

# 4 Port Solenoid Valve Body Ported Series VZ1000

## How to Order

VK

VZ

VF

VFR

VP4

VZS

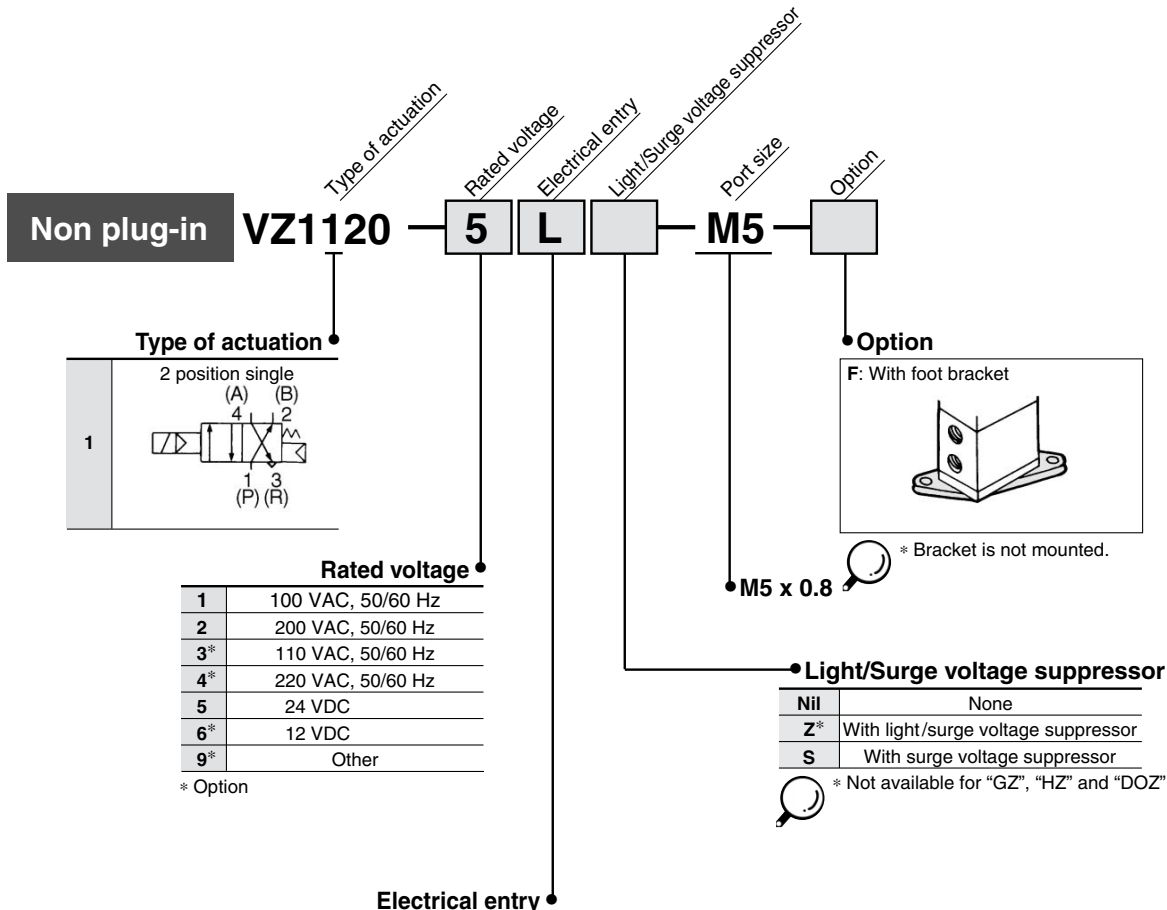
VFS

VS4

VQ7

EVS

VFN



Grommet	L plug connector	M plug connector		DIN terminal
<b>G:</b> Lead wire length 300 mm	<b>L:</b> With lead wire (Length 300 mm)	<b>M:</b> With lead wire (Length 300 mm)	<b>MN:</b> Without lead wire	<b>D:</b> With connector
<b>H:</b> Lead wire length 600 mm	<b>LN:</b> Without lead wire	<b>LO:</b> Without connector	<b>MO:</b> Without connector	<b>DO:</b> Without connector

\* Type "LN", "MN": with 2 sockets.

### Option

Description	Part no.	Note
Foot bracket	DXT170-34-1B	With mounting screw (M3 x 8)



# Series VZ1000

Applicable for cylinder actuation (up to  $\phi 16$ ).

Compact size  
(Width: 15 mm)

Low power consumption:  
1.8 W DC



**Made to Order Specifications**  
(For details, refer to page 3-3-85.)

## Specifications

Valve configuration	Pilot type 4 port solenoid valve
Fluid	Air
Operating pressure range (MPa)	0.15 to 0.7
Ambient and fluid temperature (°C)	-10 to 50 (No freezing. Refer to page 3-13-4.)
Response time (ms) (at the pressure of 0.5 MPa) <sup>(1)</sup>	15 or less
Max. operating frequency (Hz)	15
Effective area	Refer to the table below.
Lubrication	Not required
Manual override	Non-locking push type
Exhaust throttle	Not available
Mounting orientation	Unrestricted
Shock/Vibration resistance (m/s <sup>2</sup> ) <sup>(2)</sup>	300/50
Enclosure	Dustproof



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 1000 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)

## Solenoid Specifications

\* Option

Electrical entry	Grommet (G)/(H), L plug connector (L), M plug connector (M), DIN terminal (D)		
Coil rated voltage (V)	AC 50/60 Hz	100, 200, 24*, 48*, 110*, 220*	
	DC	24, 6*, 12*, 48*	
Allowable voltage fluctuation (%)	-15 to +10% of rated voltage		
Power consumption (W) <sup>Note)</sup> [Current mA]	DC	1.8 (With indicator light 2.1) [24 VDC: 75 (With indicator light 87.5)]	
Apparent power (VA) <sup>Note)</sup> [Current mA]	AC	Inrush	4.5/50 Hz, 4.2/60 Hz [ 100 VAC: 45/50 Hz, 42/60 Hz 200 VAC: 22.5/50 Hz, 21/60 Hz ]
		Holding	3.5/50 Hz, 3/60 Hz [ 100 VAC: 35/50 Hz, 30/60 Hz 200 VAC: 17.5/50 Hz, 15/60 Hz ]
Surge voltage suppressor	DC: Diode, AC: ZNR		
Indicator light	DC: LED (Red), AC: Neon bulb		



Note) At rated voltage

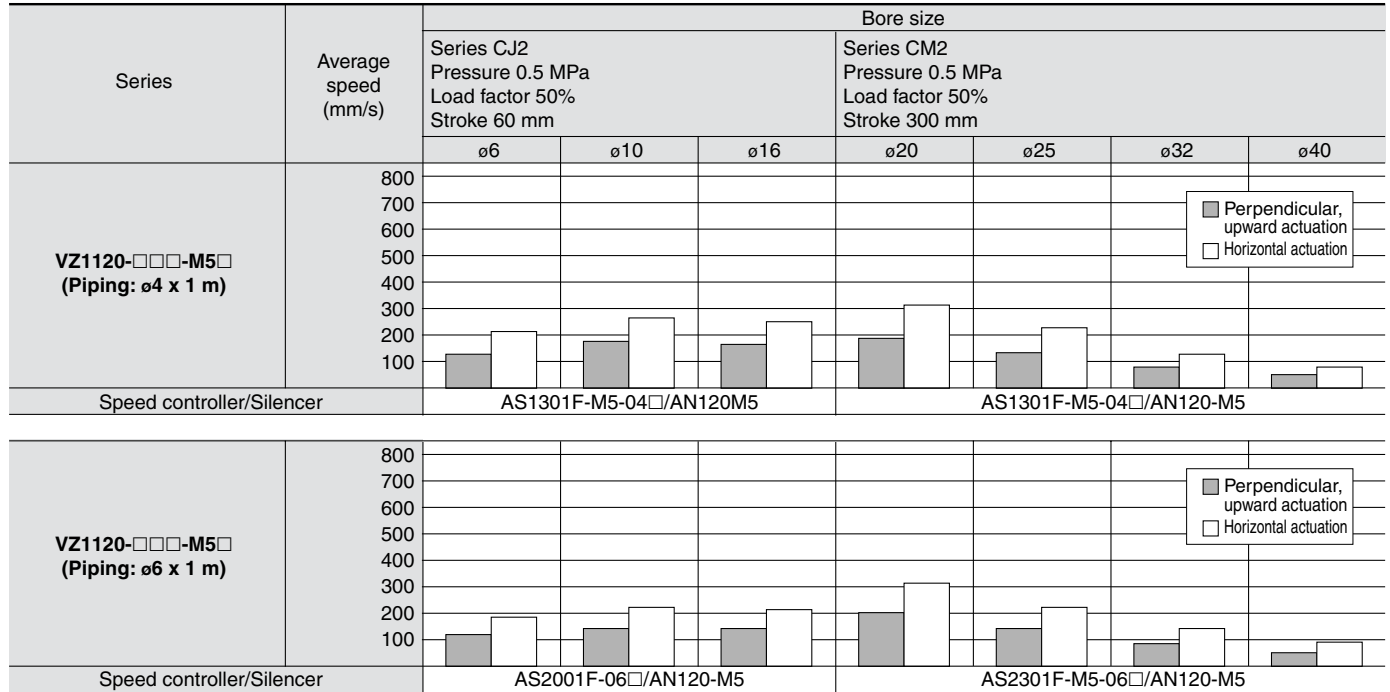
## Effective Area/Weight

Valve model	Type of actuation	Effective area (mm <sup>2</sup> )		Port size	Weight (g)
		1 → 4	2 → 3		
VZ1120-□-M5	2 position single solenoid	1 → 4	0.6	M5 x 0.8	90
		2 → 3	1.5		
		1 → 2	1.0		
		4 → 3	0.9		

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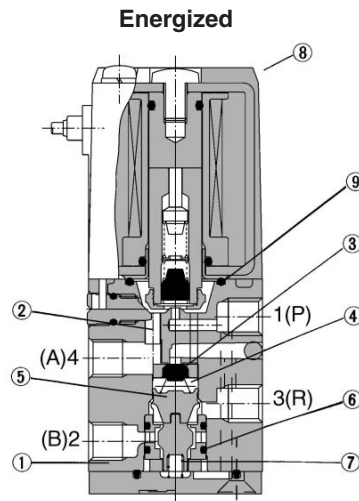
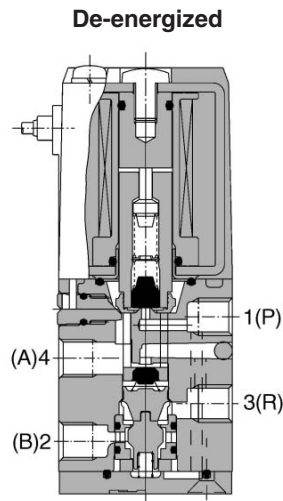
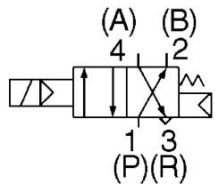
## Cylinder Speed Chart

Use as a guide for selection.  
Please confirm the actual conditions with SMC Sizing Program.



- \* It is when the cylinder is extending that is meter-out controlled by speed controller which is directly connected with cylinder, and its needle valve with being fully open.
- \* The average velocity of the cylinder is what the stroke is divided by the total stroke time.
- \* Load factor: ((Load weight x 9.8)/Theoretical force) x 100%

## Construction



## Component Parts

No.	Description	Material	Note
①	Body	ZDC	Platinum silver
②	Push rod	Resin	
③	EXH poppet	NBR	
④	Back up spring	Stainless steel	
⑤	V seal	FKM	
⑥	Retainer assembly	Brass, NBR	
⑦	Poppet spring	Stainless steel	

## Replacement Parts

No.	Description	Material	Part no.	Note
⑧	Solenoid assembly	Epoxy/Stainless steel	DXT170-A-□□□	
⑨	O-ring	NBR	13 x 11 x 1	Common with Series VZ <sub>5</sub> 000

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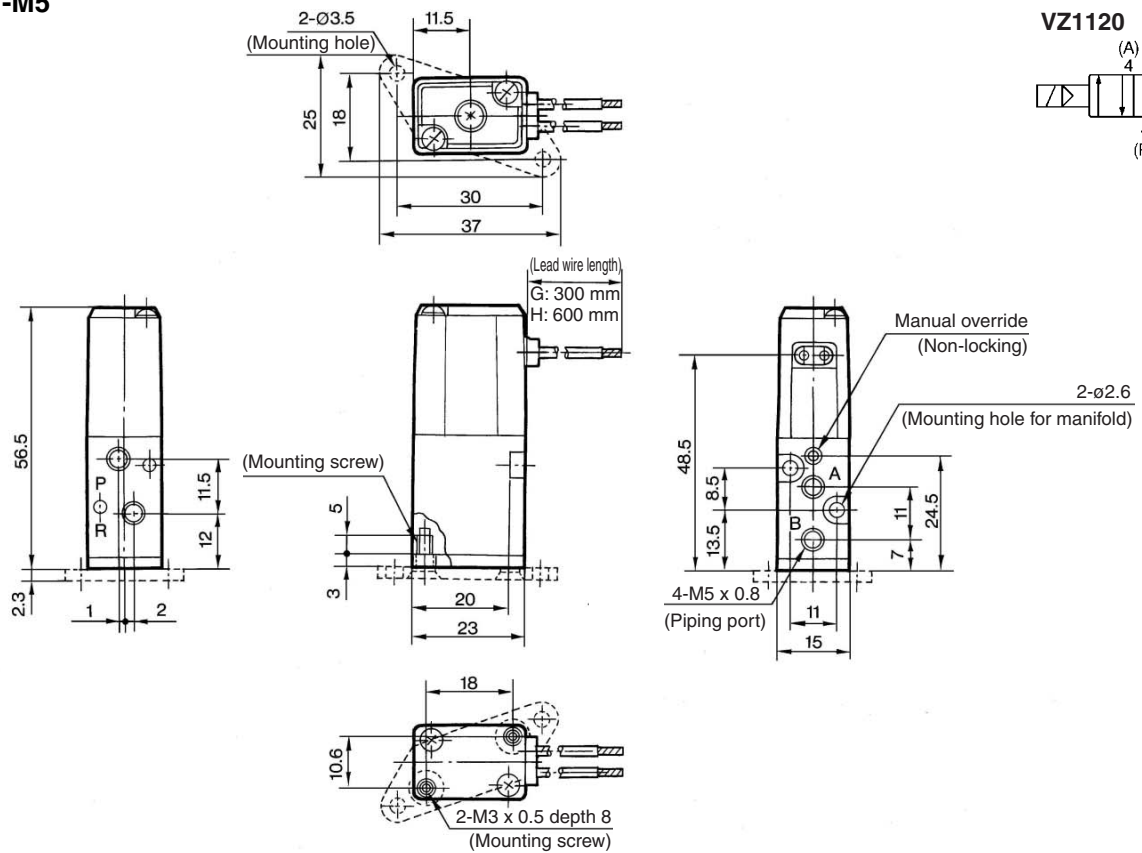
VFN

# Series VZ1000

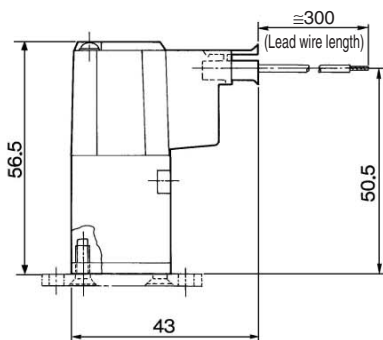


## 2 Position Single

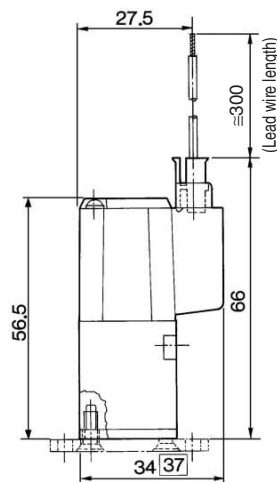
### Grommet (G), (H) VZ1120-□G□-M5



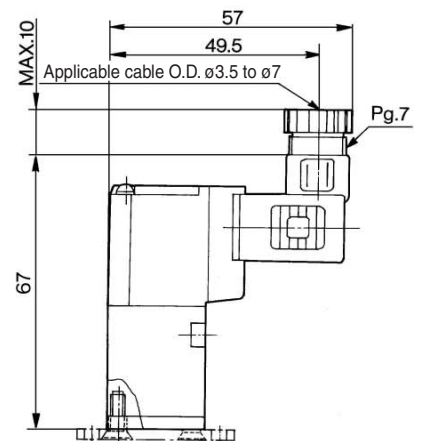
### L plug connector (L) VZ1120-□L□-M5



### M plug connector (M) VZ1120-□M□-M5



### DIN terminal (D) VZ1120-□D□-M5



□: With light/surge voltage suppressor

# Series VZ

# Made to Order Specifications:

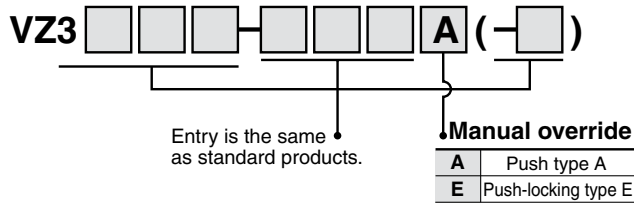
Please contact SMC for detailed specifications, dimensions, and delivery.

## 2. Solenoid Valve: Special Manual Override

### Applicable solenoid valve series

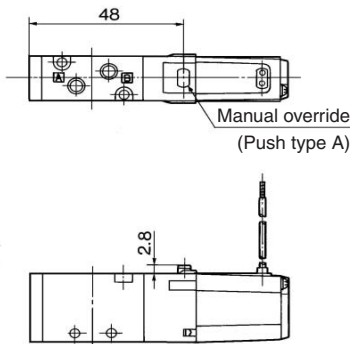
VZ3000  
(Non plug-in type only)

### Model no.

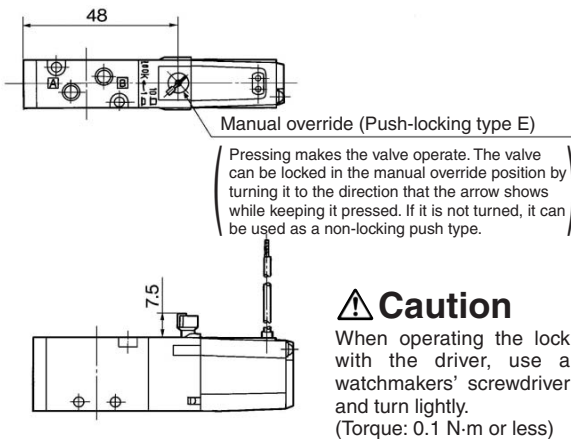


### Dimensions: Single

#### Push type A



#### Push-locking type E



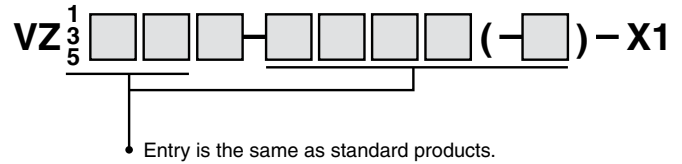
Note) Because the manual override unit protrudes, the manual override could activate unintentionally if the protrusion is touched or an object falls on it. Therefore, take the proper preventative measures.

## 3. Solenoid Valve: Opposite Mount of Solenoid Assembly

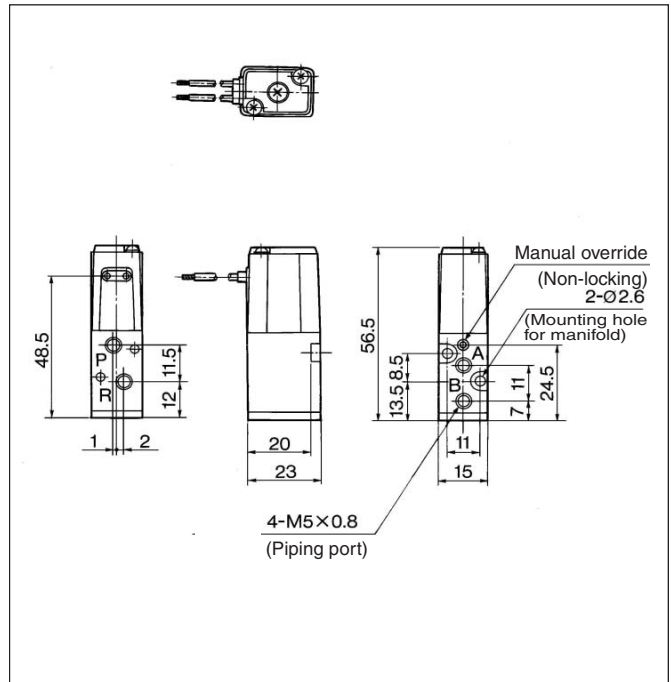
### Applicable solenoid valve series

VZ1000/3000/5000  
(Non plug-in type only)

### Model no.



### Dimensions: VZ1120-□G-M5-X1



# Made to Order Specifications:

Please contact SMC for detailed specifications, dimensions, and delivery.

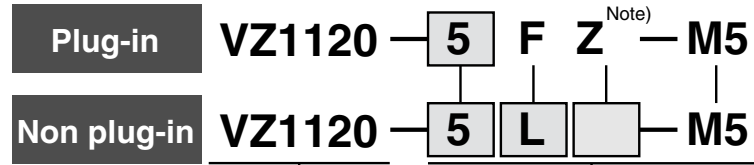
## 5. DIN Rail Manifold

### Applicable solenoid valve series

VZ1000



### How to Order Applicable Solenoid Valves



Same as page 3-3-9



Note) Please contact SMC in the case of without indicator light.

### Manifold Specifications

Model		Type 25	Type 25F
Manifold type		Stacking type, non plug-in type	Stacking type, plug-in type
P(SUP), R(EXH)		Common SUP and EXH	
Valve stations		2 to 20 stations	2 to 20 stations
4(A), 2(B) port location		Valve	
Port size	1(P), 3/5(R) port	C6 (One-touch fitting for ø6)	
	4(A), 2(B) port	M5 x 0.8	
Valve effective <sup>(1)</sup> area (mm <sup>2</sup> )	VZ1120	1 → 2: 0.48, 4 → 3: 0.85	
Connector		—	MIL-C-24308 Applicable for JIS-X-5101 D-sub connector
Internal wiring		—	COM specifications <sup>(2)</sup>



Note 1) Value at manifold base mounted, 2 position single operating

Note 2) It is available at +COM or -COM.

### 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) VV4Z1-25FD-06-00C...1 pc. (Manifold base)

\*VZ1120-5FZ-M5.....5 pcs. (Valve)

\*VZ1000-10-1A.....1 pc. (Blanking plate assembly)

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