

3 Port Direct Operated Rubber Seal Series SY100

Model



Body ported



Base mounted

Actuation	Model	Style	Operating pressure range (MPa)	Vacuum application (MPa)		Effective area (mm ²) (Cv)	Weight (g) ⁽²⁾	
				P port	R port		Grommet style	L, M Plug connector
N.C.	SY11 ³ ₄	Standard	0 to 0.7	-100kPa to 0.6	-100kPa to 0	0.14 (0.008)		
N.C.	SY11 ³ ₄ A	Large flow capacity	0 to 0.7	-100kPa to 0.6	-100kPa to 0	0.22 (0.012)	SY1□3 (A): 13 SY1□4 (A): 24	SY1□3 (A): 15 SY1□4 (A): 26
N.O.	SY12 ³ ₄ ⁽¹⁾	Standard	0 to 0.7	-100kPa to 0	-100kPa to 0.6	0.14 (0.008)	(Without sub-plate 12)	(Without sub-plate 14)
N.O.	SY12 ³ ₄ A ⁽¹⁾	Large flow capacity	0 to 0.7	-100kPa to 0	-100kPa to 0.6	0.22 (0.012)		

Note 1) SY123/SY124 and SY123/SY124 A: Supply pressure to 1(R) port and exhaust air from 3(P) port.
Note 2) Value for DC. Add 1g for AC.

Specifications

Fluid	Air
Ambient and fluid temperature (°C)	Max. 50°C
Response time (ms) ⁽¹⁾	10ms or less
Max. operating frequency (Hz)	20
Manual override	Non-locking push, Locking slotted, Push-locking slotted, Push-locking lever
Lubrication	Not required
Mounting position	Free
Impact/Vibration resistance (m/s ²) ⁽²⁾	150/30
Enclosure	Dust-proof

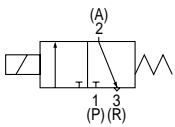
Note 1) According to dynamic performance test JIS B8374-1981 (Coil temperature 20°C, at rated voltage, without surge suppressor.)

Note 2) Impact resistance: No malfunction from tests using drop impact tester, to axis and right angle direction of main valve and armature, each one time when energized and de-energized. (Value in the initial stage)

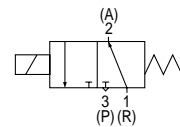
Vibration resistance: No malfunction from tests with 8.3-2000Hz 1 sweep, to axis and right angle direction of main valve and armature, each one time when energized and de-energized. (Value in the initial stage.)

JIS Symbol

SY11³₄(A)



SY12³₄(A)



P.2.1-15

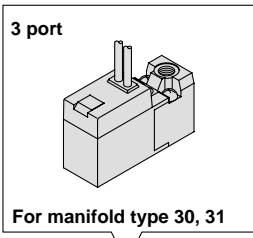
Solenoid Specifications

Series	SY1 ¹³ ₂₄	SY1 ¹³ ₂₄ A	
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 to +10%		
Power consumption (W) ⁽¹⁾	DC	0.5W (With light: 0.55W)	
	AC	0.75W (With light: 0.8W)	
Apparent power (VA) ⁽¹⁾	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		

*110VAC and 115VAC, 220VAC, and 230VAC are common.
Note 1) At rated voltage

How to Order

Standard (Cv0.008)

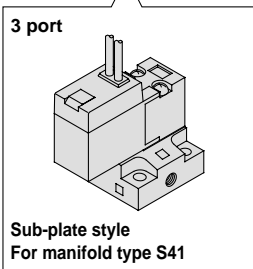


Standard (Cv: 0.008) : Body ported

SY1 1 3 — 5 L [] [] [] M3 — []

Standard (Cv: 0.008) : Base mounted

SY1 1 4 — 5 M [] [] []



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]

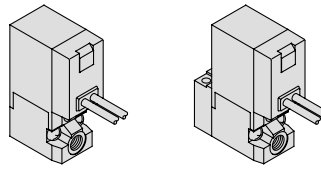
Light and surge voltage suppressor

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

*"S" type does not apply to AC model because rectifier prevents voltage surge generation.
*"R" and "U": DC only.

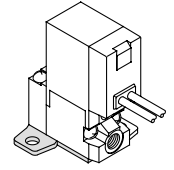
Piping

— : For manifold P: For body ported style to P, R, A port



Bracket

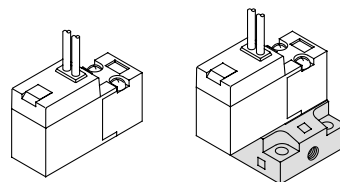
— : Without bracket F: With bracket



"P" piping specification only.

Piping port

— : Without sub-plate M3: With sub-plate



(With gasket and screw)

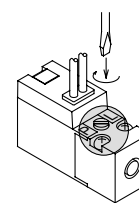
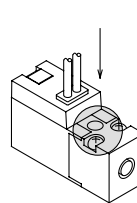
Electrical entry

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

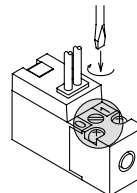
*LN or MN option includes 2 sockets.

Manual override

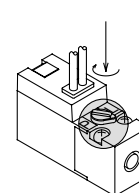
— : Non-locking push style D: Push-locking slotted style



B: Locking slotted style



E: Push-locking lever style



SY114/SY124, SY114A/SY124A only.

SY

SYJ

VK

VZ

VT

VT

VP

VG

VP

VQ

VQZ

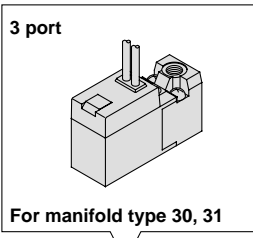
VZ

VS

Series SY100

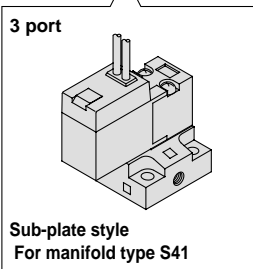
How to Order

Large flow capacity (Cv0.012)



Large flow capacity : Body ported
(Cv: 0.012)

Large flow capacity : Base mounted
(Cv: 0.012)



Actuation

1	Normally closed
2	Normally open

Rated voltage

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

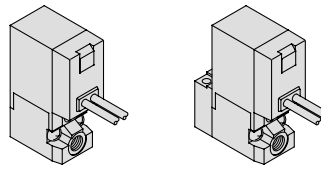
Large flow capacity

Light and surge voltage suppressor

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

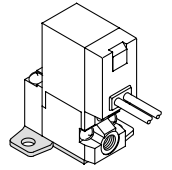
Piping

—: For manifold P: For body ported style to P, R, A port

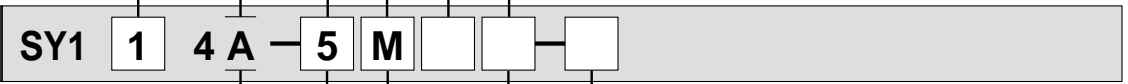
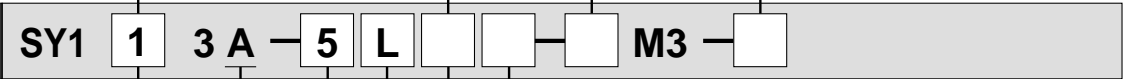


Bracket

—: Without bracket F: With bracket

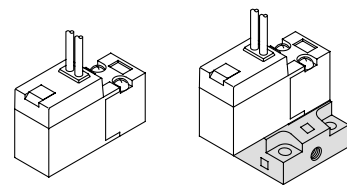


"P" piping specification only.



Piping port

—: Without sub-plate M3: With sub-plate



(With gasket and screw)

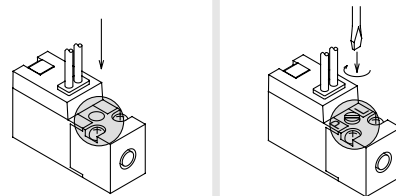
Electrical entry

24V, 12V, 6V, 5V, 3V DC			
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

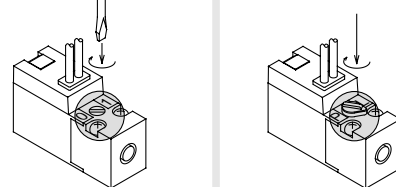
*LN or MN option includes 2 sockets.

Manual override

—: Non-locking push style D: Push-locking slotted style



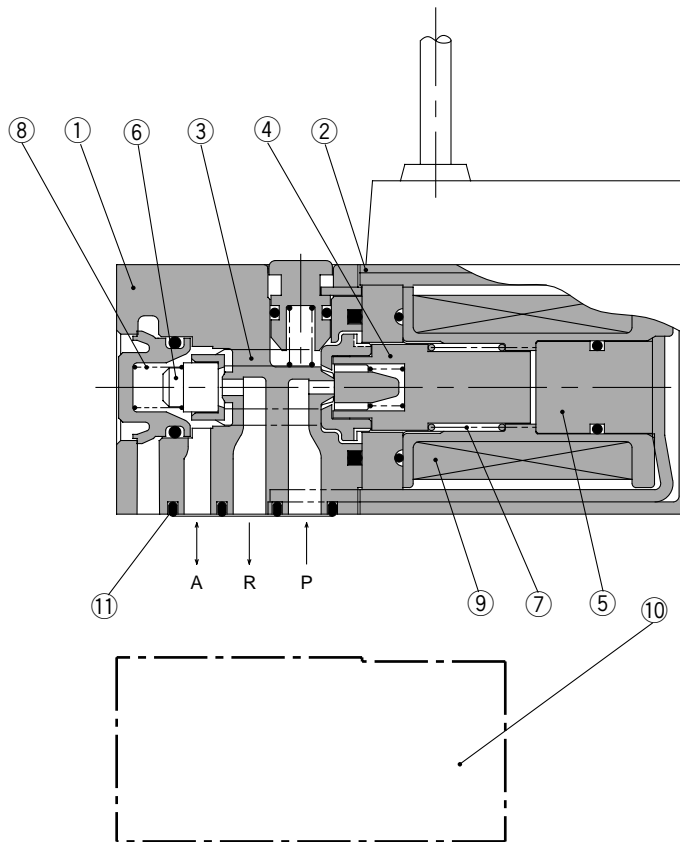
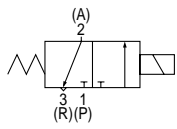
B: Locking slotted style E: Push-locking lever style



SY114/SY124, SY114A/SY124A only.

Construction

SY114, SY114A



Component Parts

No.	Description	Material	Notes
①	Body	Resin	Gray
②	Cover	Resin	Gray
③	Push rod	Resin	—
④	Armature ass'y	NBR/Stainless steel	—
⑤	Core	Stainless steel	—
⑥	Exhaust poppet	NBR	—
⑦	Return spring	Stainless steel	—
⑧	Poppet spring	Stainless steel	—
⑨	Coil ass'y	—	—

Replacement Parts

No.	Description	Part No.	Material
⑩	Sub-plate	SY100-74-1	Zinc die cast
⑪	Gasket	VJ100-6-1	NBR

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: (Only with a connector and two sockets.)	SY100-30-A	●
	Lead wire	
	—	300mm
	6	600mm
	10	1000mm
	15	1500mm
	20	2000mm
	25	2500mm
	30	3000mm
	50	5000mm

SY

SYJ

VK

VZ

VT

VT

VP

VG

VP

VQ

VQZ

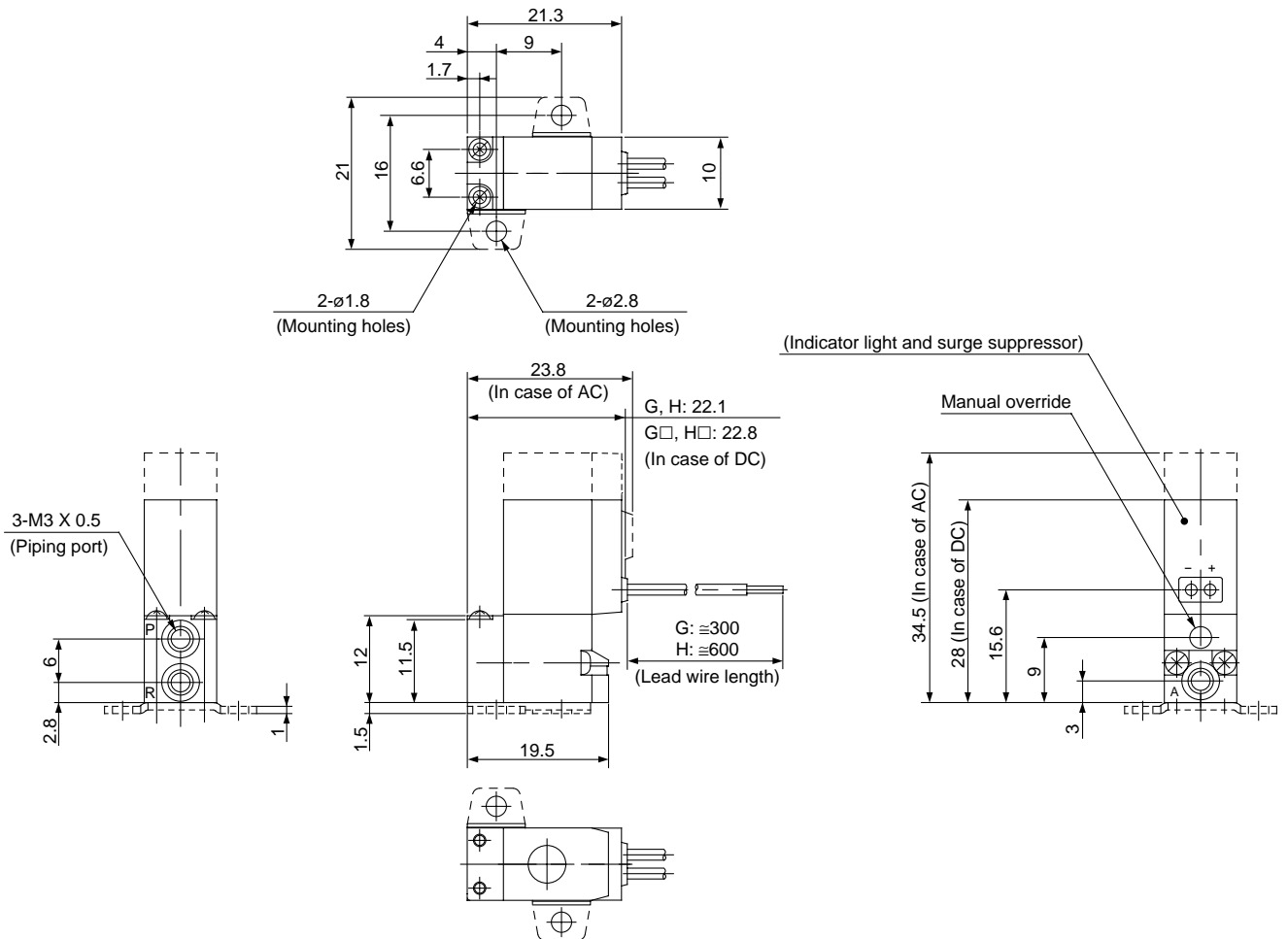
VZ

VS

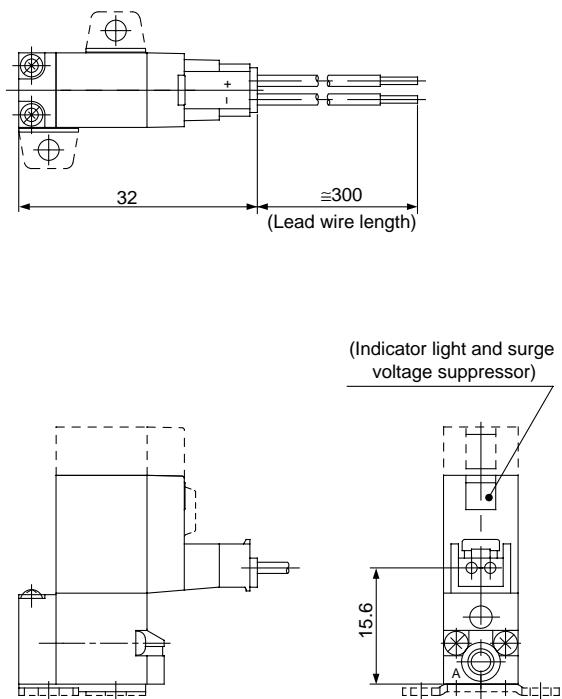
Series SY100

Body Ported

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



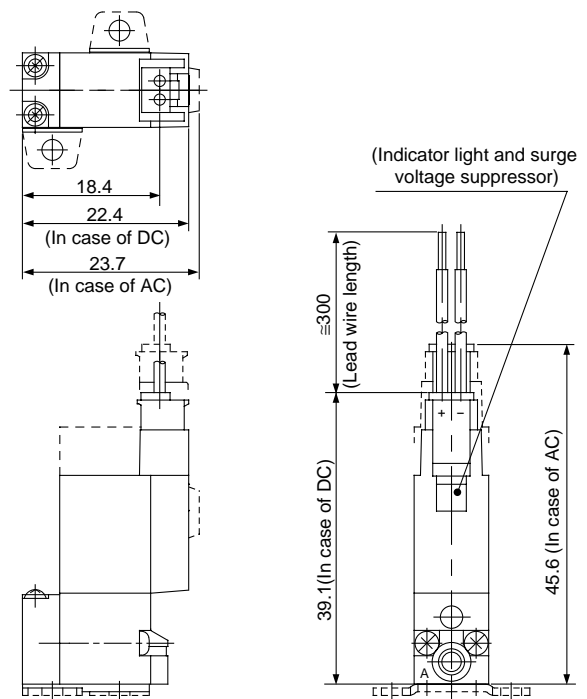
L plug connector (L): SY1 $\frac{1}{2}$ 3 (A)-□L□□-PM3 (F)



* Other dimensions are same as grommet style.

2.1-8

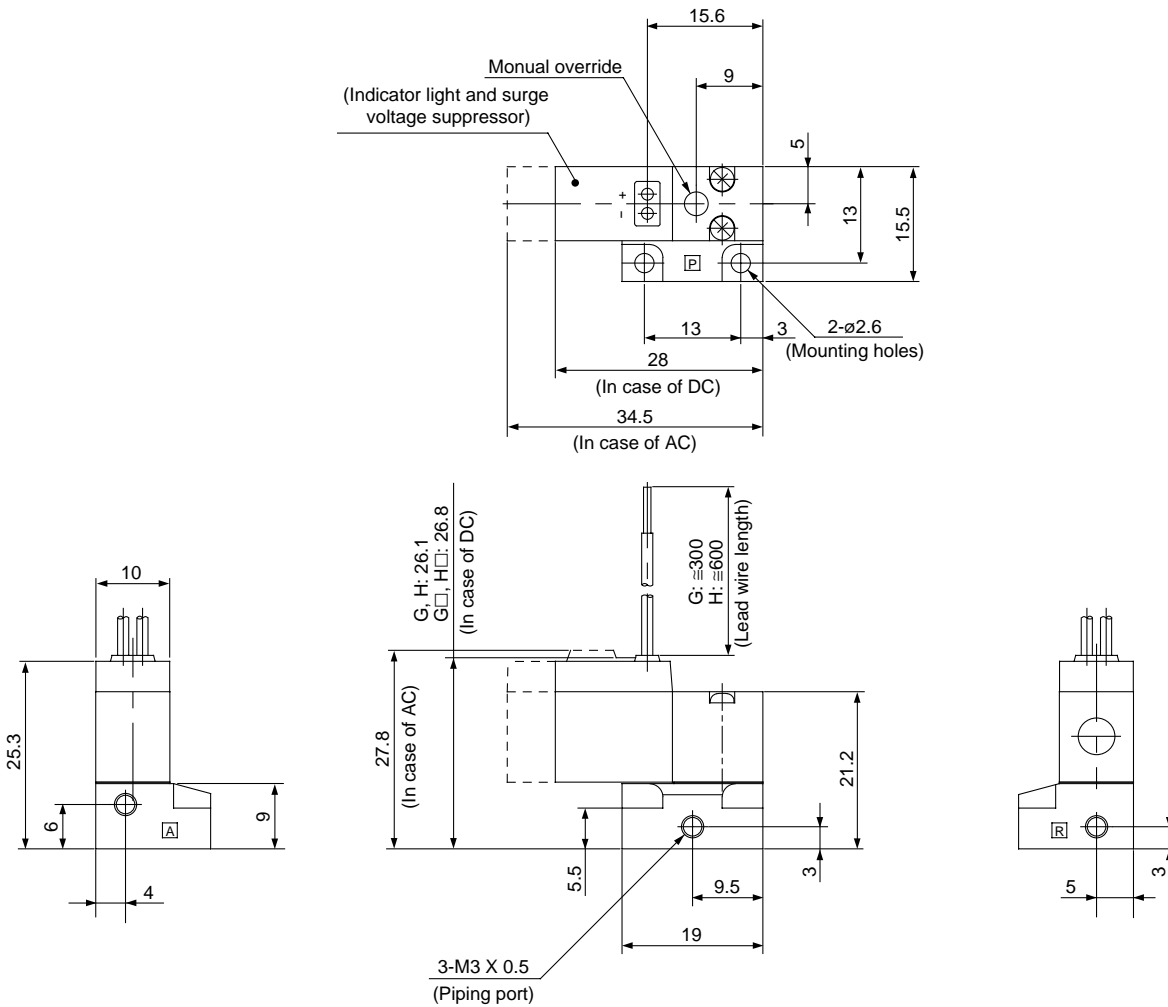
M plug connector (M): SY1 $\frac{1}{2}$ 3 (A)-□M□□-PM3 (-F)



* Other dimensions are same as grommet style.

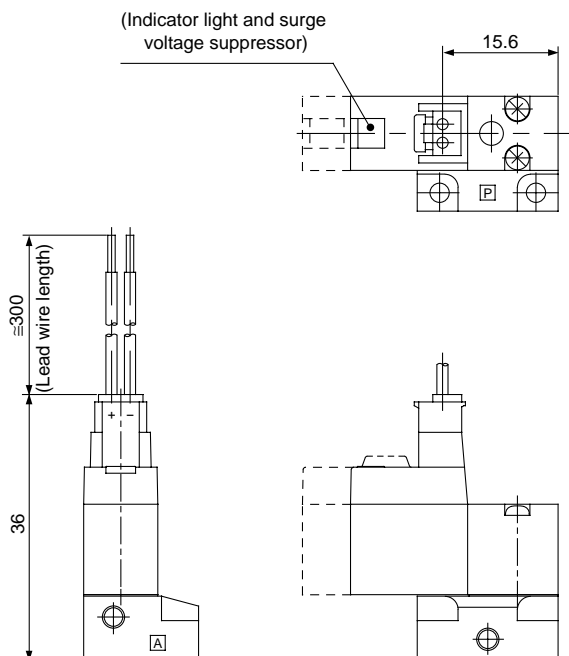
Base Mounted (With Sub-plate)

Grommet (G), (H): SY1 $\frac{1}{2}$ 4 (A)-□^G_H□□-M3



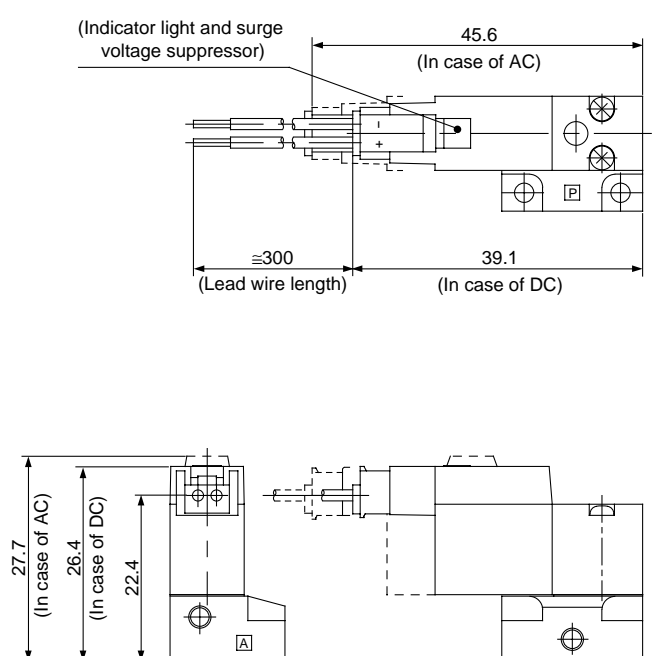
SY
SYJ
VK
VZ
VT
VT
VP
VG
VP
VQ
VQZ
VZ
VS

L plug connector (L): SY1 $\frac{1}{2}$ 4 (A)-□L□□-M3



* Other dimensions are same as grommet style.

M plug connector (M): SY1 $\frac{1}{2}$ 4 (A)-□M□□-M3



* Other dimensions are same as grommet style.