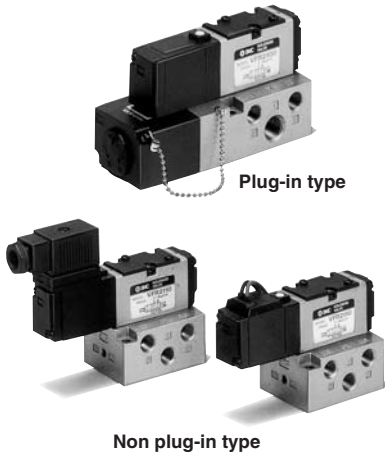
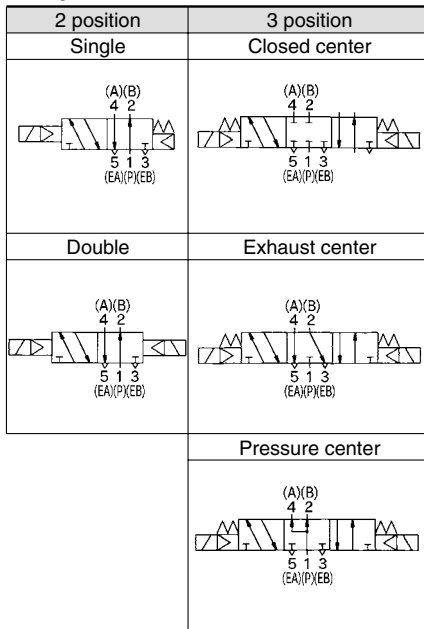


# 5 Port Pilot Operated Solenoid Valve Rubber Seal, Plug-in/Non Plug-in

## Series VFR2000



### JIS Symbol



### Standard Specifications

Valve specifications	Fluid	Air		
	Operating pressure range	2 position single/3 position	0.2 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 5.)		
	Lubrication	Not required <sup>(1)</sup>		
	Manual override	Non-locking push type		
	Mounting orientation	Unrestricted		
Electricity specifications	Shock/Vibration resistance	300/50 m/s <sup>2</sup> <sup>(2)</sup>		
	Enclosure	Dustproof		
	Coil rated voltage	100, 200 VAC (50/60 Hz), 24 VDC		
	Allowable voltage fluctuation	-15 to -10% of rated voltage		
	Apparent power (AC) <sup>(3)</sup>	Inrush	5.6 VA/50 Hz, 5.0 VA/60 Hz	
		Holding	3.4 VA (2.1 W)/50 Hz, 2.3 VA (1.5 W)/60 Hz	
	Power consumption (DC) <sup>(3)</sup>	1.8 W		
Electrical entry	Plug-in type	Conduit terminal		
	Non plug-in type	Grommet, Grommet terminal Conduit terminal, DIN terminal L plug connector, M plug connector		



Note 1) Use turbine oil Class 1 (ISO VG32), if lubricated. Note 3) At rated voltage  
 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)

### Option Specifications

Pilot type	External pilot <sup>Note)</sup>
Manual override	Non-locking push type A (Extended), Locking type B (Tool required), Looking type C (Lever)
Coil rated voltage	110 to 120, 220, 240 VAC 50/60 Hz 12 VDC
Porting specifications	Bottom ported
Option	With light/surge voltage suppressor



Note) Operating pressure: 0 to 0.9 MPa  
 Pilot pressure: 2 position single/3 position 0.2 to 0.9 MPa  
 2 position double 0.1 to 0.9 MPa

### Model

Type of actuation	Model		Port size Rc	Flow characteristics <sup>(1)</sup>						Max. operating cycle (Hz) <sup>(2)</sup>	Response time (ms) <sup>(3)</sup>	Mass (kg) <sup>(4)</sup>	
	Plug-in	Non plug-in		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	VFR2100	VFR2110	1/8	2.5	0.18	0.58	3.0	0.27	0.70	10	20 or less	0.34 (0.32)
				1/4	2.8	0.24	0.62	3.0	0.27	0.70			
	Double	VFR2200	VFR2210	1/8	2.4	0.21	0.56	3.1	0.28	0.74	10	20 or less	0.42 (0.44)
				1/4	2.6	0.27	0.62	3.1	0.28	0.74			
3 position	Closed center	VFR2300	VFR2310	1/8	1.3	0.45	0.36	1.4	0.46	0.41	5	30 or less	0.43 (0.45)
				1/4	1.3	0.45	0.36	1.4	0.46	0.41			
	Exhaust center	VFR2400	VFR2410	1/8	0.79	0.53	0.24	3.1 [0.89]	0.24 [0.51]	0.74 [0.27]	5	30 or less	0.43 (0.45)
				1/4	0.79	0.53	0.24	3.1 [0.89]	0.24 [0.51]	0.74 [0.27]			
	Pressure center	VFR2500	VFR2510	1/8	2.8 [0.65]	0.24 [0.60]	0.68 [0.21]	0.89	0.53	0.27	5	30 or less	0.43 (0.45)
				1/4	3.2 [0.75]	0.26 [0.55]	0.73 [0.23]	0.89	0.53	0.27			

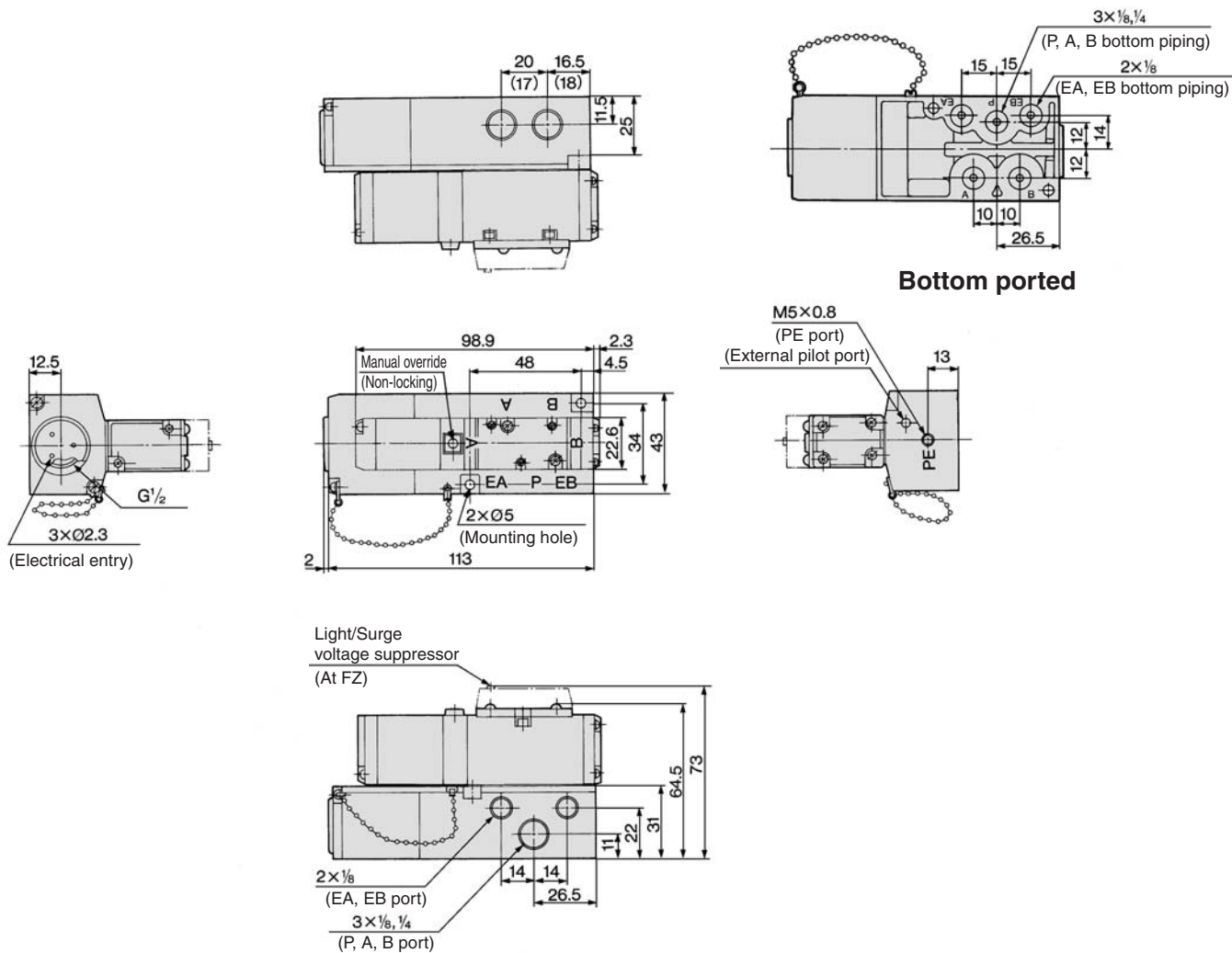


Note 1) [ ]: Denotes the normal position.  
 Note 2) Min. operating frequency is once in 30 days.  
 Note 3) Based on dynamic performance test, JIS B 8375-1981. (0.5 MPa, Coil temperature: 20°C, at rated voltage, without surge voltage suppressor)  
 Note 4) For VFR2□00-□FZ-□<sub>02</sub>, ( ): VFR2□10-□DZ-□<sub>02</sub>

# Series VFR2000

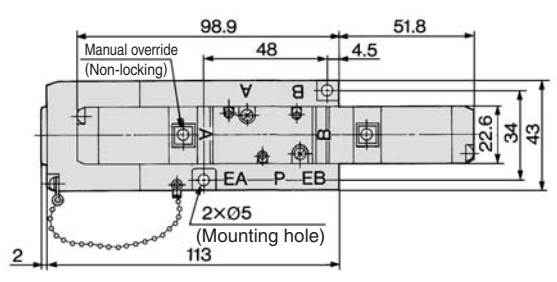
## Plug-in: 2 Position Single/Double, 3 Position Closed Center/Exhaust Center/Pressure Center

2 position single: VFR2100-□F-01  
02



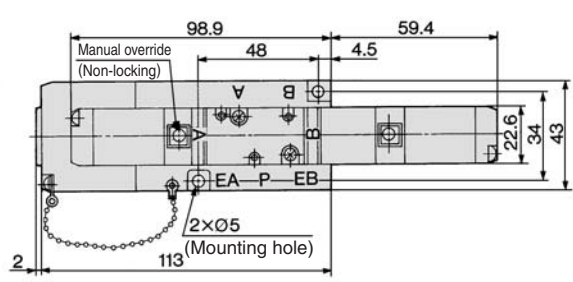
( ) : Rc 1/8

2 position double: VFR2200-□F-01  
02



\* Other dimensions are the same as the single type.

3 position closed center: VFR2300-□F-01  
02  
3 position exhaust center: VFR2400-□F-01  
02  
3 position pressure center: VFR2500-□F-01  
02



\* Other dimensions are the same as the single type.