

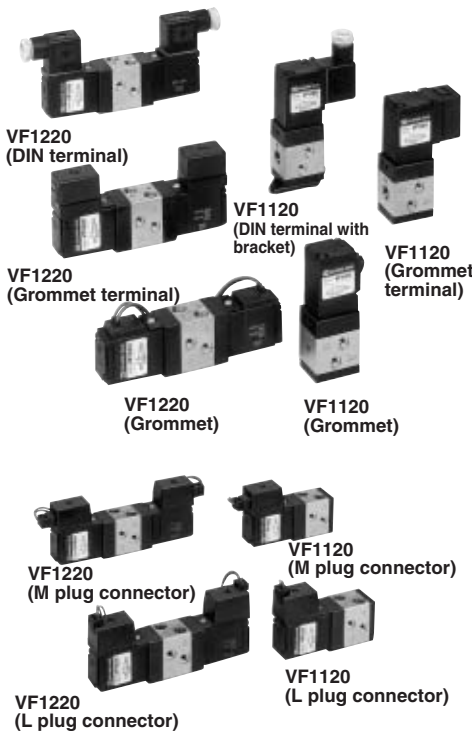
# 5 Port Pilot Operated Solenoid Valve Rubber Seal

## Series VF1000

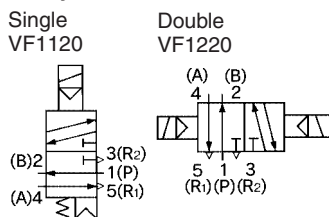
Compact and lightweight:  
26.4 mm width

Compact yet provides a large flow capacity:  
Sonic conductance  
C: 0.53 dm<sup>3</sup>/(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 <sup>(1)</sup>	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 <sup>(2)</sup>	300/50 m/s <sup>2</sup>	
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 <sup>Note)</sup>	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 <sup>Note)</sup>	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 <sup>Note)</sup> (kg)	
			1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → EA/EB)				
			C [dm <sup>3</sup> /(s·bar)]	b	Cv	C [dm <sup>3</sup> /(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 <sup>Note)</sup>	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

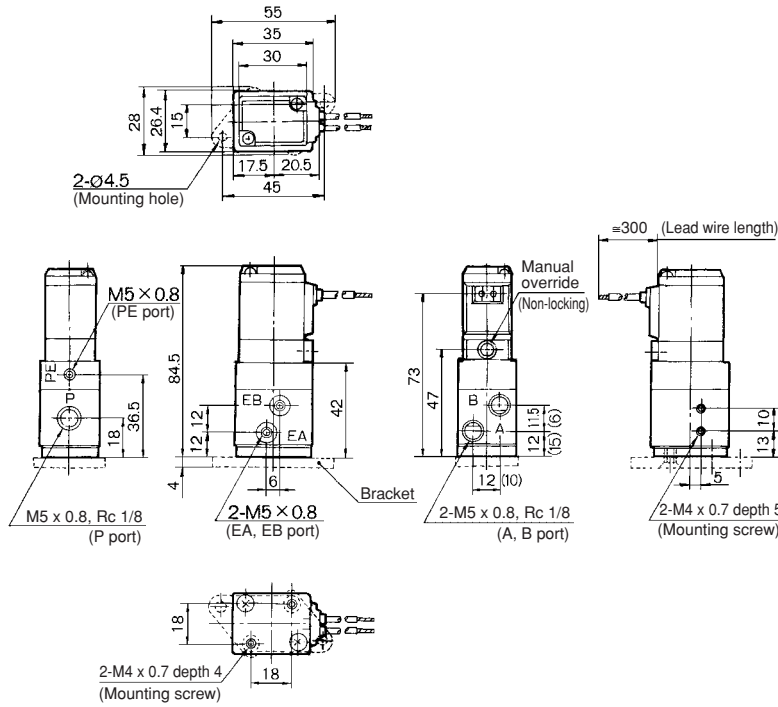
VFN



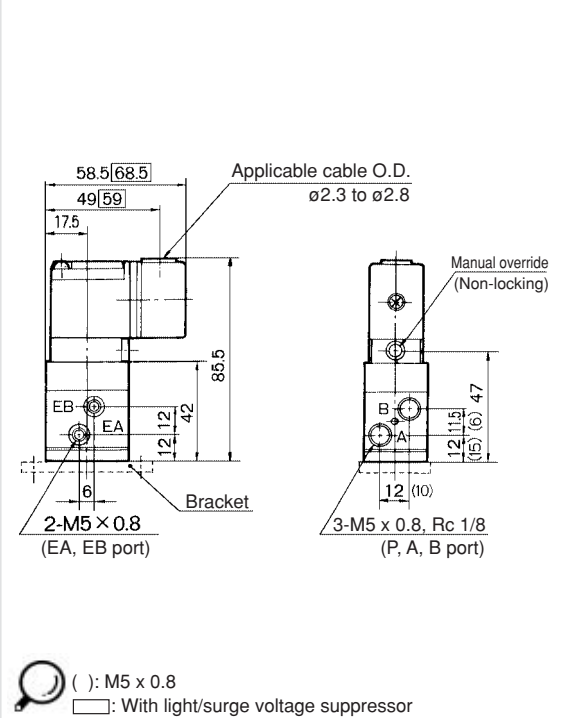
# 5 Port Pilot Operated Solenoid Valve Rubber Seal Series VF1000

## 2 Position Single Solenoid

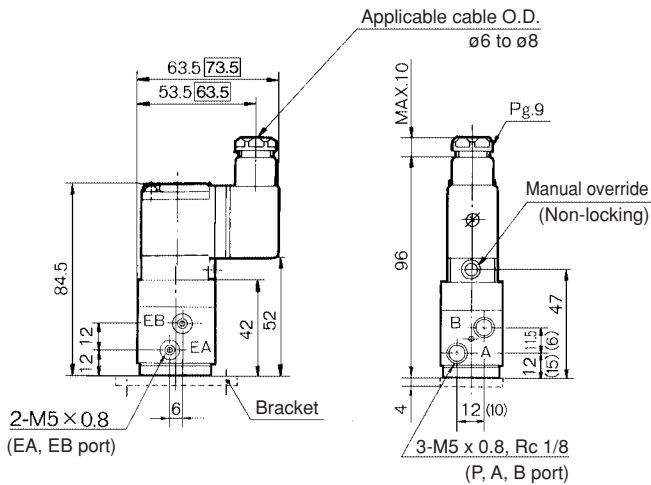
Grommet: VF1120-□G-M<sup>5</sup><sub>01</sub>



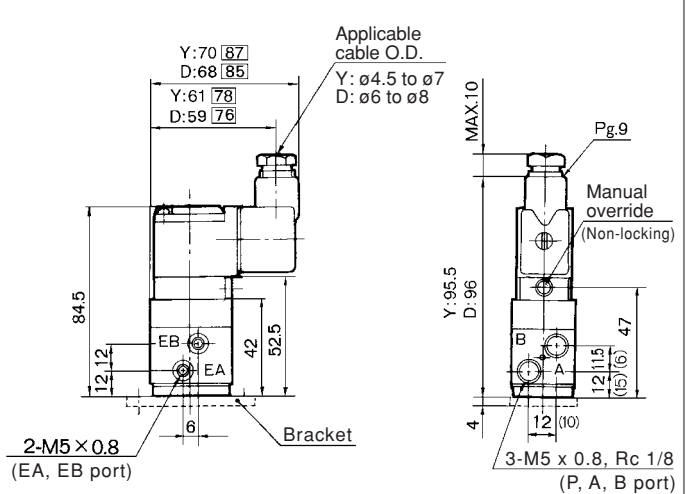
Grommet terminal: VF1120-□E-M<sup>5</sup><sub>01</sub>



Conduit terminal: VF1120-□T-M<sup>5</sup><sub>01</sub>



DIN terminal: VF1120-□D-M<sup>5</sup><sub>01</sub>  
VF1120-□Y-M<sup>5</sup><sub>01</sub>



VK

VZ

VF

VFR

VP4

VZS

VFS

VS4

VQ7

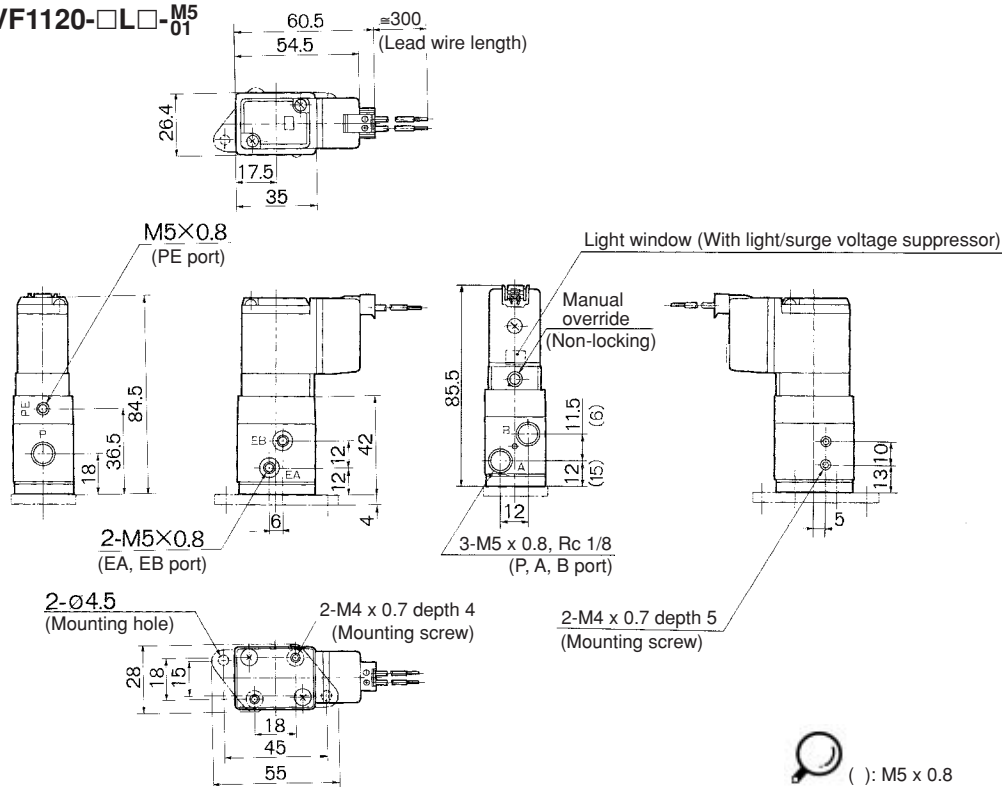
EVS

VFN

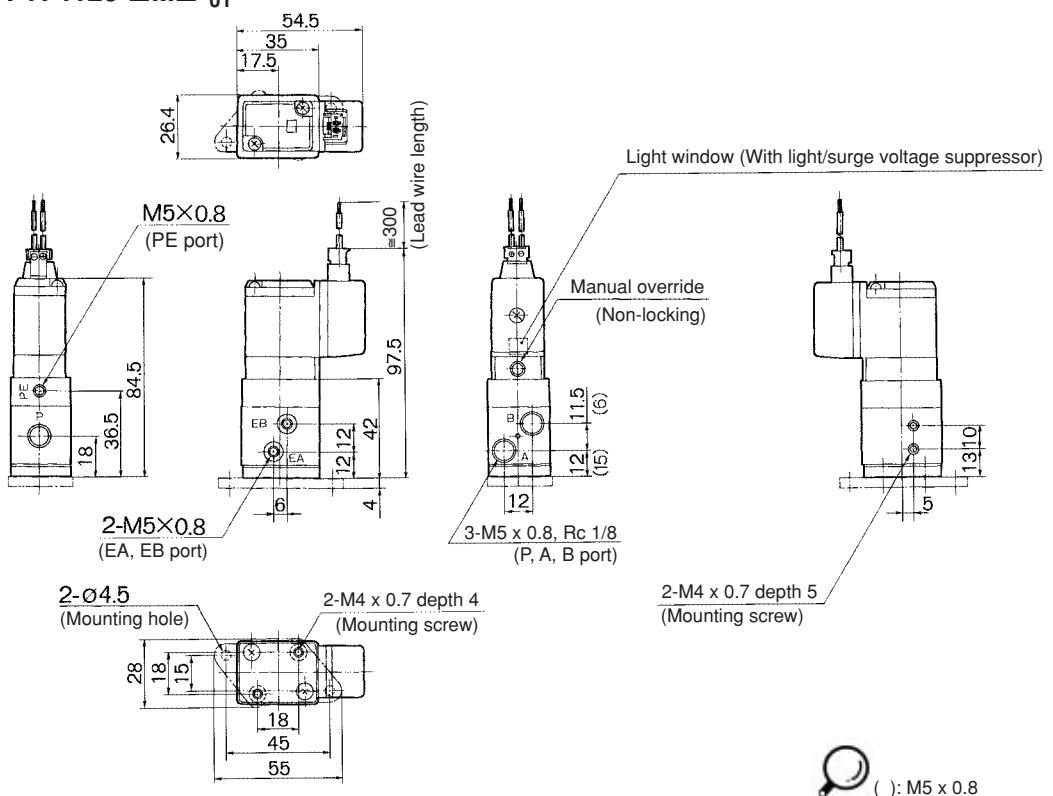
# Series VF1000

## 2 Position Single Solenoid

L plug connector: VF1120-□L□-M5<sub>01</sub>



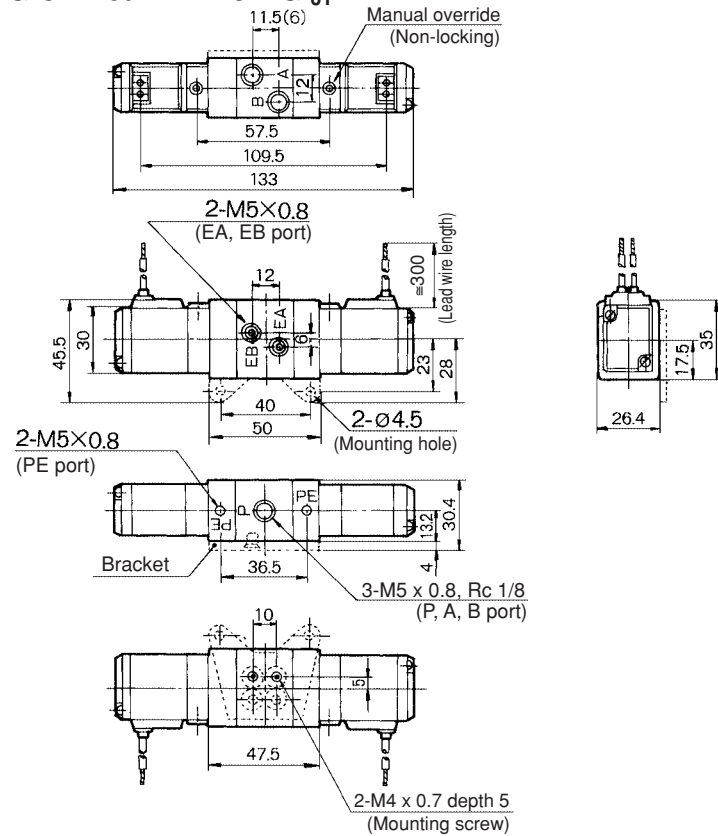
M plug connector: VF1120-□M□-M5<sub>01</sub>



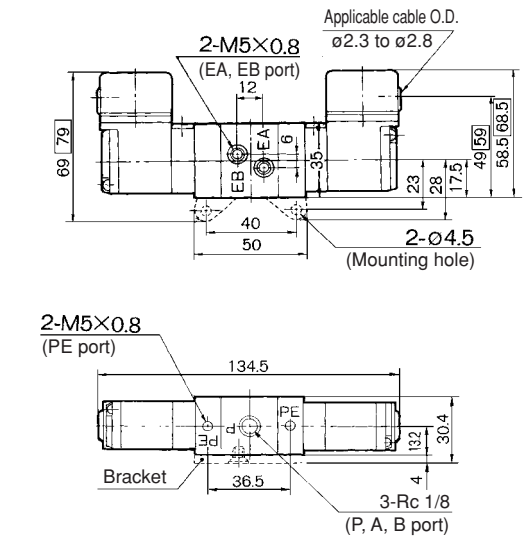
# 5 Port Pilot Operated Solenoid Valve Rubber Seal Series VF1000

## 2 Position Double Solenoid

### Grommet: VF1220-□G-M<sup>5</sup><sub>01</sub>

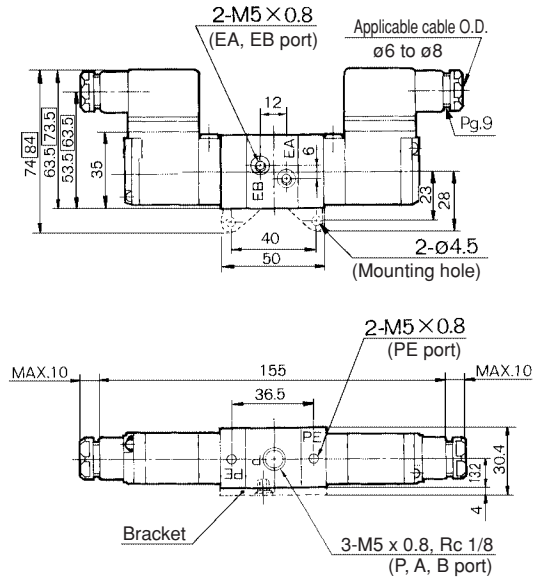


### Grommet terminal: VF1220-□E-M<sup>5</sup><sub>01</sub>



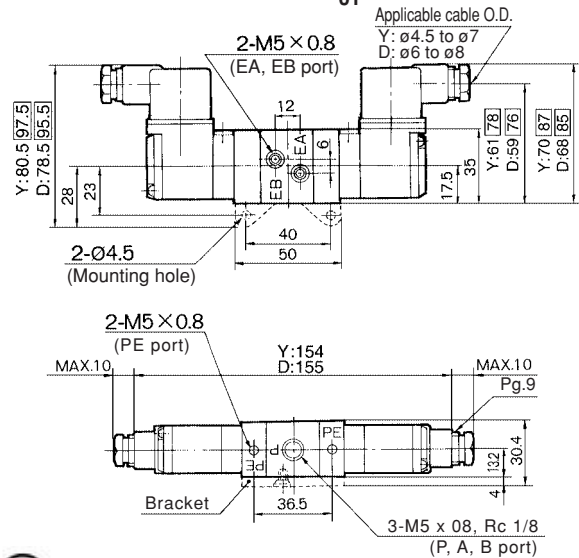
⊙ ( ) : M5 x 0.8  
 □ : With light/surge voltage suppressor

### Conduit terminal: VF1220-□T-M<sup>5</sup><sub>01</sub>



⊙ □ : With light/surge voltage suppressor

### DIN terminal: VF1220-□D-M<sup>5</sup><sub>01</sub> VF1220-□Y-M<sup>5</sup><sub>01</sub>



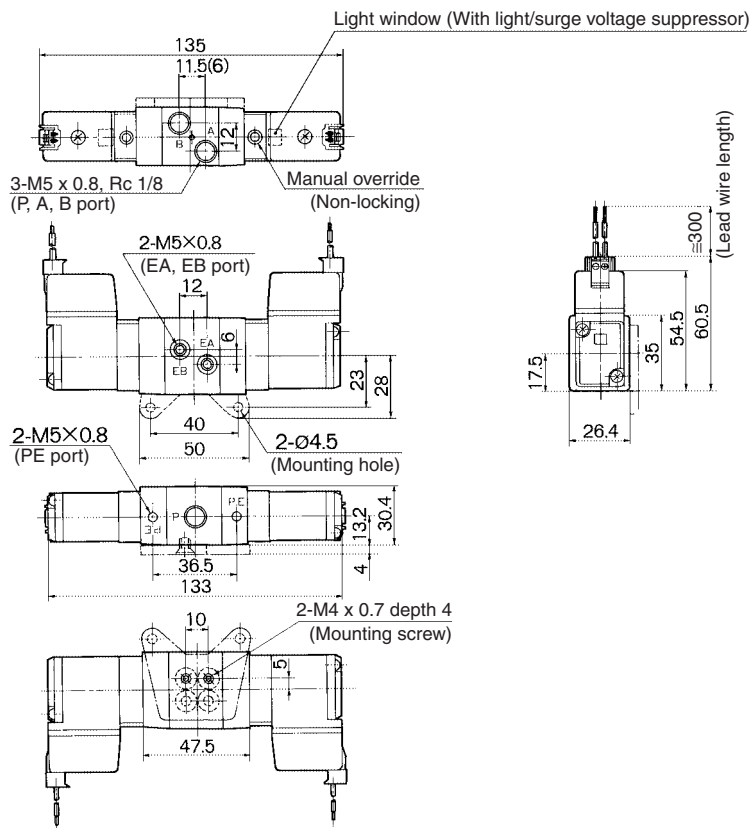
⊙ □ : With light/surge voltage suppressor

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

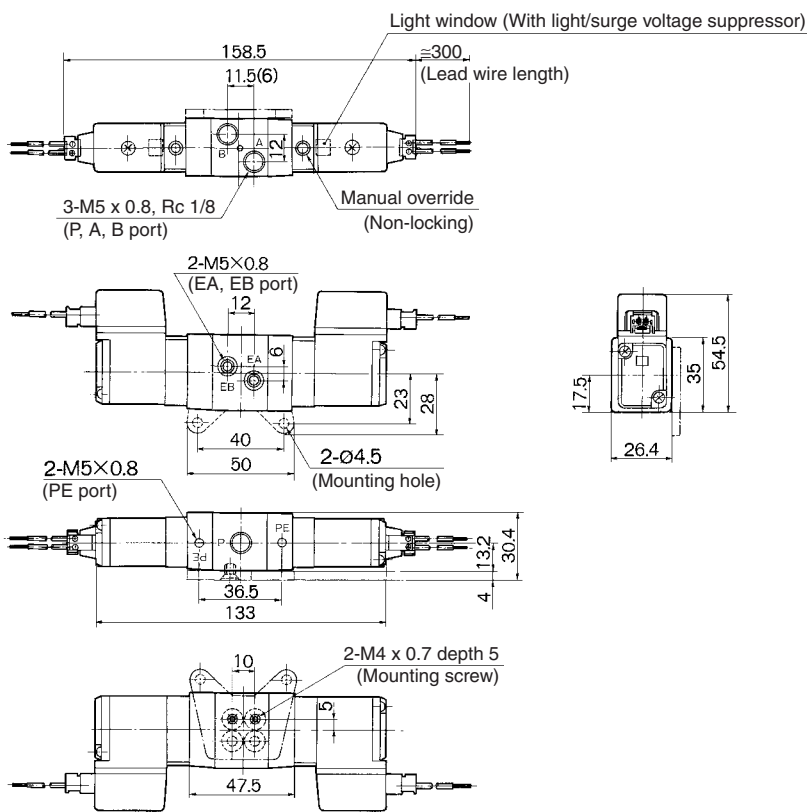
# Series VF1000

## 2 Position Double Solenoid

L plug connector: VF1220-□L□-M5<sub>01</sub>



M plug connector: VF1220-□M□-M5<sub>01</sub>



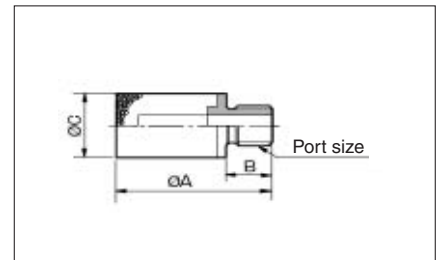
## Option

### 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 <sup>2</sup>	35 mm <sup>2</sup>
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)

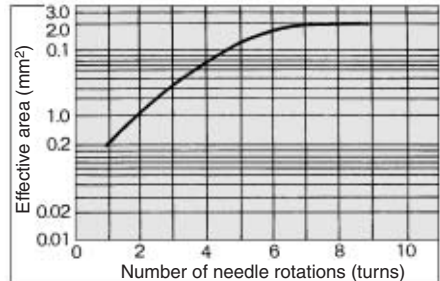
\* At 0.5 MPa

### Dimensions: Silencer



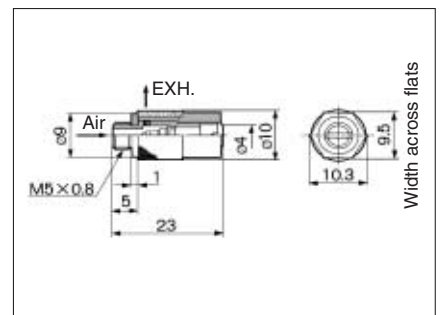
Type	AN120-M5	AN110-01	
Dimensions	A	17	38
	B	5	6
	C	8	13

### Flow Characteristics: Throttle Valve DXT154-34-1A



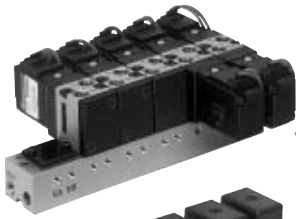
Effective area:  $S = 2.2 \text{ mm}^2$ ,  $C_v = 0.12$   
Air passage: A port → EA port (Throttle valve)

### Dimensions: Throttle Valve DXT154-34-1A



# Series VF1000

# Manifold Specifications



VV5F1-31



VV5F1-30

## Manifold Specifications

Manifold type	B mount (Single base type)
Max. number of stations	Max. 20 stations <sup>(Note)</sup>

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

Manifold base model	Exhaust port type	Piping/Port location			Port size			Applicable valve model
		P	R (E)	A, B	P	R (E)	A, B	
VV5F1-30	Common EXH	Side Base	Side Base	Top Valve	1/8	1/8	1/8	VF1□30 VF1□33
VV5F1-31	Individual EXH	Side Base	Side Base	Top Valve	1/8	M5	1/8	

Note 1) Supply (P port) is common.  
Note 2) Direction of single solenoid: Same side of P(SUP) port.

## Option

Description	Part no.	Applicable manifold model
Throttle valve	DXT154-34-1A	VV5F1-31
Silencer	AN120-M5	VV5F1-31
	AN110-01	VV5F1-30
Blanking plate assembly	DXT144-13-2A	VV5F1-30/31

## How to Order Manifold

Instruct by specifying the valves and blanking plate assembly to be mounted on the manifold along with the manifold base model no.

(Example) VV5F1-30-051 ..... 1 pc. (Manifold base)

\*VF1230-1G-01 ..... 2 pcs. (Valve)

\*VF1130-1G-01 ..... 2 pcs. (Valve)

\*DXT144-13-2A ..... 1 pc. (Blanking plate assembly)

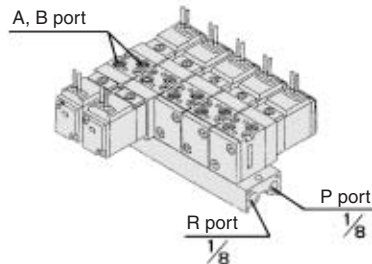
—The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the solenoid valve, etc.

## B Mount (Integrated type)

### Common SUP/Individual EXH type

#### Type 30

VV5F1 - 30 - 05 1



Stations	
02	2 stations
⋮	⋮
20	20 stations

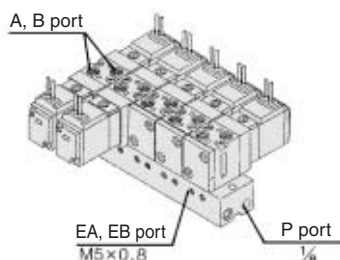
#### Applicable solenoid valve

VF1½30-□□□□-□  
VF1½33-□□□□-□

### Common SUP/Individual EXH type

#### Type 31

VV5F1 - 31 - 05 3



Stations	
02	2 stations
⋮	⋮
20	20 stations

#### Applicable blanking plate assembly

DXT144-13-2A

VK

VZ

VF

VFR

VP4

VZS

VFS

VS4

VQ7

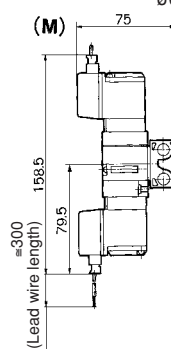
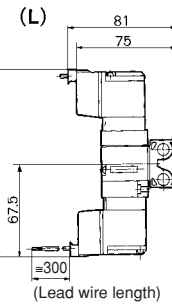
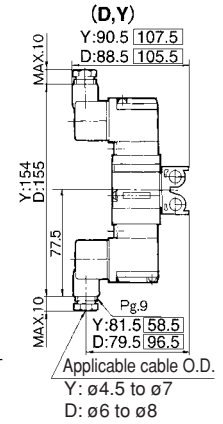
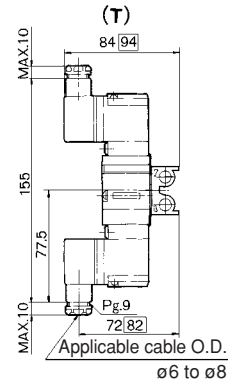
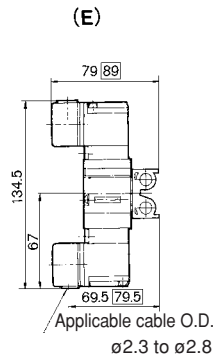
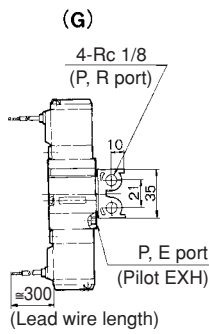
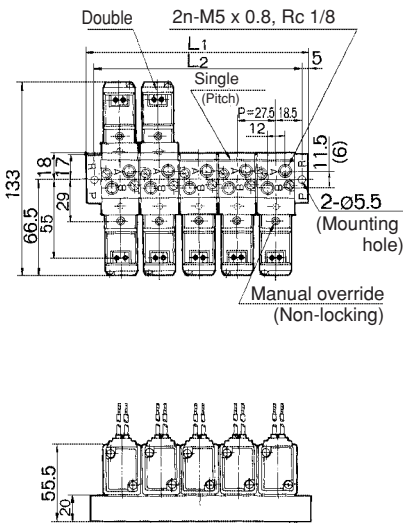
EVS

VFN

# Series VF1000

## Manifold

### Common EXH: VV5F1-30-□□□



### L Dimension

L	n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L <sub>1</sub>		74.5	102	129.5	157	184.5	212	239.5	267	294.5	322	349.5	377	404.5	432	459.5	487	514.5	542	569.5
L <sub>2</sub>		64.5	92	119.5	147	174.5	202	229.5	257	284.5	312	339.5	367	394.5	422	449.5	477	504.5	532	559.5

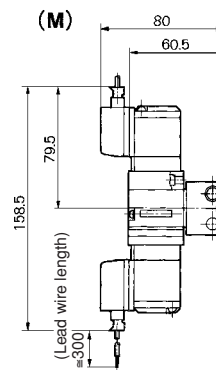
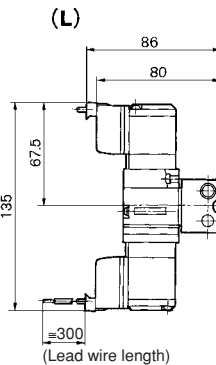
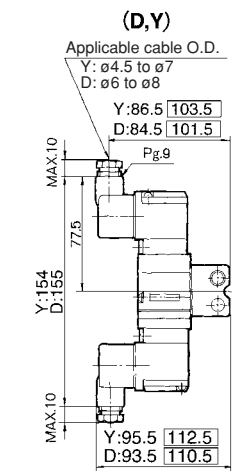
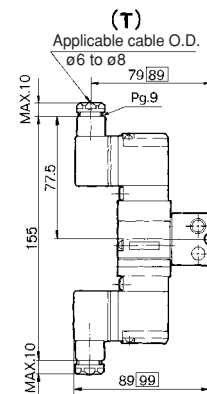
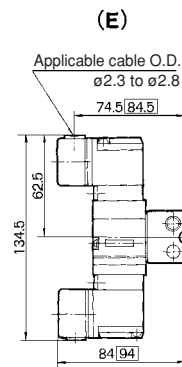
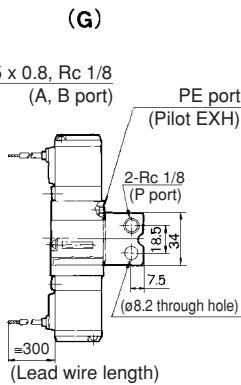
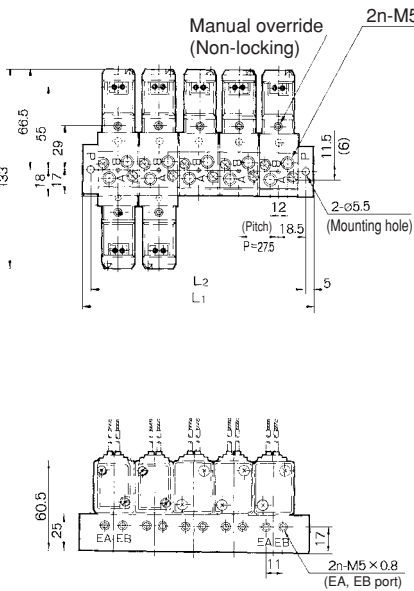
n: Stations



( ) : M5 x 0.8

□ : With light/surge voltage suppressor

### Individual EXH: VV5F1-31-□□□



### L Dimension

L	n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L <sub>1</sub>		74.5	102	129.5	157	184.5	212	239.5	267	294.5	322	349.5	377	404.5	432	459.5	487	514.5	542	569.5
L <sub>2</sub>		64.5	92	119.5	147	174.5	202	229.5	257	284.5	312	339.5	367	394.5	422	449.5	477	504.5	532	559.5

n: Stations



( ) : M5 x 0.8

□ : With light/surge voltage suppressor