

4/5 Port Solenoid Valve

Power Consumption
0.1 W
 With Power Saving Circuit



Series **SYJ3000/5000/7000**



Cover (stainless steel)

● Improved pilot valve

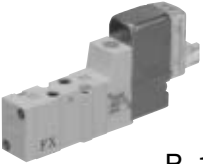
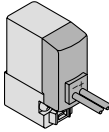
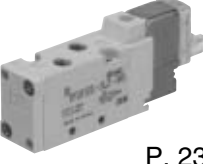
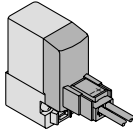
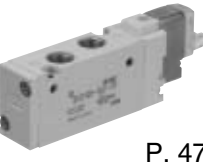
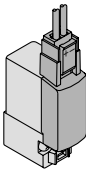
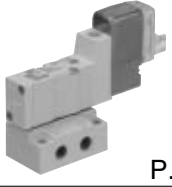
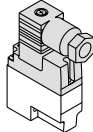
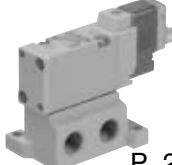
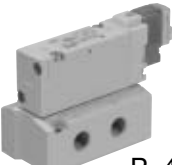
Pilot valve cover is stronger using stainless steel.
 Mounting thread is also reinforced from size M1.7 to M2.


● Flow Characteristics

| Series | Flow characteristics | | |
|---------|------------------------------|------|------|
| | C [(dm ³ /s·bar)] | b | Cv |
| SYJ3000 | 0.46 | 0.36 | 0.12 |
| SYJ5000 | 0.83 | 0.32 | 0.21 |
| SYJ7000 | 2.9 | 0.35 | 0.74 |

Rubber seal 4/5 Port Solenoid Valve Series SYJ3000/5000/7000

Variations

| | Series | Sonic conductance: C [dm ² /(s·bar)] | Type of actuation | Voltage | Electrical entry | Option | Manual override | | | | | |
|--------------|--|---|------------------------------------|--|---|---|--------------------|--|---|---|--|---|
| | | | | | | With light/surge voltage suppressor | | | | | | |
| Body ported | SYJ3000  P. 1 | Effective area 0.9 mm ² { 4/2 → 5/3 } { (A/B → EA/EB) } | 2 Position ● Single ● Double | For DC ■ 24 VDC 12 VDC 6 VDC 5 VDC 3 VDC | Grommet  | For DC ■ With surge voltage suppressor | | | | | | |
| | SYJ5000  P. 23 | 0.47 { 4/2 → 5/3 } { (A/B → EA/EB) } | | | | | | L plug connector  | ■ With light/ surge voltage suppressor | | | |
| | SYJ7000  P. 47 | 2.4 { 4/2 → 5/3 } { (A/B → EA/EB) } | | | | | | M plug connector  | | | | |
| Base mounted | SYJ3000  P. 1 | 0.46 { 4/2 → 5/3 } { (A/B → EA/EB) } | | | | | | 3 Position ● Closed center ● Exhaust center ● Pressure center | For AC ■ 100 VAC ^{50/60} Hz 110 VAC ^{50/60} Hz 200 VAC ^{50/60} Hz 220 VAC ^{50/60} Hz | DIN terminal  (SYJ5000, 7000 only) | For AC ^{Note)} ■ With light/surge voltage suppressor | ■ Non-locking push type ■ Push-turn locking slotted type ■ Push-turn locking lever type |
| | SYJ5000  P. 23 | 0.83 { 4/2 → 5/3 } { (A/B → EA/EB) } | | | | | | | | | | |
| | SYJ7000  P. 47 | 2.9 { 4/2 → 5/3 } { (A/B → EA/EB) } | | | | | | | | | | |

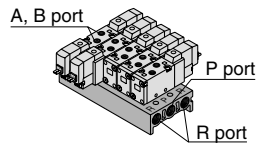
 Note) All AC voltage models have built-in surge voltage suppressor.

Series SYJ3000/5000/7000

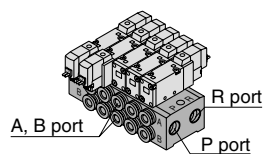
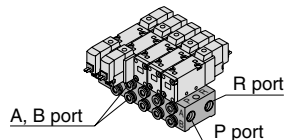
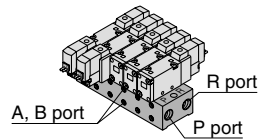
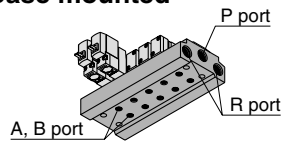
Manifold Variations

| Valve Series | A, B port location | A, B port size | | | | | | | | | Manifold Option | | | Flat Ribbon Cable Manifold | | |
|--------------|--------------------|----------------|----|-----|------------------------|----|----|----|----|----|--------------------------------|--------------------------------|---------------------|----------------------------|---|---|
| | | M3 | M5 | 1/8 | With one-touch fitting | | | | | | Individual SUP spacer assembly | Individual EXH spacer assembly | Interface regulator | | | |
| | | | | | Applicable tubing O.D. | | | | | | | | | | | |
| | | | | | ø4 | ø6 | ø8 | N3 | N7 | N9 | | | | | | |
| Body ported | SYJ3000 | ● | — | — | — | — | — | — | — | — | — | — | — | — | ● | |
| | SYJ5000 | — | ● | — | ● | ● | — | ● | ● | — | ● | ● | — | — | ● | |
| | SYJ7000 | — | — | ● | — | ● | ● | — | ● | ● | — | — | — | — | ● | |
| Base mounted | SYJ3000 | Side | ● | ● | — | ● | — | — | ● | — | — | — | — | — | — | ● |
| | | Bottom | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | SYJ5000 | Side | — | ● | — | ● | ● | — | ● | ● | — | — | — | — | — | ● |
| | | Bottom | — | ● | — | — | — | — | — | — | — | — | — | — | — | — |
| | SYJ7000 | Side | — | — | ● | — | ● | ● | — | ● | ● | — | — | — | — | — |
| | | Bottom | — | — | ● | — | — | — | — | — | — | — | — | — | — | — |

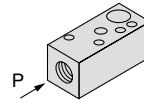
Body ported



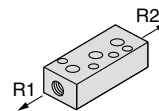
Base mounted



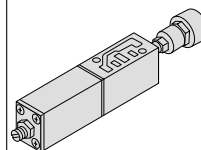
Individual SUP spacer assembly



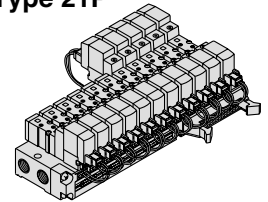
Individual EXH spacer assembly



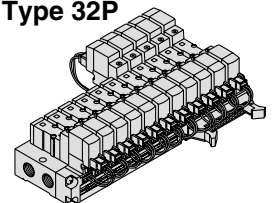
Interface regulator



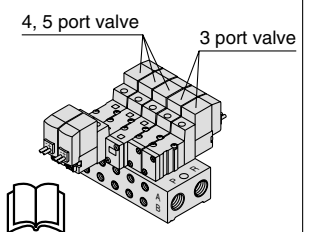
Type 21P



Type 32P



Mixed mounting of 3 port valves and 4, 5 port valves



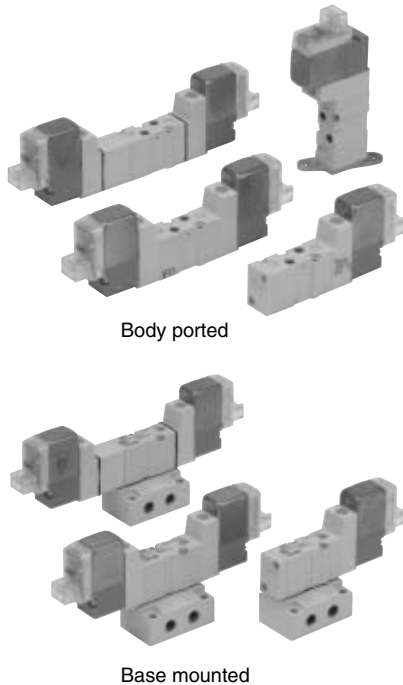
For detailed specifications about SYJ3000, refer to page 14. For SYJ5000, refer to page 38, and for SYJ7000, refer to page 61.

Rubber seal 4/5 Port Solenoid Valve Series SYJ3000



For details about certified products conforming to international standards, visit us at www.smcworld.com.

Specifications



| | | |
|---|---|-------------|
| Fluid | | Air |
| Operating pressure range MPa | 2 position single | 0.15 to 0.7 |
| | 2 position double | 0.1 to 0.7 |
| | 3 position | 0.2 to 0.7 |
| Ambient and fluid temperature (°C) | -10 to 50 (No freezing. Refer to page 83.) | |
| Response time (ms) (at 0.5 MPa) ^{Note 1)} | 2 position single, double | 15 or less |
| | 3 position | 30 or less |
| Max. operating frequency (Hz) | 2 position single, double | 10 |
| | 3 position | 3 |
| Manual override (Manual operation) | Non-locking push type, push-turn locking slotted type, push-turn locking lever type | |
| Pilot exhaust method | Individual exhaust for the pilot valve, common exhaust for the pilot and main valve | |
| Lubrication | Not required | |
| Mounting orientation | Unrestricted | |
| Shock/Vibration resistance (m/s ²) ^{Note 2)} | 150/30 | |
| Enclosure | Dust proof (* M8 connector conforms to IP65.) | |



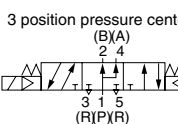
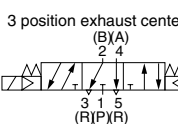
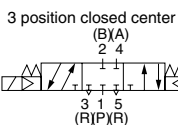
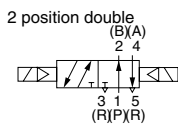
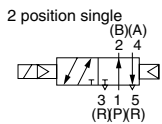
* Based on IEC529

Note 1) Based on dynamic performance test, JIS B 8375-1981. (Coil temperature: 20°C, at rated voltage)

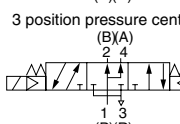
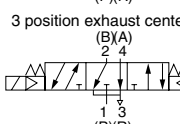
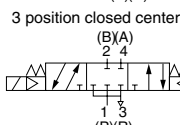
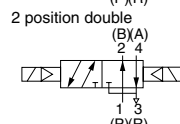
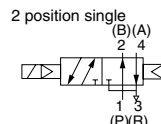
Note 2) Impact resistance: No malfunction occurred when it is tested with a drop tester in the axial direction and at the right angles to the main valve and armature in both energized and de-energized states every once for each condition. (Value in the initial state)

Vibration resistance: No malfunction occurred in one sweep test between 45 and 2000 Hz. Test was performed to axis and right angle directions of the main valve when pilot signal is ON and OFF. (Value in the initial state)

JIS Symbol 5 port



4 port (manifold)



Solenoid Specifications

| | | |
|-------------------------------|---|--|
| Electrical entry | Gromet (G), (H), L Plug Connector (L), M Plug Connector (M), M8 Connector (W) | |
| Coil rated voltage (V) | DC | 24, 12, 6, 5, 3 |
| | AC 50/60 Hz | 100, 110, 200, 220 |
| Allowable voltage fluctuation | ±10% of rated voltage | |
| Power consumption (W) | DC | Standard 0.35 (With light: 0.4) With power saving circuit 0.1 (With light only) |
| | AC | 100 V |
| 110 V [115 V] | | 1.6 (With light: 1.7) [1.7 (With light: 1.8)] |
| 200 V | | 2.3 (With light: 2.4) |
| 220 V [230 V] | | 2.5 (With light: 2.6) [2.7 (With light: 2.8)] |
| Surge voltage suppressor | Diode (Non-polarity type: valistor) | |
| Indicator light | LED | |

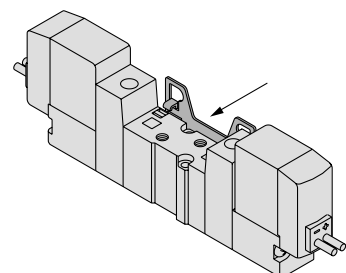
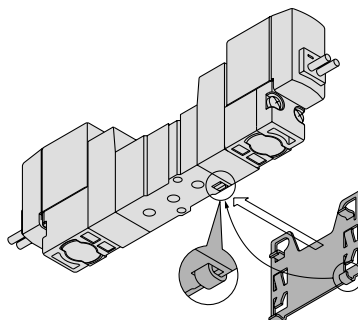


* In common between 110 VAC and 115 VAC, and between 220 VAC and 230 VAC.

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

Bracket Mounting

- ① Insert the lower hook of the mounting bracket into the groove on the bottom of the valve as shown.
- ② Press the valve and mounting bracket together until the upper hook of the bracket snaps into place in the groove on top of the valve.



Made to Order
(For details, refer to page 79.)

Flow Characteristics/Weight

| Valve model | Type of actuation | Port size | | Weight (g) ^{Note 3, 4)} | | | Effective area (mm ²) | Flow characteristics ^{Note 2)} | | | | | | | | | | | | | |
|--|-------------------|------------------------------|-------------|----------------------------------|------------------------------|--------------|-----------------------------------|---|------|------|---------------------|------|------|------|---|------|------|------|-------------|-------------|-------------|
| | | 1, 5, 3 (P, EA, EB) | 4, 2 (A, B) | Grommet | L/M plug connector | M8 connector | | 1→4/2 (P→A/B) | | | 4/2→5/3 (A/B→EA/EB) | | | | | | | | | | |
| | | C [dm ³ /(s·bar)] | b | Cv | C [dm ³ /(s·bar)] | b | | Cv | | | | | | | | | | | | | |
| 5 port Base mounted (with sub-plate) | 2 position | Single | M5 x 0.8 | M5 x 0.8 | 62 (36) | 63 (37) | 67 (41) | — | 0.46 | 0.36 | 0.12 | 0.46 | 0.35 | 0.12 | | | | | | | |
| | | Double | | | 79 (53) | 81 (55) | 89 (63) | | | | | | | | | | | | | | |
| | 3 position | Closed center | | | 82 (56) | 84 (58) | 92 (66) | | | | | | | | — | 0.47 | 0.33 | 0.12 | 0.47 | 0.31 | 0.12 |
| | | Exhaust center | | | | | | | | | | | | | — | 0.36 | 0.39 | 0.10 | 0.59 [0.40] | 0.43 [0.33] | 0.16 [0.11] |
| Pressure center | — | 0.58 [0.32] | 0.42 [0.33] | 0.16 [0.080] | 0.46 | 0.32 | 0.11 | | | | | | | | | | | | | | |
| 5 port Body ported | 2 position | Single | M3 x 0.5 | M3 x 0.5 | 36 | 37 | 41 | 0.9 | — | — | — | — | — | — | | | | | | | |
| | | Double | | | 53 | 55 | 63 | | | | | | | | | | | | | | |
| | 3 position | Closed center | | | 56 | 58 | 66 | | | | | | | | — | — | — | — | — | — | |
| | | Exhaust center | | | | | | | | | | | | | — | — | — | — | — | — | |
| | | Pressure center | | | | | | | | | | | | | — | — | — | — | — | — | |
| 4 Port Base Mounted (For manifold base only) | 2 position | Single | 1/8 | M5 x 0.8 | 36 | 37 | 41 | — | — | — | — | — | — | | | | | | | | |
| | | Double | | | 53 | 55 | 63 | | | | | | | | | | | | | | |
| | 3 position | Closed center | | | 56 | 58 | 66 | | | | | | | — | — | — | — | — | | | |
| | | Exhaust center | | | | | | | | | | | | — | — | — | — | — | — | | |
| | | Pressure center | | | | | | | | | | | | — | — | — | — | — | — | | |



Note 1) Dedicated for manifold base. For details, refer to page 11.

Note 2) [] denotes the normal position. Exhaust center: 4/2 → 5/3, Pressure center: 1 → 4/2

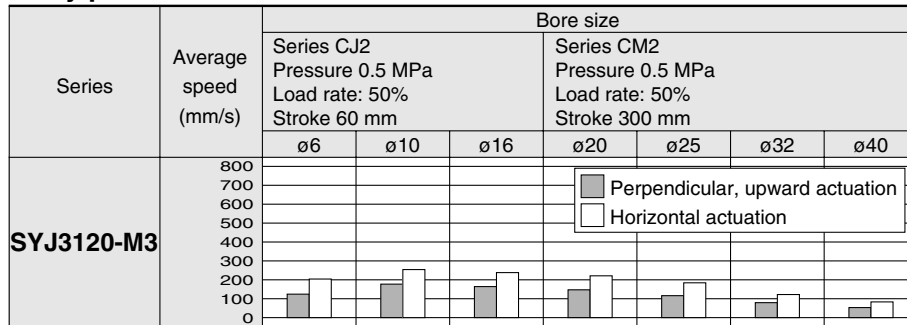
Note 3) (): Without sub-plate.

Note 4) For DC voltages. For AC voltages add 3 g to the weight of the single solenoid and 6 g to the weight of the double solenoid and 3 position types.

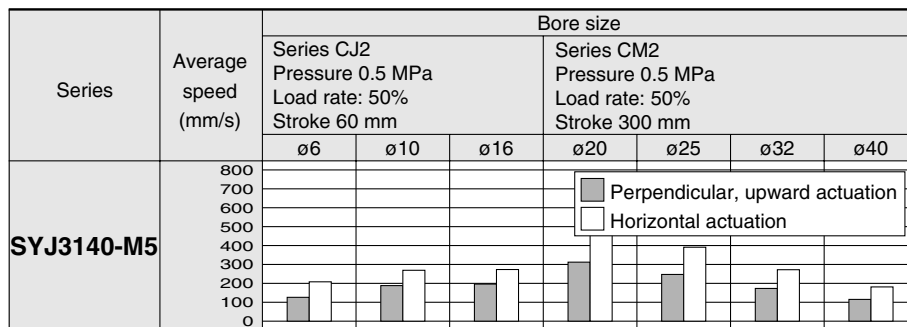
Cylinder Speed Chart

Use as a guide for selection.
Please confirm the actual conditions with SMC Sizing Program.

Body ported



Base mounted



* Cylinder is in extending. Speed controller is meter-out, which is directly connected with cylinder and its needle is fully opened.

* Average speed of cylinder is obtained by dividing the full stroke time by the stroke.

* Load factor: ((Load weight x 9.8) / Theoretical force) x 100%

Conditions

| Body ported | | Series CJ2 | Series CM2 |
|-------------|----------------------|------------|------------|
| SYJ3120-M3 | Tubing bore x Length | ø4 x 1 m | |
| | Speed controller | AS1301F-04 | |
| | Silencer | AN120-M5 | |

| Base mounted | | Series CJ2 | Series CM2 |
|--------------|----------------------|------------|------------|
| SYJ3140-M5 | Tubing bore x Length | ø6 x 1 m | |
| | Speed controller | AS2001F-06 | AS2301F-06 |
| | Silencer | AN120-M5 | |

Series SYJ3000

How to Order

Type of actuation

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

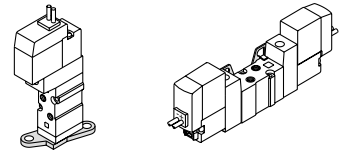
Light/surge voltage suppressor

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

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

Bracket

Nil: Without bracket
 F: With bracket



Single

Double

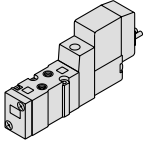
Note • The double solenoid mounting bracket is supplied unattached.
 • To order the double solenoid bracket for use with a single solenoid valve, order the single solenoid valve without a bracket and order the bracket (VJ3000-13-1) separately.
 (Example) SYJ3120-5M-M3 VJ3000-13-1

Rated voltage

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

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

5 port



(Type 20 Manifold)

Body ported

SYJ3 1 2 0 □ 5 M □ □ □ M3 □

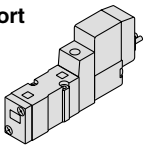
Base mounted (4 port)

SYJ3 2 3 0 □ 5 M □ □ (Manifold use only)

Base mounted (5 port)

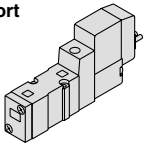
SYJ3 2 4 0 □ 5 M □ □ □

4 port



(For manifold type 31, S31, 32, S32)

5 port



(For sub-plate, manifold type 41, S41, 46, S46)

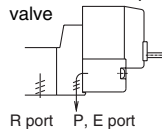
Coil specifications

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

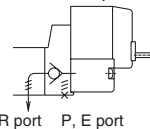
* Power saving circuit is not available in the case of W□ type.

Body option

0: Pilot valve individual exhaust for the pilot valve

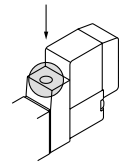


3: Common exhaust type for main and pilot valve

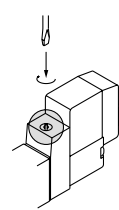


Manual override

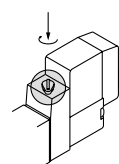
Nil: Non-locking push type



D: Push-turn locking slotted type

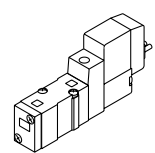


E: Push-turn locking lever type



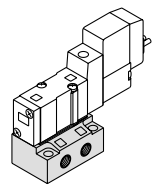
Port size

Nil: Without sub-plate



(With gasket and screws)

M5: With M5 port sub-plate



Electrical entry

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

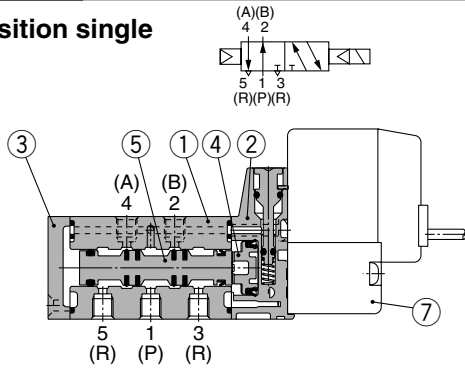
* LN, MN type: with 2 sockets.

* For connector cable of M8 connector, refer to page 90.

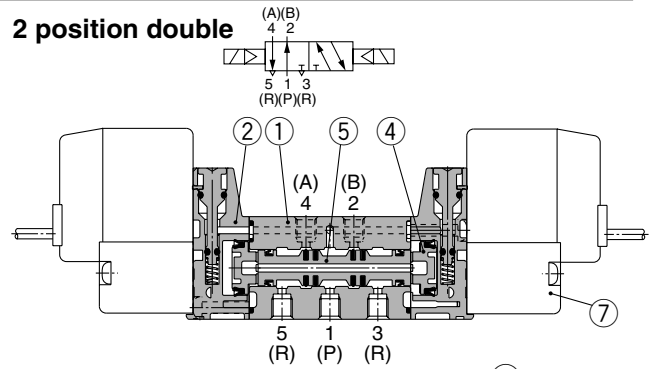
Note) When placing an order for body ported solenoid valve as a single unit, mounting bolt for manifold and gasket are not attached. Order them separately, if necessary. (For details, refer to page 15 on Catalog.)

Construction

2 position single

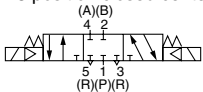


2 position double

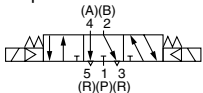


3 position closed center/Exhaust center/Pressure center

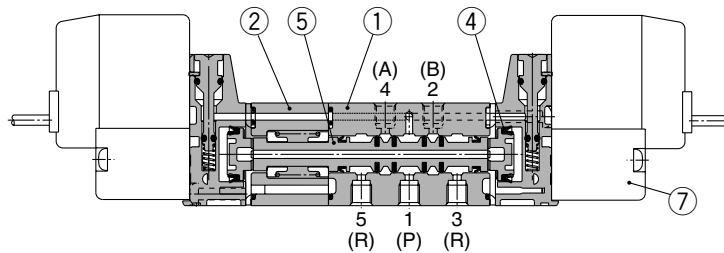
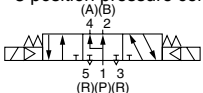
3 position closed center



3 position exhaust center



3 position pressure center



(This figure shows a closed center type.)

Component parts

| No. | Description | Material | Note |
|-----|----------------------|-----------------|-------|
| 1 | Body | Zinc die-casted | White |
| 2 | Piston plate | Resin | White |
| 3 | End cover | Resin | White |
| 4 | Piston | Resin | |
| 5 | Spool valve assembly | Aluminum, H-NBR | |

Replacement parts

| No. | Description | No. | Note |
|-----|-------------|----------------|-----------------|
| 6 | Sub-plate | SYJ3000-22-1 | Zinc die-casted |
| 7 | Pilot valve | V111 (T) - □□□ | |

How to Order Pilot Valve Assembly

V111 □ — 5 G □

Coil specifications

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

* Power saving circuit is not available in the case of W□ type.

Rated voltage

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

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

Light/surge voltage suppressor

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

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

Electrical entry

| | |
|----|---------------------------|
| G | Grommet, 300 mm lead wire |
| H | Grommet, 600 mm lead wire |
| L | L plug connector |
| LN | With lead wire |
| LO | Without lead wire |
| M | M plug connector |
| MN | With lead wire |
| MO | Without lead wire |
| WO | Without connector |
| W0 | M8 connector |
| | Without connector cable |

* For connector cable of M8 connector, refer to page 90.

How to Order Connector Assembly for L and M Plug Connector

For DC : SY100-30-4A- □

For 100 VAC : SY100-30-1A- □

For 200 VAC : SY100-30-2A- □

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

Without lead wire : SY100-30-A

(with connector and 2 of sockets only)

Lead wire length

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

How to Order M8 Connector Cable

V100-49-1- □

Cable length

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

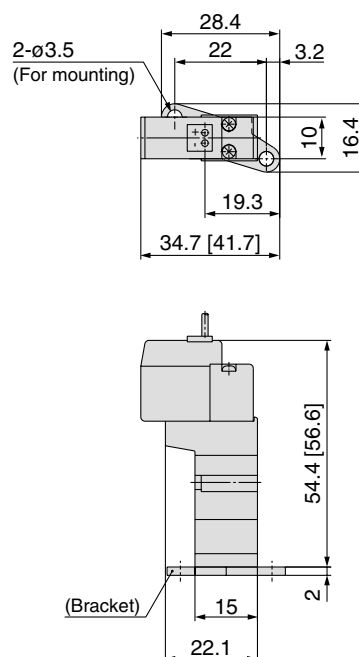
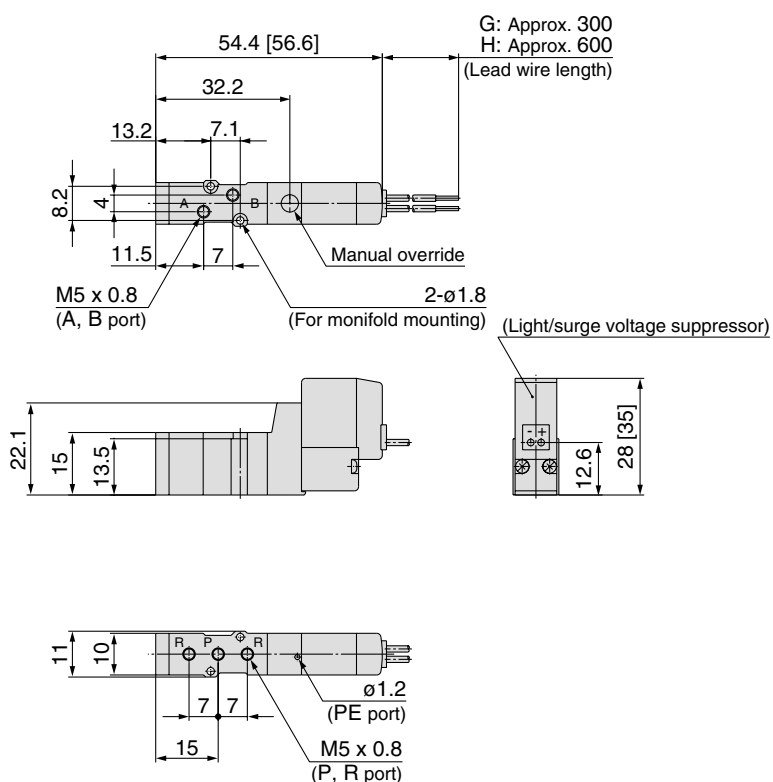
Series SYJ3000

2 Position Single



Grommet (G), (H): SYJ3120-□^G□^H□□-M3

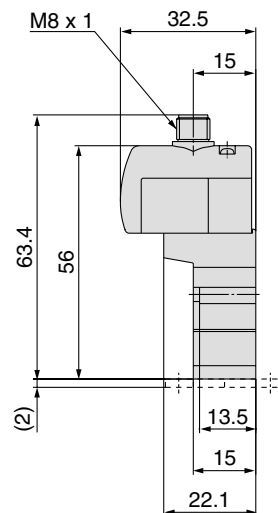
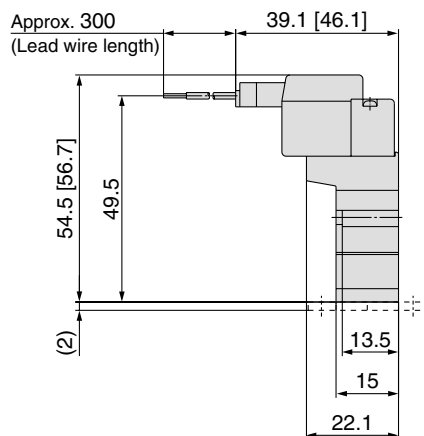
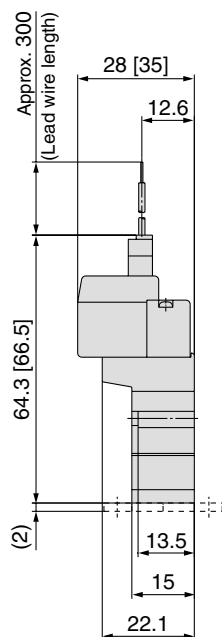
With bracket:
SYJ3120-□^G□^H□□-M3-F



L plug connector (L) :
SYJ3120-□L□□-M3 (-F)

M plug connector (M):
SYJ3120-□M□□-M3 (-F)

M8 connector (W0):
SYJ3120-□W0□□-M3 (-F)

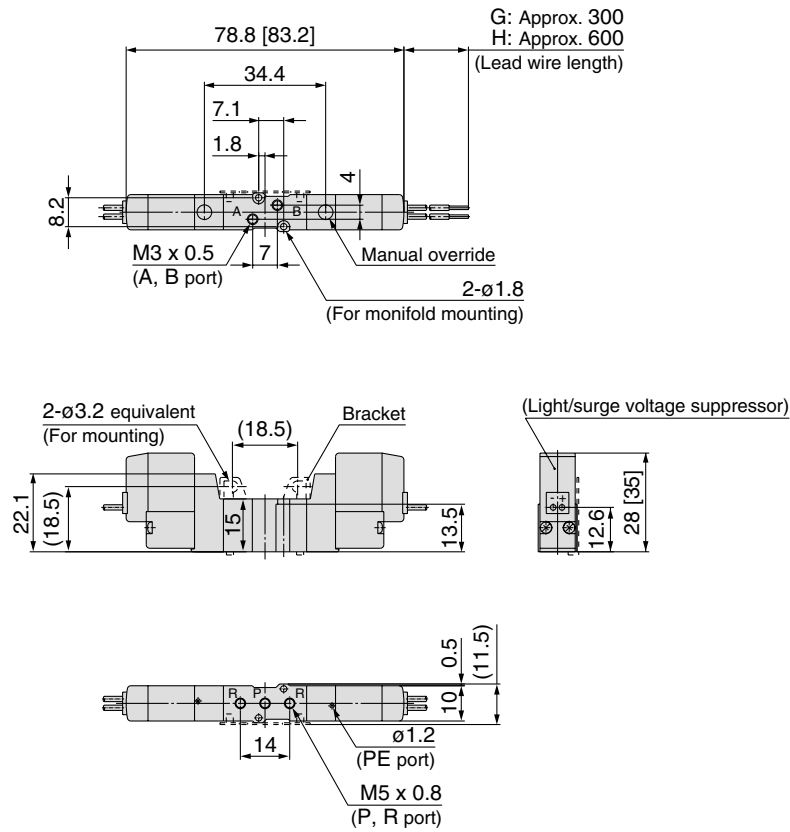


Refer to the page 91 for dimensions with connector cable.

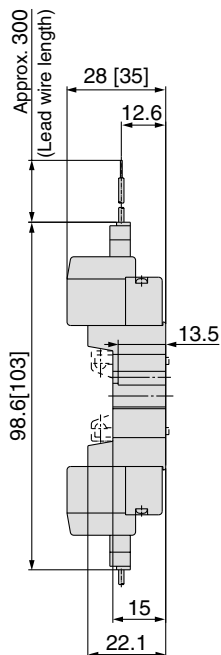
2 Position Double



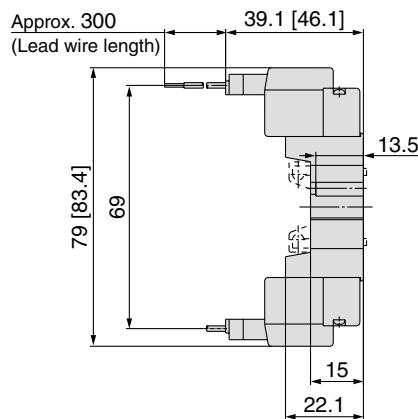
Grommet (G), (H): SYJ3220-□^G□^H□□-M3 (-F)



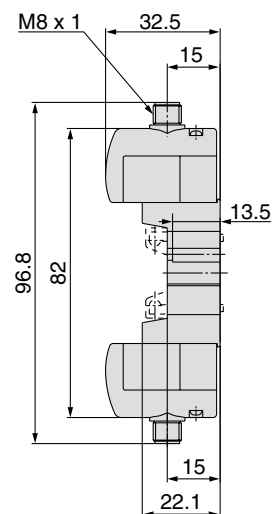
L plug connector (L):
SYJ3220-□L□□-M3 (-F)



M plug connector (M):
SYJ3220-□M□□-M3 (-F)



M8 connector (W0):
SYJ3220-□W0□□-M3 (-F)



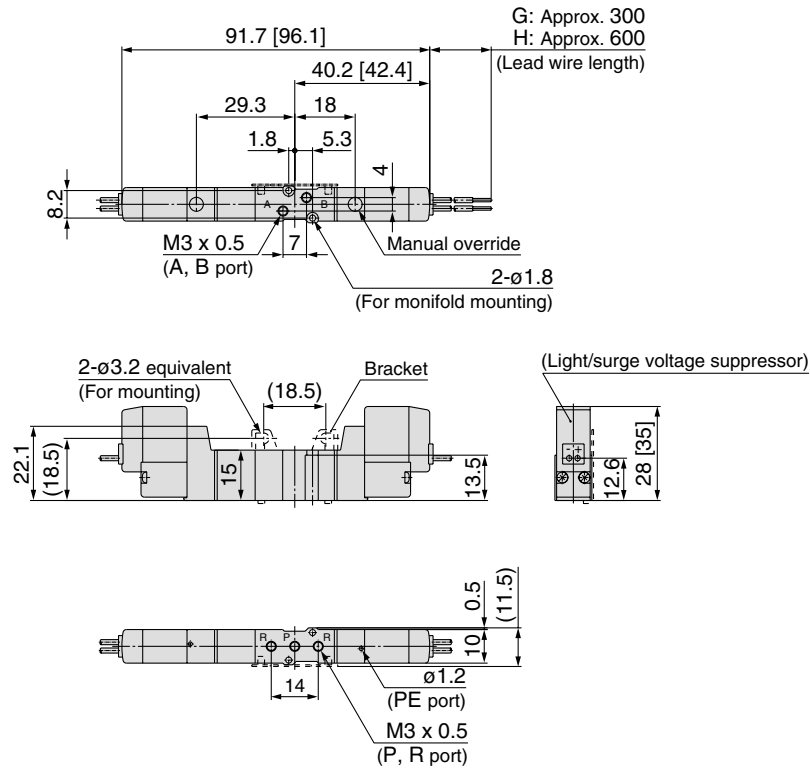
Refer to the page 91 for dimensions with connector cable.

Series SYJ3000

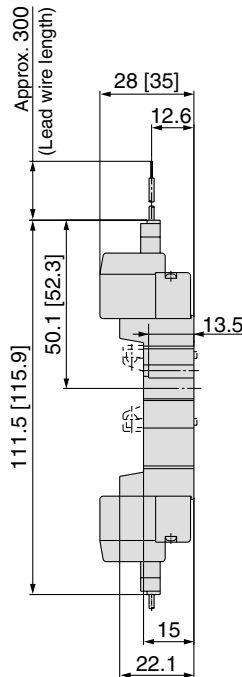
3 Position Closed Center/Exhaust Center/Pressure Center



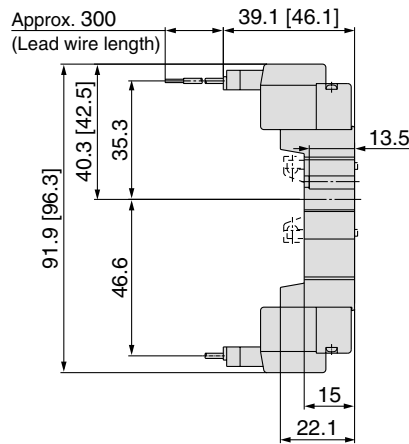
Grommet (G), (H): SYJ3³/₅20-□^G□□□-M3 (-F)



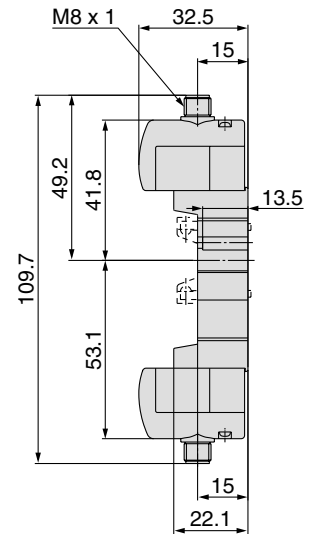
L plug connector (L):
SYJ3³/₅20-□L□□-M3 (-F)



M plug connector (M):
SYJ3³/₅20-□M□□-M3 (-F)



M8 connector (W0):
SYJ3³/₅20-□W0□□-M3 (-F)

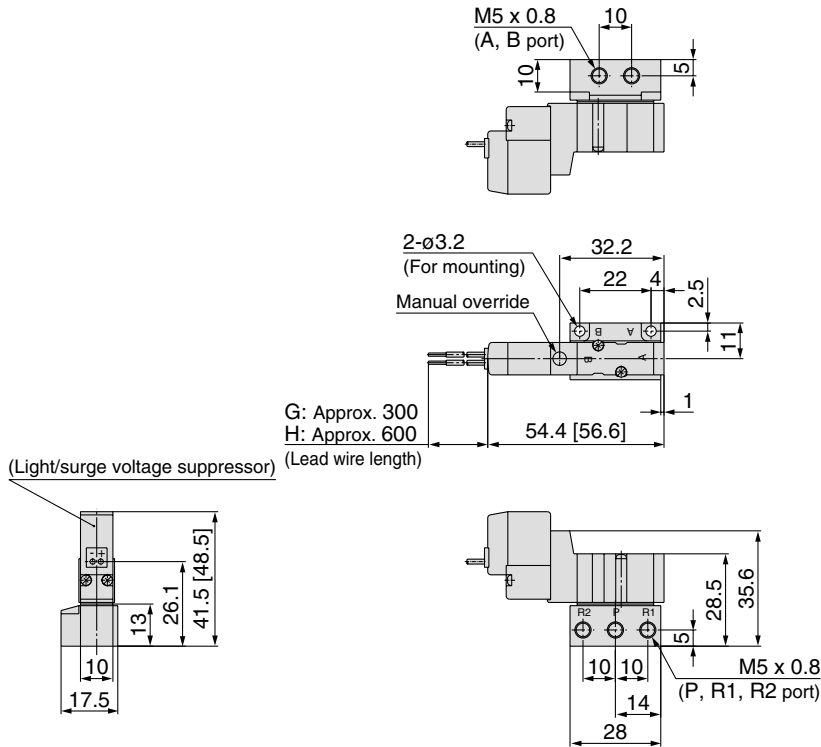


Refer to the page 91 for dimensions with connector cable.



2 Position Single

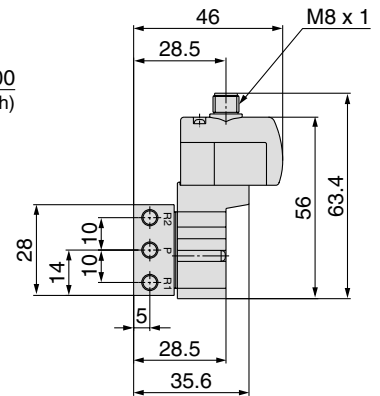
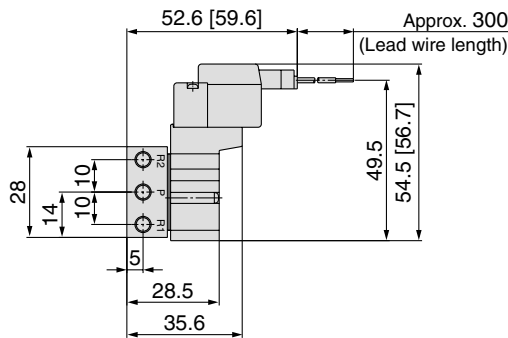
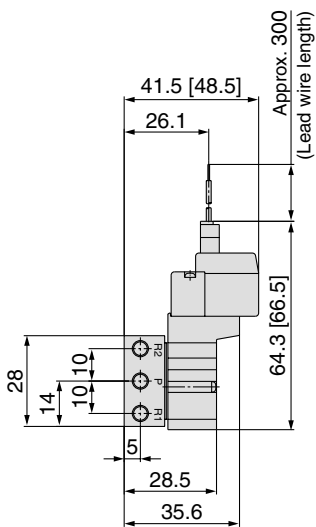
Grommet (G), (H): SYJ3140-□^G□□-M5



L plug connector (L):
SYJ3140-□L□□-M5

M plug connector (M):
SYJ3140-□M□□-M5

M8 connector (W0):
SYJ3140-□W0□□-M5



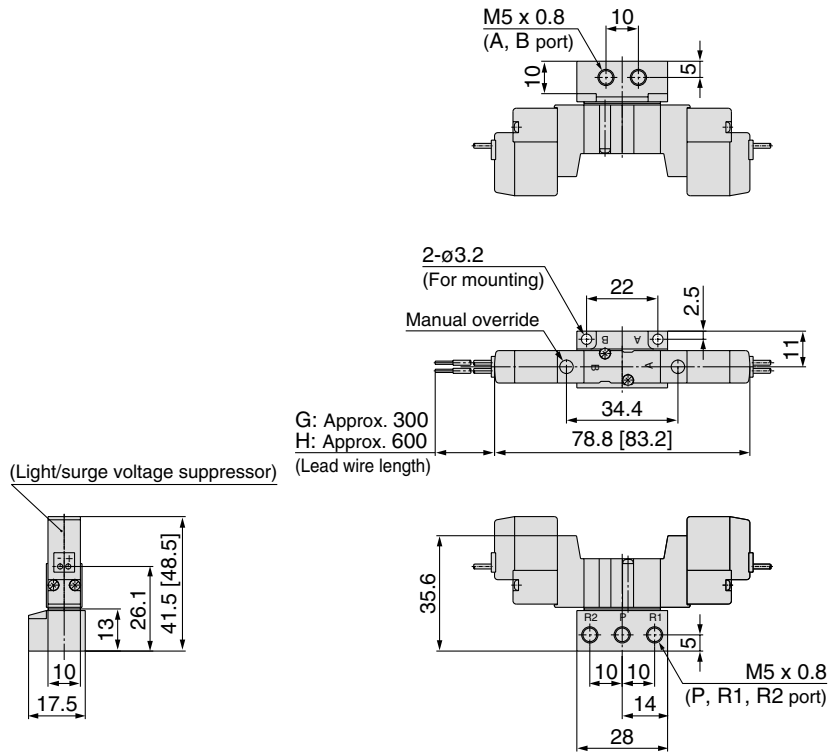
Refer to the page 91 for dimensions with connector cable.

Series SYJ3000

2 Position Double



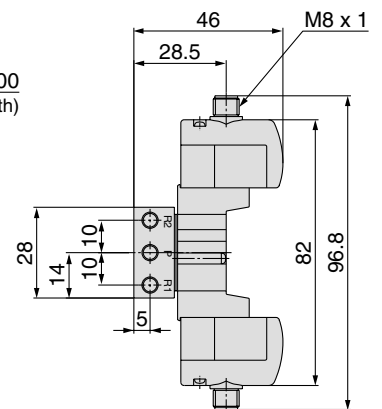
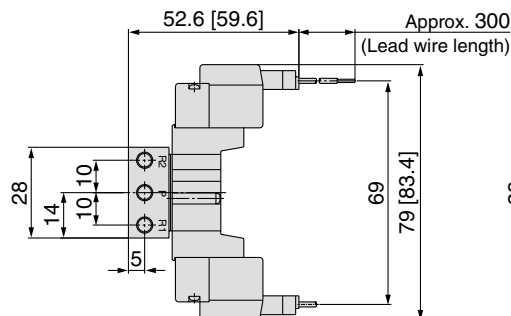
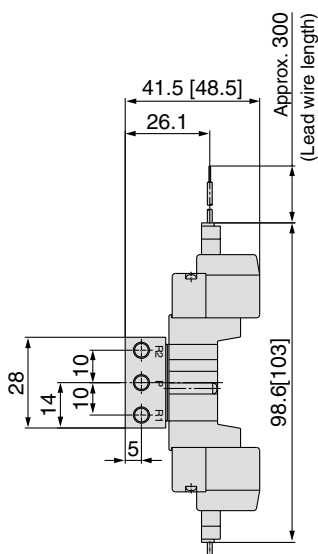
Grommet (G), (H): SYJ3240-□^G□□-M5



L plug connector (L):
SYJ3240-□L□□-M5

M plug connector (M):
SYJ3240-□M□□-M5

M8 connector (W0):
SYJ3240-□W0□□-M5

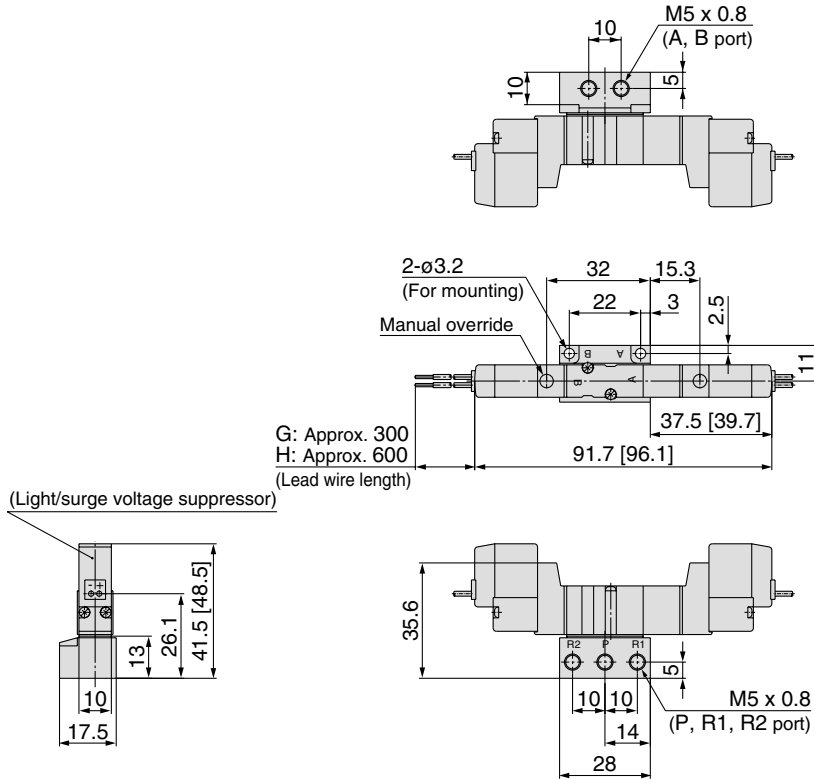


Refer to the page 91 for dimensions with connector cable.

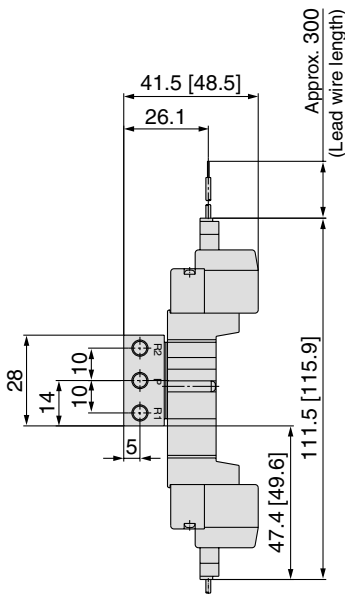
3 Position Closed Center/Exhaust Center/Pressure Center



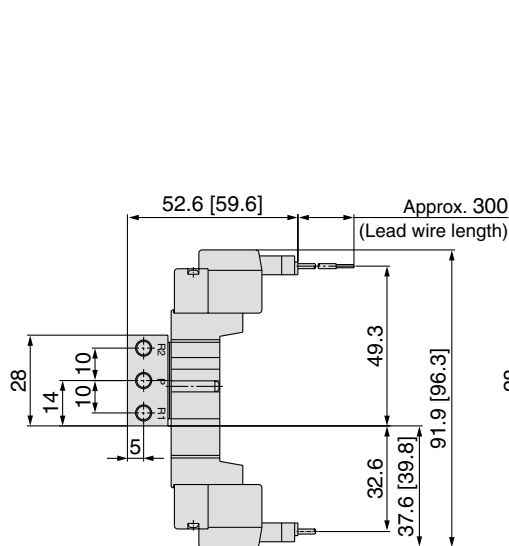
Grommet (G), (H): SYJ3³/₅40-□^G/_H□□-M5



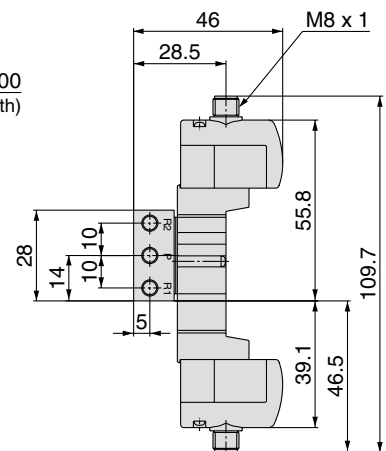
L plug connector (L):
SYJ3³/₅40-□L□□-M5



M plug connector (M):
SYJ3³/₅40-□M□□-M5



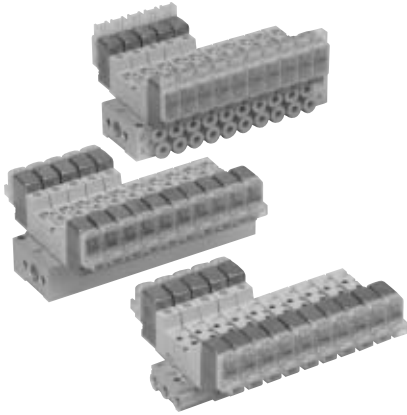
M8 connector (W0):
SYJ3³/₅40(R)-□W0□□-M5□



Refer to the page 91 for dimensions with connector cable.

Series SYJ3000 Manifold Specifications

Manifold Standard



Manifold Specifications

| Model | | Type 20 | Type 31, S31 | Type 32, S32 | Type 41, S41 | Type 46, S46 |
|-------------------------------------|-----------|-----------------------|--------------|---|--------------|------------------------------|
| Manifold type | | Single base/B mount | | | | |
| P (SUP), R (EXH) | | Common SUP/Common EXH | | | | Common SUP Individual EXH |
| Valve stations | | 2 to 20 stations | | | | |
| A, B port Porting specifications | Location | Valve | Base | | | |
| | Direction | Top | Side | | | |
| Port size | P, R port | M5 x 0.8 | | 1/8 | | P: 1/8 R: M5 x 0.8 |
| | A, B port | M3 x 0.5 | | M5 x 0.8, C4 (One-touch fitting for ø4) | | |

Flow Characteristics

| Manifold | | | Port size | | Flow characteristics | | | | | | Effective area (mm ²) |
|------------------------------------|---|---------|----------------------|--------------------|---------------------------------|-------|-------|---------------------------------|-------|-------|--------------------------------------|
| | | | | | 1→4/2 (P→A/B) | | | 4/2→5/3 (A/B→R) | | | |
| | | | 1(P), 5/3(R) Port | 2(B), 4(A) Port | C [dm ³ /(s·bar)] | b | Cv | C [dm ³ /(s·bar)] | b | Cv | |
| Body ported for internal pilot | Type SS5YJ3-20 | SYJ3□2□ | M5 x 0.8 | M3 x 0.5 | — | — | — | — | — | — | 0.9 |
| | Type SS5YJ3- ³¹ _{S31} | SYJ3□3□ | M5 x 0.8 | M3 x 0.5 | — | — | — | — | — | — | 0.9 |
| Base mounted for internal pilot | Type SSSYJ3-32-M5 | SYJ3□3□ | 1/8 | M5 x 0.8 | 0.25 | 0.19 | 0.060 | 0.32 | 0.25 | 0.077 | — |
| | Type SSSYJ3-32-C4 | | | C4 | 0.25 | 0.18 | 0.059 | 0.30 | 0.27 | 0.075 | — |
| | Type SSSYJ3-S32-M5 | SYJ3□3□ | 1/8 | M5 x 0.8 | 0.25 | 0.26 | 0.060 | 0.29 | 0.15 | 0.062 | — |
| | Type SSSYJ3-S32-C4 | | | C4 | 0.24 | 0.21 | 0.057 | 0.27 | 0.18 | 0.062 | — |
| | Type SSSYJ3-41-M5 | SYJ3□4□ | 1/8 | M5 x 0.8 | 0.32 | 0.25 | 0.081 | 0.33 | 0.19 | 0.079 | — |
| | Type SSSYJ3-41-C4 | | | C4 | 0.32 | 0.28 | 0.079 | 0.35 | 0.24 | 0.084 | — |
| | Type SSSYJ3-S41-M5 | | | M5 x 0.8 | 0.33 | 0.29 | 0.082 | 0.34 | 0.17 | 0.081 | — |
| | Type SSSYJ3-S41-C4 | C4 | 0.32 | 0.27 | 0.079 | 0.34 | 0.24 | 0.084 | — | | |
| | Type SSSYJ3-46-M5 | SYJ3□4□ | 1/8 | M5 x 0.8 | 0.20 | 0.25 | 0.048 | 0.10 | 0.12 | 0.024 | — |
| | Type SSSYJ3-46-C4 | | | C4 | 0.21 | 0.27 | 0.050 | 0.21 | 0.13 | 0.047 | — |
| Type SSSYJ3-S46-M5 | M5 x 0.8 | | | 0.20 | 0.25 | 0.048 | 0.19 | 0.16 | 0.024 | — | |
| Type SSSYJ3-S46-C4 | C4 | 0.22 | 0.34 | 0.057 | 0.10 | 0.090 | 0.024 | — | | | |



Note) Value at manifold base mounted, 2 position single operating

How to Order Manifold (Example)

Instruct by specifying the valves and blanking plate assembly to be mounted on the manifold along with the manifold base model no.

Example:

- SS5YJ3-20-03 1 set (Manifold base)
- SS5YJ3-S41-03-C4 ... 1 set (Manifold base)
- * SYJ3120-5G-M3 ... 2 sets (Valve)
- * SYJ3140-5LZ 2 sets (Valve)
- * SYJ3000-21-1A 1 set (Blanking plate assembly)
- * SYJ3000-21-2A 1 set (Blanking plate assembly)

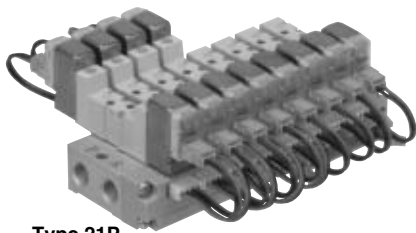
↳ The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the solenoid valve, etc.

* Use manifold specification sheet.

Flat Ribbon Cable Manifold

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

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



Type 21P

Flat Ribbon Cable Manifold Specifications

| Model | | Type 21P | Type 32P |
|--|-----------|---|---|
| Manifold type | | Single base/B mount | |
| P (SUP), R (EXH) | | Common SUP, Common EXH | |
| Valve stations | | 4 to 12 stations | |
| A, B port Porting specifications | Location | Valve | Base |
| | Direction | Top | Side |
| Port size | P, R port | 1/8 | |
| | A, B port | M3 x 0.5 | M5 x 0.8, C4 (One-touch fitting for Ø4) |
| Applicable flat ribbon cable connector | | Socket: 26 pins MIL type with strain relief (MIL-C-83503) | |
| Internal wiring | | In common between +COM and -COM (Z type: +COM only) | |
| Rated voltage | | 24, 12 VDC/100, 110 VAC | |



Note) The withstand voltage specification for the wiring unit section conforms to JIS C 0704, Grade 1 or its equivalent.

Flow Characteristics

| Manifold | | | Port size | | Flow characteristics | | | | | | Effective area (mm ²) |
|---------------------------------|--------------------|---------|-------------------|-----------------|----------------------------|------|-------|----------------------------|------|-------|-----------------------------------|
| | | | | | 1→4/2 (P→A/B) | | | 4/2→5/3 (A/B→R) | | | |
| Body ported for internal pilot | Type | SYJ3□23 | 1(P), 5/3(R) Port | 2(B), 4(A) Port | C | b | Cv | C | b | Cv | |
| | | | | | [dm ³ /(s·bar)] | | | [dm ³ /(s·bar)] | | | |
| | Type SS5YJ3-21P | SYJ3□23 | 1/8 | M3 x 0.5 | — | — | — | — | — | — | 0.9 |
| Base mounted for internal pilot | Type SS5YJ3-32P-M5 | SYJ3□33 | 1/8 | M5 x 0.8 C4 | 0.25 | 0.19 | 0.060 | 0.32 | 0.25 | 0.077 | — |
| | Type SS5YJ3-32P-C4 | | | | 0.25 | 0.18 | 0.059 | 0.3 | 0.27 | 0.075 | — |



Note) Value at manifold base mounted, 2 position single operating

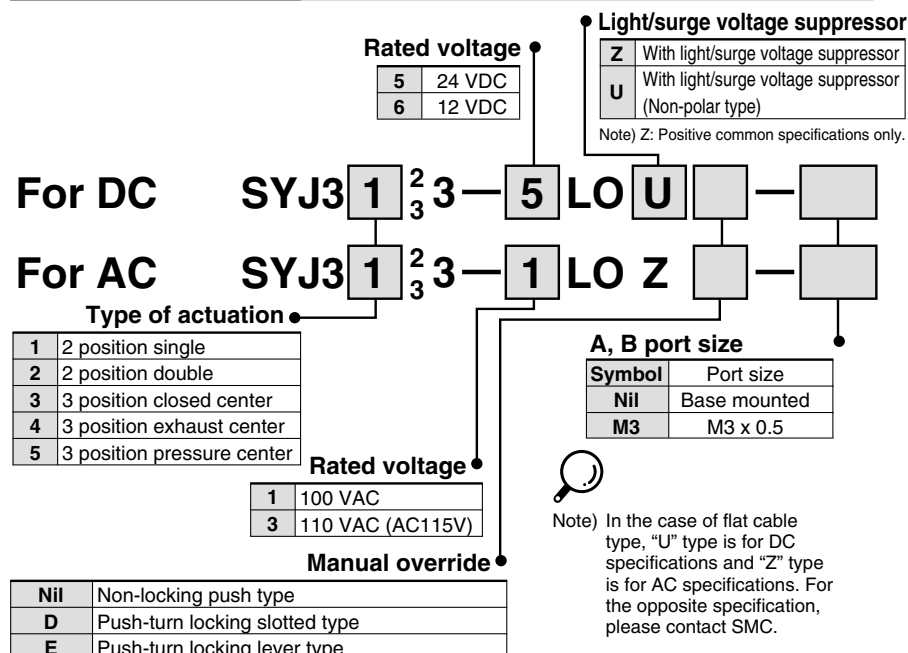
How to Order Manifold

- **SS5YJ3-32P-07-C4** 1 pc. (Manifold base)
- **SYJ3133-5LOU** 3 pcs. (Valve)
- **SYJ3233-5LOU** 3 pcs. (Valve)
- **SYJ3000-21-4A** 1 pc. (Blanking plate assembly)
- **SY3000-37-28A** 3 pcs. (Connector assembly)
- **SY3000-37-29A** 3 pcs. (Connector assembly)

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

* Use manifold specification sheet.

How to Order Valve



How to Order Connector Assembly

For 12, 24 VDC

| | |
|----------------------------------|---------------|
| Single solenoid | SY3000-37-28A |
| Double solenoid, 3 position type | SY3000-37-29A |

For 100 VAC

| | |
|----------------------------------|---------------|
| Single solenoid | SY3000-37-46A |
| Double solenoid, 3 position type | SY3000-37-47A |

For 110 VAC (115 VAC)

| | |
|----------------------------------|---------------|
| Single solenoid | SY3000-37-54A |
| Double solenoid, 3 position type | SY3000-37-55A |

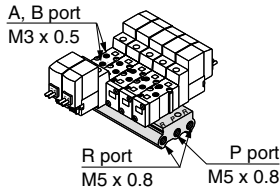
Series SYJ3000

Common SUP/Common EXH



Note) For more than 10 stations, supply air to both sides of P port and exhaust air from both sides of R port.

Type 20 (5 Port/Body ported)



How to Order

SS5YJ3-20-05

Number of stations

| | |
|----|-------------|
| 02 | 2 stations |
| : | : |
| 20 | 20 stations |

Applicable solenoid valve

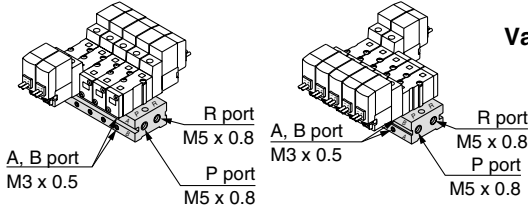
SYJ3□20-□□□□-M3
SYJ3□23-□□□□-M3

Applicable blanking plate assembly

SYJ3000-21-1A

Type 31 (4 Port/Base mounted)

Type 31 Type S31 (Single solenoid coil is on same side as the A,B port.)



How to Order

SS5YJ3-□31-05-M3

Valve mounting direction

| | |
|-----|---|
| Nil | Single solenoid coil is on opposite side as the A,B port. |
| S | Single solenoid coil is on same side as the A,B port. |

Stations

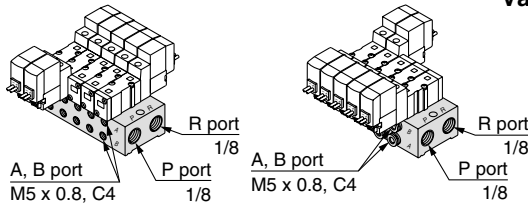
| | |
|----|-------------|
| 02 | 2 stations |
| : | : |
| 20 | 20 stations |

Applicable solenoid valve

SYJ3□30-□□□□
SYJ3□33-□□□□

Type 32 (4 Port/Base mounted)

Type 32 Type S32 (Single solenoid coil is on same side as the A,B port.)



How to Order

SS5YJ3-□32-05-M5-□

Valve mounting direction

| | |
|-----|---|
| Nil | Single solenoid coil is on opposite side as the A,B port. |
| S | Single solenoid coil is on same side as the A,B port. |

Stations

| | |
|----|-------------|
| 02 | 2 stations |
| : | : |
| 20 | 20 stations |

A, B port size

| | |
|----|------------------------------|
| M5 | M5 x 0.8 |
| C4 | One-touch fitting for ø4 |
| N3 | One-touch fitting for ø5/32" |

Applicable blanking plate assembly

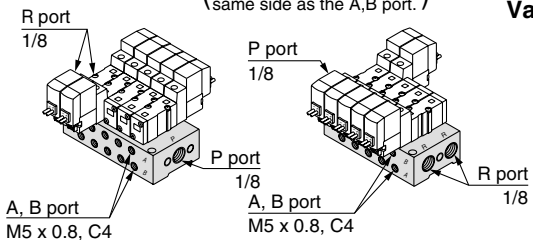
SYJ3000-21-2A

P, R port thread type

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

Type 41 (5 Port/Base mounted)

Type 41 Type S41 (Single solenoid coil is on same side as the A,B port.)



How to Order

SS5YJ3-□41-05-C4-□

Valve mounting direction

| | |
|-----|---|
| Nil | Single solenoid coil is on opposite side as the A,B port. |
| S | Single solenoid coil is on same side as the A,B port. |

Stations

| | |
|----|-------------|
| 02 | 2 stations |
| : | : |
| 20 | 20 stations |

A, B port size

| | |
|----|------------------------------|
| M5 | M5 x 0.8 |
| C4 | One-touch fitting for ø4 |
| N3 | One-touch fitting for ø5/32" |

Applicable solenoid valve

SYJ3□40-□□□□
SYJ3□43-□□□□

Applicable blanking plate assembly

SYJ3000-21-2A

P, R port thread type

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

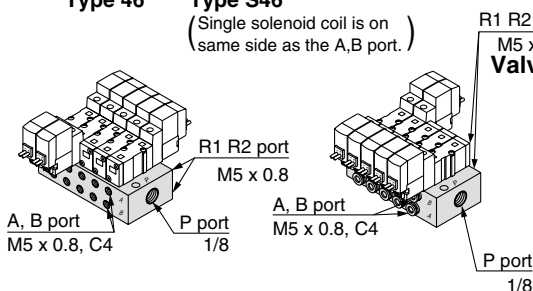
Common SUP/Individual EXH type



Note) For more than 10 stations, supply air to both sides of P port.

Type 46 (5 Port/Base mounted)

Type 46 Type S46 (Single solenoid coil is on same side as the A,B port.)



How to Order

SS5YJ3-□46-05-M5-□

Valve mounting direction

| | |
|-----|---|
| Nil | Single solenoid coil is on opposite side as the A,B port. |
| S | Single solenoid coil is on same side as the A,B port. |

Stations

| | |
|----|-------------|
| 02 | 2 stations |
| : | : |
| 20 | 20 stations |

A, B port size

| | |
|----|------------------------------|
| M5 | M5 x 0.8 |
| C4 | One-touch fitting for ø4 |
| N3 | One-touch fitting for ø5/32" |

Applicable solenoid valve

SYJ3□40-□□□□
SYJ3□43-□□□□

Applicable blanking plate assembly

SYJ3000-21-2A

P port thread type

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

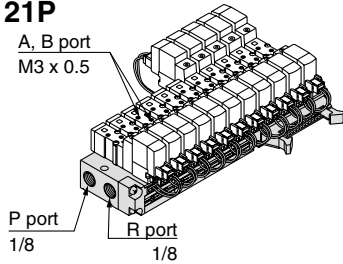
Flat Ribbon Cable Manifold

Common SUP/Common EXH



Note) For more than 10 stations, supply air to both sides of P port and exhaust air from both sides of R port.

Type 21P



How to Order

SS5YJ3-21P-07 [] []

| Stations | |
|----------|-------------|
| 04 | 4 stations |
| : | : |
| 12 | 12 stations |

P, R port thread type

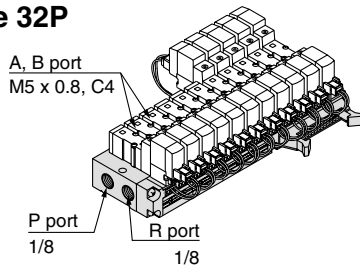
| | |
|-----|------|
| Nil | Rc |
| 00F | G |
| 00N | NPT |
| 00T | NPTF |

Applicable solenoid valve
Refer to page 12.

Applicable connector assembly
Refer to page 12.

Applicable blanking plate assembly
SYJ3000-21-3A
(With dust cap)

Type 32P



How to Order

SS5YJ3-32P-07-C4 [] []

| Stations | |
|----------|-------------|
| 04 | 4 stations |
| : | : |
| 12 | 12 stations |

A, B port size

| | |
|----|------------------------------|
| M5 | M5 x 0.8 |
| C4 | One-touch fitting for ø4 |
| N3 | One-touch fitting for ø5/32" |

P, R port thread type

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

Applicable solenoid valve
Refer to page 12.

Applicable connector assembly
Refer to page 12.

Applicable blanking plate assembly
SYJ3000-21-3A
(With dust cap)

Mixed Installation of the SYJ300 and the SYJ3000 Valves on the Same Manifold

Series SYJ300 valves can be mounted on the manifolds for Series SYJ3000.

① SS5YJ3-20, SS5YJ3-21P

The 3 port valve can be used by simply sealing off the unused "R" port with rubber plug VJ3000-33-1.

Applicable solenoid valves:

Series SYJ312, SYJ312M, SYJ322, SYJ322M

② SS5YJ3-31, -S31, SS5YJ3-32, -S32, SS5YJ3-46, -S46, SS5YJ3-32P

The 3 port valve can be used without modification. The A port of the valve will flow out of the B port of the manifold.

Applicable solenoid valves:

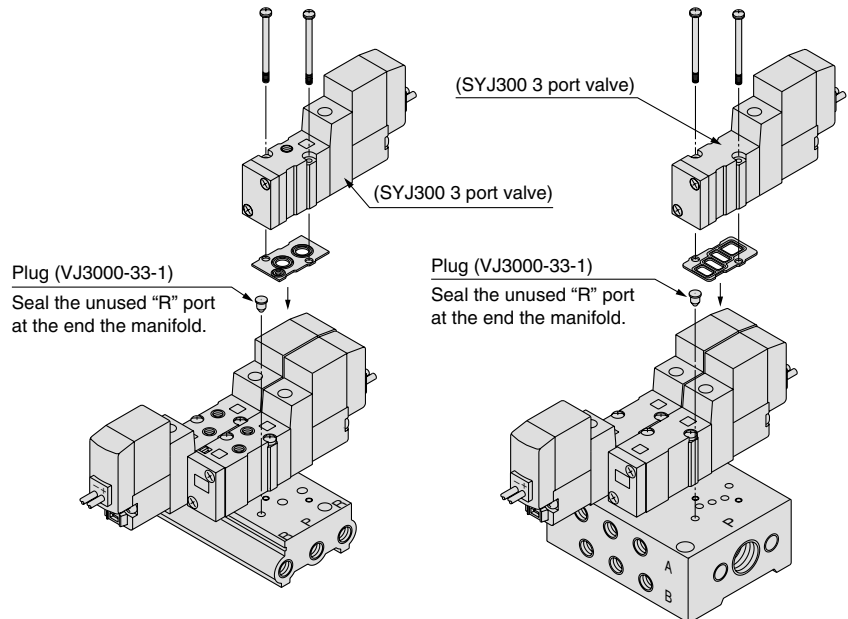
Series SYJ314, SYJ314M, SYJ324, SYJ324M

③ SS5YJ3-41, -S41

The 3 port valve can be used on the 4 port manifold by simply sealing off the unused "R" port with rubber plug VJ3000-33-1. The A port of the valve will flow out of the B port of the manifold.

Applicable solenoid valves:

Series SYJ314, SYJ314M, SYJ324, SYJ324M



Type SS5YJ3-20

Type SS5YJ3-41

A port of the 3 port valve flows out of the manifold B port.

⚠ Caution

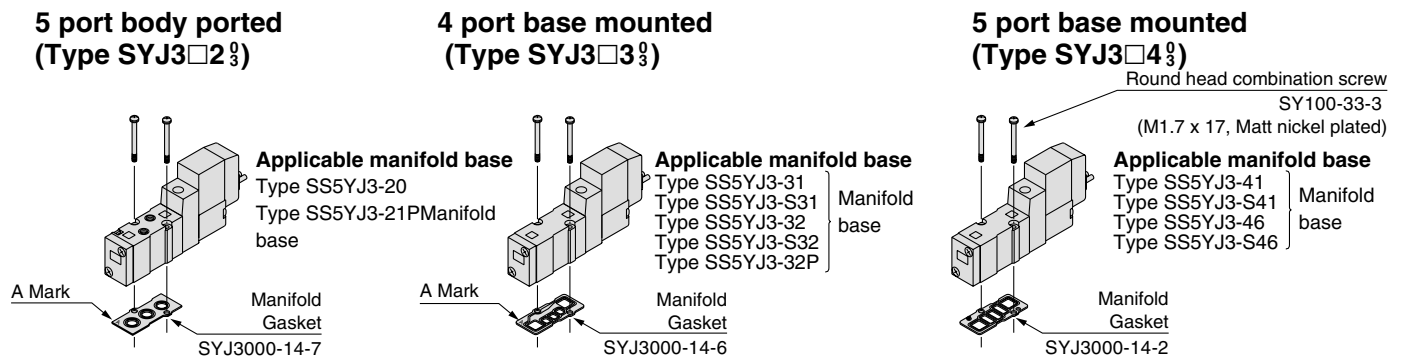
Mounting screw tightening torques

M1.7: 0.12 N·m

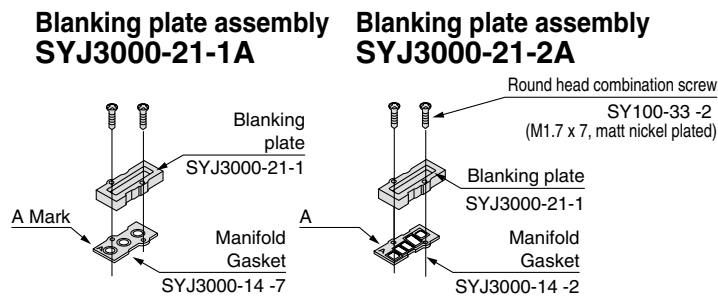
Use caution to the assembly orientation for solenoid valves, gasket, and optional parts.

Series SYJ3000

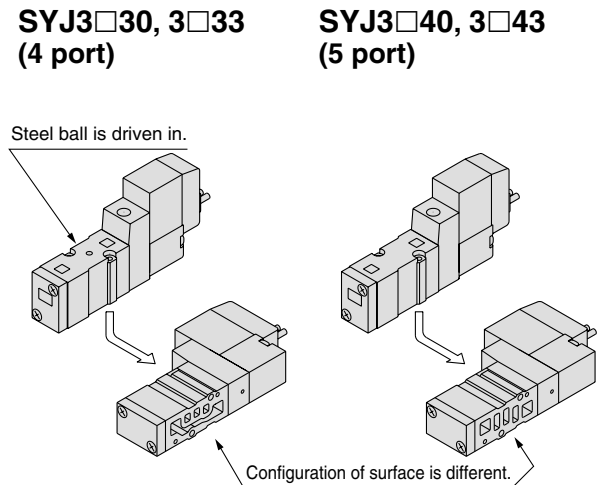
Combinations of Solenoid Valve, Manifold Gasket and Manifold Base



Combination of Blanking Plate Assembly and Manifold Base



Difference between SYJ3□3⁰/₈ and SYJ3□4⁰/₈

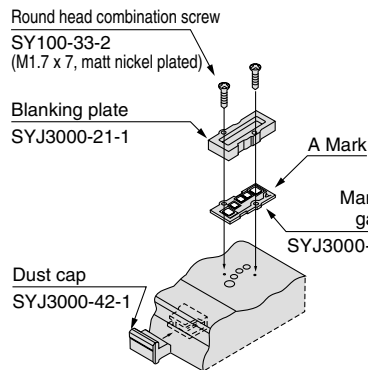


Note) Manifold gasket "SYJ3000-14-2" can be used with the following manifold bases.

Manifold base of

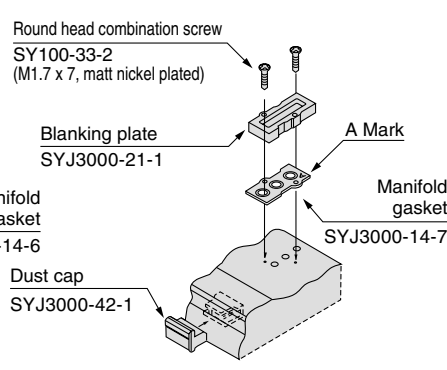
| | |
|------|-----------|
| Type | SS5YJ3-31 |
| Type | -S31 |
| Type | -32 |
| Type | -S32 |

Blanking plate assembly SYJ3000-21-4A



Applicable manifold base
Type SS5YJ3-32P
Manifold base

Blanking plate assembly SYJ3000-21-3A



Applicable manifold base
Type SS5YJ3-21P
Manifold base

Caution

Mounting screw tightening torques

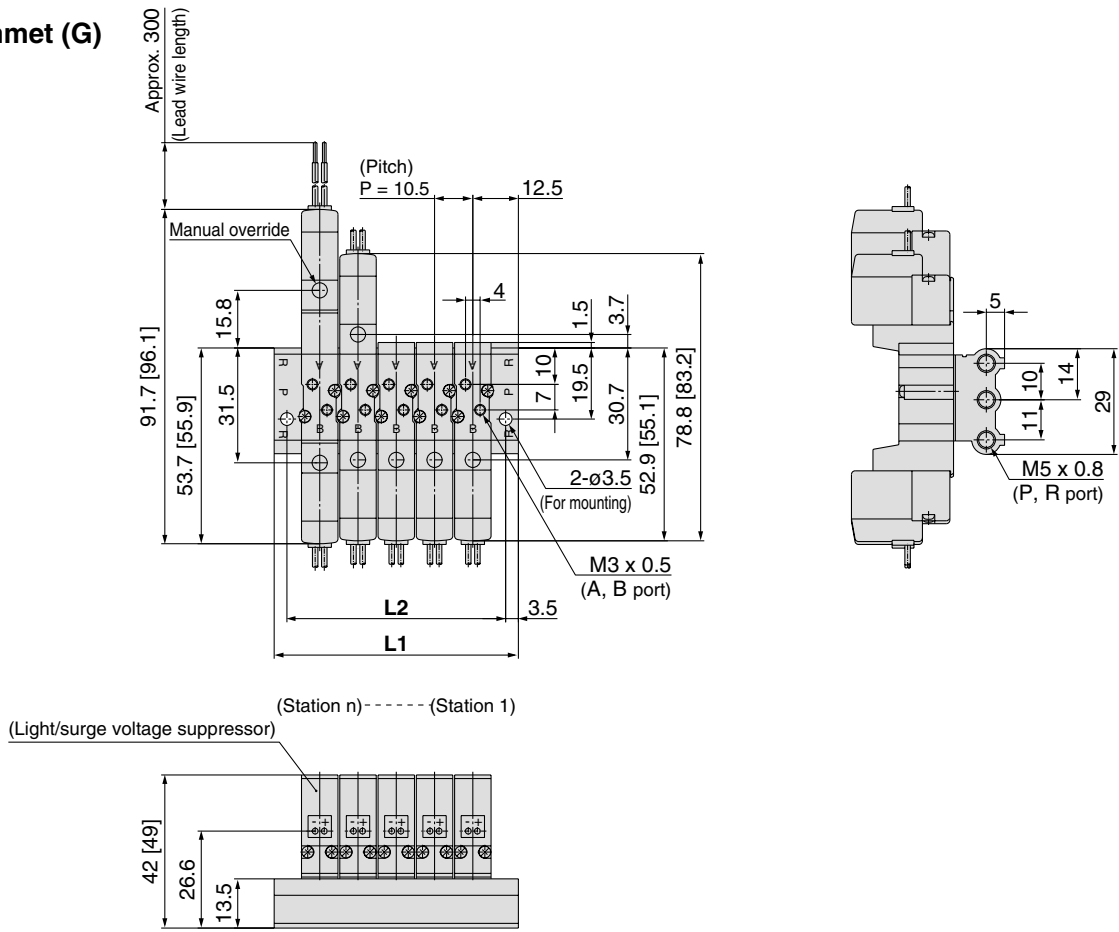
M1.7: 0.12 N·m

Use caution to the assembly orientation for solenoid valves, gasket, and optional parts.

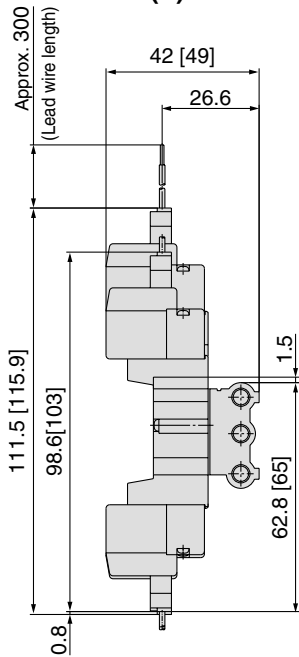
Type 20 Manifold: Top Ported/SS5YJ3-20- Stations



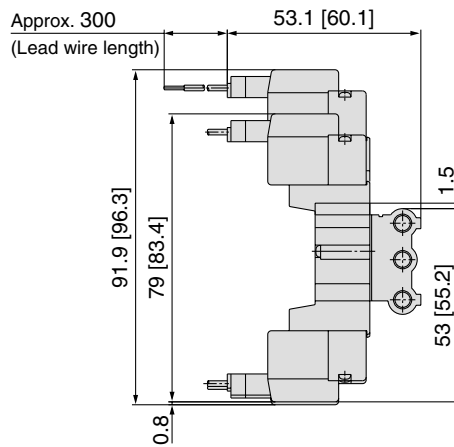
Grommet (G)



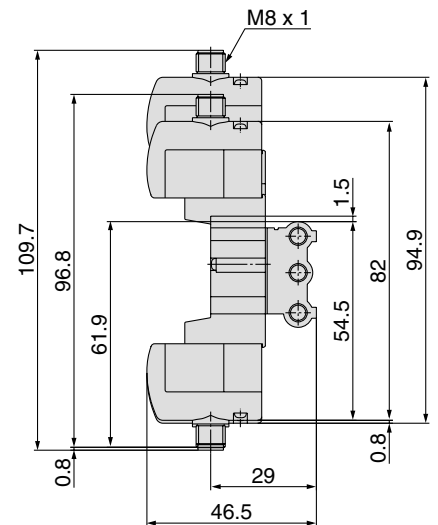
L plug connector (L)



M plug connector (M)



M8 connector (W0)



Refer to the page 91 for dimensions with connector cable.

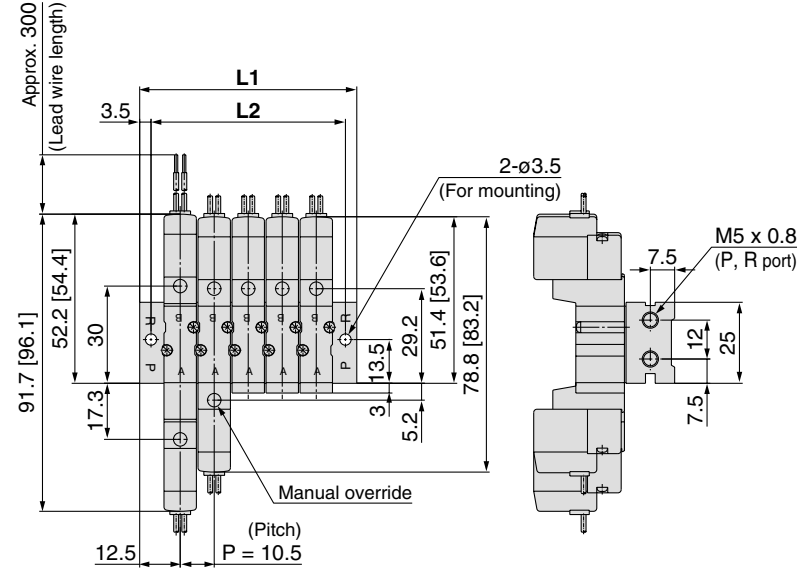
| Station n | Station 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | Station 20 |
|-----------|-----------|----|------|----|------|----|------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|------------|
| L1 | 35.5 | 46 | 56.5 | 67 | 77.5 | 88 | 98.5 | 109 | 119.5 | 130 | 140.5 | 151 | 161.5 | 172 | 182.5 | 193 | 203.5 | 214 | 224.5 |
| L2 | 28.5 | 39 | 49.5 | 60 | 70.5 | 81 | 91.5 | 102 | 112.5 | 123 | 133.5 | 144 | 154.5 | 165 | 175.5 | 186 | 196.5 | 207 | 217.5 |

Series SYJ3000

Type 31 Manifold: Side Ported/SS5YJ3-31- Stations -M3

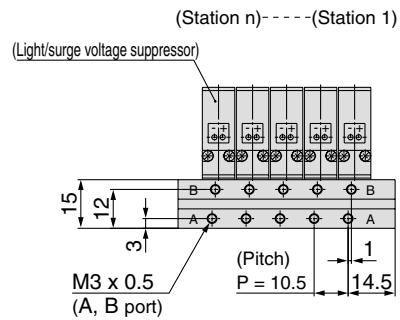
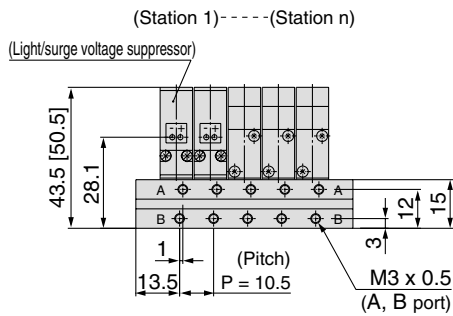
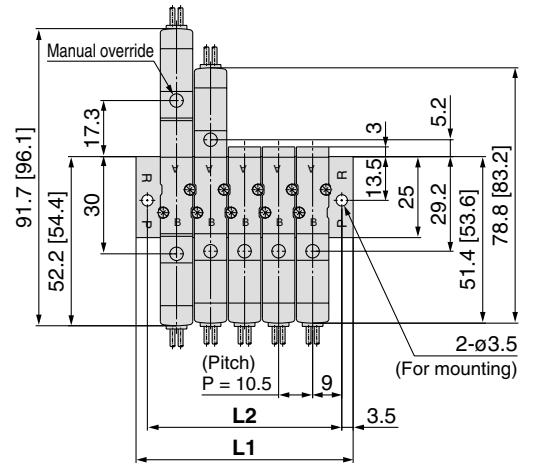


Grommet (G)

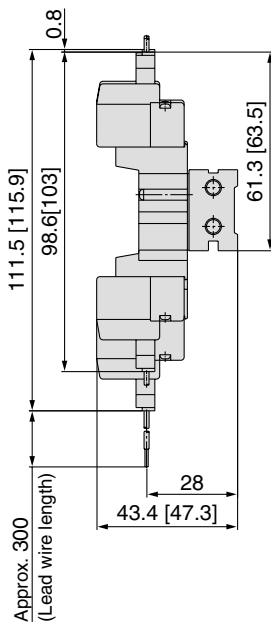


Type S31 Manifold: Side Ported SS5YJ3-S31- Stations -M3

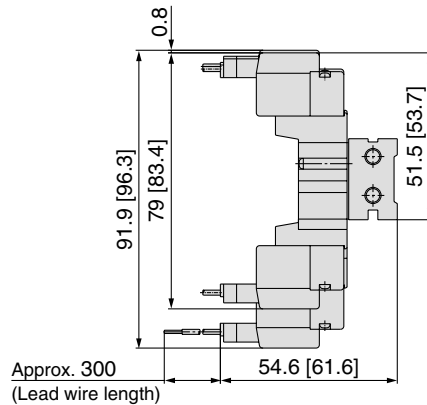
(Single solenoid coil is on same side as the A,B port.)



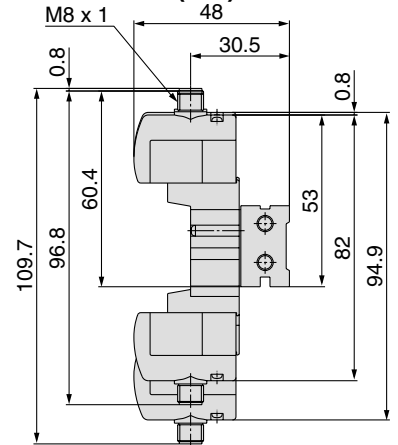
L plug connector (L)



M plug connector (M)



M8 connector (W0)



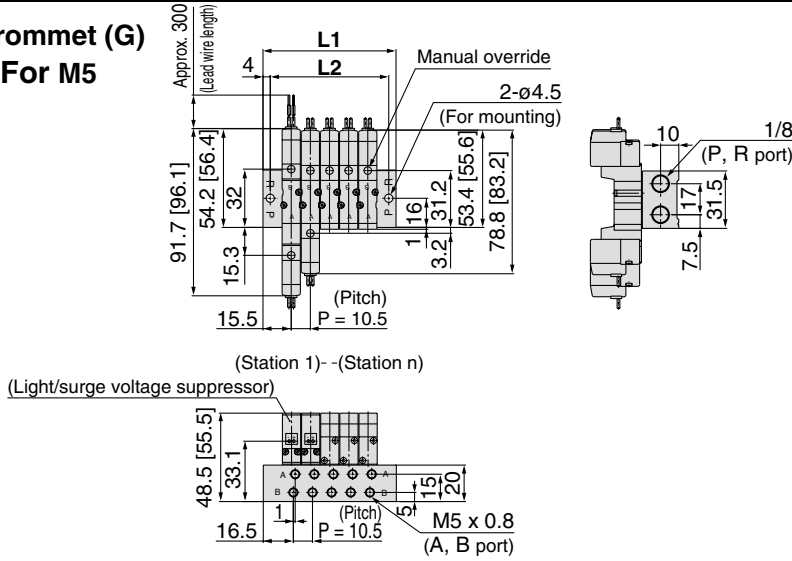
Refer to the page 91 for dimensions with connector cable.

| Station n | Station 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | Station 20 |
|-----------|-----------|----|------|----|------|----|------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|------------|
| L1 | 35.5 | 46 | 56.5 | 67 | 77.5 | 88 | 98.5 | 109 | 119.5 | 130 | 140.5 | 151 | 161.5 | 172 | 182.5 | 193 | 203.5 | 214 | 224.5 |
| L2 | 28.5 | 39 | 49.5 | 60 | 70.5 | 81 | 91.5 | 102 | 112.5 | 123 | 133.5 | 144 | 154.5 | 165 | 175.5 | 186 | 196.5 | 207 | 217.5 |

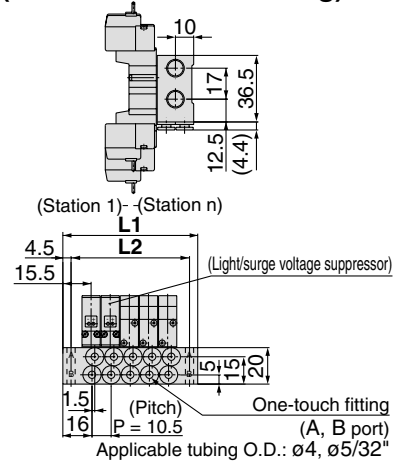
Type 32 Manifold: Side Ported/SS5YJ3-32- Stations -M5, C4 N3



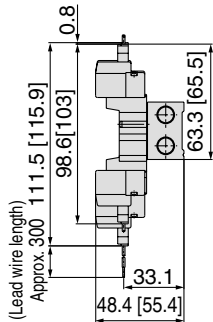
Grommet (G) For M5



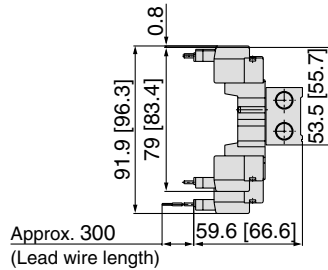
For C4 N3 (Built-in one-touch fitting)



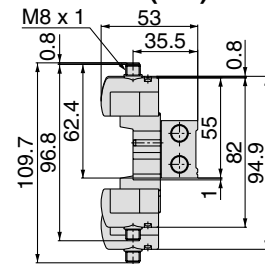
L plug connector (L)



M plug connector (M)



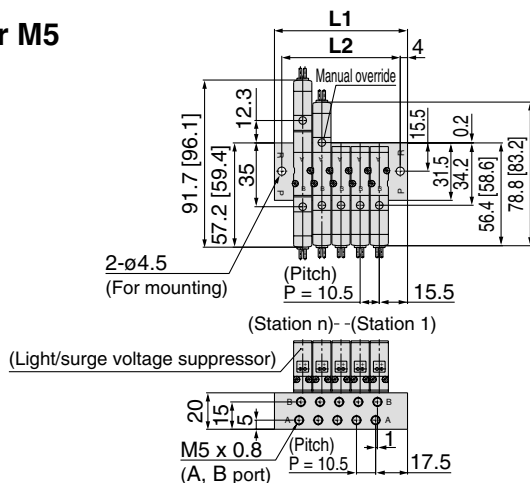
M8 connector (W0)



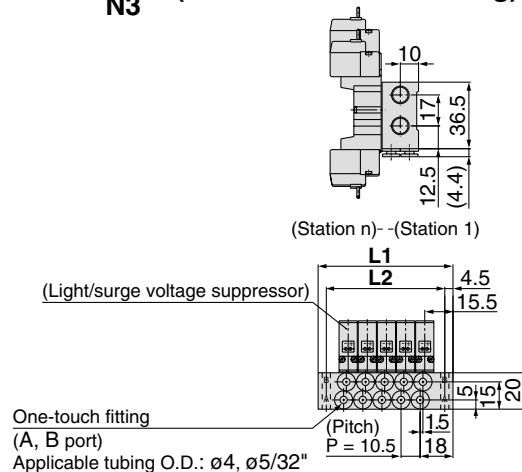
Refer to the page 91 for dimensions with connector cable.

Type S32 Manifold: Side Ported (Single solenoid coil is on same side as the A,B port.) /SS5YJ3-S32- Stations -M5, C4 N3

For M5



For C4 N3 (Built-in one-touch fitting)



SS5YJ3-32, S32- Stations -M5

| Station n | Station 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | Station 20 |
|-----------|-----------|----|------|----|------|----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|------------|
| L1 | 41.5 | 52 | 62.5 | 73 | 83.5 | 94 | 104.5 | 115 | 125.5 | 136 | 146.5 | 157 | 167.5 | 178 | 188.5 | 199 | 209.5 | 220 | 230.5 |
| L2 | 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 |

SS5YJ3-32, S32- Stations -C4

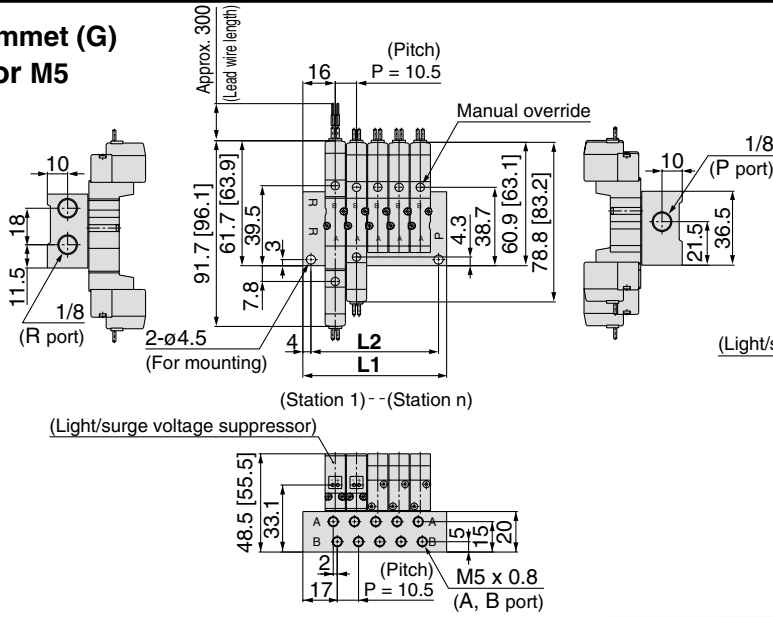
| Station n | Station 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | Station 20 |
|-----------|-----------|----|------|----|------|----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|------------|
| L1 | 42.5 | 53 | 63.5 | 74 | 84.5 | 95 | 105.5 | 116 | 126.5 | 137 | 147.5 | 158 | 168.5 | 179 | 189.5 | 200 | 210.5 | 221 | 231.5 |
| L2 | 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 |

Series SYJ3000

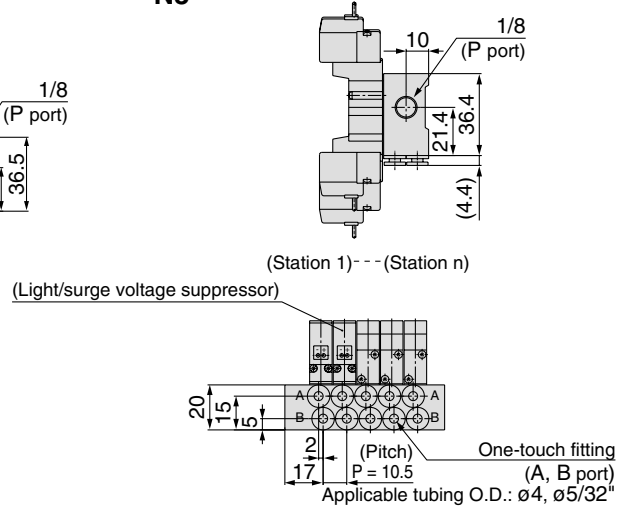
Type 41 Manifold: Side Ported/SS5YJ3-41- Stations -M5, C4 N3



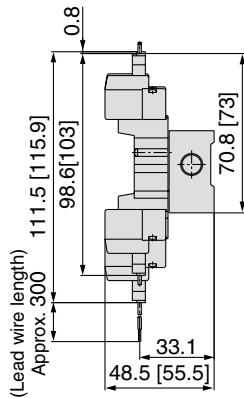
Grommet (G) For M5



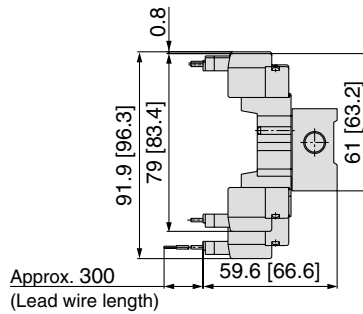
For C4 N3 (Built-in one-touch fitting)



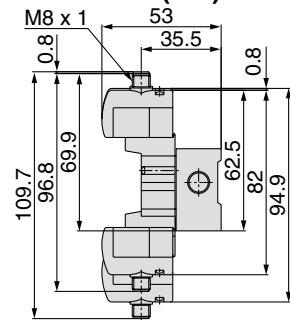
L plug connector (L)



M plug connector (M)



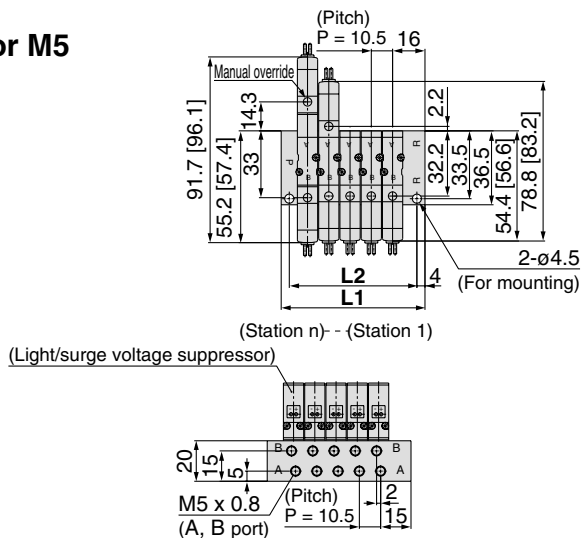
M8 connector (W0)



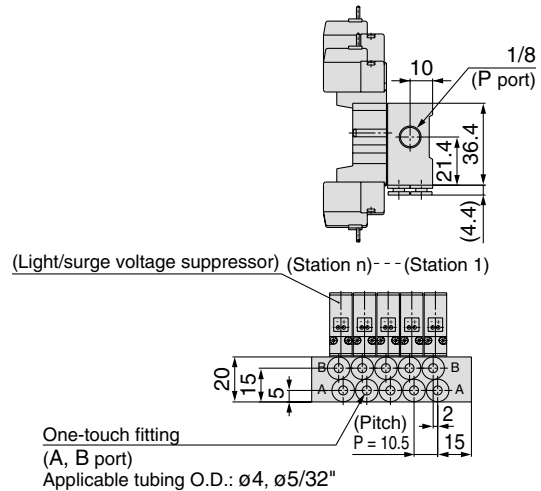
Refer to the page 91 for dimensions with connector cable.

Type S41 Manifold: Side Ported (Single solenoid coil is on same side as the A,B port.) /SS5YJ3-S41- Stations -M5, C4 N3

For M5



For C4 N3 (Built-in one-touch fitting)

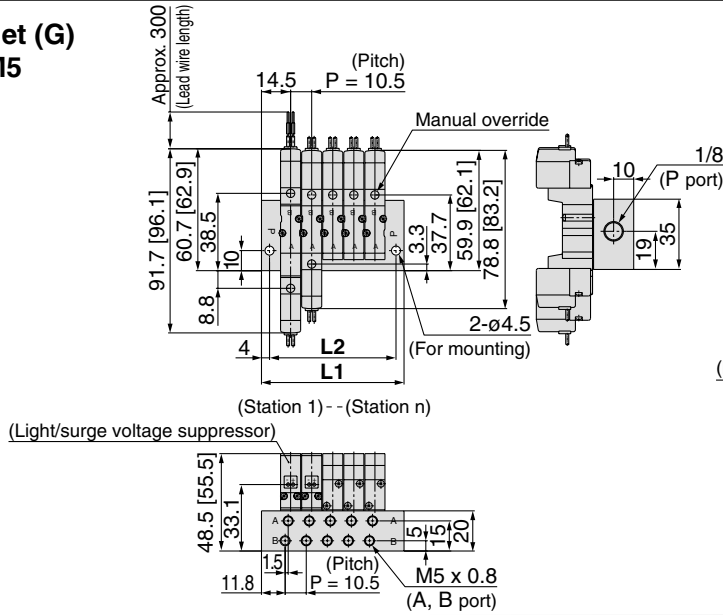


| Station n | Station 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | Station 20 |
|-----------|-----------|----|------|----|------|----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|------------|
| L1 | 39.5 | 50 | 60.5 | 71 | 81.5 | 92 | 102.5 | 113 | 123.5 | 134 | 144.5 | 155 | 165.5 | 176 | 186.5 | 197 | 207.5 | 218 | 228.5 |
| L2 | 31.5 | 42 | 52.5 | 63 | 73.5 | 84 | 94.5 | 105 | 115.5 | 126 | 136.5 | 147 | 157.5 | 168 | 178.5 | 189 | 199.5 | 210 | 220.5 |

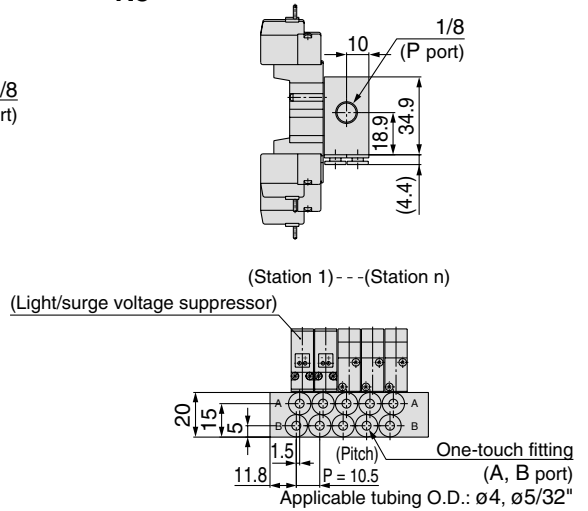
Type 46 Manifold: Side Ported/SS5YJ3-46- Stations -M5, C4 N3



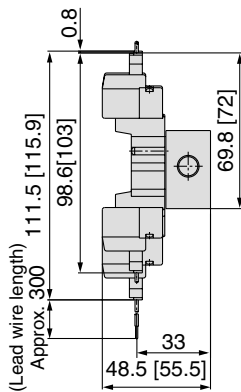
Grommet (G) For M5



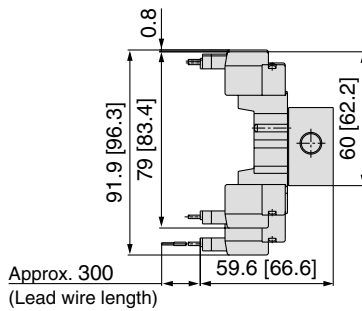
For C4 N3 (Built-in one-touch fitting)



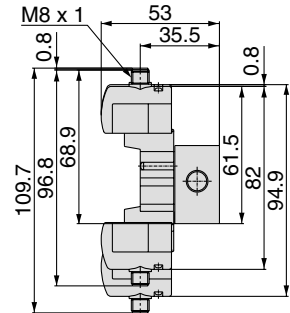
L plug connector (L)



M plug connector (M)



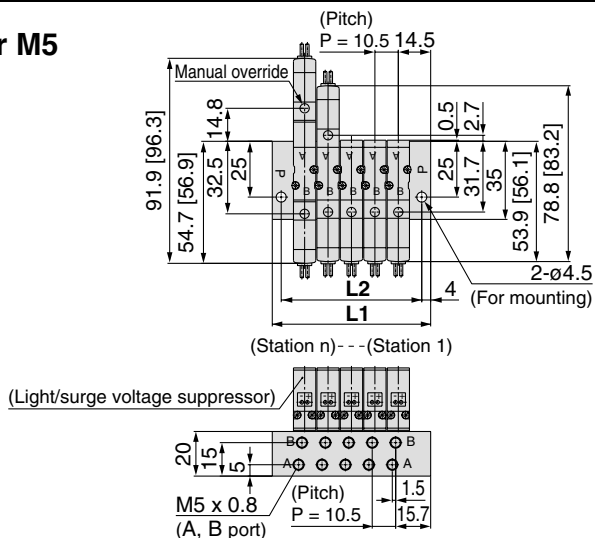
M8 connector (W0)



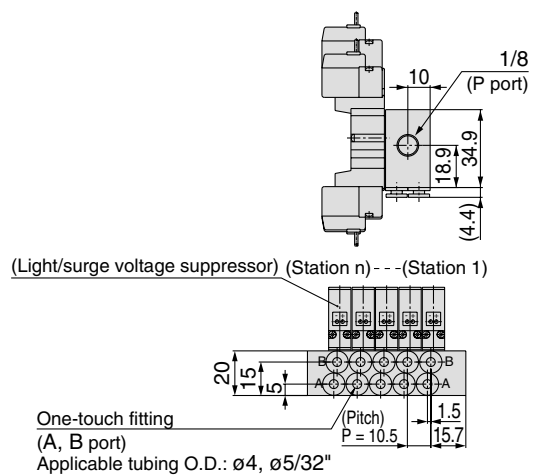
Refer to the page 91 for dimensions with connector cable.

Type S46 Manifold: Side Ported (Single solenoid coil is on same side as the A, B port.) /SS5YJ3-S46- Stations -M5, C4 N3

For M5



For C4 N3 (Built-in one-touch fitting)



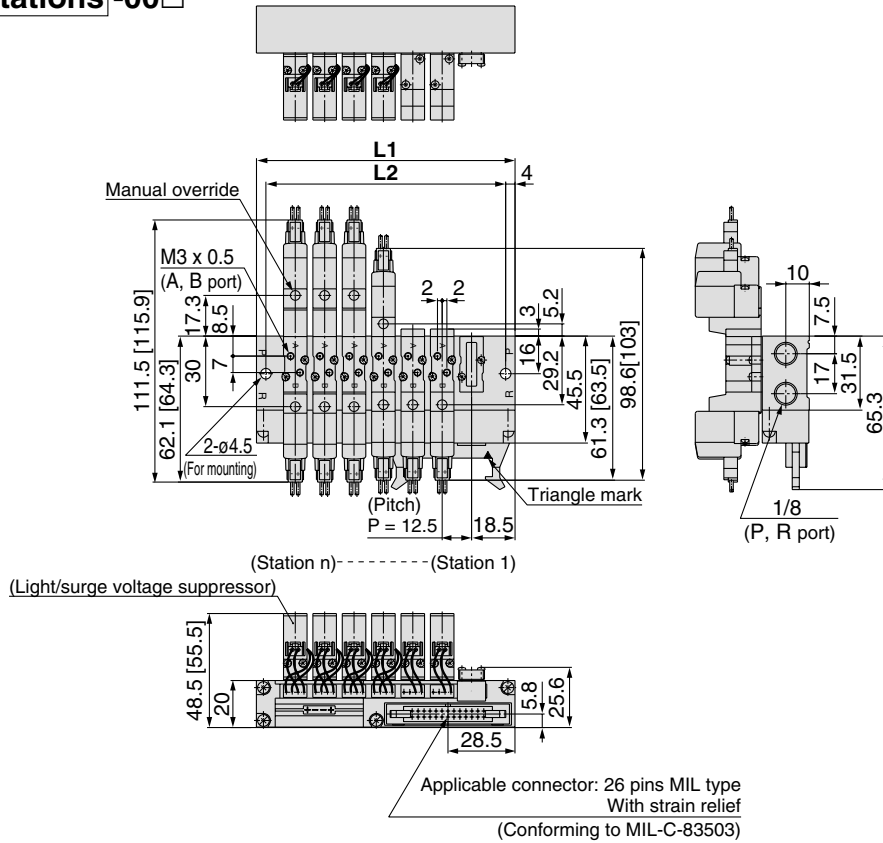
| Station n | Station 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | Station 20 |
|-----------|-----------|----|------|----|------|----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|------------|
| L1 | 39.5 | 50 | 60.5 | 71 | 81.5 | 92 | 102.5 | 113 | 123.5 | 134 | 144.5 | 155 | 165.5 | 176 | 186.5 | 197 | 207.5 | 218 | 228.5 |
| L2 | 31.5 | 42 | 52.5 | 63 | 73.5 | 84 | 94.5 | 105 | 115.5 | 126 | 136.5 | 147 | 157.5 | 168 | 178.5 | 189 | 199.5 | 210 | 220.5 |

Series SYJ3000

Flat Ribbon Cable Manifold



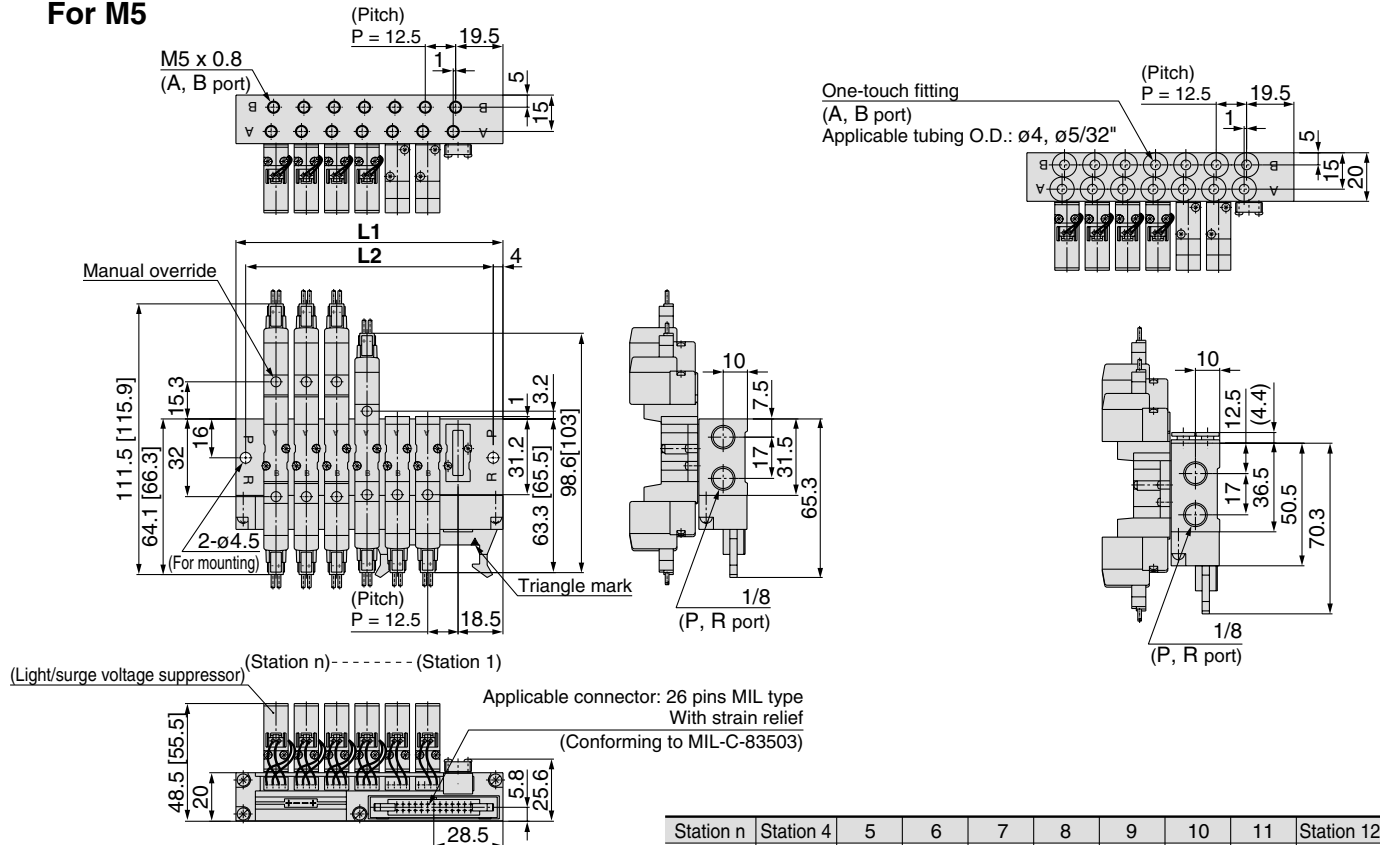
SS5YJ3-21P- Stations -00



SS5YJ3-32P- Stations -M5, C4

For M5

For C4 (Built-in one-touch fitting)



| Station n | Station 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | Station 12 |
|-----------|-----------|----|------|-----|-------|-----|-------|-----|------------|
| L1 | 72.5 | 85 | 97.5 | 110 | 122.5 | 135 | 147.5 | 160 | 172.5 |
| L2 | 64.5 | 77 | 89.5 | 102 | 114.5 | 127 | 139.5 | 152 | 164.5 |

