

# Large Size 5 Port Solenoid Valve Rubber Seal

## Series VP4□50/4□70

### How to Order

**VP4 1 5 0 - 10 1 T □**

**Series VP**  
5 port solenoid valve

**Type of actuation**

1	2 position single
2	2 position double
3	3 position closed center
4	3 position exhaust center

**Body style**

5	3/4 Standard
7	1 1/4 Standard

**Thread type**

Nil	Rc
F	G
N	NPT
T	NPTF

**Electrical entry**

G	Grommet
T	Conduit terminal
D	DIN terminal
TL*	Conduit terminal with indicator light
DL*	DIN terminal with indicator light

\* Option

**Rated voltage**

1	100 VAC, 50/60 Hz
2	200 VAC, 50/60 Hz
3*	110 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

**Piping**

0	Side ported
1*	Bottom ported
4	Without sub-plate

\* Option

**Port size**

Symbol	Port size	Applicable valve model
00	Without sub-plate	VP4□54 VP4□74
03	3/8 (10A)	VP4□50
04	1/2 (15A)	
06	3/4 (20A)	
10	1 (25A)	VP4□70
12	1 1/4 (32A)	
14	1 1/2 (40A)	

VK

VZ

VF

VFR

**VP4**

VZS

VFS

VS4

VQ7

EVS

VFN

Note) There is no 3 position type for Series "VP4□70".

### How to Order Pilot Valve Assembly

**VT3112 - 00 1 G**

**Rated voltage**

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

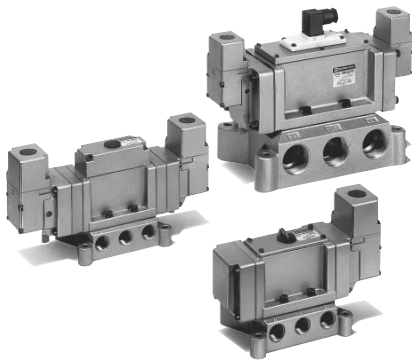
\* Option

**Electrical entry** <sup>(Note)</sup>

G	Grommet
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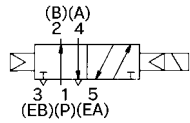
Note) Even if the electrical entry of the solenoid valve is "T", "D", "TL", or "DL", the electrical entry for pilot valve assembly is chosen for "G".

# Series VP4□50/4□70

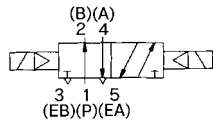


## JIS Symbol

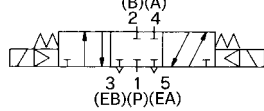
VP4150/4170



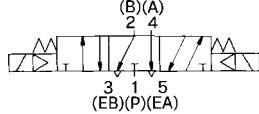
VP4250/4270



VP4350



VP4450



## Specifications

Fluid	Air
Operating pressure range (MPa)	0.2 to 0.9
Ambient and fluid temperature (°C)	0 to 60 (No freezing. Refer to page 3-13-4.)
Max. operating frequency (Hz)	3
Lubrication <sup>(1)</sup>	Required (Turbine oil Class 1 ISO VG32)
Manual override	Yes (Non-locking)
Mounting orientation	Unrestricted
Impact/Vibration resistance (m/s <sup>2</sup> ) <sup>(2)</sup>	150/50
Accessory (Standard equipment)	Silencer for pilot EXH ("AN101-01")



Note 1) This solenoid valve requires lubrication. Use turbine oil Class 1 (ISO VG32).  
 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

Electrical entry	Standard	Grommet (G) Conduit terminal (T) DIN terminal (D)
	Option	Conduit terminal with indicator light (TL) DIN terminal with indicator light (DL)
Coil rated voltage (V)	AC (50/60 Hz)	100, 200, 110*, 220*, 240*
	DC	12*, 24, 48*, 100*
Allowable voltage fluctuation	-15 to +10% of rated voltage	
Apparent power (VA) <sup>Note)</sup>	AC	Inrush 73 (50 Hz), 58 (60 Hz)
	DC	Holding 28 (50 Hz), 17 (60 Hz)
Power consumption (W) <sup>Note)</sup>	12	



\* Option  
 Note) At rated voltage

## Response Time <sup>Note)</sup>

Model		VP4150	VP4170	VP4250	VP4270	VP4350	VP4450
Response time (ms) (at the pressure of 0.5 MPa)	AC	ON	30 or less	40 or less	30 or less	30 or less	30 or less
		OFF	50 or less	65 or less	30 or less	30 or less	30 or less
	DC	ON	40 or less	55 or less	40 or less	45 or less	40 or less
		OFF	40 or less	55 or less	40 or less	45 or less	30 or less



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



**Made to Order Specifications**  
 (For details, refer to page 3-6-11.)

## Flow Characteristics/Weight

Type of actuation	Model	Port size	Flow characteristics						Weight (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		
2 position	Single	VP4150	3/8	15	0.22	3.6	16	0.33	4.5	2.5
			1/2	17	0.15	4.0	19	0.28	5.1	
			3/4	21	0.13	5.2	21	0.28	5.6	
	Double	VP4250	3/8	15	0.22	3.6	16	0.33	4.5	3.0
			1/2	17	0.15	4.0	19	0.28	5.1	
			3/4	21	0.13	5.2	21	0.28	5.6	
3 position	Closed center	VP4350	3/8	16	0.28	4.0	15	0.29	4.0	3.6
			1/2	18	0.27	4.7	18	0.23	4.5	
			3/4	22	0.19	5.3	20	0.23	5.0	
	Exhaust center	VP4450	3/8	16	0.28	3.9	16 (15)	0.29 (0.28)	4.2 (4.0)	3.6
			1/2	18	0.24	4.5	19 (16)	0.24 (0.27)	4.8 (4.5)	
			3/4	21	0.15	5.1	22 (18)	0.23 (0.30)	5.5 (4.8)	

( ) : Denotes the normal position.

Type of actuation	Model	Port size	Effective area (mm <sup>2</sup> )	Weight (kg)	
2 position	Single	VP4150	1	120	3.3
		VP4170	1 1/4	280	
		VP4250	1 1/2	300	
	Double	VP4250	1	120	3.8
		VP4270	1 1/4	280	
3 position	Closed center	VP4350	1	110	4.4
		VP4450	1	110	
	Exhaust center	VP4450	1	110	4.4

# Large Size 5 Port Solenoid Valve Rubber Seal Series VP4□50/4□70

## ⚠ Precautions

Be sure to read before handling.  
For Safety Instructions and Solenoid Valve Precautions, refer to page 3-13-2.

### ⚠ Caution

#### 1. Piping

Make P port piping so that supply air pressure does not become lower than operating pressure while operating.

If throttling air flow of P port, or opening A/B ports in the atmosphere (or opening in almost the same conditions), pressure drop at operating can cause malfunction of the valve.

#### 2. Air quality

Install an air filter and a lubricator on the upstream side.

#### 3. Lubrication

This solenoid valve requires lubrication. Use turbine oil Class 1 (ISO VG32).

Besides that, for brands of each manufacturer, refer to page 3-13-5.

#### 4. Operating environment

Install silencer in EA/EB/Pilot EXH port to prevent dust from entering in the dusty ambient.

#### 5. Operation at low temperature

If operating at 0°C or less, external pilot style solenoid valve is recommended. (Made to order; suffix "-X40" to the part number.)

#### 6. Regarding VP435□ (3 position closed center type)

Be aware that when the cylinder is in an intermediate stop state, if the supply pressure to the P port is discharged or decreased, this valve is constructed so that the pressure in the cylinder will be discharged to the P port, causing the cylinder to move.

#### 7. How to calculate the flow rate

For obtaining the flow rate, refer to page 3-1-10.

## How to Use DIN Terminal

### 1. Disassembly

- 1) After loosening the thread (1), then if the cover (4) is pulled in the direction of the thread, the connector will be removed from the body of equipment (solenoid, etc.).
- 2) Pull the screw (1), and then remove gasket (2a) or (2b).
- 3) On the bottom part of the terminal block (3), there's a cut-off part (indication of an arrow). If a small flat head screwdriver is inserted between the opening in the (3a) bottom, terminal block (3) will be removed from the cover (4). (Refer to figure at right.)
- 4) Remove the cable gland (5) and plain washer (6) and rubber seal (7).

### 2. Wiring

- 1) Pass them through the cable (8) in the order of cable ground (5), washer (6), rubber seal (7), and then insert into the housing (4).
- 2) Dimensions of the cable (8) are the figure as below. Skin the cable and crimp the crimped terminal (9) to the edges.
- 3) Remove the screw with washer (3e) from the bracket (3e). (Loosen in the case of Y-shape type terminal.) As shown in the below figure, mount a crimped terminal (9), and then again tighten the screw (3e).

Note) Tighten within the tightening torque of 0.5 N·m ± 15%.

Note: a It is possible to wire even in the state of bare wire. In that case, loosen the screw with washer (3e) and place a lead wire into the bracket, (3d) and then tighten it once again.

b Maximum size of crimped terminal (9) is up to 1.25 mm<sup>2</sup>—3.5 when O terminal. For Y terminal, it is up to 1.25 mm<sup>2</sup>—4.

c Cable (8) external: ø6 to ø12

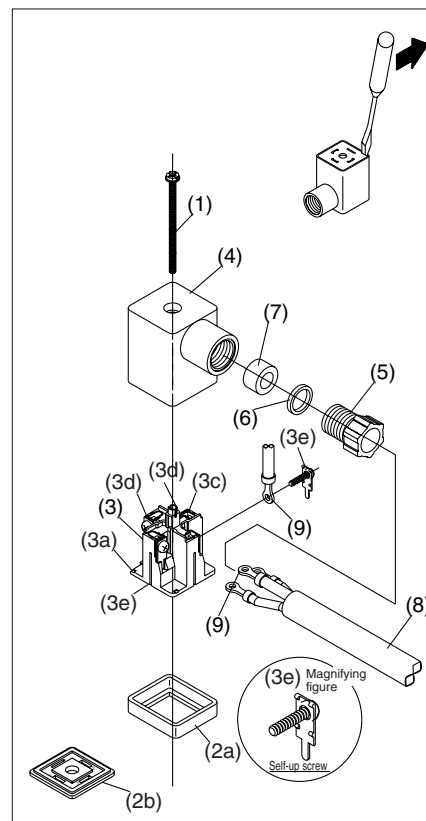
Note) For the one with the external dimension ranged between 9 to 12 mmø, remove the inside parts of the rubber seal (7) before using.

### 3. Assembly

- 1) Terminal block (3) connected with housing (4) should be reinstated.
- 2) Putting rubber seal (7), plain washer (6), in this order into the cable introducing slit on the housing (4), then further tighten the cable gland (5) securely.
- 3) By inserting gasket (2a) or (2b) between the bottom part of the terminal block (3) and a plug on an equipment, screw in (1) on top of the housing (4) and tighten it.

Note) Tighten within the tightening torque of 0.5 N·m ± 15%.

Note: The orientation of a connector can be changed arbitrarily, depending on the combination of a housing (4) and a terminal block (3).



## DIN Terminal (Connection)

• Solenoid is wired with male thread terminals of DIN connector as follows. Connect with corresponding terminals of the connector.



Terminal	Polarity
1	A side
2	B side
3	COM

Can be used as either "+COM" or "-COM".

VK

VZ

VF

VFR

VP4

VZS

VFS

VS4

VQ7

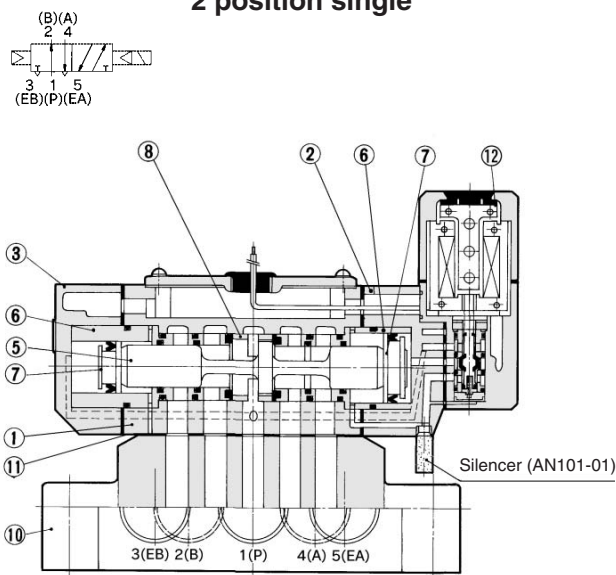
EVS

VFN

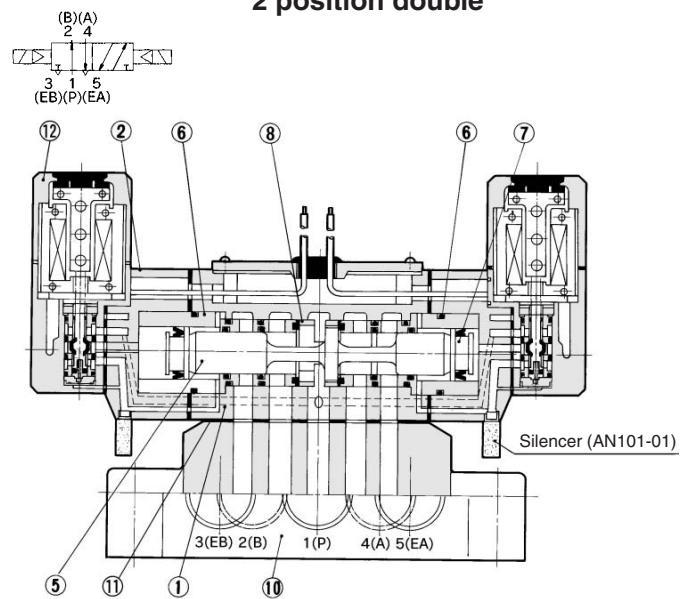
# Series VP4□50/4□70

## Construction

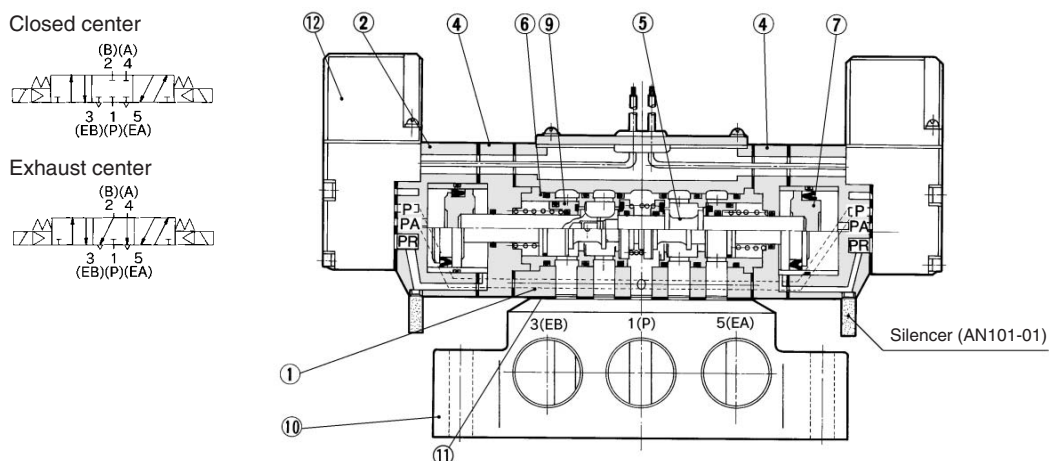
### 2 position single



### 2 position double



### 3 position closed center/exhaust center



## Component Parts

No.	Description	Material	Note
①	Body	Aluminum alloy	Platinum silver
②	Plate	Aluminum alloy	Platinum silver
③	Cap	Aluminum alloy	Platinum silver
④	Spacer	Aluminum alloy	Platinum silver
⑤	Spool	Stainless steel/Aluminum alloy	
⑥	Sleeve	2 position: Aluminum alloy 3 position: Brass	
⑦	Piston	2 position: Resin 3 position: Stainless steel	
⑧	Center sleeve	Resin	
⑨	Side poppet	Brass, NBR	

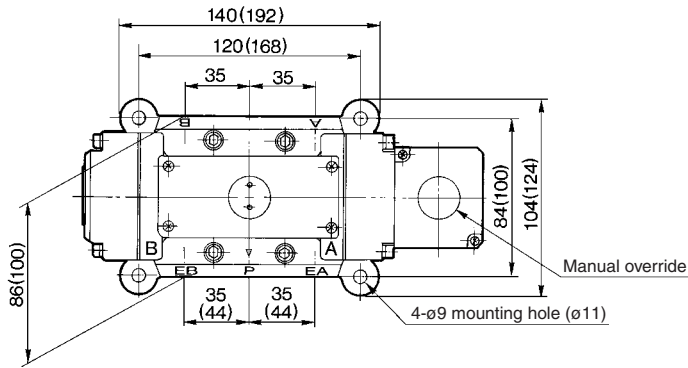
## Replacement Parts

No.	Description	Part no.	Note
⑩	Sub-plate	VS4040-S-03	3/8
		VS4040-S-04	1/2
		DXT131-15P-06	3/4
		DXT131-15P-10	1
		DXT132-15-2P-12	1 1/4
		DXT132-15-2P-14	1 1/2
⑪	Gasket	XT021-9	VP4□50
		DXT132-16	VP4□70
⑪	Hexagon socket head screw	M6 x 25 with washer	VP4□50
		M8 x 35	VP4□70
⑫	Pilot valve assembly	VT3112-00□G	Refer to "How to Order Pilot Valve Assembly" on page 3-6-1.

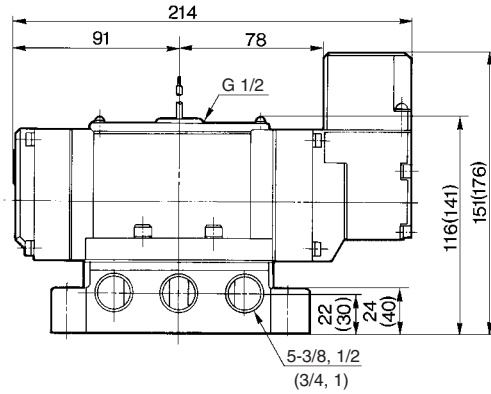
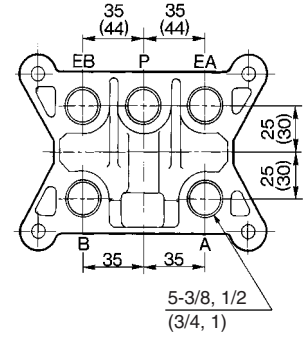
# Large Size 5 Port Solenoid Valve Rubber Seal Series VP4□50/4□70

## Dimensions: VP4150

Grommet: VP4150-□□G-□

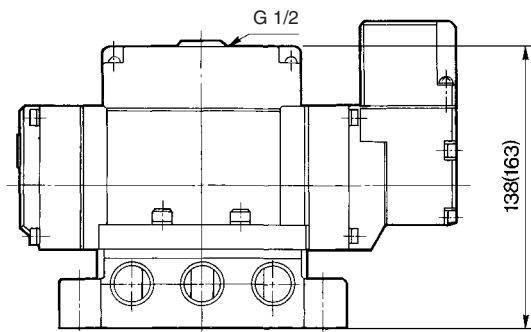


Bottom ported



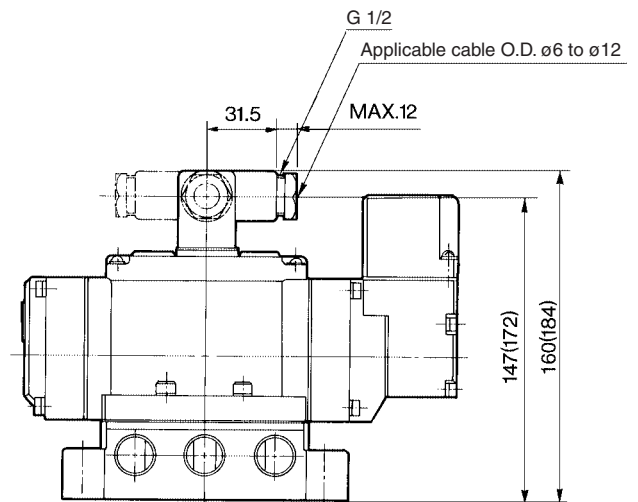
( ) : Rc 3/4, 1

Conduit terminal: VP4150-□□T-□



( ) : Rc 3/4, 1

DIN terminal: VP4150-□□D-□



( ) : Rc 3/4, 1

VK

VZ

VF

VFR

**VP4**

VZS

VFS

VS4

VQ7

EVS

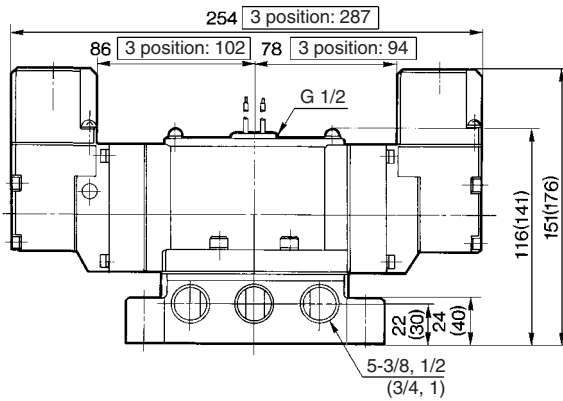
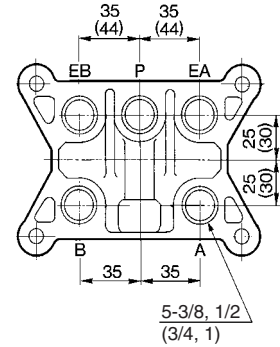
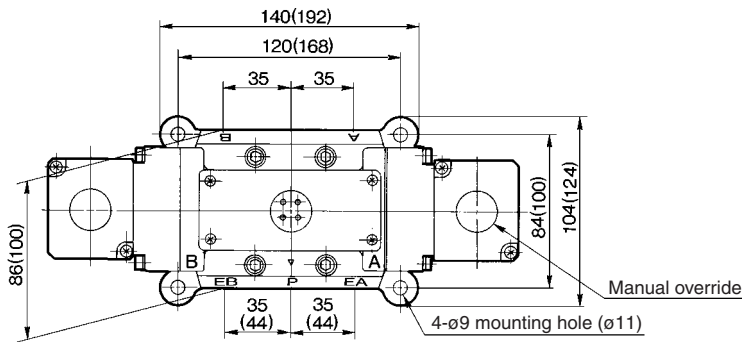
VFN

# Series VP4 □ 50/4 □ 70

Dimensions: VP4250/4350/4450

Grommet: VP4250-□□G-□, VP4350-□□G-□  
VP4450-□□G-□

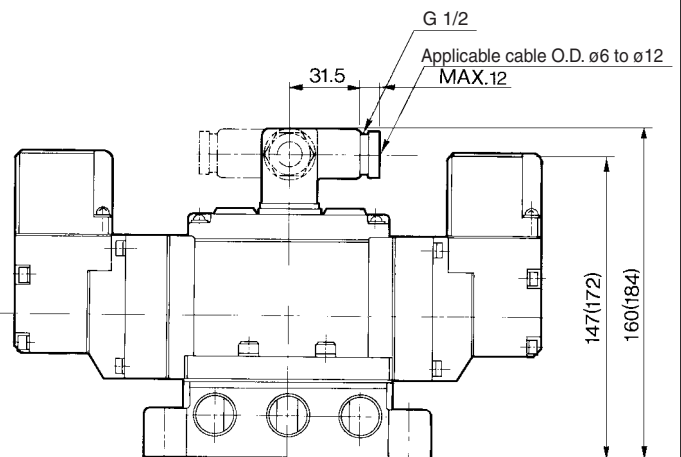
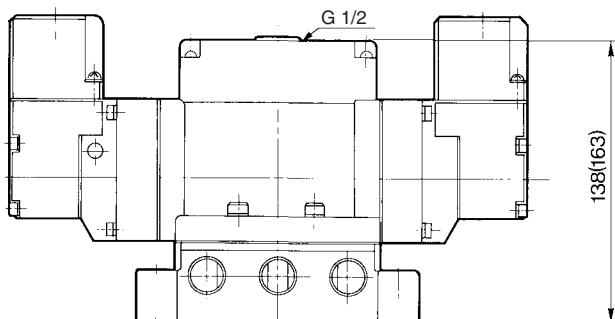
Bottom ported



( ) : Rc 3/4, 1

Conduit terminal: VP4250-□□T-□  
VP4350-□□T-□  
VP4450-□□T-□

DIN terminal: VP4250-□□D-□  
VP4350-□□D-□  
VP4450-□□D-□



( ) : Rc 3/4, 1

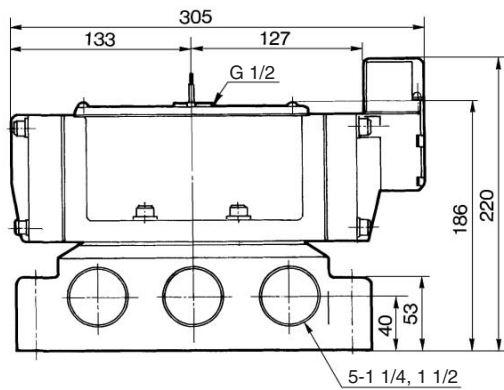
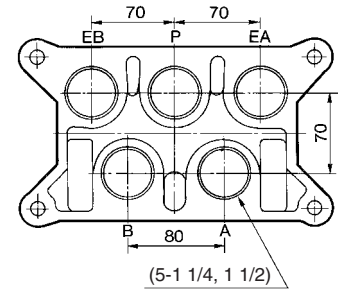
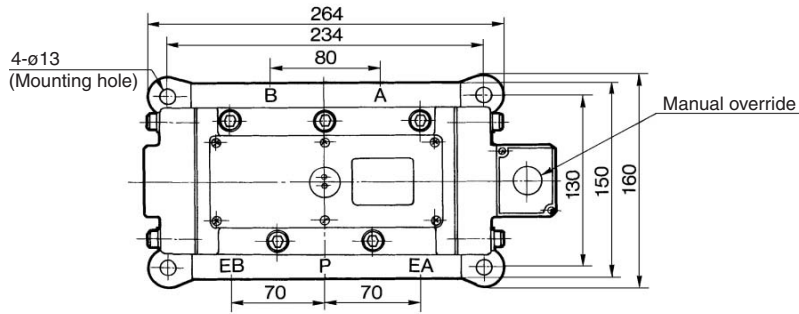
( ) : Rc 3/4, 1

# Large Size 5 Port Solenoid Valve Rubber Seal Series **VP4** □ 50/4 □ 70

## Dimensions: VP4170

Grommet: VP4170-<sup>12</sup>/<sub>14</sub> □ G-□

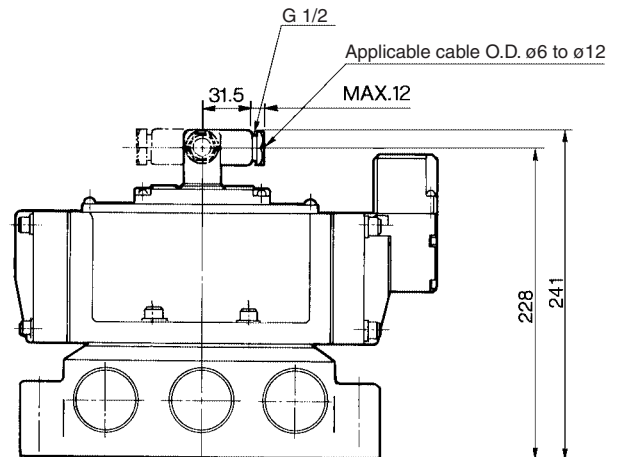
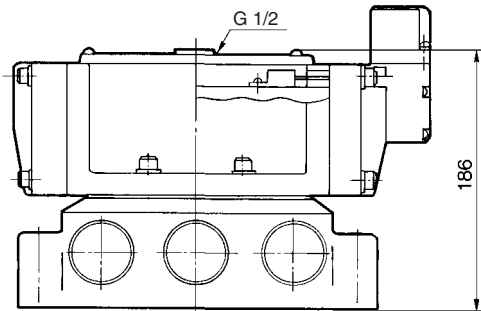
Bottom ported



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

Conduit terminal: VP4170-<sup>12</sup>/<sub>14</sub> □ T-□

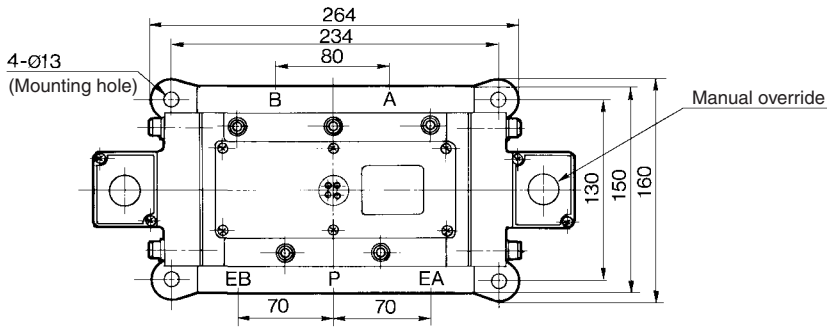
DIN terminal: VP4170-<sup>12</sup>/<sub>14</sub> □ D-□



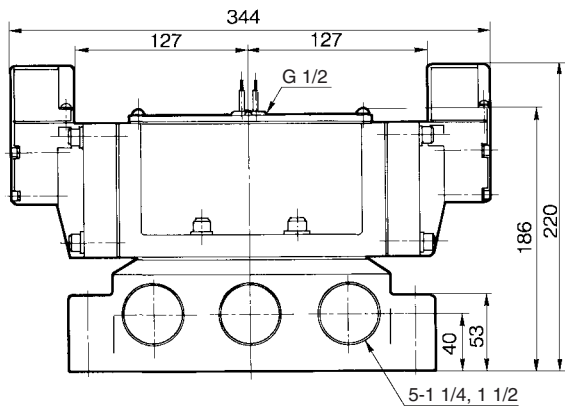
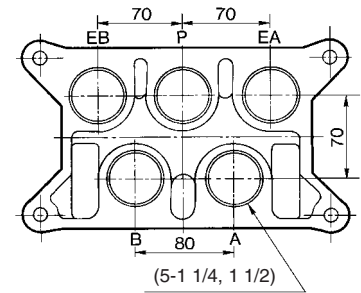
# Series VP4 □ 50/4 □ 70

## Dimensions: VP4270

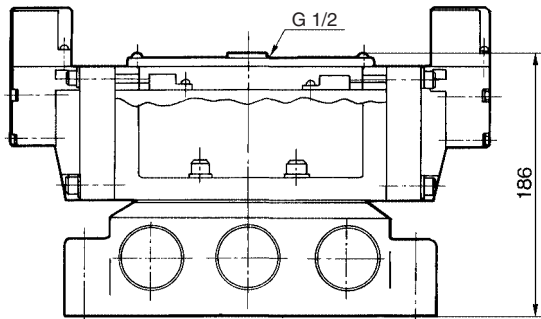
### Grommet: VP4270-<sup>12</sup>/<sub>14</sub> □ G-□



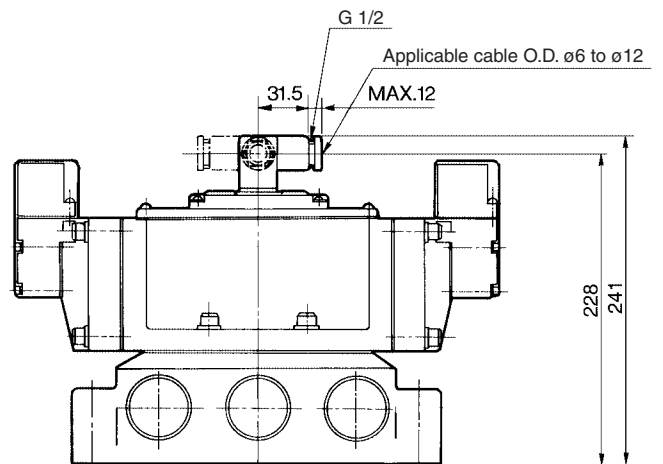
### Bottom ported



### Conduit terminal: VP4270-<sup>12</sup>/<sub>14</sub> □ T-□



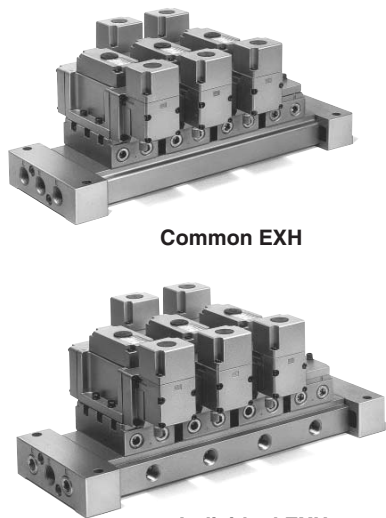
### DIN terminal: VK4270-<sup>12</sup>/<sub>14</sub> □ D-□





# Series VP4□50

# Manifold Specifications



## How to Order

**VVP4 5 0 04 1 04** □

Series VP 5 port solenoid valve Manifold

Base size

5	3/4
6	1

Porting specifications

Symbol	P	A, B	E
0	Side	Side	Side
1*	Side	Bottom <sup>Note)</sup>	Side
9*	Other		

Note) A/B port piping: Rc 3/8 or Rc 1/2  
\* Option

Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

A/B Port size

Symbol	Port size	VVP450	VVP460
04	1/2	●	—
06	3/4	●	●
10	1	—	●
M <sup>Note)</sup>	Mixed	●	●

Note) In the case of "Mix", put "M" in the part number and indicate each port size in other places.

Base specifications

1	Common EXH
2	Individual EXH

Valve stations

02	2 stations
⋮	⋮
10	10 stations

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

### Precautions

No manifold is available for Series VP4□70.

### How to Order Manifold Assembly

Specify the valves and blanking plate to be mounted on the manifold along with the manifold base model no.

<Example> Base (4 stations), Common EXH, 100 VAC, DIN terminal, A/B port: Rc 3/4  
 \*VVP460-041-06..... 1 pc.  
 \*VP4154-001D..... 2 pcs.  
 \*VP4254-001D..... 1 pc.  
 \*XT038N-4A..... 1 pc.

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

### Specifications

Manifold type	B mount
Exhaust type	Common EXH, Individual EXH <sup>(1)</sup>
Supply type	Common SUP
Valve stations	Max. 10 stations (VVP460: Max. 8 stations) <sup>(2)</sup>

Note 1) If throttling exhaust air, use individual exhaust style so that backing pressure does not cause trouble.

Note 2) In the case of 4 stations or more, supply air pressure from both sides and exhaust from both sides.

### Simultaneous Operation of Manifold Valves

Simultaneous operation of manifold valves can cause pressure drop.

### Model

Series	Exhaust specifications	Port size			Applicable valve model
		P	A, B	E	
VVP450	Common	3/4	1/2, 3/4	3/4	VP4154-00□□ VP4254-00□□ VP4354-00□□ VP4454-00□□
	Individual				
VVP460	Common	1	3/4, 1	1	VP4154-00□□ VP4254-00□□ VP4354-00□□ VP4454-00□□
	Individual				

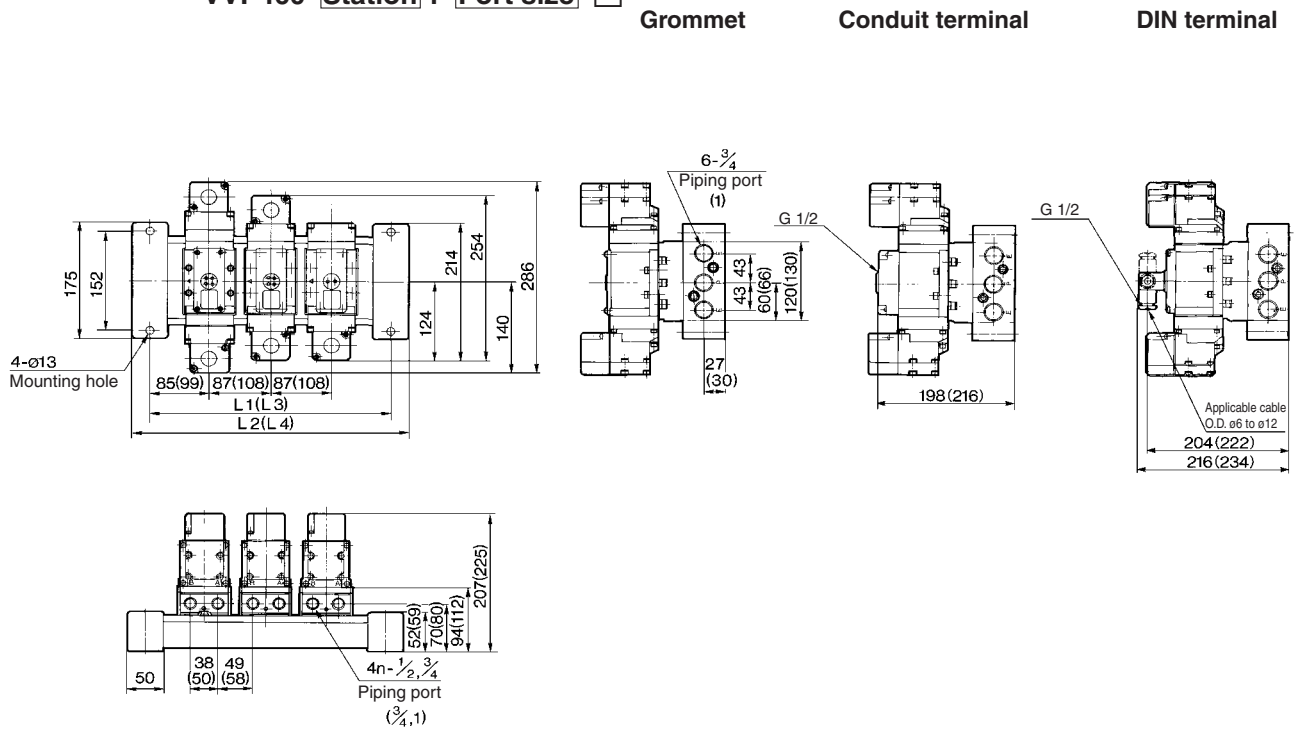
### Option

Blanking plate assembly	XT038N-4A	With gaskets and bolts
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# Series VP4 □ 50/4 □ 70

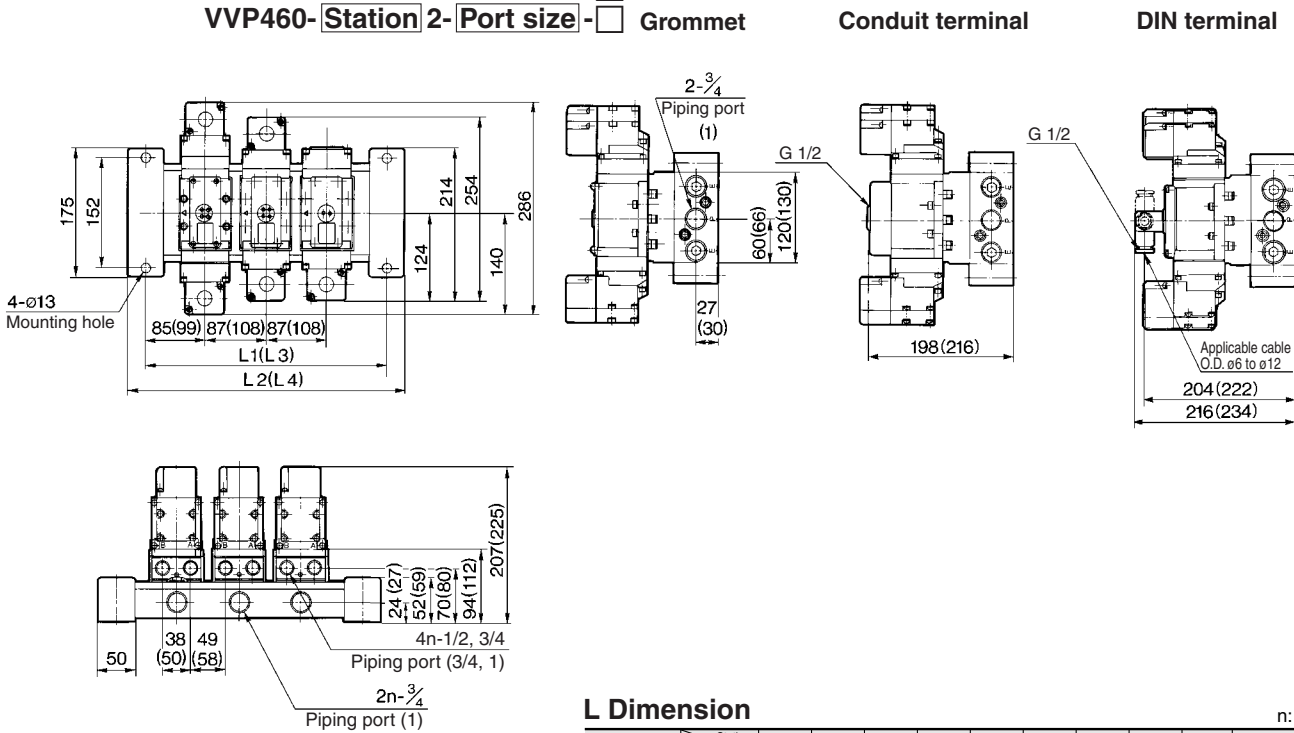
## Dimensions: VVP450/460

Common EXH: VVP450- Station 1- Port size - □  
 VVP460- Station 1- Port size - □



( ): VVP460

Individual EXH: VVP450- Station 2- Port size - □  
 VVP460- Station 2- Port size - □



( ): VVP460

### L Dimension

Model	Stations L dimension	n: Station										Formula
		2	3	4	5	6	7	8	9	10		
VVP450	L <sub>1</sub>	257	344	431	518	605	692	779	866	953	L <sub>1</sub> = 87 x n + 83	
	L <sub>2</sub>	307	394	481	568	655	742	829	916	1003	L <sub>2</sub> = 87 x n + 133	
VVP460	L <sub>3</sub>	306	414	522	630	738	846	954	-	-	L <sub>3</sub> = 108 x n + 90	
	L <sub>4</sub>	356	464	572	680	788	896	1004	-	-	L <sub>4</sub> = 108 x n + 140	

# Made to Order Specifications:

## Series VP4□50/4□70

### External Pilot/With Surge Voltage Suppressor

#### External Pilot/-X40

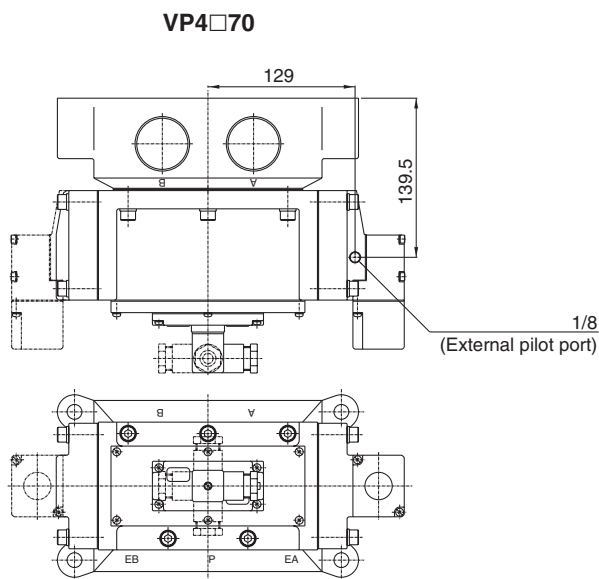
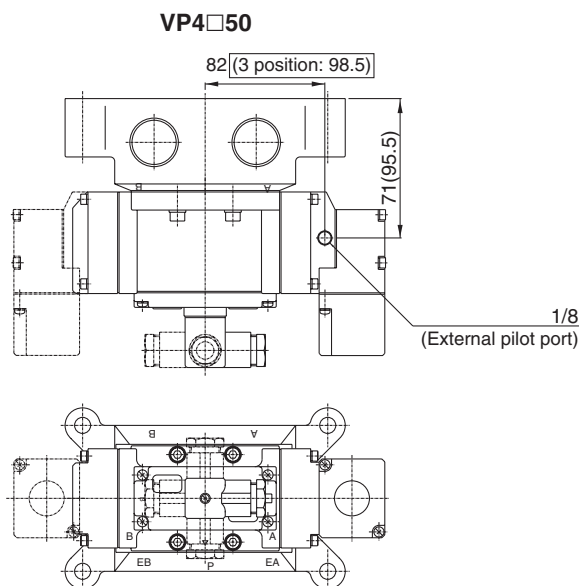
Model no.

VP4 □ □ □ - □ □ □ (- □ □) - X40

• Entry is the same as standard products.

#### Dimensions

Same as those of standard models. For the external pilot port position, refer to the below.



Dimensions: Port size 3/8, 1/2  
( ) : Port size 3/4, 1

VK

VZ

VF

VFR

VP4

VZS

VFS

VS4

VQ7

EVS

VFN

#### With Surge Voltage Suppressor/-X23

Model no.

VP4 □ □ □ - □ □ □ (- □ □) - X23

• Entry is the same as standard products.

#### Electrical entry

T	Conduit terminal
D	DIN terminal
TL	Conduit terminal with indicator light
DL	DIN terminal with indicator light

#### Dimensions

Same as those of standard models.

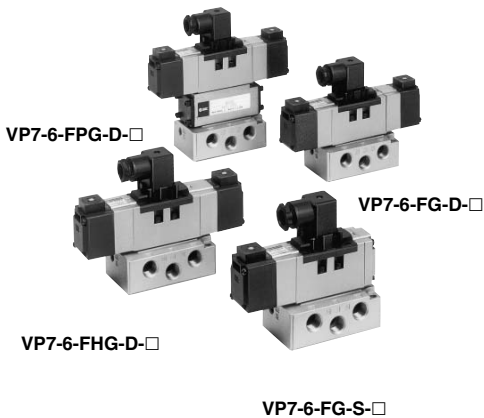
# Product Profile: ISO Standard Solenoid Valve: Size 1, 2 Rubber Seal

## Series VP7-6/7-8



For details about certified products conforming to international standards, visit us at [www.smcworld.com](http://www.smcworld.com).

Solenoid valve conforming to ISO standard  
Size (1)/VP7-6  
Size (2)/VP7-8  
(Rubber seal)



2 position	Single solenoid (FG-S)	Double solenoid (FG-D)	Reverse pressure (YZ-S) *	Reverse pressure (YZ-D) *
3 position	Closed center (FHG-D)	Exhaust center (FJG-D)	Double pilot check (FPG-D)	Pressure center (FLG-D) *

\* Option

### Standard Specifications

Fluid	Air		
Operating pressure range	Single	2 position	0.15 to 0.9
	Double	2 position	0.1 to 0.9
		3 position	0.15 to 0.9
Ambient and fluid temperature	Max. 50°C		
Manual override	Non-locking type		
Electrical entry	DIN terminal		
Lubrication	Use turbine oil Class 1 (ISO VG32). Usable with non-lube.		
Shock/Vibration resistance <sup>Note)</sup>	300/50 m/s <sup>2</sup>		



Note) 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)

### VP7-6: Flow Characteristics

Valve model	Type of actuation		Port size	Flow characteristics					
				1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → R1/R2)		
				C [dm <sup>3</sup> /(s·bar)]	b	Cv	C [dm <sup>3</sup> /(s·bar)]	b	Cv
VP7-6	2 position	Single	Rc 1/4	5.5	0.24	1.4	5.8	0.31	1.4
		Double		5.5	0.24	1.4	5.8	0.31	1.4
	3 position	Closed center		4.6	0.24	1.1	5.2	0.25	1.2
		Exhaust center		4.8	0.24	1.2	5.7(5.1)	0.25(0.23)	1.4(1.3)
	3 position	Pressure center		5.7(3.6)	0.25(0.33)	1.4(0.89)	3.5	0.37	0.9
	2 position	Single	Rc 1/4 *	4.2	0.22	1.1	4.5	0.26	1.1
		Double		4.2	0.22	1.1	4.5	0.26	1.1
	3 position	Closed center		4.0	0.22	1.0	4.1	0.25	1.0
		Exhaust center		3.9	0.22	1.0	4.5(4.1)	0.25(0.22)	1.1(1.0)
3 position	Pressure center	4.5(3.3)		0.27(0.27)	1.1(0.84)	3.3	0.21	0.8	



( ): Denotes the normal position.  
\* denotes the bottom ported type.

### VP7-8: Flow Characteristics

Valve model	Type of actuation		Port size	Flow characteristics					
				1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → R1/R2)		
				C [dm <sup>3</sup> /(s·bar)]	b	Cv	C [dm <sup>3</sup> /(s·bar)]	b	Cv
VP7-8	2 position	Single	Rc 3/8	12	0.30	3.1	13	0.30	3.2
		Double		12	0.30	3.1	13	0.30	3.2
	3 position	Closed center		12	0.30	3.1	13	0.30	3.2
		Exhaust center		12	0.30	3.1	14(13)	0.30(0.31)	3.3(3.2)
	3 position	Pressure center		13(6.8)	0.32(0.35)	3.3(1.8)	12	0.30	2.9
	2 position	Single	Rc 3/8 *	7.5	0.32	2.0	7.6	0.35	2.1
		Double		7.5	0.32	2.0	7.6	0.35	2.1
	3 position	Closed center		7.5	0.32	2.0	7.6	0.35	2.1
		Exhaust center		7.5	0.32	2.0	7.6(7.6)	0.35(0.35)	2.1(2)
3 position	Pressure center	7.6(6.1)		0.34(0.23)	2.1(1.6)	7.6	0.35	2.0	



( ): Denotes the normal position.  
\* denotes the bottom ported type.

# Explosion Proof Solenoid Valve

## Series 50-VFE/50-VPE

Explosion proof solenoid valve  
 5 port/50-VFE3000, 5000  
 3 port/50-VPE500, 700

■ **Quality of explosion proof spec. Conforming to International Standard (IEC standard) as well**

Type of explosion proof construction: Withstand pressure explosion proof construction

d2G4 (Certificate model no. 46132)

Exd2BT4 (Certificate model no. C14604)

\* This product is conforming to the conventional explosion-proof construction standard for the electric machine and apparatus (bulletin no. 16 pronounced by Japanese Labor Ministry in 1969) and the new standard (technical standard newly established based on International Electrotechnical Commission (IEC standard 79)).

■ **Waterproof**

Conforming to JIS F 8001 Class 3 Sprinkle Test

■ **Exhausting equipment for pilot valve not required.**

**Common exhaust type for main and pilot valve (50-VFE3000)**

In order to protect the environment, exhaust from a pilot valve is discharged through common exhaust.

■ **Possible to be into manifold (50-VFE3000, 50-VFE5000)**

Can deal with the manifold type up to 10 stations at the maximum.

■ **As a selector valve, divider valve, or able to use for vacuum applications. (50-VPE500, 50-VPE700)**

If it is changed to external pilot method, universal porting will be available the same like direct type. And it can be used in the vacuum applications.

### Specifications: 50-VFE3000/5000

Series		50-VFE3000	50-VFE5000
Fluid		Air	
Operating pressure range	2 position single/3 position	0.15 to 0.9 MPa	
	2 position double	0.1 to 0.9 MPa	
Ambient and fluid temperature		Max. 50°C	
Response time	2 position double	45 ms or less <sup>Note)</sup>	45 ms or less <sup>Note)</sup>
	3 position	60 ms or less <sup>Note)</sup>	70 ms or less <sup>Note)</sup>
Max. operating frequency	2 position double	5 Hz	5 Hz
	3 position	2 Hz	2 Hz
Lubrication		Not required	
Manual override		Non-locking push type, Push-turn locking type D	
Mounting orientation		Unrestricted	
Pilot valve EXH		Individual exhaust Common exhaust type for main and pilot valve	Individual exhaust Pilot common exhaust



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

### Specifications: 50-VPE500/700

Fluid		Air	
Type of actuation		N.C. or N.O. (Convertible)	
Pilot type		Internal pilot	External pilot
Operating pressure range	0.2 to 0.8 MPa	Supply pressure	-101.2 kPa to 0.8 MPa
		External pilot pressure	0.2 to 0.8 MPa
Ambient and fluid temperature		Max. 50°C	
Response time		45 ms or less (at 0.5 MPa) <sup>Note)</sup>	
Max. operating frequency		5 Hz	
Lubrication		Not required	
Manual override		Non-locking push type Push-turn locking type D	
Mounting orientation		Unrestricted	



Note) Based on dynamic performance test, JIS B 8374-1981. (Coil temperature: 20°C, at rated voltage, without surge voltage suppressor.)



For details, please contact SMC.

VK

VZ

VF

VFR

VP4

VZS

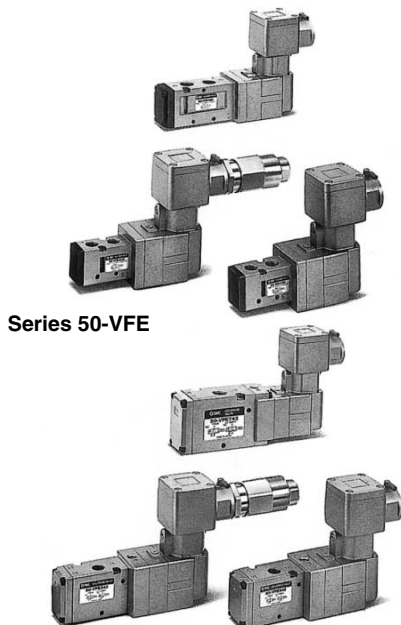
VFS

VS4

VQ7

EVS

VFN



Series 50-VFE

Series 50-VPE