

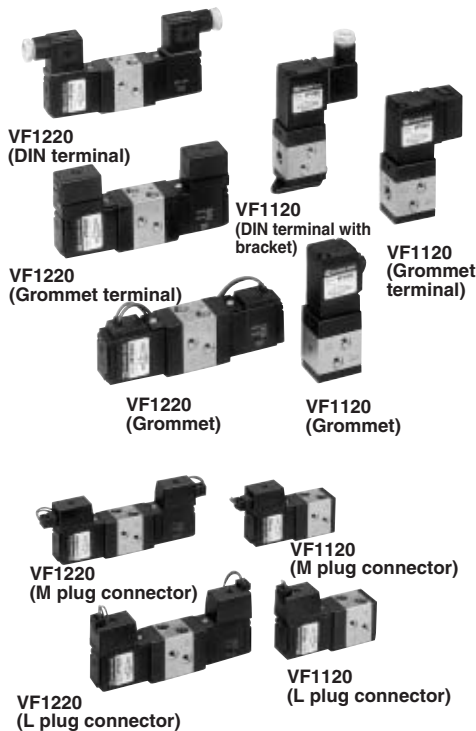
5 Port Pilot Operated Solenoid Valve Rubber Seal

Series VF1000

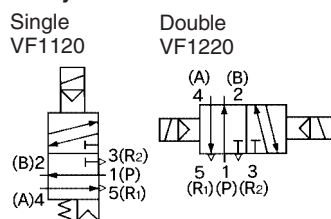
Compact and lightweight:
26.4 mm width

Compact yet provides a large flow capacity:
Sonic conductance
C: 0.53 dm³/(s·bar)
{4/2 → 5/3 (A/B → EA/EB)}

Low power consumption:
1.8 W (DC)



JIS Symbol



Specifications

Fluid	Air	
Operating pressure range	2 position single	0.15 to 0.9 MPa
	2 position double	0.1 to 0.9 MPa
Ambient and fluid temperature	-10 to 50°C (No freezing. Refer to page 3-13-4.)	
Response time ⁽¹⁾	20 ms or less (at the pressure of 0.5 MPa)	
Max. operating frequency	10 Hz	
Lubrication	Not required	
Manual override	Non-locking push, Locking slotted, Locking knob	
Mounting orientation	Unrestricted	
Shock/Vibration resistance ⁽²⁾	300/50 m/s ²	
Enclosure	Dustproof	
Pilot valve EXH	Individual exhaust, Common exhaust for main valve and pilot valve	

Note 1) Based on dynamic performance test, JIS B 8375-1981. (Coil temperature: 20°C, at rated voltage, without surge suppressor)

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

Vibration resistance: No malfunction occurred in a one-sweep test between 45 and 2000 Hz. Test was performed at both energized and de-energized states in the axial direction and at the right angles to the main valve and armature. (Values at the initial period)

Electrical entry	Grommet, Grommet terminal, Conduit terminal DIN terminal, L plug connector, M plug connector		
Coil rated voltage (V)	AC 50/60 Hz	100, 200, 12*, 24*, 48*, 110*, 220*, 240*	
	DC	24, 6*, 12*, 48*, 100*, 110*	
Allowable voltage fluctuation	-15 to +10% of rated voltage		
Apparent power ^{Note)}	AC	Inrush	5.6 VA (50 Hz), 5.0 VA (60 Hz)
		Holding	3.4 VA (50 Hz), 2.3 VA (60 Hz)
Power consumption ^{Note)}	DC	1.8 W, 2 W (With indicator light)	
Light/Surge voltage suppressor	AC	ZNR (Varistor), Neon bulb (LED100 V or less)	
	DC	ZNR (Varistor), LED (Neon bulb100 V or more)	

* Option Note) At rated voltage

Option

Description	Part no.	Note
Bracket	DXT144-8-1A	For VF1220
	DXT144-8-3A	For VF1120
Silencer	AN120-M5	M5 x 0.8
Throttle valve	DXT154-34-1A	With element

Flow Characteristics/Weight

Valve model	Type of actuation	Port size	Flow characteristics						Weight ^{Note)} (kg)	
			1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → EA/EB)				
			C [dm ³ /(s·bar)]	b	Cv	C [dm ³ /(s·bar)]	b	Cv		
Body ported	VF1120	2 position single	1/8	0.76	0.22	0.17	0.53	0.28	0.13	0.16
	VF1220	2 position double	1/8	0.76	0.22	0.17	0.53	0.28	0.13	0.25

Note) Weight stands for grommet type.

Manifold

Model ^{Note)}	Applicable manifold type		
	Type	Exhaust	A, B port
VF1□30-□□-01	B mount	Type 30	Common Valve
		Type 31	Individual Valve

Note) For common exhaust type for main and pilot valve, model number will be VF113□□, VF123□□.

VK
VZ
VF
VFR
VP4
VZS
VFS
VS4
VQ7
EVS
VFN

How to Order

Port size (P, A, B)

M5	M5 x 0.8
01	1/8

EA, EB port: M5 x 0.8

Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

Only when 01 (1/8)

Option

F	With bracket
☐	Not installed when delivered

Body ported VF1 **1** **2** **0** **1** **L** **☐** **☐** **☐** **☐** **01** **☐**

Manifold VF1 **1** **3** **0** **1** **L** **☐** **☐** **☐** **☐** **01** **☐**

Type of actuation

1	Single solenoid
2	Double solenoid

Body option

0	Standard
3*	Common exhaust type for main and pilot valve

* Option

Coil rated voltage

1	100 VAC, 50/60 Hz
2	200 VAC, 50/60 Hz
3*	110 V to 120 VAC, 50/60 Hz
4*	220 VAC, 50/60 Hz
5	24 VDC
6*	12 VDC
7*	240 VAC, 50/60 Hz
9*	Other

* Option
L, M plug connector: Max. 220 VAC

Electrical entry

G	Grommet (Lead wire: 300 mm)
H	Grommet (Lead wire: 600 mm)
E	Grommet terminal
T	Conduit terminal
D	DIN terminal
DO	terminal
L	L plug connector
LN	L plug connector
LO	L plug connector
LOZ	L plug connector
M	M plug connector
MN	M plug connector
MNZ	M plug connector
MO	M plug connector
MOZ	M plug connector

Manual override

Nil	Non-locking push type
B	Locking type B
C	Locking type C

Light/Surge voltage suppressor

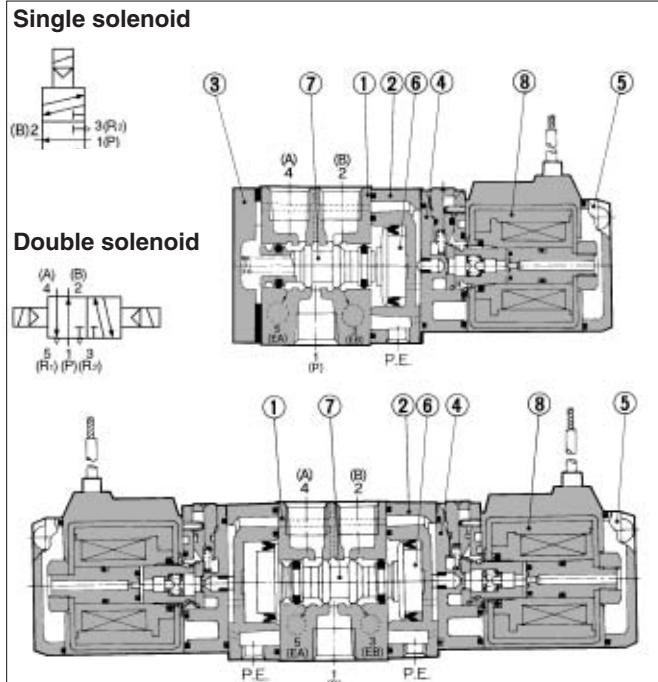
Nil	None
Z*	With light/surge voltage suppressor
S*	With surge voltage suppressor

* Indicator light is not available for grommet type. W/surge voltage suppressor is available for grommet type only.

Port size (A, B)

M5	M5 x 0.8
01	1/8

Construction



Component Parts

No.	Description	Material	Note
①	Body	Aluminum die-casted	Platinum silver
②	Adapter plate	Resin	Black
③	End cover	Aluminum die-casted	Black
④	Pilot body	Resin	
⑤	Pilot cover	Resin	
⑥	Piston	Resin	
⑦	Spool valve	Aluminum, NBR	

Replacement Parts

No.	Description	Material	Part no.
⑧	Pilot valve assembly (Note)	—	SF4-□□□-50

Note) Refer to "How to Order Pilot Valve Assembly" on the right above.

How to Order Pilot Valve Assembly

SF4-**1****DZ****☐**-50

(A) Coil rated voltage

1	100 VAC, 50/60 Hz
2	200 VAC, 50/60 Hz
3*	110 to 120 VAC, 50/60 Hz
4*	220 VAC, 50/60 Hz
5	24 VDC
6*	12 VDC
7*	240 VAC, 50/60 Hz
9*	Other

* Option

(B) Electrical entry, Light/surge voltage suppressor

Symbol	Electrical entry	Light/Surge voltage suppressor
G	Grommet	Lead wire length 300 mm
GS		With surge voltage suppressor
H	Grommet	Lead wire length 600 mm
HS		With surge voltage suppressor
E	Grommet terminal	None
EZ	Grommet terminal	With light/surge voltage suppressor
T	Conduit terminal	None
TZ	Conduit terminal	With light/surge voltage suppressor
D	DIN terminal	With connector
DZ		With light/surge voltage suppressor
DO	terminal	Without connector
DOZ		With light/surge voltage suppressor
L	L plug connector	With lead wire
LZ		With light/surge voltage suppressor
LN	L plug connector	Without lead wire
LNZ		With light/surge voltage suppressor
LO	L plug connector	Without connector
LOZ		With light/surge voltage suppressor
M	M plug connector	With lead wire
MZ		With light/surge voltage suppressor
MN	M plug connector	Without lead wire
MNZ		With light/surge voltage suppressor
MO	M plug connector	Without connector
MOZ		With light/surge voltage suppressor

(C) Manual override

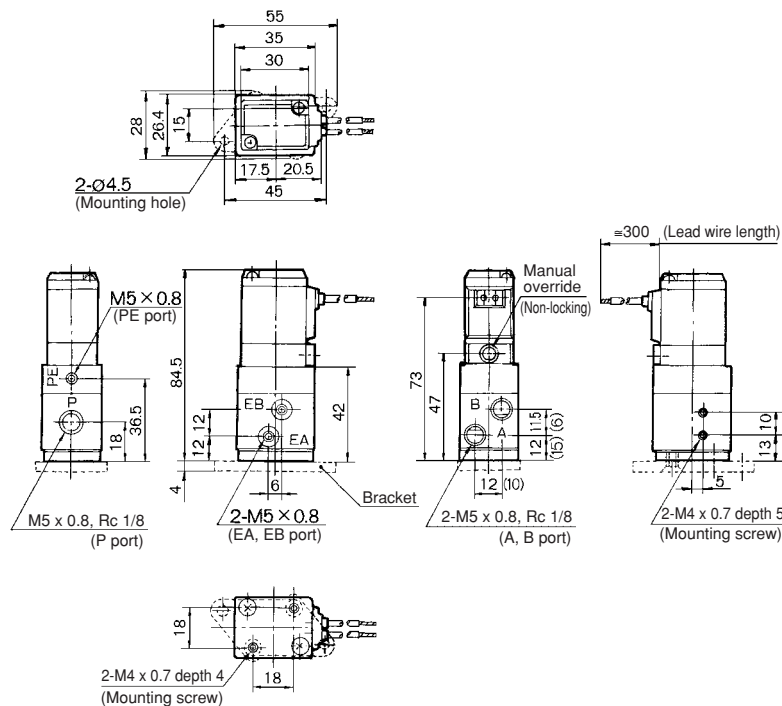
Nil	Non-locking push type
B	Locking type B
C	Locking type C

Note) Interchangeable with the previous model DXT154-A-□□□□

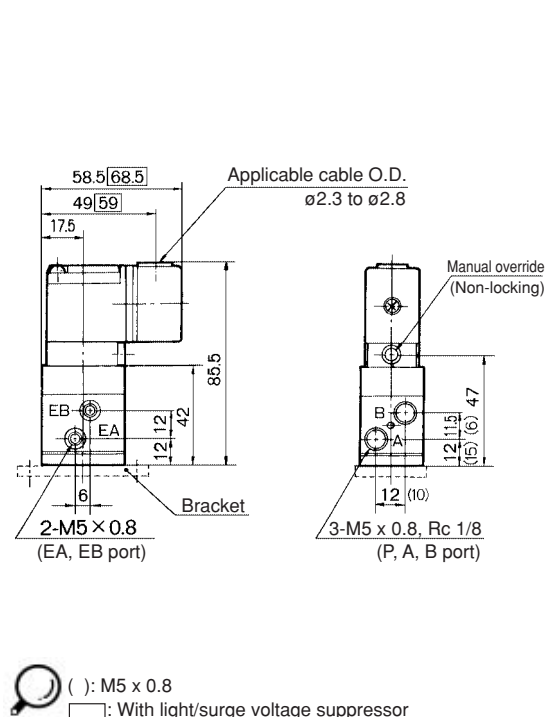
5 Port Pilot Operated Solenoid Valve Rubber Seal Series VF1000

2 Position Single Solenoid

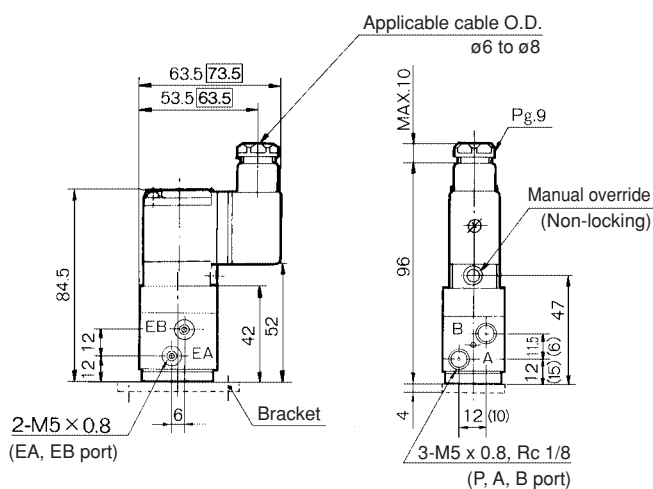
Grommet: VF1120-□G-M⁵₀₁



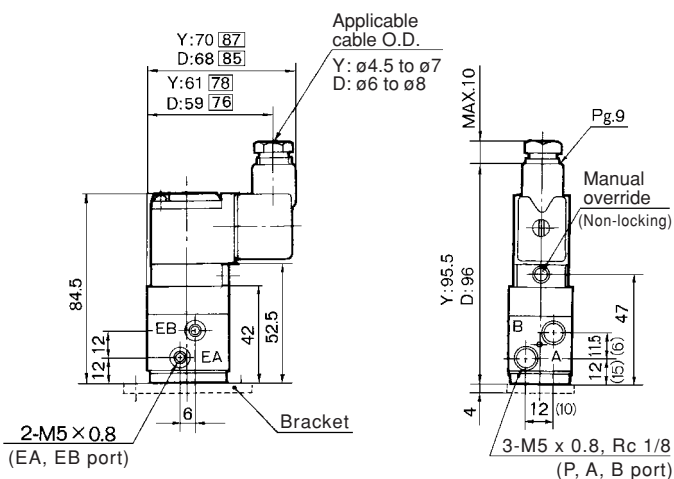
Grommet terminal: VF1120-□E-M⁵₀₁



Conduit terminal: VF1120-□T-M⁵₀₁



DIN terminal: VF1120-□D-M⁵₀₁
VF1120-□Y-M⁵₀₁



() : M5 x 0.8
□ : With light/surge voltage suppressor

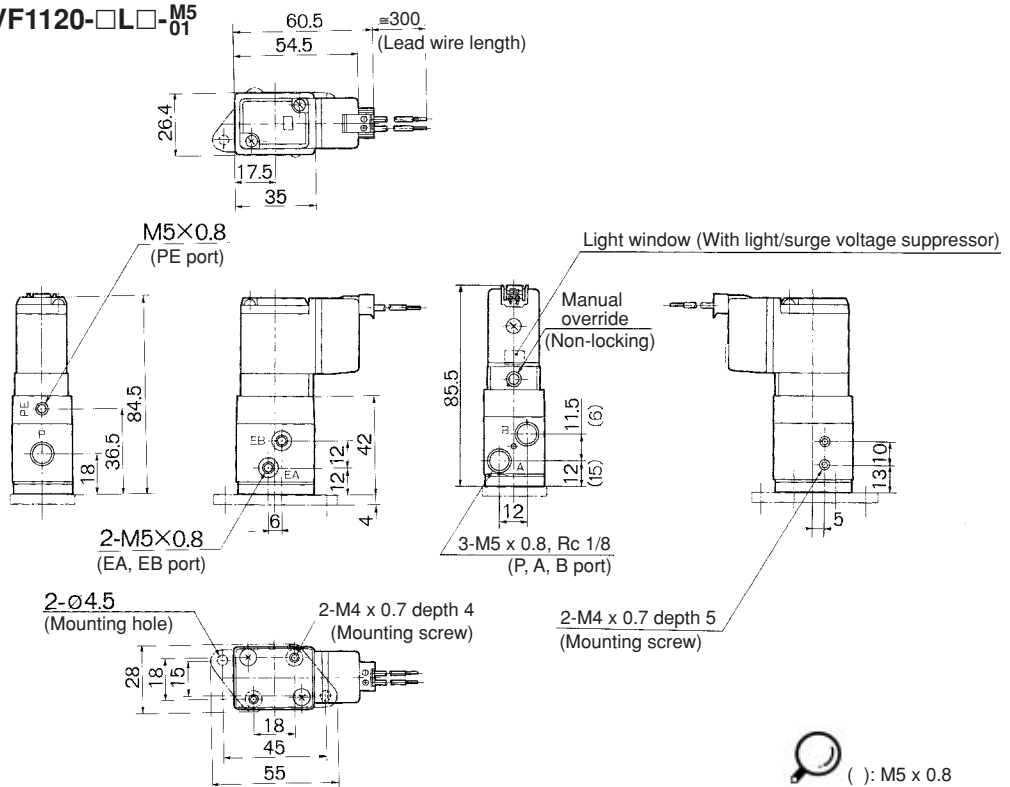
() : M5 x 0.8
□ : With light/surge voltage suppressor

- VK
- VZ
- VF**
- VFR
- VP4
- VZS
- VFS
- VS4
- VQ7
- EVS
- VFN

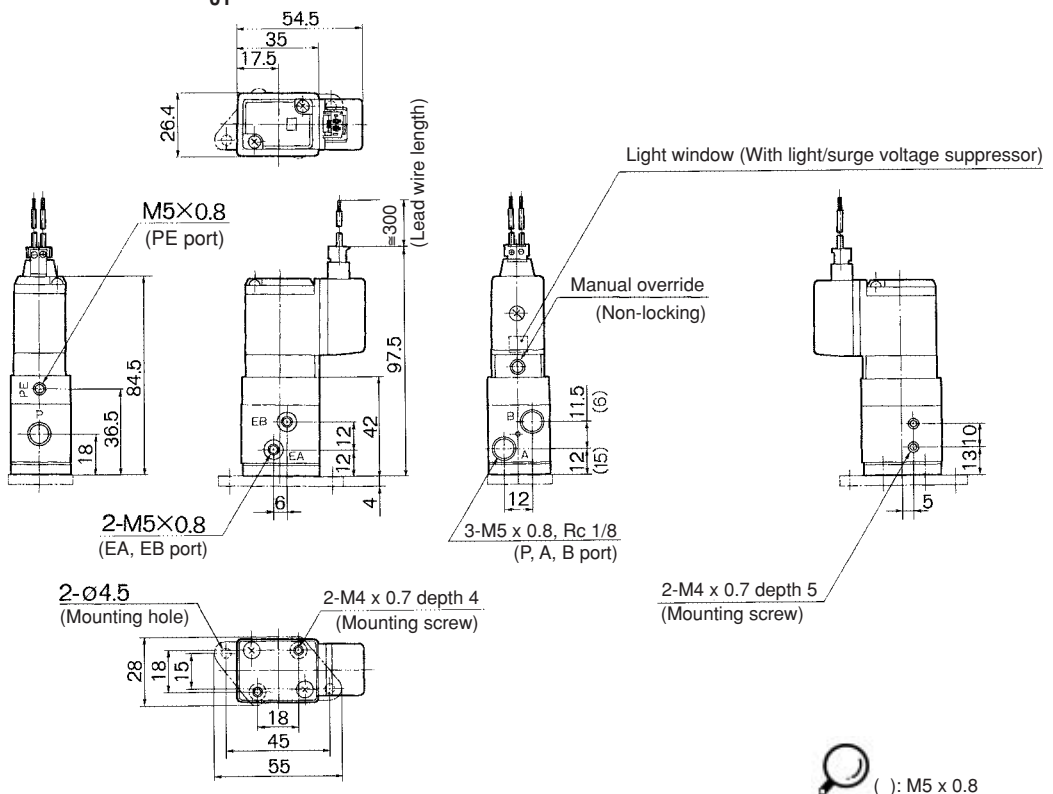
Series VF1000

2 Position Single Solenoid

L plug connector: VF1120-□L□-M5₀₁



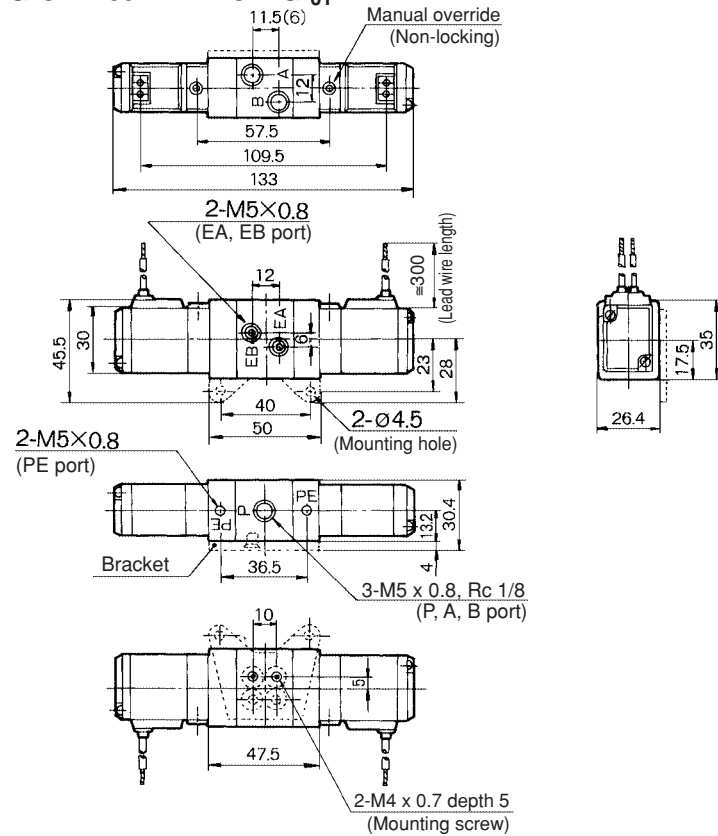
M plug connector: VF1120-□M□-M5₀₁



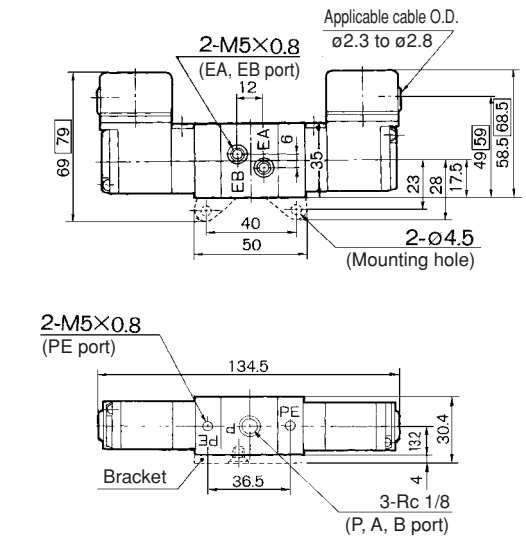
5 Port Pilot Operated Solenoid Valve Rubber Seal Series VF1000

2 Position Double Solenoid

Grommet: VF1220-□G-M⁵₀₁

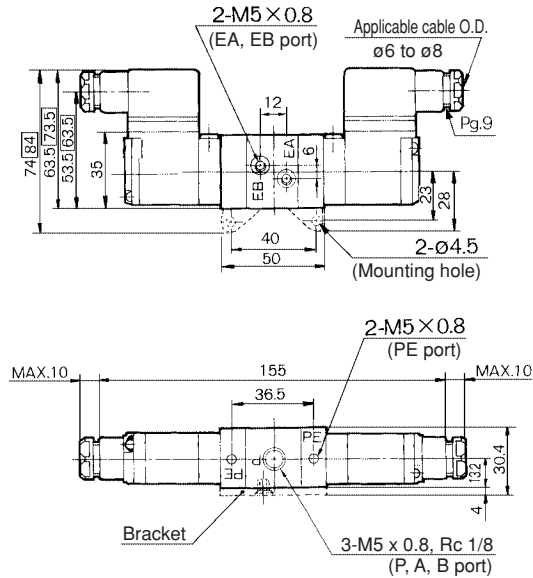


Grommet terminal: VF1220-□E-M⁵₀₁



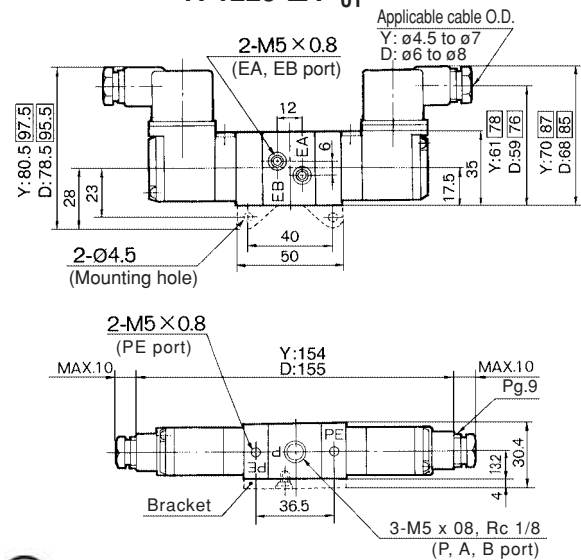
⊙ () : M5 x 0.8
 □ : With light/surge voltage suppressor

Conduit terminal: VF1220-□T-M⁵₀₁



⊙ □ : With light/surge voltage suppressor

DIN terminal: VF1220-□D-M⁵₀₁ VF1220-□Y-M⁵₀₁



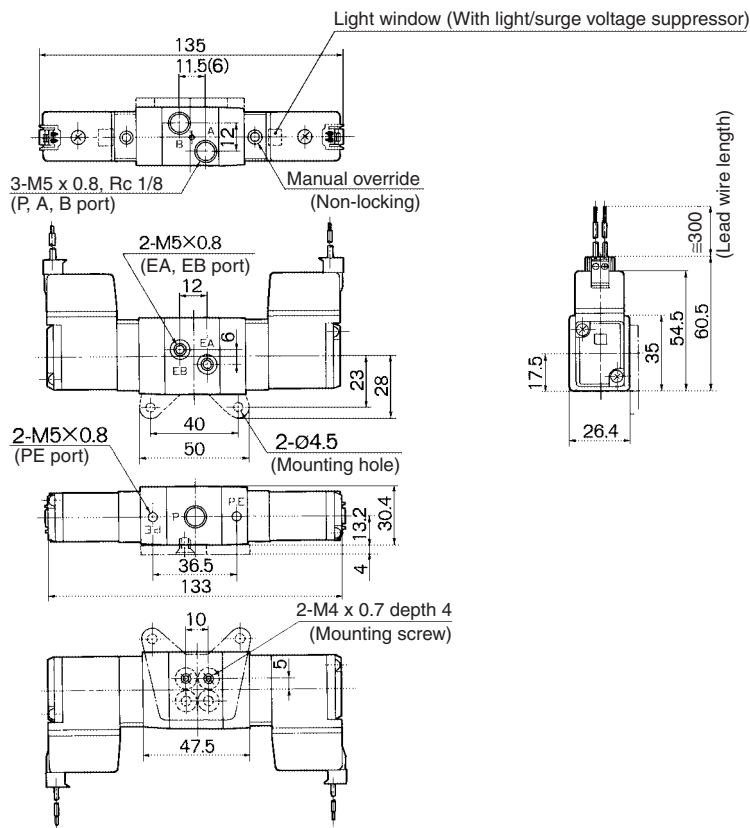
⊙ □ : With light/surge voltage suppressor

- VK
- VZ
- VF**
- VFR
- VP4
- VZS
- VFS
- VS4
- VQ7
- EVS
- VFN

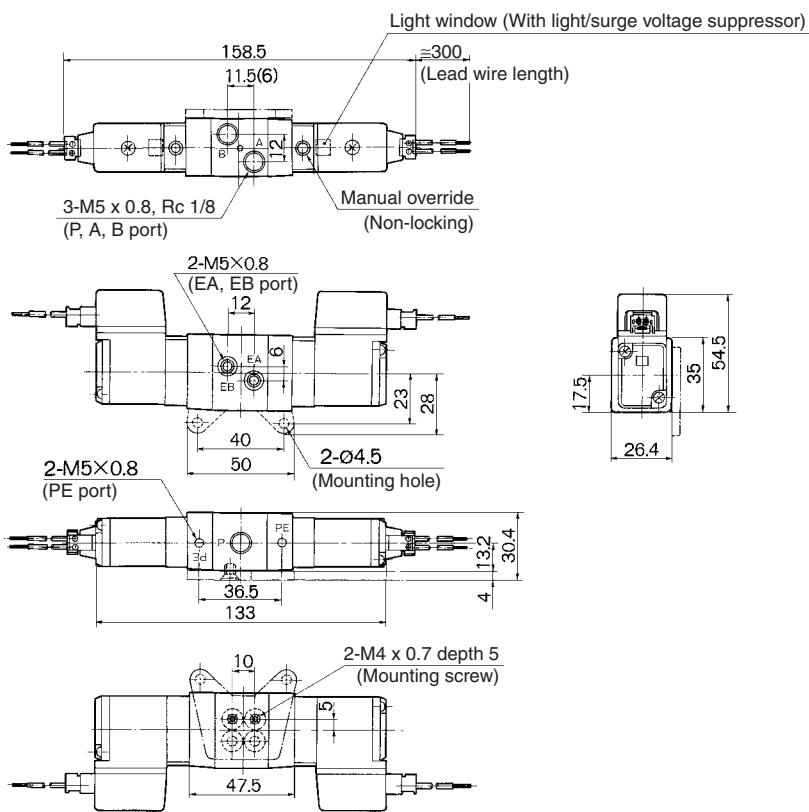
Series VF1000

2 Position Double Solenoid

L plug connector: VF1220-□L□-M5₀₁



M plug connector: VF1220-□M□-M5₀₁



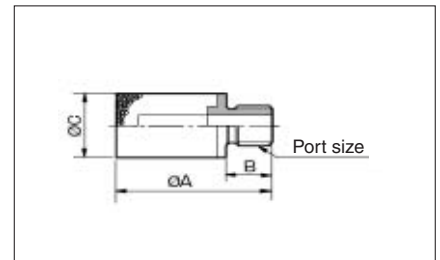
Option

Specifications: Silencer

Model	AN120-M5	AN110-01
Maximum operating pressure	1.0 MPa	1.0 MPa
Fluid temperature	5 to 60°C	5 to 60°C
Noise reduction*	18 dB or more	21 dB or more
Effective area	5 mm ²	35 mm ²
Port size	M5 x 0.8	R 1/8
Material	Body	BC-6
Weight	3.3 g	20 g
Application	Single unit, Manifold (Individual EXH type)	Manifold (Common EXH type)

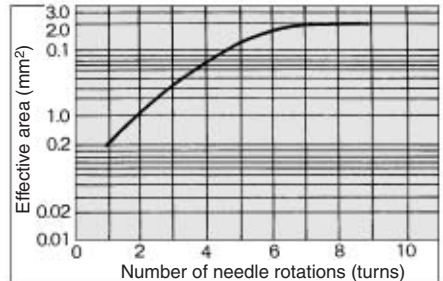
* At 0.5 MPa

Dimensions: Silencer



Type	AN120-M5	AN110-01	
Dimensions	A	17	38
	B	5	6
	C	8	13

Flow Characteristics: Throttle Valve DXT154-34-1A



Effective area: $S = 2.2 \text{ mm}^2$, $C_v = 0.12$
Air passage: A port → EA port (Throttle valve)

Dimensions: Throttle Valve DXT154-34-1A

