

5 Port Pilot Operated Solenoid Valve Metal Seal, Body Ported

Series VFS2000



Model

Type of actuation		Model		Port size Rc	Flow characteristics						Max. operating cycle (cpm) ⁽¹⁾	Response time (ms) ⁽²⁾	Mass (kg) ⁽³⁾
		Plug-in	Non plug-in		1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → R1/R2)					
					C [dm³/(s·bar)]	b	Cv	C [dm³/(s·bar)]	b	Cv			
2 position	Single	VFS2120	VFS2130	1/8	3.2	0.24	0.78	3.4	0.28	0.82	1200	22 or less	0.26
				1/4	4.0	0.20	0.90	3.5	0.32	0.85			
	Double	VFS2220	VFS2230	1/8	3.2	0.24	0.78	3.4	0.28	0.82	1200	13 or less	0.35
				1/4	4.0	0.20	0.90	3.5	0.32	0.85			
3 position	Closed center	VFS2320	VFS2330	1/8	3.2	0.24	0.78	3.2	0.27	0.80	600	40 or less	0.42
				1/4	4.0	0.20	0.90	3.4	0.29	0.83			
	Exhaust center	VFS2420	VFS2430	1/8	3.2	0.25	0.79	3.4	0.26	0.82	600	40 or less	0.42
				1/4	4.0	0.20	0.90	3.4	0.32	0.84			
	Pressure center	VFS2520	VFS2530	1/8	3.1	0.23	0.75	3.3	0.27	0.80	600	40 or less	0.42
				1/4	4.0	0.24	0.92	3.3	0.30	0.82			



Note 1) Based on JIS B 8375 (once per 30 days) for the minimum operating frequency.

Note 2) According to JIS B 8375-1981. (The value at supply pressure 0.5 MPa.)

Note 3) In the case of grommet type Note 4) Factors of "Note 1)" and "Note 2)" are achieved in controlled clean air.

Compact yet provides a high flow capacity
1/4: C: 3.4 dm³/(s·bar)

Low power consumption:
1.8 W DC



JIS Symbol

2 position	3 position
Single	Closed center
Double	Exhaust center
	Pressure center

Standard Specifications

Valve specifications	Fluid	Air/Inert gas
	Maximum operating pressure	1.0 MPa
	Minimum operating pressure	0.1 MPa
	Proof pressure	1.5 MPa
	Ambient and fluid temperature	-10 to 60°C ⁽¹⁾
	Lubrication	Non-lube ⁽²⁾
	Pilot valve manual override	Non-locking push type (Flush)
	Shock/Vibration resistance	150/50 m/s ² ⁽³⁾
Electricity specifications	Enclosure	Dustproof (Degrees of protection 0) ⁽⁴⁾
	Coil rated voltage	100, 200 VAC, 50/60 Hz; 24 VDC
	Allowable voltage fluctuation	-15 to +10% of rated voltage
	Coil insulation type	Class B or equivalent (130°C) ⁽⁵⁾
	Apparent power (Power consumption) AC	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	1.8 W (2.04 W: With light/surge voltage suppressor)
	Electrical entry	Grommet, Grommet terminal, Conduit terminal, DIN terminal



Note 1) Use dry air at low temperatures.

Note 2) Use turbine oil Class 1 (ISO VG32), if lubricated.

Note 3) 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)

Note 4) Based on JIS C 0920. Note 5) Based on JIS C 4003.

Option Specifications

Pilot type	External pilot ⁽¹⁾
Pilot valve manual override	Non-locking push type (Extended), Locking type (Tool required)
Coil rated voltage	110 to 120, 220, 240 VAC (50/60 Hz) 12, 100 VDC
Option	With light/surge voltage suppressor ⁽²⁾
Foot bracket (With screw)	Part no.: VFN200-17A, VFS2120 (single) only



Note 1) Operating pressure: 0 to 1.0 MPa. Pilot pressure: 0.1 to 1.0 MPa.

Note 2) Grommet type is available only w/ surge voltage suppressor (which is directly connected with lead wire), not w/ indicator light.

Manifold

Body type	Applicable manifold base (Pilot EXH)
VFS2□20	Bar manifold (Individual EXH)
VFS2□30	Bar manifold (Common EXH base side)

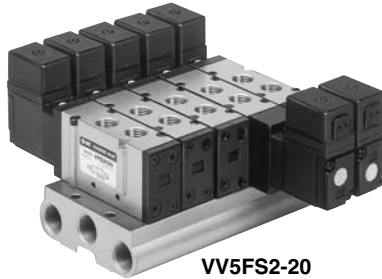


Note) VFS2□30: Manifold only. Cannot be used as a single unit.

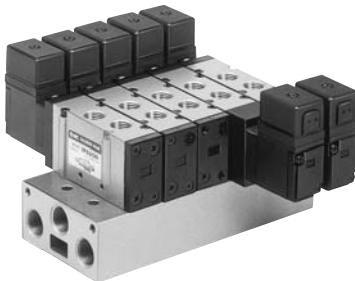
Series VFS2000 Manifold Specifications Single Base Type

Keeps environmental air clean from pilot exhaust

Use of the VV5FS2-30 manifold can exhaust intensively the pilot exhaust gas to the base side, and can prevent environmental aggravation due to noise and oil mist.



VV5FS2-20



VV5FS2-30

Part no. for mounting bolt and gasket
BG-VFS2030

Specifications

Manifold base type	Bar manifold, Body ported
Stations	Max. 15 stations

Port Specifications

Symbol	Passage		Porting specifications: Rc		
			Base	Valve	Base
	1(P)	5(R1), 3(R2)	1(P)	2(B), 4(A)	3(R2), 5(R1)
1	Common	Common	Side: 3/8	Top: 1/8, 1/4	Side: 3/8

Option

Blanking plate	VVFS2000-10A-1	With gasket, screw
----------------	----------------	--------------------

How to Order Manifold Base

VV5FS2 - 20 - 05 1 - 03

Series VFS2000 Manifold

• Thread type

NII	Rc
N*	NPT
T*	NPTF
F*	G

* Option

• P, EA, EB port size

03 Rc 3/8

• Symbol

	Passage		Porting specifications
	1(P)	3(R2), 5(R1)	2(B), 4(A)
1	Common Rc 3/8	Common Rc 3/8	Top Rc 1/8, 1/4

• Stations

02	2 stations
⋮	⋮
15	15 stations

Base model

Model	Pilot exhaust	Applicable valve model
20	Pilot individual EXH 	VFS2□20-□□-01 02
30	Pilot common EXH 	VFS2□30-□□-01 02 *VFS2□20-□□-01 mountable

How to Order Manifold Assembly [Example]

Add the valve and option part numbers in order starting from the first station on the D side.

<Example>

(Manifold base) VV5FS2-20-061-03 1
(2 position single) * VFS2120-1D-02 3
(2 position double) * VFS2220-1D-02 2
(Blanking plate) * VVFS2000-10A-1 1

→ The asterisk denotes the symbol for assembly. Prefix it to the part numbers of the solenoid valve.

SJ
SY
SV
SYJ
SZ
VP4
S0700
VQ
VQ4
VQ5
VQC
VQZ
SQ
VFS
VFR
VQ7