

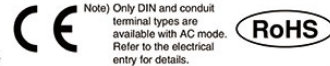
Pilot Operated 5 Port Solenoid Valve Body Ported/Single Unit **VF1000/3000/5000 Series**

Body Ported

Pilot Operated 5 Port Solenoid Valve

VF1000/3000/5000 Series

Single Unit



How to Order Valve

Body ported **VF 3 1 3 0** - **5 G** - **1-01** -

Series	1 VF1000 3 VF3000 5 VF5000
Type of actuation	1 2-position single 2 2-position double 3 3-position closed center 4 3-position exhaust center 5 3-position pressure center

* Only 1 and 2 are available with the VF1000.

Body model	Symbol VF1000 VF3000 VF5000
2	○ ○ ○
3	— — —

Pressure specifications	Nil Standard (0.7 MPa) K High-pressure type (1 MPa)
-------------------------	--

Coil specifications	Nil Standard T With power saving circuit (DC only)
---------------------	---

Note) Be sure to select the power saving circuit type when it is continuously energized for long periods of time. (Refer to page 348 for details.)
* T type is available with DC mode only. When T is selected, only Z type of light/surge voltage suppressor is available. (Note that when the electrical entry of DIN terminal type without connector is selected, only DOS and YOS are available.)

Rated voltage	DC AC (50/60 Hz)
5 24 VDC	1 100 VAC 2 200 VAC 3 110 VAC [115 VAC] 4 220 VAC [230 VAC] 7 240 VAC B 24 VAC
6 12 VDC	

* Refer to "Made to Order" (Page 311) when piping to PE port is required.

Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

* M5 is available with Nil only.

Bracket

Nil	Without bracket
F	With bracket

VF1000/3000 Single type (The bracket cannot be connected after delivered.)
VF1000 Double type only

Made to Order

Nil	—
X500	Pilot exhaust port with piping thread (M3) specification (Refer to page 311.)
X600	TRIAC output specification (Refer to page 311.)

A, B port size

Symbol	Port size	VF1000	VF3000	VF5000
M5	M5 x 0.8	○	—	—
01	1/8	○	○	—
02	1/4	—	○	—
03	3/8	—	—	○

Manual override

Nil:	Non-locking push type
D:	Push-tum locking slotted type
E:	Push-tum locking lever type

Light/Surge voltage suppressor

Symbol	Light/Surge voltage suppressor	DC	AC
Nil	Without light/surge voltage suppressor	○	○
S	With surge voltage suppressor	○	—
Z	With light/surge voltage suppressor	○	○
R	With surge voltage suppressor (Non-polar)	○	—
U	With light/surge voltage suppressor (Non-polar)	○	—

Note) S type is not available with AC mode, since a rectifier prevents surge voltage generation.
* In the DIN terminal type, since a light is installed in the connector, DOZ, DOU, YOZ, YOU are not available.

Caution
When using the surge voltage suppressor type, residual voltage will remain. Refer to page 348 for details.

Electrical entry

Grommet	L-type plug connector	M-type plug connector	DIN terminal	DIN (EN175301-803) terminal	Conduit terminal
G: Lead wire length 300 mm H: Lead wire length 600 mm	L: With lead wire (length 300 mm) LN: Without lead wire	M: With lead wire (length 300 mm) MN: Without lead wire	D: With connector DO: Without connector	Y: With connector YO: Without connector	T: Conduit terminal
CE	DC	CE	CE	CE	CE

* LN and MN types are with 2 sockets.
* Refer to page 346 when different length of lead wire for L/M-type plug connector is required.
* Refer to page 347 for details on the DIN (EN175301-803) terminal.
Note 1) When using IP65, select the main/pilot valve common exhaust type. (Except VF1000)
Note 2) With the same specifications as the DC type, all electrical entries for the 24 VAC type are CE marking compliant.



Made to Order
(Refer to page 311 for details.)

Symbol	Specification
X500	Pilot exhaust port with piping thread (M3) specification
X600	TRIAC output specification

Specifications

Model		VF1000	VF3000	VF5000
Fluid		Air		
Operating pressure range (MPa)	Standard	2-position single/3-position	0.15 to 0.7	
	High-pressure type	2-position double	0.1 to 0.7	
Max. operating frequency (Hz)	2-position single/double	2-position single/3-position	0.15 to 1.0	
	3-position	2-position double	0.1 to 1.0	
Ambient and fluid temperature (°C)		-10 to 50 (No freezing)		
Manual override		Non-locking push type Push-tum locking slotted type Push-tum locking lever type		
Pilot exhaust type		Individual exhaust, Main/Pilot valve common exhaust (Except VF1000)		
Lubrication		Not required		
Mounting orientation		Unrestricted		
Impact/Vibration resistance (m/s²)^(10ms)		300/50		
Enclosure		Dustproof (IP65 [*] for D, Y, T)		

Note) Impact resistance: No malfunction occurred when it is tested 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)
* Based on IEC 60529. When using IP65, select the main/pilot valve common exhaust type.

Solenoid Specifications

Electrical entry		Grommet (G), (H) L-type plug connector (L) M-type plug connector (M) G, H, L, M	DIN terminal (D) DIN (EN175301-803) terminal (Y) Conduit terminal (T) D, Y, T
	Coil rated voltage (V)	DC AC (50/60 Hz)	24, 100, 110, 200, 220, 240
Allowable voltage fluctuation		±10% of rated voltage*	
Power consumption (W)	Standard	1.5 (With light: 1.55)	1.5 (With light: 1.75)
	DC With power saving circuit	0.55 ^(10ms) (With light only) [Starting 1.55 Holding 0.55]	0.75 ^(10ms) (With light only) [Starting 1.75 Holding 0.75]
Apparent power (VA)[†]	24 V	1.5 (With light: 1.55)	1.5 (With light: 1.75)
	AC 110 V [115 V] 200 V 220 V [230 V] 240 V	1.55 (With light: 1.65)	1.55 (With light: 1.7)
Surge voltage suppressor	Diode (Non-polar type; Varistor)		
Indicator light	LED (Neon light is used for AC mode of D, Y, T.)		

* It is in common between 110 VAC and 115 VAC, and between 220 VAC and 230 VAC.
* Allowable voltage fluctuation is -15% to +5% of the rated voltage for 115 VAC or 230 VAC.
* Since voltage drops due to the internal circuit in S, Z, T types (with power saving circuit), the allowable voltage fluctuation should be within the following range.
24 VDC: -7% to +10% 12 VDC: -4% to +10%
Note) Refer to page 348 for details.

Response Time

Series	Type of actuation	Pressure specifications	Operating pressure range (MPa)	Response time (ms) (at 0.5 MPa)		
				Without light/surge voltage suppressor	With light/surge voltage suppressor	AC
VF1000	2-position	Single	0.15 to 0.7	20	45	23
		Double	0.1 to 0.7	12	12	12
	3-position	Single	0.15 to 1.0	23	48	26
		Double	0.1 to 1.0	15	15	15
VF3000	2-position	Single	0.15 to 0.7	20	45	23
		Double	0.1 to 0.7	12	12	12
	3-position	Single	0.15 to 0.7	30	55	33
		Double	0.15 to 1.0	23	48	26
	2-position	Single	0.1 to 1.0	15	15	15
		Double	0.15 to 1.0	33	58	36
VF5000	2-position	Single	0.15 to 0.7	30	55	33
		Double	0.1 to 0.7	15	15	15
	3-position	Single	0.15 to 0.7	50	75	53
		Double	0.15 to 1.0	33	58	36
	2-position	Single	0.1 to 1.0	18	18	18
		Double	0.15 to 1.0	53	78	56

Note) Based on dynamic performance test, JIS B 8419: 2010. (Coil temperature: 20°C, at rated voltage)

