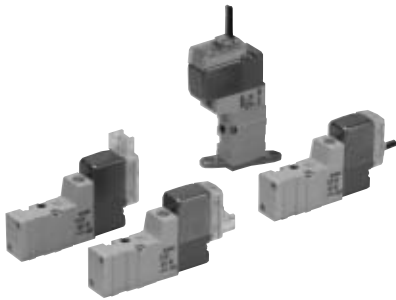
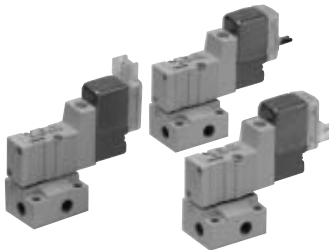


3 Port Pilot Operated Solenoid Valve Rubber Seal

Series SYJ300



Body ported



Base mounted

Specifications

| | | |
|---|----------------|---|
| Fluid | | Air |
| Operating pressure range MPa | Internal pilot | 0.15 to 0.7 |
| Ambient and fluid temperature (°C) | | -10 to 50 (No freezing. Refer to page 4-18-4.) |
| Response time ms (at 0.5 MPa) ^{Note 1)} | | 15 or less |
| Max. operating frequency (Hz) | | 10 |
| 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 | | Dustproof (* M8 connector conforms to IP65.) |



* Based on IEC529

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

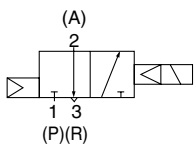
Note 2) Impact resistance: No malfunction occurred when it is tested with a drop tester in the axial direction and at the right angles to the main valve and armature in both energized and de-energized states every once for each condition. (Value in the initial state)

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 and armature when pilot signal is ON and OFF. (Value in the initial state)

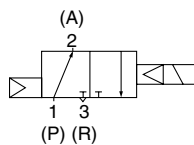
JIS Symbol

Internal pilot

SYJ31 $\frac{2}{4}$

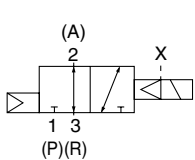


SYJ32 $\frac{2}{4}$

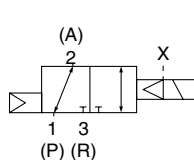


External pilot

SYJ31 $\frac{2}{4}$ R



SYJ32 $\frac{2}{4}$ R



Solenoid Specifications

| | | | |
|-------------------------------|-------------|--|---|
| Electrical entry | | Grommet (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 indicator light: 0.4) |
| | | With power saving circuit | 0.1 (With indicator light only) |
| Apparent power (VA) | AC | 100 V | 1.4 (With indicator light: 1.5) |
| | | 110 V [115 V] | 1.6 (With indicator light: 1.7) [1.7 (With indicator light: 1.8)] |
| | | 200 V | 2.3 (With indicator light: 2.4) |
| | | 220 V [230 V] | 2.5 (With indicator light: 2.6) [2.7 (With indicator light: 2.8)] |
| Surge voltage suppressor | | Diode (varistor when non-polar types) | |
| Indicator light | | LED | |



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

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




Made to Order Specifications

(For details, refer to pages 4-4-54 to 55.)

3 Port Pilot Operated Solenoid Valve Rubber Seal Series SYJ300

Flow Characteristics/Weight

| Valve model | | Type of actuation | Port size | Flow characteristics | | | | | | Effective area (mm ²) | Weight (g) ^{Note)} | | |
|-------------------------------|---------------|-------------------|-----------|------------------------------|------|-------|------------------------------|------|-------|-----------------------------------|-----------------------------|--------------------|--------------|
| | | | | 1 → 2 (P → A) | | | 2 → 3 (A → R) | | | | Grommet | L/M plug connector | M8 connector |
| | | | | C [dm ³ /(s bar)] | b | Cv | C [dm ³ /(s bar)] | b | Cv | | | | |
| Body ported | SYJ312 | N.C. | M3 x 0.5 | — | — | — | — | — | — | 0.9 | 32 | 33 | 37 |
| | SYJ322 | N.O. | | — | — | — | — | — | — | | | | |
| Base mounted (with sub-plate) | SYJ314 | N.C. | M5 x 0.8 | 0.41 | 0.18 | 0.086 | 0.35 | 0.33 | 0.086 | — | 53 (32) | 54 (33) | 58 (37) |
| | SYJ324 | N.O. | | 0.36 | 0.31 | 0.089 | 0.36 | 0.31 | 0.089 | | | | |

 Note) Value for DC. Add 1 g for AC. (): Without sub-plate.

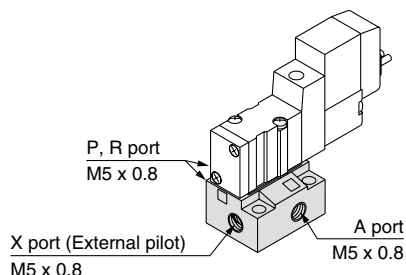
External Pilot

SYJ300R

Pilot valve pressure is supplied separately from the main valve pressure through the use of a separate supply port. It can be used in the vacuum (up to -100 kPa) or low pressure line with 0.15 MPa or less.

Specifications

| Applicable model | Base mounted (SYJ314R, SYJ324R) | |
|---------------------------------|---------------------------------|-----------------|
| Operating pressure range MPa | Main pressure | -100 kPa to 0.7 |
| | External pilot pressure | 0.15 to 0.7 |



Note 1) For manifold base, refer to page 4-4-10.

Note 2) External pilot type body ported valves (SYJ3□2R) can only be used on the manifold.

V100

SY

SYJ

VK

VZ

VT

VP

VG

VP

S070

VQ

VKF

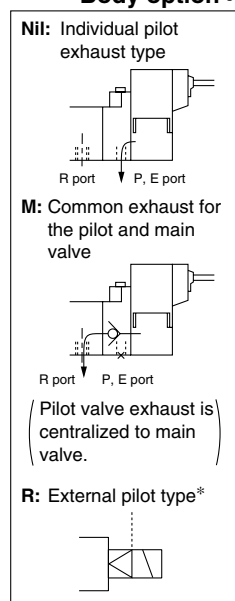
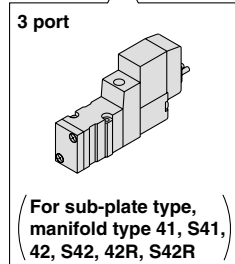
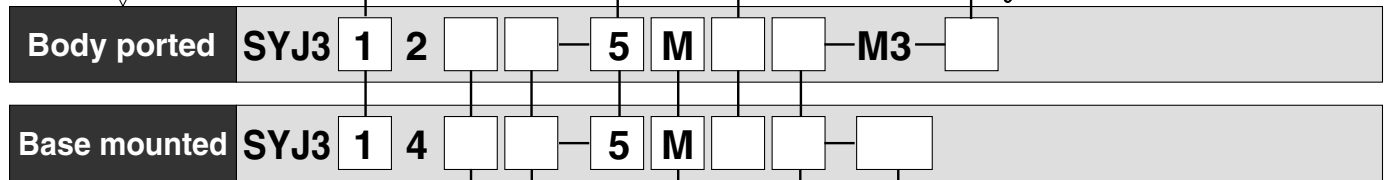
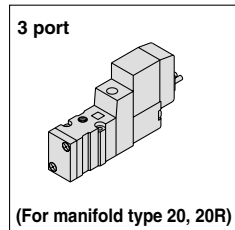
VQZ

VZ

VS

VFN

How to Order



* SYJ3□2R is only for manifold use.

Type of actuation

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

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.

Rated voltage

DC

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

AC (50/60 Hz)

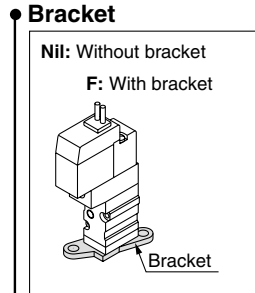
| | |
|---|-------------------|
| 1 | 100 VAC |
| 2 | 200 VAC |
| 3 | 110 VAC [115 VAC] |
| 4 | 220 VAC [230 VAC] |

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

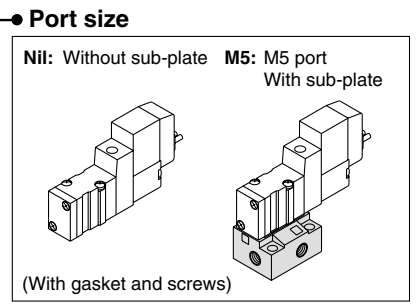
Light/Surge voltage suppressor

| | |
|-----|--|
| 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, U, DC voltage is only available.
* Power saving circuit is only available in the "Z" type.



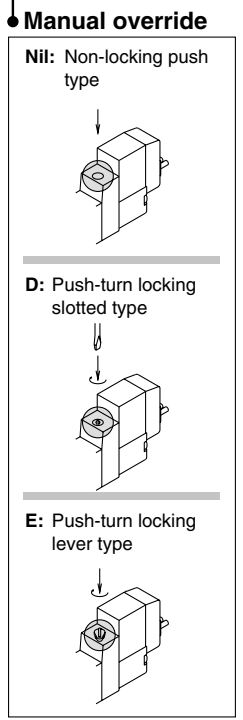
* Bracket is mounted.
* External pilot type is not available.



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 | | |
| | | | | | |

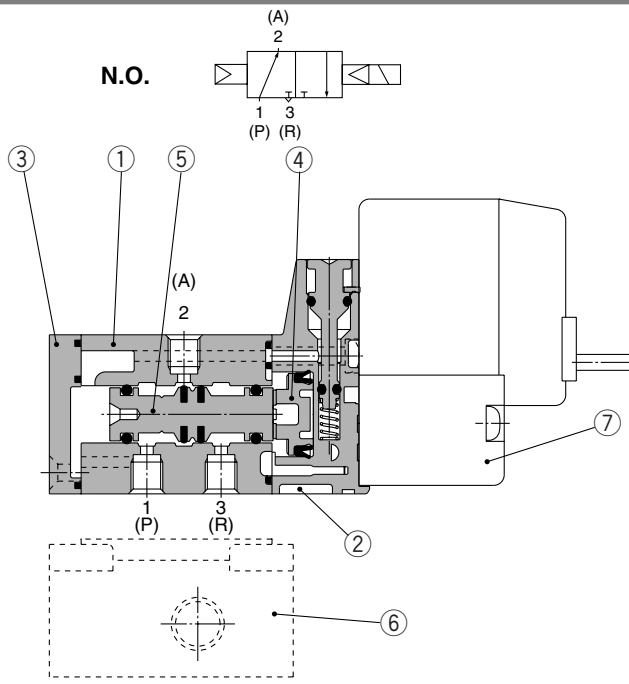
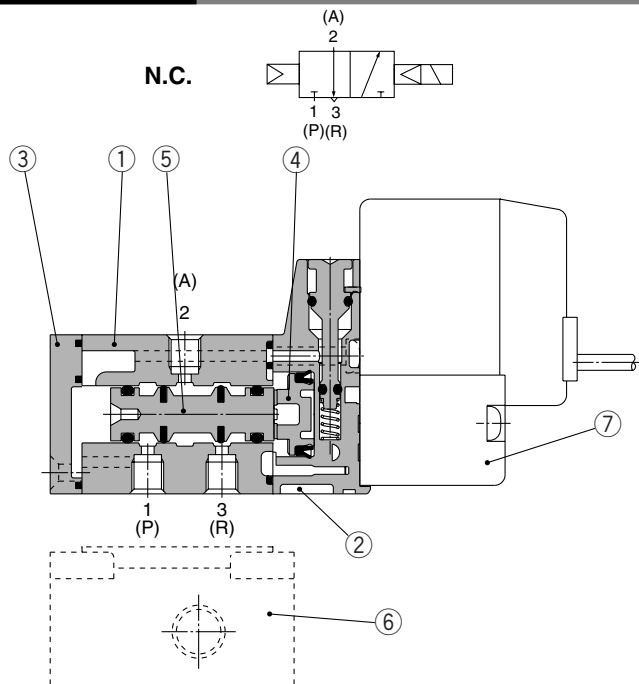
* "LN," "MN" type: with 2 sockets.
* For connector cable of M8 connector, refer to page 4-4-60.



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 4-4-11.)

3 Port Pilot Operated Solenoid Valve Rubber Seal Series SYJ300

Construction



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, HNBR | — |

Replacement Parts

| No. | Description | Part no. | Note |
|-----|-------------|--------------|-----------------|
| ⑥ | Sub-plate | SYJ300-9-1 | 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.

Electrical entry

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

* For connector cable of M8 connector, refer to page 4-4-60.

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 "R" and "U", DC voltage is only available.
* Power saving circuit is only available in the "Z" type.

How to Order Connector Assembly for L/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 |

V100

SY

SYJ

VK

VZ

VT

VP

VG

VP

S070

VQ

VKF

VQZ

VZ

VS

VFN

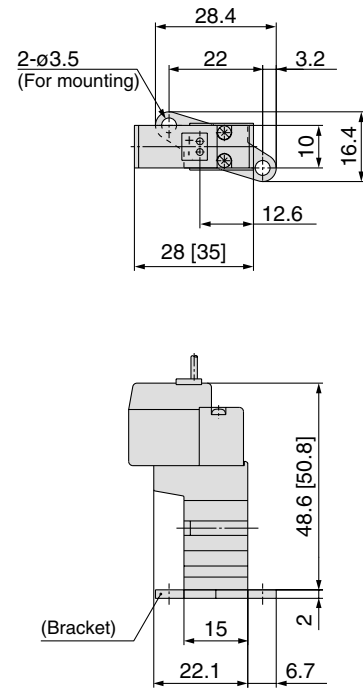
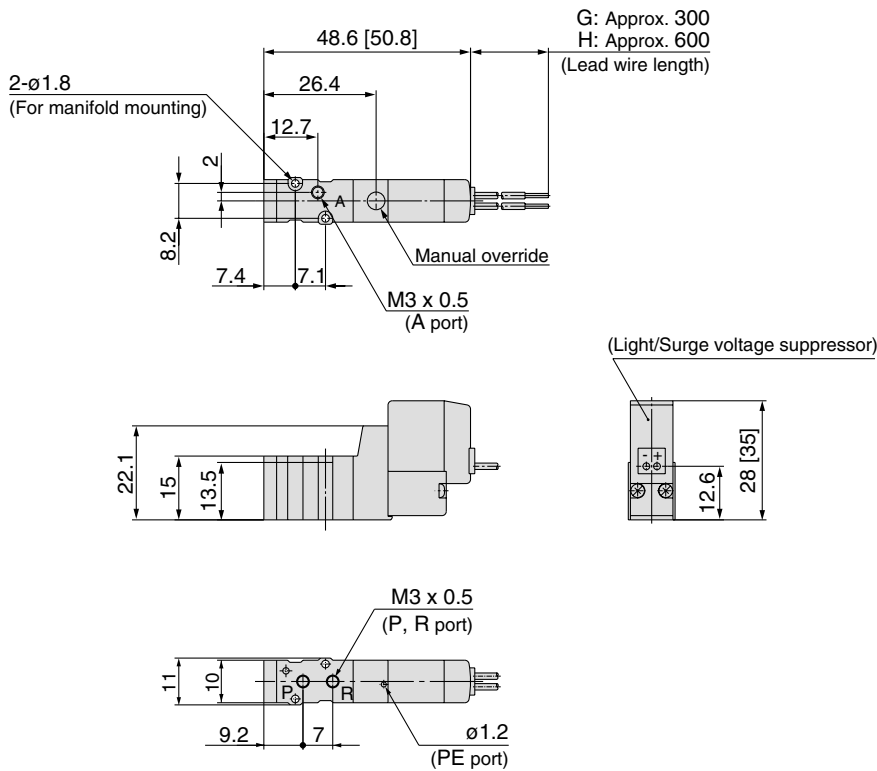
Series SYJ300

Body Ported



Grommet (G), (H): SYJ3□2-□^G□□-M3

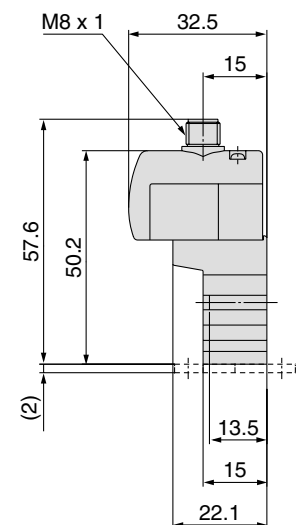
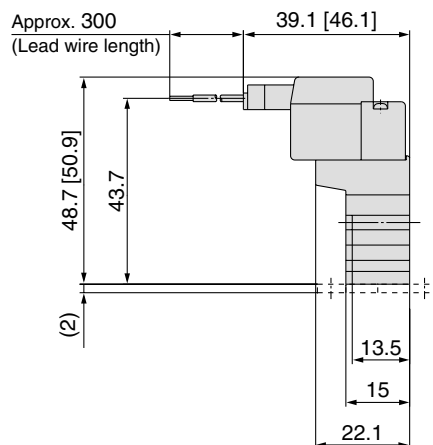
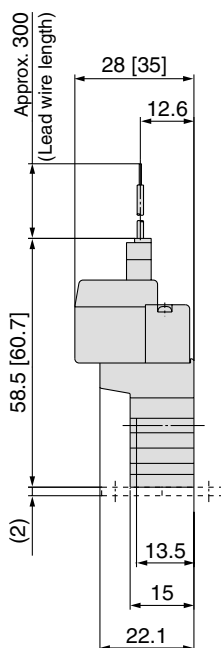
With bracket:
SYJ3□2-□^G□□-M3-F



L plug connector (L):
SYJ3□2-□L□□-M3

M plug connector (M):
SYJ3□2-□M□□-M3

M8 connector (WO):
SYJ3□2-□WO□□-M3



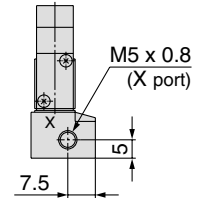
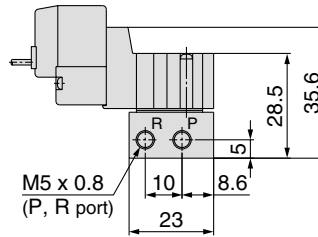
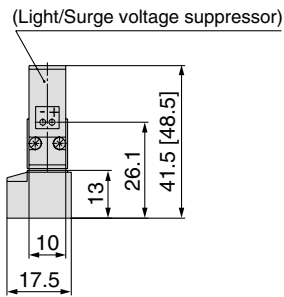
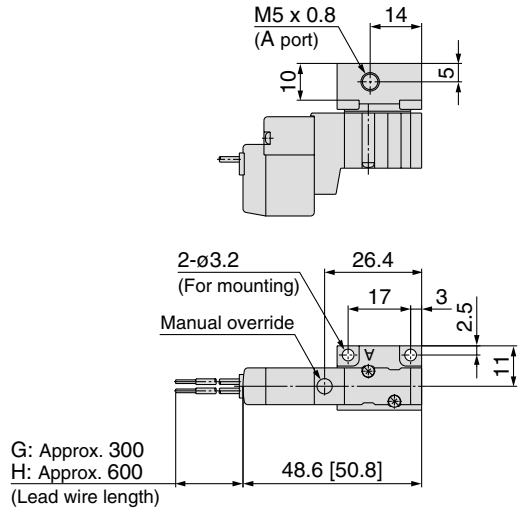
* Refer to page 4-4-61 for dimensions with connector cable.

3 Port Pilot Operated Solenoid Valve Rubber Seal Series SYJ300

Base Mounted (With sub-plate)



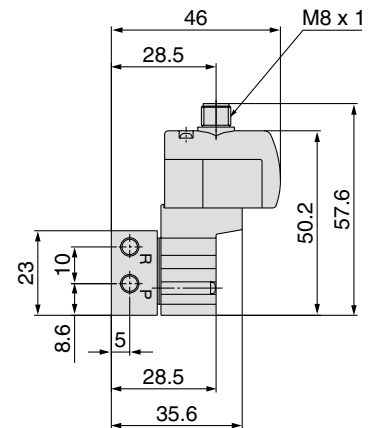
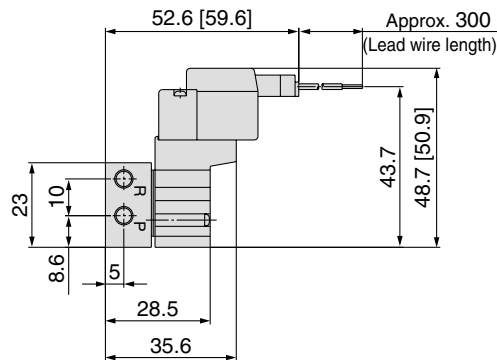
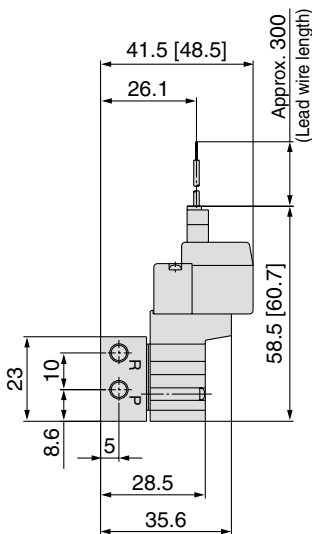
Grommet (G), (H): SYJ3□4-□□□□-M5



L plug connector (L):
SYJ3□4-□L□□-M5

M plug connector (M):
SYJ3□4-□M□□-M5

M8 connector (WO):
SYJ3□4-□WO□□-M5



* Refer to page 4-4-61 for dimensions with connector cable.

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