

# 3 Port Solenoid Valve Rubber Seal

## Series SYJ300/500/700

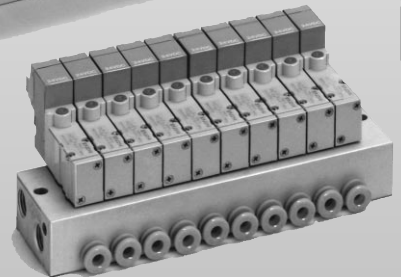
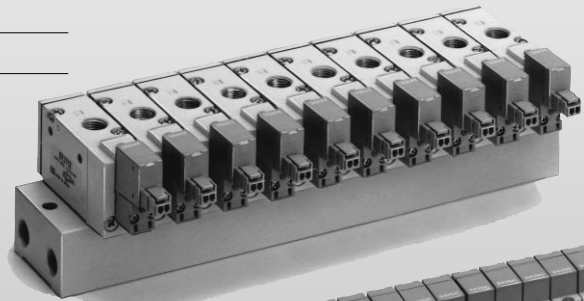
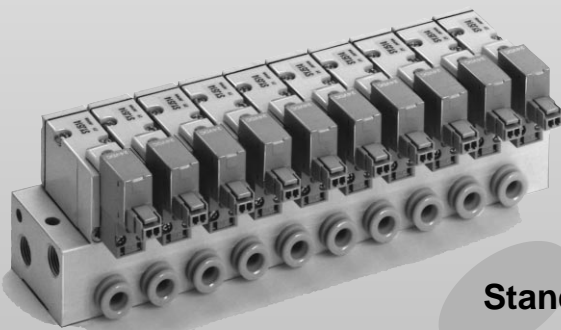
**Low power consumption: 0.5W** (Without light)  
(Current draw: 21mA at 24V DC)

**Completely interchangeable  
with the previous  
series VJ300/500/700 and VZ300/500.**

Mounts on the same subplates and manifolds as  
the VJ300/500/700 and the VZ300/500.

	Series VJ	Series VZ
<b>SYJ300</b>	VJ300	—
<b>SYJ500</b>	VJ500	VZ300
<b>SYJ700</b>	VJ700	VZ500

Pilot exhaust



**Standard valve  
suitable for copper free applications**

**Valve can be piped for selector  
or divider applications.**

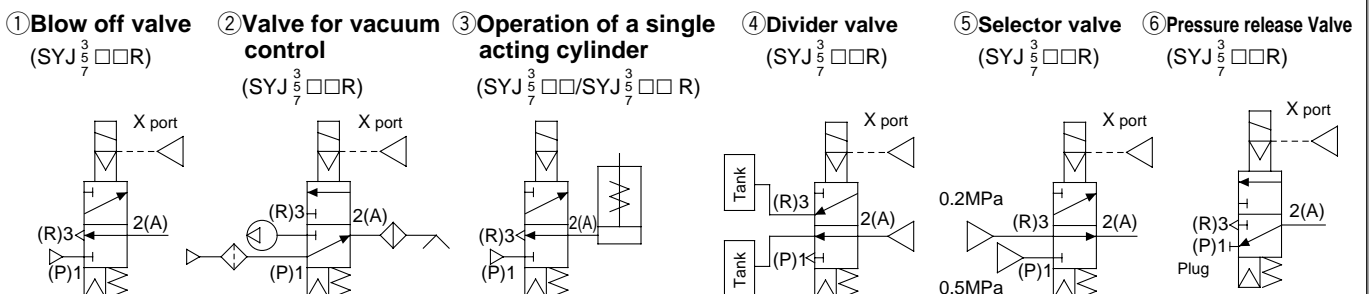
— Universal porting is possible.

**Bright color tone and  
state of the art design**

**Vacuum applicable**

Up to -100kPa

### Application Example



SY

SYJ

VK

VZ

VT

VT

VP

VG

VP

VQ

VQZ


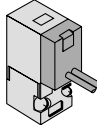

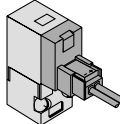

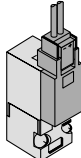



VZ


VS

# 3 Port Solenoid Valve Rubber Seal

## Series SYJ300/500/700

### Variations

	Series	Port size	Effective area (mm <sup>2</sup> ) (Cv)	Actuation	Voltage	Electrical entry	Option	Manual override	
							Indicator light and surge voltage suppressor		
Body ported	<b>SYJ300</b> 	M3 X 0.5	0.9 (0.05)	●N.C. ●N.O.	DC ■24V DC 12V DC 6V DC 5V DC 3V DC	Grommet 	DC ■With surge voltage suppressor ■With indicator light and surge voltage suppressor	■Non-locking push style  ■Push-locking slotted style	
	<b>SYJ500</b> 	M5 X 0.8	3.6 (0.2)						L plug connector 
	<b>SYJ700</b> 	Rc(PT)1/8	9.0 (0.5)						M plug connector 
Base mounted	<b>SYJ300</b> 	M5 X 0.8	1.8 (0.1)		AC ■100V AC <sup>50</sup> / <sub>60</sub> Hz 110V AC <sup>50</sup> / <sub>60</sub> Hz 200V AC <sup>50</sup> / <sub>60</sub> Hz 220V AC <sup>50</sup> / <sub>60</sub> Hz	AC <sup>Note)</sup>	■With indicator light and surge voltage suppressor		
	<b>SYJ500</b> 	Rc(PT)1/8	4.5 (0.25)						
	<b>SYJ700</b> 	Rc(PT) 1/8/1/4	9.0 (0.5)						

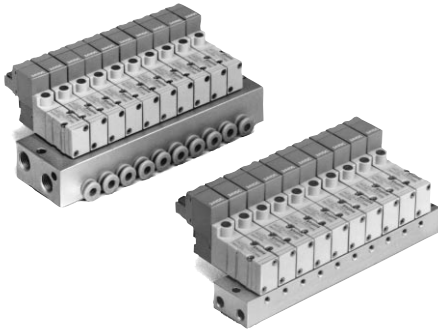
 Note) All AC voltage models have built-in surge voltage suppressor.

## Manifold Variations

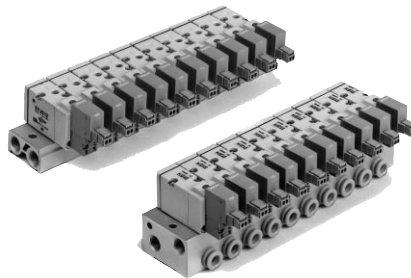
Valve series	A Port location	P/R port size	A port size						
			M3	M5	Rc(PT) 1/8	With built-in One-touch fitting			
						Applicable tube O.D.			
						ø4	ø6	ø8	
<b>Body ported</b>	<b>SYJ300</b>	Top	M5 X 0.8	● <sup>(1)</sup>	—	—	—	—	—
			Rc(PT)1/8	● <sup>(2)</sup>	—	—	—	—	—
	<b>SYJ500</b>	Top	Rc(PT)1/8	—	●	—	—	—	—
			<b>SYJ700</b>	Top	Rc(PT)1/8	—	—	● <sup>(1)</sup>	—
Rc(PT)1/4	—	—			●	—	—		
<b>Base mounted</b>	<b>SYJ300</b>	Side	M5 X 0.8	● <sup>(1)</sup>	—	—	—	—	—
			Rc(PT)1/8	—	●	—	●	—	—
	<b>SYJ500</b>	Bottom	Rc(PT)1/8	—	●	●	—	—	—
		Side	Rc(PT)1/8	—	●	●	●	●	—
	<b>SYJ700</b>	Bottom	Rc(PT)1/8	—	—	● <sup>(1)</sup>	—	—	—
			Rc(PT)1/4	—	—	●	—	—	—
		Side	Rc(PT)1/4	—	—	●	—	●	●
			Rc(PT)1/4	—	—	●	—	●	●



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



Series SYJ300



Series SYJ500



Series SYJ700

SY

SYJ

VK

VZ

VT

VT

VP

VG

VP

VQ

VQZ

VZ

VS

## ⚠ Precautions

Be sure to read before handling. Refer to p.0-33 to 0-36 for Safety Instructions and common precautions on the products mentioned in this catalog.

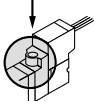
### ⚠ Warning

#### Operation of Manual Override

Use caution since manual override operation will operate any connected actuators.

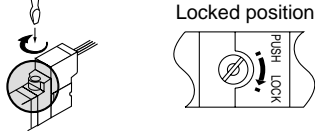
##### ■ Non-locking push style [Standard]

Press in the direction of the arrow.



##### ■ Push-locking slotted style [D]

While pressing, turn in the direction of the arrow. If you do not turn, the mechanism does not lock in position.



Note) A second manual override is located on the pilot valve assembly. It is only available as a non-locking push style. Simply depress in the direction of the arrow shown to operate.



### ⚠ Warning

#### Solenoid Valve with 200V/220V AC Specification

For grommet or L/M type plug connector solenoid valve with AC specification, DC coil is operated with the rectifier circuit built in pilot valve.

Do not touch the pilot valve while energizing because built-in rectifier circuit is heated and the temperature of the surface of pilot valve may be too high.

### ⚠ Caution

#### Common Exhaust Port for The Pilot and Main Valve

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.

### ⚠ Caution

#### Bracket

When with bracket of SYJ300, do not use it without a bracket.

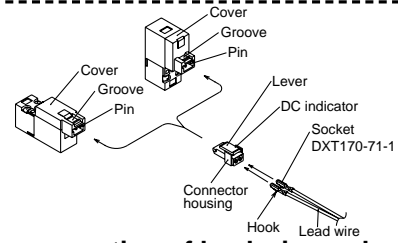
### ⚠ Caution

#### How to Use Plug Connector

##### ① Connection/Disconnection of connector

- Connection—Push the connector straight on to the pins of the solenoid, making sure the lip of the lever securely "locks" into the groove of the solenoid cover.
- Disconnection—Press the lever against the connector housing and pull it outward from the solenoid

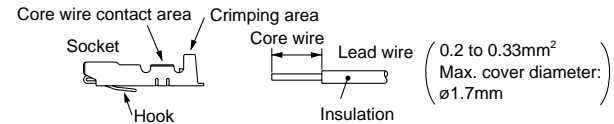
2.2-4



##### ② Crimping connection of lead wire and socket

Strip 3.2 to 3.7mm of the lead wire ends, insert each stripped wire into a socket and crimp it using special crimping tool. Be careful that the outer insulation of the lead wires does not interfere with the socket contact part.

(Contact SMC for the special crimping tool.)



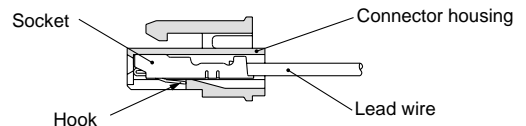
##### ③ Connection/Disconnection of socket with lead wire

###### ● Connection

Insert lead wire and crimped socket into square holes (indicated as positive or negative) of connector. Press the socket in fully until the hook of the socket locks into the groove of the connector housing. Confirm the locked position by lightly pulling on the lead wire.

###### ● Disconnection

To remove the socket from the connector, pull out lead wire while depressing the hook of the socket with a fine screw driver (or similar). If the socket is to be re-used, reposition the hook again.



### ⚠ Caution

#### Plug Connector Lead Wire Length

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

##### How to Order Connector Assembly

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

For 100V AC: **SY100-30-1A**

For 200V AC: **SY100-30-2A**

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

Without lead wire (with connector and 2 sockets.) **SY100-30-A**

##### How to Order

To order a valve with lead wire length of other than 300mm, indicate part numbers of the valve without connector and the required connector assembly separately.

(Example) 2000mm lead wire length

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

● Lead wire length (mm)	
—	300
6	600
10	1000
15	1500
20	2000
25	2500
30	3000
50	5000

## ⚠ Caution

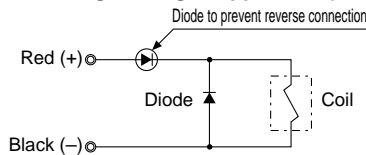
### Surge Voltage Suppressor

<For DC>

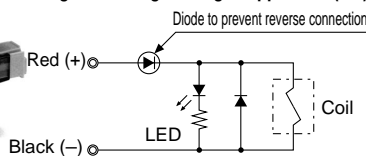
#### Grommet, L and M plug connector

##### ■ Standard style (With polarity)

##### With surge voltage suppressor (□S)

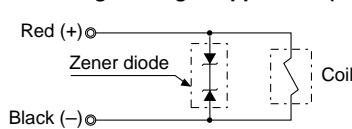


##### With light and surge voltage suppressor (□Z)

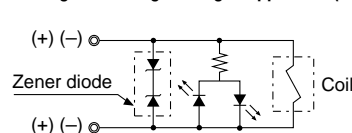


##### ■ Non-polar style

##### With surge voltage suppressor (□R)



##### With light and surge voltage suppressor (□U)



Please correctly connect the lead wires to ⊕ (positive) and ⊖ (negative) indications on the connector.

For non-polar style, the lead wires can be connected to either one.

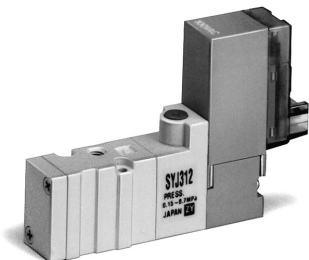
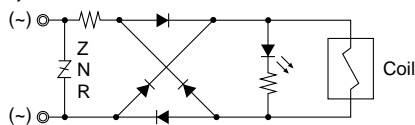
For DC voltages other than 12, 24 incorrect wiring will cause damage to the surge voltage suppressor circuit. (Wrong polarity will cause trouble.) Solenoids, whose lead wires have been pre-wired, are positive side red and negative side black.

<For AC>

(S option is not available since surges are automatically suppressed by the converter.)

#### Grommet, L and M plug connector

##### With light (□Z)



Note) In case of using a surge voltage suppressor except for diode, pay attention to residual voltage in controller depending on protecting element or rated voltage. (Residual voltage for diode is approx. 1V.)

### Connector Assembly with Protective Cover

Connector assembly with protective cover enhances dust protection.

- Effective in preventing possible short circuit problems due to contaminants in contact with connector section.
- Cover material is chloroprene rubber which has excellent weatherability and electric insulation properties. However, be careful not to allow contact with cutting oil.
- Round cord provides neat appearance.

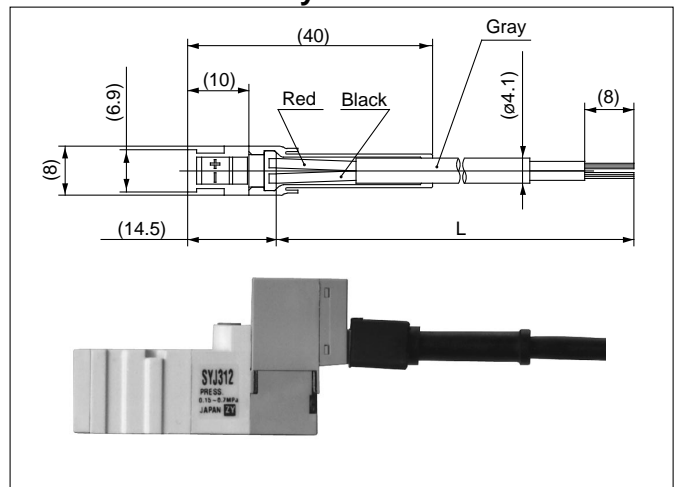
#### How to Order

SY100-68-A-□

● Lead wire length (L, mm)

—	300
6	600
10	1000
15	1500
20	2000
25	2500
30	3000
50	5000

### Connector Assembly with Cover/Dimensions



#### How to Order Connector Assembly with Protective Cover

Specify the part numbers of the solenoid valve without connector and the connector assembly with protective cover separately.

EX. 1) In case of 2000mm of lead wire

SYJ312-5LOZ-M3

SY100-68-A-20

EX. 2) In case of 300mm of lead wire (Standard)

SYJ312-5LPZ-M3

Symbol of connector assembly with protective cover

SY

SYJ

VK

VZ

VT

VT

VP

VG

VP

VQ

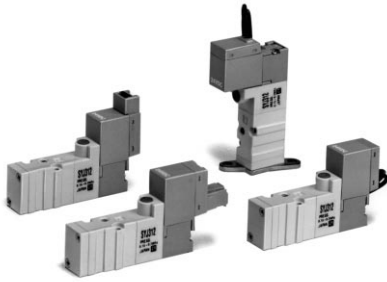
VQZ

VZ

VS

# 3 Port Pilot Solenoid Valve Rubber Seal

## Series SYJ300



Body ported



Base mounted

### Model

Valve model	Actuation	Port size	Effective area (mm <sup>2</sup> )(Cv)	Weight (g) <sup>(1)</sup>		
				Grommet	L plug connector, M plug connector.	
Body ported	SYJ312	N.C.	M3 X 0.5	0.9 (0.05)	29	31
	SYJ322	N.O.				
Base mounted (With sub-plate)	SYJ314	N.C.	M5 X 0.8	1.8 (0.1)	50 (Without sub-plate 29)	52 (Without sub-plate 31)
	SYJ324	N.O.				



Note 1) At DC. When AC is used, add 1g.

### Specifications

Fluid		Air
Operating pressure range (MPa)	Internal pilot	0.15 to 0.7
Ambient and fluid temperature (°C)		Max. 50
Response time (ms) (at 0.5MPa) <sup>(1)</sup>		15 or less
Max. operating frequency (Hz)		10
Manual override		Non-locking push style, Push-locking slotted style
Pilot exhaust		Individual pilot exhaust, Common exhaust (pilot and main valve)
Lubrication		Not required
Mounting position		Free
Impact/Vibration resistance (m/s <sup>2</sup> ) <sup>(2)</sup>		150/30
Protection structure		Dust proof



Note 1) According to dynamic performance test JIS B8374-1981 (Coil temperature 20°C, at rated voltage, without surge voltage suppressor)

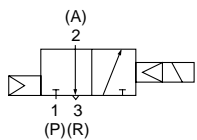
Note 2) Impact resistance: No malfunction resulted from the impact test using a drop impact tester. The test was performed on the axis and right angle directions of the main valve and armature, for both energized and de-energized states. (Value in the initial stage)

Vibration resistance: No malfunction occurred in a one-sweep test between 8.3 and 2000Hz. Test was performed at both energized and de-energized states to axis and right angle directions of the main valve and armature. (Value in the initial stage)

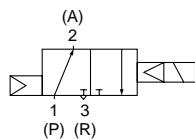
### JIS Symbol

#### Internal pilot

SYJ31<sub>4</sub><sup>2</sup>

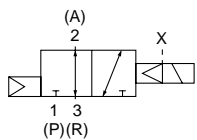


SYJ32<sub>4</sub><sup>2</sup>

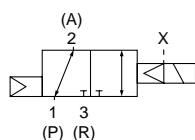


#### External pilot

SYJ31<sub>4</sub><sup>2</sup>R



SYJ32<sub>4</sub><sup>2</sup>R



P.2.2-47

### Solenoid Specifications

Electrical entry		Grommet (G) (H), L plug connector (L), M plug connector (M)	
Coil rated voltage (V)	DC	24, 12, 6, 5, 3	
	AC 50/60Hz	100, 110, 200, 220*	
Allowable voltage		±10% rated voltage	
Power consumption (W) <sup>(1)</sup>	DC	0.5 (With light: 0.55)	
Apparent power (VA)	AC	100V	0.9 (With light: 1.0)
		110V [115V]	1.0 (With light: 1.1) [1.1 (With light: 1.2)]
		200V	1.8 (With light: 1.9)
		220V [230V]	1.9 (With light: 2.0) [2.2 (With light: 2.3)]
Surge voltage suppressor		Diode	
Indicator light		LED	



\* Can be used for 110V and 115V AC, 220V and 230V AC in common.

Note 1) At rated voltage

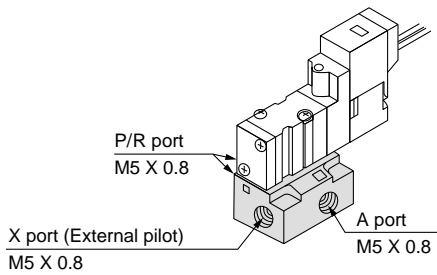
## External Pilot

### SYJ300R

Pilot valve pressure is supplied separately from the main valve pressure through the use of a separate supply port.  
 This model is suitable for low pressure (less than 0.15MPa) and vacuum (up to -100kPa) applications.

### Specifications

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



Note 1) Refer to p.2.2-13 for manifold.  
 Note 2) External pilot style body ported valves (SYJ3□2R) can only be used on the manifold.

SY

SYJ

VK

VZ

VT

VT

VP

VG

VP

VQ

VQZ

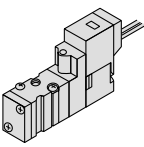
VZ

VS

# Series SYJ300

## How to Order

**3 port**



(For manifold type 20, 20R)

**Actuation**

1	Normally closed
2	Normally open

**Rated voltage**

**For DC**

5	24V DC
6	12V DC
V	6V DC
S	5V DC
R	3V DC

**For AC (50/60Hz)**

1	100V AC
2	200V AC
3	110V AC [115V AC]
4	220V AC [230V AC]

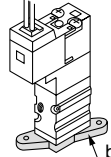
**Indicator light and surge voltage suppressor**

—	Without indicator light and surge voltage suppressor
S	With surge voltage suppressor
Z	With indicator light and surge voltage suppressor
R	With surge voltage suppressor (Non-polar)
U	With indicator light and surge voltage suppressor (Non-polar)

\*For AC voltage valves there is no "S" option. It is already built into the rectifier CRT.  
\* "R" and "U" options are available for DC voltage valves.

**Bracket**

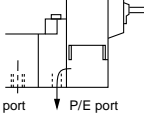
—: Without bracket  
F: With bracket



\*Bracket is supplied not mounted.  
\*Except external pilot style

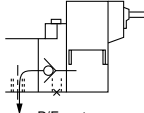
**Body option**

—: Individual exhaust for the pilot valve



R port P/E port


**M: Common exhaust for the pilot and main valve**



R port P/E port

(Pilot valve exhaust is centralized to main valve.)

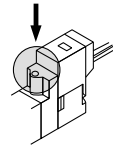
**R: External pilot style\***



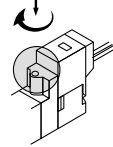
\*SYJ3□2R is only for manifold use.

**Manual override**

—: Non-locking push style

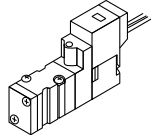
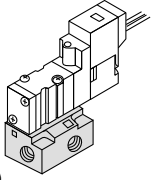


**D: Push locking slotted style**



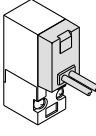
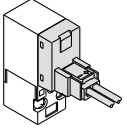
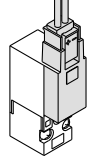
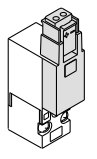
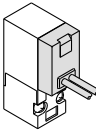
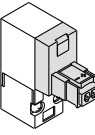
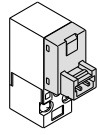
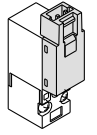
**Port size**

—: Without sub-plate    M5: With M5 port sub-plate

(With gasket and screws)

**Electrical entry**

24V, 12V, 6V, 5V, 3V DC/100V, 110V, 200V, 220V AC			
Grommet	L plug connector	M plug connector	
<b>G: 300mm lead wire</b>	<b>L: 300mm lead wire</b>	<b>M: 300mm lead wire</b>	<b>MN: Without lead wire</b>
			
<b>H: 600mm lead wire</b>	<b>LN: Without lead wire</b>	<b>LO: Without connector</b>	<b>MO: Without connector</b>
			

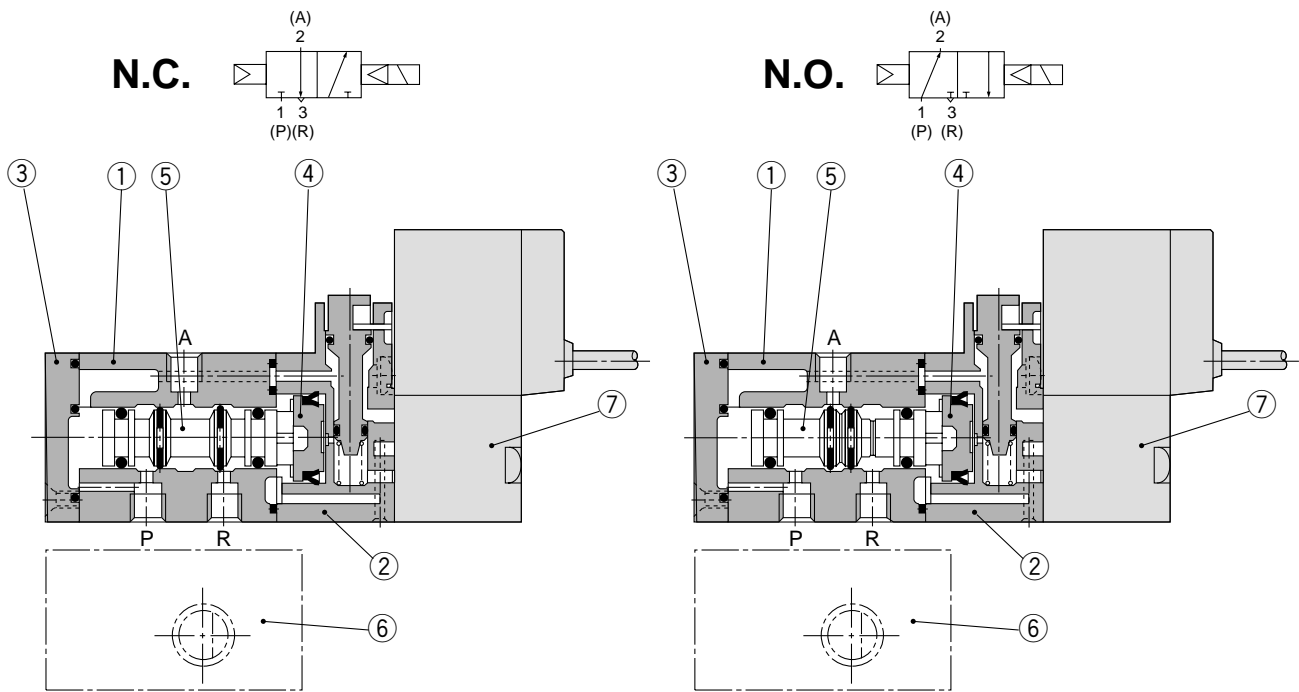
\*LN and MN types are with 2 sockets.

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

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



## Construction



- SY
- SYJ
- VK
- VZ
- VT
- VT
- VP
- VG
- VP

### Component Parts

No.	Description	Material	Note
①	Body	Zinc die cast	White
②	Piston plate	Resin	White
③	End cover	Resin	White
④	Piston	Resin	—
⑤	Spool valve ass'y	Aluminum/NBR	—

### Replacement Parts

No.	Description	Parts No.	Note
⑥	Sub-plate	SYJ300-9-1	Zinc die cast
⑦	Pilot valve	SY114-□□□□	

- VQ
- VQZ
- VZ
- VS

### How to Order Pilot Valve Assembly

SY114 — **5** **G** □

#### Voltage

5	24V DC
6	12V DC
V	6V DC
S	5V DC
R	3V DC
1	100V AC50/60Hz
2	200V AC50/60Hz
3	110V AC50/60Hz [115V AC50/60Hz]
4	220V AC50/60Hz [230V AC50/60Hz]

#### Electrical entry

G	Grommet (Lead wire: 300mm)
H	Grommet (Lead wire: 600mm)
L	L plug connector
LN	L plug connector
LO	L plug connector
M	M plug connector
MN	M plug connector
MO	M plug connector

#### Indicator light and surge voltage suppressor

—	Without indicator light and surge voltage suppressor
S	With surge voltage suppressor
Z	With indicator light and surge voltage suppressor
R	With surge voltage suppressor (Non-polar)
U	With indicator light and surge voltage suppressor (Non-polar)

- For AC voltage valves there is no "S" option. It is already built-in to the rectifier circuit.
- "R" and "U" options are available for DC voltage valves.

### How to Order Connector Assembly

DC : SY100-30-4A-□

100V AC : SY100-30-1A-□

200V AC : SY100-30-2A-□

Other AC voltages: SY100-30-3A-□

Without lead wire: SY100-30-A  
(with connector and 2 sockets)

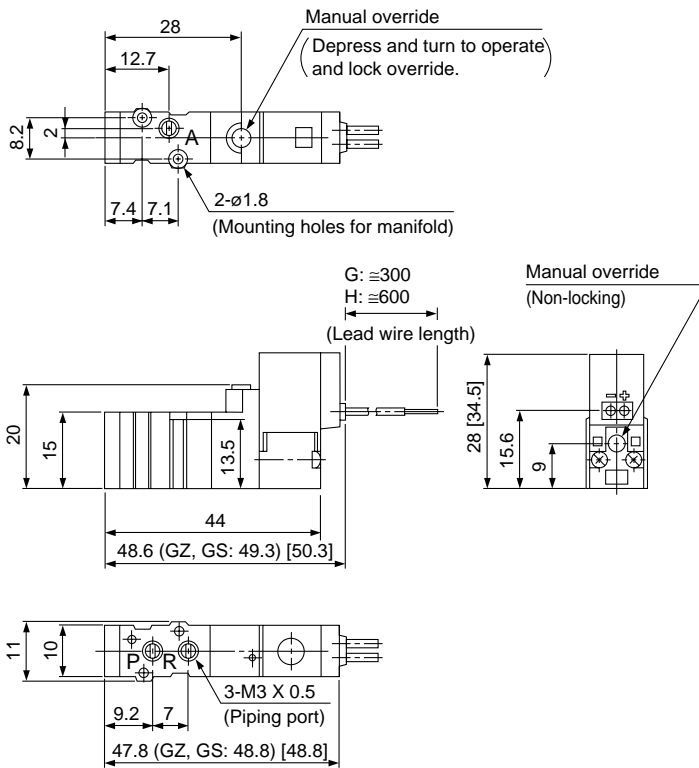
#### Lead wire length (mm)

—	300
6	600
10	1000
15	1500
20	2000
25	2500
30	3000
50	5000

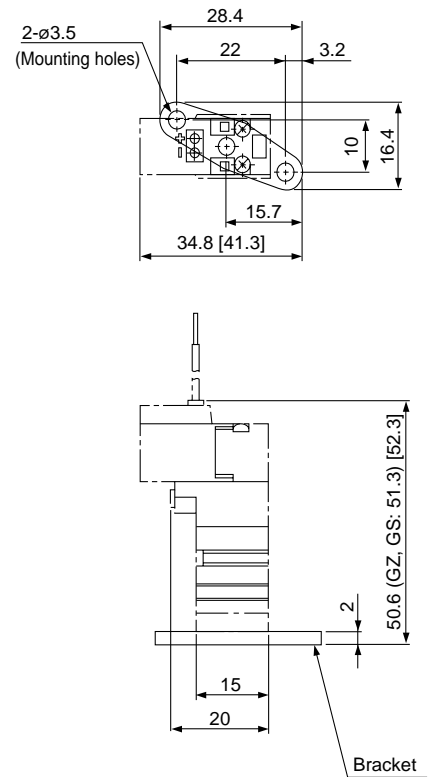
# Series SYJ300

## Body Ported

Grommet (G), (H): SYJ3□2-□<sup>G</sup>□□-M3



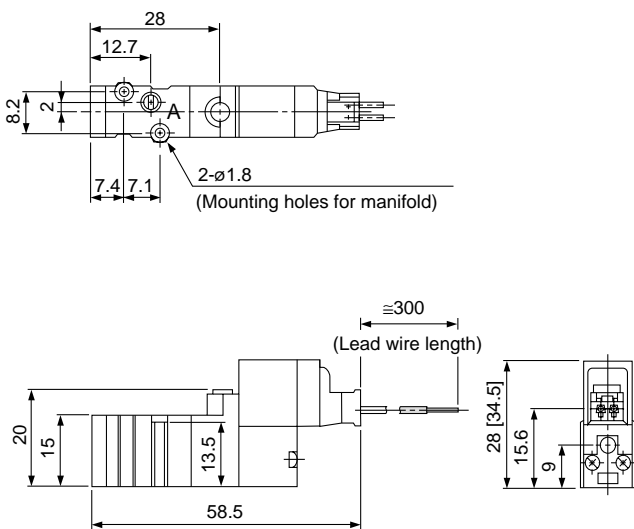
With bracket:  
SYJ3□2-□<sup>G</sup>□□-M3-F



\* [ ] for AC

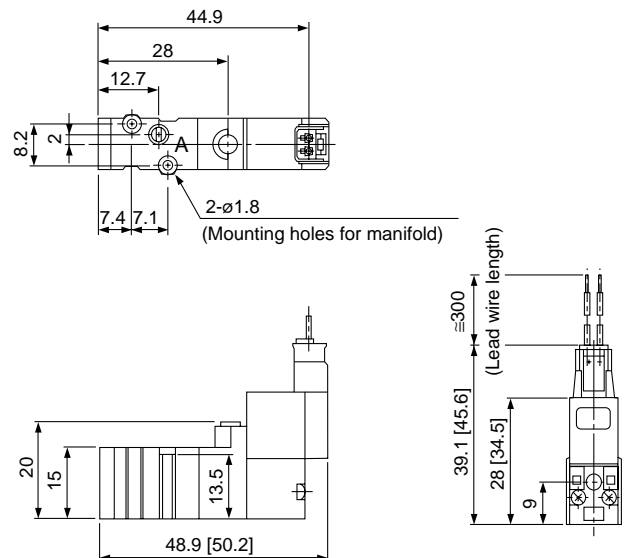
\* [ ] for AC  
\* Other dimensions are the same as the grommet.

L plug connector (L): SYJ3□2-□L□□-M3



\* [ ] for AC  
\* Other dimensions are the same as the grommet.

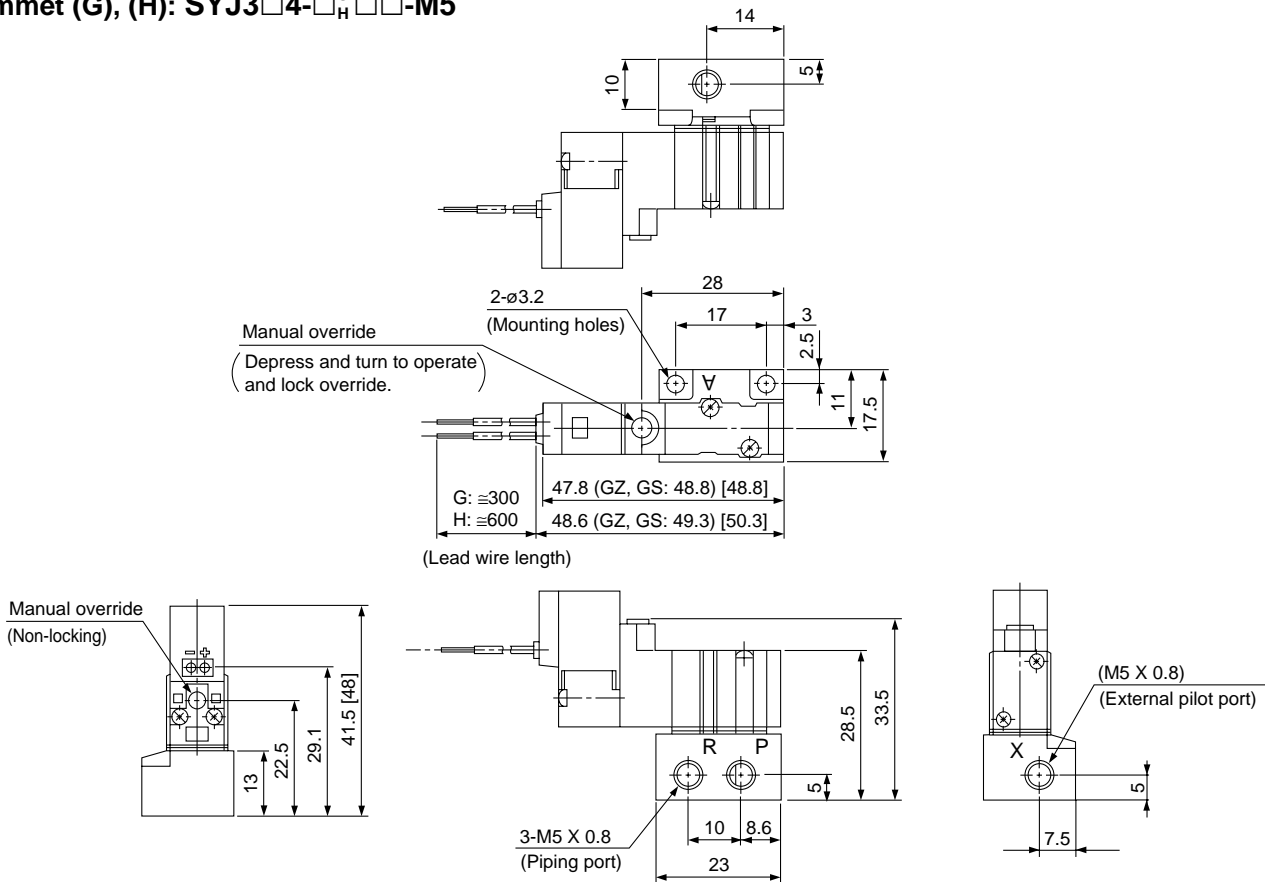
M plug connector (M): SYJ3□2-□M□□-M3



\* [ ] for AC  
\* Other dimensions are the same as the grommet.

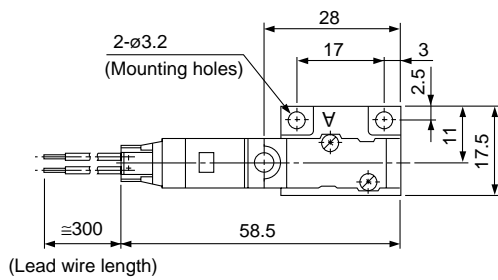
## Base Mounted (With sub-plate)

Grommet (G), (H): SYJ3□4-□<sup>G</sup><sub>H</sub>□□-M5



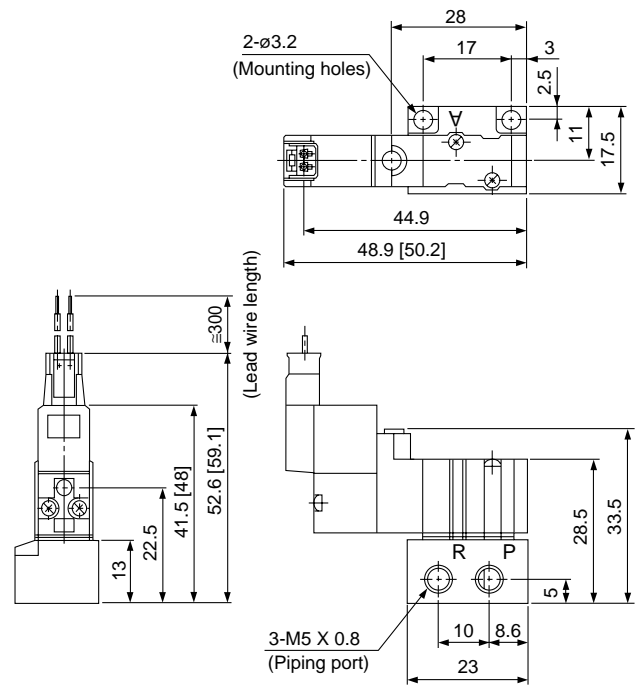
\* [ ] for AC

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



\* [ ] for AC  
\* Other dimensions are the same as the grommet.

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



\* [ ] for AC  
\* Other dimensions are the same as the grommet.

SY

SYJ

VK

VZ

VT

VT

VP

VG

VP

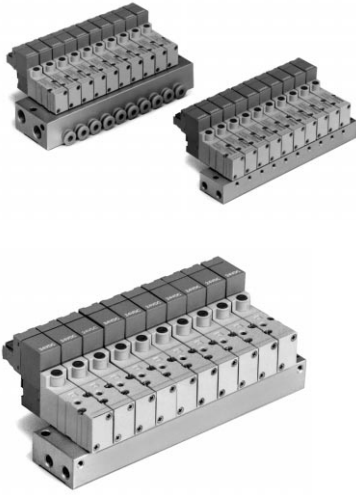
VQ

VQZ

VZ


VS

# Series SYJ300 Manifold



## Manifold Specifications

Type	For internal pilot	20	41, S41	42, S42
	For external pilot	20R	—	42R, S42R
Manifold style	Single base style/B mount			
P(SUP)/R(EXH) style	Common SUP/Common EXH			
Valve stations	2 to 20 stations			
A port specifications	Location	Valve	Base	
	Direction	Top	Side	
Port size	P/R port	Rc(PT) <sup>1</sup> / <sub>8</sub> M5 X 0.8	M5 X 0.8	Rc (PT) <sup>1</sup> / <sub>8</sub>
	A port	M3 X 0.5	M3 X 0.5	M5 X 0.8 C4 (ø4 One-touch fitting)
	X port <sup>(1)</sup>	M5 X 0.8	—	M5 X 0.8
Valve effective area (mm <sup>2</sup> ) (Cv) <sup>(2)</sup>	Body ported SYJ3□2/SYJ3□2R	0.9 (0.05)	—	
	Base mounted SYJ3□4/SYJ3□4R	—	1.5(0.08)	

 Note 1) Only for external pilot  
Note 2) Value when used on a manifold

## How to Order Manifold Assembly

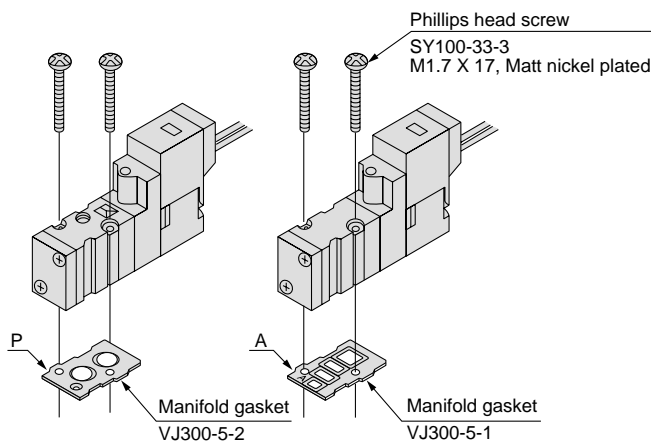
Specify the part numbers for the valve(s), blank plate assembly, and manifold base.

Example:

**SS3YJ3-20-03** .....1 pc. (Manifold base)      **SS3YJ3-42R-03-C4** .....1 pc. (Manifold base)  
**SYJ312-5LZ-M3** .....2 pcs. (Valve)            **SYJ314R-5G** .....2 pcs. (Valve)  
**SYJ300-10-1A** .....1 pc. (Blank plate ass'y)    **SYJ300-10-2A** .....1 pc. (Blank plate ass'y)

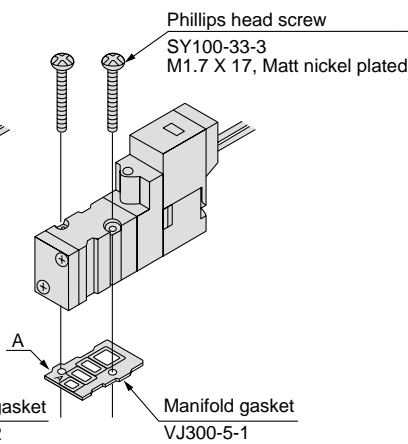
## Combinations of Solenoid Valve, Manifold Gasket and Manifold Base

### Body ported (SYJ3□2)



**Applicable base**  
SS3YJ3-20  
SS3YJ3-20R } Manifold base

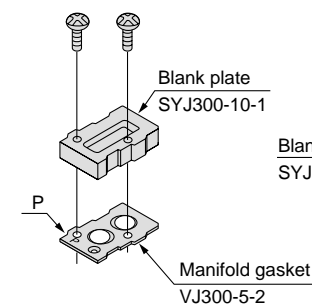
### Base mounted (SYJ3□4)



**Applicable base**  
**Sub-plate**  
SS3YJ3-41  
SS3YJ3-S41  
SS3YJ3-42  
SS3YJ3-S42  
SS3YJ3-42R  
SS3YJ3-S42R } Manifold base

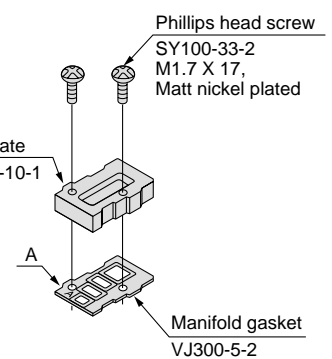
## Blank Plate Assembly

### SYJ300-10-1A



**Applicable base**  
SS3YJ3-20  
SS3YJ3-20R } Manifold base

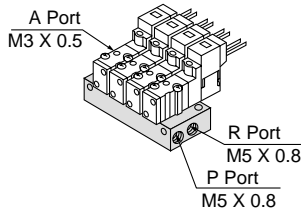
### SYJ300-10-2A



**Applicable base**  
**Sub-plate**  
SS3YJ3-41  
SS3YJ3-S41  
SS3YJ3-42  
SS3YJ3-S42  
SS3YJ3-42R  
SS3YJ3-S42R } Manifold base

## Manifolds for Internal Pilot

### 20 Type



#### How to Order

**SS3YJ3-20-05**

Stations		Bracket	
02	2 stations	-	Without bracket
:	:	F	With bracket
20	20 stations		

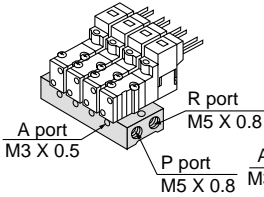
**Applicable solenoid valve**  
 SYJ312-□□□□-M3  
 SYJ312M-□□□□-M3  
 SYJ322-□□□□-M3  
 SYJ322M-□□□□-M3

**Applicable blank plate ass'y**  
 SYJ300-10-1A

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

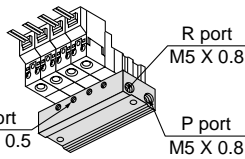
### 41 Type

#### 41 Type



#### S41 Type

(Coil is located on same side as the A port.)



#### Valve mounting direction

-	Coil is located on the opposite side of the A port.
S	Coil is located on same side as the A port.

#### Stations

02	2 stations
:	:
20	20 stations

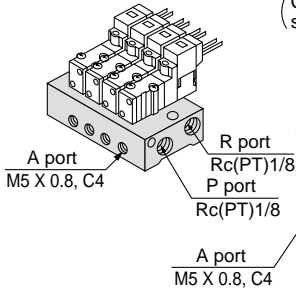
**Applicable solenoid valve**  
 SYJ314-□□□□  
 SYJ314M-□□□□  
 SYJ324-□□□□  
 SYJ324M-□□□□

**Applicable blank plate ass'y**  
 SYJ300-10-2A

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

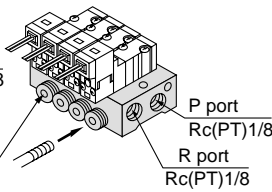
### 42 Type

#### 42 Type



#### S42 Type

(Coil is located on same side as the A port.)



#### Valve mounting direction

-	Coil is located on the opposite side of the A port.
S	Coil is located on same side as the A port.

#### Stations

02	2 stations
:	:
20	20 stations

#### A port side

M5	M5 X 0.8
C4	ø4 One-touch fitting

**Applicable solenoid valve**  
 SYJ314-□□□□  
 SYJ314M-□□□□  
 SYJ324-□□□□  
 SYJ324M-□□□□

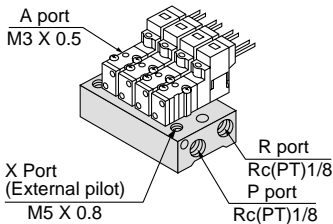
**Applicable blank plate ass'y**  
 SYJ300-10-2A

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

## Manifolds for External Pilot

Pilot valve pressure is isolated from main valve pressure through a separate supply line. This is suitable for vacuum (up to -100kPa) and low pressure 0.15MPa applications.

### 20R Type



#### How to Order

**SS3YJ3-20R-05**

Stations	
02	2 stations
:	:
20	20 stations

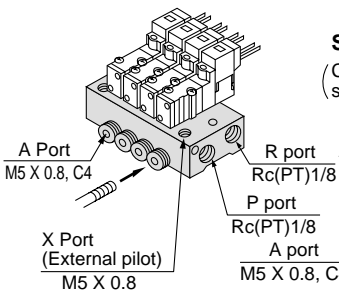
**Applicable solenoid valve**  
 SYJ312R-□□□□  
 SYJ322R-□□□□

**Applicable blank plate ass'y**  
 SYJ300-10-1A

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

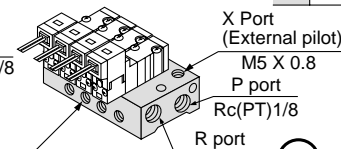
### 42R Type

#### 42R Type (External pilot)



#### S42R Type

(Coil is located on same side as the A port.)



#### Valve mounting direction

-	Coil is located on the opposite side of the A port.
S	Coil is located on same side as the A port.

#### Stations

02	2 stations
:	:
20	20 stations

#### A port side

M5	M5 X 0.8
C4	ø4 One-touch fitting

**Applicable solenoid valve**  
 SYJ314R-□□□□  
 SYJ324R-□□□□

**Applicable blank plate ass'y**  
 SYJ300-10-2A

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

SY

SYJ

VK

VZ

VT

VT

VP

VG

VP

VQ

VQZ

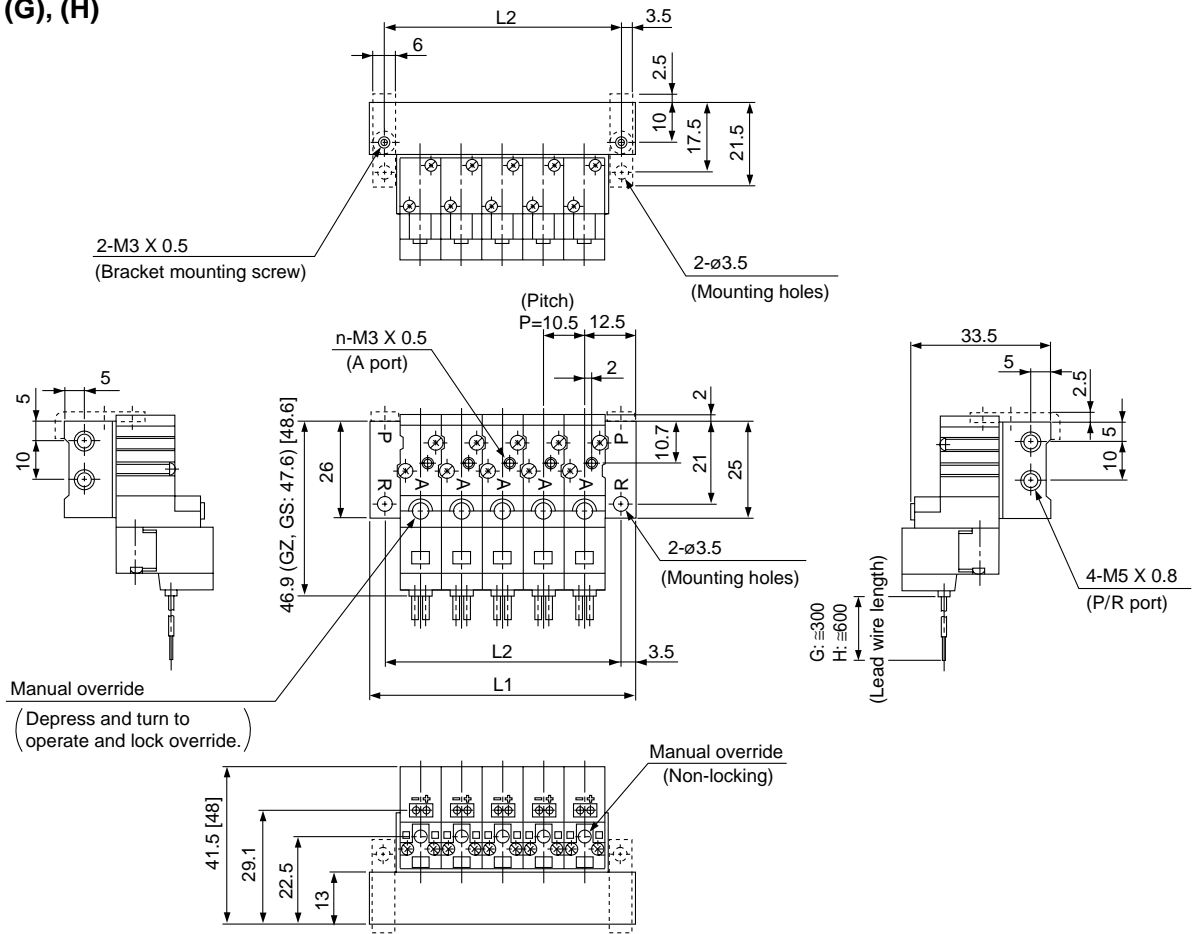
VZ

VS

# Series SYJ300

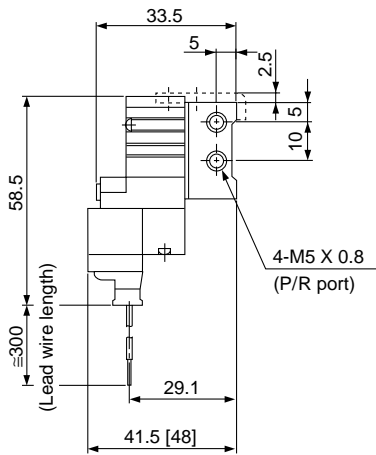
## 20 Type Manifold: Top Ported/SS3YJ3-20-Station

### Grommet (G), (H)

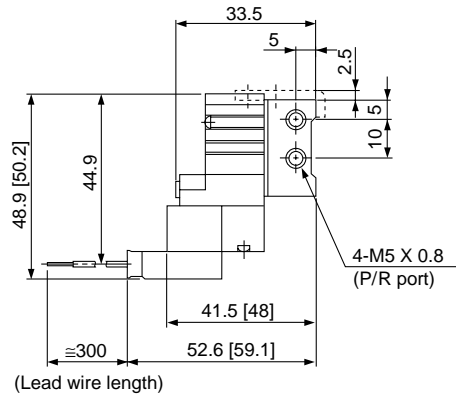


\* [ ] for AC

### L plug connector (L)



### M plug connector (M)



\* [ ] for AC  
\* Other dimensions are the same as the grommet.

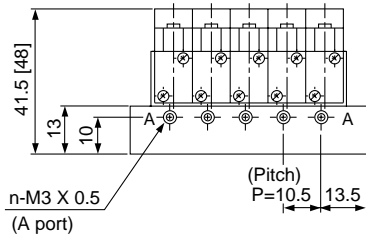
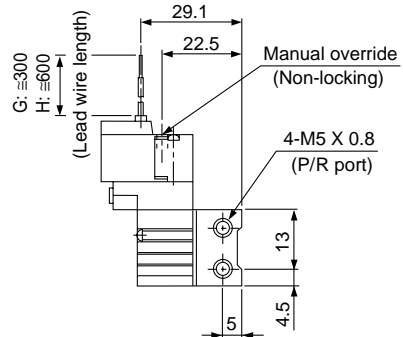
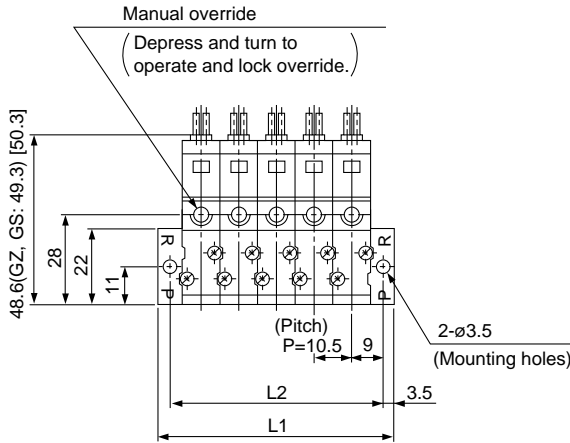


\* [ ] for AC  
\* Other dimensions are the same as the grommet.

Station	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

## 41 Type Manifold: Side Ported/SS3YJ3-41-Station -M3

### Grommet (G), (H)



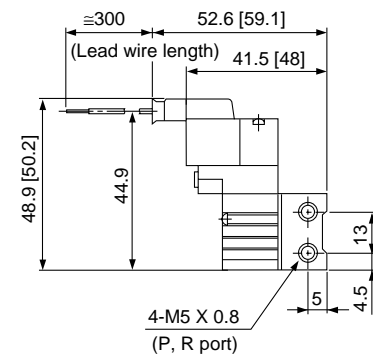
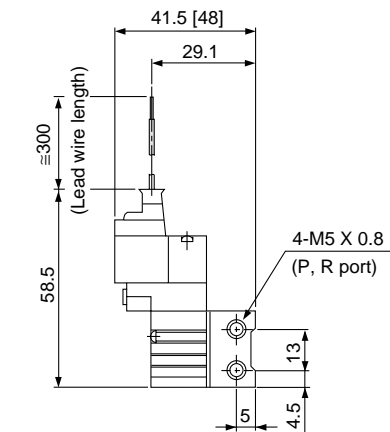
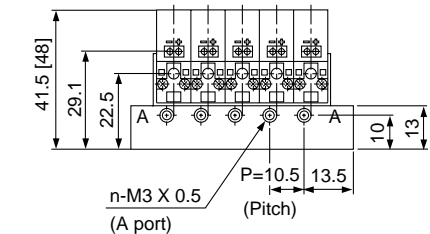
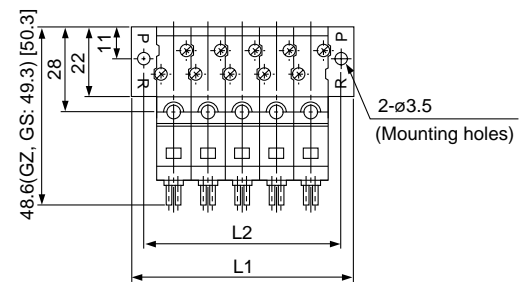
\* [ ] for AC

**S41 Type/Side Ported** (Coil is located on same side as the A port.)

### SS3YJ3-S41-Station -M3

#### L plug connector (L)

#### M plug connector (M)



\* [ ] for AC  
\* Other dimensions are the same as the grommet.

\* [ ] for AC  
\* Other dimensions are the same as the grommet.

\* [ ] for AC  
\* Other dimensions are the same as type 41.

Station	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

SY

SYJ

VK

VZ

VT

VT

VP

VG

VP

VQ

VQZ

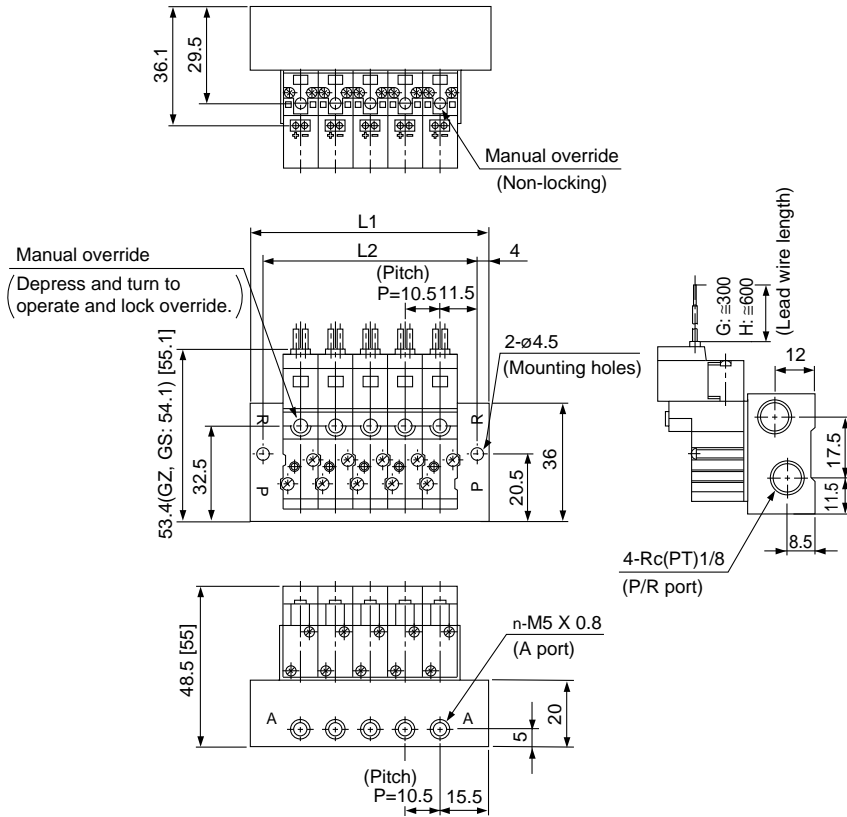
VZ

VS

# Series SYJ300

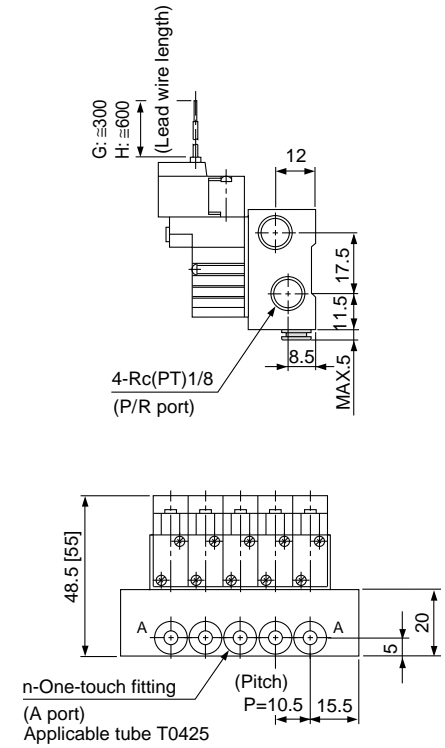
## 42 Type Manifold: Side Ported/SS3YJ3-42-Station -M5, C4

### Grommet (G), (H)



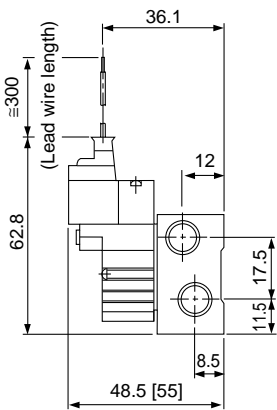
\* [ ] for AC

### C4 (Built-in one-touch fitting)



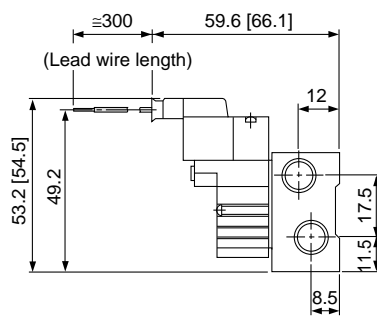
\* [ ] for AC  
\* Other dimensions are the same as the M5.

### L plug connector (L)



\* [ ] for AC  
\* Other dimensions are the same as the grommet.

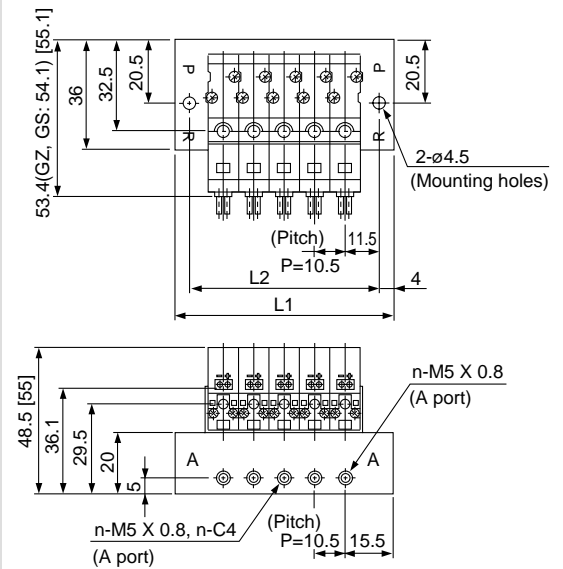
### M plug connector (M)



\* [ ] for AC  
\* Other dimensions are the same as the grommet.

## S42 Type/Side Ported (Coil is located on same side as the A port.)

### SS3YJ3-S42-Station -M5, C4



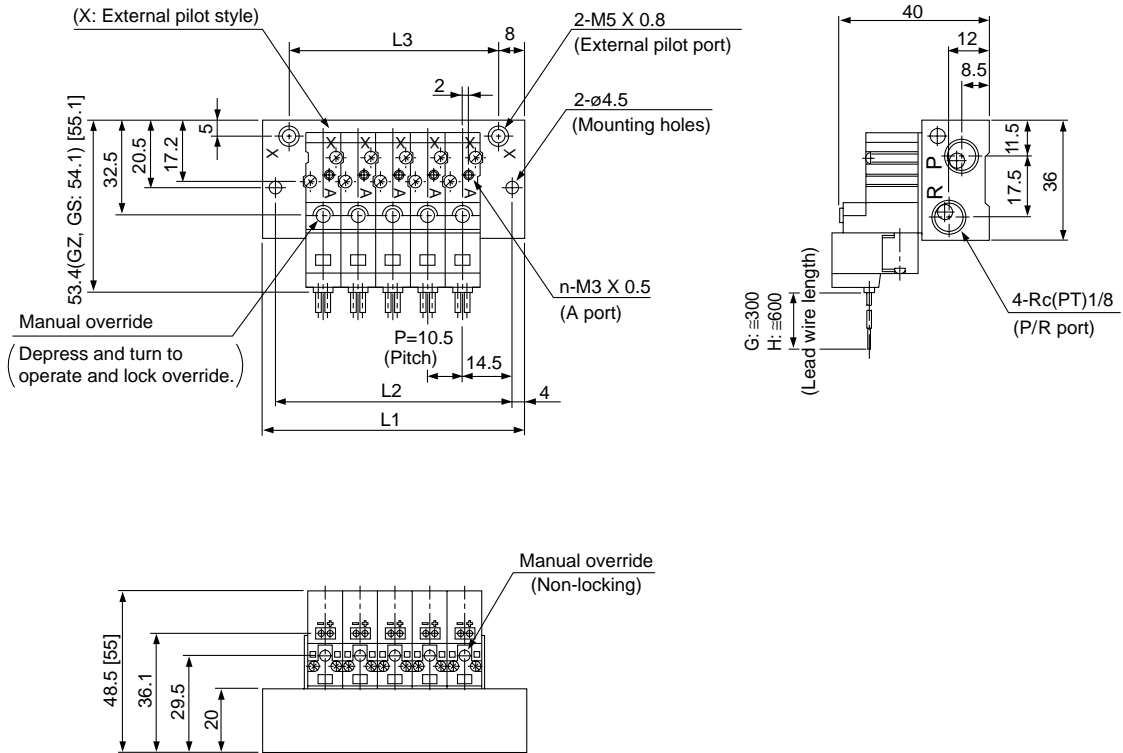
\* [ ] for AC  
\* Other dimensions are the same as type 42.

Station	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	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



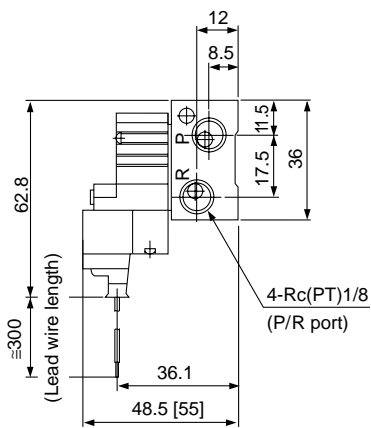
## 20R Type Manifold: Top Ported (External Pilot)/SS3YJ3-20R- Station

### Grommet (G), (H)



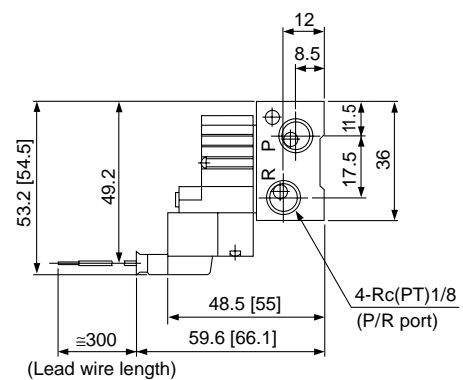
\* [ ] for AC

### L plug connector (L)



\* [ ] for AC  
\* Other dimensions are the same as the grommet.

### M plug connector (M)



\* [ ] for AC  
\* Other dimensions are the same as the grommet.

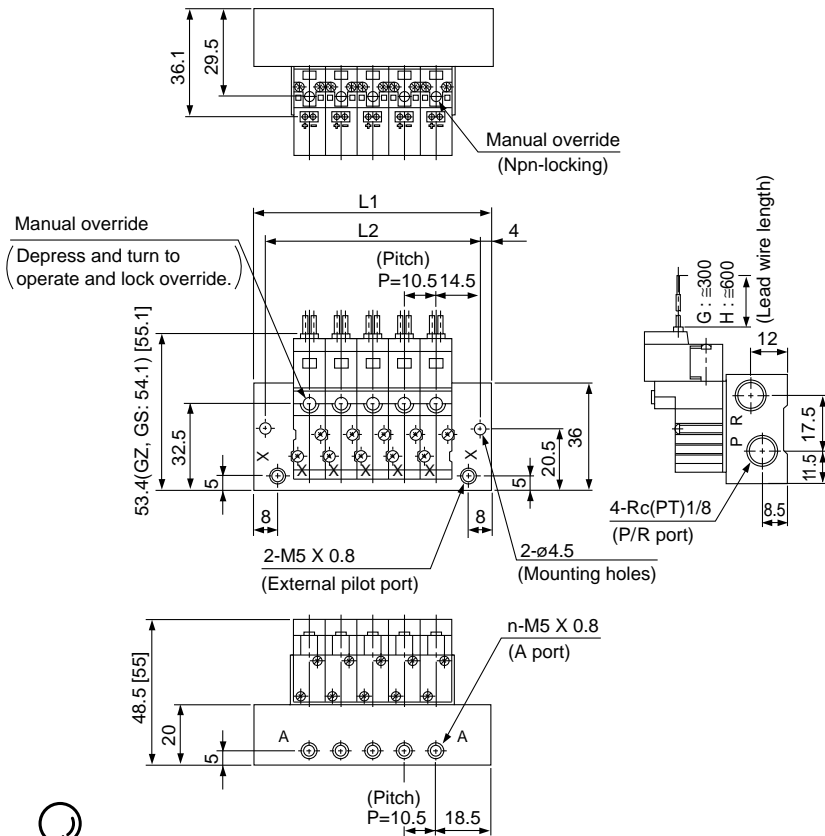
Station	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	47.5	58	68.5	79	89.5	100	110.5	121	131.5	142	152.5	163	173.5	184	194.5	205	215.5	226	236.5
L2	39.5	50	60.5	71	81.5	92	102.5	113	123.5	134	144.5	155	165.5	176	186.5	197	207.5	218	228.5
L3	31.5	42	52.5	63	73.5	84	94.5	105	115.5	126	136.5	147	157.5	168	178.5	189	199.5	210	220.5

- SY
- SYJ**
- VK
- VZ
- VT
- VT
- VP
- VG
- VP
- VQ
- VQZ
- VZ
- VS

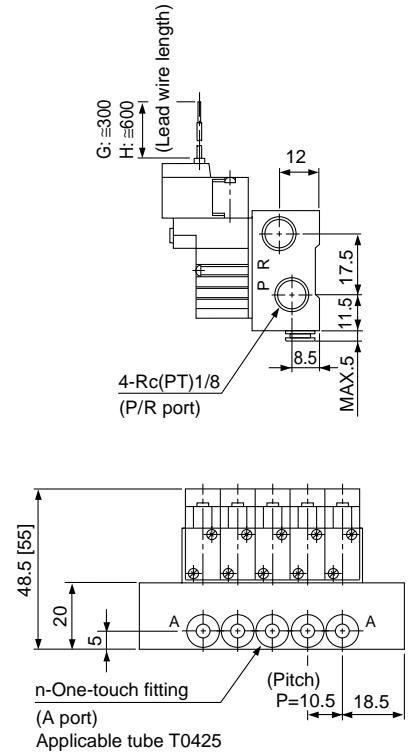
# Series SYJ300

## 42R Type Manifold: Side Ported (External Pilot)/SS3YJ3-42R-Station-M5, C4

### Grommet (G), (H)



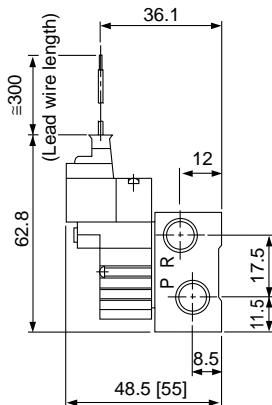
### C4 (Built-in one-touch fitting)



⊗ [ ] for AC

\* Other dimensions are the same as the M5.

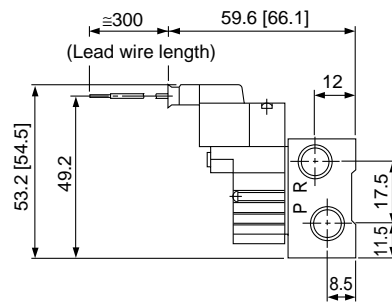
### L plug connector (L)



⊗ [ ] for AC

\* Other dimensions are the same as the grommet.

### M plug connector (M)

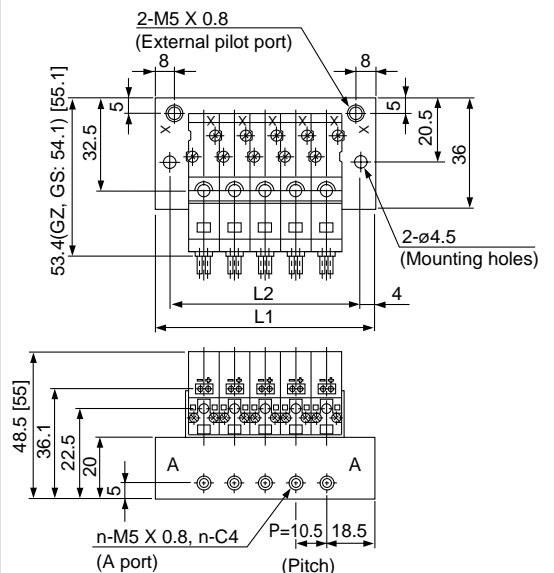


⊗ [ ] for AC

\* Other dimensions are the same as the grommet.

### S42R Type/Side Ported (Coil is located on same side as the A port.)

## SS3YJ3-S42R-Station-M5, C4



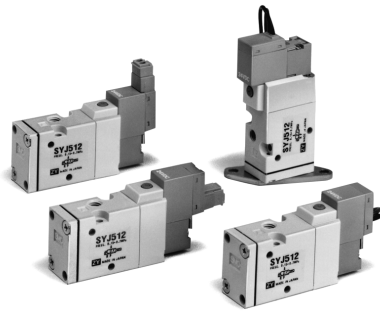
⊗ [ ] for AC

\* Other dimensions are the same as type 42R.

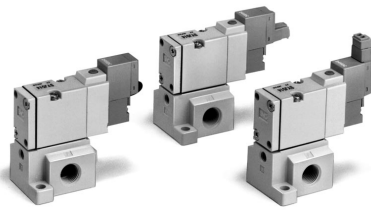
Station	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	47.5	58	68.5	79	89.5	100	110.5	121	131.5	142	152.5	163	173.5	184	194.5	205	215.5	226	236.5
L2	39.5	50	60.5	71	81.5	92	102.5	113	123.5	134	144.5	155	165.5	176	186.5	197	207.5	218	228.5

# 3 Port Pilot Solenoid Valve Rubber Seal

## Series SYJ500



Body ported type



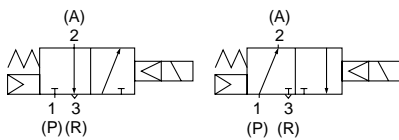
Base mounted type

### JIS Symbol

#### Internal pilot

SYJ51<sub>4</sub><sup>2</sup>

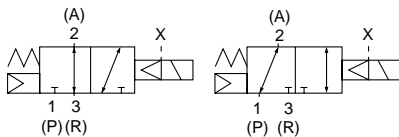
SYJ52<sub>4</sub><sup>2</sup>



#### External pilot

SYJ51<sub>4</sub><sup>2</sup>R

SYJ52<sub>4</sub><sup>2</sup>R



### Model

Valve model	Actuation	Port size	Effective area (mm <sup>2</sup> ) (Cv)	Weight (g) <sup>(1)</sup>		
				Grommet	L plug connector, M plug connector.	
Body ported	SYJ512	N.C.	M5 X 0.8	3.6 (0.2)	43	45
	SYJ522	N.O.				
Base mounted (With sub-plate)	SYJ514	N.C.	Rc(PT)1/8	4.5 (0.25)	57 (Without sub-plate 43)	59 (Without sub-plate 45)
	SYJ524	N.O.				

Note 1) At DC. When AC is used, add 1g.

### Specifications

Fluid		Air
Operating pressure range (MPa)	Internal pilot	0.15 to 0.7
Ambient and fluid temperature (°C)		Max. 50
Response time (ms) (at 0.5MPa) <sup>(1)</sup>		25 or less
Max. operating frequency (Hz)		5
Manual override		Non-locking push style, Push-locking slotted style
Pilot exhaust		Individual pilot exhaust, Common exhaust (pilot and main valve)
Lubrication		Not required
Mounting position		Free
Impact/Vibration resistance (m/s <sup>2</sup> ) <sup>(2)</sup>		150/30
Protection structure		Dust proof

Note 1) According to dynamic performance test JIS B8374-1981 (Coil temperature 20°C, at rated voltage, without surge voltage suppressor)

Note 2) Impact resistance: No malfunction resulted from the impact test using a drop impact tester. The test was performed on the axis and right angle directions of the main valve and armature, for both energized and de-energized states. (Value in the initial stage)

Vibration resistance: No malfunction occurred in a one-sweep test between 8.3 and 2000Hz. Test was performed at both energized and de-energized states to axis and right angle directions of the main valve and armature. (Value in the initial stage)

### Solenoid Specifications

Electrical entry		Grommet (G) (H), L plug connector (L), M plug connector (M)
Coil rated voltage (V)	DC	24, 12, 6, 5, 3
	AC 50/60Hz	100, 110, 200, 220*
Allowable voltage		±10% rated voltage
Power consumption (W) <sup>(1)</sup>	DC	0.5 (With light: 0.55)
	AC	0.9 (With light: 1.0)
Apparent power (VA)	100V	1.0 (With light: 1.1)
	110V (115V)	[1.1 (With light: 1.2)]
	200V	1.8 (With light: 1.9)
	220V (230V)	1.9 (With light: 2.0) [2.2 (With light: 2.3)]
Surge voltage suppressor		Diode
Indicator light		LED

\* Can be used for 110V and 115V AC, 220V and 230V AC in common.  
Note 1) At rated voltage



P.2.2-47

- SY
- SYJ
- VK
- VZ
- VT
- VT
- VP
- VG
- VP
- VQ
- VQZ
- VZ
- VS

# Series SYJ500

## External Pilot

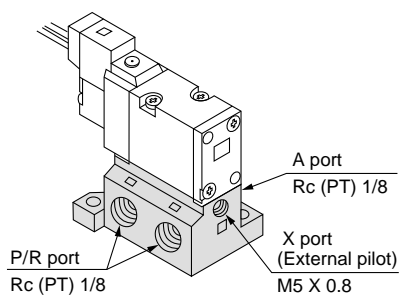
### SYJ500R

Pilot valve pressure is supplied separately from the main valve pressure through the use of a separate supply port.

This model is suitable for low pressure (less than 0.15MPa) and vacuum (up to -100kPa {10 Torr}) applications.

### Specifications

Applicable model	Base mounted (SYJ514R, SYJ524R)	
Operating pressure range (MPa)	Main pressure	-100kPa to 0.7
	External pilot pressure	0.15 to 0.7



Note 1) Refer to p.2.2-26 for manifold.

Note 2) External pilot style body ported valves (SYJ5□2R) can only be used on the manifold.

For body ported models with the external pilot option contact SMC.

## How to Order

### Indicator light and surge voltage suppressor

—	Without indicator light and surge voltage suppressor
S	With surge voltage suppressor
Z	With indicator light and surge voltage suppressor
R	With surge voltage suppressor (Non polar)
U	With indicator light and surge voltage suppressor (Non polar)

\* For AC voltage valves there is no "S" option. It is already built into the rectifier CRT.  
\* "R" and "U" options are available for DC voltage valves.

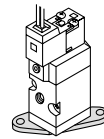
### Rated voltage

For DC	
5	24V DC
6	12V DC
V	6V DC
S	5V DC
R	3V DC

For DC (50/60Hz)	
1	100V AC
2	200V AC
3	110V AC [115V AC]
4	220V AC [230V AC]

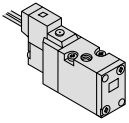
### Bracket

—: Without bracket  
F: With bracket



\* Bracket is supplied unmounted.  
\* Except on the external pilot style.

3 port



(For manifold type 20, 21R)

### Actuation

1	Normally closed
2	Normally open

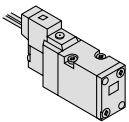
Body ported

SYJ5 1 2 □ 5 M □ □ M5 □

Base mounted

SYJ5 1 4 □ 5 M □ □ 01

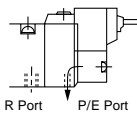
3 port



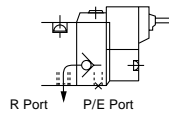
(For sub-plate style, manifold type 40, 40R, 41, 41R)

### Body option

—: Individual exhaust for the pilot valve



M: Common exhaust for the pilot and main valve



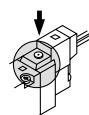
R: External pilot type\*



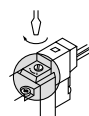
\* SYJ5□2R is only for manifold use.

### Manual override

—: Non-locking push style

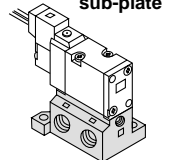
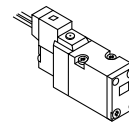


D: Push locking slotted style



### Port size

—: Without sub-plate 01: With Rc (PT) 1/8 Port sub-plate



(With gasket and screws)

### Electrical entry

24V, 12V, 6V, 5V, 3V DC/100V, 110V, 200V, 220V AC			
Grommet	L plug connector	M plug connector	
G: 300mm lead wire	L: 300mm lead wire	M: 300mm lead wire	MN: Without lead wire
H: 600mm lead wire	LN: Without lead wire	LO: Without connector	MO: Without connector

\* LN and MN types are with 2 sockets.

SY

SYJ

VK

VZ

VT

VT

VP

VG

VP

VQ

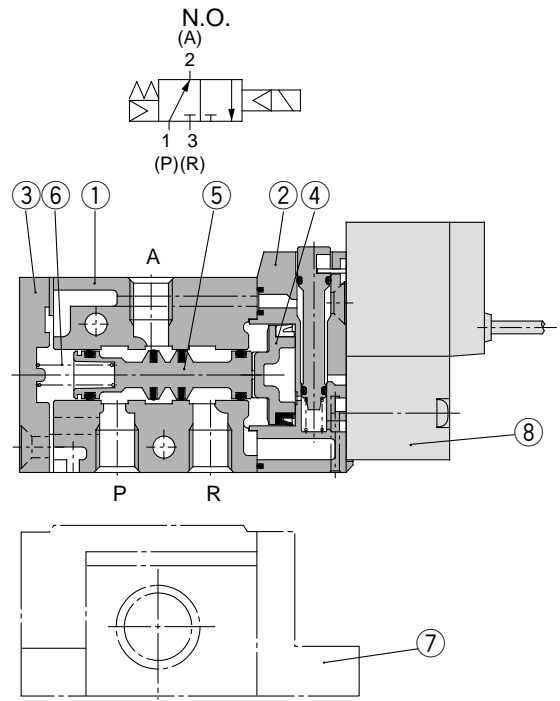
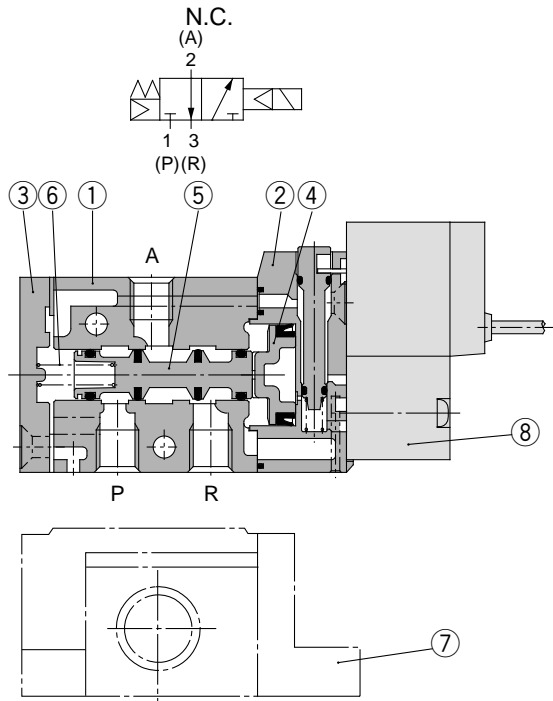
VQZ

VZ

VS

# Series SYJ500

## 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 ass'y	—	—
⑥	Spool spring	Stainless Steel	—

### Replacement Parts

No.	Description	Part No.	Note
⑦	Sub-plate	SYJ500-9-1	Zinc die cast
⑧	Pilot valve	SY114-□□□□	

## How to Order Pilot Valve Assembly

**SY114** — **5** **G** □

**Voltage**

5	24V DC
6	12V DC
V	6V DC
S	5V DC
R	3V DC
1	100V AC50/60Hz
2	200V AC50/60Hz
3	110V AC50/60Hz [115V AC50/60Hz]
4	220V AC50/60Hz [230V AC50/60Hz]

**Electrical entry**

G	Grommet (Lead wire: 300mm)	
H	Grommet (Lead wire: 600mm)	
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

### Indicator light and surge voltage suppressor

—	Without indicator light and surge voltage suppressor
S	With surge voltage suppressor
Z	With indicator light and surge voltage suppressor
R	With surge voltage suppressor (Non-polar)
U	With indicator light and surge voltage suppressor(Non-polar)

\*For AC voltage valves there is no "S" option. It is already built-in to the rectifier circuit.  
\*“R” and “U” types are available for DC voltage valves.

## How to Order Connector Assembly

DC : SY100-30-4A-□  
 100V AC : SY100-30-1A-□  
 200V AC : SY100-30-2A-□  
 Other AC voltages: SY100-30-3A-□

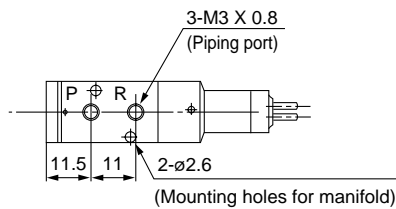
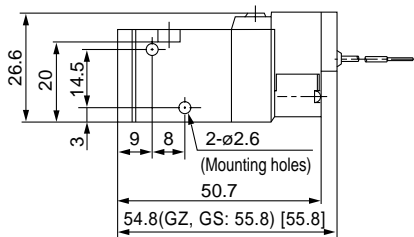
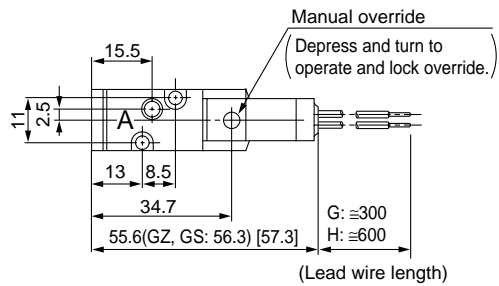
Without lead wire: SY100-30-A  
 (with connector and 2 sockets)

### Lead wire length (mm)

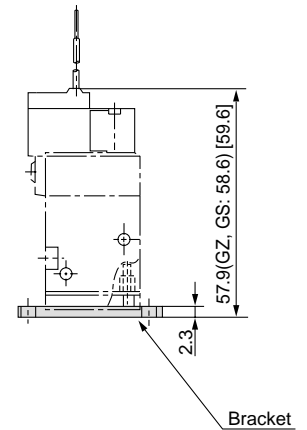
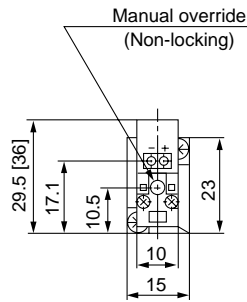
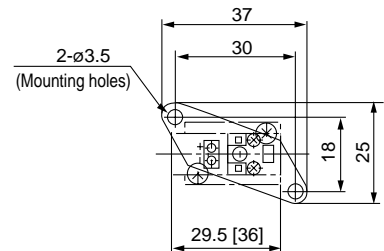
—	300
6	600
10	1000
15	1500
20	2000
25	2500
30	3000
50	5000

## Body Ported

### Grommet (G), (H): SYJ5□2-□<sup>G</sup>□□-M5



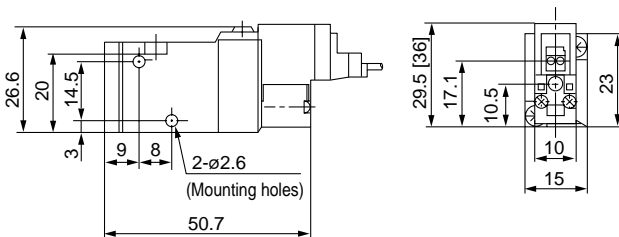
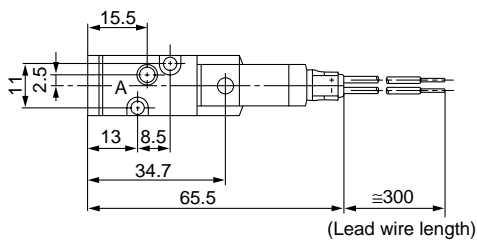
### With bracket: SYJ5□2-□<sup>G</sup>□□-M5-F



\* [ ] for AC  
\* Other dimensions are the same as the grommet.

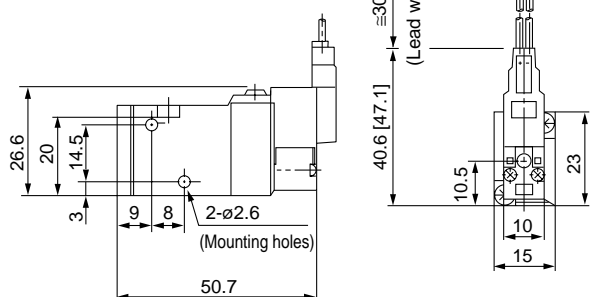
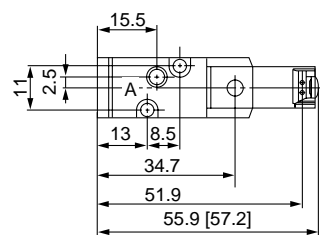
\* [ ] for AC

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



\* [ ] for AC  
\* Other dimensions are the same as the grommet.

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



\* [ ] for AC  
\* Other dimensions are the same as the grommet.

SY

SYJ

VK

VZ

VT

VT

VP

VG

VP

VQ

VQZ

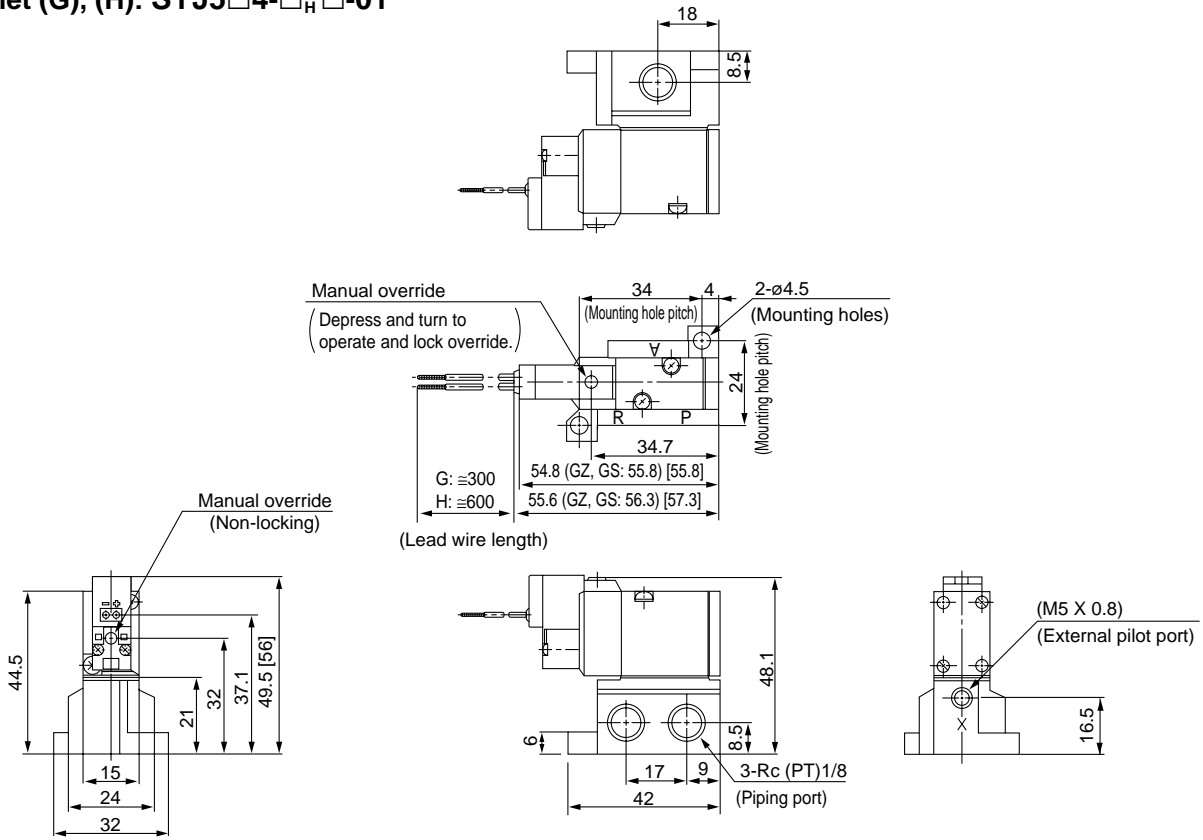
VZ

VS

# Series SYJ500

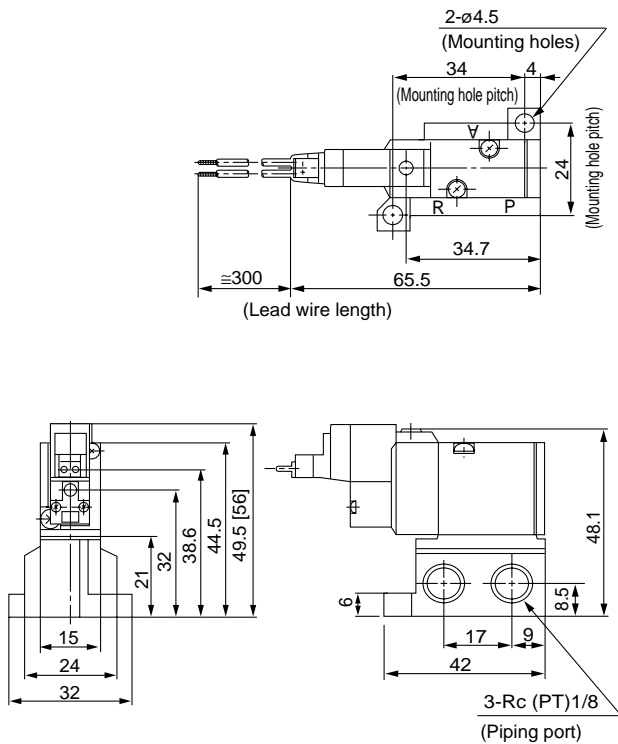
## Base Mounted (With sub-plate)

Grommet (G), (H): SYJ5□4-□<sup>G</sup>□□-01



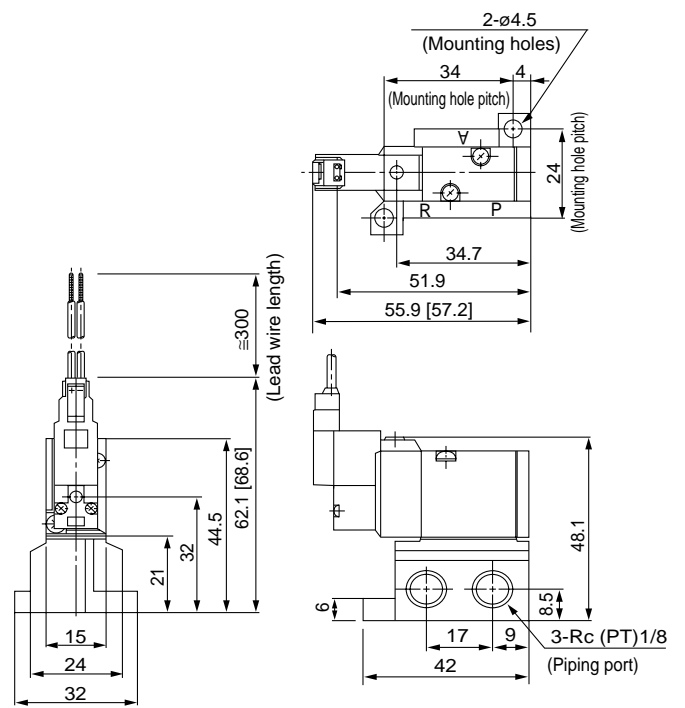
\* [ ] for AC

L plug connector (L): SYJ5□4-□L□□-01



\* [ ] for AC  
\* Other dimensions are the same as the grommet.

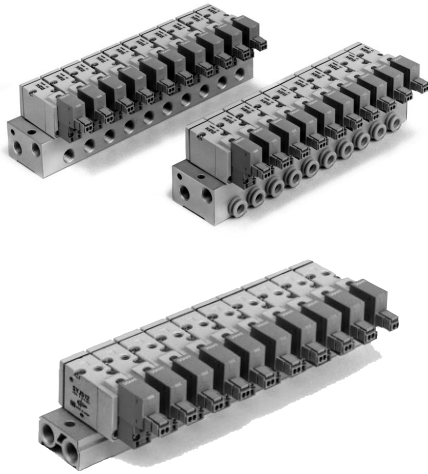
M plug connector (M): SYJ5□4-□M□□-01



\* [ ] for AC  
\* Other dimensions are the same as the grommet.



# Series SYJ500 Manifold



## Manifold Specifications

Type	For internal pilot	20	40	41
	For external pilot	21R	40R	41R
Manifold style		Single base style B/mount		
P(SUP)/R(EXH) style		Common SUP/Common EXH		
Valve stations		2 to 20		
A port specifications	Location	Valve		
	Direction	Top	Bottom	Side
Port size	P/R port	Rc (PT) 1/8	Rc (PT) 1/8	Rc (PT) 1/8
	A port	M5 X 0.8	M5 X 0.8 Rc (PT) 1/8	M5 X 0.8, Rc (PT) 1/8, C4 (ø4 One-touch fitting) C6 (ø6 One-touch fitting)
	X port <sup>(1)</sup>	M5 X 0.8	M5 X 0.8	M5 X 0.8
Valve effective area (mm <sup>2</sup> )(Cv) <sup>(2)</sup>	Body ported style SYJ5□2/SYJ5□2R	3.4 (0.19)	—	
	Base mounted style SYJ5□4/SYJ5□4R	—	M5: 3.8 (0.21) 1/8: 4.7 (0.26)	M5: 3.3 (0.18) 1/8: 4.8 (0.27) C4, C6: 3.8 (0.21)



Note 1) Only for external pilot  
Note 2) Value when used on a manifold

## How to Order Manifold Assembly

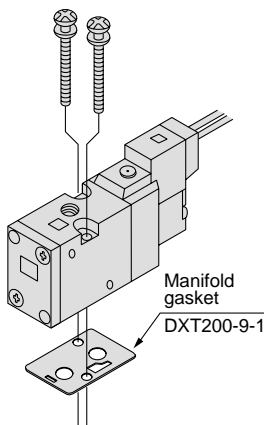
Specify the part numbers for the valve(s), blank plate assembly, and manifold base.

Example:

**SS3YJ5-20-03** .....1 pc. (Manifold base)      **SS3YJ5-41R-03-C6** .....1 pc. (Manifold base)  
**SYJ512-5LZ-M5** .....2 pcs. (Valve)              **SYJ514R-5G** .....2 pcs. (Valve)  
**SYJ500-10-1A** .....1 pc. (Blank plate ass'y)      **SYJ500-10-3A** .....1 pc. (Blank plate ass'y)

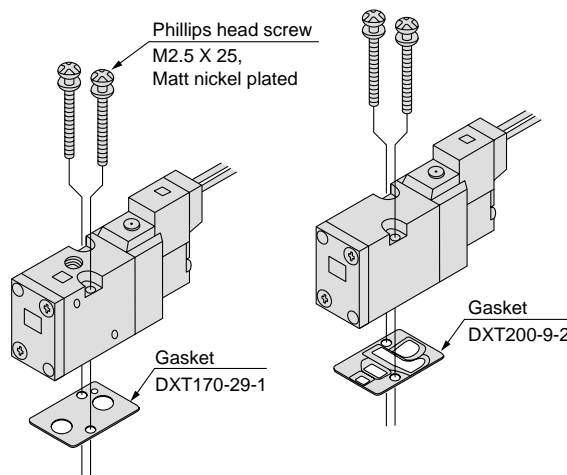
## Combinations of Solenoid Valve, Manifold Gasket and Manifold Base

### Body ported (SYJ5□2)



Applicable base  
SS3YJ5-21R  
Manifold base

### Base mounted (SYJ5□4)

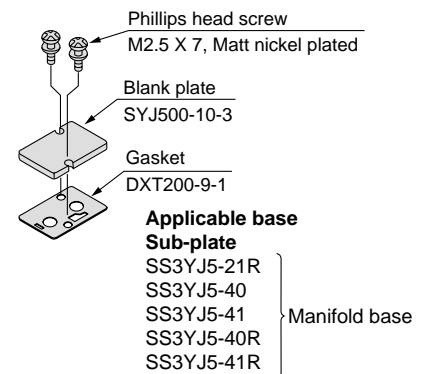


Applicable base  
SS3YJ5-20  
Manifold base

Applicable base  
Sub-plate  
SS3YJ5-40  
SS3YJ5-41  
SS3YJ5-40R  
SS3YJ5-41R } Manifold base

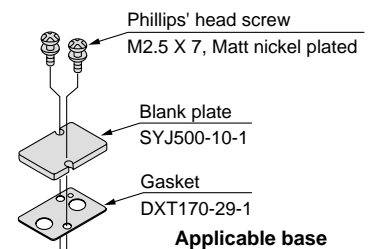
## Blank Plate Assembly

### SYJ500-10-3A



Applicable base  
Sub-plate  
SS3YJ5-21R  
SS3YJ5-40  
SS3YJ5-41  
SS3YJ5-40R  
SS3YJ5-41R } Manifold base

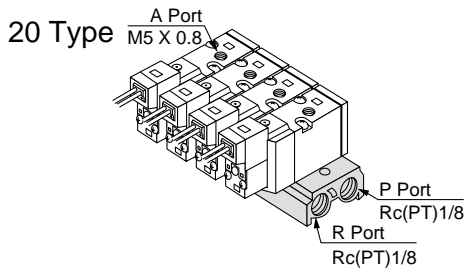
### SYJ500-10-1A



Applicable base  
SS3YJ5-20

# Series SYJ500

## Manifolds for Internal Pilot



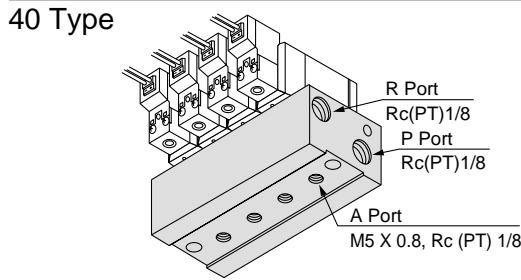
**How to Order**  
**SS3YJ5-20-05**

Stations	
02	2 stations
:	:
20	20 stations

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

**Applicable solenoid valve**  
 SYJ512-□□□□-M5  
 SYJ512M-□□□□-M5  
 SYJ522-□□□□-M5  
 SYJ522M-□□□□-M5

**Applicable blank plate ass'y**  
 SYJ500-10-1A



**How to Order**  
**SS3YJ5-40-05-M5**

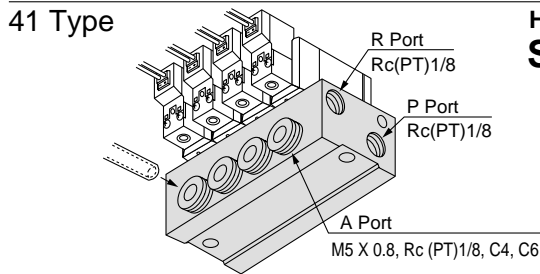
Stations	
02	2 stations
:	:
20	20 stations

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

A port side	
M5	M5 X 0.8
01	Rc (PT)1/8

**Applicable solenoid valve**  
 SYJ514-□□□□  
 SYJ514M-□□□□  
 SYJ524-□□□□  
 SYJ524M-□□□□

**Applicable blank plate ass'y**  
 SYJ500-10-3A



**How to Order**  
**SS3YJ5-41-05-C6**

Stations	
02	2 stations
:	:
20	20 stations

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

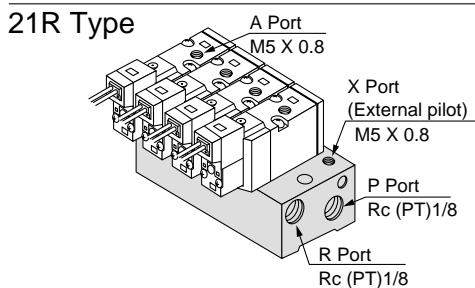
A port side	
M5	M5 X 0.8
01	Rc (PT)1/8
C4	ø4 One-touch fitting
C6	ø6 One-touch fitting

**Applicable solenoid valve**  
 SYJ514-□□□□  
 SYJ514M-□□□□  
 SYJ524-□□□□  
 SYJ524M-□□□□

**Applicable blank plate ass'y**  
 SYJ500-10-3A

## Manifolds for External Pilot

Pilot valve pressure is isolated from main valve pressure through a separate supply line. This is suitable for vacuum (up to -100kPa) and low pressure 0.15MPa applications.



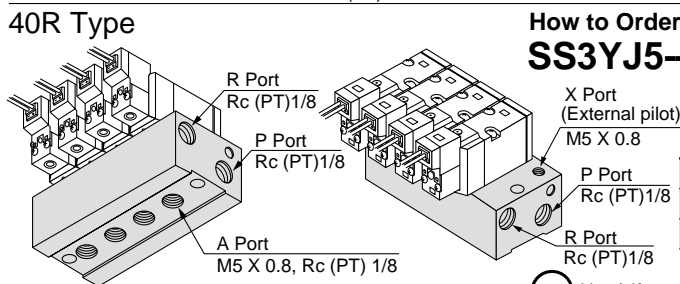
**How to Order**  
**SS3YJ5-21R-05**

Stations	
02	2 stations
:	:
20	20 stations

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

**Applicable solenoid valve**  
 SYJ512R-□□□□-M5  
 SYJ522R-□□□□-M5

**Applicable blank plate ass'y**  
 SYJ500-10-3A



**How to Order**  
**SS3YJ5-40R-05-01**

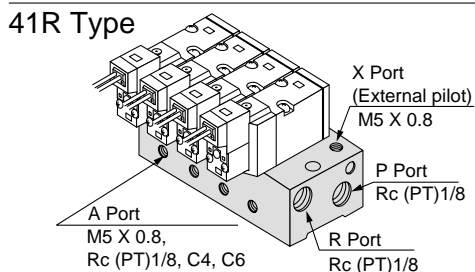
Stations	
02	2 stations
:	:
20	20 stations

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

A port side	
M5	M5 X 0.8
01	Rc (PT)1/8

**Applicable solenoid valve**  
 SYJ514R-□□□□  
 SYJ524R-□□□□

**Applicable blank plate ass'y**  
 SYJ500-10-3A



**How to Order**  
**SS3YJ5-41R-05-M5**

Stations	
02	2 stations
:	:
20	20 stations

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

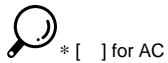
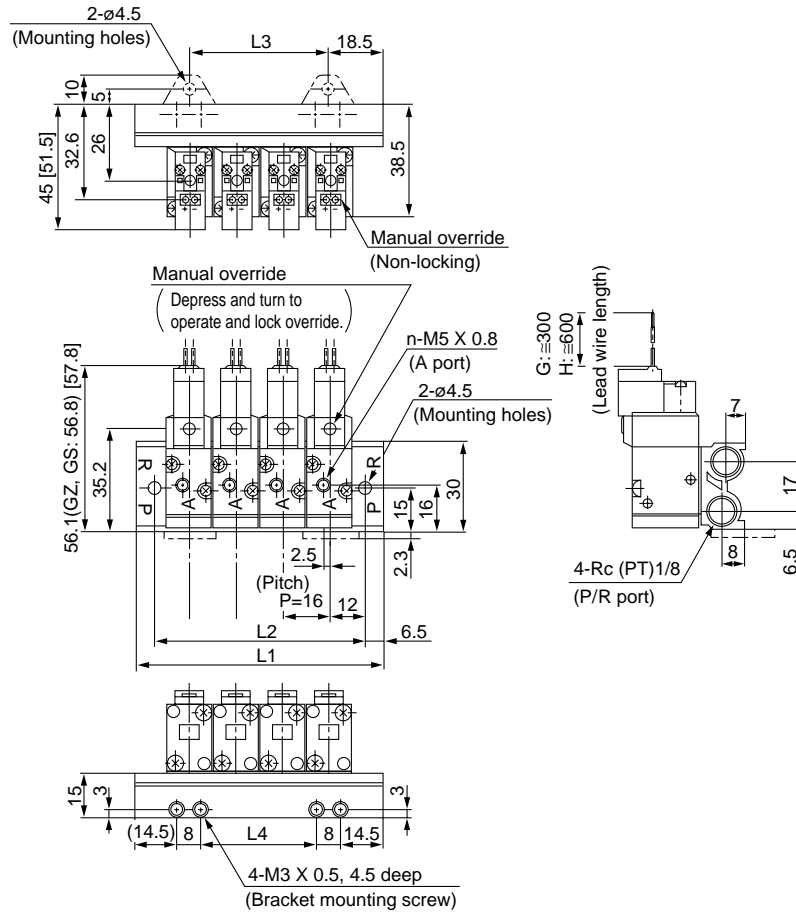
A port side	
M5	M5 X 0.8
01	Rc (PT)1/8
C4	ø4 One-touch fitting
C6	ø6 One-touch fitting

**Applicable solenoid valve**  
 SYJ514R-□□□□  
 SYJ524R-□□□□

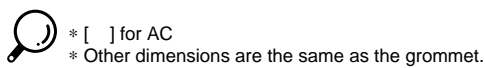
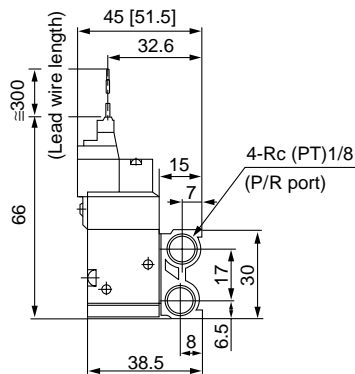
**Applicable blank plate ass'y**  
 SYJ500-10-3A

## 20 Type Manifold: Top Ported/SS3YJ5-20-Station (-F)

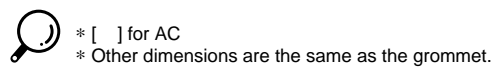
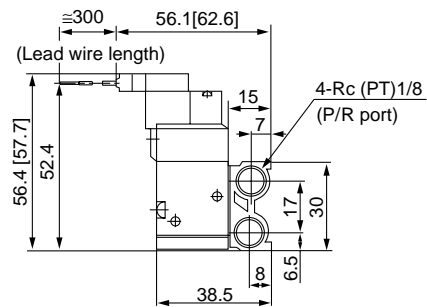
### Grommet (G), (H)



### L plug connector (L)



### M plug connector (M)



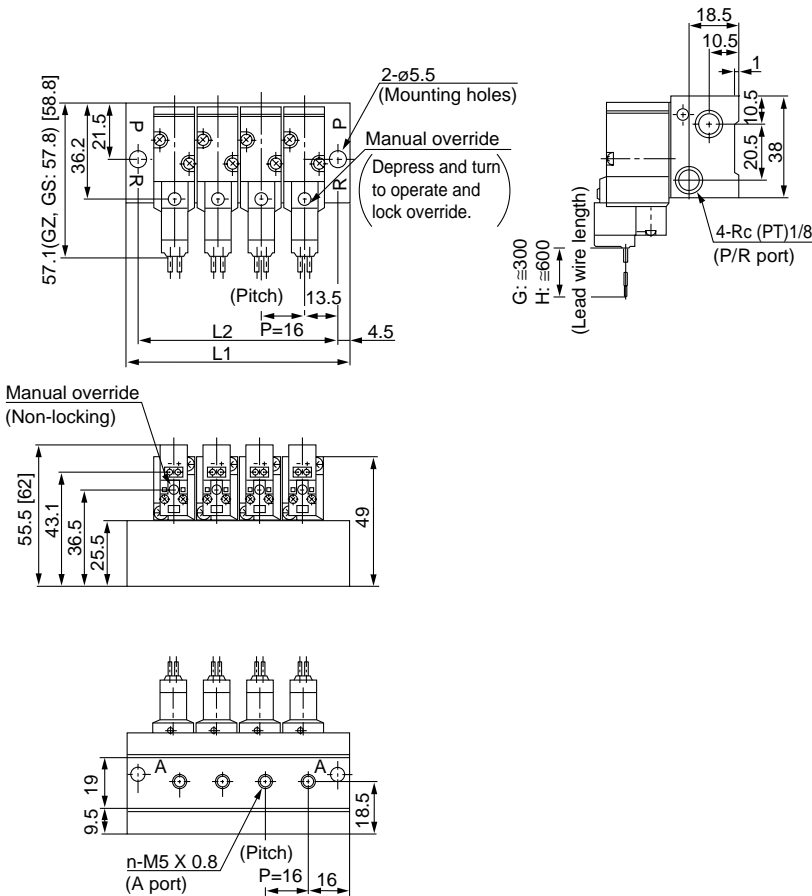
Station	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	53	69	85	101	117	133	149	165	181	197	213	229	245	261	277	293	309	325	341
L2	40	56	72	88	104	120	136	152	168	184	200	216	232	248	264	280	296	312	328
L3	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240	256	272	288	304
L4	8	24	40	56	72	88	104	120	136	152	168	184	200	216	232	248	264	280	296

- SY
- SYJ
- VK
- VZ
- VT
- VT
- VP
- VG
- VP
- VQ
- VQZ
- VZ
- VS

# Series SYJ500

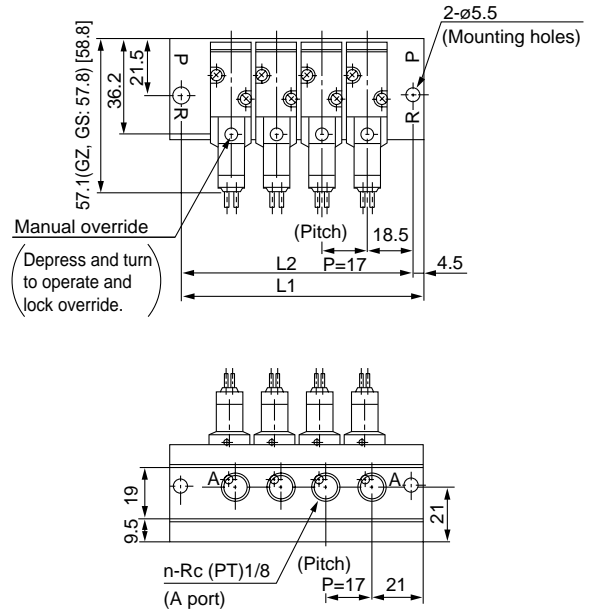
## 40 Type Manifold: Bottom Ported/SS3YJ5-40-Station-M5, 01

### Grommet (G), (H)



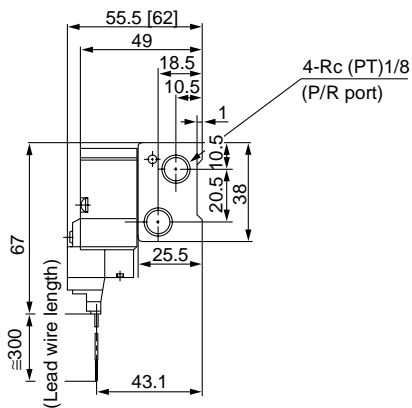
\* [ ] for AC  
\* Other dimensions are the same as the grommet.

### Rc (PT)1/8



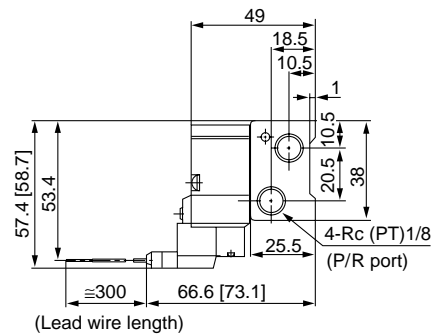
\* [ ] for AC  
\* Other dimensions are the same as the M5.

### L plug connector (L)



\* [ ] for AC  
\* Other dimensions are the same as the grommet.

### M plug connector (M)

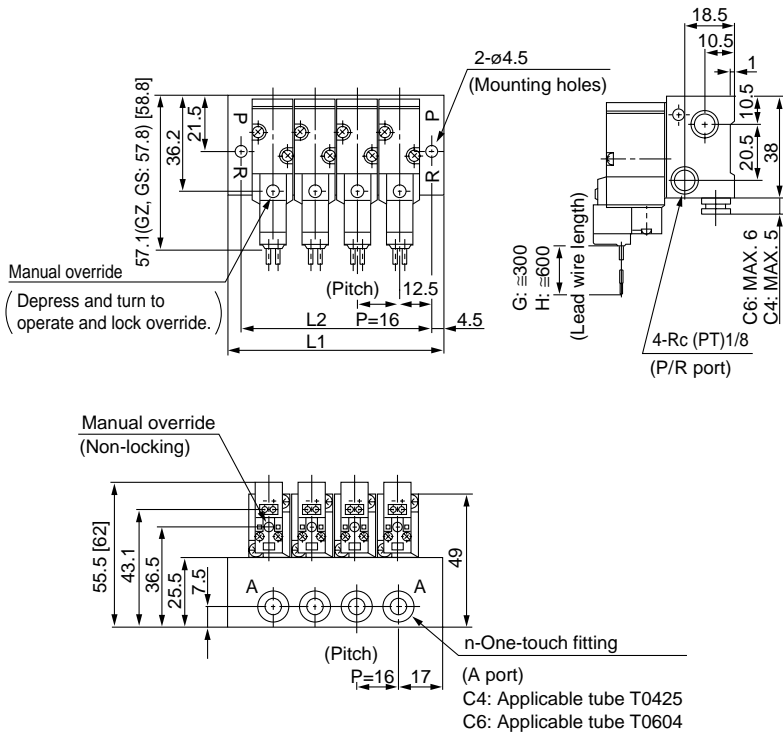


\* [ ] for AC  
\* Other dimensions are the same as the grommet.

Port size	Station	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	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
Rc (PT) 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

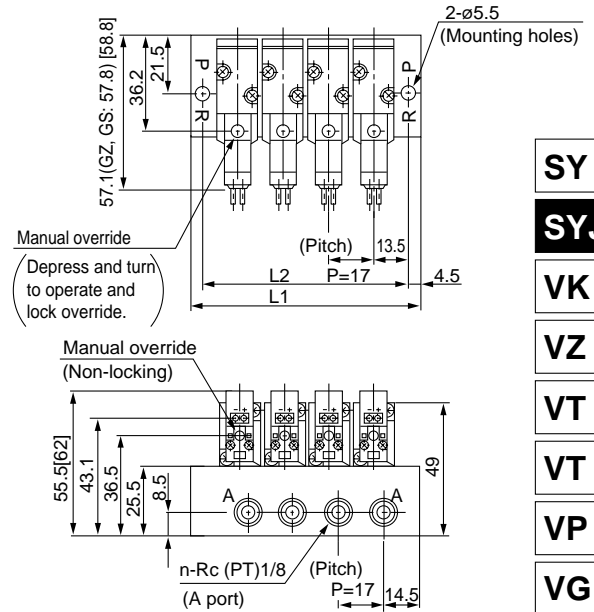
## 41 Type Manifold: Side Ported/SS3YJ5-41-Station -M5, 01, C4, C6

### Grommet (G), (H)



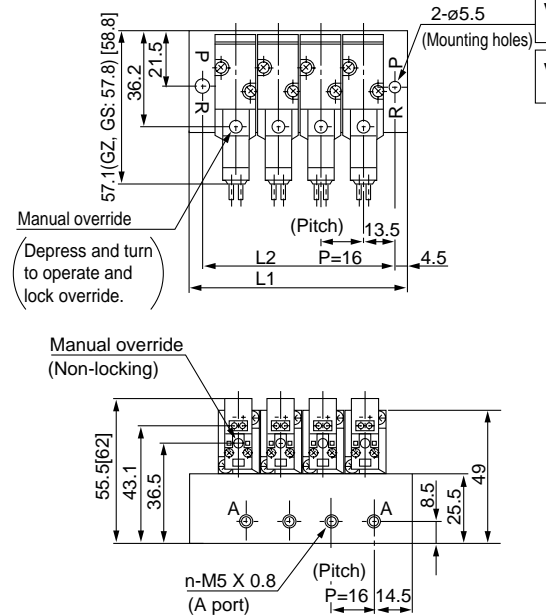
\* [ ] for AC

### Rc (PT)1/8



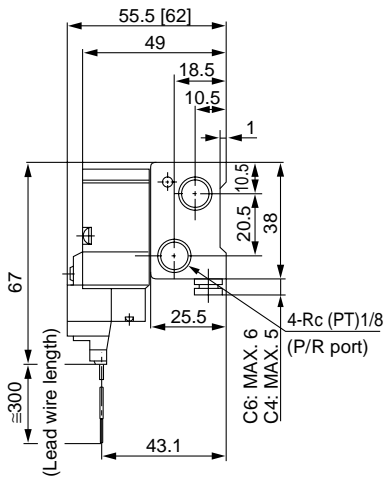
\* [ ] for AC  
\* Other dimensions are the same as the C4, C6.

### With M5



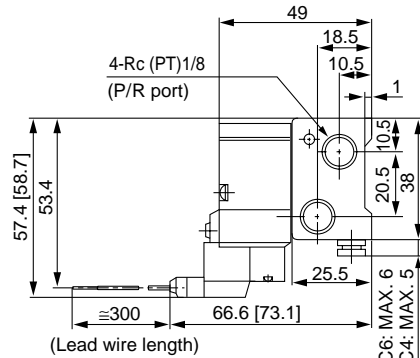
\* [ ] for AC  
\* Other dimensions are the same as the C4, C6.

### L plug connector (L)



\* [ ] for AC  
\* Other dimensions are the same as the grommet.

### M plug connector (M)



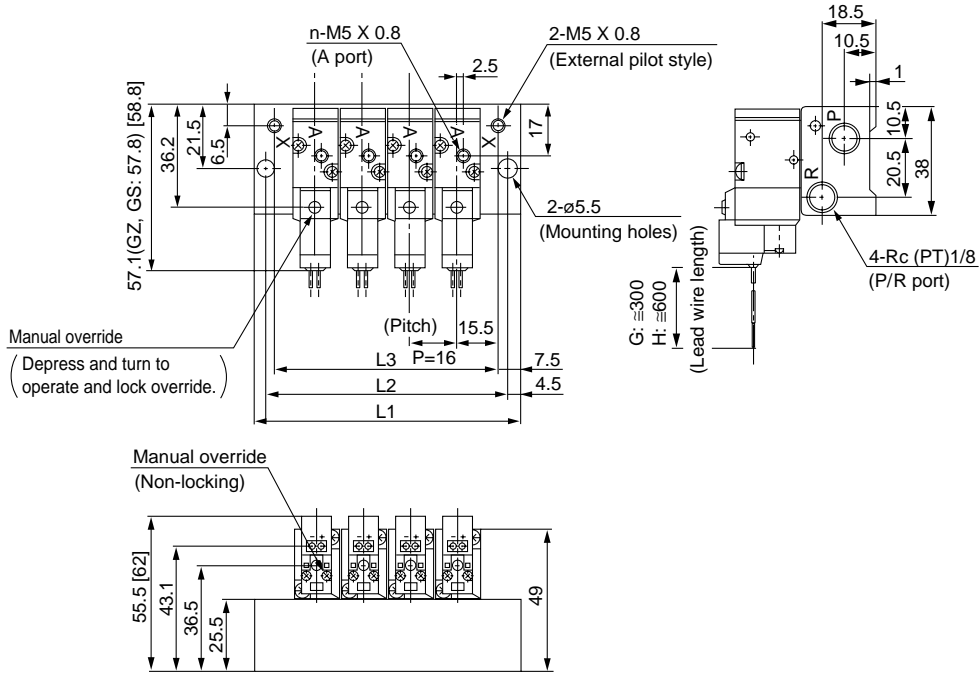
\* [ ] for AC  
\* Other dimensions are the same as the grommet.

Port size	Station	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	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
Rc (PT)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
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

# Series SYJ500

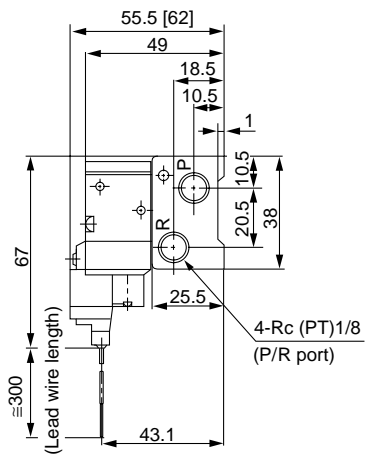
## 21R Type Manifold: Top Ported (External Pilot)/SS3YJ5-21R-Station

Grommet (G), (H)



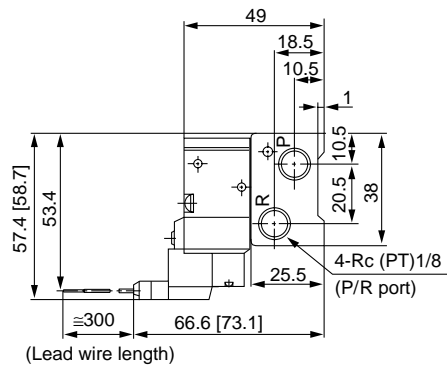
\* [ ] for AC

### L plug connector (L)



\* [ ] for AC  
\* Other dimensions are the same as the grommet.

### M plug connector (M)

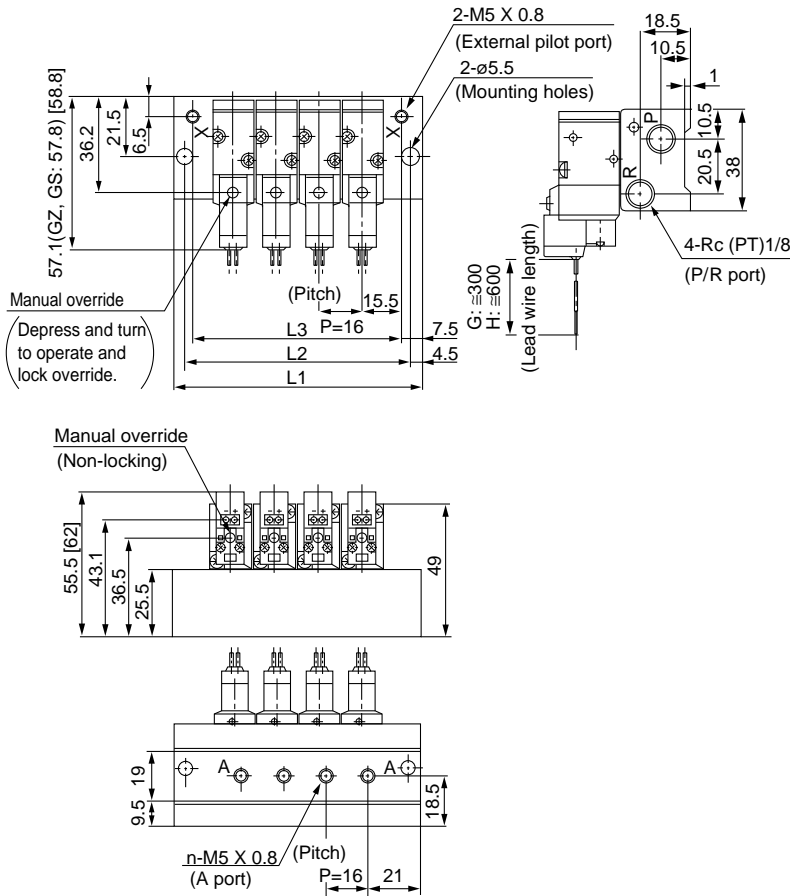


\* [ ] for AC  
\* Other dimensions are the same as the grommet.

Station	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	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

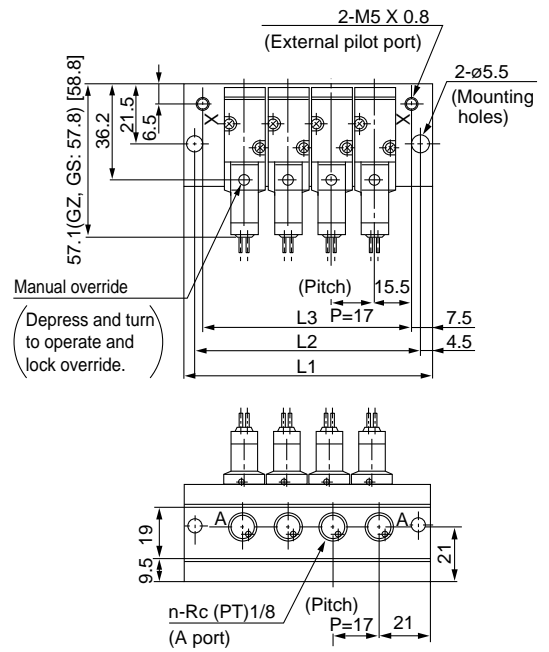
## 40R Type Manifold: Bottom Ported (External Pilot)/SS3YJ5-40R-Station -M5, 01

### Grommet (G), (H)



\* [ ] for AC

### Rc (PT)1/8



\* [ ] for AC  
\* Other dimensions are the same as the M5.

SY

SYJ

VK

VZ

VT

VT

VP

VG

VP

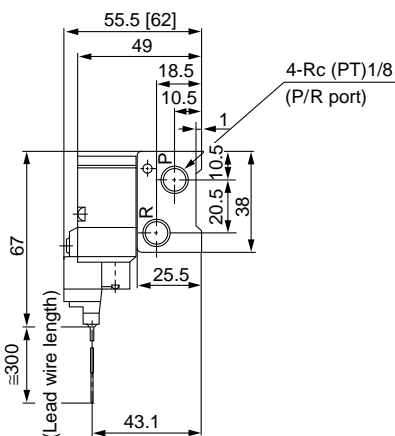
VQ

VQZ

VZ

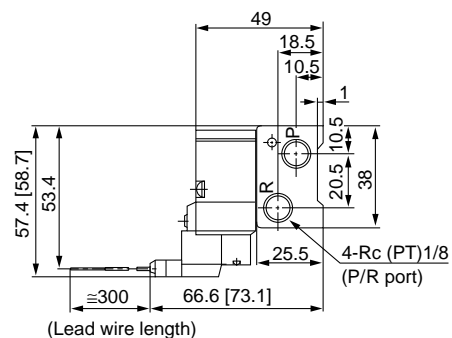
VS

### L plug connector (L)



\* [ ] for AC  
\* Other dimensions are the same as the grommet.

### M plug connector (M)



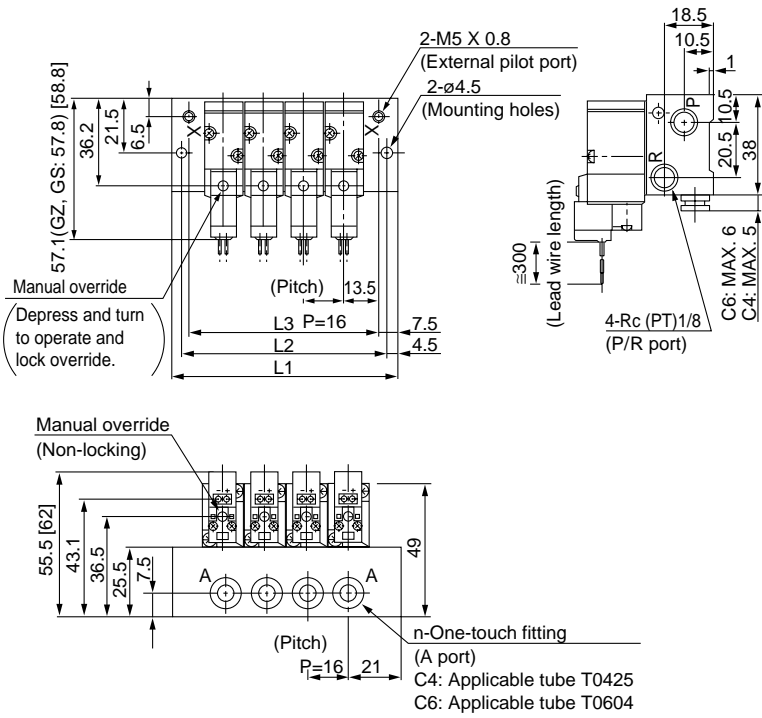
\* [ ] for AC  
\* Other dimensions are the same as the grommet.

Port size	Station	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	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
Rc (PT) 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

# Series SYJ500

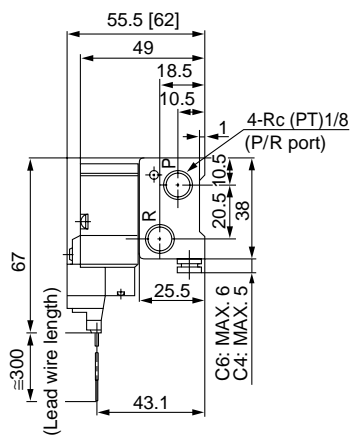
## 41R Type Manifold: Side Ported (External Pilot)/SS3YJ5-41R-Station-M5, 01, C4, C6

### Grommet (G), (H)



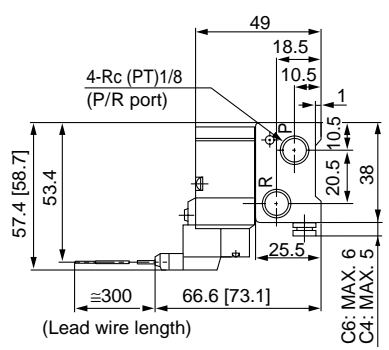
\* [ ] for AC  
\* Other dimensions are the same as the grommet.

### L plug connector (L)



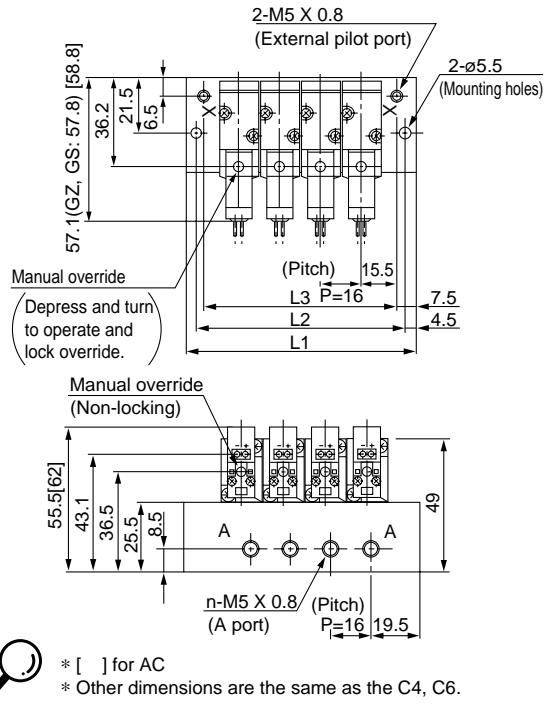
\* [ ] for AC  
\* Other dimensions are the same as the grommet.

### M plug connector (M)



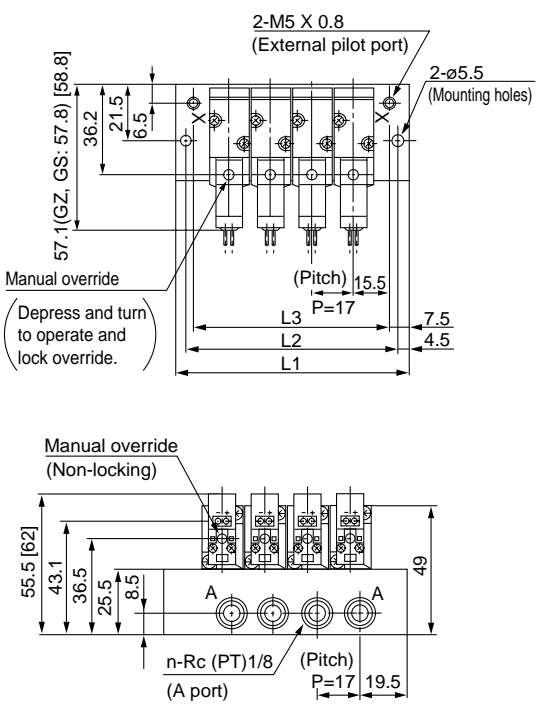
\* [ ] for AC  
\* Other dimensions are the same as the grommet.

### M5



\* [ ] for AC  
\* Other dimensions are the same as the C4, C6.

### Rc (PT) 1/8



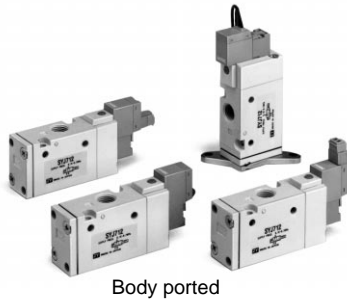
\* [ ] for AC  
\* Other dimensions are the same as the C4, C6.

Port size	Station	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	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
Rc (PT)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
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



# 3 Port Pilot Solenoid Valve Rubber Seal

## Series SYJ700



Body ported

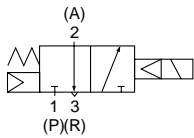


Base mounted

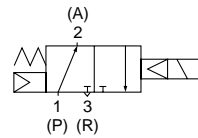
### JIS Symbol

#### Internal pilot

SYJ71<sub>4</sub><sup>2</sup>

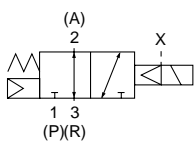


SYJ72<sub>4</sub><sup>2</sup>

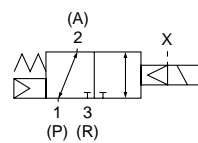


#### External pilot

SYJ71<sub>4</sub><sup>2</sup>R



SYJ72<sub>4</sub><sup>2</sup>R



P.2.2-47

### Model

Valve model	Actuation	Port size	Effective area (mm <sup>2</sup> )(Cv)	Weight (g) <sup>(1)</sup>		
				Grommet	L plug connector, M plug connector.	
Body ported	SYJ712	N.C.	Rc(PT)1/8	9.0 (0.5)	72	74
	SYJ722	N.O.				
Base mounted (With sub-plate)	SYJ714	N.C.	Rc(PT)1/8	9.0 (0.5)	132 (Without sub-plate 72)	134 (Without sub-plate 74)
	SYJ724	N.O.	Rc(PT)1/4			

Note 1) At DC. When AC is used, add 1g.

### Specifications

Fluid		Air
Operating pressure range (MPa)	Internal pilot	0.15 to 0.7
Ambient and fluid temperature (°C)		Max. 50
Response time ms (0.5MPa) <sup>(1)</sup>		30 or less
Max. operating frequency (Hz)		5
Manual override		Non-locking push style, Push-locking slotted style
Pilot exhaust		Individual pilot exhaust style, Common Exhaust (pilot and main valve) style
Lubrication		Not required
Mounting position		Free
Impact/Vibration resistance (m/s <sup>2</sup> ) <sup>(2)</sup>		150/30
Protection structure		Dust proof

Note 1) According to dynamic performance test JIS B8374-1981 (Coil temperature 20°C, at rated voltage, without surge voltage suppressor)  
 Note 2) Impact resistance: No malfunction resulted from the impact test using a drop impact tester. The test was performed on the axis and right angle directions of the main valve and armature, for both energized and de-energized states. (Value in the initial stage)  
 Vibration resistance: No malfunction occurred in a one-sweep test between 8.3 and 2000Hz. Test was performed at both energized and de-energized states to axis and right angle directions of the main valve and armature. (Value in the initial stage)

### Solenoid Specifications

Electrical entry		Grommet (G) (H), L plug connector (L), M plug connector (M)	
Coil rated voltage (V)	DC	24, 12, 6, 5, 3	
	AC50/60Hz	*100, 110, 200, 220	
Allowable voltage		±10% rated voltage	
Power consumption (W) <sup>(1)</sup>		DC	
Apparent power (VA)	AC	100V	0.5 (With light: 0.55)
		110V [115V]	0.9 (With light: 1.0)
		200V	1.0 (With light: 1.1)
		220V [230V]	[1.1 (With light: 1.2)]
			1.8 (With light: 1.9)
Surge voltage suppressor		Diode	
Indicator light		LED	

\* Can be used for 110V and 115V AC, 220V and 230V AC in common.  
 Note 1) At rated voltage

- SY
- SYJ
- VK
- VZ
- VT
- VT
- VP
- VG
- VP
- VQ
- VQZ
- VZ
- VS

# Series SYJ700

## External Pilot

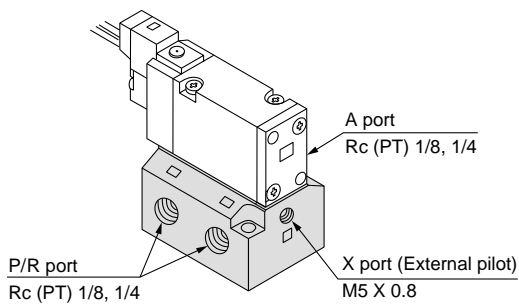
### SYJ700R

Pilot valve pressure is supplied separately from the main valve pressure through the use of a separate supply port.

This model is suitable for low pressure (less than 0.15MPa) and vacuum (up to -100kPa) applications.

### Specifications

Applicable model	Base mounted (SYJ714R, SYJ724R)	
Operating pressure range (MPa)	Main pressure	-100kPa to 0.7
	External pilot pressure	0.15 to 0.7



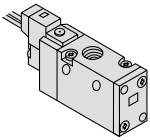
Note 1) Refer to p.2.2-40 for manifold.

Note 2) External pilot style body ported valves (SYJ7□2R) can only be used on the manifold.

For body ported models with the external pilot option contact SMC.

## How to Order

**3 port**



(For manifold type 20, 21R)

**Actuation**

1	Normally closed
2	Normally open

**Rated voltage**

For DC	
5	24V DC
6	12V DC
V	6V DC
S	5V DC
R	3V DC

For AC (50/60Hz)	
1	100V AC
2	200V AC
3	110V AC [115V AC]
4	220V AC [230V AC]

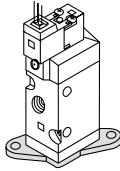
**Indicator light and surge voltage suppressor**

—	Without indicator light and surge voltage suppressor
S	With surge voltage suppressor
Z	With indicator light and surge voltage suppressor
R	With surge voltage suppressor (Non polar)
U	With indicator light and surge voltage suppressor (Non polar)

\* For AC voltage valves there is no "S" option. It is already built in to the rectifier CRT.  
\* "R" and "U" options are available for DC voltage valves.

**Bracket**

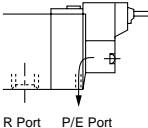
—: Without bracket  
F: With bracket



\* Bracket is supplied unmounted expect on the external pilot style.

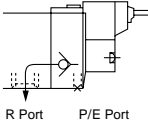
**Body option**

—: Individual exhaust for the pilot valve




R Port P/E Port

M: Common exhaust for the pilot and main valve



R Port P/E Port

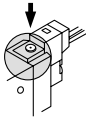
R: External pilot style\*



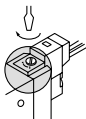
\* SYJ□2R is only for manifold use.

**Manual override**

—: Non-locking push style

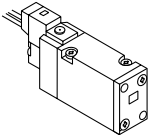


D: Push locking slotted style



**Port size**

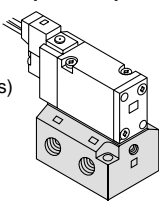
—: Without sub-plate



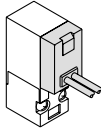
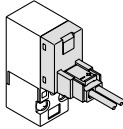
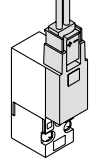
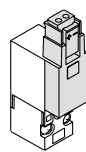
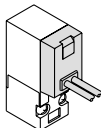
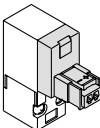
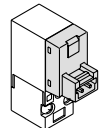
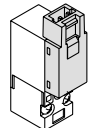
01: With Rc (PT)1/8 port sub-plate

(With gasket and screws)

02: With Rc (PT)1/4 port sub-plate



**Electrical entry**

24V, 12V, 6V, 5V, 3V DC/100V, 110V, 200V, 220V AC			
Grommet	L plug connector	M plug connector	
G: 300mm lead wire 	L: 300mm lead wire 	M: 300mm lead wire 	MN: Without lead wire 
H: 600mm lead wire 	LN: Without lead wire 	LO: Without connector 	MO: Without connector 

\* LN and MN types are with 2 sockets.

**Ordering Examples:**

**Body ported** SYJ7 1 2 □ 5 M □ □ □ 01 □

**Base mounted** SYJ7 1 4 □ 5 M □ □ □ 01

SY

SYJ

VK

VZ

VT

VT

VP

VG

VP

VQ

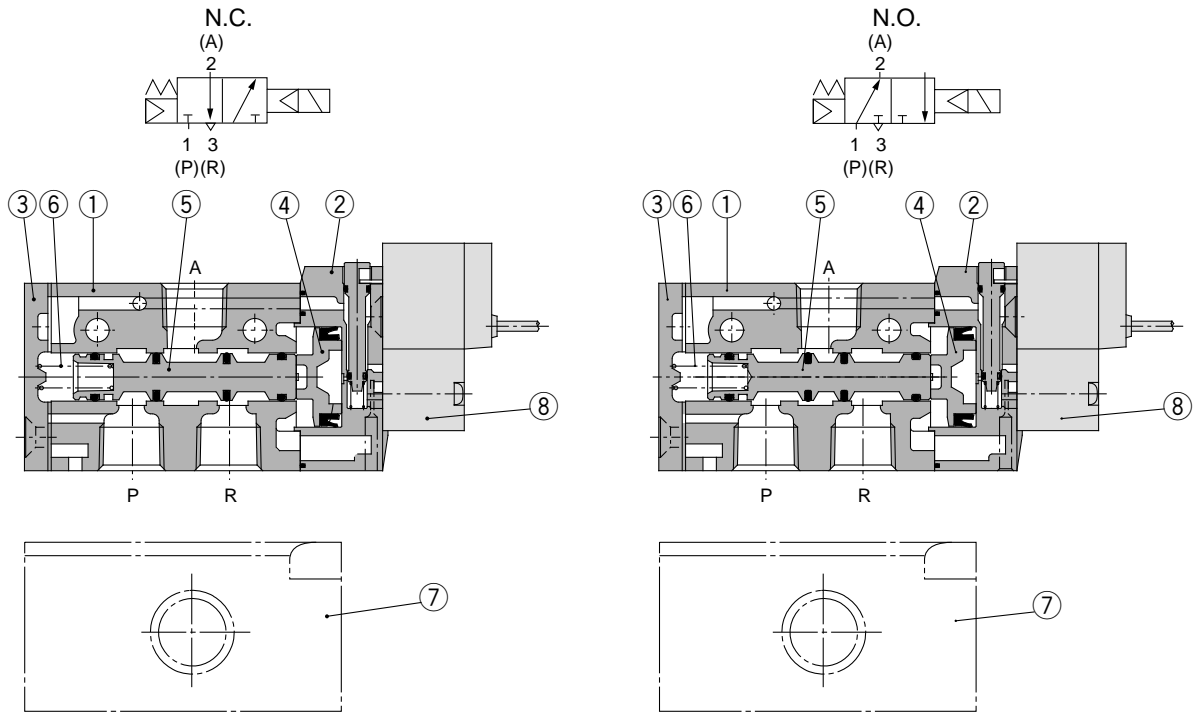
VQZ

VZ

VS

# Series SYJ700

## 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 ass'y	—	—
⑥	Spool spring	Stainless steel	—

### Replacements Parts

No.	Description	Parts No.	Note
⑦	Sub-plate	SYJ700-9-1	Rc (PT)1/8 Aluminum die cast
		SYJ700-9-2	Rc (PT)1/4
⑧	Pilot valve	SY114-□□□□	

## How to Order Pilot Valve Assembly

**SY114** — **5** **G** □

**Voltage**

5	24V DC
6	12V DC
V	6V DC
S	5V DC
R	3V DC
1	100V AC50/60Hz
2	200V AC50/60Hz
3	110V AC50/60Hz [115V AC50/60Hz]
4	220V AC50/60Hz [230V AC50/60Hz]

**Indicator light and surge voltage suppressor**

—	Without indicator light and surge voltage suppressor
S	With surge voltage suppressor
Z	With indicator light and surge voltage suppressor
R	With surge voltage suppressor (Non polar)
U	With indicator light and surge voltage suppressor(Non-polar)

**Electrical entry**

G	Grommet (Lead wire: 300mm)	
H	Grommet (Lead wire: 600mm)	
L	L plug connector	With lead wire
LN		Without lead wire
LO		Without connector
M	M plug connector	With lead wire
MN		Without lead wire
MO		Without connector

\* For AC voltage valves there is no "S" option. It is already built-in to the rectifier circuit.  
\* "R" and "U" types are available for DC voltage valves.

## How to Order Connector Assembly

DC : SY100-30-4A-□  
 100V AC : SY100-30-1A-□  
 200V AC : SY100-30-2A-□  
 Other AC voltages : SY100-30-3A-□

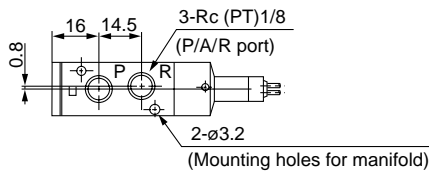
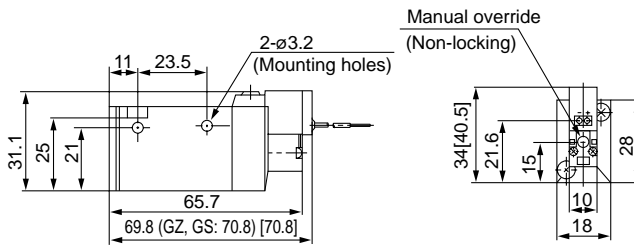
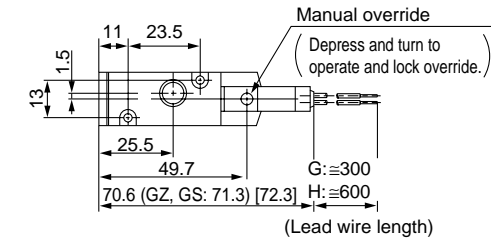
Without lead wire: SY100-30-A  
 (with connector and 2 of sockets)

**Lead wire length(mm)**

—	300
6	600
10	1000
15	1500
20	2000
25	2500
30	3000
50	5000

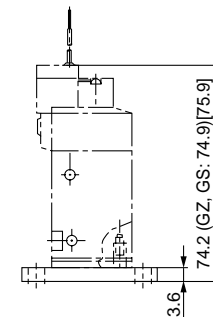
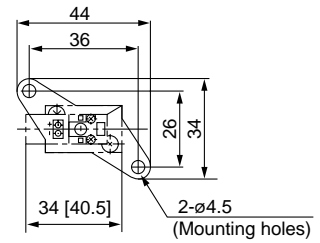
## Body Ported

Grommet (G), (H): SYJ7□2-□<sup>G</sup>□□-01



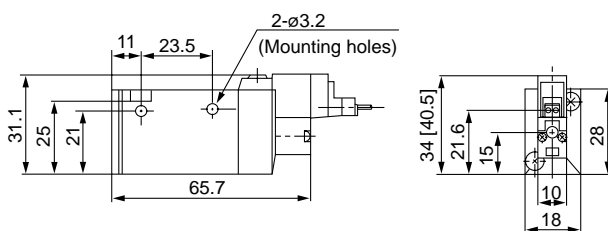
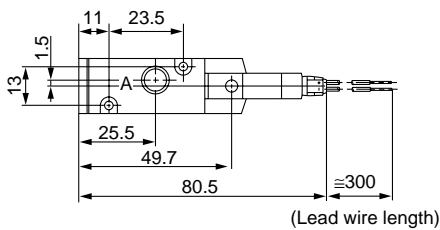
\* [ ] for AC

With bracket:  
SYJ7□2-□<sup>H</sup>□□-01-F



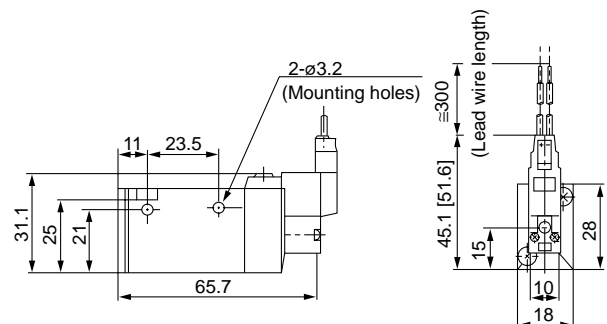
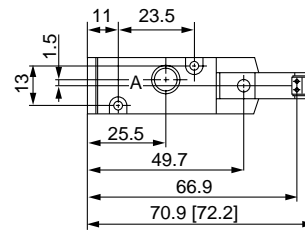
\* [ ] for AC  
\* Other dimensions are the same as the grommet.

L plug connector (L): SYJ7□2-□L□□-01



\* [ ] for AC  
\* Other dimensions are the same as the grommet.

M plug connector (M): SYJ7□2-□M□□-01



\* [ ] for AC  
\* Other dimensions are the same as the grommet.

SY

SYJ

VK

VZ

VT

VT

VP

VG

VP

VQ

VQZ

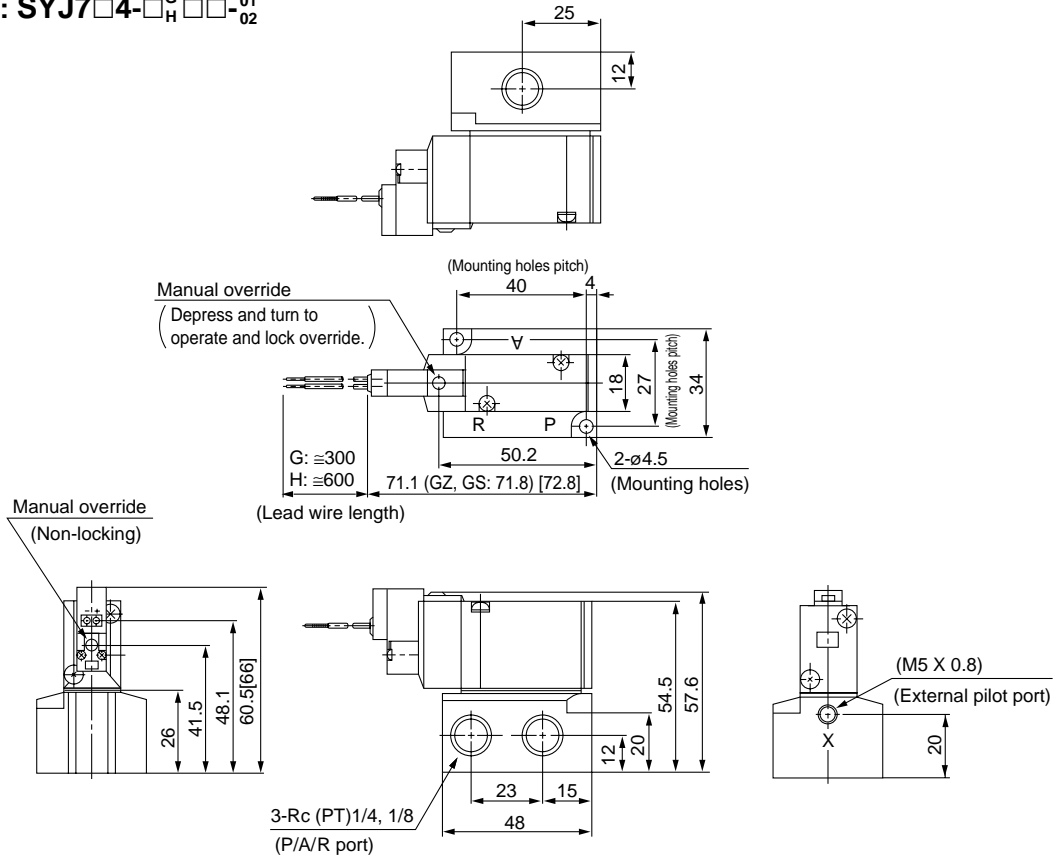
VZ

VS

# Series SYJ700

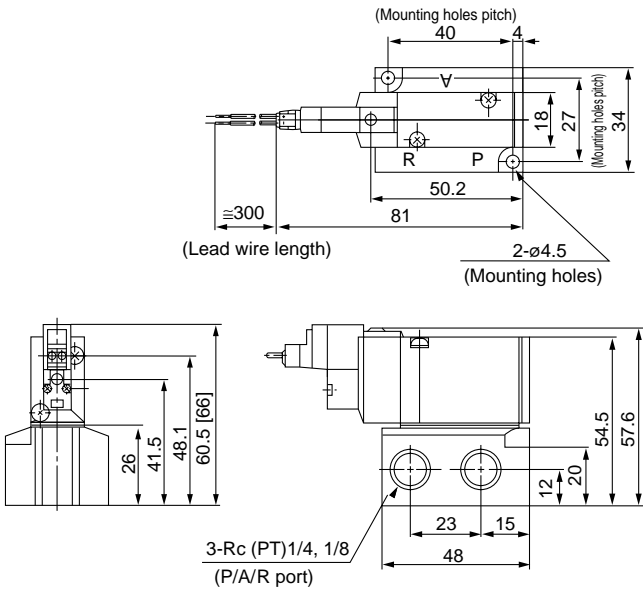
## Base Mounted (With sub-plate)

Grommet (G), (H): SYJ7□4-□<sup>G</sup>□□-<sup>01</sup><sub>02</sub>



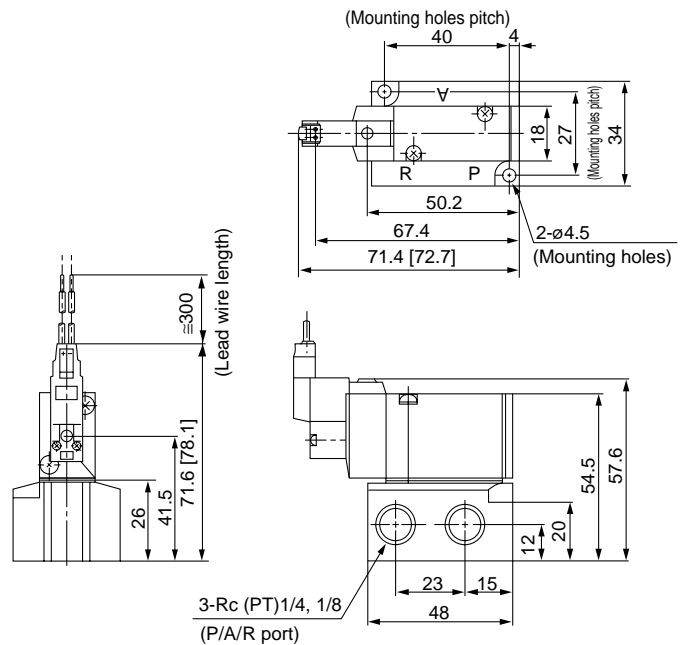
\* [ ] for AC

L plug connector (L): SYJ7□4-□L□□-<sup>01</sup><sub>02</sub>



\* [ ] for AC  
\* Other dimensions are the same as the grommet.

M plug connector (M): SYJ7□4-□M□□-<sup>01</sup><sub>02</sub>



\* [ ] for AC  
\* Other dimensions are the same as the grommet.

# Series SYJ700 Manifold



## Manifold Specifications

Type	For internal pilot	20	21	40	41	42
	For external pilot	—	21R	—	41R	42R
Manifold style	Single base style/B mount					
P(SUP)/R(EXH) style	Common SUP/Common EXH					
Valve stations	2 to 20 stations					
A port specifications	Location	Valve	Valve	Base	Base	Base
	Direction	Top	Top	Bottom	Bottom	Side
Port size	P/R port	Rc (PT) 1/8	Rc (PT) 1/4	Rc (PT) 1/8	Rc (PT) 1/4	Rc(PT) 1/4
	A port	Rc (PT) 1/8	R c(PT) 1/8	Rc (PT) 1/8	Rc (PT) 1/8	Rc(PT) 1/8 C6 (ø6 One-touch fitting) C8 (ø8 One-touch fitting)
	X port <sup>(1)</sup>	—	M3 X 0.8	—	M5 X 0.8	M5 X 0.8
Valve effective area (mm <sup>2</sup> ) (Cv) <sup>(2)</sup>	Body ported SYJ7□2/SYJ7□2R	10.6 (0.59)			—	
	Base mounted SYJ7□4/SYJ7□4R	—		10.2 (0.57)	10.2 (0.57)	1/8: 9.2 (0.51) C6: 8.8 (0.49) C8: 10 (0.56)



Note 1) Only for external pilot

Note 2) Value when used on a manifold

## How to Order Manifold Assembly

Specify the part numbers for the valve (s), blank plate assembly, and manifold base.

Example:

**SS3YJ7-20-03** .....1 pc. (Manifold base)

**SYJ712-5LZ-01** .....2 pcs. (Valve)

**SYJ700-10-2A** .....1 pc. (Blank plate ass'y)

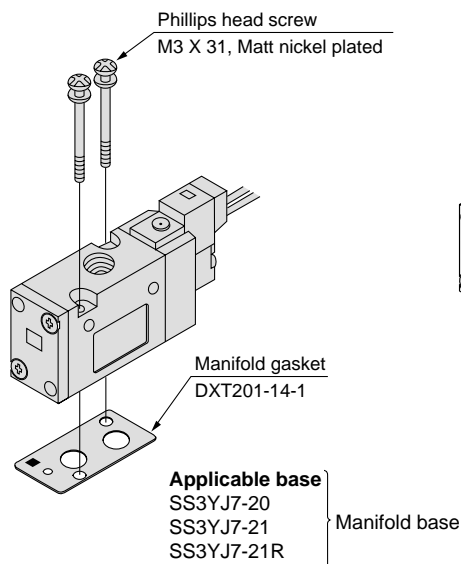
**SS3YJ7-42R-03-01** .....1 pc. (Manifold base)

**SYJ714R-5G** .....2 pcs. (Valve)

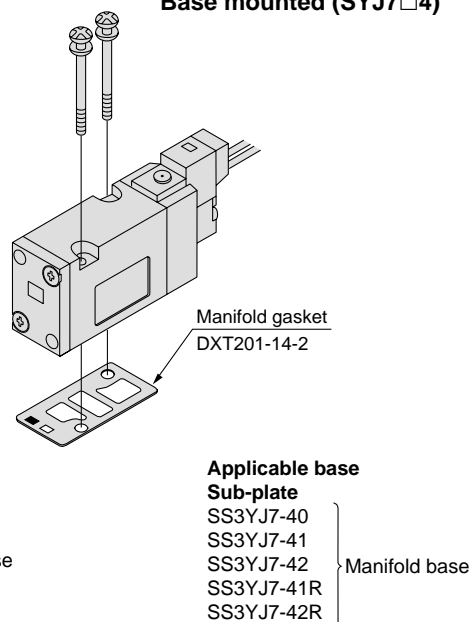
**SYJ700-10-2A** .....1 pc. (Blank plate ass'y)

## Combinations of Solenoid Valve, Manifold Gasket and Manifold Base

### Body ported (SYJ7□2)

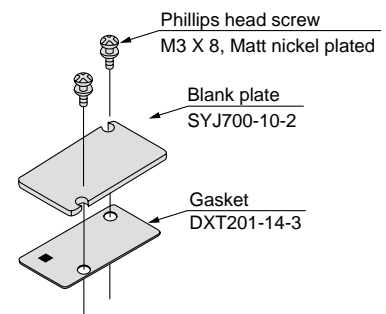


### Base mounted (SYJ7□4)



## Blank Plate Assembly

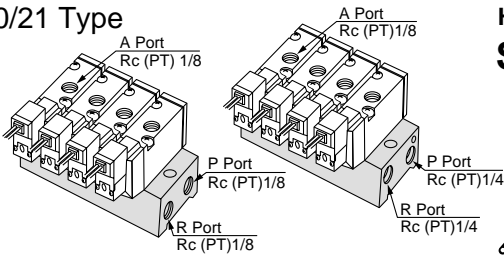
### SYJ700-10-2A



# Series SYJ700

## Manifolds for Internal Pilot

### 20/21 Type



#### How to Order

**SS3YJ7-20-05**

Valve model	
20	20 Type
21	21 Type

Stations	
02	2 stations
:	:
20	20 stations

#### Applicable solenoid valve

SYJ712-□□□□-01  
SYJ712M-□□□□-01  
SYJ722-□□□□-01  
SYJ722M-□□□□-01

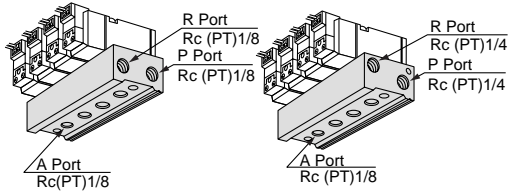
#### Applicable blank plate ass'y

SYJ700-10-2A



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

### 40/41 Type



#### How to Order

**SS3YJ7-40-05-01**

Valve model	
40	40 Type
41	41 Type

Stations	
02	2 stations
:	:
20	20 stations

A port side	
01	Rc (PT) 1/8

#### Applicable solenoid valve

SYJ714-□□□□  
SYJ714M-□□□□  
SYJ724-□□□□  
SYJ724M-□□□□

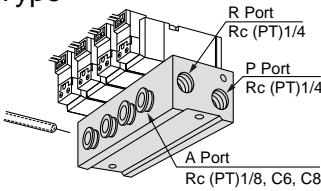
#### Applicable blank plate ass'y

SYJ700-10-2A



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

### 42 Type



#### How to Order

**SS3YJ7-42-05-C6**

Stations	
02	2 stations
:	:
20	20 stations

A port side	
01	Rc (PT) 1/8
C6	ø6 One-touch fitting
C8	ø8 One-touch fitting

#### Applicable solenoid valve

SYJ714-□□□□  
SYJ714M-□□□□  
SYJ724-□□□□  
SYJ724M-□□□□

#### Applicable blank plate ass'y

SYJ700-10-2A

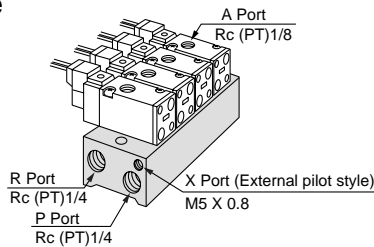


Note) If more than 9 stations, supply air to both sides of "P" Port and exhaust air from both sides of "R" port.

## Manifolds for External Pilot

Pilot valve pressure is isolated from main valve pressure through a separate supply line. This is suitable for vacuum (up to -100kPa) and low pressure 0.15MPa applications.

### 21R Type



#### How to Order

**SS3YJ7-21R-05**

Stations	
02	2 stations
:	:
20	20 stations

#### Applicable solenoid valve

SYJ712R-□□□□-01  
SYJ722R-□□□□-01

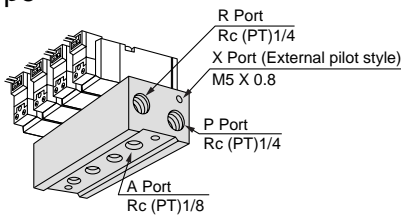
#### Applicable blank plate ass'y

SYJ700-10-2A



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

### 41R Type



#### How to Order

**SS3YJ7-41R-05-01**

Stations	
02	2 stations
:	:
20	20 stations

A port side	
01	Rc (PT) 1/8

#### Applicable solenoid valve

SYJ714R-□□□□  
SYJ724R-□□□□

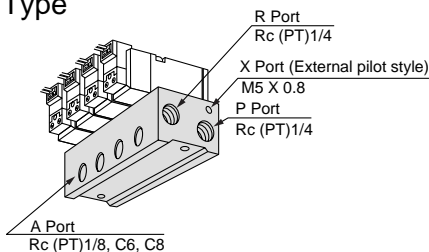
#### Applicable blank plate ass'y

SYJ700-10-2A



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

### 42R Type



#### How to Order

**SS3YJ7-42R-05-01**

Stations	
02	2 stations
:	:
20	20 stations

A port side	
01	Rc (PT) 1/8
C6	ø6 One-touch fitting
C8	ø8 One-touch fitting

#### Applicable solenoid valve

SYJ714R-□□□□  
SYJ724R-□□□□

#### Applicable blank plate ass'y

SYJ700-10-2A

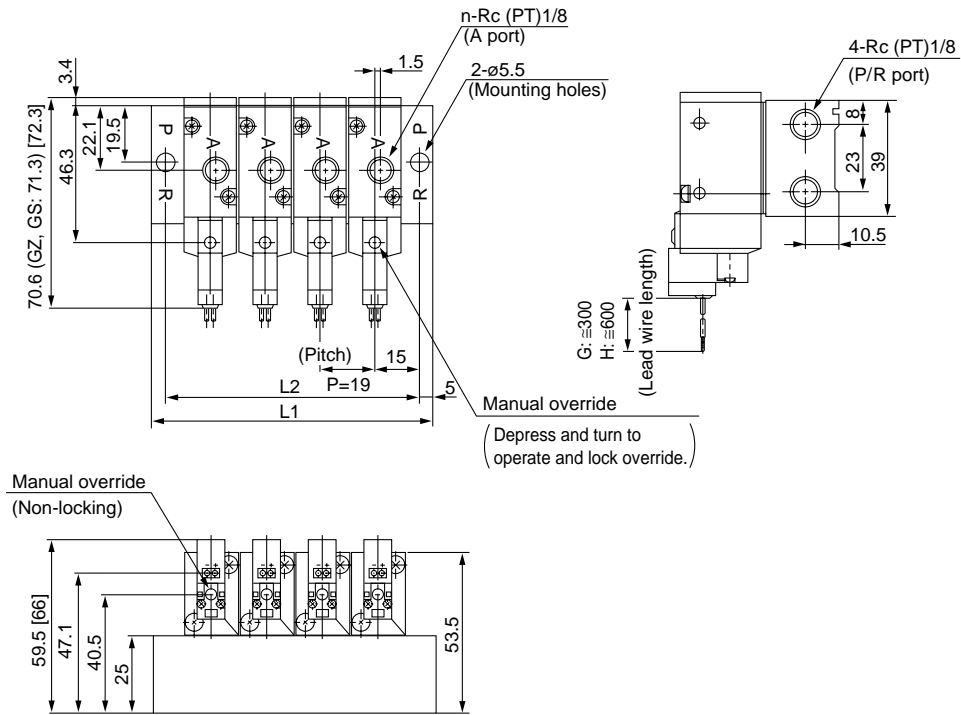


Note) If more than 9 stations, supply air to both sides of "P" or "R" port and exhaust air from both sides of "R" or "P" port.



## 20 Type Manifold: Top Ported / SS3YJ7-20-Station

### Grommet (G), (H)



SY

SYJ

VK

VZ

VT

VT

VP

VG

VP

VQ

VQZ

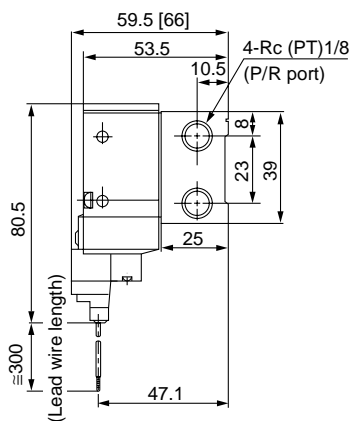
VZ

VS

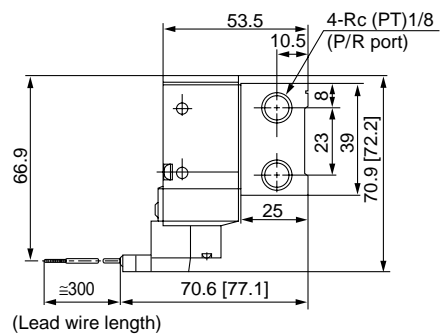


\* [ ] for AC

### L plug connector (L)



### M plug connector (M)



\* [ ] for AC

\* Other dimensions are the same as the grommet.



\* [ ] for AC

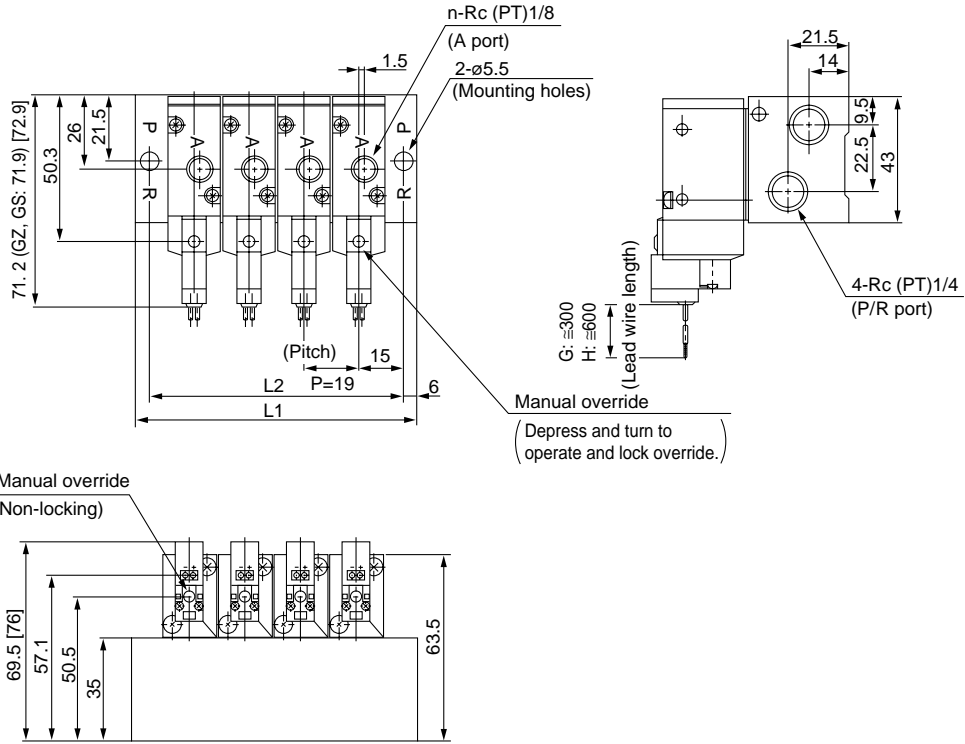
\* Other dimensions are the same as the grommet.

Station	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	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

# Series SYJ700

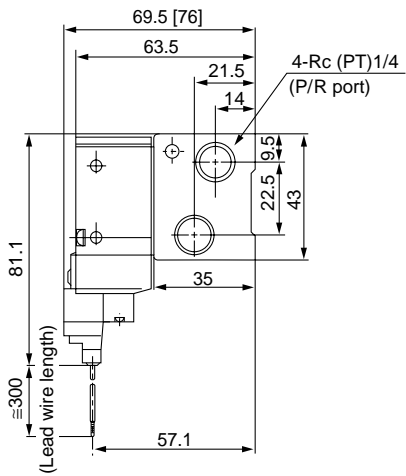
## 21 Type Manifold: Top Ported/SS3YJ7-21-Station

### Grommet (G), (H)

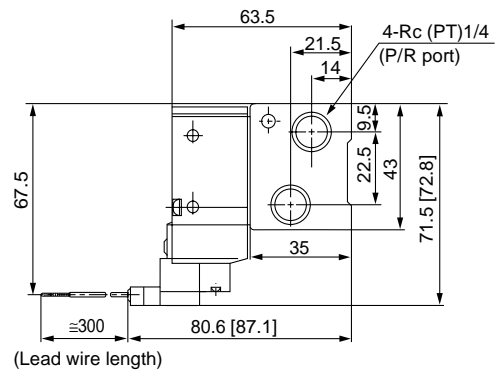


\* [ ] for AC

### L plug connector (L)



### M plug connector (M)



\* [ ] for AC

\* Other dimensions are the same as the grommet.



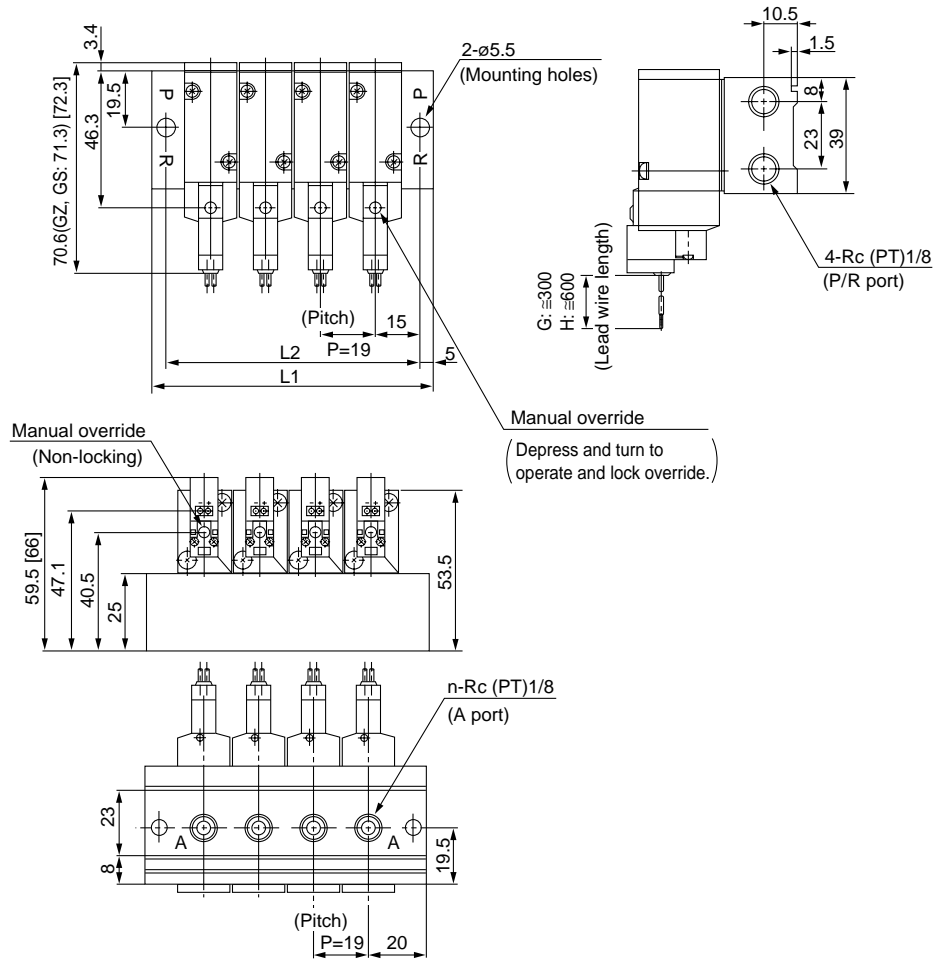
\* [ ] for AC

\* Other dimensions are the same as the grommet.

Station	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	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

## 40 Type Manifold: Bottom Ported/SS3YJ7-40-Station -01

### Grommet (G), (H)



\* [ ] for AC

SY

SYJ

VK

VZ

VT

VT

VP

VG

VP

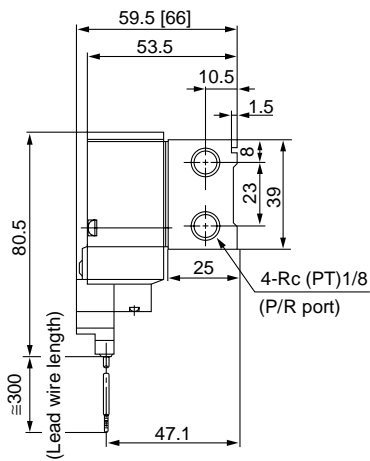
VQ

VQZ

VZ

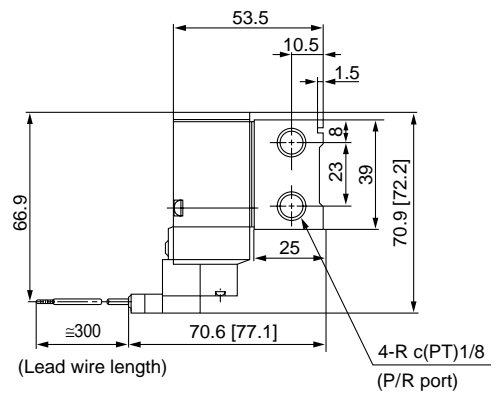
VS

### L plug connector (L)



\* [ ] for AC  
\* Other dimensions are the same as the grommet.

### M plug connector (M)



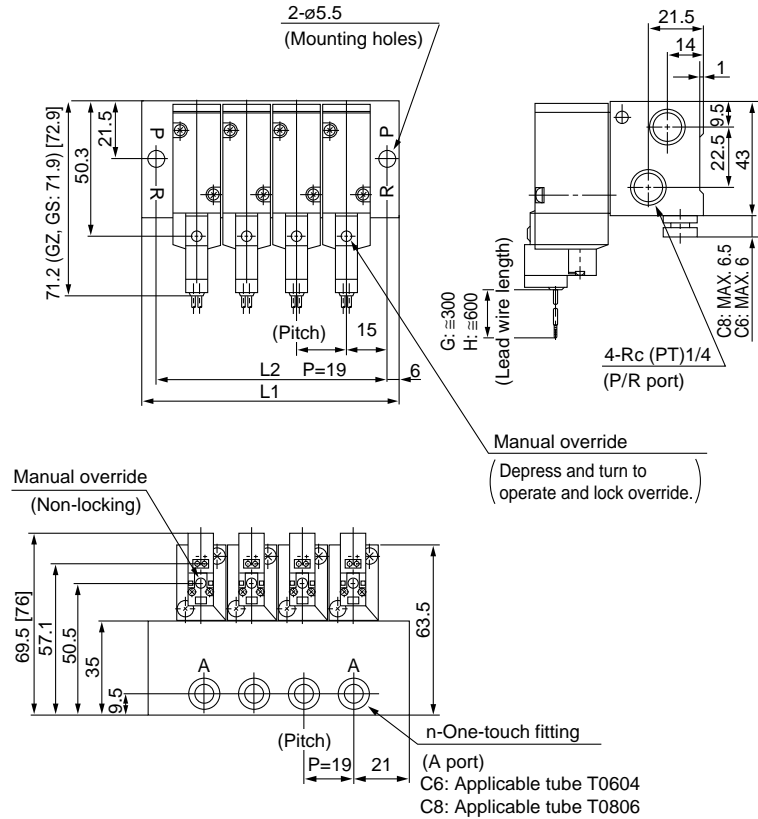
\* [ ] for AC  
\* Other dimensions are the same as the grommet.

Station	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	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

# Series SYJ700

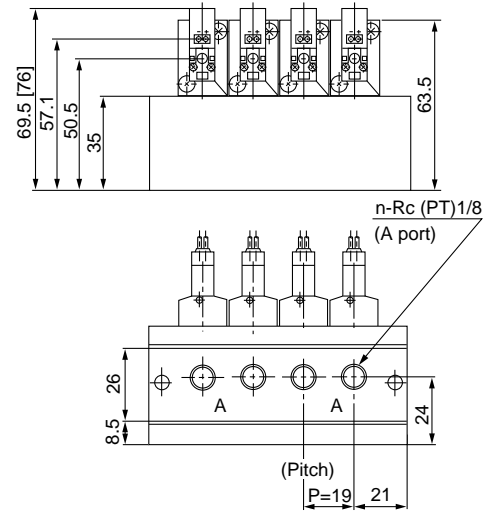
## 42 Type Manifold: Side Ported/SS3YJ7-42-Station -01, C6, C8

### Grommet (G), (H)



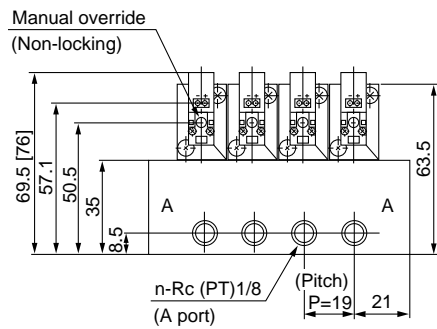
## 41 Type: Bottom Ported/SS3YJ7-41-Station -01

### SS3YJ7-41-Station -01

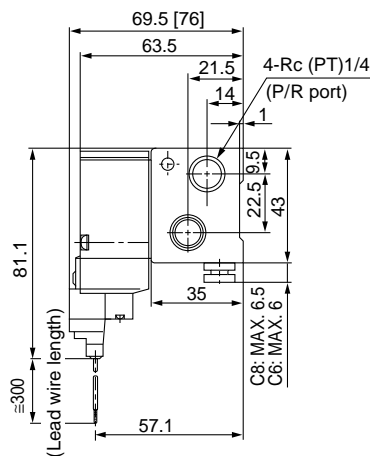


\* [ ] for AC  
\* Other dimensions are the same as type 42.

### Rc (PT) 1/8

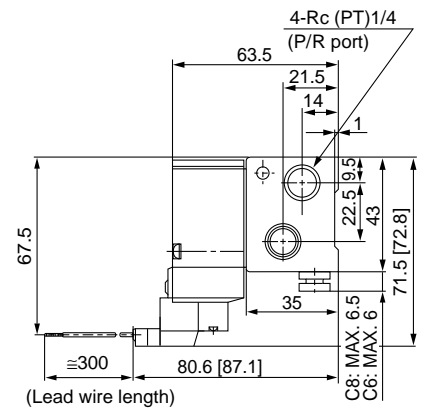


### L plug connector (L)



\* [ ] for AC  
\* Other dimensions are the same as the grommet.

### M plug connector (M)



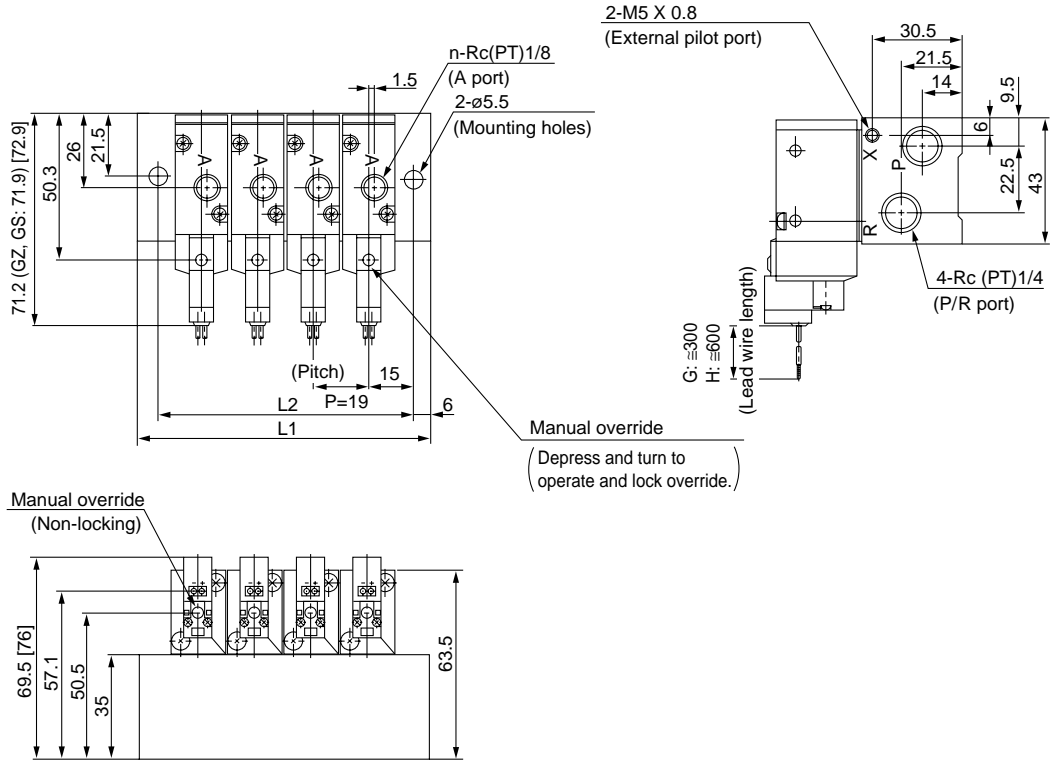
\* [ ] for AC  
\* Other dimensions are the same as the grommet.

\* [ ] for AC

Station	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	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

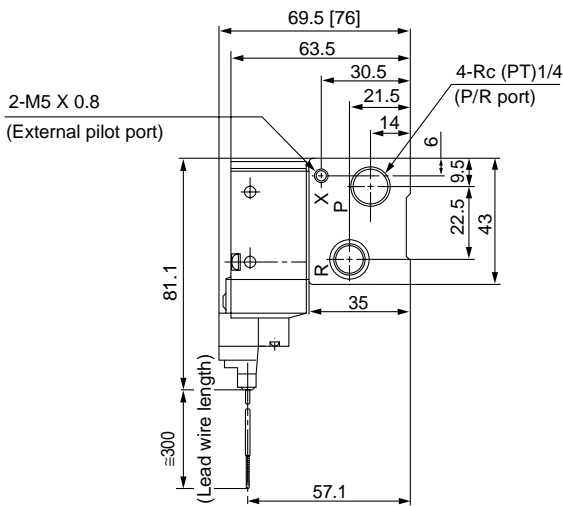
## 21R Type Manifold: Top Ported (External Pilot)/SS3YJ7-21R- Station

Grommet (G), (H)



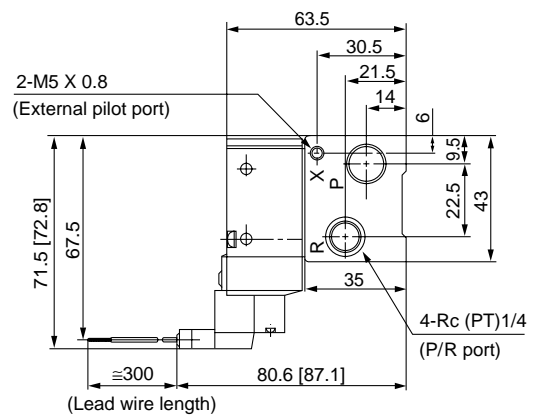
\* [ ] for AC

### L plug connector (L)



\* [ ] for AC  
\* Other dimensions are the same as the grommet.

### M plug connector (M)



\* [ ] for AC  
\* Other dimensions are the same as the grommet.

Station	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	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

SY

SYJ

VK

VZ

VT

VT

VP

VG

VP

VQ

VQZ

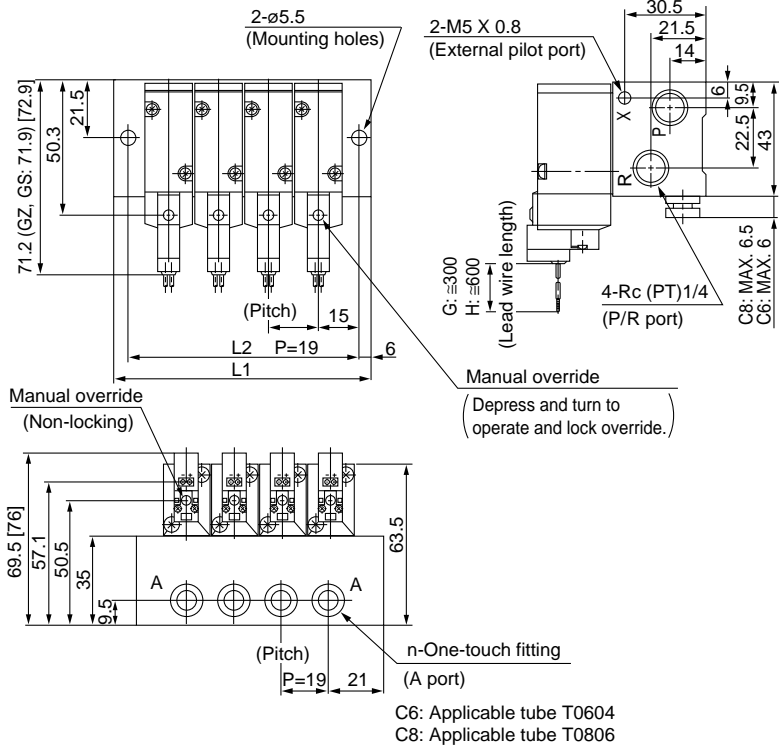
VZ

VS

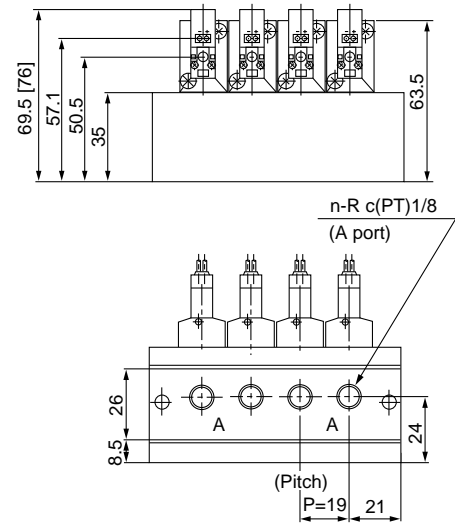
# Series SYJ700

42R Type Manifold: Side Ported/SS3YJ7-42R-Station -01, C6, C8

## Grommet (G), (H)

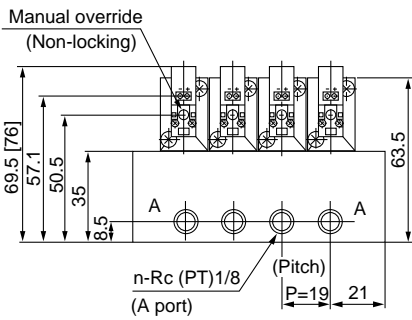


41R Type: Bottom Ported (External Pilot)/SS3YJ7-41R-Station -01

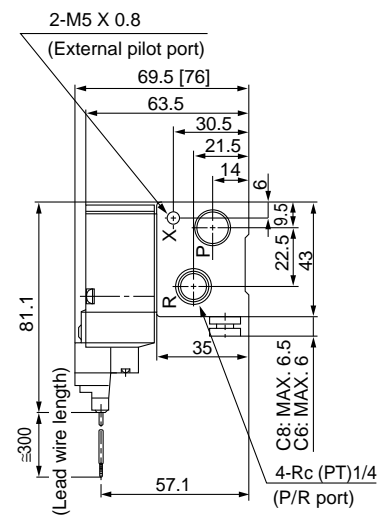


\* [ ] for AC  
\* Other dimensions are the same as the 42R.

## Rc (PT) 1/8

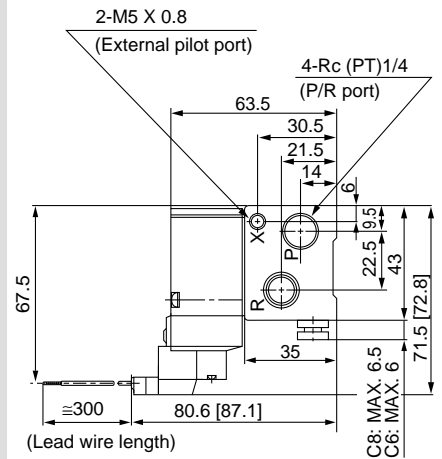


## L plug connector (L)



\* [ ] for AC  
\* Other dimensions are the same as the grommet.

## M plug connector (M)



\* [ ] for AC  
\* Other dimensions are the same as the grommet.

\* [ ] for AC

Station	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	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

# Series SYJ300/500/700 Made to Order

(Contact SMC regarding detailed specifications, dimensions and delivery.)



## Power Saver

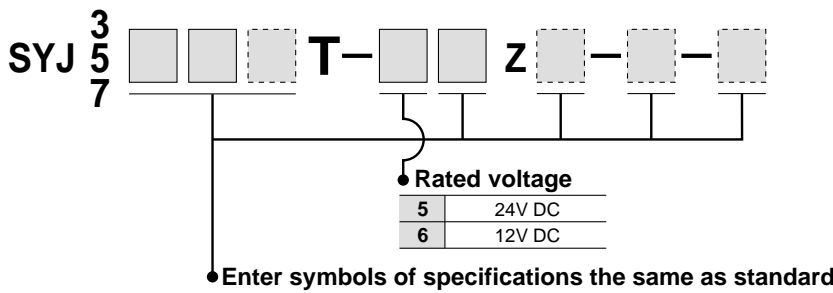
Power consumption is decreased by 1/3 reducing the wattage required to hold the valve in an energized state.  
(When the rated 24V DC is applied, its effectiveness will be exhibited at an energization time exceeding 62ms.)

### Specifications

Series	SYJ <sup>300</sup> <sub>500</sub> <sup>T</sup> <sub>700</sub>	
Coil rated voltage (V)	24, 12V DC	
Power consumption (W)	Inrush	0.55
	Holding	0.22

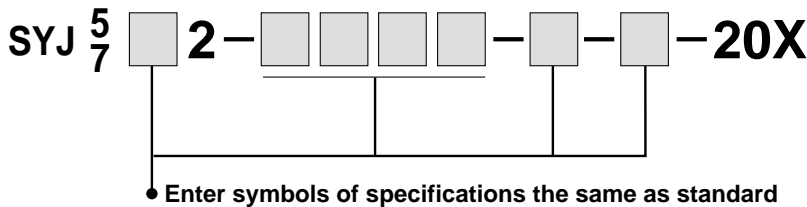
Specifications other than above are the same as standard models.

### How to Order



### Body ported external pilot

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



### Operating pressure range (MPa)

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

### Dimensions

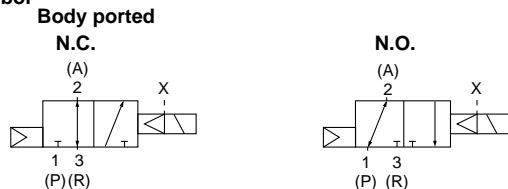
SYJ500: 8mm longer

SYJ700: 8mm longer

### External pilot port

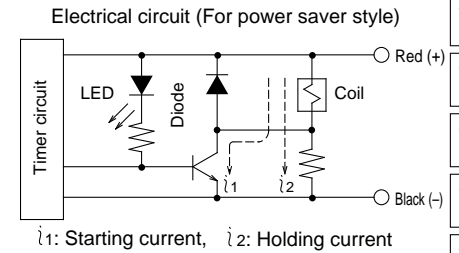
Series	Port size
SYJ500, SYJ700	M5 X 0.8

### JIS symbol

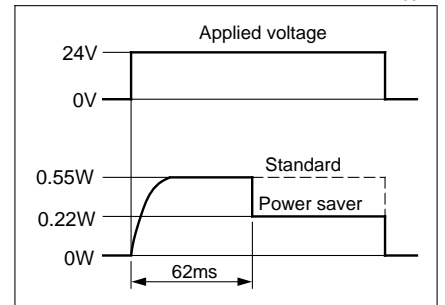


### Operating principle

The circuit shown below reduces current consumption at holding which reduces the overall power consumption.  
Refer to following power wave form.



<Power saver style power wave SYJ<sup>300</sup><sub>500</sub><sup>T</sup><sub>700</sub>>



SY

SYJ

VK

VZ

VT

VT

VP

VG

VP

VQ

VQZ

VZ

VS