● | ● | ● | ● | ● |
| N9 | ø5/16" | — | ● | ● | ● | ● |
| N11 | ø3/8" | — | — | ● | — | ● |
| CM*1 | Mixed sizes | ● | ● | ● | ● | ● |
| LN3 | ø5/32" | ● | — | — | — | — |
| LN7 | ø1/4" | ● | ● | — | — | — |
| LN9 | ø5/16" | — | ● | — | — | — |
| LN11 | ø3/8" | — | — | ● | — | — |
| BN3 | ø5/32" | ● | — | — | — | — |
| BN7 | ø1/4" | ● | ● | — | — | — |
| BN9 | ø5/16" | — | ● | — | — | — |
| BN11 | ø3/8" | — | — | ● | — | — |
| LM*1 | Mixed sizes | ● | ● | ● | — | — |
| P, E port*3 | | ø5/16" | ø3/8" | ø1/2" | ø3/8" | ø1/2" |

*1 Indicate the sizes on the manifold specification sheet.

*2 To avoid interference with the body or piping, select a downward elbow port when mounting the optional spacer assembly (pages 204 to 206).

*3 The direction of P, E port fittings is the same as for the A, B port. If selecting "LM," indicate it on the manifold specification sheet for the P, E port fitting direction.

8 Mounting and Option

| | Mounting | Option | |
|------|-------------------|------------|----------------|
| | | Name plate | Station number |
| Nil | Direct mounting | — | — |
| AA | | ● | ● |
| BA | | ● | — |
| D□*1 | DIN rail mounting | — | — |
| A□*1 | | ● | ● |
| B□*1 | | ● | — |

*1 Refer to "DIN Rail Option" below.

* Select the direct mounting type for Type 11 (Bottom ported).

DIN Rail Option

| | |
|------|---|
| Nil | With DIN bracket, DIN rail with standard length |
| 0 | With DIN bracket, without DIN rail |
| 3*1 | With DIN bracket, DIN rail for 3 stations |
| ⋮ | ⋮ |
| 24*1 | With DIN bracket, DIN rail for 24 stations |

*1 Specify a longer rail than the length of valve stations.

* If the DIN rail must be mounted without an SI unit, select "D0" and order the DIN rail separately. Refer to L3 of the dimensions for the DIN rail length.

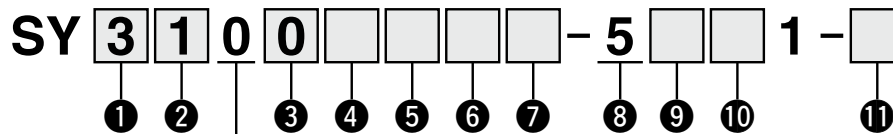
Refer to page 203 for the DIN rail part number.

* Refer to page 295 for the fixation of DIN rail mounting type manifold.

SY3000/5000/7000 Series

How to Order Valves (With mounting screw)

Refer to page 15 for valve specifications.



• Base mounted

1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type of actuation

| | | |
|-----|-----------------|-----------------|
| 1 | 2-position | Single |
| 2 | | Double |
| 3 | 3-position | Closed center |
| 4 | | Exhaust center |
| 5 | | Pressure center |
| A*1 | 4-position dual | N.C./N.C. |
| B*1 | 3-port valve | N.O./N.O. |
| C*1 | | N.C./N.O. |

*1 Select the rubber seal type 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

| | |
|-----|----------|
| Nil | None |
| H*1 | Built-in |

*1 Select the rubber seal type when the back pressure check valve is built-in. A manifold installed type is available if a back pressure check valve with a metal seal is required. Refer to page 212 for ordering examples. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

* Select "Nil" for the 3-position type or the SY7000.

6 Pilot valve option

| | |
|-----|-------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K*1 | High pressure type (1.0 MPa) |

*1 Select the metal seal type for the high pressure type.

7 Coil type

| | |
|-----|--|
| Nil | Standard |
| T | With power saving circuit (Continuous duty type)*1*2 |

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

*2 Be careful of the energizing time when the power saving circuit is selected. For details, refer to page 292.

8 Rated voltage

| | |
|---|--------|
| 5 | 24 VDC |
|---|--------|

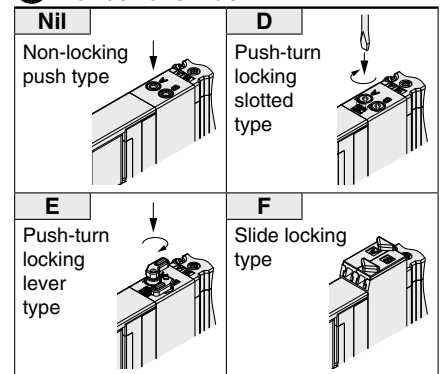
9 Light/surge voltage suppressor and common specification

| | With light | Surge voltage suppressor | Common specification |
|----|------------|--------------------------|----------------------|
| R | — | • | Non-polar |
| U | • | • | Non-polar |
| NS | — | • | Negative common |
| NZ | • | • | Negative common |

* For the non-polar type, be careful of surge voltage intrusion. Refer to page 293 for details.

* Select "NZ" for models with a power saving circuit.

10 Manual override



* Refer to page 34 for the safety slide locking manual override.

11 Type of mounting screw

| | |
|-----|--|
| Nil | Round head combination screw |
| B | Hexagon socket head cap screw |
| K | Round head combination screw (Drop prevention type)*1 |
| H | Hexagon socket head cap screw (Drop prevention type)*1 |

*1 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.

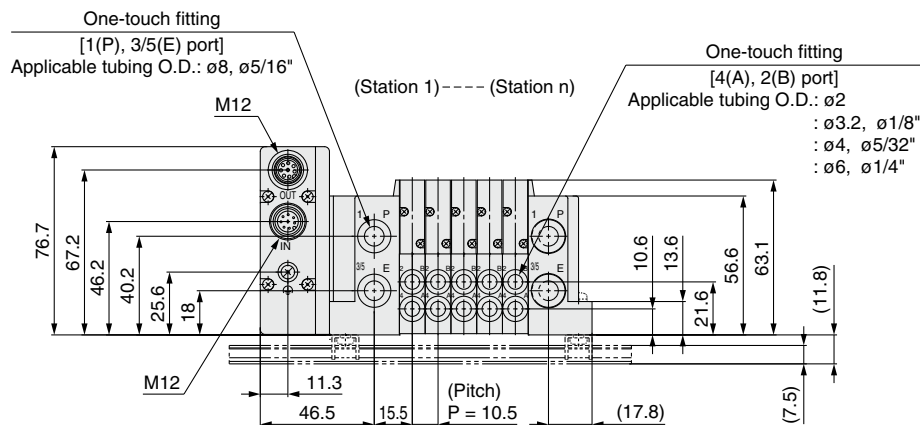
* **When ordering a valve individually, the base gasket is not included.**

Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance. Refer to page 198 for base gasket and mounting screw part numbers.

* Select "Nil" or "K" for the optional individual SUP/EXH spacer assembly, interface regulator, or double check spacer assembly with residual pressure release valve.

SS5Y3-10SA3N- **Stations** **U^{C2}
D-C3, N1
B-C4, N3
C6, N7** **(D)**

Type 10/Side Ported
EX500 (128 Points)



*1 Refer to page 157 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.
 * These figures show the “SS5Y3-10SA3N-05D-C6.”
 * Refer to page 162 for dimensions of A or B port top-ported type.

L: Dimensions

| L \ n | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 103.7 | 114.2 | 124.7 | 135.2 | 145.7 | 156.2 | 166.7 | 177.2 | 187.7 | 198.2 | 208.7 | 219.2 | 229.7 | 240.2 | 250.7 |
| L2 | 63 | 73.5 | 84 | 94.5 | 105 | 115.5 | 126 | 136.5 | 147 | 157.5 | 168 | 178.5 | 189 | 199.5 | 210 |
| L3 | 135.5 | 148 | 148 | 160.5 | 173 | 185.5 | 198 | 210.5 | 223 | 223 | 235.5 | 248 | 260.5 | 273 | 285.5 |
| L4 | 125 | 137.5 | 137.5 | 150 | 162.5 | 175 | 187.5 | 200 | 212.5 | 212.5 | 225 | 237.5 | 250 | 262.5 | 275 |
| L5 | 16 | 17 | 11.5 | 12.5 | 13.5 | 14.5 | 15.5 | 16.5 | 17.5 | 12.5 | 13.5 | 14.5 | 15.5 | 16.5 | 17.5 |

| L \ n | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 261.2 | 271.7 | 282.2 | 292.7 | 303.2 | 313.7 | 324.2 | 334.7 |
| L2 | 220.5 | 231 | 241.5 | 252 | 262.5 | 273 | 283.5 | 294 |
| L3 | 285.5 | 298 | 310.5 | 323 | 335.5 | 348 | 348 | 360.5 |
| L4 | 275 | 287.5 | 300 | 312.5 | 325 | 337.5 | 337.5 | 350 |
| L5 | 12 | 13 | 14 | 15 | 16 | 17 | 12 | 13 |

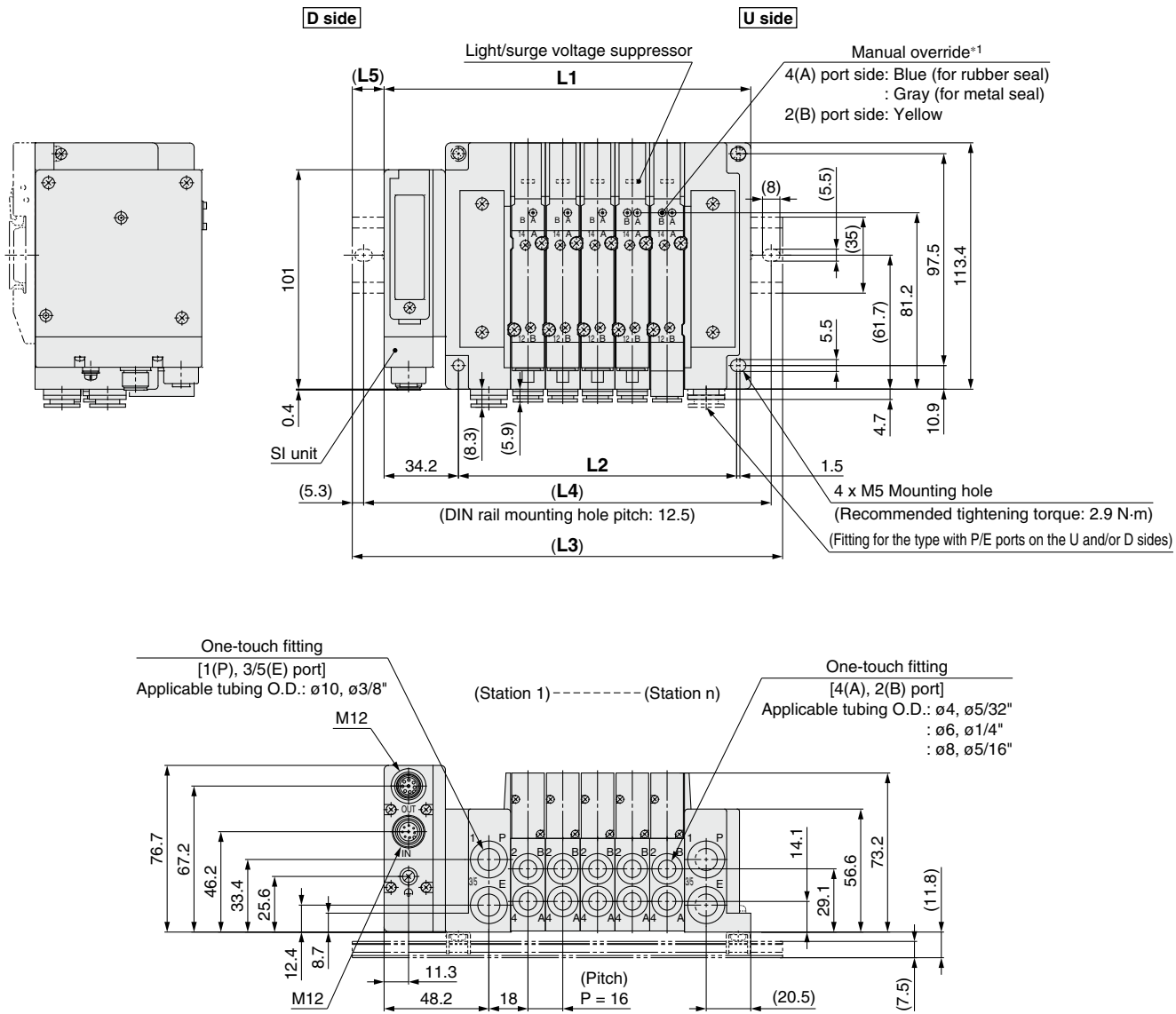
SY3000/5000/7000 Series

Dimensions: SY5000 Series

Plug-in
Connector Connecting Base

Type 10/Side Ported
EX500 (128 Points)

SS5Y5-10SA3N- Stations U C4, N3
D-C6, N7 (D)
B C8, N9



*1 Refer to page 158 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.
* These figures show the "SS5Y5-10SA3N-05D-C8."
* Refer to page 163 for dimensions of A or B port top-ported type.

L: Dimensions

| n: Stations | | | | | | | | | | | | | | |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L \ n | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| L1 | 120.7 | 136.7 | 152.7 | 168.7 | 184.7 | 200.7 | 216.7 | 232.7 | 248.7 | 264.7 | 280.7 | 296.7 | 312.7 | 328.7 |
| L2 | 80 | 96 | 112 | 128 | 144 | 160 | 176 | 192 | 208 | 224 | 240 | 256 | 272 | 288 |
| L3 | 148 | 160.5 | 185.5 | 198 | 210.5 | 235.5 | 248 | 260.5 | 273 | 298 | 310.5 | 323 | 348 | 360.5 |
| L4 | 137.5 | 150 | 175 | 187.5 | 200 | 225 | 237.5 | 250 | 262.5 | 287.5 | 300 | 312.5 | 337.5 | 350 |
| L5 | 13.5 | 12 | 16.5 | 14.5 | 13 | 17.5 | 15.5 | 14 | 12 | 16.5 | 15 | 13 | 17.5 | 16 |

| L \ n | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 360.7 | 376.7 | 392.7 | 408.7 | 424.7 | 440.7 | 456.7 | 472.7 |
| L2 | 320 | 336 | 352 | 368 | 384 | 400 | 416 | 432 |
| L3 | 385.5 | 410.5 | 423 | 435.5 | 448 | 473 | 485.5 | 498 |
| L4 | 375 | 400 | 412.5 | 425 | 437.5 | 462.5 | 475 | 487.5 |
| L5 | 12.5 | 17 | 15 | 13.5 | 11.5 | 16 | 14.5 | 12.5 |

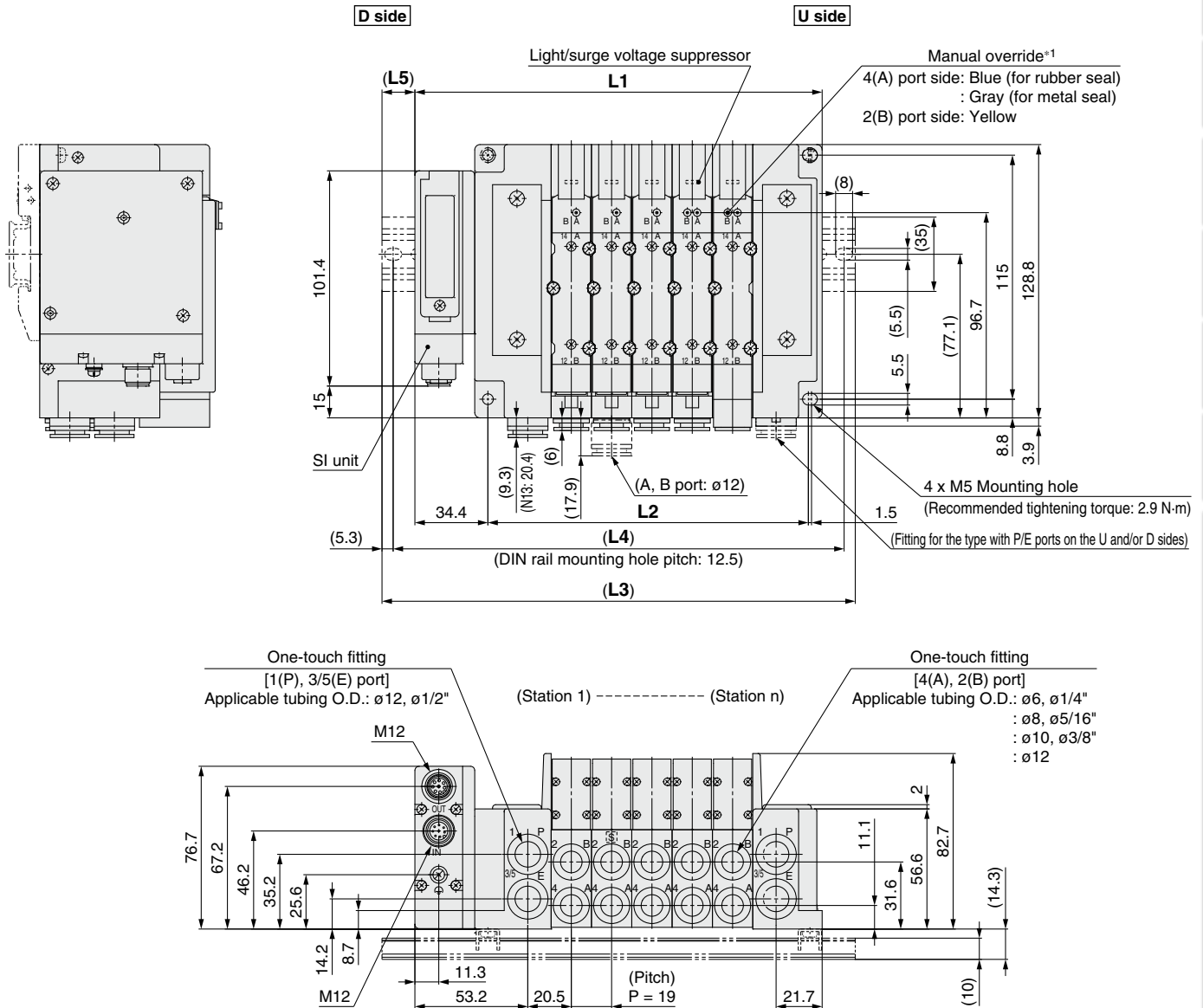


Dimensions: **SY7000 Series**

Plug-in
Connector Connecting Base

Type 10/Side Ported
EX500 (128 Points)

SS5Y7-10SA3N- Stations $\begin{matrix} \text{U} & \text{C6, N7} \\ \text{D} & \text{C8, N9} \\ \text{B} & \text{C10, N11} \\ & \text{C12} \end{matrix}$ (D)



- *¹ Refer to page 159 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.
* These figures show the "SS5Y7-10SA3N-05D-C10."
* Refer to page 164 for dimensions of A or B port top-ported type.

L: Dimensions

n: Stations

| L \ n | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 134.9 | 153.9 | 172.9 | 191.9 | 210.9 | 229.9 | 248.9 | 267.9 | 286.9 | 305.9 | 324.9 | 343.9 | 362.9 | 381.9 | 400.9 |
| L2 | 94 | 113 | 132 | 151 | 170 | 189 | 208 | 227 | 246 | 265 | 284 | 303 | 322 | 341 | 360 |
| L3 | 160.5 | 185.5 | 198 | 223 | 235.5 | 260.5 | 273 | 298 | 310.5 | 335.5 | 348 | 373 | 398 | 410.5 | 435.5 |
| L4 | 150 | 175 | 187.5 | 212.5 | 225 | 250 | 262.5 | 287.5 | 300 | 325 | 337.5 | 362.5 | 387.5 | 400 | 425 |
| L5 | 13 | 16 | 12.5 | 15.5 | 12.5 | 15.5 | 12 | 15 | 12 | 15 | 11.5 | 14.5 | 17.5 | 14.5 | 17.5 |

| L \ n | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 419.9 | 438.9 | 457.9 | 476.9 | 495.9 | 514.9 | 533.9 | 552.9 |
| L2 | 379 | 398 | 417 | 436 | 455 | 474 | 493 | 512 |
| L3 | 448 | 473 | 485.5 | 510.5 | 523 | 548 | 560.5 | 585.5 |
| L4 | 437.5 | 462.5 | 475 | 500 | 512.5 | 537.5 | 550 | 575 |
| L5 | 14 | 17 | 14 | 17 | 13.5 | 16.5 | 13.5 | 16.5 |

Type 10
Side Ported

Type 11
Bottom Ported

Plug-in Connector Connecting Base

EX500 Gateway Decentralized System (64 Points)

SY3000/5000/7000 Series



How to Order Manifolds

Refer to pages 160 (SY5000) and 161 (SY7000) for the dimensions of Type 11/Bottom-ported type.

SS5Y **3** - **10** S **A2** - **05** **U** **□** - **C6** **□**

1 2 3 4 5 6 7 8

1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

* For mixed mounting, refer to page 165 and later.

2 Type

| | |
|----|-----------------------------|
| 10 | Side ported |
| 11 | Bottom ported* ¹ |

- *¹ The SY5000 manifold base is used for the bottom-ported SY3000. When ordering, refer to the "Plug-in Mixed Mounting Type Manifold" (from page 165).
- * When mixing top-ported configurations, select from those listed on page 112. In such cases, use caution as there is also output on the A and B ports on the base side. Specify on the manifold specification sheet if plugs are required for the A and B ports on the base side.

3 SI unit (Number of outputs, Output polarity, Max. number of valve stations)

| | |
|-----|---|
| 0 | Without SI unit |
| A2 | 16 outputs, Positive common* ¹ , 2 to 8 stations (16 stations)* ² |
| A2N | 16 outputs, Negative common* ¹ , 2 to 8 stations (16 stations)* ² |

- *¹ Ensure a match with the common specification of the valve to be used.
- *² (): Maximum number of stations for mixed single and double wiring

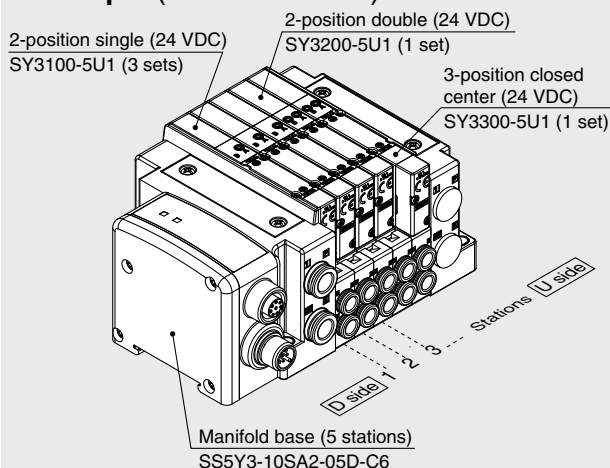
4 Valve stations

| Stations | Note |
|----------------|--|
| 02 2 stations | Double wiring* ¹ |
| 08 8 stations | |
| 02 2 stations | Specified layout* ² (Up to 16 solenoids available) |
| 16 16 stations | |

- *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.
- *² Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position, and 4-position valves cannot be used where single wiring has been specified.)
- * When the product without the SI unit (S0) is selected, note the maximum number of solenoids of the SI unit that will be mounted. If the layout is specified, indicate it on the manifold specification sheet.
- * This also includes the number of the blanking plate assembly.

How to Order Manifold Assembly

Example (SS5Y3-10SA2-□)



SS5Y3-10SA2-05D-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 asterisk denotes the symbol for the assembly.
Prefix it to the part numbers of the valve, etc.

- For the valve arrangement, the valve closest to the D side is considered the 1st station.
- Under the manifold part number, state the valves to be mounted in order starting with the 1st station as shown in the figure above. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.

5 P, E port entry

| | |
|---|-------------------------------|
| U | U side (2 to 10 stations) |
| D | D side (2 to 10 stations) |
| B | Both sides (2 to 16 stations) |

6 SUP/EXH block assembly

| | |
|-----|-----------------------------------|
| Nil | 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 exhaust port from coming into direct contact with water or other liquids.

* A separate GW unit and communication cable are required.

For details on the EX500 Gateway Type Serial Transmission System, refer to the **Web Catalog** and the Operation Manual. For the part numbers of the SI units to be mounted, refer to page 189. Please download the Operation Manual via the SMC website, <https://www.smcworld.com>

7 A, B port size (Metric/One-touch fitting)

| | A, B port | Type 10/Side ported | | | Type 11/Bottom ported | |
|-------------------------------------|-------------|---------------------|--------|--------|-----------------------|--------|
| | | SY3000 | SY5000 | SY7000 | SY5000 | SY7000 |
| C2 | ø2 | ● | — | — | — | — |
| C3 | ø3.2 | ● | — | — | — | — |
| C4 | ø4 | ● | ● | — | ● | — |
| C6 | ø6 | ● | ● | ● | ● | ● |
| C8 | ø8 | — | ● | ● | ● | ● |
| C10 | ø10 | — | — | ● | — | ● |
| C12 | ø12 | — | — | ● | — | ● |
| CM*1 | Mixed sizes | ● | ● | ● | ● | ● |
| L4 | ø4 | ● | ● | — | — | — |
| L6 | ø6 | ● | ● | ● | — | — |
| L8 | ø8 | — | ● | ● | — | — |
| L10 | ø10 | — | — | ● | — | — |
| L12 | ø12 | — | — | ● | — | — |
| B4 | ø4 | ● | ● | — | — | — |
| B6 | ø6 | ● | ● | ● | — | — |
| B8 | ø8 | — | ● | ● | — | — |
| B10 | ø10 | — | — | ● | — | — |
| B12 | ø12 | — | — | ● | — | — |
| LM*1 | Mixed sizes | ● | ● | ● | — | — |
| P, E port*3 (One-touch fittings) | | ø8 | ø10 | ø12 | ø10 | ø12 |

A, B port size (Inch/One-touch fitting)

| | A, B port | Type 10/Side ported | | | Type 11/Bottom ported | |
|-------------------------------------|-------------|---------------------|--------|--------|-----------------------|--------|
| | | SY3000 | SY5000 | SY7000 | SY5000 | SY7000 |
| N1 | ø1/8" | ● | — | — | — | — |
| N3 | ø5/32" | ● | ● | — | ● | — |
| N7 | ø1/4" | ● | ● | ● | ● | ● |
| N9 | ø5/16" | — | ● | ● | ● | ● |
| N11 | ø3/8" | — | — | ● | — | ● |
| CM*1 | Mixed sizes | ● | ● | ● | ● | ● |
| LN3 | ø5/32" | ● | — | — | — | — |
| LN7 | ø1/4" | ● | ● | — | — | — |
| LN9 | ø5/16" | — | ● | — | — | — |
| LN11 | ø3/8" | — | — | ● | — | — |
| BN3 | ø5/32" | ● | — | — | — | — |
| BN7 | ø1/4" | ● | ● | — | — | — |
| BN9 | ø5/16" | — | ● | — | — | — |
| BN11 | ø3/8" | — | — | ● | — | — |
| LM*1 | Mixed sizes | ● | ● | ● | — | — |
| P, E port*3 (One-touch fittings) | | ø5/16" | ø3/8" | ø1/2" | ø3/8" | ø1/2" |

*1 Indicate the sizes on the manifold specification sheet.

*2 To avoid interference with the body or piping, select a downward elbow port when mounting the optional spacer assembly (pages 204 to 206).

*3 The direction of P, E port fittings is the same as for the A, B port. If selecting "LM," indicate it on the manifold specification sheet for the P, E port fitting direction.

8 Mounting and Option

| | Mounting | Option | |
|------|-------------------|------------|----------------|
| | | Name plate | Station number |
| Nil | Direct mounting | — | — |
| AA | | ● | ● |
| BA | | ● | — |
| D□*1 | DIN rail mounting | — | — |
| A□*1 | | ● | ● |
| B□*1 | | ● | — |

*1 Refer to "DIN Rail Option" below.

* Select the direct mounting type for Type 11 (Bottom ported).

DIN Rail Option

| | |
|------|---|
| Nil | With DIN bracket, DIN rail with standard length |
| 0 | With DIN bracket, without DIN rail |
| 3*1 | With DIN bracket, DIN rail for 3 stations |
| ⋮ | ⋮ |
| 16*1 | With DIN bracket, DIN rail for 16 stations |

*1 Specify a longer rail than the length of valve stations.

* If the DIN rail must be mounted without an SI unit, select "D0" and order the DIN rail separately. Refer to L3 of the dimensions for the DIN rail length.

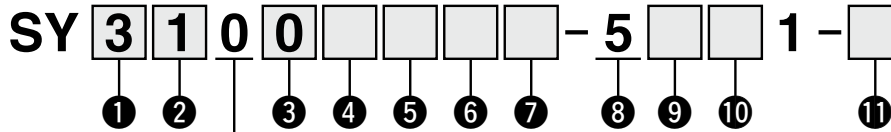
Refer to page 203 for the DIN rail part number.

* Refer to page 295 for the fixation of DIN rail mounting type manifold.

SY3000/5000/7000 Series

How to Order Valves (With mounting screw)

Refer to page 15 for valve specifications.



Base mounted

1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type of actuation

| | | |
|-----|------------------------|-----------------|
| 1 | 2-position | Single |
| 2 | | Double |
| 3 | 3-position | Closed center |
| 4 | | Exhaust center |
| 5 | | Pressure center |
| A*1 | 4-position dual 3-port | N.C./N.C. |
| B*1 | | N.O./N.O. |
| C*1 | | N.C./N.O. |

*1 Only the 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 the rubber seal type is available. A manifold installed type is available if a back pressure check valve with a metal seal is required. Refer to page 212 for ordering examples. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

* The built-in valve type back pressure check valve is not available for the 3-position type or the SY7000.

6 Pilot valve option

| | |
|-----|-------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K*1 | High pressure type (1.0 MPa) |

*1 Only the 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 if the valve is to be continuously energized for long periods of time.

* Be careful of the energizing time when the power saving circuit is selected. Refer to page 292 for details.

8 Rated voltage

| | |
|---|--------|
| 5 | 24 VDC |
|---|--------|

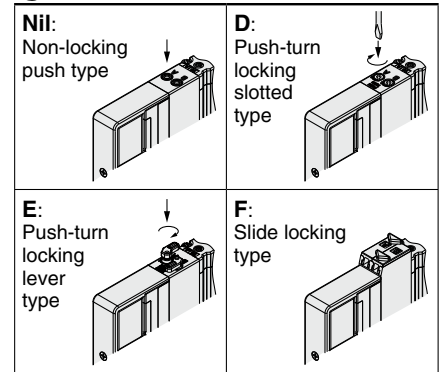
9 Light/surge voltage suppressor and common specification

| Symbol | With light | Surge voltage suppressor | Common specification |
|--------|------------|--------------------------|----------------------|
| R | — | | Non-polar |
| U | ● | | |
| S | — | ● | Positive common |
| Z | ● | | |
| NS | — | | Negative common |
| NZ | ● | | |

* For the non-polar type, be careful of surge voltage intrusion. Refer to page 293 for details.

* Only "Z" and "NZ" are available with a power saving circuit. Select "R," "U," "S," or "Z" for the valve when the SI unit specification is A2 (positive common). Select "R," "U," "NS," or "NZ" for the valve when the SI unit specification is A2N (negative common).

10 Manual override



* Refer to page 34 for the safety slide locking manual override.

11 Type of mounting screw

| | |
|-----|--|
| Nil | Round head combination screw |
| B | Hexagon socket head cap screw |
| K | Round head combination screw (Drop prevention type) |
| H | Hexagon socket head cap screw (Drop 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. Refer to page 198 for base gasket and mounting screw part numbers.

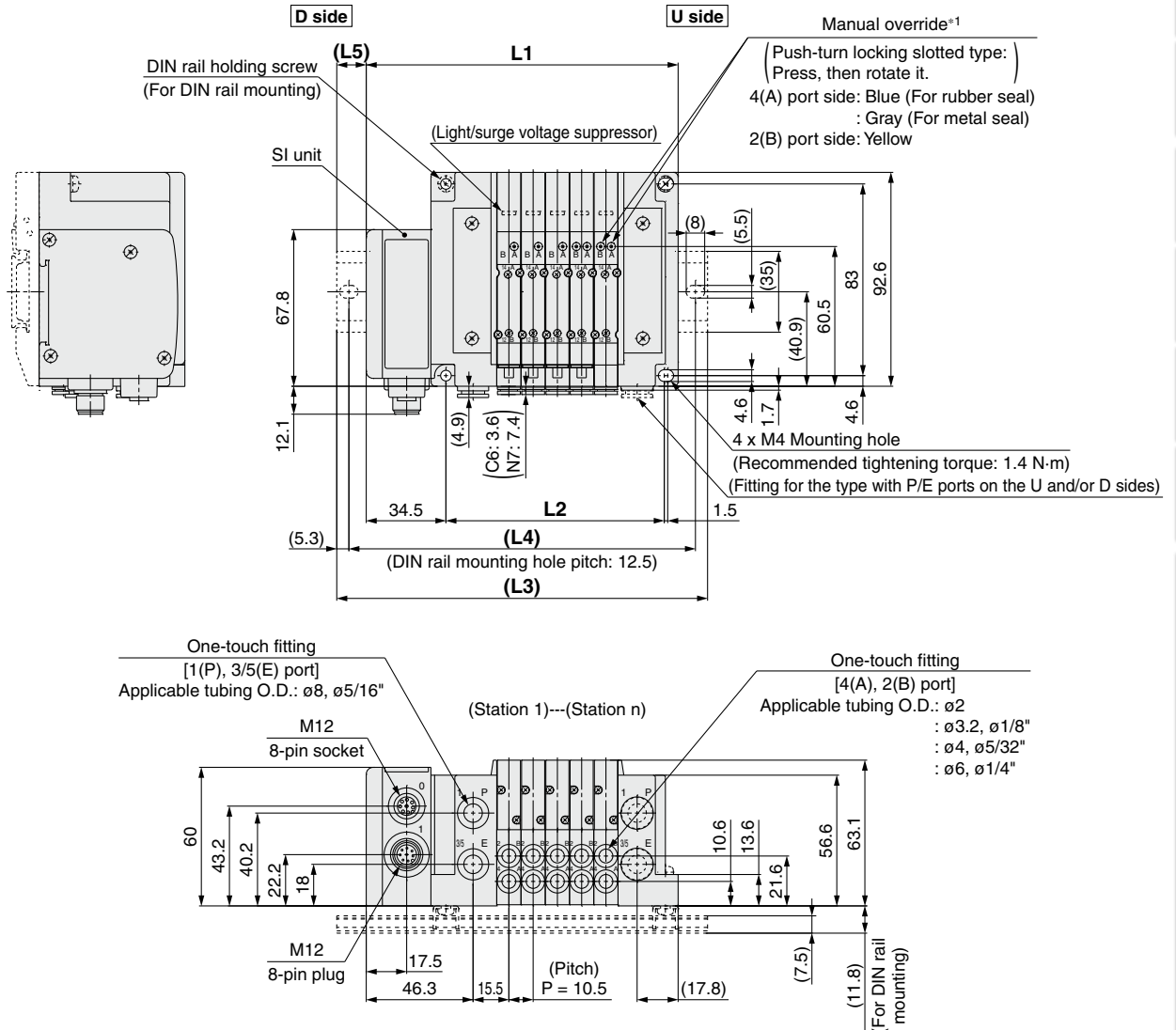
* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly, interface regulator, or double check spacer assembly with residual pressure release valve.

Dimensions: SY3000 Series

Plug-in Connector Connecting Base

Type 10/Side Ported
EX500 (64 Points)

SS5Y3-10SA2- Stations $\begin{matrix} \text{U} & \text{C2} \\ \text{D} & \text{C3, N1} \\ \text{B} & \text{C4, N3} \\ & \text{C6, N7} \end{matrix}$ (D)



- *1 Refer to page 157 or dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.
- * These figures show the "SS5Y3-10SA2-05D-C6."
- * Refer to page 162 for dimensions of A or B port top-ported type.

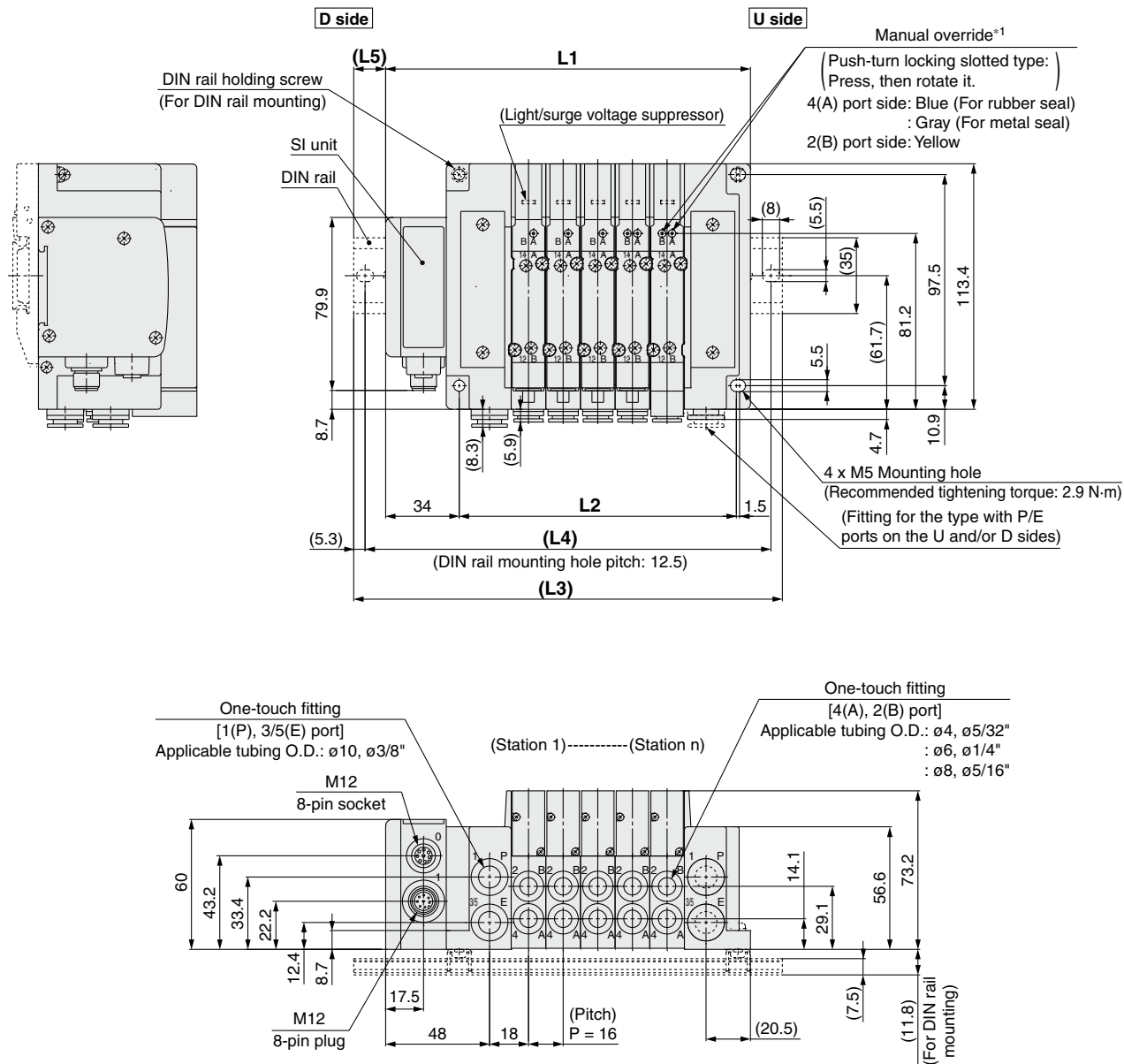
| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 103.5 | 114 | 124.5 | 135 | 145.5 | 156 | 166.5 | 177 | 187.5 | 198 | 208.5 | 219 | 229.5 | 240 | 250.5 |
| L2 | 63 | 73.5 | 84 | 94.5 | 105 | 115.5 | 126 | 136.5 | 147 | 157.5 | 168 | 178.5 | 189 | 199.5 | 210 |
| L3 | 135.5 | 148 | 148 | 160.5 | 173 | 185.5 | 198 | 210.5 | 223 | 223 | 235.5 | 248 | 260.5 | 273 | 285.5 |
| L4 | 125 | 137.5 | 137.5 | 150 | 162.5 | 175 | 187.5 | 200 | 212.5 | 212.5 | 225 | 237.5 | 250 | 262.5 | 275 |
| L5 | 16 | 17 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 12.5 | 13.5 | 14.5 | 15.5 | 16.5 | 17.5 |

SY3000/5000/7000 Series

Dimensions: SY5000 Series

| | |
|--------------------------------------|---------------------|
| Plug-in Connector Connecting Base | Type 10/Side Ported |
| | EX500 (64 Points) |

SS5Y5-10SA2- Stations U C4, N3
D C6, N7 (D)
B C8, N9



*1 Refer to page 158 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.
* These figures show the "SS5Y5-10SA2-05D-C8."
* Refer to page 163 for dimensions of A or B port top-ported type.

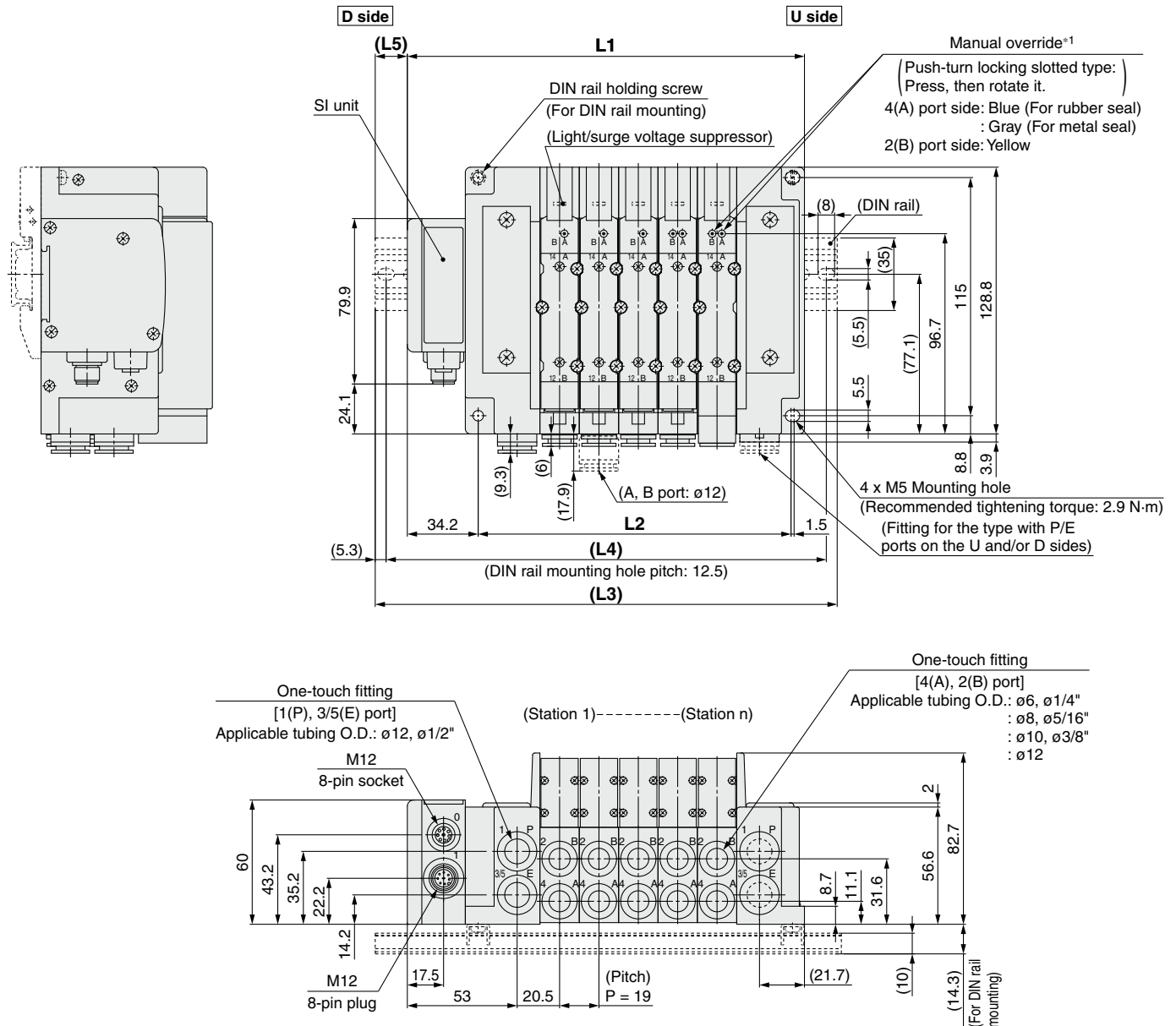
| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 120.5 | 136.5 | 152.5 | 168.5 | 184.5 | 200.5 | 216.5 | 232.5 | 248.5 | 264.5 | 280.5 | 296.5 | 312.5 | 328.5 | 344.5 |
| L2 | 80 | 96 | 112 | 128 | 144 | 160 | 176 | 192 | 208 | 224 | 240 | 256 | 272 | 288 | 304 |
| L3 | 148 | 160.5 | 185.5 | 198 | 210.5 | 235.5 | 248 | 260.5 | 273 | 298 | 310.5 | 323 | 348 | 360.5 | 373 |
| L4 | 137.5 | 150 | 175 | 187.5 | 200 | 225 | 237.5 | 250 | 262.5 | 287.5 | 300 | 312.5 | 337.5 | 350 | 362.5 |
| L5 | 14 | 12 | 16.5 | 15 | 13 | 17.5 | 16 | 14 | 12.5 | 17 | 15 | 13.5 | 18 | 16 | 14.5 |

Dimensions: SY7000 Series

Plug-in Connector Connecting Base

Type 10/Side Ported
EX500 (64 Points)

SS5Y7-10SA2- Stations $\begin{matrix} \text{U} \\ \text{D} \\ \text{B} \end{matrix}$ $\begin{matrix} \text{C6, N7} \\ \text{C8, N9} \\ \text{C10, N11} \end{matrix}$ (D)
C12



*1 Refer to page 159 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.

* These figures show the "SS5Y7-10SA2-05D-C10."

* Refer to page 164 for dimensions of A or B port top-ported type.

| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 134.7 | 153.7 | 172.7 | 191.7 | 210.7 | 229.7 | 248.7 | 267.7 | 286.7 | 305.7 | 324.7 | 343.7 | 362.7 | 381.7 | 400.7 |
| L2 | 94 | 113 | 132 | 151 | 170 | 189 | 208 | 227 | 246 | 265 | 284 | 303 | 322 | 341 | 360 |
| L3 | 160.5 | 185.5 | 198 | 223 | 235.5 | 260.5 | 273 | 298 | 310.5 | 335.5 | 348 | 373 | 398 | 410.5 | 435.5 |
| L4 | 150 | 175 | 187.5 | 212.5 | 225 | 250 | 262.5 | 287.5 | 300 | 325 | 337.5 | 362.5 | 387.5 | 400 | 425 |
| L5 | 13 | 16 | 12.5 | 15.5 | 12.5 | 15.5 | 12 | 15 | 12 | 15 | 11.5 | 14.5 | 17.5 | 14.5 | 17.5 |

Plug-in Connector Connecting Base

EX500 Gateway Decentralized System 2 (128 Points)

Type 12
Top Ported

SY3000/5000/7000 Series



How to Order Manifolds

SS5Y **3** - 12S **A3N** - **05** **U** **□** **□** **□**

1 2 3 4 5 6 7

Refer to pages 162 to 164 for the dimensions of Type 12/Top-ported type.

1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

* For mixed mounting, refer to page 165 and later.

2 SI unit (Number of outputs, Output polarity, Max. number of valve stations)

| | |
|-----|---|
| 0 | Without SI unit |
| A3N | 32 outputs*1*4, 2 to 16 stations (24 stations*3), Negative common*2 |

- *1 16 outputs can be set by switching the built-in setting switch.
- *2 Ensure a match with the common specification of the valve.
- *3 (): Maximum number of stations for mixed single and double wiring
- *4 When using the SI unit with 32 outputs, use the GW unit compatible with the EX500 Gateway Decentralized System 2 (128 points).

3 Valve stations

| Stations | Note |
|----------|-------------|
| 02 | 2 stations |
| ⋮ | ⋮ |
| 16 | 16 stations |
| 02 | 2 stations |
| ⋮ | ⋮ |
| 24 | 24 stations |

- *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.
- *2 Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position, and 4-position valves cannot be used where single wiring has been specified.)
- * When the product without the SI unit (S0) is selected, note the maximum number of solenoids of the SI unit that will be mounted. If the layout is specified, indicate it on the manifold specification sheet.
- * This also includes the number of the blanking plate assembly.

4 P, E port entry

| | |
|-----|-------------------------------|
| U*1 | U side (2 to 10 stations) |
| D*1 | D side (2 to 10 stations) |
| B | Both sides (2 to 24 stations) |

*1 For type "S", SUP/EXH block assembly with a built-in silencer, choose U or D for P, E port entry.

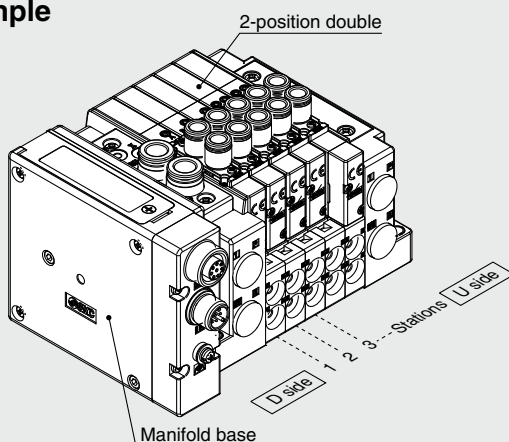
5 SUP/EXH block assembly

| | |
|-----|-------------------------------------|
| Nil | Internal pilot |
| S*1 | Internal pilot, Built-in silencer*2 |
| R | External pilot |

- *1 For type "S", SUP/EXH block assembly with a built-in silencer, choose U or D for P, E port entry. 3/5(E) port is plugged. The silencer exhaust port is located on the opposite side of the P and E port entry. (Example: When the P and E port entry is on the D side, the silencer exhaust port is on the U side.)
- *2 When the built-in silencer type is used, keep the exhaust port from coming into direct contact with water or other liquids.

How to Order Manifold Assembly

Example



SS5Y3-12SA3N-05D.....1 set (Manifold base part number)
 * SY3230-5U1-C6.....5 sets (2-position double part number)
 The asterisk denotes the symbol for the assembly.
 Prefix it to the part numbers of the valve, etc.

- For the valve arrangement, the valve closest to the D side is considered the 1st station.
- Under the manifold base part number, state the valves to be mounted in order starting with the 1st station as shown in the figure above. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.

6 P, E port size (One-touch fittings)

| | SY3000 | SY5000 | SY7000 |
|-----|--------|--------|--------|
| Nil | ø8 | ø10 | ø12 |
| N*1 | ø5/16" | ø3/8" | ø1/2" |

*1 For N, sizes are in inches.

7 Mounting

| | |
|-------|---|
| Nil | Direct mounting |
| D | With DIN bracket, DIN rail with standard length |
| D0 | With DIN bracket, without DIN rail |
| D3*1 | With DIN bracket, DIN rail for 3 stations |
| ⋮ | ⋮ |
| D24*1 | With DIN bracket, DIN rail for 24 stations |

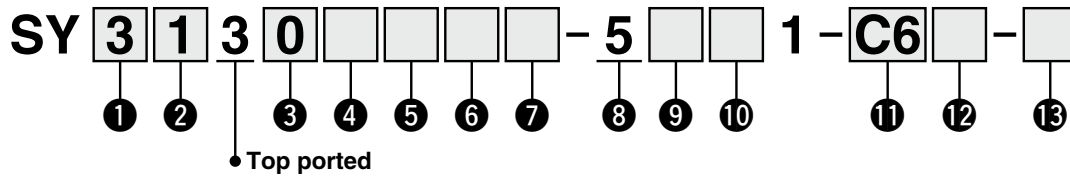
- *1 Specify a longer rail than the length of valve stations.
- * If the DIN rail must be mounted without an SI unit, select "D0." Then, refer to L3 of the dimensions for the DIN rail length and order separately. Refer to page 203 for the DIN rail part number.
- * Refer to page 295 for the fixation of DIN rail mounting type manifold.

* A separate GW unit and communication cable are required.

For details on the EX500 Gateway Type Serial Transmission System, refer to the **Web Catalog** and the Operation Manual. For the part numbers of the SI units to be mounted, refer to page 188. Please download the Operation Manual via the SMC website, <https://www.smcworld.com>

How to Order Valves (With mounting screw)

Refer to page 15 for valve specifications.



1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type of actuation

| | | |
|-----|------------------------------|-----------------|
| 1 | 2-position | Single |
| 2 | | Double |
| 3 | 3-position | Closed center |
| 4 | | Exhaust center |
| 5 | | Pressure center |
| A*1 | 4-position dual 3-port valve | N.C./N.C. |
| B*1 | | N.O./N.O. |
| C*1 | | N.C./N.O. |

*1 Select the rubber seal type 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*1 | Built-in |

*1 Select the rubber seal type when the back pressure check valve is built-in. A manifold installed type is available if a back pressure check valve with a metal seal is required. Refer to page 212 for ordering examples. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

* Select "Nil" for the 3-position type or the SY7000.

6 Pilot valve option

| | |
|-----|-------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K*1 | High pressure type (1.0 MPa) |

*1 Select the metal seal type for the high pressure type.

7 Coil type

| | |
|-----|--|
| Nil | Standard |
| T | With power saving circuit (Continuous duty type)*1*2 |

*1 Be sure to select the power saving circuit type if the valve is to be continuously energized for long periods of time.
*2 Be careful of the energizing time when the power saving circuit is selected. Refer to page 292 for details.

8 Rated voltage

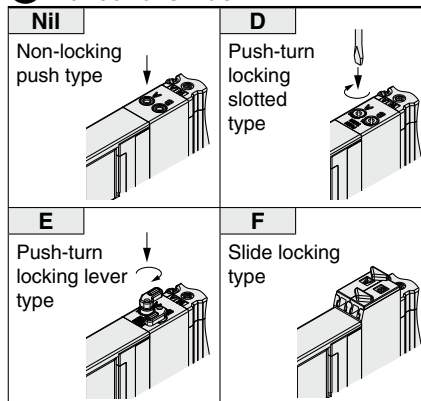
| | |
|---|--------|
| 5 | 24 VDC |
|---|--------|

9 Light/surge voltage suppressor and common specification

| | With light | Surge voltage suppressor | Common specification |
|----|------------|--------------------------|----------------------|
| R | — | ● | Non-polar |
| U | ● | | |
| NS | — | | Negative common |
| NZ | ● | | |

* For the non-polar type, be careful of surge voltage intrusion. Refer to page 293 for details.
* Select "NZ" for models with a power saving circuit.

10 Manual override



* Refer to page 34 for the safety slide locking manual override.

11 A, B port size

Thread piping

| Port size | SY3000 | SY5000 | SY7000 |
|-----------|----------|--------|--------|
| M5 | M5 x 0.8 | ● | — |
| O1 | 1/8 | — | ● |
| O2 | 1/4 | — | ● |

One-touch fitting (Metric)

| A, B port | SY3000 | SY5000 | SY7000 |
|-----------|--------|--------|--------|
| C2 | ø2 | ● | — |
| C3 | ø3.2 | ● | — |
| C4 | ø4 | ● | — |
| C6 | ø6 | ● | ● |
| C8 | ø8 | — | ● |
| C10 | ø10 | — | ● |
| C12 | ø12 | — | ● |

One-touch fitting (Inch)

| A, B port | SY3000 | SY5000 | SY7000 |
|-----------|--------|--------|--------|
| N1 | ø1/8" | ● | — |
| N3 | ø5/32" | ● | — |
| N7 | ø1/4" | ● | ● |
| N9 | ø5/16" | — | ● |
| N11 | ø3/8" | — | ● |

12 A, B port thread type

| | |
|-----|------|
| Nil | Rc |
| F | G |
| N | NPT |
| T | NPTF |

* Select "Nil" for M5.

13 Type of mounting screw

| | |
|-----|--|
| Nil | Round head combination screw |
| B | Hexagon socket head cap screw |
| K | Round head combination screw (Drop prevention type*1) |
| H | Hexagon socket head cap screw (Drop prevention type*1) |

*1 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. Refer to page 198 for base gasket and mounting screw part numbers.

* Select "Nil" or "K" for the optional individual SUP/EXH spacer assembly or interface regulator.

Plug-in Connector Connecting Base

EX500 Gateway Decentralized System (64 Points)

Type 12
Top Ported

SY3000/5000/7000 Series



How to Order Manifolds

SS5Y **3** - 12S **A2** - **05** **U** **□** **□**

1 2 3 4 5 6 7

Refer to pages 162 to 164 for the dimensions of Type 12/Top-ported type.

1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

* For mixed mounting, refer to page 165 and later.

2 SI unit (Number of outputs, Output polarity, Max. number of valve stations)

| | |
|-----|--|
| 0 | Without SI unit |
| A2 | 16 outputs, Positive common*1, 2 to 8 stations (16 stations)*2 |
| A2N | 16 outputs, Negative common*1, 2 to 8 stations (16 stations)*2 |

*1 Ensure a match with the common specification of the valve to be used.

*2 (): Maximum number of stations for mixed single and double wiring

4 P, E port entry

| | |
|-----|-------------------------------|
| U*1 | U side (2 to 10 stations) |
| D*1 | D side (2 to 10 stations) |
| B | Both sides (2 to 16 stations) |

*1 ⑤ For type "S", SUP/EXH block assembly with a built-in silencer, choose U or D for P, E port entry.

5 SUP/EXH block assembly

| | |
|-----|-----------------------------------|
| Nil | Internal pilot |
| S | Internal pilot, Built-in silencer |
| R | External pilot |

* The P and E ports are only available on the U and D sides for the built-in silencer type. 3/5(E) port is plugged. The silencer exhaust port is located on the opposite side of the P and E port entry. (Example: When the P and E port entry is on the D side, the silencer exhaust port is on the U side.)

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

3 Valve stations

| Symbol | Stations | Note |
|--------|-------------|--|
| 02 | 2 stations | Double wiring*1 |
| ⋮ | ⋮ | |
| 08 | 8 stations | Specified layout*2 (Up to 16 solenoids available) |
| 02 | 2 stations | |
| ⋮ | ⋮ | |
| 16 | 16 stations | |

*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.

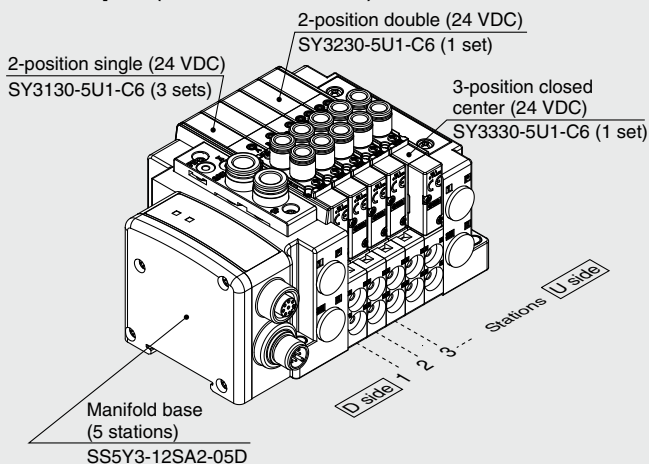
*2 Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position, and 4-position valves cannot be used where single wiring has been specified.)

* When the product without the SI unit (S0) is selected, note the maximum number of solenoids of the SI unit that will be mounted. If the layout is specified, indicate it on the manifold specification sheet.

* This also includes the number of the blanking plate assembly.

How to Order Manifold Assembly

Example (SS5Y3-12SA2-□)



SS5Y3-12SA2-05D ... 1 set (Type 12 5-station manifold base part no.)
 *SY3130-5U1-C6 3 sets (2-position single part no.)
 *SY3230-5U1-C6 1 set (2-position double part no.)
 *SY3330-5U1-C6 1 set (3-position closed center part no.)

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

- For the valve arrangement, the valve closest to the D side is considered the 1st station.
- Under the manifold part number, state the valves to be mounted in order starting with the 1st station as shown in the figure above. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.

6 P, E port size (One-touch fittings)

| Symbol | SY3000 | SY5000 | SY7000 |
|--------|--------|--------|--------|
| Nil | ø8 | ø10 | ø12 |
| N | ø5/16" | ø3/8" | ø1/2" |

* For N, sizes are in inches.

7 Mounting

| | |
|-------|---|
| Nil | Direct mounting |
| D | With DIN bracket, DIN rail with standard length |
| D0 | With DIN bracket, without DIN rail |
| D3*1 | With DIN bracket, DIN rail for 3 stations |
| ⋮ | ⋮ |
| D16*1 | With DIN bracket, DIN rail for 16 stations |

*1 Specify a longer rail than the length of valve stations.

* If the DIN rail must be mounted without an SI unit, select "D0." Then, refer to L3 of the dimensions for the DIN rail length and order separately. Refer to page 203 for the DIN rail part number.

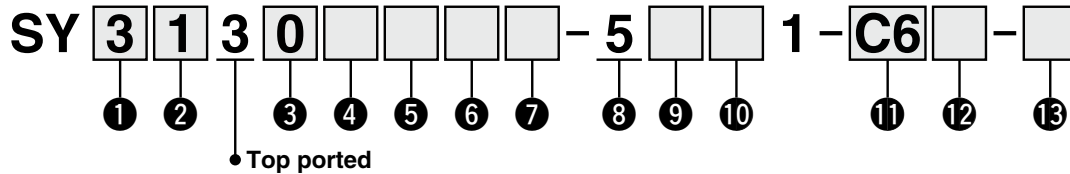
* Refer to page 295 for the fixation of DIN rail mounting type manifold.

* A separate GW unit and communication cable are required.

For details on the EX500 Gateway Type Serial Transmission System, refer to the **Web Catalog** and the Operation Manual. For the part numbers of the SI units to be mounted, refer to page 189. Please download the Operation Manual via the SMC website, <https://www.smcworld.com>

How to Order Valves (With mounting screw)

Refer to page 15 for valve specifications.



1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type of actuation

| | | |
|-----|------------------------|-----------------|
| 1 | 2-position | Single |
| 2 | | Double |
| 3 | 3-position | Closed center |
| 4 | | Exhaust center |
| 5 | | Pressure center |
| A*1 | 4-position dual 3-port | N.C./N.C. |
| B*1 | | N.O./N.O. |
| C*1 | | N.C./N.O. |

*1 Only the 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 the rubber seal type is available. A manifold installed type is available if a back pressure check valve with a metal seal is required. Refer to page 212 for ordering examples. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

* The built-in valve type back pressure check valve is not available for the 3-position type or the SY7000.

6 Pilot valve option

| | |
|-----|-------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K*1 | High pressure type (1.0 MPa) |

*1 Only the 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 if the valve is to be continuously energized for long periods of time.

* Be careful of the energizing time when the power saving circuit is selected. Refer to page 292 for details.

8 Rated voltage

| | |
|---|--------|
| 5 | 24 VDC |
|---|--------|

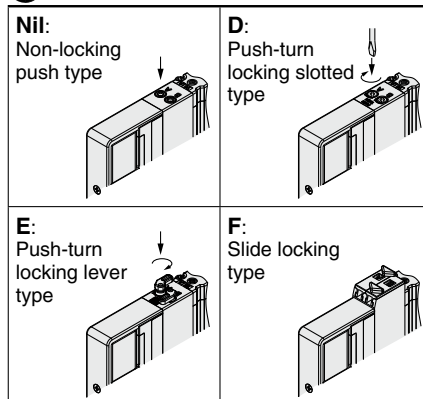
9 Light/surge voltage suppressor and common specification

| Symbol | With light | Surge voltage suppressor | Common specification |
|--------|------------|--------------------------|----------------------|
| R | — | | Non-polar |
| U | ● | | |
| S | — | ● | Positive common |
| Z | ● | | |
| NS | — | | Negative common |
| NZ | ● | | |

* For the non-polar type, be careful of surge voltage intrusion. Refer to page 293 for details.

* Select "Z" or "NZ" for models with a power saving circuit. Select "R," "U," "S," or "Z" for the valve when the SI unit specification is A2 (positive common). Select "R," "U," "NS," or "NZ" for the valve when the SI unit specification is A2N (negative common).

10 Manual override



* Refer to page 34 for the safety slide locking manual override.

11 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 |

One-touch fitting (Metric)

| Symbol | A, B port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| C2 | ø2 | ● | — | — |
| C3 | ø3.2 | ● | — | — |
| C4 | ø4 | ● | ● | — |
| C6 | ø6 | ● | ● | ● |
| C8 | ø8 | — | ● | ● |
| C10 | ø10 | — | — | ● |
| C12 | ø12 | — | — | ● |

One-touch fitting (Inch)

| Symbol | A, B port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| N1 | ø1/8" | ● | — | — |
| N3 | ø5/32" | ● | ● | — |
| N7 | ø1/4" | ● | ● | ● |
| N9 | ø5/16" | — | ● | ● |
| N11 | ø3/8" | — | — | ● |

12 Thread type

| | |
|-----|------|
| Nil | Rc |
| F | G |
| N | NPT |
| T | NPTF |

* Only Nil is available for M5.

13 Type of mounting screw

| | |
|-----|--|
| Nil | Round head combination screw |
| B | Hexagon socket head cap screw |
| K | Round head combination screw (Drop prevention type) |
| H | Hexagon socket head cap screw (Drop 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. Refer to page 198 for base gasket and mounting screw part numbers.

* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly or interface regulator.

Type 10
Side Ported

Type 11
Bottom Ported

Plug-in Connector Connecting Base

EX600

SY3000/5000/7000 Series



How to Order Manifolds

Refer to pages 160 (SY5000) and 161 (SY7000) for the dimensions of Type 11/Bottom-ported 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 |
| 7 | SY7000 |

2 Type

| | |
|----|-----------------|
| 10 | Side ported |
| 11 | Bottom ported*1 |

*1 The SY5000 manifold base is used for the bottom-ported SY3000. When ordering, refer to the "Plug-in Mixed Mounting Type Manifold" (from page 165).

3 SI unit

| | |
|----|---|
| 0 | Without SI unit |
| Q | DeviceNet™ (Version A) |
| N | PROFIBUS DP (Version A) |
| V | CC-Link |
| ZE | EtherNet/IP™ (1 port) |
| EA | EtherNet/IP™ (2 ports) |
| D | EtherCAT |
| F | PROFINET |
| WE | EtherNet/IP™ compatible wireless base*1 |
| WF | PROFINET compatible wireless base*1 |
| WS | Wireless remote*1 |

*1 The wireless system is suitable for use only in a country where it is in accordance with the Radio Act and regulations of that country.
* I/O unit cannot be mounted without SI unit.
* Valve plate which connects manifold and SI unit is included, but it is not mounted to a valve without SI unit. For mounting, refer to the EX600 series in the **Web Catalog**.

4 SI unit output polarity, end plate type

| SI unit output polarity | M12 power supply connector B-coded (EX600-ED2) | 7/8 inch power supply connector (EX600-ED3) | M12 power supply connector IN/OUT, A-coded | |
|-------------------------|--|---|--|-------------------------------|
| | | | Pin arrangement 1 (EX600-ED4) | Pin arrangement 2 (EX600-ED5) |
| Without SI unit | Nil | | | |
| SI unit positive common | 2 | 3 | 6 | 8 |
| SI unit negative common | 4 | 5 | 7 | 9 |

* Ensure a match with the common specification of the valve to be used.
* When not selecting an SI unit, the symbol will be "nil."

5 I/O unit stations

| | |
|-----|------------|
| Nil | None |
| 1 | 1 station |
| ⋮ | ⋮ |
| 9 | 9 stations |

* When not selecting an SI unit, the symbol will be "nil."
* SI unit is not included in I/O unit stations.
* When I/O unit is selected, it is shipped separately, and assembled by users. Refer to the attached operation manual for mounting.

6 Valve stations

| Symbol | Stations | Note |
|--------|-------------|--|
| 02 | 2 stations | Double wiring*1 |
| ⋮ | ⋮ | |
| 16 | 16 stations | |
| 02 | 2 stations | Specified layout*2 (Up to 32 solenoids available) |
| ⋮ | ⋮ | |
| 24 | 24 stations | |

*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.
*2 Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position, and 4-position valves cannot be used where single wiring has been specified.)
* This also includes the number of the blanking plate assembly.

9 Mounting and Option

| Symbol | Mounting | Option | |
|--------|-------------------|------------|----------------|
| | | Name plate | Station number |
| Nil | Direct mounting | — | — |
| AA | | ● | ● |
| BA | | ● | — |
| D□ | DIN rail mounting | — | — |
| A□ | | ● | ● |
| B□ | | ● | — |

* Enter the number of stations inside □ when it is larger than the number of valve stations. (Refer to "DIN Rail Option" below.)
* Only direct mounting is available for the type 11 bottom-ported type.
* Refer to page 295 for the fixation of DIN rail mounting type manifold.

DIN Rail Option

| Nil | Standard length | |
|-----|---------------------------------|--|
| 0 | Without DIN rail (with bracket) | |
| 3 | For 3 stations | Specify a longer rail than the total length of specified stations. |
| ⋮ | ⋮ | |
| 24 | For 24 stations | |

* If the DIN rail must be mounted without an SI unit, select D0. Then, refer to L3 of the dimensions for the DIN rail length and order separately. (Refer to page 203 for the DIN rail part number.)

7 P, E port entry, SUP/EXH block assembly

| P, E port entry | Internal pilot | Internal pilot, Built-in silencer | External pilot |
|-------------------------------|----------------|-----------------------------------|----------------|
| U side (2 to 10 stations) | U | C | G |
| D side (2 to 10 stations) | D | E | H |
| Both sides (2 to 24 stations) | 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 into direct contact with water or other liquids.

Refer to the page on the right for 8.

For details on the EX600 Integrated Type (For Input/Output) Serial Transmission System, refer to the **Web Catalog** and the Operation Manual. For the part numbers of the SI units to be mounted, refer to page 191. (IP40 specifications may be required according to the I/O unit to be selected.) Please download the Operation Manual via the SMC website, <https://www.smcworld.com>

8 A, B port size (Metric/One-touch fitting)

| Symbol | A, B port | Type 10/Side ported | | | Type 11/Bottom ported | | |
|-------------------------------------|--|---------------------|--------|--------|-----------------------|--------|--|
| | | SY3000 | SY5000 | SY7000 | SY5000 | SY7000 | |
| C2 | ø2 | ● | — | — | — | — | |
| C3 | ø3.2 | ● | — | — | — | — | |
| C4 | ø4 | ● | ● | — | ● | — | |
| C6 | ø6 | ● | ● | ● | ● | ● | |
| C8 | ø8 | — | ● | ● | ● | ● | |
| C10 | ø10 | — | — | ● | — | ● | |
| C12 | ø12 | — | — | ● | — | ● | |
| CM*1 | Straight port, mixed sizes | ● | ● | ● | ● | ● | |
| L4 | ø4 | ● | ● | — | — | — | |
| L6 | ø6 | ● | ● | ● | — | — | |
| L8 | ø8 | — | ● | ● | — | — | |
| L10 | ø10 | — | — | ● | — | — | |
| L12 | ø12 | — | — | ● | — | — | |
| B4 | ø4 | ● | ● | — | — | — | |
| B6 | ø6 | ● | ● | ● | — | — | |
| B8 | ø8 | — | ● | ● | — | — | |
| B10 | ø10 | — | — | ● | — | — | |
| B12 | ø12 | — | — | ● | — | — | |
| LM*1 | Elbow port, mixed sizes (Including upward and downward piping) | ● | ● | ● | — | — | |
| P, E port size (One-touch fittings) | | ø8 | ø10 | ø12 | ø10 | ø12 | |

*1 Indicate the sizes on the manifold specification sheet in the case of "CM" or "LM."

The direction of P, E port fittings is the same as for the A, B port. If selecting "LM," indicate it on the manifold specification sheet for the P, E port fitting direction.

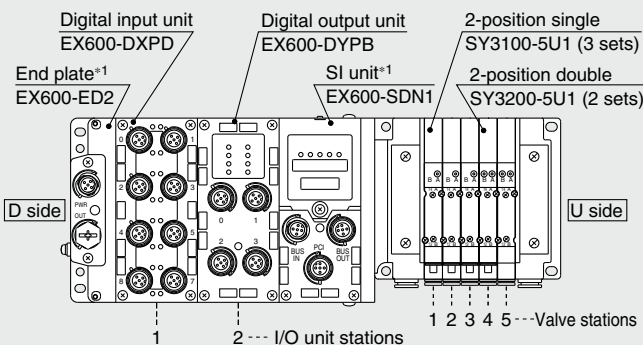
*2 To avoid interference with the body or piping, select a downward elbow port when mounting the optional spacer assembly (pages 204 to 206).

A, B port size (Inch/One-touch fitting)

| Symbol | A, B port | Type 10/Side ported | | | Type 11/Bottom ported | | |
|-------------------------------------|--|---------------------|--------|--------|-----------------------|--------|--|
| | | SY3000 | SY5000 | SY7000 | SY5000 | SY7000 | |
| N1 | ø1/8" | ● | — | — | — | — | |
| N3 | ø5/32" | ● | ● | — | ● | — | |
| N7 | ø1/4" | ● | ● | ● | ● | ● | |
| N9 | ø5/16" | — | ● | ● | ● | ● | |
| N11 | ø3/8" | — | — | ● | — | ● | |
| CM*1 | Straight port, mixed sizes | ● | ● | ● | ● | ● | |
| LN3 | ø5/32" | ● | — | — | — | — | |
| LN7 | ø1/4" | ● | ● | — | — | — | |
| LN9 | ø5/16" | — | ● | — | — | — | |
| LN11 | ø3/8" | — | — | ● | — | — | |
| BN3 | ø5/32" | ● | — | — | — | — | |
| BN7 | ø1/4" | ● | ● | — | — | — | |
| BN9 | ø5/16" | — | ● | — | — | — | |
| BN11 | ø3/8" | — | — | ● | — | — | |
| LM*1 | Elbow port, mixed sizes (Including upward and downward piping) | ● | ● | ● | — | — | |
| P, E port size (One-touch fittings) | | ø5/16" | ø3/8" | ø1/2" | ø3/8" | ø1/2" | |

How to Order Manifold Assembly

Example (SS5Y3-10S6□-□)



SS5Y3-10S6Q42-05B-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)

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

- For the valve arrangement, the valve closest to the D side is considered the 1st station.
- Under the manifold part number, state the valves to be mounted, then the I/O units in order starting with the 1st station as shown in the figure above. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.

*1 Do not enter the SI unit part number and the end plate part number together.

* When mixing top-ported configurations, select from those listed on page 124.

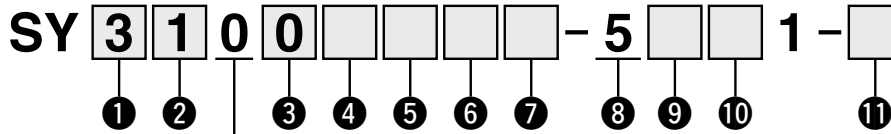
In such cases, use caution as there is also output on the A and B ports on the base side.

Specify on the manifold specification sheet if plugs are required for the A and B ports on the base side.

SY3000/5000/7000 Series

How to Order Valves (With mounting screw)

Refer to page 15 for valve specifications.



Base mounted

1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type of actuation

| | | |
|-----|------------------------|-----------------|
| 1 | 2-position | Single |
| 2 | | Double |
| 3 | 3-position | Closed center |
| 4 | | Exhaust center |
| 5 | | Pressure center |
| A*1 | 4-position dual 3-port | N.C./N.C. |
| B*1 | | N.O./N.O. |
| C*1 | | N.C./N.O. |

*1 Only the 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 the rubber seal type is available. A manifold installed type is available if a back pressure check valve with a metal seal is required. Refer to page 212 for ordering examples. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

* The built-in valve type back pressure check valve is not available for the 3-position type or the SY7000.

6 Pilot valve option

| | |
|-----|-------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K*1 | High pressure type (1.0 MPa) |

*1 Only the 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 if the valve is to be continuously energized for long periods of time.
* Be careful of the energizing time when the power saving circuit is selected. Refer to page 292 for details.

8 Rated voltage

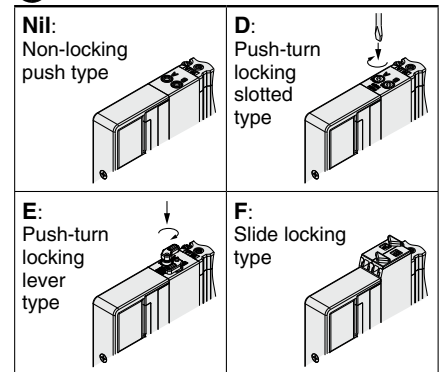
| | |
|---|--------|
| 5 | 24 VDC |
|---|--------|

9 Light/surge voltage suppressor and common specification

| Symbol | With light | Surge voltage suppressor | Common specification |
|--------|------------|--------------------------|----------------------|
| R | — | ● | Non-polar |
| U | ● | | Positive common |
| S | — | | Negative common |
| Z | ● | | |
| NS | — | | |
| NZ | ● | | |

* For the non-polar type, be careful of surge voltage intrusion. Refer to page 293 for details.
* Select "R," "U," "S," or "Z" for the valve when the SI unit output polarity is positive common. Select "R," "U," "NS," or "NZ" for the valve when the SI unit output polarity is negative common.
* Only "Z" and "NZ" types are available with a power saving circuit.

10 Manual override



* Refer to page 34 for the safety slide locking manual override.

11 Type of mounting screw

| | |
|-----|--|
| Nil | Round head combination screw |
| B | Hexagon socket head cap screw |
| K | Round head combination screw (Drop prevention type) |
| H | Hexagon socket head cap screw (Drop 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. Refer to page 198 for base gasket and mounting screw part numbers.
* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly, interface regulator, or double check spacer assembly with residual pressure release valve.

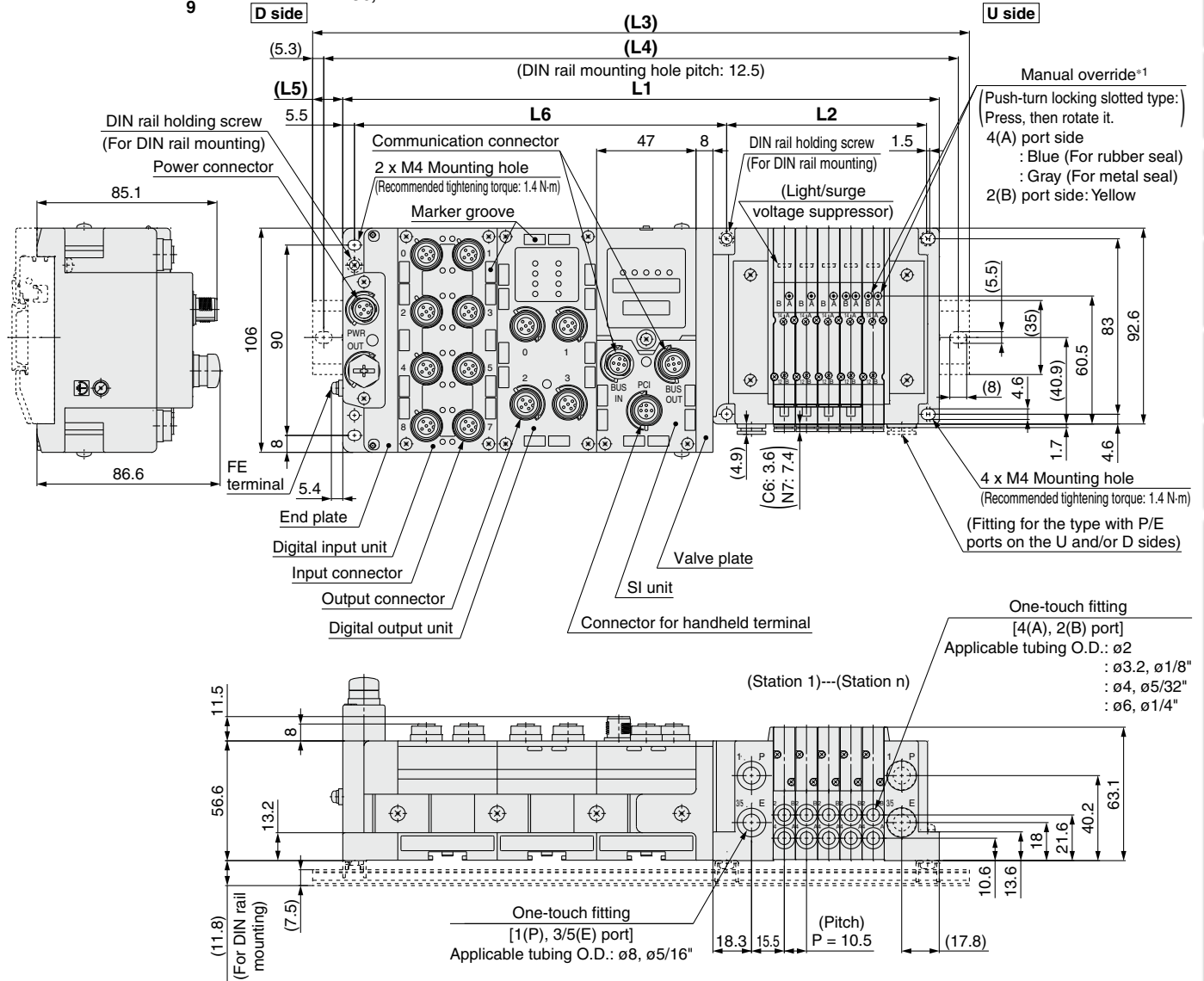
Dimensions: SY3000 Series

Plug-in Connector Connecting Base

Type 10/Side Ported

EX600 (M12 Connector)

SS5Y3-10S6 \square \square - Stations U D- C2, C3, N1 (D) C4, N3 C6, N7



$$\begin{aligned} L1 &= 10.5 \times n1 + 135.5 + 47 \times n2 \\ L2 &= 10.5 \times n1 + 42 \\ L4 &= L3 - 10.5 \\ L5 &= (L3 - L1)/2 \\ L6 &= 47 \times n2 + 82 \end{aligned}$$

n1: Valve stations
n2: I/O unit stations

L3: DIN Rail Overall Length

| I/O unit stations (n2) \ Valve stations (n1) | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0 | 185.5 | 198 | 210.5 | 223 | 223 | 235.5 | 248 | 260.5 | 273 | 285.5 | 285.5 | 298 | 310.5 | 323 | 335.5 | 348 | 348 | 360.5 | 373 | 385.5 | 398 | 410.5 | 423 |
| 1 | 235.5 | 248 | 248 | 260.5 | 273 | 285.5 | 298 | 310.5 | 323 | 323 | 335.5 | 348 | 360.5 | 373 | 385.5 | 385.5 | 398 | 410.5 | 423 | 435.5 | 448 | 448 | 460.5 |
| 2 | 285.5 | 285.5 | 298 | 310.5 | 323 | 335.5 | 348 | 348 | 360.5 | 373 | 385.5 | 398 | 410.5 | 410.5 | 423 | 435.5 | 448 | 460.5 | 473 | 485.5 | 485.5 | 498 | 510.5 |
| 3 | 323 | 335.5 | 348 | 360.5 | 373 | 385.5 | 385.5 | 398 | 410.5 | 423 | 435.5 | 448 | 448 | 460.5 | 473 | 485.5 | 498 | 510.5 | 510.5 | 523 | 535.5 | 548 | 560.5 |
| 4 | 373 | 385.5 | 398 | 410.5 | 410.5 | 423 | 435.5 | 448 | 460.5 | 473 | 473 | 485.5 | 498 | 510.5 | 523 | 535.5 | 548 | 548 | 560.5 | 573 | 585.5 | 598 | 610.5 |
| 5 | 423 | 435.5 | 448 | 448 | 460.5 | 473 | 485.5 | 498 | 510.5 | 510.5 | 523 | 535.5 | 548 | 560.5 | 573 | 585.5 | 598 | 598 | 610.5 | 623 | 635.5 | 648 | 660.5 |
| 6 | 473 | 473 | 485.5 | 498 | 510.5 | 523 | 535.5 | 548 | 560.5 | 573 | 585.5 | 598 | 610.5 | 610.5 | 623 | 635.5 | 648 | 660.5 | 673 | 685.5 | 698 | 710.5 | 723 |
| 7 | 510.5 | 523 | 535.5 | 548 | 560.5 | 573 | 573 | 585.5 | 598 | 610.5 | 623 | 635.5 | 648 | 660.5 | 673 | 685.5 | 698 | 698 | 710.5 | 723 | 735.5 | 748 | 760.5 |
| 8 | 560.5 | 573 | 585.5 | 598 | 598 | 610.5 | 623 | 635.5 | 648 | 660.5 | 673 | 673 | 685.5 | 698 | 710.5 | 723 | 735.5 | 748 | 748 | 760.5 | 773 | 785.5 | 798 |
| 9 | 610.5 | 623 | 635.5 | 635.5 | 648 | 660.5 | 673 | 685.5 | 698 | 698 | 710.5 | 723 | 735.5 | 748 | 760.5 | 760.5 | 773 | 785.5 | 798 | 810.5 | 823 | 835.5 | 848 |

*1 Refer to page 157 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.
* These figures show the "SS5Y3-10S6Q22-05D-C6."
* Refer to page 162 for dimensions of A or B port top-ported type.

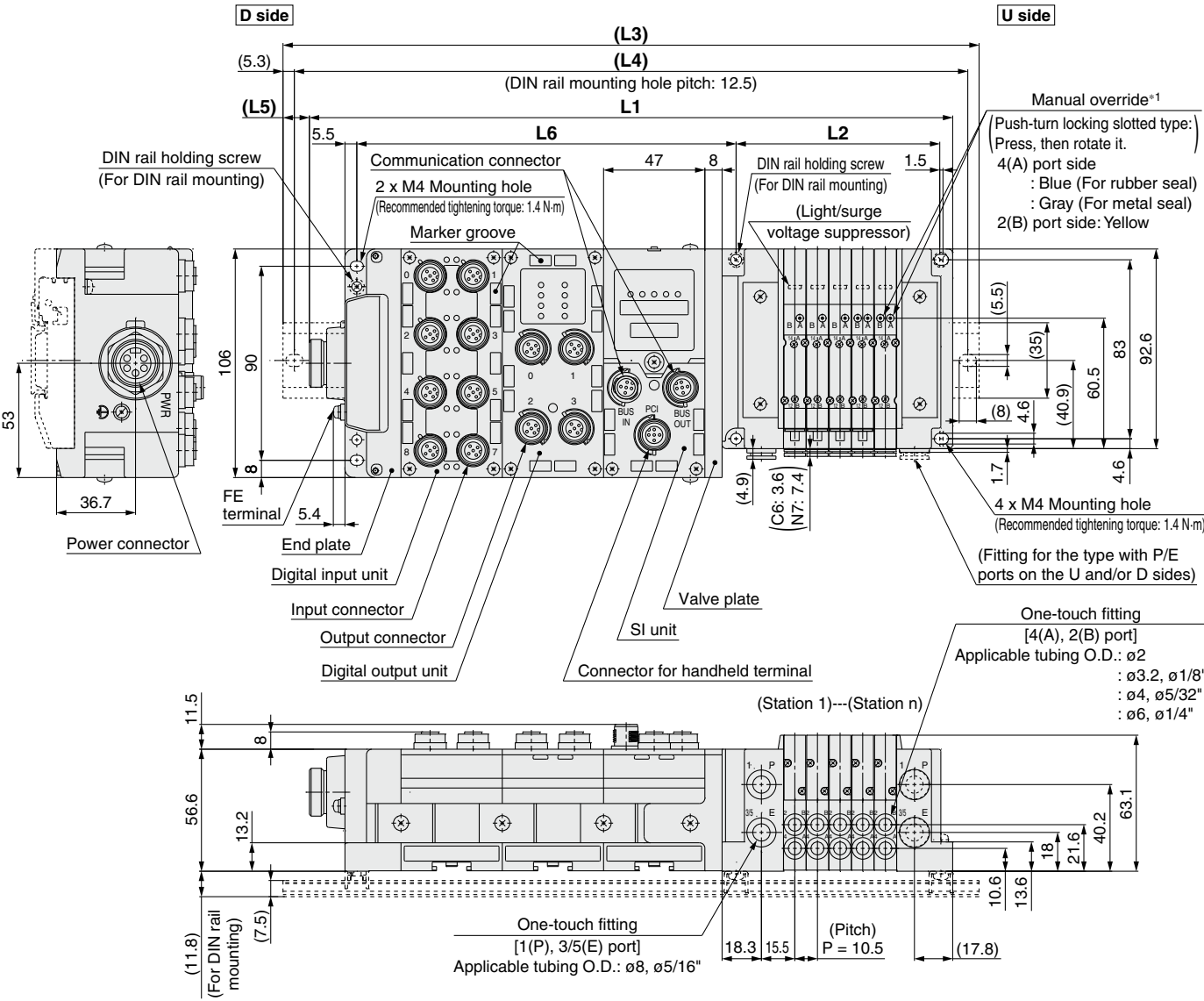
SY3000/5000/7000 Series

Dimensions: SY3000 Series

Plug-in Connector Connecting Base

Type 10/Side Ported
EX600 (7/8 Inch Connector)

SS5Y3-10S6□³□⁵- Stations ^U_D- ^{C2}_{C3, N1 (D)}
^{C4, N3}_{C6, N7}



L1 = 10.5 x n1 + 152 + 47 x n2
L2 = 10.5 x n1 + 42
L4 = L3 - 10.5
L5 = (L3 - L1)/2
L6 = 47 x n2 + 82

n1: Valve stations
n2: I/O unit stations

L3: DIN Rail Overall Length

| I/O unit stations (n2) \ Valve stations (n1) | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0 | 198 | 210.5 | 223 | 235.5 | 248 | 260.5 | 260.5 | 273 | 285.5 | 298 | 310.5 | 323 | 323 | 335.5 | 348 | 360.5 | 373 | 385.5 | 385.5 | 398 | 410.5 | 423 | 435.5 |
| 1 | 248 | 260.5 | 273 | 285.5 | 285.5 | 298 | 310.5 | 323 | 335.5 | 348 | 360.5 | 360.5 | 373 | 385.5 | 398 | 410.5 | 423 | 423 | 435.5 | 448 | 460.5 | 473 | 485.5 |
| 2 | 298 | 310.5 | 323 | 323 | 335.5 | 348 | 360.5 | 373 | 385.5 | 385.5 | 398 | 410.5 | 423 | 435.5 | 448 | 448 | 460.5 | 473 | 485.5 | 498 | 510.5 | 523 | 523 |
| 3 | 348 | 348 | 360.5 | 373 | 385.5 | 398 | 410.5 | 423 | 423 | 435.5 | 448 | 460.5 | 473 | 485.5 | 485.5 | 498 | 510.5 | 523 | 535.5 | 548 | 548 | 560.5 | 573 |
| 4 | 385.5 | 398 | 410.5 | 423 | 435.5 | 448 | 448 | 460.5 | 473 | 485.5 | 498 | 510.5 | 510.5 | 523 | 535.5 | 548 | 560.5 | 573 | 585.5 | 585.5 | 598 | 610.5 | 623 |
| 5 | 435.5 | 448 | 460.5 | 473 | 485.5 | 485.5 | 498 | 510.5 | 523 | 535.5 | 548 | 548 | 560.5 | 573 | 585.5 | 598 | 610.5 | 610.5 | 623 | 635.5 | 648 | 660.5 | 673 |
| 6 | 485.5 | 498 | 510.5 | 510.5 | 523 | 535.5 | 548 | 560.5 | 573 | 573 | 585.5 | 598 | 610.5 | 623 | 635.5 | 648 | 648 | 660.5 | 673 | 685.5 | 698 | 710.5 | 710.5 |
| 7 | 535.5 | 548 | 548 | 560.5 | 573 | 585.5 | 598 | 610.5 | 610.5 | 623 | 635.5 | 648 | 660.5 | 673 | 673 | 685.5 | 698 | 710.5 | 723 | 735.5 | 735.5 | 748 | 760.5 |
| 8 | 573 | 585.5 | 598 | 610.5 | 623 | 635.5 | 635.5 | 648 | 660.5 | 673 | 685.5 | 698 | 710.5 | 710.5 | 723 | 735.5 | 748 | 760.5 | 773 | 773 | 785.5 | 798 | 810.5 |
| 9 | 623 | 635.5 | 648 | 660.5 | 673 | 673 | 685.5 | 698 | 710.5 | 723 | 735.5 | 735.5 | 748 | 760.5 | 773 | 785.5 | 798 | 798 | 810.5 | 823 | 835.5 | 848 | 860.5 |

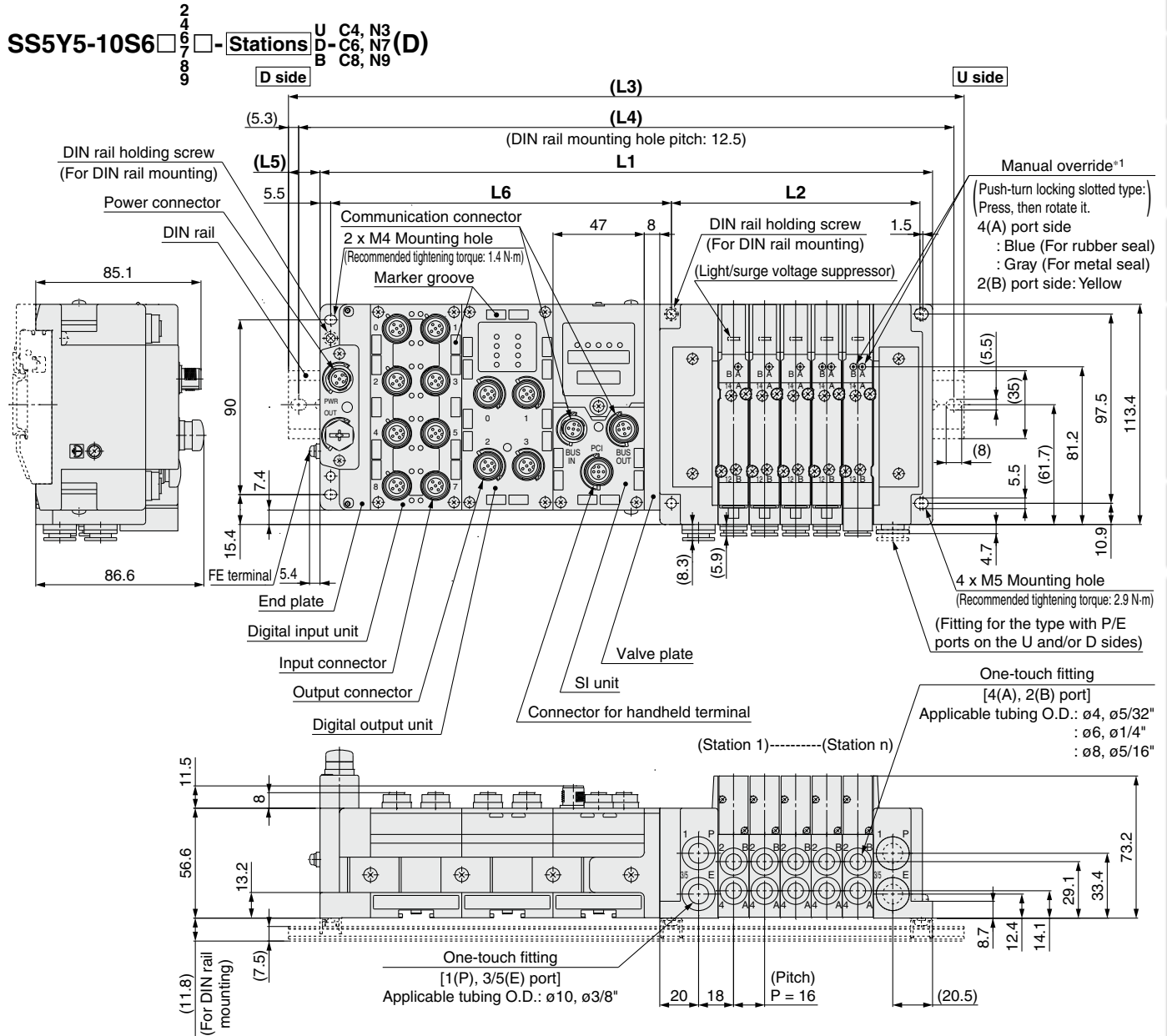


Dimensions: SY5000 Series

Plug-in Connector Connecting Base

Type 10/Side Ported

EX600 (M12 Connector)



L1 = 16 x n1 + 141.5 + 47 x n2
L2 = 16 x n1 + 48
L4 = L3 - 10.5
L5 = (L3 - L1)/2
L6 = 47 x n2 + 81.5

n1: Valve stations
n2: I/O unit stations

L3: DIN Rail Overall Length

| I/O unit stations (n2) \ Valve stations (n1) | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0 | 198 | 223 | 235.5 | 248 | 273 | 285.5 | 298 | 310.5 | 335.5 | 348 | 360.5 | 373 | 398 | 410.5 | 423 | 448 | 460.5 | 473 | 485.5 | 510.5 | 523 | 535.5 | 560.5 |
| 1 | 248 | 260.5 | 285.5 | 298 | 310.5 | 335.5 | 348 | 360.5 | 373 | 398 | 410.5 | 423 | 448 | 460.5 | 473 | 485.5 | 510.5 | 523 | 535.5 | 548 | 573 | 585.5 | 598 |
| 2 | 298 | 310.5 | 323 | 348 | 360.5 | 373 | 398 | 410.5 | 423 | 435.5 | 460.5 | 473 | 485.5 | 510.5 | 523 | 535.5 | 548 | 573 | 585.5 | 598 | 623 | 635.5 | 648 |
| 3 | 348 | 360.5 | 373 | 398 | 410.5 | 423 | 435.5 | 460.5 | 473 | 485.5 | 498 | 523 | 535.5 | 548 | 573 | 585.5 | 598 | 610.5 | 635.5 | 648 | 660.5 | 685.5 | 698 |
| 4 | 385.5 | 410.5 | 423 | 435.5 | 460.5 | 473 | 485.5 | 498 | 523 | 535.5 | 548 | 573 | 585.5 | 598 | 610.5 | 635.5 | 648 | 660.5 | 673 | 698 | 710.5 | 723 | 748 |
| 5 | 435.5 | 448 | 473 | 485.5 | 498 | 523 | 535.5 | 548 | 560.5 | 585.5 | 598 | 610.5 | 635.5 | 648 | 660.5 | 673 | 698 | 710.5 | 723 | 748 | 760.5 | 773 | 785.5 |
| 6 | 485.5 | 498 | 523 | 535.5 | 548 | 560.5 | 585.5 | 598 | 610.5 | 623 | 648 | 660.5 | 673 | 698 | 710.5 | 723 | 735.5 | 760.5 | 773 | 785.5 | 810.5 | 823 | 835.5 |
| 7 | 535.5 | 548 | 560.5 | 585.5 | 598 | 610.5 | 623 | 648 | 660.5 | 673 | 698 | 710.5 | 723 | 735.5 | 760.5 | 773 | 785.5 | 798 | 823 | 835.5 | 848 | 873 | 885.5 |
| 8 | 573 | 598 | 610.5 | 623 | 648 | 660.5 | 673 | 685.5 | 710.5 | 723 | 735.5 | 760.5 | 773 | 785.5 | 798 | 823 | 835.5 | 848 | 873 | 885.5 | 898 | 910.5 | 935.5 |
| 9 | 623 | 648 | 660.5 | 673 | 685.5 | 710.5 | 723 | 735.5 | 748 | 773 | 785.5 | 798 | 823 | 835.5 | 848 | 860.5 | 885.5 | 898 | 910.5 | 935.5 | 948 | 960.5 | 973 |

*1 Refer to page 158 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.
* These figures show the "SS5Y5-10S6Q22-05D-C8."
* Refer to page 163 for dimensions of A or B port top-ported type.

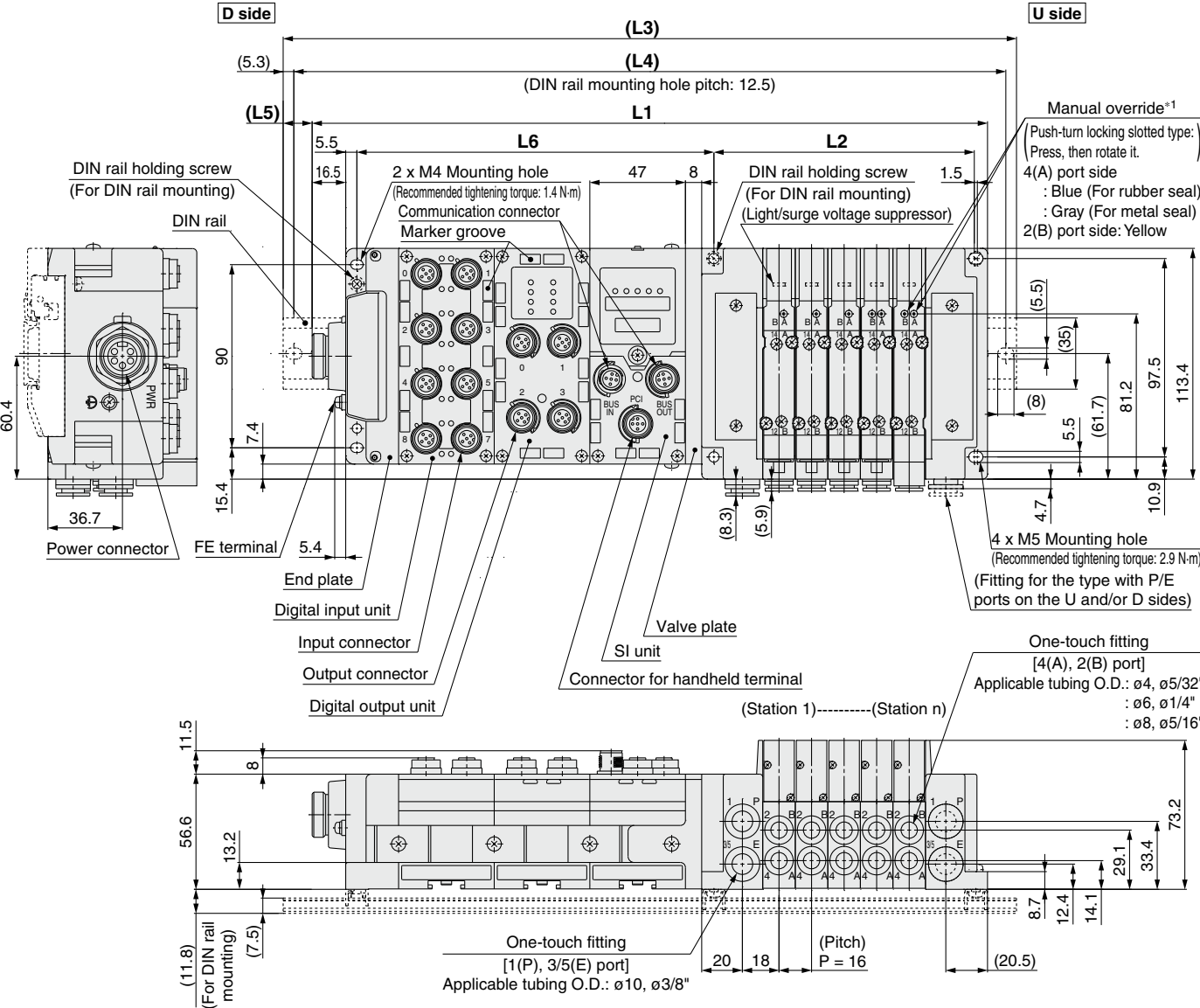
SY3000/5000/7000 Series

Dimensions: **SY5000 Series**

Plug-in
Connector Connecting Base

Type 10/Side Ported
EX600 (7/8 Inch Connector)

SS5Y5-10S6□□□- Stations U C4, N3
D C6, N7 (D)
B C8, N9



L1 = 16 x n1 + 158 + 47 x n2
L2 = 16 x n1 + 48
L4 = L3 - 10.5
L5 = (L3 - L1)/2
L6 = 47 x n2 + 81.5

n1: Valve stations
n2: I/O unit stations

*1 Refer to page 158 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.
* These figures show the "SS5Y5-10S6Q32-05D-C8."
* Refer to page 163 for dimensions of A or B port top-ported type.

L3: DIN Rail Overall Length

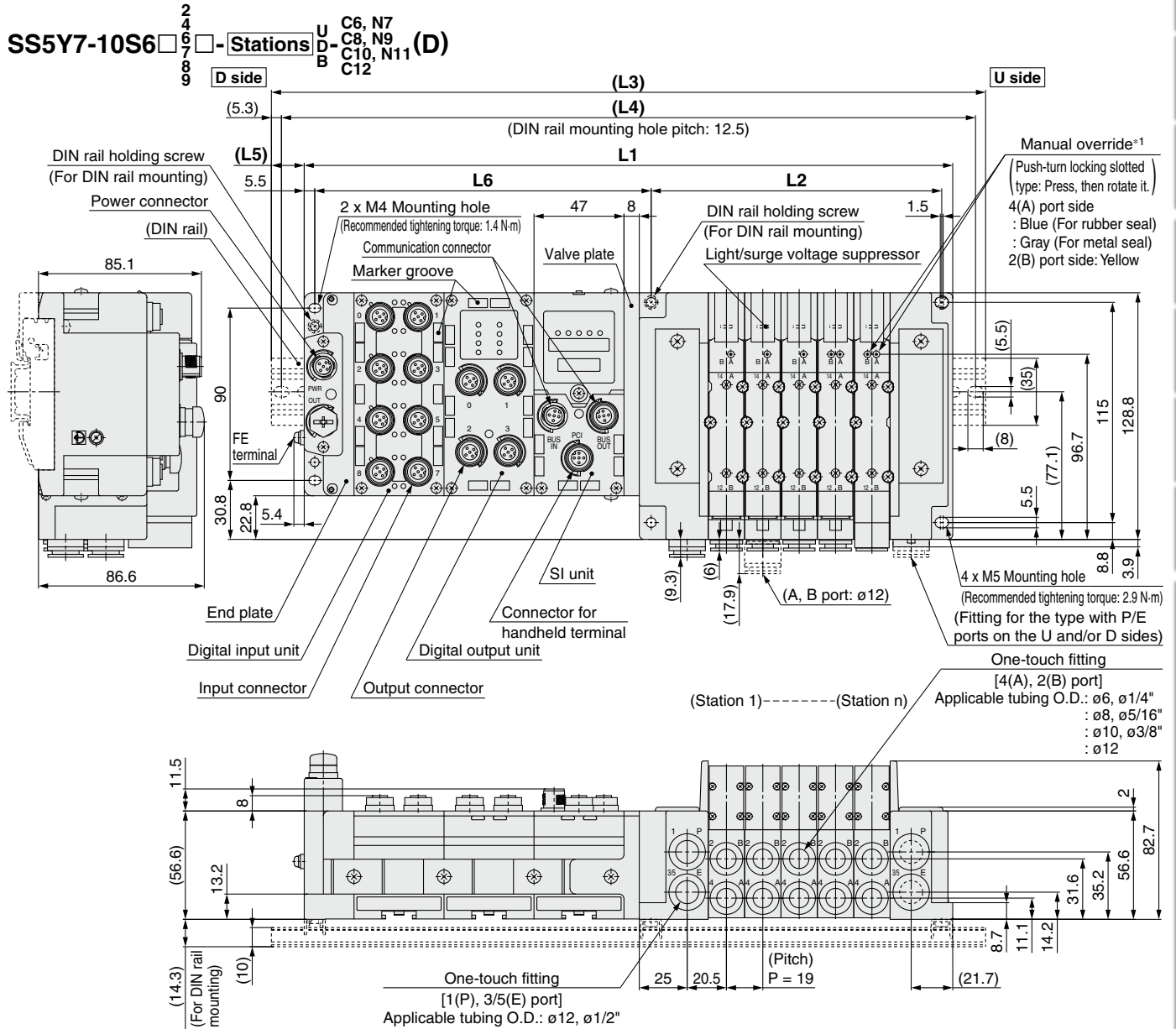
| I/O unit stations (n2) \ Valve stations (n1) | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0 | 223 | 235.5 | 248 | 273 | 285.5 | 298 | 310.5 | 335.5 | 348 | 360.5 | 385.5 | 398 | 410.5 | 423 | 448 | 460.5 | 473 | 485.5 | 510.5 | 523 | 535.5 | 560.5 | 573 |
| 1 | 260.5 | 285.5 | 298 | 310.5 | 335.5 | 348 | 360.5 | 373 | 398 | 410.5 | 423 | 448 | 460.5 | 473 | 485.5 | 510.5 | 523 | 535.5 | 560.5 | 573 | 585.5 | 598 | 623 |
| 2 | 310.5 | 335.5 | 348 | 360.5 | 373 | 398 | 410.5 | 423 | 435.5 | 460.5 | 473 | 485.5 | 510.5 | 523 | 535.5 | 548 | 573 | 585.5 | 598 | 623 | 635.5 | 648 | 660.5 |
| 3 | 360.5 | 373 | 398 | 410.5 | 423 | 435.5 | 460.5 | 473 | 485.5 | 510.5 | 523 | 535.5 | 548 | 573 | 585.5 | 598 | 610.5 | 635.5 | 648 | 660.5 | 685.5 | 698 | 710.5 |
| 4 | 410.5 | 423 | 435.5 | 460.5 | 473 | 485.5 | 498 | 523 | 535.5 | 548 | 573 | 585.5 | 598 | 610.5 | 635.5 | 648 | 660.5 | 685.5 | 698 | 710.5 | 723 | 748 | 760.5 |
| 5 | 460.5 | 473 | 485.5 | 498 | 523 | 535.5 | 548 | 560.5 | 585.5 | 598 | 610.5 | 635.5 | 648 | 660.5 | 673 | 698 | 710.5 | 723 | 748 | 760.5 | 773 | 785.5 | 810.5 |
| 6 | 498 | 523 | 535.5 | 548 | 560.5 | 585.5 | 598 | 610.5 | 635.5 | 648 | 660.5 | 673 | 698 | 710.5 | 723 | 735.5 | 760.5 | 773 | 785.5 | 810.5 | 823 | 835.5 | 848 |
| 7 | 548 | 560.5 | 585.5 | 598 | 610.5 | 623 | 648 | 660.5 | 673 | 698 | 710.5 | 723 | 735.5 | 760.5 | 773 | 785.5 | 810.5 | 823 | 835.5 | 848 | 873 | 885.5 | 898 |
| 8 | 598 | 610.5 | 623 | 648 | 660.5 | 673 | 685.5 | 710.5 | 723 | 735.5 | 760.5 | 773 | 785.5 | 798 | 823 | 835.5 | 848 | 873 | 885.5 | 898 | 910.5 | 935.5 | 948 |
| 9 | 648 | 660.5 | 673 | 685.5 | 710.5 | 723 | 735.5 | 760.5 | 773 | 785.5 | 798 | 823 | 835.5 | 848 | 860.5 | 885.5 | 898 | 910.5 | 935.5 | 948 | 960.5 | 973 | — |

Dimensions: SY7000 Series

Plug-in Connector Connecting Base

Type 10/Side Ported

EX600 (M12 Connector)



$L1 = 19 \times n1 + 149.7 + 47 \times n2$
 $L2 = 19 \times n1 + 56$
 $L3 = \text{DIN rail dimension}$
 $L4 = L3 - 10.5$
 $L5 = (L3 - L1)/2$
 $L6 = 47 \times n2 + 81.7$

n1: Valve stations
n2: I/O unit stations

*1 Refer to page 159 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.
* These figures show the "SS5Y7-10S6Q22-05D-C10."
* Refer to page 164 for dimensions of A or B port top-ported type.

L3: DIN Rail Overall Length

| Valve stations (n1) I/O unit stations (n2) | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0 | 223 | 235.5 | 260.5 | 273 | 298 | 310.5 | 335.5 | 348 | 373 | 385.5 | 410.5 | 423 | 448 | 460.5 | 485.5 | 498 | 523 | 535.5 | 560.5 | 573 | 598 | 610.5 | 635.5 |
| 1 | 260.5 | 285.5 | 298 | 323 | 335.5 | 360.5 | 373 | 398 | 410.5 | 435.5 | 448 | 473 | 498 | 510.5 | 535.5 | 548 | 573 | 585.5 | 610.5 | 623 | 648 | 660.5 | 685.5 |
| 2 | 310.5 | 335.5 | 348 | 373 | 385.5 | 410.5 | 423 | 448 | 460.5 | 485.5 | 498 | 523 | 535.5 | 560.5 | 573 | 598 | 610.5 | 635.5 | 648 | 673 | 685.5 | 710.5 | 723 |
| 3 | 360.5 | 373 | 398 | 410.5 | 435.5 | 448 | 473 | 485.5 | 510.5 | 523 | 548 | 573 | 585.5 | 610.5 | 623 | 648 | 660.5 | 685.5 | 698 | 723 | 735.5 | 760.5 | 773 |
| 4 | 410.5 | 423 | 448 | 460.5 | 485.5 | 498 | 523 | 535.5 | 560.5 | 573 | 598 | 610.5 | 635.5 | 648 | 673 | 685.5 | 710.5 | 723 | 748 | 760.5 | 785.5 | 798 | 823 |
| 5 | 448 | 473 | 485.5 | 510.5 | 523 | 548 | 560.5 | 585.5 | 598 | 623 | 648 | 660.5 | 685.5 | 698 | 723 | 735.5 | 760.5 | 773 | 798 | 810.5 | 835.5 | 848 | 873 |
| 6 | 498 | 523 | 535.5 | 560.5 | 573 | 598 | 610.5 | 635.5 | 648 | 673 | 685.5 | 710.5 | 723 | 748 | 760.5 | 785.5 | 798 | 823 | 835.5 | 860.5 | 873 | 898 | 923 |
| 7 | 548 | 560.5 | 585.5 | 598 | 623 | 635.5 | 660.5 | 673 | 698 | 723 | 735.5 | 760.5 | 773 | 798 | 810.5 | 835.5 | 848 | 873 | 885.5 | 910.5 | 923 | 948 | 960.5 |
| 8 | 598 | 610.5 | 635.5 | 648 | 673 | 685.5 | 710.5 | 723 | 748 | 760.5 | 785.5 | 798 | 823 | 835.5 | 860.5 | 873 | 898 | 910.5 | 935.5 | 948 | 973 | — | — |
| 9 | 635.5 | 660.5 | 673 | 698 | 710.5 | 735.5 | 748 | 773 | 798 | 810.5 | 835.5 | 848 | 873 | 885.5 | 910.5 | 923 | 948 | 960.5 | 985.5 | — | — | — | — |

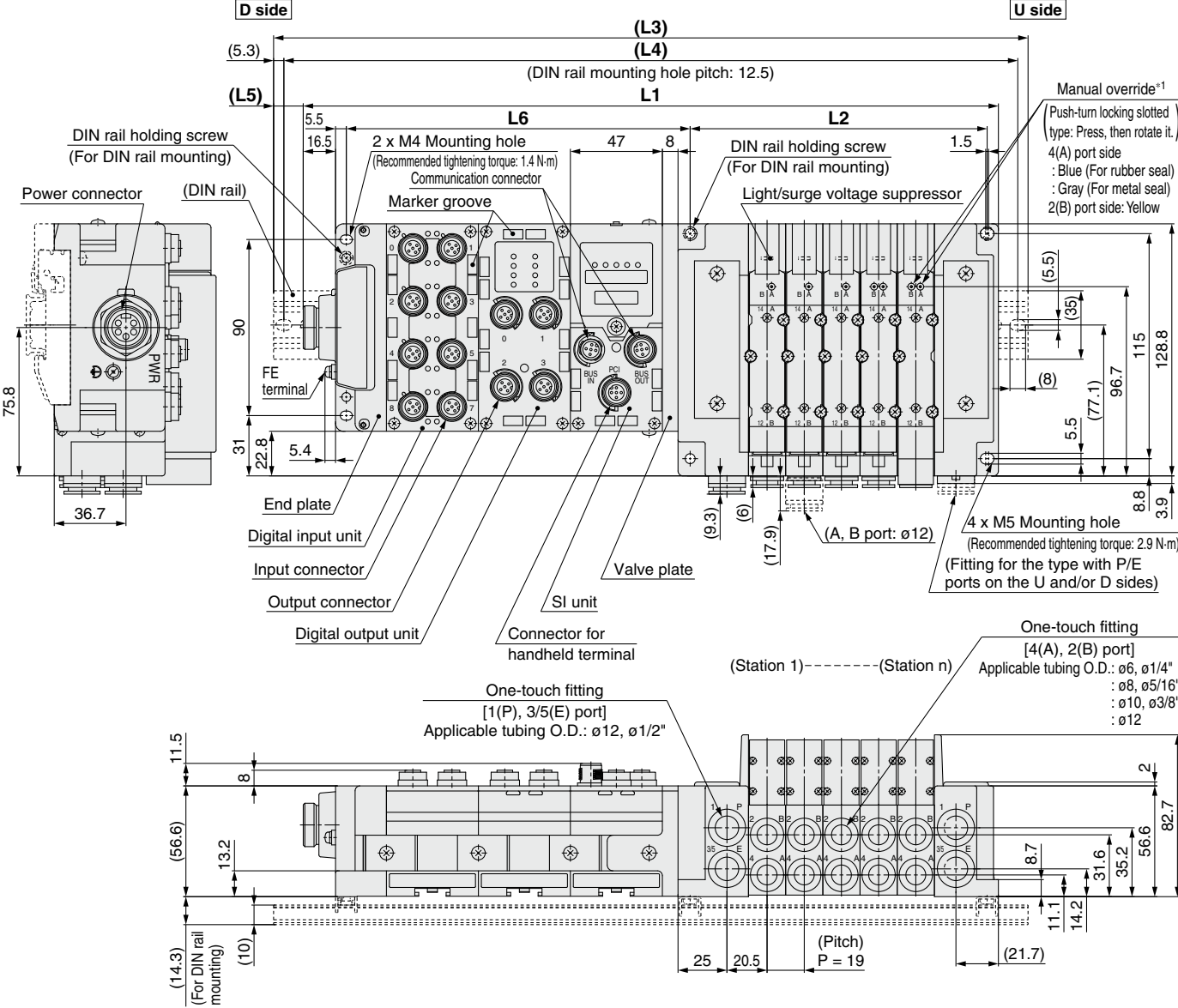
SY3000/5000/7000 Series

Dimensions: **SY7000 Series**

Plug-in
Connector Connecting Base

Type 10/Side Ported
EX600 (7/8 Inch Connector)

SS5Y7-10S6□³/₅□-Stations ^U_D-^{C6, N7}_{C8, N9}^{C10, N11}_{C12} (D)



$L1 = 19 \times n1 + 166.2 + 47 \times n2$
 $L2 = 19 \times n1 + 56$
 $L4 = L3 - 10.5$
 $L5 = (L3 - L1)/2$
 $L6 = 47 \times n2 + 81.7$

n1: Valve stations
n2: I/O unit stations

*1 Refer to page 159 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.
* These figures show the "SS5Y7-10S6Q32-05D-C10."
* Refer to page 164 for dimensions of A or B port top-ported type.

L3: DIN Rail Overall Length

| I/O unit stations (n2) \ Valve stations (n1) | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0 | 235.5 | 248 | 273 | 285.5 | 310.5 | 323 | 348 | 360.5 | 385.5 | 410.5 | 423 | 448 | 460.5 | 485.5 | 498 | 523 | 535.5 | 560.5 | 573 | 598 | 610.5 | 635.5 | 648 |
| 1 | 285.5 | 298 | 323 | 335.5 | 360.5 | 373 | 398 | 410.5 | 435.5 | 448 | 473 | 485.5 | 510.5 | 523 | 548 | 560.5 | 585.5 | 598 | 623 | 635.5 | 660.5 | 685.5 | 698 |
| 2 | 323 | 348 | 360.5 | 385.5 | 398 | 423 | 435.5 | 460.5 | 485.5 | 498 | 523 | 535.5 | 560.5 | 573 | 598 | 610.5 | 635.5 | 648 | 673 | 685.5 | 710.5 | 723 | 748 |
| 3 | 373 | 398 | 410.5 | 435.5 | 448 | 473 | 485.5 | 510.5 | 523 | 548 | 560.5 | 585.5 | 598 | 623 | 635.5 | 660.5 | 673 | 698 | 710.5 | 735.5 | 760.5 | 773 | 798 |
| 4 | 423 | 435.5 | 460.5 | 473 | 498 | 510.5 | 535.5 | 560.5 | 573 | 598 | 610.5 | 635.5 | 648 | 673 | 685.5 | 710.5 | 723 | 748 | 760.5 | 785.5 | 798 | 823 | 835.5 |
| 5 | 473 | 485.5 | 510.5 | 523 | 548 | 560.5 | 585.5 | 598 | 623 | 635.5 | 660.5 | 673 | 698 | 710.5 | 735.5 | 748 | 773 | 785.5 | 810.5 | 835.5 | 848 | 873 | 885.5 |
| 6 | 510.5 | 535.5 | 548 | 573 | 585.5 | 610.5 | 635.5 | 648 | 673 | 685.5 | 710.5 | 723 | 748 | 760.5 | 785.5 | 798 | 823 | 835.5 | 860.5 | 873 | 898 | 910.5 | 935.5 |
| 7 | 560.5 | 585.5 | 598 | 623 | 635.5 | 660.5 | 673 | 698 | 710.5 | 735.5 | 748 | 773 | 785.5 | 810.5 | 823 | 848 | 860.5 | 885.5 | 910.5 | 923 | 948 | 960.5 | 985.5 |
| 8 | 610.5 | 623 | 648 | 660.5 | 685.5 | 710.5 | 723 | 748 | 760.5 | 785.5 | 798 | 823 | 835.5 | 860.5 | 873 | 898 | 910.5 | 935.5 | 948 | 973 | 985.5 | — | — |
| 9 | 660.5 | 673 | 698 | 710.5 | 735.5 | 748 | 773 | 785.5 | 810.5 | 823 | 848 | 860.5 | 885.5 | 898 | 923 | 935.5 | 960.5 | 985.5 | — | — | — | — | — |

| |
|--------------------------------------|
| Chart |
| Valve Specifications |
| Valve Construction |
| Valve Replacement Parts |
| With Residual Pressure Release Valve |
| Vacuum Release Valve with Restrictor |
| With Pressure Sensor |
| Made to Order |
| Connector Connecting Base |
| D-sub, Flat Ribbon |
| Terminal Block |
| Lead Wire |
| Circular Connector |
| EX500 |
| EX600 |
| EX250 |
| EX260 |
| EX126 |
| EX120 |
| Common Dimensions |
| Mixed Mounting |
| Manifold Exploded View |
| Fitting, Plug Part Nos. |
| Manifold Options |
| Specific Product Precautions |

Plug-in Connector Connecting Base

EX600

Type 12
Top Ported

SY3000/5000/7000 Series



How to Order Manifolds

SS5Y **3** - 12S6 **Q** **2** - **05** **U** - **□** **□**

1 2 3 4 5 6 7 8

Refer to pages 162 to 164
for the dimensions of
Type 12/Top ported type.

1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

3 SI unit output polarity, end plate type

| SI unit output polarity | M12 power supply connector B-coded (EX600-ED2) | 7/8 inch power supply connector (EX600-ED3) | M12 power supply connector IN/OUT, A-coded | |
|-------------------------|--|---|--|-------------------------------|
| | | | Pin arrangement 1 (EX600-ED4) | Pin arrangement 2 (EX600-ED5) |
| Without SI unit | Nil | | | |
| SI unit positive common | 2 | 3 | 6 | 8 |
| SI unit negative common | 4 | 5 | 7 | 9 |

* When not selecting an SI unit, the symbol will be "nil."

* Ensure a match with the common specification of the valve to be used.

5 Valve stations

| Symbol | Stations | Note |
|--------|-------------|--|
| 02 | 2 stations | Double wiring*1 |
| 16 | 16 stations | |
| 02 | 2 stations | Specified layout*2 (Up to 32 solenoids available) |
| 16 | 16 stations | |
| 24 | 24 stations | |

*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.

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

* This also includes the number of the blanking plate assembly.

2 SI unit

| | |
|----|---|
| 0 | Without SI unit |
| Q | DeviceNet™ (Version A) |
| N | PROFIBUS DP (Version A) |
| V | CC-Link |
| ZE | EtherNet/IP™ (1 port) |
| EA | EtherNet/IP™ (2 ports) |
| D | EtherCAT |
| F | PROFINET |
| WE | EtherNet/IP™ compatible wireless base*1 |
| WF | PROFINET compatible wireless base*1 |
| WS | Wireless remote*1 |

*1 The wireless system is suitable for use only in a country where it is in accordance with the Radio Act and regulations of that country.

* I/O unit cannot be mounted without SI unit.

* Valve plate which connects manifold and SI unit is included, but it is not mounted to a valve without SI unit. For mounting, refer to the EX600 series in the **Web Catalog**.

4 I/O unit stations

| | |
|-----|------------|
| Nil | None |
| 1 | 1 station |
| : | : |
| 9 | 9 stations |

* When not selecting an SI unit, the symbol will be "nil."

* SI unit is not included in I/O unit stations.

* When I/O unit is selected, it is shipped separately, and assembled by users. Refer to the attached operation manual for mounting.

6 P, E port entry, SUP/EXH block assembly

| P, E port entry | Internal pilot | Internal pilot, Built-in silencer | External pilot |
|-------------------------------|----------------|-----------------------------------|----------------|
| U side (2 to 10 stations) | U | C*1 | G |
| D side (2 to 10 stations) | D | E*1 | H |
| Both sides (2 to 24 stations) | B | — | J |

*1 For SUP/EXH block assembly specifications, built-in silencer types will have P port entry stipulated.

* The P and E ports are only available on the U and D sides for the built-in silencer type. 3/5(E) port is plugged. The silencer exhaust port is located on the opposite side of the P and E port entry. (Example: When the P and E port entry is on the D side, the silencer exhaust port is on the U side.)

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

7 P, E port size (One-touch fittings)

| Symbol | SY3000 | SY5000 | SY7000 |
|--------|--------|--------|--------|
| Nil | ø8 | ø10 | ø12 |
| N | ø5/16" | ø3/8" | ø1/2" |

* For N, sizes are in inches.

8 Mounting

| | |
|-----|--------------------------------------|
| Nil | Direct mounting |
| D | DIN rail mounting (With DIN rail) |
| D0 | DIN rail mounting (Without DIN rail) |
| D3 | For 3 stations |
| : | : |
| D24 | For 24 stations |

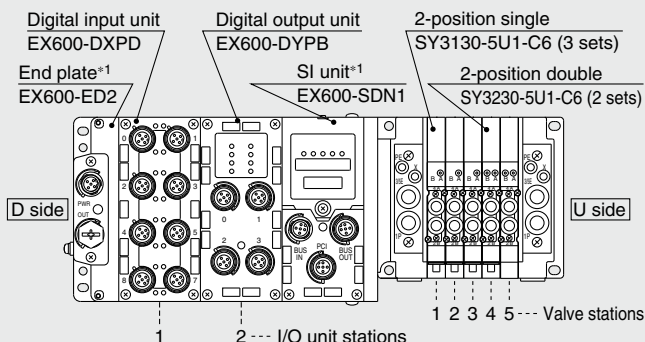
* If the DIN rail must be mounted without an SI unit, select D0. Then, refer to L3 of the dimensions for the DIN rail length and order separately. (Refer to page 203 for the DIN rail part number.)

* Refer to page 295 for the fixation of DIN rail mounting type manifold.

For details on the EX600 Integrated Type (For Input/Output) Serial Transmission System, refer to the **Web Catalog** and the Operation Manual. For the part numbers of the SI units to be mounted, refer to page 191. (IP40 specifications may be required according to the I/O unit to be selected.) Please download the Operation Manual via the SMC website, <https://www.smcworld.com>

How to Order Manifold Assembly

Example (SS5Y3-12S6□-□)



SS5Y3-12S6Q42-05B 1 set (Type 12 5-station manifold base part no.)

*SY3130-5U1-C6 3 sets (2-position single part no.)

*SY3230-5U1-C6 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)

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

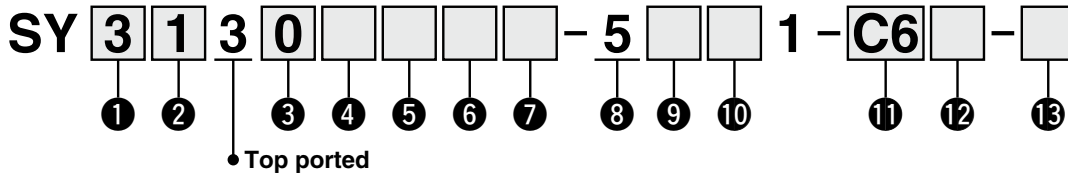
* For the valve arrangement, the valve closest to the D side is considered the 1st station.

* Under the manifold part number, state the valves to be mounted, then the I/O units in order starting with the 1st station as shown in the figure above. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.

*1 Do not enter the SI unit part number and the end plate part number together.

How to Order Valves (With mounting screw)

Refer to page 15 for valve specifications.



1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type of actuation

| | | |
|-----|-------------|-----------------|
| 1 | 2-position | Single |
| 2 | | Double |
| 3 | 3-position | Closed center |
| 4 | | Exhaust center |
| 5 | | Pressure center |
| A*1 | 4-position | N.C./N.C. |
| B*1 | dual 3-port | N.O./N.O. |
| C*1 | | N.C./N.O. |

*1 Only the 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

| | |
|-----|----------|
| Nil | None |
| H | Built-in |

* Only the rubber seal type is available. A manifold installed type is available if a back pressure check valve with a metal seal is required. Refer to page 212 for ordering examples. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

* The built-in valve type back pressure check valve is not available for the 3-position type or the SY7000.

6 Pilot valve option

| | |
|-----|-------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K*1 | High pressure type (1.0 MPa) |

*1 Only the 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 if the valve is to be continuously energized for long periods of time.
* Be careful of the energizing time when the power saving circuit is selected. Refer to page 292 for details.

8 Rated voltage

| | |
|---|--------|
| 5 | 24 VDC |
|---|--------|

9 Light/surge voltage suppressor and common specification

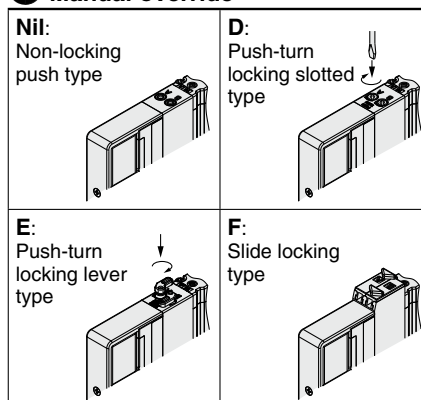
| Symbol | With light | Surge voltage suppressor | Common specification |
|--------|------------|--------------------------|----------------------|
| R | — | ● | Non-polar |
| U | ● | | Positive common |
| S | — | | Negative common |
| Z | ● | | |
| NS | — | | |
| NZ | ● | | |

* Select "R," "U," "S," or "Z" for the valve when the SI unit output polarity is positive common. Select "R," "U," "NS," or "NZ" for the valve when the SI unit output polarity is negative common.

* For the non-polar type, be careful of surge voltage intrusion. Refer to page 293 for details.

* Only "Z" and "NZ" types are available with a power saving circuit.

10 Manual override



* Refer to page 34 for the safety slide locking manual override.

11 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 |

One-touch fitting (Metric)

| Symbol | A, B port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| C2 | ø2 | ● | — | — |
| C3 | ø3.2 | ● | — | — |
| C4 | ø4 | ● | ● | — |
| C6 | ø6 | ● | ● | ● |
| C8 | ø8 | — | ● | ● |
| C10 | ø10 | — | — | ● |
| C12 | ø12 | — | — | ● |

One-touch fitting (Inch)

| Symbol | A, B port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| N1 | ø1/8" | ● | — | — |
| N3 | ø5/32" | ● | ● | — |
| N7 | ø1/4" | ● | ● | ● |
| N9 | ø5/16" | — | ● | ● |
| N11 | ø3/8" | — | — | ● |

12 Thread type

| | |
|-----|------|
| Nil | Rc |
| F | G |
| N | NPT |
| T | NPTF |

* Only Nil is available for M5.

13 Type of mounting screw

| | |
|-----|--|
| Nil | Round head combination screw |
| B | Hexagon socket head cap screw |
| K | Round head combination screw (Drop prevention type) |
| H | Hexagon socket head cap screw (Drop 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. Refer to page 198 for base gasket and mounting screw part numbers.

* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly or interface regulator.

Type 10
Side Ported

Type 11
Bottom Ported

Plug-in Connector Connecting Base

EX245

SY3000/5000 Series



How to Order Manifold

Side Ported/Bottom Ported

SS5Y 3 - 10 S AAN - 05 D - C6

Refer to page 160 (SY5000) for dimensions of Type 11/Bottom ported type.

1 2 3 4 5 6 7 8 9

Only direct mounting is selectable for the manifold.

1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |

2 Type

| | |
|------|---------------|
| 10 | Side ported |
| 11*1 | Bottom ported |

*1: For Type 11, only the SY5000 is selectable.

5 Number of I/O modules

| Nil | Without I/O module (Without SI Unit) |
|-----|--------------------------------------|
| 1 | 1 station |
| ⋮ | ⋮ |
| 8 | 8 stations |

6 Valve stations

(In the case of the 32-output SI Unit)

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

*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

*2: Specified layout: Indicate the wiring specifications on the manifold specification sheet.

(Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.)

*3: This also includes the number of blanking plate assembly.

7 P, E port entry

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

8 SUP/EXH block assembly

| | |
|-----|-----------------------------------|
| Nil | 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 exhaust port from coming in direct contact with water or other liquids.

3 SI Unit specifications

| Symbol (output polarity) | Protocol | Communication connector | Communication connector specifications |
|--------------------------|----------|--------------------------|--|
| Negative common (PNP) | | | |
| 0 | | Without SI Unit | |
| AAN | PROFINET | Push/Pull (SCRJ): 2 pcs. | Push/Pull (24 V): 2 pcs. |
| ABN | | Push/Pull (RJ45): 2 pcs. | Push/Pull (24 V): 2 pcs. |
| ACN | | M12: 2 pcs. | 7/8 inch: 2 pcs. |

*: The valve output polarity for the SI unit is negative common (PNP).

4 With or without I/O modules

| | |
|-----|--------------------|
| Nil | Without I/O module |
| Y | With I/O module |

9 A, B port size (Metric)

| Symbol | A, B port | 10 (Side ported) series | | 11 (Bottom ported) series |
|-------------------------------------|--|-------------------------|--------|---------------------------|
| | | SY3000 | SY5000 | SY5000 |
| C2 | ⌀2 | ● | — | — |
| C3 | ⌀3.2 | ● | — | — |
| C4 | ⌀4 | ● | ● | ● |
| C6 | ⌀6 | ● | ● | ● |
| C8 | ⌀8 | — | ● | ● |
| CM*2 | Straight port, mixed sizes | ● | ● | ● |
| L4 | ⌀4 | ● | ● | — |
| L6 | ⌀6 | ● | ● | — |
| L8 | ⌀8 | — | ● | — |
| B4 | ⌀4 | ● | ● | — |
| B6 | ⌀6 | ● | ● | — |
| B8 | ⌀8 | — | ● | — |
| LM | Elbow port, mixed sizes (Including upward and downward piping) | ● | ● | — |
| P, E port size (One-touch fittings) | | ⌀8 | ⌀10 | ⌀10 |

A, B port size (Inch)

| Symbol | A, B port | 10 (Side ported) series | | 11 (Bottom ported) series |
|-------------------------------------|--|-------------------------|--------|---------------------------|
| | | SY3000 | SY5000 | SY5000 |
| N1 | ⌀1/8" | ● | — | — |
| N3 | ⌀5/32" | ● | ● | ● |
| N7 | ⌀1/4" | ● | ● | ● |
| N9 | ⌀5/16" | — | ● | ● |
| CM*2 | Straight port, mixed sizes | ● | ● | ● |
| LN3 | ⌀5/32" | ● | — | — |
| LN7 | ⌀1/4" | ● | ● | — |
| LN9 | ⌀5/16" | — | ● | — |
| BN3 | ⌀5/32" | ● | — | — |
| BN7 | ⌀1/4" | ● | ● | — |
| BN9 | ⌀5/16" | — | ● | — |
| LM | Elbow port, mixed sizes (Including upward and downward piping) | ● | ● | — |
| P, E port size (One-touch fittings) | | ⌀5/16" | ⌀3/8" | ⌀3/8" |

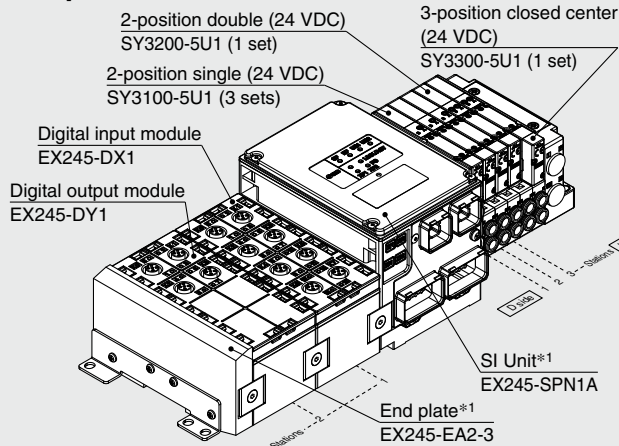
*1: To avoid interference with the body or piping, select downward elbow port when mounting the optional spacer assembly (pages 204 to 207).

*2: When using mixed sizes for the A and B ports, please indicate so on the separate manifold specification sheet.

For details about the EX245 Integrated-type (For Input/Output) Serial Transmission System, refer to the Web Catalog and the Operation Manual. For details about part numbers of SI Units to be mounted, refer to pages 192-1 and 192-2. Please download the Operation Manual via SMC website, <https://www.smcworld.com>

How to Order Manifold Assembly

Example (SS5Y3-10SAAN-□)



SS5Y3-10SAANY2-05D-C6 ...1 set (Type 10 5-station manifold base part no.)
 *SY3100-5U13 sets (2-position single part no.)
 *SY3200-5U11 set (2-position double part no.)
 *SY3300-5U11 set (3-position closed center part no.)
 *EX245-DX11set I/O module part no.
 *EX245-DY11set I/O module part no.

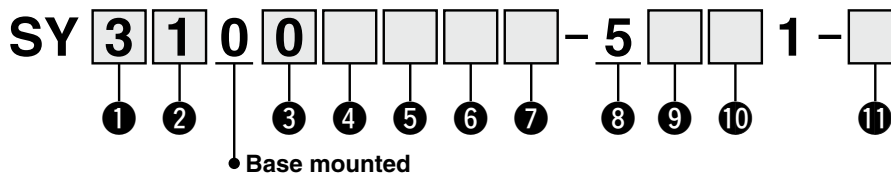
→ The asterisk denotes the symbol for assembly. Prefix it to the part numbers of the valve etc.

- The valve arrangement is numbered as the 1st station from the D side.
- The I/O module station arrangement is numbered starting from the SI unit side.
- Under the manifold part number, state the valves to be mounted, then the I/O module in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on a manifold specification sheet.

*1: Do not enter the SI Unit part number and the end plate part number together.
 *: When mixing top ported configurations, select from page 124-6. In this case, use caution as there is also output on the A and B port on base side. Specify on a manifold specification sheet if plugs are required on the A and B port on base side.

How to Order Valves (With mounting screw)

Refer to page 15 for valve specifications.



1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |

2 Type of actuation

| | | |
|-----|-------------|-----------------|
| 1 | 2-position | Single |
| 2 | | Double |
| 3 | 3-position | Closed center |
| 4 | | Exhaust center |
| 5 | | Pressure center |
| A*1 | 4-position | N.C./N.C. |
| B*1 | dual 3-port | N.O./N.O. |
| C*1 | | N.C./N.O. |

*1: 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. Manifold installed type is available if the back pressure check valve is required for a valve with metal seal. Refer to page 212 for Ordering Example. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.
 *: The built-in valve type back pressure check valve is not available for the 3-position type.

6 Pilot valve option

| | |
|-----|-------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K*1 | High pressure type (1.0 MPa) |

*1: 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.
 *: Be careful of the energizing time when the power saving circuit is selected. Refer to page 292 for details.

8 Rated voltage

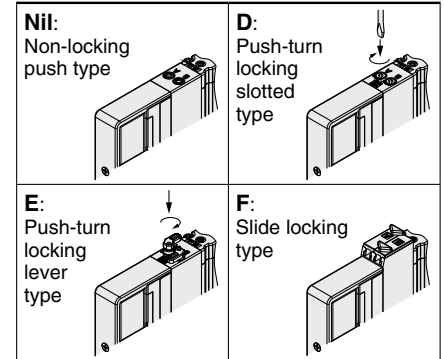
| | |
|---|--------|
| 5 | 24 VDC |
|---|--------|

9 Light/surge voltage suppressor and common specification

| Symbol | With light | Surge voltage suppressor | Common specification |
|--------|------------|--------------------------|----------------------|
| R | — | • | Non-polar |
| U | • | • | Negative common |
| NS | — | • | Negative common |
| NZ | • | • | Negative common |

*: "R" and "U" are applicable for every SI Unit.
 *: Only "NZ" types are available for with the power saving circuit.

10 Manual override

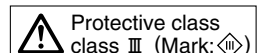


*: Refer to page 34 for with the safety slide locking manual override.

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 198 for part numbers of the base gasket and mounting screw.
 *: "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly, interface regulator or double check spacer assembly with residual pressure release valve.



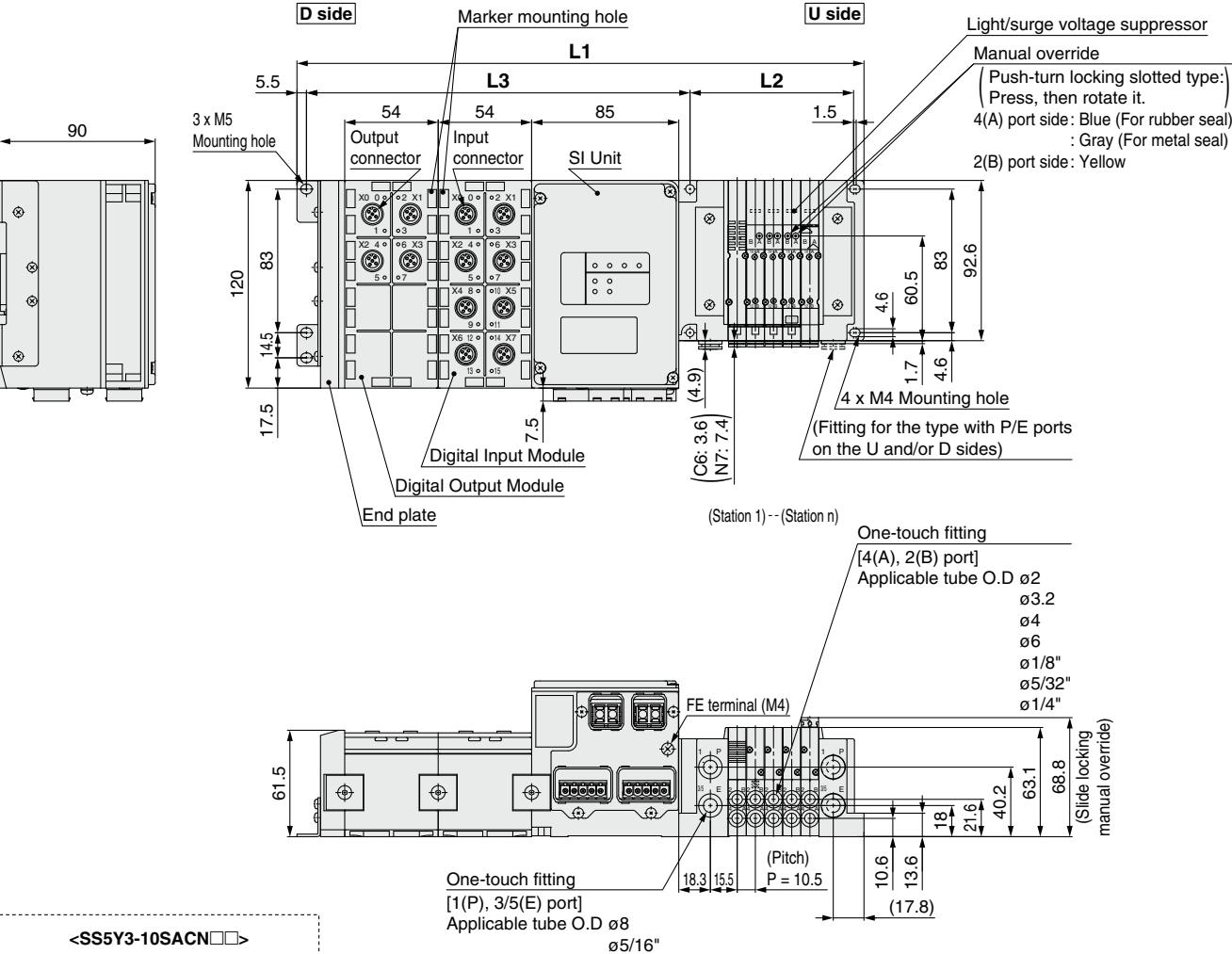
SY3000/5000 Series

Plug-in
Connector Connecting Base

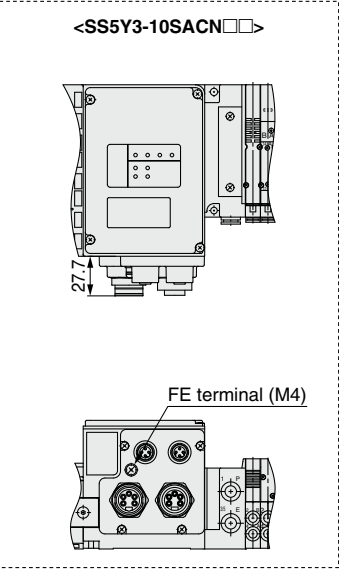
Type 10/Side Ported
EX245

Dimensions: SY3000 Series

SS5Y3-10SA□ - Stations U D - C2,N1
B C3,N3
C4,N7
C6,CM



*: These figures show the "SS5Y3-10SAANY2-05D-C6".
*: Refer to page 157 for dimensions of external pilot, silencer and elbow fittings.
*: Refer to page 162 for dimensions of A or B port top-ported type.



$L3 = 54 \times n2 + 113.6$

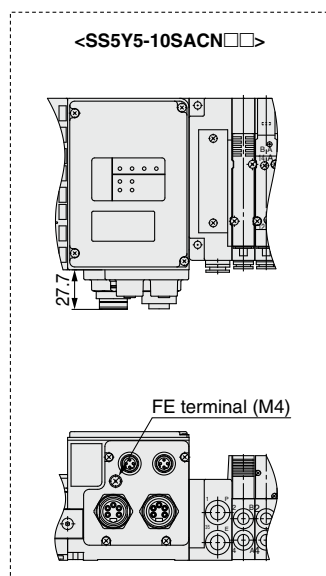
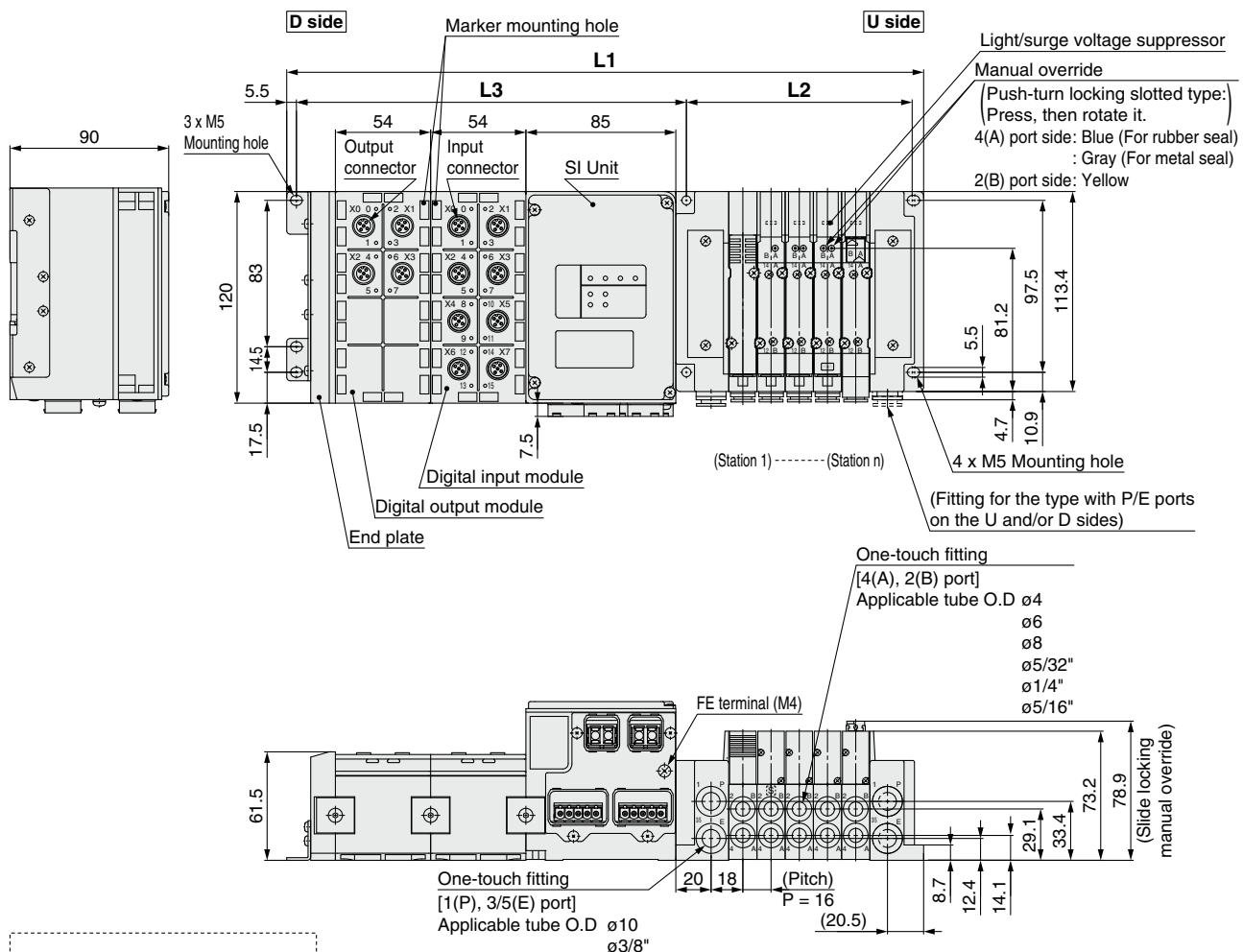
| Stations n1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 188.1 | 198.6 | 209.1 | 219.6 | 230.1 | 240.6 | 251.1 | 261.6 | 272.1 | 282.6 | 293.1 | 303.6 | 314.1 | 324.6 | 335.1 | 345.6 | 356.1 | 366.6 | 377.1 | 387.6 | 398.1 | 408.6 | 419.1 |
| L2 | 63 | 73.5 | 84 | 94.5 | 105 | 115.5 | 126 | 136.5 | 147 | 157.5 | 168 | 178.5 | 189 | 199.5 | 210 | 220.5 | 231 | 241.5 | 252 | 262.5 | 273 | 283.5 | 294 |



Dimensions: SY5000 Series

SS5Y5-10SA ☐ - **Stations**

| | |
|----------------------------------|--------------|
| U D B | C4,N3 |
| | C6,N7 |
| | C8,N9 |
| | CM |



- * These figures show the “SS5Y5-10SAANY2-05D-C8”.
- * Refer to page 158 for dimensions of external pilot, silencer and elbow fittings.
- * Refer to page 163 for dimensions of A or B port top-ported type.

$$L3 = 54 \times n2 + 113.1$$

Dimensions Formula/L1 = 16 x n1 + 173.1 L2 = 16 x n1 + 48 * The L1 dimension is the dimension without an I/O module. Add 54 mm to this dimension for each I/O module. * n1 is the valve stations. n2 is the number of I/O module stations.

| Stations n1 | | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----|
| L1 | 205.1 | 221.1 | 237.1 | 253.1 | 269.1 | 285.1 | 301.1 | 317.1 | 333.1 | 349.1 | 365.1 | 381.1 | 397.1 | 413.1 | 429.1 | 445.1 | 461.1 | 477.1 | 493.1 | 509.1 | 525.1 | 541.1 | 557.1 | |
| L2 | 80 | 96 | 112 | 128 | 144 | 160 | 176 | 192 | 208 | 224 | 240 | 256 | 272 | 288 | 304 | 320 | 336 | 352 | 368 | 384 | 400 | 416 | 432 | |

Plug-in Connector Connecting Base

EX245

Type 12
Top ported

SY3000/5000 Series



How to Order Manifold

Top ported **SS5Y 3 - 12 S AAN** **05 D S - N**

Only direct mounting is selectable for the manifold.

Refer to pages 162 and 163 for dimensions of Type 12/Top ported type.

1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |

3 With or without I/O modules

| | |
|-----|--------------------|
| Nil | Without I/O module |
| Y | With I/O module |

4 Number of I/O modules

| | |
|-----|--------------------------------------|
| Nil | Without I/O module (Without SI Unit) |
| 1 | 1 station |
| : | : |
| 8 | 8 stations |

6 P, E port entry

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

For details about the EX245 Integrated-type (For Input/Output) Serial Transmission System, refer to the **Web Catalog** and the **Operation Manual**. For details about part numbers of SI Units to be mounted, refer to pages 192-1 and 192-2. Please download the **Operation Manual** via SMC website, <https://www.smcworld.com>

2 SI Unit specifications

| Symbol (output polarity) | Protocol | Communication connector | Communication connector specifications |
|--------------------------|----------|--------------------------|--|
| Negative common (PNP) | | | |
| 0 | | Without SI Unit | |
| AAN | PROFINET | Push/Pull (SCRJ): 2 pcs. | Push/Pull (24 V): 2 pcs. |
| ABN | | Push/Pull (RJ45): 2 pcs. | Push/Pull (24 V): 2 pcs. |
| ACN | | M12: 2 pcs. | 7/8 inch: 2 pcs. |

*: The valve output polarity for the SI unit is negative common (PNP).

5 Valve stations

(In the case of the 32-output SI Unit)

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

*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

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

*: This also includes the number of blanking plate assembly.

7 SUP/EXH block assembly

| | |
|-----|-----------------------------------|
| Nil | Internal pilot |
| S | Internal pilot, Built-in silencer |
| R | External pilot |

*: 3/5(E) port is plugged for the built-in silencer type. The silencer exhaust port is located on the opposite side of P, E port entry. (Example: When the P, E port entry is D side, the silencer exhaust port is U side.)

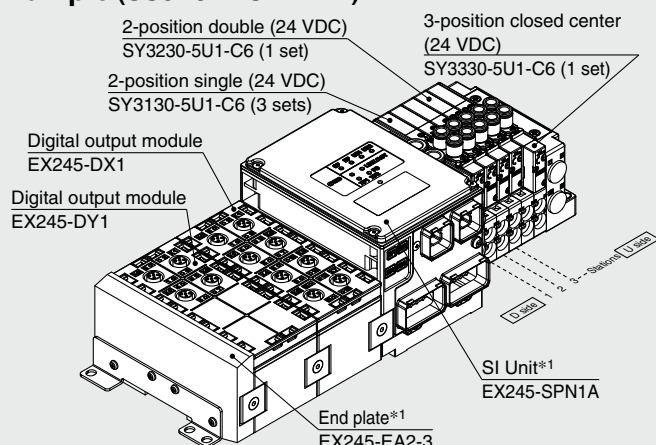
*: When the built-in silencer type is used, keep the exhaust port from coming in direct contact with water or other liquids.

8 P, E port size (One-touch fittings)

| Symbol | SY3000 | SY5000 |
|--------|--------|--------|
| Nil | ø8 | ø10 |
| N | ø5/16" | ø3/8" |

How to Order Manifold Assembly

Example (SS5Y3-12SAAN-□)



SS5Y3-12SAANY2-05DS-N.....1 set (Type 12 5-station manifold base part no.)

*SY3130-5U1-C6.....3 sets (2-position single part no.)

*SY3220-5U1-C6.....1 set (2-position double part no.)

*SY3330-5U1-C6.....1 set (3-position closed center part no.)

*EX245-DX1.....1 set I/O module part no.

*EX245-DY1.....1 set I/O module part no.

→ The asterisk denotes the symbol for assembly. Prefix it to the part numbers of the valve etc.

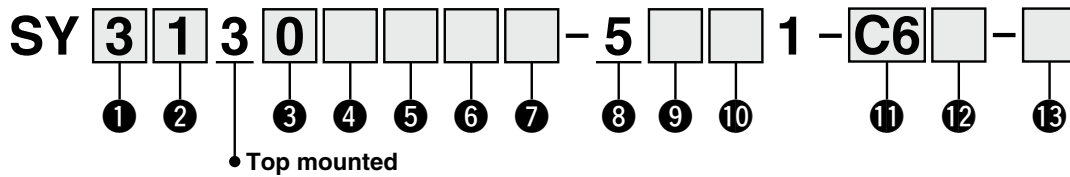
- The valve arrangement is numbered as the 1st station from the D side.
- The I/O module station arrangement is numbered starting from the SI unit side.
- Under the manifold part number, state the valves to be mounted, then the I/O module in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on a manifold specification sheet.

*1: Do not enter the SI Unit part number and the end plate part number together.

*: When mixing top ported configurations, select from page 124-6. In this case, use caution as there is also output on the A and B port on base side. Specify on a manifold specification sheet if plugs are required on the A and B port on base side.

How to Order Valves (With mounting screw)

Refer to page 15 for valve specifications.



① Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |

② Type of actuation

| | | |
|-----|------------------------------|-----------------|
| 1 | 2-position | Single |
| 2 | | Double |
| 3 | 3-position | Closed center |
| 4 | | Exhaust center |
| 5 | | Pressure center |
| A*1 | 4-position dual 3-port valve | N.C./N.C. |
| B*1 | | N.O./N.O. |
| C*1 | | N.C./N.O. |

*1: Select the rubber seal type 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

| | |
|-----|----------|
| Nil | None |
| H*1 | Built-in |

*1: Select the rubber seal type when the back pressure check valve is built-in. Manifold installed type is available if the back pressure check valve is required for a valve with metal seal. For ordering example, refer to page 212. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

*: Select "Nil" for 3-position type.

⑥ Pilot valve option

| | |
|-----|-------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K*1 | High pressure type (1.0 MPa) |

*1: Select the metal seal type for high pressure type.

⑦ Coil type

| | |
|-----|--|
| Nil | Standard |
| T | With power saving circuit (Continuous duty type)*1*2 |

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

*2: Be careful of the energizing time when the power saving circuit is selected. For details, refer to page 292.

⑧ Rated voltage

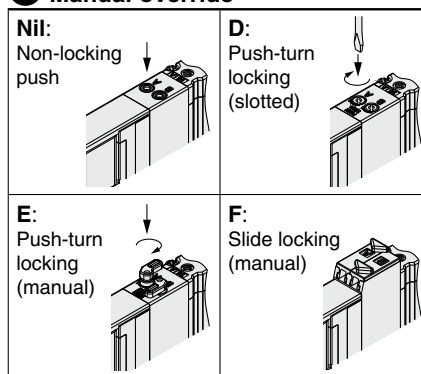
| | |
|---|--------|
| 5 | 24 VDC |
|---|--------|

⑨ Light/surge voltage suppressor and common specification

| | With light | Surge voltage suppressor | Common specification |
|----|------------|--------------------------|----------------------|
| R | — | ● | Non-polar |
| U | ● | | Negative common |
| NS | — | | |
| NZ | ● | | |

*: Select "NZ" for with the power saving circuit.

⑩ Manual override



*: Refer to page 34 for with the safety slide locking manual override.

⑪ A, B port size

Thread piping

| Symbol | Port size | Applicable series |
|--------|-----------|-------------------|
| M5 | M5 x 0.8 | SY3000 |
| O1 | 1/8 | SY5000 |

One-touch fitting (Metric)

| Symbol | A, B port | SY3000 | SY5000 |
|--------|-----------|--------|--------|
| C2 | ø2 | ● | — |
| C3 | ø3.2 | ● | — |
| C4 | ø4 | ● | ● |
| C6 | ø6 | ● | ● |
| C8 | ø8 | — | ● |

One-touch fitting (Inch)

| Symbol | A, B port | SY3000 | SY5000 |
|--------|-----------|--------|--------|
| N1 | ø1/8" | ● | — |
| N3 | ø5/32" | ● | ● |
| N7 | ø1/4" | ● | ● |
| N9 | ø5/16" | — | ● |

⑫ Thread type

| | |
|-----|-----|
| Nil | Rc |
| F | G |
| N | NPT |
| T | PTF |

*: Only Nil is available for M5.

⑬ Type of mounting screw

| | |
|-----|---|
| Nil | Round head combination screw |
| B | Hexagon socket head cap screw |
| K | Round head combination screw (Falling-out-prevention type)*1 |
| H | Hexagon socket head cap screw (Falling-out-prevention type)*1 |

*1: 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 367 for part numbers of the base gasket and mounting screw.

*: Select "Nil" or "K" for the optional individual SUP/EXH spacer assembly, interface regulator or double check spacer assembly with residual pressure release valve.

Type 10
Side Ported

Type 11
Bottom Ported

Plug-in Connector Connecting Base

EX250

SY3000/5000/7000 Series



How to Order Manifolds

Refer to pages 160 (SY5000) and 161 (SY7000) for the dimensions of Type 11/Bottom-ported type.

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

1 2 3 4 5 6 7 8 9

1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type

| | |
|----|-----------------|
| 10 | Side ported |
| 11 | Bottom ported*1 |

*1 The SY5000 manifold base is used for the bottom-ported SY3000. When ordering, refer to the "Plug-in Mixed Mounting Type Manifold" (from page 165).

4 Input block stations

| | |
|-----|------------|
| Nil | None |
| 1 | 1 station |
| ⋮ | ⋮ |
| 8 | 8 stations |

* When not selecting an SI unit, the symbol will be "nil." The maximum number of stations is limited for the AS-Interface applicable SI unit.

3 SI unit

| | |
|----|---|
| 0 | Without SI unit |
| Q | DeviceNet™ (Negative common) |
| N | PROFIBUS DP (Negative common) |
| TA | AS-Interface (Negative common) 2 power supply systems |
| TB | AS-Interface (Negative common) 1 power supply system |
| TC | AS-Interface (Negative common) 1 power supply system |
| TD | AS-Interface (Negative common) 1 power supply system |
| Y | CANopen (Negative common) |
| ZE | EtherNet/IP™ (Negative common) |

- * Ensure a match with the common specification of the valve to be used.
- * Input block cannot be mounted without SI unit.
- * The supply current from the SI unit of AS-Interface applicable 1 power supply system specification to the input block and valve is limited.

5 Input block type

| | PNP sensor input | NPN sensor input |
|---------------------|------------------|------------------|
| Without input block | Nil | |
| M12, 2 inputs | A | D |
| M12, 4 inputs | B | E |
| M8, 4 inputs | C | F |

* When not selecting an SI unit, the symbol will be "nil."

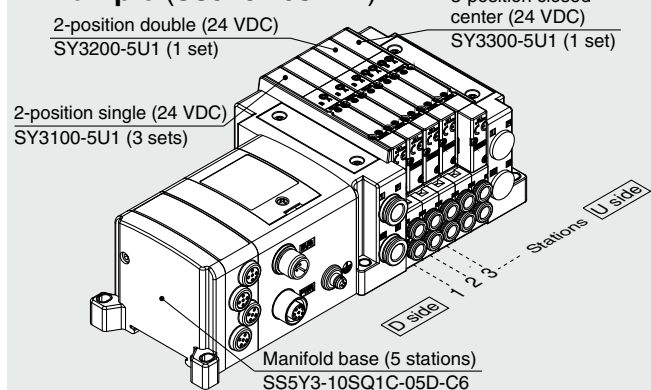
6 Valve stations

| Symbol | Stations | Note |
|--------|-------------|--|
| 02 | 2 stations | Double wiring*1 |
| ⋮ | ⋮ | |
| 16 | 16 stations | Specified layout*2 (Up to 32 solenoids available) |
| 02 | 2 stations | |
| ⋮ | ⋮ | |
| 24 | 24 stations | |

- *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.
- *2 Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position, and 4-position valves cannot be used where single wiring has been specified.) When determining the number of valve stations, note that the maximum number of solenoids for the AS-Interface applicable SI Unit specification is as follows.
 - 8 in/8 out specification: Max. 8 solenoids
 - 4 in/4 out specification: Max. 4 solenoids
- * This also includes the number of the blanking plate assembly.
- * For the product 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 manifold specification sheet.

How to Order Manifold Assembly

Example (SS5Y3-10S□-□)



SS5Y3-10SQ1C-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 asterisk denotes the symbol for the assembly. Prefix it to the part numbers of the valve, etc.

- For the valve arrangement, the valve closest to the D side is considered the 1st station.
- Under the manifold part number, state the valves to be mounted in order starting with the 1st station as shown in the figure above. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.

* When mixing top-ported configurations, select from those listed on page 132. In such cases, use caution as there is also output on the A and B ports on the base side. Specify on the manifold specification sheet if plugs are required for the A and B ports on the base side.

7 P, E port entry, SUP/EXH block assembly

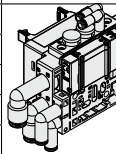
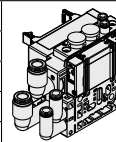
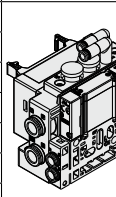
| P, E port entry | Internal pilot | Internal pilot, Built-in silencer | External pilot |
|-------------------------------|----------------|-----------------------------------|----------------|
| U side (2 to 10 stations) | U | C | G |
| D side (2 to 10 stations) | D | E | H |
| Both sides (2 to 24 stations) | 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 into direct contact with water or other liquids.

For details on the EX250 Integrated Type (For Input/Output) Serial Transmission System, refer to the **Web Catalog** and the Operation Manual. For the part numbers of the SI units to be mounted, refer to page 193. Please download the Operation Manual via the SMC website, <https://www.smcworld.com>

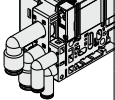
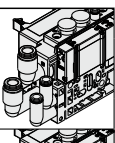
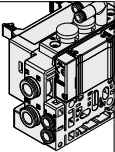
8 A, B port size (Metric/One-touch fitting)

| Symbol | A, B port | Type 10/Side ported | | | Type 11/Bottom ported | |
|-------------------------------------|--|---------------------|--------|--------|-----------------------|--------|
| | | SY3000 | SY5000 | SY7000 | SY5000 | SY7000 |
| C2 | ø2 | ● | — | — | — | — |
| C3 | ø3.2 | ● | — | — | — | — |
| C4 | ø4 | ● | ● | — | ● | — |
| C6 | ø6 | ● | ● | ● | ● | ● |
| C8 | ø8 | — | ● | ● | ● | ● |
| C10 | ø10 | — | — | ● | — | ● |
| C12 | ø12 | — | — | ● | — | ● |
| CM*1 | Straight port, mixed sizes | ● | ● | ● | ● | ● |
| L4 | ø4 | ● | ● | — | — | — |
| L6 | ø6 | ● | ● | ● | — | — |
| L8 | ø8 | — | ● | ● | — | — |
| L10 | ø10 | — | — | ● | — | — |
| L12 | ø12 | — | — | ● | — | — |
| B4 | ø4 | ● | ● | — | — | — |
| B6 | ø6 | ● | ● | ● | — | — |
| B8 | ø8 | — | ● | ● | — | — |
| B10 | ø10 | — | — | ● | — | — |
| B12 | ø12 | — | — | ● | — | — |
| LM*1 | Elbow port, mixed sizes (Including upward and downward piping) | ● | ● | ● | — | — |
| P, E port size (One-touch fittings) | | ø8 | ø10 | ø12 | ø10 | ø12 |



A, B port size (Inch/One-touch fitting)

| Symbol | A, B port | Type 10/Side ported | | | Type 11/Bottom ported | |
|-------------------------------------|--|---------------------|--------|--------|-----------------------|--------|
| | | SY3000 | SY5000 | SY7000 | SY5000 | SY7000 |
| N1 | ø1/8" | ● | — | — | — | — |
| N3 | ø5/32" | ● | ● | — | ● | — |
| N7 | ø1/4" | ● | ● | ● | ● | ● |
| N9 | ø5/16" | — | ● | ● | ● | ● |
| N11 | ø3/8" | — | — | ● | — | ● |
| CM*1 | Straight port, mixed sizes | ● | ● | ● | ● | ● |
| LN3 | ø5/32" | ● | — | — | — | — |
| LN7 | ø1/4" | ● | ● | — | — | — |
| LN9 | ø5/16" | — | ● | — | — | — |
| LN11 | ø3/8" | — | — | ● | — | — |
| BN3 | ø5/32" | ● | — | — | — | — |
| BN7 | ø1/4" | ● | ● | — | — | — |
| BN9 | ø5/16" | — | ● | — | — | — |
| BN11 | ø3/8" | — | — | ● | — | — |
| LM*1 | Elbow port, mixed sizes (Including upward and downward piping) | ● | ● | ● | — | — |
| P, E port size (One-touch fittings) | | ø5/16" | ø3/8" | ø1/2" | ø3/8" | ø1/2" |



*1 Indicate the sizes on the manifold specification sheet in the case of "CM" or "LM."

The direction of P, E port fittings is the same as for the A, B port. If selecting "LM," indicate it on the manifold specification sheet for the P, E port fitting direction.

*2 To avoid interference with the body or piping, select a downward elbow port when mounting the optional spacer assembly (pages 204 to 206).

9 Mounting and Option

| Symbol | Mounting | Option | |
|--------|-------------------|------------|----------------|
| | | Name plate | Station number |
| Nil | Direct mounting | — | — |
| AA | | ● | ● |
| BA | | ● | — |
| D□ | DIN rail mounting | — | — |
| A□ | | ● | ● |
| B□ | | ● | — |

DIN Rail Option

| Nil | Standard length |
|-----|---------------------------------|
| 0 | Without DIN rail (with bracket) |
| 3 | For 3 stations |
| ⋮ | ⋮ |
| 24 | For 24 stations |

* Enter the number of stations inside □ when it is larger than the number of valve stations. (Refer to "DIN Rail Option" above.)

* Only direct mounting is available for the type 11 bottom-port type.

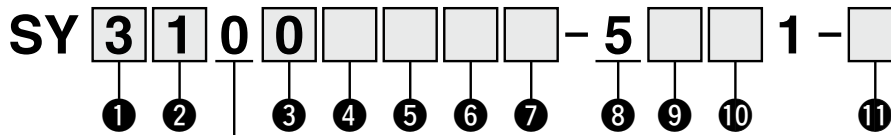
* Refer to page 295 for the fixation of DIN rail mounting type manifold.

* If the DIN rail must be mounted without an SI unit, select D0. Then, refer to L3 of the dimensions for the DIN rail length and order separately. (Refer to page 203 for the DIN rail part number.)

SY3000/5000/7000 Series

How to Order Valves (With mounting screw)

Refer to page 15 for valve specifications.



Base mounted

1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type of actuation

| | | |
|-----|------------------------|-----------------|
| 1 | 2-position | Single |
| 2 | | Double |
| 3 | 3-position | Closed center |
| 4 | | Exhaust center |
| 5 | | Pressure center |
| A*1 | 4-position dual 3-port | N.C./N.C. |
| B*1 | | N.O./N.O. |
| C*1 | | N.C./N.O. |

*1 Only the 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 the rubber seal type is available. A manifold installed type is available if a back pressure check valve with a metal seal is required. Refer to page 212 for ordering examples. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

* The built-in valve type back pressure check valve is not available for the 3-position type or the SY7000.

6 Pilot valve option

| | |
|-----|-------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K*1 | High pressure type (1.0 MPa) |

*1 Only the 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 if the valve is to be continuously energized for long periods of time.
* Be careful of the energizing time when the power saving circuit is selected. Refer to page 292 for details.

8 Rated voltage

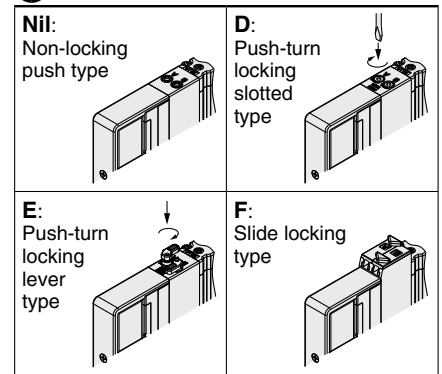
| | |
|---|--------|
| 5 | 24 VDC |
|---|--------|

9 Light/surge voltage suppressor and common specification

| Symbol | With light | Surge voltage suppressor | Common specification |
|--------|------------|--------------------------|----------------------|
| R | — | | Non-polar |
| U | ● | | |
| S | — | ● | Positive common |
| Z | ● | | |
| NS | — | | Negative common |
| NZ | ● | | |

* "R" and "U" are applicable for every SI unit. However, "S" and "Z" can be used only for CC-Link applicable unit and "NS" and "NZ" are for units which are not CC-Link applicable.
* For the non-polar type, be careful of surge voltage intrusion. Refer to page 293 for details.
* Only "Z" and "NZ" types are available with a power saving circuit.

10 Manual override



* Refer to page 34 for the safety slide locking manual override.

11 Type of mounting screw

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

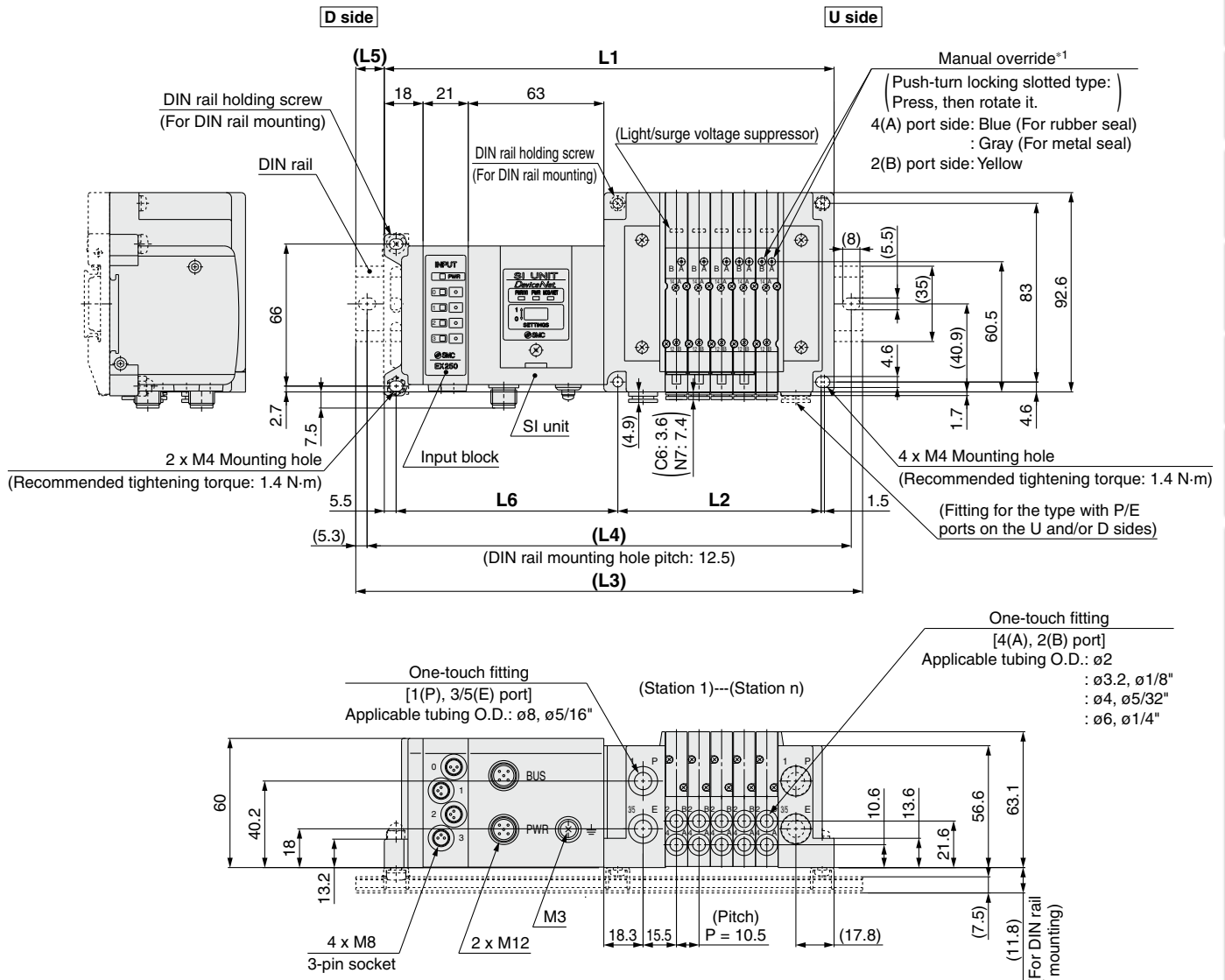
* For "K" and "H," the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance, etc.
* **When ordering a valve individually, the base gasket is not included.** Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance. Refer to page 198 for base gasket and mounting screw part numbers.
* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly, interface regulator, or double check spacer assembly with residual pressure release valve.

Dimensions: SY3000 Series

Plug-in Connector Connecting Base

Type 10/Side Ported
EX250

SS5Y3-10S□□□-Stations $\begin{matrix} \text{U} \\ \text{D} \end{matrix}$ $\begin{matrix} \text{C2} \\ \text{C3}, \text{N1} \\ \text{C4}, \text{N3} \\ \text{C6}, \text{N7} \end{matrix}$ (D)



L1 = 10.5 x n1 + 135.5 + 21 x n2
L2 = 10.5 x n1 + 42
L4 = L3 - 10.5
L5 = (L3 - L1)/2
L6 = 21 x n2 + 82

n1: Valve stations
n2: Input block stations

L3: DIN Rail Overall Length

| Valve stations (n1) Input block stations (n2) | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|
| | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | |
| 0 | 185.5 | 198 | 210.5 | 223 | 223 | 235.5 | 248 | 260.5 | 273 | 285.5 | 285.5 | 298 | 310.5 | 323 | 335.5 | 348 | 348 | 360.5 | 373 | 385.5 | 398 | 410.5 | 423 | |
| 1 | 210.5 | 223 | 223 | 235.5 | 248 | 260.5 | 273 | 285.5 | 285.5 | 298 | 310.5 | 323 | 335.5 | 348 | 348 | 360.5 | 373 | 385.5 | 398 | 410.5 | 423 | 423 | 435.5 | |
| 2 | 223 | 235.5 | 248 | 260.5 | 273 | 285.5 | 285.5 | 298 | 310.5 | 323 | 335.5 | 348 | 348 | 360.5 | 373 | 385.5 | 398 | 410.5 | 423 | 423 | 435.5 | 448 | 460.5 | |
| 3 | 248 | 260.5 | 273 | 285.5 | 285.5 | 298 | 310.5 | 323 | 335.5 | 348 | 348 | 360.5 | 373 | 385.5 | 398 | 410.5 | 423 | 423 | 435.5 | 448 | 460.5 | 473 | 485.5 | |
| 4 | 273 | 285.5 | 285.5 | 298 | 310.5 | 323 | 335.5 | 348 | 348 | 360.5 | 373 | 385.5 | 398 | 410.5 | 423 | 423 | 435.5 | 448 | 460.5 | 473 | 485.5 | 485.5 | 498 | |
| 5 | 285.5 | 298 | 310.5 | 323 | 335.5 | 348 | 348 | 360.5 | 373 | 385.5 | 398 | 410.5 | 423 | 423 | 435.5 | 448 | 460.5 | 473 | 485.5 | 485.5 | 498 | 510.5 | 523 | |
| 6 | 310.5 | 323 | 335.5 | 348 | 348 | 360.5 | 373 | 385.5 | 398 | 410.5 | 423 | 423 | 435.5 | 448 | 460.5 | 473 | 485.5 | 485.5 | 498 | 510.5 | 523 | 535.5 | 548 | |
| 7 | 335.5 | 348 | 348 | 360.5 | 373 | 385.5 | 398 | 410.5 | 423 | 423 | 435.5 | 448 | 460.5 | 473 | 485.5 | 485.5 | 498 | 510.5 | 523 | 535.5 | 548 | 548 | 560.5 | |
| 8 | 348 | 360.5 | 373 | 385.5 | 398 | 410.5 | 423 | 423 | 435.5 | 448 | 460.5 | 473 | 485.5 | 485.5 | 498 | 510.5 | 523 | 535.5 | 548 | 548 | 560.5 | 573 | 585.5 | |

*1 Refer to page 157 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.
* These figures show the "SS5Y3-10SQ1A-05D-C6."
* Refer to page 162 for dimensions of A or B port top-ported type.

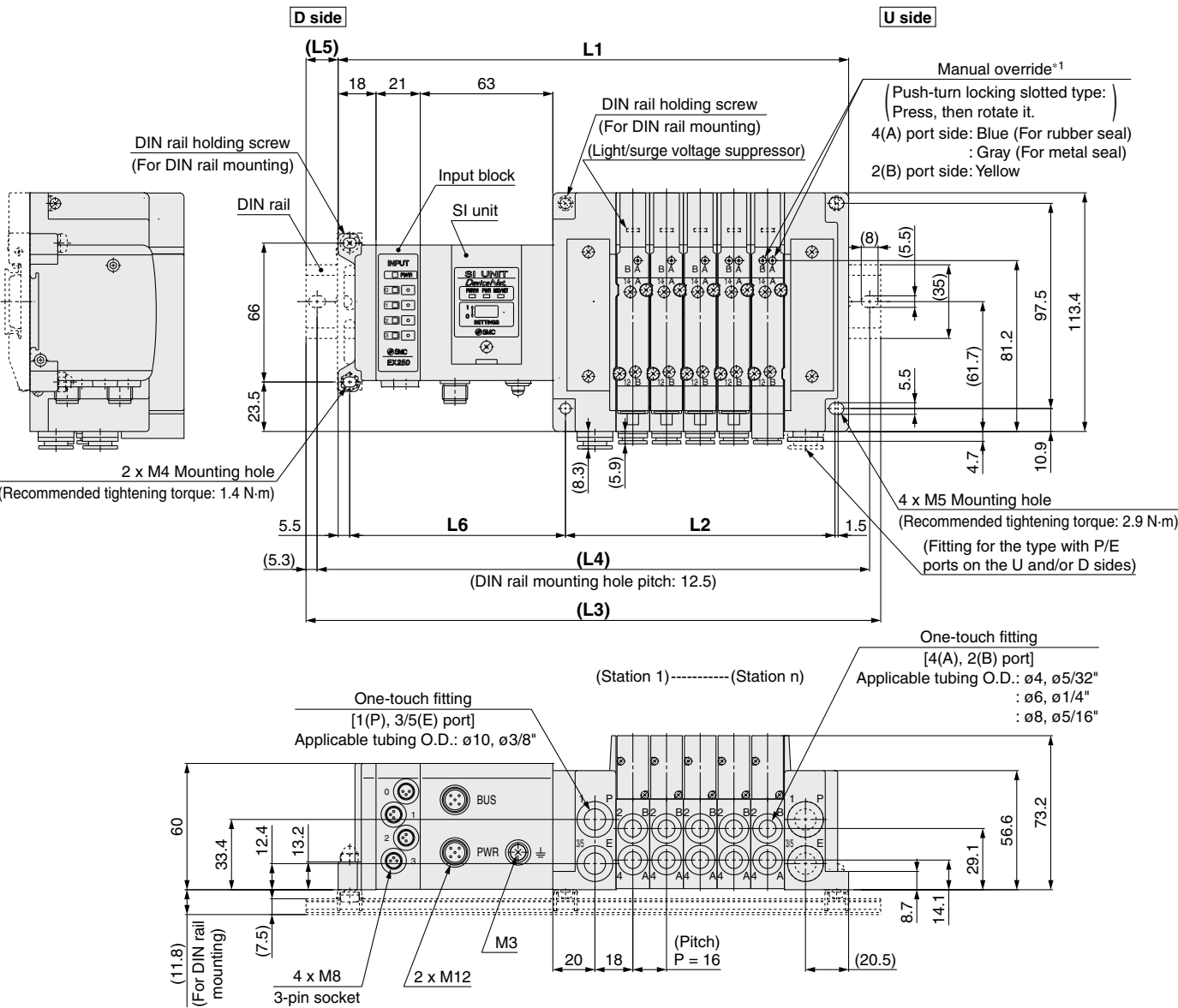
SY3000/5000/7000 Series

Dimensions: SY5000 Series

Plug-in
Connector Connecting Base

Type 10/Side Ported
EX250

SS5Y5-10S□□□-Stations $\begin{matrix} \text{U} & \text{C4, N3} \\ \text{D} & \text{C6, N7} \\ \text{B} & \text{C8, N9} \end{matrix}$ (D)



$L1 = 16 \times n1 + 141.5 + 21 \times n2$
 $L2 = 16 \times n1 + 48$
 $L4 = L3 - 10.5$
 $L5 = (L3 - L1)/2$
 $L6 = 21 \times n2 + 81.5$

n1: Valve stations
n2: Input block stations

L3: DIN Rail Overall Length

| Valve stations (n1) Input block stations (n2) | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0 | 198 | 223 | 235.5 | 248 | 273 | 285.5 | 298 | 310.5 | 335.5 | 348 | 360.5 | 373 | 398 | 410.5 | 423 | 448 | 460.5 | 473 | 485.5 | 510.5 | 523 | 535.5 | 560.5 |
| 1 | 223 | 235.5 | 260.5 | 273 | 285.5 | 298 | 323 | 335.5 | 348 | 373 | 385.5 | 398 | 410.5 | 435.5 | 448 | 460.5 | 485.5 | 498 | 510.5 | 523 | 548 | 560.5 | 573 |
| 2 | 248 | 260.5 | 273 | 298 | 310.5 | 323 | 335.5 | 360.5 | 373 | 385.5 | 410.5 | 423 | 435.5 | 448 | 473 | 485.5 | 498 | 523 | 535.5 | 548 | 560.5 | 585.5 | 598 |
| 3 | 260.5 | 285.5 | 298 | 310.5 | 335.5 | 348 | 360.5 | 373 | 398 | 410.5 | 423 | 448 | 460.5 | 473 | 485.5 | 510.5 | 523 | 535.5 | 548 | 573 | 585.5 | 598 | 623 |
| 4 | 285.5 | 298 | 323 | 335.5 | 348 | 373 | 385.5 | 398 | 410.5 | 435.5 | 448 | 460.5 | 473 | 498 | 510.5 | 523 | 548 | 560.5 | 573 | 585.5 | 610.5 | 623 | 635.5 |
| 5 | 310.5 | 323 | 335.5 | 360.5 | 373 | 385.5 | 398 | 423 | 435.5 | 448 | 473 | 485.5 | 498 | 510.5 | 535.5 | 548 | 560.5 | 585.5 | 598 | 610.5 | 623 | 648 | 660.5 |
| 6 | 323 | 348 | 360.5 | 373 | 398 | 410.5 | 423 | 435.5 | 460.5 | 473 | 485.5 | 510.5 | 523 | 535.5 | 548 | 573 | 585.5 | 598 | 623 | 635.5 | 648 | 660.5 | 685.5 |
| 7 | 348 | 360.5 | 385.5 | 398 | 410.5 | 435.5 | 448 | 460.5 | 473 | 498 | 510.5 | 523 | 548 | 560.5 | 573 | 585.5 | 610.5 | 623 | 635.5 | 648 | 673 | 685.5 | 698 |
| 8 | 373 | 385.5 | 398 | 423 | 435.5 | 448 | 473 | 485.5 | 498 | 510.5 | 535.5 | 548 | 560.5 | 573 | 598 | 610.5 | 623 | 648 | 660.5 | 673 | 685.5 | 710.5 | 723 |

*1 Refer to page 158 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.
* These figures show the "SS5Y5-10SQ1A-05D-C8."
* Refer to page 163 for dimensions of A or B port top-ported type.

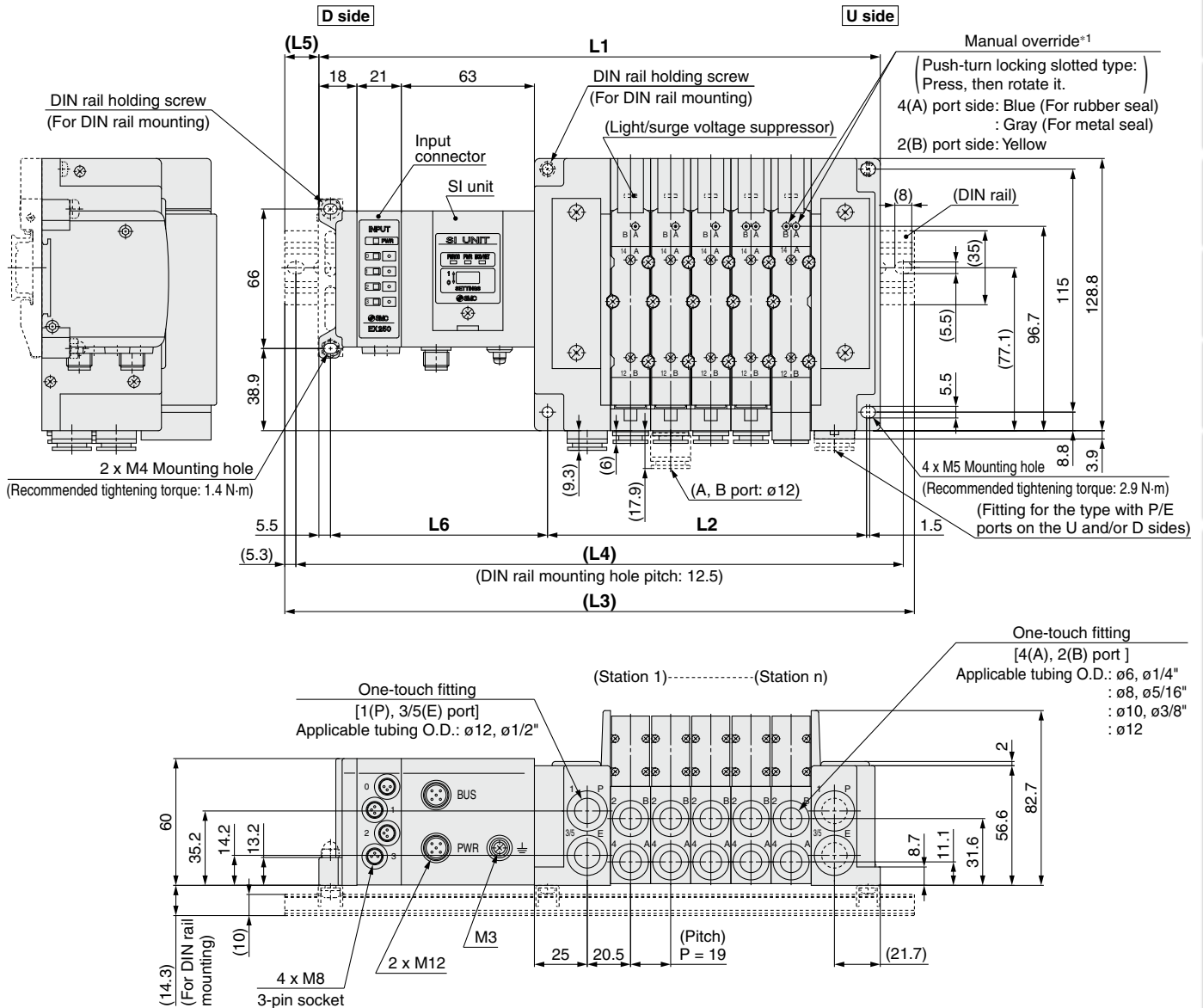


Dimensions: **SY7000 Series**

Plug-in
Connector Connecting Base

Type 10/Side Ported
EX250

SS5Y7-10S□□□-Stations $\begin{matrix} \text{U} \\ \text{D} \end{matrix} \begin{matrix} \text{C6, N7} \\ \text{C8, N9} \\ \text{C10, N11} \\ \text{C12} \end{matrix} \text{(D)}$



$$\begin{aligned} L1 &= 19 \times n1 + 149.7 + 21 \times n2 \\ L2 &= 19 \times n1 + 56 \\ L4 &= L3 - 10.5 \\ L5 &= (L3 - L1)/2 \\ L6 &= 21 \times n2 + 81.7 \end{aligned}$$

n1: Valve stations
n2: Input block stations

*1 Refer to page 159 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.
* These figures show the "SS5Y7-10SQ1A-05D-C10."
* Refer to page 164 for dimensions of A or B port top-ported type.

L3: DIN Rail Overall Length

| Valve stations (n1) I/O Unit stations (n2) | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0 | 223 | 235.5 | 260.5 | 273 | 298 | 310.5 | 335.5 | 348 | 373 | 385.5 | 410.5 | 423 | 448 | 460.5 | 485.5 | 498 | 523 | 535.5 | 560.5 | 573 | 598 | 610.5 | 635.5 |
| 1 | 235.5 | 260.5 | 273 | 298 | 310.5 | 335.5 | 348 | 373 | 385.5 | 410.5 | 423 | 448 | 460.5 | 485.5 | 498 | 523 | 548 | 560.5 | 585.5 | 598 | 623 | 635.5 | 660.5 |
| 2 | 260.5 | 273 | 298 | 310.5 | 335.5 | 348 | 373 | 398 | 410.5 | 435.5 | 448 | 473 | 485.5 | 510.5 | 523 | 548 | 560.5 | 585.5 | 598 | 623 | 635.5 | 660.5 | 673 |
| 3 | 285.5 | 298 | 323 | 335.5 | 360.5 | 373 | 398 | 410.5 | 435.5 | 448 | 473 | 485.5 | 510.5 | 523 | 548 | 560.5 | 585.5 | 598 | 623 | 635.5 | 660.5 | 673 | 698 |
| 4 | 298 | 323 | 335.5 | 360.5 | 373 | 398 | 410.5 | 435.5 | 448 | 473 | 485.5 | 510.5 | 523 | 548 | 573 | 585.5 | 610.5 | 623 | 648 | 660.5 | 685.5 | 698 | 723 |
| 5 | 323 | 335.5 | 360.5 | 373 | 398 | 423 | 435.5 | 460.5 | 473 | 498 | 510.5 | 535.5 | 548 | 573 | 585.5 | 610.5 | 623 | 648 | 660.5 | 685.5 | 698 | 723 | 735.5 |
| 6 | 348 | 360.5 | 385.5 | 398 | 423 | 435.5 | 460.5 | 473 | 498 | 510.5 | 535.5 | 548 | 573 | 585.5 | 610.5 | 623 | 648 | 660.5 | 685.5 | 698 | 723 | 748 | 760.5 |
| 7 | 360.5 | 385.5 | 398 | 423 | 435.5 | 460.5 | 473 | 498 | 510.5 | 535.5 | 548 | 573 | 598 | 610.5 | 635.5 | 648 | 673 | 685.5 | 710.5 | 723 | 748 | 760.5 | 785.5 |
| 8 | 385.5 | 398 | 423 | 448 | 460.5 | 485.5 | 498 | 523 | 535.5 | 560.5 | 573 | 598 | 610.5 | 635.5 | 648 | 673 | 685.5 | 710.5 | 723 | 748 | 760.5 | 785.5 | 798 |

Plug-in Connector Connecting Base

EX250

Type 12
Top Ported

SY3000/5000/7000 Series



How to Order Manifolds

SS5Y **3** - 12S **Q** **□** **□** - **05** **U** - **□** **□**

1 2 3 4 5 6 7 8

Refer to pages 162 to 164 for the dimensions of Type 12/Top ported type.

1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

3 Input block stations

| | |
|-----|------------|
| Nil | None |
| 1 | 1 station |
| ⋮ | ⋮ |
| 8 | 8 stations |

* When not selecting an SI unit, the symbol will be "nil." The maximum number of stations is limited for the AS-Interface applicable SI unit.

4 Input block type

| | PNP sensor input | NPN sensor input |
|---------------------|------------------|------------------|
| Without input block | Nil | |
| M12, 2 inputs | A | D |
| M12, 4 inputs | B | E |
| M8, 4 inputs | C | F |

* When not selecting an SI unit, the symbol will be "nil."

2 SI unit

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

- * Ensure a match with the common specification of the valve to be used.
- * Input block cannot be mounted without SI unit.
- * The supply current from the SI unit of AS-Interface applicable 1 power supply system specification to the input block and valve is limited.

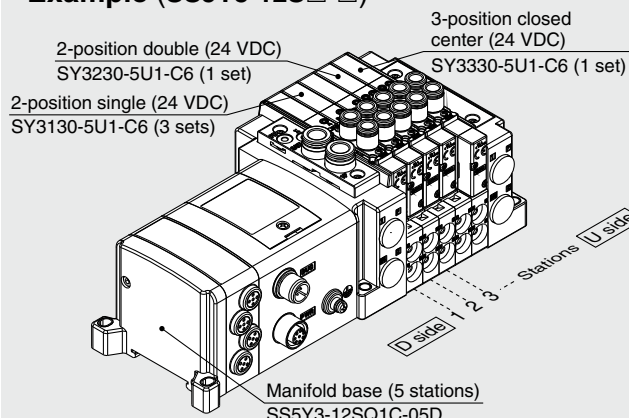
5 Valve stations

| Symbol | Stations | Note |
|--------|-------------|--|
| 02 | 2 stations | Double wiring*1 |
| ⋮ | ⋮ | |
| 16 | 16 stations | Specified layout*2 (Up to 32 solenoids available) |
| 02 | 2 stations | |
| ⋮ | ⋮ | |
| 24 | 24 stations | |

- *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.
- *2 Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position, and 4-position valves cannot be used where single wiring has been specified.) When determining the number of valve stations, note that the maximum number of solenoids for the AS-Interface applicable SI unit specification is as follows.
 - 8 in/8 out specification: Max. 8 solenoids
 - 4 in/4 out specification: Max. 4 solenoids
- * This also includes the number of the blanking plate assembly.
- * For the product 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 manifold specification sheet.

How to Order Manifold Assembly

Example (SS5Y3-12S□-□)



SS5Y3-12SQ1C-05D ... 1 set (Type 12 5-station manifold base part no.)
 *SY3130-5U1-C6 3 sets (2-position single part no.)
 *SY3230-5U1-C6 1 set (2-position double part no.)
 *SY3330-5U1-C6 1 set (3-position closed center part no.)
 The asterisk denotes the symbol for the assembly. Prefix it to the part numbers of the valve, etc.

- For the valve arrangement, the valve closest to the D side is considered the 1st station.
- Under the manifold part number, state the valves to be mounted in order starting with the 1st station as shown in the figure above. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.

6 P, E port entry, SUP/EXH block assembly

| P, E port entry | Internal pilot | Internal pilot, Built-in silencer | External pilot |
|-------------------------------|----------------|-----------------------------------|----------------|
| U side (2 to 10 stations) | U | C*1 | G |
| D side (2 to 10 stations) | D | E*1 | H |
| Both sides (2 to 24 stations) | B | — | J |

- *1 For SUP/EXH block assembly specifications, built-in silencer types will have P port entry stipulated.
- * The P and E ports are only available on the U and D sides for the built-in silencer type. 3/5(E) port is plugged. The silencer exhaust port is located on the opposite side of the P and E port entry. (Example: When the P and E port entry is on the D side, the silencer exhaust port is on the U side.)
- * When the built-in silencer type is used, keep the exhaust port from coming into direct contact with water or other liquids.

7 P, E port size (One-touch fittings)

| Symbol | SY3000 | SY5000 | SY7000 |
|--------|--------|--------|--------|
| Nil | ø8 | ø10 | ø12 |
| N | ø5/16" | ø3/8" | ø1/2" |

* For N, sizes are in inches.

8 Mounting

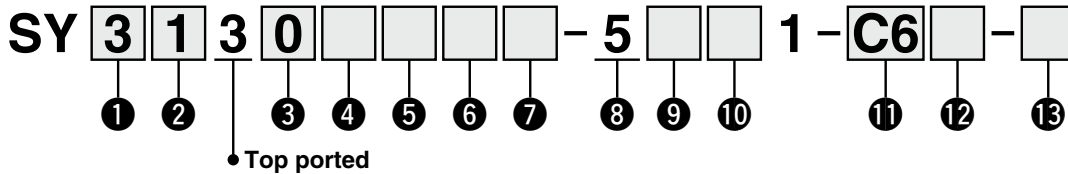
| | |
|-----|--------------------------------------|
| Nil | Direct mounting |
| D | DIN rail mounting (With DIN rail) |
| D0 | DIN rail mounting (Without DIN rail) |
| D3 | For 3 stations |
| ⋮ | ⋮ |
| D24 | For 24 stations |

- * If the DIN rail must be mounted without an SI unit, select D0. Then, refer to L3 of the dimensions for the DIN rail length and order separately. (Refer to page 203 for the DIN rail part number.)
- * Refer to page 295 for the fixation of DIN rail mounting type manifold.

For details on the EX250 Integrated Type (For Input/Output) Serial Transmission System, refer to the **Web Catalog** and the Operation Manual. For the part numbers of the SI units to be mounted, refer to page 193. Please download the Operation Manual via the SMC website, <https://www.smcworld.com>

How to Order Valves (With mounting screw)

Refer to page 15 for valve specifications.



1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type of actuation

| | | |
|-----|------------------------|-----------------|
| 1 | 2-position | Single |
| 2 | | Double |
| 3 | 3-position | Closed center |
| 4 | | Exhaust center |
| 5 | | Pressure center |
| A*1 | 4-position dual 3-port | N.C./N.C. |
| B*1 | | N.O./N.O. |
| C*1 | | N.C./N.O. |

*1 Only the 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 the rubber seal type is available. A manifold installed type is available if a back pressure check valve with a metal seal is required. Refer to page 212 for ordering examples. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

* The built-in valve type back pressure check valve is not available for the 3-position type or the SY7000.

6 Pilot valve option

| | |
|-----|-------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K*1 | High pressure type (1.0 MPa) |

*1 Only the 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 if the valve is to be continuously energized for long periods of time.
* Be careful of the energizing time when the power saving circuit is selected. Refer to page 292 for details.

8 Rated voltage

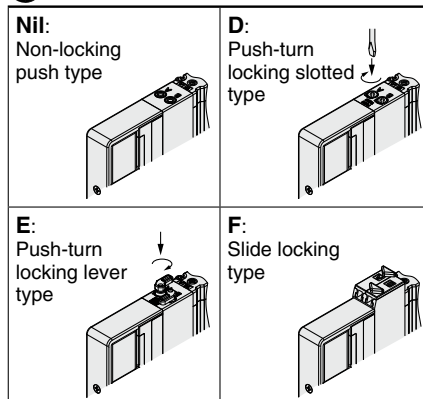
| | |
|---|--------|
| 5 | 24 VDC |
|---|--------|

9 Light/surge voltage suppressor and common specification

| Symbol | With light | Surge voltage suppressor | Common specification |
|--------|------------|--------------------------|----------------------|
| R | — | | Non-polar |
| U | ● | | |
| S | — | ● | Positive common |
| Z | ● | | |
| NS | — | | Negative common |
| NZ | ● | | |

* "R" and "U" are applicable for every SI unit.
* For the non-polar type, be careful of surge voltage intrusion.
* Only "Z" and "NZ" types are available with a power saving circuit.

10 Manual override



* Refer to page 34 for the safety slide locking manual override.

11 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 |

One-touch fitting (Metric)

| Symbol | A, B port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| C2 | ø2 | ● | — | — |
| C3 | ø3.2 | ● | — | — |
| C4 | ø4 | ● | ● | — |
| C6 | ø6 | ● | ● | ● |
| C8 | ø8 | — | ● | ● |
| C10 | ø10 | — | — | ● |
| C12 | ø12 | — | — | ● |

One-touch fitting (Inch)

| Symbol | A, B port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| N1 | ø1/8" | ● | — | — |
| N3 | ø5/32" | ● | ● | — |
| N7 | ø1/4" | ● | ● | ● |
| N9 | ø5/16" | — | ● | ● |
| N11 | ø3/8" | — | — | ● |

12 Thread type

| | |
|-----|------|
| Nil | Rc |
| F | G |
| N | NPT |
| T | NPTF |

* Only Nil is available for M5.

13 Type of mounting screw

| | |
|-----|--|
| Nil | Round head combination screw |
| B | Hexagon socket head cap screw |
| K | Round head combination screw (Drop prevention type) |
| H | Hexagon socket head cap screw (Drop 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. Refer to page 198 for base gasket and mounting screw part numbers.
* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly or interface regulator.

Type 10
Side Ported

Type 11
Bottom Ported

Plug-in Connector Connecting Base

EX260

SY3000/5000/7000 Series

Refer to page 135-1 for details on manifolds that support safety communication (PROFIsafe).



How to Order Manifolds

Refer to pages 160 (SY5000) and 161 (SY7000) for the dimensions of Type 11/Bottom-ported type.

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

1 2 3 4 5 6 7 8

1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type

| | |
|----|-----------------|
| 10 | Side ported |
| 11 | Bottom ported*1 |

*1 The SY5000 manifold base is used for the bottom-ported SY3000. When ordering, refer to the "Plug-in Mixed Type Manifold" (from page 165).

3 SI unit specifications

(Output polarity, Protocol, Number of outputs, Communication connector)

| Symbol (Output polarity) | | Protocol | Number of outputs | Communication connector |
|--------------------------|-----------------------|--------------------|-------------------|-------------------------|
| Positive common (NPN) | Negative common (PNP) | | | |
| 0*1 | | Without SI unit | | |
| QA | QAN | DeviceNet™ | 32 | M12 |
| QB | QBN | | 16 | |
| NA | NAN | PROFIBUS DP | 32 | M12 |
| NB | NBN | | 16 | |
| NC | NCN | | 32 | |
| ND | NDN | | 16 | |
| VA | VAN | CC-Link | 32 | M12 |
| VB | VBN | | 16 | |
| DA | DAN | EtherCAT | 32 | M12 |
| DB | DBN | | 16 | |
| FA | FAN | PROFINET | 32 | M12 |
| FB | FBN | | 16 | |
| EA | EAN | EtherNet/IP™ | 32 | M12 |
| EB | EBN | | 16 | |
| —*3 | GAN | Ethernet POWERLINK | 32 | M12 |
| —*3 | GBN | | 16 | |
| —*3 | KAN | IO-Link | 32*5 | M12 |

- *1 Without SI unit, the output polarity is decided by the SI unit used. Ensure a match with the common specification of the valves to be used.
- *2 DIN rail cannot be mounted without SI unit.
- *3 Positive common (NPN) type is not applicable.
- *4 IP40 for the D-sub applicable communication connector specification
- *5 Only the 32 outputs type is available.

4 Valve stations

In the case of the 32-output SI unit

| Symbol | Stations | Note |
|--------|-------------|--|
| 02 | 2 stations | Double wiring*1 |
| ⋮ | ⋮ | |
| 16 | 16 stations | Specified layout*2 (Up to 32 solenoids available) |
| 02 | 2 stations | |
| ⋮ | ⋮ | |
| 24 | 24 stations | |

In the case of the 16-output SI unit

| Symbol | Stations | Note |
|--------|-------------|--|
| 02 | 2 stations | Double wiring*1 |
| ⋮ | ⋮ | |
| 08 | 8 stations | Specified layout*2 (Up to 16 solenoids available) |
| 02 | 2 stations | |
| ⋮ | ⋮ | |
| 16 | 16 stations | |

- *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
- *2 Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position, and 4-position valves cannot be used where single wiring has been specified.)
- * This also includes the number of the blanking plate assembly.
- * 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 manifold specification sheet.

5 P, E port entry

| | |
|---|-------------------------------|
| 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

| | |
|-----|-----------------------------------|
| Nil | 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 exhaust port from coming into direct contact with water or other liquids.

Refer to the page on the right for 7.

8 Mounting and Option

| Symbol | Mounting | Option | |
|--------|-------------------|------------|----------------|
| | | Name plate | Station number |
| Nil | Direct mounting | — | — |
| AA | | ● | ● |
| BA | | ● | — |
| D□ | DIN rail mounting | — | — |
| A□ | | ● | ● |
| B□ | | ● | — |

- * Enter the number of stations inside □ when it is larger than the number of valve stations. (Refer to "DIN Rail Option" below.)
- * Only direct mounting is available for the type 11 bottom-ported type.
- * Refer to page 295 for the fixation of DIN rail mounting type manifold.

DIN Rail Option

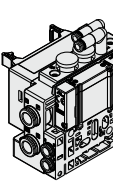

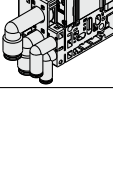
| | |
|-----|---------------------------------|
| Nil | Standard length |
| 0 | Without DIN rail (with bracket) |
| 3 | For 3 stations |
| ⋮ | ⋮ |
| 24 | For 24 stations |

Specify a longer rail than the total length of specified stations.

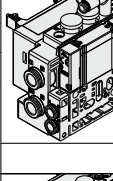
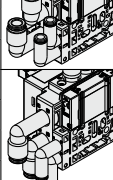

- * If the DIN rail must be mounted without an SI unit, select D0. Then, refer to L3 of the dimensions for the DIN rail length and order separately. (Refer to page 203 for the DIN rail part number.)

For details on the EX260 Integrated Type (For Output) Serial Transmission System, refer to the **Web Catalog** and the Operation Manual. For the part numbers of the SI units to be mounted, refer to page 194. Please download the Operation Manual via the SMC website, <https://www.smcworld.com>

7 A, B port size (Metric/One-touch fitting)

| Symbol | A, B port | Type 10/Side ported | | | Type 11/Bottom ported | | |
|-------------------------------------|--|---------------------|--------|--------|-----------------------|--------|---|
| | | SY3000 | SY5000 | SY7000 | SY5000 | SY7000 | |
| C2 | ø2 | ● | — | — | — | — |  |
| C3 | ø3.2 | ● | — | — | — | — | |
| C4 | ø4 | ● | ● | — | ● | — | |
| C6 | ø6 | ● | ● | ● | ● | ● | |
| C8 | ø8 | — | ● | ● | ● | ● | |
| C10 | ø10 | — | — | ● | — | ● | |
| C12 | ø12 | — | — | ● | — | ● | |
| CM*1 | Straight port, mixed sizes | ● | ● | ● | ● | ● |  |
| L4 | ø4 | ● | ● | — | — | — | |
| L6 | ø6 | ● | ● | ● | — | — | |
| L8 | ø8 | — | ● | ● | — | — | |
| L10 | ø10 | — | — | ● | — | — | |
| L12 | ø12 | — | — | ● | — | — | |
| B4 | ø4 | ● | ● | — | — | — |  |
| B6 | ø6 | ● | ● | ● | — | — | |
| B8 | ø8 | — | ● | ● | — | — | |
| B10 | ø10 | — | — | ● | — | — | |
| B12 | ø12 | — | — | ● | — | — | |
| LM*1 | Elbow port, mixed sizes (Including upward and downward piping) | ● | ● | ● | — | — | |
| P, E port size (One-touch fittings) | | ø8 | ø10 | ø12 | ø10 | ø12 | |

A, B port size (Inch/One-touch fitting)

| Symbol | A, B port | Type 10/Side ported | | | Type 11/Bottom ported | | |
|-------------------------------------|--|---------------------|--------|--------|-----------------------|--------|---|
| | | SY3000 | SY5000 | SY7000 | SY5000 | SY7000 | |
| N1 | ø1/8" | ● | — | — | — | — |  |
| N3 | ø5/32" | ● | ● | — | ● | — | |
| N7 | ø1/4" | ● | ● | ● | ● | ● | |
| N9 | ø5/16" | — | ● | ● | ● | ● | |
| N11 | ø3/8" | — | — | ● | — | ● | |
| CM*1 | Straight port, mixed sizes | ● | ● | ● | ● | ● | |
| LN3 | ø5/32" | ● | — | — | — | — |  |
| LN7 | ø1/4" | ● | ● | — | — | — | |
| LN9 | ø5/16" | — | ● | — | — | — | |
| LN11 | ø3/8" | — | — | ● | — | — | |
| BN3 | ø5/32" | ● | — | — | — | — | |
| BN7 | ø1/4" | ● | ● | — | — | — | |
| BN9 | ø5/16" | — | ● | — | — | — | |
| BN11 | ø3/8" | — | — | ● | — | — |  |
| LM*1 | Elbow port, mixed sizes (Including upward and downward piping) | ● | ● | ● | — | — | |
| P, E port size (One-touch fittings) | | ø5/16" | ø3/8" | ø1/2" | ø3/8" | ø1/2" | |

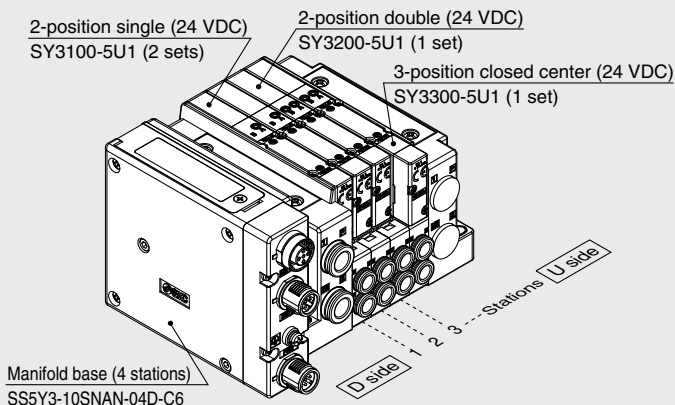
*1 Indicate the sizes on the manifold specification sheet in the case of "CM" or "LM."

The direction of P, E port fittings is the same as for the A, B port. If selecting "LM," indicate it on the manifold specification sheet for the P, E port fitting direction.

*2 To avoid interference with the body or piping, select a downward elbow port when mounting the optional spacer assembly (pages 204 to 206).

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 center part no.)

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

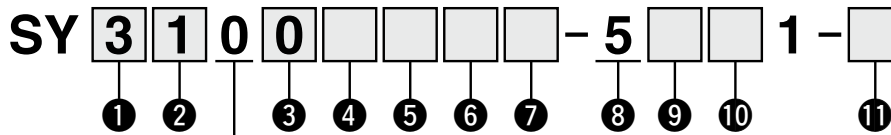
- For the valve arrangement, the valve closest to the D side is considered the 1st station.
- Under the manifold part number, state the valves to be mounted in order starting with the 1st station as shown in the figure above. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.

* When mixing top-port configurations, select from those listed on page 140. Specify on the manifold specification sheet if plugs are required for the A and B ports on the manifold.

SY3000/5000/7000 Series

How to Order Valves (With mounting screw)

Refer to page 15 for valve specifications.



1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type of actuation

| | | |
|-----|------------------------|-----------------|
| 1 | 2-position | Single |
| 2 | | Double |
| 3 | 3-position | Closed center |
| 4 | | Exhaust center |
| 5 | | Pressure center |
| A*1 | 4-position dual 3-port | N.C./N.C. |
| B*1 | | N.O./N.O. |
| C*1 | | N.C./N.O. |

*1 Only the 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 the rubber seal type is available. A manifold installed type is available if a back pressure check valve with a metal seal is required. Refer to page 212 for ordering examples. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

* The built-in valve type back pressure check valve is not available for the 3-position type or the SY7000.

6 Pilot valve option

| | |
|-----|-------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K*1 | High pressure type (1.0 MPa) |

*1 Only the 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 if the valve is to be continuously energized for long periods of time.

* Be careful of the energizing time when the power saving circuit is selected. Refer to page 292 for details.

8 Rated voltage

| | |
|---|--------|
| 5 | 24 VDC |
|---|--------|

9 Light/surge voltage suppressor and common specification

| Symbol | With light | Surge voltage suppressor | Common specification |
|--------|------------|--------------------------|----------------------|
| R | — | ● | Non-polar |
| U | ● | | |
| S | — | | Positive common |
| Z | ● | | Negative common |
| NS | — | | |
| NZ | ● | | |

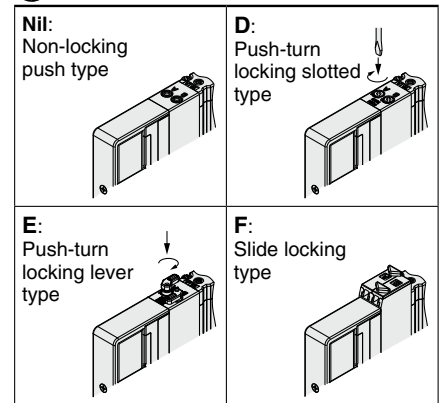
* Select "R," "U," "S," or "Z" for the valve when the SI unit output polarity is Nil (positive common). Select "R," "U," "NS," or "NZ" for the valve when the SI unit output polarity is N (negative common).

* For the non-polar type, be careful of surge voltage intrusion.

Refer to page 293 for details.

* Only "Z" and "NZ" types are available with a power saving circuit.

10 Manual override



* Refer to page 34 for the safety slide locking manual override.

11 Type of mounting screw

| | |
|-----|--|
| Nil | Round head combination screw |
| B | Hexagon socket head cap screw |
| K | Round head combination screw (Drop prevention type) |
| H | Hexagon socket head cap screw (Drop 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. Refer to page 198 for base gasket and mounting screw part numbers.

* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly, interface regulator, or double check spacer assembly with residual pressure release valve.



Type 10
Side Ported

Type 11
Bottom Ported

Plug-in Connector Connecting Base

EX260 Safety Communication Protocol (PROFIsafe)

SY3000/5000/7000 Series



Using the safety communication protocol

Refer to the EX260 **Web Catalog** for details on units that support the safety communication protocol. When using a manifold valve within an ISO 13849-compliant safety system, the device needs to be considered from both the pneumatic circuit and the electric side.

Devices (including valves) need to be selected based on whether their functions are in line with the safety level of the equipment as a whole.

The use of valves that have been validated as being compliant with ISO 13849-2 may be required.

For details on valves that have been validated, please contact SMC.

In addition, refer to "Safety Instructions" for precautions on model selection.

Refer to page 133 for details on manifolds that support Fieldbus and Industrial Ethernet.

How to Order Manifolds

Refer to pages 160 (SY5000) and 161 (SY7000) for the dimensions of Type 11/Bottom-ported type.

SS5Y **3** - **10** **S** **FPN** - **05** **U** **□** - **C6** **□**

1 2 3 4 5 6 7 8

1 Series

| | |
|----------|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type

| | |
|-----------|-----------------|
| 10 | Side ported |
| 11 | Bottom ported*1 |

*1 The SY5000 manifold base is used for the bottom-ported SY3000. When ordering, refer to the "Plug-in Mixed Type Manifold" (from page 165).

3 SI unit specifications

(Output polarity, Protocol, Number of outputs, Communication connector)

| Symbol (Output polarity) | | Protocol | Number of outputs | Communication connector |
|--------------------------|-----------------------|-----------------|-------------------|-------------------------|
| Positive common (NPN) | Negative common (PNP) | | | |
| 0 *1 | | Without SI unit | 32*4 | M12 |
| —*3 | FPN | | | |

*1 Without SI unit, the output polarity is decided by the SI unit used. Ensure a match with the common specification of the valves to be used.

*2 DIN rail cannot be mounted without SI unit.

*3 Positive common (NPN) type is not applicable.

*4 Only the 32 outputs type is available.

4 Valve stations

| Symbol | Stations | Note |
|-----------|-------------|--|
| 02 | 2 stations | Double wiring*1 |
| ⋮ | ⋮ | |
| 16 | 16 stations | |
| 02 | 2 stations | Specified layout*2 (Up to 32 solenoids available) |
| ⋮ | ⋮ | |
| 24 | 24 stations | |

*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

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

* This also includes the number of the blanking plate assembly.

5 P, E port entry

| | |
|----------|-------------------------------|
| 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

| | |
|------------|-----------------------------------|
| Nil | 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 exhaust port from coming into direct contact with water or other liquids.

Refer to the page on the right for 7.

8 Mounting and Option

| Symbol | Mounting | Option | |
|------------|-------------------|------------|----------------|
| | | Name plate | Station number |
| Nil | Direct mounting | — | — |
| AA | | ● | ● |
| BA | | ● | — |
| D□ | DIN rail mounting | — | — |
| A□ | | ● | ● |
| B□ | | ● | — |

* Enter the number of stations inside □ when it is larger than the number of valve stations. (Refer to "DIN Rail Option" below.)

* Only direct mounting is available for the type 11 bottom-ported type.

* Refer to page 295 for the fixation of DIN rail mounting type manifold.

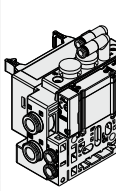
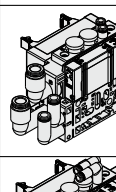
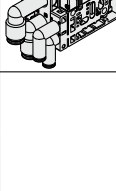
DIN Rail Option

| | | |
|------------|---------------------------------|--|
| Nil | Standard length | |
| 0 | Without DIN rail (with bracket) | |
| 3 | For 3 stations | Specify a longer rail than the total length of specified stations. |
| ⋮ | ⋮ | |
| 24 | For 24 stations | |

* If the DIN rail must be mounted without an SI unit, select D0. Then, refer to L3 of the dimensions for the DIN rail length and order separately. (Refer to page 203 for the DIN rail part number.)

For details on the EX260 Integrated Type (For Output) Serial Transmission System, refer to the **Web Catalog** and the Operation Manual. For the part numbers of the SI units to be mounted, refer to page 194. Please download the Operation Manual via the SMC website, <https://www.smcworld.com>

7 A, B port size (Metric/One-touch fitting)

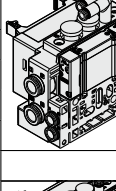
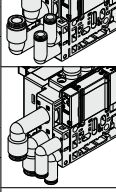

| Symbol | A, B port | Type 10/Side ported | | | Type 11/Bottom ported | | |
|-------------------------------------|--|---------------------|--------|--------|-----------------------|--------|---|
| | | SY3000 | SY5000 | SY7000 | SY5000 | SY7000 | |
| C2 | ø2 | ● | — | — | — | — |  |
| C3 | ø3.2 | ● | — | — | — | — | |
| C4 | ø4 | ● | ● | — | ● | — | |
| C6 | ø6 | ● | ● | ● | ● | ● | |
| C8 | ø8 | — | ● | ● | ● | ● | |
| C10 | ø10 | — | — | ● | — | ● | |
| C12 | ø12 | — | — | ● | — | ● |  |
| CM*1 | Straight port, mixed sizes | ● | ● | ● | ● | ● | |
| L4 | ø4 | ● | ● | — | — | — | |
| L6 | ø6 | ● | ● | ● | — | — | |
| L8 | ø8 | — | ● | ● | — | — | |
| L10 | ø10 | — | — | ● | — | — | |
| L12 | ø12 | — | — | ● | — | — |  |
| B4 | ø4 | ● | ● | — | — | — | |
| B6 | ø6 | ● | ● | ● | — | — | |
| B8 | ø8 | — | ● | ● | — | — | |
| B10 | ø10 | — | — | ● | — | — | |
| B12 | ø12 | — | — | ● | — | — | |
| LM*1 | Elbow port, mixed sizes (Including upward and downward piping) | ● | ● | ● | — | — | |
| P, E port size (One-touch fittings) | | ø8 | ø10 | ø12 | ø10 | ø12 | |

*1 Indicate the sizes on the manifold specification sheet in the case of "CM" or "LM."

The direction of P, E port fittings is the same as for the A, B port. If selecting "LM," indicate it on the manifold specification sheet for the P, E port fitting direction.

*2 To avoid interference with the body or piping, select a downward elbow port when mounting the optional spacer assembly (pages 204 to 206).

A, B port size (Inch/One-touch fitting)

| Symbol | A, B port | Type 10/Side ported | | | Type 11/Bottom ported | | |
|-------------------------------------|--|---------------------|--------|--------|-----------------------|--------|---|
| | | SY3000 | SY5000 | SY7000 | SY5000 | SY7000 | |
| N1 | ø1/8" | ● | — | — | — | — |  |
| N3 | ø5/32" | ● | ● | — | ● | — | |
| N7 | ø1/4" | ● | ● | ● | ● | ● | |
| N9 | ø5/16" | — | ● | ● | ● | ● | |
| N11 | ø3/8" | — | — | ● | — | ● | |
| CM*1 | Straight port, mixed sizes | ● | ● | ● | ● | ● | |
| LN3 | ø5/32" | ● | — | — | — | — |  |
| LN7 | ø1/4" | ● | ● | — | — | — | |
| LN9 | ø5/16" | — | ● | — | — | — | |
| LN11 | ø3/8" | — | — | ● | — | — | |
| BN3 | ø5/32" | ● | — | — | — | — | |
| BN7 | ø1/4" | ● | ● | — | — | — | |
| BN9 | ø5/16" | — | ● | — | — | — |  |
| BN11 | ø3/8" | — | — | ● | — | — | |
| LM*1 | Elbow port, mixed sizes (Including upward and downward piping) | ● | ● | ● | — | — | |
| P, E port size (One-touch fittings) | | ø5/16" | ø3/8" | ø1/2" | ø3/8" | ø1/2" | |

SY3000/5000/7000 Series

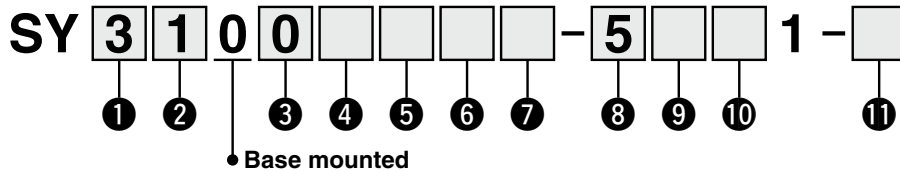
[Validated product examples]

Please contact SMC for further details as supported variations are continually being added.

* 2-position double of rubber seal and manual override with locking function (D, E, F type) are excluded, because they don't comply with safety standard.

How to Order Valves (With mounting screw)

Refer to page 15 for valve specifications.



1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type of actuation

| | | |
|-----|------------------------|-----------------|
| 1 | 2-position | Single |
| 2 | | Double*2 |
| 3 | 3-position | Closed center |
| 4 | | Exhaust center |
| 5 | | Pressure center |
| A*1 | 4-position dual 3-port | N.C./N.C. |
| B*1 | | N.O./N.O. |
| C*1 | | N.C./N.O. |

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

*2 Except the rubber seal

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 the rubber seal type is available. A manifold installed type is available if a back pressure check valve with a metal seal is required. Refer to page 212 for ordering examples. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

* The back pressure check valve is not available for the 3-position type or the SY7000.

6 Pilot valve option

| | |
|-----|-------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K*1 | High pressure type (1.0 MPa) |

*1 Only the 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 if the valve is to be continuously energized for long periods of time.

* Be careful of the energizing time when the power saving circuit is selected. Refer to page 292 for details.

8 Rated voltage

| | |
|---|--------|
| 5 | 24 VDC |
|---|--------|

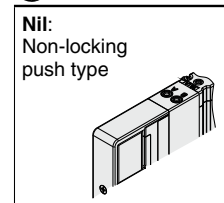
9 Light/surge voltage suppressor and common specification

| Symbol | With light | Surge voltage suppressor | Common specification |
|--------|------------|--------------------------|----------------------|
| Nil | — | — | Non-polar |
| R | — | ● | |
| U | ● | | |
| NS | — | | Negative common |
| NZ | ● | | |

* For the non-polar type, be careful of surge voltage intrusion. Refer to page 293 for details.

* Only "NZ" type is available with a power saving circuit.

10 Manual override



11 Type of mounting screw

| | |
|-----|--|
| Nil | Round head combination screw |
| B | Hexagon socket head cap screw |
| K | Round head combination screw (Drop prevention type) |
| H | Hexagon socket head cap screw (Drop 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. Refer to page 198 for base gasket and mounting screw part numbers.

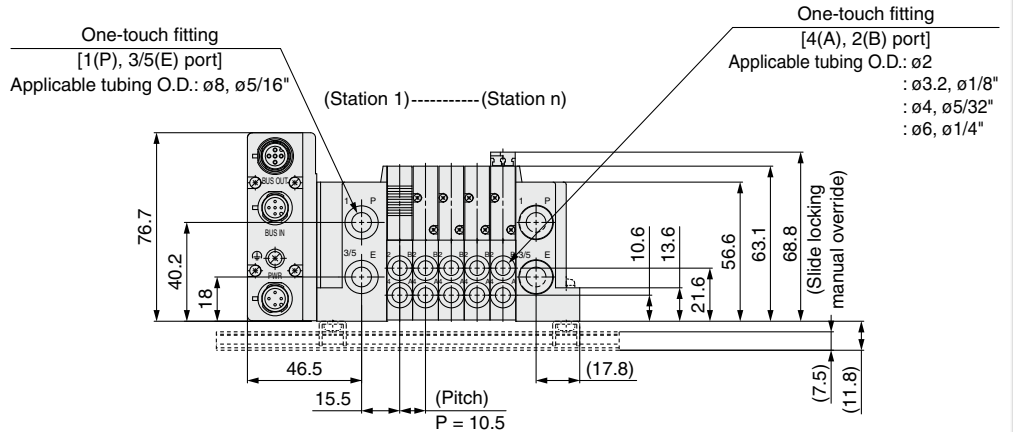
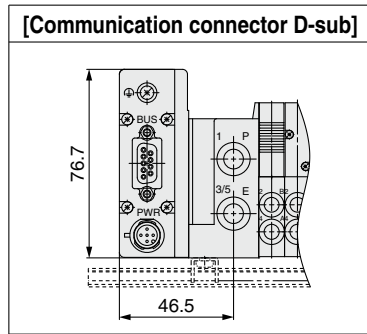
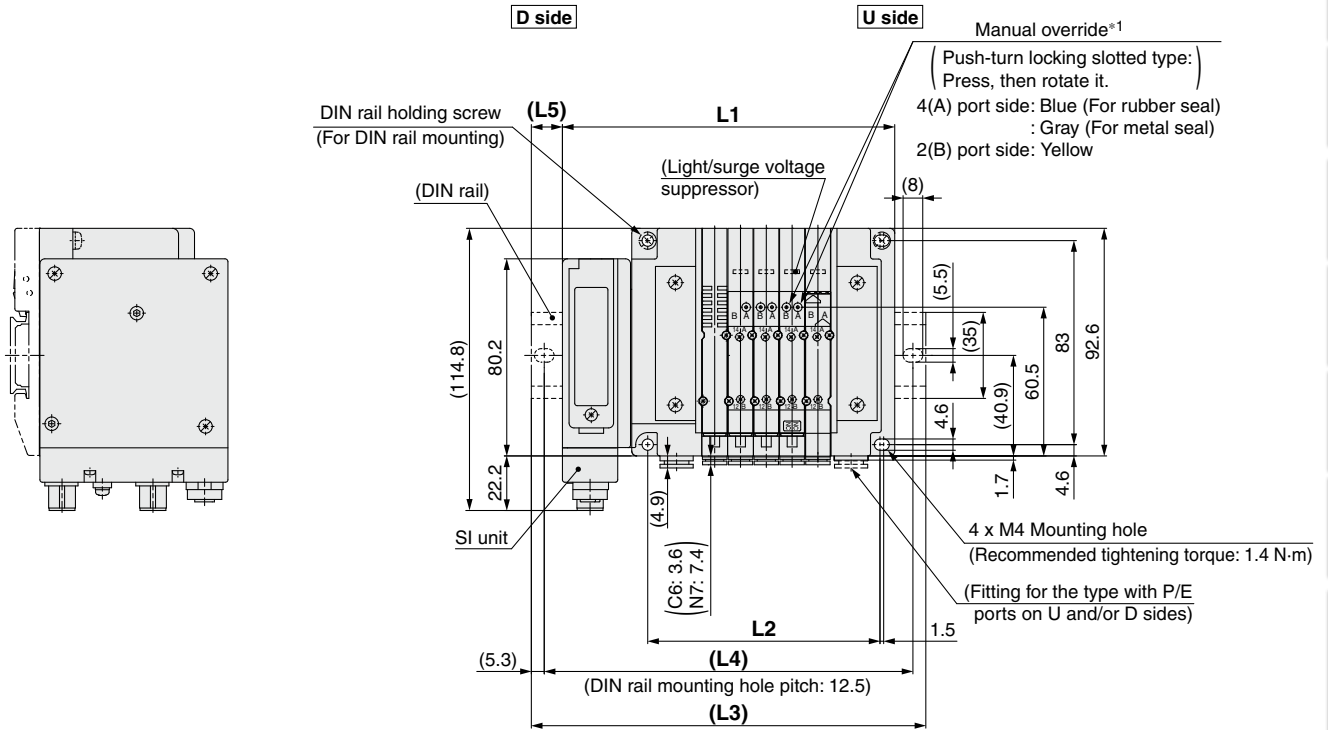
* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly, interface regulator, or double check spacer assembly with residual pressure release valve.

Dimensions: SY3000 Series

Plug-in Connector Connecting Base

Type 10/Side Ported
EX260

SS5Y3-10S□□-Stations $\begin{matrix} \text{U} \\ \text{D} \\ \text{B} \end{matrix}$ $\begin{matrix} \text{C2,} \\ \text{C3, N1} \\ \text{C4, N3} \\ \text{C6, N7} \end{matrix}$ (D)



*1 Refer to page 157 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.

* These figures show the "SS5Y3-10SQA-05D-C6."

* Refer to page 162 for dimensions of A or B port top-ported type.

| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 103.7 | 114.2 | 124.7 | 135.2 | 145.7 | 156.2 | 166.7 | 177.2 | 187.7 | 198.2 | 208.7 | 219.2 | 229.7 | 240.2 | 250.7 | 261.2 |
| L2 | 63 | 73.5 | 84 | 94.5 | 105 | 115.5 | 126 | 136.5 | 147 | 157.5 | 168 | 178.5 | 189 | 199.5 | 210 | 220.5 |
| L3 | 135.5 | 148 | 148 | 160.5 | 173 | 185.5 | 198 | 210.5 | 223 | 223 | 235.5 | 248 | 260.5 | 273 | 285.5 | 285.5 |
| L4 | 125 | 137.5 | 137.5 | 150 | 162.5 | 175 | 187.5 | 200 | 212.5 | 212.5 | 225 | 237.5 | 250 | 262.5 | 275 | 275 |
| L5 | 16 | 17 | 11.5 | 12.5 | 13.5 | 14.5 | 15.5 | 16.5 | 17.5 | 12.5 | 13.5 | 14.5 | 15.5 | 16.5 | 17.5 | 12 |

| n: Stations | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|-------------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 271.7 | 282.2 | 292.7 | 303.2 | 313.7 | 324.2 | 334.7 |
| L2 | 231 | 241.5 | 252 | 262.5 | 273 | 283.5 | 294 |
| L3 | 298 | 310.5 | 323 | 335.5 | 348 | 348 | 360.5 |
| L4 | 287.5 | 300 | 312.5 | 325 | 337.5 | 337.5 | 350 |
| L5 | 13 | 14 | 15 | 16 | 17 | 12 | 13 |

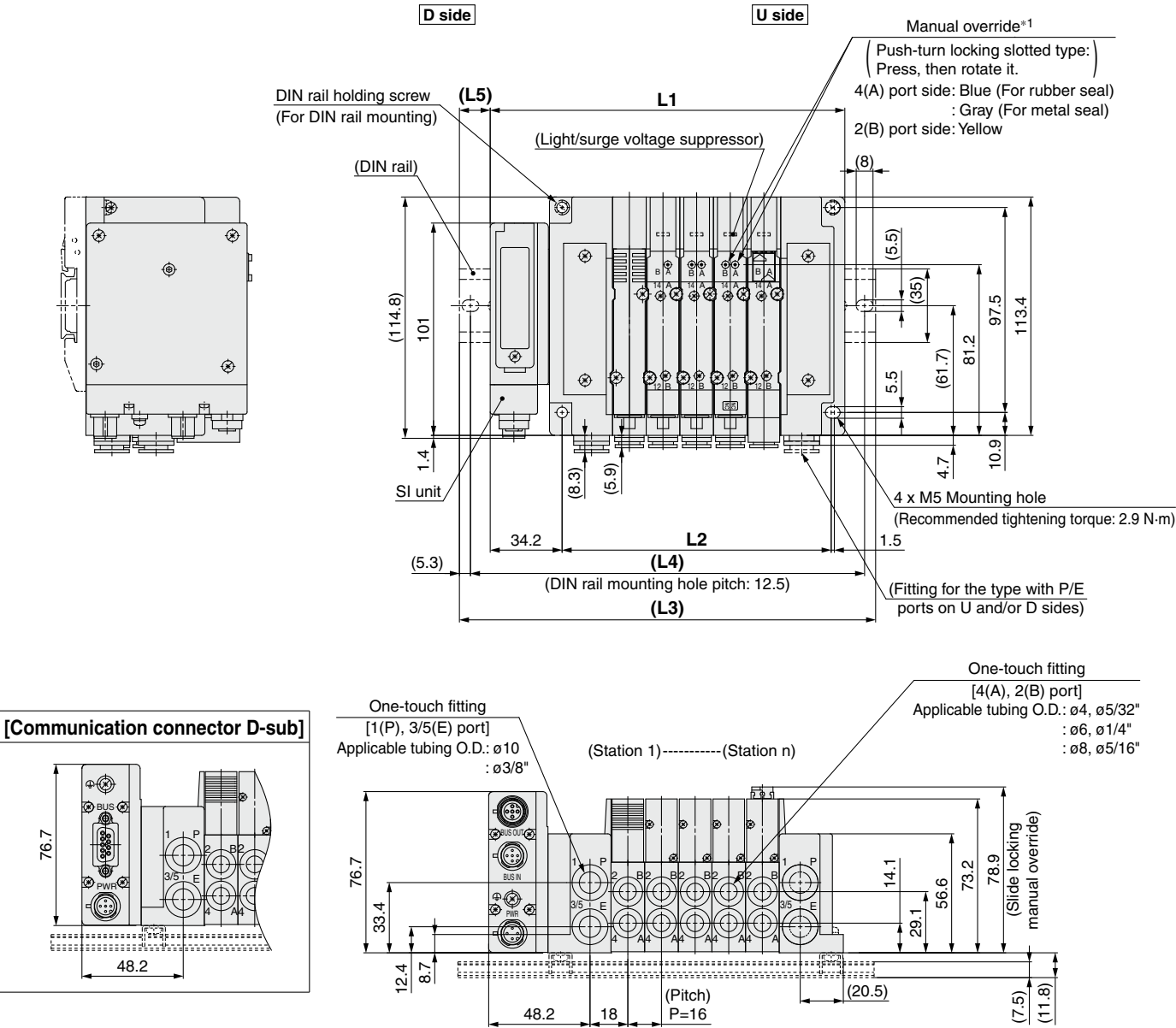
SY3000/5000/7000 Series

Dimensions: SY5000 Series

Plug-in
Connector Connecting Base

Type 10/Side Ported
EX260

SS5Y5-10S□□- Stations $\begin{matrix} \text{U} & \text{C4, N3} \\ \text{D} & \text{C6, N7} \\ \text{B} & \text{C8, N9} \end{matrix}$ (D)



*1 Refer to page 158 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.
* These figures show the "SS5Y5-10SQA-05D-C8."
* Refer to page 163 for dimensions of A or B port top-ported type.

| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 120.7 | 136.7 | 152.7 | 168.7 | 184.7 | 200.7 | 216.7 | 232.7 | 248.7 | 264.7 | 280.7 | 296.7 | 312.7 | 328.7 | 344.7 | 360.7 |
| L2 | 80 | 96 | 112 | 128 | 144 | 160 | 176 | 192 | 208 | 224 | 240 | 256 | 272 | 288 | 304 | 320 |
| L3 | 148 | 160.5 | 185.5 | 198 | 210.5 | 235.5 | 248 | 260.5 | 273 | 298 | 310.5 | 323 | 348 | 360.5 | 373 | 385.5 |
| L4 | 137.5 | 150 | 175 | 187.5 | 200 | 225 | 237.5 | 250 | 262.5 | 287.5 | 300 | 312.5 | 337.5 | 350 | 362.5 | 375 |
| L5 | 13.5 | 12 | 16.5 | 14.5 | 13 | 17.5 | 15.5 | 14 | 12 | 16.5 | 15 | 13 | 17.5 | 16 | 14 | 12.5 |

| n: Stations | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|-------------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 376.7 | 392.7 | 408.7 | 424.7 | 440.7 | 456.7 | 472.7 |
| L2 | 336 | 352 | 368 | 384 | 400 | 416 | 432 |
| L3 | 410.5 | 423 | 435.5 | 448 | 473 | 485.5 | 498 |
| L4 | 400 | 412.5 | 425 | 437.5 | 462.5 | 475 | 487.5 |
| L5 | 17 | 15 | 13.5 | 11.5 | 16 | 14.5 | 12.5 |

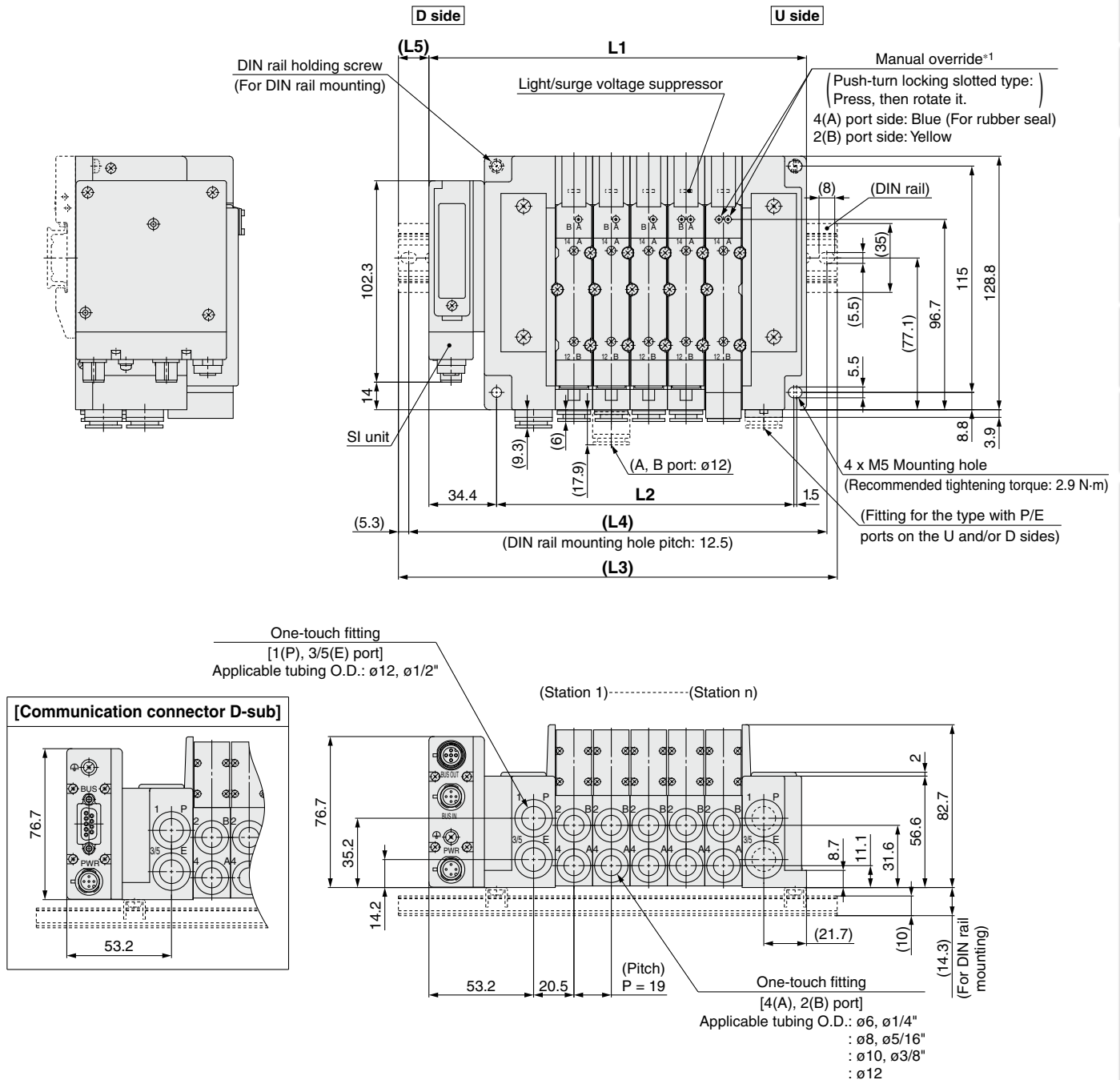


Dimensions: SY7000 Series

Plug-in Connector Connecting Base

Type 10/Side Ported
EX260

SS5Y7-10S□□-Stations $\begin{matrix} \text{U} & \text{C6, N7} \\ \text{D} & \text{C8, N9} \\ \text{B} & \text{C10, N11} \\ & \text{C12} \end{matrix}$ (D)



- *1 Refer to page 159 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.
- * These figures show the "SS5Y7-10SQA-05D-C10."
- * Refer to page 164 for dimensions of A or B port top-ported type.

| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 134.9 | 153.9 | 172.9 | 191.9 | 210.9 | 229.9 | 248.9 | 267.9 | 286.9 | 305.9 | 324.9 | 343.9 | 362.9 | 381.9 | 400.9 | 419.9 | 438.9 | 457.9 | 476.9 | 495.9 | 514.9 | 533.9 | 552.9 |
| L2 | 94 | 113 | 132 | 151 | 170 | 189 | 208 | 227 | 246 | 265 | 284 | 303 | 322 | 341 | 360 | 379 | 398 | 417 | 436 | 455 | 474 | 493 | 512 |
| L3 | 160.5 | 185.5 | 198 | 223 | 235.5 | 260.5 | 273 | 298 | 310.5 | 335.5 | 348 | 373 | 398 | 410.5 | 435.5 | 448 | 473 | 485.5 | 510.5 | 523 | 548 | 560.5 | 585.5 |
| L4 | 150 | 175 | 187.5 | 212.5 | 225 | 250 | 262.5 | 287.5 | 300 | 325 | 337.5 | 362.5 | 387.5 | 400 | 425 | 437.5 | 462.5 | 475 | 500 | 512.5 | 537.5 | 550 | 575 |
| L5 | 13 | 16 | 12.5 | 15.5 | 12.5 | 15.5 | 12 | 15 | 12 | 15 | 11.5 | 14.5 | 17.5 | 14.5 | 17.5 | 14 | 17 | 14 | 17 | 13.5 | 16.5 | 13.5 | 16.5 |

Plug-in Connector Connecting Base

EX260

Type 12
Top Ported

SY3000/5000/7000 Series



How to Order Manifolds

Refer to pages 162 to 164 for the dimensions of Type 12/Top-ported type.

SS5Y **3** - **12S** **NAN** - **05** **U** - **□** **□**

① ② ③ ④ ⑤ ⑥ ⑦

① Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

② SI unit specifications

(Output polarity, Protocol, Number of outputs, Communication connector)

| Symbol (Output polarity) | Protocol | Number of outputs | Communication connector |
|---|--------------------|-------------------|-------------------------|
| Positive common (NPN) / Negative common (PNP) | | | |
| ① Without SI unit | | | |
| QA QAN | DeviceNet™ | 32 | M12 |
| QB QBN | | 16 | |
| NA NAN | PROFIBUS DP | 32 | M12 |
| NB NBN | | 16 | |
| NC NCN | | 32 | |
| ND NDN | | 16 | |
| VA VAN | CC-Link | 32 | M12 |
| VB VBN | | 16 | |
| DA DAN | EtherCAT | 32 | M12 |
| DB DBN | | 16 | |
| FA FAN | PROFINET | 32 | M12 |
| FB FBN | | 16 | |
| EA EAN | EtherNet/IP™ | 32 | M12 |
| EB EBN | | 16 | |
| —*3 GAN | Ethernet POWERLINK | 32 | M12 |
| —*3 GBN | | 16 | |
| —*3 KAN | IO-Link | 32*5 | M12 |

- *1 Without SI unit, the output polarity is decided by the SI unit used. Ensure a match with the common specification of the valves to be used.
- *2 DIN rail cannot be mounted without SI unit.
- *3 Positive common (NPN) type is not applicable.
- *4 IP40 for the D-sub applicable communication connector specification
- *5 Only the 32 outputs type is available.

For details on the EX260 Integrated Type (For Output) Serial Transmission System, refer to the **Web Catalog** and the Operation Manual. For the part numbers of the SI units to be mounted, refer to page 194. Please download the Operation Manual via the SMC website, <https://www.smcworld.com>

③ Valve stations

In the case of the 32-output SI unit

| Symbol | Stations | Note |
|--------|-------------|--|
| 02 | 2 stations | Double wiring*1 |
| ⋮ | ⋮ | |
| 16 | 16 stations | Specified layout*2 (Up to 32 solenoids available) |
| 02 | 2 stations | |
| ⋮ | ⋮ | |
| 24 | 24 stations | |

In the case of the 16-output SI unit

| Symbol | Stations | Note |
|--------|-------------|--|
| 02 | 2 stations | Double wiring*1 |
| ⋮ | ⋮ | |
| 08 | 8 stations | Specified layout*2 (Up to 16 solenoids available) |
| 02 | 2 stations | |
| ⋮ | ⋮ | |
| 16 | 16 stations | |

- *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.
- *2 Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position, and 4-position valves cannot be used where single wiring has been specified.)
- * This also includes the number of the blanking plate assembly.
- * 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 manifold specification sheet.

④ P, E port entry

| | |
|-----|-------------------------------|
| U*1 | U side (2 to 10 stations) |
| D*1 | D side (2 to 10 stations) |
| B | Both sides (2 to 24 stations) |

- *1 For type "S", SUP/EXH block assembly with a built-in silencer, choose U or D for P, E port entry.

⑤ SUP/EXH block assembly

| | |
|-----|-----------------------------------|
| Nil | Internal pilot |
| S | Internal pilot, Built-in silencer |
| R | External pilot |

- * The P and E ports are only available on the U and D sides for the built-in silencer type. 3/5(E) port is plugged. The silencer exhaust port is located on the opposite side of the P and E port entry. (Example: When the P and E port entry is on the D side, the silencer exhaust port is on the U side.)
- * When the built-in silencer type is used, keep the exhaust port from coming into direct contact with water or other liquids.

⑥ P, E port size (One-touch fittings)

| Symbol | SY3000 | SY5000 | SY7000 |
|--------|--------|--------|--------|
| Nil | ø8 | ø10 | ø12 |
| N | ø5/16" | ø3/8" | ø1/2" |

- * For N, sizes are in inches.

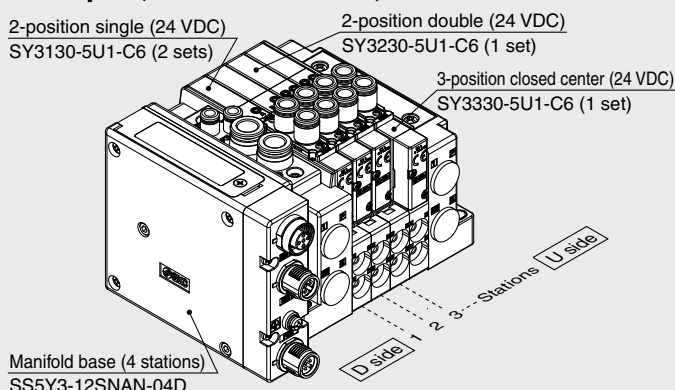
⑦ Mounting

| | |
|-----|--------------------------------------|
| Nil | Direct mounting |
| D | DIN rail mounting (With DIN rail) |
| D0 | DIN rail mounting (Without DIN rail) |
| D3 | For 3 stations |
| ⋮ | ⋮ |
| D24 | For 24 stations |

- * If the DIN rail must be mounted without an SI unit, select D0. Then, refer to L3 of the dimensions for the DIN rail length and order separately. (Refer to page 203 for the DIN rail part number.)
- * Refer to page 295 for the fixation of DIN rail mounting type manifold.

How to Order Manifold Assembly

Example (SS5Y3-12SNAN-□)



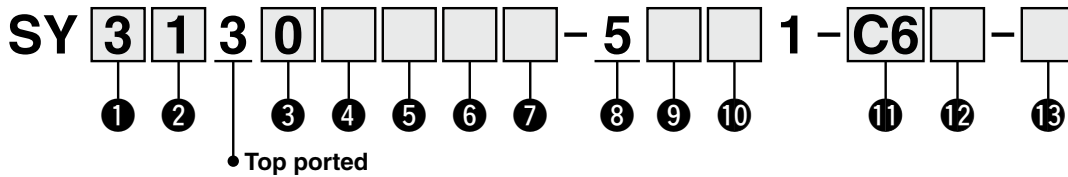
SS5Y3-12SNAN-04D 1 set (Type 12 4-station manifold base part no.)
 *SY3130-5U1-C6 2 sets (2-position single part no.)
 *SY3230-5U1-C6 1 set (2-position double part no.)
 *SY3330-5U1-C6 1 set (3-position closed center part no.)

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

- For the valve arrangement, the valve closest to the D side is considered the 1st station.
- Under the manifold part number, state the valves to be mounted in order starting with the 1st station as shown in the figure above. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.

How to Order Valves (With mounting screw)

Refer to page 15 for valve specifications.



1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type of actuation

| | | |
|-----|-------------|-----------------|
| 1 | 2-position | Single |
| 2 | | Double |
| 3 | 3-position | Closed center |
| 4 | | Exhaust center |
| 5 | | Pressure center |
| A*1 | 4-position | N.C./N.C. |
| B*1 | dual 3-port | N.O./N.O. |
| C*1 | | N.C./N.O. |

*1 Only the 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 the rubber seal type is available. A manifold installed type is available if a back pressure check valve with a metal seal is required. Refer to page 212 for ordering examples. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

* The built-in valve type back pressure check valve is not available for the 3-position type or the SY7000.

6 Pilot valve option

| | |
|-----|-------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K*1 | High pressure type (1.0 MPa) |

*1 Only the 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 if the valve is to be continuously energized for long periods of time.
* Be careful of the energizing time when the power saving circuit is selected. Refer to page 292 for details.

8 Rated voltage

| | |
|---|--------|
| 5 | 24 VDC |
|---|--------|

9 Light/surge voltage suppressor and common specification

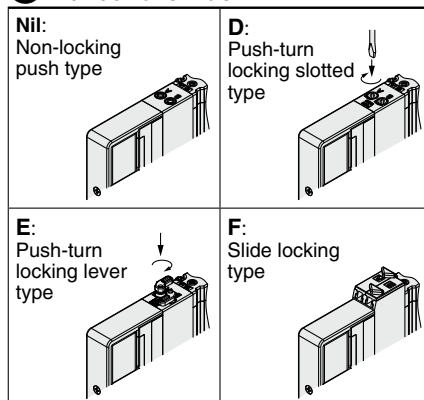
| Symbol | With light | Surge voltage suppressor | Common specification |
|--------|------------|--------------------------|----------------------|
| R | — | | Non-polar |
| U | ● | | |
| S | — | ● | Positive common |
| Z | ● | | |
| NS | — | | Negative common |
| NZ | ● | | |

* Select "R," "U," "S," or "Z" for the valve when the SI unit output polarity is Nil (positive common). Select "R," "U," "NS," or "NZ" for the valve when the SI unit output polarity is N (negative common).

* For the non-polar type, be careful of surge voltage intrusion. Refer to page 293 for details.

* Only "Z" and "NZ" types are available with a power saving circuit.

10 Manual override



* Refer to page 34 for the safety slide locking manual override.

11 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 |

One-touch fitting (Metric)

| Symbol | A, B port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| C2 | ø2 | ● | — | — |
| C3 | ø3.2 | ● | — | — |
| C4 | ø4 | ● | ● | — |
| C6 | ø6 | ● | ● | ● |
| C8 | ø8 | — | ● | ● |
| C10 | ø10 | — | — | ● |
| C12 | ø12 | — | — | ● |

One-touch fitting (Inch)

| Symbol | A, B port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| N1 | ø1/8" | ● | — | — |
| N3 | ø5/32" | ● | ● | — |
| N7 | ø1/4" | ● | ● | ● |
| N9 | ø5/16" | — | ● | ● |
| N11 | ø3/8" | — | — | ● |

12 Thread type

| | |
|-----|------|
| Nil | Rc |
| F | G |
| N | NPT |
| T | NPTF |

* Only Nil is available for M5.

13 Type of mounting screw

| | |
|-----|--|
| Nil | Round head combination screw |
| B | Hexagon socket head cap screw |
| K | Round head combination screw (Drop prevention type) |
| H | Hexagon socket head cap screw (Drop 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. Refer to page 198 for base gasket and mounting screw part numbers.

* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly or interface regulator.

Type 10
Side Ported

Type 11
Bottom Ported

Plug-in Connector Connecting Base

EX126

SY3000/5000/7000 Series



How to Order Manifolds

Refer to pages 160 (SY5000) and 161 (SY7000) for the dimensions of Type 11/Bottom-ported type.

SS5Y **3** - **10** S4 **V** - **05** **U** - **C6**

1 2 3 4 5 6 7 8

1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type

| | |
|----|-----------------|
| 10 | Side ported |
| 11 | Bottom ported*1 |

*1 The SY5000 manifold base is used for the bottom-ported SY3000. When ordering, refer to the "Plug-in Mixed Mounting Type Manifold" (from page 165).

3 SI unit

| | |
|---|-------------------------------|
| 0 | Without SI unit |
| V | CC-Link (Positive common NPN) |

* Only a terminal block plate is mounted for the valve without SI unit.

4 Valve stations

| Symbol | Stations | Note |
|--------|-------------|--|
| 02 | 2 stations | Double wiring*1 |
| 08 | 8 stations | |
| 02 | 2 stations | Specified layout*2 (Up to 16 solenoids available) |
| 16 | 16 stations | |

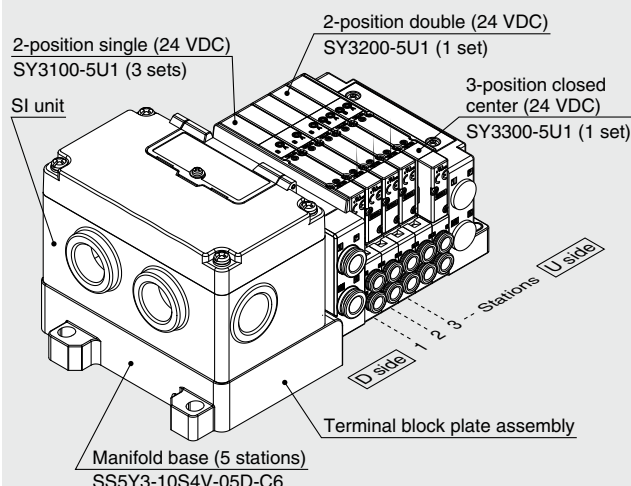
*1 Double wiring: 2-position single, double, 3-position, and 4-position valves can be used on all manifold stations. Use of a 2-position single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.

*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.)

* This also includes the number of the blanking plate assembly.

How to Order Manifold Assembly

Example (SS5Y3-10S4V-□-□)



SS5Y3-10S4V-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 asterisk denotes the symbol for the assembly.
Prefix it to the part numbers of the valve, etc.

- For the valve arrangement, the valve closest to the D side is considered the 1st station.
- Under the manifold part number, state the valves to be mounted in order starting with the 1st station as shown in the figure above. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.

* When mixing top-ported configurations, select from those listed on page 148. In such cases, use caution as there is also output on the A and B ports on the base side. Specify on the manifold specification sheet if plugs are required for the A and B ports on the base side.

5 P, E port entry

| | |
|---|-------------------------------|
| U | U side (2 to 10 stations) |
| D | D side (2 to 10 stations) |
| B | Both sides (2 to 16 stations) |

6 SUP/EXH block assembly

| | |
|-----|-----------------------------------|
| Nil | 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 exhaust port from coming into direct contact with water or other liquids.

For details on the EX126 Integrated Type (For Output) Serial Transmission System, refer to the **Web Catalog** and the Operation Manual. For the part numbers of the SI units to be mounted, refer to page 195. Please download the Operation Manual via the SMC website, <https://www.smcworld.com>

7 A, B port size (Metric/One-touch fitting)

| Symbol | A, B port | Type 10/Side ported | | | Type 11/Bottom ported | | |
|-------------------------------------|--|---------------------|--------|--------|-----------------------|--------|--|
| | | SY3000 | SY5000 | SY7000 | SY5000 | SY7000 | |
| C2 | ø2 | ● | — | — | — | — | |
| C3 | ø3.2 | ● | — | — | — | — | |
| C4 | ø4 | ● | ● | — | ● | — | |
| C6 | ø6 | ● | ● | ● | ● | ● | |
| C8 | ø8 | — | ● | ● | ● | ● | |
| C10 | ø10 | — | — | ● | — | ● | |
| C12 | ø12 | — | — | ● | — | ● | |
| CM*1 | Straight port, mixed sizes | ● | ● | ● | ● | ● | |
| L4 | ø4 | ● | ● | — | — | — | |
| L6 | ø6 | ● | ● | ● | — | — | |
| L8 | ø8 | — | ● | ● | — | — | |
| L10 | ø10 | — | — | ● | — | — | |
| L12 | ø12 | — | — | ● | — | — | |
| B4 | ø4 | ● | ● | — | — | — | |
| B6 | ø6 | ● | ● | ● | — | — | |
| B8 | ø8 | — | ● | ● | — | — | |
| B10 | ø10 | — | — | ● | — | — | |
| B12 | ø12 | — | — | ● | — | — | |
| LM*1 | Elbow port, mixed sizes (Including upward and downward piping) | ● | ● | ● | — | — | |
| P, E port size (One-touch fittings) | | ø8 | ø10 | ø12 | ø10 | ø12 | |

*1 Indicate the sizes on the manifold specification sheet in the case of "CM" or "LM."

The direction of P, E port fittings is the same as for the A, B port. If selecting "LM," indicate it on the manifold specification sheet for the P, E port fitting direction.

*2 To avoid interference with the body or piping, select a downward elbow port when mounting the optional spacer assembly (pages 204 to 206).

8 Mounting and Option

| Symbol | Mounting | Option | |
|--------|-------------------|------------|----------------|
| | | Name plate | Station number |
| Nil | Direct mounting | — | — |
| AA | | ● | ● |
| BA | | ● | — |
| D□ | DIN rail mounting | — | — |
| A□ | | ● | ● |
| B□ | | ● | — |

* Enter the number of stations inside □ when it is larger than the number of valve stations. (Refer to "DIN Rail Option" below.)

* Only direct mounting is available for the type 11 bottom-ported type.

* Refer to page 295 for the fixation of DIN rail mounting type manifold.

DIN Rail Option

| | | |
|-----|---------------------------------|--|
| Nil | Standard length | |
| 0 | Without DIN rail (with bracket) | |
| 3 | For 3 stations | Specify a longer rail than the total length of specified stations. |
| ⋮ | ⋮ | |
| 16 | For 16 stations | |

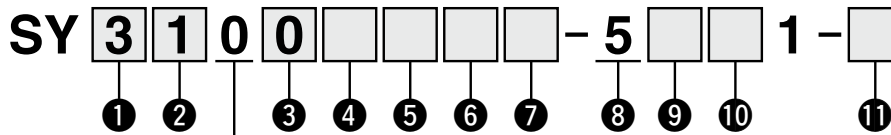
A, B port size (Inch/One-touch fitting)

| Symbol | A, B port | Type 10/Side ported | | | Type 11/Bottom ported | | |
|-------------------------------------|--|---------------------|--------|--------|-----------------------|--------|--|
| | | SY3000 | SY5000 | SY7000 | SY5000 | SY7000 | |
| N1 | ø1/8" | ● | — | — | — | — | |
| N3 | ø5/32" | ● | ● | — | ● | — | |
| N7 | ø1/4" | ● | ● | ● | ● | ● | |
| N9 | ø5/16" | — | ● | ● | ● | ● | |
| N11 | ø3/8" | — | — | ● | — | ● | |
| CM*1 | Straight port, mixed sizes | ● | ● | ● | ● | ● | |
| LN3 | ø5/32" | ● | — | — | — | — | |
| LN7 | ø1/4" | ● | ● | — | — | — | |
| LN9 | ø5/16" | — | ● | — | — | — | |
| LN11 | ø3/8" | — | — | ● | — | — | |
| BN3 | ø5/32" | ● | — | — | — | — | |
| BN7 | ø1/4" | ● | ● | — | — | — | |
| BN9 | ø5/16" | — | ● | — | — | — | |
| BN11 | ø3/8" | — | — | ● | — | — | |
| LM*1 | Elbow port, mixed sizes (Including upward and downward piping) | ● | ● | ● | — | — | |
| P, E port size (One-touch fittings) | | ø5/16" | ø3/8" | ø1/2" | ø3/8" | ø1/2" | |

SY3000/5000/7000 Series

How to Order Valves (With mounting screw)

Refer to page 15 for valve specifications.



Base mounted

1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type of actuation

| | | |
|-----|------------------------|-----------------|
| 1 | 2-position | Single |
| 2 | | Double |
| 3 | 3-position | Closed center |
| 4 | | Exhaust center |
| 5 | | Pressure center |
| A*1 | 4-position dual 3-port | N.C./N.C. |
| B*1 | | N.O./N.O. |
| C*1 | | N.C./N.O. |

*1 Only the 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 the rubber seal type is available. A manifold installed type is available if a back pressure check valve with a metal seal is required. Refer to page 212 for ordering examples. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

* The built-in valve type back pressure check valve is not available for the 3-position type or the SY7000.

6 Pilot valve option

| | |
|-----|-------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K*1 | High pressure type (1.0 MPa) |

*1 Only the 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 if the valve is to be continuously energized for long periods of time.

* Be careful of the energizing time when the power saving circuit is selected. Refer to page 292 for details.

8 Rated voltage

| | |
|---|--------|
| 5 | 24 VDC |
|---|--------|

9 Light/surge voltage suppressor and common specification

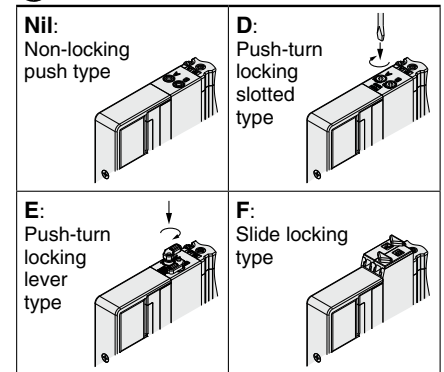
| Symbol | With light | Surge voltage suppressor | Common specification |
|--------|------------|--------------------------|----------------------|
| R | — | ● | Non-polar |
| U | ● | | |
| S | — | | Positive common |
| Z | ● | | |

* For the non-polar type, be careful of surge voltage intrusion.

Refer to page 293 for details.

* Only "Z" type is available with a power saving circuit.

10 Manual override



* Refer to page 34 for the safety slide locking manual override.

11 Type of mounting screw

| | |
|-----|--|
| Nil | Round head combination screw |
| B | Hexagon socket head cap screw |
| K | Round head combination screw (Drop prevention type) |
| H | Hexagon socket head cap screw (Drop 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. Refer to page 198 for base gasket and mounting screw part numbers.

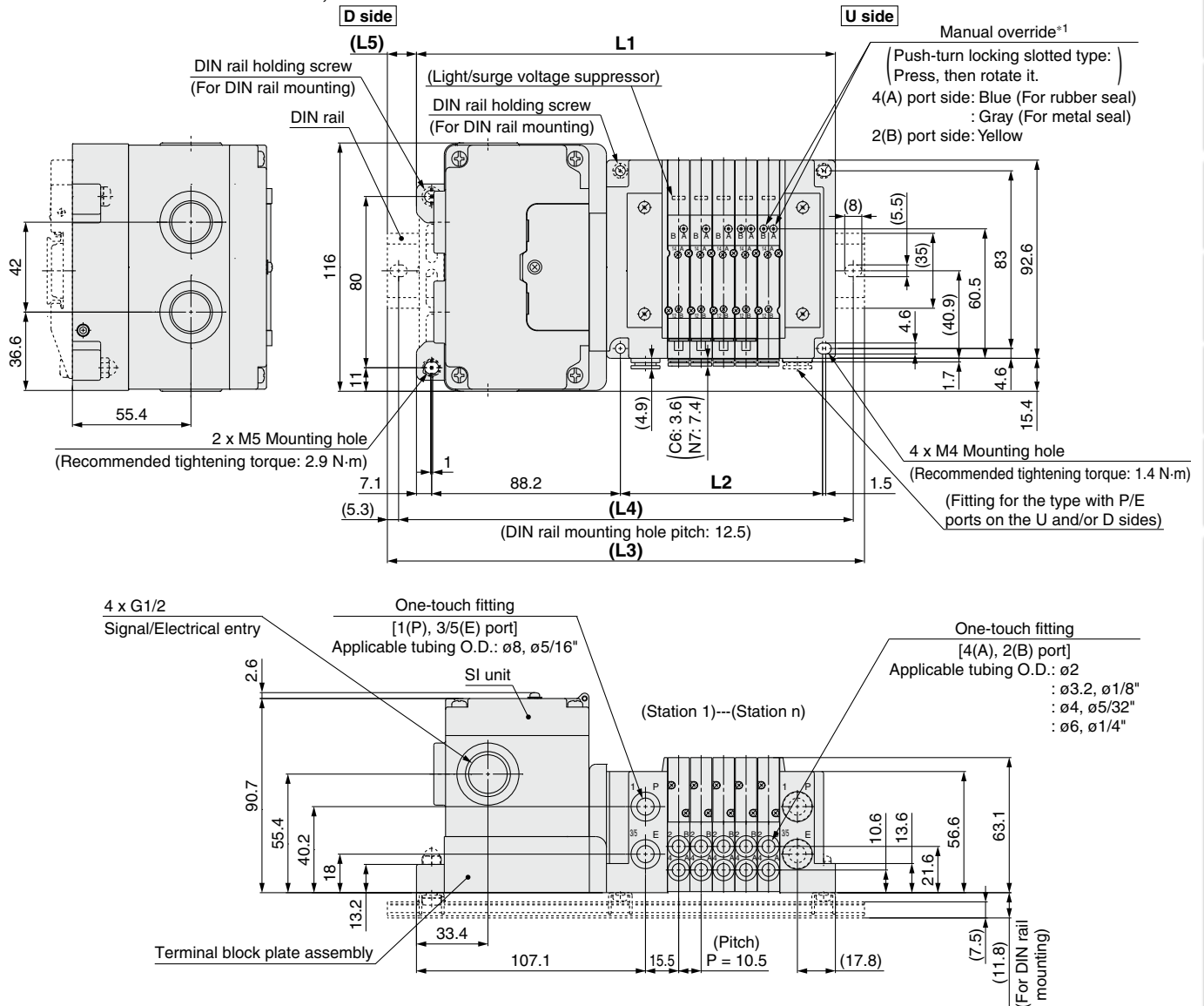
* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly, interface regulator, or double check spacer assembly with residual pressure release valve.

Dimensions: **SY3000 Series**

Plug-in
Connector Connecting Base

Type 10/Side Ported
EX126

SS5Y3-10S4V - Stations $\begin{matrix} \text{U} \\ \text{D} \\ \text{B} \end{matrix}$ $\begin{matrix} \text{C2} \\ \text{C3}, \text{N1} \\ \text{C4}, \text{N3} \\ \text{C6}, \text{N7} \end{matrix}$ (D)



*1 Refer to page 157 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.
 * These figures show the "SS5Y3-10S4V-05D-C6."
 * Refer to page 162 for dimensions of A or B port top-ported type.

| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 164.3 | 174.8 | 185.3 | 195.8 | 206.3 | 216.8 | 227.3 | 237.8 | 248.3 | 258.8 | 269.3 | 279.8 | 290.3 | 300.8 | 311.3 |
| L2 | 63 | 73.5 | 84 | 94.5 | 105 | 115.5 | 126 | 136.5 | 147 | 157.5 | 168 | 178.5 | 189 | 199.5 | 210 |
| L3 | 198 | 198 | 210.5 | 223 | 235.5 | 248 | 260.5 | 273 | 273 | 285.5 | 298 | 310.5 | 323 | 335.5 | 335.5 |
| L4 | 187.5 | 187.5 | 200 | 212.5 | 225 | 237.5 | 250 | 262.5 | 262.5 | 275 | 287.5 | 300 | 312.5 | 325 | 325 |
| L5 | 17 | 11.5 | 12.5 | 13.5 | 14.5 | 15.5 | 16.5 | 17.5 | 12.5 | 13.5 | 14.5 | 15.5 | 16.5 | 17.5 | 12 |

SY3000/5000/7000 Series

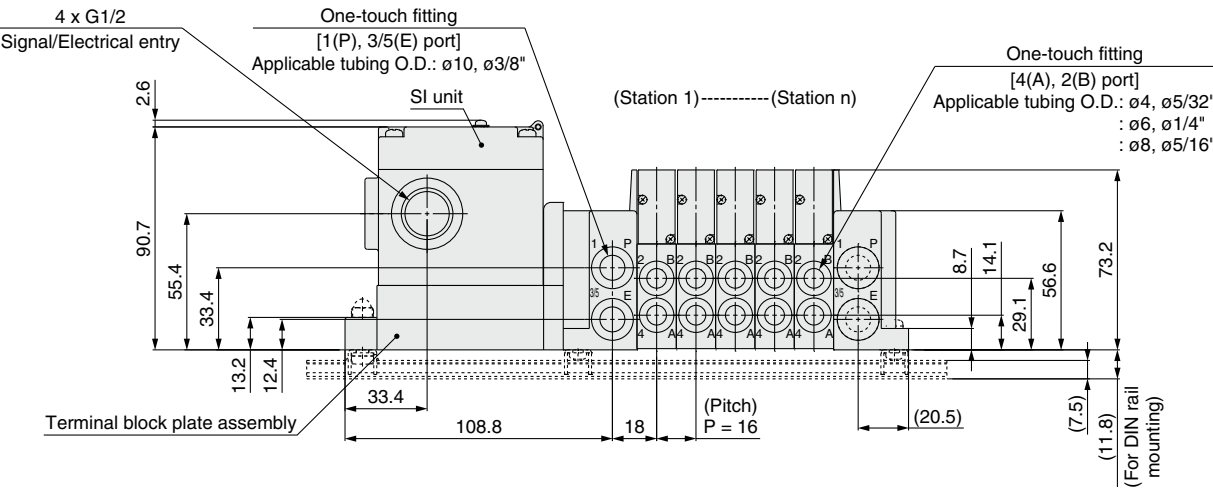
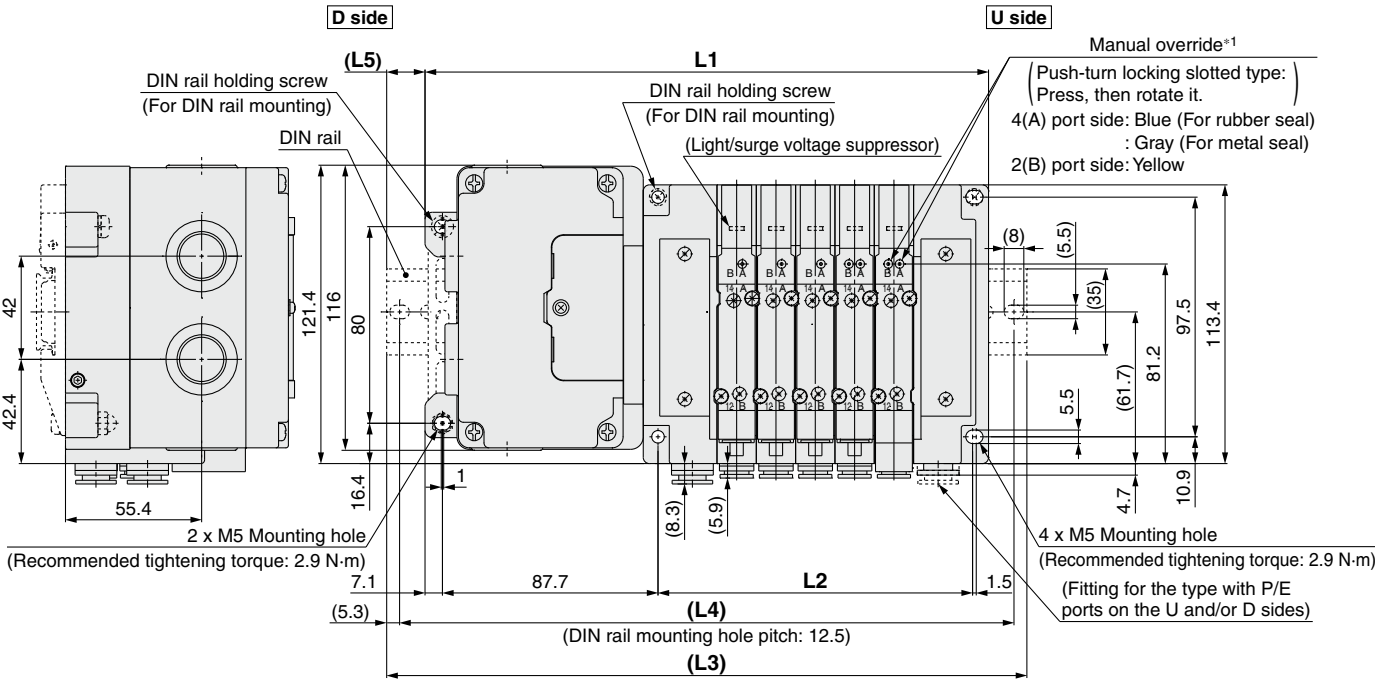
Dimensions: SY5000 Series

| | |
|--------------------------------------|---------------------|
| Plug-in Connector Connecting Base | Type 10/Side Ported |
| | EX126 |

SS5Y5-10S4V - Stations

| | |
|---|--------|
| U | C4, N3 |
| D | C6, N7 |
| B | C8, N9 |

 (D)



*1 Refer to page 158 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.
* These figures show the "SS5Y5-10S4V-05D-C8."
* Refer to page 163 for dimensions of A or B port top-ported type.

| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 181.3 | 197.3 | 213.3 | 229.3 | 245.3 | 261.3 | 277.3 | 293.3 | 309.3 | 325.3 | 341.3 | 357.3 | 373.3 | 389.3 | 405.3 |
| L2 | 80 | 96 | 112 | 128 | 144 | 160 | 176 | 192 | 208 | 224 | 240 | 256 | 272 | 288 | 304 |
| L3 | 210.5 | 223 | 248 | 260.5 | 273 | 285.5 | 310.5 | 323 | 335.5 | 360.5 | 373 | 385.5 | 398 | 423 | 435.5 |
| L4 | 200 | 212.5 | 237.5 | 250 | 262.5 | 275 | 300 | 312.5 | 325 | 350 | 362.5 | 375 | 387.5 | 412.5 | 425 |
| L5 | 14.5 | 13 | 17.5 | 15.5 | 14 | 12 | 16.5 | 15 | 13 | 17.5 | 16 | 14 | 12.5 | 17 | 15 |

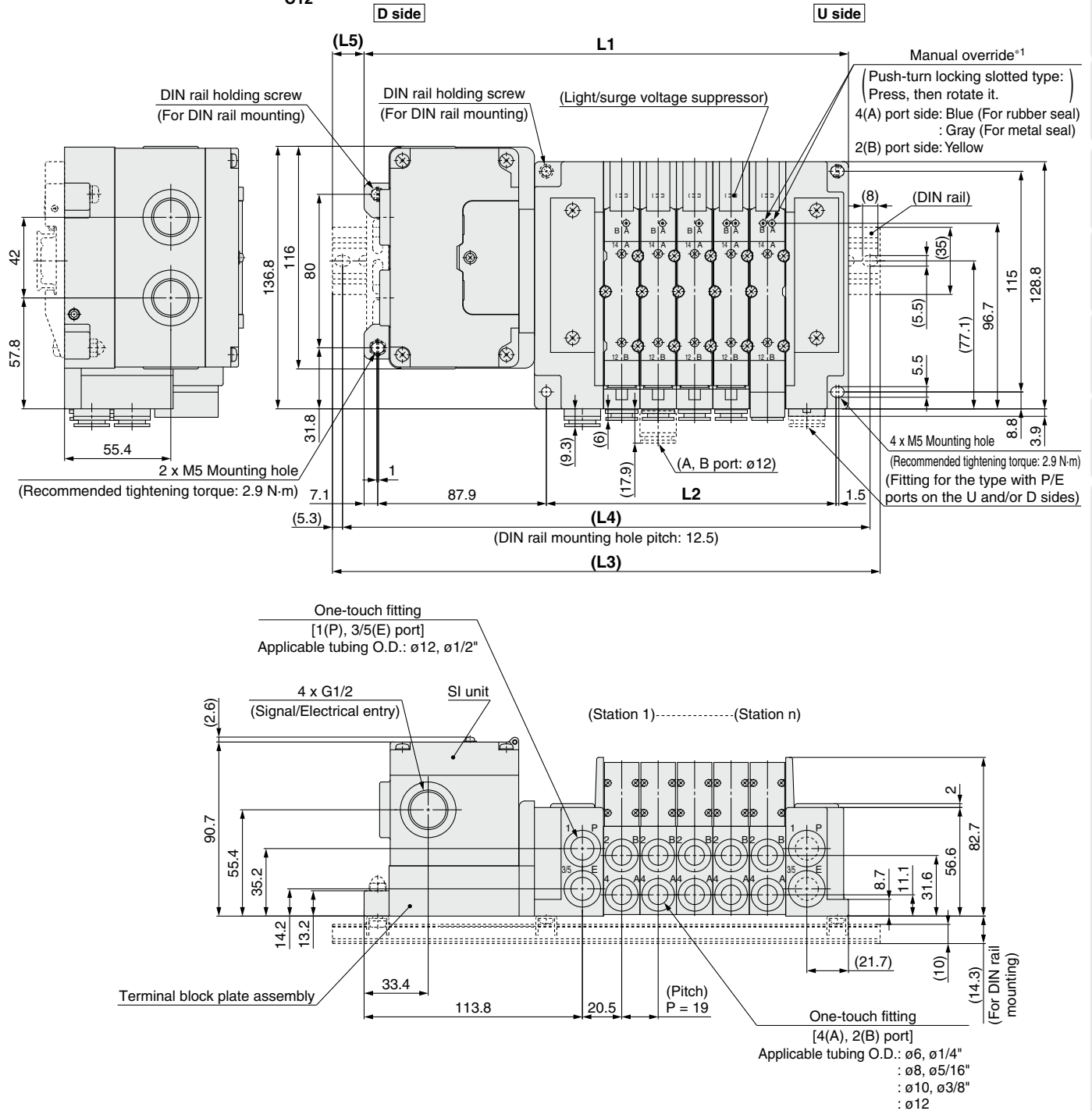


Dimensions: SY7000 Series

Plug-in Connector Connecting Base

Type 10/Side Ported
EX126

SS5Y7-10S4□ - Stations $\begin{matrix} \text{U} \\ \text{D} \\ \text{B} \end{matrix} \begin{matrix} \text{C6, N7} \\ \text{C8, N9} \\ \text{C10, N11} \end{matrix} \text{ (D)}$



- *1 Refer to page 159 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.
- * These figures show the "SS5Y7-10S4V-05D-C10."
- * Refer to page 164 for dimensions of A or B port top-ported type.

| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 195.5 | 214.5 | 233.5 | 252.5 | 271.5 | 290.5 | 309.5 | 328.5 | 347.5 | 366.5 | 385.5 | 404.5 | 423.5 | 442.5 | 461.5 |
| L2 | 94 | 113 | 132 | 151 | 170 | 189 | 208 | 227 | 246 | 265 | 284 | 303 | 322 | 341 | 360 |
| L3 | 223 | 248 | 260.5 | 285.5 | 298 | 323 | 335.5 | 360.5 | 373 | 398 | 410.5 | 435.5 | 448 | 473 | 485.5 |
| L4 | 212.5 | 237.5 | 250 | 275 | 287.5 | 312.5 | 325 | 350 | 362.5 | 387.5 | 400 | 425 | 437.5 | 462.5 | 475 |
| L5 | 14 | 17 | 13.5 | 16.5 | 13.5 | 16.5 | 13 | 16 | 13 | 16 | 12.5 | 15.5 | 12.5 | 15.5 | 12 |

Plug-in Connector Connecting Base

EX126

Type 12
Top Ported

SY3000/5000/7000 Series



How to Order Manifolds

Refer to pages 162 to 164 for the dimensions of Type 12/Top-ported type.

SS5Y **3** - 12S4 **V** - **05** **U** **□** - **□** **□**

1 2 3 4 5 6 7

1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 SI unit

| | |
|---|-------------------------------|
| 0 | Without SI unit |
| V | CC-Link (Positive common NPN) |

* Only a terminal block plate is mounted for the valve without SI unit.

3 Valve stations

| Symbol | Stations | Note |
|--------|-------------|--|
| 02 | 2 stations | Double wiring*1 |
| ⋮ | ⋮ | |
| 08 | 8 stations | |
| 02 | 2 stations | Specified layout*2 (Up to 16 solenoids available) |
| ⋮ | ⋮ | |
| 16 | 16 stations | |

- *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.
- *2 Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position, and 4-position valves cannot be used where single wiring has been specified.)
- * This also includes the number of the blanking plate assembly.

4 P, E port entry

| | |
|-----|-------------------------------|
| U*1 | U side (2 to 10 stations) |
| D*1 | D side (2 to 10 stations) |
| B | Both sides (2 to 16 stations) |

*1 For type "S", SUP/EXH block assembly with a built-in silencer, choose U or D for P, E port entry.

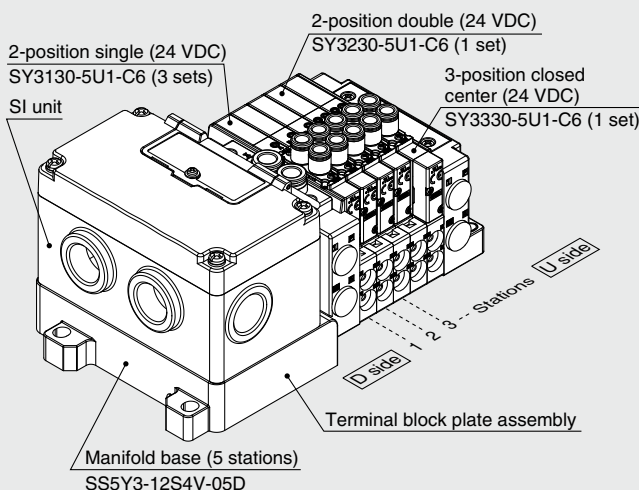
5 SUP/EXH block assembly

| | |
|-----|-----------------------------------|
| Nil | Internal pilot |
| S | Internal pilot, Built-in silencer |
| R | External pilot |

- * The P and E ports are only available on the U and D sides for the built-in silencer type. 3/5(E) port is plugged. The silencer exhaust port is located on the opposite side of the P and E port entry. (Example: When the P and E port entry is on the D side, the silencer exhaust port is on the U side.)
- * When the built-in silencer type is used, keep the exhaust port from coming into direct contact with water or other liquids.

How to Order Manifold Assembly

Example (SS5Y3-12S4V-□-□)



SS5Y3-12S4V-05D ... 1 set (Type 12 5-station manifold base part no.)
 *SY3130-5U1-C6..... 3 sets (2-position single part no.)
 *SY3230-5U1-C6..... 1 set (2-position double part no.)
 *SY3330-5U1-C6..... 1 set (3-position closed center part no.)

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

- For the valve arrangement, the valve closest to the D side is considered the 1st station.
- Under the manifold part number, state the valves to be mounted in order starting with the 1st station as shown in the figure above. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.

6 P, E port size (One-touch fittings)

| Symbol | SY3000 | SY5000 | SY7000 |
|--------|--------|--------|--------|
| Nil | ø8 | ø10 | ø12 |
| N | ø5/16" | ø3/8" | ø1/2" |

* For N, sizes are in inches.

7 Mounting

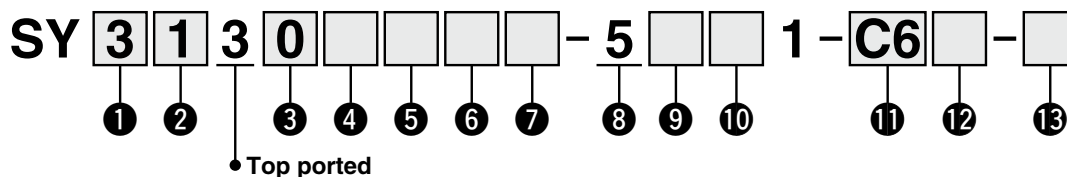
| | |
|-----|--------------------------------------|
| Nil | Direct mounting |
| D | DIN rail mounting (With DIN rail) |
| D0 | DIN rail mounting (Without DIN rail) |
| D3 | For 3 stations |
| ⋮ | ⋮ |
| D16 | For 16 stations |

* Refer to page 295 for the fixation of DIN rail mounting type manifold.

For details on the EX126 Integrated Type (For Output) Serial Transmission System, refer to the **Web Catalog** and the Operation Manual. For the part numbers of the SI units to be mounted, refer to page 195. Please download the Operation Manual via the SMC website, <https://www.smcworld.com>

How to Order Valves (With mounting screw)

Refer to page 15 for valve specifications.



1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type of actuation

| | | |
|-----|-------------|-----------------|
| 1 | 2-position | Single |
| 2 | | Double |
| 3 | | Closed center |
| 4 | 3-position | Exhaust center |
| 5 | | Pressure center |
| A*1 | 4-position | N.C./N.C. |
| B*1 | dual 3-port | N.O./N.O. |
| C*1 | | N.C./N.O. |

*1 Only the 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 the rubber seal type is available. A manifold installed type is available if a back pressure check valve with a metal seal is required. Refer to page 212 for ordering examples. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

* The built-in valve type back pressure check valve is not available for the 3-position type or the SY7000.

6 Pilot valve option

| | |
|-----|-------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K*1 | High pressure type (1.0 MPa) |

*1 Only the 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 if the valve is to be continuously energized for long periods of time.

* Be careful of the energizing time when the power saving circuit is selected. Refer to page 292 for details.

8 Rated voltage

| | |
|---|--------|
| 5 | 24 VDC |
|---|--------|

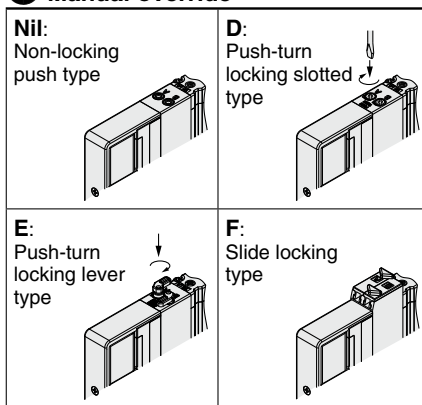
9 Light/surge voltage suppressor and common specification

| Symbol | With light | Surge voltage suppressor | Common specification |
|--------|------------|--------------------------|----------------------|
| R | — | | Non-polar |
| U | ● | ● | |
| S | — | | Positive common |
| Z | ● | | |

* For the non-polar type, be careful of surge voltage intrusion.

* Only "Z" type is available with a power saving circuit.

10 Manual override



* Refer to page 34 for the safety slide locking manual override.

11 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 |

One-touch fitting (Metric)

| Symbol | A, B port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| C2 | ø2 | ● | — | — |
| C3 | ø3.2 | ● | — | — |
| C4 | ø4 | ● | ● | — |
| C6 | ø6 | ● | ● | ● |
| C8 | ø8 | — | ● | ● |
| C10 | ø10 | — | — | ● |
| C12 | ø12 | — | — | ● |

One-touch fitting (Inch)

| Symbol | A, B port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| N1 | ø1/8" | ● | — | — |
| N3 | ø5/32" | ● | ● | — |
| N7 | ø1/4" | ● | ● | ● |
| N9 | ø5/16" | — | ● | ● |
| N11 | ø3/8" | — | — | ● |

12 Thread type

| | |
|-----|------|
| Nil | Rc |
| F | G |
| N | NPT |
| T | NPTF |

* Only Nil is available for M5.

13 Type of mounting screw

| | |
|-----|--|
| Nil | Round head combination screw |
| B | Hexagon socket head cap screw |
| K | Round head combination screw (Drop prevention type) |
| H | Hexagon socket head cap screw (Drop 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. Refer to page 198 for base gasket and mounting screw part numbers.

* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly or interface regulator.

Type 10
Side Ported

Type 11
Bottom Ported

Plug-in Connector Connecting Base

EX120

SY3000/5000/7000 Series



How to Order Manifolds

Refer to pages 160 (SY5000) and 161 (SY7000) for the dimensions of Type 11/Bottom-ported type.

SS5Y **3** - **10** S3 **R1** - **05** **U** - **C6**

1 2 3 4 5 6 7 8

1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type

| | |
|----|-----------------|
| 10 | Side ported |
| 11 | Bottom ported*1 |

*1 The SY5000 manifold base is used for the bottom-ported SY3000. When ordering, refer to the "Plug-in Mixed Mounting Type Manifold" (from page 165).

3 SI unit

| | |
|-------|----------------------------------|
| 0 | Without SI unit |
| Q | DeviceNet™ (Positive common NPN) |
| R1 | OMRON CompoBus/S 16 outputs |
| R2 | (Positive common NPN) 8 outputs |
| V | CC-Link (Positive common NPN) |
| ZB*1 | CompoNet™ Positive common NPN |
| ZBN*1 | Negative common PNP |

*1 The communication connector (for the opposite side) is not provided. Please order it separately.
* Ensure a match with the common specification of the valve to be used.

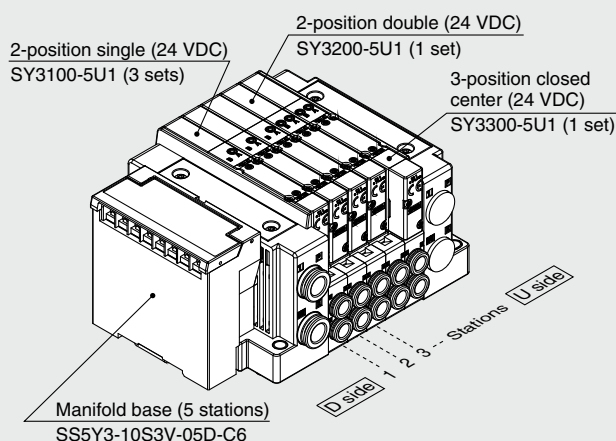
4 Valve stations

| Symbol | Stations | Note |
|--------|-------------|--|
| 02 | 2 stations | Double wiring*1 |
| 08 | 8 stations | |
| 02 | 2 stations | Specified layout*2 (Up to 16 solenoids available) |
| 08 | 8 stations | |
| 16 | 16 stations | |

*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.
*2 Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position, and 4-position valves cannot be used where single wiring has been specified.)
* This also includes the number of the blanking plate assembly.
* Since R2 type SI unit has 8 outputs, note that up to 8 solenoids can be accommodated.

How to Order Manifold Assembly

Example (SS5Y3-10S3V-□)



SS5Y3-10S3V-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 asterisk denotes the symbol for the assembly.
 Prefix it to the part numbers of the valve, etc.

• For the valve arrangement, the valve closest to the D side is considered the 1st station.
 • Under the manifold part number, state the valves to be mounted in order starting with the 1st station as shown in the figure above. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.

* When mixing top-ported configurations, select from those listed on page 156. In such cases, use caution as there is also output on the A and B ports on the base side. Specify on the manifold specification sheet if plugs are required for the A and B ports on the base side.

5 P, E port entry

| | |
|---|-------------------------------|
| U | U side (2 to 10 stations) |
| D | D side (2 to 10 stations) |
| B | Both sides (2 to 16 stations) |

6 SUP/EXH block assembly

| | |
|-----|-----------------------------------|
| Nil | Internal pilot |
| S | Internal pilot, Built-in silencer |
| R | External pilot |

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

For details on the EX120 Integrated Type (For Output) Serial Transmission System, refer to the **Web Catalog** and the Operation Manual. For the part numbers of the SI units to be mounted, refer to page 196. Please download the Operation Manual via the SMC website, <https://www.smcworld.com>

7 A, B port size (Metric/One-touch fitting)

| Symbol | A, B port | Type 10/Side ported | | | Type 11/Bottom ported | | |
|-------------------------------------|--|---------------------|--------|--------|-----------------------|--------|--|
| | | SY3000 | SY5000 | SY7000 | SY5000 | SY7000 | |
| C2 | ø2 | ● | — | — | — | — | |
| C3 | ø3.2 | ● | — | — | — | — | |
| C4 | ø4 | ● | ● | — | ● | — | |
| C6 | ø6 | ● | ● | ● | ● | ● | |
| C8 | ø8 | — | ● | ● | ● | ● | |
| C10 | ø10 | — | — | ● | — | ● | |
| C12 | ø12 | — | — | ● | — | ● | |
| CM*1 | Straight port, mixed sizes | ● | ● | ● | ● | ● | |
| L4 | ø4 | ● | ● | — | — | — | |
| L6 | ø6 | ● | ● | ● | — | — | |
| L8 | ø8 | — | ● | ● | — | — | |
| L10 | ø10 | — | — | ● | — | — | |
| L12 | ø12 | — | — | ● | — | — | |
| B4 | ø4 | ● | ● | — | — | — | |
| B6 | ø6 | ● | ● | ● | — | — | |
| B8 | ø8 | — | ● | ● | — | — | |
| B10 | ø10 | — | — | ● | — | — | |
| B12 | ø12 | — | — | ● | — | — | |
| LM*1 | Elbow port, mixed sizes (Including upward and downward piping) | ● | ● | ● | — | — | |
| P, E port size (One-touch fittings) | | ø8 | ø10 | ø12 | ø10 | ø12 | |

*1 Indicate the sizes on the manifold specification sheet in the case of "CM" or "LM."

The direction of P, E port fittings is the same as for the A, B port. If selecting "LM," indicate it on the manifold specification sheet for the P, E port fitting direction.

*2 To avoid interference with the body or piping, select a downward elbow port when mounting the optional spacer assembly (pages 204 to 206).

8 Mounting and Option

| Symbol | Mounting | Option | |
|--------|-------------------|------------|----------------|
| | | Name plate | Station number |
| Nil | Direct mounting | — | — |
| AA | | ● | ● |
| BA | | ● | — |
| D□ | DIN rail mounting | — | — |
| A□ | | ● | ● |
| B□ | | ● | — |

* Enter the number of stations inside □ when it is larger than the number of valve stations. (Refer to "DIN Rail Option" below.)

* Only direct mounting is available for the type 11 bottom-ported type.

* Refer to page 295 for the fixation of DIN rail mounting type manifold.

DIN Rail Option

| | | |
|-----|---------------------------------|--|
| Nil | Standard length | |
| 0 | Without DIN rail (with bracket) | |
| 3 | For 3 stations | Specify a longer rail than the total length of specified stations. |
| ⋮ | ⋮ | |
| 16 | For 16 stations | |

* If the DIN rail must be mounted without an SI unit, select D0. Then, refer to L3 of the dimensions for the DIN rail length and order separately. (Refer to page 203 for the DIN rail part number.)

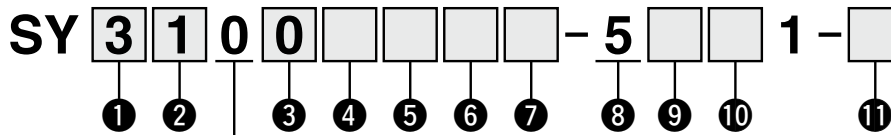
A, B port size (Inch/One-touch fitting)

| Symbol | A, B port | Type 10/Side ported | | | Type 11/Bottom ported | | |
|-------------------------------------|--|---------------------|--------|--------|-----------------------|--------|--|
| | | SY3000 | SY5000 | SY7000 | SY5000 | SY7000 | |
| N1 | ø1/8" | ● | — | — | — | — | |
| N3 | ø5/32" | ● | ● | — | ● | — | |
| N7 | ø1/4" | ● | ● | ● | ● | ● | |
| N9 | ø5/16" | — | ● | ● | ● | ● | |
| N11 | ø3/8" | — | — | ● | — | ● | |
| CM*1 | Straight port, mixed sizes | ● | ● | ● | ● | ● | |
| LN3 | ø5/32" | ● | — | — | — | — | |
| LN7 | ø1/4" | ● | ● | — | — | — | |
| LN9 | ø5/16" | — | ● | — | — | — | |
| LN11 | ø3/8" | — | — | ● | — | — | |
| BN3 | ø5/32" | ● | — | — | — | — | |
| BN7 | ø1/4" | ● | ● | — | — | — | |
| BN9 | ø5/16" | — | ● | — | — | — | |
| BN11 | ø3/8" | — | — | ● | — | — | |
| LM*1 | Elbow port, mixed sizes (Including upward and downward piping) | ● | ● | ● | — | — | |
| P, E port size (One-touch fittings) | | ø5/16" | ø3/8" | ø1/2" | ø3/8" | ø1/2" | |

SY3000/5000/7000 Series

How to Order Valves (With mounting screw)

Refer to page 15 for valve specifications.



Base mounted

1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type of actuation

| | | |
|-----|------------------------|-----------------|
| 1 | 2-position | Single |
| 2 | | Double |
| 3 | 3-position | Closed center |
| 4 | | Exhaust center |
| 5 | | Pressure center |
| A*1 | 4-position dual 3-port | N.C./N.C. |
| B*1 | | N.O./N.O. |
| C*1 | | N.C./N.O. |

*1 Only the 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 the rubber seal type is available. A manifold installed type is available if a back pressure check valve with a metal seal is required. Refer to page 212 for ordering examples. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

* The built-in valve type back pressure check valve is not available for the 3-position type or the SY7000.

6 Pilot valve option

| | |
|-----|-------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K*1 | High pressure type (1.0 MPa) |

*1 Only the 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 if the valve is to be continuously energized for long periods of time.

* Be careful of the energizing time when the power saving circuit is selected. Refer to page 292 for details.

8 Rated voltage

| | |
|---|--------|
| 5 | 24 VDC |
|---|--------|

9 Light/surge voltage suppressor and common specification

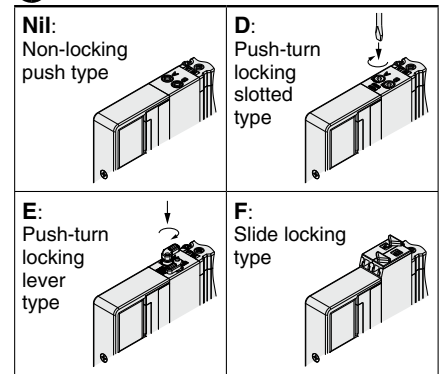
| Symbol | With light | Surge voltage suppressor | Common specification |
|--------|------------|--------------------------|----------------------|
| R | — | | Non-polar |
| U | ● | | |
| S | — | ● | Positive common |
| Z | ● | | |
| NS | — | | Negative common |
| NZ | ● | | |

* Select "R," "U," "S," or "Z" for the valve when the SI unit specification is positive common. Select "R," "U," "NS," or "NZ" for the valve when the SI unit specification is ZBN (negative common).

* For the non-polar type, be careful of surge voltage intrusion. Refer to page 293 for details.

* Only "Z" and "NZ" types are available with a power saving circuit.

10 Manual override



* Refer to page 34 for the safety slide locking manual override.

11 Type of mounting screw

| | |
|-----|--|
| Nil | Round head combination screw |
| B | Hexagon socket head cap screw |
| K | Round head combination screw (Drop prevention type) |
| H | Hexagon socket head cap screw (Drop 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. Refer to page 198 for base gasket and mounting screw part numbers.

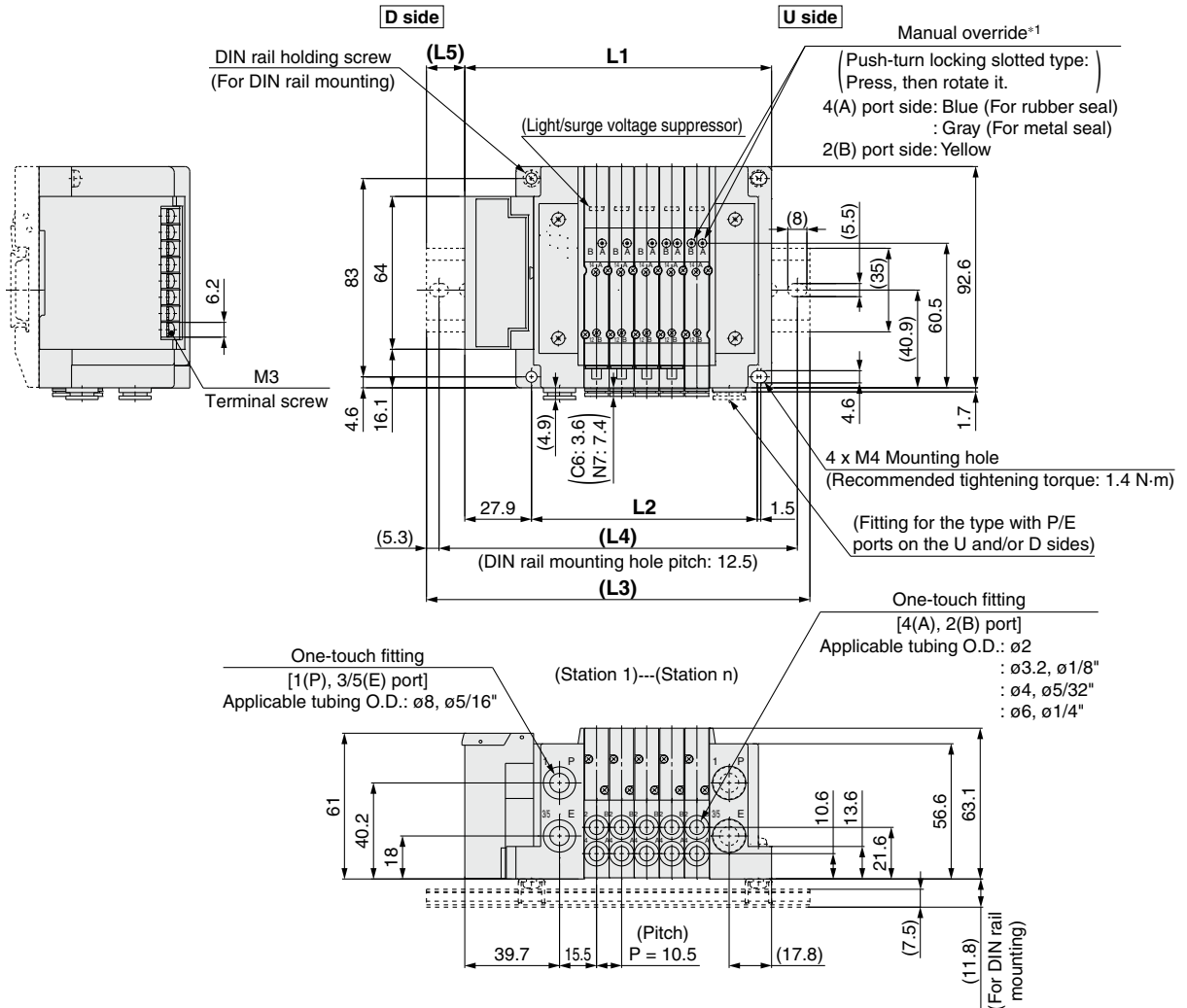
* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly, interface regulator, or double check spacer assembly with residual pressure release valve.

Dimensions: SY3000 Series

Plug-in Connector Connecting Base

Type 10/Side Ported
EX120

SS5Y3-10S3□ - Stations $\begin{matrix} \text{U} \\ \text{D} \\ \text{B} \end{matrix}$ C2
C3, N1 (D)
C4, N3
C6, N7



- *1 Refer to page 157 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.
- * These figures show the "SS5Y3-10S3V-05D-C6."
- * Refer to page 162 for dimensions of A or B port top-ported type.

| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 96.9 | 107.4 | 117.9 | 128.4 | 138.9 | 149.4 | 159.9 | 170.4 | 180.9 | 191.4 | 201.9 | 212.4 | 222.9 | 233.4 | 243.9 |
| L2 | 63 | 73.5 | 84 | 94.5 | 105 | 115.5 | 126 | 136.5 | 147 | 157.5 | 168 | 178.5 | 189 | 199.5 | 210 |
| L3 | 123 | 135.5 | 148 | 160.5 | 173 | 173 | 185.5 | 198 | 210.5 | 223 | 235.5 | 235.5 | 248 | 260.5 | 273 |
| L4 | 112.5 | 125 | 137.5 | 150 | 162.5 | 162.5 | 175 | 187.5 | 200 | 212.5 | 225 | 225 | 237.5 | 250 | 262.5 |
| L5 | 13 | 14 | 15 | 16 | 17 | 12 | 13 | 14 | 15 | 16 | 17 | 11.5 | 12.5 | 13.5 | 14.5 |

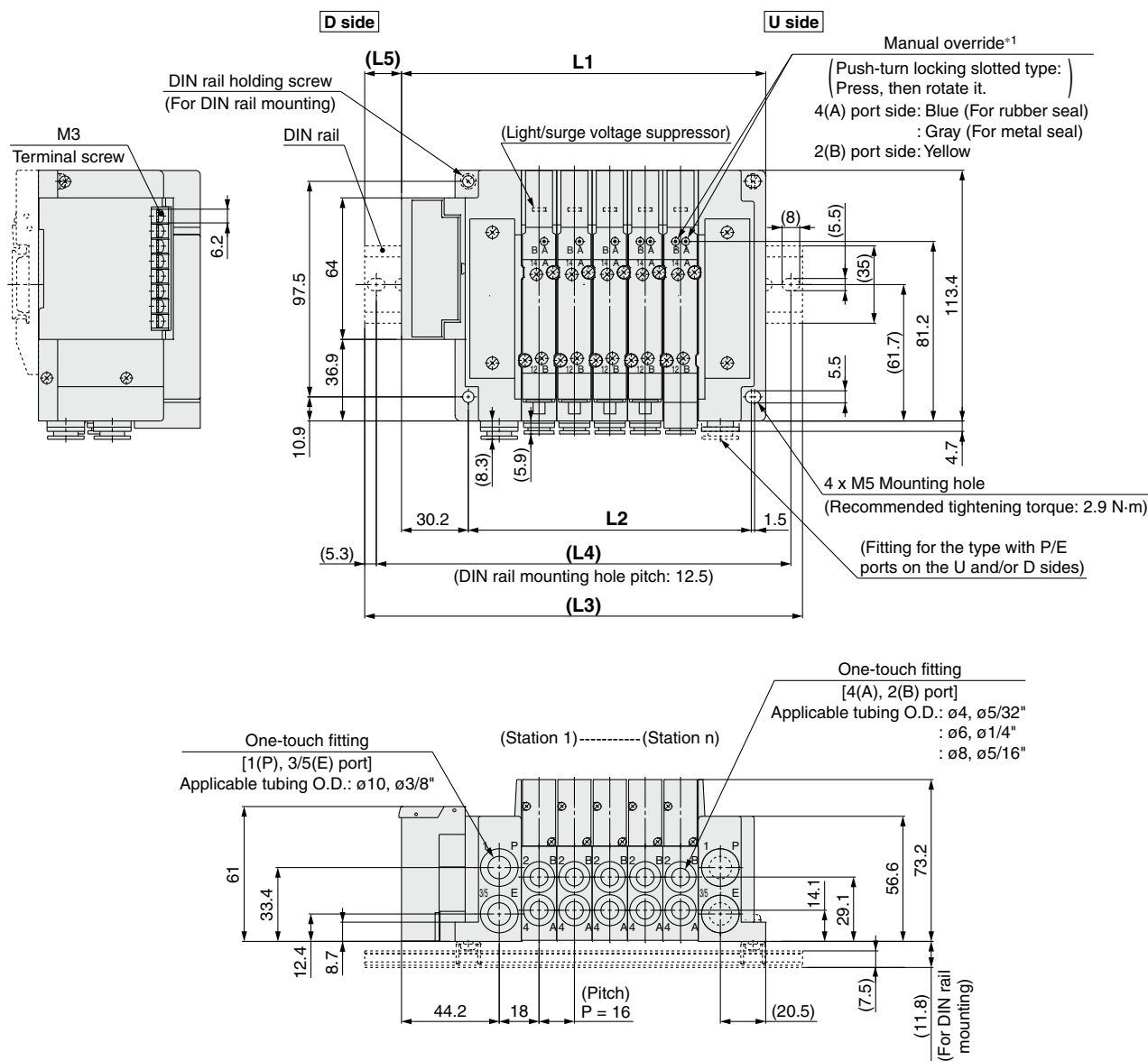
SY3000/5000/7000 Series

Dimensions: SY5000 Series

Plug-in
Connector Connecting Base

Type 10/Side Ported
EX120

SS5Y5-10S3□ - Stations U C4, N3
D-C6, N7 (D)
B C8, N9



*1 Refer to page 158 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.
* These figures show the "SS5Y5-10S3V-05D-C8."
* Refer to page 163 for dimensions of A or B port top-ported type.

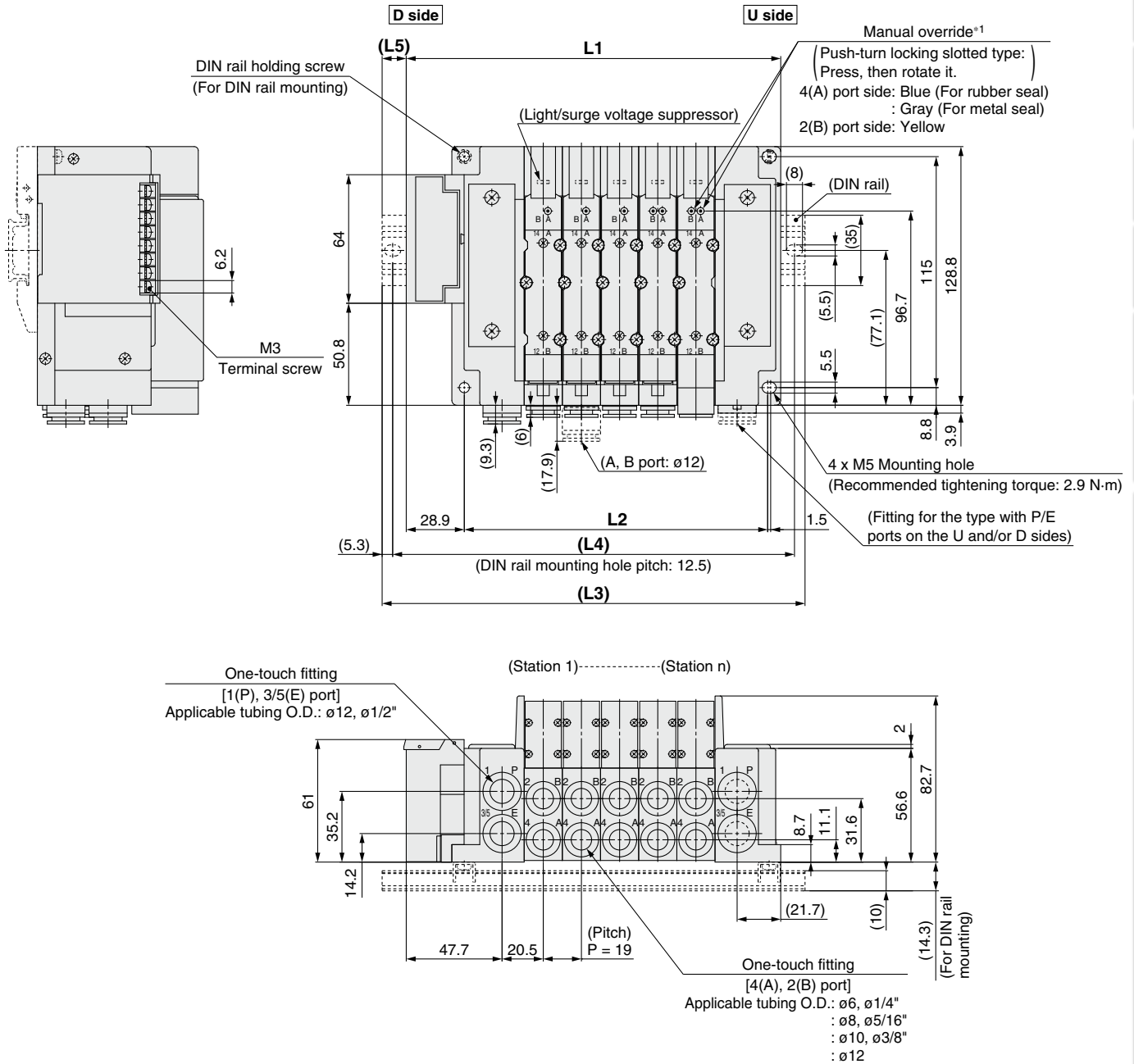
| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 116.7 | 132.7 | 148.7 | 164.7 | 180.7 | 196.7 | 212.7 | 228.7 | 244.7 | 260.7 | 276.7 | 292.7 | 308.7 | 324.7 | 340.7 |
| L2 | 80 | 96 | 112 | 128 | 144 | 160 | 176 | 192 | 208 | 224 | 240 | 256 | 272 | 288 | 304 |
| L3 | 148 | 160.5 | 173 | 198 | 210.5 | 223 | 248 | 260.5 | 273 | 285.5 | 310.5 | 323 | 335.5 | 348 | 373 |
| L4 | 137.5 | 150 | 162.5 | 187.5 | 200 | 212.5 | 237.5 | 250 | 262.5 | 275 | 300 | 312.5 | 325 | 337.5 | 362.5 |
| L5 | 15.5 | 14 | 12 | 16.5 | 15 | 13 | 17.5 | 16 | 14 | 12.5 | 17 | 15 | 13.5 | 11.5 | 16 |

Dimensions: SY7000 Series

Plug-in Connector Connecting Base

Type 10/Side Ported
EX120

SS5Y7-10S3□-Stations $\begin{matrix} \text{U} \\ \text{D} \\ \text{B} \end{matrix}$ $\begin{matrix} \text{C6, N7} \\ \text{C8, N9} \\ \text{C10, N11} \end{matrix}$ (D)
C12



- *1 Refer to page 159 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.
- * These figures show the "SS5Y7-10S3V-05D-C10."
- * Refer to page 164 for dimensions of A or B port top-ported type.

| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 129.4 | 148.4 | 167.4 | 186.4 | 205.4 | 224.4 | 243.4 | 262.4 | 281.4 | 300.4 | 319.4 | 338.4 | 357.4 | 376.4 | 395.4 |
| L2 | 94 | 113 | 132 | 151 | 170 | 189 | 208 | 227 | 246 | 265 | 284 | 303 | 322 | 341 | 360 |
| L3 | 160.5 | 173 | 198 | 210.5 | 235.5 | 248 | 273 | 285.5 | 310.5 | 335.5 | 348 | 373 | 385.5 | 410.5 | 423 |
| L4 | 150 | 162.5 | 187.5 | 200 | 225 | 237.5 | 262.5 | 275 | 300 | 325 | 337.5 | 362.5 | 375 | 400 | 412.5 |
| L5 | 15.5 | 12.5 | 15.5 | 12 | 15 | 12 | 15 | 11.5 | 14.5 | 17.5 | 14.5 | 17.5 | 14 | 17 | 14 |

Plug-in Connector Connecting Base

EX120

Type 12
Top Ported

SY3000/5000/7000 Series



How to Order Manifolds

Refer to pages 162 to 164 for the dimensions of Type 12/Top-port type.

SS5Y **3** - 12S3 **R1** - **05** **U** **□** **□** **□**

1 2 3 4 5 6 7

1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 SI unit

| | | |
|-------|----------------------------------|---------------------|
| 0 | Without SI unit | |
| Q | DeviceNet™ (Positive common NPN) | |
| R1 | OMRON CompoBus/S | 16 outputs |
| R2 | (Positive common NPN) | 8 outputs |
| V | CC-Link (Positive common NPN) | |
| ZB*1 | CompoNet™ | Positive common NPN |
| ZBN*1 | | Negative common PNP |

*1 The communication connector (for the opposite side) is not provided. Please order it separately.

* Ensure a match with the common specification of the valve to be used.

3 Valve stations

| Symbol | Stations | Note |
|--------|-------------|--|
| 02 | 2 stations | Double wiring*1 |
| ⋮ | ⋮ | |
| 08 | 8 stations | Specified layout*2 (Up to 16 solenoids available) |
| 02 | 2 stations | |
| ⋮ | ⋮ | |
| 16 | 16 stations | |

*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.

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

* This also includes the number of the blanking plate assembly.

* Since R2 type SI unit has 8 outputs, note that up to 8 solenoids can be accommodated.

4 P, E port entry

| | |
|-----|-------------------------------|
| U*1 | U side (2 to 10 stations) |
| D*1 | D side (2 to 10 stations) |
| B | Both sides (2 to 16 stations) |

*1 For type "S", SUP/EXH block assembly with a built-in silencer, choose U or D for P, E port entry.

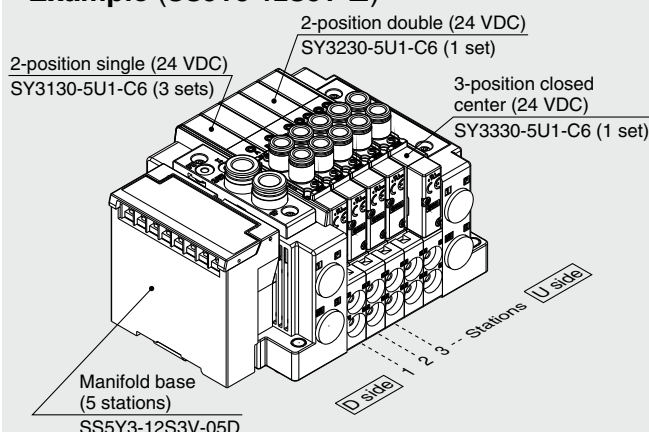
5 SUP/EXH block assembly

| | |
|-----|-----------------------------------|
| Nil | Internal pilot |
| S | Internal pilot, Built-in silencer |
| R | External pilot |

* The P and E ports are only available on the U and D sides for the built-in silencer type. 3/5(E) port is plugged. The silencer exhaust port is located on the opposite side of the P and E port entry. (Example: When the P and E port entry is on the D side, the silencer exhaust port is on the U side.)

How to Order Manifold Assembly

Example (SS5Y3-12S3V-□)



SS5Y3-12S3V-05D ... 1 set (Type 12 5-station manifold base part no.)

*SY3130-5U1-C6 3 sets (2-position single part no.)

*SY3230-5U1-C6 1 set (2-position double part no.)

*SY3330-5U1-C6 1 set (3-position closed center part no.)

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

- For the valve arrangement, the valve closest to the D side is considered the 1st station.
- Under the manifold part number, state the valves to be mounted in order starting with the 1st station as shown in the figure above. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.

6 P, E port size (One-touch fittings)

| Symbol | SY3000 | SY5000 | SY7000 |
|--------|--------|--------|--------|
| Nil | ø8 | ø10 | ø12 |
| N | ø5/16" | ø3/8" | ø1/2" |

* For N, sizes are in inches.

7 Mounting

| | |
|-----|--------------------------------------|
| Nil | Direct mounting |
| D | DIN rail mounting (With DIN rail) |
| D0 | DIN rail mounting (Without DIN rail) |
| D3 | For 3 stations |
| ⋮ | ⋮ |
| D16 | For 16 stations |

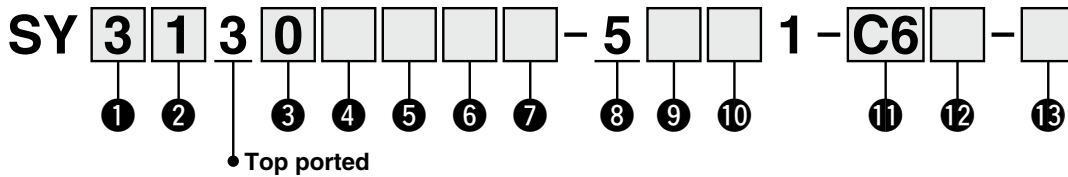
* If the DIN rail must be mounted without an SI unit, select D0. Then, refer to L3 of the dimensions for the DIN rail length and order separately. (Refer to page 203 for the DIN rail part number.)

* Refer to page 295 for the fixation of DIN rail mounting type manifold.

For details on the EX120 Integrated Type (For Output) Serial Transmission System, refer to the **Web Catalog** and the Operation Manual. For the part numbers of the SI units to be mounted, refer to page 196. Please download the Operation Manual via the SMC website, <https://www.smcworld.com>

How to Order Valves (With mounting screw)

Refer to page 15 for valve specifications.



1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type of actuation

| | | |
|-----|-------------|-----------------|
| 1 | 2-position | Single |
| 2 | | Double |
| 3 | 3-position | Closed center |
| 4 | | Exhaust center |
| 5 | | Pressure center |
| A*1 | 4-position | N.C./N.C. |
| B*1 | dual 3-port | N.O./N.O. |
| C*1 | | N.C./N.O. |

*1 Only the 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 the rubber seal type is available. A manifold installed type is available if a back pressure check valve with a metal seal is required. Refer to page 212 for ordering examples. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

* The built-in valve type back pressure check valve is not available for the 3-position type or the SY7000.

6 Pilot valve option

| | |
|-----|-------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K*1 | High pressure type (1.0 MPa) |

*1 Only the 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 if the valve is to be continuously energized for long periods of time.

* Be careful of the energizing time when the power saving circuit is selected. Refer to page 292 for details.

8 Rated voltage

| | |
|---|--------|
| 5 | 24 VDC |
|---|--------|

9 Light/surge voltage suppressor and common specification

| Symbol | With light | Surge voltage suppressor | Common specification |
|--------|------------|--------------------------|----------------------|
| R | — | ● | Non-polar |
| U | ● | | |
| S | — | | Positive common |
| Z | ● | | |
| NS | — | | |
| NZ | ● | | |

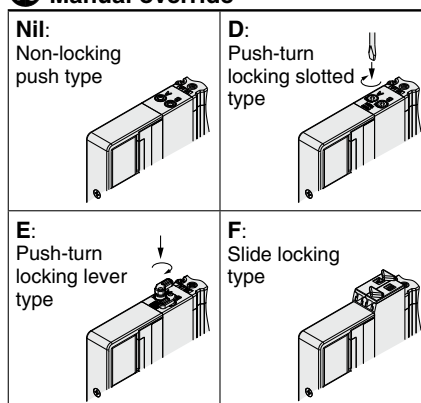
* Select "R," "U," "S," or "Z" for the valve when the SI unit specification is positive common. Select "R," "U," "NS," or "NZ" for the valve when the SI unit specification is ZBN (negative common).

* For the non-polar type, be careful of surge voltage intrusion.

Refer to page 293 for details.

* Only "Z" and "NZ" types are available with a power saving circuit.

10 Manual override



* Refer to page 34 for the safety slide locking manual override.

11 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 |

One-touch fitting (Metric)

| Symbol | A, B port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| C2 | ø2 | ● | — | — |
| C3 | ø3.2 | ● | — | — |
| C4 | ø4 | ● | ● | — |
| C6 | ø6 | ● | ● | ● |
| C8 | ø8 | — | ● | ● |
| C10 | ø10 | — | — | ● |
| C12 | ø12 | — | — | ● |

One-touch fitting (Inch)

| Symbol | A, B port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| N1 | ø1/8" | ● | — | — |
| N3 | ø5/32" | ● | ● | — |
| N7 | ø1/4" | ● | ● | ● |
| N9 | ø5/16" | — | ● | ● |
| N11 | ø3/8" | — | — | ● |

12 Thread type

| | |
|-----|------|
| Nil | Rc |
| F | G |
| N | NPT |
| T | NPTF |

* Only Nil is available for M5.

13 Type of mounting screw

| | |
|-----|--|
| Nil | Round head combination screw |
| B | Hexagon socket head cap screw |
| K | Round head combination screw (Drop prevention type) |
| H | Hexagon socket head cap screw (Drop 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. Refer to page 198 for base gasket and mounting screw part numbers.

* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly or interface regulator.

Type 10
Side Ported

Type 11
Bottom Ported

Plug-in Connector Connecting Base

EX180

SY3000/5000/7000 Series



How to Order Manifolds

Refer to pages 160 (SY5000) and 161 (SY7000) for the dimensions of Type 11/Bottom-ported type.

SS5Y 3 - 10 S 8 Q - 05 U - C6

1 2 3 4 5 6 7 8 9

1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type

| | |
|----|-----------------------------|
| 10 | Side ported |
| 11 | Bottom ported ^{*1} |

*1 The SY5000 manifold base is used for the bottom ported SY3000. When ordering, refer to the "Plug-in Mixed Mounting Type Manifold" (Refer to page 165).

3 SI unit

| | |
|---|-----------------|
| 0 | Without SI unit |
| Q | DeviceNet™ |
| V | CC-Link |

* Only the connector block assembly is mounted for models without an SI unit.

4 SI unit output polarity, Number of outputs

| | 32 outputs | 16 outputs |
|-----------------------|------------|------------|
| Without SI unit | Nil | |
| Positive common (NPN) | 2 | 3 |
| Negative common (PNP) | 4 | 5 |

* When "V" (CC-Link) is selected for the SI unit, only symbol "2" or "4" (32 outputs) can be selected.

* Ensure a match with the common specification of the valves to be used.

5 Communication connector

| | |
|-----|---------------|
| Nil | T-branch type |
| A | Straight type |

* The communication connector and power connector are shipped together with the manifold. The power connector is only available for the straight type.

* When not selecting an SI unit, the symbol will be "nil."

6 Valve stations

In the case of the 32-output SI unit

| Symbol | Stations | Note |
|--------|-------------|--|
| 02 | 2 stations | Double wiring ^{*1} |
| 16 | 16 stations | |
| 02 | 2 stations | Specified layout ^{*2} (Up to 32 solenoids available) |
| 24 | 24 stations | |

In the case of the 16-output SI unit

| Symbol | Stations | Note |
|--------|-------------|--|
| 02 | 2 stations | Double wiring ^{*1} |
| 08 | 8 stations | |
| 02 | 2 stations | Specified layout ^{*2} (Up to 16 solenoids available) |
| 16 | 16 stations | |

*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.

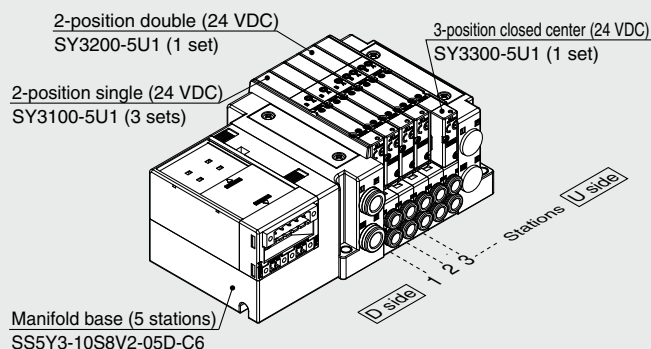
*2 Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position, and 4-position valves cannot be used where single wiring has been specified.)

* This also includes the number of the blanking plate assembly.

* For the product without the SI unit (S80), note the maximum number of solenoids of the SI unit that will be mounted. If the layout is specified, indicate it on the manifold specification sheet.

How to Order Manifold Assembly

Example (SS5Y3-10S8□-□)



SS5Y3-10S8V2-05D-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 asterisk denotes the symbol for the assembly.
Prefix it to the part numbers of the valve, etc.

- For the valve arrangement, the valve closest to the D side is considered the 1st station.
- Under the manifold part number, state the valves to be mounted in order starting with the 1st station as shown in the figure above. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.

* When mixing top-ported configurations, select from those listed on page 156-8. In such cases, use caution as there is also output on the A and B ports on the base side. Specify on the manifold specification sheet if plugs are required for the A and B ports on the base side.

7 P, E port entry, SUP/EXH block assembly

| P, E port entry | Internal pilot | Internal pilot, Built-in silencer | External pilot |
|-------------------------------|----------------|-----------------------------------|----------------|
| U side (2 to 10 stations) | U | C | G |
| D side (2 to 10 stations) | D | E | H |
| Both sides (2 to 24 stations) | B | F | J |

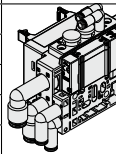
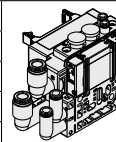
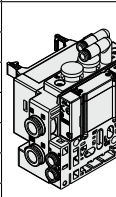
* 3/5(E) port is plugged for the built-in silencer type.

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

For details on the EX180 Integrated Type (For Output) Serial Transmission System, refer to the **Web Catalog** and the Operation Manual. For the part numbers of the SI units to be mounted, refer to page 196-1. Please download the Operation Manual via the SMC website:
<https://www.smcworld.com>

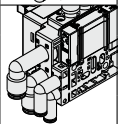
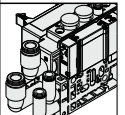
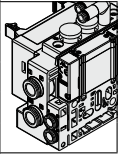
8 A, B port size (Metric/One-touch fitting)

| Symbol | A, B port | Type 10/Side ported | | | Type 11/Bottom ported | |
|-------------------------------------|--|---------------------|--------|--------|-----------------------|--------|
| | | SY3000 | SY5000 | SY7000 | SY5000 | SY7000 |
| C2 | ø2 | ● | — | — | — | — |
| C3 | ø3.2 | ● | — | — | — | — |
| C4 | ø4 | ● | ● | — | ● | — |
| C6 | ø6 | ● | ● | ● | ● | ● |
| C8 | ø8 | — | ● | ● | ● | ● |
| C10 | ø10 | — | — | ● | — | ● |
| C12 | ø12 | — | — | ● | — | ● |
| CM*1 | Straight port, mixed sizes | ● | ● | ● | ● | ● |
| L4 | ø4 | ● | ● | — | — | — |
| L6 | ø6 | ● | ● | ● | — | — |
| L8 | ø8 | — | ● | ● | — | — |
| L10 | ø10 | — | — | ● | — | — |
| L12 | ø12 | — | — | ● | — | — |
| B4 | ø4 | ● | ● | — | — | — |
| B6 | ø6 | ● | ● | ● | — | — |
| B8 | ø8 | — | ● | ● | — | — |
| B10 | ø10 | — | — | ● | — | — |
| B12 | ø12 | — | — | ● | — | — |
| LM*1 | Elbow port, mixed sizes (Including upward and downward piping) | ● | ● | ● | — | — |
| P, E port size (One-touch fittings) | | ø8 | ø10 | ø12 | ø10 | ø12 |



A, B port size (Inch/One-touch fitting)

| Symbol | A, B port | Type 10/Side ported | | | Type 11/Bottom ported | |
|-------------------------------------|--|---------------------|--------|--------|-----------------------|--------|
| | | SY3000 | SY5000 | SY7000 | SY5000 | SY7000 |
| N1 | ø1/8" | ● | — | — | — | — |
| N3 | ø5/32" | ● | ● | — | ● | — |
| N7 | ø1/4" | ● | ● | ● | ● | ● |
| N9 | ø5/16" | — | ● | ● | ● | ● |
| N11 | ø3/8" | — | — | ● | — | ● |
| CM*1 | Straight port, mixed sizes | ● | ● | ● | ● | ● |
| LN3 | ø5/32" | ● | — | — | — | — |
| LN7 | ø1/4" | ● | ● | — | — | — |
| LN9 | ø5/16" | — | ● | — | — | — |
| LN11 | ø3/8" | — | — | ● | — | — |
| BN3 | ø5/32" | ● | — | — | — | — |
| BN7 | ø1/4" | ● | ● | — | — | — |
| BN9 | ø5/16" | — | ● | — | — | — |
| BN11 | ø3/8" | — | — | ● | — | — |
| LM*1 | Elbow port, mixed sizes (Including upward and downward piping) | ● | ● | ● | — | — |
| P, E port size (One-touch fittings) | | ø5/16" | ø3/8" | ø1/2" | ø3/8" | ø1/2" |



*1 Indicate the sizes on the manifold specification sheet in the case of "CM" or "LM."

The direction of P, E port fittings is the same as for the A, B port. If selecting "LM," indicate it on the manifold specification sheet for the P, E port fitting direction.

*2 To avoid interference with the body or piping, select a downward elbow port when mounting the optional spacer assembly (pages 204 to 207).

9 Mounting and Option

| Symbol | Mounting | Option | |
|--------|-------------------|------------|----------------|
| | | Name plate | Station number |
| Nil | Direct mounting | — | — |
| AA | | ● | ● |
| BA | | ● | — |
| D□ | | — | — |
| A□ | DIN rail mounting | ● | ● |
| B□ | | ● | — |

DIN Rail Option

| Nil | Standard length |
|-----|---------------------------------|
| 0 | Without DIN rail (with bracket) |
| 3 | For 3 stations |
| ⋮ | ⋮ |
| 24 | For 24 stations |

* Enter the number of stations inside □ when it is larger than the number of valve stations. (Refer to "DIN Rail Option" above.)

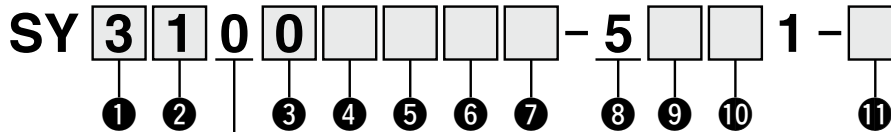
* Only direct mounting is available for Type 11 (Bottom ported).

* Refer to page 295 for the fixation of DIN rail mounting type manifold.

SY3000/5000/7000 Series

How to Order Valves (With mounting screw)

Refer to page 15 for valve specifications.



• Base mounted

1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type of actuation

| | | |
|-----|------------------------|-----------------|
| 1 | 2-position | Single |
| 2 | | Double |
| 3 | 3-position | Closed center |
| 4 | | Exhaust center |
| 5 | | Pressure center |
| A*1 | 4-position dual 3-port | N.C./N.C. |
| B*1 | | N.O./N.O. |
| C*1 | | N.C./N.O. |

*1 Only the 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 the rubber seal type is available. A manifold installed type is available if a back pressure check valve with a metal seal is required. Refer to page 212 for ordering examples. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

* The built-in valve type back pressure check valve is not available for the 3-position type or the SY7000.

6 Pilot valve option

| | |
|-----|-------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K*1 | High-pressure type (1.0 MPa) |

*1 Only the 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 to be continuously energized for long periods of time.

* Be careful of the energizing time when the power-saving circuit is selected. Refer to page 292 for details.

8 Rated voltage

| | |
|---|--------|
| 5 | 24 VDC |
|---|--------|

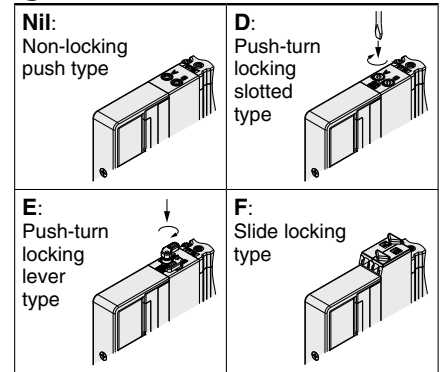
9 Light/surge voltage suppressor and common specification

| Symbol | With light | Surge voltage suppressor | Common specification |
|--------|------------|--------------------------|----------------------|
| R | — | ● | Non-polar |
| U | ● | | Positive common |
| S | — | | Negative common |
| Z | ● | | |
| NS | — | | |
| NZ | ● | | |

* Select "R," "U," "S," or "Z" for the valve when the SI unit output polarity is positive common. Select "R," "U," "NS," or "NZ" for the valve when the SI unit output polarity is negative common.

* Only "Z" and "NZ" are available with a power-saving circuit.

10 Manual override



* Refer to page 34 for the safety slide locking manual override.

11 Type of mounting screw

| | |
|-----|--|
| Nil | Round head combination screw |
| B | Hexagon socket head cap screw |
| K | Round head combination screw (Drop prevention type) |
| H | Hexagon socket head cap screw (Drop 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. Refer to page 198 for base gasket and mounting screw part numbers.

* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly, interface regulator, or double check spacer assembly with residual pressure release valve.

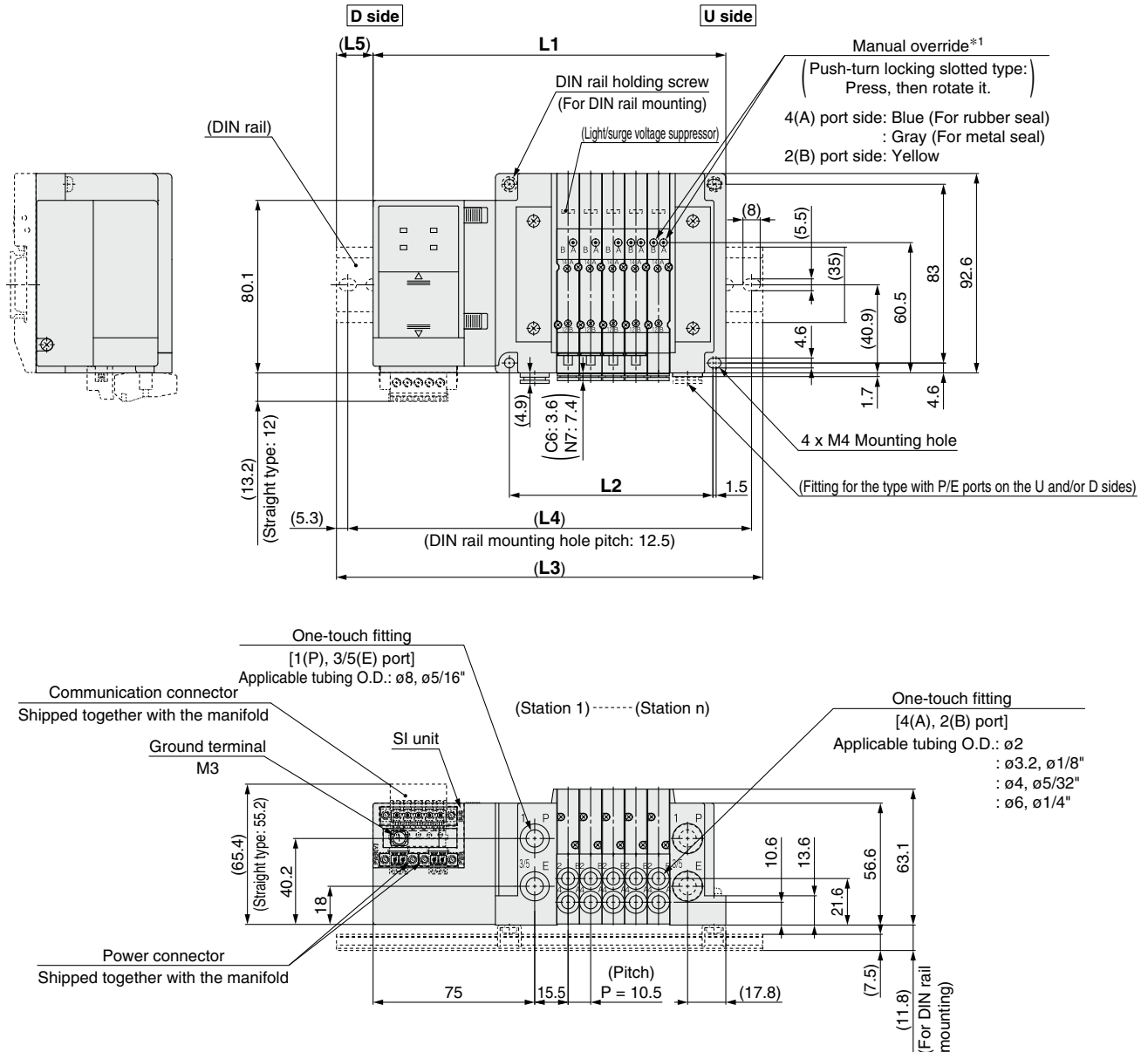
Dimensions: SY3000 Series

Plug-in Connector Connecting Base

Type 10/Side Ported

EX180

SS5Y3-10S8□□□ - Stations $\begin{matrix} \text{U} \\ \text{D} \end{matrix}$ - $\begin{matrix} \text{C2} \\ \text{C3, N1} \\ \text{C4, N3} \\ \text{C6, N7} \end{matrix}$ (D)



*1 Refer to page 157 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.

* These figures show the "SS5Y3-10S8V2-05D-C6."

* Refer to page 162 for dimensions of A or B port top-ported type.

| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 132.3 | 142.8 | 153.3 | 163.8 | 174.3 | 184.8 | 195.3 | 205.8 | 216.3 | 226.8 | 237.3 | 247.8 |
| L2 | 63 | 73.5 | 84 | 94.5 | 105 | 115.5 | 126 | 136.5 | 147 | 157.5 | 168 | 178.5 |
| L3 | 160.5 | 173 | 185.5 | 198 | 198 | 210.5 | 223 | 235.5 | 248 | 260.5 | 260.5 | 273 |
| L4 | 150 | 162.5 | 175 | 187.5 | 187.5 | 200 | 212.5 | 225 | 237.5 | 250 | 250 | 262.5 |
| L5 | 14 | 15 | 16 | 17 | 12 | 13 | 14 | 15 | 16 | 17 | 11.5 | 12.5 |

| n: Stations | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 258.3 | 268.8 | 279.3 | 289.8 | 300.3 | 310.8 | 321.3 | 331.8 | 342.3 | 352.8 | 363.3 |
| L2 | 189 | 199.5 | 210 | 220.5 | 231 | 241.5 | 252 | 262.5 | 273 | 283.5 | 294 |
| L3 | 285.5 | 298 | 310.5 | 323 | 335.5 | 335.5 | 348 | 360.5 | 373 | 385.5 | 398 |
| L4 | 275 | 287.5 | 300 | 312.5 | 325 | 325 | 337.5 | 350 | 362.5 | 375 | 387.5 |
| L5 | 13.5 | 14.5 | 15.5 | 16.5 | 17.5 | 12.5 | 13.5 | 14.5 | 15.5 | 16.5 | 17.5 |

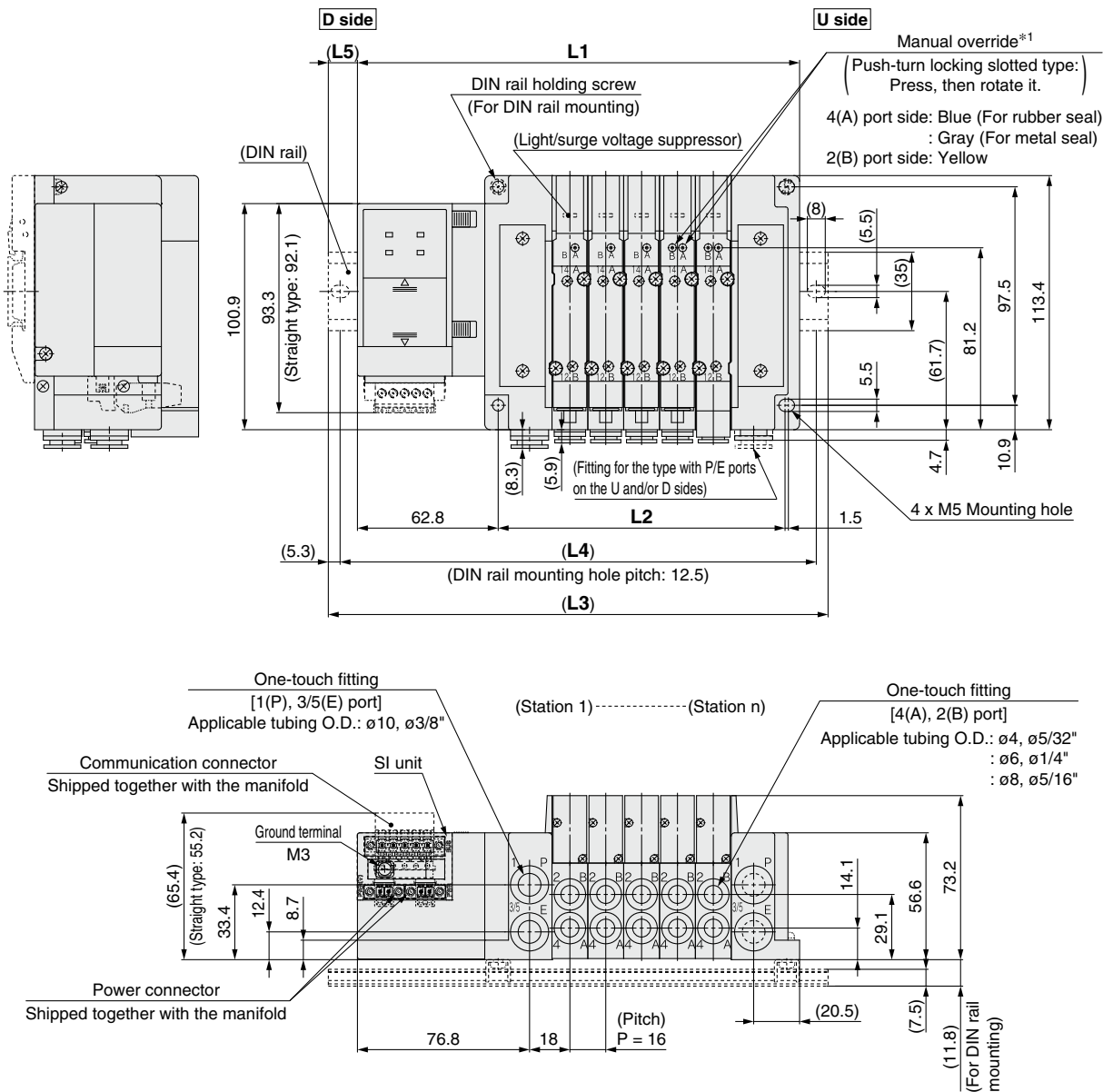
SY3000/5000/7000 Series

Dimensions: SY5000 Series

Plug-in
Connector Connecting Base

Type 10/Side Ported
EX180

SS5Y5-10S8□□□-Stations $\begin{matrix} \text{U} & \text{C4, N3} \\ \text{D} & \text{C6, N7} \\ \text{B} & \text{C8, N9} \end{matrix}$ (D)



*1 Refer to page 158 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.
* These figures show the "SS5Y5-10S8V2-05D-C8."
* Refer to page 163 for dimensions of A or B port top-ported type.

| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 149.3 | 165.3 | 181.3 | 197.3 | 213.3 | 229.3 | 245.3 | 261.3 | 277.3 | 293.3 | 309.3 | 325.3 |
| L2 | 80 | 96 | 112 | 128 | 144 | 160 | 176 | 192 | 208 | 224 | 240 | 256 |
| L3 | 173 | 198 | 210.5 | 223 | 248 | 260.5 | 273 | 285.5 | 310.5 | 323 | 335.5 | 360.5 |
| L4 | 162.5 | 187.5 | 200 | 212.5 | 237.5 | 250 | 262.5 | 275 | 300 | 312.5 | 325 | 350 |
| L5 | 12 | 16.5 | 14.5 | 13 | 17.5 | 15.5 | 14 | 12 | 16.5 | 15 | 13 | 17.5 |

| n: Stations | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 341.3 | 357.3 | 373.3 | 389.3 | 405.3 | 421.3 | 437.3 | 453.3 | 469.3 | 485.3 | 501.3 |
| L2 | 272 | 288 | 304 | 320 | 336 | 352 | 368 | 384 | 400 | 416 | 432 |
| L3 | 373 | 385.5 | 398 | 423 | 435.5 | 448 | 460.5 | 485.5 | 498 | 510.5 | 535.5 |
| L4 | 362.5 | 375 | 387.5 | 412.5 | 425 | 437.5 | 450 | 475 | 487.5 | 500 | 525 |
| L5 | 16 | 14 | 12.5 | 17 | 15 | 13.5 | 11.5 | 16 | 14.5 | 12.5 | 17 |

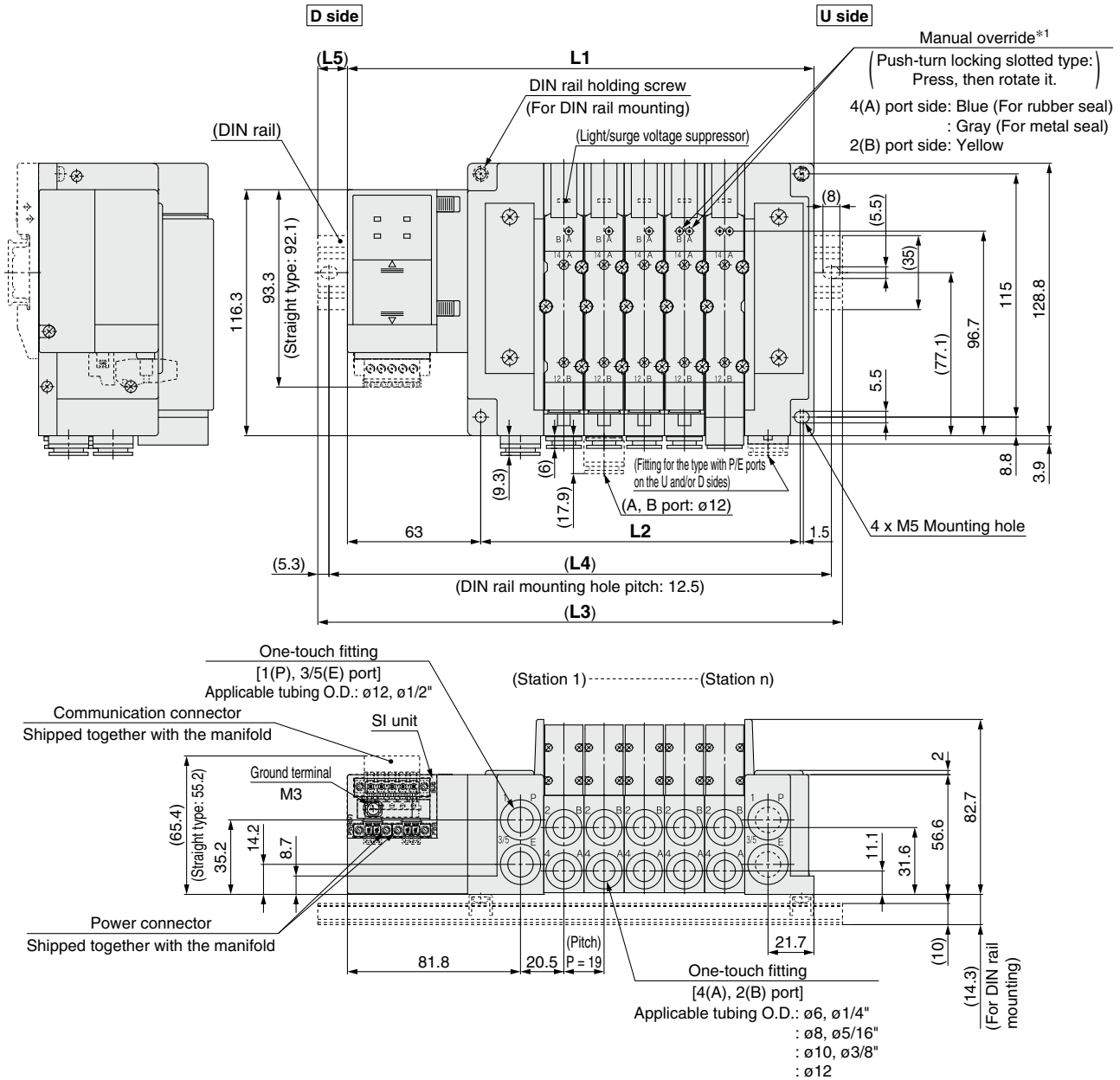


Dimensions: **SY7000 Series**

Plug-in
Connector Connecting Base

Type 10/Side Ported
EX180

SS5Y7-10S8□□□-Stations $\begin{matrix} \text{U} \\ \text{D} \\ \text{B} \end{matrix}$ C6, N7
C8, N9
C10, N11 (D)
C12



*1 Refer to page 159 for dimensions of the external pilot, silencer, elbow fittings, and slide locking manual override.

* These figures show the "SS5Y7-10S8V2-05D-C10."

* Refer to page 164 for dimensions of A or B port top-ported type.

| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 163.5 | 182.5 | 201.5 | 220.5 | 239.5 | 258.5 | 277.5 | 296.5 | 315.5 | 334.5 | 353.5 | 372.5 |
| L2 | 94 | 113 | 132 | 151 | 170 | 189 | 208 | 227 | 246 | 265 | 284 | 303 |
| L3 | 198 | 210.5 | 235.5 | 248 | 273 | 285.5 | 310.5 | 323 | 348 | 360.5 | 385.5 | 398 |
| L4 | 187.5 | 200 | 225 | 237.5 | 262.5 | 275 | 300 | 312.5 | 337.5 | 350 | 375 | 387.5 |
| L5 | 17.5 | 14 | 17 | 14 | 17 | 13.5 | 16.5 | 13.5 | 16.5 | 13 | 16 | 13 |

| n: Stations | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 391.5 | 410.5 | 429.5 | 448.5 | 467.5 | 486.5 | 505.5 | 524.5 | 543.5 | 562.5 | 581.5 |
| L2 | 322 | 341 | 360 | 379 | 398 | 417 | 436 | 455 | 474 | 493 | 512 |
| L3 | 423 | 435.5 | 460.5 | 473 | 498 | 510.5 | 535.5 | 548 | 573 | 598 | 610.5 |
| L4 | 412.5 | 425 | 450 | 462.5 | 487.5 | 500 | 525 | 537.5 | 562.5 | 587.5 | 600 |
| L5 | 16 | 12.5 | 15.5 | 12.5 | 15.5 | 12 | 15 | 12 | 15 | 18 | 14.5 |

Plug-in Connector Connecting Base

EX180

Type 12
Top Ported

SY3000/5000/7000 Series



How to Order Manifolds

SS5Y **3** - 12S8 **Q** **□** **□** - **05** **U** - **□** **□**

Refer to pages 162 to 164 for the dimensions of Type 12/Top-ported type.

1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

3 SI unit output polarity, Number of outputs

| | 32 outputs | 16 outputs |
|-----------------------|------------|------------|
| Without SI unit | Nil | |
| Positive common (NPN) | 2 | 3 |
| Negative common (PNP) | 4 | 5 |

- * When "V" (CC-Link) is selected for the SI unit, only symbol "2" or "4" (32 outputs) can be selected.
- * Ensure a match with the common specification of the valves to be used.

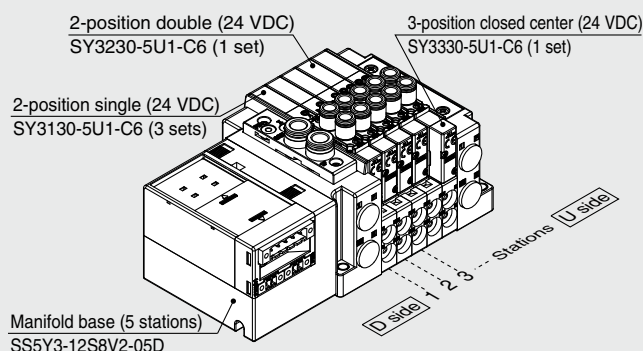
6 P, E port entry, SUP/EXH block assembly

| P, E port entry | Internal pilot | Internal pilot, Built-in silencer | External pilot |
|-------------------------------|----------------|-----------------------------------|----------------|
| U side (2 to 10 stations) | U | C*1 | G |
| D side (2 to 10 stations) | D | E*1 | H |
| Both sides (2 to 24 stations) | B | — | J |

- *1 For SUP/EXH block assembly specifications, built-in silencer types will have P port entry stipulated.
- * For built-in silencer type, P and E ports are available on U and D sides. 3/5(E) port is plugged. The silencer exhaust port is located on the opposite side of P, E port entry. (Example: When the P, E port entry is D side, the silencer exhaust port is U side.)
- * When the built-in silencer type is used, keep the exhaust port from coming in direct contact with water or other liquids.

How to Order Manifold Assembly

Example (SS5Y3-12S8□-□)



SS5Y3-12S8V2-05D 1 set (Type 10 5-station manifold base part no.)
 *SY3130-5U1-C6 3 sets (2-position single part no.)
 *SY3230-5U1-C6 1 set (2-position double part no.)
 *SY3330-5U1-C6 1 set (3-position closed center part no.)
 The asterisk denotes the symbol for the assembly.
 Prefix it to the part numbers of the valve, etc.

- For the valve arrangement, the valve closest to the D side is considered the 1st station.
- Under the manifold part number, state the valves to be mounted in order starting with the 1st station as shown in the figure above. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.

2 SI unit

| | |
|---|-----------------|
| 0 | Without SI unit |
| Q | DeviceNet™ |
| V | CC-Link |

- * Only the connector block assembly is mounted for models without an SI unit.

4 Communication connector

| | |
|-----|---------------|
| Nil | T-branch type |
| A | Straight type |

- * The communication connector and power connector are shipped together with the manifold. The power connector is only available for the straight type.
- * When not selecting an SI unit, the symbol will be "nil."

5 Valve stations

In the case of the 32-output SI unit

| Symbol | Stations | Note |
|--------|-------------|--|
| 02 | 2 stations | Double wiring*1 |
| 16 | 16 stations | |
| 02 | 2 stations | Specified layout*2 (Up to 32 solenoids available) |
| 24 | 24 stations | |

In the case of the 16-output SI unit

| Symbol | Stations | Note |
|--------|-------------|--|
| 02 | 2 stations | Double wiring*1 |
| 08 | 8 stations | |
| 02 | 2 stations | Specified layout*2 (Up to 16 solenoids available) |
| 16 | 16 stations | |

- *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.
- *2 Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position, and 4-position valves cannot be used where single wiring has been specified.)
- * This also includes the number of the blanking plate assembly.
- * For the product without the SI unit (S80), note the maximum number of solenoids of the SI unit that will be mounted. If the layout is specified, indicate it on the manifold specification sheet.

7 P, E port size (One-touch fittings)

| Symbol | SY3000 | SY5000 | SY7000 |
|--------|--------|--------|--------|
| Nil | ø8 | ø10 | ø12 |
| N | ø5/16" | ø3/8" | ø1/2" |

- * For N, sizes are in inches.

8 Mounting

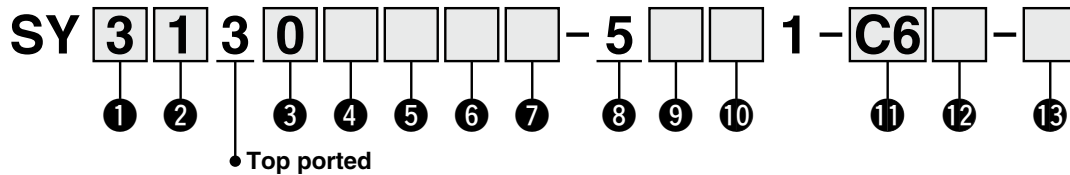
| | |
|-----|--------------------------------------|
| Nil | Direct mounting |
| D | DIN rail mounting (With DIN rail) |
| D0 | DIN rail mounting (Without DIN rail) |
| D3 | For 3 stations |
| ⋮ | ⋮ |
| D24 | For 24 stations |

- * Refer to page 295 for the fixation of DIN rail mounting type manifold.

For details on the EX180 Integrated Type (For Output) Serial Transmission System, refer to the **Web Catalog** and the Operation Manual. For the part numbers of the SI units to be mounted, refer to page 196-1. Please download the Operation Manual via the SMC website: <https://www.smcworld.com>

How to Order Valves (With mounting screw)

Refer to page 15 for valve specifications.



1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type of actuation

| | | |
|-----|-------------|-----------------|
| 1 | 2-position | Single |
| 2 | | Double |
| 3 | 3-position | Closed center |
| 4 | | Exhaust center |
| 5 | | Pressure center |
| A*1 | 4-position | N.C./N.C. |
| B*1 | dual 3-port | N.O./N.O. |
| C*1 | | N.C./N.O. |

*1 Only the 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 the rubber seal type is available. A manifold installed type is available if a back pressure check valve with a metal seal is required. Refer to page 212 for ordering examples. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

* The built-in valve type back pressure check valve is not available for the 3-position type or the SY7000.

6 Pilot valve option

| | |
|-----|-------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K*1 | High-pressure type (1.0 MPa) |

*1 Only the 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 to be continuously energized for long periods of time.

* Be careful of the energizing time when the power-saving circuit is selected. Refer to page 292 for details.

8 Rated voltage

| | |
|---|--------|
| 5 | 24 VDC |
|---|--------|

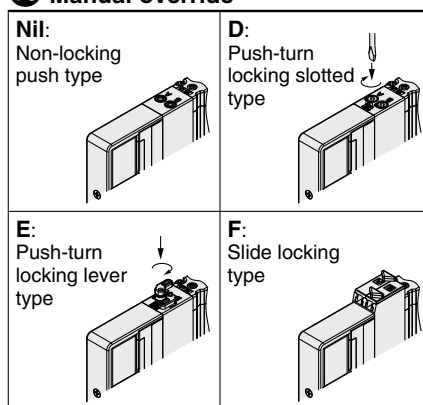
9 Light/surge voltage suppressor and common specification

| Symbol | With light | Surge voltage suppressor | Common specification |
|--------|------------|--------------------------|----------------------|
| R | — | | Non-polar |
| U | ● | | |
| S | — | ● | Positive common |
| Z | ● | | |
| NS | — | | Negative common |
| NZ | ● | | |

* Select "R," "U," "S," or "Z" for the valve when the SI unit output polarity is positive common. Select "R," "U," "NS," or "NZ" for the valve when the SI unit output polarity is negative common.

* Only "Z" and "NZ" are available with a power-saving circuit.

10 Manual override



* Refer to page 34 for the safety slide locking manual override.

11 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 |

One-touch fitting (Metric)

| Symbol | A, B port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| C2 | ø2 | ● | — | — |
| C3 | ø3.2 | ● | — | — |
| C4 | ø4 | ● | ● | — |
| C6 | ø6 | ● | ● | ● |
| C8 | ø8 | — | ● | ● |
| C10 | ø10 | — | — | ● |
| C12 | ø12 | — | — | ● |

One-touch fitting (Inch)

| Symbol | A, B port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| N1 | ø1/8" | ● | — | — |
| N3 | ø5/32" | ● | ● | — |
| N7 | ø1/4" | ● | ● | ● |
| N9 | ø5/16" | — | ● | ● |
| N11 | ø3/8" | — | — | ● |

12 Thread type

| | |
|-----|------|
| Nil | Rc |
| F | G |
| N | NPT |
| T | NPTF |

* Only Nil is available for M5.

13 Type of mounting screw

| | |
|-----|--|
| Nil | Round head combination screw |
| B | Hexagon socket head cap screw |
| K | Round head combination screw (Drop prevention type) |
| H | Hexagon socket head cap screw (Drop 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.**

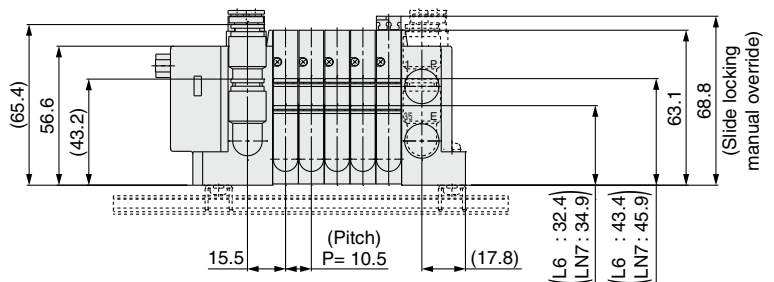
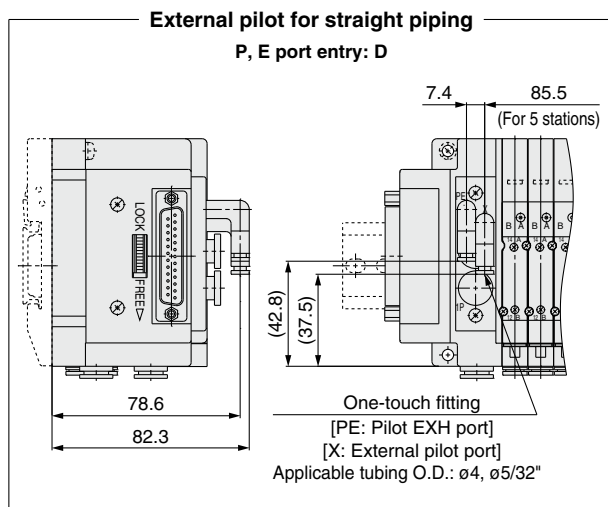
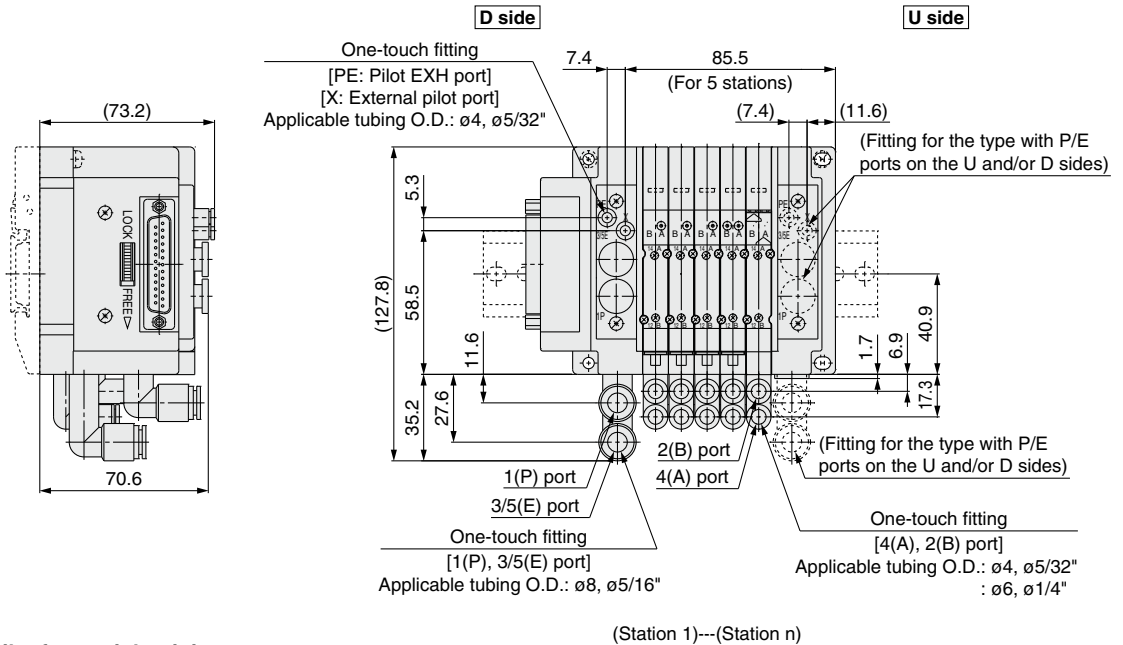
Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance. Refer to page 367 for base gasket and mounting screw part numbers.

* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly or interface regulator.

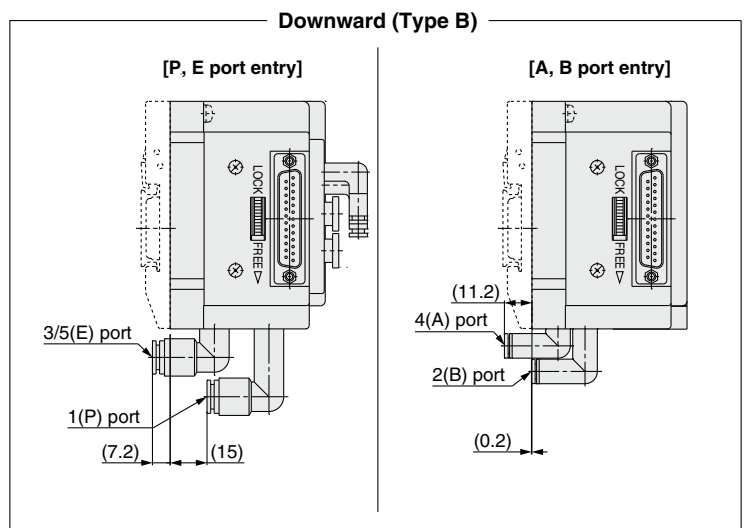
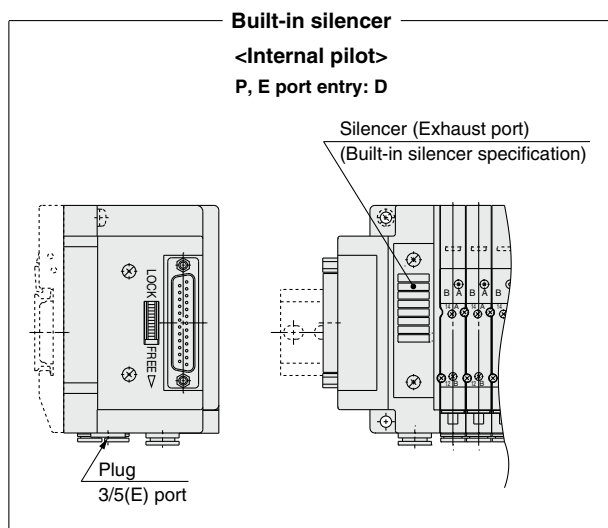
SY3000/5000/7000 Series Common Dimensions

| SY3000 Series | Plug-in Connector Connecting Base | Type 10/Side Ported |
|---------------|--------------------------------------|---|
| | | External Pilot, Silencer, Elbow Fittings, Slide Locking Manual Override |

SS5Y3-10□ - Stations $\frac{U}{D}$ (S, R) - $\frac{1}{B}$ □



* These figures show the "SS5Y3-10F2-05DR-L6."



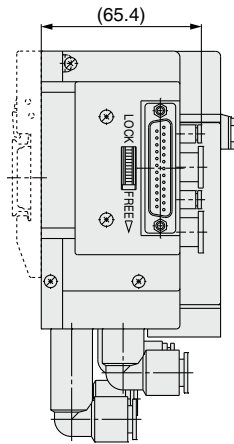
SY5000 Series

Plug-in Connector Connecting Base

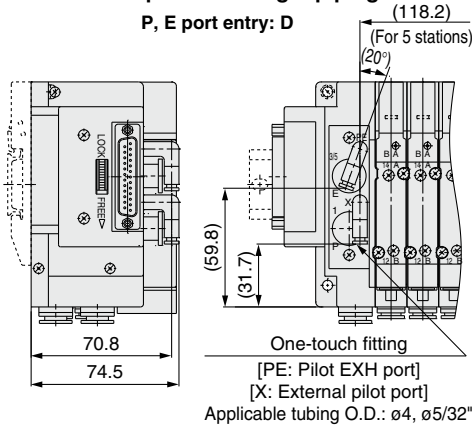
Type 10/Side Ported

External Pilot, Silencer, Elbow Fittings, Slide Locking Manual Override

SS5Y5-10□-Stations $\frac{U}{D}$ (S, R)- $\frac{L}{B}$ □

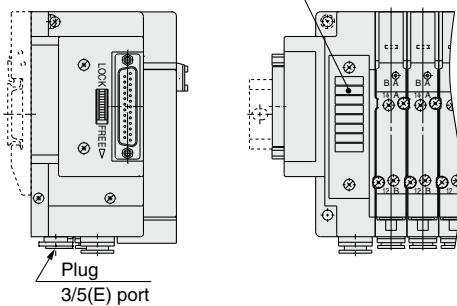


External pilot for straight piping
P, E port entry: D



Built-in silencer
P, E port entry: D

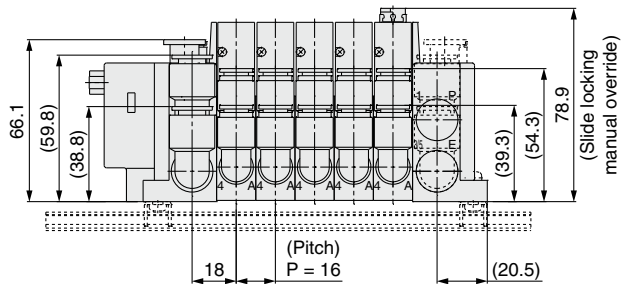
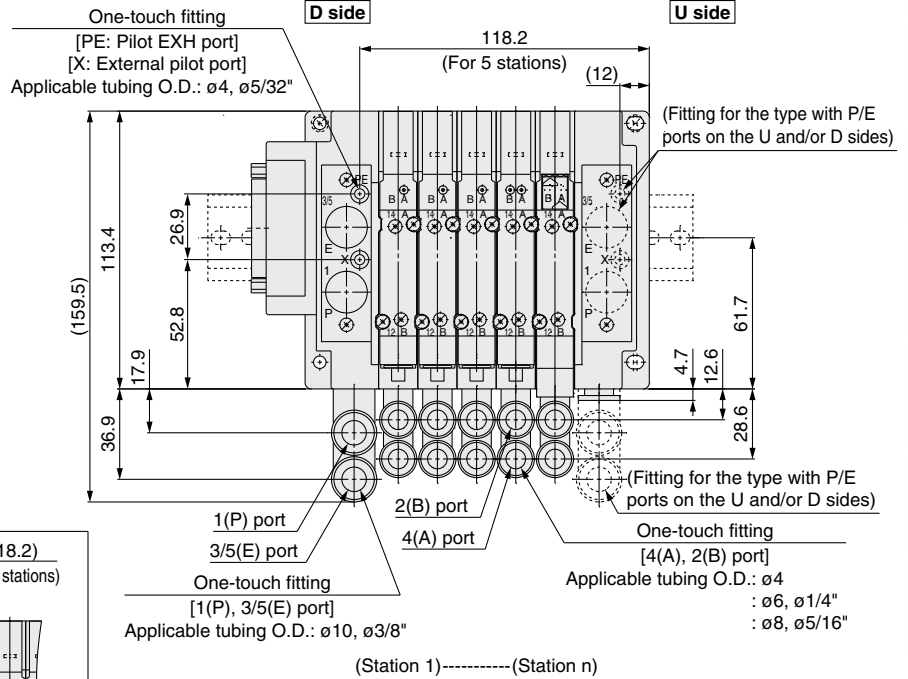
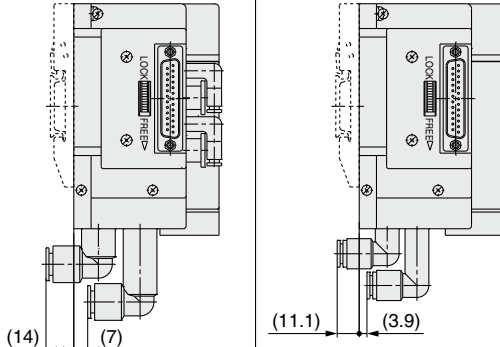
Silencer (Exhaust port)
(Built-in silencer specification)



Downward (Type B)

[P, E port entry]

[A, B port entry]

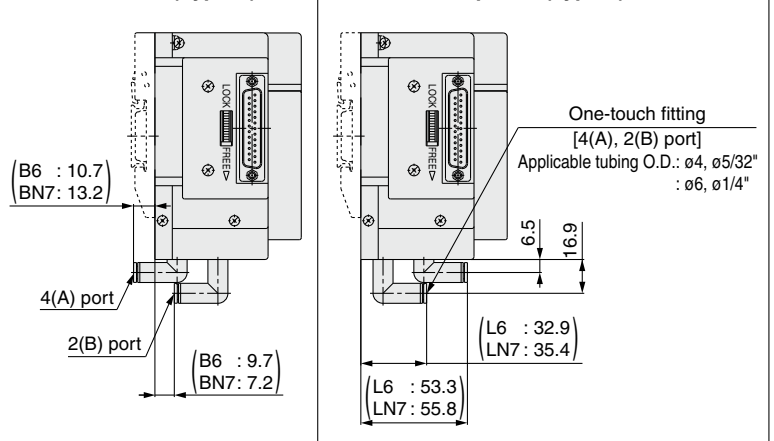


* These figures show the "SS5Y5-10F2-05DR-L8."

Valve/SY3000 Series (Mixed Mounting)

Downward (Type B)

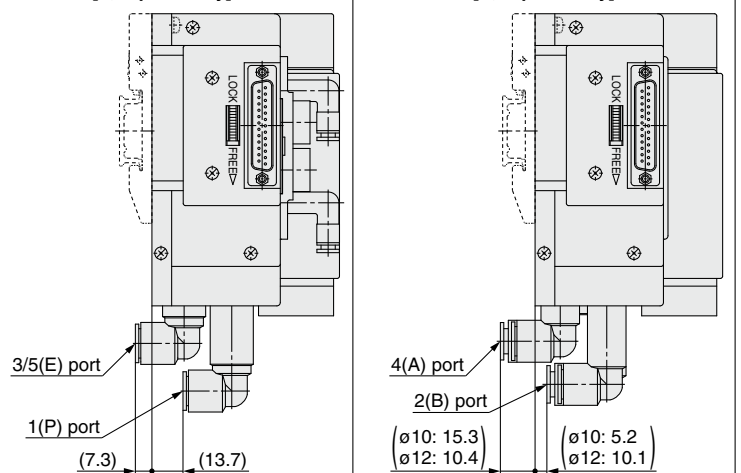
Upward (Type L)



SY7000 Series

Type 10/Side Ported

SS5Y7-10 ☐ - **Stations** $\frac{U}{D}$ **(S, R)** - $\frac{L}{B}$ ☐

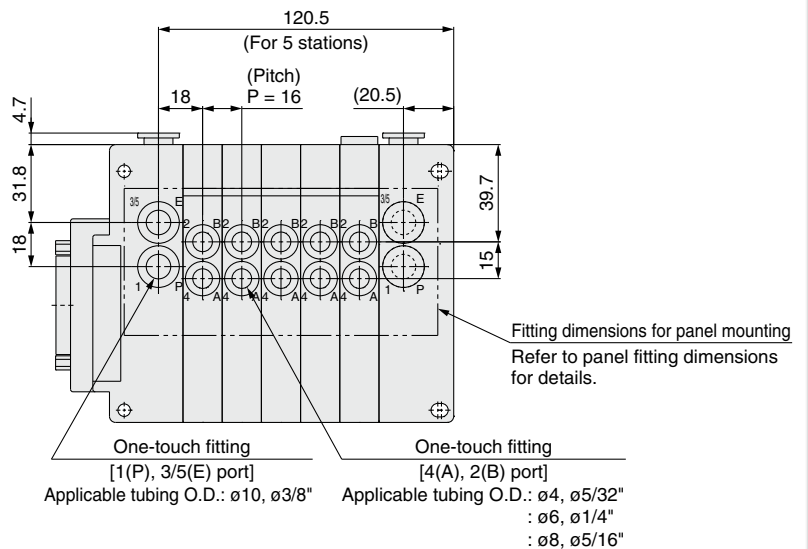
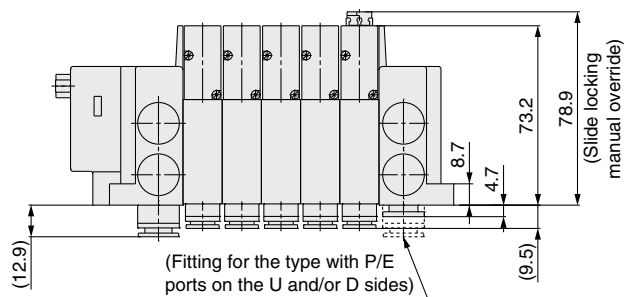
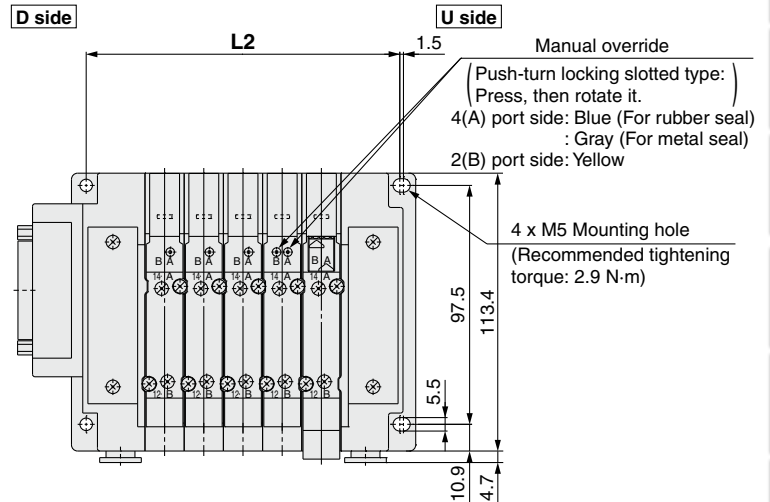
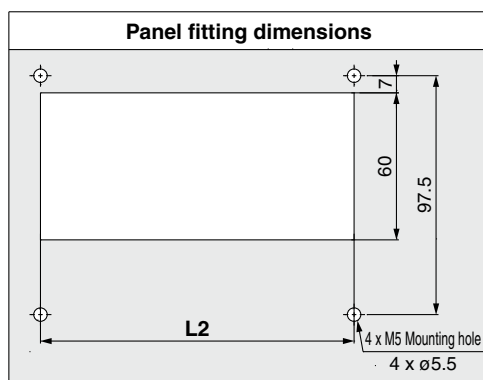
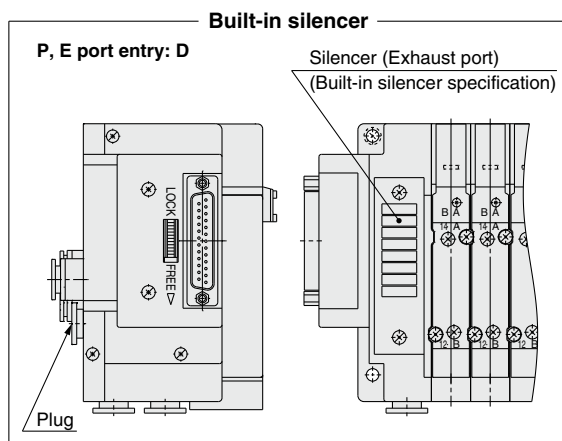
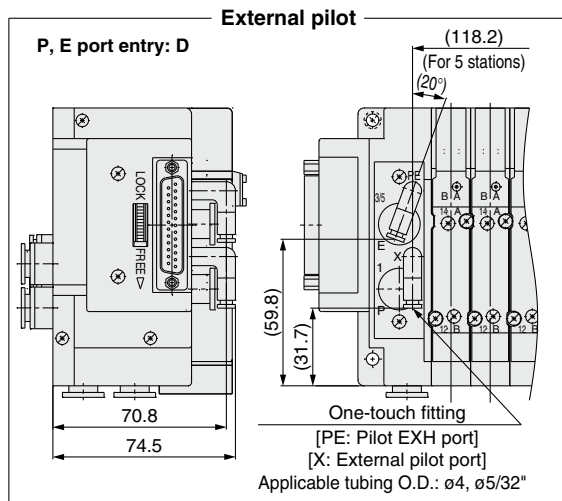
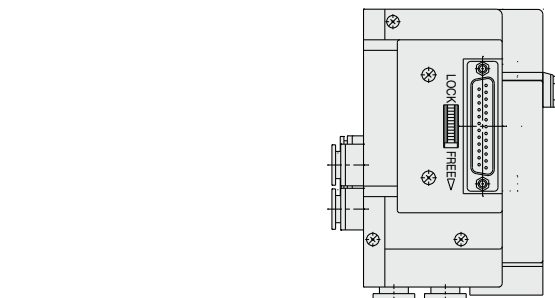


SY5000 Series

SS5Y5-11 □ - Stations ^U_DB

Plug-in Connector Connecting Base

Type 11/Bottom Ported
All Wirings



* These figures show the "SS5Y5-11F2-05D-C8."

* Refer to the pages below for L2 dimensions and other dimensions that are not specified in each wiring specification.

| | |
|----------------------------------|--------------|
| D-sub connector <IP40> | p. 45 |
| D-sub connector <IP67> | p. 48 |
| Flat ribbon cable | p. 51 |
| Terminal block box (Spring type) | p. 62 |
| Terminal block box | p. 71 |
| Lead wire | p. 81 |
| Circular connector | p. 91 |
| EX500 (128 points) | p. 101 |
| EX500 (64 points) | p. 107 |
| EX600 | pp. 118, 119 |
| EX250 | p. 129 |
| EX260 | p. 137 |
| EX126 | p. 145 |
| EX120 | p. 153 |



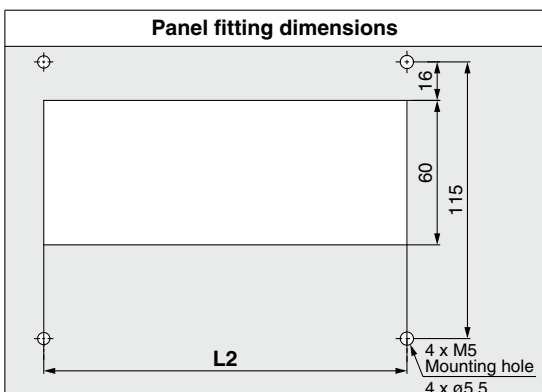
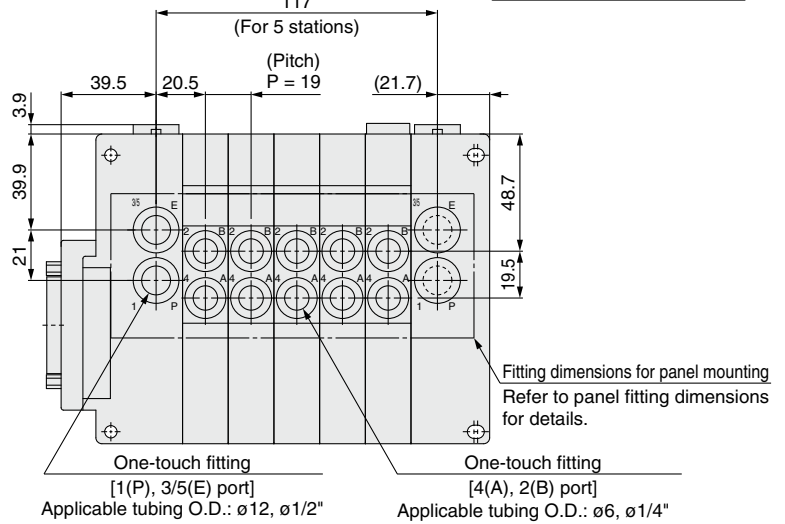
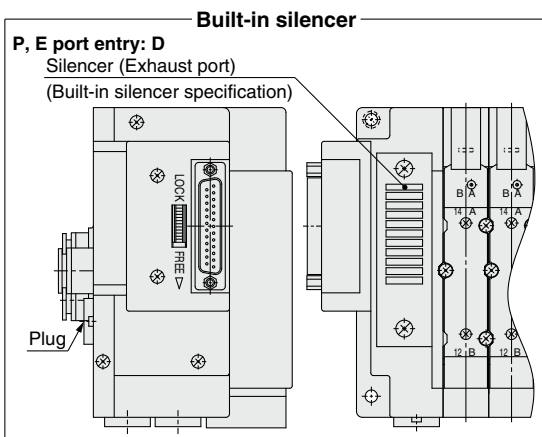
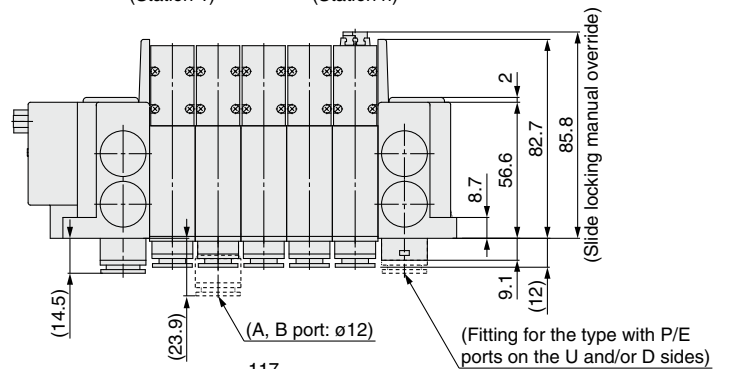
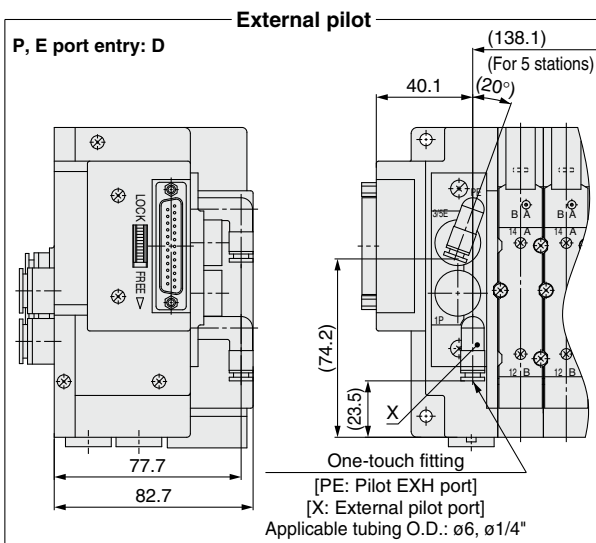
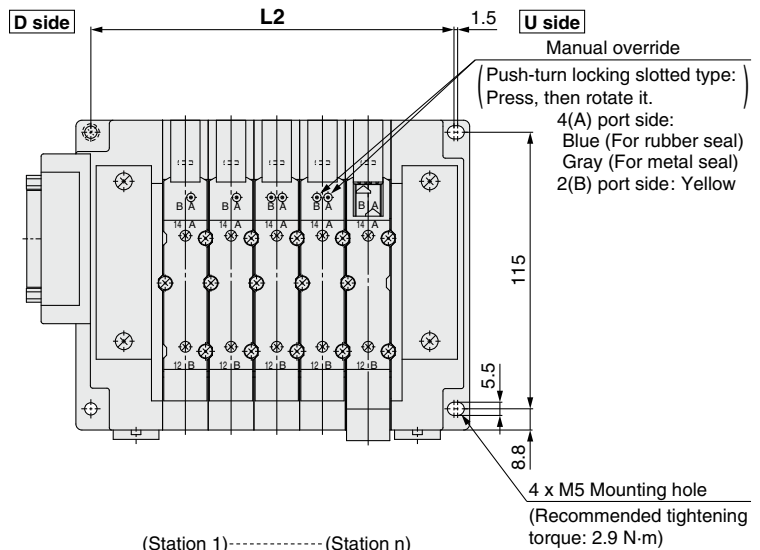
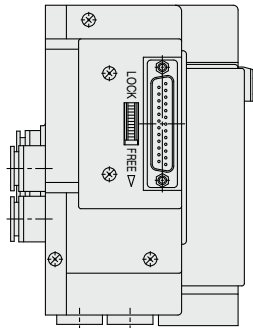
SY3000/5000/7000 Series

SY7000 Series

SS5Y7-11 □ - Stations ^U_D

Plug-in Connector Connecting Base

Type 11/Bottom Ported
All Wirings



- * These figures show the "SS5Y7-11F2-05D-C10."
- * Refer to the pages below for L2 dimensions and other dimensions that are not specified in each wiring specification.
- D-sub connector <IP40> : p. 46
- D-sub connector <IP67> : p. 49
- Flat ribbon cable : p. 52
- Terminal block box (Spring type) : p. 63
- Terminal block box : p. 72
- Lead wire : p. 82
- Circular connector : p. 92
- EX500 (128 points) : p. 102
- EX500 (64 points) : p. 108
- EX600 : pp. 120, 121
- EX250 : p. 130
- EX260 : p. 138
- EX126 : p. 146
- EX120 : p. 154

Applicable tubing O.D.: $\phi 6$, $\phi 1/4$ "
: $\phi 8$, $\phi 5/16$ "
: $\phi 10$, $\phi 3/8$ "
: $\phi 12$

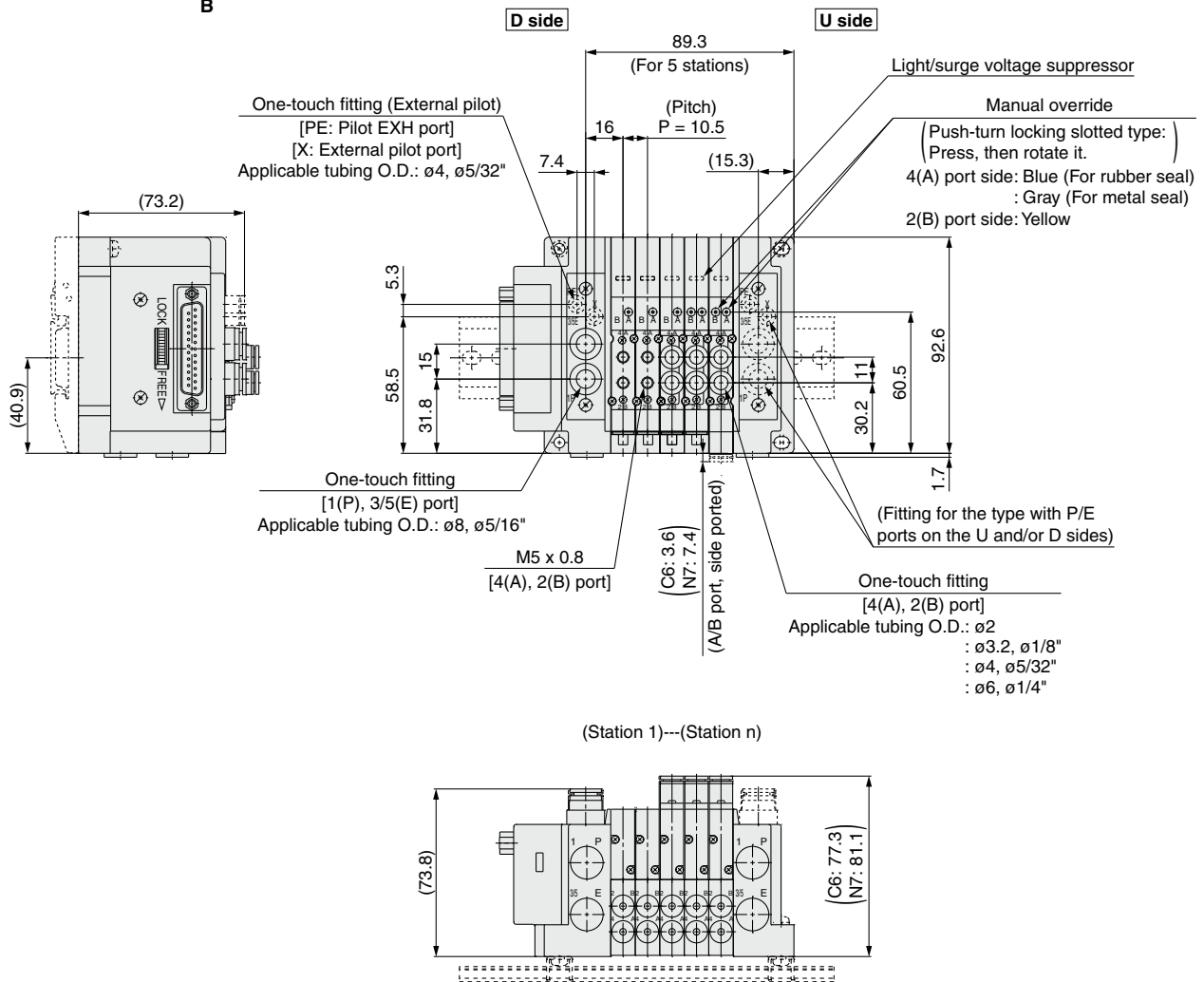
SY3000 Series

SS5Y3-12□ - Stations $\begin{matrix} U \\ D \end{matrix}$ (R)

**Plug-in
Connector Connecting Base**

Type 12/Top Ported

All Wirings



* These figures show the "SS5Y3-12F2-05D."

* For the built-in silencer type, a silencer is mounted on the opposite side of U or D side with P or E port. Refer to page 157 for dimensions of the silencer.

* Refer to the pages below for dimensions that are not specified in each wiring specification.

| | |
|----------------------------------|----------------|
| D-sub connector <IP40> | : p. 44 |
| D-sub connector <IP67> | : p. 47 |
| Flat ribbon cable | : p. 50 |
| Terminal block box (Spring type) | : p. 61 |
| Terminal block box | : p. 70 |
| Lead wire | : p. 80 |
| Circular connector | : p. 90 |
| EX500 (128 points) | : p. 100 |
| EX500 (64 points) | : p. 106 |
| EX600 | : pp. 116, 117 |
| EX250 | : p. 128 |
| EX260 | : p. 136 |
| EX126 | : p. 144 |
| EX120 | : p. 152 |

SY3000/5000/7000 Series

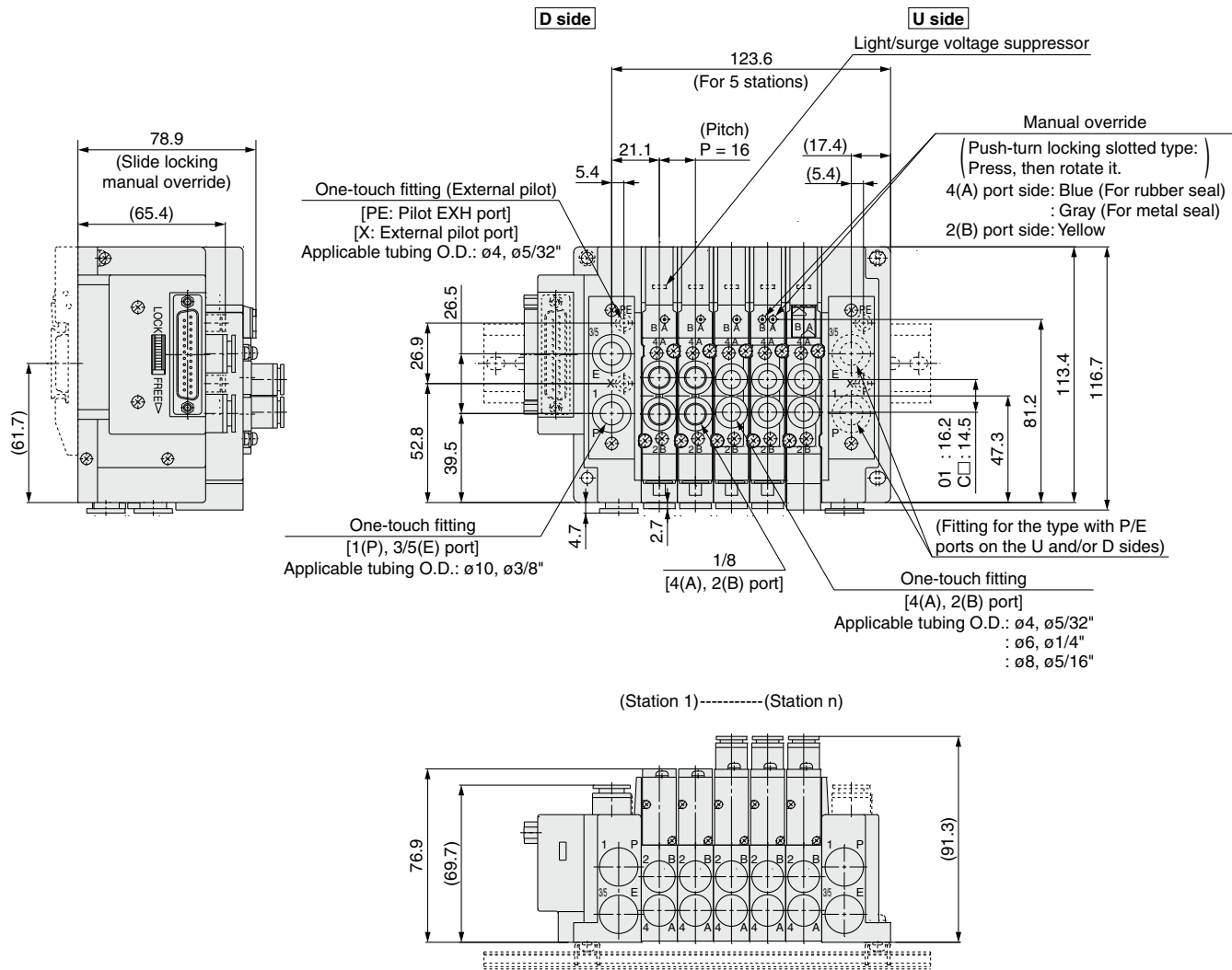
SY5000 Series

SS5Y5-12□ - Stations $\begin{matrix} U \\ D \end{matrix}$ (R)

Plug-in
Connector Connecting Base

Type 12/Top Ported

All Wirings



* These figures show the "SS5Y5-12F2-05D."

* For the built-in silencer type, a silencer is mounted on the opposite side of U or D side with P or E port.
Refer to page 158 for dimensions of the silencer.

* Refer to the pages below for dimensions that are not specified in each wiring specification.

| | |
|----------------------------------|----------------|
| D-sub connector <IP40> | : p. 45 |
| D-sub connector <IP67> | : p. 48 |
| Flat ribbon cable | : p. 51 |
| Terminal block box (Spring type) | : p. 62 |
| Terminal block box | : p. 71 |
| Lead wire | : p. 81 |
| Circular connector | : p. 91 |
| EX500 (128 points) | : p. 101 |
| EX500 (64 points) | : p. 107 |
| EX600 | : pp. 118, 119 |
| EX250 | : p. 129 |
| EX260 | : p. 137 |
| EX126 | : p. 145 |
| EX120 | : p. 153 |

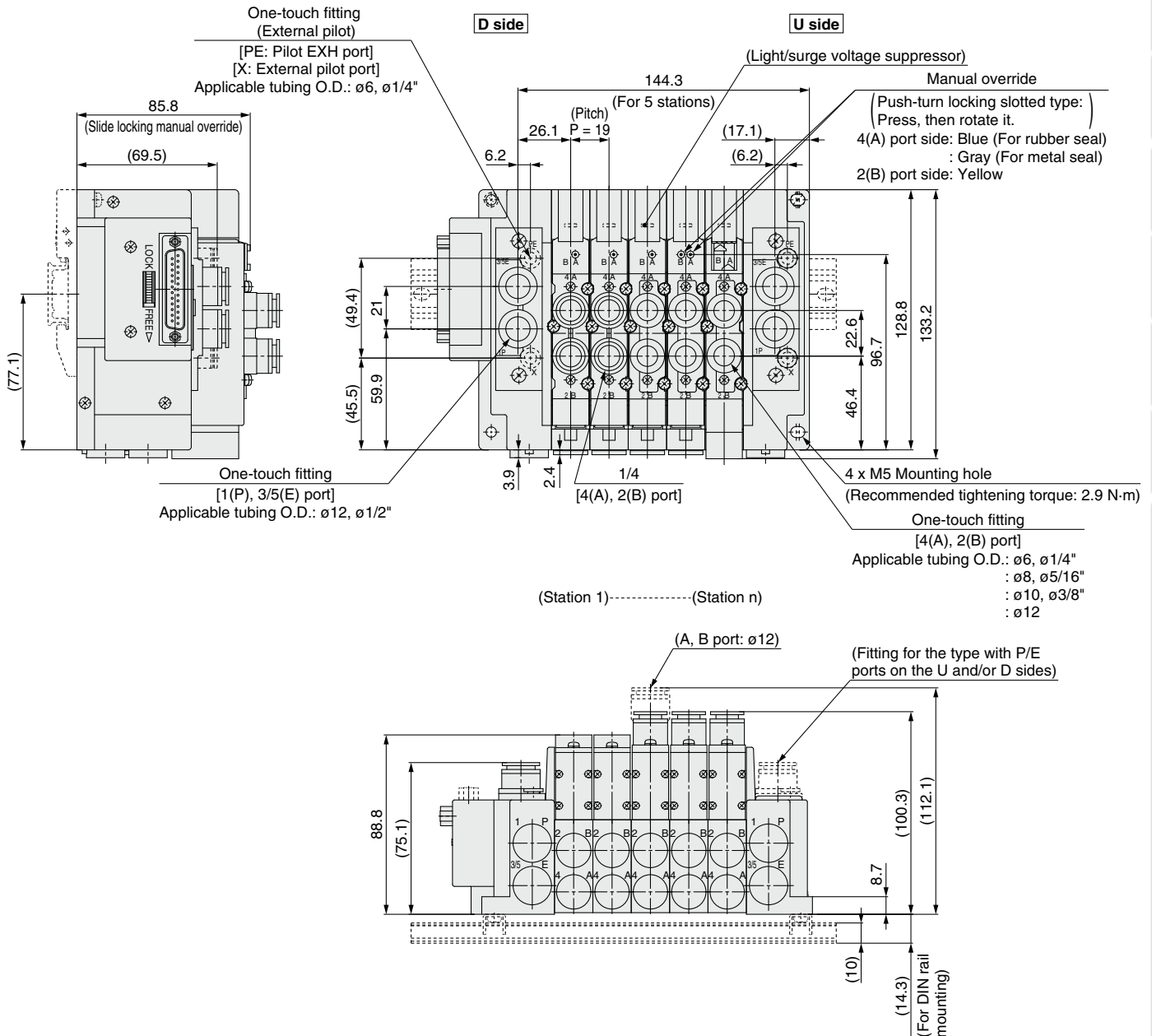
SY7000 Series

SS5Y7-12□ - Stations $\begin{matrix} U \\ P \\ B \end{matrix}$ (R)

**Plug-in
Connector Connecting Base**

Type 12/Top Ported

All Wirings



* These figures show the "SS5Y7-12F2-05D."

* For the built-in silencer type, a silencer is mounted on the opposite side of U or D side with P or E port.
Refer to page 159 for dimensions of the silencer.

* Refer to the pages below for dimensions that are not specified in each wiring specification.

| | |
|----------------------------------|----------------|
| D-sub connector <IP40> | : p. 46 |
| D-sub connector <IP67> | : p. 49 |
| Flat ribbon cable | : p. 52 |
| Terminal block box (Spring type) | : p. 63 |
| Terminal block box | : p. 72 |
| Lead wire | : p. 82 |
| Circular connector | : p. 92 |
| EX500 (128 points) | : p. 102 |
| EX500 (64 points) | : p. 108 |
| EX600 | : pp. 120, 121 |
| EX250 | : p. 130 |
| EX260 | : p. 138 |
| EX126 | : p. 146 |
| EX120 | : p. 154 |

Type 10
Side Ported

Type 11
Bottom Ported

Plug-in Connector Connecting Base: Plug-in Mixed Mounting Type Manifold

D-sub Connector (IP40/67) Flat Ribbon Cable Terminal Block Box/Spring Type (IP67)

Terminal Block Box (IP67) Lead Wire (IP67) Circular Connector (IP67) EX500 (IP67)

EX600 (IP67) EX245 (IP65) EX250 (IP67) EX260 (IP67) EX126 (IP67) EX120 EX180

SY3000/5000 Series



* Refer to the connector type.

The SY3000 can be mounted onto the SY5000 size manifold.

How to Order Manifolds

Refer to page 174 for the dimensions of Type 11/ Bottom-ported type.

SS5Y5 - M 10 F 1 - 05 U - C 8 6

1 2 3 4 5 6 7 8 9 10

Mixed Mounting Type

It is possible to mount the SY3000 size valves on all stations. In this case, there is no need to fill in part ③ in the order code. However, the manifold block width should be 12.5 mm.

① Type

| | |
|-----------|---------------|
| 10 | Side ported |
| 11 | Bottom ported |

② Connector type

| Symbol | Type | Page |
|--------------|---|----------|
| F | D-sub connector | IP40 |
| FW | (25 pins) | IP67 |
| P | Flat ribbon cable | 26 pins |
| PG | | 20 pins |
| PH | | 10 pins |
| TC | Terminal block box (Spring type) | 59 |
| T | Terminal block box | 67 |
| L1 | Lead wire | 34 cores |
| L2 | | 17 cores |
| L3 | | 9 cores |
| M | Circular connector | 87 |
| S□ | EX500 Gateway Decentralized System 2 (128 points) | 97 |
| S□ | EX500 Gateway Decentralized System (64 points) | 103 |
| S6□ | EX600 | 113 |
| SA□ | EX245 | 124-1 |
| S□ | EX250 | 125 |
| S□ | EX260 | 133 |
| S4□*1 | EX126 | 141 |
| S3□*1 | EX120 | 149 |
| S8□ | EX180 | 156-1 |

*1 EX126, EX120 are not yet UL-compliant.

* Refer to the pages shown in the table above for details.

③

• With Lead wire

Lead wire length

| | |
|----------|-------|
| 1 | 0.6 m |
| 2 | 1.5 m |
| 3 | 3 m |

• With D-sub connector (IP40/67) and Flat ribbon cable

Connector entry direction

| | |
|----------|---------|
| 1 | Upward |
| 2 | Lateral |

* It is not necessary to select the items above for the valve with terminal block box or with circular connector or the serial transmission type.

④ Valve stations

| Symbol | Stations | Note |
|-----------|-------------|--|
| 02 | 2 stations | Some connectors have a limitation on the number of stations. Refer to the pages shown in the table |
| : | : | "Connector type" for details. |
| 24 | 24 stations | |

⑤ P, E port entry

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

* Refer to page 113 for the EX600 and ⑦ on page 125 for the EX250.

⑥ SUP/EXH block assembly

| | |
|------------|-----------------------------------|
| Nil | Internal pilot |
| S | Internal pilot, Built-in silencer |
| R | External pilot |

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

* Refer to page 113 for the EX600 and ⑦ on page 125 for the EX250.

⑦ Fitting type: One-touch fitting

| Symbol | A, B port |
|-------------|--|
| C | Straight |
| L | Metric size |
| B | Elbow |
| N | Straight |
| LN | Inch size |
| BN | Elbow |
| CM*1 | Mixed sizes |
| LM*1 | Elbow (Including upward and downward piping)*2 |

*1 Select CM or LM if mixed port sizes are to be used for each series. (For example, if mixed sizes, such as C6 and C8, are to be used for the SY5000 series) In such cases, indicate the sizes on the manifold specification sheet.

The direction of P, E port fittings is the same as for the A, B port. If selecting "LM," indicate it on the manifold specification sheet for the P, E port fitting direction.

*2 To avoid interference with the body or piping, select a downward elbow port when mounting the optional spacer assembly (pages 204 to 206). Elbow fittings are not available for Type 11 (Bottom ported).

* Elbow fittings: ø2, ø3.2, and ø1.8" are not available for the SY3000 series. ø2, ø3.2, ø1.8", and ø5/32" are not available for the SY5000 series.

8 SY5000: A, B port size

(Metric/One-touch fitting)

| Symbol | Port size |
|--------|----------------------------|
| 4 | ø4 |
| 6 | ø6 |
| 8 | ø8 |
| Nil | For all stations of SY3000 |

(Inch/One-touch fitting)

| Symbol | Port size |
|--------|----------------------------|
| 3 | ø5/32" |
| 7 | ø1/4" |
| 9 | ø5/16" |
| Nil | For all stations of SY3000 |

* No symbol needs to be specified when fitting type "CM" or "LM" is selected.

9 SY3000: A, B port size

(Metric/One-touch fitting)

| Symbol | Port size |
|--------|-----------|
| 2 | ø2 |
| 3 | ø3.2 |
| 4 | ø4 |
| 6 | ø6 |
| 8 | ø8*1 |

(Inch/One-touch fitting)

| Symbol | Port size |
|--------|-----------|
| 1 | ø1/8" |
| 3 | ø5/32" |
| 7 | ø1/4" |
| 9 | ø5/16"*1 |

*1 The valve pitch is the same as that of the SY5000.

* No symbol needs to be specified when fitting type "CM" or "LM" is selected.

10 Mounting

| | |
|-----|--------------------------------------|
| Nil | Direct mounting |
| D | DIN rail mounting (With DIN rail) |
| D0 | DIN rail mounting (Without DIN rail) |
| D3 | For 3 stations |
| ⋮ | ⋮ |
| D24 | For 24 stations |

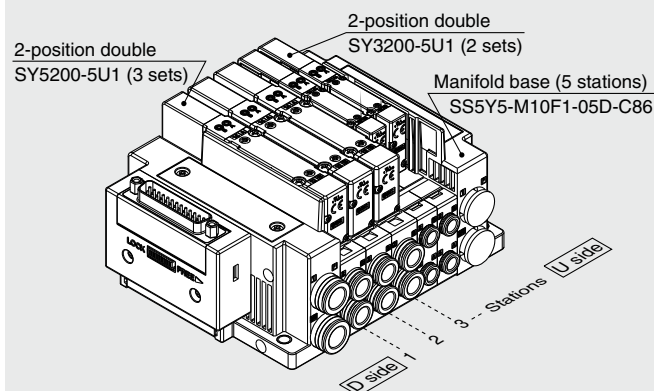
* Only direct mounting is available for the type 11 bottom-ported type.

* Refer to page 172 to determine the L3 using "Calculation formula" for the DIN rail length.

* Refer to page 295 for the fixation of DIN rail mounting type manifold.

How to Order Manifold Assembly

Example (SS5Y5-M10F1-□)



SS5Y5-M10F1-05D-C86 ... 1 set (Type M10 5-station manifold base part no.)

*SY5200-5U1 3 sets (2-position double part no.)

*SY3200-5U1 2 sets (2-position double part no.)

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

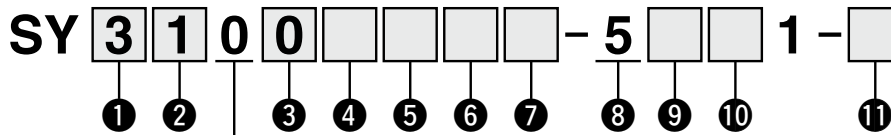
- For the valve arrangement, the valve closest to the D side is considered the 1st station.
- Under the manifold part number, state the valves to be mounted in order starting with the 1st station as shown in the figure above. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.

* When mixing top-ported configurations, select from those listed on page 178. In such cases, use caution as there is also output on the A and B ports on the base side.
Specify on the manifold specification sheet if plugs are required for the A and B ports on the base side.

SY3000/5000 Series

How to Order Valves (With mounting screw)

Refer to page 15 for valve specifications.



Base mounted

1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |

2 Type of actuation

| | | |
|-----|------------------------|-----------------|
| 1 | 2-position | Single |
| 2 | | Double |
| 3 | 3-position | Closed center |
| 4 | | Exhaust center |
| 5 | | Pressure center |
| A*1 | 4-position dual 3-port | N.C./N.C. |
| B*1 | | N.O./N.O. |
| C*1 | | N.C./N.O. |

*1 Only the 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 the rubber seal type is available. A manifold installed type is available if a back pressure check valve with a metal seal is required. Refer to page 212 for ordering examples. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

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

6 Pilot valve option

| | |
|-----|-------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K*1 | High pressure type (1.0 MPa) |

*1 Only the 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 if the valve is to be continuously energized for long periods of time.
* Be careful of the energizing time when the power saving circuit is selected. Refer to page 292 for details.

8 Rated voltage

| | |
|---|--------|
| 5 | 24 VDC |
| 6 | 12 VDC |

* Only 24 VDC is available for the serial transmission type.

9 Light/surge voltage suppressor and common specification

| Symbol | With light | Surge voltage suppressor | Common specification |
|--------|------------|--------------------------|----------------------|
| Nil | — | — | Non-polar |
| R | — | — | |
| U | ● | — | |
| S | — | ● | Positive common |
| Z | ● | — | Negative common |
| NS | — | — | |
| NZ | ● | — | |

* "Nil" is not available for the SI unit manifold.

* For the non-polar type, be careful of surge voltage intrusion.

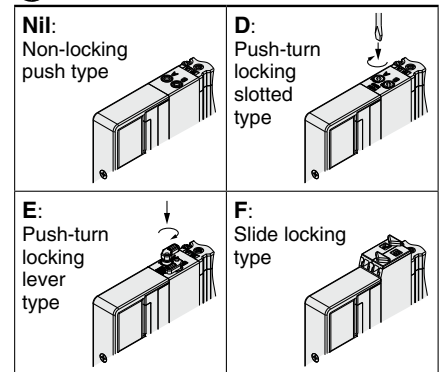
Refer to page 293 for details.

* Only "Z" and "NZ" types are available with a power saving circuit. Select a valve which is suited to the SI unit output polarity or SI unit specification when the SI unit is selected.

Refer to the pages below for details.

EX500: pp. 99, 105 EX600: p. 115
EX245: p. 124-1 EX250: p. 127
EX260: p. 135 EX126: p. 143
EX120: p. 151 EX180: p. 156-1

10 Manual override



* Refer to page 34 for the safety slide locking manual override.

11 Type of mounting screw

| | |
|-----|--|
| Nil | Round head combination screw |
| B | Hexagon socket head cap screw |
| K | Round head combination screw (Drop prevention type) |
| H | Hexagon socket head cap screw (Drop 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. Refer to page 198 for base gasket and mounting screw part numbers.

* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly, interface regulator, or double check spacer assembly with residual pressure release valve.

| |
|--------------------------------------|
| Chart |
| Valve Specifications |
| Valve Construction |
| Valve Replacement Parts |
| With Residual Pressure Release Valve |
| Vacuum Release Valve with Restrictor |
| With Pressure Sensor |
| Made to Order |
| Connector Connecting Base |
| D-sub, Flat Ribbon |
| Terminal Block |
| Lead Wire |
| Circular Connector |
| EX500 |
| EX600 |
| EX250 |
| EX260 |
| EX126 |
| EX120 |
| Common Dimensions |
| Mixed Mounting |
| Manifold Exploded View |
| Fitting, Plug Part Nos. |
| Manifold Options |
| Specific Product Precautions |

Type 10
Side Ported

Type 11
Bottom Ported

Plug-in Connector Connecting Base: Plug-in Mixed Mounting Type Manifold

D-sub Connector (IP40/67) Flat Ribbon Cable Terminal Block Box/Spring Type (IP67)

Terminal Block Box (IP67) Lead Wire (IP67) Circular Connector (IP67) EX500 (IP67)

EX600 (IP67) EX250 (IP67) EX260 (IP67) EX126 (IP67) EX120

SY5000/7000 Series



* Refer to the connector type.

The SY5000 can be mounted onto the SY7000 size manifold.

How to Order Manifolds

Refer to page 175 for the dimensions of Type 11/ Bottom-ported type.

SS5Y7 - M **10** **F** **1** - **05** **U** - **C** **10** **8**

1 2 3 4 5 6 7 8 9 10

Mixed Mounting Type

It is possible to mount the SY5000 size valves on all stations. In this case, there is no need to fill in part ③ in the order code. However, the manifold block width should be 19 mm.

① Type

| | |
|-----------|---------------|
| 10 | Side ported |
| 11 | Bottom ported |

② Connector type

| Symbol | Type | | Page |
|--------------|----------------------------------|---|------|
| F | D-sub connector | IP40 | 41 |
| FW | (25 pins) | IP67 | |
| P | Flat ribbon cable | 26 pins | |
| PG | | 20 pins | |
| PH | | 10 pins | |
| TC | Terminal block box (Spring type) | | 59 |
| T | Terminal block box | | 67 |
| L1 | Lead wire | 34 cores | 77 |
| L2 | | 17 cores | |
| L3 | | 9 cores | |
| M | Circular connector | | 87 |
| S□ | Serial transmission | EX500 Gateway Decentralized System 2 (128 points) | 97 |
| S□ | | EX500 Gateway Decentralized System (64 points) | 103 |
| S6□ | | EX600 | 113 |
| S□ | | EX250 | 125 |
| S□ | | EX260 | 133 |
| S4□*1 | | EX126 | 141 |
| S3□*1 | | EX120 | 149 |

*1 EX126, EX120 are not yet UL-compliant.

* Refer to the pages shown in the table above for details.

③

• With Lead wire

Lead wire length

| | |
|----------|-------|
| 1 | 0.6 m |
| 2 | 1.5 m |
| 3 | 3 m |

• With D-sub connector (IP40/67) and Flat ribbon cable

Connector entry direction

| | |
|----------|---------|
| 1 | Upward |
| 2 | Lateral |

* It is not necessary to select the items above for the valve with terminal block box or with circular connector or the serial transmission type.

④ Valve stations

| Symbol | Stations | Note |
|-----------|-------------|--|
| 02 | 2 stations | Some connectors have a limitation on the number of stations. Refer to the pages shown in the table "Connector type" for details. |
| : | : | |
| 24 | 24 stations | |

⑤ P, E port entry

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

* Refer to page 113 for the EX600 and ⑦ on page 125 for the EX250.

⑦ Fitting type: One-touch fitting

| Symbol | A, B port | |
|-------------|-------------|--|
| C | Metric size | Straight |
| L | | Upward*2 |
| B | | Downward*2 |
| N | Inch size | Straight |
| LN | | Upward*2 |
| BN | | Downward*2 |
| CM*1 | Mixed sizes | Straight |
| LM*1 | | Elbow (Including upward and downward piping)*2 |

*1 Select CM or LM if mixed port sizes are to be used for each series. (For example, if mixed sizes, such as C6 and C8, are to be used for the SY5000 series) In such cases, indicate the sizes on the manifold specification sheet.

The direction of P, E port fittings is the same as for the A, B port. If selecting "LM," indicate it on the manifold specification sheet for the P, E port fitting direction.

*2 To avoid interference with the body or piping, select a downward elbow port when mounting the optional spacer assembly (pages 204 to 206). Elbow fittings are not available for Type 11 (Bottom ported).

* Elbow fittings: $\phi 1/4"$ and $\phi 5/16"$ are not available.

8 SY7000: A, B port size

(Metric/One-touch fitting)

| Symbol | Port size |
|--------|----------------------------|
| 6 | ø6 |
| 8 | ø8 |
| 10 | ø10 |
| 12 | ø12 |
| Nil | For all stations of SY5000 |

(Inch/One-touch fitting)

| Symbol | Port size |
|--------|----------------------------|
| 7 | ø1/4" |
| 9 | ø5/16" |
| 11 | ø3/8" |
| Nil | For all stations of SY5000 |

* No symbol needs to be specified when fitting type "CM" or "LM" is selected.

9 SY5000: A, B port size

(Metric/One-touch fitting)

| Symbol | Port size |
|--------|-----------|
| 6 | ø6 |
| 8 | ø8 |
| 10 | ø10 |
| 12 | ø12 |

(Inch/One-touch fitting)

| Symbol | Port size |
|--------|-----------|
| 7 | ø1/4" |
| 9 | ø5/16" |
| 11 | ø3/8" |

* The valve pitch is 19 mm, the same as that of the SY7000.
* No symbol needs to be specified when fitting type "CM" or "LM" is selected.

10 Mounting and Option

| Symbol | Mounting | Option | |
|--------|-------------------|------------|----------------|
| | | Name plate | Station number |
| Nil | | — | — |
| AA | Direct mounting | ● | ● |
| BA | | ● | — |
| D□ | | — | — |
| A□ | DIN rail mounting | ● | ● |
| B□ | | ● | — |

DIN Rail Option

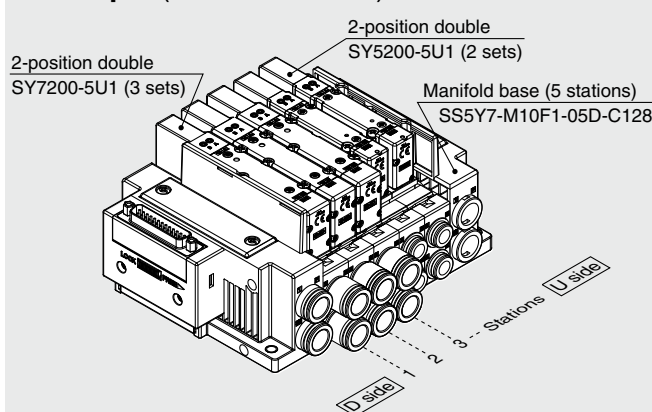
| Nil | Standard length |
|-----|---------------------------------|
| 0 | Without DIN rail (with bracket) |
| 3 | For 3 stations |
| ⋮ | ⋮ |
| 24 | For 24 stations |

Specify a longer rail than the total length of specified stations.

* Enter the number of stations inside □ when it is larger than the number of valve stations. (Refer to "DIN Rail Option" above.)
* Only direct mounting is available for the type 11 bottom-ported type.
* Refer to page 172 to determine the L3 using "Calculation formula" for the DIN rail length. (For the SY3000 and SY5000 mixed mounting type)
* The manifold block width is 19 mm for both the SY5000 and SY7000 sizes.
* Refer to page 295 for the fixation of DIN rail mounting type manifold.

How to Order Manifold Assembly

Example (SS5Y7-M10F1-□)



SS5Y7-M10F1-05D-C128.. 1 set (Type M10 5-station manifold base part no.)
 *SY7200-5U1 3 sets (2-position double part no.)
 *SY5200-5U1 2 sets (2-position double part no.)
 → The asterisk denotes the symbol for the assembly.
 Prefix it to the part numbers of the valve, etc.

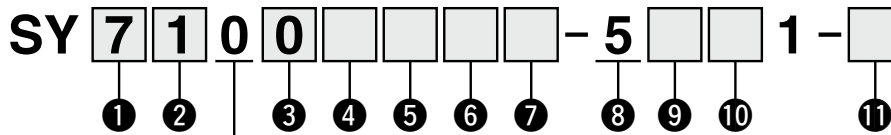
• For the valve arrangement, the valve closest to the D side is considered the 1st station.
• Under the manifold part number, state the valves to be mounted in order starting with the 1st station as shown in the figure above. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.

* When mixing top-ported configurations, select from those listed on page 178. In such cases, use caution as there is also output on the A and B ports on the base side.
Specify on the manifold specification sheet if plugs are required for the A and B ports on the base side.

SY5000/7000 Series

How to Order Valves (With mounting screw)

Refer to page 15 for valve specifications.



• Base mounted

1 Series

| | |
|---|--------|
| 5 | SY5000 |
| 7 | SY7000 |

2 Type of actuation

| | | |
|-----|------------------------|-----------------|
| 1 | 2-position | Single |
| 2 | | Double |
| 3 | 3-position | Closed center |
| 4 | | Exhaust center |
| 5 | | Pressure center |
| A*1 | 4-position dual 3-port | N.C./N.C. |
| B*1 | | N.O./N.O. |
| C*1 | | N.C./N.O. |

*1 Only the 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 the rubber seal type is available. A manifold installed type is available if a back pressure check valve with a metal seal is required. Refer to page 212 for ordering examples. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

* The built-in valve type back pressure check valve is not available for the 3-position type or the SY7000.

6 Pilot valve option

| | |
|-----|-------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K*1 | High pressure type (1.0 MPa) |

*1 Only the 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 if the valve is to be continuously energized for long periods of time.
* Be careful of the energizing time when the power saving circuit is selected. Refer to page 292 for details.

8 Rated voltage

| | |
|---|--------|
| 5 | 24 VDC |
| 6 | 12 VDC |

* Only 24 VDC is available for the serial transmission type.

9 Light/surge voltage suppressor and common specification

| Symbol | With light | Surge voltage suppressor | Common specification |
|--------|------------|--------------------------|----------------------|
| Nil | — | — | Non-polar |
| R | — | — | |
| U | ● | — | |
| S | — | ● | Positive common |
| Z | ● | — | Negative common |
| NS | — | — | |
| NZ | ● | — | |

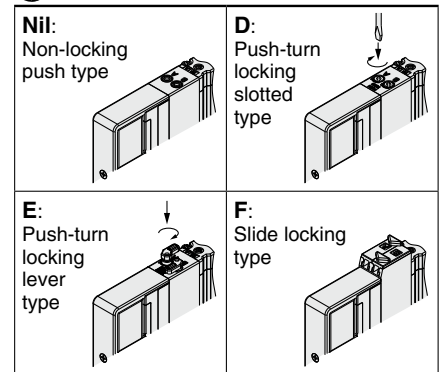
* "Nil" is not available for the SI unit manifold.

* For the non-polar type, be careful of surge voltage intrusion. Refer to page 293 for details.

* Only "Z" and "NZ" types are available with a power saving circuit. Select a valve which is suited to the SI unit output polarity or SI unit specification when the SI unit is selected.

Refer to the pages below for details.
EX500: pp. 99, 105 EX600: p. 115
EX250: p. 127 EX260: p. 135
EX126: p. 143 EX120: p. 151

10 Manual override



* Refer to page 34 for the safety slide locking manual override.

11 Type of mounting screw

| | |
|-----|--|
| Nil | Round head combination screw |
| B | Hexagon socket head cap screw |
| K | Round head combination screw (Drop prevention type) |
| H | Hexagon socket head cap screw (Drop 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. Refer to page 198 for base gasket and mounting screw part numbers.

* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly, interface regulator, or double check spacer assembly with residual pressure release valve.

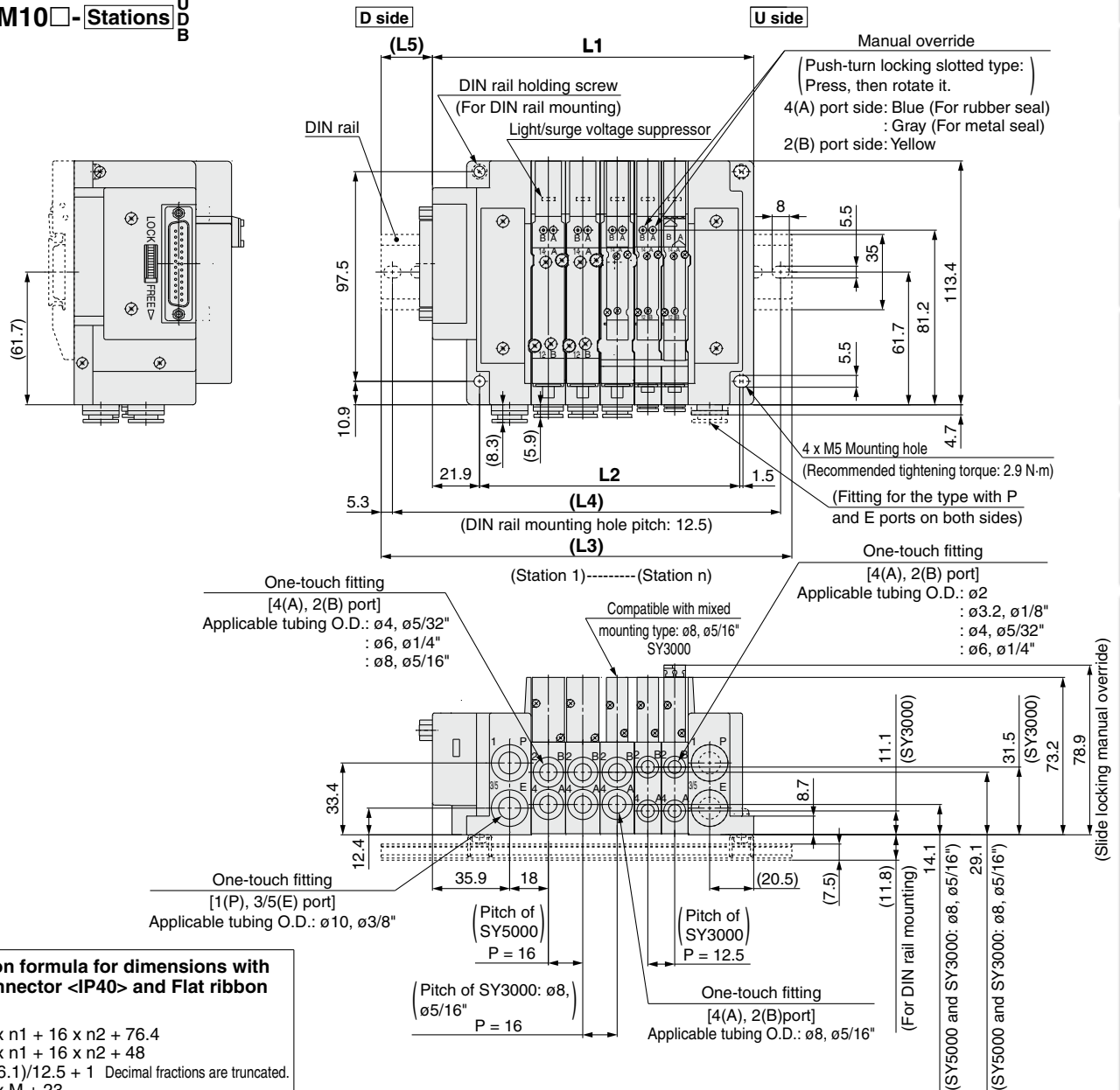
Dimensions: SY3000/5000 Series

Plug-in Connector Connecting Base

Type 10/Side Ported

Mixed Mounting Type

SS5Y5-M10 - Stations U
D
B



Calculation formula for dimensions with D-sub connector <IP40> and Flat ribbon cable

$$\begin{aligned} L1 &= 12.5 \times n1 + 16 \times n2 + 76.4 \\ L2 &= 12.5 \times n1 + 16 \times n2 + 48 \\ M &= (L1 + 6.1)/12.5 + 1 \quad \text{Decimal fractions are truncated.} \\ L3 &= 12.5 \times M + 23 \\ L4 &= L3 - 10.5 \\ L5 &= (L3 - L1 + 6.1)/2 \end{aligned}$$

n1: Number of valve stations of the SY3000
n2: Number of valve stations of the SY5000
(Including the stations of the SY3000: ø8, ø5/16")

Calculation formula for dimensions with D-sub connector <IP67>, Terminal block box (Spring type), Terminal block box, Lead wire, Circular connector, EX500/600/250/260/126/120 serial transmission

$$\begin{aligned} L1 &= 12.5 \times n1 + 16 \times n2 + a + b \times n3 \\ L2 &= 12.5 \times n1 + 16 \times n2 \times 48 \\ M &= L1/12.5 + 1 \quad \text{Decimal fractions are truncated.} \\ L3 &= 12.5 \times M + 23 \\ L4 &= L3 - 10.5 \\ L5 &= (L3 - L1)/2 \\ L6 &= b \times n3 + c \end{aligned}$$

n1: Number of valve stations of the SY3000
n2: Number of valve stations of the SY5000
(Including the stations of the SY3000: ø8, ø5/16")
n3: Number of I/O units or input block stations
* Refer to pages 118 and 119 for dimensions of the EX600 serial transmission with I/O unit and page 129 for the EX250 serial transmission with input block when L6, b, and c are used for the calculation formula.

* Refer to pages 157 and 158 for dimensions of the external pilot, built-in silencer, and elbow fittings.

| Coefficient | a | b | c |
|---|-------|----|------|
| D-sub connector <IP67> | 90.5 | — | — |
| Terminal block box (Spring type) | 128 | — | — |
| Terminal block box or Serial transmission: EX126 | 149.3 | — | — |
| Lead wire or Circular connector | 97 | — | — |
| EX500 Gateway Decentralized System 2 (128 points) | 88.7 | — | — |
| EX500 Gateway Decentralized System (64 points) | 88.5 | — | — |
| Serial transmission: EX600 (M12 connector) | 141.5 | 47 | 81.5 |
| Serial transmission: EX600 (7/8 inch connector) | 158 | 47 | 81.5 |
| Serial transmission: EX250 | 141.5 | 21 | 81.5 |
| Serial transmission: EX260 | 88.7 | — | — |
| Serial transmission: EX120 | 84.7 | — | — |

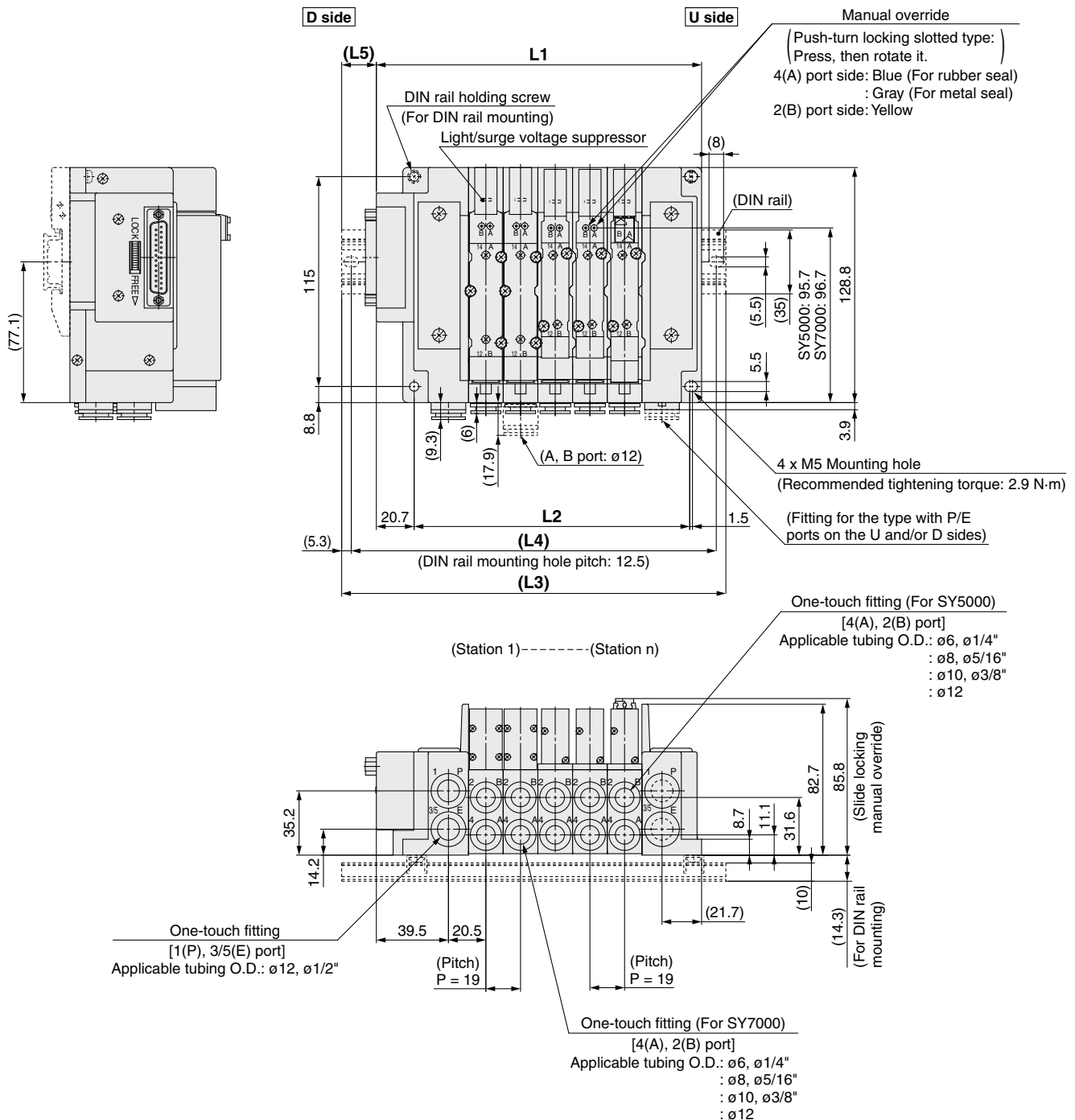
SY3000/5000/7000 Series

Dimensions: SY5000/7000 Series

Plug-in Connector Connecting Base

Type 10/Side Ported
Mixed Mounting Type

SS5Y7-M10□ - Stations $\frac{U}{D}$



* Refer to page 159 for dimensions of the external pilot and built-in silencer.

* Refer to the pages below for L1, L2, L3, L4 dimensions and other dimensions that are not specified in each wiring specification.

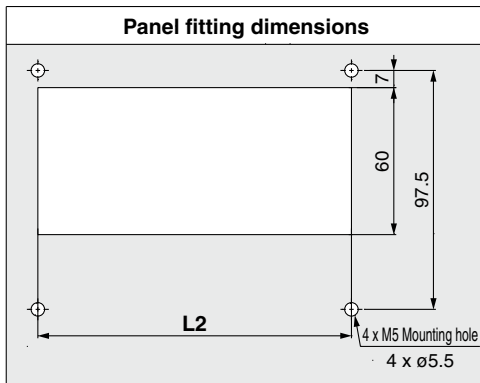
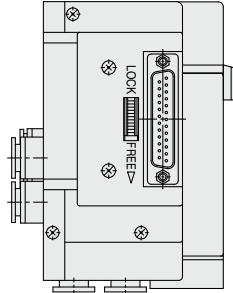
| | |
|----------------------------------|--------------|
| D-sub connector <IP40> | p. 46 |
| D-sub connector <IP67> | p. 49 |
| Flat ribbon cable | p. 52 |
| Terminal block box (Spring type) | pp. 62, 63 |
| Terminal block box | p. 72 |
| Lead wire | p. 82 |
| Circular connector | p. 92 |
| EX500 (128 points) | p. 102 |
| EX500 (64 points) | p. 108 |
| EX600 | pp. 120, 121 |
| EX250 | p. 130 |
| EX260 | p. 138 |
| EX126 | p. 146 |
| EX120 | p. 154 |

Dimensions: SY3000/5000 Series

Plug-in Connector Connecting Base

Type 11/Bottom Ported Mixed Mounting Type

SS5Y5-M11□ - Stations $\frac{U}{D}$
B



Calculation formula for dimensions

$$L1 = 12.5 \times n1 + 16 \times n2 + a + b \times n3$$

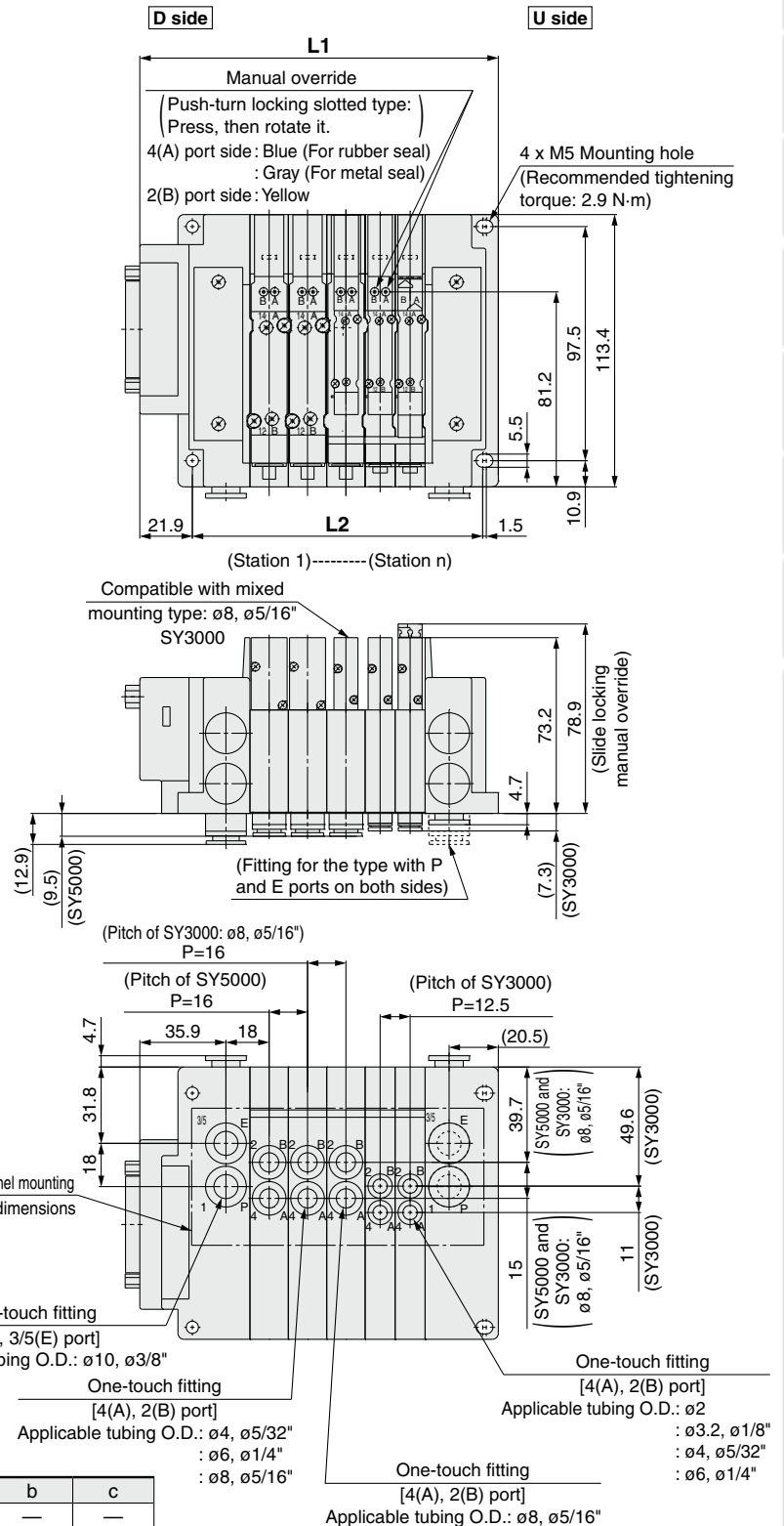
$$L2 = 12.5 \times n1 + 16 \times n2 + 48$$

$$L6 = b \times n3 + c$$

- n1: Number of valve stations of the SY3000
 n2: Number of valve stations of the SY5000
 (Including the stations of the SY3000:
 ø8, ø5/16")
 n3: Number of I/O units or input block stations

* Refer to pages 118 and 119 for dimensions of the EX600 serial transmission with I/O unit and page 129 for the EX250 serial transmission with input block when L6, b, and c are used for the calculation formula.

| Coefficient | a | b | c |
|---|-------|----|------|
| D-sub connector <IP40> or Flat ribbon cable | 76.4 | — | — |
| D-sub connector <IP67> | 90.5 | — | — |
| Terminal block box (Spring type) | 128 | — | — |
| Terminal block box or Serial transmission: EX126 | 149.3 | — | — |
| Lead wire or Circular connector | 97 | — | — |
| EX500 Gateway Decentralized System 2 (128 points) | 88.7 | — | — |
| EX500 Gateway Decentralized System (64 points) | 88.5 | — | — |
| Serial transmission: EX600 (M12 connector) | 141.5 | 47 | 81.5 |
| Serial transmission: EX600 (7/8 inch connector) | 158 | 47 | 81.5 |
| Serial transmission: EX250 | 141.5 | 21 | 81.5 |
| Serial transmission: EX260 | 88.7 | — | — |
| Serial transmission: EX120 | 84.7 | — | — |



* Refer to page 160 for dimensions of the external pilot and built-in silencer.

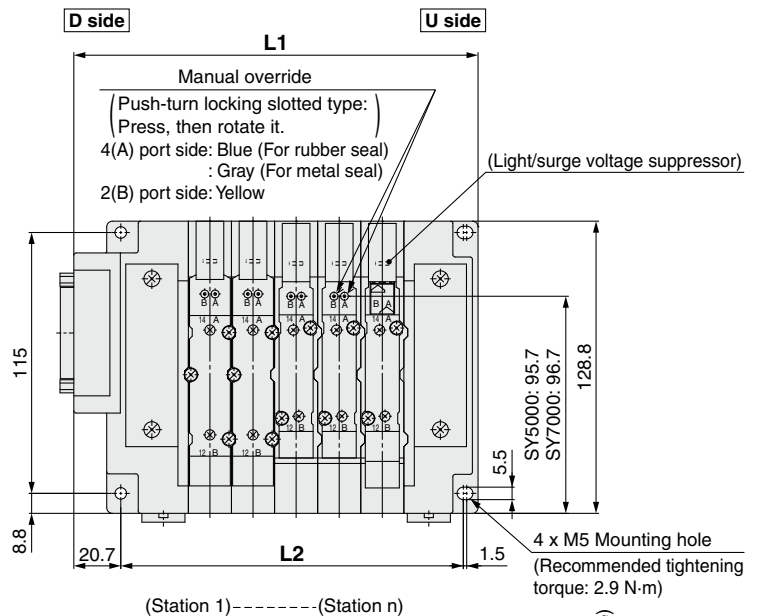
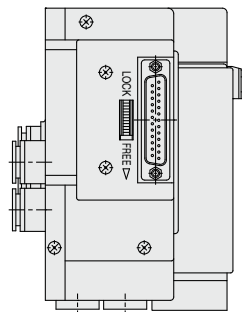
SY3000/5000/7000 Series

Dimensions: SY5000/7000 Series

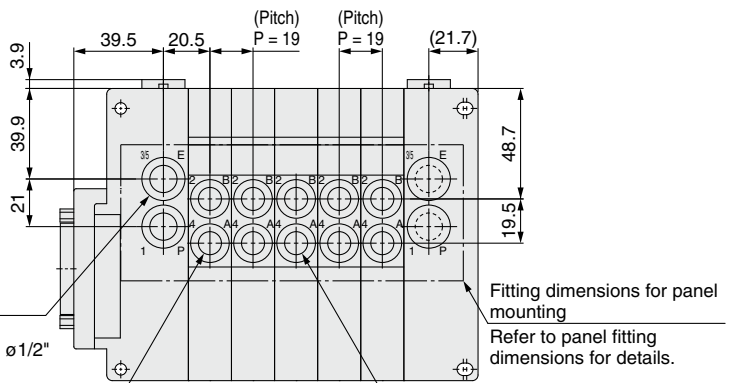
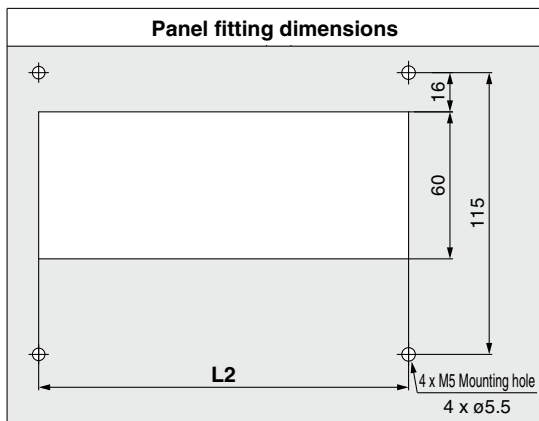
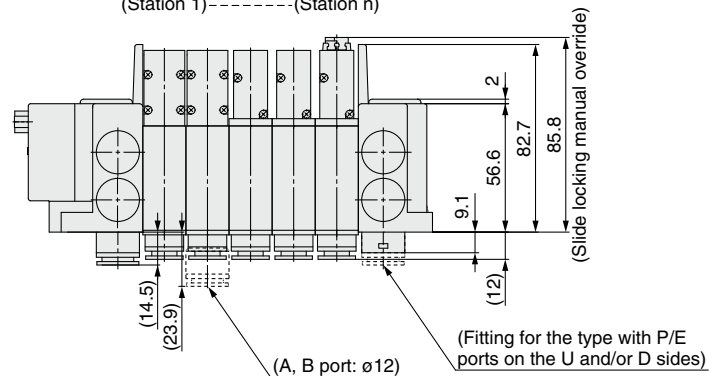
SS5Y7-M11□ - Stations $\begin{matrix} U \\ D \\ B \end{matrix}$

Plug-in Connector Connecting Base

Type 11/Bottom Ported
Mixed Mounting Type



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



* Refer to page 161 for dimensions of the external pilot and built-in silencer.
* Refer to the pages below for L1, L2 dimensions and other dimensions that are not specified in each wiring specification.

| | |
|---|----------------|
| Dimensions of Type 11/Bottom ported: p. 161 | |
| D-sub connector <IP40> | : p. 46 |
| D-sub connector <IP67> | : p. 49 |
| Flat ribbon cable | : p. 52 |
| Terminal block box (Spring type) | : pp. 62, 63 |
| Terminal block box | : p. 72 |
| Lead wire | : p. 82 |
| Circular connector | : p. 92 |
| EX500 (128 points) | : p. 102 |
| EX500 (64 points) | : p. 108 |
| EX600 | : pp. 120, 121 |
| EX250 | : p. 130 |
| EX260 | : p. 138 |
| EX126 | : p. 146 |
| EX120 | : p. 154 |

One-touch fitting (For SY7000)

[4(A), 2(B) port]
Applicable tubing O.D.: $\phi 6$, $\phi 1/4$ "
: $\phi 8$, $\phi 5/16$ "
: $\phi 10$, $\phi 3/8$ "
: $\phi 12$

One-touch fitting (For SY5000)

[4(A), 2(B) port]
Applicable tubing O.D.: $\phi 6$, $\phi 1/4$ "
: $\phi 8$, $\phi 5/16$ "
: $\phi 10$, $\phi 3/8$ "
: $\phi 12$

| |
|--------------------------------------|
| Chart |
| Valve Specifications |
| Valve Construction |
| Valve Replacement Parts |
| With Residual Pressure Release Valve |
| Vacuum Release Valve with Restrictor |
| With Pressure Sensor |
| Made to Order |
| Connector Connecting Base |
| D-sub, Flat Ribbon |
| Terminal Block |
| Lead Wire |
| Circular Connector |
| EX500 |
| EX600 |
| EX250 |
| EX260 |
| EX126 |
| EX120 |
| Common Dimensions |
| Mixed Mounting |
| Manifold Exploded View |
| Fitting, Plug Part Nos. |
| Manifold Options |
| Specific Product Precautions |

Plug-in Connector Connecting Base: Plug-in Mixed Mounting Type Manifold

D-sub Connector (IP40/67) Flat Ribbon Cable Terminal Block Box/Spring Type (IP67)

Terminal Block Box (IP67) Lead Wire (IP67) Circular Connector (IP67) EX500 (IP67)

EX600 (IP67) EX245 (IP65) EX250 (IP67) EX260 (IP67) EX126 (IP67) EX120 EX180

**Type 12
Top Ported**

SY3000/5000/7000 Series



* Refer to the connector type.

For the SY5000 series, the SY5000 and the SY3000 can be mounted on the same manifold.
For the SY7000 series, the SY7000 and the SY5000 can be mounted on the same manifold.

How to Order Manifolds

Refer to pages 163 and 164 for the dimensions of Type 12/Top-ported type.

SS5Y 5 - M 12 F 1 - 05 U

1 2 3 4 5 6 7 8

Mixed Mounting Type

For the SY5000 series, it is possible to mount the SY3000 size valves on all stations. However, the SY3000 manifold block width should be 12.5 mm. (16 mm for ø8 or ø5/16" One-touch fitting)

Also, for the SY7000 series, it is possible to mount the SY5000 size valves on all stations. However, the SY3000 cannot be mounted onto the SY7000 series.

1 Series

| | |
|---|--------|
| 5 | SY5000 |
| 7 | SY7000 |

3

• With Lead wire

Lead wire length

| | |
|---|-------|
| 1 | 0.6 m |
| 2 | 1.5 m |
| 3 | 3 m |

• With D-sub connector (IP40/67) and Flat ribbon cable

Connector entry direction

| | |
|---|---------|
| 1 | Upward |
| 2 | Lateral |

* It is not necessary to select the items above for the valve with terminal block box or with circular connector or the serial transmission type.

4 Valve stations

| Symbol | Stations | Note |
|--------|-------------|--|
| 02 | 2 stations | Some connectors have a limitation on the number of stations. Refer to the pages shown in the table "Connector type" for details. |
| ⋮ | ⋮ | |
| 24 | 24 stations | |

7 P, E port size (One-touch fittings)

| Symbol | SY5000 | SY7000 | Note |
|--------|--------|--------|-------------|
| Nil | ø10 | ø12 | Metric size |
| N | ø3/8" | ø1/2" | Inch size |

2 Connector type

| Symbol | Type | Page |
|--------|----------------------------------|---|
| F | D-sub connector (25 pins) | 53 |
| FW | | |
| P | Flat ribbon cable | 26 pins |
| PG | | 20 pins |
| PH | | 10 pins |
| TC | Terminal block box (Spring type) | 64 |
| T | Terminal block box | 73 |
| L1 | Lead wire | 34 cores |
| L2 | | 17 cores |
| L3 | | 9 cores |
| M | Circular connector | 93 |
| S□ | Serial transmission | EX500 Gateway Decentralized System 2 (128 points) |
| S□ | | EX500 Gateway Decentralized System (64 points) |
| S6□ | | EX600 |
| SA□ | | EX245 |
| S□ | | EX250 |
| S□ | | EX260 |
| S4□*1 | | EX126 |
| S3□*1 | | EX120 |
| S8□ | | EX180 |

*1 EX126, EX120 are not yet UL-compliant.

* Refer to the pages shown in the table above for details.

5 P, E port entry

| | |
|-----|-------------------------------|
| U*1 | U side (2 to 10 stations) |
| D*1 | D side (2 to 10 stations) |
| B | Both sides (2 to 24 stations) |

*1 For type "S", SUP/EXH block assembly with a built-in silencer, choose U or D for P, E port entry.

* Refer to page 123 for the EX600 and 6 on page 131 for the EX250.

6 SUP/EXH block assembly

| | |
|-----|-----------------------------------|
| Nil | Internal pilot |
| S | Internal pilot, Built-in silencer |
| R | External pilot |

* The P and E ports are only available on the U and D sides for the built-in silencer type. 3/5(E) port is plugged. The silencer exhaust port is located on the opposite side of the P and E port entry. (Example: When the P and E port entry is on the D side, the silencer exhaust port is on the U side.)

* Refer to page 123 for the EX600 and 6 on page 131 for the EX250.

8 Mounting

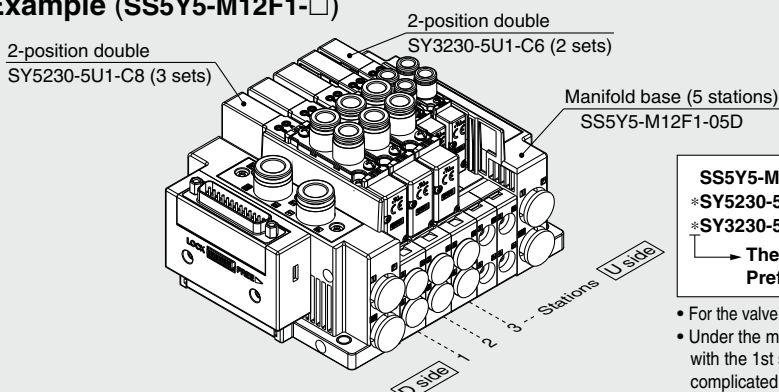
| | |
|-----|--------------------------------------|
| Nil | Direct mounting |
| D | DIN rail mounting (With DIN rail) |
| D0 | DIN rail mounting (Without DIN rail) |
| D3 | For 3 stations |
| ⋮ | ⋮ |
| D24 | For 24 stations |

* Refer to page 179 to determine the L3 using "Calculation formula" for the DIN rail length. (For the SY3000 and SY5000 mixed mounting type)

* Refer to page 295 for the fixation of DIN rail mounting type manifold.

How to Order Manifold Assembly

Example (SS5Y5-M12F1-□)

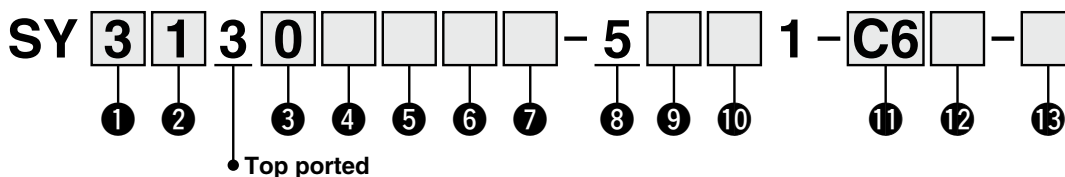


SS5Y5-M12F1-05D ... 1 set (Type M12 5-station manifold base part no.)
 *SY5230-5U1-C8 3 sets (2-position double part no.)
 *SY3230-5U1-C6 2 sets (2-position double part no.)
 The asterisk denotes the symbol for the assembly. Prefix it to the part numbers of the valve, etc.

- For the valve arrangement, the valve closest to the D side is considered the 1st station.
- Under the manifold part number, state the valves to be mounted in order starting with the 1st station as shown in the figure above. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.

How to Order Valves (With mounting screw)

Refer to page 15 for valve specifications.



1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type of actuation

| | | |
|-----|-------------|-----------------|
| 1 | 2-position | Single |
| 2 | | Double |
| 3 | 3-position | Closed center |
| 4 | | Exhaust center |
| 5 | | Pressure center |
| A*1 | 4-position | N.C./N.C. |
| B*1 | dual 3-port | N.O./N.O. |
| C*1 | | N.C./N.O. |

*1 Only the 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 the rubber seal type is available. A manifold installed type is available if a back pressure check valve with a metal seal is required. Refer to page 212 for ordering examples. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

* The built-in valve type back pressure check valve is not available for the 3-position type or the SY7000.

6 Pilot valve option

| | |
|-----|-------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K*1 | High pressure type (1.0 MPa) |

*1 Only the 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 if the valve is to be continuously energized for long periods of time.

* Be careful of the energizing time when the power saving circuit is selected. Refer to page 292 for details.

8 Rated voltage

| | |
|---|--------|
| 5 | 24 VDC |
| 6 | 12 VDC |

* Only 24 VDC is available for the serial transmission type.

9 Light/surge voltage suppressor and common specification

| Symbol | With light | Surge voltage suppressor | Common specification |
|--------|------------|--------------------------|----------------------|
| Nil | — | — | Non-polar |
| R | — | — | |
| U | ● | — | |
| S | — | ● | Positive common |
| Z | ● | — | Negative common |
| NS | — | — | |
| NZ | ● | — | |

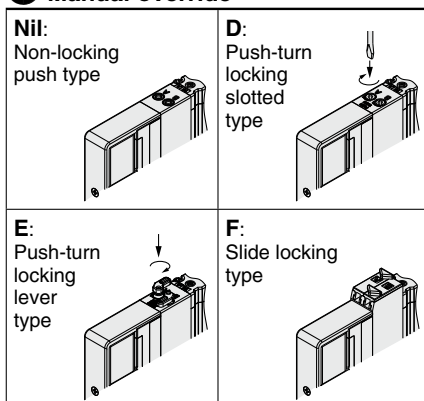
* "Nil" is not available for the SI unit manifold.

* For the non-polar type, be careful of surge voltage intrusion. Refer to page 293 for details.

* Only "Z" and "NZ" types are available with a power saving circuit. Select a valve which is suited to the SI unit output polarity or SI unit specification when the SI unit is selected. Refer to the pages below for details.

EX500: pp. 110, 112 EX600: p. 124
EX245: p. 124-1 EX250: p. 132
EX260: p. 140 EX126: p. 148
EX120: p. 156 EX180: p. 156-1

10 Manual override



* Refer to page 34 for the safety slide locking manual override.

11 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 |

One-touch fitting (Metric)

| Symbol | A, B port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| C2 | ø2 | ● | — | — |
| C3 | ø3.2 | ● | — | — |
| C4 | ø4 | ● | ● | — |
| C6 | ø6 | ● | ● | ● |
| C8 | ø8 | — | ● | ● |
| C10 | ø10 | — | — | ● |
| C12 | ø12 | — | — | ● |

One-touch fitting (Inch)

| Symbol | A, B port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| N1 | ø1/8" | ● | — | — |
| N3 | ø5/32" | ● | ● | — |
| N7 | ø1/4" | ● | ● | ● |
| N9 | ø5/16" | — | ● | ● |
| N11 | ø3/8" | — | — | ● |

12 Thread type

| | |
|-----|------|
| Nil | Rc |
| F | G |
| N | NPT |
| T | NPTF |

* Only Nil is available for M5.

13 Type of mounting screw

| | |
|-----|--|
| Nil | Round head combination screw |
| B | Hexagon socket head cap screw |
| K | Round head combination screw (Drop prevention type) |
| H | Hexagon socket head cap screw (Drop 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. Refer to page 198 for base gasket and mounting screw part numbers.

* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly or interface regulator.

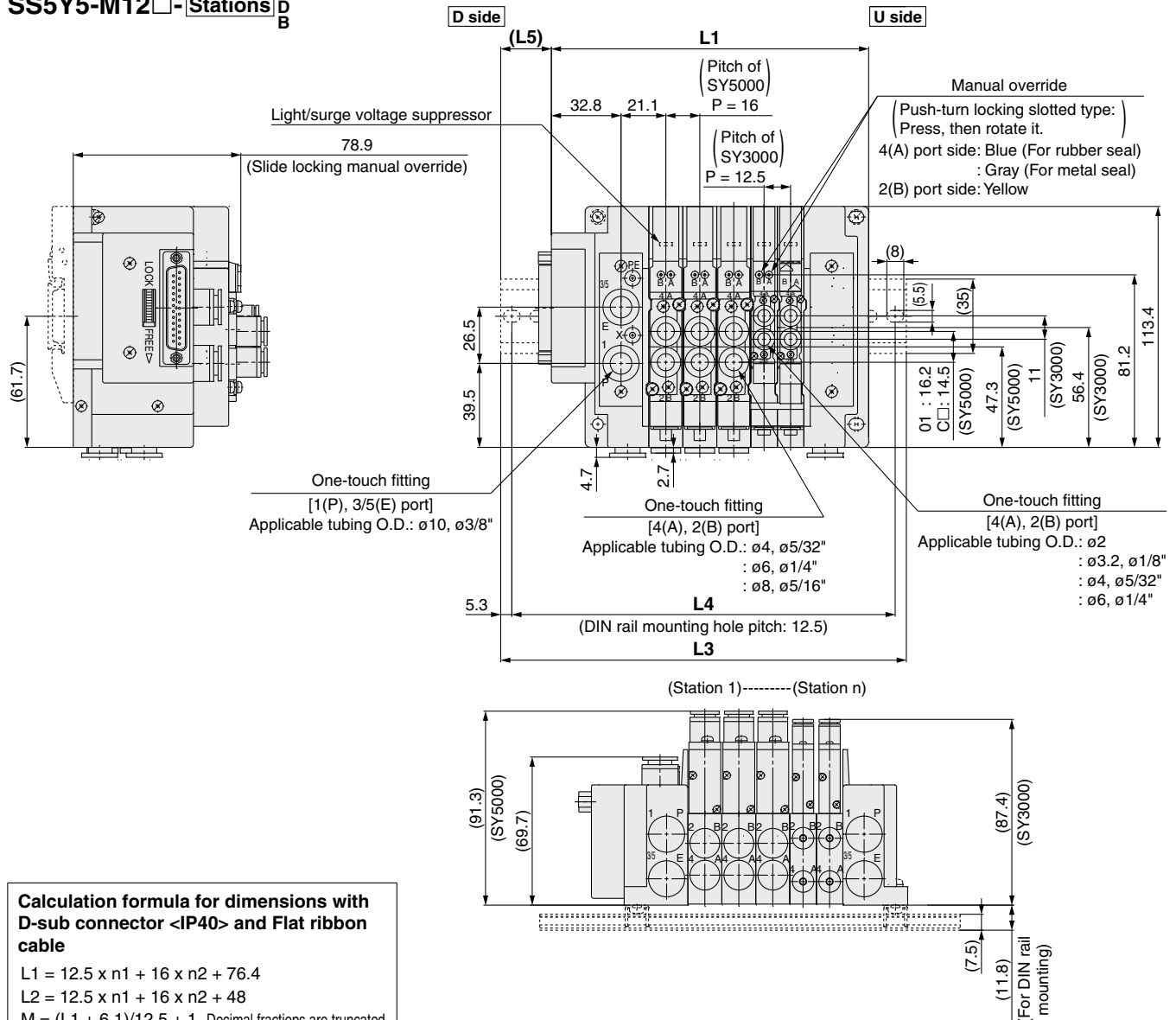
SY3000/5000/7000 Series

Dimensions: SY5000 Series

Plug-in Connector Connecting Base

Type 12/Top Ported
Mixed Mounting Type

SS5Y5-M12□ - Stations $\frac{U}{D}$



Calculation formula for dimensions with D-sub connector <IP40> and Flat ribbon cable

$$L1 = 12.5 \times n1 + 16 \times n2 + 76.4$$

$$L2 = 12.5 \times n1 + 16 \times n2 + 48$$

$$M = (L1 + 6.1) / 12.5 + 1 \quad \text{Decimal fractions are truncated.}$$

$$L3 = 12.5 \times M + 23$$

$$L4 = L3 - 10.5$$

$$L5 = (L3 - L1 + 6.1) / 2$$

n1: Number of valve stations of the SY3000
n2: Number of valve stations of the SY5000

Calculation formula for dimensions with D-sub connector <IP67>, Terminal block box (Spring type), Terminal block box, Lead wire, Circular connector, EX500/600/250/260/126/120 serial transmission

$$L1 = 12.5 \times n1 + 16 \times n2 + a + b \times n3$$

$$L2 = 12.5 \times n1 + 16 \times n2 \times 48$$

$$M = L1 / 12.5 + 1 \quad \text{Decimal fractions are truncated.}$$

$$L3 = 12.5 \times M + 23$$

$$L4 = L3 - 10.5$$

$$L5 = (L3 - L1) / 2$$

$$L6 = b \times n3 + c$$

n1: Number of valve stations of the SY3000
n2: Number of valve stations of the SY5000
n3: Number of I/O units or input block stations
* Refer to pages 118 and 119 for dimensions of the EX600 serial transmission with I/O unit and page 129 for the EX250 serial transmission with input block when L6, b, and c are used for the calculation formula.

* Refer to page 158 for dimensions of the external pilot and elbow fittings.

| | Coefficient | a | b | c |
|---|-------------|----|------|---|
| D-sub connector <IP67> | 90.5 | — | — | — |
| Terminal block box (Spring type) | 128 | — | — | — |
| Terminal block box or Serial transmission: EX126 | 149.3 | — | — | — |
| Lead wire or Circular connector | 97 | — | — | — |
| EX500 Gateway Decentralized System 2 (128 points) | 88.7 | — | — | — |
| EX500 Gateway Decentralized System (64 points) | 88.5 | — | — | — |
| Serial transmission: EX600 (M12 connector) | 141.5 | 47 | 81.5 | — |
| Serial transmission: EX600 (7/8 inch connector) | 158 | 47 | 81.5 | — |
| Serial transmission: EX250 | 141.5 | 21 | 81.5 | — |
| Serial transmission: EX260 | 88.7 | — | — | — |
| Serial transmission: EX120 | 84.7 | — | — | — |

Dimensions: SY7000 Series

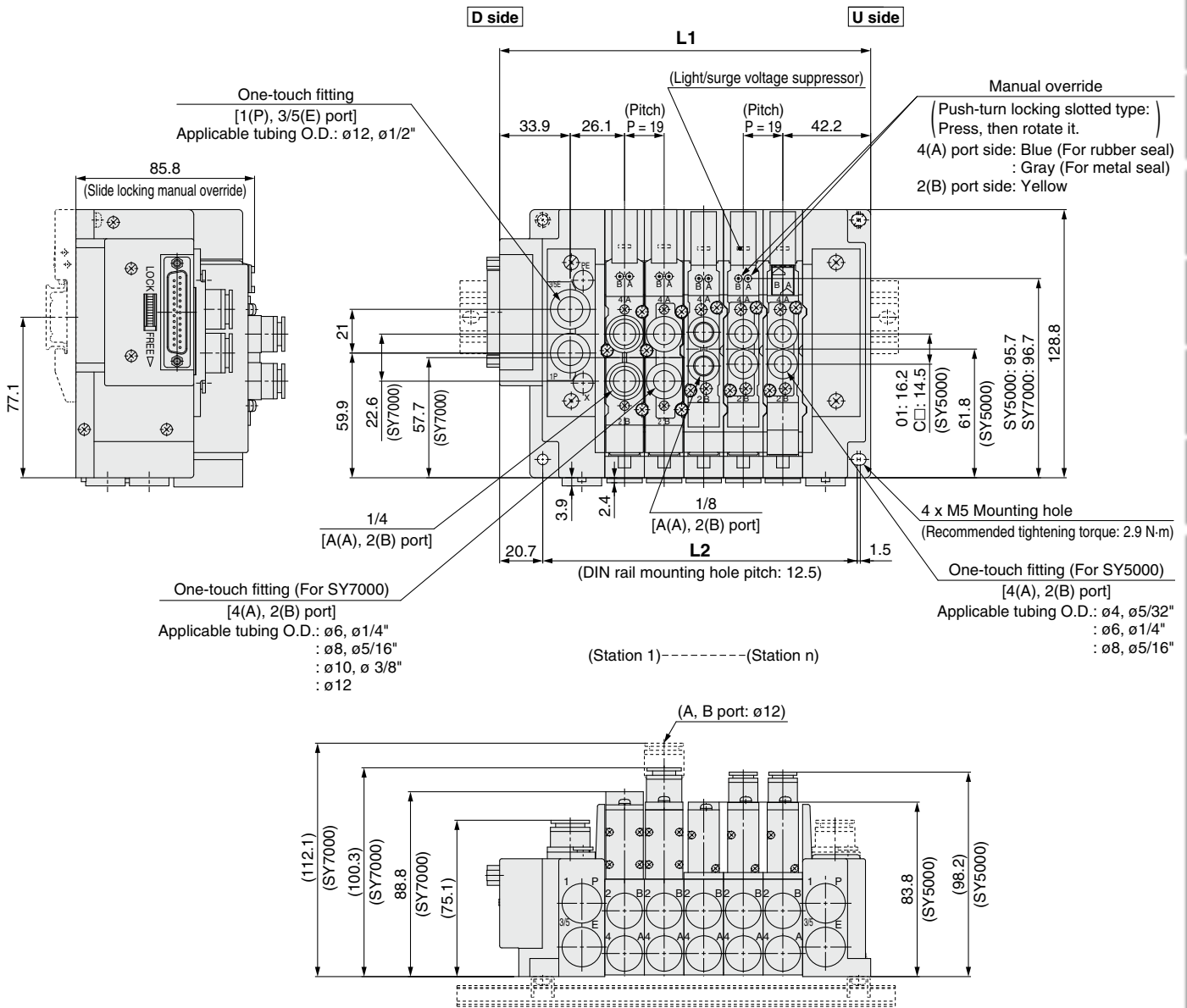
SS5Y7-M12□- Stations

U
D
B

Plug-in Connector Connecting Base

Type 12/Top Ported

Mixed Mounting Type



- * Refer to page 159 for dimensions of the external pilot and elbow fittings.
- * Refer to the pages below for L1, L2, L3, L4 dimensions and other dimensions that are not specified in each wiring specification.

Dimensions of Type 12/Top ported: p. 164

D-sub connector <IP40> : p. 46

D-sub connector <IP67> : p. 49

Flat ribbon cable : p. 52

Terminal block box (Spring type) : p. 63

Terminal block box : p. 72

Lead wire : p. 82

Circular connector : p. 92

EX500 (128 points) : p. 102

EX500 (64 points) : p. 108

EX600 : pp. 120, 121

EX250 : p. 130

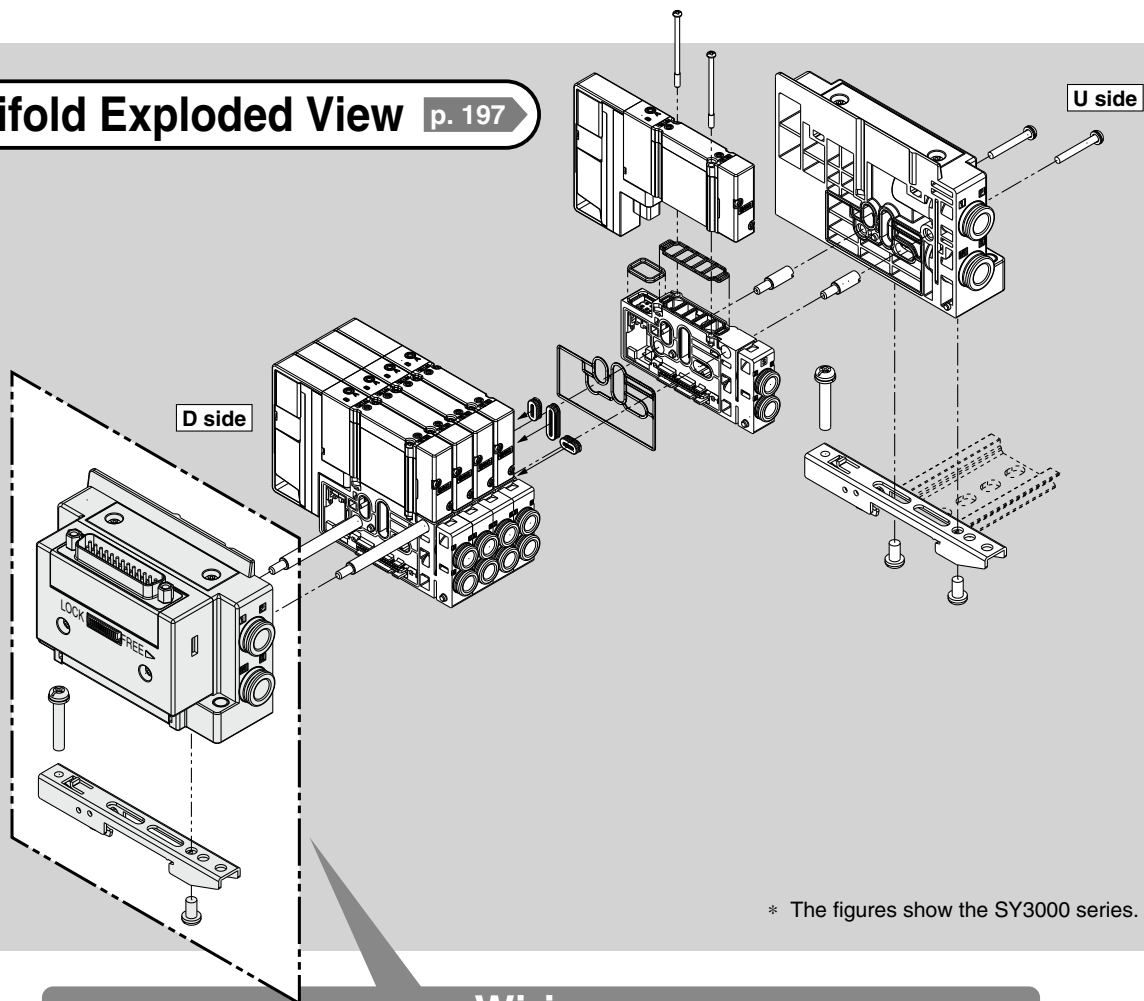
EX260 : p. 138

EX126 : p. 146

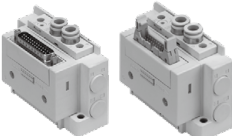



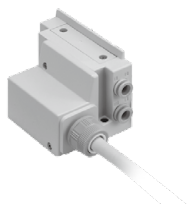



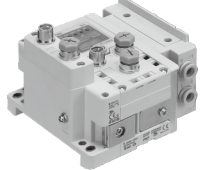




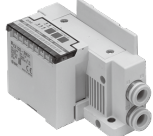

EX120 : p. 154

SY3000/5000/7000 Series Type 10, 11, 12 Connector Connecting Base Manifold Exploded View

Manifold Exploded View p. 197

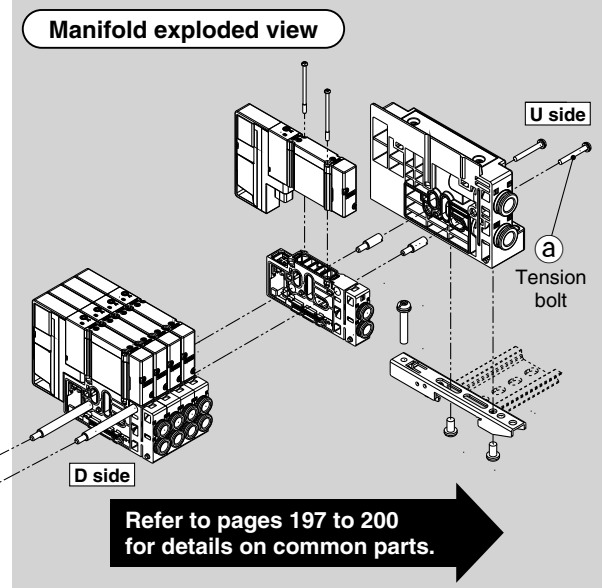
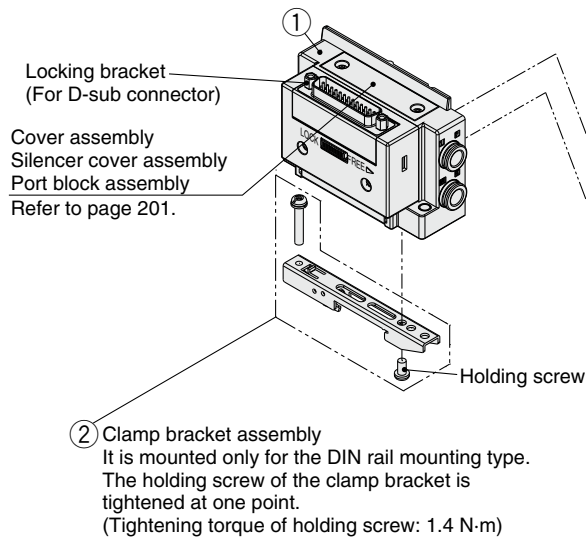


Wiring

| | | | | |
|---|--|---|--|--|
| D-sub Connector <IP40>/Flat Ribbon Cable p. 182  | D-sub Connector <IP67> p. 183  | Terminal Block Box (Spring Type) p. 184  | Terminal Block Box p. 185  | Lead Wire p. 186  |
| Circular Connector p. 187  | EX500 Gateway Decentralized System 2 (128 Points) p. 188  | EX500 Gateway Decentralized System (64 Points) p. 189  | EX600 p. 190  | EX245 p. 192-1  |
| EX250 p. 193  | EX260 p. 194  | EX126 p. 195  | EX120 p. 196  | EX180 p. 196-1  |

Wiring

D-sub Connector <IP40>/Flat Ribbon Cable



Manifold Parts Nos.

① SUP/EXH block assembly

SY 3 0M-1-11 A 1-C8-

•Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

•Mounting

| | |
|-----|--------------------------------------|
| Nil | Direct mounting |
| D0 | DIN rail mounting (Without DIN rail) |

* For the bottom-ported type, the symbol is nil.

•P, E port size (One-touch fittings)

| Symbol | P, E port | SY3000 | SY5000 | SY7000 | Note |
|--------|-----------|--------|--------|--------|--|
| C8 | ø8 | ● | — | — | Side/Bottom/Top ported |
| C10 | ø10 | — | ● | — | Metric size |
| C12 | ø12 | — | — | ● | Side/Bottom/Top ported |
| N9 | ø5/16" | ● | — | — | Inch size |
| N11 | ø3/8" | — | ● | — | Side/Bottom/Top ported |
| N13 | ø1/2" | — | — | ● | Inch size |
| L8 | ø8 | ● | — | — | Side ported |
| L10 | ø10 | — | ● | — | Metric size |
| L12 | ø12 | — | — | ● | Side ported |
| LN9 | ø5/16" | ● | — | — | Inch size |
| LN11 | ø3/8" | — | ● | — | Side ported |
| LN13 | ø1/2" | — | — | ● | Inch size |
| B8 | ø8 | ● | — | — | Side ported |
| B10 | ø10 | — | ● | — | Metric size |
| B12 | ø12 | — | — | ● | Side ported |
| BN9 | ø5/16" | ● | — | — | Inch size |
| BN11 | ø3/8" | — | ● | — | Side ported |
| BN13 | ø1/2" | — | — | ● | Inch size |
| 00*1 | Plug | ● | ● | ● | P/E port entry on one side or Top ported |
| 00U*2 | Plug | ● | ● | ● | |

*1 It can be selected only if no symbol or "S" or "V" or "B" is selected for the pilot and the piping.

*2 "00U" is available only for the D-sub connector type and it has an inch size locking bracket.

SUP/EXH block assembly

| | |
|----|-----------------------------|
| 11 | D-sub connector <IP40> |
| 12 | Flat ribbon cable (26 pins) |
| 13 | Flat ribbon cable (20 pins) |
| 14 | Flat ribbon cable (10 pins) |

•Connector entry direction

| | |
|---|---------|
| 1 | Upward |
| 2 | Lateral |

•Pilot, Silencer/Piping type

| Symbol | Pilot type | | Built-in silencer | Piping direction |
|--------|------------|----------|-------------------|------------------|
| | Internal | External | | |
| Nil | ● | — | — | Side |
| S | ● | — | ● | |
| R | — | ● | — | |
| V | ● | — | — | |
| RV | — | ● | — | Top |
| VP | ● | — | ●*1 | |
| B | ● | — | — | Bottom |
| BS | ● | — | ● | |
| BR | — | ● | — | |

*1 For silencer (supply side) E port is plugged.

* "B" for the bottom-ported type can be selected for the SY5000/7000 series.

SUP/EXH block assembly (D side)

accessories and the number of accessories

| Accessories | SY3000 | SY5000 SY7000 |
|----------------|--------|------------------|
| a Tension bolt | None*1 | 3 pcs. |

*1 Since the nuts are embedded in the SUP/EXH block

② Clamp bracket assembly

| Series | Part no. |
|-------------|-------------|
| SY3000 | SY30M-15-1A |
| SY5000/7000 | SY50M-15-1A |

* Part number is for one assembly.

Chart

Valve

Specifications

Valve

Construction

Valve

Replacement

Parts

With Residual

Pressure

Release Valve

Vacuum

Release Valve

with Restrictor

With

Pressure

Sensor

Made to

Order

Connector

Connecting Base

D-sub,

Flat

Ribbon

Terminal

Block

Lead

Wire

Circular

Connector

EX500

EX600

EX250

EX260

EX126

EX120

Common

Dimensions

Mixed

Mounting

Manifold

Exploded

View

Fitting,

Plug

Part Nos.

Manifold

Options

Specific

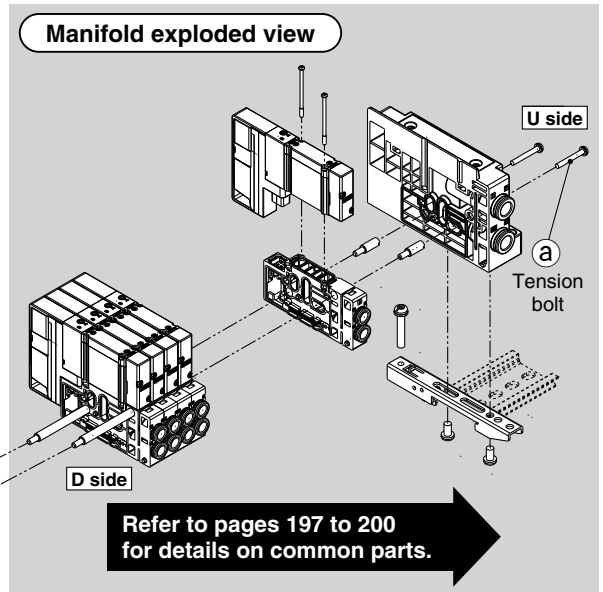
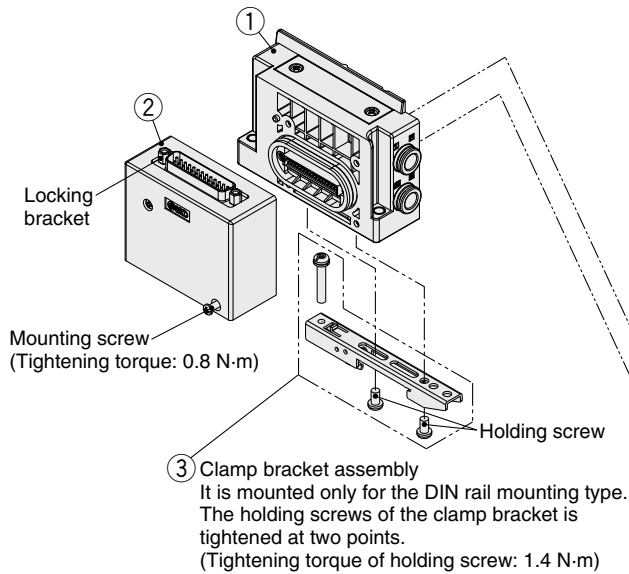
Product

Precautions

SY3000/5000/7000 Series

Wiring

D-sub Connector <IP67>



Manifold Parts Nos.

① SUP/EXH block assembly

SY **3** 0M-1-1A **C8** - **Mounting**

• Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

| | |
|-----|--------------------------------------|
| Nil | Direct mounting |
| D0 | DIN rail mounting (Without DIN rail) |

* For the bottom-ported type, the symbol is nil.

• P, E port size (One-touch fittings)

• Pilot, Silencer/Piping type

| Symbol | Pilot type Internal External | Built-in silencer | Piping direction |
|--------|---------------------------------|----------------------|---------------------|
| Nil | ● — | — | Side |
| S | ● — | ● | Side |
| R | — ● | — | Side |
| V | ● — | — | Top |
| RV | — ● | — | Top |
| VP | ● — | ●*1 | Top |
| B | ● — | — | Bottom |
| BS | ● — | ● | Bottom |
| BR | — ● | — | Bottom |

*1 For silencer (supply side)
E port is plugged.

* "B" for the bottom-ported type can be selected for the SY5000/7000 series.

| Symbol | P, E port | SY3000 | SY5000 | SY7000 | Note |
|--------|-----------|--------|--------|--------|--|
| C8 | ø8 | ● | — | — | Side/Bottom/Top ported |
| C10 | ø10 | — | ● | — | Top ported |
| C12 | ø12 | — | — | ● | Metric size |
| N9 | ø5/16" | ● | — | — | Side/Bottom/Top ported |
| N11 | ø3/8" | — | ● | — | Top ported |
| N13 | ø1/2" | — | — | ● | Inch size |
| L8 | ø8 | ● | — | — | Side ported |
| L10 | ø10 | — | ● | — | Metric size |
| L12 | ø12 | — | — | ● | Side ported |
| LN9 | ø5/16" | ● | — | — | Top ported |
| LN11 | ø3/8" | — | ● | — | Inch size |
| LN13 | ø1/2" | — | — | ● | Side ported |
| B8 | ø8 | ● | — | — | Side ported |
| B10 | ø10 | — | ● | — | Metric size |
| B12 | ø12 | — | — | ● | Side ported |
| BN9 | ø5/16" | ● | — | — | Top ported |
| BN11 | ø3/8" | — | ● | — | Inch size |
| BN13 | ø1/2" | — | — | ● | Side ported |
| 00*1 | Plug | ● | ● | ● | P/E port entry on one side or Top ported |
| 00U*2 | Plug | ● | ● | ● | |

*1 It can be selected only if no symbol or "S" or "V" or "B" is selected for the pilot and the piping.

*2 "00U" has an inch size locking bracket.

SUP/EXH block assembly (D side)

accessories and the number of accessories

| Accessories | SY3000 | SY5000 SY7000 |
|----------------|--------|------------------|
| a Tension bolt | None*1 | 3 pcs. |

*1 Since the nuts are embedded in the SUP/EXH block

② D-sub connector block assembly <IP67>

| Part no. | Connector direction | Locking bracket |
|---------------|---------------------|-----------------|
| SY30M-14-9A1 | Top | Metric size |
| SY30M-14-9A2 | Side | Metric size |
| SY30M-14-9A1U | Top | Inch size |
| SY30M-14-9A2U | Side | Inch size |

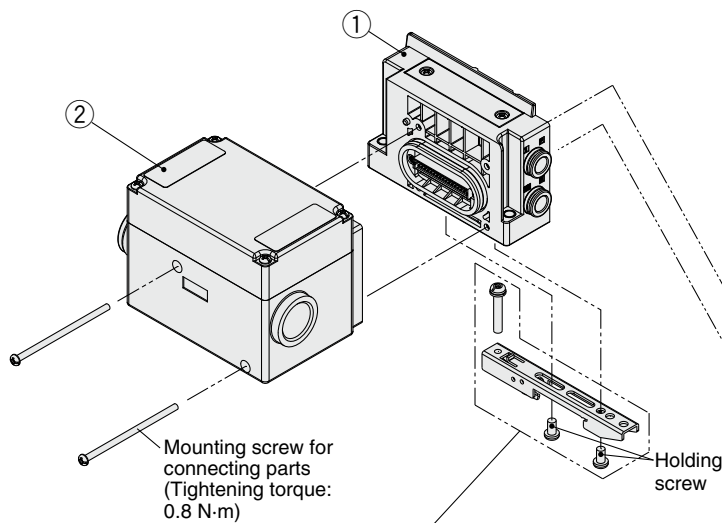
③ Clamp bracket assembly

| Series | Part no. |
|-------------|-------------|
| SY3000 | SY30M-15-1A |
| SY5000/7000 | SY50M-15-1A |

* Part number is for one assembly.

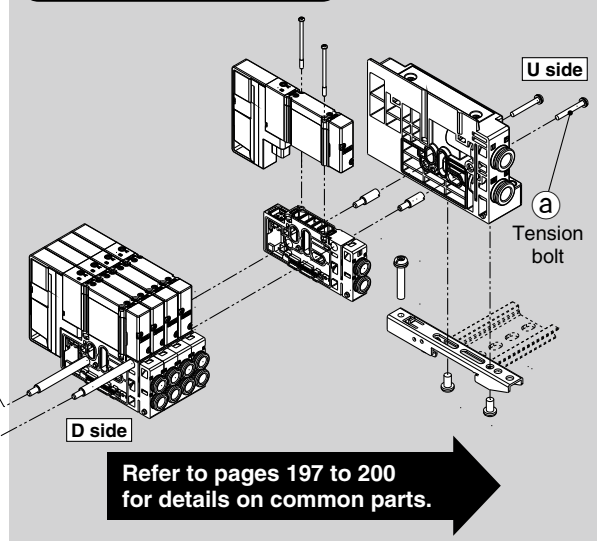
Wiring

Terminal Block Box (Spring Type)



- ③ Clamp bracket assembly
It is mounted only for the DIN rail mounting type.
The holding screws of the clamp bracket is tightened at two points.
(Tightening torque of holding screw: 1.4 N·m)

Manifold exploded view



Manifold Parts Nos.

① SUP/EXH block assembly

SY 3 0M-1-1A - C8 - Mounting

Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

| | |
|-----|--------------------------------------|
| Nil | Direct mounting |
| D0 | DIN rail mounting (Without DIN rail) |

* For the bottom-ported type, the symbol is nil.

P, E port size (One-touch fittings)

| Symbol | Pilot type | | Built-in silencer | Piping direction |
|--------|------------|----------|-------------------|------------------|
| | Internal | External | | |
| Nil | ● | — | — | Side |
| S | ● | — | ● | |
| R | — | ● | — | |
| V | ● | — | — | Top |
| RV | — | ● | — | |
| VP | ● | — | ● ^{*1} | |
| B | ● | — | — | Bottom |
| BS | ● | — | ● | |
| BR | — | ● | — | |

*1 For silencer (supply side)

E port is plugged.

* "B" for the bottom-ported type can be selected for the SY5000/7000 series.

SUP/EXH block assembly (D side)

accessories and the number of accessories

| Accessories | SY3000 | SY5000 SY7000 |
|------------------|--------------------|------------------|
| (a) Tension bolt | None ^{*1} | 3 pcs. |

*1 Since the nuts are embedded in the SUP/EXH block

| Symbol | P, E port | SY3000 | SY5000 | SY7000 | Note |
|------------------|-----------|--------|--------|--------|---|
| C8 | ø8 | ● | — | — | Side/Bottom/ Top ported Metric size |
| C10 | ø10 | — | ● | — | |
| C12 | ø12 | — | — | ● | |
| N9 | ø5/16" | ● | — | — | Side/Bottom/ Top ported Inch size |
| N11 | ø3/8" | — | ● | — | |
| N13 | ø1/2" | — | — | ● | |
| L8 | ø8 | ● | — | — | Side ported Metric size |
| L10 | ø10 | — | ● | — | |
| L12 | ø12 | — | — | ● | |
| LN9 | ø5/16" | ● | — | — | Side ported Inch size |
| LN11 | ø3/8" | — | ● | — | |
| LN13 | ø1/2" | — | — | ● | |
| B8 | ø8 | ● | — | — | Side ported Metric size |
| B10 | ø10 | — | ● | — | |
| B12 | ø12 | — | — | ● | |
| BN9 | ø5/16" | ● | — | — | Side ported Inch size |
| BN11 | ø3/8" | — | ● | — | |
| BN13 | ø1/2" | — | — | ● | |
| 00 ^{*1} | Plug | ● | ● | ● | P/E port entry on one side or Top ported |

*1 It can be selected only if no symbol or "S" or "V" or "B" is selected for the pilot and the piping.

② Terminal block assembly

SY30M-130-1A

③ Clamp bracket assembly

| Series | Part no. |
|-------------|-------------|
| SY3000 | SY30M-15-1A |
| SY5000/7000 | SY50M-15-1A |

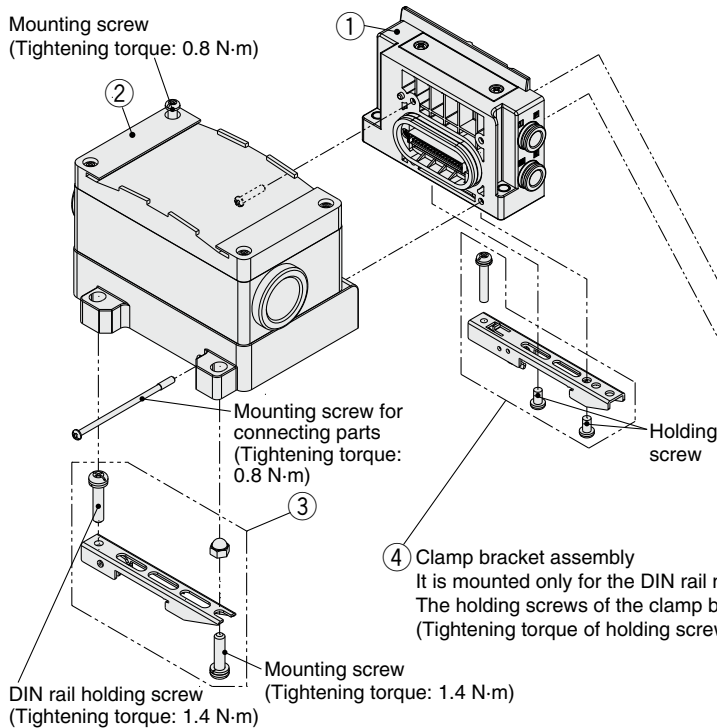
* Part number is for one assembly.

SY3000/5000/7000 Series

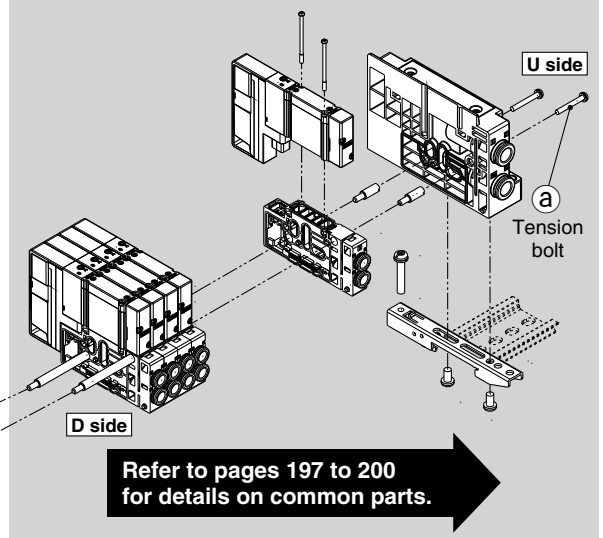
Wiring

Terminal Block Box

Mounting screw
(Tightening torque: 0.8 N·m)



Manifold exploded view



Manifold Parts Nos.

① SUP/EXH block assembly

SY **3** 0M-1-1A **C8** - **Mounting**

Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

| | |
|-----|--------------------------------------|
| Nil | Direct mounting |
| D0 | DIN rail mounting (Without DIN rail) |

* For the bottom-ported type, the symbol is nil.

P, E port size (One-touch fittings)

| Symbol | Pilot type | | Built-in silencer | Piping direction |
|--------|------------|----------|-------------------|------------------|
| | Internal | External | | |
| Nil | ● | — | — | Side |
| S | ● | — | ● | |
| R | — | ● | — | |
| V | ● | — | — | |
| RV | — | ● | — | Top |
| VP | ● | — | ●*1 | |
| B | ● | — | — | Bottom |
| BS | ● | — | ● | |
| BR | — | ● | — | |

*1 For silencer (supply side)
E port is plugged.

* "B" for the bottom-ported type can be selected for the SY5000/7000 series.

| Symbol | P, E port | SY3000 | SY5000 | SY7000 | Note |
|--------|-----------|--------|--------|--------|---|
| C8 | ø8 | ● | — | — | Side/Bottom/ Top ported Metric size |
| C10 | ø10 | — | ● | — | |
| C12 | ø12 | — | — | ● | |
| N9 | ø5/16" | ● | — | — | Side/Bottom/ Top ported Inch size |
| N11 | ø3/8" | — | ● | — | |
| N13 | ø1/2" | — | — | ● | |
| L8 | ø8 | ● | — | — | Side ported Metric size |
| L10 | ø10 | — | ● | — | |
| L12 | ø12 | — | — | ● | |
| LN9 | ø5/16" | ● | — | — | Side ported Inch size |
| LN11 | ø3/8" | — | ● | — | |
| LN13 | ø1/2" | — | — | ● | |
| B8 | ø8 | ● | — | — | Side ported Metric size |
| B10 | ø10 | — | ● | — | |
| B12 | ø12 | — | — | ● | |
| BN9 | ø5/16" | ● | — | — | Side ported Inch size |
| BN11 | ø3/8" | — | ● | — | |
| BN13 | ø1/2" | — | — | ● | |
| 00*1 | Plug | ● | ● | ● | P/E port entry on one side or Top ported |

*1 It can be selected only if no symbol or "S" or "V" or "B" is selected for the pilot and the piping.

SUP/EXH block assembly (D side)

accessories and the number of accessories

| Accessories | SY3000 | SY5000 SY7000 |
|----------------|--------|------------------|
| a Tension bolt | None*1 | 3 pcs. |

*1 Since the nuts are embedded in the SUP/EXH block

② Terminal block box housing assembly

VVQC1000-T0-1

③ Clamp bracket assembly for terminal block box

SY30M-15-4A

* Part number is for one assembly.

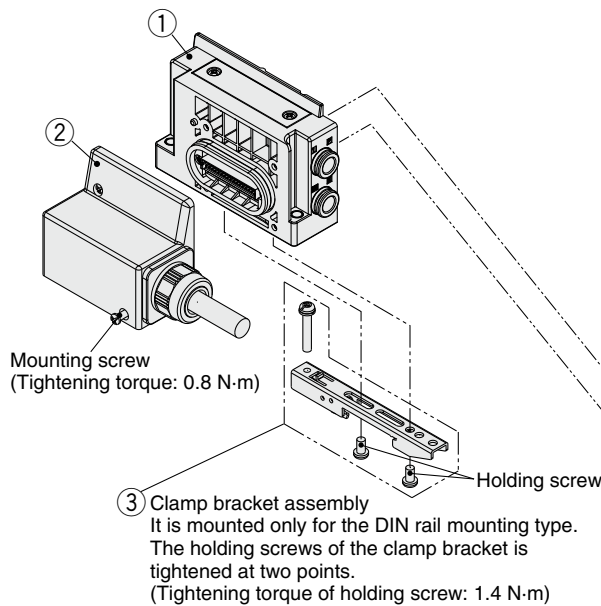
④ Clamp bracket assembly

| Series | Part no. |
|-------------|-------------|
| SY3000 | SY30M-15-1A |
| SY5000/7000 | SY50M-15-1A |

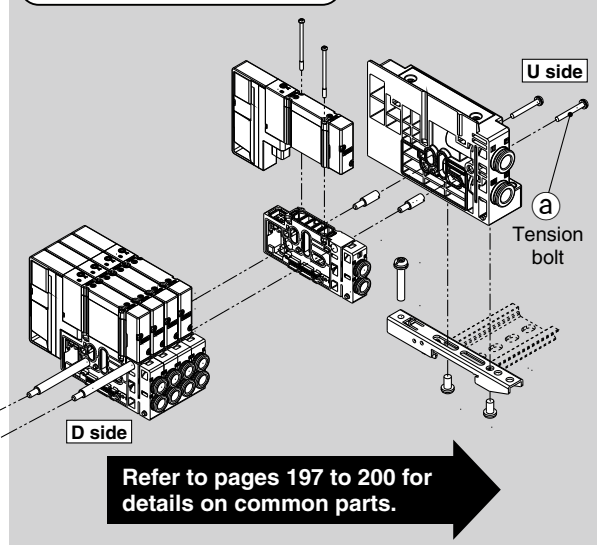
* Part number is for one assembly.

Wiring

Lead Wire



Manifold exploded view



Manifold Parts Nos.

① SUP/EXH block assembly

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

• Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

• Mounting

| | |
|-----|--------------------------------------|
| Nil | Direct mounting |
| D0 | DIN rail mounting (Without DIN rail) |

* For the bottom-ported type, the symbol is nil.

• Pilot, Silencer/Piping type

| Symbol | Pilot type | Built-in silencer | Piping direction |
|--------|------------|-------------------|------------------|
| | Internal | External | |
| Nil | ● | — | — |
| S | ● | — | ● |
| R | — | ● | — |
| V | ● | — | — |
| RV | — | ● | — |
| VP | ● | — | ●*1 |
| B | ● | — | — |
| BS | ● | — | ● |
| BR | — | ● | — |

*1 For silencer (supply side)
E port is plugged.* "B" for the bottom-ported type can be
selected for the SY5000/7000 series.

• P, E port size (One-touch fittings)

| Symbol | P, E port | SY3000 | SY5000 | SY7000 | Note |
|--------|-----------|--------|--------|--------|---|
| C8 | ø8 | ● | — | — | Side/Bottom/ Top ported |
| C10 | ø10 | — | ● | — | Metric size |
| C12 | ø12 | — | — | ● | |
| N9 | ø5/16" | ● | — | — | Side/Bottom/ Top ported |
| N11 | ø3/8" | — | ● | — | Inch size |
| N13 | ø1/2" | — | — | ● | |
| L8 | ø8 | ● | — | — | Side ported |
| L10 | ø10 | — | ● | — | Metric size |
| L12 | ø12 | — | — | ● | |
| LN9 | ø5/16" | ● | — | — | Side ported |
| LN11 | ø3/8" | — | ● | — | Inch size |
| LN13 | ø1/2" | — | — | ● | |
| B8 | ø8 | ● | — | — | Side ported |
| B10 | ø10 | — | ● | — | Metric size |
| B12 | ø12 | — | — | ● | |
| BN9 | ø5/16" | ● | — | — | Side ported |
| BN11 | ø3/8" | — | ● | — | Inch size |
| BN13 | ø1/2" | — | — | ● | |
| 00*1 | Plug | ● | ● | ● | P/E port entry on one side or Top ported |

*1 It can be selected only if no symbol or "S" or "V" or "B" is
selected for the pilot and the piping.

SUP/EXH block assembly (D side)

accessories and the number of accessories

| Accessories | SY3000 | SY5000 SY7000 |
|----------------|--------|------------------|
| a Tension bolt | None*1 | 3 pcs. |

*1 Since the nuts are embedded in the SUP/EXH block

② Lead wire connector block assembly

SY30M-14-4A -

Number of cores

| | |
|---|----|
| 1 | 34 |
| 2 | 17 |
| 3 | 9 |

• Lead wire length [m]

| | |
|---|-----|
| 1 | 0.6 |
| 2 | 1.5 |
| 3 | 3 |

③ Clamp bracket assembly

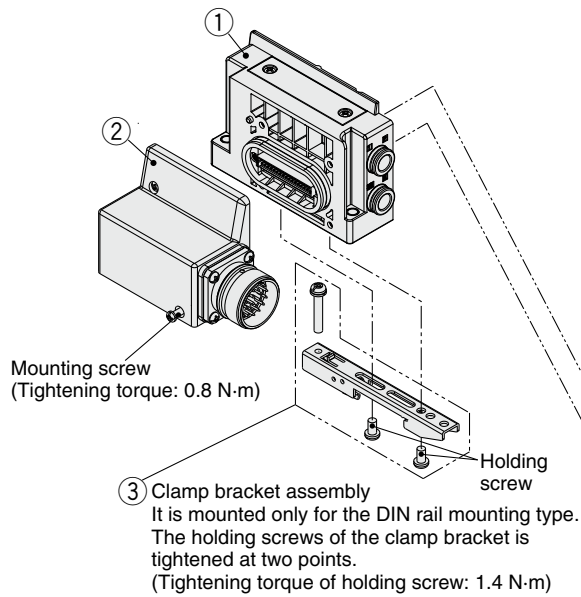
| Series | Part no. |
|-------------|-------------|
| SY3000 | SY30M-15-1A |
| SY5000/7000 | SY50M-15-1A |

* Part number is for one assembly.

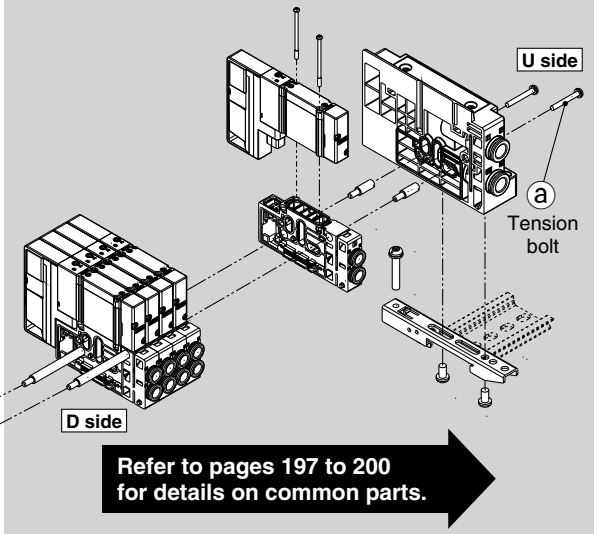
SY3000/5000/7000 Series

Wiring

Circular Connector



Manifold exploded view



Manifold Parts Nos.

① SUP/EXH block assembly

SY **3** 0M-1-1A **C8** - **Mounting**

Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

| | |
|-----|--------------------------------------|
| Nil | Direct mounting |
| D0 | DIN rail mounting (Without DIN rail) |

* For the bottom-ported type, the symbol is nil.

Pilot, Silencer/Piping type

| Symbol | Pilot type | Built-in silencer | Piping direction |
|--------|------------|-------------------|------------------|
| | Internal | External | |
| Nil | ● | — | — |
| S | ● | — | ● |
| R | — | ● | — |
| V | ● | — | — |
| RV | — | ● | — |
| VP | ● | — | ● ^{*1} |
| B | ● | — | — |
| BS | ● | — | ● |
| BR | — | ● | — |

*1 For silencer (supply side)
E port is plugged.

* "B" for the bottom-ported type can be selected for the SY5000/7000 series.

P, E port size (One-touch fittings)

| Symbol | P, E port | SY3000 | SY5000 | SY7000 | Note |
|------------------|-----------|--------|--------|--------|--|
| C8 | ø8 | ● | — | — | Side/Bottom/Top ported |
| C10 | ø10 | — | ● | — | Top ported |
| C12 | ø12 | — | — | ● | Metric size |
| N9 | ø5/16" | ● | — | — | Side/Bottom/Top ported |
| N11 | ø3/8" | — | ● | — | Inch size |
| N13 | ø1/2" | — | — | ● | |
| L8 | ø8 | ● | — | — | Side ported |
| L10 | ø10 | — | ● | — | Metric size |
| L12 | ø12 | — | — | ● | |
| LN9 | ø5/16" | ● | — | — | Side ported |
| LN11 | ø3/8" | — | ● | — | Inch size |
| LN13 | ø1/2" | — | — | ● | |
| B8 | ø8 | ● | — | — | Side ported |
| B10 | ø10 | — | ● | — | Metric size |
| B12 | ø12 | — | — | ● | |
| BN9 | ø5/16" | ● | — | — | Side ported |
| BN11 | ø3/8" | — | ● | — | Inch size |
| BN13 | ø1/2" | — | — | ● | |
| 00 ^{*1} | Plug | ● | ● | ● | P/E port entry on one side or Top ported |

*1 It can be selected only if no symbol or "S" or "V" or "B" is selected for the pilot and the piping.

SUP/EXH block assembly (D side) accessories and the number of accessories

| Accessories | SY3000 | SY5000 SY7000 |
|----------------|--------------------|------------------|
| a Tension bolt | None ^{*1} | 3 pcs. |

*1 Since the nuts are embedded in the SUP/EXH block

② Circular connector block assembly

SY30M-14-5A

* 26 pins

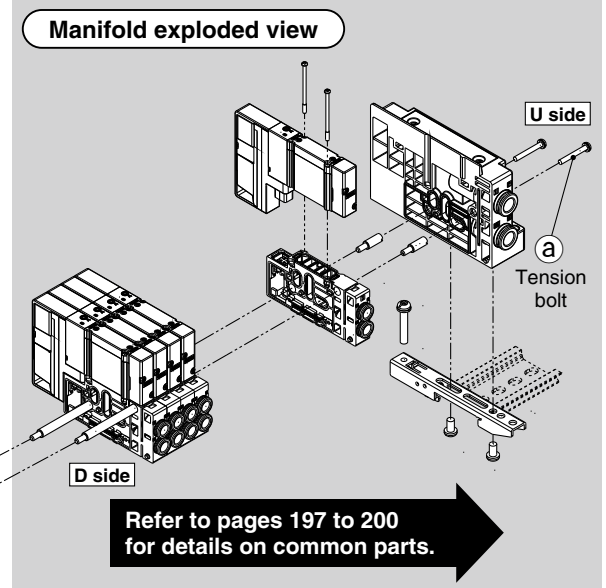
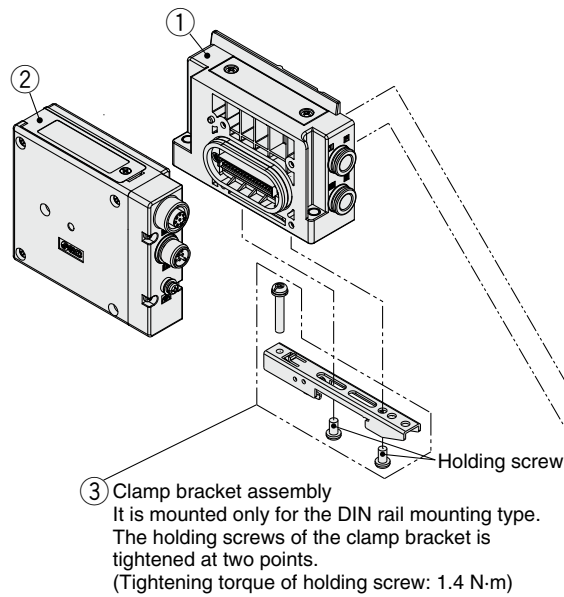
③ Clamp bracket assembly

| Series | Part no. |
|-------------|-------------|
| SY3000 | SY30M-15-1A |
| SY5000/7000 | SY50M-15-1A |

* Part number is for one assembly.

Wiring

EX500 Gateway Decentralized System 2 (128 Points)



Manifold Parts Nos.

① SUP/EXH block assembly

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

• Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

• Mounting

| | |
|-----|--------------------------------------|
| Nil | Direct mounting |
| D0 | DIN rail mounting (Without DIN rail) |

* For the bottom-ported type, the symbol is nil.

• Pilot, Silencer/Piping type

| Symbol | Pilot type | Built-in silencer | Piping direction |
|--------|------------|-------------------|------------------|
| | Internal | External | |
| Nil | ● | — | — |
| S | ● | — | ● |
| R | — | ● | — |
| V | ● | — | — |
| RV | — | ● | — |
| VP | ● | — | ●*1 |
| B | ● | — | — |
| BS | ● | — | ● |
| BR | — | ● | — |

*1 For silencer (supply side)
E port is plugged.

* "B" for the bottom-ported type can be selected for the SY5000/7000 series.

• P, E port size (One-touch fittings)

| Symbol | P, E port | SY3000 | SY5000 | SY7000 | Note |
|--------|-----------|--------|--------|--------|--|
| C8 | ø8 | ● | — | — | Side/Bottom/Top ported |
| C10 | ø10 | — | ● | — | Metric size |
| C12 | ø12 | — | — | ● | Metric size |
| N9 | ø5/16" | ● | — | — | Side/Bottom/Top ported |
| N11 | ø3/8" | — | ● | — | Inch size |
| N13 | ø1/2" | — | — | ● | Inch size |
| L8 | ø8 | ● | — | — | Side ported |
| L10 | ø10 | — | ● | — | Metric size |
| L12 | ø12 | — | — | ● | Metric size |
| LN9 | ø5/16" | ● | — | — | Side ported |
| LN11 | ø3/8" | — | ● | — | Inch size |
| LN13 | ø1/2" | — | — | ● | Inch size |
| B8 | ø8 | ● | — | — | Side ported |
| B10 | ø10 | — | ● | — | Metric size |
| B12 | ø12 | — | — | ● | Metric size |
| BN9 | ø5/16" | ● | — | — | Side ported |
| BN11 | ø3/8" | — | ● | — | Inch size |
| BN13 | ø1/2" | — | — | ● | Inch size |
| 00*1 | Plug | ● | ● | ● | P/E port entry on one side or Top ported |

*1 It can be selected only if no symbol or "S" or "V" or "B" is selected for the pilot and the piping.

SUP/EXH block assembly (D side)
accessories and the number of accessories

| Accessories | SY3000 | SY5000 SY7000 |
|----------------|--------|------------------|
| a Tension bolt | None*1 | 3 pcs. |

*1 Since the nuts are embedded in the SUP/EXH block

② EX500 SI unit

EX500-S103

③ Clamp bracket assembly

| Series | Part no. |
|-------------|-------------|
| SY3000 | SY30M-15-1A |
| SY5000/7000 | SY50M-15-1A |

* Part number is for one assembly.

Chart

Valve
SpecificationsValve
ConstructionValve
Replacement
PartsWith Residual
Pressure
Release ValveVacuum
Release Valve
with RestrictorWith
Pressure
SensorMade to
OrderConnector
Connecting BaseD-sub,
Flat
RibbonTerminal
BlockLead
WireCircular
Connector

EX500

EX600

EX250

EX260

EX126

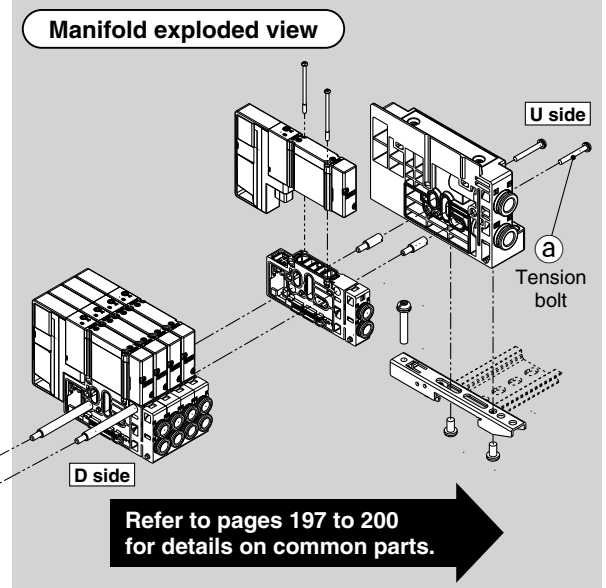
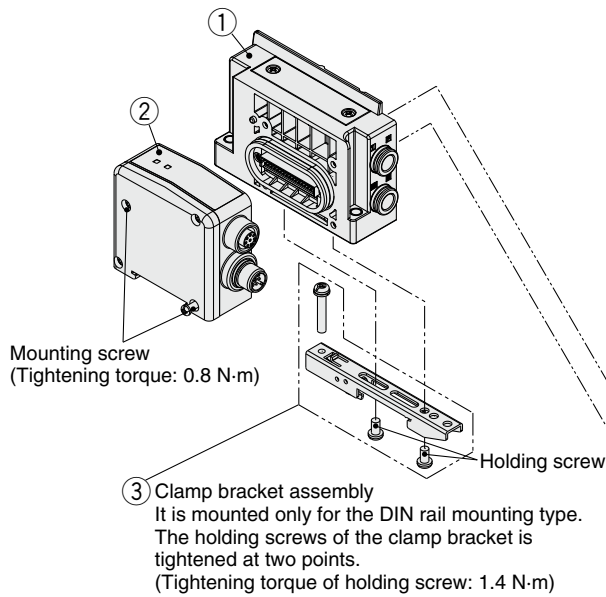
EX120

Common
DimensionsMixed
MountingManifold
Exploded
ViewFitting,
Plug
Part Nos.Manifold
OptionsSpecific
Product
Precautions

SY3000/5000/7000 Series

Wiring

EX500 Gateway Decentralized System (64 Points)



Manifold Parts Nos.

① SUP/EXH block assembly

SY **3** 0M-1-1A **C8** - **Mounting**

Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

| | |
|-----|--------------------------------------|
| Nil | Direct mounting |
| D0 | DIN rail mounting (Without DIN rail) |

* For the bottom-ported type, the symbol is nil.

P, E port size (One-touch fittings)

Pilot, Silencer/Piping type

| Symbol | Pilot type | Built-in silencer | Piping direction |
|--------|------------|-------------------|------------------|
| | Internal | External | |
| Nil | ● | — | — |
| S | ● | — | ● |
| R | — | ● | — |
| V | ● | — | — |
| RV | — | ● | — |
| VP | ● | — | ● |
| B | ● | — | — |
| BS | ● | — | ● |
| BR | — | ● | — |

*1 For silencer (supply side)
E port is plugged.

* "B" for the bottom-ported type can be selected for the SY5000/7000 series.

| Symbol | P, E port | SY3000 | SY5000 | SY7000 | Note |
|--------|-----------|--------|--------|--------|--|
| C8 | ø8 | ● | — | — | Side/Bottom/Top ported |
| C10 | ø10 | — | ● | — | Top ported |
| C12 | ø12 | — | — | ● | Metric size |
| N9 | ø5/16" | ● | — | — | Side/Bottom/Top ported |
| N11 | ø3/8" | — | ● | — | Inch size |
| N13 | ø1/2" | — | — | ● | |
| L8 | ø8 | ● | — | — | Side ported |
| L10 | ø10 | — | ● | — | Metric size |
| L12 | ø12 | — | — | ● | |
| LN9 | ø5/16" | ● | — | — | Side ported |
| LN11 | ø3/8" | — | ● | — | Inch size |
| LN13 | ø1/2" | — | — | ● | |
| B8 | ø8 | ● | — | — | Side ported |
| B10 | ø10 | — | ● | — | Metric size |
| B12 | ø12 | — | — | ● | |
| BN9 | ø5/16" | ● | — | — | Side ported |
| BN11 | ø3/8" | — | ● | — | Inch size |
| BN13 | ø1/2" | — | — | ● | |
| 00*1 | Plug | ● | ● | ● | P/E port entry on one side or Top ported |

*1 It can be selected only if no symbol or "S" or "V" or "B" is selected for the pilot and the piping.

SUP/EXH block assembly (D side) accessories and the number of accessories

| Accessories | SY3000 | SY5000 SY7000 |
|----------------|--------|------------------|
| a Tension bolt | None*1 | 3 pcs. |

*1 Since the nuts are embedded in the SUP/EXH block

② EX500 SI unit

EX500-Q **0** 01

Output specifications

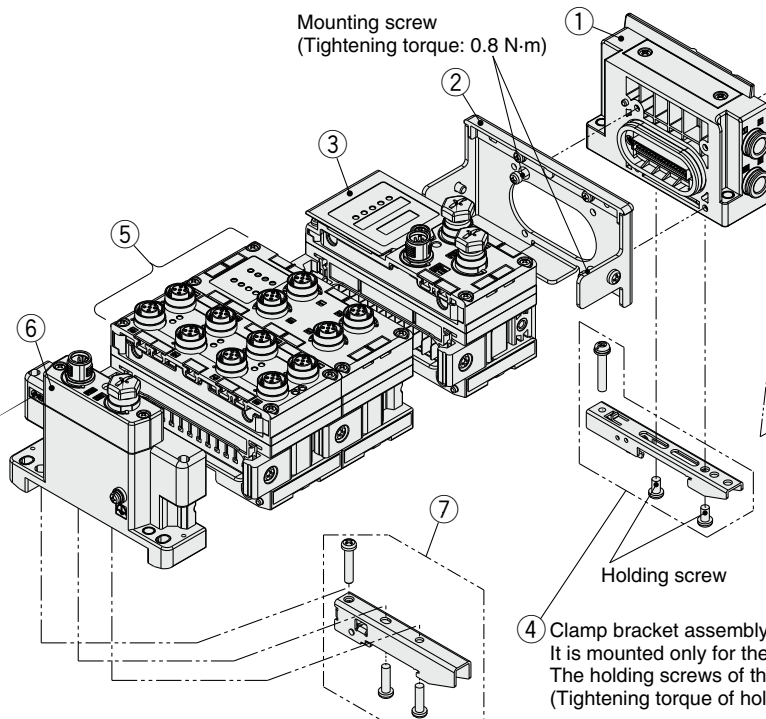
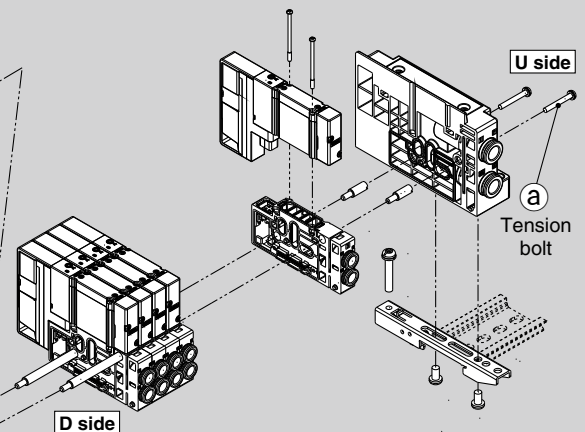
| | |
|---|-----------------------|
| 0 | NPN (Positive common) |
| 1 | PNP (Negative common) |

③ Clamp bracket assembly

| Series | Part no. |
|-------------|-------------|
| SY3000 | SY30M-15-1A |
| SY5000/7000 | SY50M-15-1A |

* Part number is for one assembly.

Wiring

EX600**Manifold exploded view**

Refer to pages 197 to 200
for details on common parts.

Manifold Parts Nos.**① SUP/EXH block assembly**

SY 3 0M-1-1A - C8 - **Mounting**

Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

| | |
|-----|--------------------------------------|
| Nil | Direct mounting |
| D0 | DIN rail mounting (Without DIN rail) |

* For the bottom-ported type, the symbol is nil.

Pilot, Silencer/Piping type

| Symbol | Pilot type | | Built-in silencer | Piping direction |
|--------|------------|----------|-------------------|------------------|
| | Internal | External | | |
| Nil | ● | — | — | Side |
| S | ● | — | ● | |
| R | — | ● | — | |
| V | ● | — | — | Top |
| RV | — | ● | — | |
| VP | ● | — | ●*1 | |
| B | ● | — | — | Bottom |
| BS | ● | — | ● | |
| BR | — | ● | — | |

*1 For silencer (supply side)
E port is plugged.

* "B" for the bottom-ported type can be selected for the SY5000/7000 series.

SUP/EXH block assembly (D side)**accessories and the number of accessories**

| Accessories | SY3000 | SY5000 SY7000 |
|------------------|--------|------------------|
| (a) Tension bolt | None*1 | 3 pcs. |

*1 Since the nuts are embedded in the SUP/EXH block

P, E port size (One-touch fittings)

| Symbol | P, E port | SY3000 | SY5000 | SY7000 | Note |
|--------|-----------|--------|--------|--------|---|
| C8 | ø8 | ● | — | — | Side/Bottom/ Top ported Metric size |
| C10 | ø10 | — | ● | — | |
| C12 | ø12 | — | — | ● | |
| N9 | ø5/16" | ● | — | — | Side/Bottom/ Top ported Inch size |
| N11 | ø3/8" | — | ● | — | |
| N13 | ø1/2" | — | — | ● | |
| L8 | ø8 | ● | — | — | Side ported Metric size |
| L10 | ø10 | — | ● | — | |
| L12 | ø12 | — | — | ● | |
| LN9 | ø5/16" | ● | — | — | Side ported Inch size |
| LN11 | ø3/8" | — | ● | — | |
| LN13 | ø1/2" | — | — | ● | |
| B8 | ø8 | ● | — | — | Side ported Metric size |
| B10 | ø10 | — | ● | — | |
| B12 | ø12 | — | — | ● | |
| BN9 | ø5/16" | ● | — | — | Side ported Inch size |
| BN11 | ø3/8" | — | ● | — | |
| BN13 | ø1/2" | — | — | ● | |
| 00*1 | Plug | ● | ● | ● | P/E port entry on one side or Top ported |

*1 It can be selected only if no symbol or "S" or "V" or "B" is selected for the pilot and the piping.

SY3000/5000/7000 Series

Manifold Parts Nos.

② Valve plate

EX600 – ZMV2

* With mounting screws
(2 pcs. of M4 x 6 and 2 pcs. of M3 x 8)

③ EX600 SI unit

EX600 – S PR 1

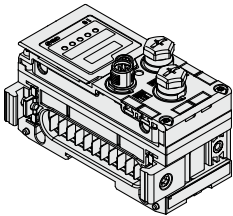
| Symbol | Description |
|--------|----------------|
| PR | PROFIBUS DP |
| DN | DeviceNet™ |
| MJ | CC-Link |
| EN | EtherNet/IP™*1 |
| EC | EtherCAT*1 |
| PN | PROFINET*1 |

*1 Cannot be communicated with the EX600-HT1-□

| Symbol | Description |
|--------|------------------------------------|
| Nil | When MJ, EN, EC, or PN is selected |
| A | When PR or DN is selected |

●Output type

| Symbol | Description | Condition |
|--------|---|-----------------------------------|
| 1 | PNP (Negative common) | Can be selected by all protocols |
| 2 | NPN (Positive common) | Can be selected by all protocols |
| 3 | PNP (Negative common) EtherNet/IP (2 ports) | Can be selected in the case of EN |
| 4 | NPN (Positive common) EtherNet/IP (2 ports) | Can be selected in the case of EN |



③ EX600 SI unit (Wireless compatible)

EX600 – W EN 1

●Output type

| Symbol | Description |
|--------|-----------------------|
| 1 | PNP (Negative common) |
| 2 | NPN (Positive common) |

●Protocol

| Symbol | SI unit type | Description |
|--------|------------------------|----------------|
| EN | Wireless base module | EtherNet/IP™*2 |
| PN | Wireless base module | PROFINET*2 |
| SV | Wireless remote module | —*1, 2 |

*1 Cannot be communicated with the EX600-HT1-□

*2 The wireless system is suitable for use only in a country where it is in accordance with the Radio Act and regulations of that country.

④ Clamp bracket assembly

| Series | Part no. |
|-------------|-------------|
| SY3000 | SY30M-15-1A |
| SY5000/7000 | SY50M-15-1A |

* Part number is for one assembly.

Manifold Parts Nos.

⑤ EX600 digital input unit

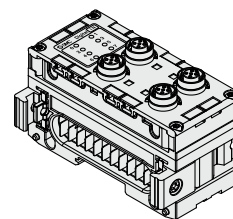
EX600-DX **P** **B**

Input type

| Symbol | Description |
|----------|-------------|
| P | PNP |
| N | NPN |

Number of inputs, open circuit detection, and connector

| Symbol | Number of inputs | Open circuit detection | Connector |
|-----------|------------------|------------------------|--|
| B | 8 | No | M12 connector (5 pins) 4 pcs. |
| C | 8 | No | M8 connector (3 pins) 8 pcs. |
| C1 | 8 | Yes | M8 connector (3 pins) 8 pcs. |
| D | 16 | No | M12 connector (5 pins) 8 pcs. |
| E | 16 | No | D-sub connector (25 pins)*1*2 |
| F | 16 | No | Spring type terminal block (32 pins)*1*2 |



⑤ EX600 digital output unit

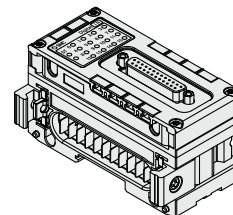
EX600-DY **P** **B**

Output type

| Symbol | Description |
|----------|-------------|
| P | PNP |
| N | NPN |

Number of outputs and connector

| Symbol | Number of outputs | Connector |
|----------|-------------------|--|
| B | 8 | M12 connector (5 pins) 4 pcs. |
| E | 16 | D-sub connector (25 pins)*1*2 |
| F | 16 | Spring type terminal block (32 pins)*1*2 |



⑤ EX600 digital input/output unit

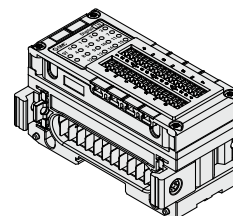
EX600-DM **P** **E**

Input/Output type

| Symbol | Description |
|----------|-------------|
| P | PNP |
| N | NPN |

Number of inputs/outputs and connector

| Symbol | Number of inputs | Number of outputs | Connector |
|----------|------------------|-------------------|--|
| E | 8 | 8 | D-sub connector (25 pins)*1*2 |
| F | 8 | 8 | Spring type terminal block (32 pins)*1*2 |



⑤ EX600 analog input/output unit

EX600-AX **A**

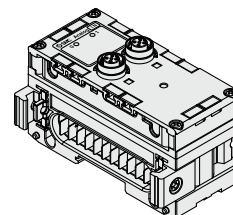
Analog input/output

| Symbol | Description |
|-----------|---------------|
| AX | Analog input |
| AY | Analog output |

Number of input channels and connector

| Symbol | Number of input channels | Connector |
|----------|--------------------------|---------------------------------|
| A | 2 channels | M12 connector (5 pins) 2 pcs.*3 |

*3 Refer to *1 and *2 below for AY.



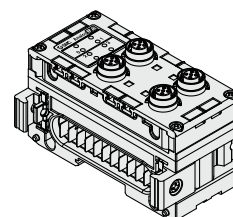
⑤ EX600 analog input/output unit

EX600-AM **B**

Analog input/output

Number of input/output channels and connector

| Symbol | Number of input channels | Number of output channels | Connector |
|----------|--------------------------|---------------------------|-----------------------------------|
| B | 2 channels | 2 channels | M12 connector (5 pins) 4 pcs.*1*2 |



⑥ EX600 end plate

EX600-ED **2** - **□**

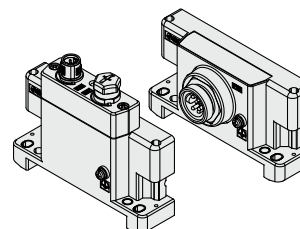
Power connector

| Symbol | Connector |
|----------|---|
| 2 | M12 power supply connector, B-coded |
| 3 | 7/8 inch power supply connector |
| 4 | M12 power supply connector IN/OUT, A-coded, Pin arrangement 1 |
| 5 | M12 power supply connector IN/OUT, A-coded, Pin arrangement 2 |

Mounting

| Symbol | Description |
|------------|-----------------------------------|
| Nil | Without DIN rail mounting bracket |
| 3 | With DIN rail mounting bracket |

* The pin layout for the "4" and "5" pin connectors is different.

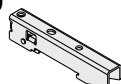


⑦ Clamp bracket for EX600

EX600-ZMA3

Enclosed parts

Round head screw with washer (M4 x 20) 1 pc.
P-tight screw (4 x 14) 2 pcs.



*1 Cannot be communicated with the EX600-HT1-□ (Old version of the handheld terminal)

*2 Cannot be connected with the EX600-SPR1, EX600-SPR2, EX600-SDN1, or EX600-SDN2

Chart

Valve
SpecificationsValve
ConstructionValve
Replacement
PartsWith Residual
Pressure
Release ValveVacuum
Release Valve
with RestrictorWith
Pressure
SensorMade to
OrderConnector
Connecting BaseD-sub,
Flat
Ribbon
Terminal
BlockLead
WireCircular
Connector

EX500

EX600

EX250

EX260

EX126

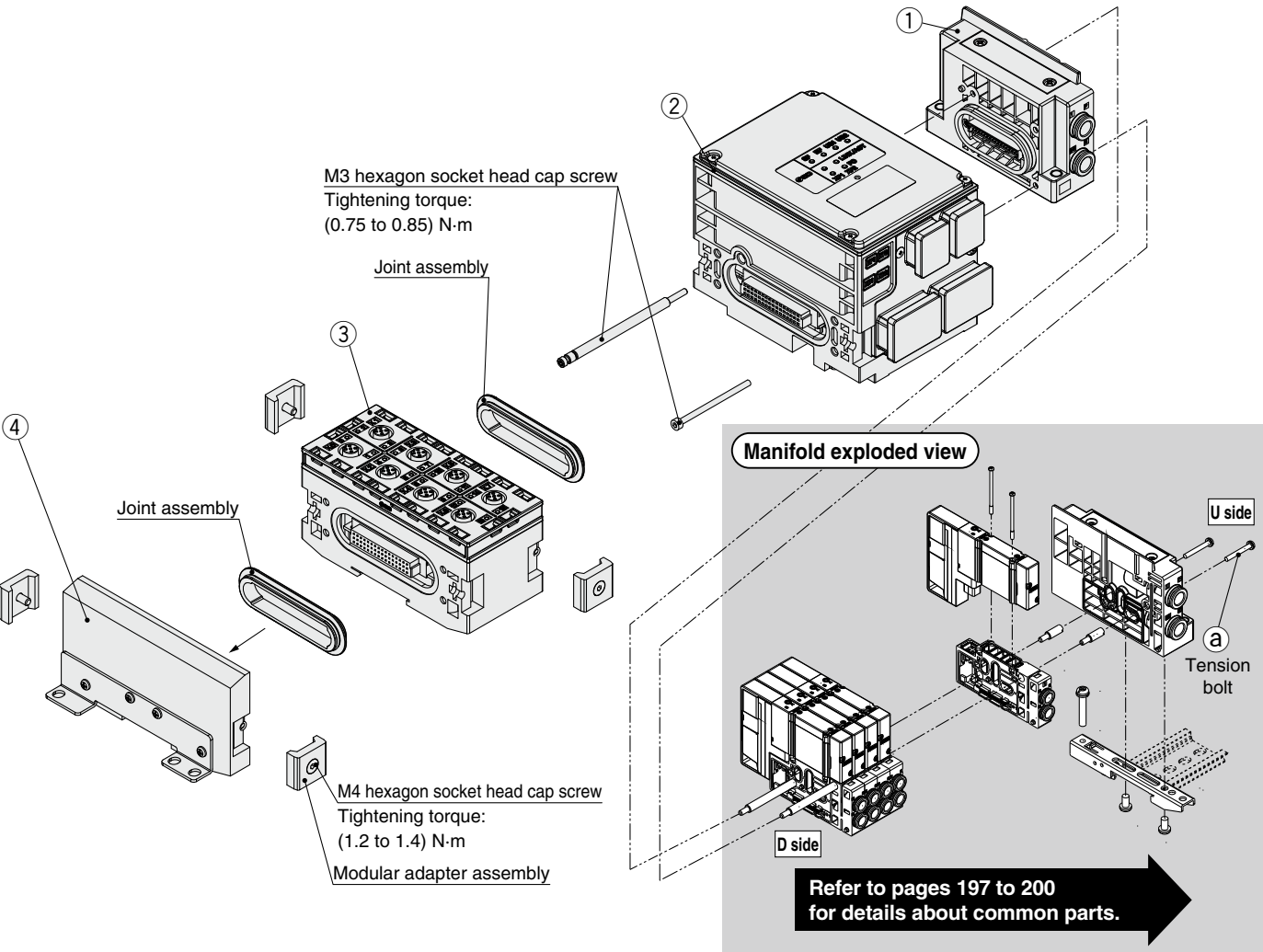
EX120

Common
DimensionsMixed
MountingManifold
Exploded
ViewFitting,
Plug
Part Nos.Manifold
OptionsSpecific
Product
Precautions

SY3000/5000/7000 Series

Wiring

EX245



Manifold Parts No.

① SUP/EXH block assembly

SY **3** 0M-1-1A **C8**

● Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |

● P, E port size (One-touch fittings)

| Symbol | P, E port | SY3000 | SY5000 | Note |
|--------|-----------|--------|--------|--|
| C8 | ø8 | ● | — | Side/Bottom/Top ported |
| C10 | ø10 | — | ● | Metric size |
| C12 | ø12 | — | — | Metric size |
| N9 | ø5/16" | ● | — | Side/Bottom/Top ported |
| N11 | ø3/8" | — | ● | Inch size |
| N13 | ø1/2" | — | — | Inch size |
| L8 | ø8 | ● | — | Side ported |
| L10 | ø10 | — | ● | Metric size |
| L12 | ø12 | — | — | Metric size |
| LN9 | ø5/16" | ● | — | Side ported |
| LN11 | ø3/8" | — | ● | Inch size |
| LN13 | ø1/2" | — | — | Inch size |
| B8 | ø8 | ● | — | Side ported |
| B10 | ø10 | — | ● | Metric size |
| B12 | ø12 | — | — | Metric size |
| BN9 | ø5/16" | ● | — | Side ported |
| BN11 | ø3/8" | — | ● | Inch size |
| BN13 | ø1/2" | — | — | Inch size |
| 00*1 | Plug | ● | ● | P/E port entry on one side or Top ported |
| 00U*2 | Plug | ● | ● | |

● Pilot, Silencer/Piping type

| Symbol | Pilot type | | Built-in silencer | Piping direction |
|--------|------------|----------|-------------------|------------------|
| | Internal | External | | |
| Nil | ● | — | — | Side |
| S | ● | — | ● | |
| R | — | ● | — | |
| V | ● | — | — | Top |
| RV | — | ● | — | |
| VP | ● | — | ●*1 | |
| B | ● | — | — | Bottom |
| BS | ● | — | ● | |
| BR | — | ● | — | |

*1: For silencer (supply side). E port is plugged.

*: "B" for bottom ported can be selected for the SY5000 series.

SUP/EXH block assembly (D side)

accessories and the number of accessories

| Accessories | SY3000 | SY5000 |
|----------------|--------|--------|
| a Tension bolt | None*1 | 3 pcs. |

*1: Since the nuts are embedded in the SUP/EXH block.

*1: It can be selected only if no symbol or "S" or "V" or "B" is selected for the pilot and the piping.

*2: "00U" has an inch size locking bracket.

Manifold Parts No.

② EX245 SI Unit

EX245 – S PN 1A

SI unit
PROFINET

● Connector type

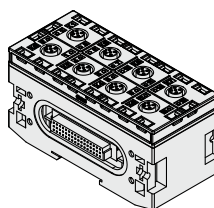
| Symbol | Communication connector | Power supply connector |
|-----------|--|--|
| 1A | Push Pull connector (SCRJ): 2 pcs. | Push Pull connector (24 V): 2 pcs. |
| 2A | Push Pull connector (RJ45): 2 pcs. | Push Pull connector (24 V): 2 pcs. |
| 3A | M12 connector (4-pin, Socket, D-coded): 2 pcs. | 7/8 inch connector (5-pin, Plug): 1 pc. 7/8 inch connector (5-pin, Socket): 1 pc. |

③ EX245 Digital Input Module

EX245 – DX1

● Digital input module specification

| | |
|------------|---------------------------|
| DX1 | Digital input (16 inputs) |
|------------|---------------------------|

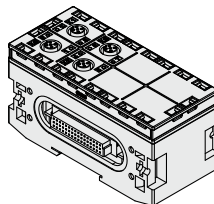


③ EX245 Digital Output Module

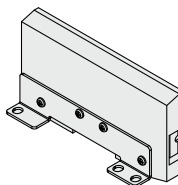
EX245 – DY1

● Digital output module specification

| | |
|------------|----------------------------|
| DY1 | Digital output (8 outputs) |
|------------|----------------------------|



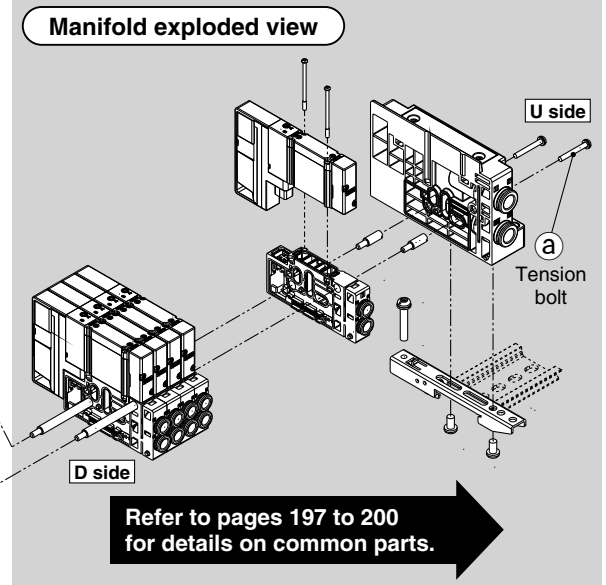
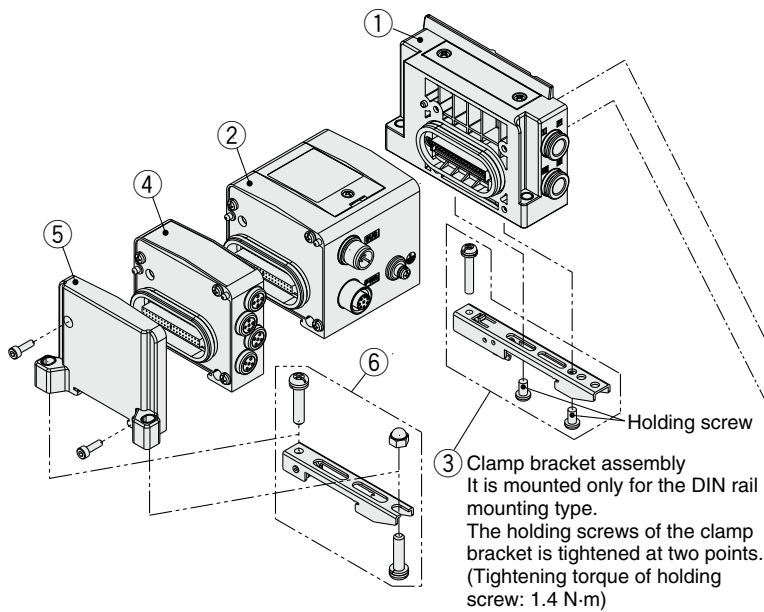
④ EX245 End Plate

EX245 – EA2 – 3

SY3000/5000/7000 Series

Wiring

EX250



Manifold Parts Nos.

① SUP/EXH block assembly

SY **3** 0M-1-1A **C8** - **Mounting**

•Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

| | |
|-----|--------------------------------------|
| Nil | Direct mounting |
| D0 | DIN rail mounting (Without DIN rail) |

* For the bottom-ported type, the symbol is nil.

•Pilot, Silencer/Piping type

| Symbol | Pilot type Internal External | Built-in silencer | Piping direction |
|--------|---------------------------------|----------------------|---------------------|
| Nil | ● — | — | Side |
| S | ● — | ● | Side |
| R | — — | ● | Side |
| V | ● — | — | Top |
| RV | — — | ● | Top |
| VP | ● — | ● ^{*1} | Top |
| B | ● — | — | Bottom |
| BS | ● — | ● | Bottom |
| BR | — — | ● | Bottom |

*1 For silencer (supply side).
E port is plugged.

* "B" for the bottom-ported type can be selected for the SY5000/7000 series.

SUP/EXH block assembly (D side)

accessories and the number of accessories

| Accessories | SY3000 | SY5000 SY7000 |
|----------------|--------------------|------------------|
| ① Tension bolt | None ^{*1} | 3 pcs. |

*1 Since the nuts are embedded in the SUP/EXH block

② EX250 SI unit

EX250-S **DN1**

•Communication protocol

| | |
|------|---|
| DN1 | DeviceNet™ (Negative common) |
| PR1 | PROFIBUS DP (Negative common) |
| AS3 | AS-Interface (8 in/8 out, 31 slave modes, 2 isolated common type) (Negative common) |
| AS5 | AS-Interface (4 in/4 out, 31 slave modes, 2 isolated common type) (Negative common) |
| AS7 | AS-Interface (8 in/8 out, 31 slave modes, 1 common type) (Negative common) |
| AS9 | AS-Interface (4 in/4 out, 31 slave modes, 1 common type) (Negative common) |
| CA1A | CANopen (Negative common) |
| EN1 | EtherNet/IP™ (Negative common) |

③ Clamp bracket assembly

| Series | Part no. |
|-------------|-------------|
| SY3000 | SY30M-15-1A |
| SY5000/7000 | SY50M-15-1A |

* Part number is for one assembly.

193

•P, E port size (One-touch fittings)

| Symbol | P, E port | SY3000 | SY5000 | SY7000 | Note |
|------------------|-----------|--------|--------|--------|---|
| C8 | ø8 | ● | — | — | Side/Bottom/ Top ported Metric size |
| C10 | ø10 | — | ● | — | |
| C12 | ø12 | — | — | ● | |
| N9 | ø5/16" | ● | — | — | Side/Bottom/ Top ported Inch size |
| N11 | ø3/8" | — | ● | — | |
| N13 | ø1/2" | — | — | ● | |
| L8 | ø8 | ● | — | — | Side ported Metric size |
| L10 | ø10 | — | ● | — | |
| L12 | ø12 | — | — | ● | |
| LN9 | ø5/16" | ● | — | — | Side ported Inch size |
| LN11 | ø3/8" | — | ● | — | |
| LN13 | ø1/2" | — | — | ● | |
| B8 | ø8 | ● | — | — | Side ported Metric size |
| B10 | ø10 | — | ● | — | |
| B12 | ø12 | — | — | ● | |
| BN9 | ø5/16" | ● | — | — | Side ported Inch size |
| BN11 | ø3/8" | — | ● | — | |
| BN13 | ø1/2" | — | — | ● | |
| 00 ^{*1} | Plug | ● | ● | ● | P/E port entry on one side or Top ported |

*1 It can be selected only if no symbol or "S" or "V" or "B" is selected for the pilot and the piping.

④ Input block

EX250-IE **1**

•Block type

| | |
|---|-------------------------|
| 1 | M12 connector, 2 inputs |
| 2 | M12 connector, 4 inputs |
| 3 | M8 connector, 4 inputs |

⑤ EX250 end plate assembly

EX250-EA1

* With mounting screws (2 pcs. of M3 x 10)

⑥ Clamp bracket assembly for EX250 SI unit

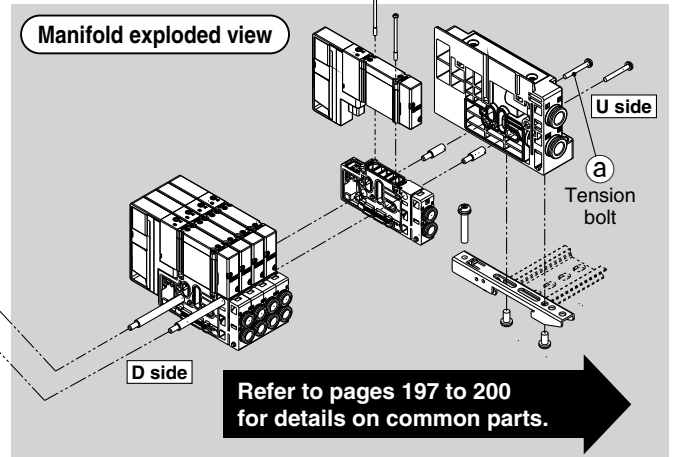
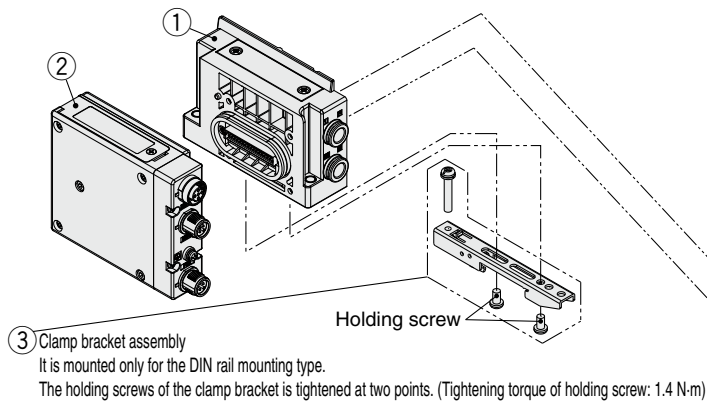
SY30M-15-3A

* Part number is for one assembly.



Wiring

EX260



Manifold Parts Nos.

① SUP/EXH block assembly

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

Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

| | |
|-----|--------------------------------------|
| Nil | Direct mounting |
| D0 | DIN rail mounting (Without DIN rail) |

* For the bottom-ported type, the symbol is nil.

P, E port size (One-touch fittings)

| Symbol | P, E port | SY3000 | SY5000 | SY7000 | Note |
|--------|-----------|--------|--------|--------|--|
| C8 | ø8 | ● | — | — | Side/Bottom/Top ported |
| C10 | ø10 | — | ● | — | Metric size |
| C12 | ø12 | — | — | ● | Side/Bottom/Top ported |
| N9 | ø5/16" | ● | — | — | Inch size |
| N11 | ø3/8" | — | ● | — | Side ported |
| N13 | ø1/2" | — | — | ● | Inch size |
| L8 | ø8 | ● | — | — | Side ported |
| L10 | ø10 | — | ● | — | Metric size |
| L12 | ø12 | — | — | ● | Side ported |
| LN9 | ø5/16" | ● | — | — | Inch size |
| LN11 | ø3/8" | — | ● | — | Side ported |
| LN13 | ø1/2" | — | — | ● | Inch size |
| B8 | ø8 | ● | — | — | Side ported |
| B10 | ø10 | — | ● | — | Metric size |
| B12 | ø12 | — | — | ● | Side ported |
| BN9 | ø5/16" | ● | — | — | Inch size |
| BN11 | ø3/8" | — | ● | — | Side ported |
| BN13 | ø1/2" | — | — | ● | Inch size |
| 00*1 | Plug | ● | ● | ● | P/E port entry on one side or Top ported |

*1 It can be selected only if no symbol or "S" or "V" or "B" is selected for the pilot and the piping.

SUP/EXH block assembly (D side)

accessories and the number of accessories

| Accessories | SY3000 | SY5000 SY7000 |
|----------------|--------|------------------|
| ① Tension bolt | None*1 | 3 pcs. |

*1 Since the nuts are embedded in the SUP/EXH block

Pilot, Silencer/Piping type

| Symbol | Pilot type | Built-in silencer | Piping direction |
|--------|------------|-------------------|------------------|
| | Internal | External | |
| Nil | ● | — | — |
| S | ● | — | ● |
| R | — | ● | — |
| V | ● | — | — |
| RV | — | ● | — |
| VP | ● | — | ●*1 |
| B | ● | — | — |
| BS | ● | — | ● |
| BR | — | ● | — |

*1 For silencer (supply side)
E port is plugged.

* "B" for the bottom-ported type can be selected for the SY5000/7000 series.

② EX260 SI unit (Fieldbus and Industrial Ethernet)

EX260-S PR1

Communication protocol

| Symbol | Protocol | Number of outputs | SI unit output polarity | Communication connector | Manifold symbol | Symbol | Protocol | Number of outputs | SI unit output polarity | Communication connector | Manifold symbol |
|--------|-------------|-------------------|------------------------------|-------------------------|-----------------|--------|--------------------|-------------------|------------------------------|-------------------------|-----------------|
| DN1 | DeviceNet™ | 32 | Source/PNP (Negative common) | M12 | QAN | EC1 | EtherCAT | 32 | Source/PNP (Negative common) | M12 | DAN |
| DN2 | | | Sink/NPN (Positive common) | | QA | EC2 | | | Sink/NPN (Positive common) | | DA |
| DN3 | | | Source/PNP (Negative common) | | QBN | EC3 | | | Source/PNP (Negative common) | | DBN |
| DN4 | | | Sink/NPN (Positive common) | | QB | EC4 | | | Sink/NPN (Positive common) | | DB |
| PR1 | PROFIBUS DP | 32 | Source/PNP (Negative common) | M12 | NAN | PN1 | PROFINET | 32 | Source/PNP (Negative common) | M12 | FAN |
| PR2 | | | Sink/NPN (Positive common) | | NA | PN2 | | | Sink/NPN (Positive common) | | FA |
| PR3 | | | Source/PNP (Negative common) | | NBN | PN3 | | | Source/PNP (Negative common) | | FBN |
| PR4 | | | Sink/NPN (Positive common) | | NB | PN4 | | | Sink/NPN (Positive common) | | FB |
| PR5 | | 32 | Source/PNP (Negative common) | D-sub*1 | NCN | EN1 | | 32 | Source/PNP (Negative common) | M12 | EAN |
| PR6 | | | Sink/NPN (Positive common) | | NC | EN2 | | | Sink/NPN (Positive common) | | EA |
| PR7 | | | Source/PNP (Negative common) | | NDN | EN3 | | | Source/PNP (Negative common) | | EBN |
| PR8 | | | Sink/NPN (Positive common) | | ND | EN4 | | | Sink/NPN (Positive common) | | EB |
| MJ1 | CC-Link | 32 | Source/PNP (Negative common) | M12 | VAN | PL1 | Ethernet POWERLINK | 32 | Source/PNP (Negative common) | M12 | GAN |
| MJ2 | | | Sink/NPN (Positive common) | | VA | PL3 | | | Source/PNP (Negative common) | | GBN |
| MJ3 | | | Source/PNP (Negative common) | | VBN | IL1 | | 32 | Source/PNP (Negative common) | | KAN |
| MJ4 | | | Sink/NPN (Positive common) | | VB | | | | | | |

*1 Enclosure is IP40 when the communication connector is D-sub.

EX260 SI Unit (Safety Communication)

EX260-F PS1

Communication protocol

| Symbol | Protocol | Number of outputs | SI unit output polarity | Communication connector | Manifold symbol |
|--------|-----------|-------------------|------------------------------|-------------------------|-----------------|
| PS1 | PROFIsafe | 32 | Source/PNP (Negative common) | M12 | FPN |

③ Clamp bracket assembly

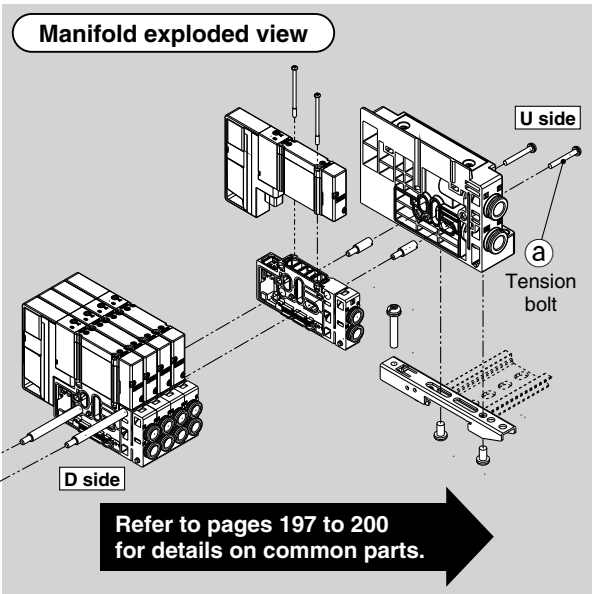
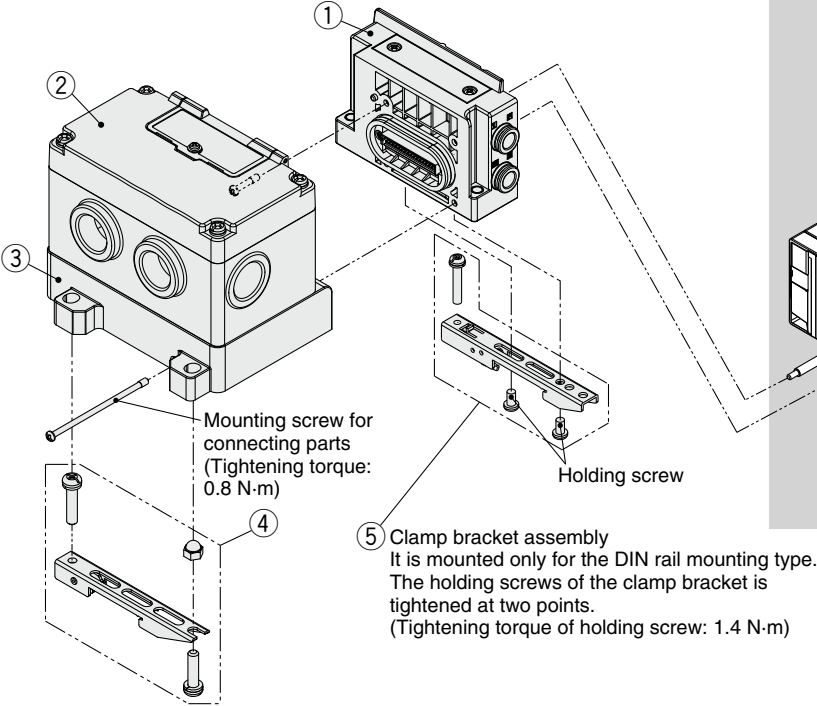
| Series | Part no. |
|-------------|-------------|
| SY3000 | SY30M-15-1A |
| SY5000/7000 | SY50M-15-1A |

* Part number is for one assembly.

SY3000/5000/7000 Series

Wiring

EX126



Manifold Parts Nos.

① SUP/EXH block assembly

SY **3** 0M-1-1A **C8** - **Mounting**

| Series | |
|--------|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

| Mounting | |
|----------|--------------------------------------|
| Nil | Direct mounting |
| D0 | DIN rail mounting (Without DIN rail) |

* For the bottom-ported type, the symbol is nil.

•P, E port size (One-touch fittings)

| Symbol | Pilot type | | Built-in silencer | Piping direction |
|--------|------------|----------|-------------------|------------------|
| | Internal | External | | |
| Nil | ● | — | — | Side |
| S | ● | — | ● | |
| R | — | ● | — | |
| V | ● | — | — | |
| RV | — | ● | — | Top |
| VP | ● | — | ● ^{*1} | |
| B | ● | — | — | Bottom |
| BS | ● | — | ● | |
| BR | — | ● | — | |

*1 For silencer (supply side)
E port is plugged.
* "B" for the bottom-ported type can be selected for the SY5000/7000 series.

| Symbol | P, E port | SY3000 | SY5000 | SY7000 | Note |
|------------------|-----------|--------|--------|--------|--|
| C8 | ø8 | ● | — | — | Side/Bottom/Top ported Metric size |
| C10 | ø10 | — | ● | — | |
| C12 | ø12 | — | — | ● | |
| N9 | ø5/16" | ● | — | — | Side/Bottom/Top ported Inch size |
| N11 | ø3/8" | — | ● | — | |
| N13 | ø1/2" | — | — | ● | |
| L8 | ø8 | ● | — | — | Side ported Metric size |
| L10 | ø10 | — | ● | — | |
| L12 | ø12 | — | — | ● | |
| LN9 | ø5/16" | ● | — | — | Side ported Inch size |
| LN11 | ø3/8" | — | ● | — | |
| LN13 | ø1/2" | — | — | ● | |
| B8 | ø8 | ● | — | — | Side ported Metric size |
| B10 | ø10 | — | ● | — | |
| B12 | ø12 | — | — | ● | |
| BN9 | ø5/16" | ● | — | — | Side ported Inch size |
| BN11 | ø3/8" | — | ● | — | |
| BN13 | ø1/2" | — | — | ● | |
| 00 ^{*1} | Plug | ● | ● | ● | P/E port entry on one side or Top ported |

*1 It can be selected only if no symbol or "S" or "V" or "B" is selected for the pilot and the piping.

SUP/EXH block assembly (D side) accessories and the number of accessories

| Accessories | SY3000 | SY5000 SY7000 |
|------------------|--------------------|------------------|
| (a) Tension bolt | None ^{*1} | 3 pcs. |

*1 Since the nuts are embedded in the SUP/EXH block

② EX126 SI unit

EX126D-SMJ1

* CC-Link (Positive common)

③ Terminal block plate assembly

VVQC1000-74A-2

④ Clamp bracket assembly for EX126 SI unit

SY30M-15-4A

* Part number is for one assembly.

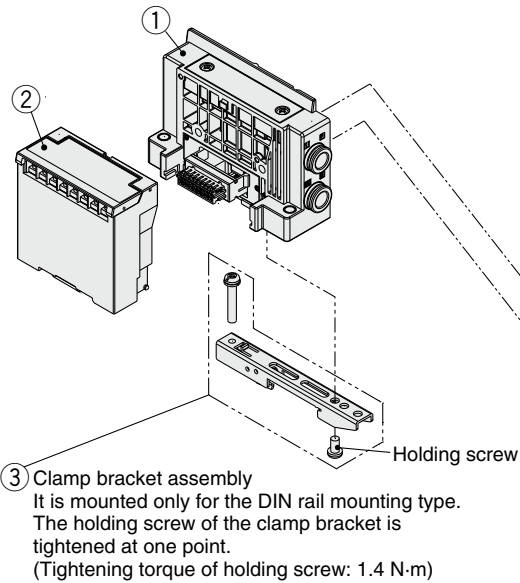
⑤ Clamp bracket assembly

| Series | Part no. |
|-------------|-------------|
| SY3000 | SY30M-15-1A |
| SY5000/7000 | SY50M-15-1A |

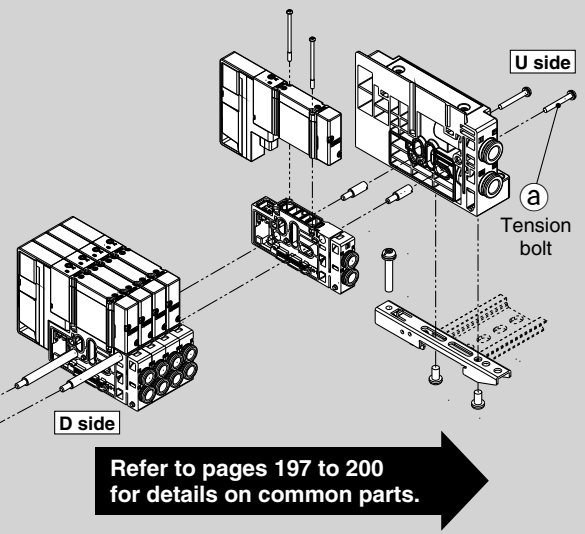
* Part number is for one assembly.

Wiring

EX120



Manifold exploded view



Manifold Parts Nos.

① SUP/EXH block assembly

SY 3 0M-1-16A - C8 -

• Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

• Mounting

| | |
|-----|--------------------------------------|
| Nil | Direct mounting |
| D0 | DIN rail mounting (Without DIN rail) |

* For the bottom-ported type, the symbol is nil.

• Pilot, Silencer/Piping type

| Symbol | Pilot type Internal External | Built-in silencer | Piping direction |
|--------|---------------------------------|----------------------|---------------------|
| Nil | ● | — | — |
| S | ● | — | Side |
| R | — | ● | — |
| V | ● | — | — |
| RV | — | ● | Top |
| VP | ● | — | — |
| B | ● | — | Bottom |
| BS | ● | — | — |
| BR | — | ● | — |

*1 For silencer (supply side)
E port is plugged.* "B" for the bottom-ported type can be
selected for the SY5000/7000 series.SUP/EXH block assembly (D side)
accessories and the number of accessories

| Accessories | SY3000 | SY5000 SY7000 |
|----------------|--------|------------------|
| a Tension bolt | None*1 | 3 pcs. |

*1 Since the nuts are embedded in the SUP/EXH block

• P, E port size (One-touch fittings)

| Symbol | P, E port | SY3000 | SY5000 | SY7000 | Note |
|--------|-----------|--------|--------|--------|---|
| C8 | ø8 | ● | — | — | Side/Bottom/ Top ported |
| C10 | ø10 | — | ● | — | Metric size |
| C12 | ø12 | — | — | ● | — |
| N9 | ø5/16" | ● | — | — | Side/Bottom/ Top ported |
| N11 | ø3/8" | — | ● | — | Inch size |
| N13 | ø1/2" | — | — | ● | — |
| L8 | ø8 | ● | — | — | Side ported |
| L10 | ø10 | — | ● | — | Metric size |
| L12 | ø12 | — | — | ● | — |
| LN9 | ø5/16" | ● | — | — | Side ported |
| LN11 | ø3/8" | — | ● | — | Inch size |
| LN13 | ø1/2" | — | — | ● | — |
| B8 | ø8 | ● | — | — | Side ported |
| B10 | ø10 | — | ● | — | Metric size |
| B12 | ø12 | — | — | ● | — |
| BN9 | ø5/16" | ● | — | — | Side ported |
| BN11 | ø3/8" | — | ● | — | Inch size |
| BN13 | ø1/2" | — | — | ● | — |
| 00*1 | Plug | ● | ● | ● | P/E port entry on one side or Top ported |

*1 It can be selected only if no symbol or "S" or "V" or "B" is
selected for the pilot and the piping.

② EX120 SI unit

EX120-S DN1

• Communication protocol

| | |
|-----|--|
| DN1 | DeviceNet™ (Positive common) |
| CS1 | OMRON Corp.: CompoBus/S (16 outputs) (Positive common) |
| CS2 | OMRON Corp.: CompoBus/S (8 outputs) (Positive common) |
| MJ1 | CC-Link (Positive common) |
| CM1 | CompoNet™ NPN (Positive common) |
| CM3 | CompoNet™ PNP (Negative common) |

③ Clamp bracket assembly

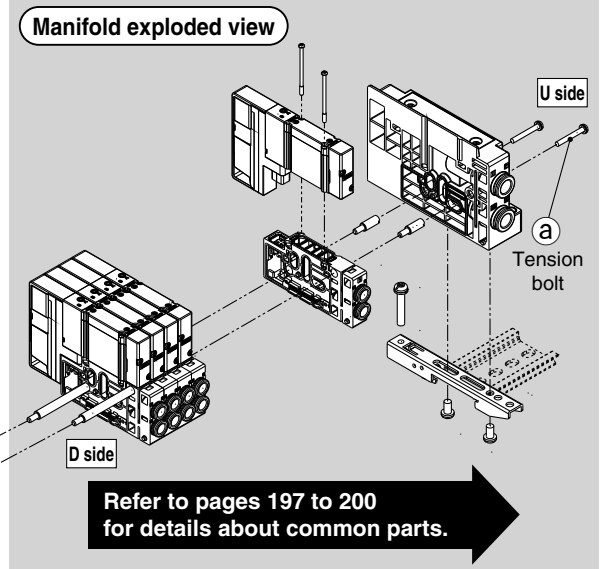
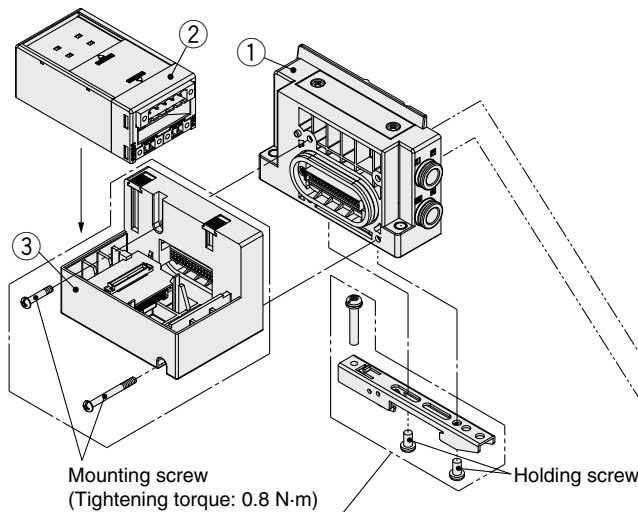
| Series | Part no. |
|-------------|-------------|
| SY3000 | SY30M-15-1A |
| SY5000/7000 | SY50M-15-1A |

* Part number is for one assembly.

SY3000/5000/7000 Series

Wiring

EX180



- ④ Clamp bracket assembly
It is mounted only for the DIN rail mounting type.
The holding screws of the clamping bracket is tightened at two points.
(Tightening torque of holding screw: 1.4 N-m)

Manifold Parts No.

① SUP/EXH block assembly

SY **3** 0M-1-1A **C8** - **Mounting**

Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

| | |
|-----|--------------------------------------|
| Nil | Direct mounting |
| D0 | DIN rail mounting (Without DIN rail) |

*: For bottom ported, the symbol is nil.

Pilot, Silencer/Piping type

| Symbol | Pilot type Internal External | Built-in silencer | Piping direction |
|--------|---------------------------------|----------------------|---------------------|
| Nil | ● — | — | Side |
| S | ● — | ● | Side |
| R | — ● | — | Side |
| V | ● — | — | Top |
| RV | — ● | — | Top |
| VP | ● — | ●*1 | Top |
| B | ● — | — | Bottom |
| BS | ● — | ● | Bottom |
| BR | — ● | — | Bottom |

*1: For silencer (supply side). E port is plugged.

*: "B" for bottom ported can be selected for the SY5000/7000 series.

SUP/EXH block assembly (D side)

accessories and the number of accessories

| Accessories | SY3000 | SY5000 SY7000 |
|----------------|--------|------------------|
| a Tension bolt | None*1 | 3 pcs. |

*1 Since the nuts are embedded in the SUP/EXH block.

P, E port size (One-touch fittings)

| Symbol | P, E port | SY3000 | SY5000 | SY7000 | Note |
|--------|-----------|--------|--------|--------|---|
| C8 | ø8 | ● | — | — | Side/Bottom/ Top ported Metric size |
| C10 | ø10 | — | ● | — | |
| C12 | ø12 | — | — | ● | |
| N9 | ø5/16" | ● | — | — | Side/Bottom/ Top ported Inch size |
| N11 | ø3/8" | — | ● | — | |
| N13 | ø1/2" | — | — | ● | |
| L8 | ø8 | ● | — | — | Side ported Metric size |
| L10 | ø10 | — | ● | — | |
| L12 | ø12 | — | — | ● | |
| LN9 | ø5/16" | ● | — | — | Side ported Inch size |
| LN11 | ø3/8" | — | ● | — | |
| LN13 | ø1/2" | — | — | ● | |
| B8 | ø8 | ● | — | — | Side ported Metric size |
| B10 | ø10 | — | ● | — | |
| B12 | ø12 | — | — | ● | |
| BN9 | ø5/16" | ● | — | — | Side ported Inch size |
| BN11 | ø3/8" | — | ● | — | |
| BN13 | ø1/2" | — | — | ● | |
| 00*1 | Plug | ● | ● | ● | P/E port entry on one side or Top ported |

*1: It can be selected only if no symbol or "S" or "V" or "B" is selected for the pilot and the piping.

② EX180 Series SI Unit

EX180-S **DN3** - **Protocol**

| | |
|-----|---|
| DN3 | DeviceNet™ (32 points Sink/NPN (Positive common)) |
| DN4 | DeviceNet™ (16 points Sink/NPN (Positive common)) |
| DN5 | DeviceNet™ (32 points Source/PNP (Negative common)) |
| DN6 | DeviceNet™ (16 points Source/PNP (Negative common)) |
| MJ3 | CC-Link (32 points Sink/NPN (Positive common)) |
| MJ5 | CC-Link (32 points Source/PNP (Negative common)) |

Made to Order

(Click [here](#) for details.)

| |
|---------------|
| Protocol |
| EtherCAT® |
| AnyWireASLINK |

Communication connector type

| | |
|-----|---------------|
| Nil | T-branch type |
| A | Straight type |

*: Communication and power supply connectors are included.

③ Connector block assembly

SY30M-14-17A

④ Clamp bracket assembly

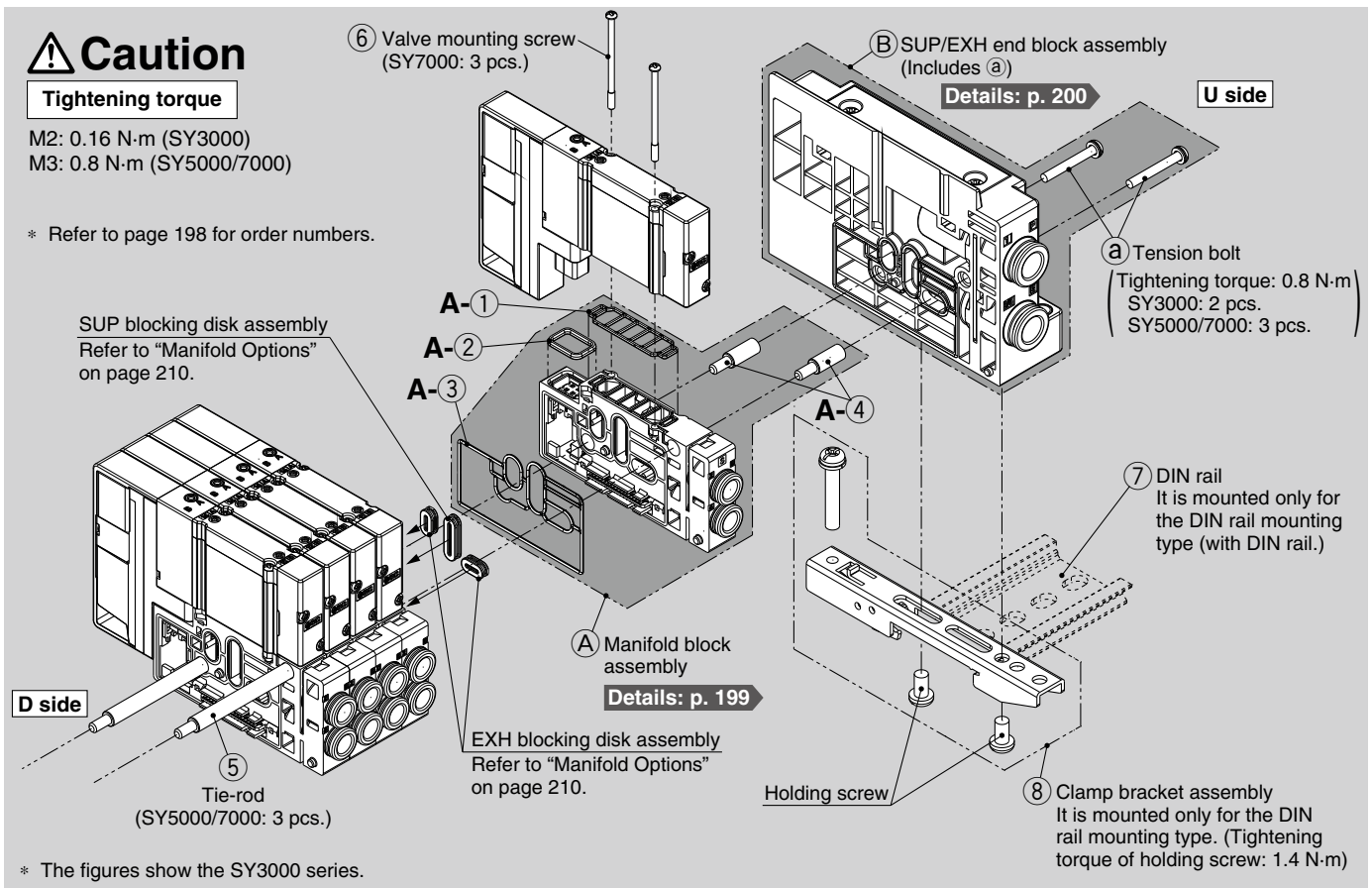
| Series | Part no. |
|-------------|-------------|
| SY3000 | SY30M-15-1A |
| SY5000/7000 | SY50M-15-1A |

*: Part number is for one assembly.



SY3000/5000/7000 Series

Manifold Exploded View (Common Parts)



Type 10, 11, 12: How to Increase Connector Type Manifolds

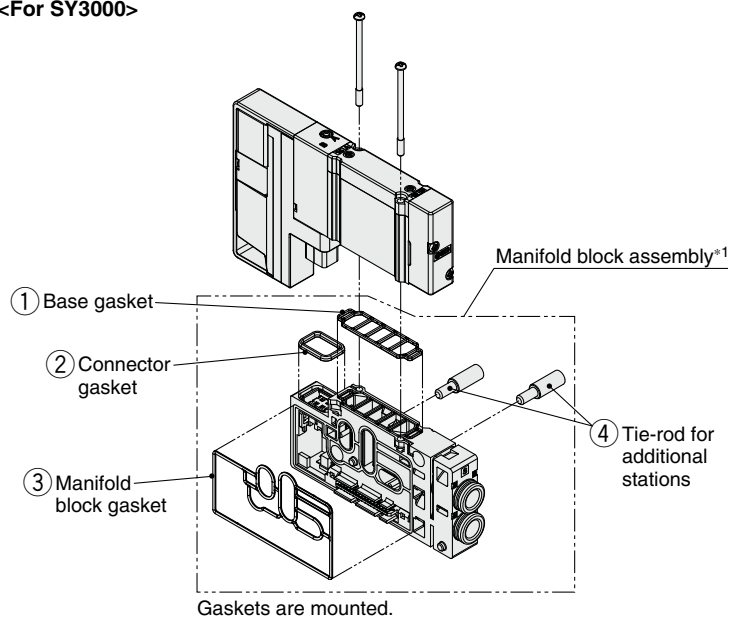
- Loosen the U-side tension bolt (a), and remove the (B) SUP/EXH end block assembly.
- Screw in (4) tie-rods for additional stations to the (5) tie-rod of the manifold.
(Screw them in until there is no gap between the tie-rods.)
- Connect the (A) manifold block assembly and (B) SUP/EXH end block assembly to be added, and tighten the tension bolt (a).

Tightening torque for tension bolt (a) (M3): 0.8 N·m

Caution

- 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.
- When disassembly and assembly are performed, air leakage may result if the tightening of the tension bolt is inadequate.

<For SY3000>



*1 Manifold block assembly

| No. | Description | Quantity | Note |
|-----|---------------------------------|--|---|
| ①②③ | Gasket | 3 | For base, connector, and manifold block |
| ④ | Tie-rod for additional stations | SY3000: 2 pcs. SY5000: 3 pcs. SY7000: 3 pcs. | |

Refer to page 198 for ordering single unit.

For SS5Y3-10/11/12, SS5Y5-(M)10/11/12, SS5Y7-(M)10/11/12

| No. | Description | | | SY3000 | SY5000 | SY7000 | Note |
|-----|---|--|--|---------------------------------------|----------------------------------|---------------------------------|---|
| A-① | Manifold block assembly | Base gasket (for connector connecting base) | | SY30M-9-1A | SY50M-9-1A | SY70M-9-1A | Part numbers shown on the left are for 10 valves. (10 pcs.) |
| A-② | | Connector gasket | | SX3000-146-2 | | | Supplied individually |
| A-③ | | Manifold block gasket | | SY30M-9-2 | SY50M-9-2 | SY70M-9-2 | Supplied individually |
| A-④ | | Tie-rod for additional stations*1 | SY3000/5000/7000 | SY30M-49-2-A (10.5 mm pitch) | SV2000-55-2A-A (16 mm pitch) | SY70M-49-2-A*2 (19 mm pitch) | 2 pcs. supplied (SY3000), 3 pcs. supplied (SY5000/7000) |
| | | | For mixed mounting of SY3000/5000: SY3000 A, B port size ø8, ø5/16" | SV2000-55-2A-A (16 mm pitch) | | | — |
| | For mixed mounting of SY3000/5000: SY3000 except A, B port size ø8, ø5/16**4 | | SY50M-49-2 (12.5 mm pitch) | | | — | 3 pcs. supplied |
| ⑤ | Tie-rod | SY3000/5000/7000 | | VVQC1000-TR-□ (10.5 mm pitch) | SV2000-55-1-□-A (16 mm pitch) | SY70M-49-1-□-A (19 mm pitch) | □: Manifold stations (2 to 24 stations) 2 pcs. supplied (SY3000), 3 pcs. supplied (SY5000/7000) |
| | | Mixed mounting type manifold | SS5Y5-M** | SY50M-49-1-□-A*3*4 (12.5 mm pitch) | | — | □: Manifold stations (2 to 24 stations) 3 pcs. supplied |
| | | | | SV2000-55-1-□-A*5 (16 mm pitch) | | — | |
| | | | | SS5Y7-M** | — | SY70M-49-1-□-A (19 mm pitch) | |
| ⑥ | Valve mounting screw | Round head combination screw | | SY3000-23-24A (M2 x 32) | SY5000-221-1A (M3 x 32.5) | SY7000-221-1A (M3 x 36.5) | Part numbers shown on the left are as follows. SY3000/5000: for 10 valves (20 pcs. included) SY7000: for 10 valves (30 pcs. included) |
| | | Hexagon socket head cap screw | | SY3000-222-1A (M2 x 32) | SY5000-222-1A (M3 x 32.5) | SY7000-222-1A (M3 x 36.5) | |
| ⑦ | DIN rail | | | VZ1000-11-1-□ | | VZ1000-11-4-□ | Refer to page 203. |
| ⑧ | Clamp bracket assembly (for connector connecting base) | | | SY30M-15-1A | SY50M-15-1A | | Supplied individually |
| ⑨ | Tension bolt (for connector connecting base)*6 | | | AC00530 | SX3000-145-21 | | Supplied individually |

*1 The manifold of the SY3000 (SS5Y3-10/11/12) can be assembled by connecting the tie-rods for additional stations for the number of manifold stations. However, the manifold of the SY5000 or SY7000 (SS5Y5/7-10/11/12 including mixed mounting) cannot be assembled by connecting the tie-rods for additional stations for the number of manifold stations.

*2 Includes the case when mounting with the SY5000

*3 When mounting only the SY3000 (12.5 mm pitch except A, B port size ø8, ø5/16")

*4 The port sizes except A, B port size ø8, ø5/16" are the following: ø2, ø3.2, ø4, ø6, ø1/8", ø5/32", ø1/4".

*5 When mounting only the SY3000 (16 mm pitch A, B port size ø8, ø5/16")

*6 For the SY3000 SUP/EXH end block (there are no tension bolts for the SY3000 SUP/EXH block) or the SY5000 and SY7000 SUP/EXH (end) block

Chart

Valve
SpecificationsValve
ConstructionValve
Replacement
PartsWith Residual
Pressure
Release ValveVacuum
Release Valve
with RestrictorWith
Pressure
SensorMade to
OrderConnector
Connecting BaseD-sub,
Flat
RibbonTerminal
BlockLead
WireCircular
Connector

EX500

EX600

EX250

EX260

EX126

EX120

Common
DimensionsMixed
MountingManifold
Exploded
ViewFitting,
Plug
Part Nos.Manifold
OptionsSpecific
Product
Precautions

SY3000/5000/7000 Series

Manifold Parts Nos.

① Manifold block assembly

SY 3 0M-2-1 D A-C6

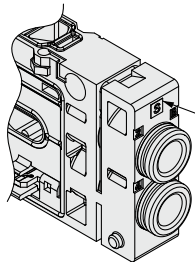
• Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

• Piping direction

| | |
|---|-----------------|
| 1 | Side/Top ported |
| 2 | Bottom ported |

* "2" (bottom ported) can be selected for the SY5000/7000 series.



Single wiring
Marked with **S**

• Wiring type

| | |
|----------|---------------|
| S | Single wiring |
| D | Double wiring |

• A, B port size (One-touch fittings)

| Symbol | A, B port | SY3000 | SY5000 | SY7000 | Note |
|------------|-----------|--------|--------|--------|---|
| C2 | ø2 | ● | — | — | Side/ Bottom ported Metric size |
| C3 | ø3.2 | ● | — | — | |
| C4 | ø4 | ● | ● | — | |
| C6 | ø6 | ● | ● | ● | |
| C8 | ø8 | —*1 | ● | ● | |
| C10 | ø10 | — | — | ● | |
| C12 | ø12 | — | — | ● | Side/ Bottom ported Inch size |
| N1 | ø1/8" | ● | — | — | |
| N3 | ø5/32" | ● | ● | — | |
| N7 | ø1/4" | ● | ● | ● | |
| N9 | ø5/16" | —*1 | ● | ● | |
| N11 | ø3/8" | — | — | ● | |

*1 Refer to mixed mounting type for ø8, ø5/16".

| Symbol | A, B port | SY3000 | SY5000 | SY7000 | Note |
|--------|------------|--------|--------|--------|----------------------------------|
| L4 | ø4 | ● | ● | — | Side ported Metric size |
| L6 | ø6 | ● | ● | ● | |
| L8 | ø8 —*1 | ● | ● | ● | |
| L10 | ø10 | — | — | ● | |
| L12 | ø12 | — | — | ● | |
| LN3 | ø5/32" | ● | — | — | Side ported Inch size |
| LN7 | ø1/4" | ● | ● | — | |
| LN9 | ø5/16" —*1 | ● | — | — | |
| LN11 | ø3/8" | — | — | ● | |
| B4 | ø4 | ● | ● | — | Side ported Metric size |
| B6 | ø6 | ● | ● | ● | |
| B8 | ø8 —*1 | ● | ● | ● | |
| B10 | ø10 | — | — | ● | |
| B12 | ø12 | — | — | ● | |
| BN3 | ø5/32" | ● | — | — | Side ported Inch size |
| BN7 | ø1/4" | ● | ● | — | |
| BN9 | ø5/16" —*1 | ● | — | — | |
| BN11 | ø3/8" | — | — | ● | |
| 00 | Plug | ● | ● | ● | Top ported |

① Mixed mounting of the SY3000/5000 Manifold block assembly for mounting the SY3000

SY50M-2-3 D A-C6

• Piping direction

| | |
|---|-----------------|
| 3 | Side/Top ported |
| 4 | Bottom ported |

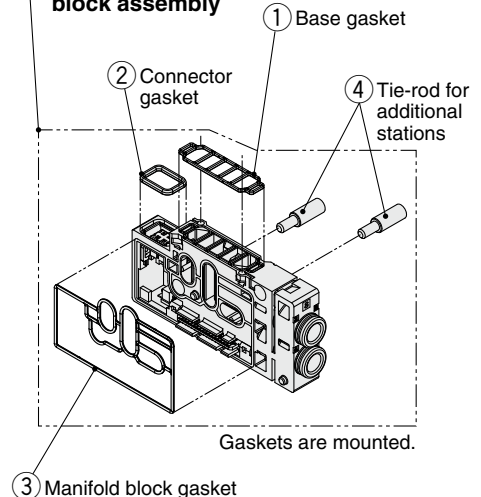
• Wiring type

| | |
|----------|---------------|
| S | Single wiring |
| D | Double wiring |

• A, B port size (One-touch fittings)

| Symbol | A, B port | Note | Symbol | A, B port | Note |
|-----------|-----------|---|------------|-----------|----------------------------|
| C2 | ø2 | Side/Bottom ported Metric size | L4 | ø4 | Side ported Metric size |
| C3 | ø3.2 | | L6 | ø6 | Side ported Metric size |
| C4 | ø4 | | LN3 | ø5/32" | Side ported Inch size |
| C6 | ø6 | | LN7 | ø1/4" | Side ported Inch size |
| N1 | ø1/8" | Side/Bottom ported Inch size | B4 | ø4 | Side ported Metric size |
| N3 | ø5/32" | | B6 | ø6 | Side ported Metric size |
| N7 | ø1/4" | | BN3 | ø5/32" | Side ported Inch size |
| | | | BN7 | ø1/4" | Side ported Inch size |
| | | | 00 | Plug | Top ported |

① Manifold (All parts inside ——— are included.) block assembly



① Mixed mounting of the SY3000/5000 Manifold block assembly for mounting the SY3000 for ø8, ø5/16" (A manifold block assembly for mounting the SY3000 valves on the SY5000 manifolds at A, B port size: ø8, ø5/16")

SY50M-2-5 D A-C8

• Piping direction

| | |
|---|---------------|
| 5 | Side ported |
| 6 | Bottom ported |

• Wiring type

| | |
|----------|---------------|
| S | Single wiring |
| D | Double wiring |

• A, B port size (One-touch fittings)

| Symbol | A, B port | Note |
|------------|-----------------------|--------------------------------|
| C8 | ø8 | Side/Bottom ported Metric size |
| N9 | ø5/16" | Side/Bottom ported Inch size |
| L8 | Upward elbow ø8 | Side ported Metric size |
| LN9 | Downward elbow ø5/16" | Side ported Inch size |
| B8 | Upward elbow ø8 | Side ported Metric size |
| BN9 | Downward elbow ø5/16" | Side ported Inch size |

Manifold block assembly accessories and the number of accessories

| Accessories | SY3000 | SY5000 SY7000*1 |
|--|--------|--------------------|
| ① Base gasket | 1 pc. | 1 pc. |
| ② Connector gasket | 1 pc. | 1 pc. |
| ③ Manifold block gasket | 1 pc. | 1 pc. |
| ④ Tie-rod assembly for additional stations | 2 pcs. | 3 pcs. |

*1 Including mixed mounting type

① Mixed mounting of the SY5000/7000 Manifold block assembly for mounting the SY5000

SY70M-2-3 D A-C10

• Piping direction

| | |
|---|-----------------|
| 3 | Side/Top ported |
| 4 | Bottom ported |

• Wiring type

| | |
|----------|---------------|
| S | Single wiring |
| D | Double wiring |

• A, B port size (One-touch fittings)

| Symbol | A, B port | Note | Symbol | A, B port | Note | Symbol | A, B port | Note |
|------------|-----------|--------------------------------------|-------------|-----------|----------------------------|-------------|-----------|----------------------------|
| C6 | ø6 | Side/Bottom ported Metric size | L6 | ø6 | Side ported Metric size | B6 | ø6 | Side ported Metric size |
| C8 | ø8 | | L8 | ø8 | | B8 | ø8 | |
| C10 | ø10 | | L10 | ø10 | | B10 | ø10 | |
| C12 | ø12 | | L12 | ø12 | | B12 | ø12 | |
| N7 | ø1/4" | Side/Bottom ported Inch size | LN11 | ø3/8" | Side ported Inch size | BN11 | ø3/8" | Side ported Inch size |
| N9 | ø5/16" | | | | | | | |
| N11 | ø3/8" | | | | | | | |
| | | | | | | | | |
| | | | | | | 00 | Plug | Top ported |

Manifold Parts Nos.**⑧ SUP/EXH end block assembly****SY 3 0M-3-1A - C8 -****• Series**

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

• Mounting

| | |
|-----|--------------------------------------|
| Nil | Direct mounting |
| D0 | DIN rail mounting (Without DIN rail) |

* For the bottom-ported type, the symbol is nil.

• Pilot, Silencer/Piping type

| Symbol | Pilot type | | Built-in silencer | Piping direction |
|--------|------------|----------|-------------------|------------------|
| | Internal | External | | |
| Nil | ● | — | — | Side |
| S | ● | — | ● | |
| R | — | ● | — | |
| V | ● | — | — | Top |
| RV | — | ● | — | |
| VP | ● | — | ●*1 | |
| B | ● | — | — | Bottom |
| BS | ● | — | ● | |
| BR | — | ● | — | |

*1 For silencer (supply side)

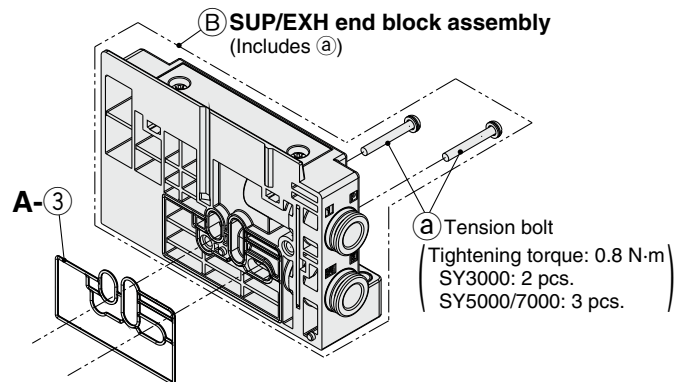
E port is plugged.

* "B" for the bottom-ported type can be selected for the SY5000/7000 series.

P, E port size (One-touch fittings) •

| Symbol | P, E port | SY3000 | SY5000 | SY7000 | Note |
|--------|----------------|--------|--------|--------|--|
| C8 | ø8 | ● | — | — | Side/Bottom/Top ported Metric size |
| C10 | ø10 | — | ● | — | |
| C12 | ø12 | — | — | ● | |
| N9 | ø5/16" | ● | — | — | Side/Bottom/Top ported Inch size |
| N11 | ø3/8" | — | ● | — | |
| N13 | ø1/2" | — | — | ● | |
| L8 | Upward elbow | ø8 | ● | — | Side ported Metric size |
| L10 | | ø10 | — | ● | |
| L12 | | ø12 | — | ● | |
| LN9 | | ø5/16" | ● | — | Side ported Inch size |
| LN11 | Downward elbow | ø3/8" | — | ● | |
| LN13 | | ø1/2" | — | ● | |
| B8 | Downward elbow | ø8 | ● | — | Side ported Metric size |
| B10 | | ø10 | — | ● | |
| B12 | | ø12 | — | ● | |
| BN9 | | ø5/16" | ● | — | Side ported Inch size |
| BN11 | Downward elbow | ø3/8" | — | ● | |
| BN13 | | ø1/2" | — | ● | |
| 00*1 | Plug | ● | ● | ● | P/E port entry on one side or Top ported |

*1 It can be selected only if no symbol or "S" or "V" or "B" is selected for the pilot and the piping.

**SUP/EXH end block assembly accessories and the number of accessories**

| Accessories | SY3000 | SY5000/7000 |
|---------------------------|--------|-------------|
| ① Tension bolt | 2 pcs. | 3 pcs. |
| A-③ Manifold block gasket | 1 pc. | |

Gasket is mounted.

Chart

Valve
SpecificationsValve
ConstructionValve
Replacement
PartsWith Residual
Pressure
Release ValveVacuum
Release Valve
with RestrictorWith
Pressure
SensorMade to
OrderConnector
Connecting BaseD-sub,
Flat
RibbonTerminal
BlockLead
WireCircular
Connector

EX500

EX600

EX250

EX260

EX126

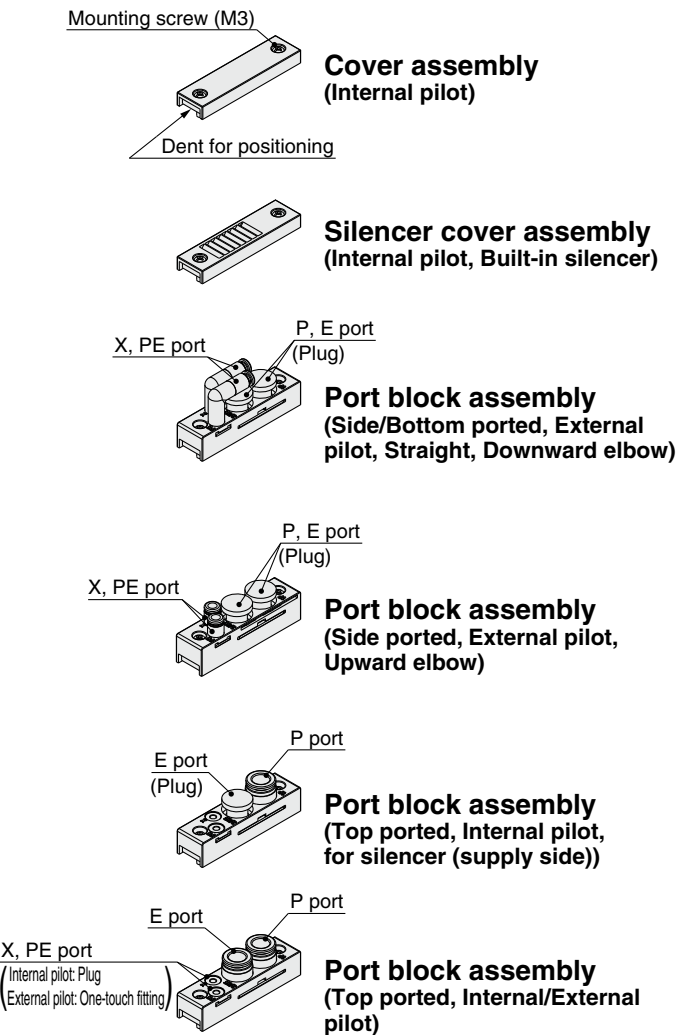
EX120

Common
DimensionsMixed
MountingManifold
Exploded
ViewFitting,
Plug
Part Nos.Manifold
OptionsSpecific
Product
Precautions

SY3000/5000/7000 Series

Manifold Parts Nos.

■ 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
SY3000/5000 (M3): 0.8 N·m
SY7000 (M4): 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 the tightening of the cover and port block assemblies are inadequate.

SY 3 0M-4- 1 A

SY 3 0M-5- 1 A

SY 3 0M-6- 1 AR [] - 00 []

A, B port
One-touch fittings
piping direction

| | |
|-----|--|
| Nil | Straight, Downward elbow (Side ported) |
| V | Upward elbow (Side ported) |

X, PE port One-touch fitting type

| Symbol | X, PE port | | SY3000 | SY5000 | SY7000 |
|--------|-------------|--------|--------|--------|--------|
| Nil | Metric size | ø4 | ● | ● | — |
| | | ø6 | — | — | ● |
| U | Inch size | ø5/32" | ● | ● | — |
| | | ø1/4" | — | — | ● |

SY 3 0M-6- 3AV - C8

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

Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

Pilot type

| | |
|-----|----------------|
| Nil | Internal pilot |
| R | External pilot |

P, E port size (One-touch fittings)

| Symbol | P, E port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| C8 | ø8 | ● | — | — |
| C10 | ø10 | — | ● | — |
| C12 | ø12 | — | — | ● |
| N9 | ø5/16" | ● | — | — |
| N11 | ø3/8" | — | ● | — |
| N13 | ø1/2" | — | — | ● |

SY3000/5000/7000 Series One-touch Fitting, Plug Assembly Part Nos.

Refer to "How to Replace One-touch Fittings" on page 296 for the replacement method.

One-touch fittings

| Port size | | | | SY3000 | SY5000 | SY7000 |
|-------------------------|-------------|--------|-----------------|-----------------|------------------|------------------|
| A, B port ^{*1} | Metric size | ø2 | Straight type | VVQ1000-50A-C2 | — | — |
| | | ø3.2 | | VVQ1000-50A-C3 | — | — |
| | | ø4 | | VVQ1000-50A-C4 | VVQ1000-51A-C4 | — |
| | | ø6 | | VVQ1000-50A-C6 | VVQ1000-51A-C6 | VVQ2000-51A-C6 |
| | | ø8 | | — | VVQ1000-51A-C8 | VVQ2000-51A-C8 |
| | | ø10 | | — | — | VVQ2000-51A-C10 |
| | | ø12 | | — | — | KQ2H12-17-X224 |
| | | ø4 | Elbow type | SZ3000-73-1A-L4 | SZ3000-74-1A-L4 | — |
| | | ø6 | | SZ3000-73-1A-L6 | SZ3000-74-1A-L6 | SZ3000-83-1A-L6 |
| | | ø8 | | — | SZ3000-74-1A-L8 | SZ3000-83-1A-L8 |
| | | ø10 | | — | — | SZ3000-83-1A-L10 |
| | | ø12 | | — | — | KQ2L12-17N-X224 |
| | | ø4 | Long elbow type | SZ3000-73-2A-L4 | SZ3000-74-2A-L4 | — |
| | | ø6 | | SZ3000-73-2A-L6 | SZ3000-74-2A-L6 | SZ3000-83-2A-L6 |
| | | ø8 | | — | SZ3000-74-2A-L8 | SZ3000-83-2A-L8 |
| | | ø10 | | — | — | SZ3000-83-2A-L10 |
| | | ø12 | | — | — | KQ2W12-17N-X224 |
| | Inch size | ø1/8" | Straight type | VVQ1000-50A-N1 | — | — |
| | | ø5/32" | | VVQ1000-50A-N3 | VVQ1000-51A-N3 | — |
| | | ø1/4" | | VVQ1000-50A-N7 | VVQ1000-51A-N7 | VVQ2000-51A-N7 |
| | | ø5/16" | | — | VVQ1000-51A-N9 | VVQ2000-51A-N9 |
| | | ø3/8" | | — | — | VVQ2000-51A-N11 |
| | | ø5/32" | Elbow type | KJL03-95-X224 | — | — |
| | | ø1/4" | | KJL07-95-X224 | KQ2L07-14-X224 | — |
| | | ø5/16" | | — | KQ2L09-14-X224 | — |
| | | ø3/8" | | — | — | KQ2L11-14-X224 |
| | | ø5/32" | Long elbow type | KJL03-95-X225 | — | — |
| | | ø1/4" | | KJL07-95-X225 | KQ2L07-14-X225 | — |
| | | ø5/16" | | — | KQ2L09-14-X225 | — |
| | | ø3/8" | | — | — | KQ2L11-14-X225 |
| | | ø8 | Straight type | VVQ1000-51A-C8 | — | — |
| P, E port | Metric size | ø10 | | — | VVQ2000-51A-C10 | — |
| | | ø12 | | — | — | VVQ4000-50B-C12 |
| | | ø8 | Elbow type | SZ3000-74-1A-L8 | — | — |
| | | ø10 | | — | SZ3000-83-1A-L10 | — |
| | | ø12 | | — | — | KQ2L12-19N-X224 |
| | | ø8 | Long elbow type | SZ3000-74-2A-L8 | — | — |
| | | ø10 | | — | SZ3000-83-2A-L10 | — |
| | | ø12 | | — | — | KQ2W12-19N-X224 |
| | | ø5/16" | Straight type | VVQ1000-51A-N9 | — | — |
| | Inch size | ø3/8" | | — | VVQ2000-51A-N11 | — |
| | | ø1/2" | | — | — | VVQ4000-50B-N13 |
| | | ø5/16" | Elbow type | KQ2L09-14-X224 | — | — |
| | | ø3/8" | | — | KQ2L11-14-X224 | — |
| | | ø1/2" | | — | — | KQ2L13-19N-X224 |
| | | ø5/16" | Long elbow type | KQ2L09-14-X225 | — | — |
| | | ø3/8" | | — | KQ2L11-14-X225 | — |
| | | ø1/2" | | — | — | KQ2W13-19N-X224 |

*1 A and B ports (ø8 and ø5/16") of the SY3000 and 5000 mixed mounting type are the same as those of the SY5000.

* Purchasing order is available in units of 10 pieces. Additionally, when performing the piping in the same orientation using the elbow type, please order "elbow type" or "long elbow type" appropriately.

Plug assembly

| | SY3000 | SY5000 | SY7000 |
|-----------|-------------|-------------|--------------|
| A, B port | VVQ0000-58A | VVQ1000-58A | VVQ2000-58A |
| P, E port | VVQ1000-58A | VVQ2000-58A | SY9000-62-1A |

* Purchasing order is available in units of 10 pieces.

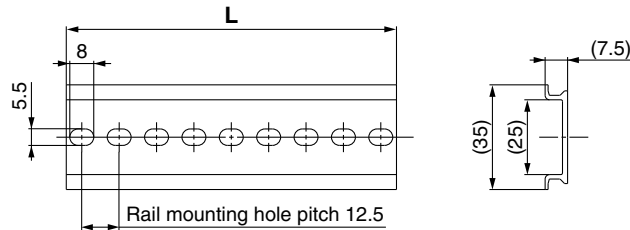


SY3000/5000/7000 Series Manifold Options

■ DIN rail dimensions/weight for the SY3000/5000 **Plug-in** connector connecting base

VZ1000-11-1-□

* After confirming the L3 dimension in the dimensions table of each series, refer to the DIN rail dimensions table below and specify the number in the box □.

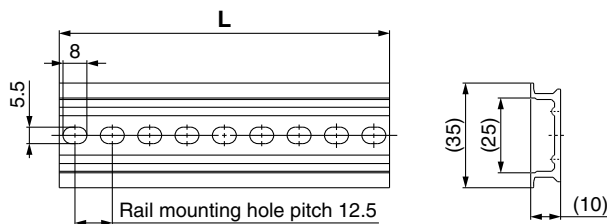


| No. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L dimension | 98 | 110.5 | 123 | 135.5 | 148 | 160.5 | 173 | 185.5 | 198 | 210.5 | 223 | 235.5 | 248 | 260.5 | 273 | 285.5 | 298 | 310.5 | 323 |
| Weight [g] | 17.6 | 19.9 | 22.1 | 24.4 | 26.6 | 28.9 | 31.1 | 33.4 | 35.6 | 37.9 | 40.1 | 42.4 | 44.6 | 46.9 | 49.1 | 51.4 | 53.6 | 55.9 | 58.1 |
| No. | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 |
| L dimension | 335.5 | 348 | 360.5 | 373 | 385.5 | 398 | 410.5 | 423 | 435.5 | 448 | 460.5 | 473 | 485.5 | 498 | 510.5 | 523 | 535.5 | 548 | 560.5 |
| Weight [g] | 60.4 | 62.5 | 64.9 | 67.1 | 69.4 | 71.6 | 73.9 | 76.1 | 78.4 | 80.6 | 82.9 | 85.1 | 87.4 | 89.6 | 91.9 | 94.1 | 96.4 | 98.6 | 100.9 |
| No. | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 |
| L dimension | 573 | 585.5 | 598 | 610.5 | 623 | 635.5 | 648 | 660.5 | 673 | 685.5 | 698 | 710.5 | 723 | 735.5 | 748 | 760.5 | 773 | 785.5 | 798 |
| Weight [g] | 103.1 | 105.4 | 107.6 | 109.9 | 112.1 | 114.4 | 116.6 | 118.9 | 121.1 | 123.4 | 125.6 | 127.9 | 130.1 | 132.4 | 134.6 | 136.9 | 139.1 | 141.4 | 143.6 |
| No. | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | | | | |
| L dimension | 810.5 | 823 | 835.5 | 848 | 860.5 | 873 | 885.5 | 898 | 910.5 | 923 | 935.5 | 948 | 960.5 | 973 | 985.5 | | | | |
| Weight [g] | 145.9 | 148.1 | 150.4 | 152.6 | 154.9 | 157.1 | 159.4 | 161.6 | 163.9 | 166.1 | 168.4 | 170.6 | 172.9 | 175.1 | 177.4 | | | | |

■ DIN rail dimensions/weight for the SY7000 **Plug-in** connector connecting base

VZ1000-11-4-□

* After confirming the L3 dimension in the dimensions table of each series, refer to the DIN rail dimensions table below and specify the number in the box □.



| No. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L dimension | 98 | 110.5 | 123 | 135.5 | 148 | 160.5 | 173 | 185.5 | 198 | 210.5 | 223 | 235.5 | 248 | 260.5 | 273 | 285.5 | 298 | 310.5 | 323 |
| Weight [g] | 24.8 | 28 | 31.1 | 34.3 | 37.4 | 40.6 | 43.8 | 46.9 | 50.1 | 53.3 | 56.4 | 59.6 | 62.7 | 65.9 | 69.1 | 72.2 | 75.4 | 78.6 | 81.7 |
| No. | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 |
| L dimension | 335.5 | 348 | 360.5 | 373 | 385.5 | 398 | 410.5 | 423 | 435.5 | 448 | 460.5 | 473 | 485.5 | 498 | 510.5 | 523 | 535.5 | 548 | 560.5 |
| Weight [g] | 84.9 | 88 | 91.2 | 94.4 | 97.5 | 100.7 | 103.9 | 107 | 110.2 | 113.3 | 116.5 | 119.7 | 122.8 | 126 | 129.2 | 132.3 | 135.5 | 138.6 | 141.8 |
| No. | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 |
| L dimension | 573 | 585.5 | 598 | 610.5 | 623 | 635.5 | 648 | 660.5 | 673 | 685.5 | 698 | 710.5 | 723 | 735.5 | 748 | 760.5 | 773 | 785.5 | 798 |
| Weight [g] | 145 | 148.1 | 151.3 | 154.5 | 157.6 | 160.8 | 163.9 | 167.1 | 170.3 | 173.4 | 176.6 | 179.8 | 182.9 | 186.1 | 189.2 | 192.4 | 195.6 | 198.7 | 201.9 |
| No. | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | | | | |
| L dimension | 810.5 | 823 | 835.5 | 848 | 860.5 | 873 | 885.5 | 898 | 910.5 | 923 | 935.5 | 948 | 960.5 | 973 | 985.5 | | | | |
| Weight [g] | 205.1 | 208.2 | 211.4 | 214.5 | 217.7 | 220.9 | 224 | 227.2 | 230.4 | 233.5 | 236.7 | 239.8 | 243 | 246.2 | 249.3 | | | | |

⚠ Caution

| |
|--------------------------------------|
| Tightening torque for mounting screw |
| M2: 0.16 N·m (SY3000) |
| M3: 0.8 N·m (SY5000/7000) |

* Refer to pages 215 to 217 for dimensions.

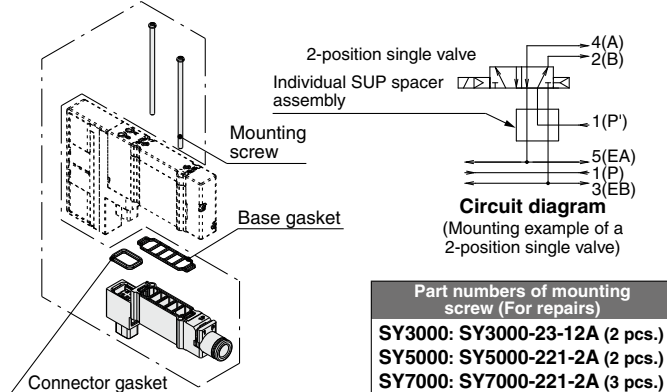
Manifold Options

■ Individual SUP spacer assembly

[With a connector gasket, a base gasket, and two mounting screws (3 pcs. for the SY7000)]

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

- * When selecting a One-touch fitting elbow type for a spacer assembly, use it faced upward, since it interferes with A and B port piping of Type 10 manifolds.
- * When the elbows are facing upward in A and B ports in Type 10 manifolds, they will interfere with the piping for the spacer assembly. Therefore, combine the A and B ports with straight types or elbows facing downward.

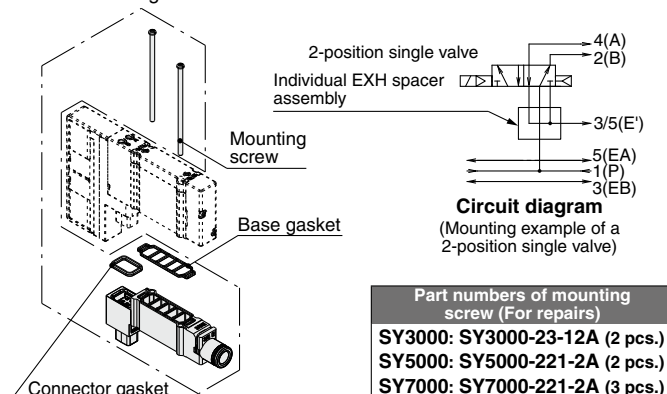


■ Individual EXH spacer assembly

[With a connector gasket, a base gasket, and two mounting screws (3 pcs. for the SY7000)]

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

- * When selecting a One-touch fitting elbow type for a spacer assembly, use it faced upward, since it interferes with A and B port piping of Type 10 manifolds.
- * When the elbows are facing upward in A and B ports in Type 10 manifolds, they will interfere with the piping for the spacer assembly. Therefore, combine the A and B ports with straight types or elbows facing downward.



How to Order Individual SUP/EXH Spacer Assembly

One-touch fitting Straight type SY **3** OM - **38** - **1** A - **C6**

One-touch fitting Elbow type SY **3** OM - **38** - **2** A - **L6**

Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

Spacer type

| | |
|----|-----------------------|
| 38 | Individual SUP spacer |
| 39 | Individual EXH spacer |

Individual SUP/EXH spacer assembly

| | |
|---|------------------|
| 2 | Short elbow type |
| 3 | Long elbow type |

- * Select the long elbow type for a 3-position valve when using Type 11 and Type 12 downward. However, Type 11 of the SY3000 series for the mixed mounting of connector connecting bases cannot be used downward.

Port size (Metric/One-touch fittings)

| Symbol | P, E port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| L4 | ø4 | ● | ● | — |
| L6 | ø6 | ● | ● | ● |
| L8 | ø8 | — | ● | ● |
| L10 | ø10 | — | — | ● |
| L12 | ø12 | — | — | ● |

Port size (Inch/One-touch fittings)

| Symbol | P, E port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| LN3 | ø5/32" | ● | — | — |
| LN7 | ø1/4" | ● | ● | — |
| LN9 | ø5/16" | — | ● | — |
| LN11 | ø3/8" | — | — | ● |

Port size (Metric/One-touch fittings)

| Symbol | P, E port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| C2 | ø2 | ● | — | — |
| C3 | ø3.2 | ● | — | — |
| C4 | ø4 | ● | ● | — |
| C6 | ø6 | ● | ● | ● |
| C8 | ø8 | — | ● | ● |
| C10 | ø10 | — | — | ● |
| C12 | ø12 | — | — | ● |

Port size (Inch/One-touch fittings)

| Symbol | P, E port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| N1 | ø1/8" | ● | — | — |
| N3 | ø5/32" | ● | ● | — |
| N7 | ø1/4" | ● | ● | ● |
| N9 | ø5/16" | — | ● | ● |
| N11 | ø3/8" | — | — | ● |

- * When using in combination with the SY7301□□1-E (With residual pressure release valve), the length of the required mounting screws will differ. Please contact SMC for details.

| Model | Port size | | Flow rate characteristics | | | |
|-----------------|------------------|----------------|---------------------------|------|---------------------|------|
| | 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 | C [dm³/(s·bar)] | b |
| SY30M-38-1A-C6 | C8 | C6 | 1.2 | 0.32 | 1.4 | 0.24 |
| SY30M-39-1A-C6 | | | 1.2 | 0.27 | 1.1 | 0.27 |
| SY50M-38-1A-C8 | | | 2.7 | 0.36 | 3.3 | 0.22 |
| SY50M-39-1A-C8 | C10 | C8 | 2.2 | 0.37 | 2.2 | 0.36 |
| SY70M-38-1A-C12 | | | 4.8 | 0.26 | 4.7 | 0.25 |
| SY70M-39-1A-C12 | | | 4.9 | 0.28 | 4.7 | 0.23 |

- * Calculation of effective area S and sonic conductance C: $S = 5.0 \times C$
- * The value is for manifold base with 5 stations, rubber seal, and individually operated 2-position type.
- * For connector connecting base (type 10) manifolds

SY3000/5000/7000 Series

Caution

| | |
|--------------------------------------|-----------------------|
| Tightening torque for mounting screw | |
| M2: | 0.16 N·m (SY3000) |
| M3: | 0.8 N·m (SY5000/7000) |

Manifold Options

* Refer to pages 215 to 217 for dimensions.

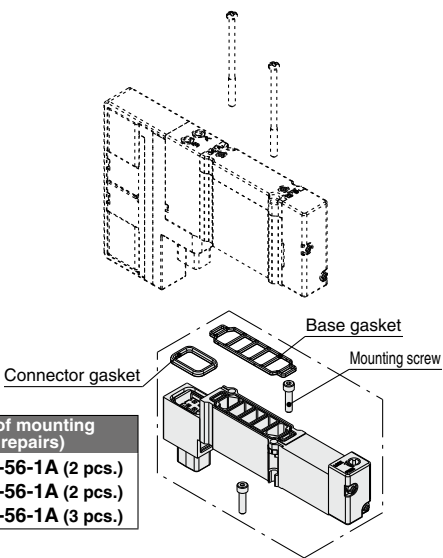
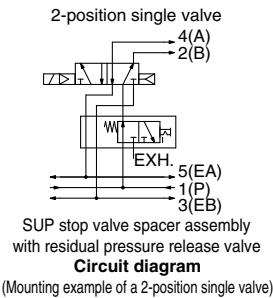
■ SUP stop valve spacer assembly with residual pressure release valve

[With a connector gasket, a base gasket, and two mounting screws
(3 pcs. for the SY7000)]

It is used to shut off the supply air to valves individually.

* Cannot be selected when the elbows are facing upward in A and B ports in Type 10 manifolds, since they will interfere with the piping for the spacer assembly

| Series | | Manual override | |
|--------|--------|-----------------|--------------------------------|
| 3 | SY3000 | Nil | Push-turn locking slotted type |
| 5 | SY5000 | | |
| 7 | SY7000 | E | Push-turn locking lever type |

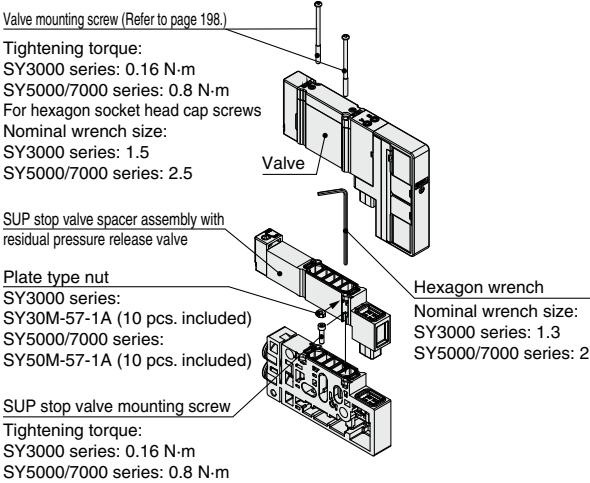


- * For lever type:
When locking the lever type manual override, push the lever down in the PUSH position with your fingers until it stops, then turn the lever 90° clockwise. (PUSH → LOCK)
Turning the lever without pushing it down until it stops can cause damage to the manual override and other problems such as air leakages.
To unlock the manual override, turn the lever counterclockwise. (LOCK → PUSH)

[How to mount 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 release valve.

- * 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.
- * When the elbows are facing upward in A and B ports in Type 10 manifolds, they will interfere with the piping for the spacer assembly. Therefore, combine the A and B ports with straight types or elbows facing downward.
- * This product is only for internal pilot specifications, as the external pilot air cannot be shut off.
- * If the product is equipped with a 3-position closed center, residual pressure cannot be released, so use in combination with a 3-port valve, which can be connected to the A, B piping port.



| Model | Port size | | Flow rate characteristics | | | |
|----------------|------------------|----------------|---------------------------|------|---------------------|------|
| | 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 | C [dm³/(s·bar)] | b |
| SY30M-50-1A(E) | C8 | C6 | 0.6 | 0.18 | 1.4 | 0.29 |
| SY50M-50-1A(E) | C10 | C8 | 1.6 | 0.20 | 3.1 | 0.23 |
| SY70M-50-1A(E) | C12 | C12 | 3.1 | 0.18 | 4.3 | 0.32 |

- * Calculation of effective area S and sonic conductance C: $S = 5.0 \times C$
* The value is for manifold base with 5 stations, rubber seal, and individually operated 2-position type.
* For connector connecting base (type 10) manifolds

⚠ Caution

| |
|--------------------------------------|
| Tightening torque for mounting screw |
| M2: 0.16 N·m (SY3000) |
| M3: 0.8 N·m (SY5000/7000) |

Manifold Options

* Refer to pages 215 to 217 for dimensions.

■ Double check spacer assembly with residual pressure release valve (Side/Bottom ported)

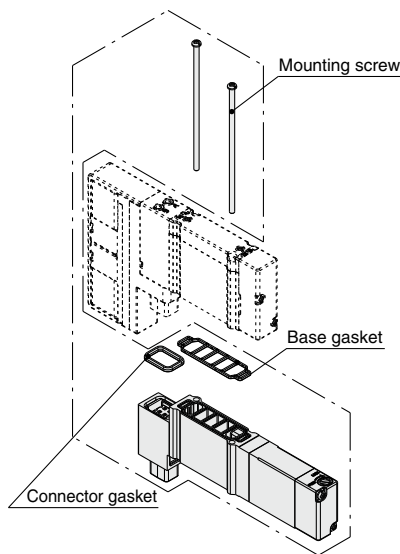
[With a connector gasket, a base gasket, and two mounting screws (3 pcs. for the SY7000)]

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.

* When the elbows are facing upward in A and B ports in Type 10 manifolds, they will interfere with the piping for the spacer assembly. Therefore, combine the A and B ports with straight types or elbows facing downward.

| Series | Part no. |
|--------|-------------|
| SY3000 | SY30M-60-1A |
| SY5000 | SY50M-60-1A |
| SY7000 | SY70M-60-1A |

| | Intermediate stop | Drop prevention |
|------------------|---|--|
| Applicable valve | SY ³ ₅ 40 ⁰ ₁ | SY ³ ₅ ¹ ₂ 0 ⁰ ₁ |



| Part numbers of mounting screw (For repairs) |
|--|
| SY3000: SY3000-23-27A (2 pcs.) |
| SY5000: SY5000-221-4A (2 pcs.) |
| SY7000: SY7000-221-4A (3 pcs.) |

⚠ 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 seal, and rod seal 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.
- If using a double check spacer that is built in to the sub-plate, refer to page 283.

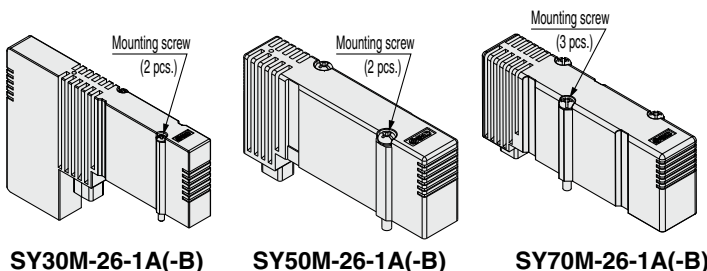
Specifications

| | |
|--------------------------------|------------------------|
| Max. operating pressure | 1.0 MPa |
| Min. operating pressure | 0.1 MPa |
| Ambient and fluid temperatures | -10 to 50°C |
| Flow rate characteristics: C | SY3000 0.3 dm³/(s·bar) |
| | SY5000 0.7 dm³/(s·bar) |
| | SY7000 1.1 dm³/(s·bar) |
| Max. operating frequency | 3 Hz |

■ Blanking plate assembly

[With two mounting screws (3 pcs. for the SY7000)]

Used when valve additions are expected or for maintenance. A structure is in place on the blanking plate to prevent the mounting screws from sliding.

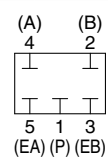


How to Order Blanking Plate Assembly

SY **3** 0M-26-1A-□

Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |



Circuit diagram

Option for mounting

| | |
|-----|---|
| NII | With mounting screw (Round head combination screw) |
| B | With mounting screw (Hexagon socket head cap screw) |

| Part numbers of mounting screw [Hexagon bolt] (For repairs) |
|---|
| SY3000: SY3000-23-24A [SY3000-222-1A] |
| SY5000: SY5000-221-1A [SY5000-222-1A] |
| SY7000: SY7000-221-2A [SY7000-222-1A] |

⚠ Caution

| |
|--------------------------------------|
| Tightening torque for mounting screw |
| M2: 0.16 N·m (SY3000) |
| M3: 0.8 N·m (SY5000/7000) |

* Refer to pages 215 to 217 for dimensions.

SY3000/5000/7000 Series

Caution

| |
|--------------------------------------|
| Tightening torque for mounting screw |
| M2: 0.16 N·m (SY3000) |
| M3: 0.8 N·m (SY5000/7000) |

Manifold Options

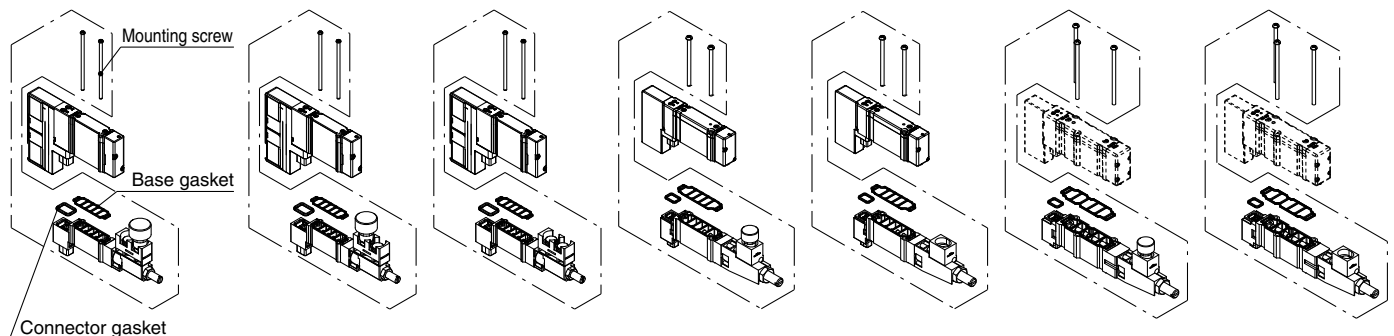
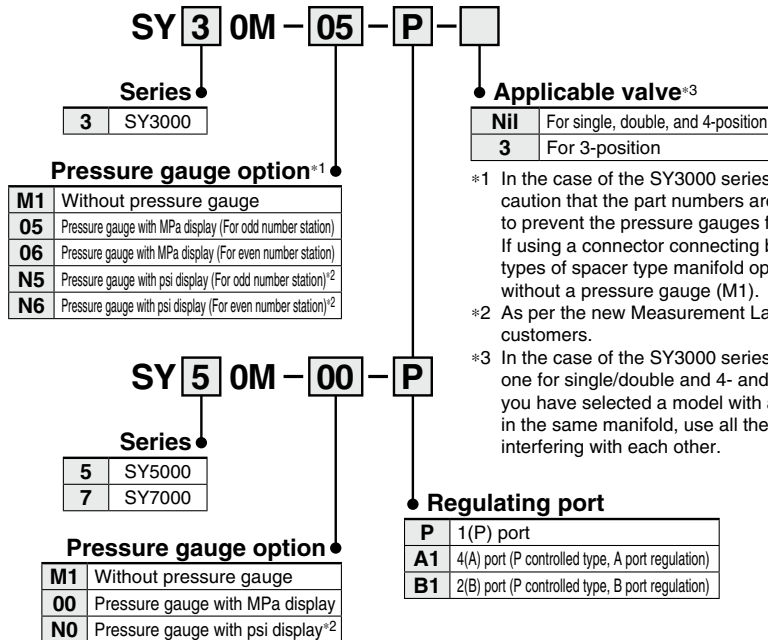
* Refer to pages 215 to 218 for dimensions.

Interface regulator

[With a connector gasket, a base gasket, and two mounting screws (3 pcs. for the SY7000)]

Used when the supply pressure for each valve on the same manifold must be individually set (reduced pressure).

How to Order



SY30M-05/N5-□ (With pressure gauge/ For odd number station) SY30M-06/N6-□ (With pressure gauge/ For even number station) SY30M-M1-□ (Without pressure gauge) SY50M-00/N0-□ (With pressure gauge) SY50M-M1-□ (Without pressure gauge) SY70M-00/N0-□ (With pressure gauge) SY70M-M1-□ (Without pressure gauge)

Specifications

| | | | |
|--------------------------------|---------------------------|-----------|-----------|
| Interface regulator model | SY30M-□-□-□ | SY50M-□-□ | SY70M-□-□ |
| Applicable valve model*1 | SY3□□□(R) | SY5□□□(R) | SY7□□□(R) |
| Regulating port | 1(P), 4(A), 2(B) | | |
| Set pressure range | 0.1 to 0.7 MPa | | |
| Maximum operating pressure | 1.0 MPa | | |
| Fluid | Air | | |
| Ambient and fluid temperatures | -10 to 50°C (No freezing) | | |
| Weight [g]*2 | With pressure gauge | 33 (35)*3 | 75 |
| | Without pressure gauge | 27 (29)*3 | 69 |
| | | | 93 |
| | | | 87 |

*1 3-position closed center and pressure center, and 4-position dual 3-port valves are only available for 1(P) port pressure regulation.

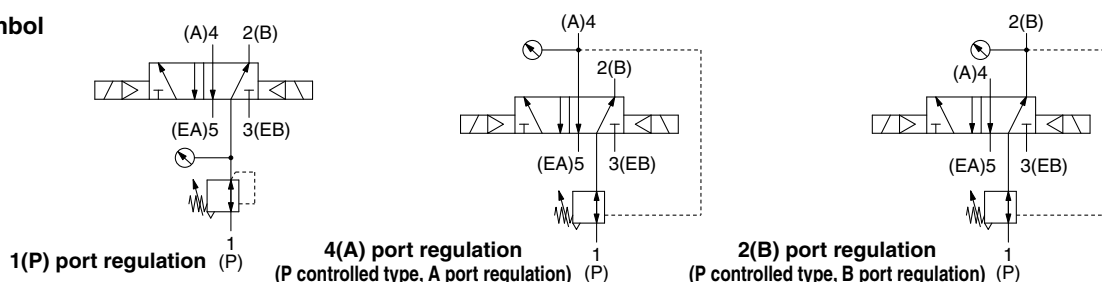
*2 Gasket and mounting screws are included in the weight.

*3 (): Denotes the values of SY30M-□-□-3

* Always apply pressure from 1(P) port in the base for interface regulator.

* When using in combination with the SY530□□-□1-E (With residual pressure release valve), the length of the required mounting screws will differ. Please contact SMC for details.

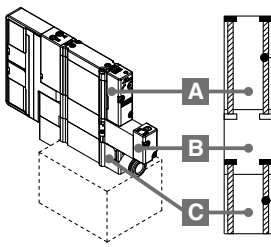
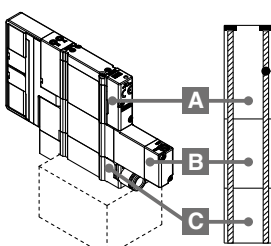
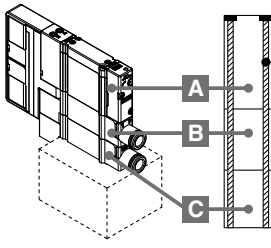
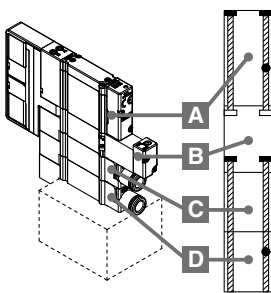
Symbol



⚠ Caution

| |
|--------------------------------------|
| Tightening torque for mounting screw |
| M2: 0.16 N·m (SY3000) |
| M3: 0.8 N·m (SY5000/7000) |

Manifold Options: Spacer Combinations and Screw List ①

| Combination | | | ① SY3000 (M2) | | ② SY5000 (M3) | | ③ SY7000 (M3) | |
|---|---|---|---|---|---|---|---|---|
| | | | Round head combination screw | Hexagon socket head cap screw | Round head combination screw | Hexagon socket head cap screw | Round head combination screw | Hexagon socket head cap screw |
|  | A | Valve | SY3000-23-24A [for 10 valves (20 pcs.)] | SY3000-222-1A [for 10 valves (20 pcs.)] | SY5000-221-1A [for 10 valves (20 pcs.)] | SY5000-222-1A [for 10 valves (20 pcs.)] | SY7000-221-1A [for 10 valves (30 pcs.)] | SY7000-222-1A [for 10 valves (30 pcs.)] |
| | B | SUP stop valve spacer assembly with residual pressure release valve | SY30M-56-2A (2 pcs.) | | SY50M-56-2A (2 pcs.) | | SY70M-56-2A (3 pcs.) | |
| | C | Individual SUP (EXH) spacer assembly | | | | | | |
| |  | A | Valve | SY3000-23-33A (2 pcs.) | — | SY5000-221-5A (2 pcs.) | — | SY7000-221-5A (3 pcs.) |
| B | | Double check spacer assembly with residual pressure release valve | | | | | | |
| C | | Individual SUP (EXH) spacer assembly | | | | | | |
|  | | A | Valve | SY3000-23-32A (2 pcs.) | — | SY5000-221-3A (2 pcs.) | — | SY7000-221-3A (3 pcs.) |
| | B | Individual SUP (EXH) spacer assembly | | | | | | |
| | C | Individual EXH (SUP) spacer assembly | | | | | | |
| |  | A | Valve | SY3000-23-24A [for 10 valves (20 pcs.)] | SY3000-222-1A [for 10 valves (20 pcs.)] | SY5000-221-1A [for 10 valves (20 pcs.)] | SY5000-222-1A [for 10 valves (20 pcs.)] | SY7000-221-1A [for 10 valves (30 pcs.)] |
| B | | SUP stop valve spacer assembly with residual pressure release valve | SY30M-56-4A (2 pcs.) | | SY50M-56-4A (2 pcs.) | | SY70M-56-4A (3 pcs.) | |
| C | | Individual SUP (EXH) spacer assembly | | | | | | |
| D | | Individual EXH (SUP) spacer assembly | | | | | | |
| | | | | | | | | |

* Mounting onto a manifold follows the order explained above.

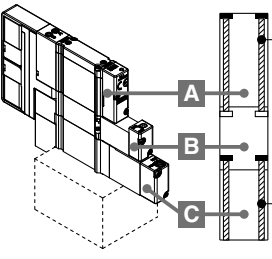
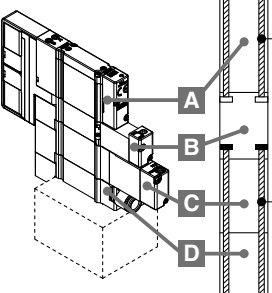
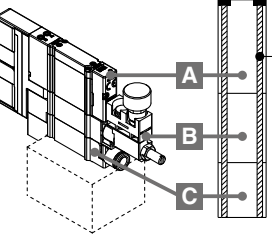
* The fitting for individual SUP/EXH spacers comes in a straight type only, since an elbow type would interfere with each spacer assembly when laminated.

SY3000/5000/7000 Series

⚠ Caution

| |
|--------------------------------------|
| Tightening torque for mounting screw |
| M2: 0.16 N·m (SY3000) |
| M3: 0.8 N·m (SY5000/7000) |

Manifold Options: Spacer Combinations and Screw List ②

| Combination | | ① SY3000 (M2) | | ② SY5000 (M3) | | ③ SY7000 (M3) | |
|---|---|---|---|---|---|---|---|
| | | Round head combination screw | Hexagon socket head cap screw | Round head combination screw | Hexagon socket head cap screw | Round head combination screw | Hexagon socket head cap screw |
|  <p> <Round head combination screw> ①: SY3000-23-24A ②: SY5000-221-1A ③: SY7000-221-1A <Hexagon socket head cap screw> ①: SY3000-222-1A ②: SY5000-222-1A ③: SY7000-222-1A ①: SY30M-56-3A ②: SY50M-56-3A ③: SY70M-56-3A </p> | A Valve | SY3000-23-24A [for 10 valves (20 pcs.)] | SY3000-222-1A [for 10 valves (20 pcs.)] | SY5000-221-1A [for 10 valves (20 pcs.)] | SY5000-222-1A [for 10 valves (20 pcs.)] | SY7000-221-1A [for 10 valves (30 pcs.)] | SY7000-222-1A [for 10 valves (30 pcs.)] |
| | B SUP stop valve spacer assembly with residual pressure release valve | SY30M-56-3A (2 pcs.) | | SY50M-56-3A (2 pcs.) | | SY70M-56-3A (3 pcs.) | |
| | C Double check spacer assembly with residual pressure release valve | | | | | | |
|  <p> <Round head combination screw> ①: SY3000-23-24A ②: SY5000-221-1A ③: SY7000-221-1A <Hexagon socket head cap screw> ①: SY3000-222-1A ②: SY5000-222-1A ③: SY7000-222-1A ①: SY30M-56-5A ②: SY50M-56-5A ③: SY70M-56-5A </p> | A Valve | SY3000-23-24A [for 10 valves (20 pcs.)] | SY3000-222-1A [for 10 valves (20 pcs.)] | SY5000-221-1A [for 10 valves (20 pcs.)] | SY5000-222-1A [for 10 valves (20 pcs.)] | SY7000-221-1A [for 10 valves (30 pcs.)] | SY7000-222-1A [for 10 valves (30 pcs.)] |
| | B SUP stop valve spacer assembly with residual pressure release valve | SY30M-56-5A (2 pcs.) | | SY50M-56-5A (2 pcs.) | | SY70M-56-5A (3 pcs.) | |
| | C Double check spacer assembly with residual pressure release valve | | | | | | |
| | D Individual EXH (SUP) spacer assembly | | | | | | |
|  <p> <Round head combination screw> ①: SY3000-23-32A ②: SY5000-221-7A ③: SY7000-221-7A </p> | A Valve | SY3000-23-32A (2 pcs.) | — | SY5000-221-7A (2 pcs.) | — | SY7000-221-7A (3 pcs.) | — |
| | B Interface regulator | | | | | | |
| | C Individual SUP (EXH) spacer assembly | | | | | | |

* Mounting onto a manifold follows the order explained above.

* The fitting for individual SUP/EXH spacers comes in a straight type only, since an elbow type would interfere with each spacer assembly when laminated.

* When laminating an interface regulator with other options, only the combinations in the table above are possible.

⚠ Caution

| |
|--------------------------------------|
| Tightening torque for mounting screw |
| M2: 0.16 N·m (SY3000) |
| M3: 0.8 N·m (SY5000/7000) |

* Refer to pages 215 to 218 for dimensions.

Manifold Options

■ Individual SUP block assembly

On the circuit of the plug-in connector connection base, an individual SUP block assembly can be used to supply air to a series of valves if a separate air supply is required, or if additional air is required for additional air flow.

Individual SUP block assembly occupies 1 station.

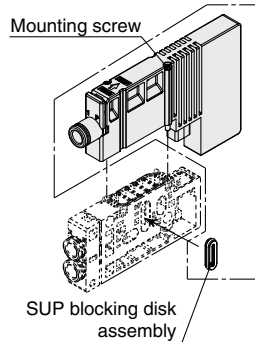
Blocking disks also supplied (2 pieces). Can be used to block both sides of the number of stations being isolated for individual air supply (as shown in example).

* Specify the mounting position of the block as well as the position where the SUP passage is to be blocked on the manifold specification sheet. Blocking is required for 1 or 2 positions for 1 set. (2 SUP blocking disks is attached to individual SUP block.)

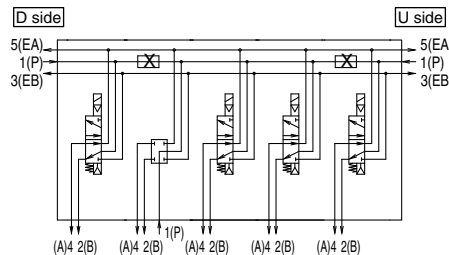
* Electrical wiring is connected to a number of stations in the individual SUP block manifold.

* When used in M10/11/12 (mixed mounting type), select the SY50M type for SS5Y5 and the SY70M type for SS5Y7.

* A structure to prevent screws falling out is in place on the individual SUP block, making it much harder for the mounting screws to fall out.



<Example>



How to Order Individual SUP/EXH Block Assembly

One-touch fitting Straight type **SY 3 0M - 78 - 1 A - C6**

One-touch fitting Elbow type **SY 3 0M - 78 - 2 A - L6**

| Series | |
|--------|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

Block type

| | |
|----|----------------------|
| 78 | Individual SUP block |
| 79 | Individual EXH block |

Individual SUP/EXH block assembly

| | |
|---|----------------------------|
| 2 | Short elbow type (Type 12) |
| 3 | Long elbow type (Type 11) |

* Long elbow type is for the SY5000/7000 only.

Port size (Metric/One-touch fittings)

| Symbol | P, E port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| L4 | ø4 | ● | ● | — |
| L6 | ø6 | ● | ● | ● |
| L8 | ø8 | — | ● | ● |
| L10 | ø10 | — | — | ● |
| L12 | ø12 | — | — | ● |

Port size (Inch/One-touch fittings)

| Symbol | P, E port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| LN3 | ø5/32" | ● | — | — |
| LN7 | ø1/4" | ● | ● | — |
| LN9 | ø5/16" | — | ● | — |
| LN11 | ø3/8" | — | — | ● |

Port size (Metric/One-touch fittings)

| Symbol | P, E port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| C2 | ø2 | ● | — | — |
| C3 | ø3.2 | ● | — | — |
| C4 | ø4 | ● | ● | — |
| C6 | ø6 | ● | ● | ● |
| C8 | ø8 | — | ● | ● |
| C10 | ø10 | — | — | ● |
| C12 | ø12 | — | — | ● |

Port size (Inch/One-touch fittings)

| Symbol | P, E port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| N1 | ø1/8" | ● | — | — |
| N3 | ø5/32" | ● | ● | — |
| N7 | ø1/4" | ● | ● | ● |
| N9 | ø5/16" | — | ● | ● |
| N11 | ø3/8" | — | — | ● |

■ Individual EXH block assembly

On the circuit of the plug-in connector connection base, individual EXH block assembly can be used to individually exhaust series of valves when the exhaust from the valves would affect a number of other stations.

Individual EXH block assembly occupies 1 station.

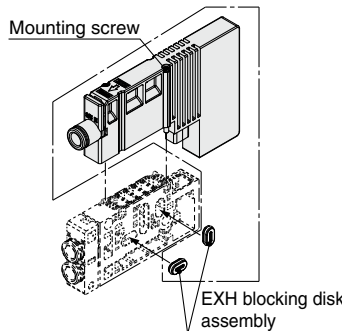
Blocking disks also supplied (4 pieces). Can be used to block both sides of the number of stations being isolated for individual exhaust. (as shown in example).

* Specify the mounting position of the block as well as the position where the EXH passage is to be blocked on the manifold specification sheet. Blocking is required for 1 or 2 positions for 1 set. (2 sets of EXH blocking disks (4 pcs.) to block EXH is attached to individual EXH block.)

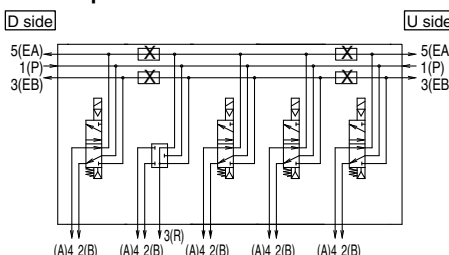
* Electrical wiring is connected to a number of stations in the individual EXH block manifold.

* When used in M10/11/12 (mixed mounting type), select the SY50M type for SS5Y5 and the SY70M type for SS5Y7.

* A structure to prevent screws falling out is in place on the individual EXH block, making it much harder for the mounting screws to fall out.



<Example>



SY3000/5000/7000 Series

Manifold Options

■ Blanking Plate with Output [With two mounting screws]

The blanking plate extracts the individual signal of the manifold valve.

Specifications

| | |
|-------------------|---|
| Number of outputs | 2 outputs |
| Load voltage | 12 VDC, 24 VDC (Dependent on the rated voltage of the built-in manifold) |
| Load current | 42 mA/point (Max.) |
| Enclosure | Dust proof (M12 connector: IP67) |

* For serial transmission-capable manifolds, only the 24 VDC is applicable.

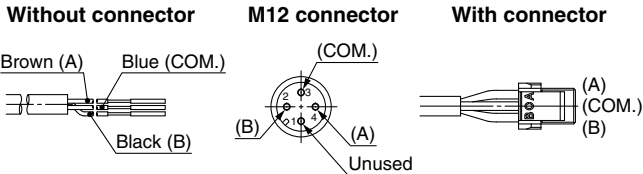
⚠ Caution

| |
|--------------------------------------|
| Tightening torque for mounting screw |
| M2: 0.16 N·m |

Output Polarity

| Manifold common specifications | A | B | COM. |
|--------------------------------|---|---|------|
| Positive common | — | — | + |
| Negative common | + | + | — |

* Specifications are the same as the manifold common specifications.



How to Order Blanking Plate with Output

SY 3 0M - 150 - 1A -

Series

| | |
|---|--------|
| 3 | SY3000 |
|---|--------|

Cable length

| | |
|-----|---------|
| Nil | 300 mm |
| 10 | 1000 mm |

Connector type

| Nil | 1 | 2 |
|-------------------|--------------------|---|
| Without connector | With M12 connector | With connector (For ZK2 vacuum unit) |
| | | |
| | | Made to Order |

* Refer to the specifications for output polarity.

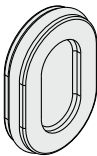
■ SUP/EXH blocking disk assembly (for connector type manifold, Type 10, 11, 12)

[SUP blocking disk]

By inserting the SUP blocking disk in the pressure supply passage of the manifold valve, can provide two different high and low pressure in one manifold.

[EXH blocking disk]

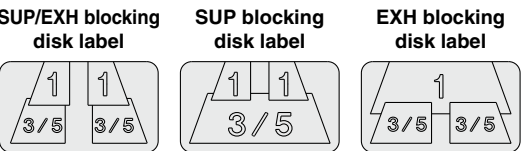
By inserting the EXH blocking disk in the exhaust passage of the manifold valve, can separate the exhaust from the valve so it does not affect the other valves. It can also be used for the manifold for the positive pressure and vacuum mixed manifold. (2 pcs. are required to block FA/EB both sides of the EXH.)



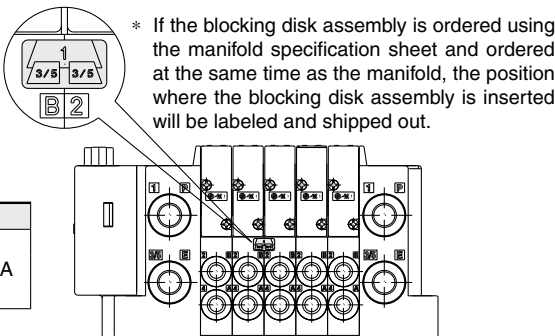
| Series | SUP blocking disk assembly | EXH blocking disk assembly |
|--------|----------------------------|----------------------------|
| SY3000 | SY30M-40-1A | SY30M-40-2A |
| SY5000 | SY50M-40-1A | SY50M-40-1A |
| SY7000 | SY70M-40-1A | SY70M-40-1A |

■ Label for blocking disk

Label to indicate and confirm on the manifold where the SUP/EXH blocking disk assemblies were inserted. (3 sheets each)



| Series | Part no. |
|--------|---------------|
| SY3000 | SJ3000-155-1A |
| SY5000 | |
| SY7000 | |



* If the blocking disk assembly is ordered using the manifold specification sheet and ordered at the same time as the manifold, the position where the blocking disk assembly is inserted will be labeled and shipped out.

Manifold Options

Back pressure check valve assembly (Retrofit or pre-installed type)

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.

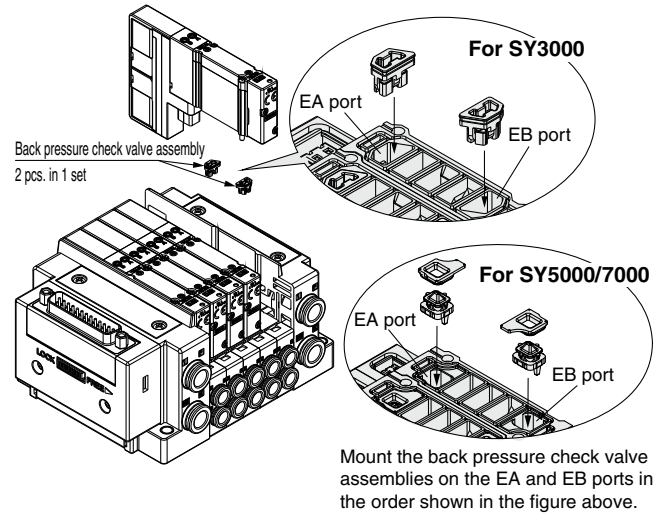
- * When ordering assemblies incorporated with a manifold, refer to the Ordering Example below (when installed in all stations.)
- * When a check valve for back pressure prevention is desired and is to be installed only in certain manifold stations, clearly indicate the part number and specify the mounting position on the manifold specification sheet.

<Precautions>

1. The manifold installed type back pressure check valve assembly is assembly parts with a check valve structure. However, since slight air leakage against the back pressure is allowed due to its structure, adverse effects of the back pressure due to increase in exhaust resistance cannot be prevented if the manifold exhaust port and other exhaust ports are put together for piping or if the piping diameter is narrowed. As a result, this may cause the actuator and air operated equipment to malfunction. So, be careful not to restrict the exhaust air. If the exhaust resistance becomes large, select a built-in valve type with rubber seal.
2. When the back pressure check valve assembly is mounted, please contact SMC for valve flow rate characteristics.

Ordering Example

SS5Y3-10F1-05B-C6.....1 set (Type 10 5-station manifold base part no.)
 *SY3201-5U1.....5 sets (2-position double part no.)
 *SY30M-24-1A.....5 sets (Back pressure check valve assembly part no.)
 The asterisk denotes the symbol for the assembly.



Mount the back pressure check valve assemblies on the EA and EB ports in the order shown in the figure above.

| Series | Part no. |
|--------|-------------|
| SY3000 | SY30M-24-1A |
| SY5000 | SY50M-24-1A |
| SY7000 | SY70M-24-1A |

Dual flow fitting (for connector connecting base, Type 10, side ported)

This is a fitting for cylinder ports which enables simultaneous actuation and increase in flow rate of valves for 2 stations.

- * When ordering assemblies incorporated into a manifold, refer to the Ordering Example below and specify on the manifold specification sheet.

How to Order Dual Flow Fitting

SY 3 OM - 120 - 1A - C8

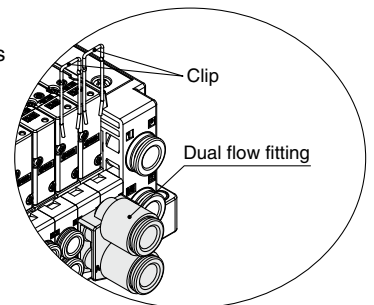
| Series | |
|--------|--------|
| 3 | SY3000 |
| 5 | SY5000 |

A, B port size (One-touch fittings)

| Symbol | A, B port | SY3000 | SY5000 |
|--------|-------------|--------|--------|
| C8 | Metric size | ø8 | — |
| C10 | Metric size | ø10 | — |
| N9 | Inch size | ø5/16" | — |
| N11 | Inch size | ø3/8" | — |

Ordering Example

SS5Y3-10F1-08B-CM
 *SY3100-5U1
 *SY30M-120-1A-C8
 The asterisk denotes the symbol for the assembly.



- * Specifically for side porting for a connector connecting base. Cannot be attached to bottom or top ported, or mixed mounting types that are metal or connector connecting bases.
- * When adding or changing clips, push them into the very end of the manifold for each station. Also, make sure to use the clip that was packed together, as the clip and the fitting for one station differ among products that can be used with the SY5000.
- * Not available for the SY7000 series.
- * Refer to the table below to see which spacers are applicable.

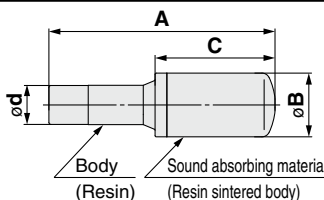
| Each type of spacer | Series | |
|---|--------|--------|
| | SY3000 | SY5000 |
| Individual SUP (EXH) spacer assembly | × | ○ |
| SUP stop valve spacer assembly with residual pressure release valve | × | ○ |
| Double check spacer assembly with residual pressure release valve | × | ○ |
| Interface regulator | × | × |

○: Can be built in ×: Cannot be built in

Silencer (One-touch fitting connection type)

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

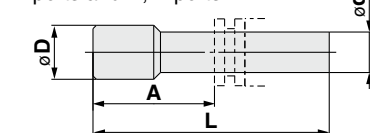
- * Shipped together with the product



| Series | Model | Effective area | A | B | C |
|------------------|----------|--------------------|------|------|------|
| For SY3000 (ø8) | AN15-C08 | 20 mm ² | 45 | 13 | 20 |
| For SY5000 (ø10) | AN20-C10 | 30 mm ² | 57.5 | 16.5 | 30.5 |
| For SY7000 (ø12) | AN30-C12 | 41 mm ² | 71.5 | 20 | 43.5 |

Plug

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



- * Shipped together with the product

Dimensions

| Applicable fitting size ød (Metric size) | Model | A | L | øD |
|--|---------|------|------|----|
| 2 | KJP-02 | 8.2 | 17 | 3 |
| 3.2 | KQ2P-23 | 16 | 31.5 | 5 |
| 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 | 45.5 | 14 |

| Applicable fitting size ød (Inch size) | Model | A | L | øD |
|--|---------|------|------|------|
| 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 |
| 1/2" | KQ2P-13 | 24 | 46 | 15 |

SY3000/5000/7000 Series

Manifold Options

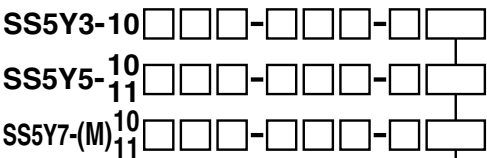
A transparent plastic plate to put a label with the name of the function of the solenoid valve

■ Name plate (For connector connecting base)

SY3000: For SS5Y3-10 (Side ported)
SY5000: For SS5Y5-10/11 (Side/Bottom ported)
SY7000: For SS5Y7-(M)10/11 (Side/Bottom ported)

Name plate bracket assembly and name plate mounting instructions
Insert it into the groove on the name plate bracket onto which a SUP/EXH (end) block is mounted, as shown in Figure 2.

* When ordering assemblies incorporated with a manifold, refer to the Ordering Example below.



Mounting and Option

| Symbol | Mounting option | | | | | Direct mounting |
|--------|-----------------|----|----------|---------|------------------|-----------------|
| | Printing | | DIN rail | | Specified length | |
| | Yes | No | With | Without | | |
| AA | ● | — | — | — | — | ● |
| A | ● | — | ● | — | — | — |
| A0 | ● | — | — | ● | — | — |
| A3 | ● | — | — | — | For 3 stations | — |
| ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | — |
| A24 | ● | — | — | — | For 24 stations | — |
| BA | — | ● | — | — | — | ● |
| B | — | ● | ● | — | — | — |
| B0 | — | ● | — | ● | — | — |
| B3 | — | ● | — | — | For 3 stations | — |
| ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | — |
| B24 | — | ● | — | — | For 24 stations | — |

Ordering Example

SS5Y3-10F1-05UR-C6AA 1 set

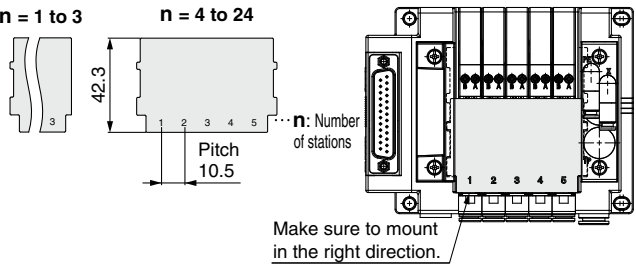
*SY3200R-5U1 5 sets

The asterisk denotes the symbol for the assembly.

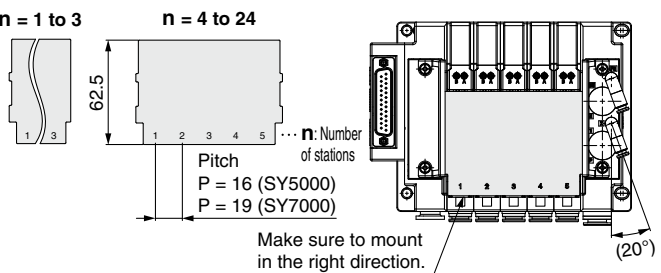
* Name plates cannot be mounted onto Type 12 (Top ported) and Type 10 (Side ported) mixed mounting types with top ported valves, nor onto manifolds with optional laminated spacers.

* No name plate settings are available for the SY3000/SY5000 mixed mounting types. However, they are available for the SY5000/SY7000 mixed mounting types.

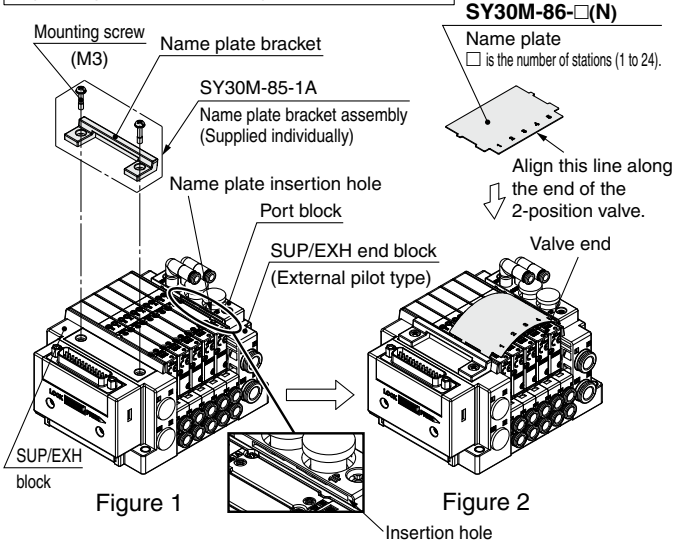
<SY3000>



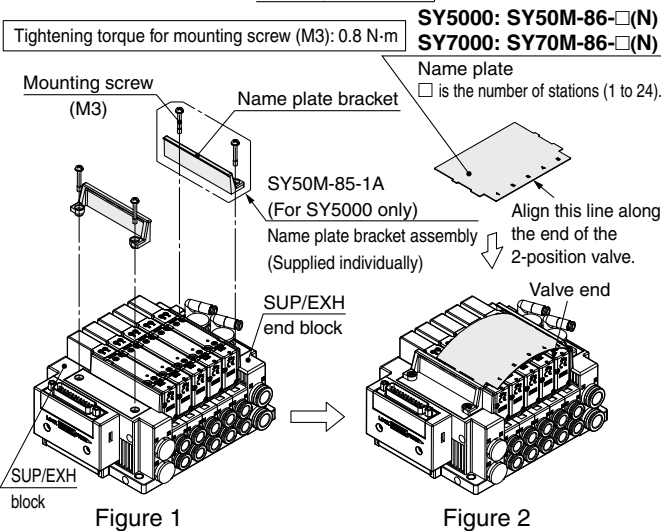
<SY5000/7000>



Tightening torque for mounting screw (M3): 0.8 N·m



Tightening torque for mounting screw (M3): 0.8 N·m



Manifold Options

* A transparent plastic plate to put a label with the name of the function of the solenoid valve

■ If adding a name plate

If adding a name plate to a manifold in use, order a name plate bracket assembly, in addition to ordering a name plate. Refer to the table below for the part number and the amount.

Name plate part number

| Model | | SS5Y3-10 | SS5Y5-10/11 | SS5Y7-(M)10/11 | Note |
|------------|-------------|-------------|-------------|----------------|------------------------------------|
| Name plate | Printed | SY30M-86-□N | SY50M-86-□N | SY70M-86-□N | □: Number of stations (1 to 24) |
| | No printing | SY30M-86-□ | SY50M-86-□ | SY70M-86-□ | |

Name plate bracket assembly part number and number of items ordered

| Model | | SS5Y3-10 | SS5Y5-10/11 |
|---|------------------------------------|----------------|-------------|
| Name plate assembly part number | | SY30M-85-1A | SY50M-85-1A |
| Manifold SUP/EXH block assembly Pilot type and P, E port entry | Internal pilot U/D piping | 2 pcs. | 2 pcs. |
| | Internal pilot double sided piping | 2 pcs. | |
| | External pilot U/D piping | 1 pc.*1 | |
| | External pilot double sided piping | Not required*1 | |

*1 If the manifold is an external pilot, an insertion slot for name plates is on the port block of the SUP/EXH block assembly. Thus, a bracket assembly is no longer required on the port piping side.

* Name plate bracket assembly is not required for the SY7000.

⚠ Caution

1. Be sure to shut off the power and air supplies before mounting the name plate bracket assembly. 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 the tightening of the bracket mounting screws is inadequate.

Chart

Valve
Specifications

Valve
Construction

Valve
Replacement
Parts

With Residual
Pressure
Release Valve

Vacuum
Release Valve
with Restrictor

With
Pressure
Sensor

Made to
Order

Connector
Connecting Base

D-sub,
Flat
Ribbon

Terminal
Block

Lead
Wire

Circular
Connector

EX500

EX600

EX250

EX260

EX126

EX120

Common
Dimensions

Mixed
Mounting

Manifold
Exploded
View

Fitting,
Plug
Part Nos.

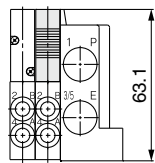
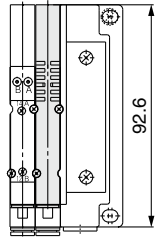
Manifold
Options

Specific
Product
Precautions

SY3000/5000/7000 Series

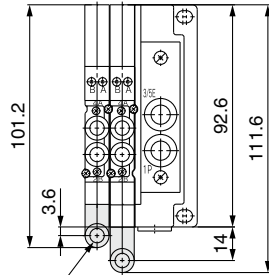
Dimensions: Manifold Options/SY3000 Series

Blanking plate assembly

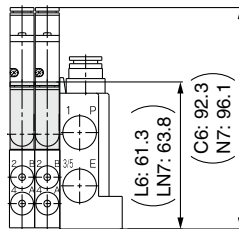


<Type 10, 12>

Individual SUP/EXH spacer assembly (Top ported)

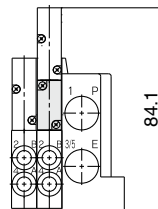
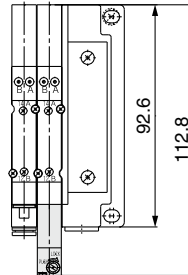


One-touch fitting
(SUP port, EXH port)
Applicable tubing O.D.: $\phi 4$, $\phi 5/32"$
: $\phi 6$, $\phi 1/4"$



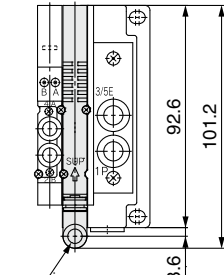
<Type 12>

Double check spacer assembly with residual pressure release valve

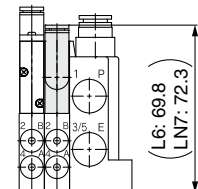


<Type 10>

Individual SUP/EXH block assembly (Top ported)

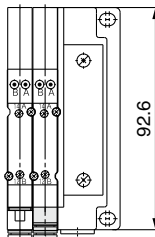


One-touch fitting
(SUP port, EXH port)
Applicable tubing O.D.: $\phi 4$, $\phi 5/32"$
: $\phi 6$, $\phi 1/4"$

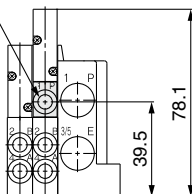


<Type 12>

Individual SUP/EXH spacer assembly (Side ported)

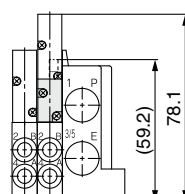
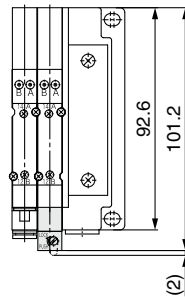


One-touch fitting
(SUP port, EXH port)
Applicable tubing O.D.: $\phi 2$
: $\phi 3.2$, $\phi 1/8"$
: $\phi 4$, $\phi 5/32"$
: $\phi 6$, $\phi 1/4"$



<Type 10>

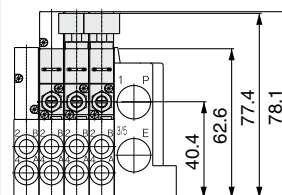
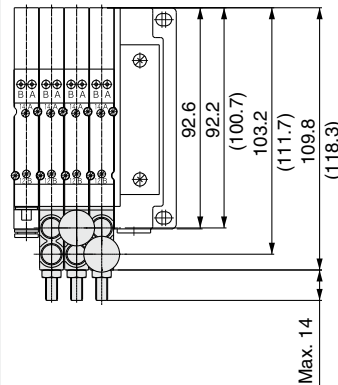
SUP stop valve spacer assembly with residual pressure release valve



<Type 10, 12>

* The dimensions within () apply to the SY30M-50-1AE.

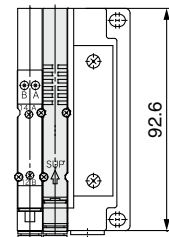
Interface regulator



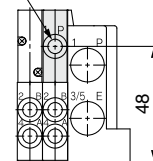
<Type 10, 12>

* The dimensions within () apply to the SY30M-□-□-3.

Individual SUP/EXH block assembly (Side ported)



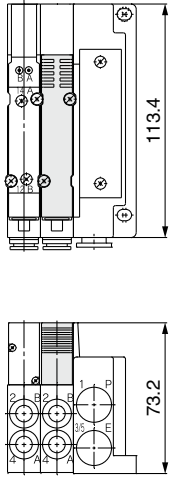
One-touch fitting
(SUP port, EXH port)
Applicable tubing O.D.: $\phi 2$
: $\phi 3.2$, $\phi 1/8"$
: $\phi 4$, $\phi 5/32"$
: $\phi 6$, $\phi 1/4"$



<Type 10>

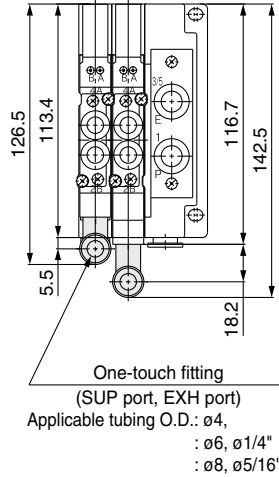
Dimensions: Manifold Options/SY5000 Series

Blanking plate assembly



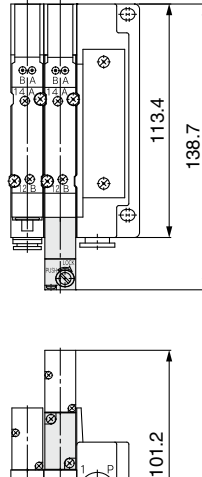
<Type 10, 11, 12>

Individual SUP/EXH spacer assembly (Top/Bottom ported)



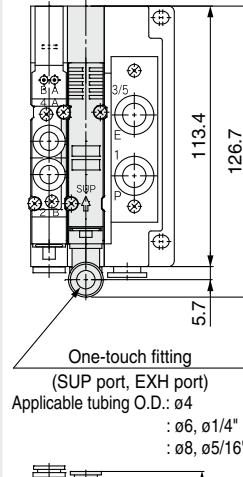
<Type 11, 12>

Double check spacer assembly with residual pressure release valve



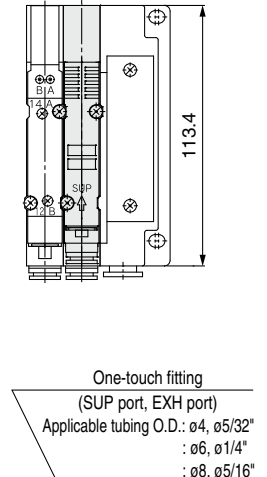
<Type 10, 11>

Individual SUP/EXH block assembly (Top ported)



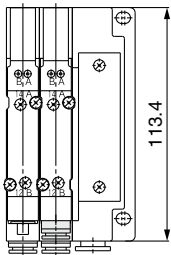
<Type 12>

Individual SUP/EXH block assembly (Side ported)



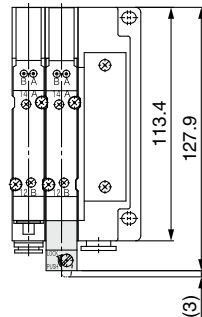
<Type 10>

Individual SUP/EXH spacer assembly (Side ported)



<Type 10>

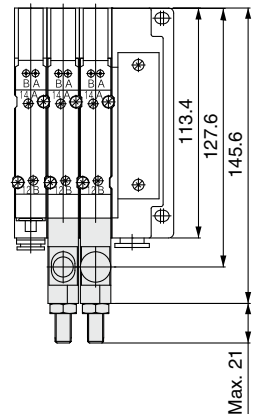
SUP stop valve spacer assembly with residual pressure release valve



<Type 10, 11, 12>

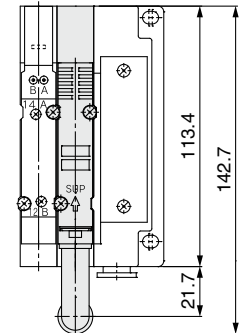
* The dimensions within () apply to the SY50M-50-1AE.

Interface regulator



<Type 10, 11, 12>

Individual SUP/EXH block assembly (Side ported)



<Type 11>

Chart

Valve Specifications

Valve Construction

Valve Replacement Parts

With Residual Pressure Release Valve

Vacuum Release Valve with Restrictor

With Pressure Sensor

Made to Order

Connector Connecting Base

D-sub, Flat Ribbon

Terminal Block

Lead Wire

Circular Connector

EX500

EX600

EX250

EX260

EX126

EX120

Common Dimensions

Mixed Mounting

Manifold Exploded View

Fitting, Plug Part Nos.

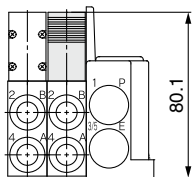
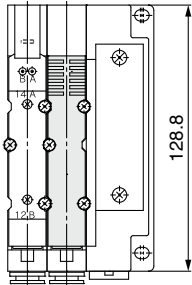
Manifold Options

Specific Product Precautions

SY3000/5000/7000 Series

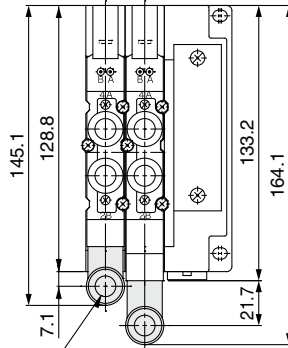
Dimensions: Manifold Options/SY7000 Series

Blanking plate assembly

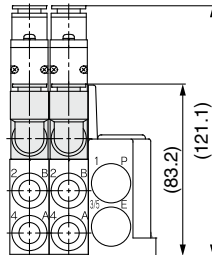


<Type 10, 11, 12>

Individual SUP/EXH spacer assembly (Top/Bottom ported)

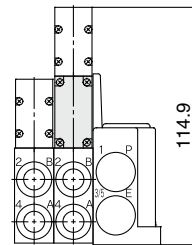
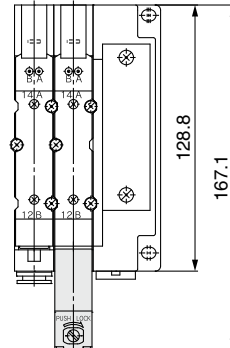


One-touch fitting
(SUP port, EXH port)
Applicable tubing O.D.: $\phi 6$, $\phi 3/8$ "
: $\phi 8$
: $\phi 10$
: $\phi 12$



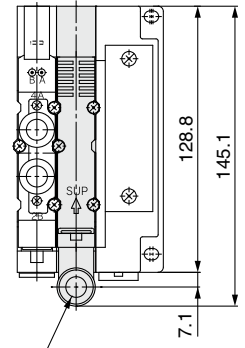
<Type 11, 12>

Double check spacer assembly with residual pressure release valve

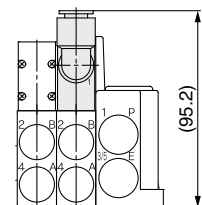


<Type 10, 11>

Individual SUP/EXH block assembly (Top ported)

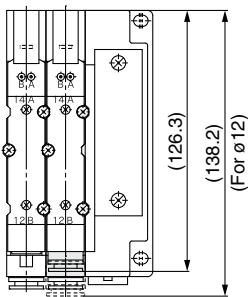


One-touch fitting
(SUP port, EXH port)
Applicable tubing O.D.: $\phi 6$, $\phi 3/8$ "
: $\phi 8$
: $\phi 10$
: $\phi 12$



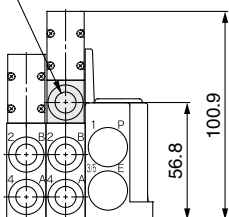
<Type 12>

Individual SUP/EXH spacer assembly (Side ported)



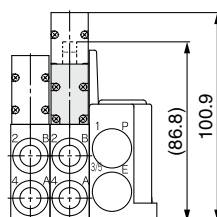
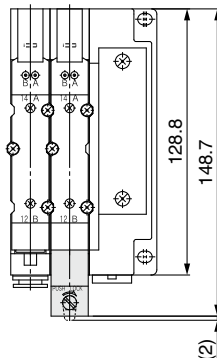
One-touch fitting

(SUP port, EXH port)
Applicable tubing O.D.: $\phi 6$, $\phi 1/4$ "
: $\phi 8$, $\phi 5/16$ "
: $\phi 10$, $\phi 3/8$ "
: $\phi 12$



<Type 10>

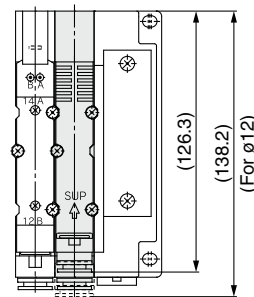
SUP stop valve spacer assembly with residual pressure release valve



<Type 10, 11, 12>

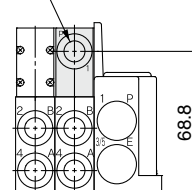
* The dimensions within () apply to the SY70M-50-1AE.

Individual SUP/EXH block assembly (Side ported)



One-touch fitting

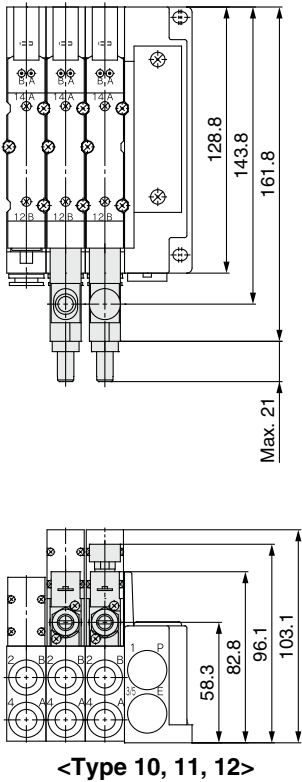
(SUP port, EXH port)
Applicable tubing O.D.: $\phi 6$, $\phi 3/8$ "
: $\phi 8$
: $\phi 10$
: $\phi 12$



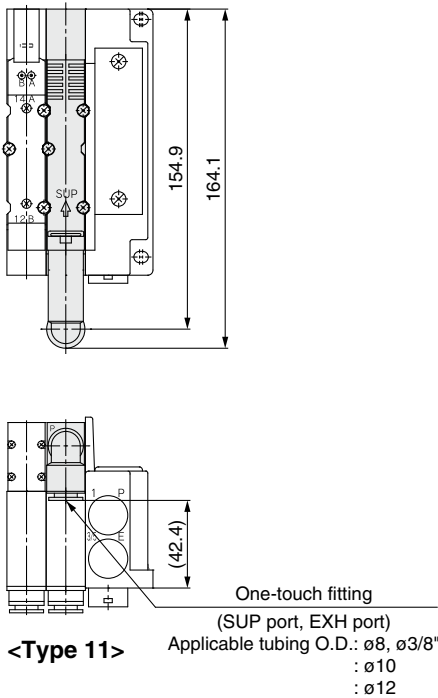
<Type 10>

Dimensions: Manifold Options/SY7000 Series

■ Interface regulator

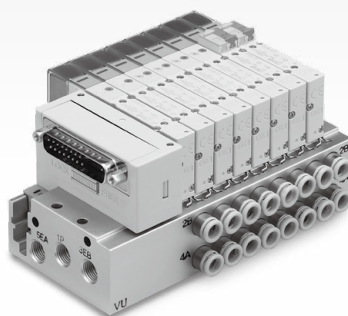


■ Individual SUP/EXH block assembly (Bottom ported)

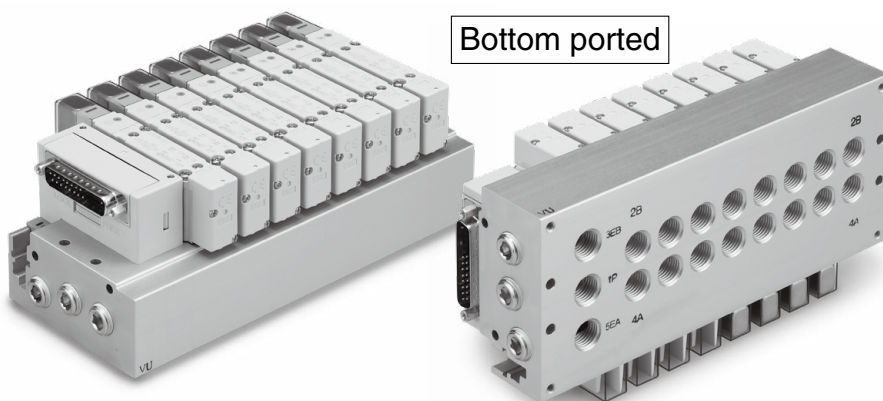


| |
|--------------------------------------|
| Chart |
| Valve Specifications |
| Valve Construction |
| Valve Replacement Parts |
| With Residual Pressure Release Valve |
| Vacuum Release Valve with Restrictor |
| With Pressure Sensor |
| Made to Order |
| Connector Connecting Base |
| D-sub, Flat Ribbon |
| Terminal Block |
| Lead Wire |
| Circular Connector |
| EX500 |
| EX600 |
| EX250 |
| EX260 |
| EX126 |
| EX120 |
| Common Dimensions |
| Mixed Mounting |
| Manifold Exploded View |
| Fitting, Plug Part Nos. |
| Manifold Options |
| Specific Product Precautions |

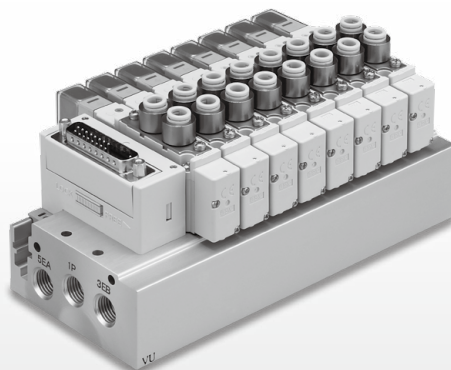
Plug-in Metal Base



Side ported



Bottom ported



Top ported

Chart

Valve
Specifications

Valve
Construction

Valve
Replacement
Parts

With Residual
Pressure
Release Valve

Vacuum
Release Valve
with Restrictor

With
Pressure
Sensor

Made to
Order

Connector
Connecting Base

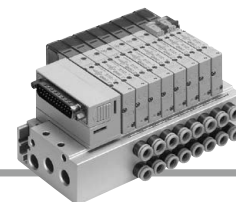
Metal Base

Sub-plate

Specific
Product
Precautions

SY3000/5000/7000 Series **Type 50, 51, 52**

Plug-in Metal Base



Manifold Specifications

| Model | | D-sub connector | Flat ribbon cable | | | Serial wiring |
|-------------------------------|-------------------|---|---|-----------------------------|-----------------------------|--------------------|
| | | F type | P type | PG type | PH type | S5 type (EX510) |
| Manifold type | | Plug-in metal base | | | | |
| SUP/EXH port type | | Common SUP/EXH | | | | |
| Valve stations | All double wiring | 2 to 12 stations | 2 to 9 stations | 2 to 4 stations | 2 to 8 stations | |
| | All single wiring | | 2 to 12 stations | 2 to 8 stations | 2 to 12 stations | |
| Applicable connector | | D-sub connector Conforming to MIL-C-24308 JIS-X-5101 | Flat ribbon cable connector with strain relief Conforming to MIL-C-83503 | | | — |
| | | | Socket: 26 pins MIL type | Socket: 20 pins MIL type | Socket: 10 pins MIL type | |
| Internal wiring | | Positive common, Negative common | | | | |
| Port size | 1(P), 3/5(E) port | SY3000 | 1/8 | | | |
| | | SY5000 | 1/4 | | | |
| | | SY7000 | 3/8 | | | |
| | 4(A), 2(B) port | SY3000 | M5 x 0.8, 1/8 ø2 One-touch fitting, ø3.2 One-touch fitting, ø4 One-touch fitting, ø6 One-touch fitting ø1/8" One-touch fitting, ø5/32" One-touch fitting, ø1/4" One-touch fitting | | | |
| | | SY5000 | 1/8, 1/4 ø4 One-touch fitting, ø6 One-touch fitting, ø8 One-touch fitting ø5/32" One-touch fitting, ø1/4" One-touch fitting, ø5/16" One-touch fitting | | | |
| | | SY7000 | 1/4 ø6 One-touch fitting, ø8 One-touch fitting, ø10 One-touch fitting, ø12 One-touch fitting ø1/4" One-touch fitting, ø5/16" One-touch fitting, ø3/8" One-touch fitting | | | |
| Enclosure (Based on IEC60529) | | IP40 | | | | IP20 |

Manifold Flow Rate Characteristics^{*1}/Manifold Weight

Valve Seal Type: Rubber Seal

| Model | Port size | | Valve flow rate characteristics | | | | Weight: W [g] ^{*2} (n: stations) | |
|--------------------------|------------------------|----------------|---------------------------------|------|------------------------------|------|--|------------------|
| | 1, 5, 3 (P, EA, EB) | 4, 2 (A, B) | 1→4/2 (P→A/B) | | 4/2→5/3 (A/B→E) | | Fixed: C□ | Replaceable: KC□ |
| | | | C [dm ³ /(s·bar)] | b | C [dm ³ /(s·bar)] | b | | |
| SS5Y3-50 (Side ported) | 1/8 | C6 | 1.1 | 0.19 | 1.1 | 0.15 | 39n + 247 | 43.5n + 247 |
| SS5Y3-51 (Bottom ported) | 1/8 | C6 | 1.2 | 0.31 | 1.2 | 0.14 | 41.5n + 251 | 48.5n + 251 |
| SS5Y3-52 (Top ported) | 1/8 | C6 | 1.1 | 0.29 | 1.2 | 0.20 | 44n + 247 | |
| SS5Y5-50 (Side ported) | 1/4 | C8 | 2.6 | 0.28 | 2.6 | 0.14 | 93n + 379 | 110n + 379 |
| SS5Y5-51 (Bottom ported) | 1/4 | C8 | 2.7 | 0.35 | 2.8 | 0.20 | 93n + 413 | 113n + 413 |
| SS5Y5-52 (Top ported) | 1/4 | C8 | 2.6 | 0.26 | 3.1 | 0.13 | 103n + 379 | |
| SS5Y7-50 (Side ported) | 3/8 | C10 | 3.8 | 0.27 | 4.0 | 0.20 | 144n + 510 | 158n + 510 |
| SS5Y7-51 (Bottom ported) | 3/8 | C10 | 4.1 | 0.34 | 4.8 | 0.20 | 150n + 549 | 172n + 549 |
| SS5Y7-52 (Top ported) | 3/8 | C10 | 4.5 | 0.27 | 4.9 | 0.24 | 164n + 510 | |

Valve Seal Type: Metal Seal

| Model | Port size | | Valve flow rate characteristics | | | | Weight: W [g] ^{*2} (n: stations) | |
|--------------------------|------------------------|----------------|---------------------------------|------|------------------------------|------|--|------------------|
| | 1, 5, 3 (P, EA, EB) | 4, 2 (A, B) | 1→4/2 (P→A/B) | | 4/2→5/3 (A/B→E) | | Fixed: C□ | Replaceable: KC□ |
| | | | C [dm ³ /(s·bar)] | b | C [dm ³ /(s·bar)] | b | | |
| SS5Y3-50 (Side ported) | 1/8 | C6 | 0.9 | 0.14 | 1.0 | 0.12 | 39n + 247 | 43.5n + 247 |
| SS5Y3-51 (Bottom ported) | 1/8 | C6 | 1.0 | 0.21 | 1.1 | 0.10 | 41.5n + 251 | 48.5n + 251 |
| SS5Y3-52 (Top ported) | 1/8 | C6 | 1.1 | 0.15 | 1.1 | 0.14 | 44n + 247 | |
| SS5Y5-50 (Side ported) | 1/4 | C8 | 2.2 | 0.20 | 2.3 | 0.13 | 93n + 379 | 110n + 379 |
| SS5Y5-51 (Bottom ported) | 1/4 | C8 | 2.4 | 0.26 | 2.5 | 0.16 | 93n + 413 | 113n + 413 |
| SS5Y5-52 (Top ported) | 1/4 | C8 | 2.4 | 0.18 | 2.6 | 0.12 | 103n + 379 | |
| SS5Y7-50 (Side ported) | 3/8 | C10 | 3.2 | 0.23 | 3.5 | 0.18 | 144n + 510 | 158n + 510 |
| SS5Y7-51 (Bottom ported) | 3/8 | C10 | 3.5 | 0.25 | 4.0 | 0.16 | 150n + 549 | 172n + 549 |
| SS5Y7-52 (Top ported) | 3/8 | C10 | 3.5 | 0.21 | 3.8 | 0.18 | 164n + 510 | |

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

*2 Weight: W is the value for the D-sub connector manifold.

To obtain the weight with valves attached, add the valve weights given on page 17 for the appropriate number of stations.

* Calculation of effective area S and sonic conductance C: $S = 5.0 \times C$

Type 50
Side Ported

Type 51
Bottom Ported

Plug-in Metal Base

D-sub Connector Flat Ribbon Cable

SY3000/5000/7000 Series



How to Order Manifolds

SS5Y **3** - **50** **F** **1** - **05** **D** - **C6**

1 2 3 4 5 6 7 8 9 10

1 Series

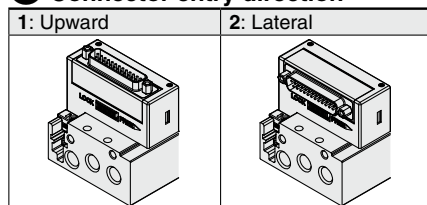
| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type

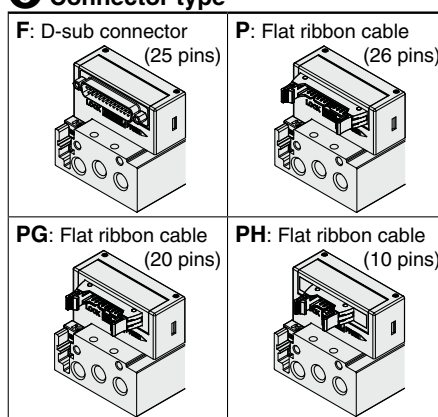
| | |
|-----|-----------------------------|
| 50 | Side ported |
| 51 | Bottom ported |
| 50R | Side ported, External pilot |

* External pilot is not available for the bottom-porting type.

4 Connector entry direction



3 Connector type



5 Wiring type

| | |
|-----|---------------------|
| Nil | All double wiring*1 |
| S | All single wiring*2 |

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

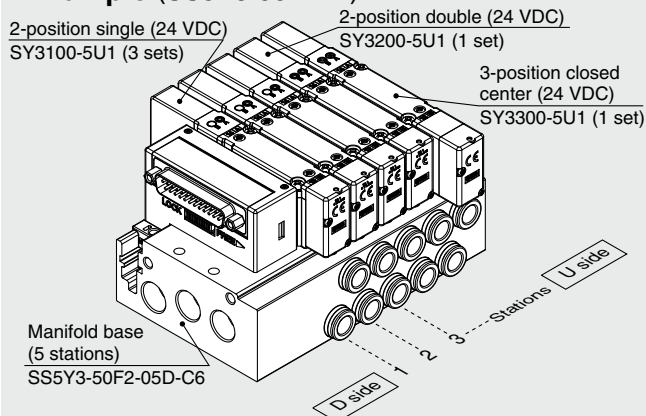
*2 All single wiring: Available only for the manifold which has 2-position single for all stations

Note that 2-position double, 3-, or 4-position valves cannot be used.

* If a mix of single and double wiring is required, it is supplied as a special order.

How to Order Manifold Assembly

Example (SS5Y3-50F2-□)



SS5Y3-50F2-05D-C6 ... 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 asterisk denotes the symbol for the assembly.
 Prefix it to the part numbers of the valve, etc.

- For the valve arrangement, the valve closest to the D side is considered the 1st station.
- Under the manifold part number, state the valves to be mounted in order starting with the 1st station as shown in the figure above. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.

* When mixing top-porting configurations, select from those listed on page 244.
 In such cases, use caution as there is also output on the A and B ports on the base side.
 Specify on the manifold specification sheet if plugs are required for the A and B ports on the base side.

6 Valve stations

| F: D-sub connector (25 pins) | | | P: Flat ribbon cable (26 pins) | | |
|---------------------------------|-------------|-------------------|---------------------------------|-------------|-------------------|
| Symbol | Stations | Note | Symbol | Stations | Note |
| 02 | 2 stations | All double wiring | 02 | 2 stations | All double wiring |
| 12 | 12 stations | All double wiring | 12 | 12 stations | All double wiring |
| 02 | 2 stations | All single wiring | 02 | 2 stations | All single wiring |
| 12 | 12 stations | All single wiring | 12 | 12 stations | All single wiring |
| PG: Flat ribbon cable (20 pins) | | | PH: Flat ribbon cable (10 pins) | | |
| Symbol | Stations | Note | Symbol | Stations | Note |
| 02 | 2 stations | All double wiring | 02 | 2 stations | All double wiring |
| 09 | 9 stations | All double wiring | 04 | 4 stations | All double wiring |
| 02 | 2 stations | All single wiring | 02 | 2 stations | All single wiring |
| 12 | 12 stations | All single wiring | 08 | 8 stations | All single wiring |

* This also includes the number of the blanking plate assembly.

7 P, E port entry

| | |
|----------|------------|
| U | U side*1 |
| D | D side*1*2 |
| B | Both sides |

*1 Plugs are mounted on the opposite side of the selected ports.

*2 Only D side is available for the type 51 bottom-ported type.

9 Thread type

| | |
|------------|------|
| Nil | Rc |
| F | G |
| N | NPT |
| T | NPTF |

10 Mounting

| | |
|------------|---|
| Nil | Direct mounting |
| D | DIN rail mounting (With DIN rail) |
| D0 | DIN rail mounting (Without DIN rail) |
| D3 | For 3 stations |
| : | Specify a length longer than that of the standard rail. |
| D12 | For 12 stations |

* Only direct mounting is available for the type 51 bottom-ported type.

* Refer to page 295 for the fixation of DIN rail mounting type manifold.

8 A, B port size

Thread piping

| Symbol | A, B port | SY3000 | SY5000 | SY7000 |
|-----------|-----------|--------|--------|--------|
| M5 | M5 x 0.8 | ● | — | — |
| 01 | 1/8 | ● | ● | — |
| 02 | 1/4 | — | ● | ● |

One-touch fitting (Metric)

| Symbol | A, B port | SY3000 | SY5000 | SY7000 |
|--------------------------------|-------------|--------|--------|--------|
| Fixed | C2 | ● | — | — |
| | C3 | ● | — | — |
| | C4 | ● | ● | — |
| | C6 | ● | ● | — |
| | C8 | — | ● | ● |
| | C10 | — | — | ● |
| Replaceable | KC2 | ● | — | — |
| | KC3 | ● | — | — |
| | KC4 | ● | ● | — |
| | KC6 | ● | ● | ● |
| | KC8 | — | ● | ● |
| | KC10 | — | — | ● |
| | KC12 | — | — | ● |
| | M*1 | ● | ● | ● |
| P, E port size (Thread piping) | | 1/8 | 1/4 | 3/8 |

One-touch fitting (Inch)

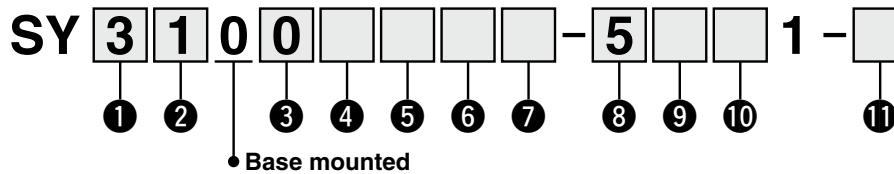
| Symbol | A, B port | SY3000 | SY5000 | SY7000 |
|--------------------------------|-------------|--------|--------|--------|
| Fixed | N1 | ● | — | — |
| | N3 | ● | ● | — |
| | N7 | ● | ● | — |
| | N9 | — | ● | ● |
| | N11 | — | — | ● |
| Replaceable | KN1 | ● | — | — |
| | KN3 | ● | ● | — |
| | KN7 | ● | ● | ● |
| | KN9 | — | ● | ● |
| | KN11 | — | — | ● |
| | M*1 | ● | ● | ● |
| P, E port size (Thread piping) | | 1/8 | 1/4 | 3/8 |

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

SY3000/5000/7000 Series

How to Order Valves (With mounting screw)

Refer to page 15 for valve specifications.



1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type of actuation

| | | |
|-----|------------------------|-----------------|
| 1 | 2-position | Single |
| 2 | | Double |
| 3 | 3-position | Closed center |
| 4 | | Exhaust center |
| 5 | | Pressure center |
| A*1 | 4-position dual 3-port | N.C./N.C. |
| B*1 | | N.O./N.O. |
| C*1 | | N.C./N.O. |

*1 Only the 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 the rubber seal type is available.
* The back pressure check valve is not available for the 3-position type or the SY7000.

6 Pilot valve option

| | |
|-----|-------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K*1 | High pressure type (1.0 MPa) |

*1 Only the 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 if the valve is to be continuously energized for long periods of time.
* Be careful of the energizing time when the power saving circuit is selected. Refer to page 292 for details.

8 Rated voltage

| | |
|---|--------|
| 5 | 24 VDC |
| 6 | 12 VDC |

9 Light/surge voltage suppressor and common specification

| Symbol | With light | Surge voltage suppressor | Common specification |
|--------|------------|--------------------------|----------------------|
| Nil | — | — | Non-polar |
| R | — | — | |
| U | ● | — | |
| S | — | ● | Positive common |
| Z | ● | ● | Negative common |
| NS | — | — | |
| NZ | ● | — | |

* For the non-polar type, be careful of surge voltage intrusion. Refer to page 293 for details.
* Only "Z" and "NZ" types are available with a power saving circuit.

10 Manual override

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

* Refer to page 34 for the safety slide locking manual override.

11 Type of mounting screw

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

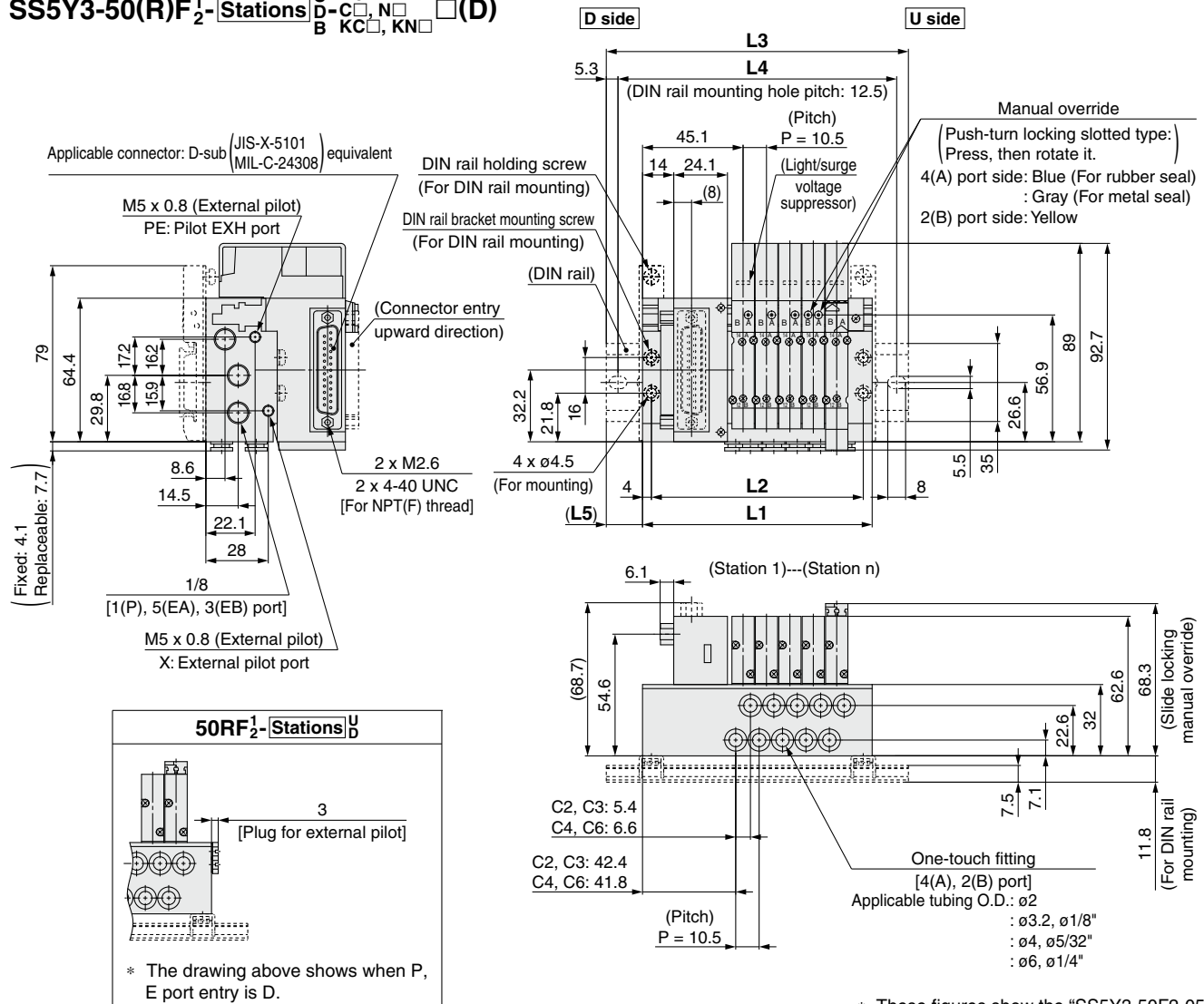
* For "K" and "H," the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance, etc.
* **When ordering a valve individually, the base gasket is not included.**
Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance. Refer to page 266 for base gasket and mounting screw part numbers.
* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly, interface regulator, or double check spacer assembly with residual pressure release valve.

Dimensions: **SY3000 Series**

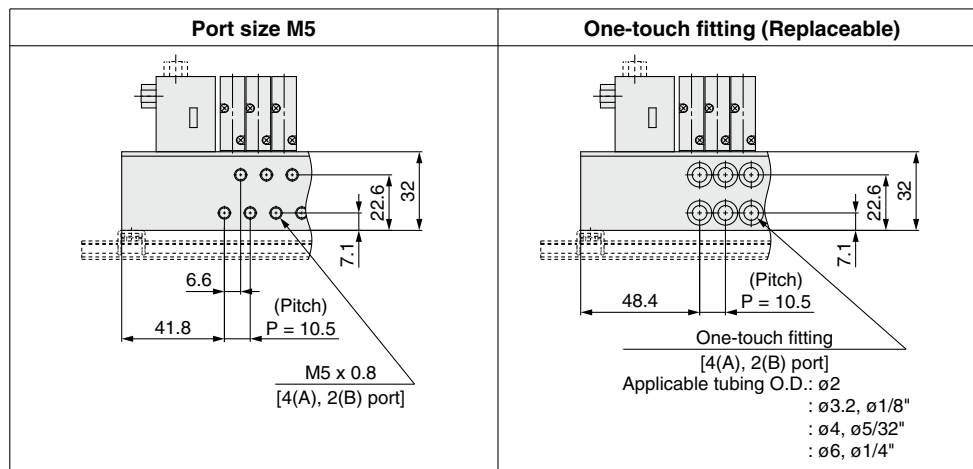
**Plug-in
Metal Base**

**Type 50/Side Ported
D-sub Connector**

SS5Y3-50(R)F₂¹-Stations $\begin{matrix} \text{U} \\ \text{D} \end{matrix}$ $\begin{matrix} \text{M5} \\ \text{C} \end{matrix}$ $\begin{matrix} \square \\ \text{N} \end{matrix}$ $\begin{matrix} \square \\ \text{D} \end{matrix}$



* 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 |

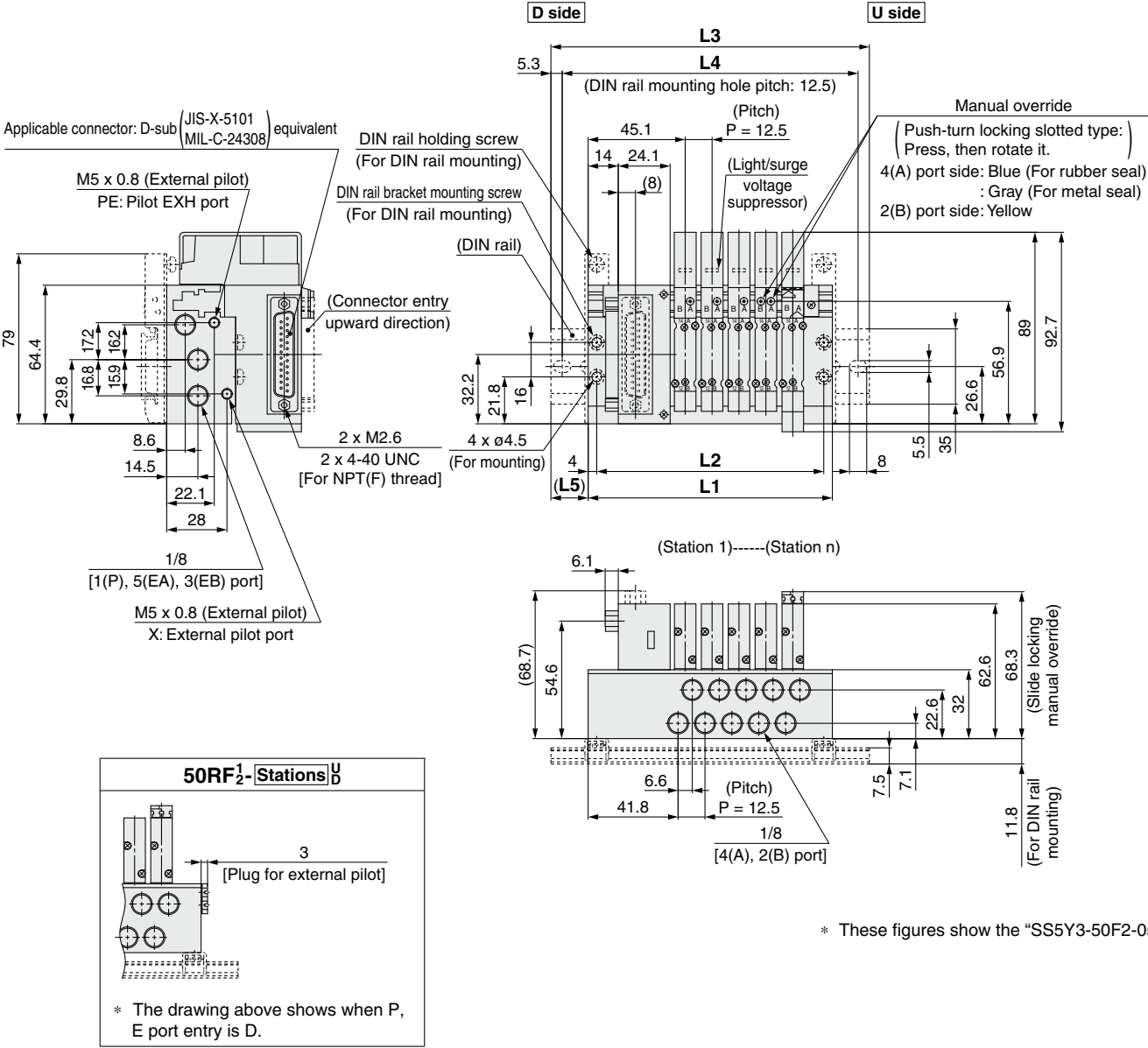
SY3000/5000/7000 Series

Dimensions: SY3000 Series

Plug-in
Metal Base

Type 50/Side Ported
D-sub Connector

SS5Y3-50(R)F₂¹-Stations_D^U-01□(D)



* These figures show the "SS5Y3-50F2-05B-01."

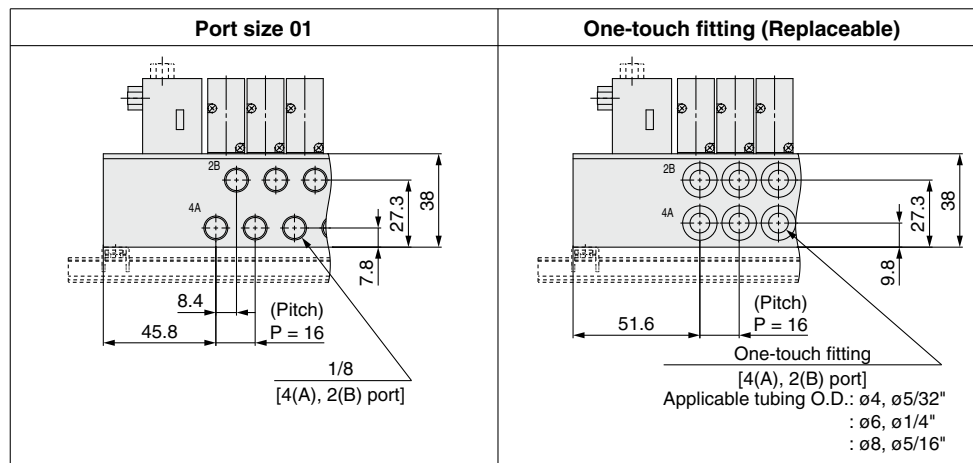
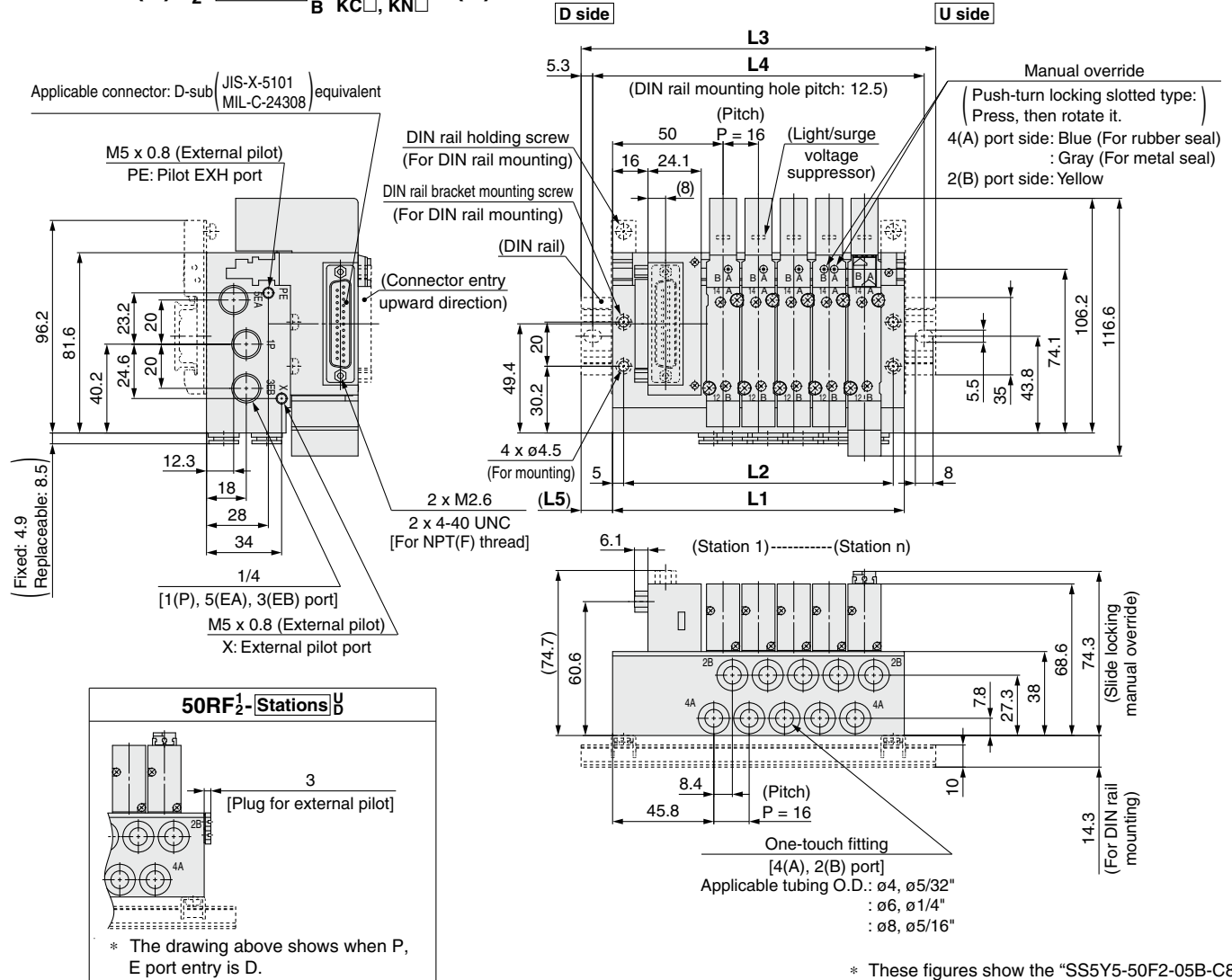
| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 76 | 88.5 | 101 | 113.5 | 126 | 138.5 | 151 | 163.5 | 176 | 188.5 | 201 |
| L2 | 68 | 80.5 | 93 | 105.5 | 118 | 130.5 | 143 | 155.5 | 168 | 180.5 | 193 |
| L3 | 110.5 | 123 | 135.5 | 148 | 160.5 | 173 | 185.5 | 198 | 210.5 | 223 | 235.5 |
| L4 | 100 | 112.5 | 125 | 137.5 | 150 | 162.5 | 175 | 187.5 | 200 | 212.5 | 225 |
| L5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 |

Dimensions: SY5000 Series

Plug-in
Metal Base

Type 50/Side Ported
D-sub Connector

SS5Y5-50(R)F₂¹-Stations $\begin{matrix} \text{U} & \text{01} \\ \text{D} & \text{C} \square, \text{N} \square \\ \text{B} & \text{KC} \square, \text{KN} \square \end{matrix}$ (D)



| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 84 | 100 | 116 | 132 | 148 | 164 | 180 | 196 | 212 | 228 | 244 |
| L2 | 74 | 90 | 106 | 122 | 138 | 154 | 170 | 186 | 202 | 218 | 234 |
| L3 | 110.5 | 135.5 | 148 | 160.5 | 173 | 198 | 210.5 | 223 | 248 | 260.5 | 273 |
| L4 | 100 | 125 | 137.5 | 150 | 162.5 | 187.5 | 200 | 212.5 | 237.5 | 250 | 262.5 |
| L5 | 13.5 | 18 | 16 | 14.5 | 12.5 | 17 | 15.5 | 13.5 | 18 | 16.5 | 14.5 |

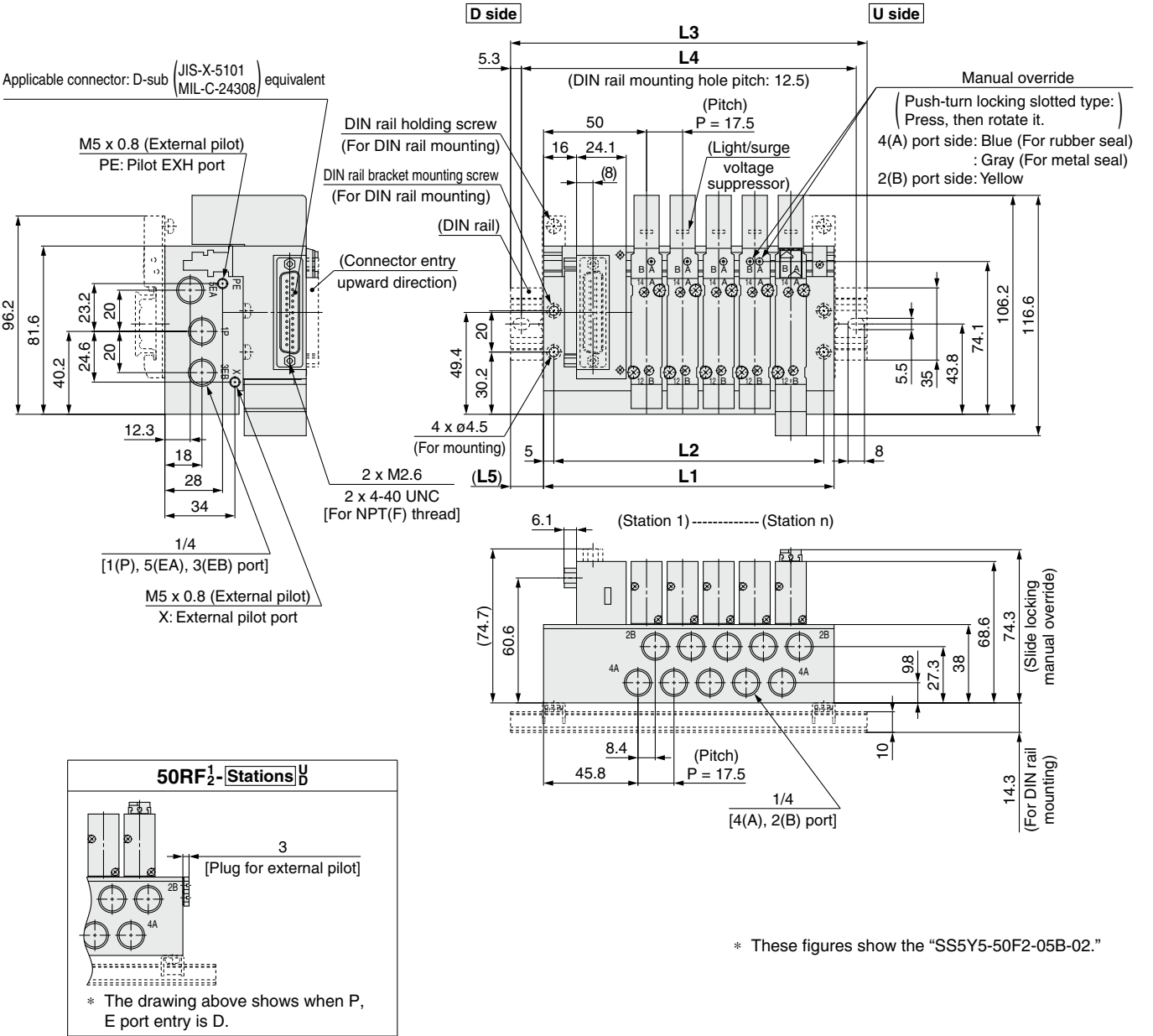
SY3000/5000/7000 Series

Dimensions: SY5000 Series

Plug-in
Metal Base

Type 50/Side Ported
D-sub Connector

SS5Y5-50(R)F₂-StationsUD-02(D)



* These figures show the "SS5Y5-50F2-05B-02."

| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 88.5 | 106 | 123.5 | 141 | 158.5 | 176 | 193.5 | 211 | 228.5 | 246 | 263.5 |
| L2 | 78.5 | 96 | 113.5 | 131 | 148.5 | 166 | 183.5 | 201 | 218.5 | 236 | 253.5 |
| L3 | 123 | 135.5 | 148 | 173 | 185.5 | 210.5 | 223 | 235.5 | 260.5 | 273 | 298 |
| L4 | 112.5 | 125 | 137.5 | 162.5 | 175 | 200 | 212.5 | 225 | 250 | 262.5 | 287.5 |
| L5 | 17.5 | 15 | 12.5 | 16 | 13.5 | 17.5 | 15 | 12.5 | 16 | 13.5 | 17.5 |

Dimensions: SY7000 Series

SS5Y7-50(R)F₂-Stations

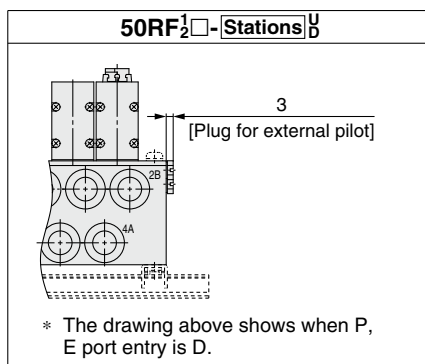
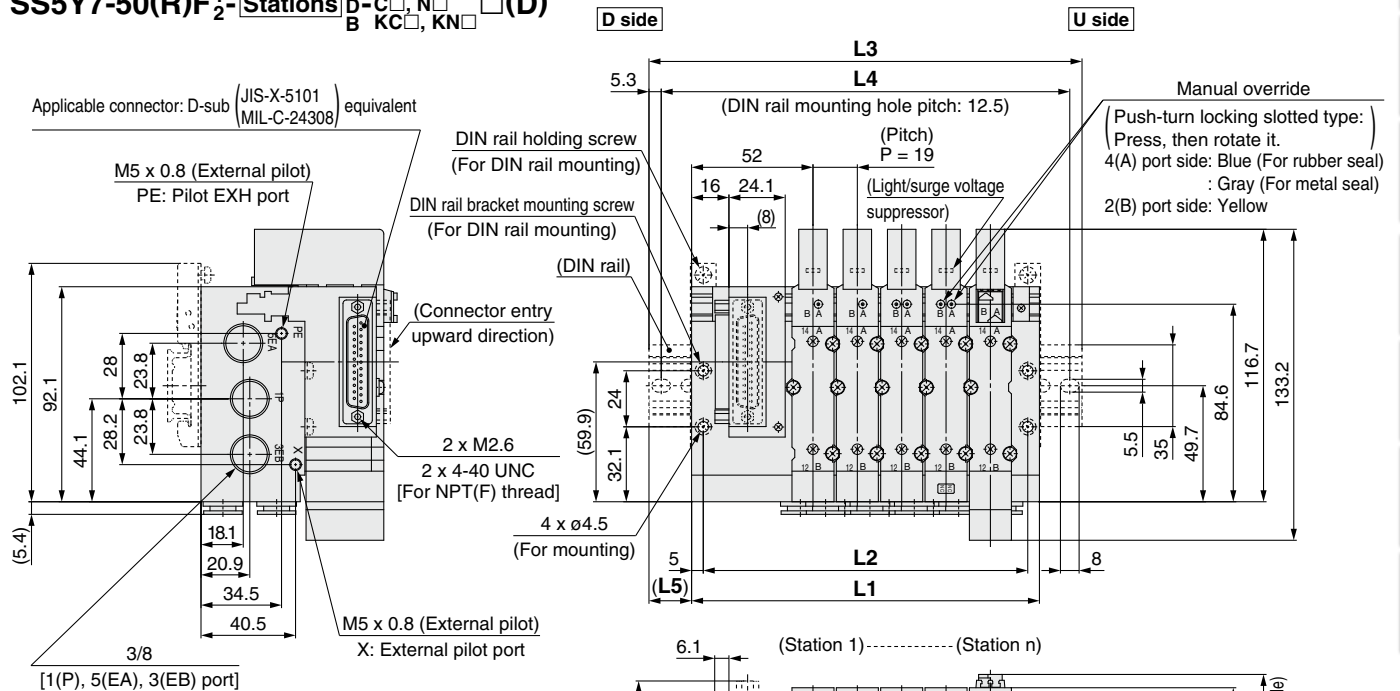
| | |
|-----|---|
| U | 02 |
| D-C | <input type="checkbox"/> N <input type="checkbox"/> |
| B | KC <input type="checkbox"/> KN <input type="checkbox"/> |

(D)

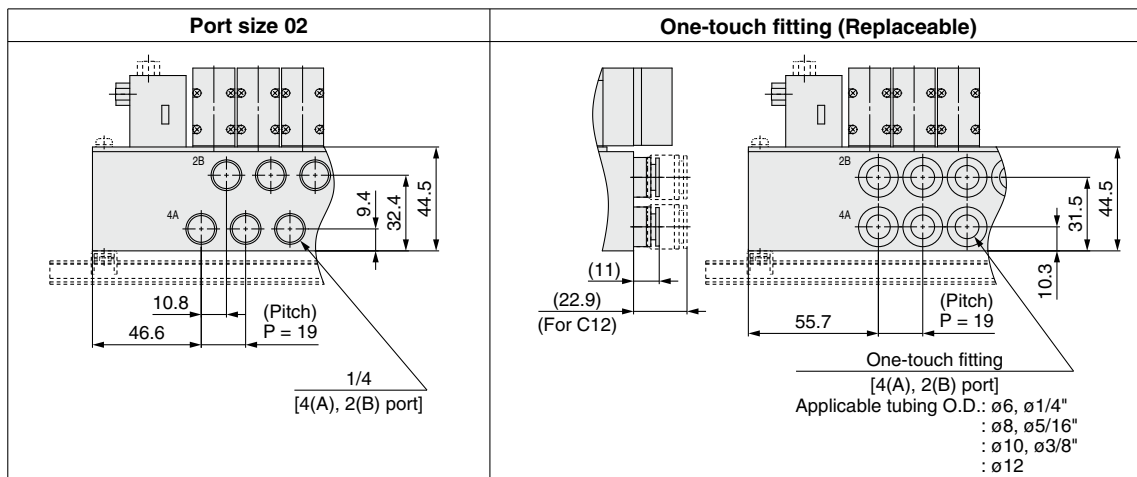
Plug-in Metal Base

Type 50/Side Ported

D-sub Connector



* These figures show the “SS5Y7-50F2-05B-C10.”



| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 92 | 111 | 130 | 149 | 168 | 187 | 206 | 225 | 244 | 263 | 282 |
| L2 | 82 | 101 | 120 | 139 | 158 | 177 | 196 | 215 | 234 | 253 | 272 |
| L3 | 123 | 148 | 160.5 | 185.5 | 198 | 223 | 235.5 | 260.5 | 273 | 298 | 310.5 |
| L4 | 112.5 | 137.5 | 150 | 175 | 187.5 | 212.5 | 225 | 250 | 262.5 | 287.5 | 300 |
| L5 | 15.5 | 18.5 | 15.5 | 18.5 | 15 | 18 | 15 | 18 | 14.5 | 17.5 | 14.5 |

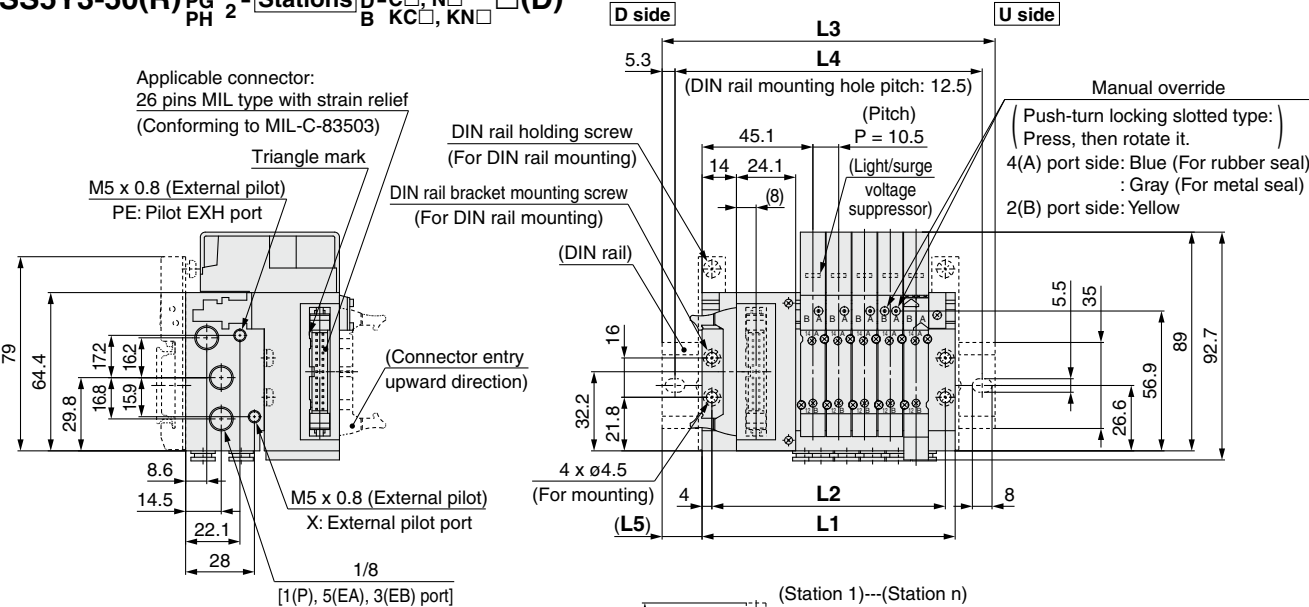
SY3000/5000/7000 Series

Dimensions: SY3000 Series

Plug-in
Metal Base

Type 50/Side Ported
Flat Ribbon Cable

SS5Y3-50(R) $\overset{P}{\underset{PH}{\square}} \frac{1}{2}$ - Stations $\overset{U}{\underset{B}{\square}} \overset{M5}{\underset{KC}{\square}}, \overset{N}{\square}, \overset{D}{\square}$



50PG (20 pins)

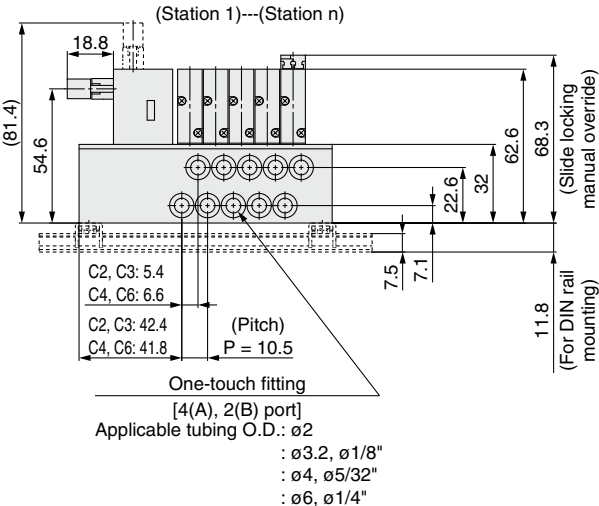
Triangle mark

Applicable connector:
20 pins MIL type with strain relief
(Conforming to MIL-C-83503)

50PH (10 pins)

Triangle mark

Applicable connector:
10 pins MIL type with strain relief
(Conforming to MIL-C-83503)



Port size M5

22.6

32

7.1

6.6

41.8

(Pitch)
P = 10.5

M5 x 0.8
[4(A), 2(B) port]

One-touch fitting (Replaceable)

22.6

32

7.1

48.4

(Pitch)
P = 10.5

One-touch fitting
[4(A), 2(B) port]
Applicable tubing O.D.: $\phi 2$
: $\phi 3.2, \phi 1/8"$
: $\phi 4, \phi 5/32"$
: $\phi 6, \phi 1/4"$

* These figures show the "SS5Y3-50P2-05B-C6."
* Only connectors are different for 50PG and 50PH.
L1 to L5 dimensions are the same as 50P type.

50RP $\frac{1}{2}$ - Stations $\overset{U}{\square}$

3

[Plug for external pilot]

* The drawing above shows when P, E port entry is D.

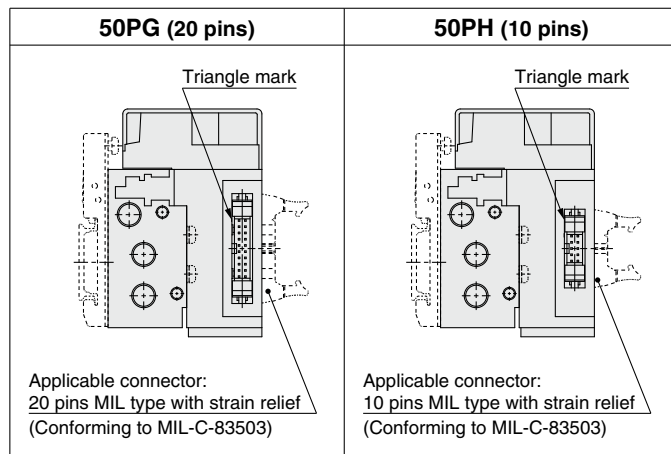
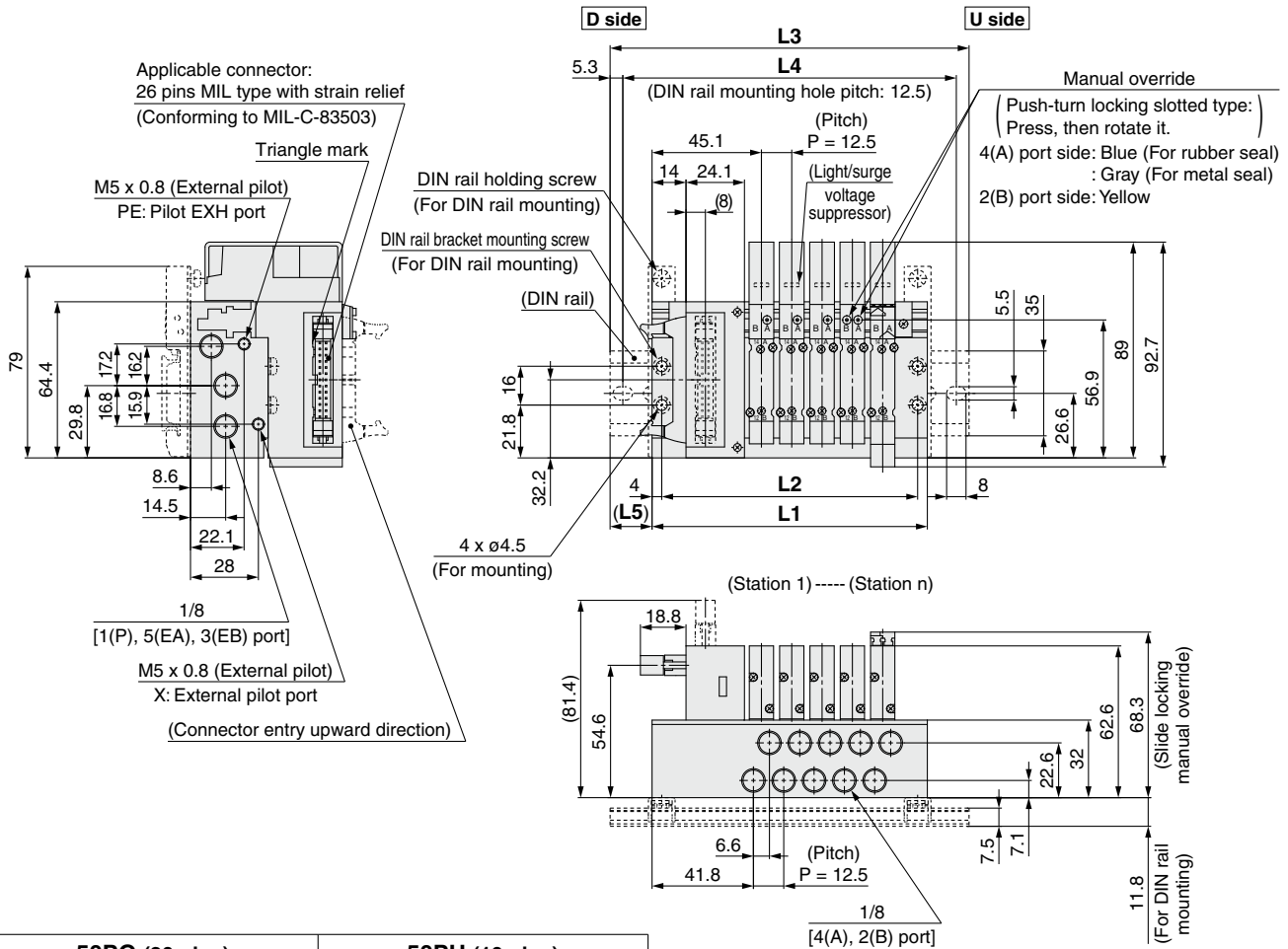
| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 71.5 | 82 | 92.5 | 103 | 113.5 | 124 | 134.5 | 145 | 155.5 | 166 | 176.5 |
| L2 | 63.5 | 74 | 84.5 | 95 | 105.5 | 116 | 126.5 | 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 |

Dimensions: SY3000 Series

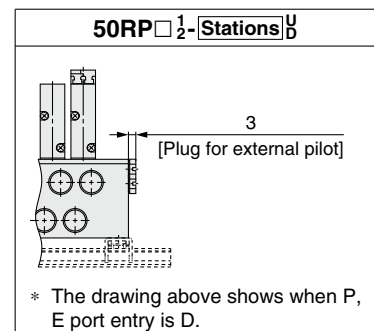
SS5Y3-50(R) $\frac{P}{PH} \frac{1}{2}$ - Stations $\frac{U}{B}$ -01 □ (D)

Plug-in
Metal Base

Type 50/Side Ported
Flat Ribbon Cable



* These figures show the "SS5Y3-50P2-05B-01."
* Only connectors are different for 50PG and 50PH.
L1 to L5 dimensions are the same as 50P type.



| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 76 | 88.5 | 101 | 113.5 | 126 | 138.5 | 151 | 163.5 | 176 | 188.5 | 201 |
| L2 | 68 | 80.5 | 93 | 105.5 | 118 | 130.5 | 143 | 155.5 | 168 | 180.5 | 193 |
| L3 | 110.5 | 123 | 135.5 | 148 | 160.5 | 173 | 185.5 | 198 | 210.5 | 223 | 235.5 |
| L4 | 100 | 112.5 | 125 | 137.5 | 150 | 162.5 | 175 | 187.5 | 200 | 212.5 | 225 |
| L5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 |

SY3000/5000/7000 Series

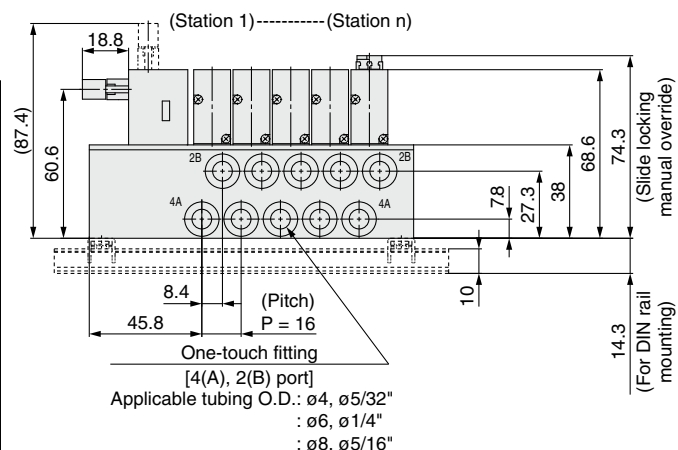
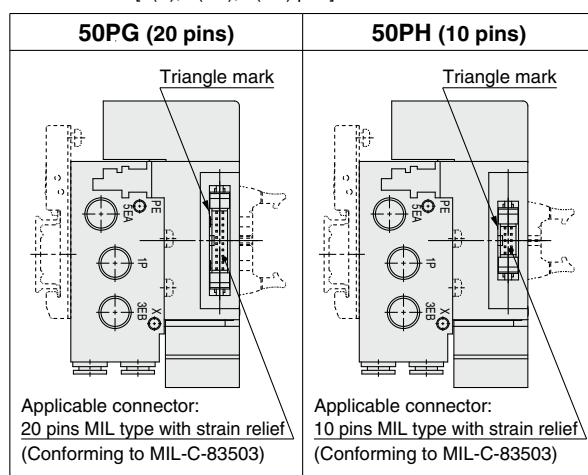
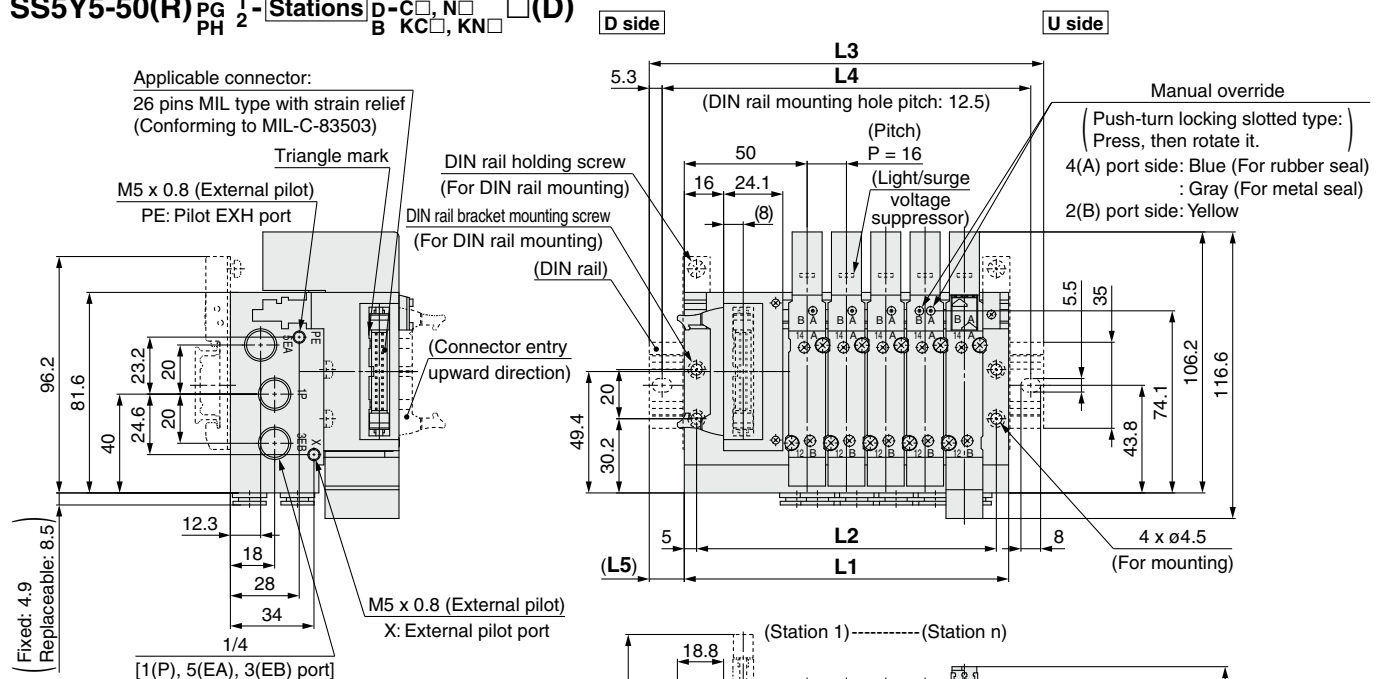
Dimensions: SY5000 Series

SS5Y5-50(R) ^PPG _{PH} 1 2 - **Stations** ^UD _B 01 C ☐, N ☐ ☐ (D)
KC ☐, KN ☐

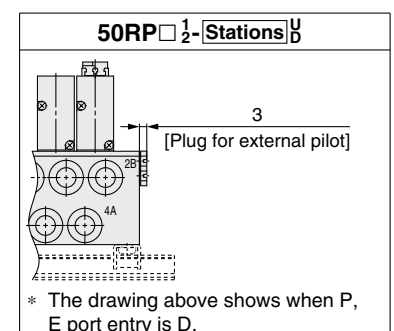
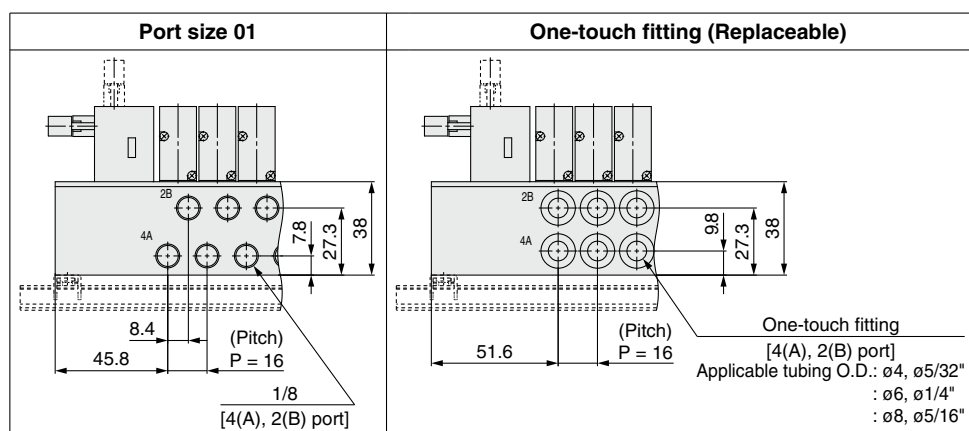
Plug-in Metal Base

Type 50/Side Ported

Flat Ribbon Cable



- * These figures show the “SS5Y5-50P2-05B-C8.”
- * Only connectors are different for 50PG and 50PH. L1 to L5 dimensions are the same as 50P type.



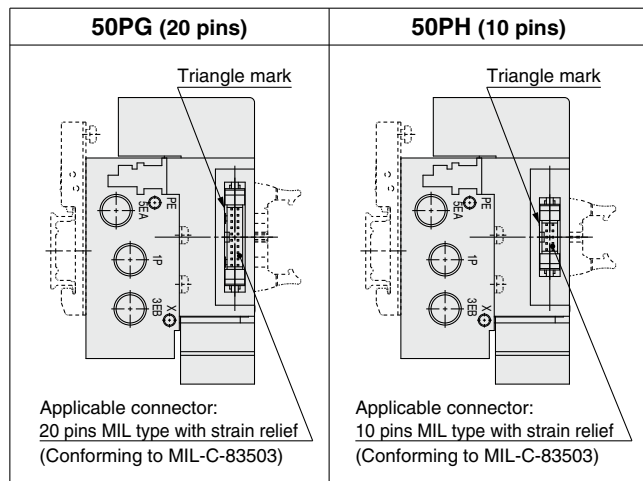
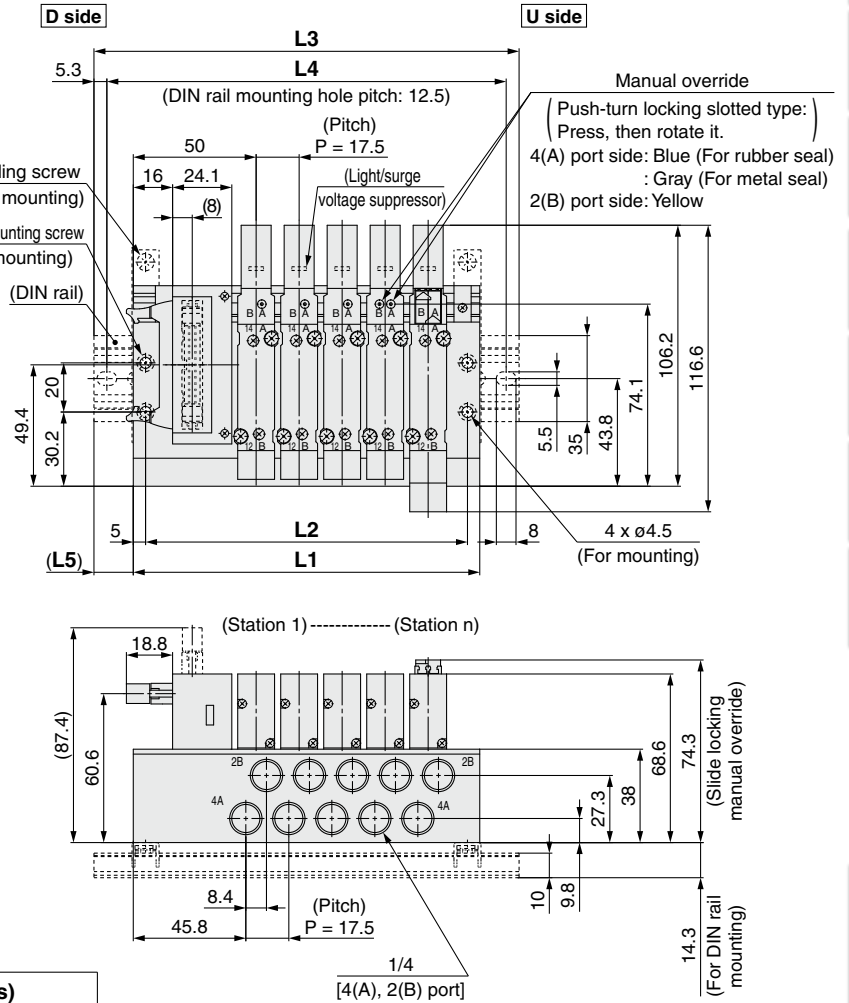
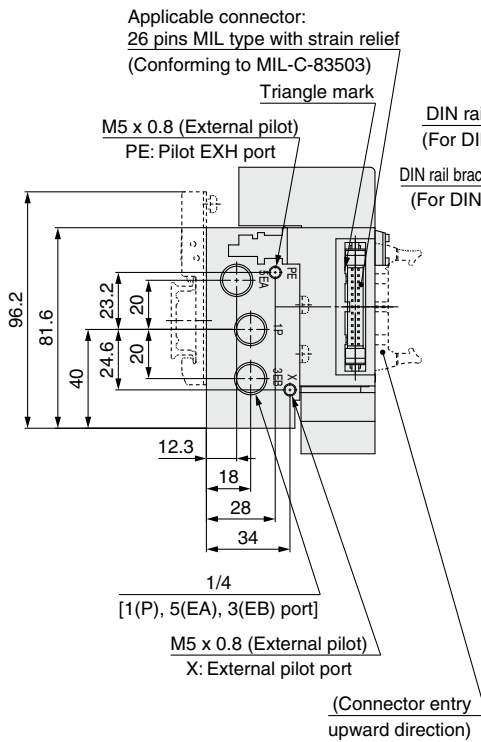
| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 84 | 100 | 116 | 132 | 148 | 164 | 180 | 196 | 212 | 228 | 244 |
| L2 | 74 | 90 | 106 | 122 | 138 | 154 | 170 | 186 | 202 | 218 | 234 |
| L3 | 110.5 | 135.5 | 148 | 160.5 | 173 | 198 | 210.5 | 223 | 248 | 260.5 | 273 |
| L4 | 100 | 125 | 137.5 | 150 | 162.5 | 187.5 | 200 | 212.5 | 237.5 | 250 | 262.5 |
| L5 | 13.5 | 18 | 16 | 14.5 | 12.5 | 17 | 15.5 | 13.5 | 18 | 16.5 | 14.5 |

Dimensions: SY5000 Series

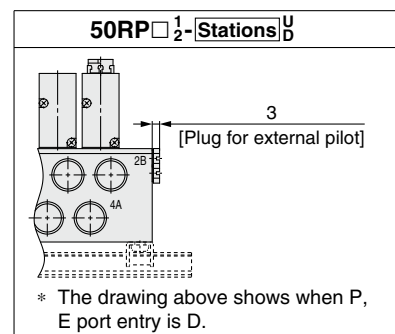
SS5Y5-50(R) $\frac{P}{PH} \frac{1}{2}$ - Stations $\frac{U}{B}$ - 02 (D)

Plug-in
Metal Base

Type 50/Side Ported
Flat Ribbon Cable



* These figures show the "SS5Y5-50P2-05B-02."
* Only connectors are different for 50PG and 50PH.
L1 to L5 dimensions are the same as 50P type.



| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 88.5 | 106 | 123.5 | 141 | 158.5 | 176 | 193.5 | 211 | 228.5 | 246 | 263.5 |
| L2 | 78.5 | 96 | 113.5 | 131 | 148.5 | 166 | 183.5 | 201 | 218.5 | 236 | 253.5 |
| L3 | 123 | 135.5 | 148 | 173 | 185.5 | 210.5 | 223 | 235.5 | 260.5 | 273 | 298 |
| L4 | 112.5 | 125 | 137.5 | 162.5 | 175 | 200 | 212.5 | 225 | 250 | 262.5 | 287.5 |
| L5 | 17.5 | 15 | 12.5 | 16 | 13.5 | 17.5 | 15 | 12.5 | 16 | 13.5 | 17.5 |

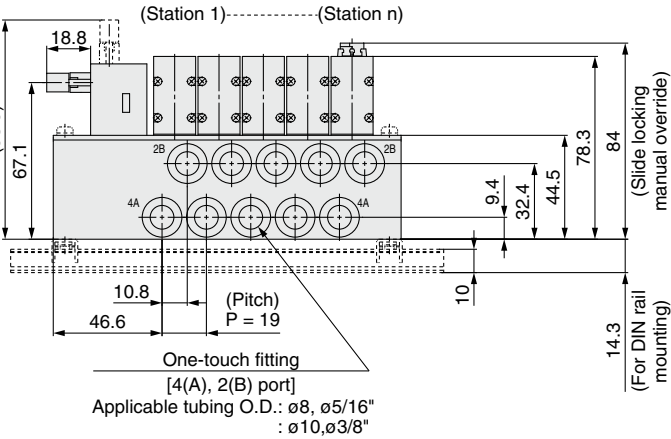
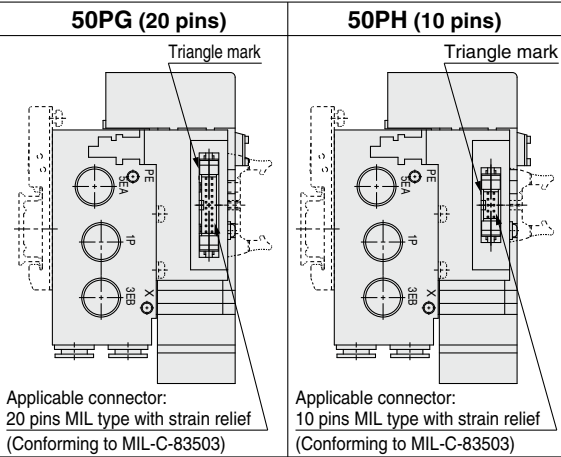
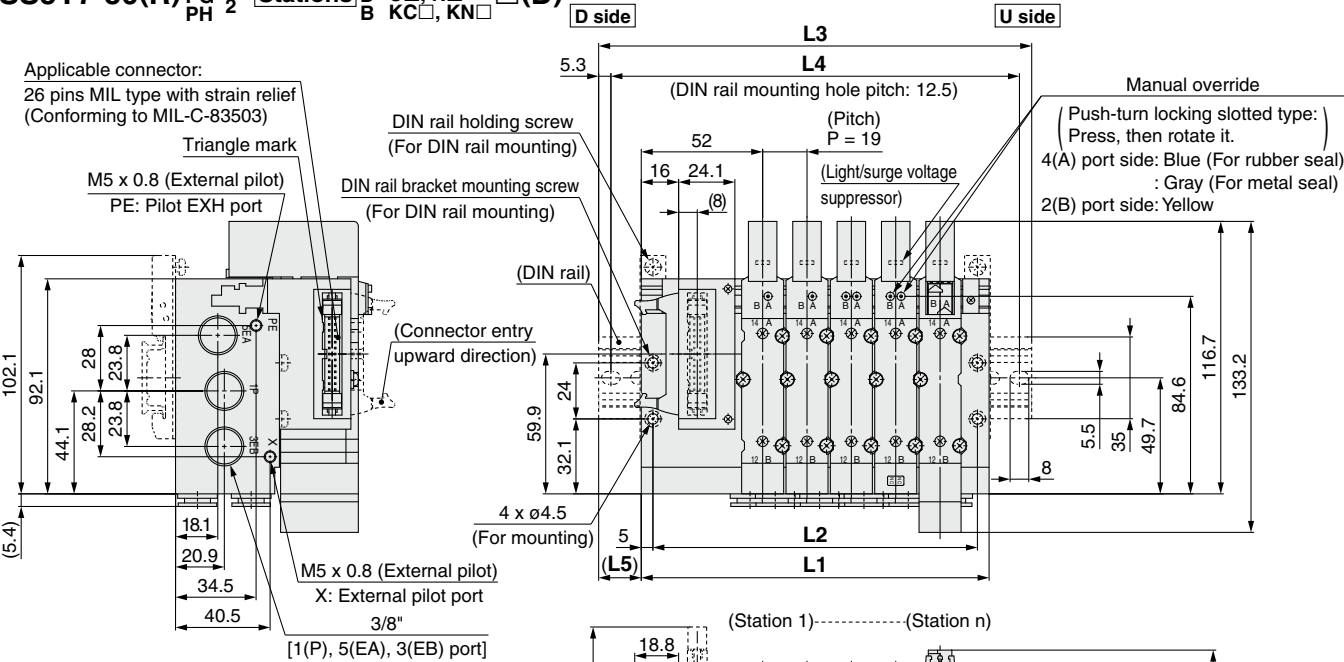
SY3000/5000/7000 Series

Plug-in
Metal Base

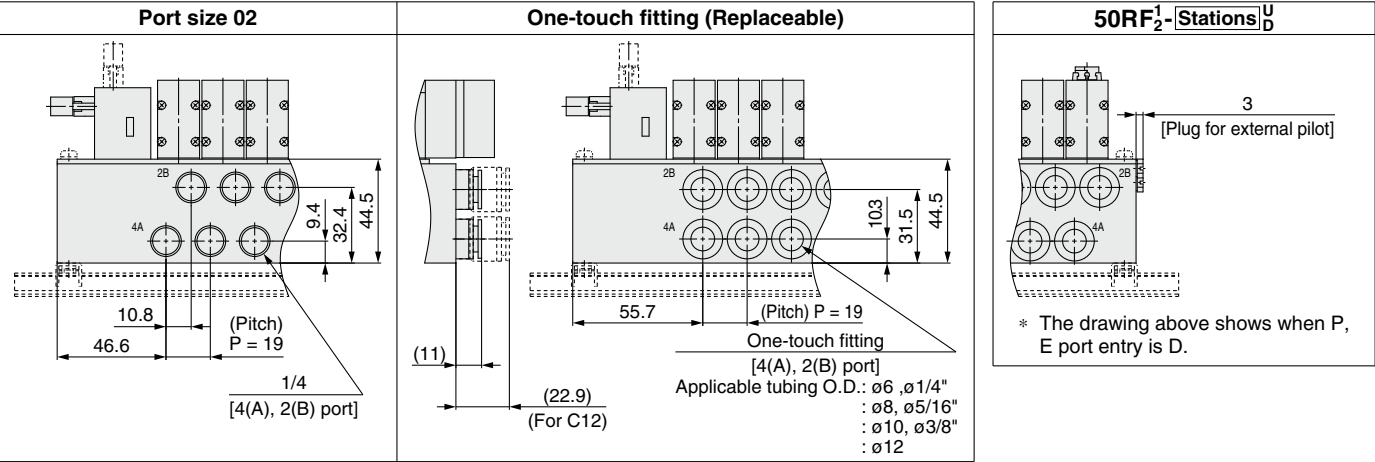
Type 50/Side Ported
Flat Ribbon Cable

Dimensions: SY7000 Series

SS5Y7-50(R) ^P_{PG} ¹₂ - Stations ^U_D ⁰²_C [□]_N [□]_D
^{PH}₂ ^B_{KC} [□]_{KN}



* These figures show the "SS5Y7-50P2-05B-C10."



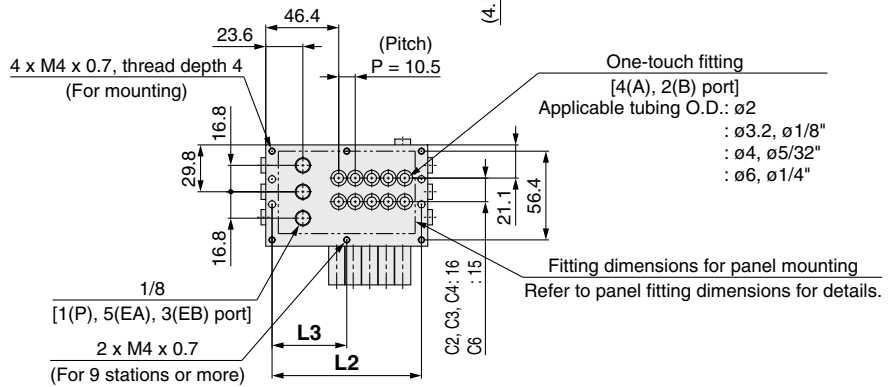
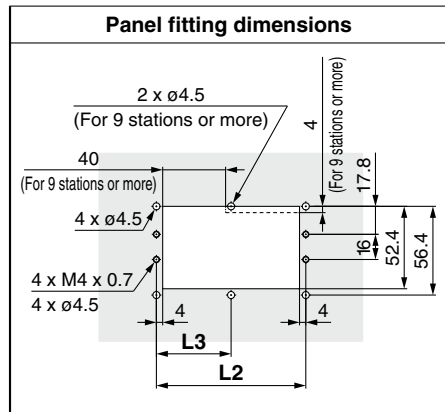
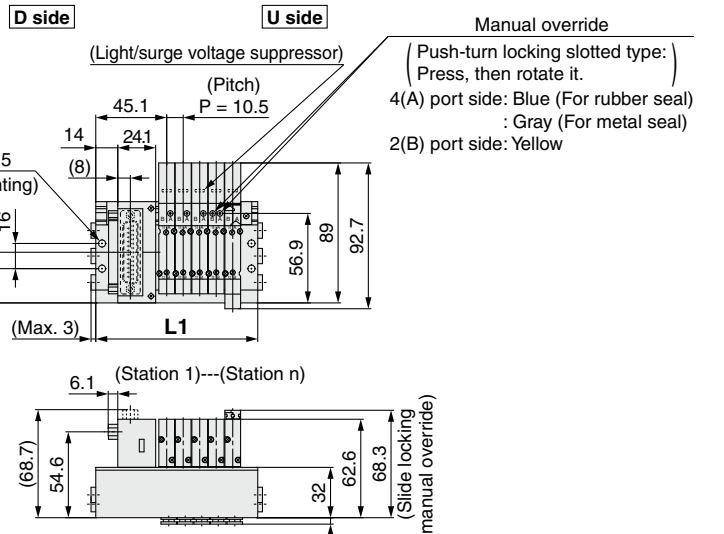
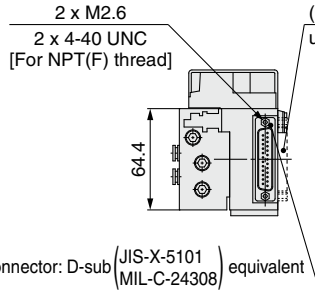
| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 92 | 111 | 130 | 149 | 168 | 187 | 206 | 225 | 244 | 263 | 282 |
| L2 | 82 | 101 | 120 | 139 | 158 | 177 | 196 | 215 | 234 | 253 | 272 |
| L3 | 123 | 148 | 160.5 | 185.5 | 198 | 223 | 235.5 | 260.5 | 273 | 298 | 310.5 |
| L4 | 112.5 | 137.5 | 150 | 175 | 187.5 | 212.5 | 225 | 250 | 262.5 | 287.5 | 300 |
| L5 | 15.5 | 18.5 | 15.5 | 18.5 | 15 | 18 | 15 | 18 | 14.5 | 17.5 | 14.5 |

Dimensions: **SY3000 Series**

**Plug-in
Metal Base**

**Type 51/Bottom Ported
D-sub Connector**

SS5Y3-51F₂- Stations **D-** ☐ M5, ☐ 01
☐ C, ☐ N, ☐ KC, ☐ KN ☐



| Port size M5 | Port size 01 | One-touch fitting (Replaceable) |
|--------------|--------------|---------------------------------|
| | | |

* These figures show the "SS5Y3-51F2-05D-C6."

Port Sizes M5, C, N, KC, KN

| 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 | — | — | — | — | — | — | — | 68.5 | 73.8 | 79 | 84.3 |

Port Size 01

| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------------|----|------|-----|-------|-----|-------|-----|-------|-----|-------|------|
| L1 | 76 | 88.5 | 101 | 113.5 | 126 | 138.5 | 151 | 163.5 | 176 | 188.5 | 201 |
| L2 | 68 | 80.5 | 93 | 105.5 | 118 | 130.5 | 143 | 155.5 | 168 | 180.5 | 193 |
| L3 | — | — | — | — | — | — | — | 77.8 | 84 | 90.3 | 96.5 |

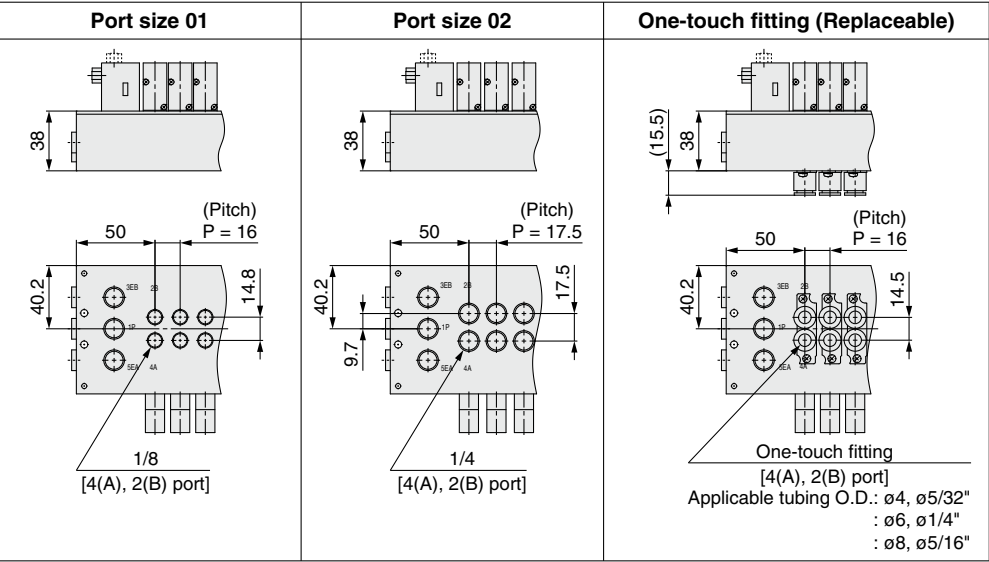
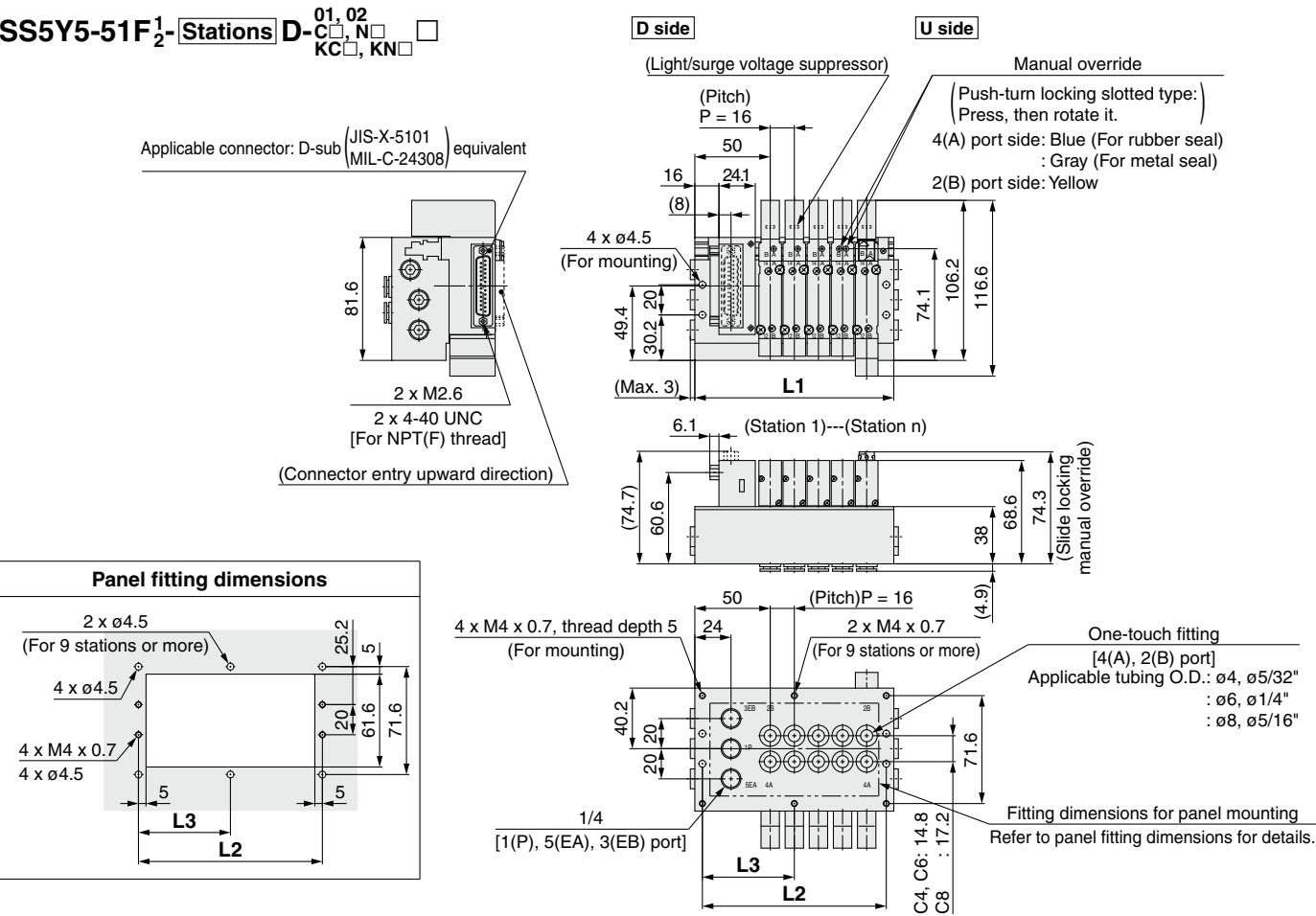
SY3000/5000/7000 Series

Dimensions: SY5000 Series

SS5Y5-51F₂- Stations D-^{01, 02}
C□, N□
KC□, KN□

Plug-in
Metal Base

Type 51/Bottom Ported
D-sub Connector



* These figures show the "SS5Y5-51F2-05D-C8."

Port Sizes 01, C□, N□, KC□, KN□

| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| L1 | 84 | 100 | 116 | 132 | 148 | 164 | 180 | 196 | 212 | 228 | 244 |
| L2 | 74 | 90 | 106 | 122 | 138 | 154 | 170 | 186 | 202 | 218 | 234 |
| L3 | — | — | — | — | — | — | — | 93 | 101 | 109 | 117 |

Port Size 02

| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------------|------|-----|-------|-----|-------|-----|-------|-------|-------|-----|-------|
| L1 | 88.5 | 106 | 123.5 | 141 | 158.5 | 176 | 193.5 | 211 | 228.5 | 246 | 263.5 |
| L2 | 78.5 | 96 | 113.5 | 131 | 148.5 | 166 | 183.5 | 201 | 218.5 | 236 | 253.5 |
| L3 | — | — | — | — | — | — | — | 100.5 | 109.3 | 118 | 126.8 |



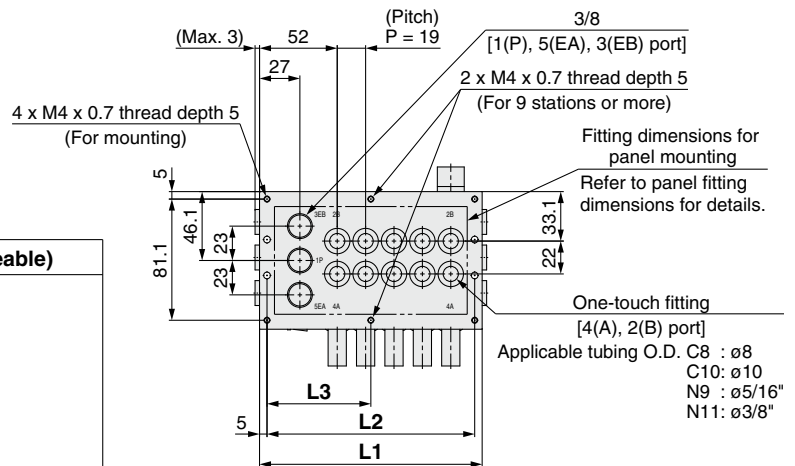
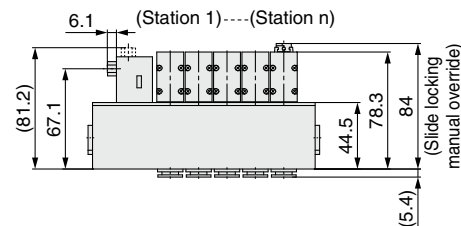
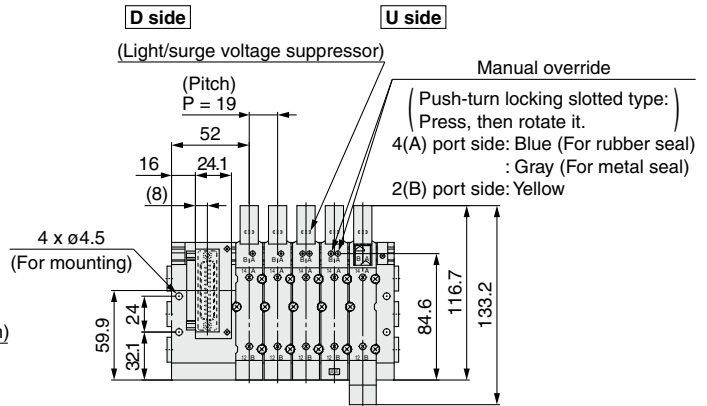
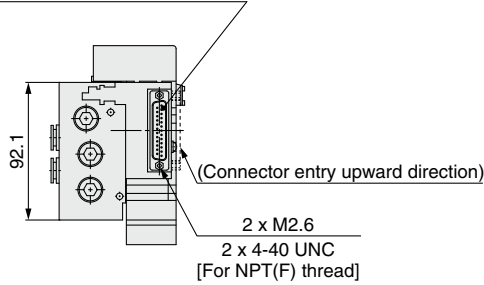
Dimensions: SY7000 Series

SS5Y7-51F₂¹-Stations D-⁰²C□, N□ □(D)
KC□, KN□

Plug-in
Metal Base

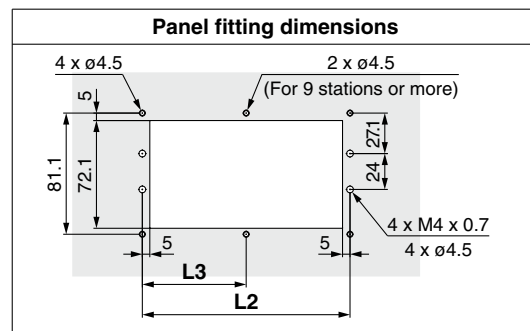
Type 51/Bottom Ported
D-sub Connector

Applicable connector: D-sub (JIS-X-5101 MIL-C-24308) equivalent



* These figures show the "SS5Y7-51F2-05D-C10."

| Port size 02 | One-touch fitting (Replaceable) |
|--------------|--|
| | |
| | <p>One-touch fitting [4(A), 2(B) port] Applicable tubing O.D.: ø6, ø1/4" : ø8, ø5/16" : ø10, ø3/8" : ø12</p> |



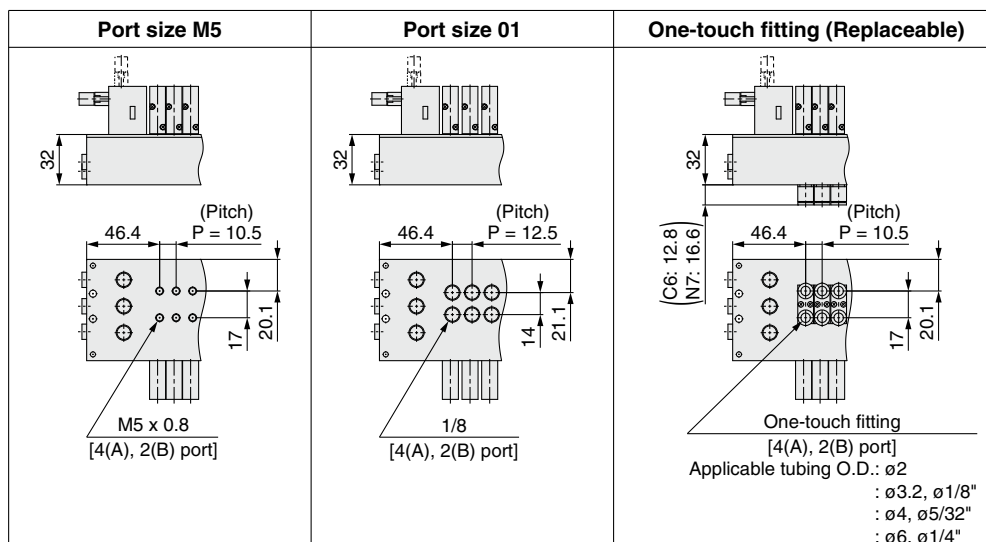
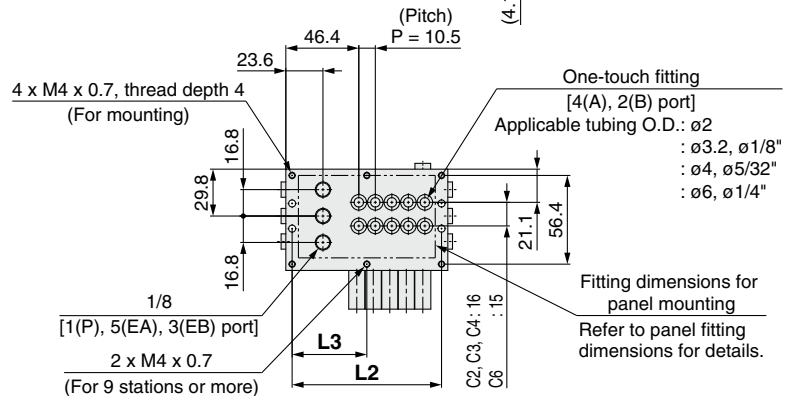
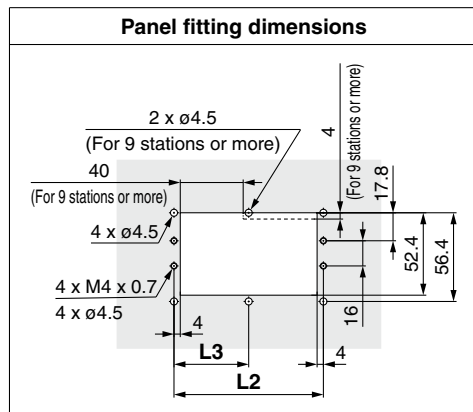
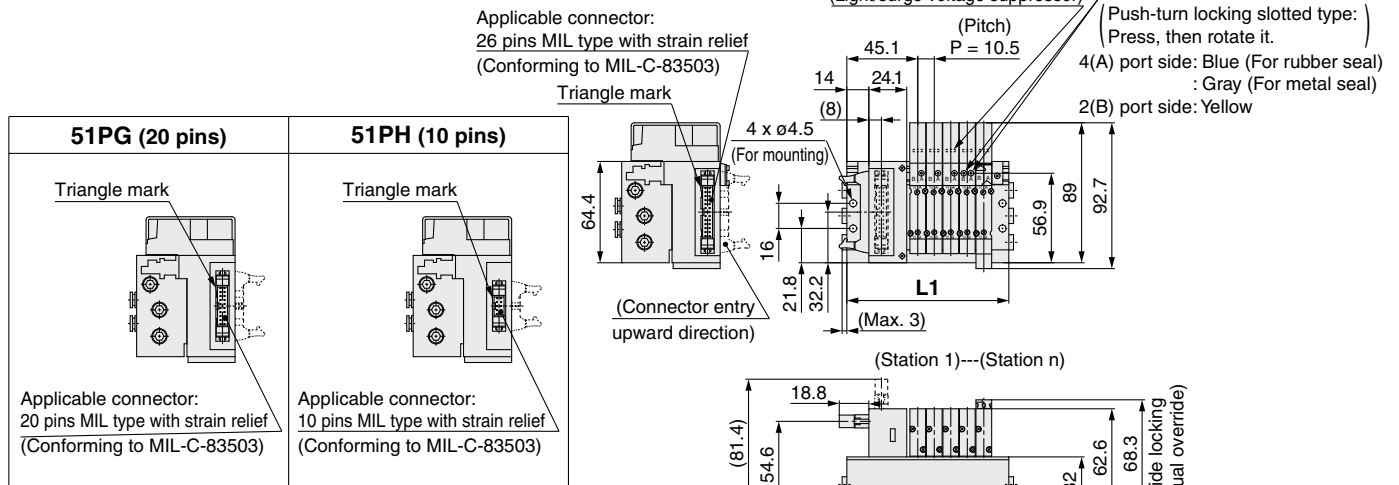
| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------------|----|-----|-----|-----|-----|-----|-----|-------|-----|-------|-----|
| L1 | 92 | 111 | 130 | 149 | 168 | 187 | 206 | 225 | 244 | 263 | 282 |
| L2 | 82 | 101 | 120 | 139 | 158 | 177 | 196 | 215 | 234 | 253 | 272 |
| L3 | — | — | — | — | — | — | — | 107.5 | 117 | 126.5 | 136 |

SY3000/5000/7000 Series

Dimensions: SY3000 Series

| | |
|-------------------------------|------------------------------|
| Plug-in Metal Base | Type 51/Bottom Ported |
| | Flat Ribbon Cable |

SS5Y3-51 ^PPG 1 - Stations D- ^{M5, 01}C□, N□ ^{KC□, KN□}



* These figures show the "SS5Y3-51P2-05D-C6."

Port Sizes M5, C□, N□, KC□, KN□

| 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 | — | — | — | — | — | — | — | 68.5 | 73.8 | 79 | 84.3 |

Port Size 01

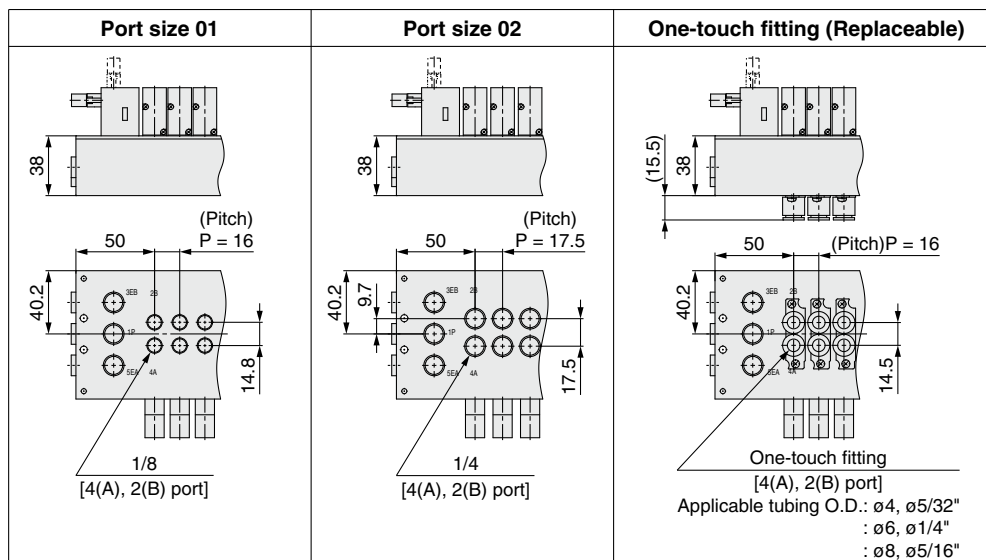
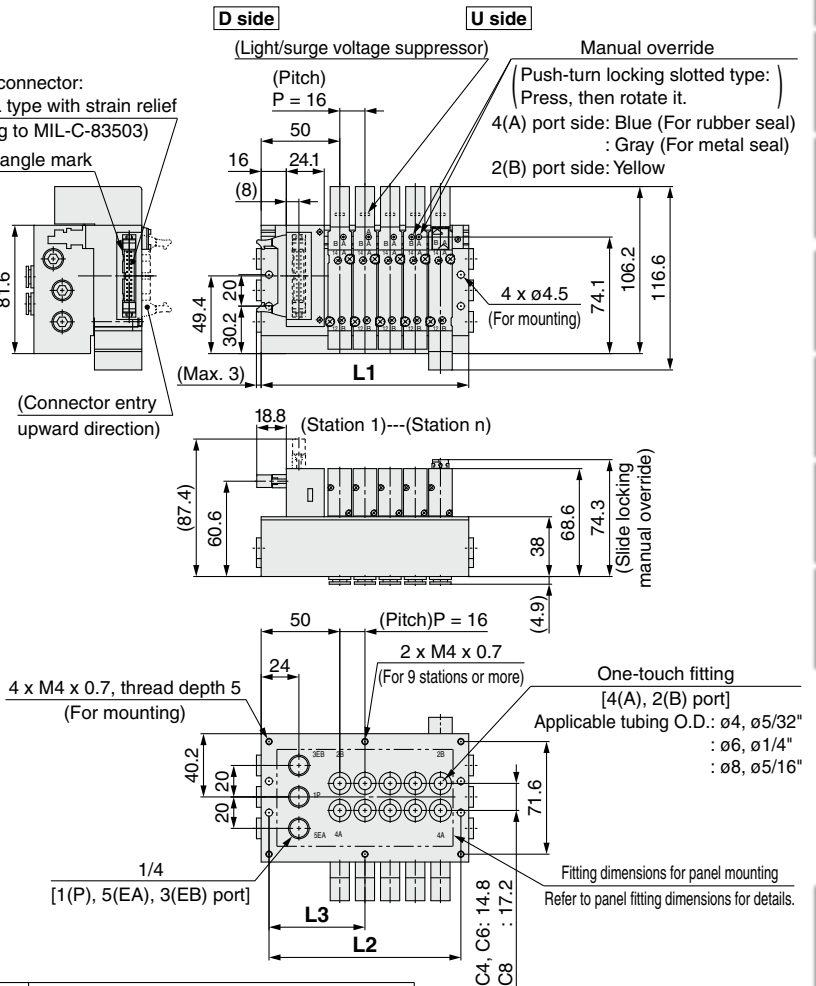
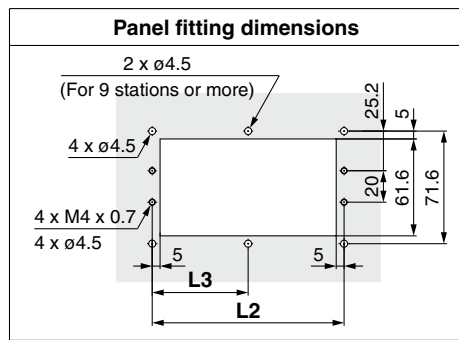
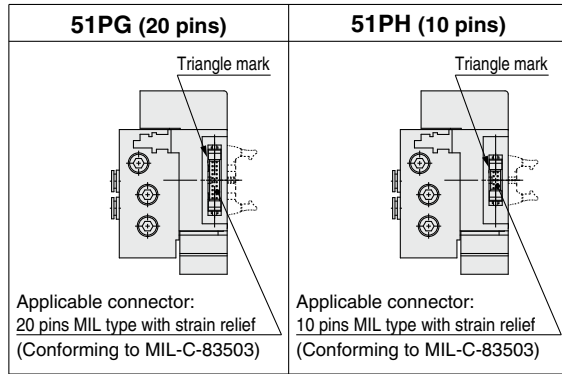
| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------------|----|------|-----|-------|-----|-------|-----|-------|-----|-------|------|
| L1 | 76 | 88.5 | 101 | 113.5 | 126 | 138.5 | 151 | 163.5 | 176 | 188.5 | 201 |
| L2 | 68 | 80.5 | 93 | 105.5 | 118 | 130.5 | 143 | 155.5 | 168 | 180.5 | 193 |
| L3 | — | — | — | — | — | — | — | 77.8 | 84 | 90.3 | 96.5 |

Dimensions: SY5000 Series

SS5Y5-51 ^PPG 1 2 - Stations D-C ^{01, 02} ^N ^{KN} ☐

Plug-in
Metal Base

Type 51/Bottom Ported
Flat Ribbon Cable



* These figures show the "SS5Y5-51P2-05D-C8."

Port Sizes 01, C ☐, N ☐, KC ☐, KN ☐

| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| L1 | 84 | 100 | 116 | 132 | 148 | 164 | 180 | 196 | 212 | 228 | 244 |
| L2 | 74 | 90 | 106 | 122 | 138 | 154 | 170 | 186 | 202 | 218 | 234 |
| L3 | — | — | — | — | — | — | — | 93 | 101 | 109 | 117 |

Port Size 02

| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------------|------|-----|-------|-----|-------|-----|-------|-------|-------|-----|-------|
| L1 | 88.5 | 106 | 123.5 | 141 | 158.5 | 176 | 193.5 | 211 | 228.5 | 246 | 263.5 |
| L2 | 78.5 | 96 | 113.5 | 131 | 148.5 | 166 | 183.5 | 201 | 218.5 | 236 | 253.5 |
| L3 | — | — | — | — | — | — | — | 100.5 | 109.3 | 118 | 126.8 |

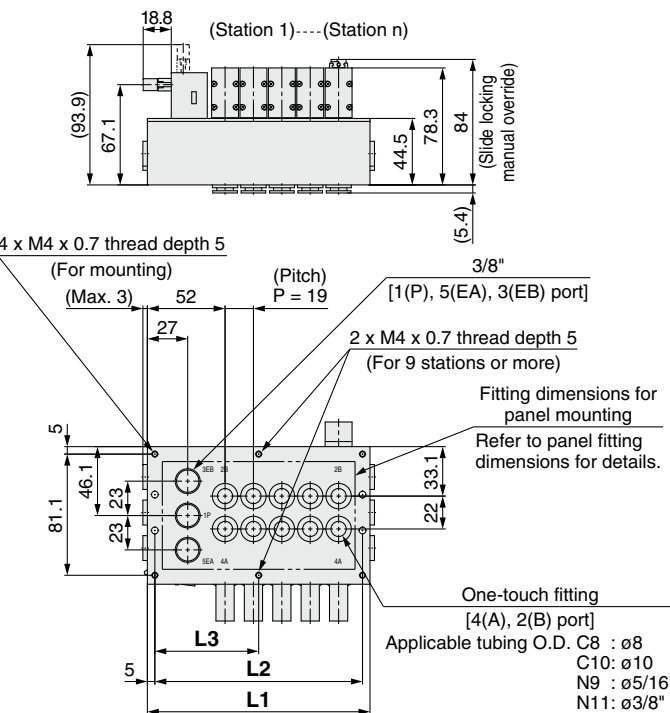
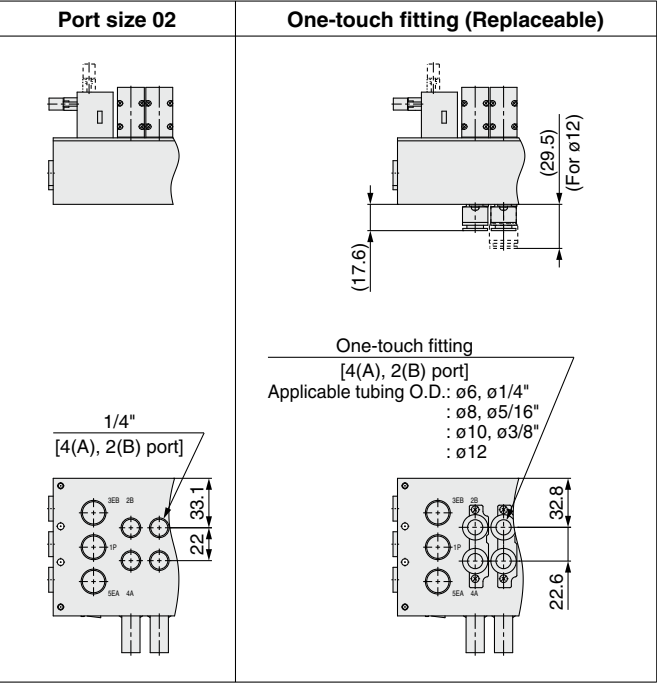
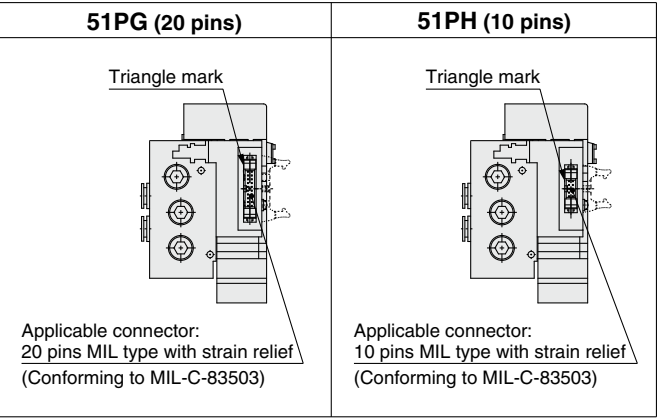
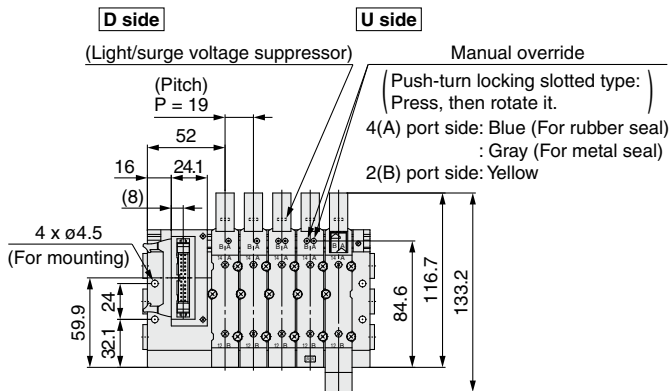
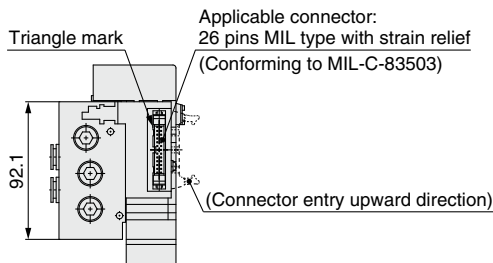
SY3000/5000/7000 Series

Dimensions: SY7000 Series

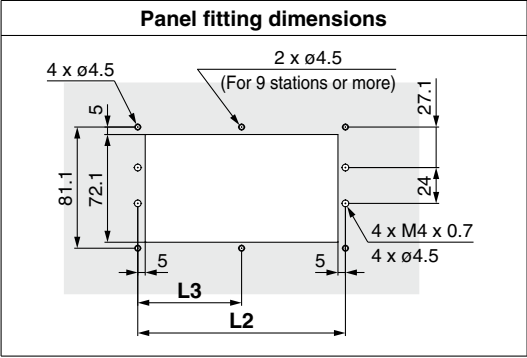
SS5Y7-51 ^PPG 1-2 ^{PH}Stations D- ⁰²C ^N ^{KN} (D)

Plug-in
Metal Base

Type 51/Bottom Ported
Flat Ribbon Cable



* These figures show the "SS5Y7-51P2-05D-C10."



| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------------|----|-----|-----|-----|-----|-----|-----|-------|-----|-------|-----|
| L1 | 92 | 111 | 130 | 149 | 168 | 187 | 206 | 225 | 244 | 263 | 282 |
| L2 | 82 | 101 | 120 | 139 | 158 | 177 | 196 | 215 | 234 | 253 | 272 |
| L3 | — | — | — | — | — | — | — | 107.5 | 117 | 126.5 | 136 |

| |
|--------------------------------------|
| Chart |
| Valve Specifications |
| Valve Construction |
| Valve Replacement Parts |
| With Residual Pressure Release Valve |
| Vacuum Release Valve with Restrictor |
| With Pressure Sensor |
| Made to Order |

| |
|-------------------------|
| Metal Base |
| D-sub, Flat Ribbon |
| EX510 |
| Manifold Exploded View |
| Fitting, Plug Part Nos. |
| Manifold Options |

| |
|------------------------------|
| Specific Product Precautions |
|------------------------------|

Plug-in Metal Base

D-sub Connector Flat Ribbon Cable

Type 52
Top Ported

SY3000/5000/7000 Series



How to Order Manifolds

SS5Y **3** - **52** **F** **1** - **05** **D** -

1 2 3 4 5 6 7 8 9

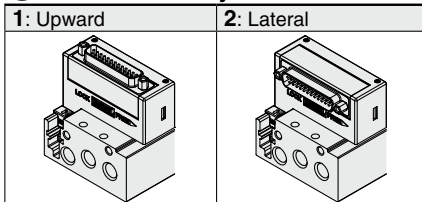
1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type

| | |
|-----|----------------------------|
| 52 | Top ported |
| 52R | Top ported, External pilot |

4 Connector entry direction



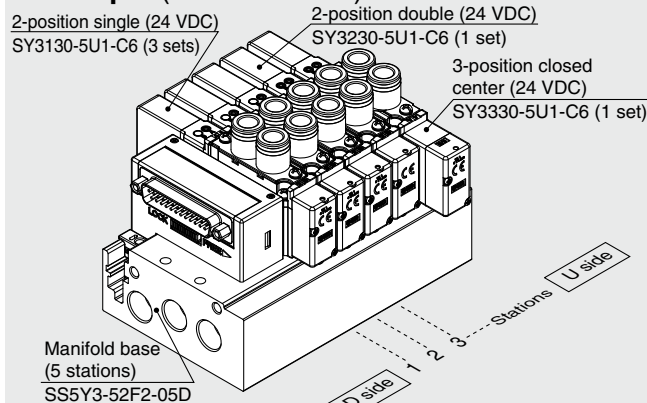
5 Wiring type

| | |
|-----|---------------------|
| Nil | All double wiring*1 |
| S | All single wiring*2 |

- *1 All double wiring: 2-position single, double, 3-position, and 4-position valves can be used on all manifold stations.
- *2 All single wiring: Available only for the manifold which has 2-position single for all stations.
Note that 2-position double, 3-, or 4-position valves cannot be used.
- * If a mix of single and double wiring is required, it is supplied as a special order.

How to Order Manifold Assembly

Example (SS5Y3-52F2-□)

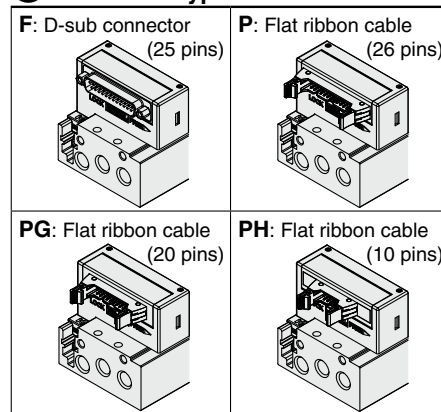


SS5Y3-52F2-05D 1 set (Type 52 5-station manifold base part no.)
 *SY3130-5U1-C6 3 sets (2-position single part no.)
 *SY3230-5U1-C6 1 set (2-position double part no.)
 *SY3330-5U1-C6 1 set (3-position closed center part no.)

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

- For the valve arrangement, the valve closest to the D side is considered the 1st station.
- Under the manifold part number, state the valves to be mounted in order starting with the 1st station as shown in the figure above. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.

3 Connector type



6 Valve stations

| F: D-sub connector (25 pins) | | | P: Flat ribbon cable (26 pins) | | |
|------------------------------|-------------|-------------------|--------------------------------|-------------|-------------------|
| Symbol | Stations | Note | Symbol | Stations | Note |
| 02 | 2 stations | All double wiring | 02 | 2 stations | All double wiring |
| 12 | 12 stations | All double wiring | 12 | 12 stations | All double wiring |
| 02 | 2 stations | All single wiring | 02 | 2 stations | All single wiring |
| 12 | 12 stations | All single wiring | 12 | 12 stations | All single wiring |

| PG: Flat ribbon cable (20 pins) | | | PH: Flat ribbon cable (10 pins) | | |
|---------------------------------|-------------|-------------------|---------------------------------|------------|-------------------|
| Symbol | Stations | Note | Symbol | Stations | Note |
| 02 | 2 stations | All double wiring | 02 | 2 stations | All double wiring |
| 09 | 9 stations | All double wiring | 04 | 4 stations | All double wiring |
| 02 | 2 stations | All single wiring | 02 | 2 stations | All single wiring |
| 12 | 12 stations | All single wiring | 08 | 8 stations | All single wiring |

* This also includes the number of the blanking plate assembly.

7 P, E port entry

| | |
|---|------------|
| U | U side*1 |
| D | D side*1 |
| B | Both sides |

*1 Plugs are mounted on the opposite side of the selected ports.

8 Thread type

| | |
|-----|------|
| Nil | Rc |
| 00F | G |
| 00N | NPT |
| 00T | NPTF |

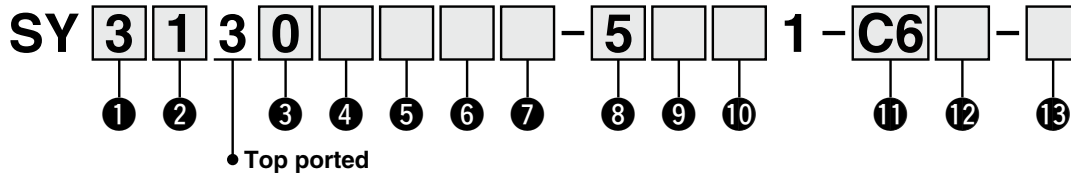
9 Mounting

| | |
|-----|--------------------------------------|
| Nil | Direct mounting |
| D | DIN rail mounting (With DIN rail) |
| D0 | DIN rail mounting (Without DIN rail) |
| D3 | For 3 stations |
| ⋮ | ⋮ |
| D12 | For 12 stations |

* Refer to page 295 for the fixation of DIN rail mounting type manifold.

How to Order Valves (With mounting screw)

Refer to page 15 for valve specifications.



1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type of actuation

| | | |
|-----|-----------------|-----------------|
| 1 | 2-position | Single |
| 2 | | Double |
| 3 | 3-position | Closed center |
| 4 | | Exhaust center |
| 5 | | Pressure center |
| A*1 | 4-position dual | N.C./N.C. |
| B*1 | | N.O./N.O. |
| C*1 | 3-port | N.C./N.O. |

*1 Only the 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 the rubber seal type is available.
* The back pressure check valve is not available for the 3-position type or the SY7000.

6 Pilot valve option

| | |
|-----|-------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K*1 | High pressure type (1.0 MPa) |

*1 Only the 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 if the valve is to be continuously energized for long periods of time.
* Be careful of the energizing time when the power saving circuit is selected. Refer to page 292 for details.

8 Rated voltage

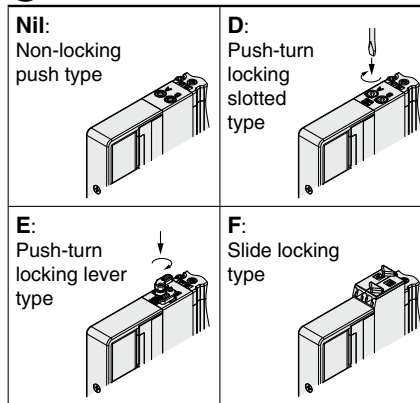
| | |
|---|--------|
| 5 | 24 VDC |
| 6 | 12 VDC |

9 Light/surge voltage suppressor and common specification

| Symbol | With light | Surge voltage suppressor | Common specification |
|--------|------------|--------------------------|----------------------|
| Nil | — | — | Non-polar |
| R | — | ● | |
| U | ● | | |
| S | — | | |
| Z | ● | | |
| NS | — | | |
| NZ | ● | | Positive common |
| | | | Negative common |

* For the non-polar type, be careful of surge voltage intrusion. Refer to page 293 for details.
* Only "Z" and "NZ" types are available with a power saving circuit.

10 Manual override



* Refer to page 34 for the safety slide locking manual override.

11 A, B port size

| Symbol | Port size | Applicable series |
|--------|-----------|-------------------|
| M5 | M5 x 0.8 | SY3000 |
| 01 | 1/8 | SY5000 |
| 02 | 1/4 | SY7000 |

One-touch fitting (Metric)

| Symbol | A, B port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| C2 | ø2 | ● | — | — |
| C3 | ø3.2 | ● | — | — |
| C4 | ø4 | ● | ● | — |
| C6 | ø6 | ● | ● | ● |
| C8 | ø8 | — | ● | ● |
| C10 | ø10 | — | — | ● |
| C12 | ø12 | — | — | ● |

One-touch fitting (Inch)

| Symbol | A, B port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| N1 | ø1/8" | ● | — | — |
| N3 | ø5/32" | ● | ● | — |
| N7 | ø1/4" | ● | ● | ● |
| N9 | ø5/16" | — | ● | ● |
| N11 | ø3/8" | — | — | ● |

12 Thread type

| | |
|-----|------|
| Nil | Rc |
| F | G |
| N | NPT |
| T | NPTF |

* Only Nil is available for M5.

13 Type of mounting screw

| | |
|-----|--|
| Nil | Round head combination screw |
| B | Hexagon socket head cap screw |
| K | Round head combination screw (Drop prevention type) |
| H | Hexagon socket head cap screw (Drop 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. Refer to page 266 for base gasket and mounting screw part numbers.
* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly or interface regulator.

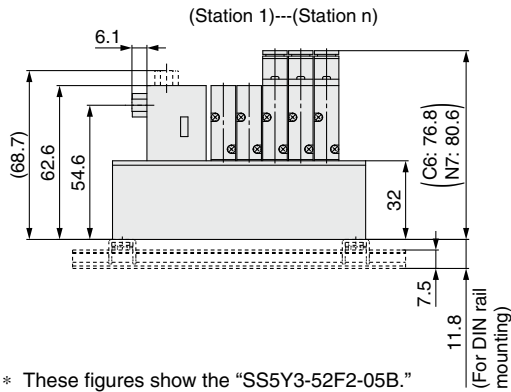
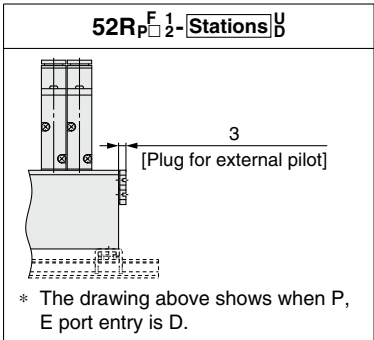
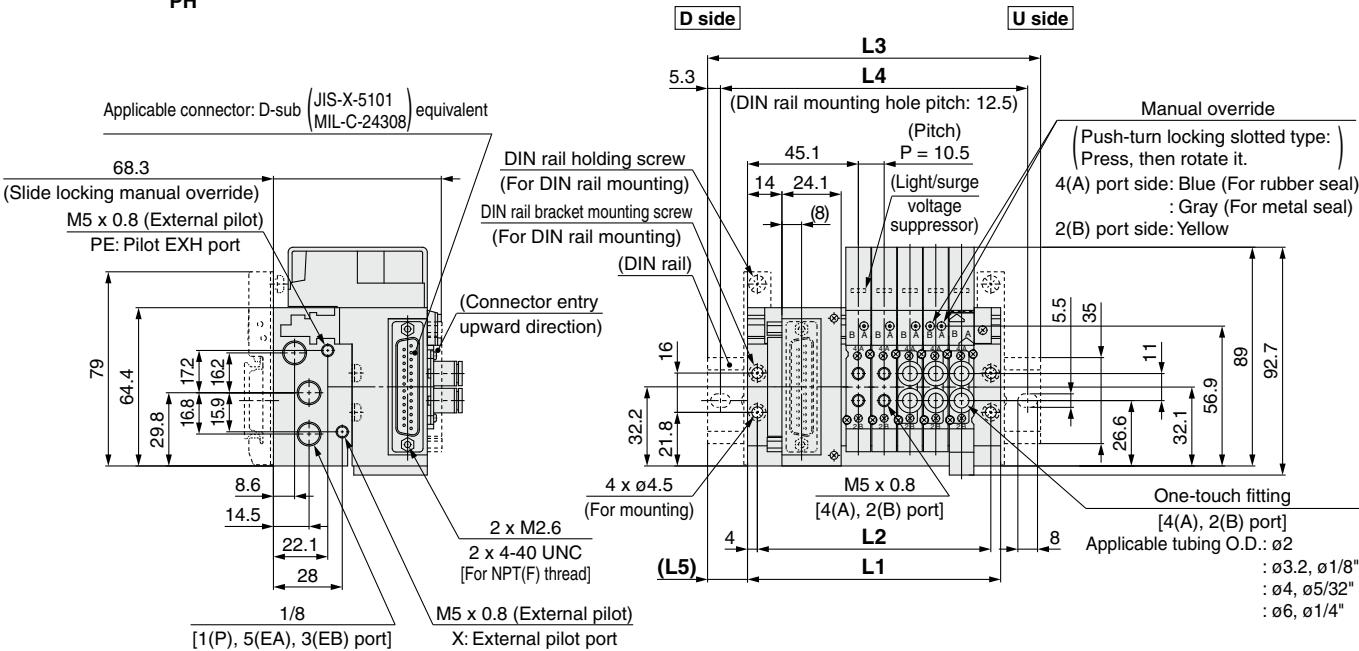
SY3000/5000/7000 Series

Dimensions: SY3000 Series

Plug-in
Metal Base

Type 52/Top Ported
D-sub Connector, Flat Ribbon Cable

SS5Y3-52(R)_{PG}^F_{PH} 1/2 - Stations_D^U - □(D)



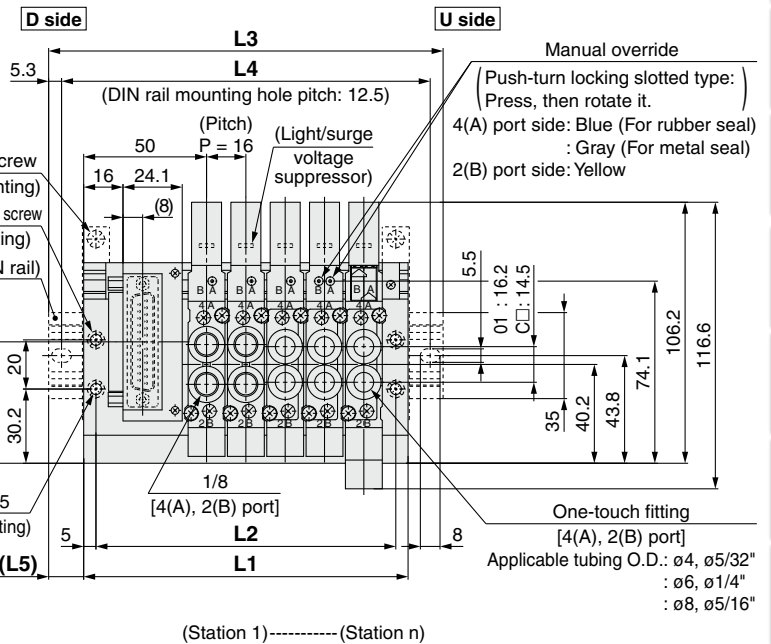
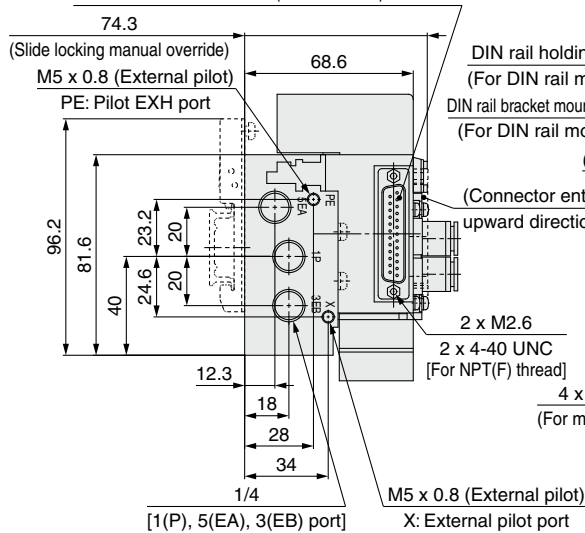
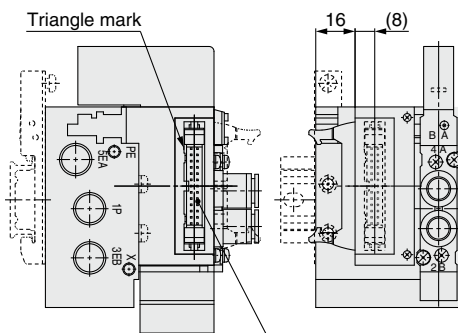
| | 52P (26 pins) | 52PG (20 pins) | 52PH (10 pins) |
|-----------------------|--|--|--|
| Triangle mark | | | |
| Applicable connector: | 26 pins MIL type with strain relief (Conforming to MIL-C-83503) | 20 pins MIL type with strain relief (Conforming to MIL-C-83503) | 10 pins MIL type with strain relief (Conforming to MIL-C-83503) |

| 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 |

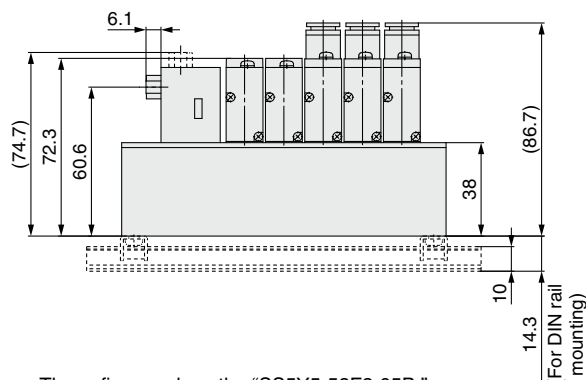
Dimensions: SY5000 Series

SS5Y5-52(R) $\begin{matrix} \text{F} \\ \text{P} \\ \text{PG} \\ \text{PH} \end{matrix}$ $\frac{1}{2}$ - Stations $\begin{matrix} \text{U} \\ \text{D} \\ \text{B} \end{matrix}$ - \square (D)

Applicable connector: D-sub (JIS-X-5101 / MIL-C-24308) equivalent

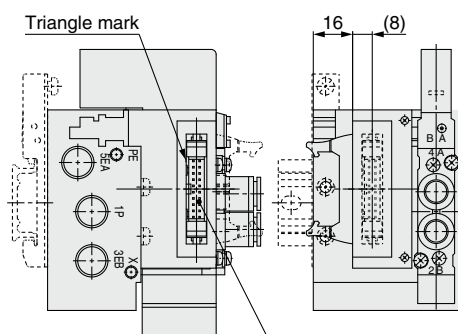
**52P (26 pins)**

Applicable connector:
26 pins MIL type with strain relief
(Conforming to MIL-C-83503)



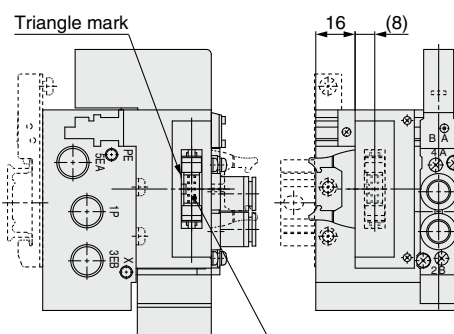
* These figures show the “SS5Y5-52F2-05B.”

52PG (20 pins)

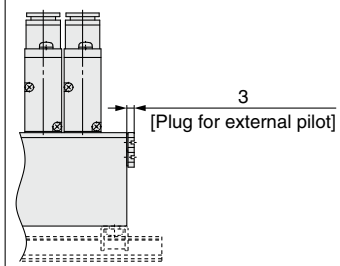


Applicable connector:
20 pins MIL type with strain relief
(Conforming to MIL-C-83503)

52PH (10 pins)



Applicable connector:
10 pins MIL type with strain relief
(Conforming to MIL-C-83503)

52R_P^F₂-Stations_{UD}

* The drawing above shows when P, E port entry is D.

| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 84 | 100 | 116 | 132 | 148 | 164 | 180 | 196 | 212 | 228 | 244 |
| L2 | 74 | 90 | 106 | 122 | 138 | 154 | 170 | 186 | 202 | 218 | 234 |
| L3 | 110.5 | 135.5 | 148 | 160.5 | 173 | 198 | 210.5 | 223 | 248 | 260.5 | 273 |
| L4 | 100 | 125 | 137.5 | 150 | 162.5 | 187.5 | 200 | 212.5 | 237.5 | 250 | 262.5 |
| L5 | 13.5 | 18 | 16 | 14.5 | 12.5 | 17 | 15.5 | 13.5 | 18 | 16.5 | 14.5 |

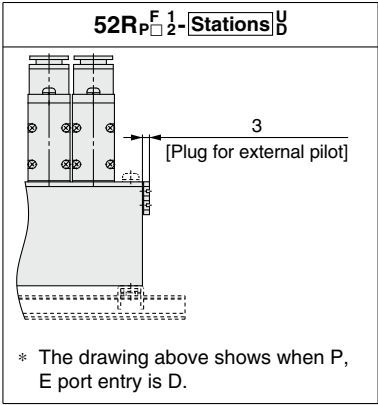
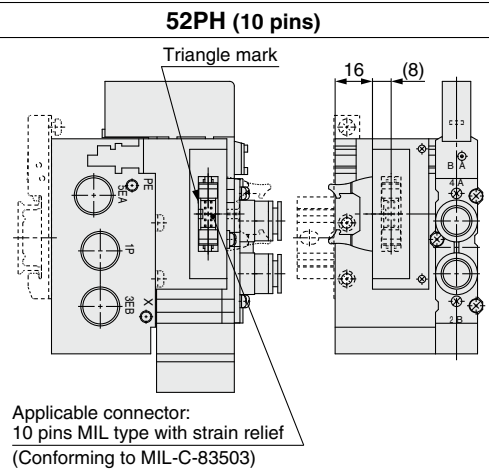
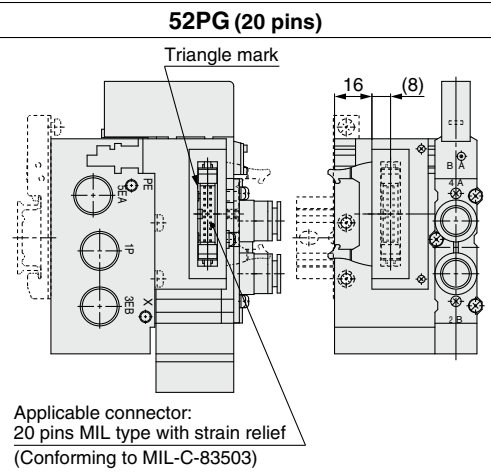
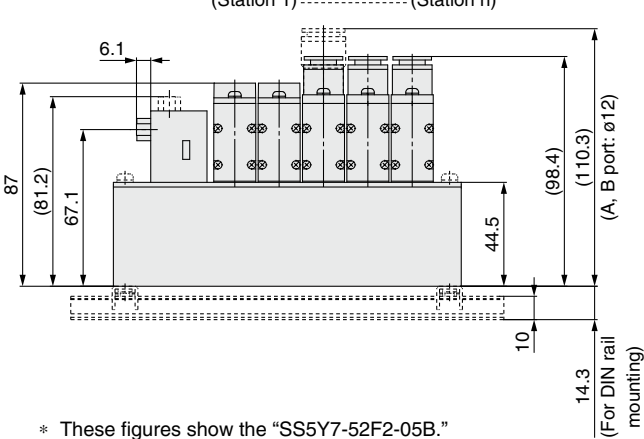
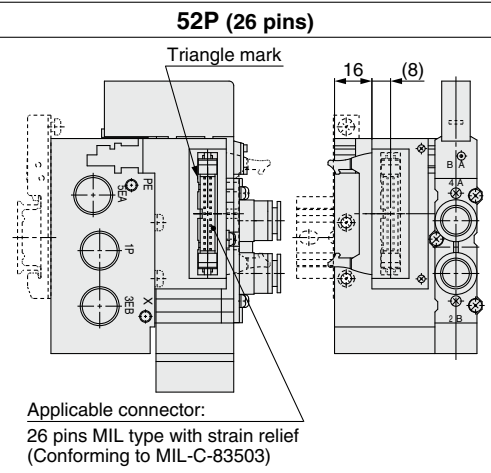
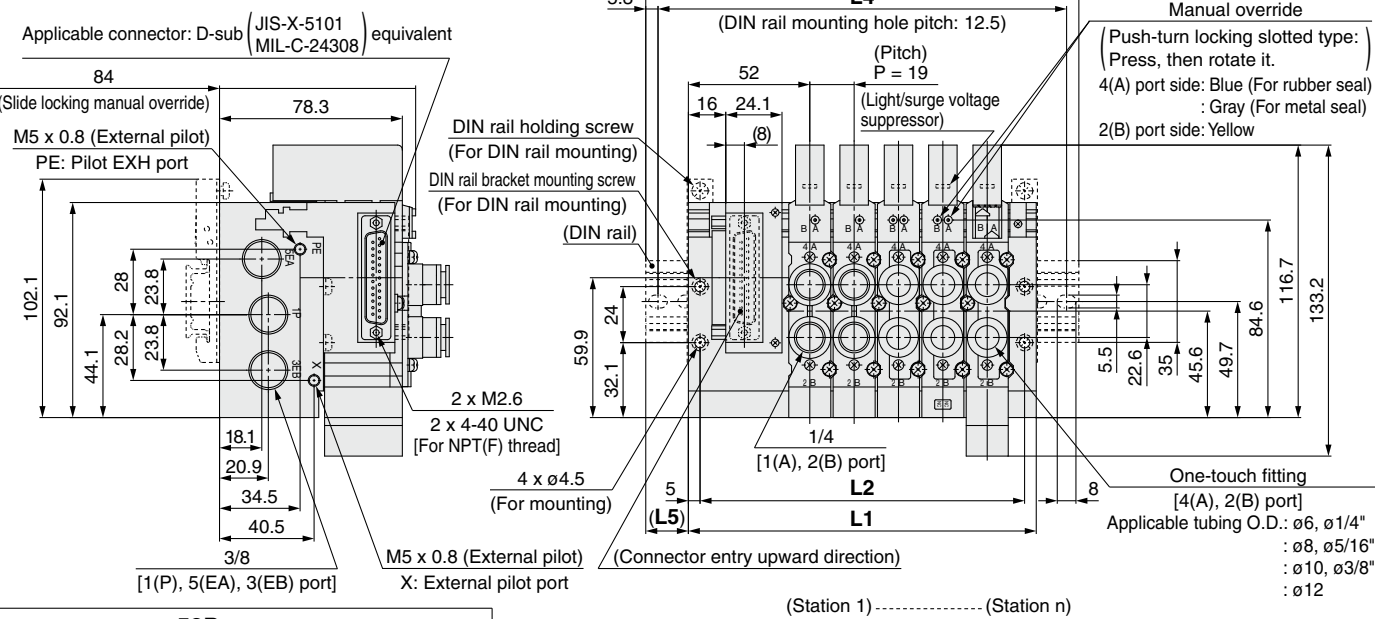
SY3000/5000/7000 Series

Dimensions: SY7000 Series

Plug-in
Metal Base

Type 52/Top Ported
D-sub Connector, Flat Ribbon Cable

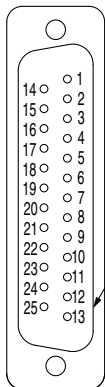
SS5Y7-52(R)^F_{PG}¹/₂ - Stations^U_D - □ (D)



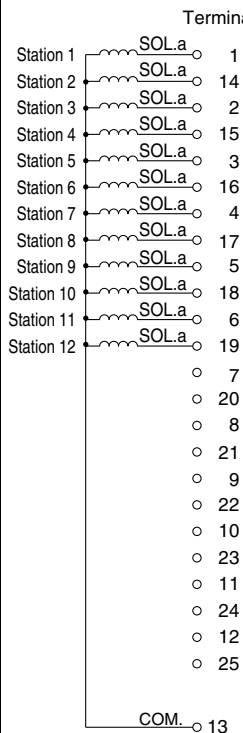
| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 92 | 111 | 130 | 149 | 168 | 187 | 206 | 225 | 244 | 263 | 282 |
| L2 | 82 | 101 | 120 | 139 | 158 | 177 | 196 | 215 | 234 | 253 | 272 |
| L3 | 123 | 148 | 160.5 | 185.5 | 198 | 223 | 235.5 | 260.5 | 273 | 298 | 310.5 |
| L4 | 112.5 | 137.5 | 150 | 175 | 187.5 | 212.5 | 225 | 250 | 262.5 | 287.5 | 300 |
| L5 | 15.5 | 18.5 | 15.5 | 18.5 | 15 | 18 | 15 | 18 | 14.5 | 17.5 | 14.5 |

Electrical Wiring Specifications

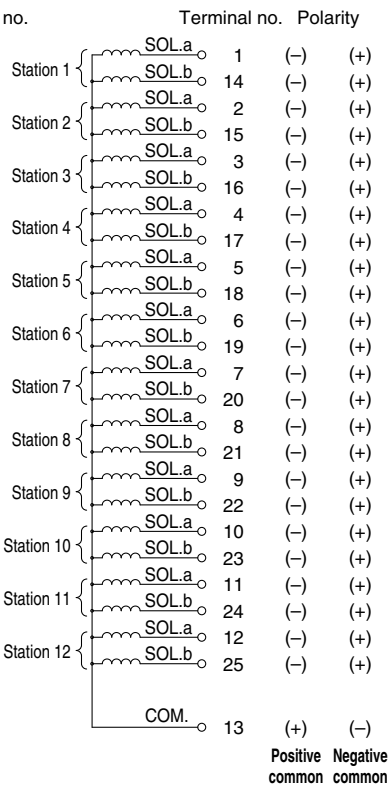
D-sub connector



<All single wiring>



<All double wiring>



* When using a valve with no polarity, either positive common or negative common can be used.

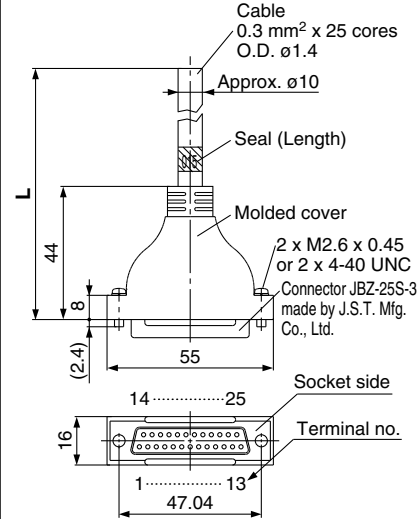
Cable Assembly

AXT100-DS25-030 (N) [IP40 compliant]

015
050
Nil: Metric size
N: Inch size

Lead wire color for D-sub connector cable assembly by terminal number

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



D-sub connector cable assembly

| Cable length (L) | Assembly part no. | Note |
|------------------|-------------------|--------------------------|
| 1.5 m | AXT100-DS25-015 | Cable 0.3 mm² x 25 cores |
| 3 m | AXT100-DS25-030 | |
| 5 m | AXT100-DS25-050 | |

- * When using a standard commercial connector, use a 25-pin type female connector conforming to MIL-C-24308.
- * Cannot be used for movable wiring
- * Lengths other than the above are also available. Please contact SMC for details.

Electrical characteristics

| Item | Property |
|--------------------------------------|------------|
| Conductor resistance Ω/km, 20°C | 65 or less |
| Voltage limit V, 1 minute, AC | 1000 |
| Insulation resistance MΩ/km, 20°C | 5 or more |

- * The minimum bending radius of the D-sub connector cable is 20 mm.

Connector Manufacturer's Example

- Fujitsu Limited
- Japan Aviation Electronics Industry, Limited
- J.S.T. Mfg. Co., Ltd.
- HIROSE ELECTRIC CO., LTD.

SY3000/5000/7000 Series

Electrical Wiring Specifications

Flat ribbon cable connector

Connector terminal no.

Triangle mark indicator position

P: Flat ribbon cable (26 pins)

| <All single wiring> | | <All double wiring> | |
|---------------------|----|---------------------|------------|
| Terminal no. | | Terminal no. | Polarity |
| Station 1 SOL.a | 1 | Station 1 SOL.a | 1 (-) (+) |
| Station 2 SOL.a | 2 | Station 1 SOL.b | 2 (-) (+) |
| Station 3 SOL.a | 3 | Station 2 SOL.a | 3 (-) (+) |
| Station 4 SOL.a | 4 | Station 2 SOL.b | 4 (-) (+) |
| Station 5 SOL.a | 5 | Station 3 SOL.a | 5 (-) (+) |
| Station 6 SOL.a | 6 | Station 3 SOL.b | 6 (-) (+) |
| Station 7 SOL.a | 7 | Station 4 SOL.a | 7 (-) (+) |
| Station 8 SOL.a | 8 | Station 4 SOL.b | 8 (-) (+) |
| Station 9 SOL.a | 9 | Station 5 SOL.a | 9 (-) (+) |
| Station 10 SOL.a | 10 | Station 5 SOL.b | 10 (-) (+) |
| Station 11 SOL.a | 11 | Station 6 SOL.a | 11 (-) (+) |
| Station 12 SOL.a | 12 | Station 6 SOL.b | 12 (-) (+) |
| | 13 | Station 7 SOL.a | 13 (-) (+) |
| | 14 | Station 7 SOL.b | 14 (-) (+) |
| | 15 | Station 8 SOL.a | 15 (-) (+) |
| | 16 | Station 8 SOL.b | 16 (-) (+) |
| | 17 | Station 9 SOL.a | 17 (-) (+) |
| | 18 | Station 9 SOL.b | 18 (-) (+) |
| | 19 | Station 10 SOL.a | 19 (-) (+) |
| | 20 | Station 10 SOL.b | 20 (-) (+) |
| | 21 | Station 11 SOL.a | 21 (-) (+) |
| | 22 | Station 11 SOL.b | 22 (-) (+) |
| | 23 | Station 12 SOL.a | 23 (-) (+) |
| | 24 | Station 12 SOL.b | 24 (-) (+) |
| COM. | 25 | COM. | 25 (+) (-) |
| COM. | 26 | COM. | 26 (+) (-) |

Positive Negative
common common

PG: Flat ribbon cable (20 pins)

| <All single wiring> | | <All double wiring> | |
|---------------------|----|---------------------|------------|
| Terminal no. | | Terminal no. | Polarity |
| Station 1 SOL.a | 1 | Station 1 SOL.a | 1 (-) (+) |
| Station 2 SOL.a | 2 | Station 1 SOL.b | 2 (-) (+) |
| Station 3 SOL.a | 3 | Station 2 SOL.a | 3 (-) (+) |
| Station 4 SOL.a | 4 | Station 2 SOL.b | 4 (-) (+) |
| Station 5 SOL.a | 5 | Station 3 SOL.a | 5 (-) (+) |
| Station 6 SOL.a | 6 | Station 3 SOL.b | 6 (-) (+) |
| Station 7 SOL.a | 7 | Station 4 SOL.a | 7 (-) (+) |
| Station 8 SOL.a | 8 | Station 4 SOL.b | 8 (-) (+) |
| Station 9 SOL.a | 9 | Station 5 SOL.a | 9 (-) (+) |
| Station 10 SOL.a | 10 | Station 5 SOL.b | 10 (-) (+) |
| Station 11 SOL.a | 11 | Station 6 SOL.a | 11 (-) (+) |
| Station 12 SOL.a | 12 | Station 6 SOL.b | 12 (-) (+) |
| | 13 | Station 7 SOL.a | 13 (-) (+) |
| | 14 | Station 7 SOL.b | 14 (-) (+) |
| | 15 | Station 8 SOL.a | 15 (-) (+) |
| | 16 | Station 8 SOL.b | 16 (-) (+) |
| | 17 | Station 9 SOL.a | 17 (-) (+) |
| | 18 | Station 9 SOL.b | 18 (-) (+) |
| COM. | 19 | COM. | 19 (+) (-) |
| COM. | 20 | COM. | 20 (+) (-) |

Positive Negative
common common

PH: Flat ribbon cable (10 pins)

| <All single wiring> | | <All double wiring> | |
|---------------------|----|---------------------|------------|
| Terminal no. | | Terminal no. | Polarity |
| Station 1 SOL.a | 1 | Station 1 SOL.a | 1 (-) (+) |
| Station 2 SOL.a | 2 | Station 1 SOL.b | 2 (-) (+) |
| Station 3 SOL.a | 3 | Station 2 SOL.a | 3 (-) (+) |
| Station 4 SOL.a | 4 | Station 2 SOL.b | 4 (-) (+) |
| Station 5 SOL.a | 5 | Station 3 SOL.a | 5 (-) (+) |
| Station 6 SOL.a | 6 | Station 3 SOL.b | 6 (-) (+) |
| Station 7 SOL.a | 7 | Station 4 SOL.a | 7 (-) (+) |
| Station 8 SOL.a | 8 | Station 4 SOL.b | 8 (-) (+) |
| COM. | 9 | COM. | 9 (+) (-) |
| COM. | 10 | COM. | 10 (+) (-) |

Positive Negative
common common

Cable Assembly

AXT100-FC20-2

10 1
26 3

Terminal no.

Red

28AWG

17.2 (10 pins)
30 (20 pins)
37.5 (26 pins)

6

2

1

(15.6)

L

Flat ribbon cable connector assembly

| Cable length (L) | Assembly part no. | | |
|------------------|-------------------|---------------|---------------|
| | 26 pins | 20 pins | 10 pins |
| 1.5 m | AXT100-FC26-1 | AXT100-FC20-1 | AXT100-FC10-1 |
| 3 m | AXT100-FC26-2 | AXT100-FC20-2 | AXT100-FC10-2 |
| 5 m | AXT100-FC26-3 | AXT100-FC20-3 | AXT100-FC10-3 |

* When using a standard commercial connector, use a 26-pin, 20-pin, or 10-pin type connector conforming to MIL-C-83503 with strain relief.
* Cannot be used for movable wiring
* Lengths other than the above are also available. Please contact SMC for details.

Connector Manufacturer's Example

- HIROSE ELECTRIC CO., LTD.
- 3M Japan Limited
- Fujitsu Limited
- Japan Aviation Electronics Industry, Limited
- J.S.T. Mfg. Co., Ltd.
- Oki Electric Cable Co., Ltd.

| |
|--------------------------------------|
| Chart |
| Valve Specifications |
| Valve Construction |
| Valve Replacement Parts |
| With Residual Pressure Release Valve |
| Vacuum Release Valve with Restrictor |
| With Pressure Sensor |
| Made to Order |

| |
|-------------------------|
| Metal Base |
| D-sub, Flat Ribbon |
| EX510 |
| Manifold Exploded View |
| Fitting, Plug Part Nos. |
| Manifold Options |

| |
|------------------------------|
| Specific Product Precautions |
|------------------------------|

Type 50
Side Ported

Type 51
Bottom Ported

Plug-in Metal Base EX510

SY3000/5000/7000 Series



How to Order Manifolds

SS5Y **3** - **50** S5 **05** **D** - **C6**

1 2 3 4 5 6 7 8 9

1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type

| | |
|-----|-----------------------------|
| 50 | Side ported |
| 51 | Bottom ported |
| 50R | Side ported, External pilot |

* External pilot is not available for the bottom-porting type.

3 SI unit output polarity

| | |
|-----|-----------------|
| Nil | Positive common |
| N | Negative common |

4 Wiring type

| | |
|-----|---------------------|
| Nil | All double wiring*1 |
| S | All single wiring*2 |

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

*2 All single wiring: Available only for the manifold which has 2-position single for all stations

Note that 2-position double, 3-, or 4-position valves cannot be used.

* If a mix of single and double wiring is required, it is supplied as a special order.

5 Valve stations

| Symbol | Stations | Note | Symbol | Stations | Note |
|--------|------------|-------------------|--------|-------------|-------------------|
| 02 | 2 stations | All double wiring | 02 | 2 stations | All single wiring |
| ⋮ | ⋮ | | ⋮ | ⋮ | |
| 08 | 8 stations | | 12 | 12 stations | |

* This also includes the number of the blanking plate assembly.

6 P, E port entry

| | |
|---|------------|
| U | U side*1 |
| D | D side*1*2 |
| B | Both sides |

*1 Plugs are mounted on the opposite side of the selected ports.

*2 Only D side is available for the type 51 bottom-porting type.

7 A, B port size

Thread piping

| Symbol | A, B port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| M5 | M5 x 0.8 | ● | — | — |
| 01 | 1/8 | ● | ● | — |
| 02 | 1/4 | — | ● | ● |

One-touch fitting (Metric)

| Symbol | A, B port | SY3000 | SY5000 | SY7000 |
|-------------|-----------|--------|--------|--------|
| Fixed | C2 | ● | — | — |
| | C3 | ● | — | — |
| | C4 | ● | ● | — |
| | C6 | ● | ● | — |
| | C8 | — | ● | ● |
| | C10 | — | — | ● |
| Replaceable | KC2 | ● | — | — |
| | KC3 | ● | — | — |
| | KC4 | ● | ● | — |
| | KC6 | ● | ● | ● |
| | KC8 | — | ● | ● |
| | KC10 | — | — | ● |
| | KC12 | — | — | ● |
| | M*1 | ● | ● | ● |

P, E port size (Thread piping) 1/8 1/4 3/8

One-touch fitting (Inch)

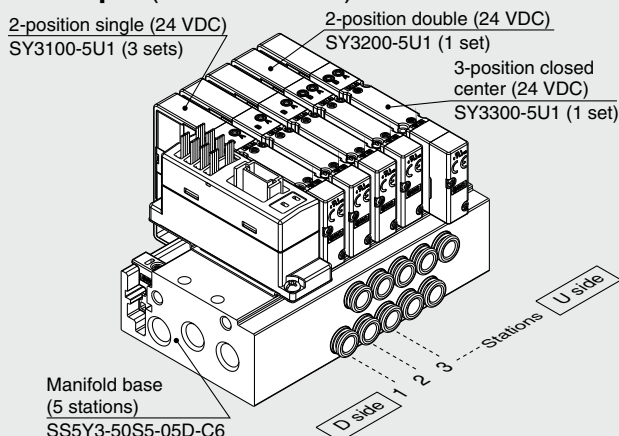
| Symbol | A, B port | SY3000 | SY5000 | SY7000 |
|-------------|-----------|--------|--------|--------|
| Fixed | N1 | ● | — | — |
| | N3 | ● | ● | — |
| | N7 | ● | ● | — |
| | N9 | — | ● | ● |
| | N11 | — | — | ● |
| Replaceable | KN1 | ● | — | — |
| | KN3 | ● | ● | — |
| | KN7 | ● | ● | ● |
| | KN9 | — | ● | ● |
| | KN11 | — | — | ● |
| | M*1 | ● | ● | ● |

P, E port size (Thread piping) 1/8 1/4 3/8

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

How to Order Manifold Assembly

Example (SS5Y3-50S5-□)



SS5Y3-50S5-05D-C6 ... 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 asterisk denotes the symbol for the assembly.
 Prefix it to the part numbers of the valve, etc.

• For the valve arrangement, the valve closest to the D side is considered the 1st station.
 • Under the manifold part number, state the valves to be mounted in order starting with the 1st station as shown in the figure above. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.

* When mixing top-porting configurations, select from those listed on page 261. In such cases, use caution as there is also output on the A and B ports on the base side. Specify on the manifold specification sheet if plugs are required for the A and B ports on the base side.

8 Thread type

| | |
|-----|------|
| Nil | Rc |
| F | G |
| N | NPT |
| T | NPTF |

9 Mounting

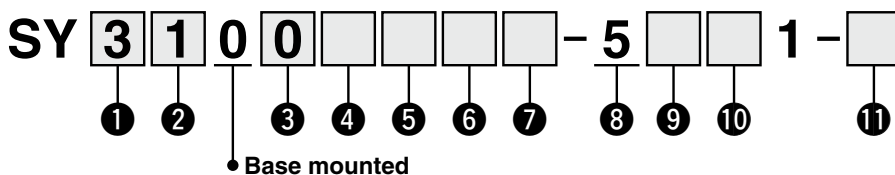
| | |
|-----|--------------------------------------|
| Nil | Direct mounting |
| D | DIN rail mounting (With DIN rail) |
| D0 | DIN rail mounting (Without DIN rail) |
| D3 | For 3 stations |
| ⋮ | ⋮ |
| D12 | For 12 stations |

- * Only direct mounting is available for the type 51 bottom-ported type.
- * Refer to page 295 for the fixation of DIN rail mounting type manifold.

For details on the EX510 Gateway Type Serial Transmission System, refer to the **Web Catalog** and the Operation Manual. Please download the Operation Manual via the SMC website, <https://www.smcworld.com>

How to Order Valves (With mounting screw)

Refer to page 15 for valve specifications.



1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type of actuation

| | | |
|-----|------------------------|-----------------|
| 1 | 2-position | Single |
| 2 | | Double |
| 3 | 3-position | Closed center |
| 4 | | Exhaust center |
| 5 | | Pressure center |
| A*1 | 4-position dual 3-port | N.C./N.C. |
| B*1 | | N.O./N.O. |
| C*1 | | N.C./N.O. |

- *1 Only the 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 the rubber seal type is available.
- * The back pressure check valve is not available for the 3-position type or the SY7000.

6 Pilot valve option

| | |
|-----|-------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K*1 | High pressure type (1.0 MPa) |

- *1 Only the 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 if the valve is to be continuously energized for long periods of time.
- * Be careful of the energizing time when the power saving circuit is selected. Refer to page 292 for details.

8 Rated voltage

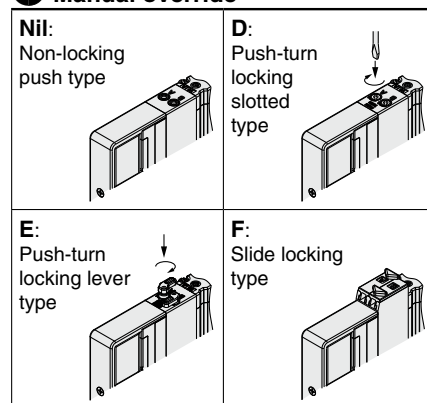
| | |
|---|--------|
| 5 | 24 VDC |
|---|--------|

9 Light/surge voltage suppressor and common specification

| Symbol | With light | Surge voltage suppressor | Common specification |
|--------|------------|--------------------------|----------------------|
| R | — | ● | Non-polar |
| U | ● | | Positive common |
| S | — | | Negative common |
| Z | ● | | |
| NS | — | | |
| NZ | ● | | |

- * For the non-polar type, be careful of surge voltage intrusion. Refer to page 293 for details.
- * Only "Z" and "NZ" types are available with a power saving circuit. Select "R," "U," "S," or "Z" for the valve when the SI unit output polarity is Nil (positive common). Select "R," "U," "NS," or "NZ" for the valve when the SI unit output polarity is N (negative common).

10 Manual override

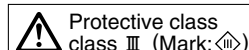


- * Refer to page 34 for the safety slide locking manual override.

11 Type of mounting screw

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

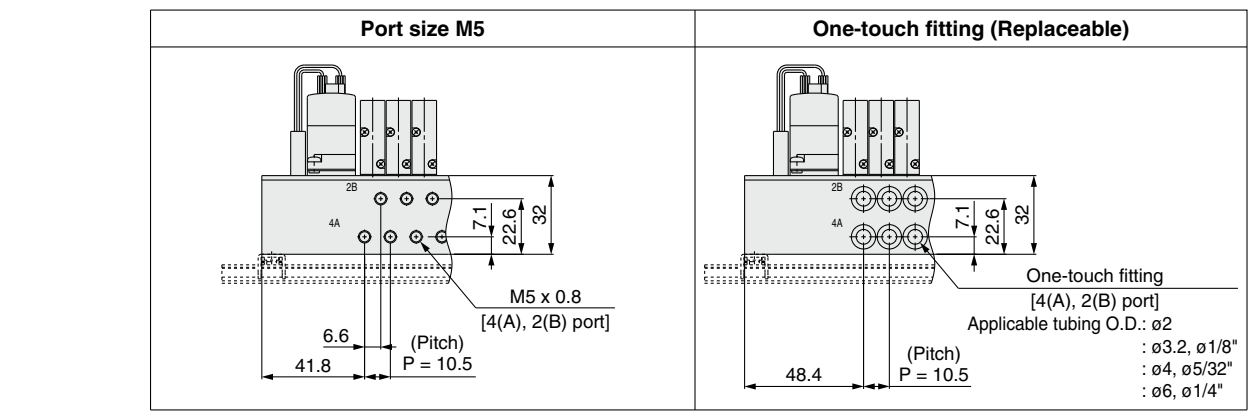
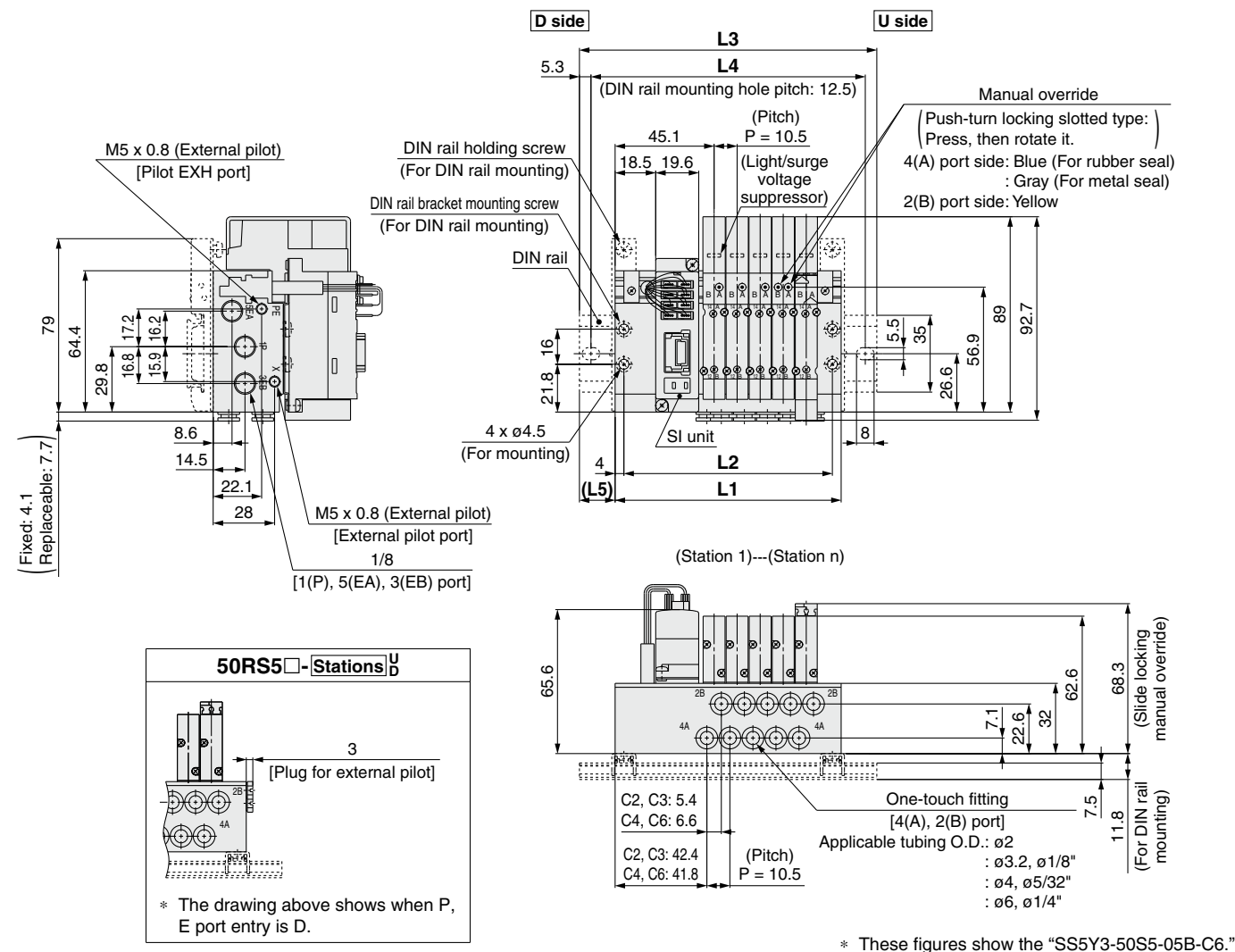
- * For "K" and "H," the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance, etc.
- * **When ordering a valve individually, the base gasket is not included.** Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance. Refer to page 266 for base gasket and mounting screw part numbers.
- * "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly, interface regulator, or double check spacer assembly with residual pressure release valve.



SY3000/5000/7000 Series

Dimensions: SY3000 Series

SS5Y3-50(R)S5□ - Stations $\begin{matrix} \text{U} & \text{M5} \\ \text{D} & \text{C}\square, \text{N}\square \\ \text{B} & \text{KC}\square, \text{KN}\square \end{matrix}$ □(D)



| 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 |

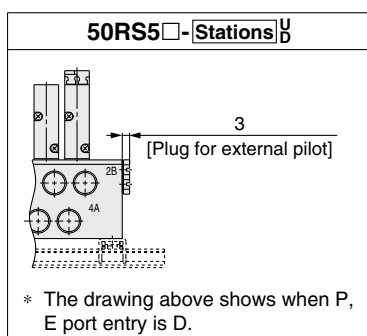
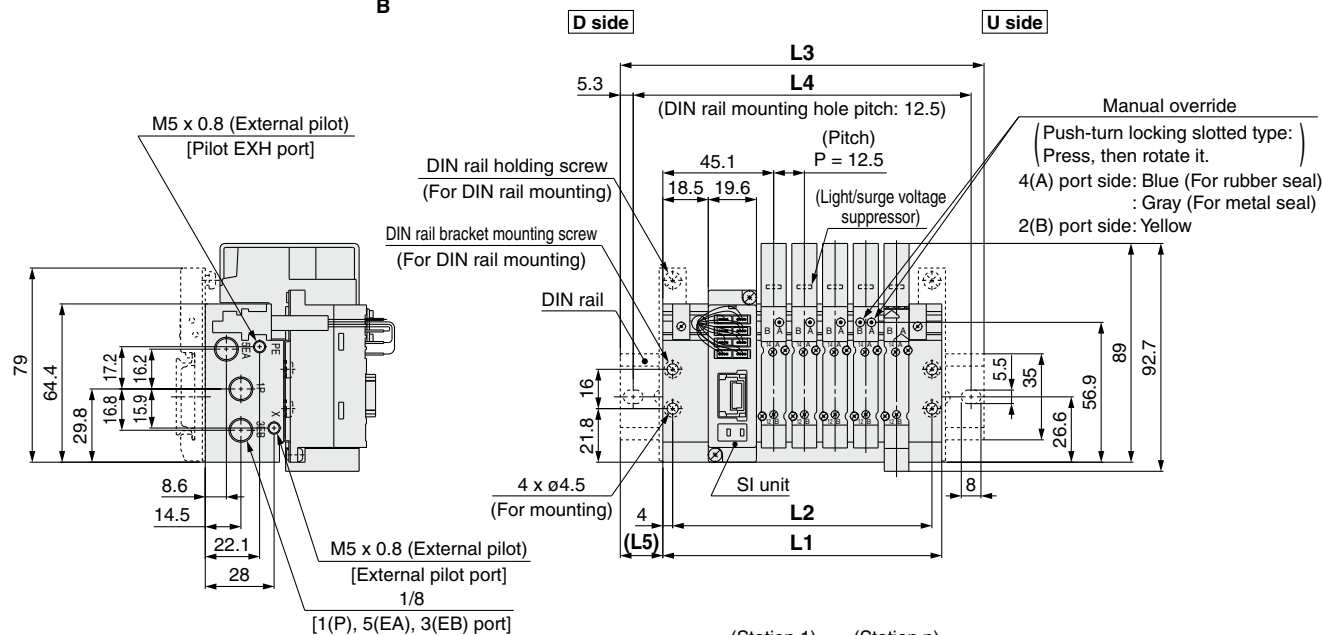
Dimensions: SY3000 Series

Plug-in
Metal Base

Type 50/Side Ported

EX510

SS5Y3-50(R)S5□-Stations $\frac{U}{D}$ -01□(D)



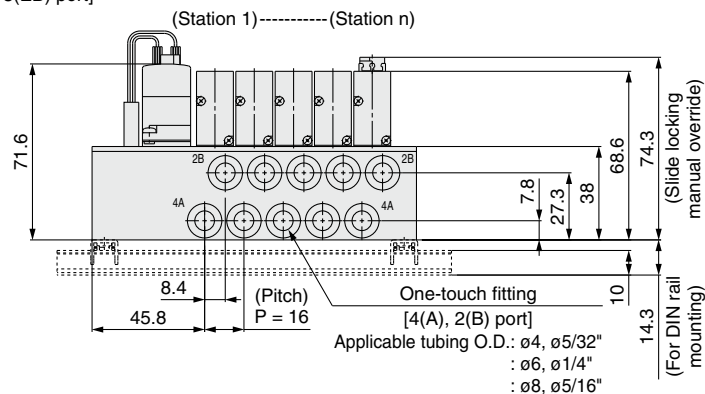
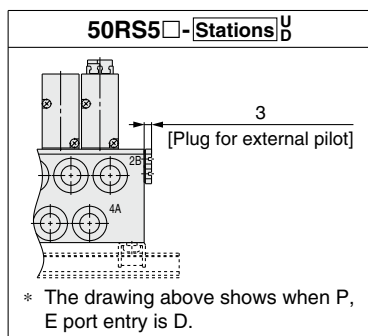
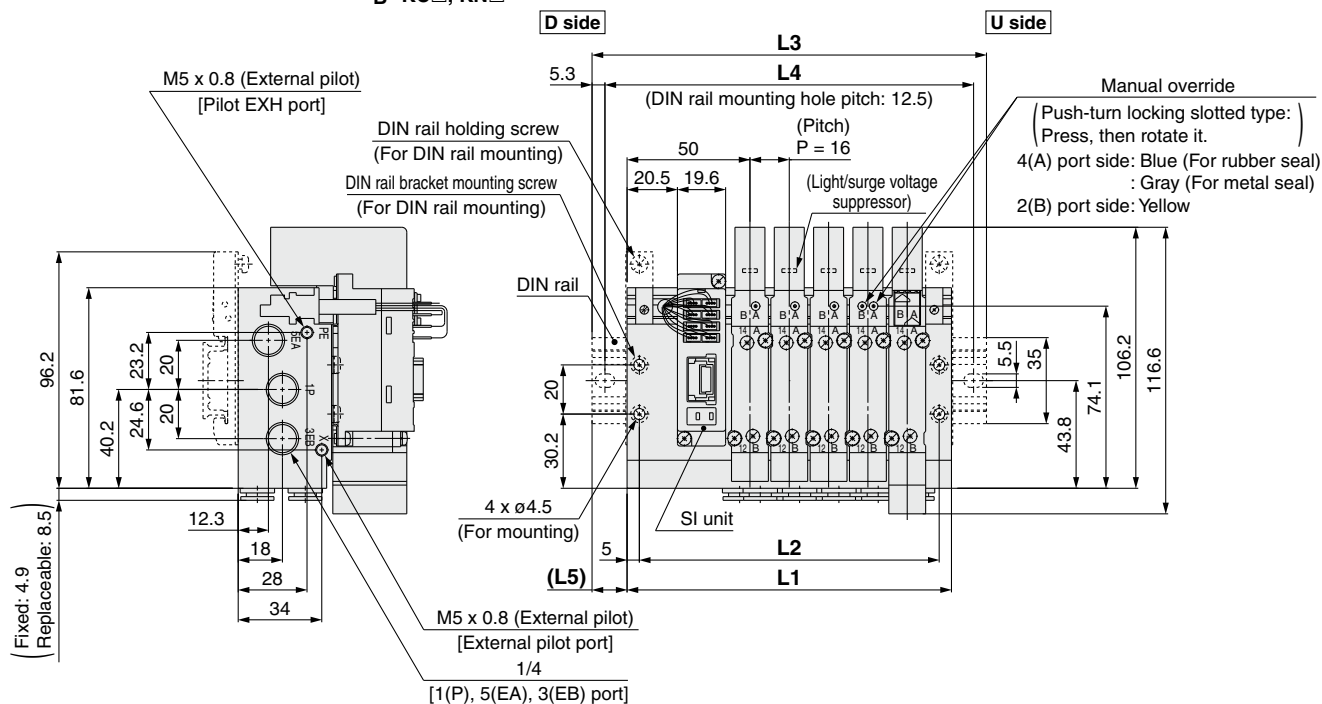
* These figures show the "SS5Y3-50S5-05B-01."

| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 76 | 88.5 | 101 | 113.5 | 126 | 138.5 | 151 | 163.5 | 176 | 188.5 | 201 |
| L2 | 68 | 80.5 | 93 | 105.5 | 118 | 130.5 | 143 | 155.5 | 168 | 180.5 | 193 |
| L3 | 110.5 | 123 | 135.5 | 148 | 160.5 | 173 | 185.5 | 198 | 210.5 | 223 | 235.5 |
| L4 | 100 | 112.5 | 125 | 137.5 | 150 | 162.5 | 175 | 187.5 | 200 | 212.5 | 225 |
| L5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 |

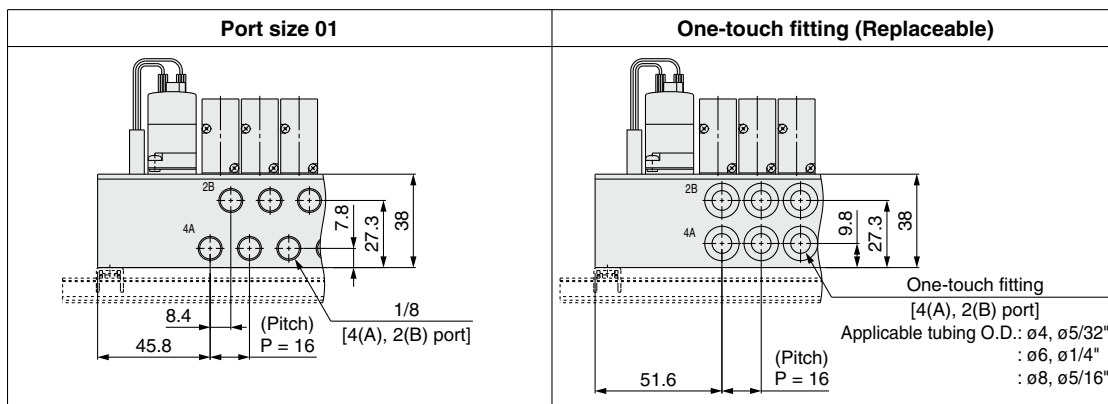
SY3000/5000/7000 Series

Dimensions: SY5000 Series

SS5Y5-50(R)S5□ - Stations $\begin{matrix} \text{U} & 01 \\ \text{D} & \text{C}\square, \text{N}\square \\ \text{B} & \text{KC}\square, \text{KN}\square \end{matrix}$ □(D)



* These figures show the "SS5Y5-50S5-05B-C8."



| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 84 | 100 | 116 | 132 | 148 | 164 | 180 | 196 | 212 | 228 | 244 |
| L2 | 74 | 90 | 106 | 122 | 138 | 154 | 170 | 186 | 202 | 218 | 234 |
| L3 | 110.5 | 135.5 | 148 | 160.5 | 173 | 198 | 210.5 | 223 | 248 | 260.5 | 273 |
| L4 | 100 | 125 | 137.5 | 150 | 162.5 | 187.5 | 200 | 212.5 | 237.5 | 250 | 262.5 |
| L5 | 13.5 | 18 | 16 | 14.5 | 12.5 | 17 | 15.5 | 13.5 | 18 | 16.5 | 14.5 |

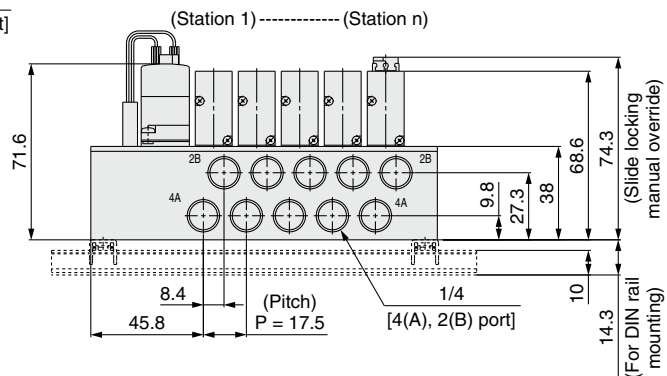
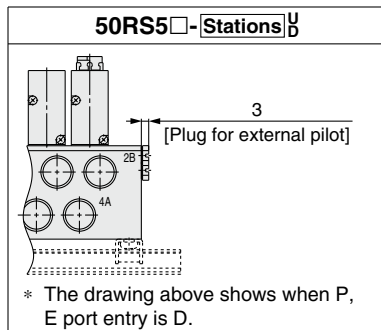
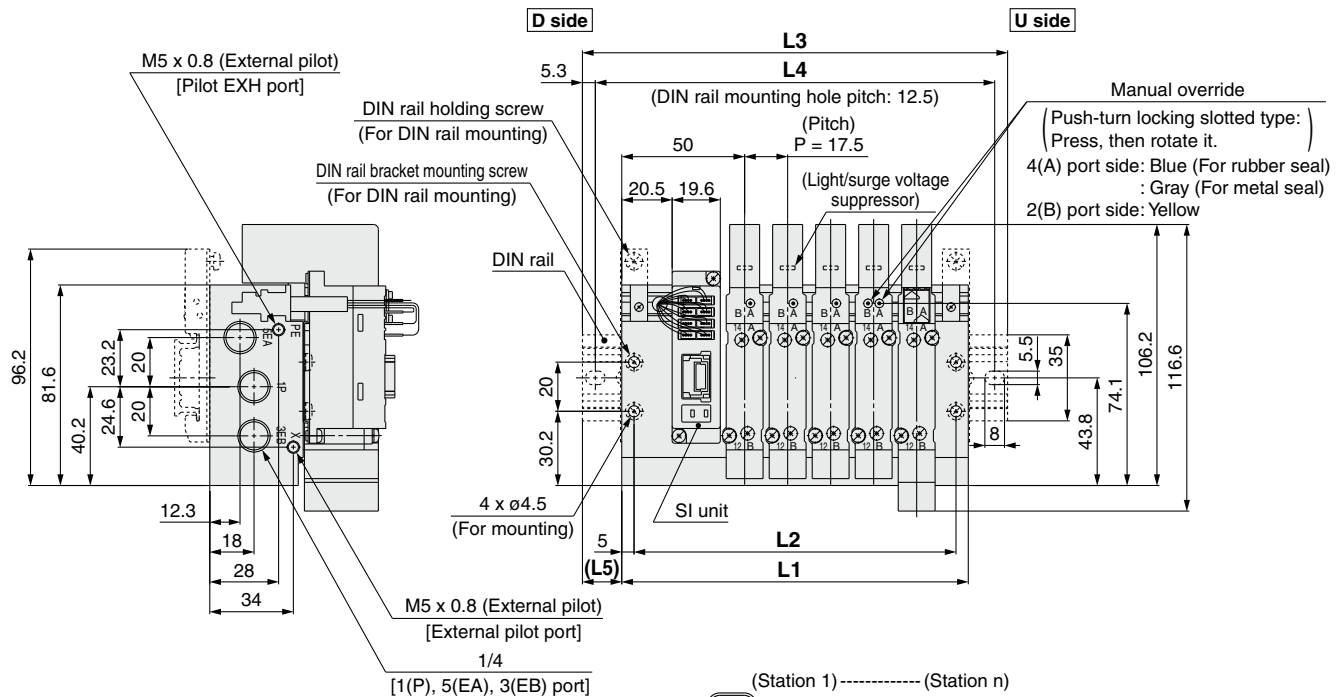
Dimensions: SY5000 Series

SS5Y5-50(R)S5□ - Stations $\frac{U}{D}$ -02□(D)

Plug-in
Metal Base

Type 50/Side Ported

EX510



* These figures show the "SS5Y5-50S5-05B-02."

| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 88.5 | 106 | 123.5 | 141 | 158.5 | 176 | 193.5 | 211 | 228.5 | 246 | 263.5 |
| L2 | 78.5 | 96 | 113.5 | 131 | 148.5 | 166 | 183.5 | 201 | 218.5 | 236 | 253.5 |
| L3 | 123 | 135.5 | 148 | 173 | 185.5 | 210.5 | 223 | 235.5 | 260.5 | 273 | 298 |
| L4 | 112.5 | 125 | 137.5 | 162.5 | 175 | 200 | 212.5 | 225 | 250 | 262.5 | 287.5 |
| L5 | 17.5 | 15 | 12.5 | 16 | 13.5 | 17.5 | 15 | 12.5 | 16 | 13.5 | 17.5 |

SY3000/5000/7000 Series

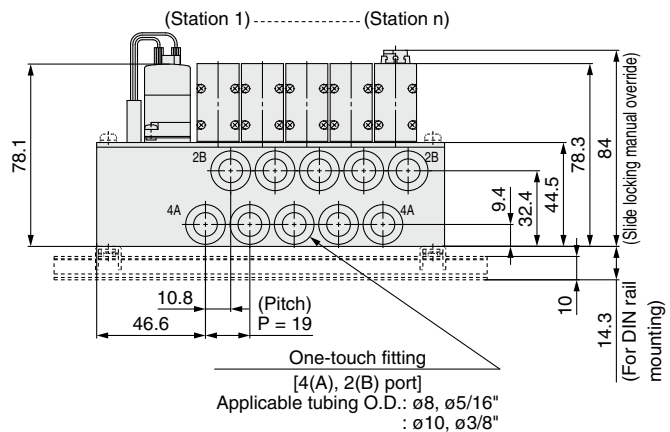
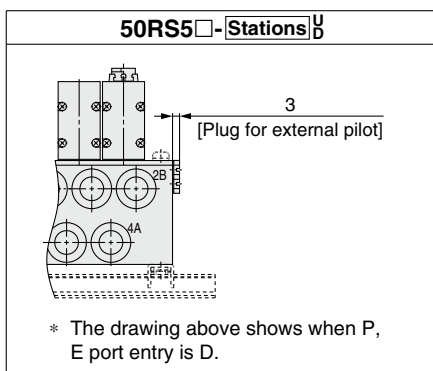
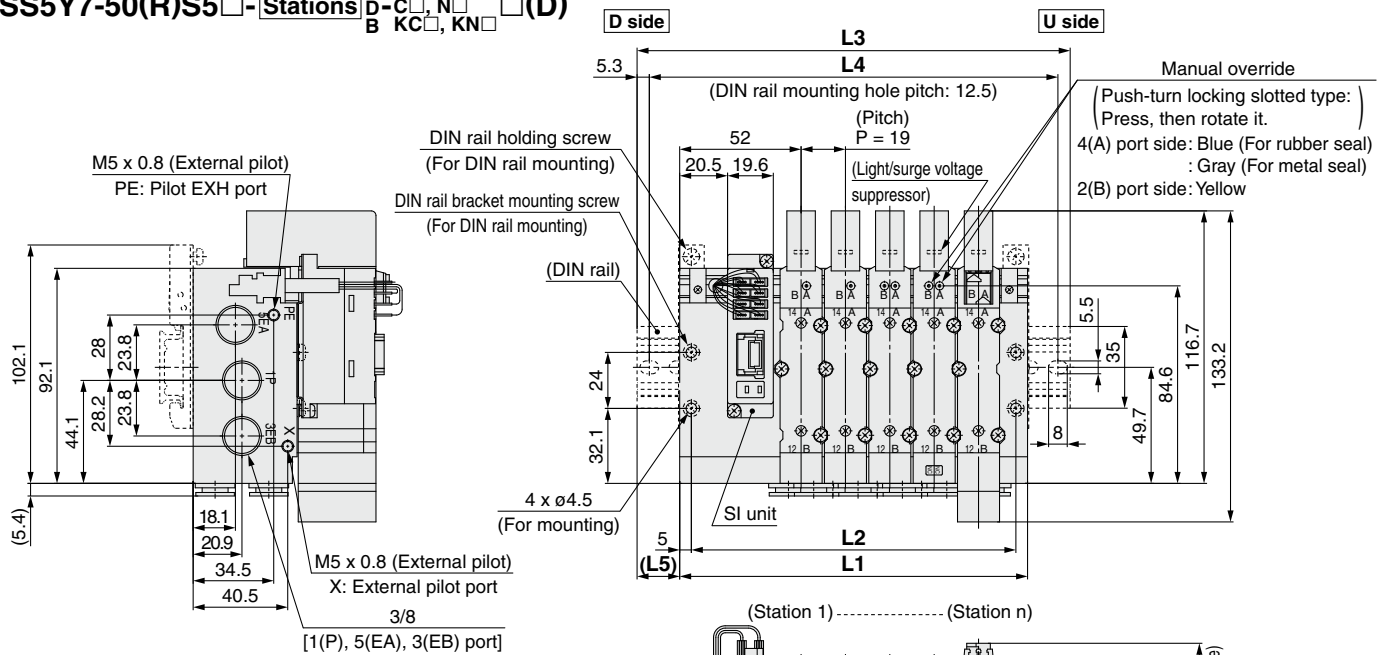
Dimensions: SY7000 Series

SS5Y7-50(R)S5□-Stations $\begin{matrix} \text{U} & 02 \\ \text{D-C} & \square, \text{N} \square \\ \text{B} & \text{KC} \square, \text{KN} \square \end{matrix}$ **□(D)**

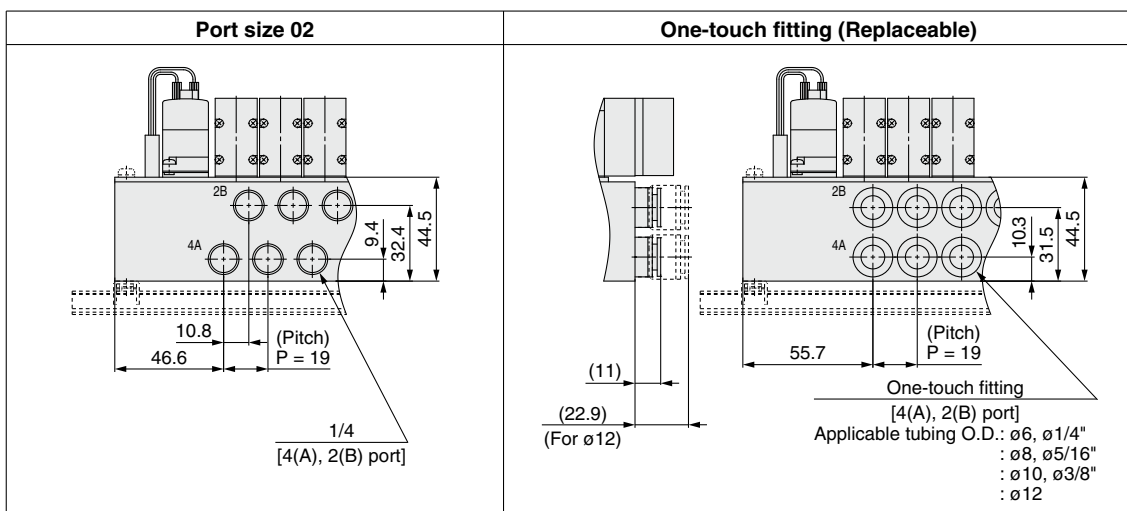
Plug-in Metal Base

Type 50/Side Ported

EX510



* These figures show the “SS5Y7-50S5-05B-C10.”



| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 92 | 111 | 130 | 149 | 168 | 187 | 206 | 225 | 244 | 263 | 282 |
| L2 | 82 | 101 | 120 | 139 | 158 | 177 | 196 | 215 | 234 | 253 | 272 |
| L3 | 123 | 148 | 160.5 | 185.5 | 198 | 223 | 235.5 | 260.5 | 273 | 298 | 310.5 |
| L4 | 112.5 | 137.5 | 150 | 175 | 187.5 | 212.5 | 225 | 250 | 262.5 | 287.5 | 300 |
| L5 | 15.5 | 18.5 | 15.5 | 18.5 | 15 | 18 | 15 | 18 | 14.5 | 17.5 | 14.5 |

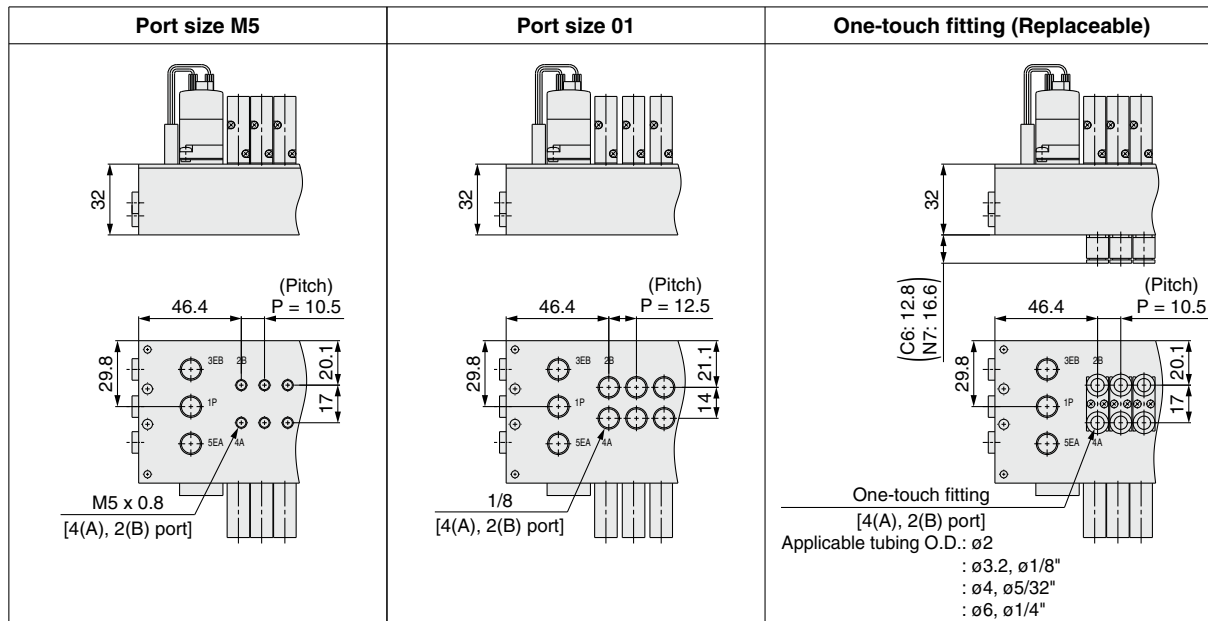
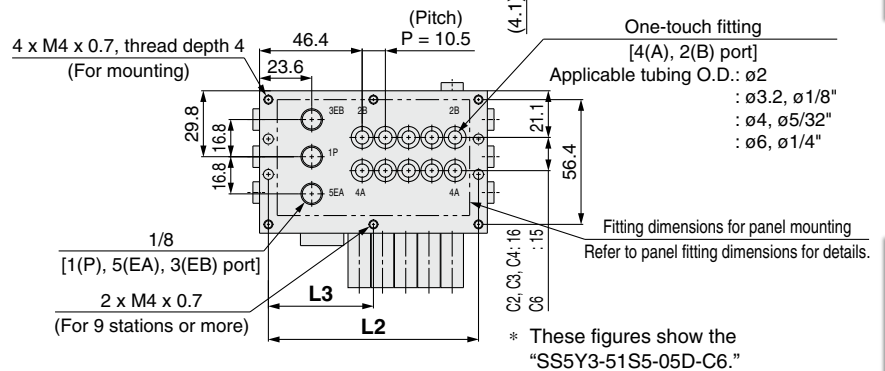
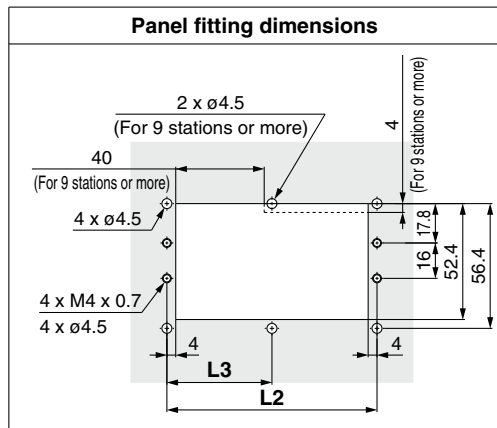
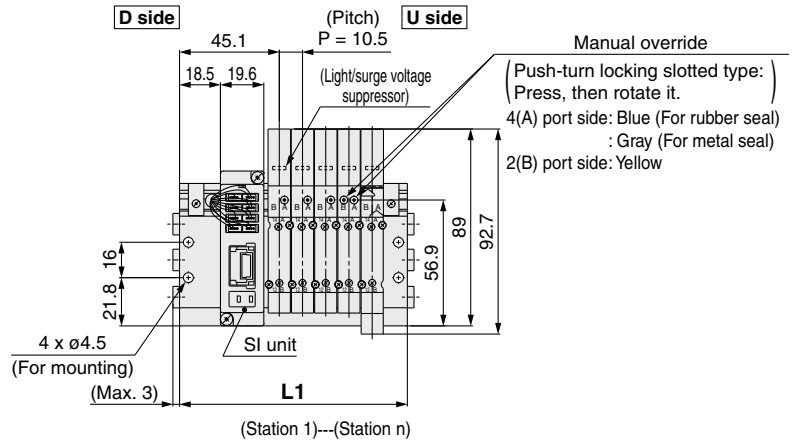
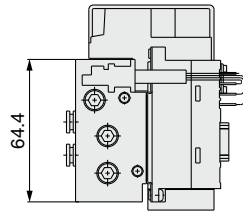
Plug-in
Metal Base

Type 51/Bottom Ported

EX510

Dimensions: SY3000 Series

SS5Y3-51S5□ - Stations D- ^{M5, 01} C□, N□, KC□, KN□



Port Sizes M5, C□, N□, KC□, KN□

| 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 | — | — | — | — | — | — | — | 68.5 | 73.8 | 79 | 84.3 |

Port Size 01

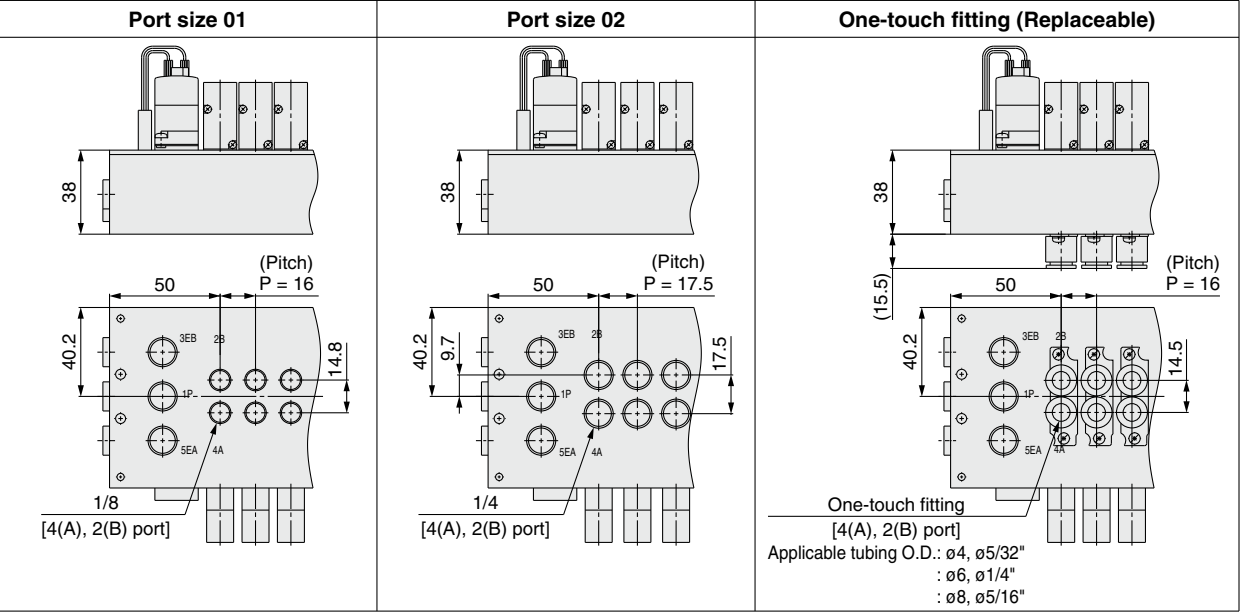
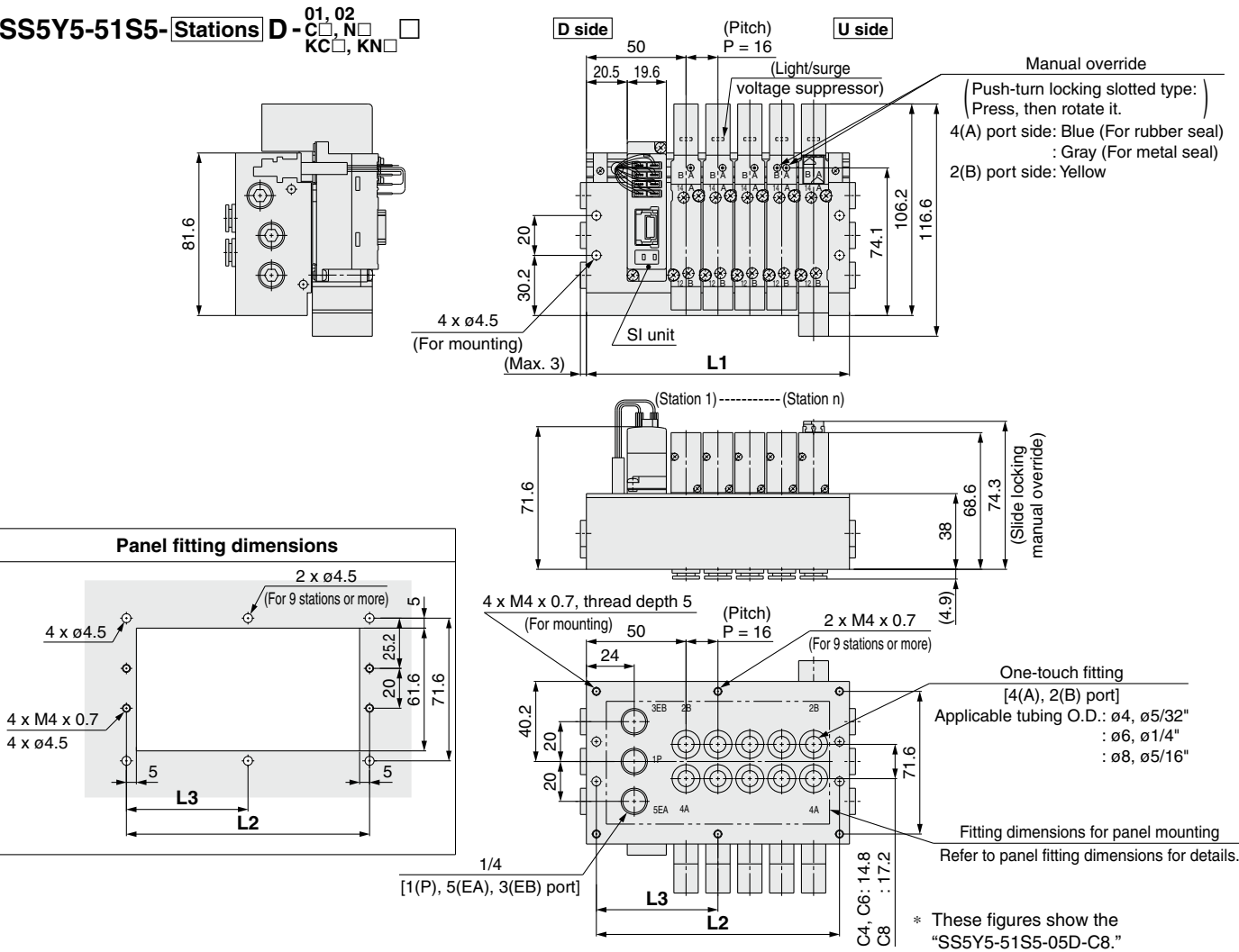
| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------------|----|------|-----|-------|-----|-------|-----|-------|-----|-------|------|
| L1 | 76 | 88.5 | 101 | 113.5 | 126 | 138.5 | 151 | 163.5 | 176 | 188.5 | 201 |
| L2 | 68 | 80.5 | 93 | 105.5 | 118 | 130.5 | 143 | 155.5 | 168 | 180.5 | 193 |
| L3 | — | — | — | — | — | — | — | 77.8 | 84 | 90.3 | 96.5 |

SY3000/5000/7000 Series

| | |
|-----------------------|--------------------------------|
| Plug-in Metal Base | Type 51/Bottom Ported EX510 |
|-----------------------|--------------------------------|

Dimensions: SY5000 Series

SS5Y5-51S5- Stations **D** - ☐ 01, ☐ 02
☐ C, ☐ N, ☐
☐ KC, ☐ KN



Port Sizes 01, C, N, KC, KN

| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| L1 | 84 | 100 | 116 | 132 | 148 | 164 | 180 | 196 | 212 | 228 | 244 |
| L2 | 74 | 90 | 106 | 122 | 138 | 154 | 170 | 186 | 202 | 218 | 234 |
| L3 | — | — | — | — | — | — | — | 93 | 101 | 109 | 117 |

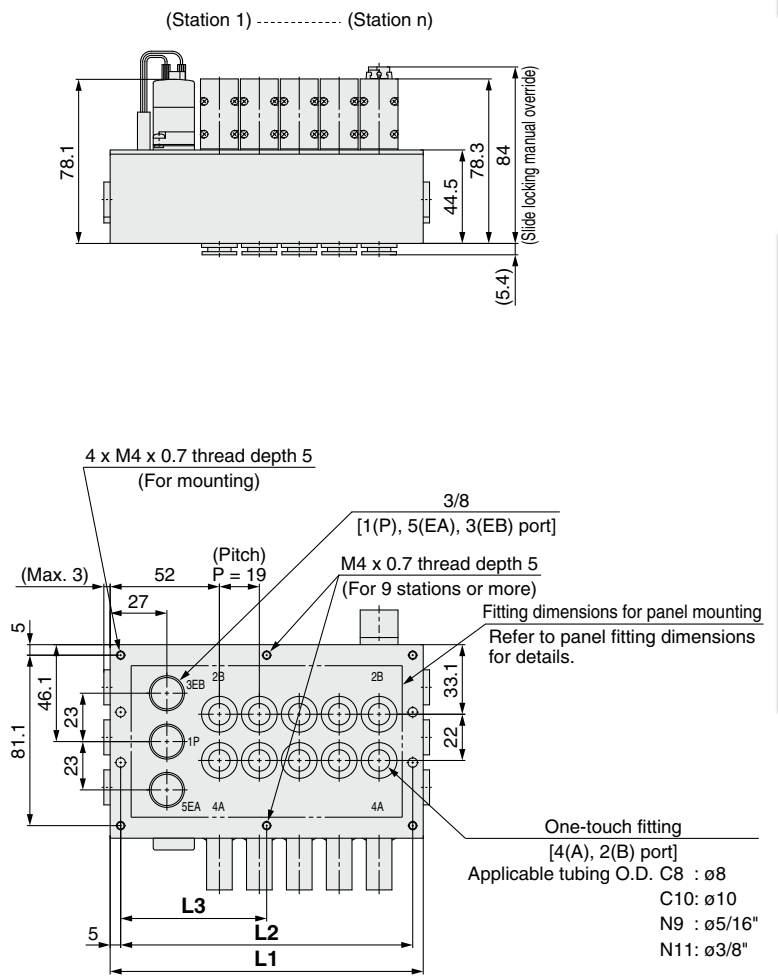
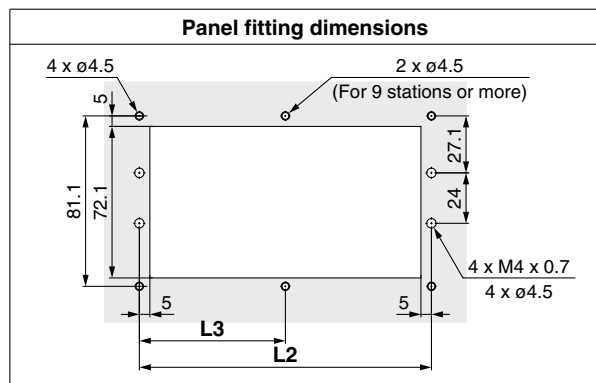
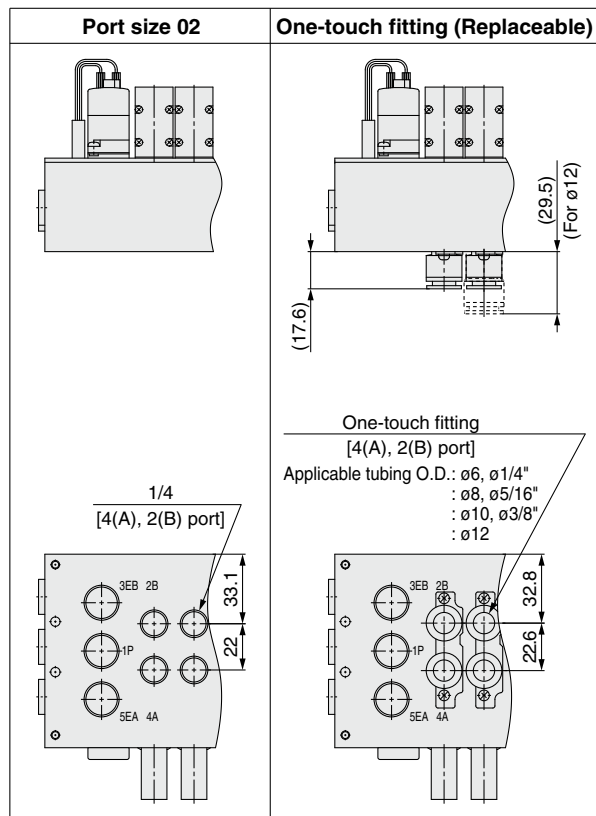
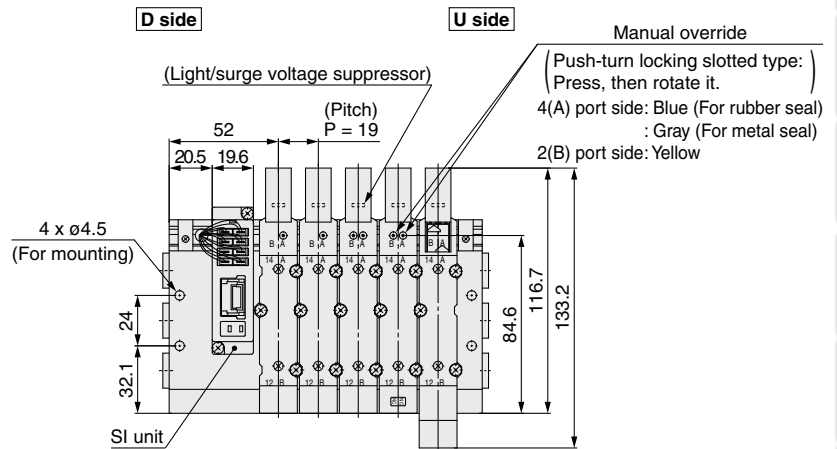
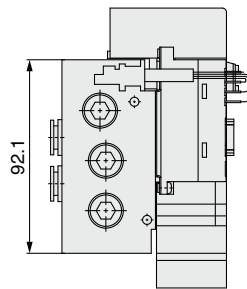
Port Size 02

| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------------|------|-----|-------|-----|-------|-----|-------|-------|-------|-----|-------|
| L1 | 88.5 | 106 | 123.5 | 141 | 158.5 | 176 | 193.5 | 211 | 228.5 | 246 | 263.5 |
| L2 | 78.5 | 96 | 113.5 | 131 | 148.5 | 166 | 183.5 | 201 | 218.5 | 236 | 253.5 |
| L3 | — | — | — | — | — | — | — | 100.5 | 109.3 | 118 | 126.8 |



Dimensions: SY7000 Series

SS5Y7-51S5□-Stations D-⁰²C□, N□
KC□, KN□□(D)



* These figures show the "SS5Y7-51S5-05D-C10."

| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------------|----|-----|-----|-----|-----|-----|-----|-------|-----|-------|-----|
| L1 | 92 | 111 | 130 | 149 | 168 | 187 | 206 | 225 | 244 | 263 | 282 |
| L2 | 82 | 101 | 120 | 139 | 158 | 177 | 196 | 215 | 234 | 253 | 272 |
| L3 | — | — | — | — | — | — | — | 107.5 | 117 | 126.5 | 136 |

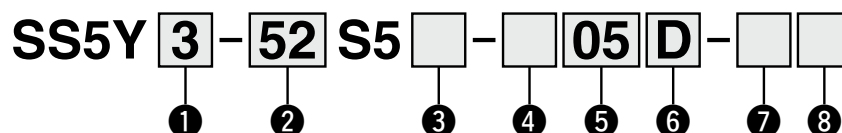
**Type 52
Top Ported**

Plug-in Metal Base EX510

SY3000/5000/7000 Series



How to Order Manifolds



1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type

| | |
|-----|----------------------------|
| 52 | Top ported |
| 52R | Top ported, External pilot |

3 SI unit output polarity

| | |
|-----|-----------------|
| Nil | Positive common |
| N | Negative common |

4 Wiring type

| | |
|-----|---------------------|
| Nil | All double wiring*1 |
| S | All single wiring*2 |

- *1 All double wiring: 2-position single, double, 3-position, and 4-position valves can be used on all manifold stations.
- *2 All single wiring: Available only for the manifold which has 2-position single for all stations. Note that 2-position double, 3-, or 4-position valves cannot be used.
- * If a mix of single and double wiring is required, it is supplied as a special order.

5 Valve stations

| Symbol | Stations | Note |
|--------|-------------|-------------------|
| 02 | 2 stations | All double wiring |
| 08 | 8 stations | |
| 02 | 2 stations | All single wiring |
| 12 | 12 stations | |

* This also includes the number of the blanking plate assembly.

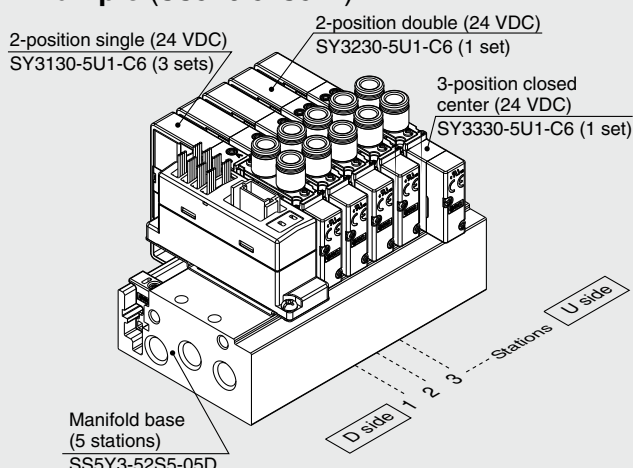
6 P, E port entry

| | |
|---|------------|
| U | U side*1 |
| D | D side*1 |
| B | Both sides |

*1 Plugs are mounted on the opposite side of the selected ports.

How to Order Manifold Assembly

Example (SS5Y3-52S5-□)



SS5Y3-52S5-05D 1 set (Type 52 5-station manifold base part no.)
 *SY3130-5U1-C6 3 sets (2-position single part no.)
 *SY3230-5U1-C6 1 set (2-position double part no.)
 *SY3330-5U1-C6 1 set (3-position closed center part no.)

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

- For the valve arrangement, the valve closest to the D side is considered the 1st station.
- Under the manifold part number, state the valves to be mounted in order starting with the 1st station as shown in the figure above. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.

7 Thread type

| | |
|-----|------|
| Nil | Rc |
| 00F | G |
| 00N | NPT |
| 00T | NPTF |

8 Mounting

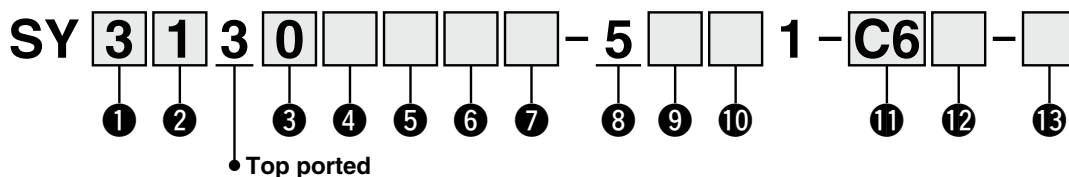
| | | |
|-----|---|---|
| Nil | Direct mounting | |
| D | DIN rail mounting (With DIN rail) | |
| D0 | DIN rail mounting (Without DIN rail) | |
| D3 | For 3 stations | Specify a length longer than that of the standard rail. |
| ⋮ | ⋮ | |
| D12 | For 12 stations | |

* Refer to page 295 for the fixation of DIN rail mounting type manifold.

For details on the EX510 Gateway Type Serial Transmission System, refer to the **Web Catalog** and the Operation Manual. Please download the Operation Manual via the SMC website, <https://www.smcworld.com>

How to Order Valves (With mounting screw)

Refer to page 15 for valve specifications.



1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Type of actuation

| | | |
|-----|------------|-----------------|
| 1 | 2-position | Single |
| 2 | | Double |
| 3 | 3-position | Closed center |
| 4 | | Exhaust center |
| 5 | | Pressure center |
| A*1 | 4-position | N.C./N.C. |
| B*1 | dual | N.O./N.O. |
| C*1 | 3-port | N.C./N.O. |

*1 Only the 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 the rubber seal type is available.
* The back pressure check valve is not available for the 3-position type or the SY7000.

6 Pilot valve option

| | |
|-----|-------------------------------|
| Nil | Standard (0.7 MPa) |
| B | Quick response type (0.7 MPa) |
| K*1 | High pressure type (1.0 MPa) |

*1 Only the 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 if the valve is to be continuously energized for long periods of time.
* Be careful of the energizing time when the power saving circuit is selected. Refer to page 292 for details.

8 Rated voltage

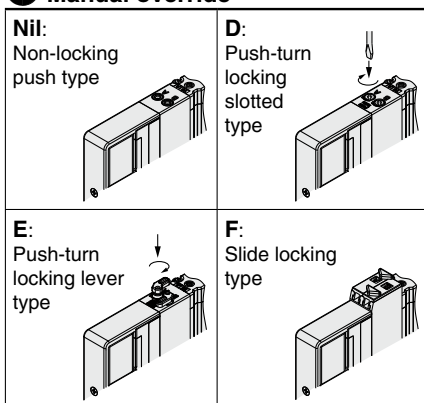
| | |
|---|--------|
| 5 | 24 VDC |
|---|--------|

9 Light/surge voltage suppressor and common specification

| Symbol | With light | Surge voltage suppressor | Common specification |
|--------|------------|--------------------------|----------------------|
| R | — | ● | Non-polar |
| U | ● | | |
| S | — | | Positive common |
| Z | ● | | Negative common |
| NS | — | | |
| NZ | ● | | |

* For the non-polar type, be careful of surge voltage intrusion.
Refer to page 293 for details.
* Only "Z" and "NZ" types are available with a power saving circuit. Select "R," "U," "S," or "Z" for the valve when the SI unit output polarity is Nil (positive common). Select "R," "U," "NS," or "NZ" for the valve when the SI unit output polarity is N (negative common).

10 Manual override



* Refer to page 34 for the safety slide locking manual override.

11 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 |

One-touch fitting (Metric)

| Symbol | A, B port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| C2 | ø2 | ● | — | — |
| C3 | ø3.2 | ● | — | — |
| C4 | ø4 | ● | ● | — |
| C6 | ø6 | ● | ● | ● |
| C8 | ø8 | — | ● | ● |
| C10 | ø10 | — | — | ● |
| C12 | ø12 | — | — | ● |

One-touch fitting (Inch)

| Symbol | A, B port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| N1 | ø1/8" | ● | — | — |
| N3 | ø5/32" | ● | ● | — |
| N7 | ø1/4" | ● | ● | ● |
| N9 | ø5/16" | — | ● | ● |
| N11 | ø3/8" | — | — | ● |

12 Thread type

| | |
|-----|------|
| Nil | Rc |
| F | G |
| N | NPT |
| T | NPTF |

* Only Nil is available for M5.

13 Type of mounting screw

| | |
|-----|--|
| Nil | Round head combination screw |
| B | Hexagon socket head cap screw |
| K | Round head combination screw (Drop prevention type) |
| H | Hexagon socket head cap screw (Drop 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. Refer to page 266 for base gasket and mounting screw part numbers.
* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly or interface regulator.

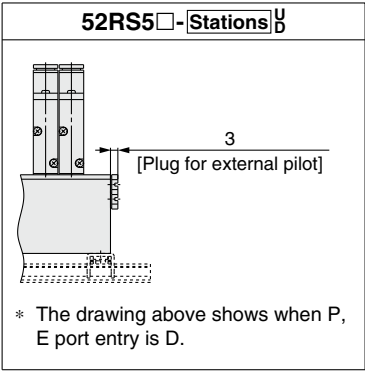
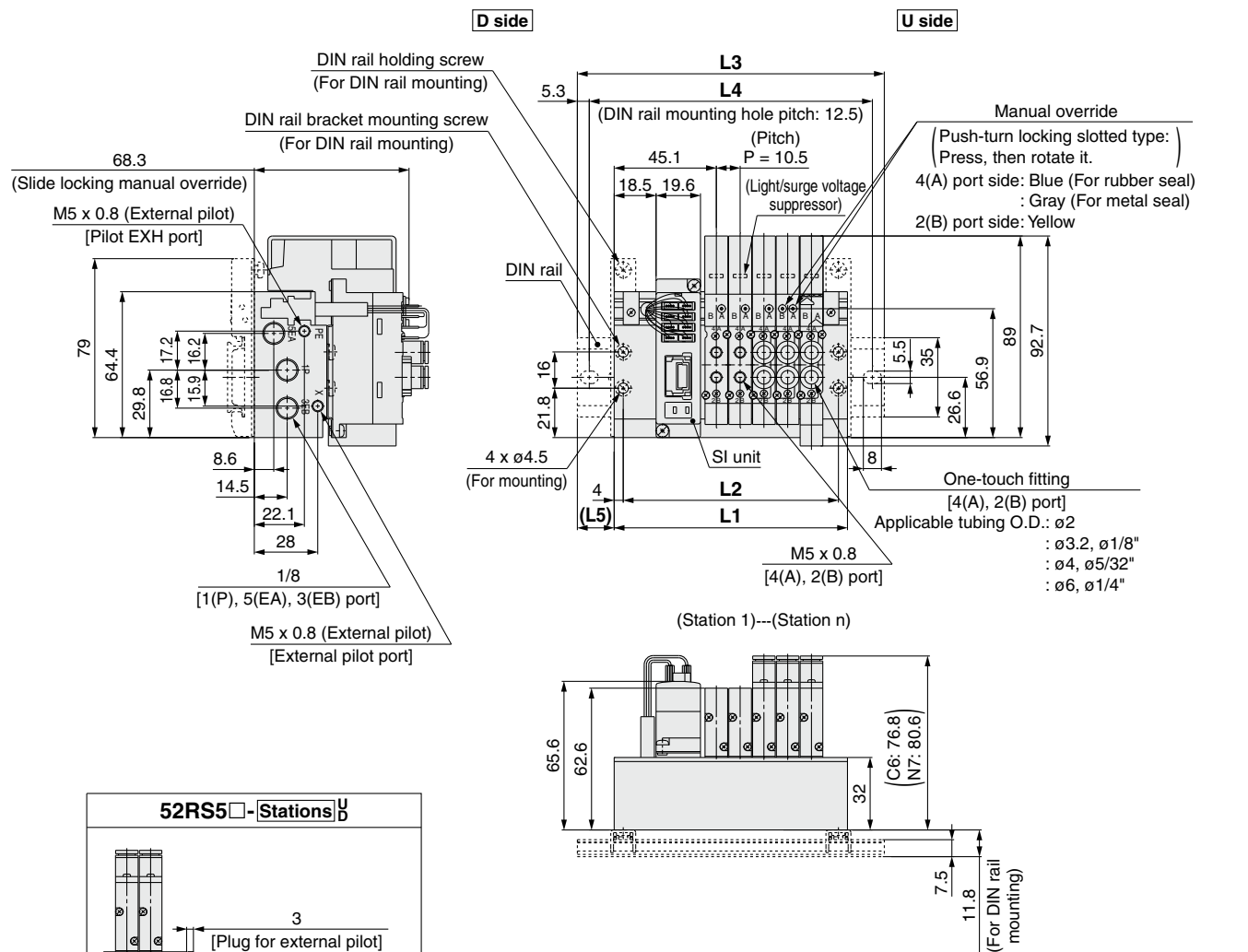
SY3000/5000/7000 Series

Plug-in
Metal Base

Type 52/Top Ported
EX510

Dimensions: SY3000 Series

SS5Y3-52(R)S5□ - Stations $\frac{U}{D}$ - □(D)

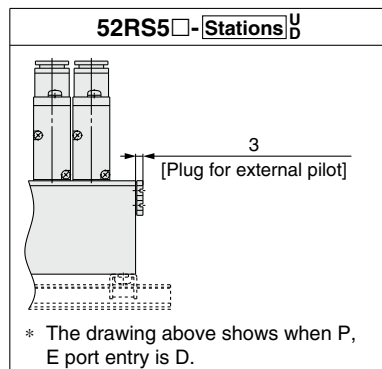
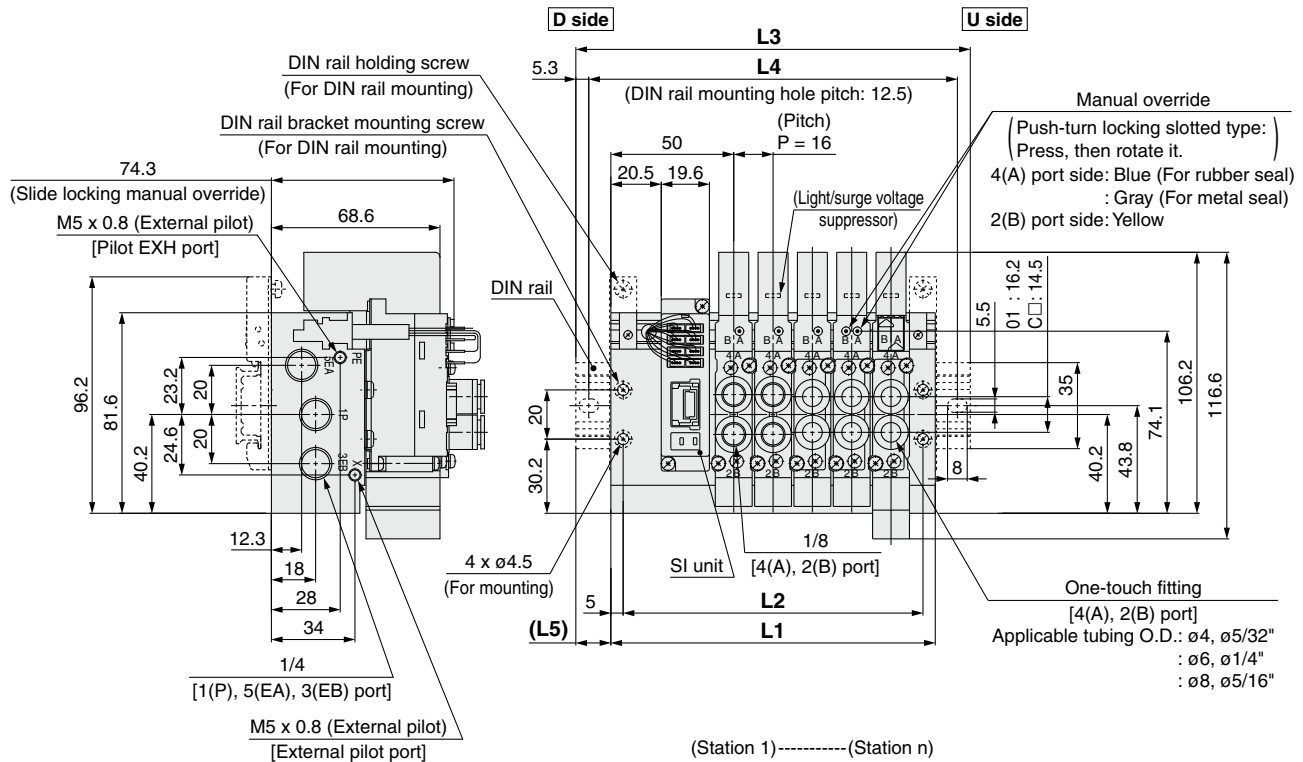


* These figures show the "SS5Y3-52S5-05B."

| 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 |

Dimensions: SY5000 Series

SS5Y5-52(R)S5□ - Stations $\frac{U}{D}$ - □(D)



* These figures show the "SS5Y5-52S5-05B."

| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 84 | 100 | 116 | 132 | 148 | 164 | 180 | 196 | 212 | 228 | 244 |
| L2 | 74 | 90 | 106 | 122 | 138 | 154 | 170 | 186 | 202 | 218 | 234 |
| L3 | 110.5 | 135.5 | 148 | 160.5 | 173 | 198 | 210.5 | 223 | 248 | 260.5 | 273 |
| L4 | 100 | 125 | 137.5 | 150 | 162.5 | 187.5 | 200 | 212.5 | 237.5 | 250 | 262.5 |
| L5 | 13.5 | 18 | 16 | 14.5 | 12.5 | 17 | 15.5 | 13.5 | 18 | 16.5 | 14.5 |

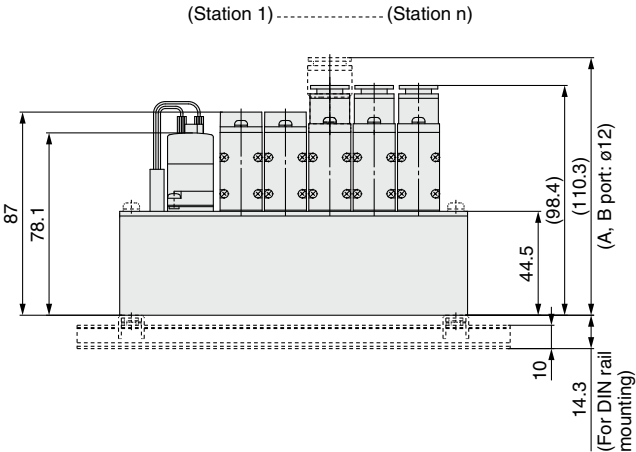
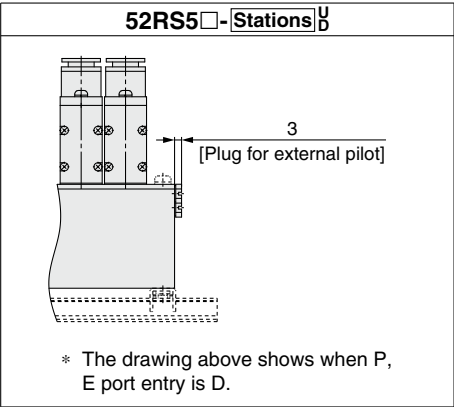
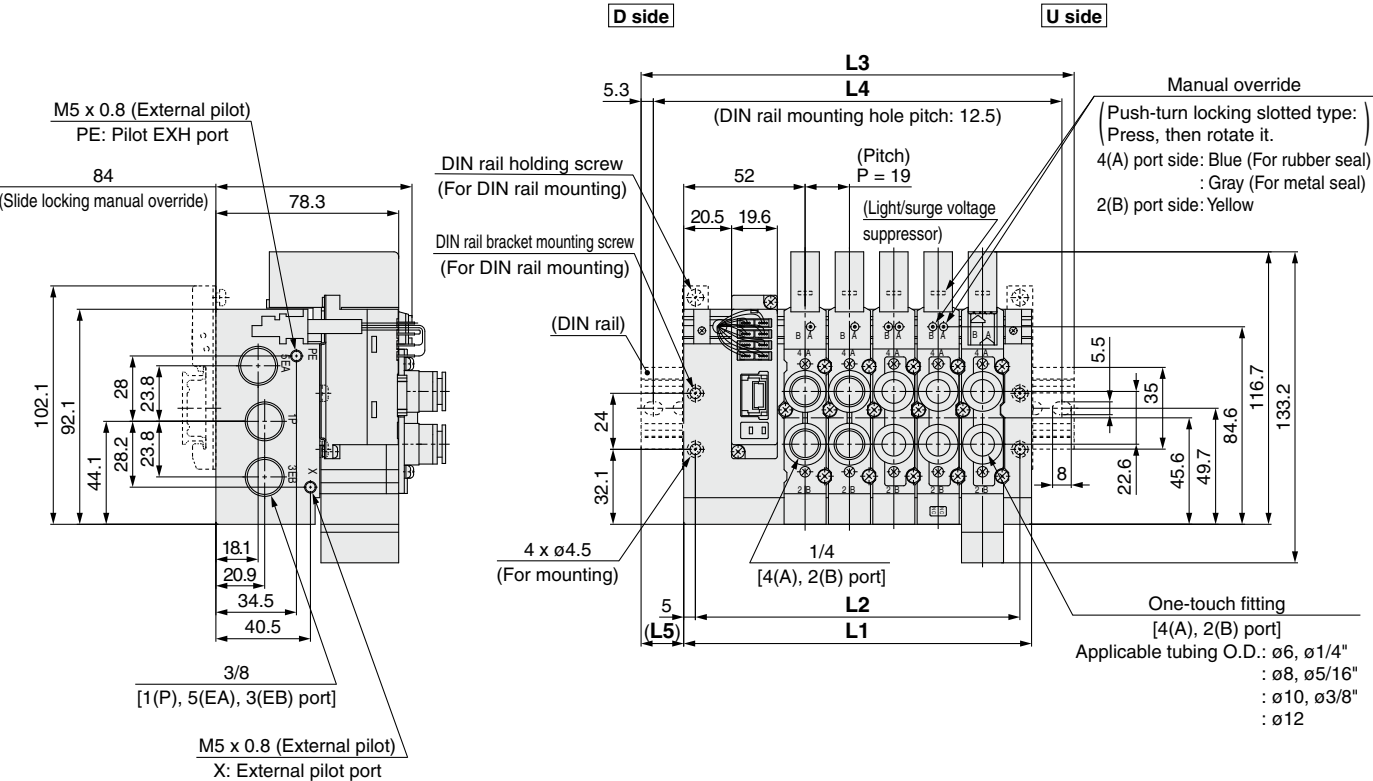
SY3000/5000/7000 Series

Plug-in
Metal Base

Type 52/Top Ported
EX510

Dimensions: SY7000 Series

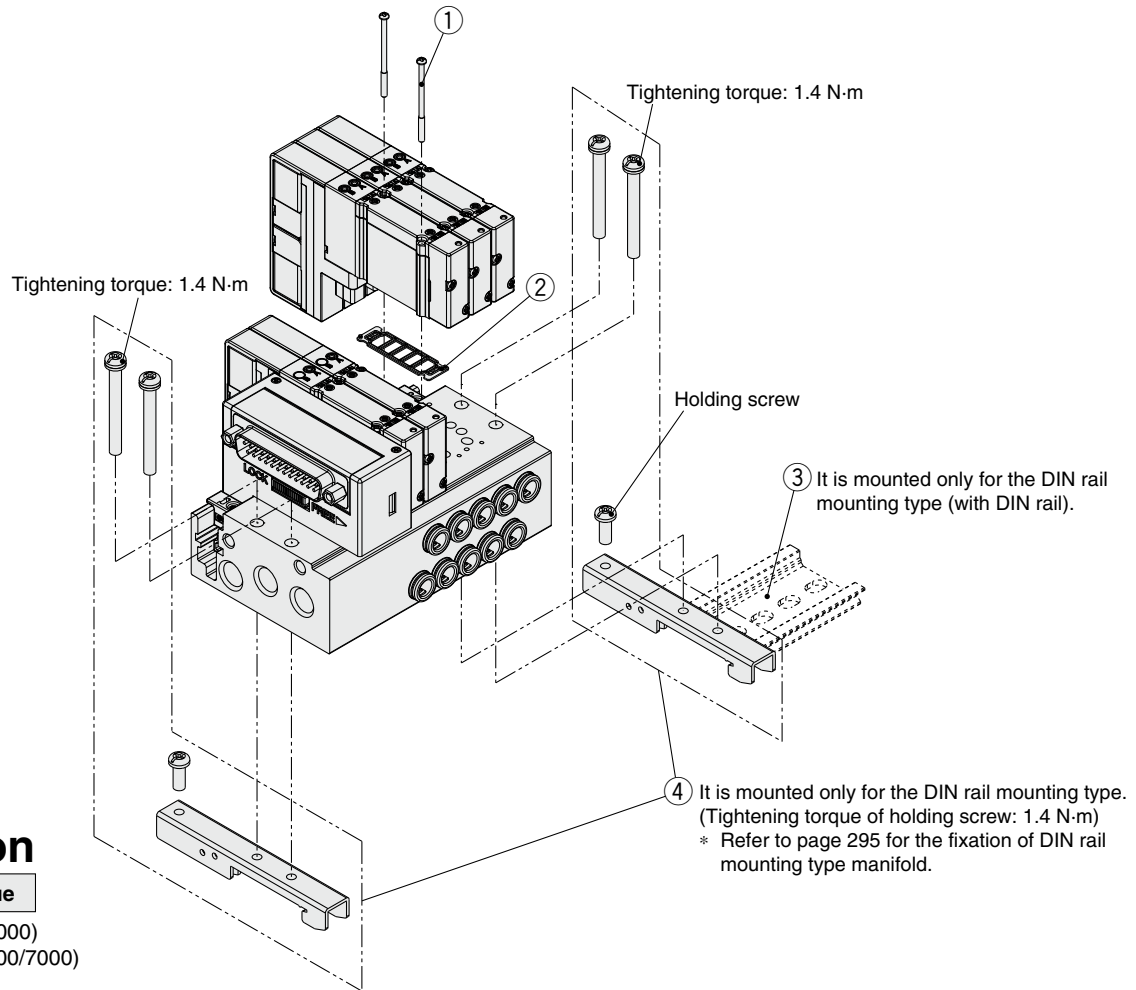
SS5Y7-52(R)S5□-Stations^U_D-□(D)



* These figures show the "SS5Y7-52S5-05B."

| n: Stations | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 92 | 111 | 130 | 149 | 168 | 187 | 206 | 225 | 244 | 263 | 282 |
| L2 | 82 | 101 | 120 | 139 | 158 | 177 | 196 | 215 | 234 | 253 | 272 |
| L3 | 123 | 148 | 160.5 | 185.5 | 198 | 223 | 235.5 | 260.5 | 273 | 298 | 310.5 |
| L4 | 112.5 | 137.5 | 150 | 175 | 187.5 | 212.5 | 225 | 250 | 262.5 | 287.5 | 300 |
| L5 | 15.5 | 18.5 | 15.5 | 18.5 | 15 | 18 | 15 | 18 | 14.5 | 17.5 | 14.5 |

Plug-in Metal Base Manifold Exploded View



Caution

Tightening torque

M2: 0.16 N-m (SY3000)
M3: 0.8 N-m (SY5000/7000)

Manifold Parts Nos.

| No. | Description | | Part no. | | | Note |
|-----|--|-------------------------------|----------------------------|------------------------------|------------------------------|--|
| | | | SY3000 | SY5000 | SY7000 | |
| ① | Valve mounting screw | Round head combination screw | SY3000-23-24A (M2 x 32) | SY5000-221-1A (M3 x 32.5) | SY7000-221-1A (M3 x 36.5) | Part numbers shown on the left are for 10 valves (20 pcs.). (30 pcs. for the SY7000) |
| | | Hexagon socket head cap screw | SY3000-222-1A (M2 x 32) | SY5000-222-1A (M3 x 32.5) | SY7000-222-1A (M3 x 36.5) | |
| ② | Base gasket (for plug-in metal base and sub-plate) | | SY30M-11-1A | SY50M-11-1A | SY70M-11-1A | Part numbers shown on the left are for 10 valves (10 pcs.). |
| ③ | DIN rail | | VZ1000-11-1-□ | VZ1000-11-4-□ | VZ1000-11-4-□ | Refer to page 268. |
| ④ | Clamp bracket assembly (for plug-in metal base) | | SY30M-15-2A | SY50M-15-2A | SY70M-15-2A | Part numbers shown on the left are for the clamp bracket assembly for one manifold (two sets of clamp brackets). |

SY3000/5000/7000 Series One-touch Fitting, Plug Assembly Part Nos.

Refer to "How to Replace One-touch Fittings" on page 296 for the replacement method.

■ One-touch fittings

| Port size | | | | SY3000 | SY5000 | SY7000 |
|-----------|-------------|--------|---------------|----------------|----------------|-----------------|
| A, B port | Metric size | ø2 | Straight type | VVQ1000-50A-C2 | — | — |
| | | ø3.2 | | VVQ1000-50A-C3 | — | — |
| | | ø4 | | VVQ1000-50A-C4 | VVQ1000-51A-C4 | — |
| | | ø6 | | VVQ1000-50A-C6 | VVQ1000-51A-C6 | VVQ2000-51A-C6 |
| | | ø8 | | — | VVQ1000-51A-C8 | VVQ2000-51A-C8 |
| | | ø10 | | — | — | VVQ2000-51A-C10 |
| | | ø12 | | — | — | KQ2H12-17-X224 |
| | Inch size | ø1/8" | Straight type | VVQ1000-50A-N1 | — | — |
| | | ø5/32" | | VVQ1000-50A-N3 | VVQ1000-51A-N3 | — |
| | | ø1/4" | | VVQ1000-50A-N7 | VVQ1000-51A-N7 | VVQ2000-51A-N7 |
| | | ø5/16" | | — | VVQ1000-51A-N9 | VVQ2000-51A-N9 |
| | | ø3/8" | | — | — | VVQ2000-51A-N11 |

* Purchasing order is available in units of 10 pieces.

■ Plug assembly

| | SY3000 | SY5000 | SY7000 |
|-----------|-------------|-------------|-------------|
| A, B port | VVQ0000-58A | VVQ1000-58A | VVQ2000-58A |

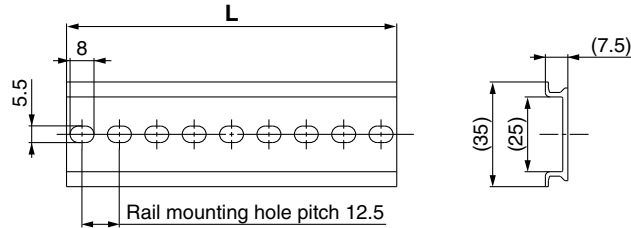
* Purchasing order is available in units of 10 pieces.

SY3000/5000/7000 Series Manifold Options

■ For the SY3000 **Plug-in** metal base

VZ1000-11-1-□

* After confirming the L3 dimension in the dimensions table of each series, refer to the DIN rail dimensions table below and specify the number in the box □.

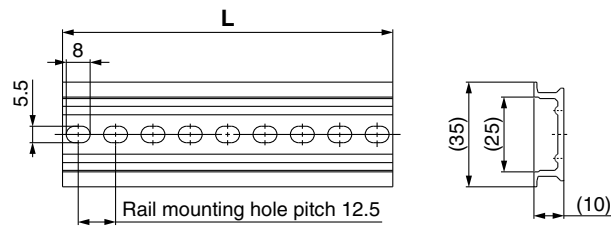


| No. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L dimension | 98 | 110.5 | 123 | 135.5 | 148 | 160.5 | 173 | 185.5 | 198 | 210.5 | 223 | 235.5 | 248 | 260.5 | 273 | 285.5 | 298 | 310.5 | 323 |
| Weight [g] | 17.6 | 19.9 | 22.1 | 24.4 | 26.6 | 28.9 | 31.1 | 33.4 | 35.6 | 37.9 | 40.1 | 42.4 | 44.6 | 46.9 | 49.1 | 51.4 | 53.6 | 55.9 | 58.1 |
| No. | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 |
| L dimension | 335.5 | 348 | 360.5 | 373 | 385.5 | 398 | 410.5 | 423 | 435.5 | 448 | 460.5 | 473 | 485.5 | 498 | 510.5 | 523 | 535.5 | 548 | 560.5 |
| Weight [g] | 60.4 | 62.5 | 64.9 | 67.1 | 69.4 | 71.6 | 73.9 | 76.1 | 78.4 | 80.6 | 82.9 | 85.1 | 87.4 | 89.6 | 91.9 | 94.1 | 96.4 | 98.6 | 100.9 |
| No. | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 |
| L dimension | 573 | 585.5 | 598 | 610.5 | 623 | 635.5 | 648 | 660.5 | 673 | 685.5 | 698 | 710.5 | 723 | 735.5 | 748 | 760.5 | 773 | 785.5 | 798 |
| Weight [g] | 103.1 | 105.4 | 107.6 | 109.9 | 112.1 | 114.4 | 116.6 | 118.9 | 121.1 | 123.4 | 125.6 | 127.9 | 130.1 | 132.4 | 134.6 | 136.9 | 139.1 | 141.4 | 143.6 |
| No. | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | | | | |
| L dimension | 810.5 | 823 | 835.5 | 848 | 860.5 | 873 | 885.5 | 898 | 910.5 | 923 | 935.5 | 948 | 960.5 | 973 | 985.5 | | | | |
| Weight [g] | 145.9 | 148.1 | 150.4 | 152.6 | 154.9 | 157.1 | 159.4 | 161.6 | 163.9 | 166.1 | 168.4 | 170.6 | 172.9 | 175.1 | 177.4 | | | | |

■ For the SY5000/7000 **Plug-in** metal base

VZ1000-11-4-□

* After confirming the L3 dimension in the dimensions table of each series, refer to the DIN rail dimensions table below and specify the number in the box □.



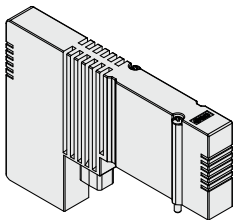
| No. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L dimension | 98 | 110.5 | 123 | 135.5 | 148 | 160.5 | 173 | 185.5 | 198 | 210.5 | 223 | 235.5 | 248 | 260.5 | 273 | 285.5 | 298 | 310.5 | 323 |
| Weight [g] | 24.8 | 28 | 31.1 | 34.3 | 37.4 | 40.6 | 43.8 | 46.9 | 50.1 | 53.3 | 56.4 | 59.6 | 62.7 | 65.9 | 69.1 | 72.2 | 75.4 | 78.6 | 81.7 |
| No. | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 |
| L dimension | 335.5 | 348 | 360.5 | 373 | 385.5 | 398 | 410.5 | 423 | 435.5 | 448 | 460.5 | 473 | 485.5 | 498 | 510.5 | 523 | 535.5 | 548 | 560.5 |
| Weight [g] | 84.9 | 88 | 91.2 | 94.4 | 97.5 | 100.7 | 103.9 | 107 | 110.2 | 113.3 | 116.5 | 119.7 | 122.8 | 126 | 129.2 | 132.3 | 135.5 | 138.6 | 141.8 |
| No. | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 |
| L dimension | 573 | 585.5 | 598 | 610.5 | 623 | 635.5 | 648 | 660.5 | 673 | 685.5 | 698 | 710.5 | 723 | 735.5 | 748 | 760.5 | 773 | 785.5 | 798 |
| Weight [g] | 145 | 148.1 | 151.3 | 154.5 | 157.6 | 160.8 | 163.9 | 167.1 | 170.3 | 173.4 | 176.6 | 179.8 | 182.9 | 186.1 | 189.2 | 192.4 | 195.6 | 198.7 | 201.9 |
| No. | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | | | | |
| L dimension | 810.5 | 823 | 835.5 | 848 | 860.5 | 873 | 885.5 | 898 | 910.5 | 923 | 935.5 | 948 | 960.5 | 973 | 985.5 | | | | |
| Weight [g] | 205.1 | 208.2 | 211.4 | 214.5 | 217.7 | 220.9 | 224 | 227.2 | 230.4 | 233.5 | 236.7 | 239.8 | 243 | 246.2 | 249.3 | | | | |

SY3000/5000/7000 Series

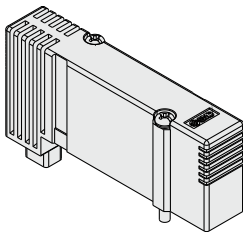
Manifold Options

Blanking plate assembly (With mounting screw)

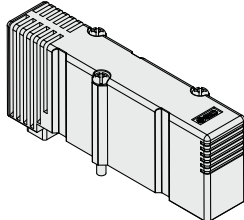
Used when valve additions are expected or for maintenance
 A structure is in place on the blanking plate to prevent the mounting screws from sliding.



SY30M-26-2A (-B)



SY50M-26-2A (-B)



SY70M-26-2A (-B)

Refer to pages 276 to 278 for dimensions.

Refer to pages 270 to 275 for individual SUP/EXH and other options.

| Part numbers of mounting screw [Hexagon bolt] (For repairs) | |
|--|-------------------------------|
| SY3000: | SY3000-23-24A [SY3000-222-1A] |
| SY5000: | SY5000-221-1A [SY5000-222-1A] |
| SY7000: | SY7000-221-2A [SY7000-222-1A] |

How to Order Blanking Plate Assembly

SY

3

SY3000

5

SY5000

7

SY7000

Series

3

SY3000

5

SY5000

7

SY7000

Option for mounting

Nil

With mounting screw
(Round head combination screw)

B

With mounting screw
(Hexagon socket head cap screw)

Base type

2

For plug-in metal base

(A)

4

(B)

2

5

1

3

(EA)

(P)

(EB)

Circuit diagram

Plug

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

* Shipped together with the product

Dimensions

| Applicable fitting size ød (Metric size) | Model | A | L | øD |
|---|---------|------|------|----|
| 2 | KJP-02 | 8.2 | 17 | 3 |
| 3.2 | KQ2P-23 | 16 | 31.5 | 5 |
| 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 | 45.5 | 14 |

| Applicable fitting size ød (Inch size) | Model | A | L | øD |
|---|---------|------|------|------|
| 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 |

269

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

⚠ Caution

| |
|--------------------------------------|
| Tightening torque for mounting screw |
| M2: 0.16 N·m (SY3000) |
| M3: 0.8 N·m (SY5000/7000) |

* Refer to pages 276 to 278 for dimensions.

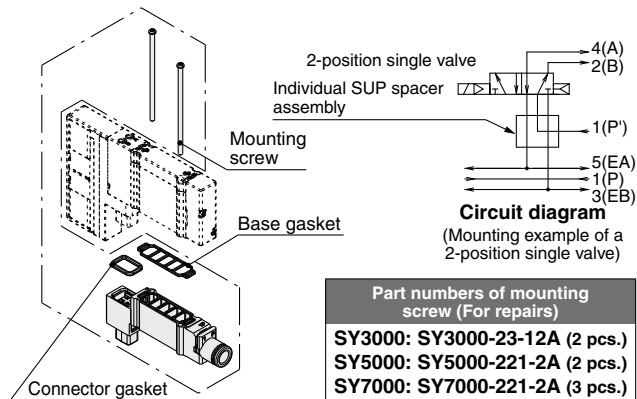
Manifold Options

■ Individual SUP spacer assembly

[With a connector gasket, a base gasket, and two mounting screws (3 pcs. for the SY7000)]

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

* When selecting a One-touch fitting elbow type for a spacer assembly, use it faced upward, since it interferes with A and B port piping of Type 50 manifolds.

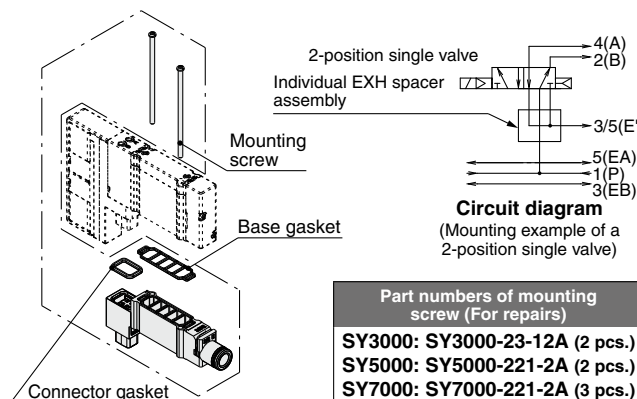


■ Individual EXH spacer assembly

[With a connector gasket, a base gasket, and two mounting screws (3 pcs. for the SY7000)]

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

* When selecting a One-touch fitting elbow type for a spacer assembly, use it faced upward, since it interferes with A and B port piping of Type 50 manifolds.



How to Order Individual SUP/EXH Spacer Assembly

One-touch fitting Straight type **SY 3 OM - 38 - 1 A - C6**

One-touch fitting Elbow type **SY 3 OM - 38 - 2 A - L6**

| Series | |
|--------|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

| Spacer type | |
|-------------|-----------------------|
| 38 | Individual SUP spacer |
| 39 | Individual EXH spacer |

Individual SUP/EXH spacer assembly

| 2 | Short elbow type |
|---|------------------|
| 3 | Long elbow type |

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

Port size (Metric/One-touch fittings)

| Symbol | P, E port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| L4 | ø4 | ● | ● | — |
| L6 | ø6 | ● | ● | ● |
| L8 | ø8 | — | ● | ● |
| L10 | ø10 | — | — | ● |
| L12 | ø12 | — | — | ● |

Port size (Inch/One-touch fittings)

| Symbol | P, E port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| LN3 | ø5/32" | ● | — | — |
| LN7 | ø1/4" | ● | ● | — |
| LN9 | ø5/16" | — | ● | — |
| LN11 | ø3/8" | — | — | ● |

Port size (Metric/One-touch fittings)

| Symbol | P, E port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| C2 | ø2 | ● | — | — |
| C3 | ø3.2 | ● | — | — |
| C4 | ø4 | ● | ● | — |
| C6 | ø6 | ● | ● | ● |
| C8 | ø8 | — | ● | ● |
| C10 | ø10 | — | — | ● |
| C12 | ø12 | — | — | ● |

Port size (Inch/One-touch fittings)

| Symbol | P, E port | SY3000 | SY5000 | SY7000 |
|--------|-----------|--------|--------|--------|
| N1 | ø1/8" | ● | — | — |
| N3 | ø5/32" | ● | — | — |
| N7 | ø1/4" | ● | ● | ● |
| N9 | ø5/16" | — | ● | ● |
| N11 | ø3/8" | — | — | ● |

* When using in combination with the SY3000□□1-E (With residual pressure release valve), the length of the required mounting screws will differ. Please contact SMC for details.

Chart

Valve Specifications

Valve Construction

Valve Replacement Parts

With Residual Pressure Release Valve

Vacuum Release Valve with Restrictor

With Pressure Sensor

Made to Order

Metal Base

D-sub, Flat Ribbon

EX510

Manifold Exploded View

Fitting, Plug Part Nos.

Manifold Options

Specific Product Precautions

SY3000/5000/7000 Series

⚠ Caution

| |
|--------------------------------------|
| Tightening torque for mounting screw |
| M2: 0.16 N·m (SY3000) |
| M3: 0.8 N·m (SY5000/7000) |

Manifold Options

* Refer to pages 276 to 278 for dimensions.

■ SUP stop valve spacer assembly with residual pressure release valve

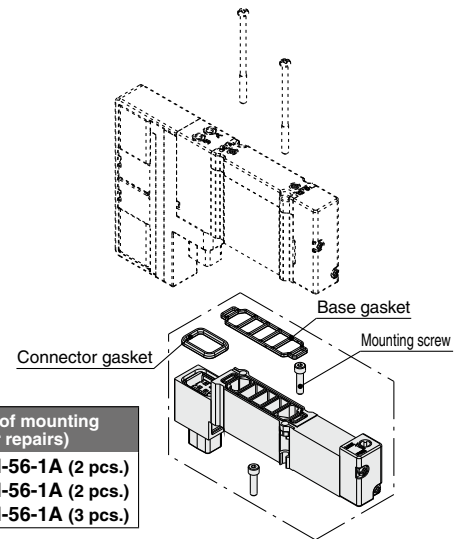
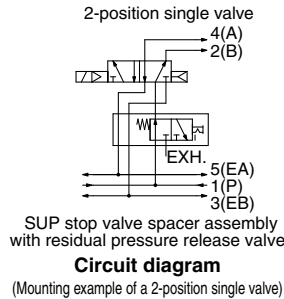
[With a connector gasket, a base gasket, and two mounting screws (3 pcs. for the SY7000)]

It is used to shut off the supply air to valves individually.

SY **3** 0M - 50 - 1A **E**

| Series | |
|--------|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

| Manual override | |
|-----------------|--------------------------------|
| Nil | Push-turn locking slotted type |
| E | Push-turn locking lever type |



| Part numbers of mounting screw (For repairs) |
|--|
| SY3000: SY30M-56-1A (2 pcs.) |
| SY5000: SY50M-56-1A (2 pcs.) |
| SY7000: SY70M-56-1A (3 pcs.) |

* For lever type

When locking the lever type manual override, push the lever down in the PUSH position with your fingers until it stops, then turn the lever 90° clockwise. (PUSH → LOCK)

Turning the lever without pushing it down until it stops can cause damage to the manual override and other problems such as air leakages.

To unlock the manual override, turn the lever counterclockwise. (LOCK → PUSH)

[How to mount 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.

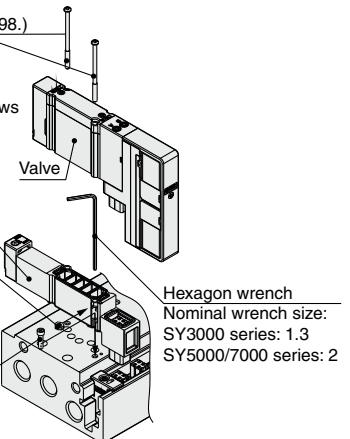
- * Install the plate type nut to the spacer assembly as shown in the figure if it comes off. The SUP stop valve mounting screws can be tightened with a hexagon wrench without removing the plate type nut.
- * This product is only for internal pilot specifications, as the external pilot air cannot be shut off.
- * If the product is equipped with a 3-position closed center, residual pressure cannot be released, so use in combination with a 3-port valve, which can be connected to the A, B piping port.

Valve mounting screw (See page 198.)

Tightening torque:
SY3000 series: 0.16 N·m
SY5000/7000 series: 0.8 N·m
For Hexagon socket head cap screws
Nominal wrench size:
SY3000 series: 1.5
SY5000/7000 series: 2.5

SUP stop valve spacer assembly with residual pressure release valve
Plate type nut
SY3000 series:
SY30M-57-1A (10 pcs. included)
SY5000/7000 series:
SY50M-57-1A (10 pcs. included)

SUP stop valve mounting screw
Tightening torque:
SY3000 series: 0.16 N·m
SY5000/7000 series: 0.8 N·m



⚠ Caution

| |
|--------------------------------------|
| Tightening torque for mounting screw |
| M2: 0.16 N·m (SY3000) |
| M3: 0.8 N·m (SY5000/7000) |

Manifold Options

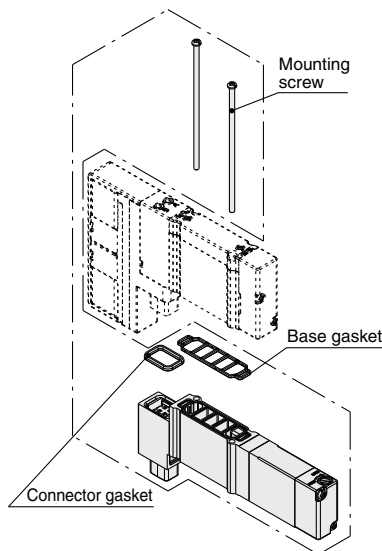
* Refer to pages 276 to 278 for dimensions.

■ Double check spacer assembly with residual pressure release valve (Side/Bottom ported)

[With a connector gasket, a base gasket, and two mounting screws (3 pcs. for the SY7000)] 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 |
| SY7000 | SY70M-60-1A |

| | Intermediate stop | Drop prevention |
|------------------|-----------------------------------|--|
| Applicable valve | SY $\frac{3}{7}$ 40 $\frac{0}{1}$ | SY $\frac{3}{7}$ $\frac{1}{2}$ 0 $\frac{0}{1}$ |



Part numbers of mounting screw (For repairs)

| | |
|----------------|------------------------|
| SY3000: | SY3000-23-27A (2 pcs.) |
| SY5000: | SY5000-221-4A (2 pcs.) |
| SY7000: | SY7000-221-4A (3 pcs.) |

⚠ Caution

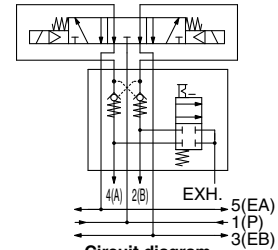
- Air leakage from the pipe between the valve and cylinder or from the fittings will prevent the cylinder from stopping for a long period of time. Check the leakage using neutral household detergent, such as dish washing soap. Also, check the cylinder's tube gasket, piston seal, and rod seal for air 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.
- If using a double check spacer that is built in to the sub-plate, refer to page 283.

Specifications

| | |
|---------------------------------------|-------------------------------|
| Max. operating pressure | 1.0 MPa |
| Min. operating pressure | 0.1 MPa |
| Ambient and fluid temperatures | -10 to 50°C |
| Flow rate characteristics: C | SY3000 0.3 dm³/(s·bar) |
| | SY5000 0.7 dm³/(s·bar) |
| | SY7000 1.1 dm³/(s·bar) |
| Max. operating frequency | 3 Hz |

<Example>

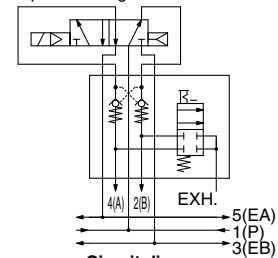
Double check spacer assembly with residual pressure release valve 3-position exhaust center valve



Circuit diagram

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

Double check spacer assembly with residual pressure release valve 2-position single valve



Circuit diagram

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

Chart

Valve Specifications

Valve Construction

Valve Replacement Parts

With Residual Pressure Release Valve

Vacuum Release Valve with Restrictor

With Pressure Sensor

Made to Order

Metal Base

D-sub, Flat Ribbon

EX510

Manifold Exploded View

Fitting, Plug Part Nos.

Manifold Options

Specific Product Precautions

SY3000/5000/7000 Series

Caution

| | |
|--------------------------------------|-----------------------|
| Tightening torque for mounting screw | |
| M2: | 0.16 N·m (SY3000) |
| M3: | 0.8 N·m (SY5000/7000) |

Manifold Options

* Refer to pages 276 to 278 for dimensions.

Interface regulator

[With a connector gasket, a base gasket, and two mounting screws (3 pcs. for the SY7000)]

Used when the supply pressure for each valve on the same manifold must be individually set (reduced pressure)

How to Order

SY 3 0M - 05 - P -

Series

| | |
|---|--------|
| 3 | SY3000 |
|---|--------|

Pressure gauge option^{*1}

| | |
|----|---|
| M1 | Without pressure gauge |
| 05 | Pressure gauge with MPa display (For odd number station) |
| 06 | Pressure gauge with MPa display (For even number station) |
| N5 | Pressure gauge with psi display (For odd number station) ^{*2} |
| N6 | Pressure gauge with psi display (For even number station) ^{*2} |

Applicable valve^{*3}

| | |
|-----|------------------------------------|
| Nil | For single, double, and 4-position |
| 3 | For 3-position |

^{*1} In the case of the SY3000 series 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 prevent the pressure gauges from interfering with each other.

^{*2} As per the new Measurement Law, gauges with a psi display will only be sold to overseas customers.

^{*3} In the case of the SY3000 series, use caution that the part numbers will differ depending on the one for single/double and 4- and 3-position due to the different length of solenoid valves. Also, if you have selected a model with a pressure gauge, and if at least the one for 3-position is included in the same manifold, use all the ones for 3-position to prevent the pressure gauges from interfering with each other.

SY 5 0M - 00 - P

Series

| | |
|---|--------|
| 5 | SY5000 |
| 7 | SY7000 |

Pressure gauge option

| | |
|----|---|
| M1 | Without pressure gauge |
| 00 | Pressure gauge with MPa display |
| N0 | Pressure gauge with psi display ^{*2} |

Regulating port

| | |
|----|--|
| P | 1(P) port |
| A1 | 4(A) port (P controlled type, A port regulation) |
| B1 | 2(B) port (P controlled type, B port regulation) |

Part numbers of mounting screw (For repairs)

SY3000: SY3000-23-12A (2 pcs.)

SY5000: SY5000-221-6A (2 pcs.)

SY7000: SY7000-221-6A (3 pcs.)

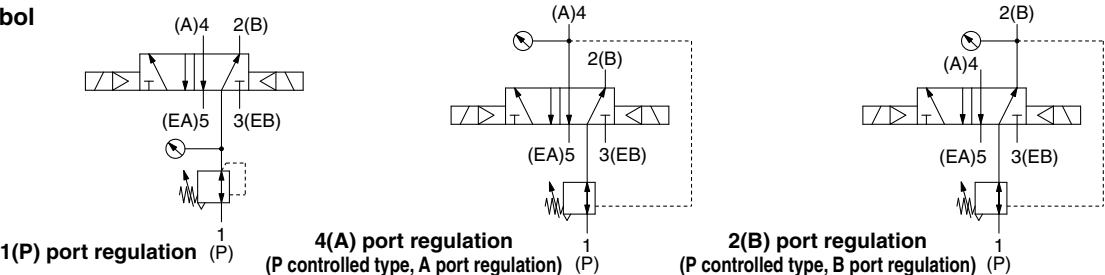
SY30M-05/N5 (With pressure gauge/ For odd number station) **SY30M-06/N6** (With pressure gauge/ For even number station) **SY30M-M1** (Without pressure gauge) **SY50M-00/N0** (With pressure gauge) **SY50M-M1** (Without pressure gauge) **SY70M-00/N0** (With pressure gauge) **SY70M-M1** (Without pressure gauge)

Specifications

| | | | |
|--------------------------------------|---------------------------|------------------------|------------------------|
| Interface regulator model | SY30M-□-□-□ | SY50M-□-□ | SY70M-□-□ |
| Applicable valve model ^{*1} | SY3□ ⁰ □(R) | SY5□ ⁰ □(R) | SY7□ ⁰ □(R) |
| Regulating port | 1(P), 4(A), 2(B) | | |
| Set pressure range | 0.1 to 0.7 MPa | | |
| Maximum operating pressure | 1.0 MPa | | |
| Fluid | Air | | |
| Ambient and fluid temperatures | -10 to 50°C (No freezing) | | |
| Weight [g] ^{*2} | With pressure gauge | 33 (35) ^{*3} | 75 |
| | Without pressure gauge | 27 (29) ^{*3} | 69 |

- ^{*1} 3-position closed center and pressure center, and 4-position dual 3-port valves are only available for 1(P) port pressure regulation.
- ^{*2} Gasket and mounting screws are included in the weight.
- ^{*3} (): Denotes the values of SY30M-□-□-3
- * Always apply pressure from 1(P) port in the base for interface regulator.
- * When using in combination with the SY⁵30□-□-□1-E (With residual pressure release valve), the length of the required mounting screws will differ. Please contact SMC for details.

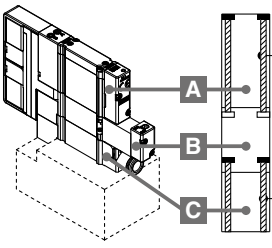
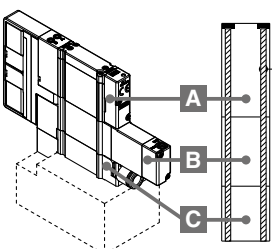
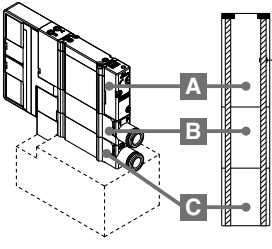
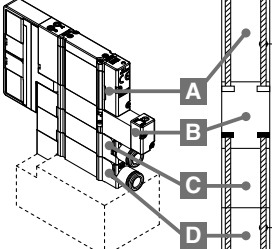
Symbol



⚠ Caution

| |
|--------------------------------------|
| Tightening torque for mounting screw |
| M2: 0.16 N·m (SY3000) |
| M3: 0.8 N·m (SY5000/7000) |

Manifold Options: Spacer Combinations and Screw List ①

| Combination | | ① SY3000 (M2) | | ② SY5000 (M3) | | ③ SY7000 (M3) | |
|--|---|---|---|---|---|---|---|
| | | Round head combination screw | Hexagon socket head cap screw | Round head combination screw | Hexagon socket head cap screw | Round head combination screw | Hexagon socket head cap screw |
|  <p><Round head combination screw> ①: SY3000-23-24A ②: SY5000-221-1A ③: SY7000-221-1A</p> <p><Hexagon socket head cap screw> ①: SY3000-222-1A ②: SY5000-222-1A ③: SY7000-221-1A</p> <p>①: SY30M-56-2A ②: SY50M-56-2A ③: SY70M-56-2A</p> | A Valve | SY3000-23-24A [for 10 valves (20 pcs.)] | SY3000-222-1A [for 10 valves (20 pcs.)] | SY5000-221-1A [for 10 valves (20 pcs.)] | SY5000-222-1A [for 10 valves (20 pcs.)] | SY7000-221-1A [for 10 valves (30 pcs.)] | SY7000-222-1A [for 10 valves (30 pcs.)] |
| | B SUP stop valve spacer assembly with residual pressure release valve | SY30M-56-2A (2 pcs.) | | SY50M-56-2A (2 pcs.) | | SY70M-56-2A (3 pcs.) | |
| | C Individual SUP (EXH) spacer assembly | | | | | | |
|  <p><Round head combination screw> ①: SY3000-23-33A ②: SY5000-221-5A ③: SY7000-221-5A</p> | A Valve | SY3000-23-33A (2 pcs.) | — | SY5000-221-5A (2 pcs.) | — | SY7000-221-5A (3 pcs.) | — |
| | B Double check spacer assembly with residual pressure release valve | | | | | | |
| | C Individual SUP (EXH) spacer assembly | | | | | | |
|  <p><Round head combination screw> ①: SY3000-23-32A ②: SY5000-221-3A ③: SY7000-221-3A</p> | A Valve | SY3000-23-32A (2 pcs.) | — | SY5000-221-3A (2 pcs.) | — | SY7000-221-3A (3 pcs.) | — |
| | B Individual SUP (EXH) spacer assembly | | | | | | |
| | C Individual EXH (SUP) spacer assembly | | | | | | |
|  <p><Round head combination screw> ①: SY3000-23-24A ②: SY5000-221-1A ③: SY7000-221-1A</p> <p><Hexagon socket head cap screw> ①: SY3000-222-1A ②: SY5000-222-1A ③: SY7000-222-1A</p> <p>①: SY30M-56-4A ②: SY50M-56-4A ③: SY70M-56-4A</p> | A Valve | SY3000-23-24A [for 10 valves (20 pcs.)] | SY3000-222-1A [for 10 valves (20 pcs.)] | SY5000-221-1A [for 10 valves (20 pcs.)] | SY5000-222-1A [for 10 valves (20 pcs.)] | SY7000-221-1A [for 10 valves (30 pcs.)] | SY7000-222-1A [for 10 valves (30 pcs.)] |
| | B SUP stop valve spacer assembly with residual pressure release valve | SY30M-56-4A (2 pcs.) | | SY50M-56-4A (2 pcs.) | | SY70M-56-4A (3 pcs.) | |
| | C Individual SUP (EXH) spacer assembly | | | | | | |
| | D Individual EXH (SUP) spacer assembly | | | | | | |

* Mounting onto a manifold follows the order explained above.

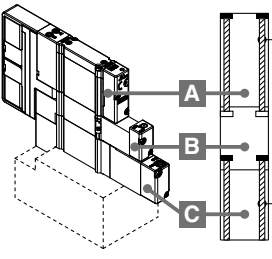
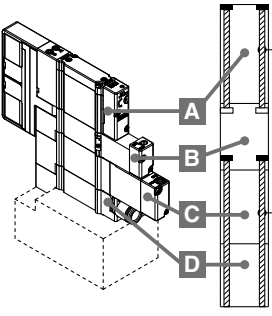
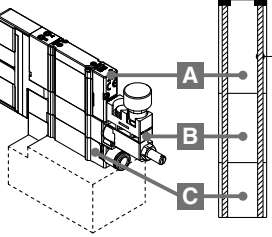
* The fitting for individual SUP/EXH spacers comes in a straight type only, since an elbow type would interfere with each spacer assembly when laminated.

SY3000/5000/7000 Series

⚠ Caution

| |
|--------------------------------------|
| Tightening torque for mounting screw |
| M2: 0.16 N·m (SY3000) |
| M3: 0.8 N·m (SY5000/7000) |

Manifold Options: Spacer Combinations and Screw List ②

| Combination | | ① SY3000 (M2) | | ② SY5000 (M3) | | ③ SY7000 (M3) | |
|---|---|---|---|---|---|---|---|
| | | Round head combination screw | Hexagon socket head cap screw | Round head combination screw | Hexagon socket head cap screw | Round head combination screw | Hexagon socket head cap screw |
|  <p> <Round head combination screw> ①: SY3000-23-24A ②: SY5000-221-1A ③: SY7000-221-1A <Hexagon socket head cap screw> ①: SY3000-222-1A ②: SY5000-222-1A ③: SY7000-222-1A ①: SY30M-56-3A ②: SY50M-56-3A ③: SY70M-56-3A </p> | A Valve | SY3000-23-24A [for 10 valves (20 pcs.)] | SY3000-222-1A [for 10 valves (20 pcs.)] | SY5000-221-1A [for 10 valves (20 pcs.)] | SY5000-222-1A [for 10 valves (20 pcs.)] | SY7000-221-1A [for 10 valves (30 pcs.)] | SY7000-222-1A [for 10 valves (30 pcs.)] |
| | B SUP stop valve spacer assembly with residual pressure release valve | SY30M-56-3A (2 pcs.) | | SY50M-56-3A (2 pcs.) | | SY70M-56-3A (3 pcs.) | |
| | C Double check spacer assembly with residual pressure release valve | | | | | | |
|  <p> <Round head combination screw> ①: SY3000-23-24A ②: SY5000-221-1A ③: SY7000-221-1A <Hexagon socket head cap screw> ①: SY3000-222-1A ②: SY5000-222-1A ③: SY7000-222-1A ①: SY30M-56-5A ②: SY50M-56-5A ③: SY70M-56-5A </p> | A Valve | SY3000-23-24A [for 10 valves (20 pcs.)] | SY3000-222-1A [for 10 valves (20 pcs.)] | SY5000-221-1A [for 10 valves (20 pcs.)] | SY5000-222-1A [for 10 valves (20 pcs.)] | SY7000-221-1A [for 10 valves (30 pcs.)] | SY7000-222-1A [for 10 valves (30 pcs.)] |
| | B SUP stop valve spacer assembly with residual pressure release valve | SY30M-56-5A (2 pcs.) | | SY50M-56-5A (2 pcs.) | | SY70M-56-5A (3 pcs.) | |
| | C Double check spacer assembly with residual pressure release valve | | | | | | |
| | D Individual EXH (SUP) spacer assembly | | | | | | |
|  <p> <Round head combination screw> ①: SY3000-23-32A ②: SY5000-221-7A ③: SY7000-221-7A </p> | A Valve | SY3000-23-32A (2 pcs.) | — | SY5000-221-7A (2 pcs.) | — | SY7000-221-7A (3 pcs.) | — |
| | B Interface regulator | | | | | | |
| | C Individual SUP (EXH) spacer assembly | | | | | | |

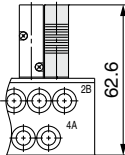
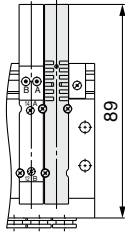
* Mounting onto a manifold follows the order explained above.

* The fitting for individual SUP/EXH spacers comes in a straight type only, since an elbow type would interfere with each spacer assembly when laminated.

* When laminating an interface regulator with other options, only the combinations in the table above are possible.

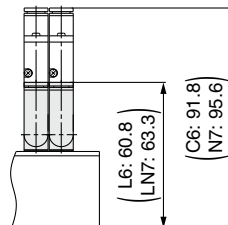
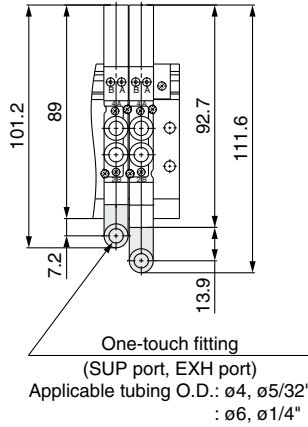
Dimensions: Manifold Options/SY3000 Series

■ Blanking plate assembly



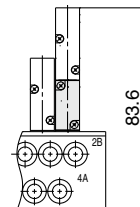
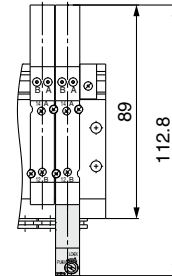
<Type 50, 51, 52>

■ Individual SUP/EXH spacer assembly (Top/Bottom ported)



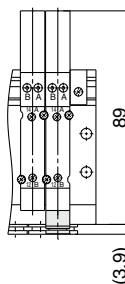
<Type 51, 52>

■ Double check spacer assembly with residual pressure release valve

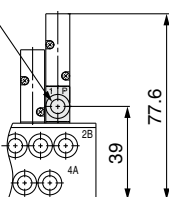


<Type 50, 51>

■ Individual SUP/EXH spacer assembly (Side ported)

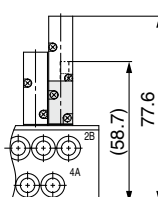
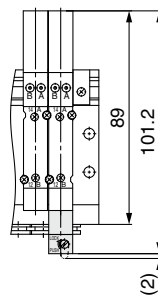


One-touch fitting
(SUP port, EXH port)
Applicable tubing O.D.: ø2
: ø3.2, ø1/8"
: ø4, ø5/32"
: ø6, ø1/4"



<Type 50>

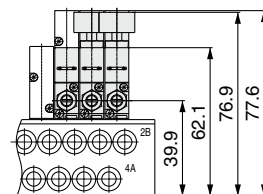
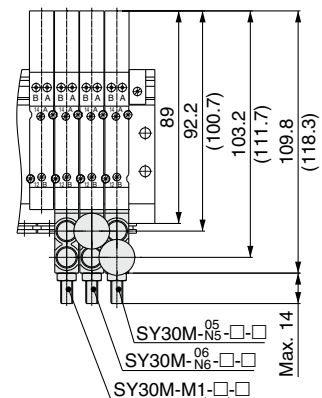
■ SUP stop valve spacer assembly with residual pressure release valve



<Type 50, 51, 52>

* The dimensions within () apply to the SY30M-50-1AE.

■ Interface regulator



<Type 50, 51, 52>

* The dimensions within () apply to the SY30M-□-□-3.

Chart

Valve
Specifications

Valve
Construction

Valve
Replacement
Parts

With Residual
Pressure
Release Valve

Vacuum
Release Valve
with Restrictor

With
Pressure
Sensor

Made to
Order

Metal Base

D-sub,
Flat
Ribbon

EX510

Manifold
Exploded
View

Fitting,
Plug
Part Nos.

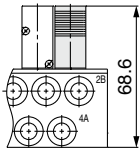
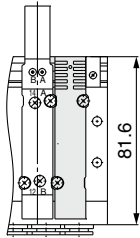
Manifold
Options

Specific
Product
Precautions

SY3000/5000/7000 Series

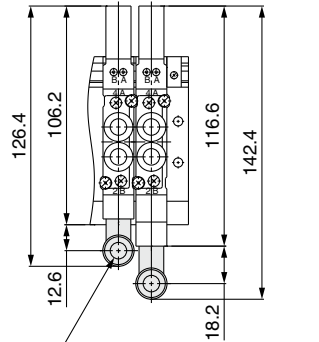
Dimensions: Manifold Options/SY5000 Series

■ Blanking plate assembly

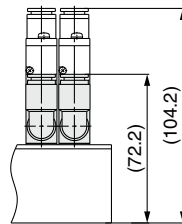


<Type 50, 51, 52>

■ Individual SUP/EXH spacer assembly (Top/Bottom ported)

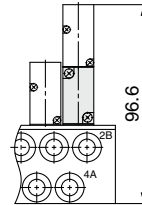
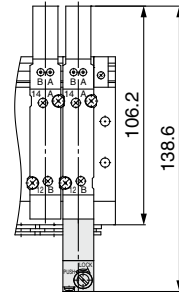


One-touch fitting
(SUP port, EXH port)
Applicable tubing O.D.: $\phi 4$
: $\phi 6$, $\phi 1/4"$
: $\phi 8$, $\phi 5/16"$



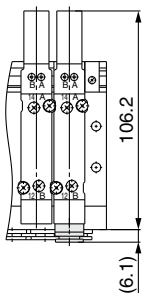
<Type 51, 52>

■ Double check spacer assembly with residual pressure release valve

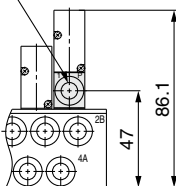


<Type 50, 51>

■ Individual SUP/EXH spacer assembly (Side ported)

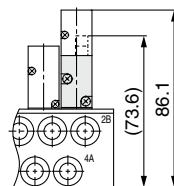
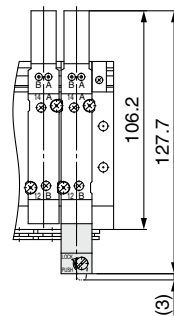


One-touch fitting
(SUP port, EXH port)
Applicable tubing O.D.: $\phi 4$, $\phi 5/32"$
: $\phi 6$, $\phi 1/4"$
: $\phi 8$, $\phi 5/16"$



<Type 50>

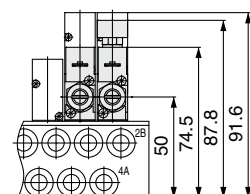
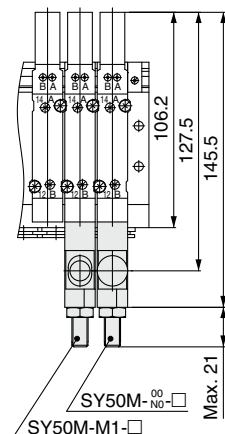
■ SUP stop valve spacer assembly with residual pressure release valve



<Type 50, 51, 52>

* The dimensions within () apply to the SY50M-50-1AE.

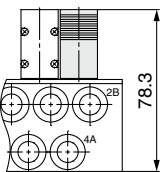
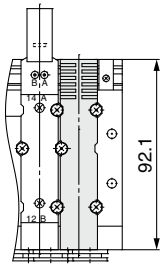
■ Interface regulator



<Type 50, 51, 52>

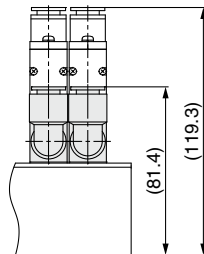
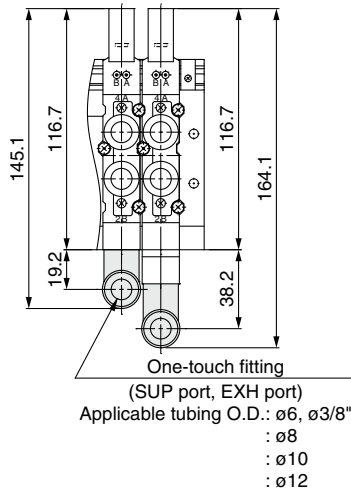
Dimensions: Manifold Options/SY7000 Series

■ Blanking plate assembly



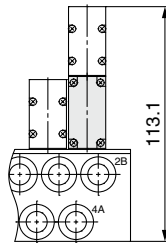
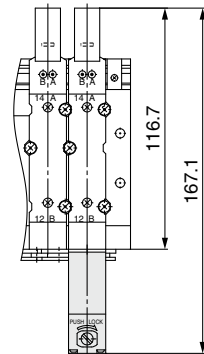
<Type 50, 51, 52>

■ Individual SUP/EXH spacer assembly (Top/Bottom ported)



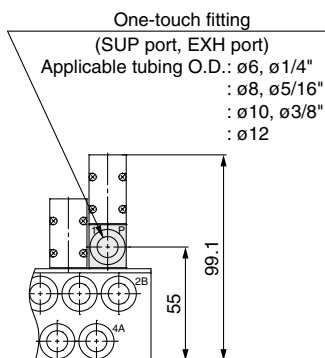
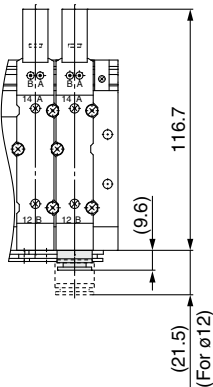
<Type 51, 52>

■ Double check spacer assembly with residual pressure release valve



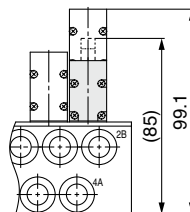
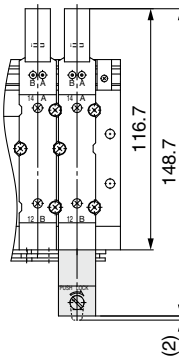
<Type 50, 51>

■ Individual SUP/EXH spacer assembly (Side ported)



<Type 50>

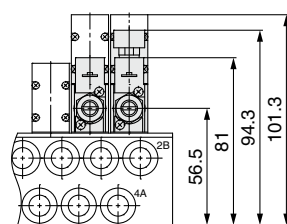
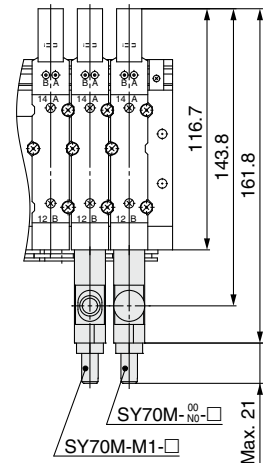
■ SUP stop valve spacer assembly with residual pressure release valve



<Type 50, 51, 52>

* The dimensions within () apply to the SY70M-50-1AE.

■ Interface regulator



<Type 50, 51, 52>

Chart

Valve Specifications

Valve Construction

Valve Replacement Parts

With Residual Pressure Release Valve

Vacuum Release Valve with Restrictor

With Pressure Sensor

Made to Order

Metal Base

D-sub, Flat Ribbon

EX510

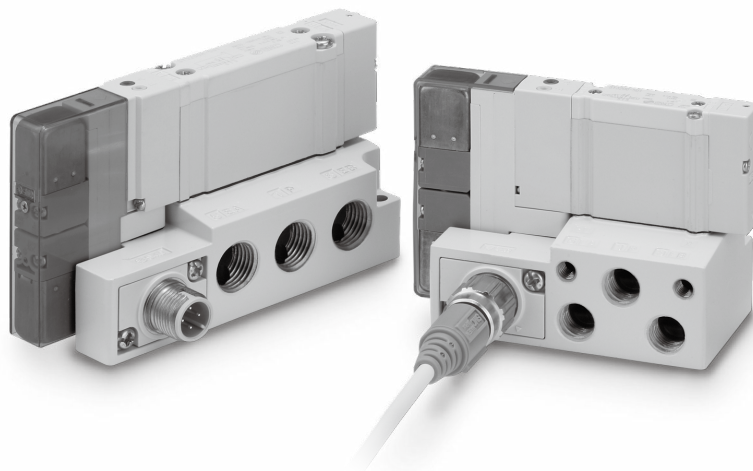
Manifold Exploded View

Fitting, Plug Part Nos.

Manifold Options

Specific Product Precautions

Plug-in Sub-plate Type [IP67 Compliant]



Chart

Valve
Specifications

Valve
Construction

Valve
Replacement
Parts

With Residual
Pressure
Release Valve

Vacuum
Release Valve
with Restrictor

With
Pressure
Sensor

Made to
Order

Connector
Connecting Base

Metal Base

Sub-plate

Specific
Product
Precautions

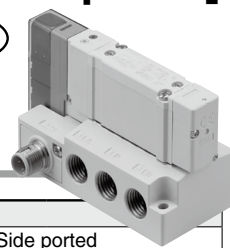
SY3000/5000/7000 Series

Plug-in Single Unit/Sub-plate Type [IP67 Compliant]

(Side ported, Bottom ported, Top ported)



RoHS



Plug-in Sub-plate Specifications

| Manifold type | | Plug-in sub-plate | | |
|-------------------------------|---|--|---------------|-----|
| Piping direction | Side ported | 1(P), 5(EA)/3(EB) port, 4(A)/2(B) port | Side ported | |
| | Bottom ported | 1(P), 5(EA)/3(EB) port, 4(A)/2(B) port | Bottom ported | |
| | Top ported | 1(P), 5(EA)/3(EB) port | Side ported | |
| 4(A)/2(B) port | | Top ported | | |
| SUP/EXH port type | SUP/EXH individual port [5(EA), 3(EB) individual] | | | |
| Applicable connector | M12 waterproof connector | | | |
| Internal wiring | Positive common, Negative common | | | |
| Port size | Side ported | 1(P), 5(EA)/3(EB) port, 4(A)/2(B) port | SY3000 | 1/8 |
| | | | SY5000 | 1/4 |
| | | | SY7000 | 3/8 |
| | Bottom ported | 1(P), 5(EA)/3(EB) port, 4(A)/2(B) port | SY3000 | 1/8 |
| | | | SY5000 | 1/4 |
| | | | SY7000 | 3/8 |
| | Top ported | 1(P), 5(EA)/3(EB) port | SY3000 | 1/8 |
| | | | SY5000 | 1/4 |
| | | | SY7000 | 3/8 |
| | 4(A)/2(B) port | Compliant with the valve*1 | | |
| Enclosure (Based on IEC60529) | | | | |
| IP67 | | | | |
| Weight: W [g]*2 | SY3000 | Side ported | 99 | |
| | | Bottom ported | 109 | |
| | | Top ported | 104 | |
| | SY5000 | Side ported | 145 | |
| | | Bottom ported | 172 | |
| | | Top ported | 159 | |
| | SY7000 | Side ported | 205 | |
| | | Bottom ported | 232 | |
| | | Top ported | 227 | |

*1 Refer to page 15 for valve specifications.

*2 The valve and cable weights are not included. To obtain the weight with valves attached, add the valve weights given on page 17, and to include the cable weight, add the connector cable weight on page 283.

Plug-in Sub-plate Flow Rate Characteristics

Rubber Seal

| Series | Sub-plate piping location | Fitting port size | | 1 → 4/2 | | 4/2 → 5/3 | |
|--------|---------------------------|-------------------|--------|---------|------|-----------|------|
| | | (P, E) | (A, B) | C | b | C | b |
| SY3000 | Side ported | 1/8 | 1/8 | 1.8 | 0.27 | 1.7 | 0.26 |
| | Bottom ported | 1/8 | 1/8 | 1.7 | 0.23 | 1.4 | 0.27 |
| | Top ported | 1/8 | C6 | 1.3 | 0.34 | 1.5 | 0.27 |
| SY5000 | Side ported | 1/4 | 1/4 | 4.2 | 0.21 | 4.0 | 0.26 |
| | Bottom ported | 1/4 | 1/4 | 4.0 | 0.19 | 4.0 | 0.23 |
| | Top ported | 1/4 | C8 | 2.9 | 0.29 | 4.1 | 0.33 |
| SY7000 | Side ported | 3/8 | 3/8 | 6.5 | 0.24 | 6.3 | 0.23 |
| | Bottom ported | 3/8 | 3/8 | 6.4 | 0.22 | 6.3 | 0.22 |
| | Top ported | 3/8 | C12 | 5.4 | 0.30 | 6.0 | 0.27 |

* Calculation of effective area S and sonic conductance C: $S = 5.0 \times C$

* The value is for individually operated 2-position type.

Metal Seal

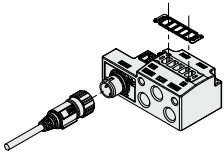
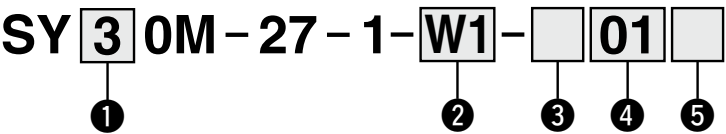
| Series | Sub-plate piping location | Fitting port size | | 1 → 4/2 | | 4/2 → 5/3 | |
|--------|---------------------------|-------------------|--------|---------|------|-----------|------|
| | | (P, E) | (A, B) | C | b | C | b |
| SY3000 | Side ported | 1/8 | 1/8 | 1.4 | 0.14 | 1.3 | 0.26 |
| | Bottom ported | 1/8 | 1/8 | 1.3 | 0.13 | 1.3 | 0.22 |
| | Top ported | 1/8 | C6 | 1.2 | 0.22 | 1.4 | 0.29 |
| SY5000 | Side ported | 1/4 | 1/4 | 3.2 | 0.13 | 3.5 | 0.16 |
| | Bottom ported | 1/4 | 1/4 | 3.0 | 0.12 | 3.2 | 0.17 |
| | Top ported | 1/4 | C8 | 2.6 | 0.23 | 3.2 | 0.19 |
| SY7000 | Side ported | 3/8 | 3/8 | 4.6 | 0.10 | 4.9 | 0.16 |
| | Bottom ported | 3/8 | 3/8 | 4.6 | 0.10 | 4.9 | 0.17 |
| | Top ported | 3/8 | C12 | 4.0 | 0.18 | 4.7 | 0.16 |

SY3000/5000/7000 Series

How to Order

In the case of **Sub-plate** (Sub-plate single unit part no.)

* Without valve



* Base gasket is included.
* Valve mounting screws are not included.

1 Series

| | |
|---|--------|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

2 Wiring specifications

| | |
|----|------------------------------------|
| W0 | Without M12 connector cable |
| W1 | With M12 connector cable (300 mm) |
| W2 | With M12 connector cable (500 mm) |
| W3 | With M12 connector cable (1000 mm) |
| W4 | With M12 connector cable (2000 mm) |
| W7 | With M12 connector cable (5000 mm) |

* Refer to the table below for connector cable part numbers.
* When ordering a product with M12 connector cable, the connector cable is included.

3 Port location (Sub-plate)

| | |
|-----|---|
| Nil | Side ported |
| B | Bottom ported |
| V | Top ported [1(P), 5(EA), 3(EB) port: Side ported] |

4 Port size

| Symbol | Port size | Applicable series |
|--------|-----------|-------------------|
| 01 | 1/8 | SY3000 |
| 02 | 1/4 | SY5000 |
| 03 | 3/8 | SY7000 |

5 Sub-plate thread type

| | |
|-----|------|
| Nil | Rc |
| F | G |
| N | NPT |
| T | NPTF |

How to Order when mounting a special order (including Made-to-Order specification) valve on the sub-plate (Ordering example: X90)

SY30M-27-1-W1-01 1 set (Sub-plate single unit part no.)
*SY3200-5U1-X90 1 set (2-position double part no./Main valve fluororubber specification)

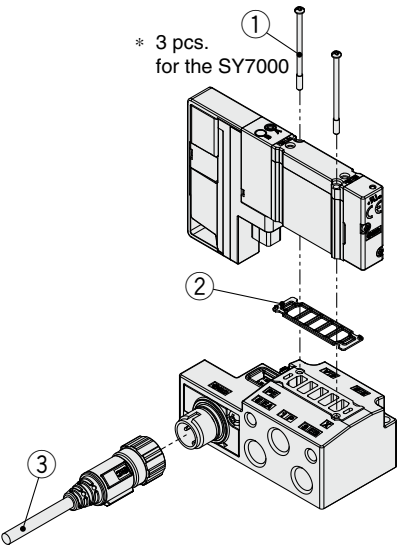
Ordering example when mounting a manifold option (spacer, etc.)

SY30M-27-1-W1-01 1 set (Sub-plate single unit part no.)
*SY3400-5U1 1 set (3-position exhaust center part no.)
*SY30M-60-1A 1 set (Part no. for double check spacer with residual pressure release valve)

⚠ Caution

Due to the properties of the double check spacer, assembly carried out by the customer is not recommended. If a double check spacer is to be used, be sure to order the type that is built in to the sub-plate as shown in the ordering example above.

Sub-plate Parts Nos.



| No. | Description | | Part no. | | | Note |
|-----|--------------------------------|-------------------------------|----------------------------|------------------------------|------------------------------|---|
| | | | SY3000 | SY5000 | SY7000 | |
| ① | Valve mounting screw | Round head combination screw | SY3000-23-24A (M2 x 32) | SY5000-221-1A (M3 x 32.5) | SY7000-221-1A (M3 x 36.5) | Part numbers shown on the left are for 10 valves (20 pcs.). (30 pcs. for the SY7000) |
| | | Hexagon socket head cap screw | SY3000-222-1A (M2 x 32) | SY5000-222-1A (M3 x 32.5) | SY7000-222-1A (M3 x 36.5) | |
| ② | Base gasket (for sub-plate) | | SY30M-11-1A | SY50M-11-1A | SY70M-11-1A | Part numbers shown on the left are for 10 valves (10 pcs.). |
| ③ | M12 waterproof connector cable | | ZS-37-L | | | Cable length: 300 mm Cable weight: Approx. 18 g |
| | | | ZS-37-M | | | Cable length: 500 mm Cable weight: Approx. 23 g |
| | | | ZS-37-N | | | Cable length: 1000 mm Cable weight: Approx. 36 g |
| | | | ZS-37-P | | | Cable length: 2000 mm Cable weight: Approx. 62 g |
| | | | ZS-37-C | | | Cable length: 5000 mm Cable weight: Approx. 140 g |

⚠ Caution

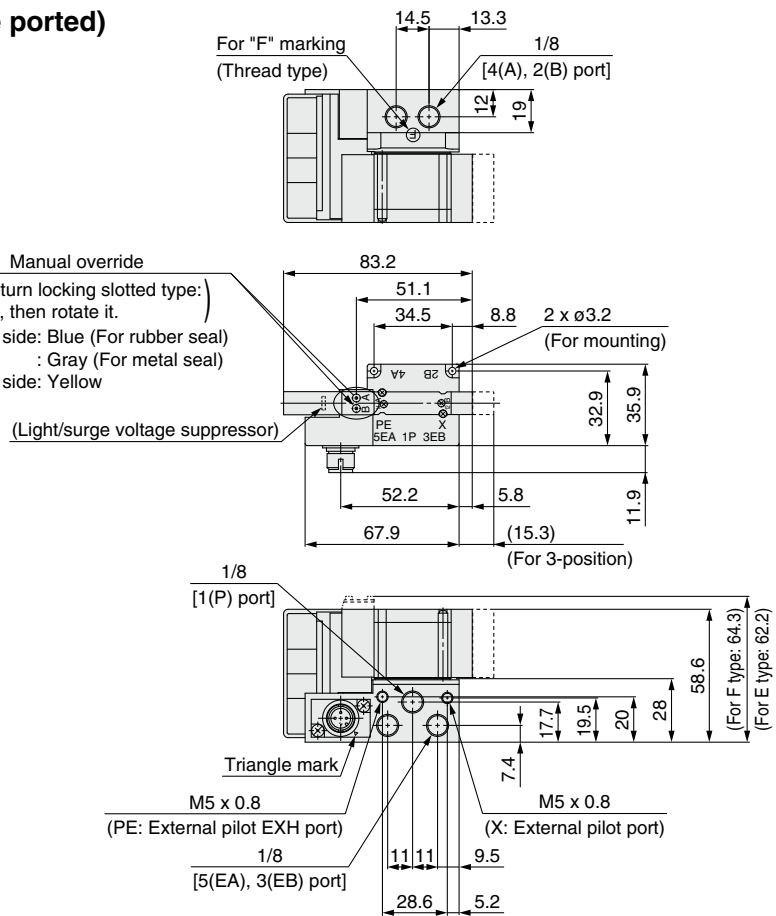
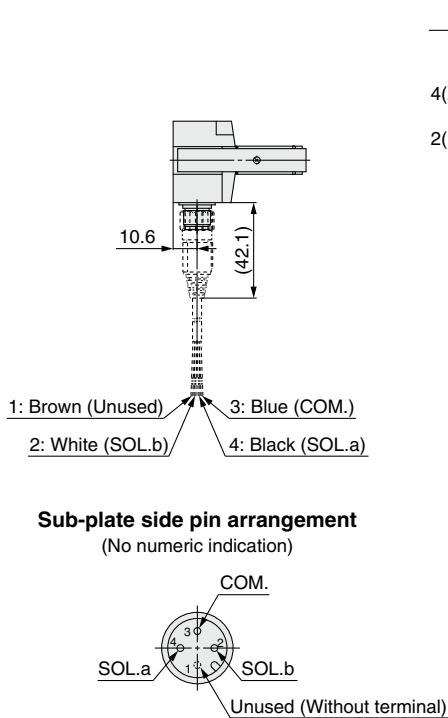
Tightening torque

M2: 0.16 N·m (SY3000)
M3: 0.8 N·m (SY5000/7000)

Dimensions: SY3000 Series

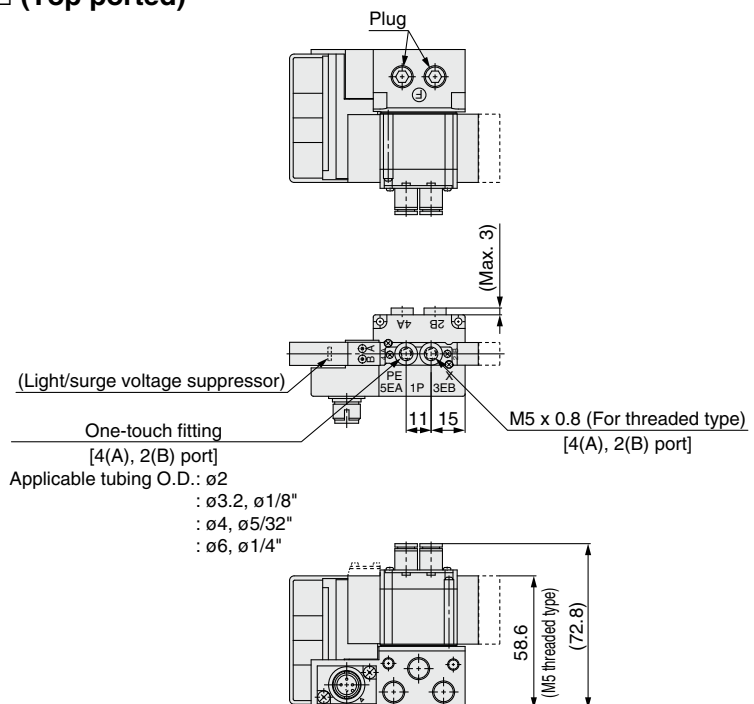
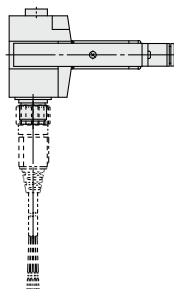
SY3□0□□□□-□□□1-W□-01□ (Side ported)

Plug-in
Single Unit/Sub-plate
Side Ported
Top Ported



* These figures show the "SY3200-5Z1-WO-01F."

SY3□3□□□□-□□□1-□□-W□-V01□ (Top ported)



* These figures show the "SY3230-5Z1-C6-WO-V01F."
* 1(P), 5(EA), 3(EB), X, and PE ports are side ported.

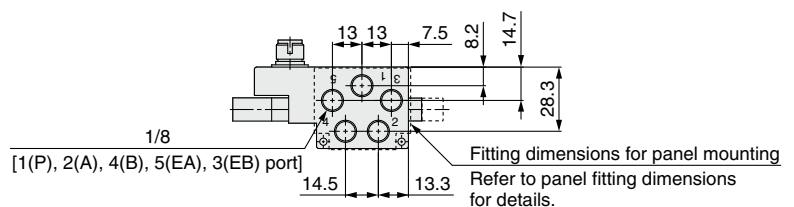
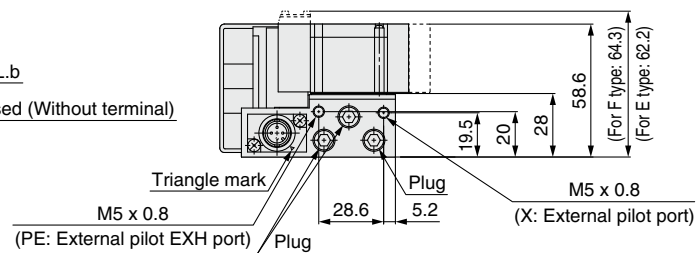
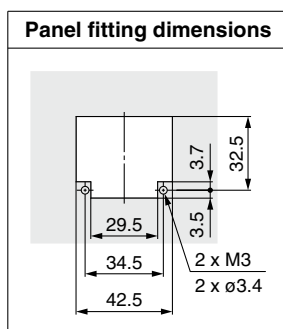
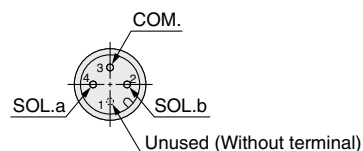
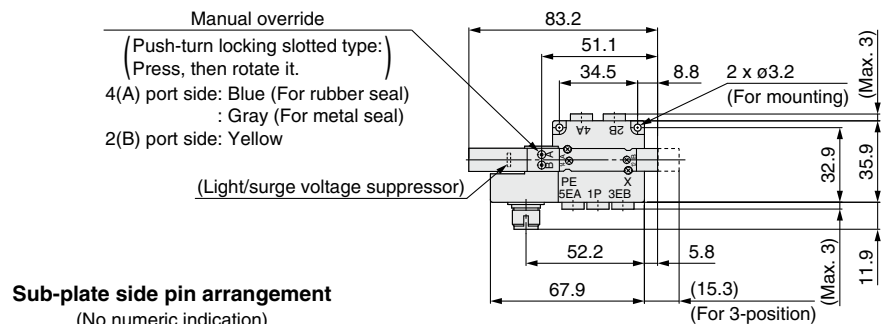
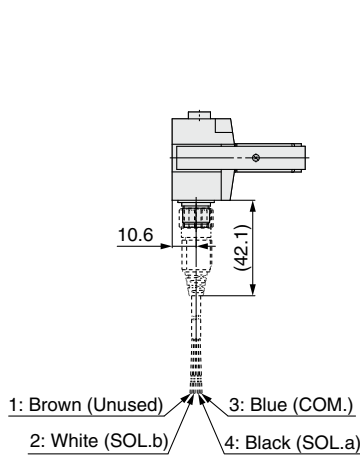
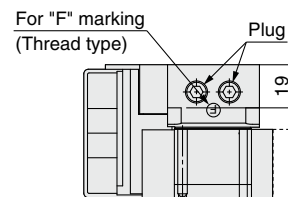
SY3000/5000/7000 Series

Dimensions: SY3000 Series

Plug-in Single Unit/Sub-plate

Bottom Ported

SY3000-0001-W-B01 (Bottom ported)

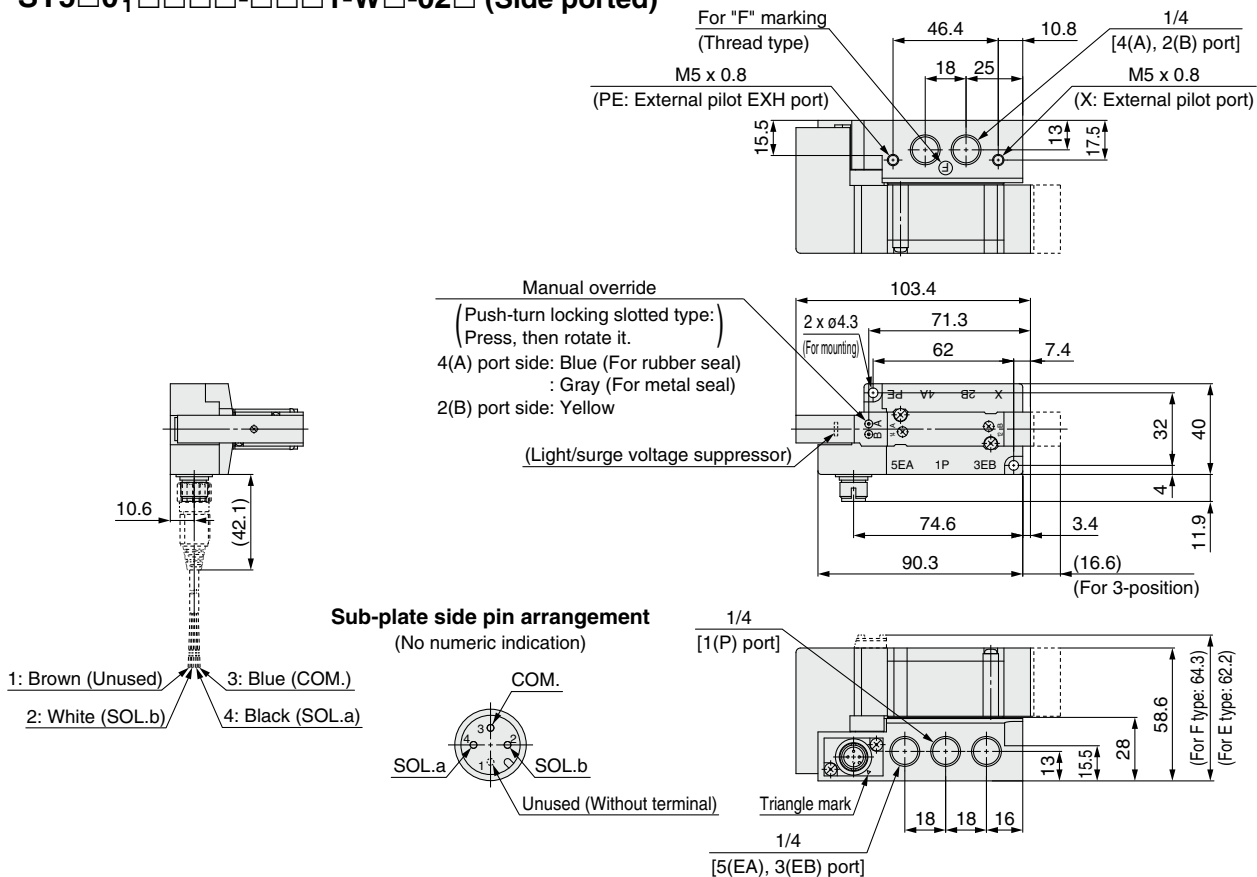


* These figures show the "SY3200-5Z1-WO-B01F."

Dimensions: SY5000 Series

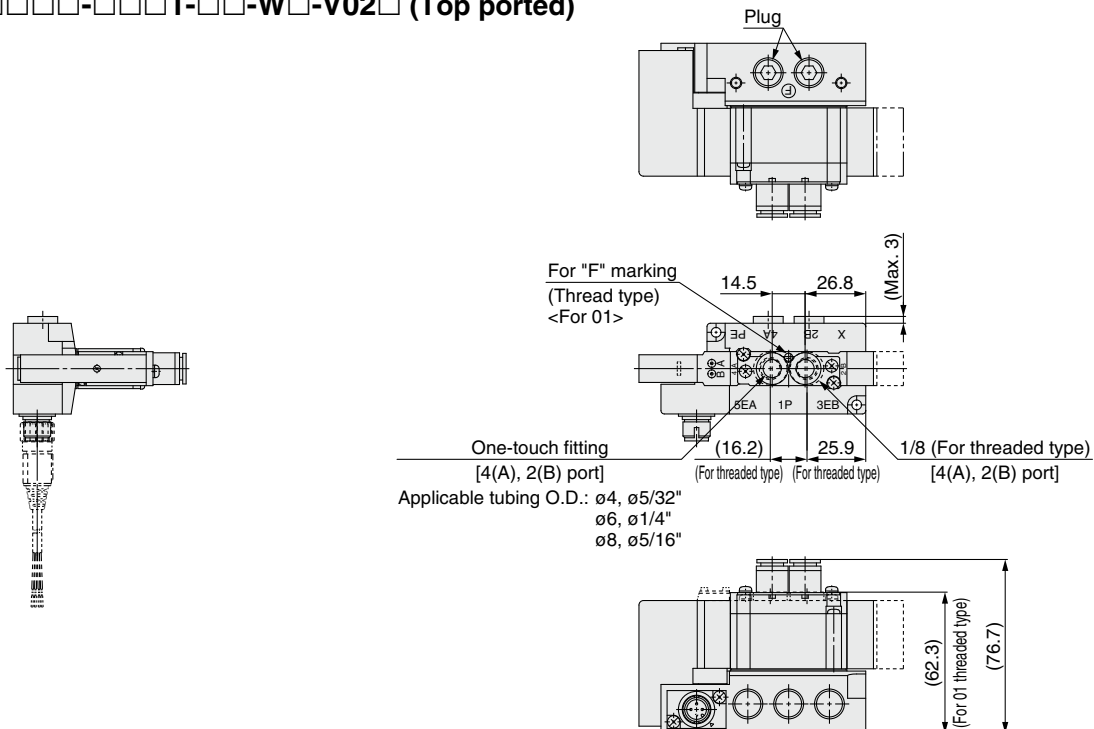
Plug-in Single Unit/Sub-plate Side Ported Top Ported

SY5□0□□□□-□□□1-W□-02□ (Side ported)



* These figures show the "SY5200-5Z1-WO-02F."

SY5□3□□□□-□□□1-□□-W□-V02□ (Top ported)



* These figures show the "SY5230-5Z1-C8-WO-V02F."

* 1(P), 5(EA), 3(EB), X, and PE ports are side ported.

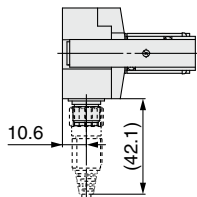
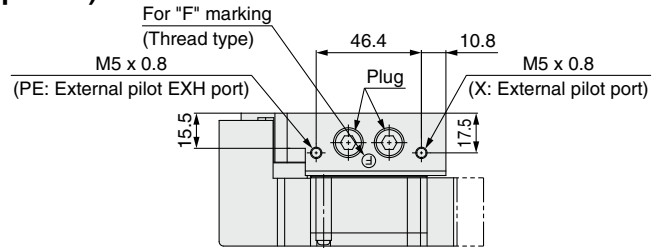
SY3000/5000/7000 Series

Dimensions: SY5000 Series

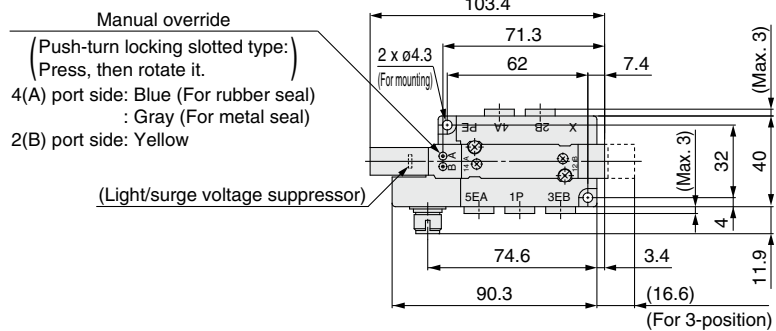
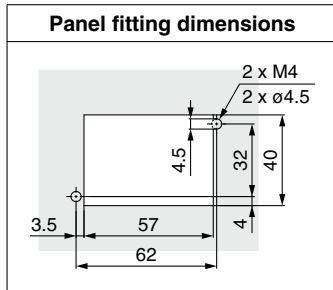
Plug-in Single Unit/Sub-plate

Bottom Ported

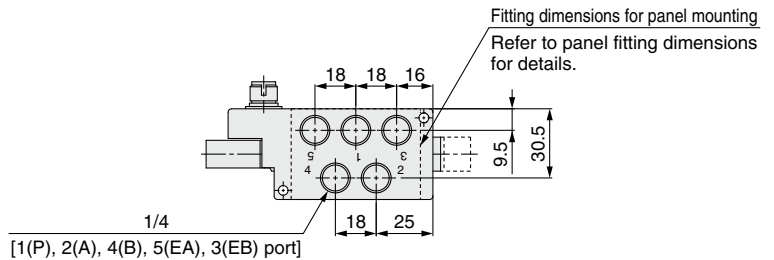
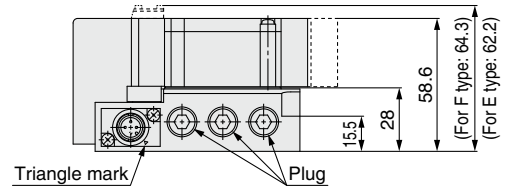
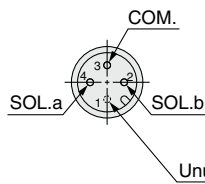
SY5□0□□□□-□□□1-W□-B02□ (Bottom ported)



- 1: Brown (Unused)
2: White (SOL.b)
3: Blue (COM.)
4: Black (SOL.a)



Sub-plate side pin arrangement (No numeric indication)

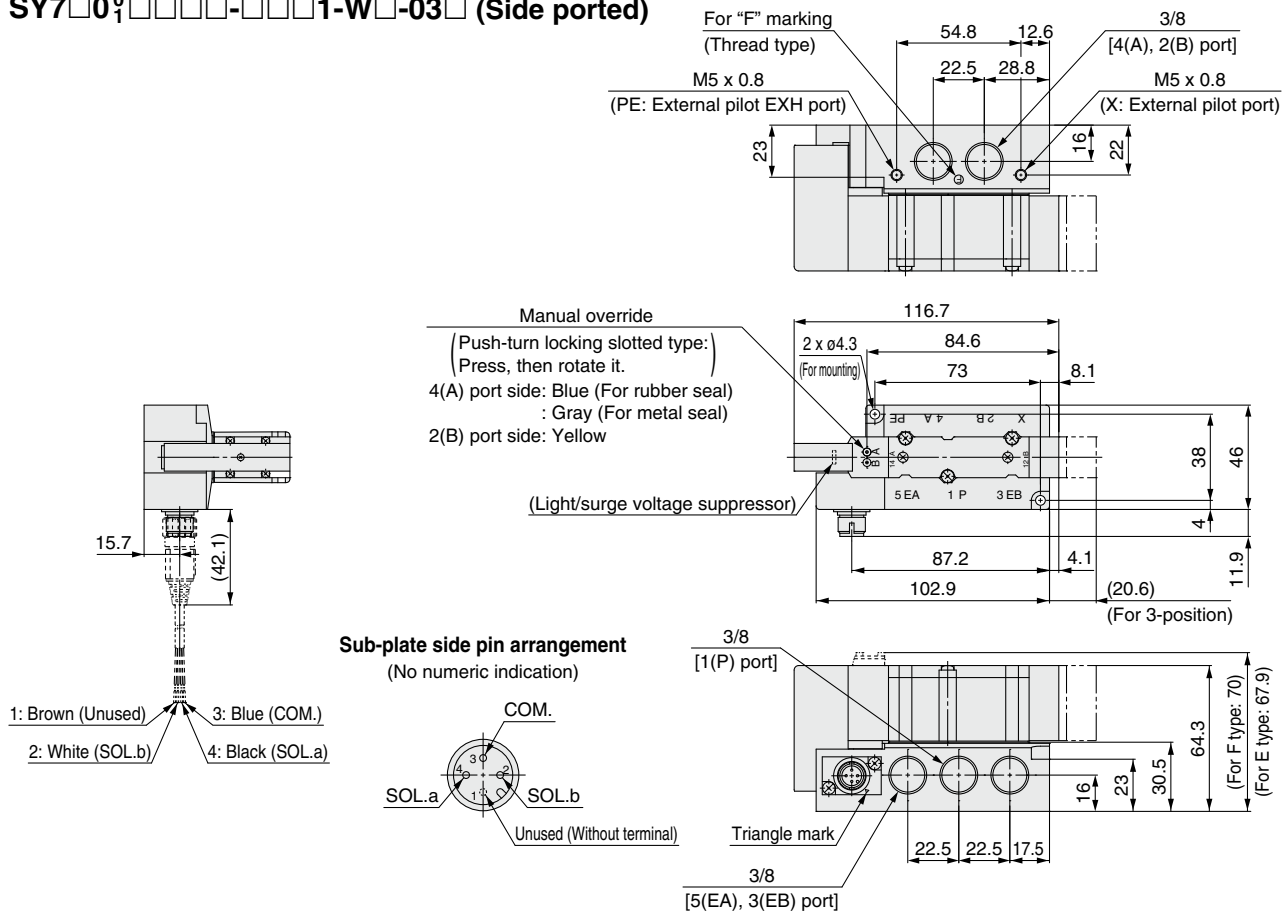


* These figures show the "SY5200-5Z1-WO-B02F."

Dimensions: SY7000 Series

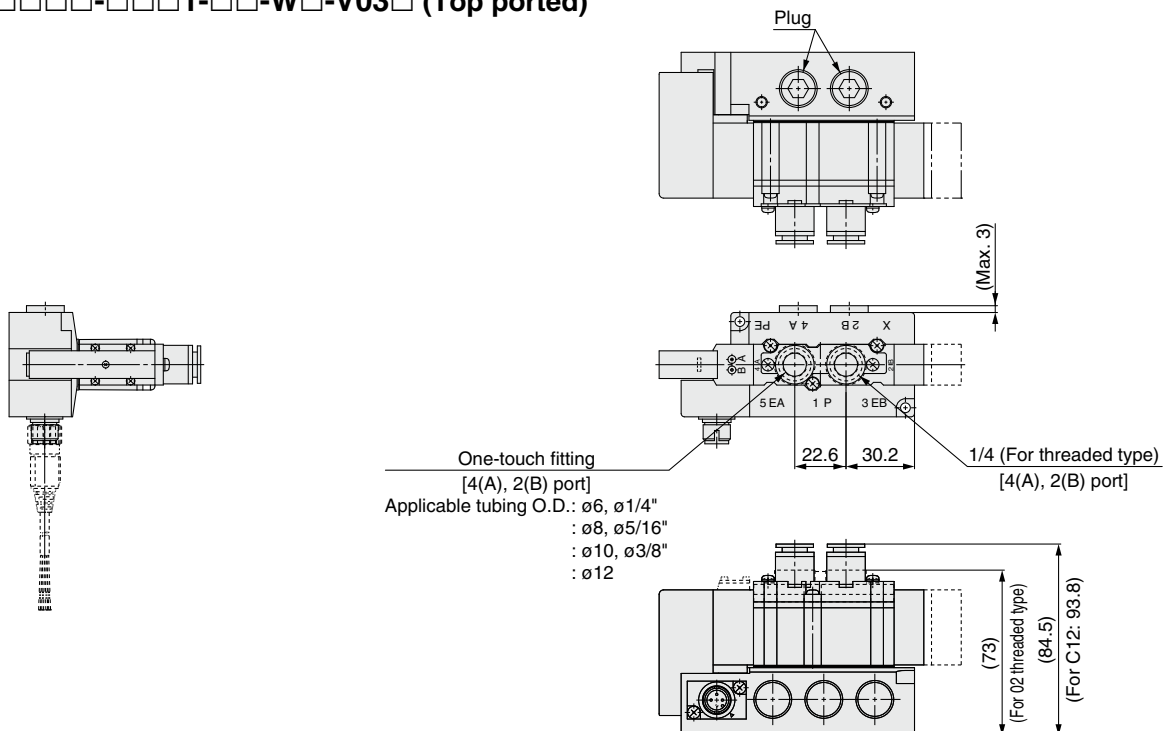
Plug-in Single Unit/Sub-plate Side Ported Top Ported

SY7□0□□□□-□□□1-W□-03□ (Side ported)



* These figures show the "SY7200-5Z1-WO-03F."

SY7□3□□□□-□□□1-□□-W□-V03□ (Top ported)



* These figures show the "SY7230-5Z1-C10-WO-V03F."
* 1(P), 5(EA), 3(EB), X, and PE ports are side ported.

SY3000/5000/7000 Series

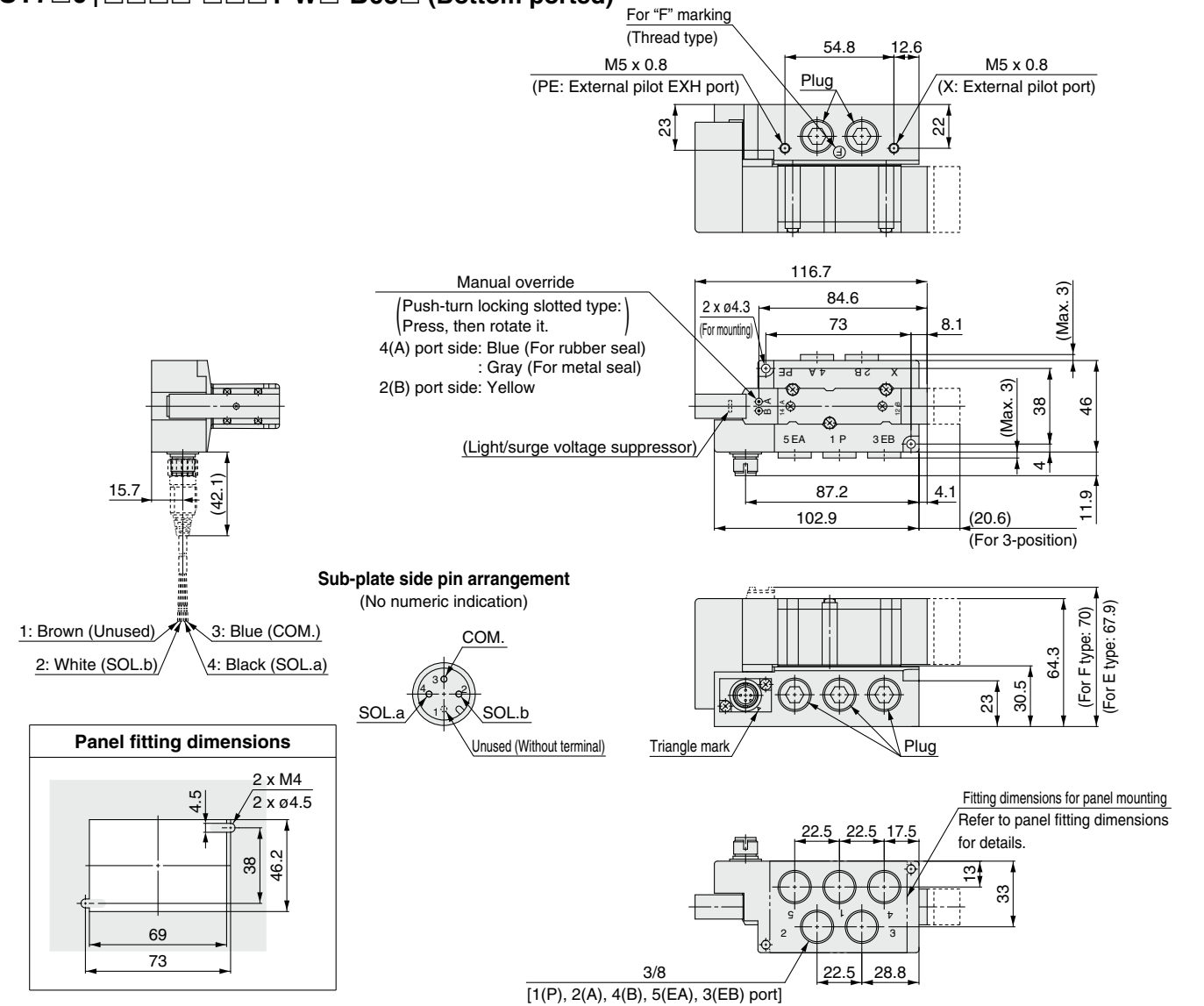
Dimensions: **SY7000** Series

Plug-in

Single Unit/Sub-plate

Bottom Ported

SY7000-1-W-B03 (Bottom ported)





SY3000/5000/7000 Series Specific Product Precautions 1

Be sure to read this before handling the products. Refer to the back cover for safety instructions. For 3/4/5-port solenoid valve precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website: <https://www.smcworld.com>

Environment

Warning

1. Do not use valves in atmospheres of corrosive gases, chemicals, sea water, water, water vapor, or where there is direct contact with any of these.
2. Products compliant with IP67 enclosures (based on IEC60529) are protected against dust and water, however, these products cannot be used in water. If using in an environment that is exposed to water and dust splashes, take measures such as using a protective cover.
3. When using built-in silencer type manifold with an IP67 enclosure, keep the exhaust port of the silencer from coming in direct contact with water or other liquids.
4. The metal seal valve is provided with a hole to discharge the pilot EXH. When using in atmospheres containing water and dust, mount it horizontally.

Valve Mounting

Caution

Mount it so that there is no slippage or deformation in gaskets, and tighten with the tightening torque as shown to the right.

| Series | Thread size | Tightening torque |
|-------------|-------------|-------------------|
| SY3000 | M2 | 0.16 N·m |
| SY5000/7000 | M3 | 0.8 N·m |

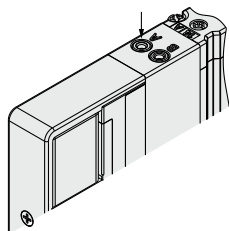
Manual Override

Warning

Regardless of an electric signal for the valve, the manual override is used for switching the main valve. Connected actuator is started by manual operation. Use the manual override after confirming that there is no danger.

Non-locking push type

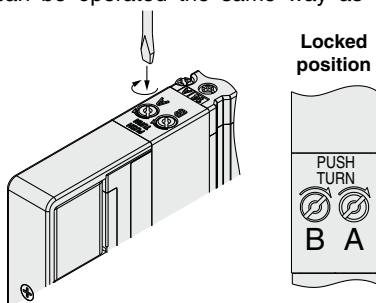
Push down on the manual override button until it stops.



Push-turn locking slotted type [D type]

Push down on the manual override with a small flat head screwdriver until it stops, and then turn it 90° clockwise. The manual override is then locked. To release it, turn it counterclockwise.

If it is not turned, it can be operated the same way as the non-locking push type.

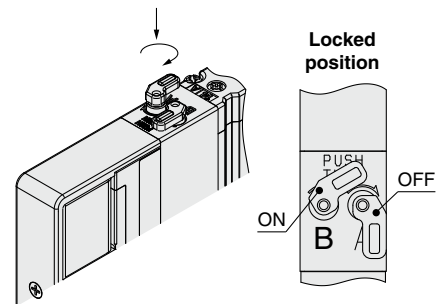


Manual Override

Warning

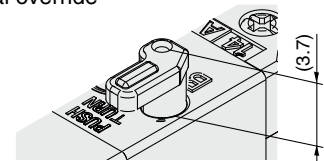
Push-turn locking lever type [E type]

Push down on the manual override by finger until it stops, and then turn it 60° clockwise. The manual override is then locked. To release it, turn it counterclockwise. If it is not turned, it can be operated the same way as the non-locking push type.



Carefully check the manual override projection amount.

Max. (at OFF): 3.7 mm



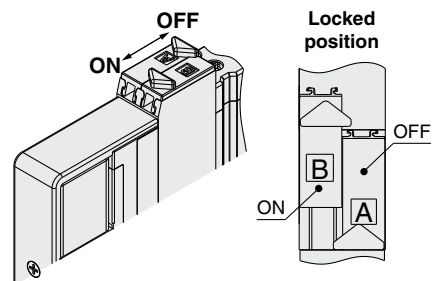
Caution

Do not apply excessive torque when turning the manual override. [0.1 N·m]

When locking the manual override, be sure to push it down before turning. Turning without first pushing it down can cause damage to the manual override and other trouble such as air leakage, etc.

Slide locking type (Manual)

It is locked by sliding the manual override all the way in the direction indicated by the arrow (ON side) with a small flat head screwdriver or with your fingers. Slide it in the direction indicated by the arrow (OFF side) to release it.



Chart

Valve
Specifications

Valve
Construction

Valve
Replacement
Parts

With Residual
Pressure
Release Valve

Vacuum
Release Valve
with Restrictor

With
Pressure
Sensor

Made to
Order

Connector
Connecting Base

Metal Base

Sub-plate

Specific
Product
Precautions



SY3000/5000/7000 Series

Specific Product Precautions 2

Be sure to read this before handling the products. Refer to the back cover for safety instructions. For 3/4/5-port solenoid valve precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website: <https://www.smcworld.com>

Back Pressure Check Valve

⚠ Caution

- There are two types of back pressure check valves; the type which is built into a valve (rubber seal type only) and the type which is built in on the manifold side with a connector connection. Both types have a check valve built in to prevent back pressure.
Please note that for this reason, even if a valve with an external pilot specification is used, it cannot be pressurized from exhaust port [3/5(E)]. As compared with the types which do not integrate the back pressure check valve, C value of the flow rate characteristics goes down. Please contact SMC for details.
- The manifold installed type back pressure check valve assembly is assembly parts with a check valve structure. However, since slight air leakage against the back pressure is allowed due to its structure, adverse effects of the back pressure due to increase in exhaust resistance cannot be prevented if the manifold exhaust port and other exhaust ports are put together for piping or if the piping diameter is narrowed. As a result, this may cause the actuator and air operated equipment to malfunction. So, be careful not to restrict the exhaust air. If the exhaust resistance becomes large, select a built-in valve type with rubber seal.
- Do not switch valves when A or B port is open to the atmosphere, or while the actuators and air operated equipment are in operation. For built-in valve type with rubber seal, the back pressure prevention seal may be peeled off, which may cause air leakage or malfunctions. Use caution especially when performing a trial operation or maintenance work.

Valve and Manifold Combination

The SY series plug-in valve has the common configuration of the valve mounting surface between base-mounted type (SY³/₇□0□) and top-ported type (SY³/₇□3□), therefore, it can be mounted to all manifolds of the side-ported type (Type 50 and Type 10), the bottom-ported type (Type 51 and Type 11), and the top-ported type (Type 52 and Type 12). For example, air output can be obtained from both sides of the A and B ports of the manifold and the valve by mounting a top-ported valve to a side-ported or bottom-ported manifold, and a pressure switch can be connected to the output port on one side. However, when selecting valves and manifolds, note that when a base-mounted valve is mounted to a top-ported manifold, there will be no output from the A and B port.

Exhaust Throttle

⚠ Caution

The SY series pilot valve and main valve share a common exhaust inside the valve. Therefore, do not block the exhaust port when arranging the piping.

Used as a 3-Port Valve

⚠ Caution

■ In case of using a 5-port valve as a 3-port valve

The SY3000/5000/7000 series can be used as normally closed (N.C.) or normally open (N.O.) 3-port port valves by closing one of the cylinder ports 4(A) or 2(B) with a plug. However, they should be used with the exhaust ports kept open. They are convenient at times when a double solenoid type 3-port valve is required.

| Plug position | | B port | A port |
|---------------------|--------|--------|--------|
| Type of actuation | | N.C. | N.O. |
| Number of solenoids | Single | | |
| | Double | | |



SY3000/5000/7000 Series

Specific Product Precautions 3

Be sure to read this before handling the products. Refer to the back cover for safety instructions. For 3/4/5-port solenoid valve precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website: <https://www.smcworld.com>

Light/Surge Voltage Suppressor

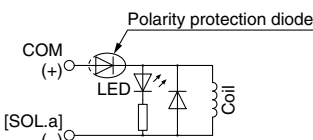
Caution

■ Polar type

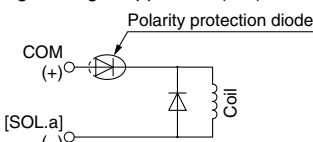
Positive common

Single solenoid

Light/surge voltage suppressor (□Z)

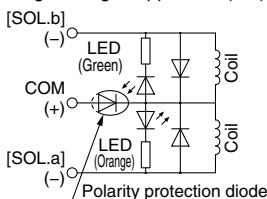


Surge voltage suppressor (□S)

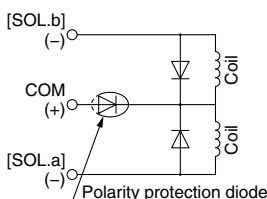


Double solenoid, 3-position, 4-position

Light/surge voltage suppressor (□Z)



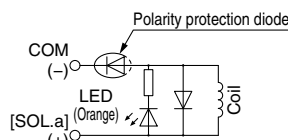
Surge voltage suppressor (□S)



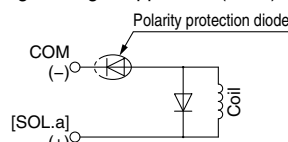
Negative common

Single solenoid

Light/surge voltage suppressor (□NZ)

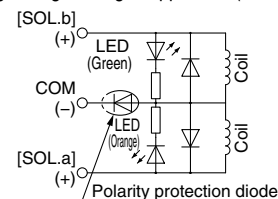


Surge voltage suppressor (□NS)

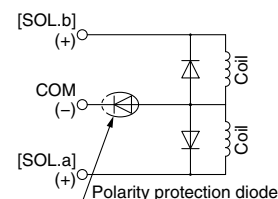


Double solenoid, 3-position, 4-position

Light/surge voltage suppressor (□NZ)



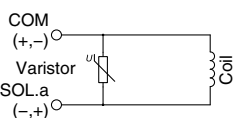
Surge voltage suppressor (□NS)



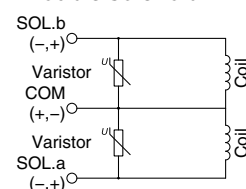
■ Non-polar type

With surge voltage suppressor (□R)

Single solenoid

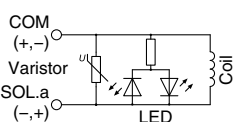


Double solenoid

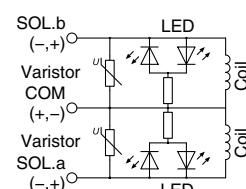


With light/surge voltage suppressor (□U)

Single solenoid



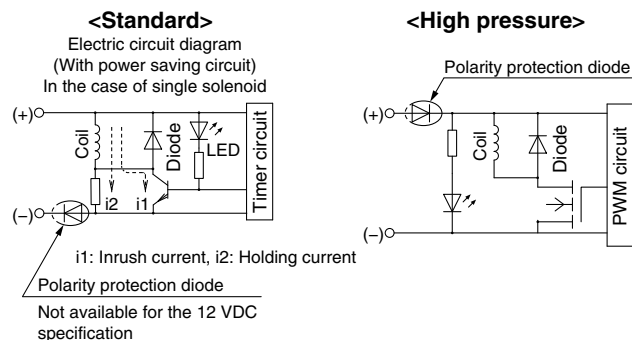
Double solenoid



■ With power saving circuit

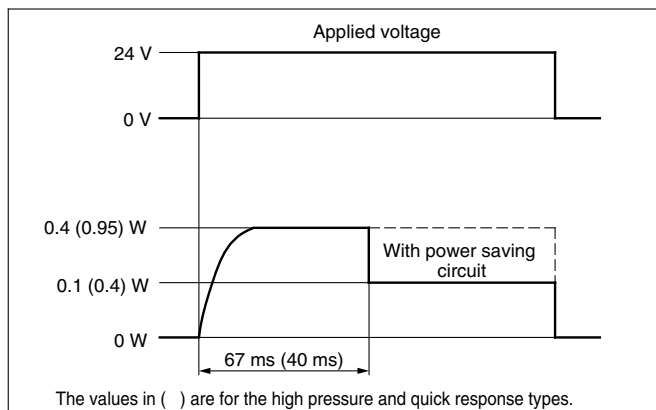
Power consumption is decreased to approx. 1/3 compared with the standard product by reducing the wattage required to hold the valve in an energized state. (Effective energizing time is over 67 ms at 24 VDC.)

* Be careful of the energizing time, as quick response and high pressure types will become operational when the energizing time is over 40 ms.



The circuit shown above reduces the power consumption for holding in order to save energy. Refer to the electrical power waveform as shown below.

<Electrical power waveform with power saving circuit>



- The 12 VDC specification with power saving circuit (standard specification) does not have the polarity protection diode. Do not make a mistake with the polarity.
- Since the voltage will drop by approx. 0.5 V due to the transistor, pay attention to the allowable voltage fluctuation. (For details, refer to the solenoid specifications of each type of valve.)

Residual voltage of the surge voltage suppressor

* If a varistor or diode surge voltage suppressor is used, there is some residual voltage to the protection element and rated voltage. Therefore, refer to the table below and pay attention to the surge voltage protection on the controller side. Also, since the response time does change, refer to the valve specifications on page 16.

Residual Voltage

| Surge voltage suppressor | DC | |
|--------------------------|--------------|--------------|
| | 24 V | 12 V |
| S, Z | Approx. 1 V | |
| R, U | Approx. 47 V | Approx. 32 V |



SY3000/5000/7000 Series

Specific Product Precautions 4

Be sure to read this before handling the products. Refer to the back cover for safety instructions. For 3/4/5-port solenoid valve precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website: <https://www.smcworld.com>

Continuous Duty


⚠ Caution

If a valve is energized continuously for long periods of time, the rise in temperature due to heat-up of the coil assembly may cause a decline in solenoid valve performance, reduce service life, or have adverse effects on peripheral equipment. If the valve is energized continuously for long periods of time, be sure to use a valve with power saving circuit. In particular, if three or more adjacent stations on the manifold are energized simultaneously for extended periods of time or if the valves on A side and B side are energized simultaneously for long periods of time, take special care as the temperature rise will be greater.

UL Approved Product

⚠ Caution

When conformity to UL is required, the product should be used with a UL1310 Class 2 power supply.

The product is a UL approved product only if it has a  mark on the body.

Countermeasure for Surge Voltage Intrusion

■ Surge voltage intrusion

With non-polar type valves, at times of sudden interruption of the loading power supply, such as emergency shutdown, surge voltage intrusion may be generated from loading equipment with a large capacity (power consumption), and a valve in a de-energized state may switch over (see Figure 1). When installing a breaker circuit for the loading power supply, consider using a valve with polarity (with polarity protection diode), or install a surge absorption diode between the loading equipment COM line and the output equipment COM line (see Figure 2).

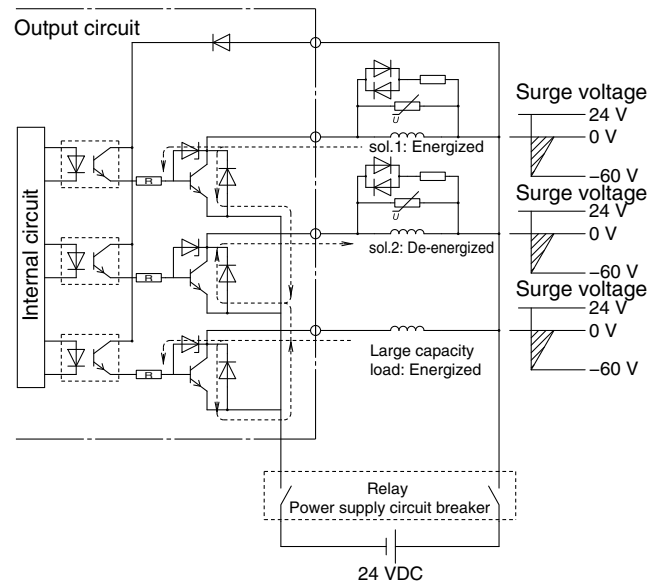


Figure 1. Surge intrusion circuit example (NPN outlet example) (24 VDC)

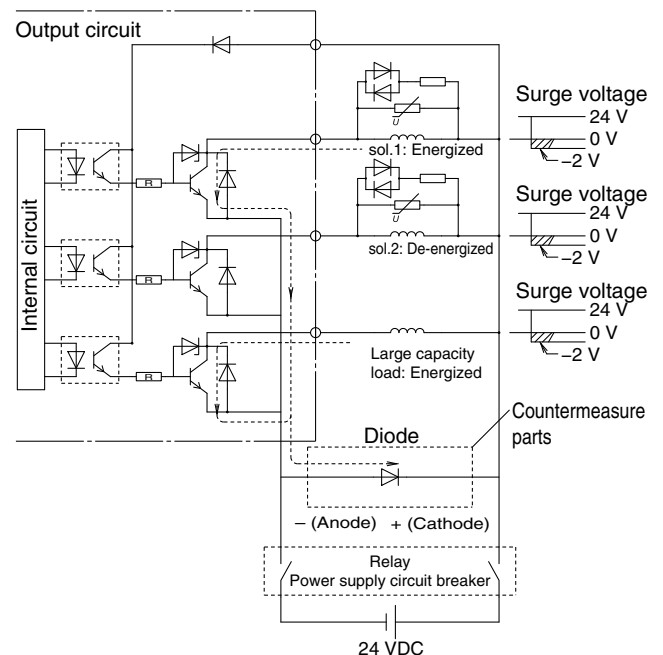


Figure 2. Surge intrusion countermeasure example (NPN outlet example) (24 VDC)

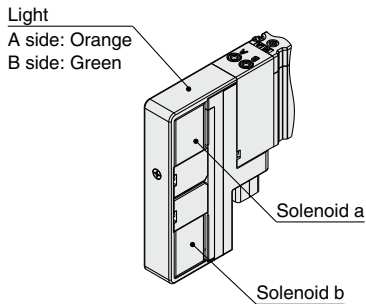


SY3000/5000/7000 Series Specific Product Precautions 5

Be sure to read this before handling the products. Refer to the back cover for safety instructions. For 3/4/5-port solenoid valve precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website: <https://www.smcworld.com>

Light Indication

When equipped with indicator light and surge voltage suppressor, the light window turns orange when solenoid a is energized, and it turns green when solenoid b is energized.

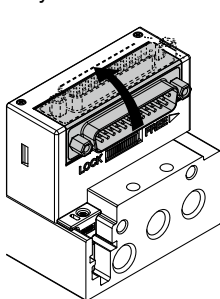


Type 5□ (Metal Base), Type 1□ (Connector Connecting Base) Changing Connector Entry Direction

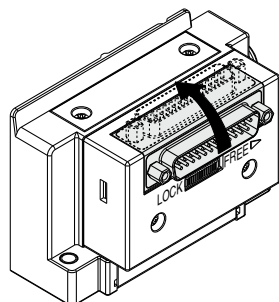
⚠ Caution

Connector direction for electrical entry of D-sub connector <IP40> and flat ribbon cable can be changed. If the directional change is required, slide the lever on the side of the connector block to the FREE position, and then change the direction as shown in the figure. Also, before connecting the connector, be sure to return the lever to the LOCK position. (If the lever is difficult to slide, move the connector a little bit to make it easier to slide the lever.)

If an excessive force is applied on the connector in the LOCK position, the connector block may be damaged. Also, using in such a way that the connector floats in the FREE position, it may cause the lead wire, etc., to break. Thus, refrain from using in these ways.



Type 5□
(Metal base)



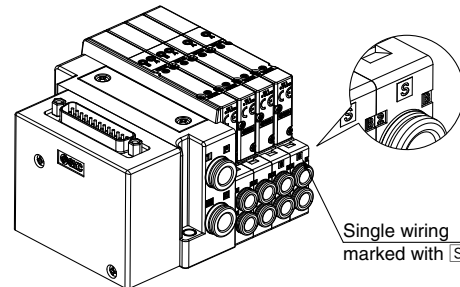
Type 1□
(Connector connecting base)

Manifold Indication Symbol

⚠ Caution

The letter "S" is indicated on manifold blocks for the SY series Type 1□ (connector connecting base) as shown below. This indication refers to the type of substrate assembly (single wiring) inside the manifold blocks. When there is no symbol, double wiring is used.

When the manifold specification sheet does not include a wiring specification, all stations will be double wiring specification. In this case, single and double solenoid valves can be mounted in any position, but when a single valve is used, there will be an unused control signal. To avoid this, indicate positions of manifold blocks for single wiring specification and double wiring specification on a manifold specification sheet. (Note that double, 3-, or 4-position valves cannot be used for manifolds blocks with single wiring specification [S].)



Chart

Valve
Specifications

Valve
Construction

Valve
Replacement
Parts

With Residual
Pressure
Release Valve

Vacuum
Release Valve
with Restrictor

With
Pressure
Sensor

Made to
Order

Connector
Connecting Base

Metal Base

Sub-plate

Specific
Product
Precautions



SY3000/5000/7000 Series

Specific Product Precautions 6

Be sure to read this before handling the products. Refer to the back cover for safety instructions. For 3/4/5-port solenoid valve precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website: <https://www.smcworld.com>

Substrate Assemblies inside Manifolds

⚠ Caution

Substrate assemblies inside of manifolds cannot be taken apart. Attempting to do so may damage parts.

Fixation of DIN Rail Mounting Type Manifolds

⚠ Caution

1. When the manifold is fixed with bolts on a mounting surface, etc., it can be operated just by fixing on both ends of the DIN rail if the bottom surface of the DIN rail is entirely in contact with the mounting surface when mounted horizontally. However, if it is used with other mounting or with side or reverse mounting, fix the DIN rail with bolts at regular intervals. As a guide, insert bolts in 2 locations for 2-5 stations, 3 locations for 6-10 stations, 4 locations for 11-15 stations, 5 locations for 16-20 stations, and 6 locations for 21-24 stations.
2. When using the manifold with DIN rail in an environment where any vibration or impact is applied to it, the DIN rail itself may be broken. In particular, if the installation surface vibrates when mounting the manifold on the wall or if a load is directly applied to the manifold, the DIN rail may be broken, causing the manifold to drop. When any vibration, impact, or load is applied to the manifold, be sure to use the direct mounting manifold.

Port Block Assembly and How to Change Piping Types between Top and Side

⚠ Caution

For the top-ported type, the port size of A and B ports can be changed by switching the port block assemblies which are mounted on the body. The piping method can also be changed by switching the top-ported type port block assembly with the side-ported type cover assembly. Also, it may cause air leakage if the mounting screws are not tightened securely enough when they are switched. Take care to tighten to the correct tightening torque.

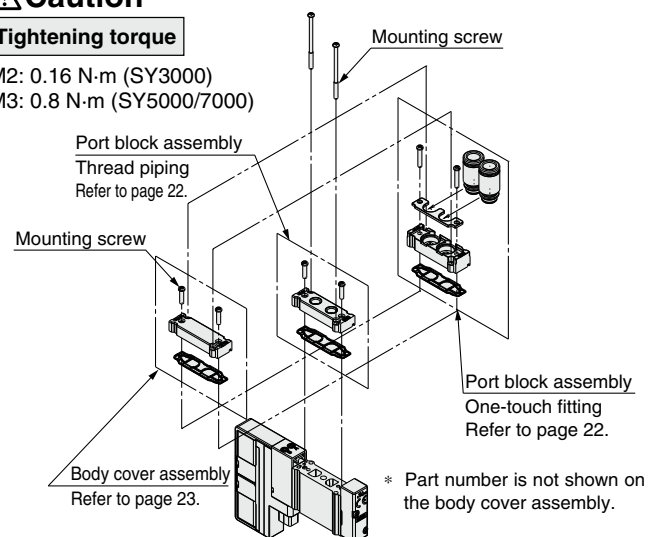
Refer to pages 22 and 23 for part numbers of port block assembly and body cover assembly for A, B port and page 201 for part numbers of port block assembly and body cover assembly for P, E port.

When switching them while valves are mounted on a manifold, remove the clip with a flat head screwdriver before switching the port plugs and the One-touch fittings. It may cause air leakage if the mounting screws are not tightened or the clip is not inserted securely enough when they are switched. Take care to tighten to the correct tightening torque.

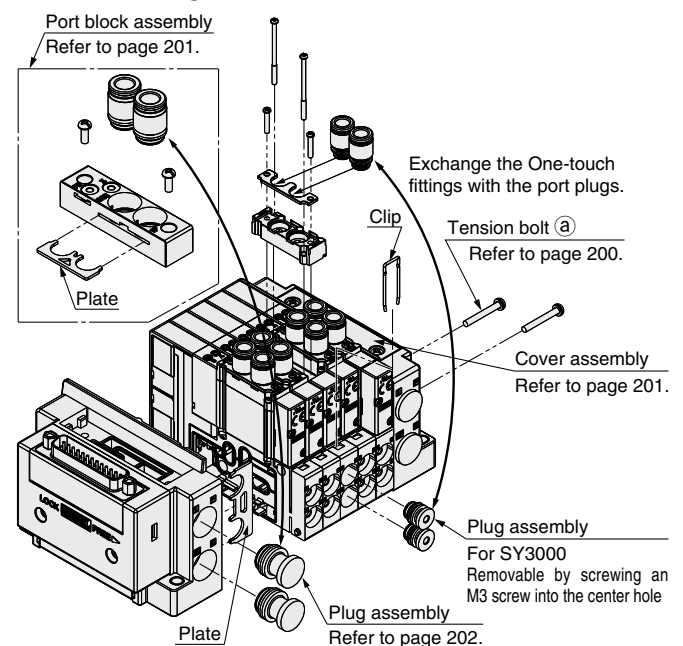
⚠ Caution

Tightening torque

M2: 0.16 N·m (SY3000)
M3: 0.8 N·m (SY5000/7000)



■ How to change while mounted on a manifold





SY3000/5000/7000 Series Specific Product Precautions 7

Be sure to read this before handling the products. Refer to the back cover for safety instructions. For 3/4/5-port solenoid valve precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website: <https://www.smcworld.com>

How to Replace One-touch Fittings

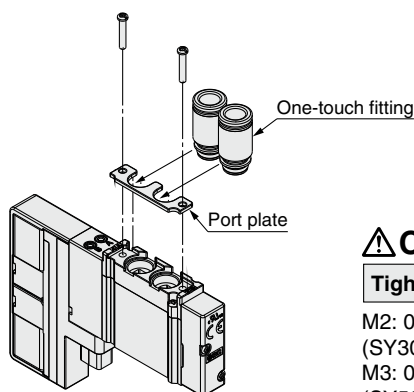
Caution

By replacing One-touch fittings of valve or manifold base, it is possible to change the connection diameter of the 4(A), 2(B), 1(P), 3/5(E) ports.

When replacing the One-touch fittings, remove the clip or the plate and the plate mounting screws with a screwdriver before pulling the One-touch fittings off. Mount the One-touch fittings by following the removal procedure in reverse.

It may cause air leakage if the mounting screws are not tightened or the clip and the clip plate are not inserted securely enough when they are switched. Take care to tighten to the correct tightening torque. Refer to page 202 for part numbers of One-touch fittings for valve or manifold.

Valve



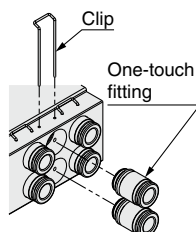
Caution

Tightening torque

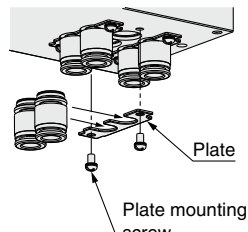
M2: 0.16 N·m
(SY3000)
M3: 0.8 N·m
(SY5000/7000)

Plug-in metal base

Side ported (Type 50)



Bottom ported (Type 51)



Clip part nos. (10 pcs. included)

| Series | Part no. |
|--------|-------------|
| SY3000 | SY30M-19-2A |
| SY5000 | SY50M-19-2A |
| SY7000 | SY70M-19-2A |

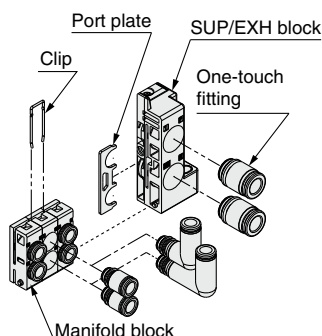
Plate assembly part nos. (10 pcs. included)

| Series | Part no. |
|--------|-------------|
| SY3000 | SY30M-10-3A |
| SY5000 | SY50M-10-6A |
| SY7000 | SY70M-10-7A |

* Including mounting screw

Plug-in connector connecting base

Side ported (Type 10)



Clip part nos. (10 pcs. included)

| Series | A, B port size | Part no. |
|---|--|----------------------------|
| SY3000 | — | SY30M-19-1A |
| SY5000 | — | SY50M-19-6A |
| SY7000 | — | SV3000-70-1A |
| SY3000/5000 Mixed mounting type (For mounting the SY3000)*1 | ø2, ø3, ø4 ø6, ø1/8" ø5/32", ø1/4" ø8, ø5/16" | SY50M-19-1A SY50M-19-6A |

*1 The part number for mounting the SY5000 is SY50M-19-6A.

* The part number for the SY5000/7000 mixed mounting type is SV3000-70-1A.

* If the port plate for the SUP/EXH block is required, please contact SMC.

How to Replace One-touch Fittings

Caution

Bottom ported (Type 11)

Secure enough space between the manifold blocks when the plate is detached and attached.

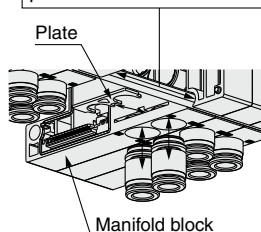


Plate part nos. (10 pcs. included)

| Series | A, B port size | Part no. |
|---|--|----------------------------|
| SY5000 | — | SY50M-10-4A |
| SY7000 | — | SY70M-10-4A |
| SY3000/5000 Mixed mounting type (For mounting the SY3000)*1 | ø2, ø3, ø4 ø6, ø1/8" ø5/32", ø1/4" ø8, ø5/16" | SY50M-10-5A SY50M-10-4A |

*1 The part number for mounting the SY5000 is SY50M-10-4A.

* The part number for the SY5000/7000 mixed mounting type is SY70M-10-4A.

Other Tube Brands

Caution

1. When using other than SMC brand tube, confirm that the following specifications are satisfied with respect to the tube outside diameter tolerance.

- 1) Nylon tube within ± 0.1 mm
- 2) Soft nylon tube within ± 0.1 mm
- 3) Polyurethane tube within ± 0.15 mm
— 0.2 mm

Do not use tube which do not meet these outside diameter tolerances. It may not be possible to connect them, or they may cause other trouble, such as air leakage or the tube pulling out after connection.

One-touch Fittings

Tube attachment/detachment for One-touch fittings

1) Tube attachment

1. Take a tube having no flaws on its periphery and cut it off at a right angle. When cutting the tube, use tube cutters TK-1, 2, or 3. Do not use pliers, nippers, scissors, etc. If cutting is done with tools other than tube cutters, the tube may be cut diagonally or become flattened, etc., making a secure installation impossible, and causing problems such as the tube pulling out after installation or air leakage. Allow some extra length in the tube.
2. Grasp the tube and push it in slowly, inserting it securely all the way into the fitting.
3. After inserting the tube, pull on it lightly to confirm that it will not come out. If it is not installed securely all the way into the fitting, this can cause problems such as air leakage or the tube pulling out.

2) Tube detachment

1. Push in the release button sufficiently, pushing its collar equally around the circumference.
2. Pull out the tube while holding down the release button so that it does not come out. If the release button is not pressed down sufficiently, there will be increased bite on the tube and it will become more difficult to pull it out.
3. When the removed tube is to be used again, cut off the portion which has been chewed before reusing it. If the chewed portion of the tube is used as is, this can cause trouble such as air leakage or difficulty in removing the tube.



SY3000/5000/7000 Series

Specific Product Precautions 8

Be sure to read this before handling the products. Refer to the back cover for safety instructions. For 3/4/5-port solenoid valve precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website: <https://www.smcworld.com>

One-touch Fittings

Caution

When fittings are used, they may interfere with one another depending on their types and sizes. Therefore, the dimensions of the fittings to be used should first be confirmed in their respective catalogs.

Fittings whose compliance with the SY series is already confirmed are stated below. If the fitting within the applicable range is selected, there will not be any interference.

Applicable Fittings: KQ2H, KQ2S Series

| Series | Model | Piping port | Port size | Fittings | Applicable tubing O.D. | | | | | | |
|--------|-------------------------------------|--------------|-----------|----------|------------------------|------|----|----|----|-----|-----|
| | | | | | ø2 | ø3.2 | ø4 | ø6 | ø8 | ø10 | ø12 |
| SY3000 | SY3□30-□□-M5 | 4A, 2B | M5 | KQ2H | | | | | | | |
| | | | | KQ2S | | | | | | | |
| | SS5Y3-50/51/52 (R) Manifold base | 1P, 5EA, 3EB | 1/8 | KQ2H | | | | | | | |
| | | | | KQ2S | | | | | | | |
| | | X, PE | M5 | KQ2H | | | | | | | |
| | | | | KQ2S | | | | | | | |
| | | 4A, 2B | 1/8 | KQ2H | | | | | | | |
| | | | | KQ2S | | | | | | | |
| | | | M5 | KQ2H | | | | | | | |
| | | | | KQ2S | | | | | | | |

| Series | Model | Piping port | Port size | Fittings | Applicable tubing O.D. | | | | | | |
|--------|-------------------------------------|--------------|-----------|----------|------------------------|------|----|----|----|-----|-----|
| | | | | | ø2 | ø3.2 | ø4 | ø6 | ø8 | ø10 | ø12 |
| SY5000 | SY5□30-□□-01 | 4A, 2B | 1/8 | KQ2H | | | | | | | |
| | | | | KQ2S | | | | | | | |
| | SS5Y5-50/51/52 (R) Manifold base | 1P, 5EA, 3EB | 1/4 | KQ2H | | | | | | | |
| | | | | KQ2S | | | | | | | |
| | | X, PE | M5 | KQ2H | | | | | | | |
| | | | | KQ2S | | | | | | | |
| | | 4A, 2B | 1/4 | KQ2H | | | | | | | |
| | | | | KQ2S | | | | | | | |
| | | | 1/8 | KQ2H | | | | | | | |
| | | | | KQ2S | | | | | | | |

| Series | Model | Piping port | Port size | Fittings | Applicable tubing O.D. | | | | | |
|--------|-------------------------------------|--------------|-----------|----------|------------------------|------|----|----|----|-----|
| | | | | | ø2 | ø3.2 | ø4 | ø6 | ø8 | ø10 |
| SY7000 | SY7□30-□□-02 | 4A, 2B | 1/4 | KQ2H | | | | | | |
| | | | | KQ2S | | | | | | |
| | SS5Y7-50/51/52 (R) Manifold base | 1P, 5EA, 3EB | 3/8 | KQ2H | | | | | | |
| | | | | KQ2S | | | | | | |
| | | X, PE | M5 | KQ2H | | | | | | |
| | | | | KQ2S | | | | | | |
| | | 4A, 2B | 1/4 | KQ2H | | | | | | |
| | | | | KQ2S | | | | | | |

Trademark

DeviceNet™ is a trademark of ODVA.

EtherNet/IP™ is a trademark of ODVA.

CompoNet™ is a trademark of ODVA.

EtherCAT® is registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany.

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Revision History


| | | |
|------------------|--|----|
| Edition B | <ul style="list-style-type: none"> * The EX260 integrated type (for output) serial transmission system has been added. * EtherNet/IP™ and EtherCAT have been added to the EX600 integrated type (for input/output) serial transmission system (Fieldbus system). * Additional options: <ul style="list-style-type: none"> · Interface regulator assembly · Dual flow fitting · Individual SUP block assembly · Name plate for manifolds · Individual EXH block assembly * The part numbers for mixed port sizes of the A and B ports have been changed for type 10 (side ported), type 11 (bottom ported), and type 12 (top ported) plug-in connector connecting bases. * The mixed specification of A and B port piping has been deleted from the type 12 (top ported) plug-in connector connecting base. * Number of pages has been increased from 148 to 164. | PY |
| Edition C | <ul style="list-style-type: none"> * The SY7000 has been added. * A plug-in sub-plate (SY3000/5000) has been added. * A valve with a residual pressure release valve (SY5000) has been added. * A solenoid valve with a safety slide locking manual override has been added. * A D-sub connector (IP67) manifold has been added. * A PC wiring manifold (with power supply terminal) has been added. * Number of pages has been increased from 164 to 260. | SO |
| Edition D | <ul style="list-style-type: none"> * A vacuum release valve with a restrictor has been added. * A dual port EX600 EtherNet/IP™ product has been added. * Products for the EX500 gateway decentralized system 2 have been added. * A SUP stop valve spacer (with a residual pressure release valve) has been added. * A valve with a residual pressure release valve (SY7000) has been added. * Number of pages has been increased from 260 to 276. | UQ |
| Edition E | <ul style="list-style-type: none"> * Flow rate characteristics (for the connector connecting base/manifold options) have been added. * A wireless system (EX600-W) has been added. * A valve with a 4(A)/2(B) port pressure sensor has been added. * A blanking plate with output has been added. * PC wiring has been deleted from the wiring types. * CC-Link has been deleted from the EX250 series. * The main/pilot valve common exhaust (-X16) option has been deleted from the made-to-order specifications. * The order of the catalog contents has been revised. * Number of pages has been increased from 276 to 304. | YU |

Safety Instructions

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of “**Caution**,” “**Warning**” or “**Danger**.” They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC)*1), and other safety regulations.

 **Caution:** **Caution** indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.

 **Warning:** **Warning** indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.

 **Danger :** **Danger** indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

*1) ISO 4414: Pneumatic fluid power – General rules relating to systems.
ISO 4413: Hydraulic fluid power – General rules relating to systems.
IEC 60204-1: Safety of machinery – Electrical equipment of machines.
(Part 1: General requirements)
ISO 10218-1: Manipulating industrial robots – Safety.
etc.

Warning

1. The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications.

Since the product specified here is used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results. The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product. This person should also continuously review all specifications of the product referring to its latest catalog information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.

2. Only personnel with appropriate training should operate machinery and equipment.

The product specified here may become unsafe if handled incorrectly. The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.

3. Do not service or attempt to remove product and machinery/equipment until safety is confirmed.

1. The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.
2. When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.
3. Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.

4. Contact SMC beforehand and take special consideration of safety measures if the product is to be used in any of the following conditions.

1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
2. Installation on equipment in conjunction with atomic energy, railways, air navigation, space, shipping, vehicles, military, medical treatment, combustion and recreation, or equipment in contact with food and beverages, emergency stop circuits, clutch and brake circuits in press applications, safety equipment or other applications unsuitable for the standard specifications described in the product catalog.
3. An application which could have negative effects on people, property, or animals requiring special safety analysis.
4. Use in an interlock circuit, which requires the provision of double interlock for possible failure by using a mechanical protective function, and periodical checks to confirm proper operation.

Caution

1. The product is provided for use in manufacturing industries.

The product herein described is basically provided for peaceful use in manufacturing industries.
If considering using the product in other industries, consult SMC beforehand and exchange specifications or a contract if necessary.
If anything is unclear, contact your nearest sales branch.

Limited warranty and Disclaimer/ Compliance Requirements

The product used is subject to the following “Limited warranty and Disclaimer” and “Compliance Requirements”.

Read and accept them before using the product.

Limited warranty and Disclaimer

1. The warranty period of the product is 1 year in service or 1.5 years after the product is delivered, whichever is first.*2)
Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.
2. For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided.
This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.
3. Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalog for the particular products.

*2) Vacuum pads are excluded from this 1 year warranty.

A vacuum pad is a consumable part, so it is warranted for a year after it is delivered.
Also, even within the warranty period, the wear of a product due to the use of the vacuum pad or failure due to the deterioration of rubber material are not covered by the limited warranty.

Compliance Requirements

1. The use of SMC products with production equipment for the manufacture of weapons of mass destruction (WMD) or any other weapon is strictly prohibited.
2. The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulations of the countries involved in the transaction. Prior to the shipment of a SMC product to another country, assure that all local rules governing that export are known and followed.

Caution

SMC products are not intended for use as instruments for legal metrology.

Measurement instruments that SMC manufactures or sells have not been qualified by type approval tests relevant to the metrology (measurement) laws of each country. Therefore, SMC products cannot be used for business or certification ordained by the metrology (measurement) laws of each country.

Safety Instructions

Be sure to read the “Handling Precautions for SMC Products” (M-E03-3) and “Operation Manual” before use.