

3 Port Solenoid Valve

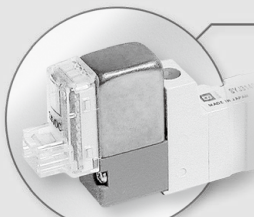
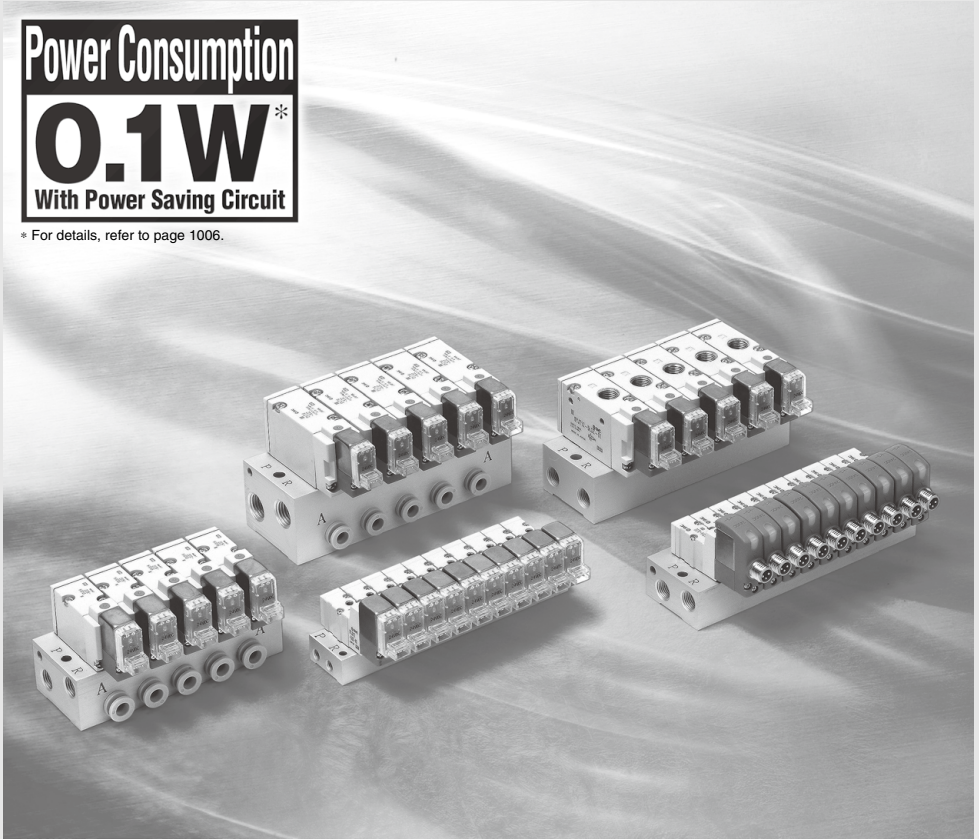
SYJ300/500/700 Series

Rubber Seal

CE UK
CA
[Option]

Power Consumption
0.1W*
With Power Saving Circuit

* For details, refer to page 1006.



Cover (stainless steel)

Improved pilot valve






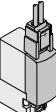




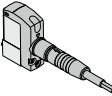
Pilot valve cover is stronger using stainless steel.
Mounting thread is also reinforced from size M1.7 to M2.

Flow Rate Characteristics

| Series | Flow rate characteristics | | |
|--------|------------------------------|------|-------|
| | C [dm ³ /(s·bar)] | b | Cv |
| SYJ300 | 0.36 | 0.31 | 0.089 |
| SYJ500 | 1.2 | 0.41 | 0.32 |
| SYJ700 | 2.7 | 0.38 | 0.72 |

Rubber Seal 3 Port Solenoid Valve **SYJ300/500/700 Series**

Variations

| | Series | Port size | Sonic conductance C [dm ² /(s·bar)] | Type of actuation | Voltage | Electrical entry | Option | Manual override | | |
|--------------|---|-----------|---|-------------------|---|--|--|-------------------------|--|----------------------------------|
| | | | | | | | Light/Surge voltage suppressor | | | |
| Body ported | SYJ300  P.952 | M3 x 0.5 | Effective area 0.9 mm ² { 2→3 } { (A→R) } | ● N.C. ● N.O. | For DC ■ 24 VDC 12 VDC 6 VDC 5 VDC 3 VDC | Grommet  | For DC ■ With surge voltage suppressor ■ With light/surge voltage suppressor | ■ Non-locking push type | | |
| | SYJ500  P.966 | M5 x 0.8 | 0.66 { 2→3 } { (A→R) } | | | L plug connector  | | | | |
| | SYJ700  P.984 | 1/8 | 2.5 { 2→3 } { (A→R) } | | | M plug connector  | | | | |
| Base mounted | SYJ300  P.952 | M5 x 0.8 | 0.36 { 2→3 } { (A→R) } | | | For AC ■ 100 VAC $\frac{\%}{\text{Hz}}$ 110 VAC $\frac{\%}{\text{Hz}}$ 200 VAC $\frac{\%}{\text{Hz}}$ 220 VAC $\frac{\%}{\text{Hz}}$ | | | For AC (Note) ■ With light/surge voltage suppressor | ■ Push-turn locking slotted type |
| | SYJ500  P.966 | 1/8 | 1.2 { 2→3 } { (A→R) } | | | DIN terminal  (SYJ500, 700 only) | | | | |
| | SYJ700  P.984 | 1/8, 1/4 | 2.7 { 2→3 } { (A→R) } | | | M8 connector  | | | | |

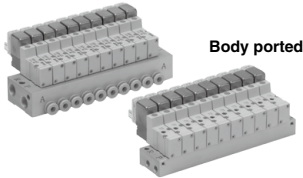
Note) All AC voltage models have built-in surge voltage suppressor.

Manifold Variations

| Valve series | A port location | P, R ports size | A port size | | | | | | | | |
|--------------|-----------------|-----------------|-----------------|----------------------|-----|------------------------|----|----------------------|---|---|---|
| | | | M3 | M5 | 1/8 | With One-touch fitting | | | | | |
| | | | | | | Applicable tubing O.D. | | | | | |
| | | | ø4 | ø6 | ø8 | N3 | N7 | N9 | | | |
| Body ported | SYJ300 P.958 | Top | M5 x 0.8 | ● ^{Note 1)} | — | — | — | — | — | — | — |
| | | | 1/8 | ● ^{Note 2)} | — | — | — | — | — | — | — |
| | SYJ500 P.972 | Top | 1/8 | — | ● | — | — | — | — | — | — |
| | | | SYJ700 P.990 | Top | 1/8 | — | — | ● ^{Note 1)} | — | — | — |
| 1/4 | — | — | ● | | — | — | — | — | — | | |
| Base mounted | SYJ300 P.958 | Side | M5 x 0.8 | ● ^{Note 1)} | — | — | — | — | — | — | |
| | | | 1/8 | — | ● | — | ● | — | ● | — | |
| | SYJ500 P.972 | Bottom | 1/8 | — | ● | ● | — | — | — | — | |
| | | Side | | — | ● | ● | ● | ● | — | ● | |
| | SYJ700 P.958 | Bottom | 1/8 | — | — | ● ^{Note 1)} | — | — | — | — | |
| | | | 1/4 | — | — | ● | — | — | — | — | |
| Side | 1/4 | — | — | ● | — | ● | ● | — | ● | | |

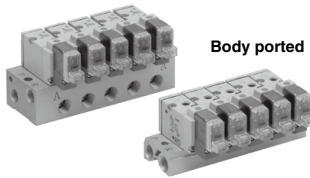
Note 1) Only for internal pilot
 Note 2) Only for external pilot

Base mounted



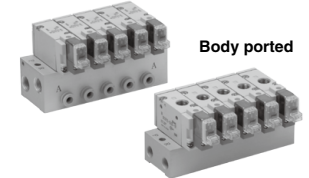
SYJ300 series

Base mounted



SYJ500 series

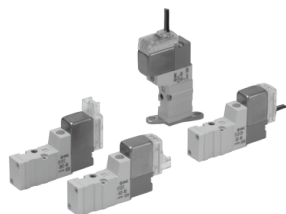
Base mounted



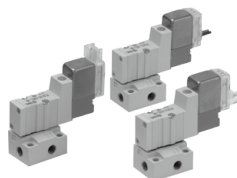
SYJ700 series

Rubber Seal 3 Port Pilot Solenoid Valve

SYJ300 Series



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.) |
| 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 |
| Impact/Vibration resistance (m/s ²) ^{Note 2)} | | 150/30 |
| Enclosure | | Dust proof (* M8 connector conforms to IP65.) |

* Based on IEC60529

Note 1) Based on dynamic performance test, JIS B 8419: 2010. (Coil temperature: 20°C, at rated voltage, without surge voltage suppressor.)

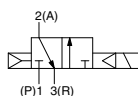
Note 2) Impact resistance: No malfunction occurred when it is tested in the axial direction and at the right angles to the main valve and armature in both energized and de-energized states every once for each condition. (Value in the initial state)

Vibration resistance: No malfunction occurred in 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. (Value in the initial state)

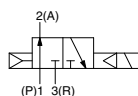
Symbol

Internal pilot

SYJ31²

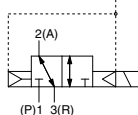


SYJ32²

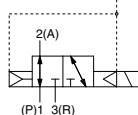


External pilot

SYJ31²R



SYJ32²R



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 light: 0.4) With power saving circuit 0.1 (With light only) * [Starting 0.4, Holding 0.1] |
| | AC | 100 V 0.78 (With light: 0.81) 110 V 0.86 (With light: 0.89) [115 V] [0.94 (With light: 0.97)] 200 V 1.18 (With light: 1.22) 220 V 1.30 (With light: 1.34) [230 V] [1.42 (With light: 1.46)] |
| 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.

* For details, refer to page 1006.



Made to Order

(For details, refer to pages 1002 and 1003)

Flow Rate Characteristics/Weight

| Valve model | | Type of actuation | Port size | Flow rate 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.

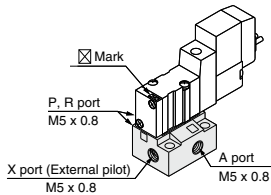
External Pilot

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 958.

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

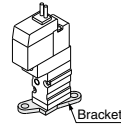
Light/Surge voltage suppressor

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

- Nil**: Without bracket
- F**: With bracket



- * Bracket is mounted.
- * Brackets cannot be retrofitted.
- * External pilot type is not available.

Rated voltage

| DC | CE/UKCA-compliant |
|----------|-------------------|
| 5 | 24 VDC ● |
| 6 | 12 VDC ● |
| V | 6 VDC ● |
| S | 5 VDC ● |
| R | 3 VDC ● |

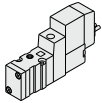
| AC (50/60 Hz) | CE/UKCA-compliant |
|---------------|---------------------|
| 1 | 100 VAC — |
| 2 | 200 VAC — |
| 3 | 110 VAC (115 VAC) — |
| 4 | 220 VAC (230 VAC) — |

- * For type W□, DC voltage is only available.
- Note) CE/UKCA-compliant: For DC only.

Type of actuation

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

3 port

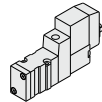


(For manifold type 20, 20R)

Body ported SYJ3 1 2 □ □ - 5 M □ □ - M3 - □ □

Base mounted SYJ3 1 4 □ □ - 5 M □ □ - □ □

3 port



(For sub-plate type, manifold type 41, S41, 42, S42, 42R, S42R)

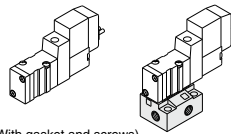
Coil specifications

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

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

Port size

- Nil**: Without sub-plate
- M5**: M5 port With sub-plate



(With gasket and screws)

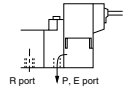
CE/UKCA-compliant

| | |
|------------|-------------------|
| Nil | — |
| Q | CE/UKCA-compliant |

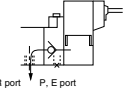
- Note) CE/UKCA-compliant: For DC only.

Body option

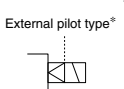
Nil: Individual pilot exhaust type



M: Common exhaust for the pilot and main valve



R: External pilot type*



* SYJ3□2R is only for manifold use.

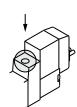
Electrical entry

| 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 | W□ : With connector cable (Note 1) | |
| | | | | | |

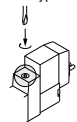
- * LN, MN type: with 2 sockets.
- * Refer to page 1005 for the lead wire length of L and M plug connectors.
- * Refer to page 1008 for the connector assembly with cover for L and M plug connectors.
- * For connector cable of M8 connector, refer to page 1009.
- * A M8 connector conforming to IEC60947-5-2 is also available. Refer to page 1002 for details. Note 1) Enter the cable length symbols in □. Please be sure to fill in the blank referring to page 1009.

Manual override

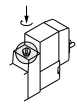
Nil: Non-locking push type



D: Push-turn locking slotted type

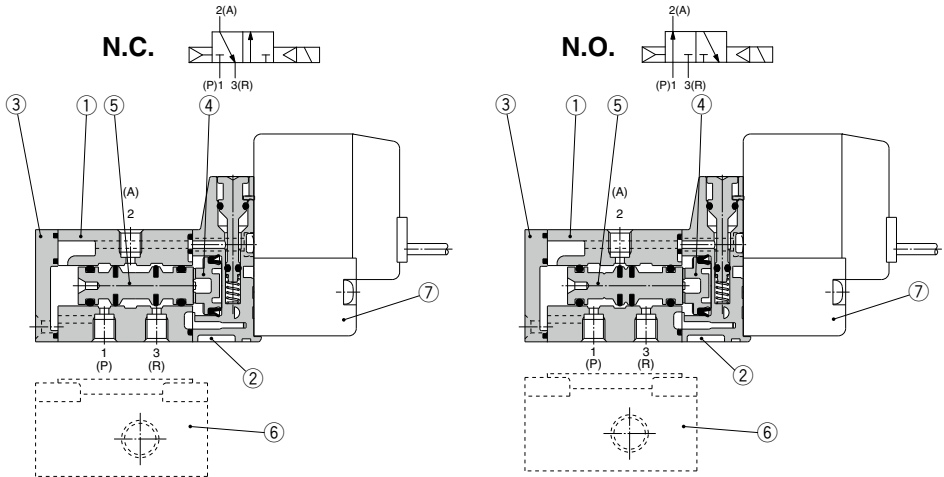


E: Push-turn locking lever type



Note) When placing an order for body ported solenoid valve as a single unit, mounting screws for manifold and gasket are not attached. Order them separately, if necessary. (For details, refer to page 959.)

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, H-NBR | — |

Replacement Parts

| No. | Description | Part no. | Note |
|-----|----------------------------|----------------|-----------------|
| 6 | Sub-plate ^{Note)} | SYJ300-9-1(-Q) | Zinc die-casted |
| 7 | Pilot valve | V111(T)-□□□□ | |

Note) Add suffix "Q" for the CE/UKCA-compliant product.

How to Order Pilot Valve Assembly

V111 □ — 5 G □ □

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

| | |
|---|--|
| 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.

* CE/UKCA-compliant: For DC only.

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.

Electrical entry

| | |
|----|---|
| G | Grommet, 300 mm lead wire |
| H | Grommet, 600 mm lead wire |
| L | With lead wire |
| LN | L plug connector |
| LO | Without connector |
| M | With lead wire |
| MN | M plug connector |
| MO | Without connector |
| WO | M8 connector |
| W□ | With connector cable ^{Note 1)} |

* For connector cable of M8 connector, refer to page 1009.

Note 1) Enter the cable length symbols in □.

Please be sure to fill in the blank referring to page 1009.

Note) Since V111 is CE/UKCA-compliant as standard, the suffix "Q" is not necessary.

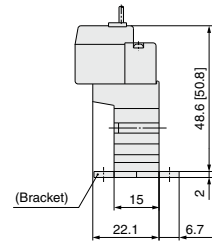
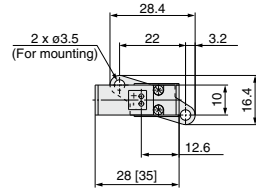
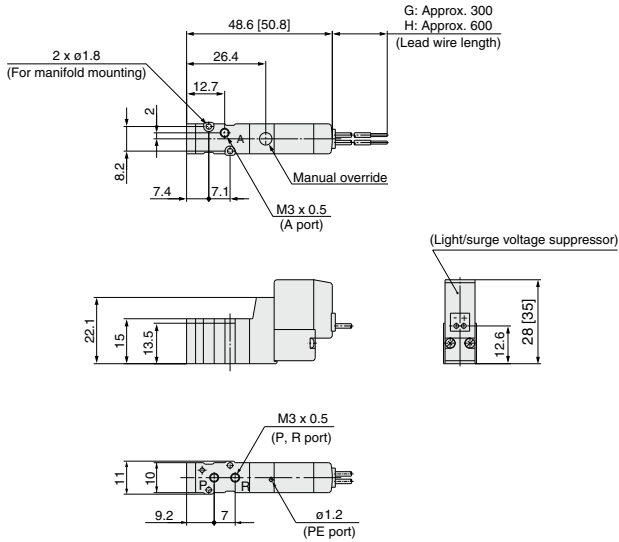
SYJ300 Series

Body Ported

* [] for AC

Grommet (G), (H): SYJ3□2-□^G□□-M3

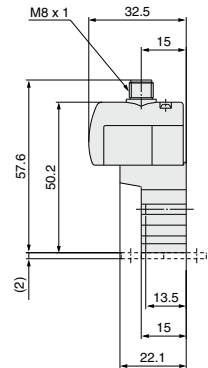
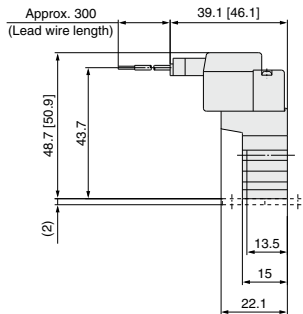
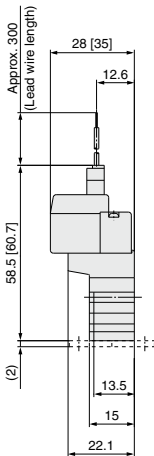
With bracket:
SYJ3□2-□^G□□-M3-F



L plug connector (L):
SYJ3□2-□L□□-M3

M plug connector (M):
SYJ3□2-□M□□-M3

M8 connector (WO):
SYJ3□2-□WO□□-M3

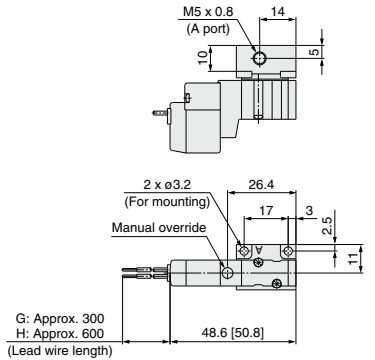


* Refer to page 1009 for dimensions with connector cable.

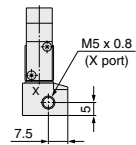
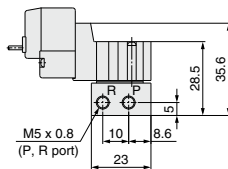
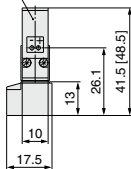
Base Mounted (With Sub-plate)

* [] for AC

Grommet (G), (H): SYJ3□4-□^G□□-M5



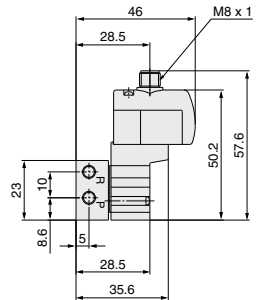
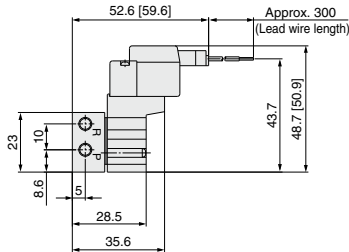
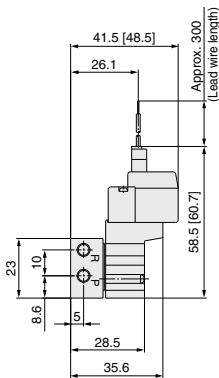
(Light/surge voltage suppressor)



**L plug connector (L):
SYJ3□4-□L□□-M5**

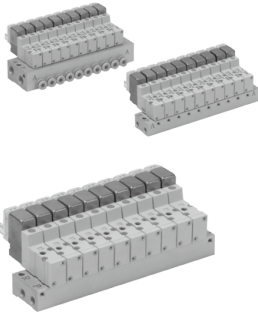
**M plug connector (M):
SYJ3□4-□M□□-M5**

**M8 connector (WO):
SYJ3□4-□WO□□-M5**



* Refer to page 1009 for dimensions with connector cable.

SYJ300 Series Manifold Specifications



Manifold Specifications

| Model | For internal pilot | Type 20 | Type 41, S41 | Type 42, S42 |
|-------------------------------|-----------------------------------|------------------------|--------------|----------------|
| | For external pilot | Type 20R | — | Type 42R, S42R |
| Manifold type | | Single base/B mount | | |
| P (SUP), R (EXH) | | Common SUP/Common EXH | | |
| Valve stations | | 2 to 20 stations | | |
| A port | Location | Valve | Base | |
| | Direction | Top | Side | |
| Porting specifications | P, R port | $M5 \times 0.8$ 1/8 | M5 x 0.8 | 1/8 |
| | | A port | M3 x 0.5 | M3 x 0.5 |
| | X port <small>Note</small> | M5 x 0.8 | — | M5 x 0.8 |

Note) Only for external pilot

Flow Rate Characteristics

| Manifold | | | Port size | | Flow rate characteristics | | | | | | Effective area (mm ²) | | |
|---------------------------------|---------------------|---------|-----------|----------|------------------------------|----------|-------|------------------------------|-------|-------|-----------------------------------|-------|---|
| | | | | | 1→2 (P→A) | | | 2→3 (A→R) | | | | | |
| | | | | | C [dm ³ /(s·bar)] | b | Cv | C [dm ³ /(s·bar)] | b | Cv | | | |
| Body ported for internal pilot | Type SS3YJ3-20 | SYJ3□2 | M5 x 0.8 | M3 x 0.5 | — | — | — | — | — | — | 0.9 | | |
| | Type SS3YJ3-41 S41 | SYJ3□4 | M5 x 0.8 | M3 x 0.5 | — | — | — | — | — | — | 1.5 | | |
| Base mounted for internal pilot | Type SS3YJ3-42-M5 | SYJ3□4 | 1/8 | M5 x 0.8 | 0.31 | 0.17 | 0.075 | 0.32 | 0.11 | 0.072 | — | | |
| | C4 | | | 0.33 | 0.36 | 0.086 | 0.33 | 0.2 | 0.082 | — | | | |
| | Type SS3YJ3-42-C4 | SYJ3□4 | 1/8 | M5 x 0.8 | 0.32 | 0.3 | 0.079 | 0.33 | 0.35 | 0.086 | — | | |
| | C4 | | | 0.35 | 0.17 | 0.082 | 0.35 | 0.26 | 0.086 | — | | | |
| Body ported for external pilot | Type SS3YJ3-20R | SYJ3□2R | 1/8 | M3 x 0.5 | — | — | — | — | — | — | 0.9 | | |
| | Type SS3YJ3-42R-M5 | SYJ3□4R | 1/8 | M5 x 0.8 | 0.31 | 0.17 | 0.075 | 0.32 | 0.11 | 0.072 | — | | |
| Type SS3YJ3-42R-C4 | C4 | | | 0.33 | 0.36 | 0.086 | 0.33 | 0.20 | 0.082 | — | | | |
| Base mounted for external pilot | Type SS3YJ3-S42R-M5 | | | SYJ3□4R | 1/8 | M5 x 0.8 | 0.32 | 0.30 | 0.079 | 0.33 | 0.35 | 0.086 | — |
| | C4 | | | | | 0.35 | 0.17 | 0.082 | 0.35 | 0.26 | 0.086 | — | |

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

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)

SS3YJ3-20-03 1 set (manifold base) SS3YJ3-42R-03-C4 1 set (manifold base)

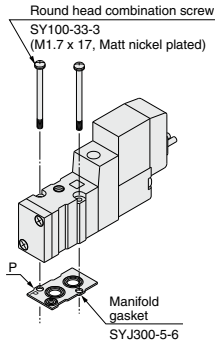
* SYJ312-5LZ-M3 2 sets (valve) * SYJ314R-5G 2 sets (valve)

* SYJ300-10-7A 1 set (blanking plate assembly) * SYJ300-10-7A 1 set (blanking plate assembly)

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

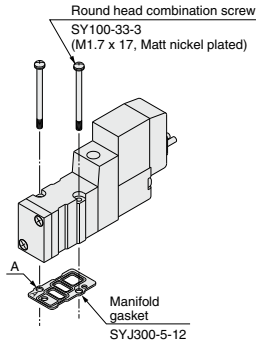
Combinations of Solenoid Valve, Manifold Gasket and Manifold Base

Body ported (Type SYJ3□2(R)-(-Q))



Applicable base
SS3YJ3-20(-Q) | Manifold
SS3YJ3-20R(-Q) | base

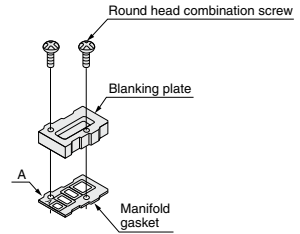
Base mounted (Type SYJ3□4(R)-(-Q))



Applicable base
Sub-plate
SS3YJ3-41(-Q)
SS3YJ3-S41(-Q)
SS3YJ3-42(-Q)
SS3YJ3-S42(-Q)
SS3YJ3-42R(-Q)
SS3YJ3-S42R(-Q) } Manifold
base

Blanking Plate Assembly

Part no.: SYJ300-10-7A(-Q)



Applicable base
Sub-plate
SS3YJ3-20(-Q)
SS3YJ3-20R(-Q)
SS3YJ3-41(-Q)
SS3YJ3-S41(-Q)
SS3YJ3-42(-Q)
SS3YJ3-S42(-Q)
SS3YJ3-42R(-Q)
SS3YJ3-S42R(-Q) } Manifold
base

Note) Add suffix “-Q” for the CE/UKCA-compliant product.

Caution

Mounting screw tightening torques

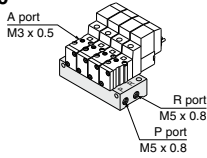
M1.7: 0.12 N·m

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

Note) CE/UKCA-compliant:
For DC only.

Manifold for Internal Pilot Type

Type 20



How to Order

SS3YJ3 - 20 - 05 - [] - []

| Stations | | Bracket | | CE/UKCA-compliant | |
|----------|-------------|---------|-----------------|-------------------|-------------------|
| 02 | 2 stations | Nil | Without bracket | Nil | — |
| : | : | F | With bracket | Q | CE/UKCA-compliant |
| 20 | 20 stations | | | | |

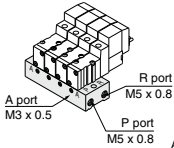
Applicable solenoid valve
SYJ314-□□□□-M3(-Q)
SYJ312M-□□□□-M3(-Q)
SYJ322-□□□□-M3(-Q)
SYJ322M-□□□□-M3(-Q)

Applicable blanking plate assembly
Refer to page 959.

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

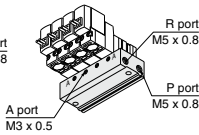
Type 41

Type 41



Type S41

(Pilot valve is on the A port side.)



How to Order

SS3YJ3 - 41 - 05 - M3 - []

| Valve mounting direction | | Stations | | CE/UKCA-compliant | |
|--------------------------|--|----------|-------------|-------------------|-------------------|
| Nil | Pilot valve is opposite the A port side. | 02 | 2 stations | Nil | — |
| S | Pilot valve is on the A port side. | : | : | Q | CE/UKCA-compliant |
| | | 20 | 20 stations | | |

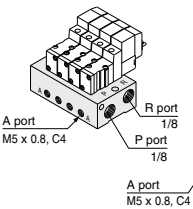
Applicable solenoid valve
SYJ314-□□□□(-Q)
SYJ314M-□□□□(-Q)
SYJ324-□□□□(-Q)
SYJ324M-□□□□(-Q)

Applicable blanking plate assembly
Refer to page 959.

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

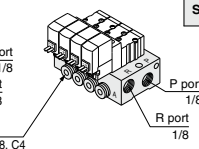
Type 42

Type 42



Type S42

(Pilot valve is on the A port side.)



How to Order

SS3YJ3 - 42 - 05 - M5 - [] - []

| Valve mounting direction | | Stations | | P, R port thread type | |
|--------------------------|--|----------|-------------|-----------------------|------|
| Nil | Pilot valve is opposite the A port side. | 02 | 2 stations | Nil | Rc |
| S | Pilot valve is on the A port side. | : | : | F | G |
| | | 20 | 20 stations | N | NPT |
| | | | | T | NPTF |

| A port size | |
|-------------|--------------------------|
| M5 | M5 x 0.8 |
| C4 | ø4 One-touch fitting |
| N3 | ø5/32" One-touch fitting |

Applicable solenoid valve
SYJ314-□□□□(-Q)
SYJ314M-□□□□(-Q)
SYJ324-□□□□(-Q)
SYJ324M-□□□□(-Q)

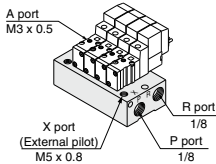
Applicable blanking plate assembly
Refer to page 959.

Note) For more than 8 stations, supply/exhaust air to/from both sides of P port and R port.

Manifold for External Pilot Type

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.

Type 20R



How to Order

SS3YJ3 - 20R - 05 - [] - []

| Stations | | P, R port thread type | |
|----------|-------------|-----------------------|------|
| 02 | 2 stations | Nil | Rc |
| : | : | 00F | G |
| 20 | 20 stations | 00N | NPT |
| | | 00T | NPTF |

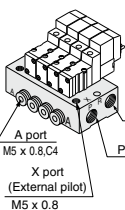
Applicable solenoid valve
SYJ312R-□□□□-M3(-Q)
SYJ322R-□□□□-M3(-Q)

Applicable blanking plate assembly
Refer to page 959.

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

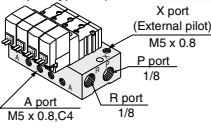
Type 42R

Type 42R
(External pilot type)



Type S42R

(Pilot valve is on the A port side and is of the external pilot type.)



How to Order

SS3YJ3 - 42R - 05 - M5 - [] - []

| Valve mounting direction | | Stations | | P, R port thread type | |
|--------------------------|--|----------|-------------|-----------------------|------|
| Nil | Pilot valve is opposite the A port side. | 02 | 2 stations | Nil | Rc |
| S | Pilot valve is on the A port side. | : | : | F | G |
| | | 20 | 20 stations | N | NPT |
| | | | | T | NPTF |

| A port size | |
|-------------|--------------------------|
| M5 | M5 x 0.8 |
| C4 | ø4 One-touch fitting |
| N3 | ø5/32" One-touch fitting |

Applicable solenoid valve
SYJ314R-□□□□(-Q)
SYJ324R-□□□□(-Q)

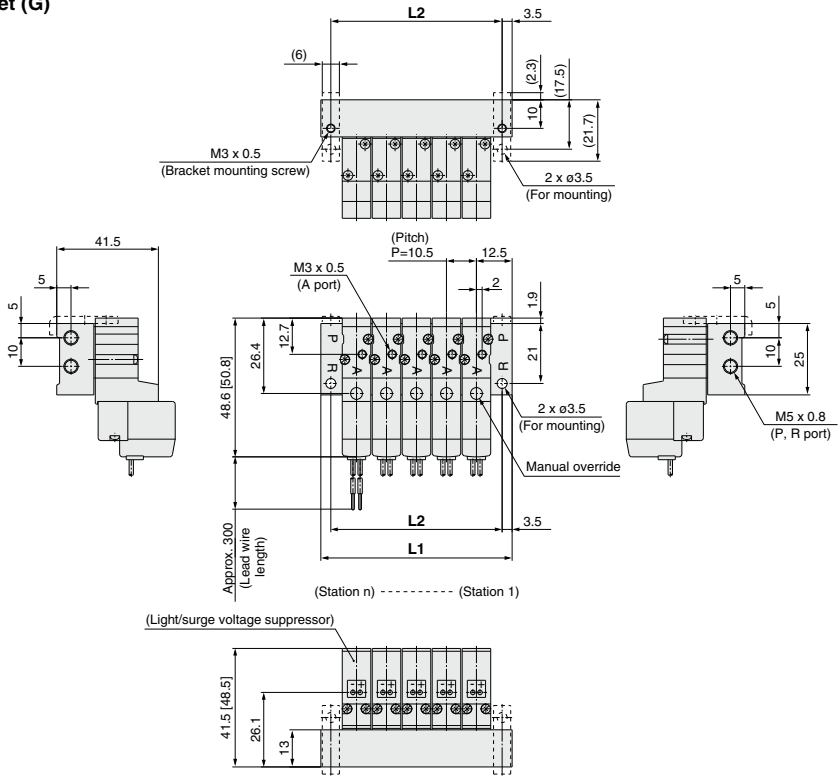
Applicable blanking plate assembly
Refer to page 959.

Note) For more than 8 stations, supply/exhaust air to/from both sides of P port and R port.

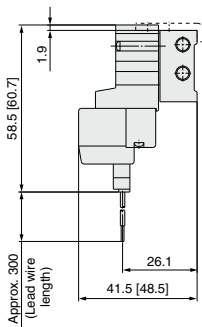
Type 20 Manifold: Top Ported/SS3YJ3-20-**Stations**-00□ (-F)

* [] for AC

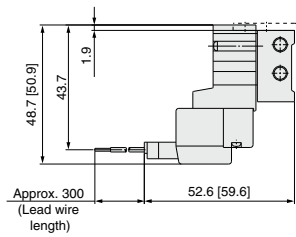
Grommet (G)



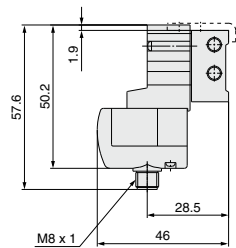
L plug connector (L)



M plug connector (M)



M8 connector (WO)



* Refer to page 1009 for dimensions with connector cable.

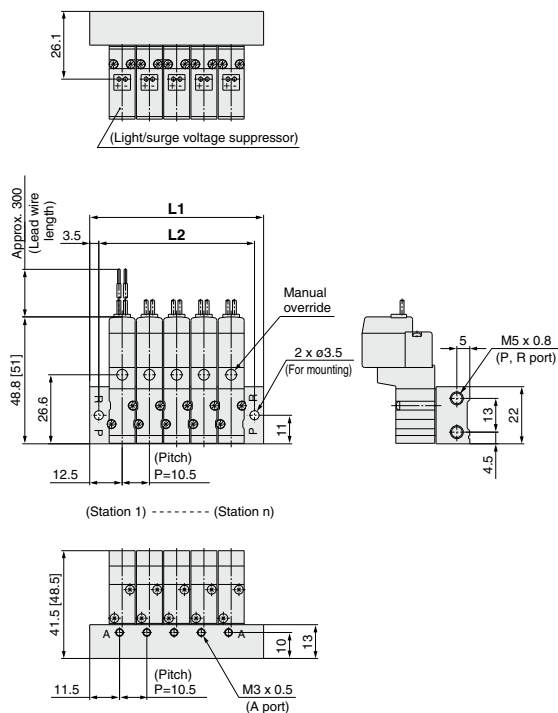
| Station n | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|-----------|------|----|------|----|------|----|------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|
| L1 | 35.5 | 46 | 56.5 | 67 | 77.5 | 88 | 98.5 | 109 | 119.5 | 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 |

SYJ300 Series

Type 41 Manifold: Side Ported/SS3YJ3-41-Stations-M3

* [] for AC

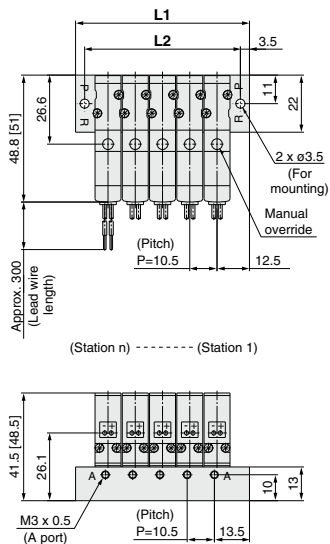
Grommet (G)



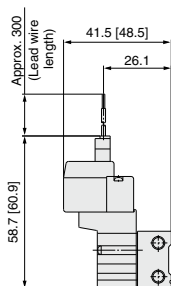
Type S41 Manifold: Side Ported

(Pilot valve is on the A port side) /

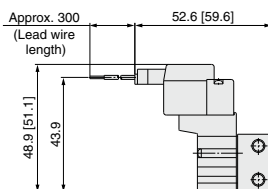
SS3YJ3-S41-Stations-M3



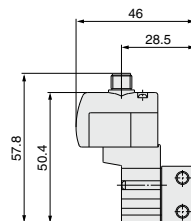
L plug connector (L)



M plug connector (M)



M8 connector (WO)



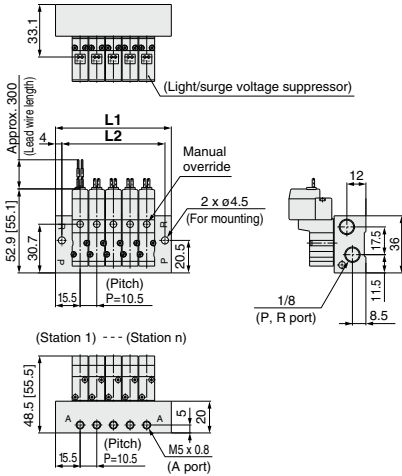
* Refer to page 1009 for dimensions with connector cable.

| 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 |

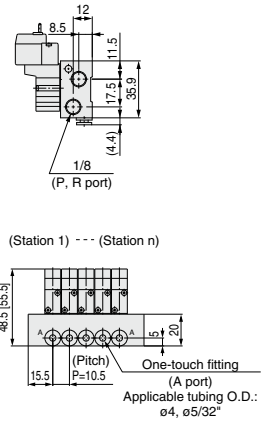
Type 42 Manifold: Side Ported/SS3YJ3-42-**Stations**-M5, **C4** **N3** □

* [] for AC

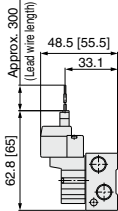
Grommet (G)
For M5



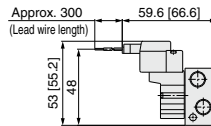
For **C4** **N3** □ (Built-in One-touch fitting)



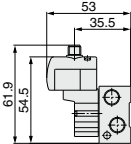
L plug connector (L)



M plug connector (M)



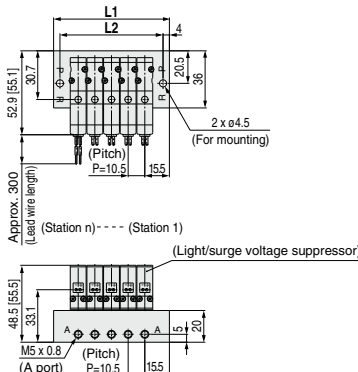
M8 connector (WO)



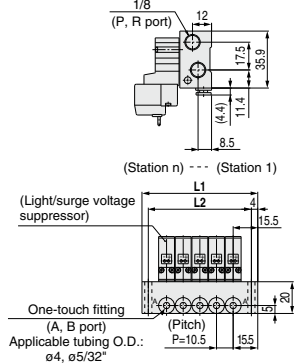
* Refer to page 1009 for dimensions with connector cable.

Type S42 Manifold: Side Ported (Pilot valve is on the A port side) / SS3YJ3-S42-**Stations**-M5, **C4** **N3** □

Grommet (G)
For M5



For **C4** **N3** □ (Built-in One-touch fitting)



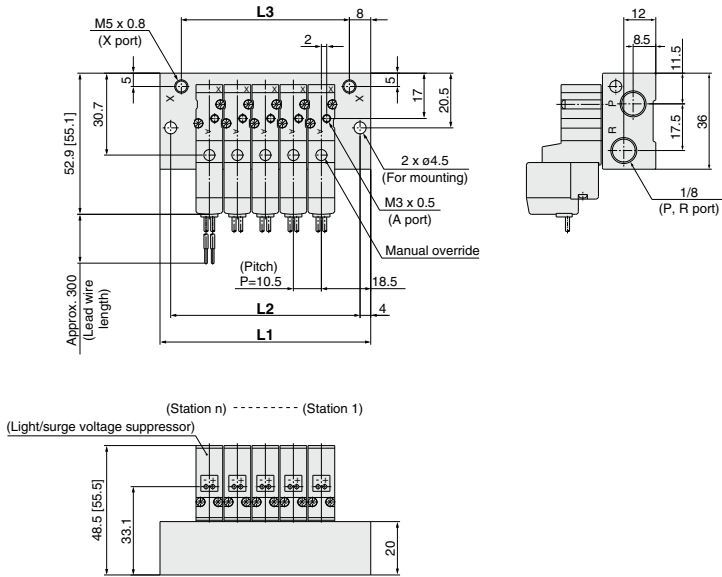
| Station n | Station 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | Station 20 |
|-----------|-----------|----|------|----|------|----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|------------|
| L1 | 41.5 | 52 | 62.5 | 73 | 83.5 | 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 |

SYJ300 Series

Type 20R Manifold: Top Ported (External Pilot Type)/SS3YJ3-20R- Stations-00 □

* [] for AC

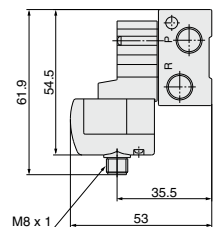
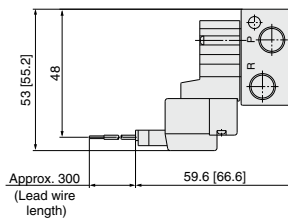
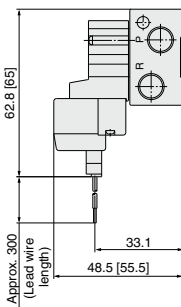
Grommet (G)



L plug connector (L)

M plug connector (M)

M8 connector (WO)

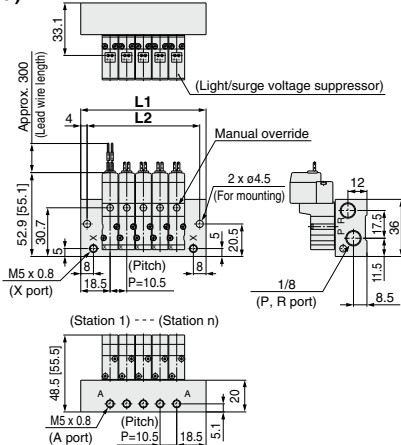


* Refer to page 1009 for dimensions with connector cable.

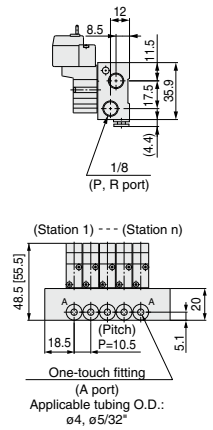
| Station n | Station 2 | 3 | 4 | 5 | 5 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | Station 20 |
|-----------|-----------|----|------|----|------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|------------|
| L1 | 47.5 | 58 | 68.5 | 79 | 89.5 | 100 | 110.5 | 121 | 131.5 | 142 | 152.5 | 163 | 173.5 | 184 | 194.5 | 205 | 215.5 | 226 | 236.5 |
| L2 | 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 |
| L3 | 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 42R Manifold: Side Ported (External Pilot Type)/SS3YJ3-42R-**Stations**-M5, **C4**
N3 □ * [] for AC

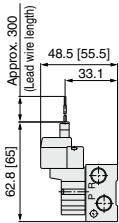
Grommet (G)
For M5



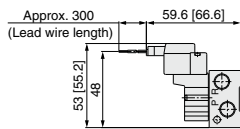
For **C4**
N3 □ (Built-in One-touch fitting)



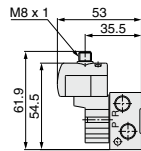
L plug connector (L)



M plug connector (M)



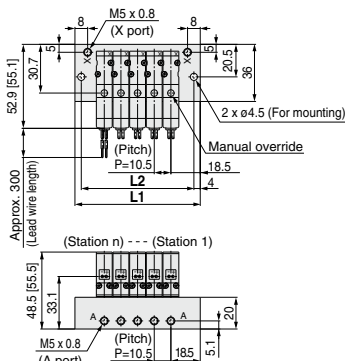
M8 connector (WO)



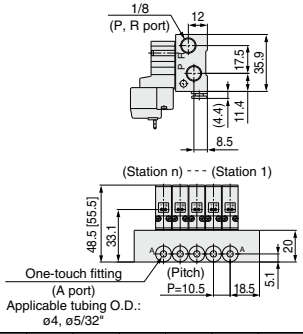
* Refer to page 1009 for dimensions with connector cable.

Type S42R Manifold: Side Ported (Pilot valve is on the A port side) / SS3YJ3-S42R-**Stations**-M5, **C4**
N3 □

Grommet (G)
For M5



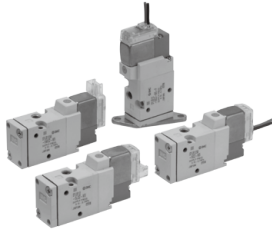
For **C4**
N3 □ (Built-in One-touch fitting)



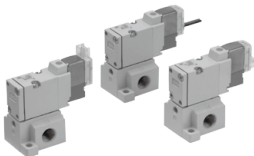
| Station n | Station 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | Station 20 |
|-----------|-----------|----|------|----|------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|------------|
| L1 | 47.5 | 58 | 68.5 | 79 | 89.5 | 100 | 110.5 | 121 | 131.5 | 142 | 152.5 | 163 | 173.5 | 184 | 194.5 | 205 | 215.5 | 226 | 236.5 |
| L2 | 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 |

Rubber Seal 3 Port Pilot Solenoid Valve

SYJ500 Series



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.) |
| Response time ms (at 0.5 MPa) ^{Note 1)} | | 25 or less |
| Max. operating frequency (Hz) | | 5 |
| 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 |
| Impact/Vibration resistance (m/s ²) ^{Note 2)} | | 150/30 |
| Enclosure | | Dust proof (+ DIN terminal, M8 connector conforms to IP65.) |

* Based on IEC60529

Note 1) Based on dynamic performance test, JIS B 8419: 2010. (Coil temperature: 20°C, at rated voltage, without surge voltage suppressor.)

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

Vibration resistance: No malfunction occurred in 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. (Value in the initial state)

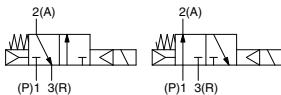
Solenoid Specifications

Symbol

Internal pilot

SYJ51₂

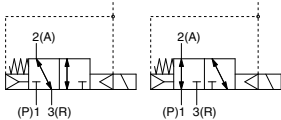
SYJ52₂



External pilot

SYJ51₂R

SYJ52₂R



| | | | |
|-------------------------------|------------------------|---|---|
| Electrical entry | | Grommet (G), (H), L plug connector (L), M plug connector (M), DIN terminal (D), (Y), M8 connector (W) | |
| Coil rated voltage (V) | DC | G, H, L, M, W | D, Y |
| | AC ^{50/60} Hz | 24, 12, 6, 5, 3 | 24, 12 |
| Allowable voltage fluctuation | | ±10% of rated voltage * | |
| Power consumption (W) | DC | Standard | 0.35 (With light: 0.4 (DIN terminal with light: 0.45)) |
| | | With power saving circuit | 0.1 (With light only) * [Starting 0.4, Holding 0.1] |
| Apparent power (VA) * | AC | 100 V | 0.78 (With light: 0.81) 0.78 (With light: 0.87) |
| | | 110 V [115 V] | 0.86 (With light: 0.89) 0.86 (With light: 0.97) [0.94 (With light: 1.07)] |
| | | 200 V | 1.18 (With light: 1.22) 1.15 (With light: 1.30) |
| | | 220 V [230 V] | 1.30 (With light: 1.34) 1.27 (With light: 1.46) [1.42 (With light: 1.46)] [1.39 (With light: 1.60)] |
| | | Surge voltage suppressor | Diode (DIN terminal, varistor when non-polar types) |
| Indicator light | | LED (Neon light when AC with DIN terminal) | |

* 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.

* For details, refer to page 1006.



Made to Order

(For details, refer to pages 1002 and 1003.)

Flow Rate Characteristics/Weight

| Valve model | | Type of actuation | Port size | Flow rate characteristics | | | | | | Weight (g) ^{Note)} | | | |
|-------------------------------|--------|-------------------|-----------|------------------------------|------|------|------------------------------|------|------|-----------------------------|--------------------|--------------|--------------|
| | | | | 1→2 (P→A) | | | 2→3 (A→R) | | | Grommet | L/M plug connector | DIN terminal | M8 connector |
| | | | | C [dm ³ /(s·bar)] | b | Cv | C [dm ³ /(s·bar)] | b | Cv | | | | |
| Body ported | SYJ512 | N.C. | M5 x 0.8 | 0.53 | 0.45 | 0.14 | 0.47 | 0.39 | 0.12 | 46 | 47 | 68 | 51 |
| | SYJ522 | N.O. | | 0.66 | 0.45 | 0.18 | 0.66 | 0.45 | 0.18 | | | | |
| Base mounted (with sub-plate) | SYJ514 | N.C. | 1/8 | 1.2 | 0.41 | 0.32 | 1.1 | 0.46 | 0.32 | 60 (46) | 61 (47) | 82 (68) | 65 (51) |
| | SYJ524 | N.O. | | 1.3 | 0.37 | 0.33 | 1.2 | 0.48 | 0.34 | | | | |

Note) Value for DC. Add 3 g for AC. (): Without sub-plate.

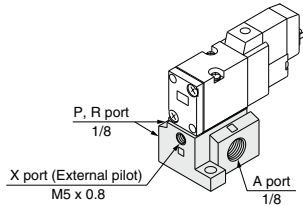
External Pilot

SYJ500R

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 (SYJ514R, SYJ524R) | |
|---------------------------------|---------------------------------|-----------------|
| 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 972.

Note 2) External pilot type body ported valves (SYJ5□2R) can only be used on the manifold. For body ported models with the external pilot option, please refer to page 1003.

How to Order

Rated voltage

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

* DC specifications of type D, Y, DO and YO is only available with 12 and 24 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.
Note) AC-type models that are CE/UKCA-compliant have DIN terminals only.

Type of actuation

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

Light/Surge voltage suppressor

Electrical entry for G, H, L, M and W

| | |
|------------|--|
| 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 for D, Y

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

* DOZ and YOZ are not available.
* For AC voltage valves there is no "S" option. It is already built-in to the rectifier circuit.

3 port

(For manifold type 20, 21R)

Body ported SYJ5 **1** **2** □ □ - **5** **M** □ □ - **M5** - □ □

Base mounted SYJ5 **1** **4** □ □ - **5** **M** □ □ - **01** □ □ - □ □

3 port

(For sub-plate type, manifold type 40, 40R, 41, 41R)

Coil specifications

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

* Power saving circuit is not available in the case of D, Y, DO, YO or W□ type.

Bracket

| | |
|------------|-----------------|
| Nil | Without bracket |
| F | With bracket |

* Bracket is not mounted.



Made to Order
(page 1003)
Body ported external pilot

Manual override

Nil: Non-locking push type

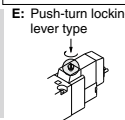
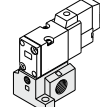
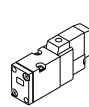


D: Push-turn locking slotted type



Port size

Nil: Without sub-plate
01: 1/8 port With sub-plate



Thread type

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

CE/UKCA-compliant

| | |
|------------|-------------------|
| Nil | — |
| Q | CE/UKCA-compliant |

Note) AC-type models that are CE/UKCA-compliant have DIN terminals only.

Electrical entry

| 24, 12, 6, 5, 3 VDC/100, 110, 200, 220 VAC | | | | 24, 12 VDC/100, 110, 200, 220 VAC | | 24, 12, 6, 5, 3 VDC |
|--|---|---|-------------------------------|-----------------------------------|---|---------------------|
| Grommet | L plug connector | M plug connector | DIN terminal | Y terminal | M8 connector | |
| G : Lead wire length 300 mm | L : With lead wire (Length 300 mm) | M : With lead wire (Length 300 mm) | D : With connector | Y : With connector | WO : Without connector cable | |
| | | | | | | |
| H : Lead wire length 600 mm | LN : Without lead wire | LO : Without connector | DO : Without connector | YO : Without connector | WI : With connector cable (Note 1) | |
| | | | | | | |
| CE/UKCA-compliant | DC | AC | ● | ● | ● | ● |

Note) When placing an order for body ported solenoid valve as a single unit, mounting screws for manifold and gasket are not attached. Order them separately, if necessary. (For details, refer to page 973.)

* LN, MN type: with 2 sockets.
* Refer to page 1005 for the lead wire length of L and M plug connectors.
* Refer to page 1008 for the connector assembly with cover for L and M plug connectors.

* DIN terminal type "Y" which conforms to EN-175301-803C (former DIN43650C) is also available. For details, refer to page 1007.

* For connector cable of M8 connector, refer to page 1009.
* A M8 connector conforming to IEC60947-5-2 is also available. Refer to page 1002 for details.

Note 1) Enter the cable length symbols in □. Please be sure to fill in the blank referring to page 1009.

Body option

Nil: Individual pilot exhaust type



M: Common exhaust for the pilot and main valve

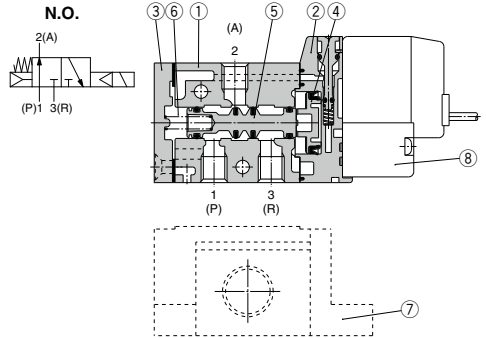
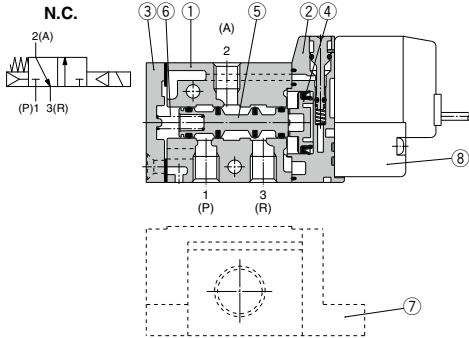


R: External pilot type*



* SYJ5□2R is only for manifold use.

Construction



Component Parts

| No. | Description | Material | Note |
|-----|----------------------|-------------------|-------|
| 1 | Body | Aluminum die-cast | White |
| 2 | Piston plate | Resin | White |
| 3 | End cover | Aluminum die-cast | White |
| 4 | Piston | Resin | — |
| 5 | Spool valve assembly | — | — |
| 6 | Spool spring | Stainless steel | — |

Replacement Parts

| No. | Description | Part no. | Note |
|-----|-----------------------------|----------------|-------------------|
| 7 | Sub-plate ^(Note) | SYJ500-9-1(-Q) | Aluminum die-cast |
| 8 | Pilot valve | V111(T)□□□□ | — |
| — | Bracket assembly | SYJ5000-13-3A | — |

(Note) Add suffix "-Q" for the CE/UKCA-compliant product.

How to Order Pilot Valve Assembly

V111 □ — 5 G □

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

| | |
|---|--|
| 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.
* CE/UKCA-compliant: For DC only.

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.

Electrical entry

| | |
|----|--|
| G | Grommet, 300 mm lead wire |
| H | Grommet, 600 mm lead wire |
| L | With lead wire |
| LN | Without lead wire |
| LO | Without connector |
| M | With lead wire |
| MN | M plug connector Without lead wire |
| MO | Without connector |
| WO | M8 Without connector cable |
| W□ | connector With connector cable ^(Note 1) |

* For connector cable of M8 connector, refer to page 1009.

Note 1) Enter the cable length symbols in □. Please be sure to fill in the blank referring to page 1009.

V115 — 5 D □

Light/Surge voltage suppressor

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

* DOZ and YOZ are not available.

* For AC voltage valves there is no "S" option. It is already built-in to the rectifier circuit.

Electrical entry

| | | |
|----|--------------|-------------------|
| D | DIN terminal | With connector |
| DO | (Type D) | Without connector |
| Y | DIN terminal | With connector |
| YO | (Type Y) | Without connector |

* Do not replace V111 (G, H, L, M, W) to V115 (DIN terminal) and vice versa when replacing pilot valve assembly only.

Rated voltage

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

* DC specifications of type D and DO is only available with 12 and 24 VDC.

* Power saving circuit is not available in the case of D or DO type.

(Note) Since V111 and V115 are CE/UKCA-compliant as standard, the suffix "-Q" is not necessary.

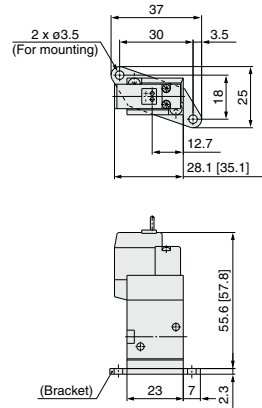
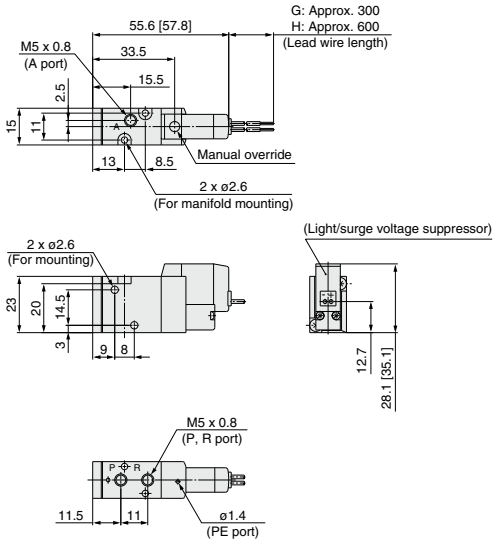
SYJ500 Series

Body Ported

* [] for AC

Grommet (G), (H): SYJ5□2-□^G□□-M5

With bracket:
SYJ5□2-□^G□□-M5-F

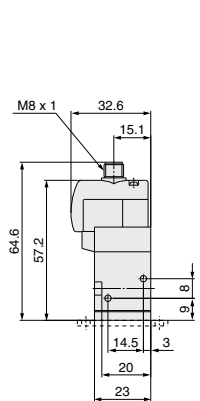
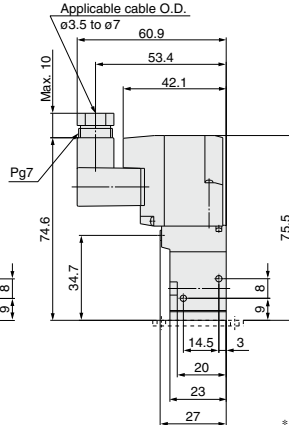
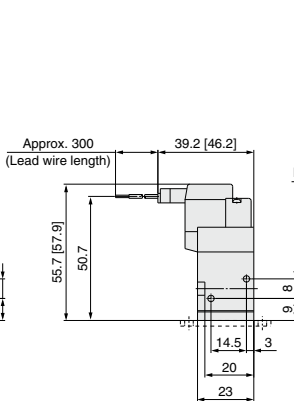
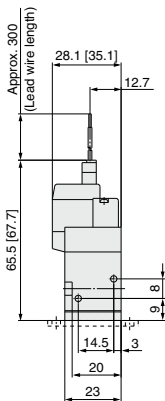


L plug connector (L):
SYJ5□2-□L□□-M5 (-F)

M plug connector (M):
SYJ5□2-□M□□-M5 (-F)

DIN terminal (D,Y):
SYJ5□2-□Y□□-M5 (-F)

M8 connector (WO):
SYJ5□2-□WO□□-M5 (-F)

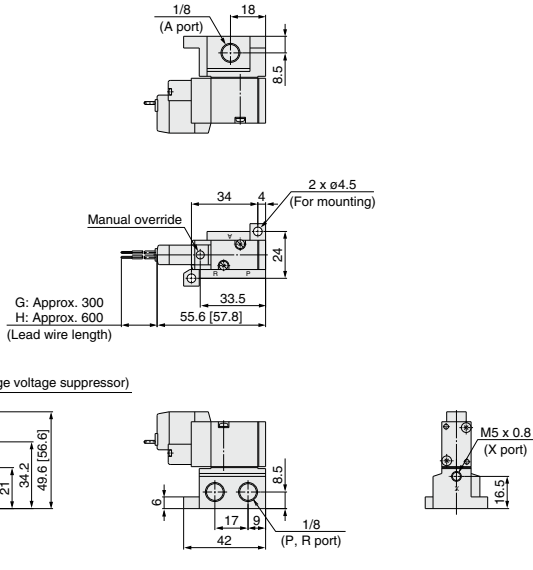


* Refer to page 1009 for dimensions with connector cable.

Base Mounted (With Sub-plate)

* [] for AC

Grommet (G), (H): SYJ5□4-□^G□□-01□

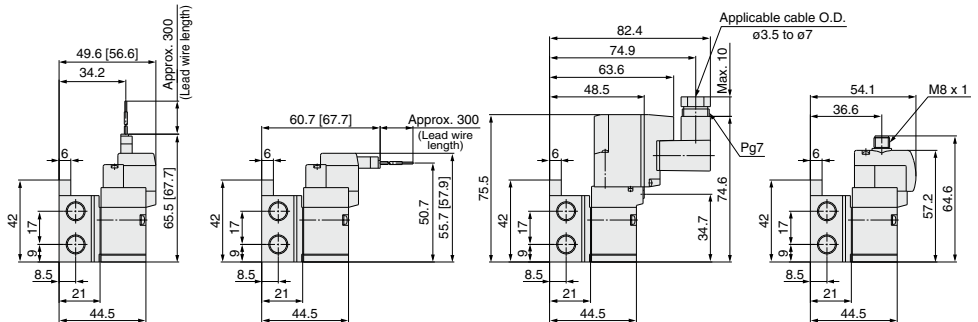


L plug connector (L):
SYJ5□4-□L□□-01□

M plug connector (M):
SYJ5□4-□M□□-01□

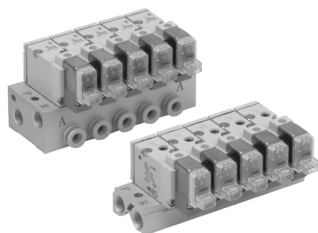
DIN terminal (D, Y):
SYJ5□4-□^D□□-01□

M8 connector (WO):
SYJ5□4-□WO□□-01□



* Refer to page 1009 for dimensions with connector cable.

SYJ500 Series Manifold Specifications



Manifold Specifications

| Model | For internal pilot | Type 20 | Type 40 | Type 41 |
|--------------------------------------|-------------------------------------|----------|-----------------|---|
| | For external pilot | Type 21R | Type 40R | Type 41R |
| Manifold type | Single base/B mount | | | |
| P (SUP), R (EXH) | Common SUP, common EXH | | | |
| Valve stations | 2 to 20 stations | | | |
| A port Porting specifications | Location | Valve | Base | |
| | Direction | Top | Bottom | Side |
| Port size | P, R port | 1/8 | 1/8 | 1/8 |
| | A port | M5 x 0.8 | M5 x 0.8 1/8 | M5 x 0.8, 1/8, C4 (One-touch fitting for ø4), C6 (One-touch fitting for ø6) |
| | X port <small>(Note)</small> | M5 x 0.8 | M5 x 0.8 | M5 x 0.8 |

Note) Only for external pilot

Flow Rate Characteristics

| Manifold | | | Port size | | Flow rate characteristics | | | | | |
|---------------------------------|--------------------|---------|-----------------|-----------|--------------------------------|------|------|--------------------------------|------|------|
| | | | | | 1→2 (P→A) | | | 2→3 (A→R) | | |
| | | | 1(P), 3(R) port | 2(A) port | C [dm ³ /(sbar)] | b | Cv | C [dm ³ /(sbar)] | b | Cv |
| Body ported for internal pilot | Type SS3YJ5-20 | SYJ5□2 | 1/8 | M5 x 0.8 | 0.47 | 0.43 | 0.13 | 0.74 | 0.32 | 0.19 |
| | Type SS3YJ5-40-M5 | SYJ5□4 | 1/8 | M5 x 0.8 | 0.71 | 0.52 | 0.21 | 0.81 | 0.28 | 0.20 |
| Type SS3YJ5-40-Ø1 | 1/8 | | 1/8 | 0.98 | 0.36 | 0.25 | 0.92 | 0.24 | 0.22 | |
| Type SS3YJ5-41-M5 | 1/8 | | M5 x 0.8 | 0.71 | 0.49 | 0.20 | 0.80 | 0.23 | 0.19 | |
| Type SS3YJ5-41-Ø1 | 1/8 | | 1/8 | 1.0 | 0.37 | 0.26 | 0.96 | 0.25 | 0.24 | |
| Type SS3YJ5-41-C4 | 1/8 | | C4 | 0.68 | 0.35 | 0.17 | 1.0 | 0.25 | 0.24 | |
| Type SS3YJ5-41-C6 | 1/8 | | C6 | 1.0 | 0.27 | 0.25 | 1.0 | 0.30 | 0.26 | |
| Body ported for external pilot | Type SS3YJ5-21R | SYJ5□2R | 1/8 | M5 x 0.8 | 0.47 | 0.43 | 0.13 | 0.74 | 0.32 | 0.19 |
| Base mounted for external pilot | Type SS3YJ5-40R-M5 | SYJ5□4R | 1/8 | M5 x 0.8 | 0.71 | 0.52 | 0.21 | 0.81 | 0.28 | 0.20 |
| | Type SS3YJ5-40R-Ø1 | | 1/8 | 1/8 | 0.98 | 0.36 | 0.25 | 0.92 | 0.24 | 0.22 |
| | Type SS3YJ5-41R-M5 | | 1/8 | M5 x 0.8 | 0.71 | 0.49 | 0.20 | 0.80 | 0.23 | 0.19 |
| | Type SS3YJ5-41R-Ø1 | | 1/8 | 1/8 | 1.0 | 0.37 | 0.26 | 0.96 | 0.25 | 0.24 |
| | Type SS3YJ5-41R-C4 | | 1/8 | C4 | 0.68 | 0.35 | 0.17 | 1.0 | 0.25 | 0.24 |
| | Type SS3YJ5-41R-C6 | | 1/8 | C6 | 1.0 | 0.27 | 0.25 | 1.0 | 0.30 | 0.26 |

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)

SS3YJ5-20-03 1 set (manifold base) SS3YJ5-41R-03-C6 1 set (manifold base)
 * SYJ512-5LZ-M5 2 sets (valve) * SYJ514R-5G 2 sets (valve)
 * SYJ500-10-1A 1 set (blanking plate assembly) * SYJ500-10-3A 1 set (blanking plate assembly)

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

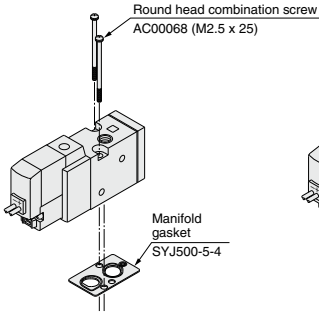
Combinations of Solenoid Valve, Manifold Gasket and Manifold Base

Blanking Plate Assembly

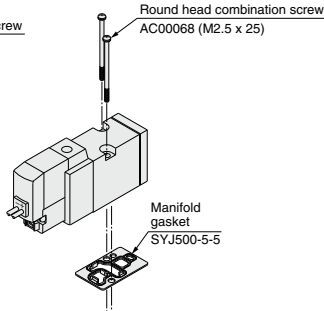
Body ported (Type SYJ5□2(R)(-Q))

Base mounted (Type SYJ5□4(R)(-Q))

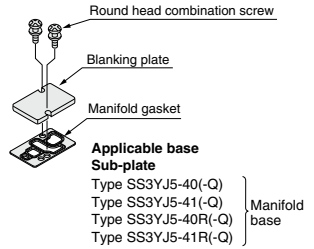
Part no.: SYJ500-10-3A(-Q)



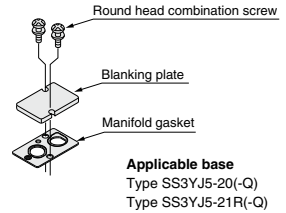
Applicable base
Type SS3YJ5-21R(-Q)
Type SS3YJ5-20(-Q)
Manifold base



Applicable base Sub-plate
Type SS3YJ5-40(-Q)
Type SS3YJ5-41(-Q)
Type SS3YJ5-40R(-Q)
Type SS3YJ5-41R(-Q) } Manifold base



Part no.: SYJ500-10-1A(-Q)



Note) Add suffix "Q" for the CE/UKCA-compliant product.

⚠ Caution

Mounting screw tightening torques

M2.5: 0.45 N·m

Use caution to the assembly orientation for solenoid valves (blanking plate) and manifold gasket.

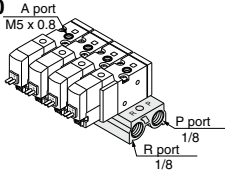
SYJ500 Series

Note) AC-type models that are CE/UKCA-compliant have DIN terminals only.



Manifold for Internal Pilot Type

Type 20



How to Order

SS3YJ5 - 20 - 05 - [] - [] - []

| Stations | |
|----------|-------------|
| 02 | 2 Stations |
| : | : |
| 20 | 20 Stations |

| P, R port thread type | |
|-----------------------|------|
| NII | Rc |
| 00F | G |
| 00N | NPT |
| 00T | NPTF |

| Bracket | |
|---------|-----------------|
| NII | Without bracket |
| F | With bracket |

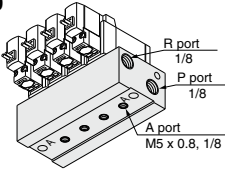
| CE/UKCA-compliant | |
|-------------------|-------------------|
| NII | — |
| Q | CE/UKCA-compliant |

Applicable solenoid valve
 SYJ512-□□□□-M5(-Q)
 SYJ512M-□□□□-M5(-Q)
 SYJ522-□□□□-M5(-Q)
 SYJ522M-□□□□-M5(-Q)

Applicable blanking plate assembly
 Refer to page 973.

Note) For more than 6 stations, supply air to both sides of P port and exhaust air from both sides of R port.

Type 40



How to Order

SS3YJ5 - 40 - 05 **M5** - [] - [] - []

| Stations | |
|----------|-------------|
| 02 | 2 Stations |
| : | : |
| 20 | 20 Stations |

| A port size | |
|-------------|----------|
| M5 | M5 x 0.8 |
| 01 | 1/8 |

| P, R port thread type | |
|-----------------------|------|
| NII | Rc |
| F | G |
| N | NPT |
| T | NPTF |

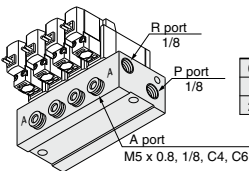
| CE/UKCA-compliant | |
|-------------------|-------------------|
| NII | — |
| Q | CE/UKCA-compliant |

Applicable solenoid valve
 SYJ514-□□□□(-Q)
 SYJ514M-□□□□(-Q)
 SYJ524-□□□□(-Q)
 SYJ524M-□□□□(-Q)

Applicable blanking plate assembly
 Refer to page 973.

Note) For more than 9 stations, supply air to both sides of P port and exhaust air from both sides of R port.

Type 41



How to Order

SS3YJ5 - 41 - 05 - C6 - [] - [] - []

| Stations | |
|----------|-------------|
| 02 | 2 Stations |
| : | : |
| 20 | 20 Stations |

| A port size | |
|-------------|----------|
| M5 | M5 x 0.8 |
| 01 | 1/8 |

| P, R port thread type | |
|-----------------------|------|
| NII | Rc |
| F | G |
| N | NPT |
| T | NPTF |

| CE/UKCA-compliant | |
|-------------------|-------------------|
| NII | — |
| Q | CE/UKCA-compliant |

Applicable solenoid valve
 SYJ514-□□□□(-Q)
 SYJ514M-□□□□(-Q)
 SYJ524-□□□□(-Q)
 SYJ524M-□□□□(-Q)

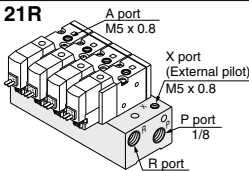
Applicable blanking plate assembly
 Refer to page 973.

Note) For more than 9 stations, supply air to both sides of P port and exhaust air from both sides of R port.

Manifold for External Pilot Type

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.

Type 21R



How to Order

SS3YJ5 - 21R - 05 - [] - [] - []

| Stations | |
|----------|-------------|
| 02 | 2 Stations |
| : | : |
| 20 | 20 Stations |

| P, R port thread type | |
|-----------------------|------|
| NII | Rc |
| 00F | G |
| 00N | NPT |
| 00T | NPTF |

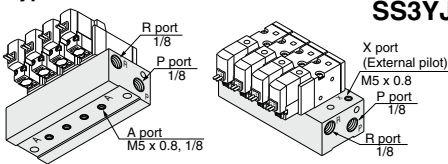
| CE/UKCA-compliant | |
|-------------------|-------------------|
| NII | — |
| Q | CE/UKCA-compliant |

Applicable solenoid valve
 SYJ512R-□□□□-M5(-Q)
 SYJ522R-□□□□-M5(-Q)

Applicable blanking plate assembly
 Refer to page 973.

Note) For more than 9 stations, supply/exhaust air to/from both sides of P and R port.

Type 40R



How to Order

SS3YJ5 - 40R - 05 - 01 - [] - [] - []

| Stations | |
|----------|-------------|
| 02 | 2 Stations |
| : | : |
| 20 | 20 Stations |

| A port size | |
|-------------|----------|
| M5 | M5 x 0.8 |
| 01 | 1/8 |

| P, R port thread type | |
|-----------------------|------|
| NII | Rc |
| F | G |
| N | NPT |
| T | NPTF |

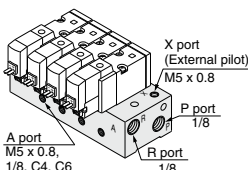
Applicable solenoid valve
 SYJ514R-□□□□(-Q)
 SYJ524R-□□□□(-Q)

Applicable blanking plate assembly
 Refer to page 973.

CE/UKCA-compliant
 NII —
 Q CE/UKCA-compliant

Note) For more than 9 stations, supply/exhaust air to/from both sides of P and R port.

Type 41R



How to Order

SS3YJ5 - 41R - 05 - M5 - [] - [] - []

| Stations | |
|----------|-------------|
| 02 | 2 Stations |
| : | : |
| 20 | 20 Stations |

| A port size | |
|-------------|--------------------------|
| M5 | M5 x 0.8 |
| 01 | 1/8 |
| C4 | e4 One-touch fitting |
| C6 | e6 One-touch fitting |
| N3 | e5/32" One-touch fitting |
| N7 | e1/4" One-touch fitting |

| P, R port thread type | |
|-----------------------|------|
| NII | Rc |
| F | G |
| N | NPT |
| T | NPTF |

Applicable solenoid valve
 SYJ514R-□□□□(-Q)
 SYJ524R-□□□□(-Q)

Applicable blanking plate assembly
 Refer to page 973.

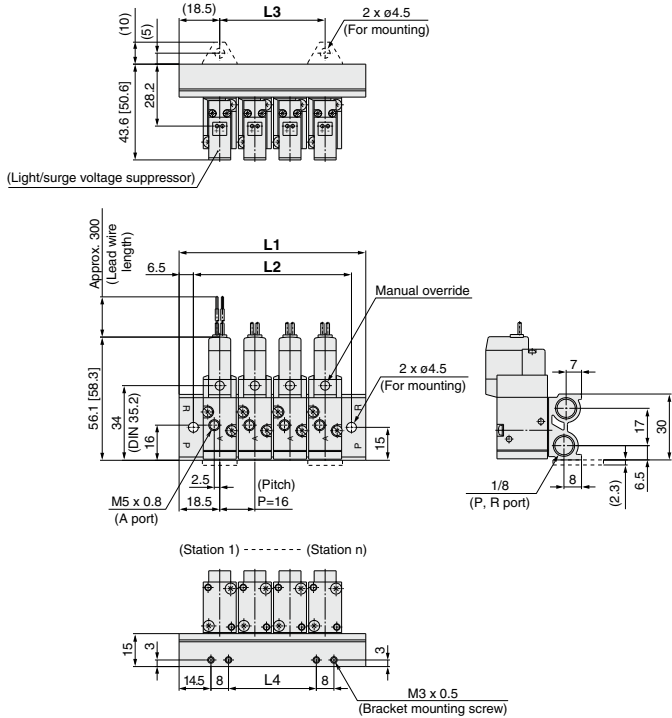
CE/UKCA-compliant
 NII —
 Q CE/UKCA-compliant

Note) For more than 9 stations, supply/exhaust air to/from both sides of P and R port.

Type 20 Manifold: Top Ported/SS3YJ5-20-**Stations**-00 □ (-F)

* [] for AC

Grommet (G)

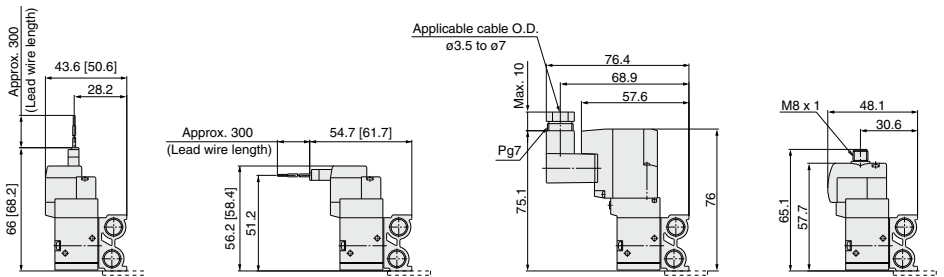


L plug connector (L)

M plug connector (M)

DIN terminal (D, Y)

M8 connector (WO)



* Refer to page 1009 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 | 53 | 69 | 85 | 101 | 117 | 133 | 149 | 165 | 181 | 197 | 213 | 229 | 245 | 261 | 277 | 293 | 309 | 325 | 341 |
| L2 | 40 | 56 | 72 | 88 | 104 | 120 | 136 | 152 | 168 | 184 | 200 | 216 | 232 | 248 | 264 | 280 | 296 | 312 | 328 |
| L3 | 16 | 32 | 48 | 64 | 80 | 96 | 112 | 128 | 144 | 160 | 176 | 192 | 208 | 224 | 240 | 256 | 272 | 288 | 304 |
| L4 | 8 | 24 | 40 | 56 | 72 | 88 | 104 | 120 | 136 | 152 | 168 | 184 | 200 | 216 | 232 | 248 | 264 | 280 | 296 |

SYJ500 Series

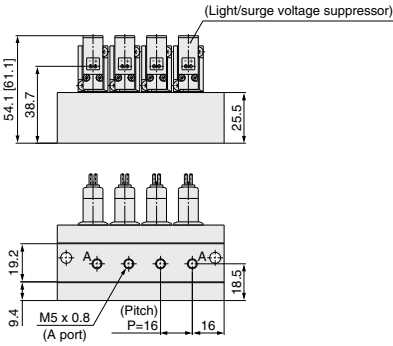
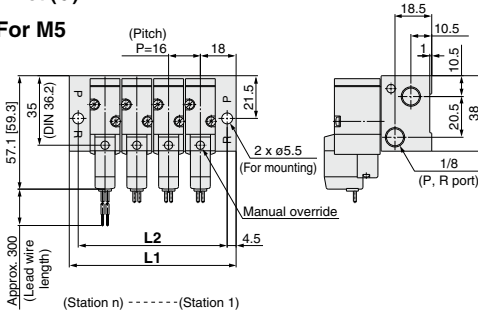
Type 40 Manifold: Bottom Ported/SS3YJ5-40-Stations-M5, 01□

* [] for AC

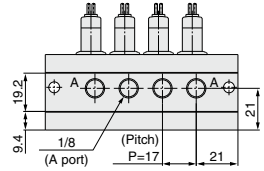
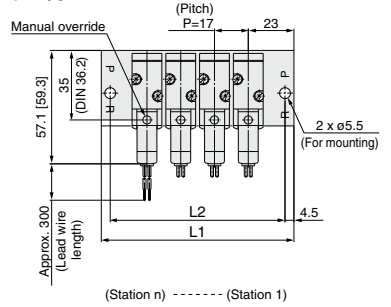
Grommet (G)

For 1/8

For M5



For 1/8

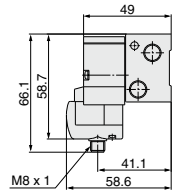
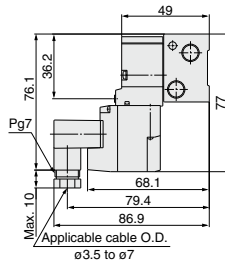
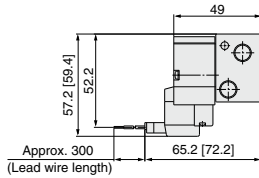
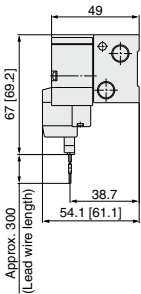


L plug connector (L)

M plug connector (M)

DIN terminal (D, Y)

M8 connector (WO)



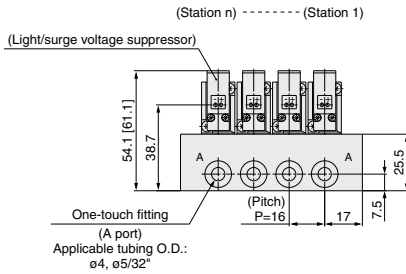
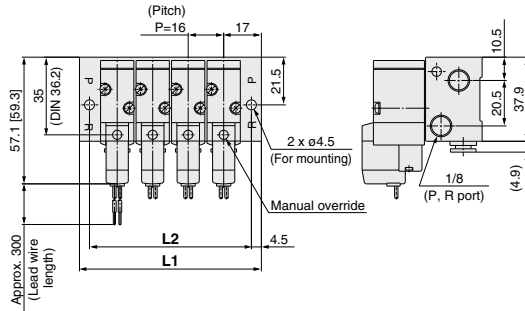
* Refer to page 1009 for dimensions with connector cable.

| Port size | Station n | Station 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | Station 20 |
|-----------|-----------|-----------|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------------|
| M5 | L1 | 52 | 68 | 84 | 100 | 116 | 132 | 148 | 164 | 180 | 196 | 212 | 228 | 244 | 260 | 276 | 292 | 308 | 324 | 340 |
| | L2 | 43 | 59 | 75 | 91 | 107 | 123 | 139 | 155 | 171 | 187 | 203 | 219 | 235 | 251 | 267 | 283 | 299 | 315 | 331 |
| 1/8 | L1 | 63 | 80 | 97 | 114 | 131 | 148 | 165 | 182 | 199 | 216 | 233 | 250 | 267 | 284 | 301 | 318 | 335 | 352 | 369 |
| | L2 | 54 | 71 | 88 | 105 | 122 | 139 | 156 | 173 | 190 | 207 | 224 | 241 | 258 | 275 | 292 | 309 | 326 | 343 | 360 |

Type 41 Manifold: Side Ported/SS3YJ5-41- Stations C4, N3
C6, N7

* [] for AC

Grommet (G)

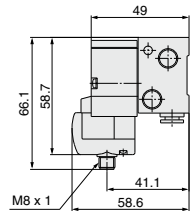
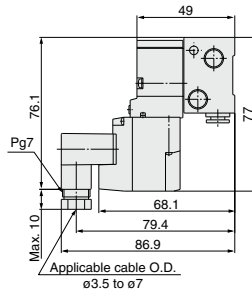
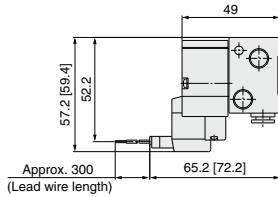
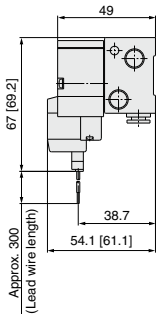


L plug connector (L)

M plug connector (M)

DIN terminal (D, Y)

M8 connector (WO)



* Refer to page 1009 for dimensions with connector cable.

| Port size | Station n | Station 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | Station 20 |
|-------------------|-----------|-----------|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------------|
| One-touch fitting | L1 | 50 | 66 | 82 | 98 | 114 | 130 | 146 | 162 | 178 | 194 | 210 | 226 | 242 | 258 | 274 | 290 | 306 | 322 | 338 |
| | L2 | 41 | 57 | 73 | 89 | 105 | 121 | 137 | 153 | 169 | 185 | 201 | 217 | 233 | 249 | 265 | 281 | 297 | 313 | 329 |

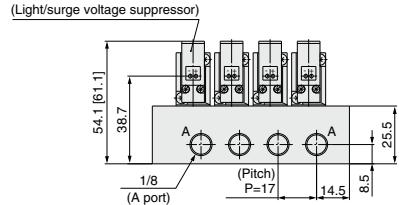
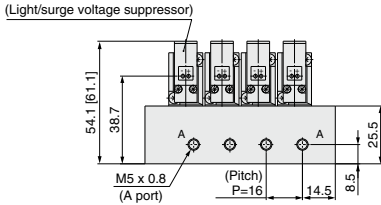
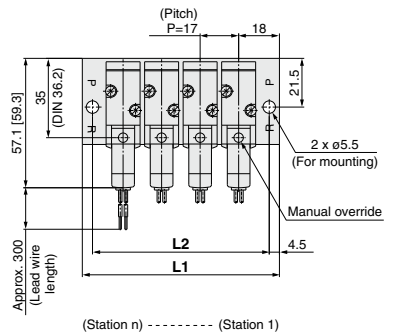
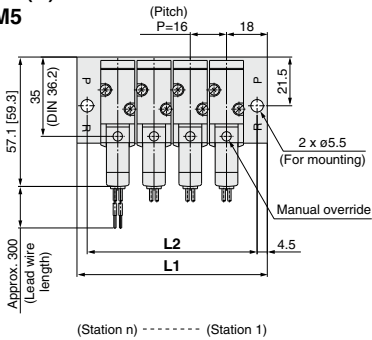
SYJ500 Series

Type 41 Manifold: Side Ported/SS3YJ5-41- Stations -M5, 01 □

* [] for AC

Grommet (G) For M5

For 1/8

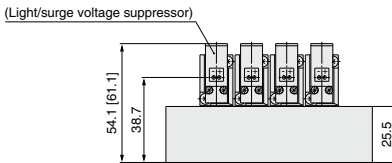
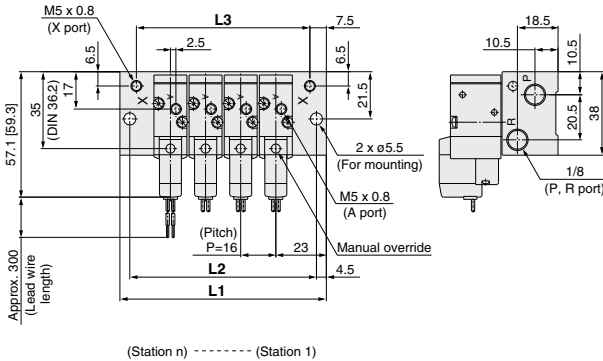


| Port size | Station n | Station 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | Station 20 |
|-----------|-----------|-----------|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------------|
| | M5 | L1 | 52 | 68 | 84 | 100 | 116 | 132 | 148 | 164 | 180 | 196 | 212 | 228 | 244 | 260 | 276 | 292 | 308 | 324 |
| | L2 | 43 | 59 | 75 | 91 | 107 | 123 | 139 | 155 | 171 | 187 | 203 | 219 | 235 | 251 | 267 | 283 | 299 | 315 | 331 |
| 1/8 | L1 | 53 | 70 | 87 | 104 | 121 | 138 | 155 | 172 | 189 | 206 | 223 | 240 | 257 | 274 | 291 | 308 | 325 | 342 | 359 |
| | L2 | 44 | 61 | 78 | 95 | 112 | 129 | 146 | 163 | 180 | 197 | 214 | 231 | 248 | 265 | 282 | 299 | 316 | 333 | 350 |

Type 21R Manifold: Top Ported (External Pilot Type)/SS3YJ5-21R-**Stations**-00□

* [] for AC

Grommet (G)

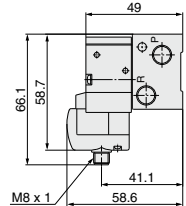
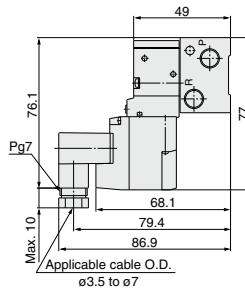
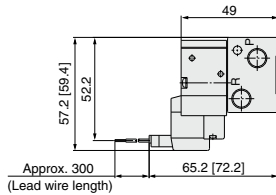
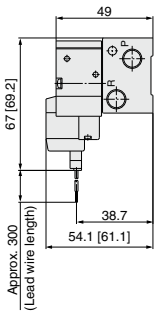


L plug connector (L)

M plug connector (M)

DIN terminal (D, Y)

M8 connector (WO)



* Refer to page 1009 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 | 62 | 78 | 94 | 110 | 126 | 142 | 158 | 174 | 190 | 206 | 222 | 238 | 254 | 270 | 286 | 302 | 318 | 334 | 350 |
| L2 | 53 | 69 | 85 | 101 | 117 | 133 | 149 | 165 | 181 | 197 | 213 | 229 | 245 | 261 | 277 | 293 | 309 | 325 | 341 |
| L3 | 47 | 63 | 79 | 95 | 111 | 127 | 143 | 159 | 175 | 191 | 207 | 223 | 239 | 255 | 271 | 287 | 303 | 319 | 335 |

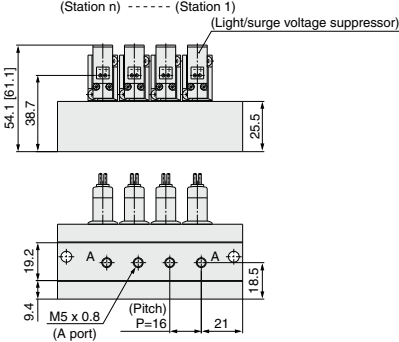
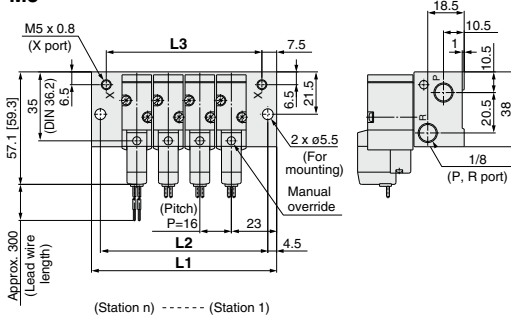
SYJ500 Series

Type 40R Manifold: Bottom Ported (External Pilot Type)/SS3YJ5-40R-Stations -M5, 01 □

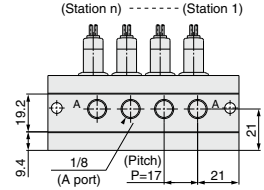
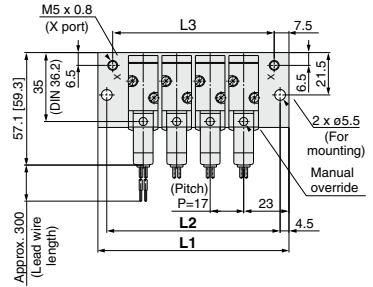
* [] for AC

Grommet (G)

For M5



For 1/8

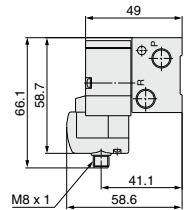
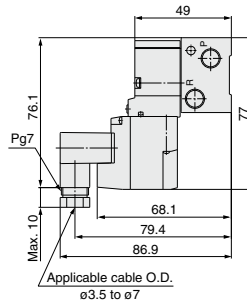
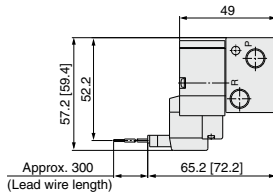
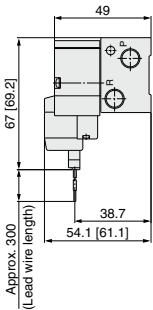


L plug connector (L)

M plug connector (M)

DIN terminal (D, Y)

M8 connector (WO)



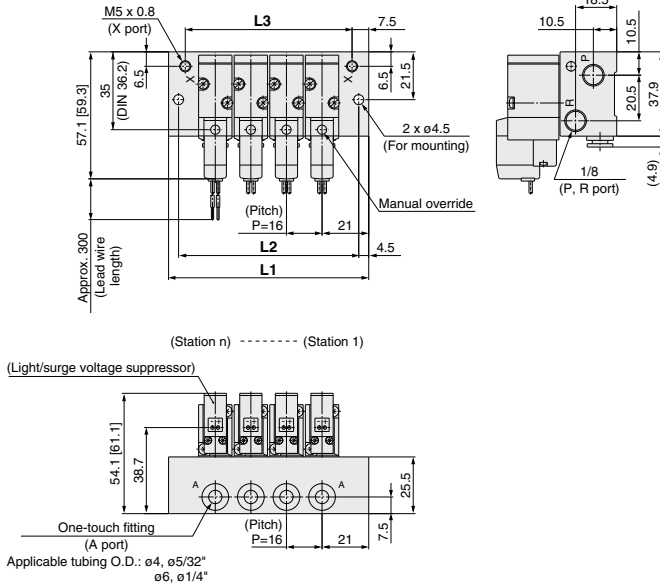
* Refer to page 1009 for dimensions with connector cable.

| Port size | Station n | Station 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | Station 20 |
|-----------|-----------|-----------|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------------|
| M5 | L1 | 62 | 78 | 94 | 110 | 126 | 142 | 158 | 174 | 190 | 206 | 222 | 238 | 254 | 270 | 286 | 302 | 318 | 334 | 350 |
| | L2 | 53 | 69 | 85 | 101 | 117 | 133 | 149 | 165 | 181 | 197 | 213 | 229 | 245 | 261 | 277 | 293 | 309 | 325 | 341 |
| | L3 | 47 | 63 | 79 | 95 | 111 | 127 | 143 | 159 | 175 | 191 | 207 | 223 | 239 | 255 | 271 | 287 | 303 | 319 | 335 |
| 1/8 | L1 | 63 | 80 | 97 | 114 | 131 | 148 | 165 | 182 | 199 | 216 | 233 | 250 | 267 | 284 | 301 | 318 | 335 | 352 | 369 |
| | L2 | 54 | 71 | 88 | 105 | 122 | 139 | 156 | 173 | 190 | 207 | 224 | 241 | 258 | 275 | 292 | 309 | 326 | 343 | 360 |
| | L3 | 48 | 65 | 82 | 99 | 116 | 133 | 150 | 167 | 184 | 201 | 218 | 235 | 252 | 269 | 286 | 303 | 320 | 337 | 354 |

Type 41R Manifold: Side Ported (External Pilot Type)/SS3YJ5-41R-**Stations** - C4, N3
C6, N7

* [] for AC

Grommet (G)

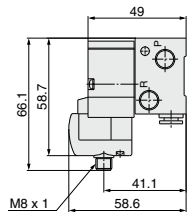
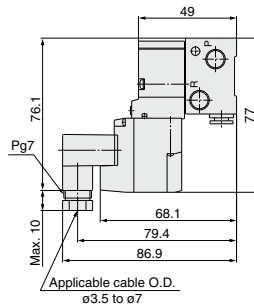
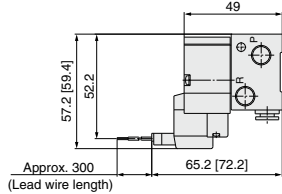
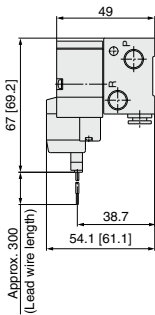


L plug connector (L)

M plug connector (M)

DIN terminal (D, Y)

M8 connector (WO)



* Refer to page 1009 for dimensions with connector cable.

| Port size | Station n | Station 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | Station 20 |
|-------------------|-----------|-----------|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------------|
| One-touch fitting | L1 | 58 | 74 | 90 | 106 | 122 | 138 | 154 | 170 | 186 | 202 | 218 | 234 | 250 | 266 | 282 | 298 | 314 | 330 | 346 |
| | L2 | 49 | 65 | 81 | 97 | 113 | 129 | 145 | 161 | 177 | 193 | 209 | 225 | 241 | 257 | 273 | 289 | 305 | 321 | 337 |
| | L3 | 43 | 59 | 75 | 91 | 107 | 123 | 139 | 155 | 171 | 187 | 203 | 219 | 235 | 251 | 267 | 283 | 299 | 315 | 331 |

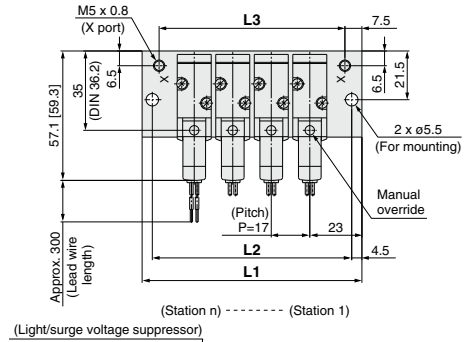
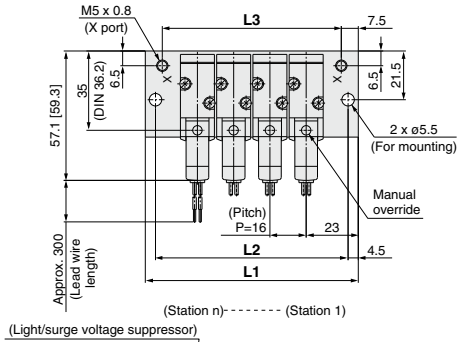
SYJ500 Series

Type 41R Manifold: Side Ported (External Pilot Type)/SS3YJ5-41R-Stations-M5, 01 □

* [] for AC

For M5

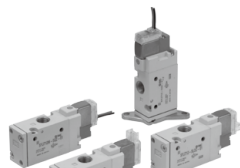
For 1/8



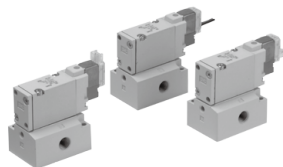
| Port size | Station n | Station 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | Station 20 |
|-----------|-----------|-----------|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------------|
| M5 | L1 | 62 | 78 | 94 | 110 | 126 | 142 | 158 | 174 | 190 | 206 | 222 | 238 | 254 | 270 | 286 | 302 | 318 | 334 | 350 |
| | L2 | 53 | 69 | 85 | 101 | 117 | 133 | 149 | 165 | 181 | 197 | 213 | 229 | 245 | 261 | 277 | 293 | 309 | 325 | 341 |
| | L3 | 47 | 63 | 79 | 95 | 111 | 127 | 143 | 159 | 175 | 191 | 207 | 223 | 239 | 255 | 271 | 287 | 303 | 319 | 335 |
| 1/8 | L1 | 63 | 80 | 97 | 114 | 131 | 148 | 165 | 182 | 199 | 216 | 233 | 250 | 267 | 284 | 301 | 318 | 335 | 352 | 369 |
| | L2 | 54 | 71 | 88 | 105 | 122 | 139 | 156 | 173 | 190 | 207 | 224 | 241 | 258 | 275 | 292 | 309 | 326 | 343 | 360 |
| | L3 | 48 | 65 | 82 | 99 | 116 | 133 | 150 | 167 | 184 | 201 | 218 | 235 | 252 | 269 | 286 | 303 | 320 | 337 | 354 |

Rubber Seal 3 Port Pilot Solenoid Valve

SYJ700 Series



Body ported

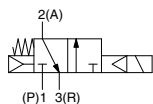


Base mounted

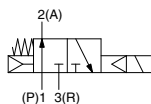
Symbol

Internal pilot

SYJ71 $\frac{2}{4}$

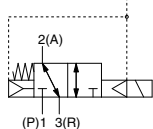


SYJ72 $\frac{2}{4}$

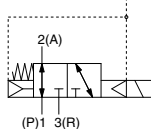


External pilot

SYJ71 $\frac{2}{4}$ R



SYJ72 $\frac{2}{4}$ R



Specifications

| | | |
|---|-----------------------|---|
| Fluid | | Air |
| Operating pressure range (MPa) | Internal pilot | 0.15 to 0.7 |
| Ambient and fluid temperature (°C) | | -10 to 50 (No freezing.) |
| Response time ms (at 0.5 MPa) <small>Note 1)</small> | | 30 or less |
| Max. operating frequency (Hz) | | 5 |
| 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 |
| Impact/Vibration resistance (m/s²) <small>Note 2)</small> | | 150/30 |
| Enclosure | | Dust proof (* DIN terminal, M8 connector: IP65) |

* Based on IEC60529

Note 1) Based on dynamic performance test, JIS B 8419: 2010. (Coil temperature: 20°C, at rated voltage, without surge voltage suppressor.)

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

Vibration resistance: No malfunction occurred in 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. (Value in the initial state)

Solenoid Specifications

| | | | |
|--------------------------------------|----------------------------------|---|---|
| Electrical entry | | Grommet (G), (H), L plug connector (L), M plug connector (M), DIN terminal (D), (Y), M8 connector (W) | |
| | | G, H, L, M, W | D, Y |
| 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 (DIN terminal with light: 0.45)) | |
| | With power saving circuit | 0.1 (With light only) * [Starting 0.4, Holding 0.1] | |
| Apparent power (VA) * | AC | 100 V | 0.78 (With light: 0.81) 0.78 (With light: 0.87) |
| | | 110 V [115 V] | 0.86 (With light: 0.89) 0.86 (With light: 0.97) [0.94 (With light: 0.97)] |
| | | 200 V | 1.18 (With light: 1.22) 1.15 (With light: 1.30) |
| | | 220 V [230 V] | 1.30 (With light: 1.34) 1.27 (With light: 1.46) [1.42 (With light: 1.46)] [1.39 (With light: 1.60)] |
| Surge voltage suppressor | | Diode (DIN terminal, varistor when non-polar types) | |
| Indicator light | | LED (Neon light when AC with DIN terminal) | |

* 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.

* For details, refer to page 1006.



Made to Order

(For details, refer to pages 1002 and 1003.)

Flow Rate Characteristics/Weight

| Valve model | | Type of actuation | Port size | Flow rate characteristics | | | | | | Weight (g) ^(Note) | | | |
|-------------------------------|--------|-------------------|-----------|------------------------------|------|------|------------------------------|------|------|------------------------------|--------------------|--------------|--------------|
| | | | | 1→2 (P→A) | | | 2→3 (A→R) | | | Grommet | L/M plug connector | DIN terminal | M8 connector |
| | | | | C [dm ³ /(s·bar)] | b | Cv | C [dm ³ /(s·bar)] | b | Cv | | | | |
| Body ported | SYJ712 | N.C. | 1/8 | 2.8 | 0.43 | 0.77 | 2.5 | 0.51 | 0.76 | 75 | 76 | 97 | 80 |
| | SYJ722 | N.O. | | 2.7 | 0.38 | 0.72 | 2.4 | 0.42 | 0.69 | | | | |
| Base mounted (with sub-plate) | SYJ714 | N.C. | 1/8 | 2.9 | 0.32 | 0.71 | 2.7 | 0.34 | 0.69 | 135 (75) | 136 (76) | 157 (97) | 140 (80) |
| | SYJ724 | N.O. | | 2.8 | 0.21 | 0.70 | 2.3 | 0.45 | 0.63 | | | | |
| | SYJ714 | N.C. | 1/4 | 3.0 | 0.31 | 0.74 | 2.6 | 0.33 | 0.66 | | | | |
| | SYJ724 | N.O. | | 2.7 | 0.31 | 0.68 | 2.3 | 0.48 | 0.64 | | | | |

Note) Value for DC. Add 3 g for AC. (): Without sub-plate.

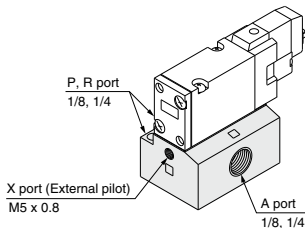
External Pilot

SYJ700R

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 (SYJ714R, SYJ724R) | |
|---------------------------------|---------------------------------|-----------------|
| 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 990.

Note 2) External pilot type body ported valves (SYJ7□2R) can only be used on the manifold. For body ported models with the external pilot option, please refer to page 1003.

How to Order

Rated voltage

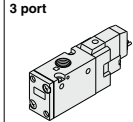
| DC | |
|----|--------|
| 5 | 24 VDC |
| 6 | 12 VDC |
| V | 6 VDC |
| S | 5 VDC |
| R | 3 VDC |

| AC (50/60 Hz) | |
|---------------|-------------------|
| 1 | 100 VAC |
| 2 | 200 VAC |
| 3 | 110 VAC [115 VAC] |
| 4 | 220 VAC [230 VAC] |

* DC specifications of type D, Y, DO and YO is only available with 12 and 24 VDC.
* For type W□, DC voltage is only available.
Note) AC-type models that are CE/UKCA-compliant have DIN terminals only.

Type of actuation

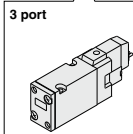
| | |
|---|-----------------|
| 1 | Normally closed |
| 2 | Normally open |



(For manifold type 20, 21R)

Body ported

Base mounted



(For sub-plate type, manifold type 40, 41, 41R, 42, 42R)

Light/Surge voltage suppressor

Electrical entry for G, H, L, M and W

| | |
|-----|--|
| 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 for D, Y

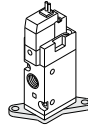
| | |
|-----|--|
| Nil | Without light/surge voltage suppressor |
| S | With surge voltage suppressor (Non-polar type) |
| Z | With light/surge voltage suppressor (Non-polar type) |

* DOZ and YOZ are not available.
* For AC voltage valves there is no "S" option. It is already built-in to the rectifier circuit.

Bracket

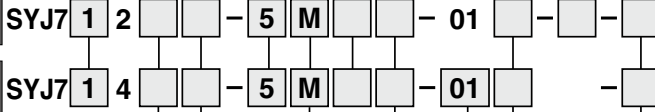
| | |
|------|-----------------|
| Nil: | Without bracket |
| F : | With bracket |

* Bracket is not mounted.



Made to Order
(page 1003)

Body ported external pilot



Coil specifications

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

* Power saving circuit is not available in the case of D, Y, DO, YO or W□ type.

Manual override

| | |
|------|-----------------------|
| Nil: | Non-locking push type |
|------|-----------------------|



Thread type

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

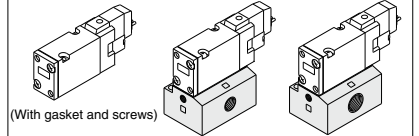
CE/UKCA-compliant

| | |
|-----|-------------------|
| Nil | — |
| Q | CE/UKCA-compliant |

Note) AC-type models that are CE/UKCA-compliant have DIN terminals only.

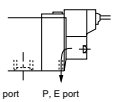
Port size

| | |
|------|-------------------------|
| Nil: | Without sub-plate |
| 01: | 1/8 port With sub-plate |
| 02: | 1/4 port With sub-plate |

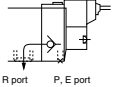


Body option

Nil: Individual pilot exhaust type



M: Common exhaust for the pilot and main valve



R: External pilot type*



* SYJ□2R is only for manifold use.

Electrical entry

| CE/UKCA-compliant | DC | 24, 12, 6, 5, 3 VDC/100, 110, 200, 220 VAC | | | | 24, 12 VDC/100, 110, 200, 220 VAC | | 24, 12, 6, 5, 3 VDC | |
|-------------------|----|--|-----------------------------------|-----------------------------------|-----------------------|-----------------------------------|-----------------------|-----------------------------------|----------------------------|
| | | Grommet | L plug connector | M plug connector | MN: Without lead wire | DIN terminal | Y: With connector | M8 connector | W: Without connector cable |
| | | G: Lead wire length 300 mm | L: With lead wire (Length 300 mm) | M: With lead wire (Length 300 mm) | MN: Without lead wire | D: With connector | Y: With connector | M8 connector | W: Without connector cable |
| | | H: Lead wire length 600 mm | LN: Without lead wire | LO: Without connector | MO: Without connector | DO: Without connector | YO: Without connector | W□: With connector cable (Note 1) | |
| | | | | | | | | | |

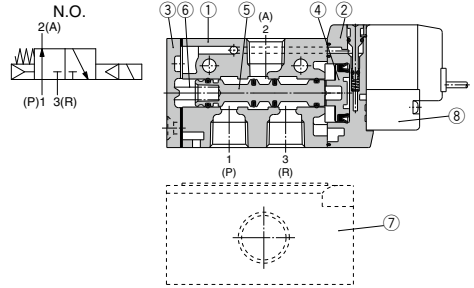
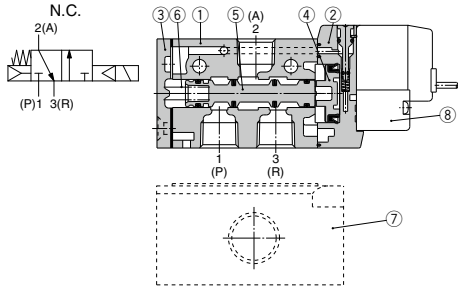
Note) When placing an order for body ported solenoid valve as a single unit, mounting screws for manifold and gasket are not attached. Order them separately, if necessary. (For details, refer to page 991.)

* LN, MN type: with 2 sockets.
* Refer to page 1005 for the lead wire length of L and M plug connectors.
* Refer to page 1008 for the connector assembly with cover for L and M plug connectors.

* DIN terminal type "Y" which conforms to EN-175301-803C (former DIN4365C) is also available. For details, refer to page 1007.

* For connector cable of M8 connector, refer to page 1009.
* A M8 connector conforming to IEC60947-5-2 is also available. Refer to page 1002 for details.
Note 1) Enter the cable length symbols in □. Please be sure to fill in the blank referring to page 1009.

Construction



Component Parts

| No. | Description | Material | Note |
|-----|----------------------|---------------------|-------|
| 1 | Body | Aluminum die-casted | White |
| 2 | Piston plate | Resin | White |
| 3 | End cover | Aluminum die-casted | White |
| 4 | Piston | Resin | — |
| 5 | Spool valve assembly | — | — |
| 6 | Spool spring | Stainless steel | — |

Replacement Parts

| No. | Description | Part no. | Note |
|-----|-----------------------------|----------------------------------|-----------------------------------|
| 7 | Sub-plate ^(Note) | SYJ700-9-1(-Q) SYJ700-9-2(-Q) | 1/8 1/4 Aluminum die-casted |
| 8 | Pilot valve | V111(T)-□□□□ | — |
| — | Bracket assembly | SYJ700-19-1A | — |

Note) Add suffix "-Q" for the CE/UKCA-compliant product.

How to Order Pilot Valve Assembly

V111 □ — 5 G □

Coil specifications

| | |
|-----|---|
| NII | Standard |
| 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.
* CE/UKCA-compliant: For DC only.

Light/Surge voltage suppressor

| | |
|-----|--|
| NII | 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.

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 |
| W□ | M8 connector With connector cable ^(Note 1) |

* For connector cable of M8 connector, refer to page 1009.

Note 1) Enter the cable length symbols in □. Please be sure to fill in the blank referring to page 1009.

V115 — 5 D □

Rated voltage

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

* DC specifications of type D and DO is only available with 12 and 24 VDC.

* Power saving circuit is not available in the case of D, Y, DO and YO type.

Light/Surge voltage suppressor

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

* DOZ and YOZ are not available.
* For AC voltage valves there is no "S" option. It is already built-in to the rectifier circuit.

Electrical entry

| | | |
|----|--------------|-------------------|
| D | DIN terminal | With connector |
| DO | (Type D) | Without connector |
| Y | DIN terminal | With connector |
| YO | (Type Y) | Without connector |

* Do not replace V111 (G, H, L, M, W) to V115 (DIN terminal) and vice versa when replacing pilot valve assembly only.

Note) Since V111 and V115 are CE/UKCA-compliant as standard, the suffix "-Q" is not necessary.

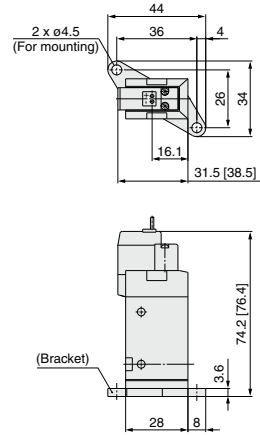
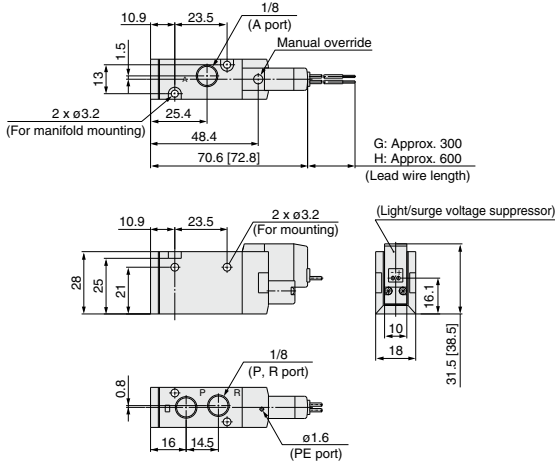
SYJ700 Series

Body Ported

* [] for AC

Grommet (G), (H): SYJ7□2-□^G□□-01□

With bracket:
SYJ7□2-□^G□□-01□-F

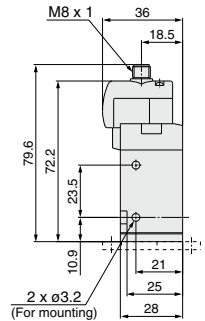
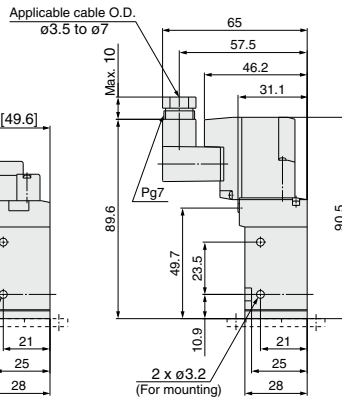
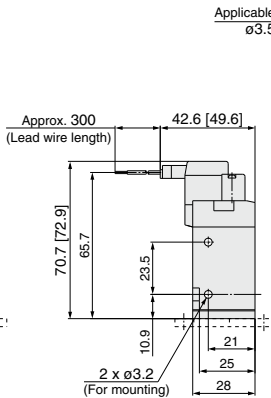
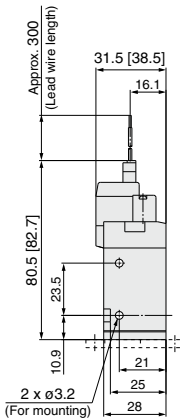


L plug connector (L):
SYJ7□2-□L□□-01□ (-F)

M plug connector (M):
SYJ7□2-□M□□-01□ (-F)

DIN terminal (D, Y):
SYJ7□2-□^D□□-01□ (-F)

M8 connector (WO):
SYJ7□2-□WO□□-01□ (-F)

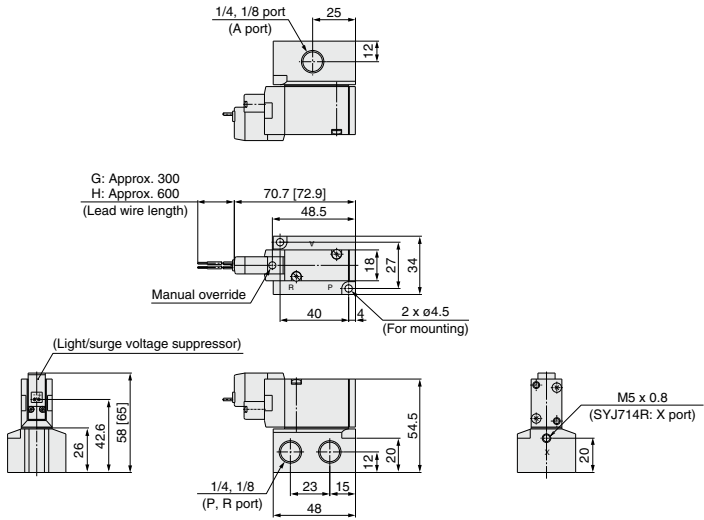


* Refer to page 1009 for dimensions with connector cable.

Base Mounted (With Sub-plate)

* [] for AC

Grommet (G), (H): SYJ7□4-□□^G□□□□⁰¹□□⁰²□

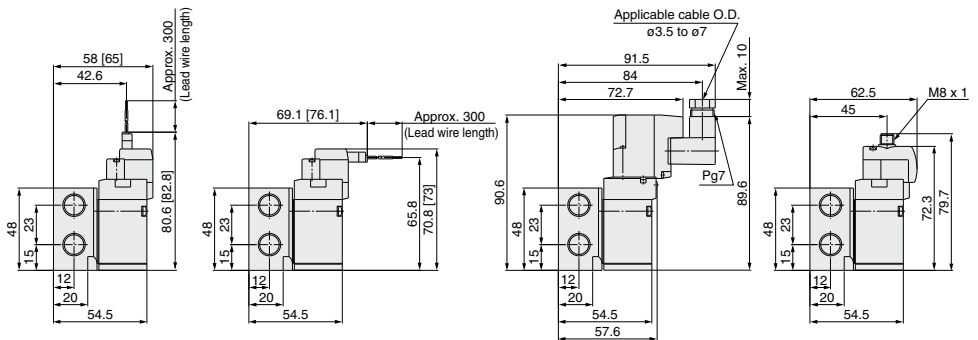


L plug connector (L):
SYJ7□4-□□L□□□⁰¹□□⁰²□

M plug connector (M):
SYJ7□4-□□M□□□⁰¹□□⁰²□

DIN terminal (D, Y):
SYJ7□4-□□^D□□□□⁰¹□□⁰²□

M8 connector (WO):
SYJ7□4-□□WO□□□□⁰¹□□⁰²□

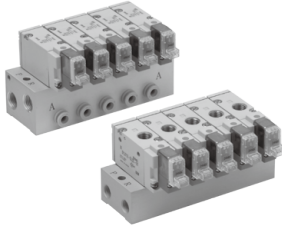


* Refer to page 1009 for dimensions with connector cable.

SYJ700 Series Manifold Specifications



Manifold Specifications



| Model | For internal pilot | Type 20 | Type 21 | Type 40 | Type 41 | Type 42 |
|--------------------------------------|------------------------------------|------------------------|----------|---------|----------|---|
| | For external pilot | — | Type 21R | — | Type 41R | Type 42R |
| Manifold type | | Single base/B mount | | | | |
| P (SUP), R (EXH) | | Common SUP, common EXH | | | | |
| Valve stations | | 2 to 20 stations | | | | |
| A port Porting specifications | Location | Valve | Valve | Base | Base | Base |
| | Direction | Top | Top | Bottom | Bottom | Side |
| Port size | P, R port | 1/8 | 1/4 | 1/8 | 1/4 | 1/4 |
| | A port | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 C6 (#8 One-touch fitting) C8 (#8 One-touch fitting) |
| | X port <small>Note)</small> | — | M3 x 0.8 | — | M5 x 0.8 | M5 x 0.8 |

Note) Only for external pilot

Flow Rate Characteristics

| Manifold | | | Port size | | Flow rate characteristics | | | | | |
|---------------------------------|--------------------|---------|-----------------|-----------|-----------------------------|------|------|-----------------------------|------|------|
| | | | | | 1→2 (P→A) | | | 2→3 (A→R) | | |
| | | | 1(P), 3(R) port | 2(A) port | C [dm ³ /(sbar)] | b | Cv | C [dm ³ /(sbar)] | b | Cv |
| Body ported for internal pilot | Type SS3YJ7-20 | SYJ7□2 | 1/8 | 1/8 | 2.2 | 0.34 | 0.55 | 2.3 | 0.27 | 0.59 |
| | Type SS3YJ7-21 | | 1/4 | 1/8 | 2.2 | 0.39 | 0.59 | 2.4 | 0.32 | 0.62 |
| | Type SS3YJ7-40 | | 1/8 | 1/8 | 2.1 | 0.35 | 0.59 | 2.3 | 0.27 | 0.54 |
| Base mounted for internal pilot | Type SS3YJ7-41 | SYJ7□4 | 1/4 | 1/8 | 2.2 | 0.35 | 0.59 | 2.4 | 0.36 | 0.66 |
| | Type SS3YJ7-42-01 | | 1/4 | 1/8 | 2.0 | 0.27 | 0.47 | 2.2 | 0.32 | 0.56 |
| | Type SS3YJ7-42-C6 | | 1/4 | C6 | 1.6 | 0.32 | 0.39 | 2.2 | 0.27 | 0.54 |
| | Type SS3YJ7-42-C8 | | 1/4 | C8 | 2.1 | 0.24 | 0.51 | 2.3 | 0.31 | 0.59 |
| Body ported for external pilot | Type SS3YJ7-21R | SYJ7□2R | 1/4 | 1/8 | 2.2 | 0.34 | 0.55 | 2.4 | 0.32 | 0.62 |
| | Type SS3YJ7-41R | | 1/4 | 1/8 | 2.2 | 0.35 | 0.59 | 2.4 | 0.36 | 0.66 |
| Base mounted for external pilot | Type SS3YJ7-42R-01 | SYJ7□4R | 1/4 | 1/8 | 2.0 | 0.27 | 0.47 | 2.2 | 0.32 | 0.56 |
| | Type SS3YJ7-42R-C6 | | 1/4 | C6 | 1.6 | 0.32 | 0.39 | 2.2 | 0.27 | 0.54 |
| | Type SS3YJ7-42R-C8 | | 1/4 | C8 | 2.1 | 0.24 | 0.51 | 2.3 | 0.31 | 0.59 |

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)

SS3YJ7-20-03 1 set (manifold base) SS3YJ7-42R-03-01 1 set (manifold base)

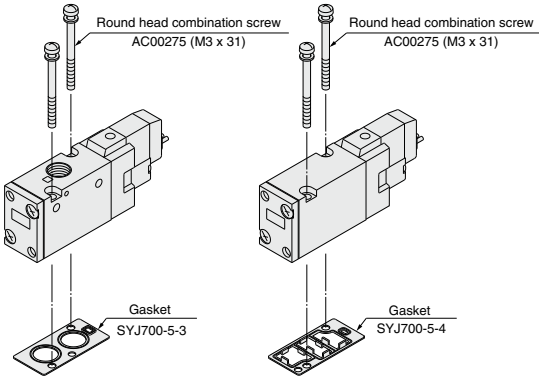
* SYJ712-5LZ-01 2 sets (valve) * SYJ714R-5G 2 sets (valve)

* SYJ700-10-1A 1 set (blanking plate assembly) * SYJ700-10-2A 1 set (blanking plate assembly)

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

Combinations of Solenoid Valve, Manifold Gasket and Manifold Base

Body ported (Type SYJ7□2(-Q)) Base mounted (Type SYJ7□4(-Q))



Applicable base
Type SS3YJ7-20(-Q)
Type SS3YJ7-21(-Q)
Type SS3YJ7-21R(-Q)

Manifold base

Applicable base Sub-plate
Type SS3YJ7-40(-Q)
Type SS3YJ7-41(-Q)
Type SS3YJ7-42(-Q)
Type SS3YJ7-41R(-Q)
Type SS3YJ7-42R(-Q)

Manifold base

Caution

Mounting screw tightening torques

M3: 0.8 N-m

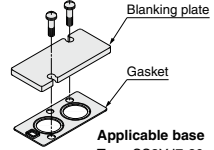
Use caution to the assembly orientation for solenoid valves, gasket and optional parts.

Blanking Plate Assembly

<Standard>

Part no.: SYJ700-10-1A

- For body ported
- For base mounted

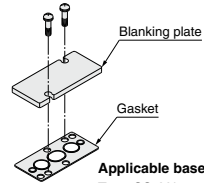


Applicable base
Type SS3YJ7-20
Type SS3YJ7-21
Type SS3YJ7-21R

Manifold base

Part no.: SYJ700-10-2A

- For base mounted



Applicable base
Type SS3YJ7-40
Type SS3YJ7-41
Type SS3YJ7-42
Type SS3YJ7-41R
Type SS3YJ7-42R

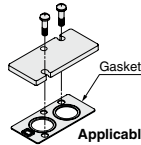
Manifold base

Note) It can be mounted on a body ported manifold base. However, when mounting a blanking part to a valve, place an order for a separate gasket (SYJ700-5-3) when placing an order for the valve.

When using the SYJ700-10-1A, a gasket for this blanking plate assembly can be used as a gasket for the valve as well.

<CE/UKCA-compliant>

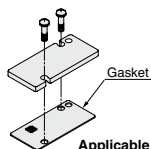
Part no.: SYJ700-10-2A-1-Q



Applicable base
Type SS3YJ7-20-Q
Type SS3YJ7-21-Q
Type SS3YJ7-21R-Q

Manifold base

Part no.: SYJ700-10-2A-2-Q



Applicable base
Type SS3YJ7-40-Q
Type SS3YJ7-41-Q
Type SS3YJ7-42-Q
Type SS3YJ7-41R-Q
Type SS3YJ7-42R-Q

Manifold base

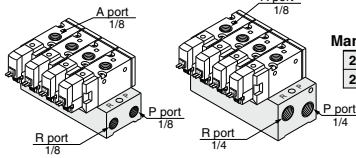
SYJ700 Series

Note) AC-type models that are CE/UKCA-compliant have DIN terminals only.



Manifold for Internal Pilot Type

Type 20/Type 21



How to Order

SS3YJ7 - 20 - 05 - [] - []

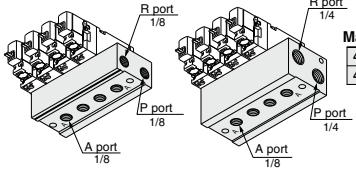
| | | |
|------------------------------|---------------|---------------------|
| Manifold type | 20 Type 20 | 21 Type 21 |
| Stations | 02 2 stations | : |
| | : | 20 20 stations |
| P, R port thread type | Nil Rc | 00F G |
| | 00N NPT | 00T NPTF |
| CE/UKCA-compliant | Nil | Q CE/UKCA-compliant |

Applicable solenoid valve
SYJ712-□□□□-01(-Q)
SYJ712M-□□□□-01(-Q)
SYJ722-□□□□-01(-Q)
SYJ722M-□□□□-01(-Q)

Applicable blanking plate assembly
Refer to page 991.

Note) If there are more than 6 stations for type 20, or more than 9 stations for type 21, supply air to both sides of P port and exhaust air from both sides of R port.

Type 40/Type 41



How to Order

SS3YJ7 - 40 - 05 - 01 - [] - []

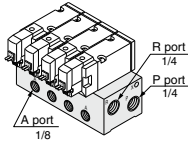
| | | |
|------------------------------|---------------|---------------------|
| Manifold type | 40 Type 40 | 41 Type 41 |
| Stations | 02 2 stations | : |
| | : | 20 20 stations |
| P, R port thread type | Nil Rc | F G |
| | N NPT | T NPTF |
| CE/UKCA-compliant | Nil | Q CE/UKCA-compliant |
| A port size | 01 1/8 | |

Applicable solenoid valve
SYJ714-□□□□(-Q)
SYJ714M-□□□□(-Q)
SYJ724-□□□□(-Q)
SYJ724M-□□□□(-Q)

Applicable blanking plate assembly
Refer to page 991.

Note) If there are more than 6 stations for type 40, or more than 9 stations for 41 type, supply air to both sides of P port and exhaust air from both sides of R port.

Type 42



How to Order

SS3YJ7 - 42 - 05 - C6 - [] - []

| | | |
|------------------------------|---------------|-----------------------------|
| Stations | 02 2 stations | : |
| | : | 20 20 stations |
| A port size | 01 1/8 | C6 ø6 One-touch fitting |
| | | C8 ø8 One-touch fitting |
| | | N7 ø1/4" One-touch fitting |
| | | N9 ø5/16" One-touch fitting |
| P, R port thread type | Nil Rc | F G |
| | N NPT | T NPTF |
| CE/UKCA-compliant | Nil | Q CE/UKCA-compliant |

Applicable solenoid valve
SYJ714-□□□□(-Q)
SYJ714M-□□□□(-Q)
SYJ724-□□□□(-Q)
SYJ724M-□□□□(-Q)

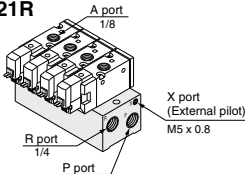
Applicable blanking plate assembly
Refer to page 991.

Note) For more than 9 stations, supply air to both sides of P port and exhaust air from both sides of R port.

Manifold for External Pilot Type

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.

Type 21R



How to Order

SS3YJ7 - 21R - 05 - [] - []

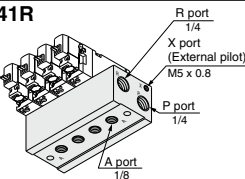
| | | |
|------------------------------|---------------|---------------------|
| Stations | 02 2 stations | : |
| | : | 20 20 stations |
| P, R port thread type | Nil Rc | 00F G |
| | 00N NPT | 00T NPTF |
| CE/UKCA-compliant | Nil | Q CE/UKCA-compliant |

Applicable solenoid valve
SYJ712R-□□□□-01(-Q)
SYJ722R-□□□□-01(-Q)

Applicable blanking plate assembly
Refer to page 991.

Note) For more than 9 stations, supply/exhaust air to/from both sides of P and R port.

Type 41R



How to Order

SS3YJ7 - 41R - 05 - 01 - [] - []

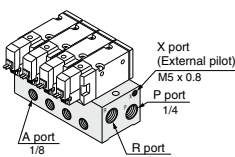
| | | |
|------------------------------|---------------|---------------------|
| Stations | 02 2 stations | : |
| | : | 20 20 stations |
| P, R port thread type | Nil Rc | F G |
| | N NPT | T NPTF |
| CE/UKCA-compliant | Nil | Q CE/UKCA-compliant |
| A port size | 01 1/8 | |

Applicable solenoid valve
SYJ714R-□□□□(-Q)
SYJ724R-□□□□(-Q)

Applicable blanking plate assembly
Refer to page 991.

Note) For more than 9 stations, supply/exhaust air to/from both sides of P and R port.

Type 42R



How to Order

SS3YJ7 - 42R - 05 - 01 - [] - []

| | | |
|------------------------------|---------------|-----------------------------|
| Stations | 02 2 stations | : |
| | : | 20 20 stations |
| A port size | 01 1/8 | C6 ø6 One-touch fitting |
| | | C8 ø8 One-touch fitting |
| | | N7 ø1/4" One-touch fitting |
| | | N9 ø5/16" One-touch fitting |
| P, R port thread type | Nil Rc | F G |
| | N NPT | T NPTF |
| CE/UKCA-compliant | Nil | Q CE/UKCA-compliant |

Applicable solenoid valve
SYJ714R-□□□□(-Q)
SYJ724R-□□□□(-Q)

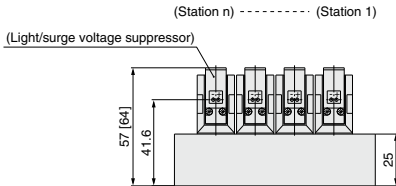
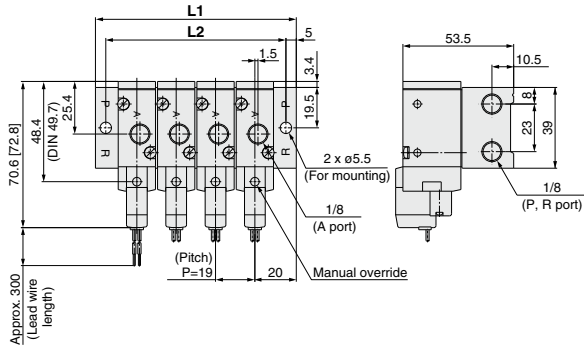
Applicable blanking plate assembly
Refer to page 991.

Note) For more than 9 stations, supply/exhaust air to/from both sides of P and R port.

Type 20 Manifold: Top Ported/SS3YJ7-20-**Stations** (-00□)

* [] for AC

Grommet (G)

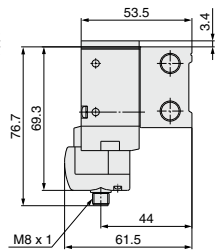
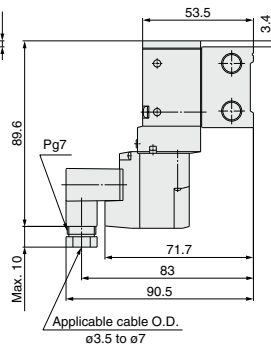
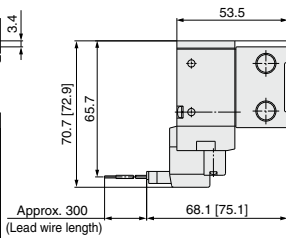
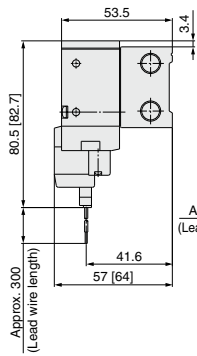


L plug connector (L)

M plug connector (M)

DIN terminal (D, Y)

M8 connector (WO)



* Refer to page 1009 for dimensions with connector cable.

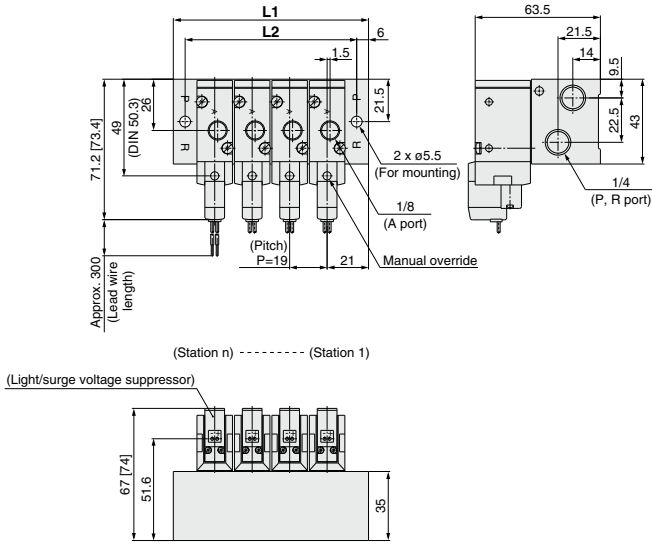
| Station n | Station 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | Station 20 |
|-----------|-----------|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------------|
| L1 | 59 | 78 | 97 | 116 | 135 | 154 | 173 | 192 | 211 | 230 | 249 | 268 | 287 | 306 | 325 | 344 | 363 | 382 | 401 |
| L2 | 49 | 68 | 87 | 106 | 125 | 144 | 163 | 182 | 201 | 220 | 239 | 258 | 277 | 296 | 315 | 334 | 353 | 372 | 391 |

SYJ700 Series

Type 21 Manifold: Top Ported/SS3YJ7-21-Stations (-00□)

* [] for AC

Grommet (G)

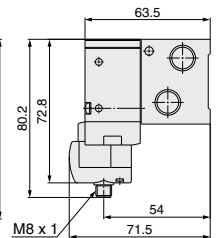
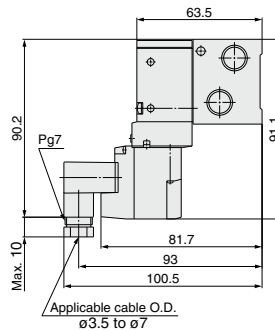
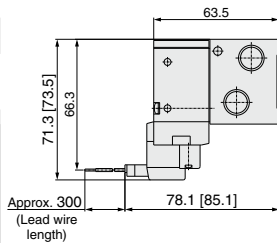
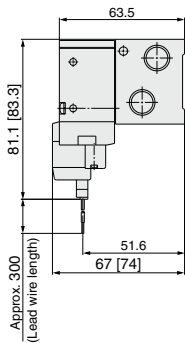


L plug connector (L)

M plug connector (M)

DIN terminal (D, Y)

M8 connector (WO)



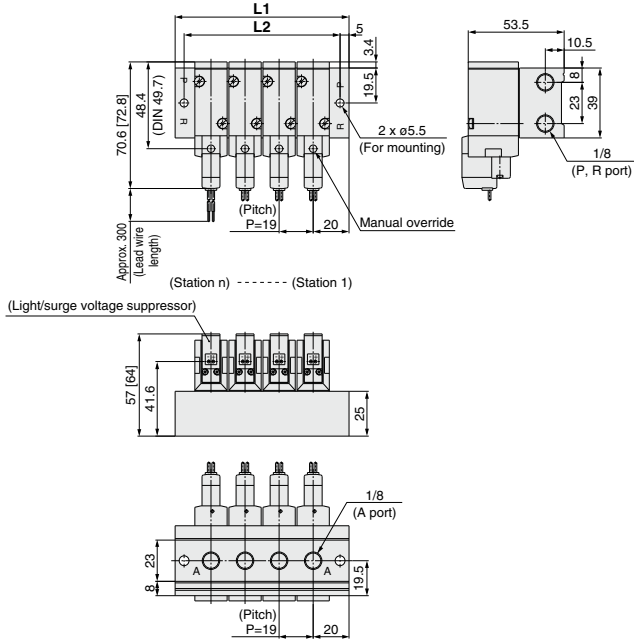
* Refer to page 1009 for dimensions with connector cable.

| Station n | Station 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | Station 20 |
|-----------|-----------|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------------|
| L1 | 61 | 80 | 99 | 118 | 137 | 156 | 175 | 194 | 213 | 232 | 251 | 270 | 289 | 308 | 327 | 346 | 365 | 384 | 403 |
| L2 | 49 | 68 | 87 | 106 | 125 | 144 | 163 | 182 | 201 | 220 | 239 | 258 | 277 | 296 | 315 | 334 | 353 | 372 | 391 |

Type 40 Manifold: Bottom Ported/SS3YJ7-40-Stations-01 □

* [] for AC

Grommet (G)

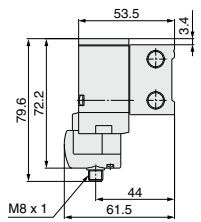
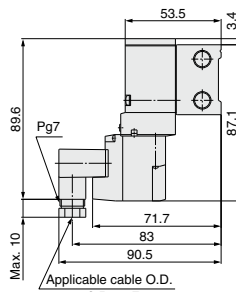
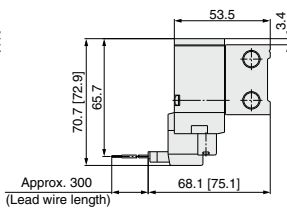
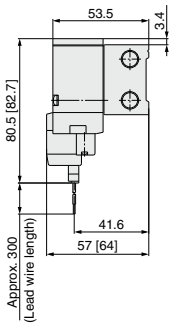


L plug connector (L)

M plug connector (M)

DIN terminal (D, Y)

M8 connector (WO)



* Refer to page 1009 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 | 59 | 78 | 97 | 116 | 135 | 154 | 173 | 192 | 211 | 230 | 249 | 268 | 287 | 306 | 325 | 344 | 363 | 382 | 401 |
| L2 | 49 | 68 | 87 | 106 | 125 | 144 | 163 | 182 | 201 | 220 | 239 | 258 | 277 | 296 | 315 | 334 | 353 | 372 | 391 |

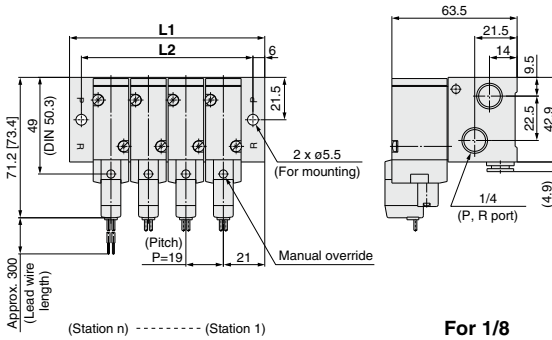
SYJ700 Series

Type 42 Manifold: Side Ported/SS3YJ7-42-**Stations**-01, C6, N7
 C8, N9

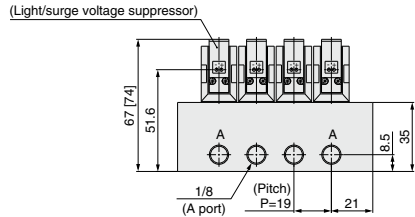
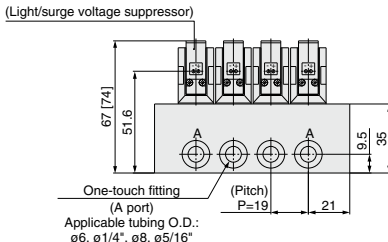
* [] for AC

Grommet (G)

For C6, N7 C8, N9 (Built-in One-touch fitting)



For 1/8

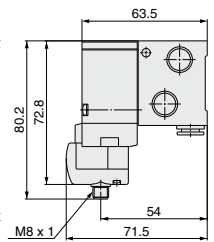
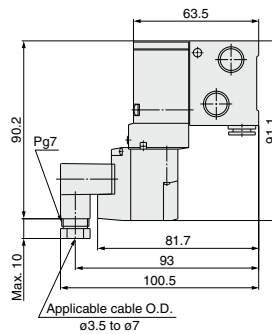
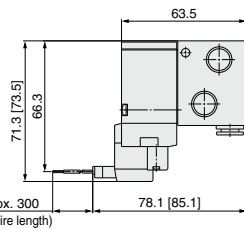
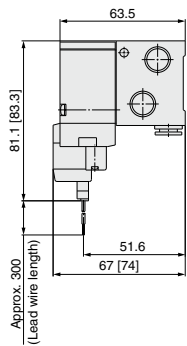


L plug connector (L)

M plug connector (M)

DIN terminal (D, Y)

M8 connector (WO)



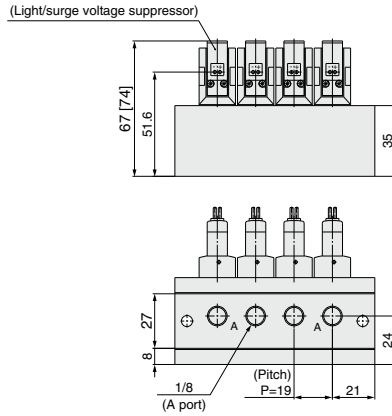
* Refer to page 1009 for dimensions with connector cable.

| Station n | Station 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | Station 20 |
|-----------|-----------|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------------|
| L1 | 61 | 80 | 99 | 118 | 137 | 156 | 175 | 194 | 213 | 232 | 251 | 270 | 289 | 308 | 327 | 346 | 365 | 384 | 403 |
| L2 | 49 | 68 | 87 | 106 | 125 | 144 | 163 | 182 | 201 | 220 | 239 | 258 | 277 | 296 | 315 | 334 | 353 | 372 | 391 |

Type 41 Manifold: Bottom Ported/SS3YJ7-41- Stations -01 □

* [] for AC

Grommet (G)



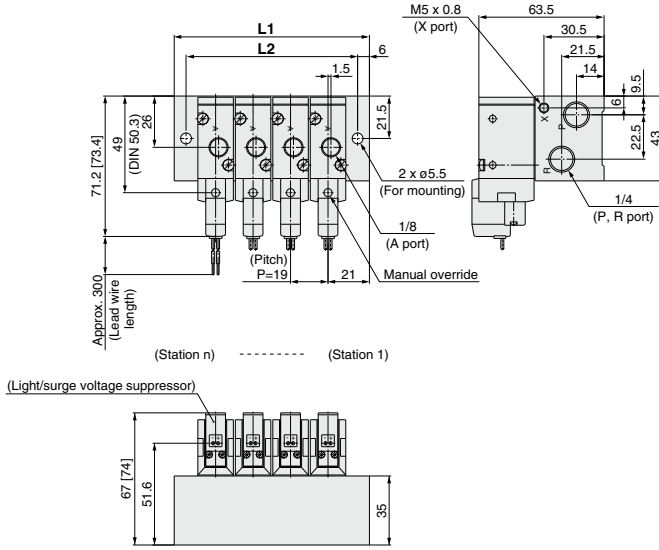
* Other dimensions are the same as type 42.
For dimensions, refer to page 996.

SYJ700 Series

Type 21R Manifold: Top Ported (External Pilot Type)/SS3YJ7-21R-Stations (-00□)

* [] for AC

Grommet (G)

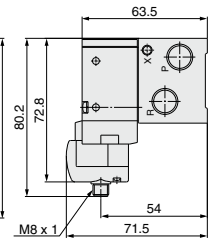
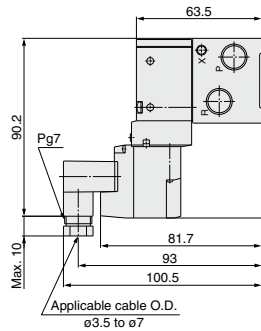
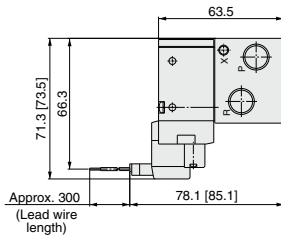
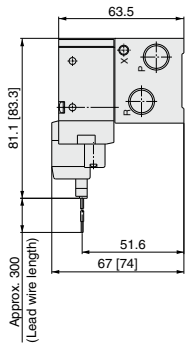


L plug connector (L)

M plug connector (M)

DIN terminal (D)

M8 connector (WO)



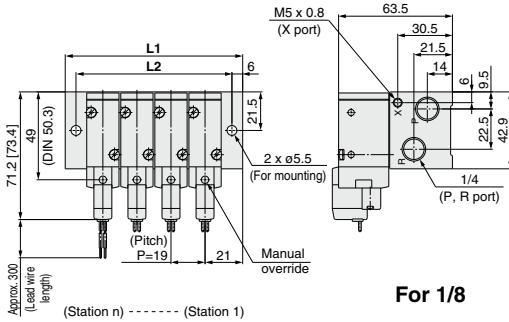
* Refer to page 1009 for dimensions with connector cable.

| Station n | Station 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | Station 20 |
|-----------|-----------|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------------|
| L1 | 61 | 80 | 99 | 118 | 137 | 156 | 175 | 194 | 213 | 232 | 251 | 270 | 289 | 308 | 327 | 346 | 365 | 384 | 403 |
| L2 | 49 | 68 | 87 | 106 | 125 | 144 | 163 | 182 | 201 | 220 | 239 | 258 | 277 | 296 | 315 | 334 | 353 | 372 | 391 |

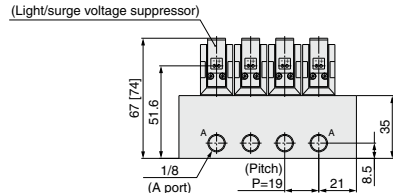
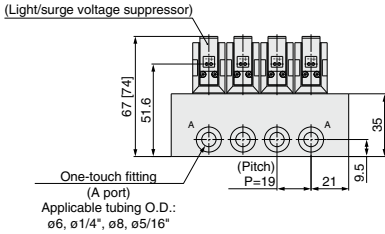
Type 42R Manifold: Side Ported/SS3YJ7-42R-**Stations**-01, C6 N7
C8 N9

* [] for AC

Grommet (G)



For 1/8

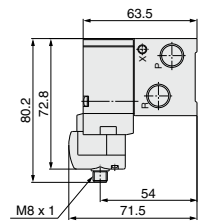
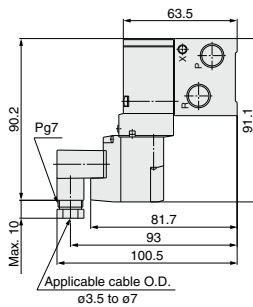
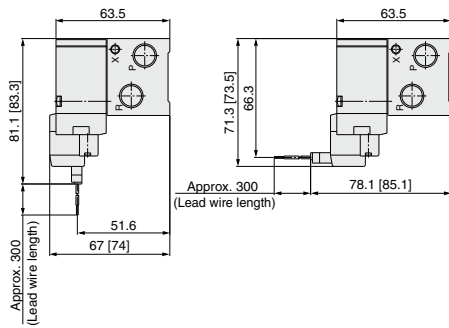


L plug connector (L)

M plug connector (M)

DIN terminal (D)

M8 connector (WO)



* Refer to page 1009 for dimensions with connector cable.

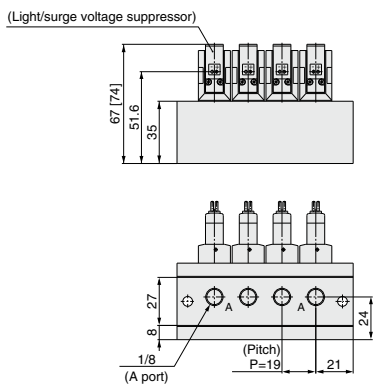
| Station n | Station 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | Station 20 |
|-----------|-----------|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------------|
| L1 | 61 | 80 | 99 | 118 | 137 | 156 | 175 | 194 | 213 | 232 | 251 | 270 | 289 | 308 | 327 | 346 | 365 | 384 | 403 |
| L2 | 49 | 68 | 87 | 106 | 125 | 144 | 163 | 182 | 201 | 220 | 239 | 258 | 277 | 296 | 315 | 334 | 353 | 372 | 391 |

SYJ700 Series

Type 41R Manifold: Bottom Ported (External Pilot Type)/SS3YJ7-41R-Stations-01□

* [] for AC

Grommet (G)



* Other dimensions are the same as type 42R.
For dimensions, refer to page 999.

M8 Connector Conforming to IEC60947-5-2

SYJ300/500/700 Series

Made to Order



How to Order Valve

Type of actuation

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

Series

| | |
|---|--------|
| 3 | SYJ300 |
| 5 | SYJ500 |
| 7 | SYJ700 |

Rated voltage

| DC | 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) |

Bracket

| | |
|-----|-----------------|
| Nil | Without bracket |
| F | With bracket |

Port size

| | |
|----|------------------------|
| M3 | M3 x 0.5 (SYJ300 only) |
| M5 | M5 x 0.8 (SYJ500 only) |
| O1 | 1/8 (SYJ700 only) |

Made to Order (page 1003)
Body ported external pilot
* X20 for the SYJ300 series is not available.

Body ported SYJ 5 1 2 [] - 5 WAO [] [] - M5 - [] - []

Base mounted SYJ 5 1 4 [] - 5 WAO [] [] - O1 - [] - []

Body option

| | |
|-----|--|
| Nil | Pilot valve individual exhaust |
| M | Common exhaust type for main and pilot valve |
| R | External pilot* |

Electrical entry

WAO: Without connector

WA□: With connector ^{Note}

CE/UKCA-compliant

| | |
|-----|-------------------|
| Nil | — |
| Q | CE/UKCA-compliant |

Thread type

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

Port size

| Nil | Without sub-plate |
|-----|---------------------------------------|
| M5 | M5 port With sub-plate SYJ300 |
| O1 | 1/8 port With sub-plate SYJ500 SYJ700 |
| O2 | 1/4 port With sub-plate SYJ700 |

Manual override

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

* SYJ□2R, SYJ5□2R, SYJ7□2R are only for manifold use.

Note) Enter the cable length symbols in □. Please be sure to fill in the blank referring to page 1009.

How to Order Pilot Valve Assembly

V111 - 5 WAO [] []

Rated voltage

| DC | 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) |

Electrical entry

| | | |
|-----|--------------|--------------------------------|
| WAO | M8 connector | Without connector |
| WA□ | | With connector ^{Note} |

Note) Enter the cable length symbols in □. Please be sure to fill in the blank referring to page 1009.

Note) Since V111 is CE/UKCA-compliant as standard, the suffix "Q" is not necessary.

SYJ500/700 Series

Made to Order

For detailed specifications, delivery and pricing, please contact SMC.



Note) AC-type models that are CE/UKCA-compliant have DIN terminals only.

Body Ported External Pilot

How to Order Applicable solenoid valve series/SYJ5□2R, SYJ7□2R



• CE/UKCA-compliant

| | |
|-----|-------------------|
| Nii | — |
| Q | CE/UKCA-compliant |

Note) AC-type models that are CE/UKCA-compliant have DIN terminals only.

Operating Pressure Range MPa

| | |
|--------------------------|-----------------|
| Operating pressure range | -100 kPa to 0.7 |
| Pilot pressure range | 0.15 to 0.7 |

Dimensions

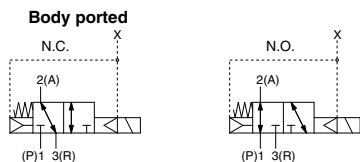
SYJ500: 8 mm longer in total length

SYJ700: 8 mm longer in total length

External Pilot Port

| | |
|----------------|-----------|
| Series | Port size |
| SYJ500, SYJ700 | M5 x 0.8 |

Symbol





SYJ300/500/700 Series

Specific Product Precautions 1

Be sure to read this before handling the products.

Refer to page 8 for safety instructions and pages 9 to 15 for 3/4/5 port solenoid valve precautions.

Manual Override Operation

Warning

When the manual override is operated, connected equipment will be actuated. Confirm safety before operating.

■ Non-locking push type [Standard]

Press in the direction of the arrow



■ Push-turn slotted locking type [Type D]

While pressing, turn in the direction of the arrow.

If it is not turned, it can be operated the same way as the non-locking type.



Locked position



Caution

When operating the locking type D with a screw driver, turn it gently using a watchmakers screw driver. [Torque: Less than 0.1 N·m]

■ Push-turn locking lever type [Type E]

While pressing, turn in the direction of the arrow.

If it is not turned, it can be operated the same way as the non-locking type.



Locked position



Caution

When locking the manual override on the push-turn locking types (D, E), be sure to push it down before turning. Turning without first pushing it down can cause damage to the manual override and trouble such as air leakage, etc.

Solenoid Valve for 200, 220 VAC Specifications

Warning

Solenoid valves with grommet and L/M type plug connector AC specifications have a built-in rectifier circuit in the pilot section to operate the DC coil.

With 200, 220 VAC specification pilot valves, this built-in rectifier generates heat when energized. The surface may become hot depending on the energized condition; therefore, do not touch the solenoid valves.

Common Exhaust Type for Main and Pilot Valve

Caution

Pilot air is exhausted through the main valve body rather than directly to atmosphere.

- Suitable for applications where exhausting the pilot valve to atmosphere would be detrimental to the surrounding working environment.
- For use in extremely dirty environments where there is the possibility that dust could enter the pilot exhaust and damage the valve.

Ensure that the piping of exhaust air is not too restrictive.

Bracket

Caution

For bracket attached types of SYJ300, do not use it without bracket.



SYJ300/500/700 Series

Specific Product Precautions 2

Be sure to read this before handling the products.

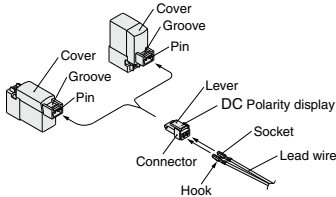
Refer to page 8 for safety instructions and pages 9 to 15 for 3/4/5 port solenoid valve precautions.

How to Use Plug Connector

⚠ Caution

1. Attaching and detaching connectors

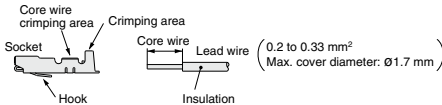
- To attach a connector, hold the lever and connector unit between your fingers and insert straight onto the pins of the solenoid valve so that the lever's pawl is pushed into the groove and locks.
- To detach a connector, remove the pawl from the groove by pushing the lever downward with your thumb,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



2. Crimping of lead wires and sockets

Strip 3.2 to 3.7 mm at the end of the lead wires, insert the ends of the core wires evenly into the sockets, and then crimp with a crimping tool. When this is done, take care that the coverings of the lead wires do not enter the core wire crimping area.

Use an exclusive crimping tool for crimping. (Contact SMC for special crimping tools.)



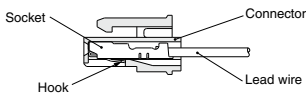
3. Attaching and detaching sockets with lead wires

• Attaching

Insert the sockets into the square holes of the connector (+, - indication), and continue to push the sockets all the way in until they 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

⚠ Caution

Standard length is 300 mm, but the following lengths are 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 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

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

EX.) In case of 2000 mm of lead wire

| | |
|----------------|----------------|
| For DC | For AC |
| SYJ312-5LO-M3 | SYJ312-1LO-M3 |
| SY100-30-4A-20 | SY100-30-1A-20 |



SYJ300/500/700 Series Specific Product Precautions 3

Be sure to read this before handling the products.

Refer to page 8 for safety instructions and pages 9 to 15 for 3/4/5 port solenoid valve precautions.

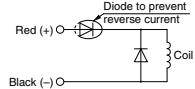
Surge Voltage Suppressor

Caution

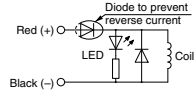
<For DC>

Grommet, L/M Plug Connector

■ Standard type (with polarity) Surge voltage suppressor (□S)

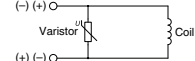


■ With light/surge voltage suppressor (□Z)

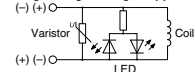


■ Non-polar type

With surge voltage suppressor (□R)



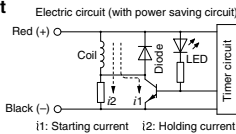
With light/surge voltage suppressor (□U)



- Connect the standard type in accordance with the +, - polarity indication. (The non-polar type can be used with the connections made either way.)
- Since voltage specifications other than standard 24 and 12 VDC do not have diodes for polarity protection, be careful not to make errors in the polarity.
- When wiring is done at the factory, positive (+) is red and negative (-) is black.

■ With power saving circuit

Power consumption is decreased by 1/4 by reducing the wattage required to hold the valve in an energized state. (Effective energizing time is over 62 ms at 24 VDC.)

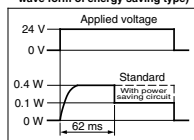


Operating Principle

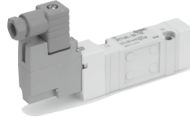
With the above circuit, the current consumption when holding is reduced to save energy. Please refer to the electric wave data to the right.

- Please be careful not to reverse the polarity, since a diode to prevent the reversed current is not provided for the power saving circuit.

(In the case of SYJ□□□□□□□□□□, the electric wave form of energy saving type)

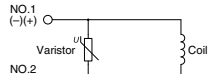


DIN Terminal

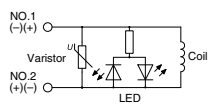


DIN terminal has no polarity.

With surge voltage suppressor (DS)



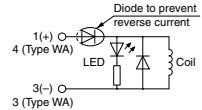
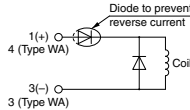
With light/surge voltage suppressor (DZ)



M8 Connector

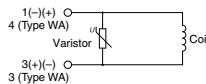
■ Standard type (with polarity)

With light/surge voltage suppressor (□S) With light/surge voltage suppressor (□Z)

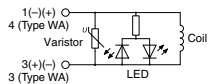


■ Non-polar type

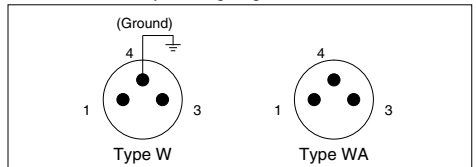
With surge voltage suppressor (□R)



With light/surge voltage suppressor (□U)



Solenoid valve side pin wiring diagram



- For the standard type, connect + to 1 and - to 3 for Type W according to polarity, while + to 4 and - to 3 for Type WA.
- Please be careful not to reverse the polarity, since a diode to prevent the reversed current is not provided for DC voltages other than 24 and 12 VDC.
- The WA-type valve cannot be grounded.



SYJ300/500/700 Series Specific Product Precautions 4

Be sure to read this before handling the products.

Refer to page 8 for safety instructions and pages 9 to 15 for 3/4/5 port solenoid valve precautions.

Surge Voltage Suppressor

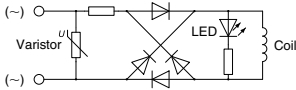
<For AC>

(There is no "S" type because the generation of surge voltage is prevented by a rectifier.)

⚠ Caution

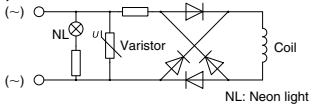
Grommet, L/M Plug Connector

With light (□Z)



DIN Terminal

With light (DZ)



NL: Neon light

Note) Surge voltage suppressor of varistor has residual voltage corresponding to the protective element and rated voltage; therefore, protect the controller side from the surge. The residual voltage of the diode is approximately 1 V.

How to Use DIN Terminal

⚠ Caution

Connection

- Loosen the holding screw and pull the connector out of the solenoid valve terminal block.
- After removing the holding screw, insert a flat head screwdriver, etc. into the notch on the bottom of the terminal block and pry it open, separating the terminal block and the housing.
- Loosen the terminal screws (slotted screws) on the terminal block, insert the cores of the lead wires into the terminals according to the connection method, and fasten them securely with the terminal screws.
- Secure the cord by fastening the gland nut.

⚠ Caution

When making connections, take note that using other than the supported size (ø3.5 to ø7) heavy duty cord will not satisfy IP65 (enclosure) standards. Also, be sure to tighten the gland nut and holding screw within their specified torque ranges.

Changing the entry direction

After separating the terminal block and housing, the cord entry can be changed by attaching the housing in the desired direction (4 directions at 90° intervals).

* When equipped with a light, be careful not to damage the light with the cord's lead wires.

Precautions

Plug in and pull out the connector vertically without tilting to one side.

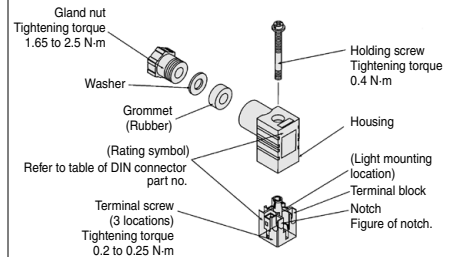
How to Use DIN Terminal

⚠ Caution

Compatible cable

Cord O.D.: ø3.5 to ø7

(Reference) 0.5mm², 2-core or 3-core, equivalent to JIS C 3306



Type "Y"

DIN connector type Y is a DIN connector that conforms to the DIN pitch 8-mm standard.

- D type DIN connector with 9.4 mm pitch between terminals is not interchangeable.
- To distinguish from the D type DIN connector, "N" is listed at the end of voltage symbol. (For connector parts without lights, "N" is not indicated. Please refer to the name plate to distinguish.)
- Dimensions are completely the same as D type DIN connector.
- When exchanging the pilot valve assembly only, "V115-□D" is interchangeable with "V115-□Y". Do not replace V111 (G, L, M) to V115-□D/□Y (DIN terminal), and vice versa.

Solenoid Valve Mounting

⚠ Caution

Mount it so that there is no slippage or deformation in gaskets, and tighten with the tightening torque as shown below.

| Model | Thread size | Tightening torque |
|--------|-------------|-------------------|
| SYJ300 | M1.7 | 0.12 N·m |
| SYJ500 | M2.5 | 0.45 N·m |
| SYJ700 | M3 | 0.8 N·m |



SYJ300/500/700 Series Specific Product Precautions 5

Be sure to read this before handling the products.

Refer to page 8 for safety instructions and pages 9 to 15 for 3/4/5 port solenoid valve precautions.

DIN Connector Part No.

⚠ Caution

<Type D>

| | |
|---------------|------------|
| Without light | SY100-61-1 |
|---------------|------------|

With light

| Rated voltage | Voltage symbol | Part no. |
|---------------|----------------|---------------|
| 24 VDC | 24 V | SY100-61-3-05 |
| 12 VDC | 12 V | SY100-61-3-06 |
| 100 VAC | 100 V | SY100-61-2-01 |
| 200 VAC | 200 V | SY100-61-2-02 |
| 110 VAC | 110 V | SY100-61-2-03 |
| 220 VAC | 220 V | SY100-61-2-04 |

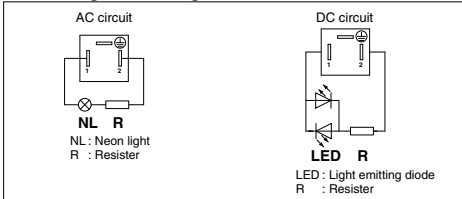
<Type Y>

| | |
|---------------|------------|
| Without light | SY100-82-1 |
|---------------|------------|

With light

| Rated voltage | Voltage symbol | Part no. |
|------------------|----------------|---------------|
| DC24 V | 24 VN | SY100-82-3-05 |
| DC12 V | 12 VN | SY100-82-3-06 |
| 100 VAC | 100 VN | SY100-82-2-01 |
| 200 VAC | 200 VN | SY100-82-2-02 |
| 110 VAC(115 VAC) | 110 VN | SY100-82-2-03 |
| 220 VAC(230 VAC) | 220 VN | SY100-82-2-04 |

Circuit Diagram with Light



Connector Assembly with Cover

⚠ Caution

Connector assembly with dust proof protective cover.

- Effective to prevention of short circuit failure due to the entry of foreign matter into the connector.
- Chloroprene rubber for electrical use, which provides outstanding weather resistance and electrical insulation, is used for the cover material. However, do not allow contact with cutting oil, etc.
- Simple and unencumbered appearance by adopting round-shaped cord.

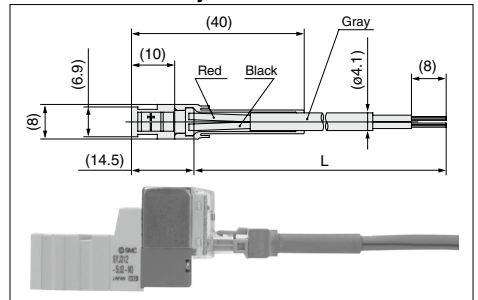
How to Order

SY100-68-A-

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 |

Connector Assembly with Cover: Dimensions



How to Order

Enter the part number for a plug connector solenoid valve without connector together with the part number for a connector assembly with cover.

- Ex. 1) Lead wire length of 2000 mm
SYJ312-5LOZ-M3
SY100-68-A-20
- Ex. 2) Lead wire length of 300 mm (standard)
SYJ312-5LPZ-M3

Symbol for connector assembly with cover

* In this case, the part number for the connector assembly with cover is not required.



SYJ300/500/700 Series Specific Product Precautions 6

Be sure to read this before handling the products.

Refer to page 8 for safety instructions and pages 9 to 15 for 3/4/5 port solenoid valve precautions.

M8 Connector

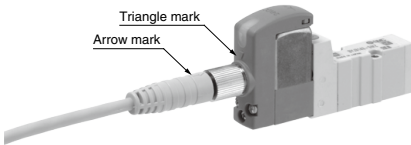
⚠ Caution

- M8 connector types have an IP65 (enclosure) rating, offering protection from dust and water. However please note: these products are not intended for use in water. Select a SMC connector cable (V100-49-1-□) or a FA sensor type connector, with M8 threaded 3 pin specifications conforming to Nippon Electric Control Equipment Association Standard, NECA4202 (IEC60947-5-2). Make sure the connector O.D. is 10.5 mm or less when used with the SYJ300 series manifold. If more than 10.5 mm, it cannot be mounted due to the size.
- Do not use a tool to mount the connector, as this may cause damage. Only tighten by hand. (0.4 to 0.6 N·m)
- The excessive stress on the cable connector will not be able to satisfy the IP65 rating. Please use caution and do not apply a stress of 30 N or greater.

⚠ Caution

Failure to meet IP65 performance may result if using alternative connectors than those shown above, or when insufficiently tightened.

• Connector cable mounting



Note) Connector cable should be mounted in the correct direction. Make sure that the arrow symbol on the connector is facing the triangle symbol on the valve when using SMC connector cable (V100-49-1-□). Be careful not to squeeze it in the wrong direction, as problems such as pin damage may occur.

■ Connector cable

- Connector cable for M8 can be ordered as follows:

How to Order

- To order solenoid valve and connector cable at the same time.

(Connector cable will be included in the shipment of the solenoid valve.)

SYJ³/₅/₇ □ □ □ - □ □ □ □ - □ □

Electrical entry

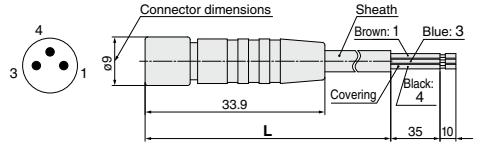
- W1, WA1: Cable length 300 mm
- W2, WA2: Cable length 500 mm
- W3, WA3: Cable length 1000 mm
- W4, WA4: Cable length 2000 mm
- W7, WA7: Cable length 5000 mm

- Ex. 1) Cable length: 300 mm

SYJ312-5W1ZE-M3

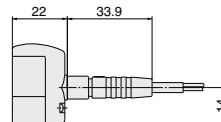
└─Symbol for electrical entry

- To order connector cable only



| Cable length (L) | Part no. |
|------------------|-------------|
| 300 mm | V100-49-1-1 |
| 500 mm | V100-49-1-2 |
| 1000 mm | V100-49-1-3 |
| 2000 mm | V100-49-1-4 |
| 5000 mm | V100-49-1-7 |

| | |
|----------------|----------------------|
| Sheath O.D. | ø3.4 mm |
| Cover diameter | ø1.16 mm |
| Conductor area | 0.16 mm ² |





SYJ300/500/700 Series Specific Product Precautions 7

Be sure to read this before handling the products.

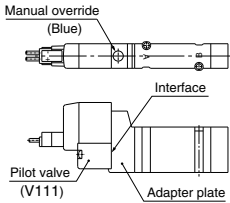
Refer to page 8 for safety instructions and pages 9 to 15 for 3/4/5 port solenoid valve precautions.

Replacement of Pilot Valve

Caution

Pilot valves in this series are improved to provide excellent energy saving results. However following this improvement, these new valves are no longer compatible with the current pilot valve used at the interface. Consult with SMC when you need to exchange these pilot valves, in the case of manual override (marked in orange) of the adapter plate.

New type



Current type

