

# 3 Port Solenoid Valve Rubber Seal Series SY100

**Low power consumption: 0.5 W (Standard, Without indicator light)  
(Current draw: 21 mA at 24 VDC)**

\* Large flow type: 0.75 W (Current draw: 31 mA at 24 VDC)

[Energy saving type [0.22 W] is available, too. For details, refer to catalog on page 4-3-15.]

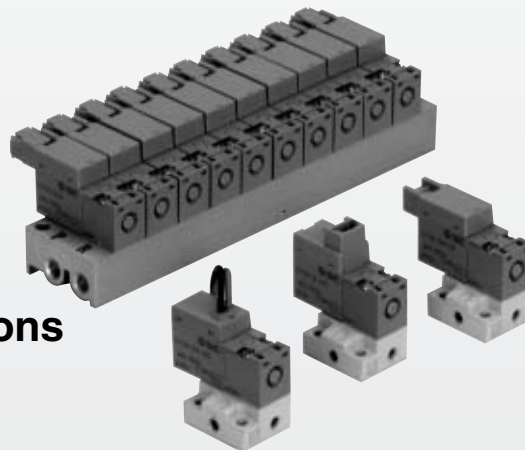
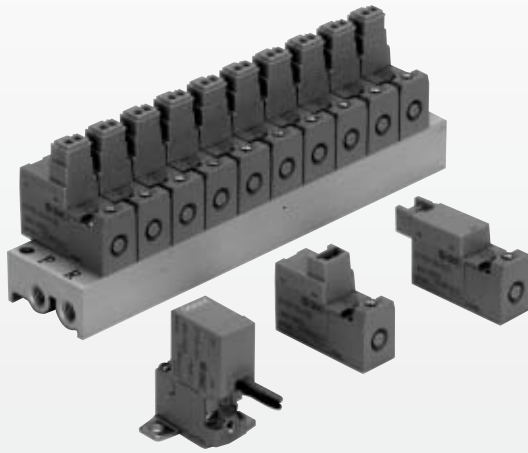
[Low wattage [0.45 W] is available, too. For details, refer to catalog on page 4-3-15.]

**Body width: 10 mm**

Effective area 0.14 mm<sup>2</sup> (Standard type)  
Effective area 0.22 mm<sup>2</sup> (Large flow type)

**High reliability**

100 million cycles or more (By SMC life test data)



**Available in vacuum applications**

(Up to -100 kPa)

**Copper-free**

No copper used for sections in contact with fluids.

**Bright color tone and neat design**

A bright gray concept has been adopted for this product to compliment the surrounding operational environment.

V100

SY

SYJ

VK

VZ

VT

VP

VG

VP

S070

VQ

VKF

VQZ

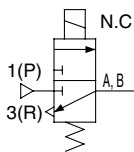
VZ

VS

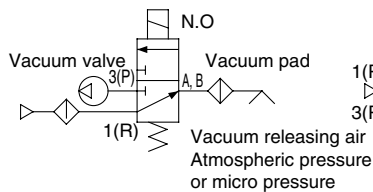
VFN

## SY100/Application Example (Pneumatic JIS symbols shown are typical examples.)

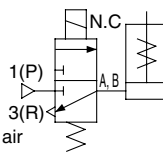
1. For blowing off



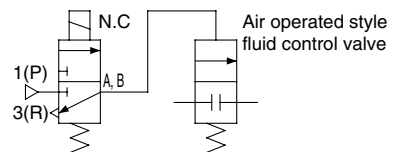
2. For vacuum control



3. For driving single acting cylinders



4. For driving air operated valves for fluid control



The characteristic values shown in the catalog are representative values, not warranting the performance.

# Series SY100

## ⚠ Precautions

Be sure to read before handling. For Safety Instructions and Solenoid Valve Precautions, refer to page 4-18-2.

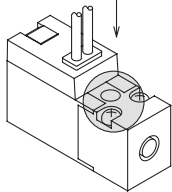
### Manual Override Operation

#### ⚠ Warning

Since connected equipment will be actuated when the manual override is operated, first confirm that conditions are safe.

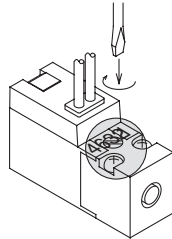
#### ■ Non-locking push type [Standard type]

Press in the direction of the arrow

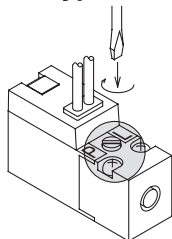


#### ■ Locking slotted type [B]

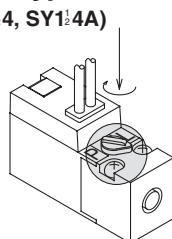
Turn in the direction of arrow.



#### ■ Push-turn locking slotted type [D]



#### ■ Push-turn locking lever type [E] (SY1½4, SY1¾4A)



(Pressing makes the valve operate. The valve can be locked in the manual override position by turning it to the direction that the arrow shows while keeping it pressed. If it is not turned, it can be used as a non-locking push type.)

(Pressing makes the valve operate. The valve can be locked in the manual override position by turning it to the direction that the arrow shows while keeping it pressed. If it is not turned, it can be used as a non-locking push type.)

#### ⚠ Caution

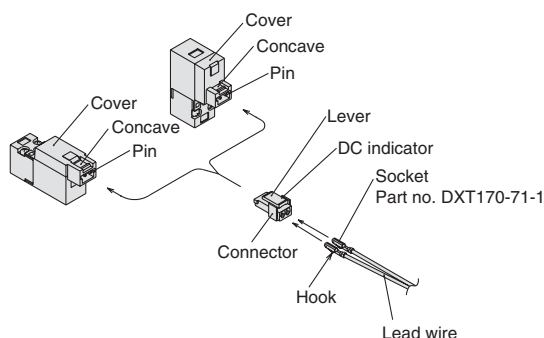
When operating the lock with the driver, use a watchmakers' screwdriver and turn lightly. [Torque: 0.1 N·m or less]

### How to Use Plug Connector

#### ⚠ Caution

##### 1. Attaching and detaching connectors

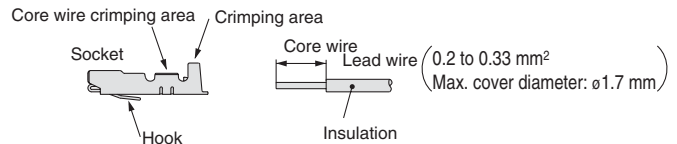
- To attach a connector, hold the lever and connector unit between your fingers and insert straight onto the pins of the solenoid valve so that the lever's pawl is pushed into the groove and locks.
- To detach a connector, remove the pawl from the groove by pushing the lever downward with your thumb, and pull the connector straight out.



##### 2. Crimping of lead wires and sockets

Peel 3.2 to 3.7 mm of the tip of lead wire, enter the core wires neatly into a socket and crimp it with a special crimp tool. Be careful so that the cover of lead wire does not enter into the crimping part.

(For special crimping tool, please contact SMC.)



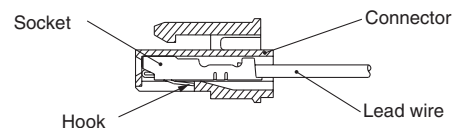
##### 3. Attaching and detaching lead wires with sockets

###### ● Attaching

Insert the sockets into the square holes of the connector (with ⊕ and ⊖ indication) and, continue to push the sockets all the way in until the lock by hooking into the seats in the connector. (When they are pushed in, their hooks open and they are locked automatically.) Then confirm that they are locked by pulling lightly on the lead wires.

###### ● Detaching

To detach a socket from a connector, pull out the lead wire while pressing the socket's hook with a stick having a thin tip (approx. 1 mm). If the socket will be used again, first spread the hook outward.



### Plug Connector Lead Wire Length

Standard length is 300 mm, but the following length is also available.

### How to Order Connector Assembly

For DC: **SY100-30-4A**

For 100 VAC: **SY100-30-1A**

For 200 VAC: **SY100-30-2A**

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

Without lead wire: **SY100-30-A**  
(With connector and 2 pcs. of socket)

#### How to Order

Include the connector assembly part number together with the part number for the plug connector's solenoid valve without connector.  
<Example> Lead wire length 2000 mm

For DC (+COM)

**SY114-5LO**

**SY100-30-4A-20**

For AC

**SY114-1LO**

**SY100-30-1A-20**

#### ● Lead wire length

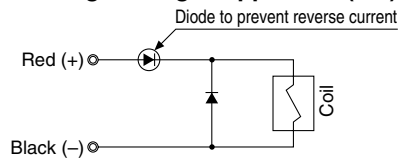
|     |         |
|-----|---------|
| Nil | 300 mm  |
| 6   | 600 mm  |
| 10  | 1000 mm |
| 15  | 1500 mm |
| 20  | 2000 mm |
| 25  | 2500 mm |
| 30  | 3000 mm |
| 50  | 5000 mm |

## Surge Voltage Suppressor

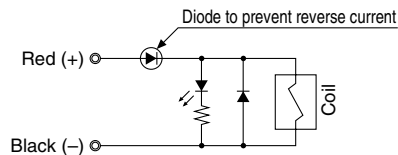
<For DC>

### Grommet, L/M Plug Connector Type

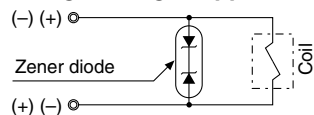
#### ■ Standard type (With polarity) With surge voltage suppressor (□S)



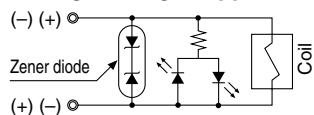
#### Light/Surge voltage suppressor (□Z)



#### ■ Non-polar type With surge voltage suppressor (□R)



#### Light/Surge voltage suppressor (□U)



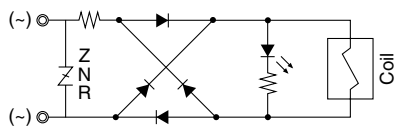
- Please connect correctly the lead wires to + (positive) and - (negative) indications on the connector.  
(For non-polar type, the lead wires can be connected to either one.)
- For DC voltages other than 12 and 24 VDC, incorrect wiring will cause damage to the surge voltage suppressor circuit. (Wrong polarity will cause trouble.)
- Solenoids, whose lead wires have been pre-wired: positive side red and negative side black.

<For AC>

("S" option is not available since voltage surge is suppressed by the converter.)

### Grommet, L/M Plug Connector Type

With indicator light (□Z)



## ⚠ Caution

In the case of zener diode and protection circuit for surge voltage of ZNR, use caution to the surge voltage protection in the controller side, since there remains the residual voltage according to the protecting element and the rated voltage. Moreover, the residual voltage of the diode is approximately 1 V.

## Connector Assembly with Protective Cover

Connector assembly with a protective cover which's taken countermeasures against dustlight.

- Effective to prevent short circuit accidents caused by invasion of foreign matters into the connector section, etc.
- Cover material adopts the chloroprene rubber which is excellent in weatherability and electric insulation properties. However, use caution not to allow contact with cutting oil, etc.
- Simple and unencumbered appearance by adopting round-shaped cord.

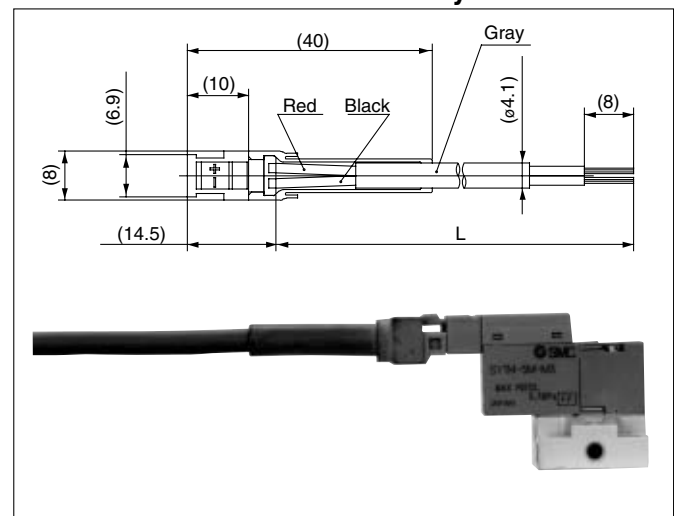
### How to Order

SY100-68-A-□

• Lead wire length (L)

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

### Dimensions: Connector Assembly with Cover



#### • How to Order

Include the connector assembly part number together with the part number for the plug connector's solenoid valve without connector.

<Example 1> For lead wire length: 2000 mm

SY114-5LOZ-M3

SY100-68-A-20

<Example 2> For lead wire length: 300 mm (Standard)

SY114-5LPZ-M3

Symbol of connector assembly with protective cover

\* No part numbers of connector assembly with cover are needed to be indicated in this case.

V100

SY

SYJ

VK

VZ

VT

VP

VG

VP

S070

VQ

VKF

VQZ

VZ

VS

VFN

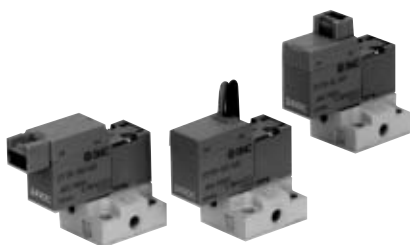
# 3 Port Direct Operated Solenoid Valve Rubber Seal Series SY100

## Specifications

|  |  |
|--|--|
| Fluid  | Air  |
| Ambient and fluid temperature (°C)                             | -10 to 50°C (No freezing. Refer to page 4-18-4.)   |
| Response time (ms) <sup>(1)</sup>                              | 10 or less   |
| Max. operating frequency (Hz)                                  | 20   |
| Manual override  | Non-locking push type, Locking slotted type<br>Push-turn locking slotted type<br>Push-turn locking lever type (SY1 $\frac{3}{4}$ , SY1 $\frac{3}{4}$ A only) |
| Lubrication  | Not required   |
| Mounting position  | Unrestricted   |
| Impact/Vibration resistance (m/s <sup>2</sup> ) <sup>(2)</sup> | 150/30   |
| Enclosure  | Dustproof  |



Body ported



Base mounted



Note 1) Based on dynamic performance test, JIS B 8374-1981. (Coil temperature: 20°C, at rated voltage, without surge suppressor.)

Note 2) Impact resistance: No malfunction occurred when it is tested with a drop tester in the axial direction and at the right angles to the main valve and armature in both energized and de-energized states every once for each condition. (Values at the initial period)

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

## Solenoid Specifications

| Series                        |                                   | SY1 $\frac{13}{24}$   | SY1 $\frac{13}{24}$ A                |
|-------------------------------|-----------------------------------|---|--------------------------------------|
| Electrical entry              |                                   | Grommet (G)/(H), L plug connector (L)<br>M plug connector (M) |                                      |
| Coil rated voltage (V)        | DC                                | 24, 12, 6, 5, 3   |                                      |
|                               | AC <sup>50/60</sup> Hz            | 100, 110, 200, 220  | —                                    |
| Allowable voltage fluctuation |                                   | -10 to +10%   |                                      |
| Power consumption (W)         | DC                                | 0.5 (With indicator light: 0.55)                              | 0.75 W (With indicator light: 0.8 W) |
| Apparent power (VA)           | AC                                | 100 V   | 0.9 (With indicator light: 1.0)      |
|                               |                                   | 110 V   | 1.0 (With indicator light: 1.1)      |
|                               |                                   | [115 V]   | [1.1 (With indicator light: 1.2)]    |
|                               |                                   | 200 V   | 1.8 (With indicator light: 1.9)      |
|                               |                                   | 220 V   | 1.9 (With indicator light: 2.0)      |
| [230 V]                       | [2.2 (With indicator light: 2.3)] |   |                                      |
| Surge voltage suppressor      |                                   | Diode   |                                      |
| Indicator light               |                                   | LED   |                                      |

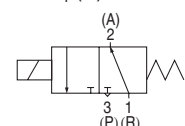
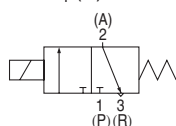


\* It is in common between 110 VAC and 115 VAC, and between 220 VAC and 230 VAC. [Low wattage [0.45 W] is available, too. For details, refer to catalog on page 4-18-4.]

### JIS Symbol

SY11 $\frac{3}{4}$  (A)

SY12 $\frac{3}{4}$  (A)



**Made to Order Specifications**  
(For details, refer to page 4-3-17.)

## Model

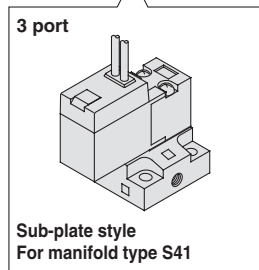
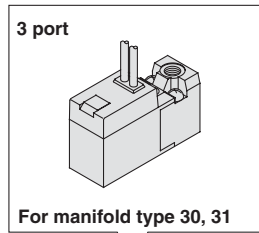
| Function | Valve model                         | Type       | Operating pressure range (MPa) | Vacuum specifications (MPa) |                 | Port size       |           | Effective area (mm <sup>2</sup> ) | Weight (g) <sup>(2)</sup>            |                                      |
|----------|-------------------------------------|------------|--------------------------------|-----------------------------|-----------------|-----------------|-----------|-----------------------------------|--------------------------------------|--------------------------------------|
|          |                                     |            |                                | 1(P) port                   | 3(R) port       | 1(P), 3(R) port | 2(A) port |                                   | Grommet                              | L plug connector, M plug connector   |
| N.C.     | SY11 $\frac{3}{4}$                  | Standard   | 0 to 0.7                       | -100 kPa to 0.6             | -100 kPa to 0   | M3 x 0.5        | M3 x 0.5  | 0.14                              | SY1□3(A): 13<br>SY1□4(A): 24<br>(12) | SY1□3(A): 15<br>SY1□4(A): 26<br>(14) |
| N.C.     | SY11 $\frac{3}{4}$ A                | Large flow | 0 to 0.7                       | -100 kPa to 0.6             | -100 kPa to 0   | M3 x 0.5        | M3 x 0.5  | 0.22                              |                                      |                                      |
| N.O.     | SY12 $\frac{3}{4}$ <sup>(1)</sup>   | Standard   | 0 to 0.7                       | -100 kPa to 0               | -100 kPa to 0.6 | M3 x 0.5        | M3 x 0.5  | 0.14                              |                                      |                                      |
| N.O.     | SY12 $\frac{3}{4}$ A <sup>(1)</sup> | Large flow | 0 to 0.7                       | -100 kPa to 0               | -100 kPa to 0.6 | M3 x 0.5        | M3 x 0.5  | 0.22                              |                                      |                                      |



Note 1) SY123/SY124 $\frac{3}{4}$  and SY123/SY124 $\frac{3}{4}$ A: Supply pressure to 1(R) port and exhaust air from 3(P) port.  
Note 2) Value for DC. Add 1 g for AC. ( ): Without sub-plate.

## How to Order

### Standard type (Cv0.008)



**Type of actuation**

|   |                 |
|---|-----------------|
| 1 | Normally closed |
| 2 | Normally open   |

**Rated voltage**

For DC

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

For AC (50/60 Hz)

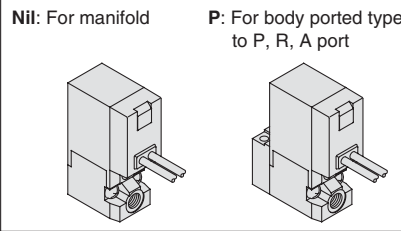
|   |                   |
|---|-------------------|
| 1 | 100 VAC           |
| 2 | 200 VAC           |
| 3 | 110 VAC [115 VAC] |
| 4 | 220 VAC [230 VAC] |

### Light/Surge voltage suppressor

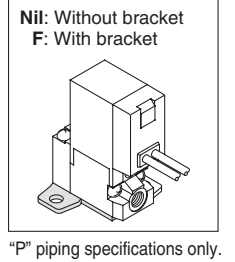
|     |  |
|-----|--|
| Nil | Without light/surge voltage suppressor               |
| S   | With surge voltage suppressor                        |
| Z   | With light/surge voltage suppressor                  |
| R   | With surge voltage suppressor (Non-polar type)       |
| U   | With light/surge voltage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

\* For AC voltage valves there is no "S" option. It is already built into the rectifier circuit.  
\* For "R" and "U", DC voltage is only available.

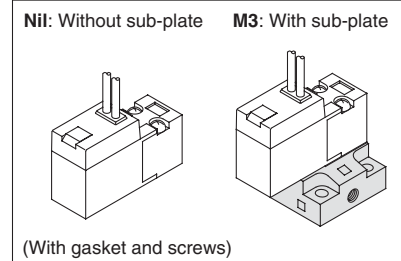
### Porting specifications



### Bracket



### Port size

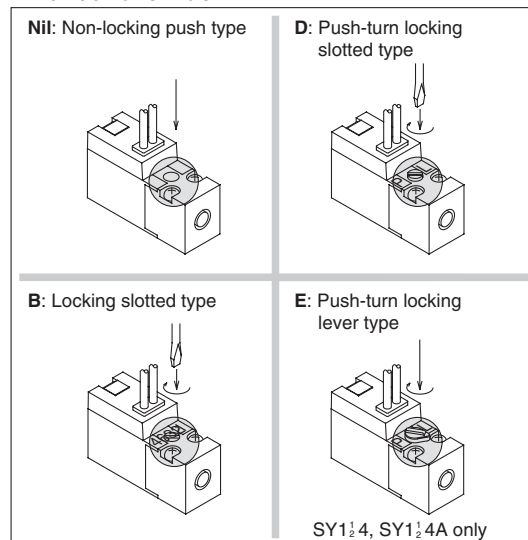


### Electrical entry

| 24 V, 12 V, 6 V, 5 V, 3 VDC/100 V, 110 V, 200 V, 220 VAC |  |  |                              |
|--|--|--|------------------------------|
| Grommet  | L plug connector                         | M plug connector                         |                              |
| <b>G:</b> 300 mm lead wire                               | <b>L:</b> With lead wire (Length 300 mm) | <b>M:</b> With lead wire (Length 300 mm) | <b>MN:</b> Without lead wire |
|  |  |  |                              |
| <b>H:</b> 600 mm lead wire                               | <b>LN:</b> Without lead wire             | <b>LO:</b> Without connector             | <b>MO:</b> Without connector |
|  |  |  |                              |

\* "LN" and "MN" types are with 2 sockets.

### Manual override

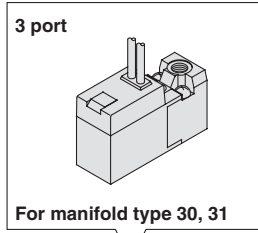


- V100
- SY**
- SYJ
- VK
- VZ
- VT
- VP
- VG
- VP
- S070
- VQ
- VKF
- VQZ
- VZ
- VS
- VFN

# Series SY100

## How to Order

### Large flow type (Cv: 0.012)

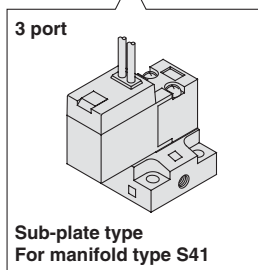


Large flow type  
(Cv: 0.012) : Body ported

SY1 1 3 A — 5 L [ ] [ ] [ ] M3 [ ]

Large flow type  
(Cv: 0.012) : Base mounted

SY1 1 4 A — 5 M [ ] [ ] [ ]



● Type of actuation

|   |                 |
|---|-----------------|
| 1 | Normally closed |
| 2 | Normally open   |

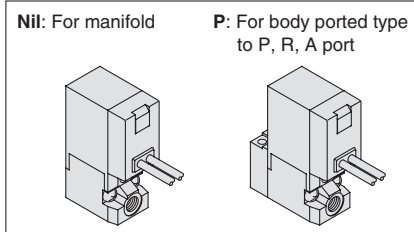
● Rated voltage

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

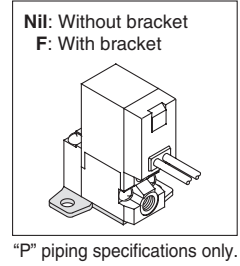
● Light/Surge voltage suppressor

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

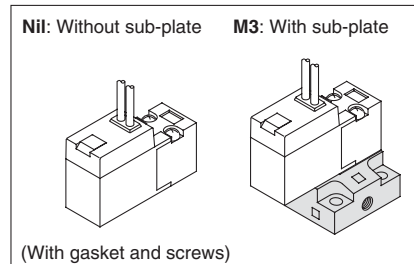
● Porting specifications



● Bracket



● Port size

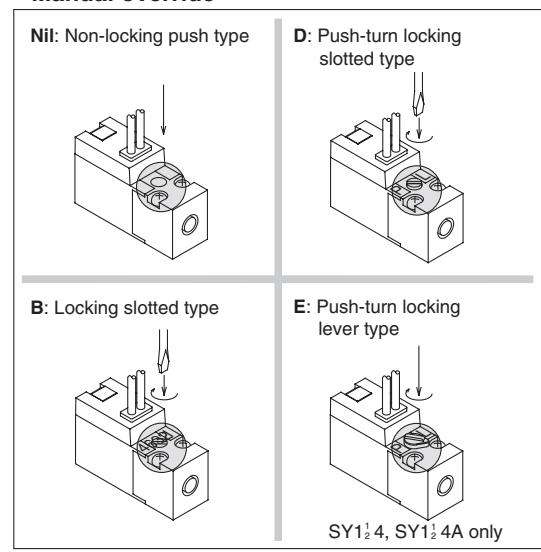


● Electrical entry

| 24 V, 12 V, 6 V, 5 V, 3 VDC |                                   |                                   |                       |
|-----------------------------|-----------------------------------|-----------------------------------|-----------------------|
| Grommet                     | L plug connector                  | M plug connector                  |                       |
| G: 300 mm lead wire         | L: With lead wire (Length 300 mm) | M: With lead wire (Length 300 mm) | MN: Without lead wire |
|                             |                                   |                                   |                       |
| H: 600 mm lead wire         | LN: Without lead wire             | LO: Without connector             | MO: Without connector |
|                             |                                   |                                   |                       |

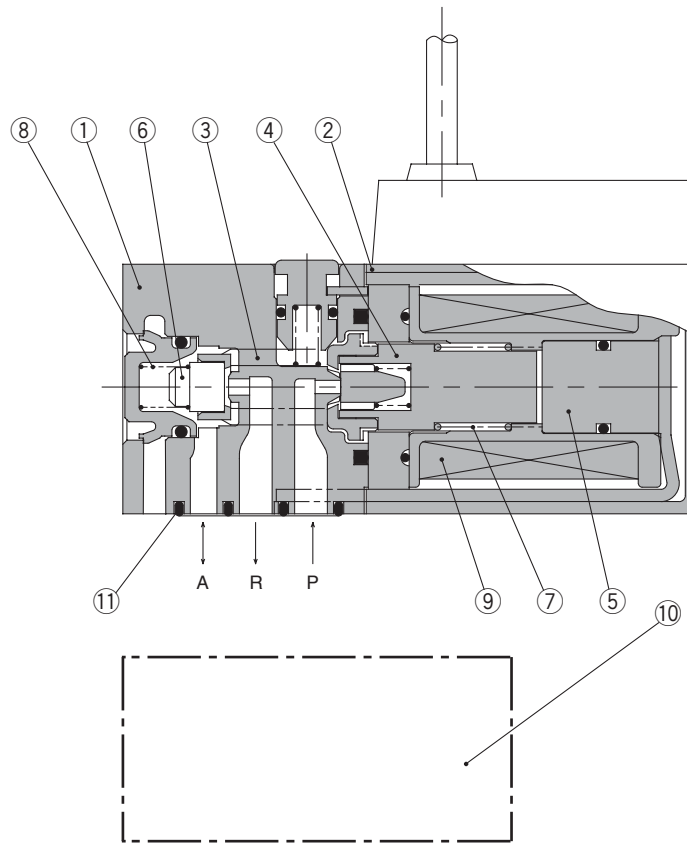
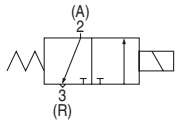
\* "LN" and "MN" types are with 2 sockets.

● Manual override



## Construction

### SY114, SY114A



### Component Parts

| No. | Description                | Material             | Note |
|-----|----------------------------|----------------------|------|
| ①   | Body                       | Resin                | Gray |
| ②   | Cover                      | Resin                | Gray |
| ③   | Push rod                   | Resin                | —    |
| ④   | Movable iron core assembly | HNBR/Stainless steel | —    |
| ⑤   | Fixed iron core            | Stainless steel      | —    |
| ⑥   | Exhaust poppet             | HNBR                 | —    |
| ⑦   | Return spring              | Stainless steel      | —    |
| ⑧   | Poppet spring              | Stainless steel      | —    |
| ⑨   | Coil assembly              | —                    | —    |

### Replacement Parts

| No. | Description | Part no.   | Material        |
|-----|-------------|------------|-----------------|
| ⑩   | Sub-plate   | SY100-74-1 | Zinc die-casted |
| ⑪   | Gasket      | VJ100-6-8  | HNBR            |

### How to Order Connector Assembly

For DC: **SY100-30-4A**

For 100 VAC: **SY100-30-1A**

For 200 VAC: **SY100-30-2A**

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

Without lead wire: **SY100-30-A**  
(With connector and  
2 pcs. of socket)

#### ●Lead wire length

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

V100

SY

SYJ

VK

VZ

VT

VP

VG

VP

S070

VQ

VKF

VQZ

VZ

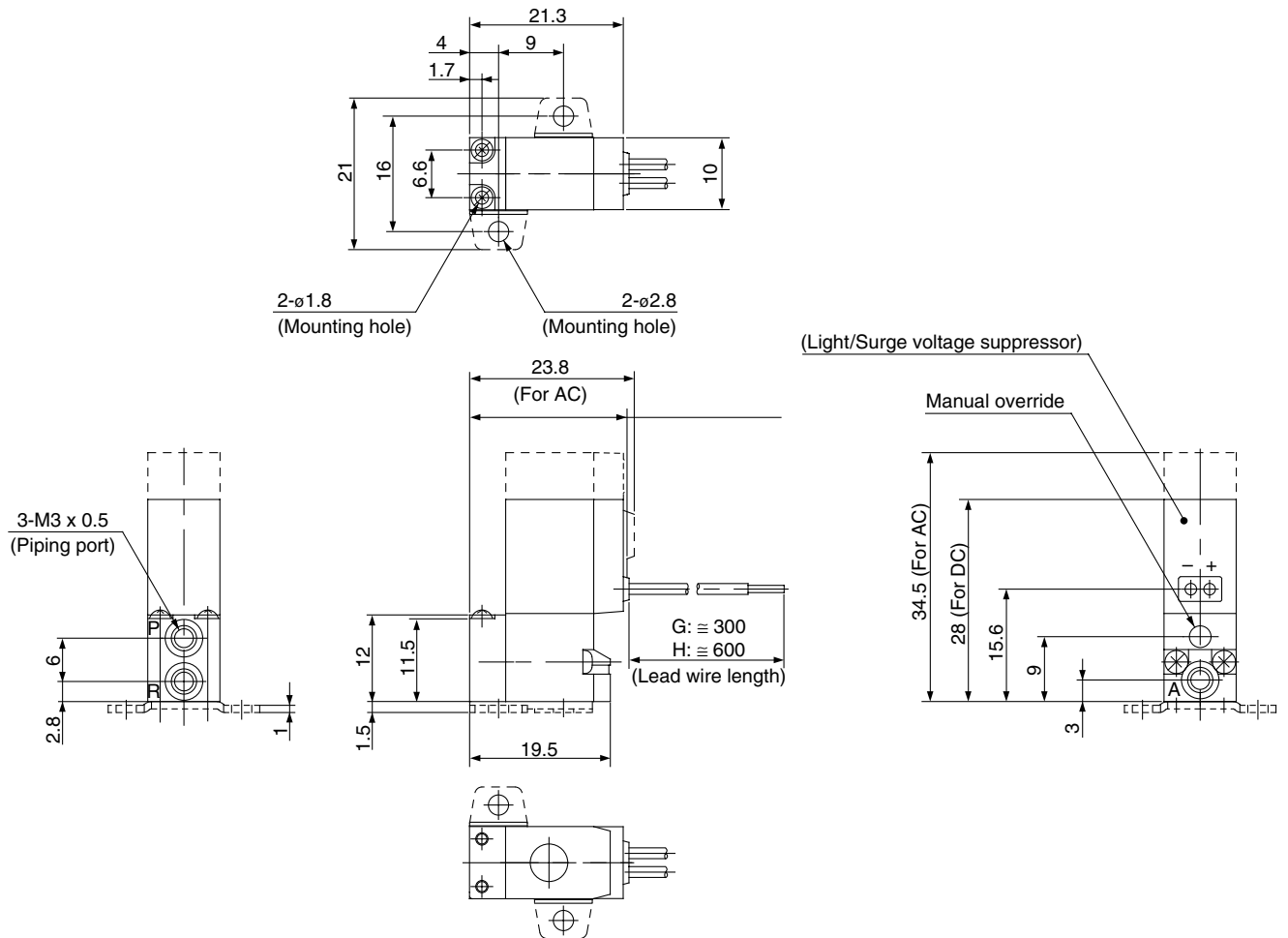
VS

VFN

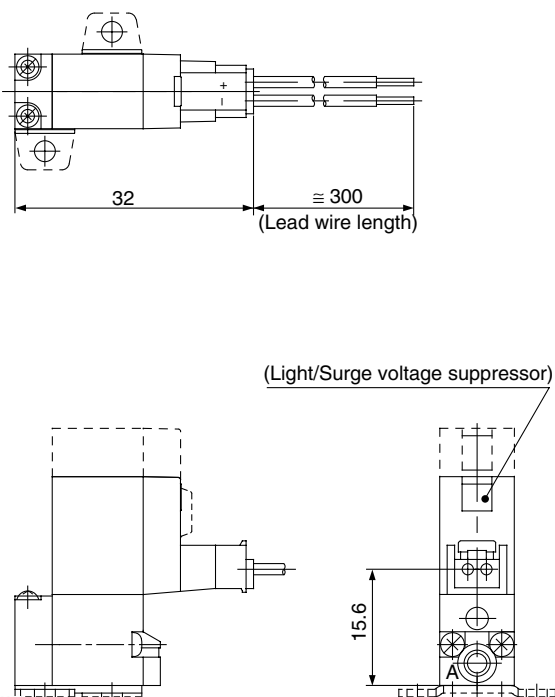
# Series SY100

## Body Ported

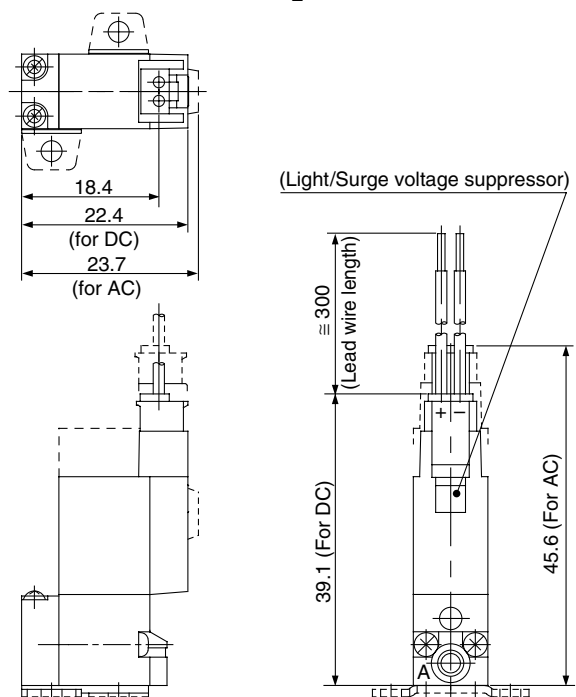
Grommet (G), (H): SY1 $\frac{1}{2}$ 3 (A)-□ $\frac{G}{H}$ □□-PM3(-F)



L plug connector (L): SY1 $\frac{1}{2}$ 3(A)-□L□□-PM3(F)



M plug connector (M): SY1 $\frac{1}{2}$ 3(A)-□M□□-PM3(-F)



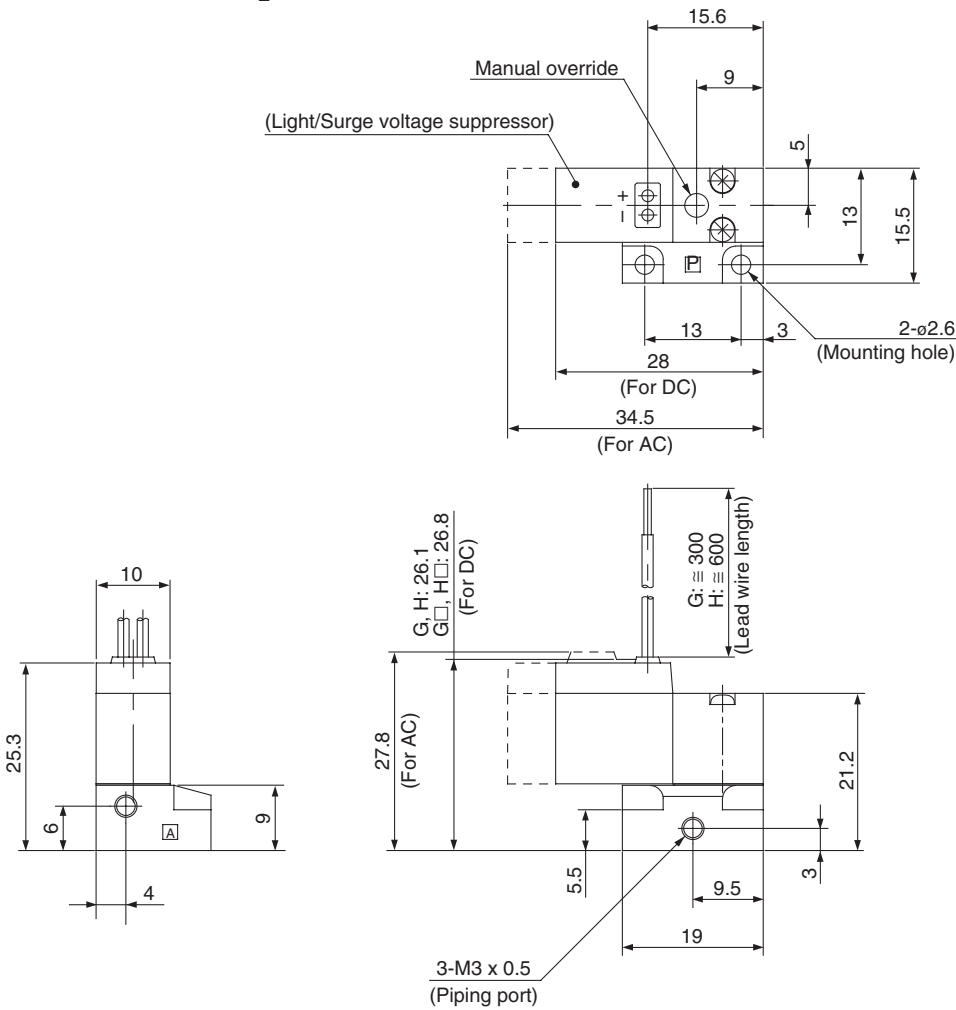
\* Other dimensions are same as grommet type.

\* Other dimensions are same as grommet type.



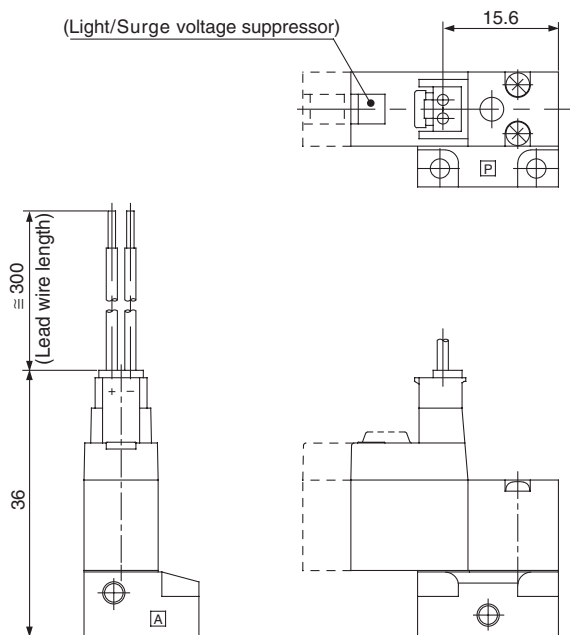
## Base Mounted (With sub-plate)

Grommet (G), (H): SY1<sup>1</sup>/<sub>2</sub>4(A)-□<sup>G</sup><sub>H</sub>□□-M3



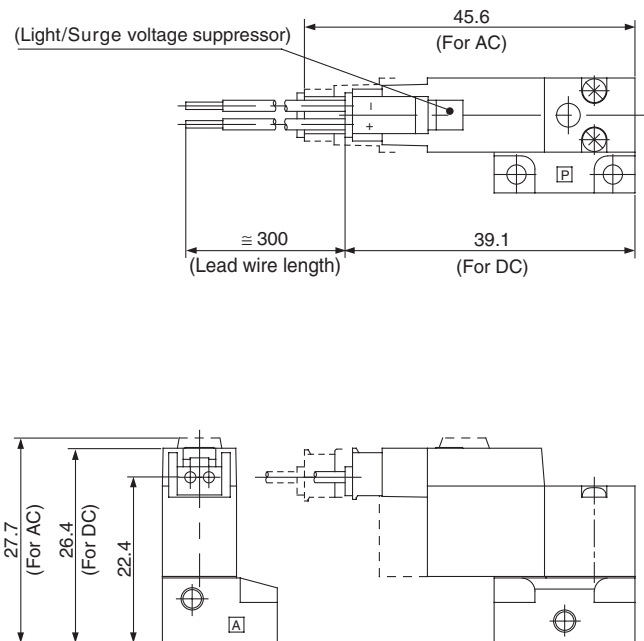
- V100
- SY**
- SYJ
- VK
- VZ
- VT
- VP
- VG
- VP
- S070
- VQ
- VKF
- VQZ
- VZ
- VS
- VFN

L plug connector (L): SY1<sup>1</sup>/<sub>2</sub>4(A)-□L□□-M3

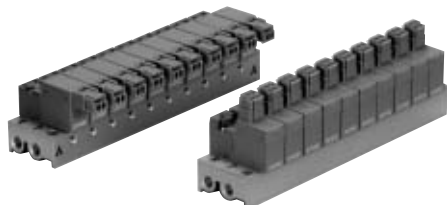


\* Other dimensions are same as grommet type.

M plug connector (M): SY1<sup>1</sup>/<sub>2</sub>4(A)-□M□□-M3



\* Other dimensions are same as grommet type.

Series **SY100****Manifold Specifications****Manifold Specifications**

| Model                         |            | Type 30 <sup>(3)</sup> | Type 31            | Type S41 |
|-------------------------------|------------|------------------------|--------------------|----------|
| Manifold                      |            | Single base/B mount    |                    |          |
| P(SUP)/R(EXH)                 |            | Common SUP/Common EXH  |                    |          |
| Valve stations                |            | 2 to 10 stations       | 2 to 20 stations   |          |
| A port porting specifications | Position   | Valve                  |                    | Base     |
|                               | Direction  | Top                    |                    | Side     |
| Port size                     | P, R ports | M5 x 0.8               |                    |          |
|                               | A port     | M3 x 0.5               | M3 x 0.5, M5 x 0.8 |          |



Note 1) SY114(A) and SY124(A) can not be mounted on the same manifold.

Note 2) Supply to R port and exhaust from P port for SY124(A).

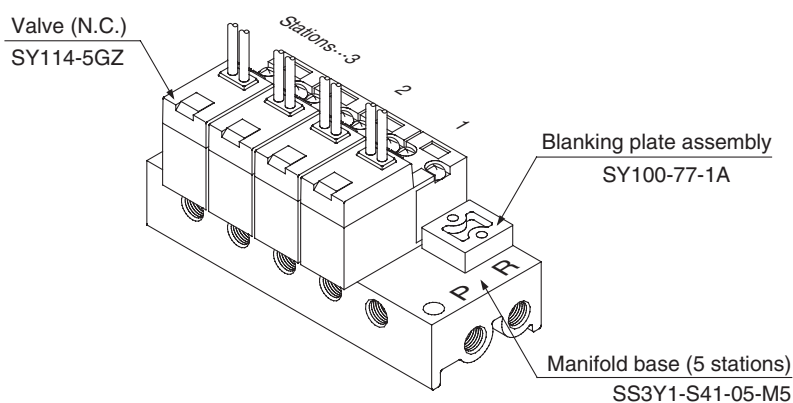
Note 3) 30 Type is applicable only for SY113 and SY113A. Piping to exhaust port is not possible.

**Flow Characteristics**

| Manifold  |          | Port size       |           | Effective area (mm <sup>2</sup> ) |
|-----------|----------|-----------------|-----------|-----------------------------------|
|           |          | 1(P), 3(R) port | 2(A) port |                                   |
| SS3Y1-30  | SY1□3    | M5 x 0.8        | M3 x 0.5  | 0.14                              |
|           | SY1□3(A) |                 |           | 0.21                              |
| SS3Y1-31  | SY1□3    | M5 x 0.8        | M3 x 0.5  | 0.14                              |
|           | SY1□3(A) |                 |           | 0.21                              |
| SS3Y1-S41 | SY1□4    | M5 x 0.8        | M3 x 0.5  | 0.14                              |
|           | SY1□4(A) |                 |           | 0.21                              |
|           | SY1□4    | M5 x 0.8        | M5 x 0.8  | 0.14                              |
|           | SY1□4(A) |                 |           | 0.21                              |



Note) Value at manifold base mounted

**How to Order Valve Manifold Assembly****Example**

SS3Y1-S41-05-M5..... 1 set (Type S41, 5 station manifold part number)

\* SY100-77-1A..... 1 set (Blanking plate assembly part number)

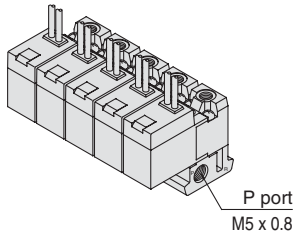
\* SY114-5GZ..... 4 sets (Valve)

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

List part numbers of the installed valve and option in required station location separately under manifold part no.

## Common SUP/Common EXH

### Type 30



How to Order

**SS3Y1 - 30 - 05 - F**

Stations

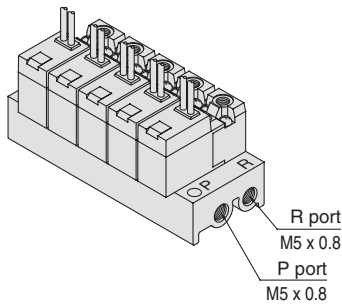
|    |             |
|----|-------------|
| 02 | 2 stations  |
| ⋮  | ⋮           |
| 10 | 10 stations |

**Applicable solenoid valve**  
 SY113-□□□□-M3  
 SY113A-□□□□-M3  
**Applicable blanking plate assembly**  
 SY100-77-1A



Note) Piping to exhaust port not possible.

### Type 31



How to Order

**SS3Y1 - 31 - 05**

Stations

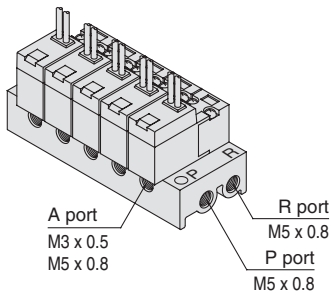
|    |             |
|----|-------------|
| 02 | 2 stations  |
| ⋮  | ⋮           |
| 20 | 20 stations |

**Applicable solenoid valve** Note)  
 SY113-□□□□-M3  
 SY113A-□□□□-M3  
 SY123-□□□□-M3  
 SY123A-□□□□-M3  
**Applicable blanking plate assembly**  
 SY100-77-1A



Note) SY113(A) and SY123(A) cannot be mounted on the same manifold.

### Type S41



How to Order

**SS3Y1 - S41 - 05 - M3**

Stations

|    |             |
|----|-------------|
| 02 | 2 stations  |
| ⋮  | ⋮           |
| 20 | 20 stations |

A port side

|    |          |
|----|----------|
| M3 | M3 x 0.5 |
| M5 | M5 x 0.8 |

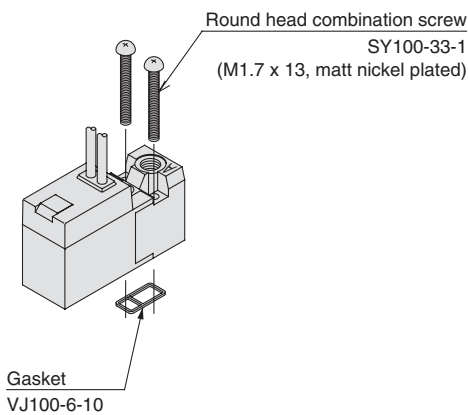
**Applicable solenoid valve** Note)  
 SY114-□□□□  
 SY114A-□□□□  
 SY124-□□□□  
 SY124A-□□□□  
**Applicable blanking plate assembly**  
 SY100-77-1A



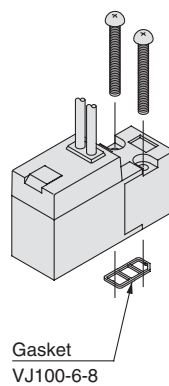
Note) SY114(A) and SY124(A) cannot be mounted on the same manifold.

## Combination with Solenoid Valve and Gasket Manifold Base

### Body ported

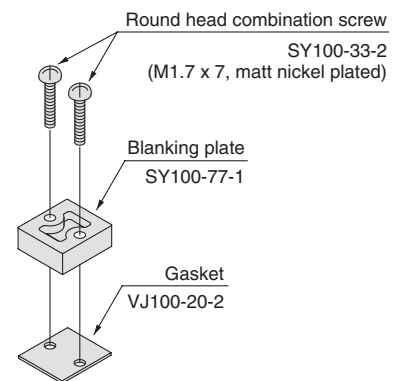


### Base mounted



## Blanking Plate Assembly

Part no.: SY100-77-1A



**Applicable base**  
 • Sub-plate (For body ported type)  
 • SS3Y1-30 type | Manifold  
 • SS3Y1-31 type | base

**Applicable base**  
 Sub-plate  
 Type SS3Y1- S41  
 Manifold base

**Applicable base**  
 Sub-plate  
 Type SS3Y1-30  
 Type SS3Y1-31  
 Type SS3Y1-S41 } Manifold base

### ⚠ Caution

**Mounting Screw Tightening Torques** M1.7: 0.12 N·m

V100

SY

SYJ

VK

VZ

VT

VP

VG

VP

S070

VQ

VKF

VQZ

VZ

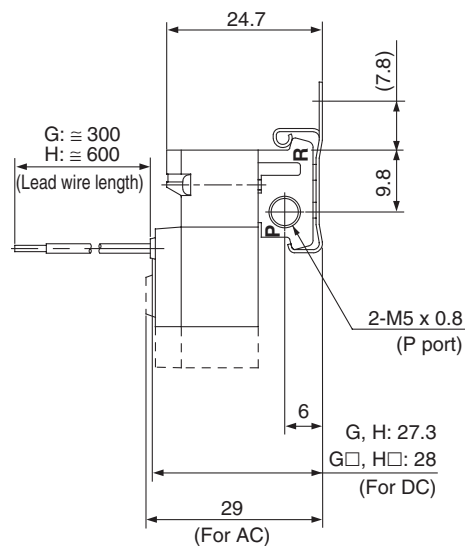
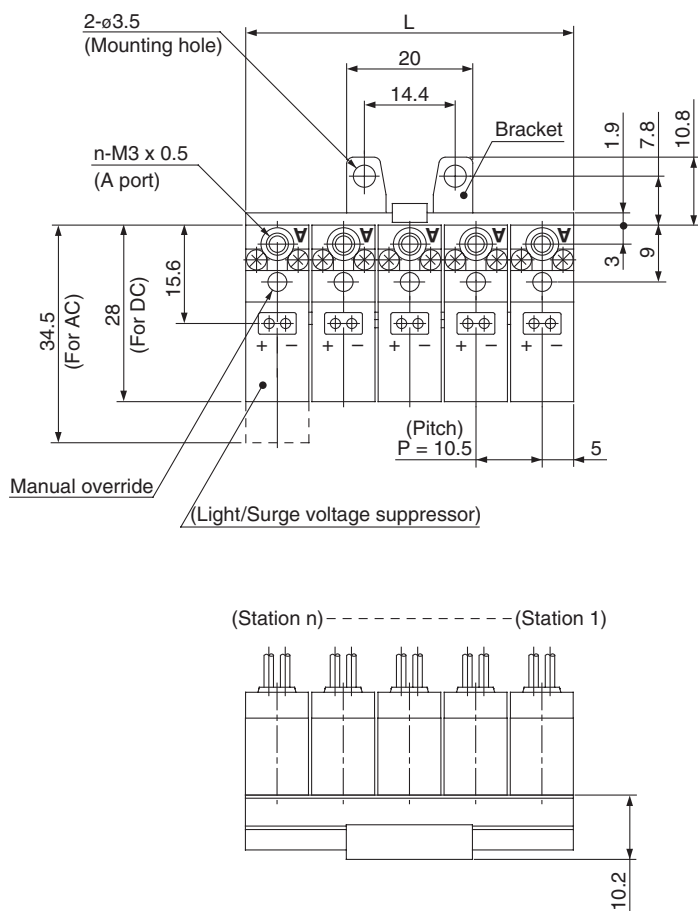
VS

VFN

# Series SY100

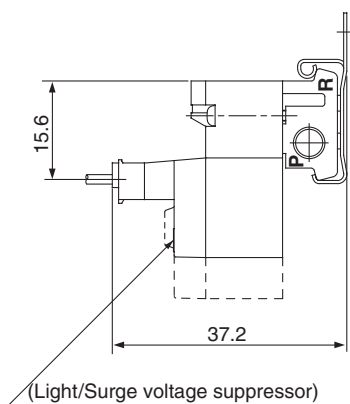
## Type 30 Manifold: Top Ported/SS3Y1-30-Stations-F

### Grommet (G), (H)



\* No bracket is assembled prior to delivery. Mount one to the appropriate position. (Attach two brackets if more than five stations.)

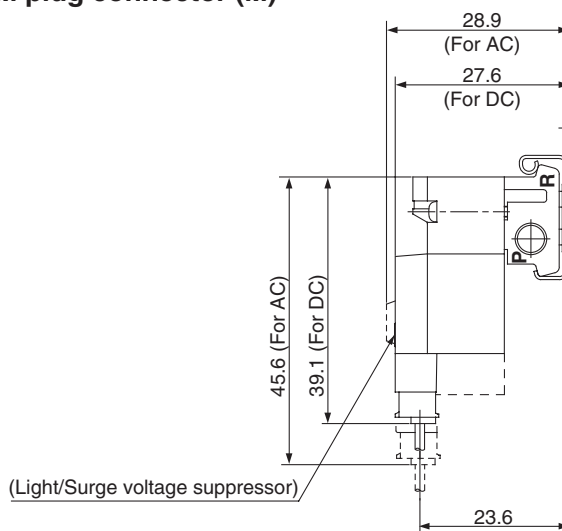
### L plug connector (L)



\* Other dimensions are same as grommet type.

| Station | 2    | 3  | 4    | 5  | 6    | 7  | 8    | 9  | 10    |
|---------|------|----|------|----|------|----|------|----|-------|
| L       | 20.5 | 31 | 41.5 | 52 | 62.5 | 73 | 83.5 | 94 | 104.5 |

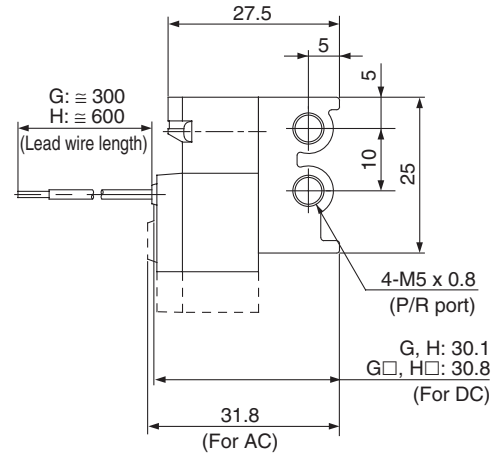
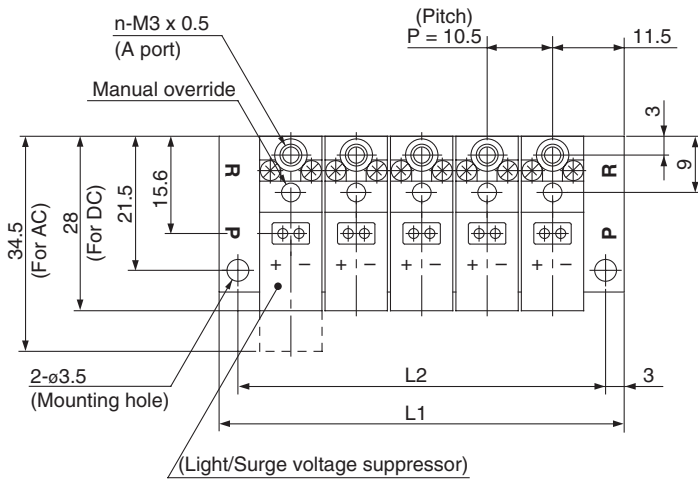
### M plug connector (M)



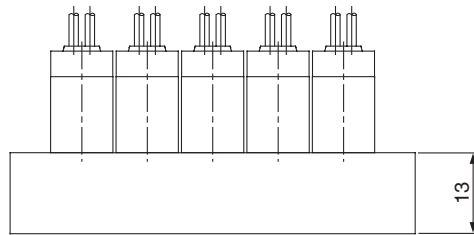
\* Other dimensions are same as grommet type.

## Type 31 Manifold: Top Ported/SS3Y1-31- Stations

### Grommet (G), (H)

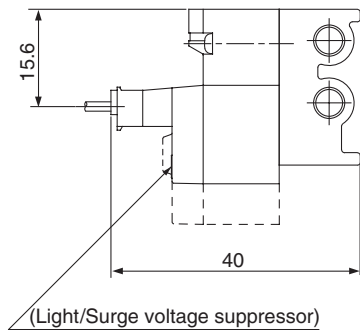


(Station n) ----- (Station 1)

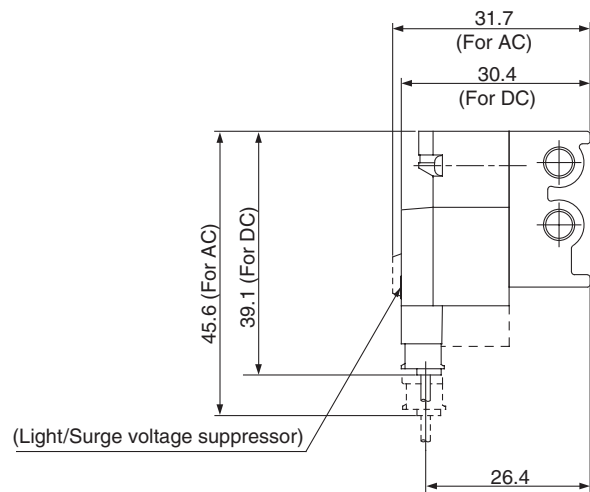


- V100
- SY**
- SYJ
- VK
- VZ
- VT
- VP
- VG
- VP
- S070
- VQ
- VKF
- VQZ
- VZ
- VS
- VFN

### L plug connector (L)



### M plug connector (M)



\* Other dimensions are same as grommet type.



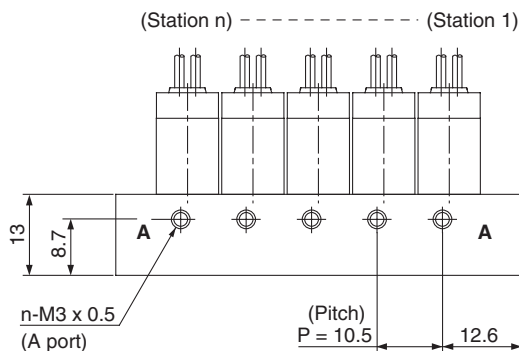
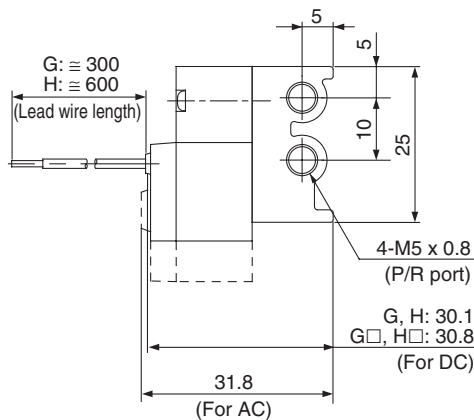
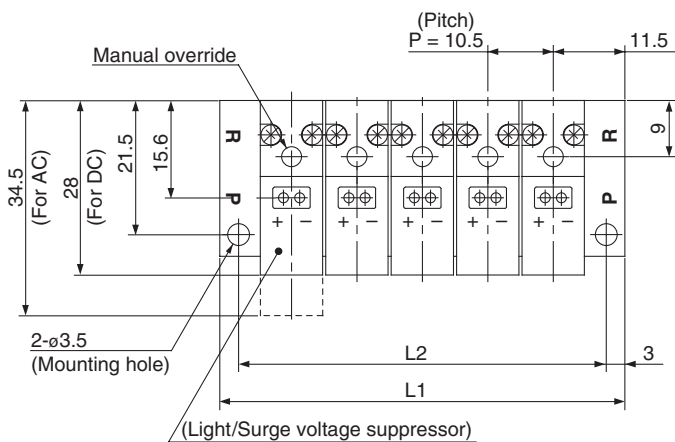
\* Other dimensions are same as grommet type.

| Station | 2    | 3  | 4    | 5  | 6    | 7  | 8    | 9   | 10    | 11  | 12    | 13  | 14    | 15  | 16    | 17  | 18    | 19  | 20    |
|---------|------|----|------|----|------|----|------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|
| L1      | 33.5 | 44 | 54.5 | 65 | 75.5 | 86 | 96.5 | 107 | 117.5 | 128 | 138.5 | 149 | 159.5 | 170 | 180.5 | 191 | 201.5 | 212 | 222.5 |
| L2      | 27.5 | 38 | 48.5 | 59 | 69.5 | 80 | 90.5 | 101 | 111.5 | 122 | 132.5 | 143 | 153.5 | 164 | 174.5 | 185 | 195.5 | 206 | 216.5 |

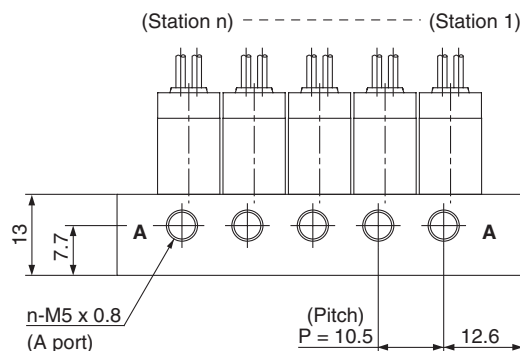
# Series SY100

## Type S41 Manifold: Side Ported/SS3Y1-S41- Stations -M3/M5

### Grommet (G), (H)

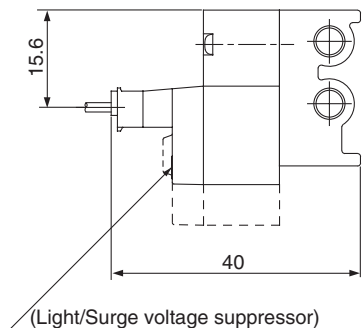


M3

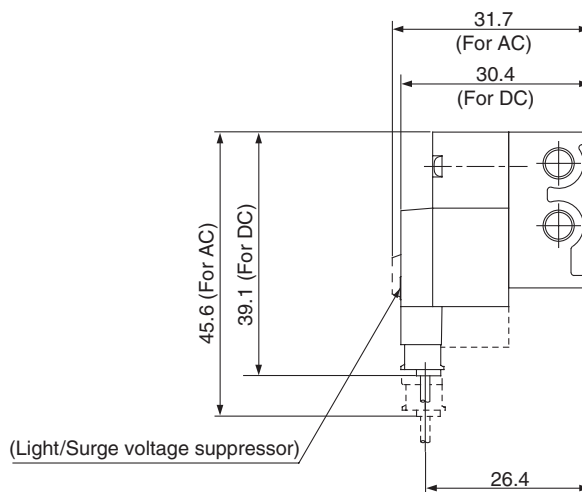


M5

### L plug connector (L)



### M plug connector (M)



\* Other dimensions are same as grommet type.

\* Other dimensions are same as grommet type.

| Station | 2    | 3  | 4    | 5  | 6    | 7  | 8    | 9   | 10    | 11  | 12    | 13  | 14    | 15  | 16    | 17  | 18    | 19  | 20    |
|---------|------|----|------|----|------|----|------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|
| L1      | 33.5 | 44 | 54.5 | 65 | 75.5 | 86 | 96.5 | 107 | 117.5 | 128 | 138.5 | 149 | 159.5 | 170 | 180.5 | 191 | 201.5 | 212 | 222.5 |
| L2      | 27.5 | 38 | 48.5 | 59 | 69.5 | 80 | 90.5 | 101 | 111.5 | 122 | 132.5 | 143 | 153.5 | 164 | 174.5 | 185 | 195.5 | 206 | 216.5 |

# Series SY

# Made to Order Specifications:

Please contact SMC for detailed specifications, delivery and pricing.

## Energy-saving Type

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

### Specifications

| Series                 |         | SY1 <sup>1</sup> <sub>2</sub> <sup>3</sup> <sub>4</sub> T | SY1 <sup>1</sup> <sub>2</sub> <sup>3</sup> <sub>4</sub> AT |
|------------------------|---------|---|--|
| Coil rated voltage (V) |         | 24 DC, 12 DC  |  |
| Power consumption (W)  | Inrush  | 0.55  | 0.8  |
|                        | Holding | 0.22  | 0.3  |

Specifications other than above are the same as standard models.

### How to Order

**Body ported** SY1 1 3  T-5 L Z   M3-

**Base mounted** SY1 1 4  T-5 M Z

**Type of actuation**

|   |                 |
|---|-----------------|
| 1 | Normally closed |
| 2 | Normally open   |

**Body option**

|     |                     |
|-----|---------------------|
| Nil | Standard            |
| A   | Large flow capacity |

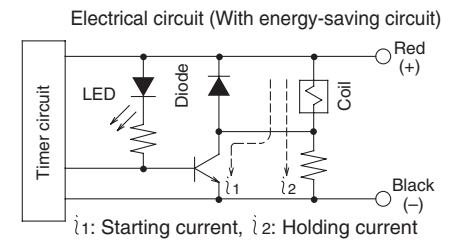
**Rated voltage**

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

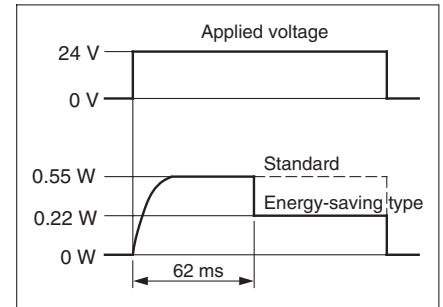
• Entry is the same as standard products.

### Working Principle

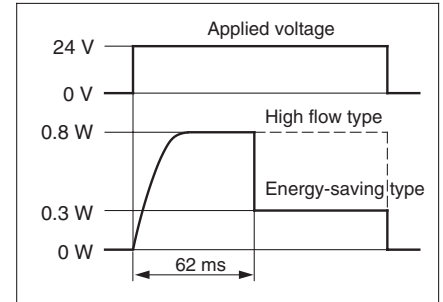
The circuit shown below reduces current consumption at holding which reduces the overall power consumption. Refer to electrical power waveform as shown below.



<Energy-saving Type, Electrical Power Waveform for SY1<sup>1</sup><sub>2</sub><sup>3</sup><sub>4</sub>T>



<Energy-saving Type, Electrical Power Waveform for SY1<sup>1</sup><sub>2</sub><sup>3</sup><sub>4</sub>AT>



## Low Wattage Specifications (0.45 W)

### How to Order

SY1   -     - X200

• Entry is the same as standard products.

V100

SY

SYJ

VK

VZ

VT

VP

VG

VP

S070

VQ

VKF

VQZ

VZ

VS

VFN