5 Port Pilot Operated Solenoid Valve
Metal Seal, Body Ported
Series VFS1000

Model

Type of actuation		Model: Plug-in	Model: Non plug-in	Port size	Flow characteristics: 1→4/2 (P→A/B) C [dm³/(s·bar)]	1→4/2 (P→A/B) b	1→4/2 (P→A/B) Cv	4/2→5/3 (A/B→R1/R2) C [dm³/(s·bar)]	4/2→5/3 (A/B→R1/R2) b	4/2→5/3 (A/B→R1/R2) Cv	Max.(1) operating cycle (cpm)	Response time(2) (ms)	Mass(3) (kg)
2 position	Single	**VFS1120**	**VFS1130**	1/8	1.7	0.22	0.38	1.8	0.19	0.40	1200	15 or less	0.18
2 position	Double	**VFS1220**	**VFS1230**	1/8	1.7	0.22	0.39	1.8	0.19	0.40	1200	13 or less	0.26
3 position	Closed center	**VFS1320**	**VFS1330**	1/8	1.6	0.20	0.37	1.8	0.20	0.41	600	20 or less	0.27
3 position	Exhaust center	**VFS1420**	**VFS1430**	1/8	1.7	0.18	0.38	1.9	0.19	0.44	600	20 or less	0.27
3 position	Pressure center	**VFS1520**	**VFS1530**	1/8	1.7	0.24	0.40	1.6	0.18	0.37	600	20 or less	0.27

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) "Note 1)" and "Note 2)" are with controlled clean air.

Compact yet provides a large flow capacity C: 1.8 dm³/(s·bar)

Low power consumption: 1.8 W DC

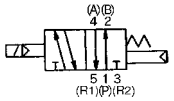
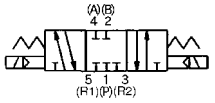
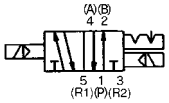
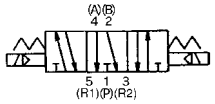
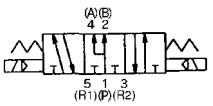
VFS1320-□D-01

VFS1120-□G-01-F

VFS1220-□E-01

VFS1120-□G-01

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
	Min. operating pressure	**2 position**	0.1 MPa
		3 position	0.15 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/s² (3)
	Enclosure		Dustproof (Degrees of protection 0) (4)
Electricity specifications	**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 (DC)		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 valve manual override	Non-locking push type (Extended), Locking type (Tool required), Locking type (Lever)
Coil rated voltage	110 to 120, 220, 240 VAC (50/60 Hz)
	12, 100 VDC
Option	With light/surge voltage suppressor Note)
Foot bracket (With screw)	Part No.: AXT626-10A, VFS1120 (single) only

Note) Grommet type is available only w/ surge voltage suppressor (which is directly connected with lead wire).

Manifold

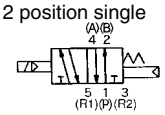
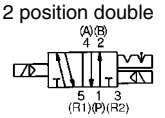
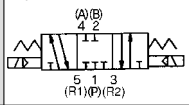
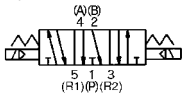
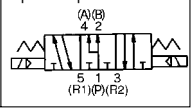
Body type	Applicable manifold base (Pilot EXH)
VFS1□20	Bar manifold (Individual EXH)
VFS1□30	Bar manifold (Common EXH base side)

Note) VFS1□30: Manifold only. Cannot be used as a single unit.

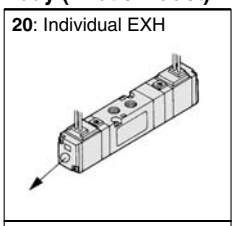
How to Order

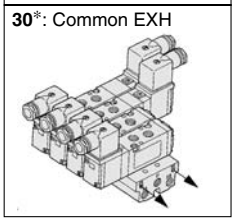
VFS1 [1] [20] – [1] [G] [ ] [ ] – [01] [ ] – [ ]

Symbol

1	2 position single 
2	2 position double 
3	3 position closed center 
4	3 position exhaust center 
5	3 position pressure center 

Body (Pilot exhaust)

20: Individual EXH 

30*: Common EXH 

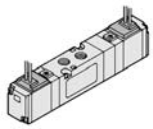
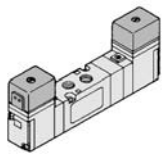
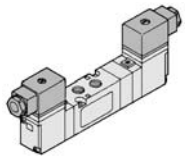
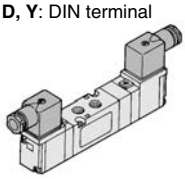
* Manifold only

Coil rated voltage

1	100 VAC (50/60 Hz)
2	200 VAC (50/60 Hz)
3*	110 to 120 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

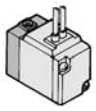
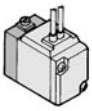
G: Grommet	**E**: Grommet terminal	**T**: Conduit terminal	**D, Y**: DIN terminal
			

Light/Surge voltage suppressor

Nil	None
Z	With light/surge voltage suppressor
S*	With surge voltage suppressor

* Grommet type is available only w/ surge voltage suppressor, not w/ indicator light.

Manual override

Nil: Non-locking push type (Flush)	**A***: Non-locking push type (Extended)	**B***: Locking type	**C***: Locking type (Lever)
			

* Option

Thread type

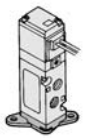
Nil	Rc
N*	NPT
T*	NPTF
F*	G

* Option

Port size

01	Rc 1/8

Option

F: With foot bracket 

* Mountable only for VFS1120.

How to Order Pilot Valve Assembly

SF4 – [1] [DZ] [ ] – [21]

Coil rated voltage

1	100 VAC, 50/60 Hz
2	200 VAC, 50/60 Hz
3*	110 to 120 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, Light/Surge voltage suppressor

G	Grommet
GS	Grommet with surge voltage suppressor
D	DIN terminal
DZ	DIN terminal with light/surge voltage suppressor
DO	DIN terminal **
DOZ	DIN terminal with light/surge voltage suppressor **
Y*	DIN terminal
YZ*	DIN terminal with light/surge voltage suppressor
YO*	DIN terminal **
YOZ*	DIN terminal with light/surge voltage suppressor **
T	Conduit terminal
TZ	Conduit terminal with light/surge voltage suppressor
E	Grommet terminal
EZ	Grommet terminal with light/surge voltage suppressor

* D: Conforming to DIN43650 standard; Y: Conforming to DIN43650B standard
** DIN connector is not attached.

Manual override

Nil	Non-locking push type (Flush)
A*	Non-locking push type (Extended)
B*	Locking type (Tool required)
C*	Locking type (Lever)

* Option

Applicable model

21	For VFS1□20	Individual pilot exhaust
22	For VFS1□30	Common pilot exhaust