

5 Port Pilot Operated Solenoid Valve

Metal Seal, Body Ported

Series VFS2000

Model

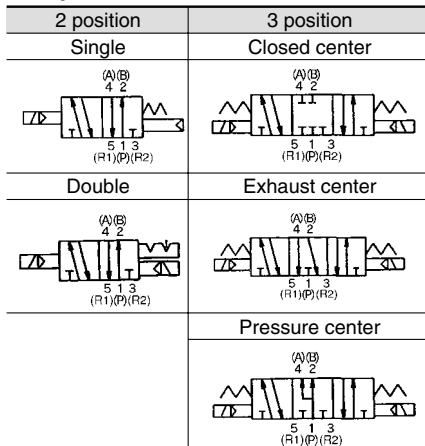
Type of actuation		Model		Port size Rc	Flow characteristics						Max. operating cycle (cpm) ⁽¹⁾	Response time (ms) ⁽²⁾	Weight (kg) ⁽³⁾
		Plug-in	Non plug-in		1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → R1/R2)					
					C [dm ³ /(s·bar)]	b	Cv	C [dm ³ /(s·bar)]	b	Cv			
2 position	Single	VFS2120	VFS2130	1/8	3.2	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



Standard Specifications

Valve specifications	Air/Inert gas	
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⁾	
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	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) No light grommet but surge voltage suppressor (direct connecting lead wire) is installed.

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.

VK

VZ

VF

VFR

VP4

VZS

VFS

VS4

VQ7

EVS

VFN

How to Order

VFS2 **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

* Reverse pressure: Can be used by external pilot specifications.

Body (Pilot exhaust)

- 20: Individual EXH
- 30: Common EXH*

* Manifold only

Pilot type

Nil	Internal pilot
R*	External pilot

* Option: Individual external pilot (External pilot port: Body side)

Thread type

Nil	Rc
N*	NPT
T*	NPTF
F*	G

* Option

Port size

01	Rc 1/8
02	Rc 1/4

Manual override

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

Light/Surge voltage suppressor

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

* Indicator light is not available for grommet type. With surge voltage suppressor is available for grommet type only.

Electrical entry

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

Option

F: With foot bracket

* Mountable only for VFS2120.

How to Order Pilot Valve Assembly

SF4 - **1** **DZ** **12**

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

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

Applicable model

12	For VFS2□20	Individual pilot exhaust
13	For VFS2□30	Common pilot exhaust

Manual override

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

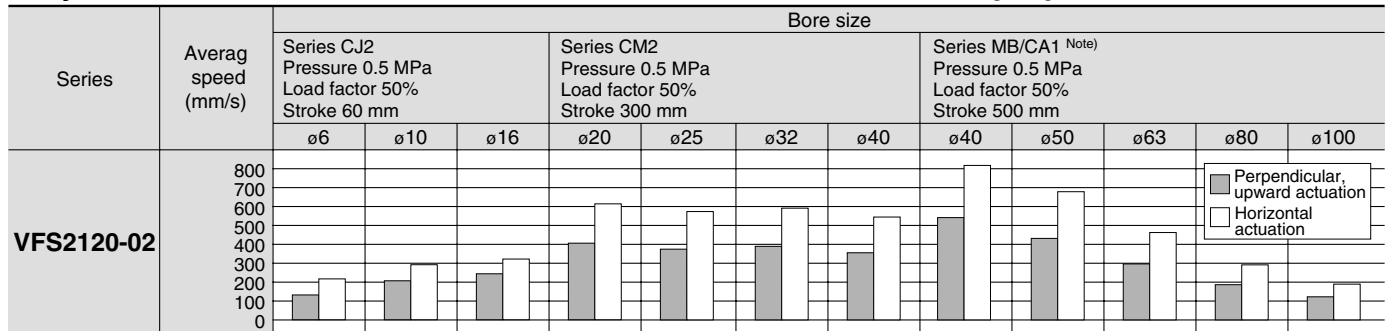
* Option

5 Port Pilot Operated Solenoid Valve Metal Seal, Body Ported **Series VFS2000**

Cylinder Speed Chart

Use as a guide for selection.
Please confirm the actual conditions with SMC Sizing Program.

Body Ported



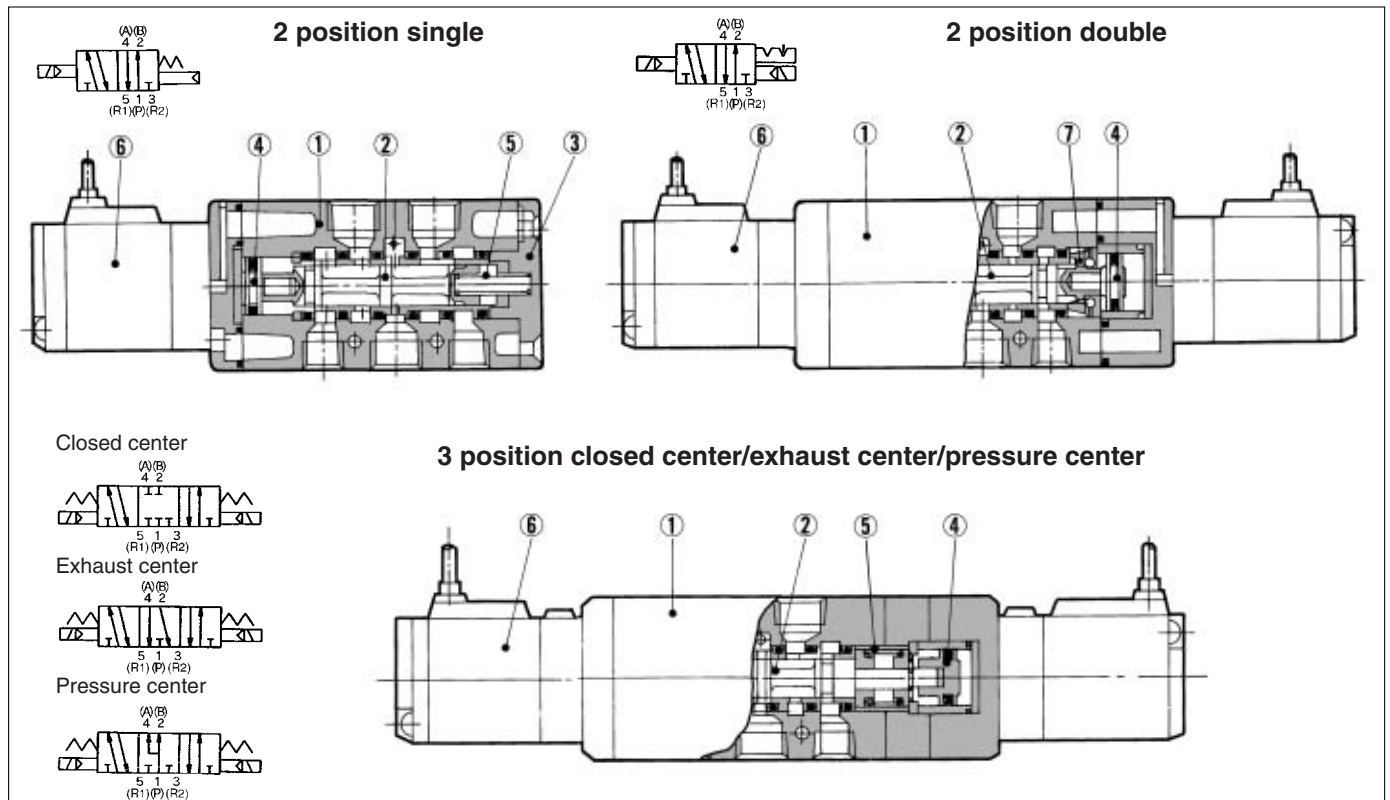
Conditions

	Body ported	Series CJ2	Series CM2	Series MB/CA1 (Note)
VFS2120-02	Tube bore x Length	T0604 x 1 m	T1075 x 1 m	
	Speed controller	AS3001F-06	AS4001F-10	
	Silencer		AN110-01	



* It is when the cylinder is extending that is meter-out controlled by speed controller which is directly connected with cylinder, and its needle valve with being fully open.
 * The average velocity of the cylinder is what the stroke is divided by the total stroke time.
 * Load factor: ((Load weight x 9.8)/Theoretical force) x 100%
 Note) The Series CA1 has been changed to the Series CA2.

Construction



Component Parts

No.	Description	Material	Note
①	Body	Aluminum die-casted	Platinum silver
②	Spool/Sleeve	Stainless steel	—
③	End plate	Resin	—
④	Piston	Resin	—

Replacement Parts

No.	Description	Material	Part no.		
			VFS2120	VFS2220	VFS2320/2420/2520
⑤	Return spring	Stainless steel	VFS2000-17-1	—	VFS2000-17-2
⑥	Pilot valve assembly	—	Refer to "How to Order Pilot Valve Assembly" on page 3-8-18.		
⑦	Detent assembly	—	—	VFN2000-8A	—

VK

VZ

VF

VFR

VP4

VZS

VFS

VS4

VQ7

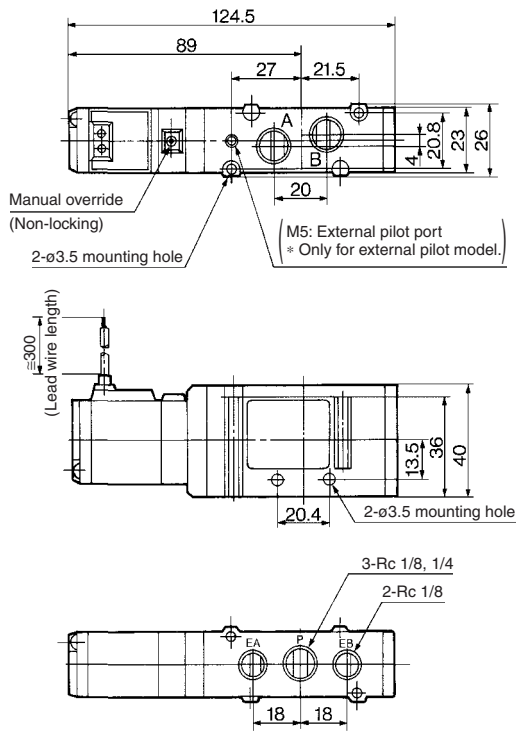
EVS

VFN

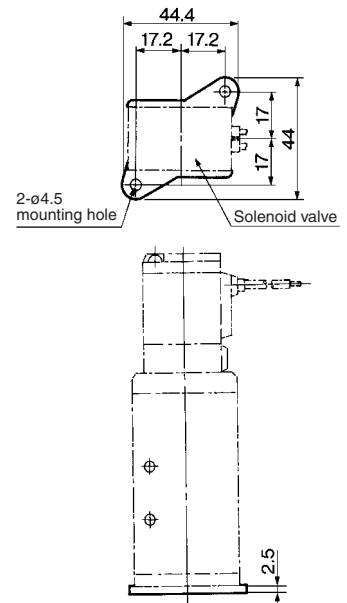
Series VFS2000

2 Position Single Grommet, Grommet terminal, Conduit terminal, DIN terminal

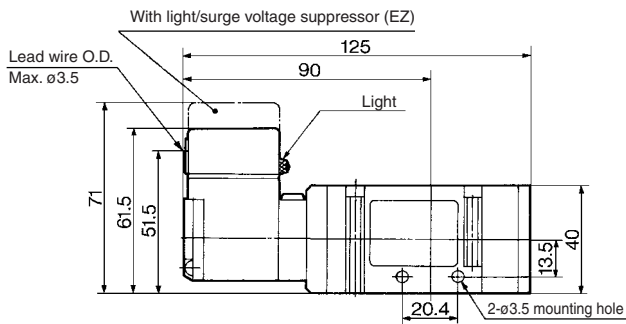
Grommet: VFS2120-□G



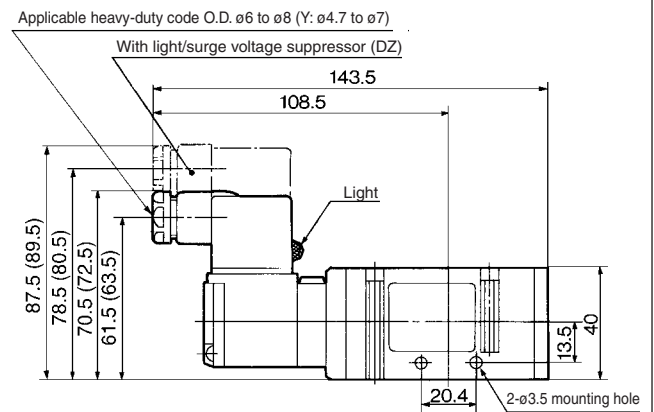
Foot bracket (F) Part no.: VFN200-17A



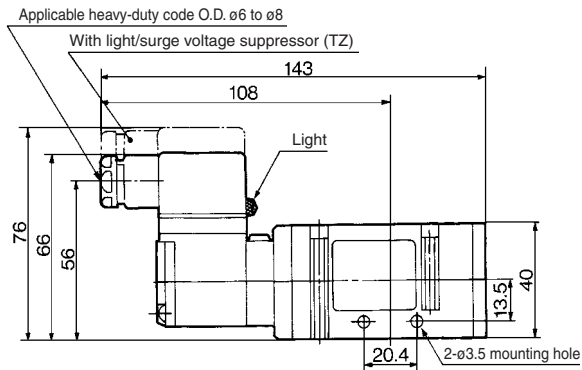
Grommet terminal: VFS2120-□E/EZ



DIN terminal: VFS2120-□D/DZ/Y/YZ



Conduit terminal: VFS2120-□T/TZ

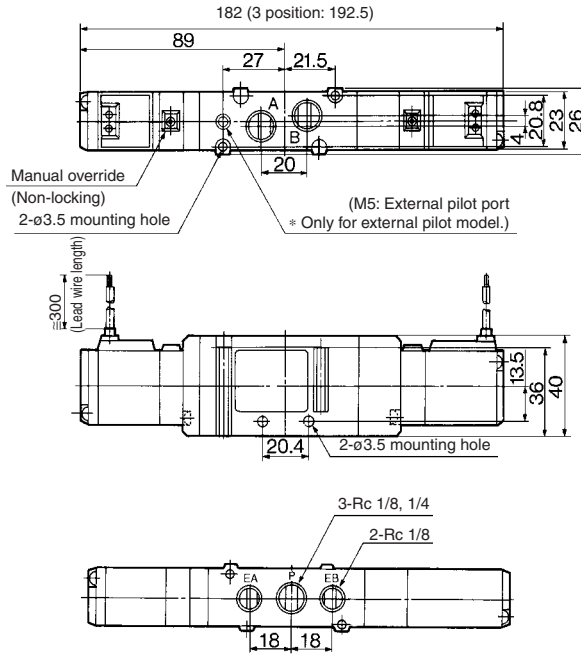


(): Y, YZ

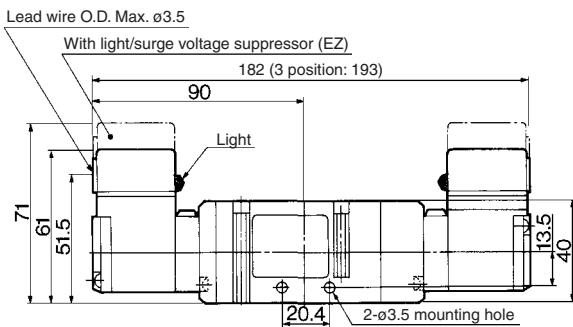
5 Port Pilot Operated Solenoid Valve Metal Seal, Body Ported Series VFS2000

2 Position Double, 3 Position Grommet, Grommet terminal, Conduit terminal, DIN terminal

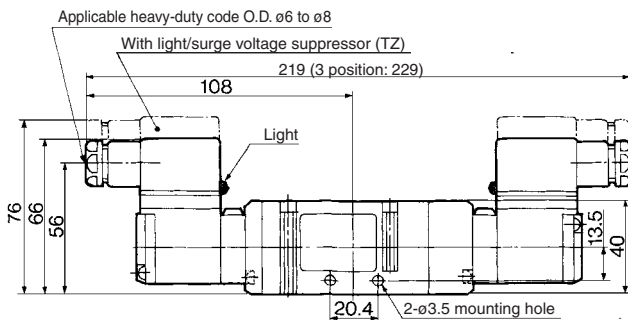
Grommet: VFS2220-□G, VFS2320-□G, VFS2420-□G, VFS2520-□G



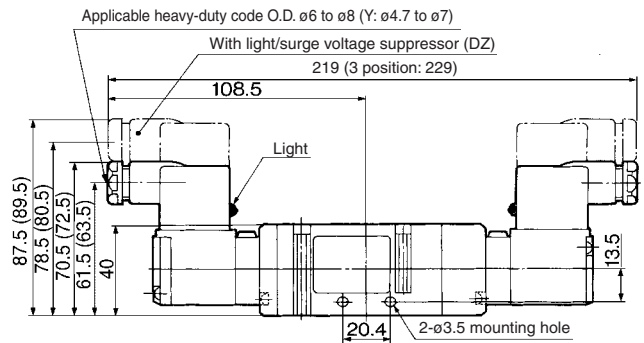
**Grommet terminal: VFS2220-□E/EZ VFS2320-□E/EZ
VFS2420-□E/EZ VFS2520-□E/EZ**



**Conduit terminal: VFS2220-□T/TZ VFS2320-□T/TZ
VFS2420-□T/TZ VFS2520-□T/TZ**



**DIN terminal: VFS2220-□D/DZ/Y/YZ
VFS2320-□D/DZ/Y/YZ
VFS2420-□D/DZ/Y/YZ
VFS2520-□D/DZ/Y/YZ**



(): Y, YZ

VK

VZ

VF

VFR

VP4

VZS

VFS

VS4

VQ7

EVS

VFN

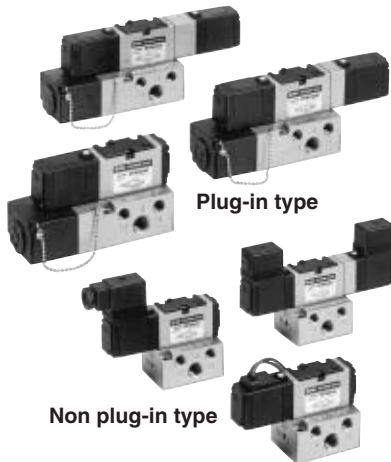
5 Port Pilot Operated Solenoid Valve Metal Seal, Plug-in/Non Plug-in Series **VFS2000**

Model

Type of actuation		Model		Port size Rc	Flow characteristics						Max. operating cycle (cpm) ⁽¹⁾	Response time (ms) ⁽²⁾	Weight (kg) ⁽³⁾
		Plug-in	Non plug-in		1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → R1/R2)					
					C [dm ³ /(s·bar)]	b	Cv	C [dm ³ /(s·bar)]	b	Cv			
2 position	Single	VFS2100	VFS2110	1/8	2.4	0.16	0.55	2.8	0.20	0.65	1200	15 or less	0.34
				1/4	2.5	0.18	0.58	2.8	0.21	0.65			
	Double	VFS2200	VFS2210	1/8	2.4	0.16	0.55	2.8	0.20	0.65	1200	13 or less	
				1/4	2.5	0.18	0.58	2.8	0.21	0.65			
3 position	Closed center	VFS2300	VFS2310	1/8	2.3	0.14	0.53	2.6	0.20	0.61	600	20 or less	0.43
				1/4	2.5	0.18	0.58	2.6	0.23	0.62			
	Exhaust center	VFS2400	VFS2410	1/8	2.4	0.15	0.54	2.7	0.25	0.63	600	20 or less	
				1/4	2.5	0.20	0.60	2.7	0.24	0.63			
	Pressure center	VFS2500	VFS2510	1/8	2.5	0.11	0.55	2.7	0.20	0.62	600	20 or less	
				1/4	2.8	0.17	0.63	2.7	0.22	0.63			
	Double check	VFS2600	VFS2610	1/8	1.2	—	—	1.3	—	—	600	25 or less	
				1/4	1.2	—	—	1.3	—	—			

Note 1) Based on JIS B 8375 (Once per 30 days) for the minimum operating frequency. Note 2) Based on JIS B 8375-1981 (The value at supply press. 0.5 MPa). Note 3) Values for VFS2□00-□FZ-01. Note 4) Factors of "Note 1)" and "Note 2)" are ones achieved in controlled clean air.

Compact yet provides a large flow capacity
1/4: C: 2.8 dm³/(s·bar)
Low power consumption: 1.8 W DC
Easy maintenance
2 types of sub-plates:
Plug-in and non plug-in



JIS Symbol

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

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/s ² ⁽³⁾	
Enclosure		Type G, E: Dustproof (Class 0), Type F, T, D: Splashproof (Class 4) ⁽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 DC		1.8 W (2.04 W: With light/surge voltage suppressor)	
Electrical entry	Plug-in type	Conduit terminal	
	Non plug-in type	Grommet 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 ^(Note)
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
Porting specifications	Bottom ported
Option	With light/surge voltage suppressor

Note) Operating pressure: 0 to 1.0 MPa
Pilot pressure 2 position: 0.1 to 1.0 MPa 3 position: 0.15 to 1.0 MPa

Compact, lightweight type sub-plate

Compared with the standard type, this is the sub-plate having the reduced external dimensions and lighter weight. But, use caution that Cv factor or piping port position is different from the standards. For details, refer to page 5-8-52.

Sub-plate	L (mm)	Weight (kg)	Sonic conductance* C [dm ³ /(s·bar)]
Standard type	31.0	0.2	2.2
Compact type	25.5	0.13	2.8

* 2 position single Rc 1/4

VK

VZ

VF

VFR

VP4

VZS

VFS


VS4

VQ7


EVS

VFN

How to Order



With attachment plug lead wire



With terminal block

Porting specifications



Nil	Side ported
B*	Bottom ported

* Option

Option

Nil	None
Z	With light/surge voltage suppressor

Port size

Nil		Without sub-plate
01	Rc 1/8	Plug-in type conduit terminal (With terminal block) Standard type 
02	Rc 1/4	Plug-in type grommet (With attachment plug lead wire) Compact type 

Note) Please note Cv factor and piping port location of compact sub-plate is different from standard. Refer to page 3-8-52 for details.

Thread type

Nil	Rc
N*	NPT
T*	NPTF
F*	G


* Option

Plug-in

VFS2 2 00 [] 5 F [] [] [] 01 []


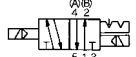
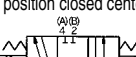
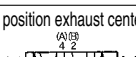
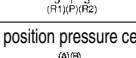
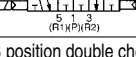
Non plug-in

VFS2 2 10 [] 1 E [] [] [] 02 []





Symbol

Body type


1	2 position single	
2	2 position double	
3	3 position closed center	
4	3 position exhaust center	
5	3 position pressure center	
6	3 position double check	

Port size

Nil		Without sub-plate
01	Rc 1/8	Non plug-in type, Standard type 
02	Rc 1/4	Non plug-in type, Compact type 

Note) Please note Cv factor and piping port location of compact sub-plate are different from standard. Refer to page 3-8-52 for details.

Body type





1: Non plug-in type sub-plate 

Pilot type

Nil	Internal pilot
R*	External pilot

* Option: External pilot is possible only to the one with sub-plate.

Pilot valve manual override

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

* Option

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

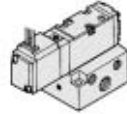
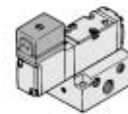
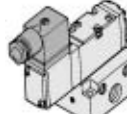
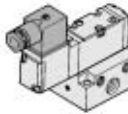
* Option

Option

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

* Indicator light is not available for grommet type. With surge voltage suppressor is available for grommet type only.

Electrical entry

G: Grommet 	E: Grommet terminal 	T: Conduit terminal 	D, Y: DIN terminal 
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How to Order Pilot Valve Assembly

SF4 - 1 [] [] - 20

Electrical entry, Light/Surge voltage suppressor

F	Plug-in	Plug-in
G	Grommet	Non plug-in
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	

Manual override

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


* Option

Electrical entry, Light/Surge voltage suppressor

YO	DIN terminal*	Non plug-in
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	

* DIN connector is not attached.
** Refer to page 3-8-4 for voltage conversion.
*** Y: Conforming to DIN43650B standard

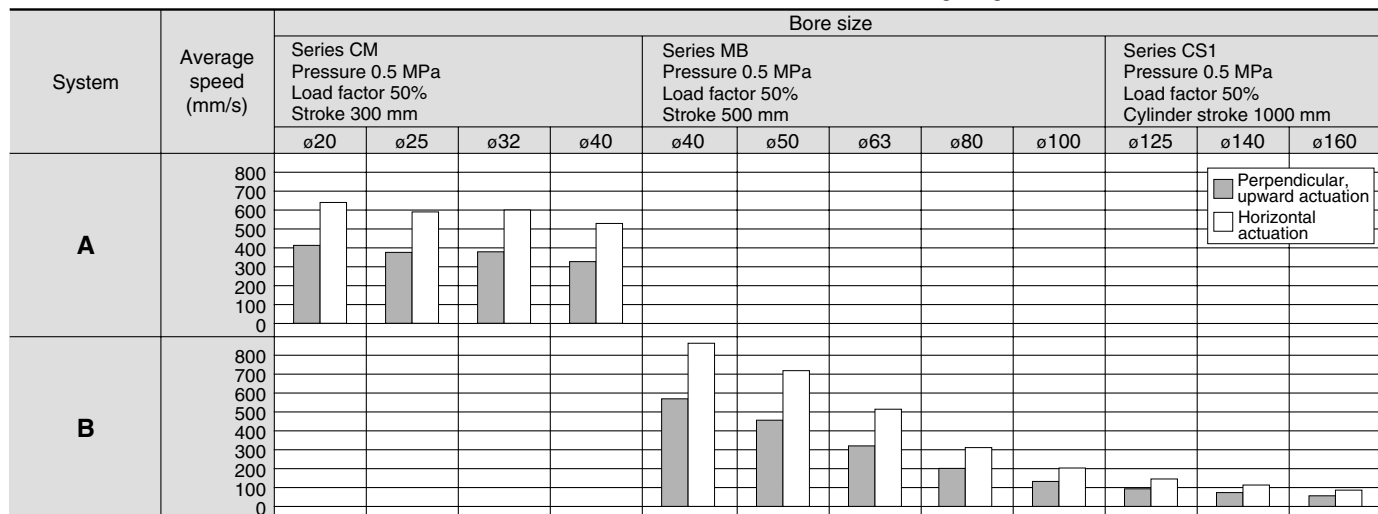
* Option
3-8-34



5 Port Pilot Operated Solenoid Valve Metal Seal, Plug-in/Non Plug-in Series VFS2000

Cylinder Speed Chart

Use as a guide for selection.
Please confirm the actual conditions with SMC
Sizing Program.



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

System Components

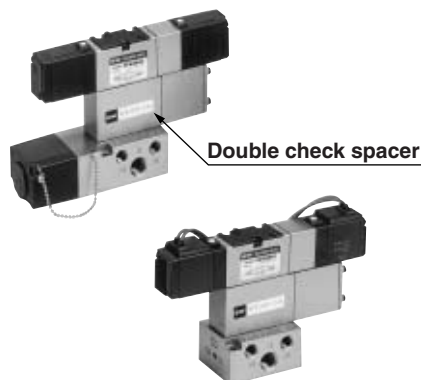
System	Solenoid valve	Speed controller	Silencer	Tube bore x Length
A	Series VFS2000 Rc 1/8	AS3000-02 (S = 12 mm ²)	AN110-01 (S = 35 mm ²)	T0604 x 1 m
B	Series VFS2000 Rc 1/4	AS4000-02 (S = 21 mm ²)	AN110-01 (S = 35 mm ²)	T1075 x 1 m

- * It is when the cylinder is extending that is meter-out controlled by speed controller which is directly connected with cylinder, and its needle valve with being fully open.
- * The average velocity of the cylinder is what the stroke is divided by the total stroke time.
- * Load factor: ((Load weight x 9.8)/Theoretical force) x 100%

Double Check Spacer/Specifications

Can hold an intermediate cylinder position for an extended time

If the double check spacer with a built-in double check valve is combined, it will enable the cylinder to stop in the intermediate stroke and maintain its position for a long time without being affected by the leakage between the spools.



Specifications

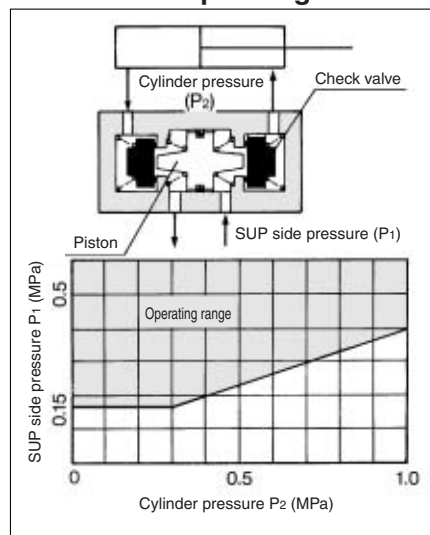
Double check spacer part no.	Plug-in type	Non plug-in type		
	VVFS2000-22A-1	VVFS2000-22A-2	G E T D	
Applicable valve model	VFS2400-□F	VFS2410-□		
Leakage* (cm ³ /min)	Solenoid one side energized	P	R1	210 or less
			R2	210 or less
	Solenoid both sides de-energized	P	R1	210 or less
			R2	210 or less
	A	R1	0	
	B	R2	0	

*Supply pressure: 0.5 MPa

Caution

- In the case of 3 position double check valve (VFS26□0), check the leakage from piping and fittings in between valve and cylinder by means of synthetic detergent solutions, and ensure that there is no such leakage found there. Also check the leakage from cylinder seal and piston seal. If there is any leakage, sometimes the cylinder, when valve is de-energized, can move without stopping at intermediate position.
- Be aware that if the exhaust side is restricted excessively, the intermediate stopping accuracy will decrease and will lead to improper intermediate stops.

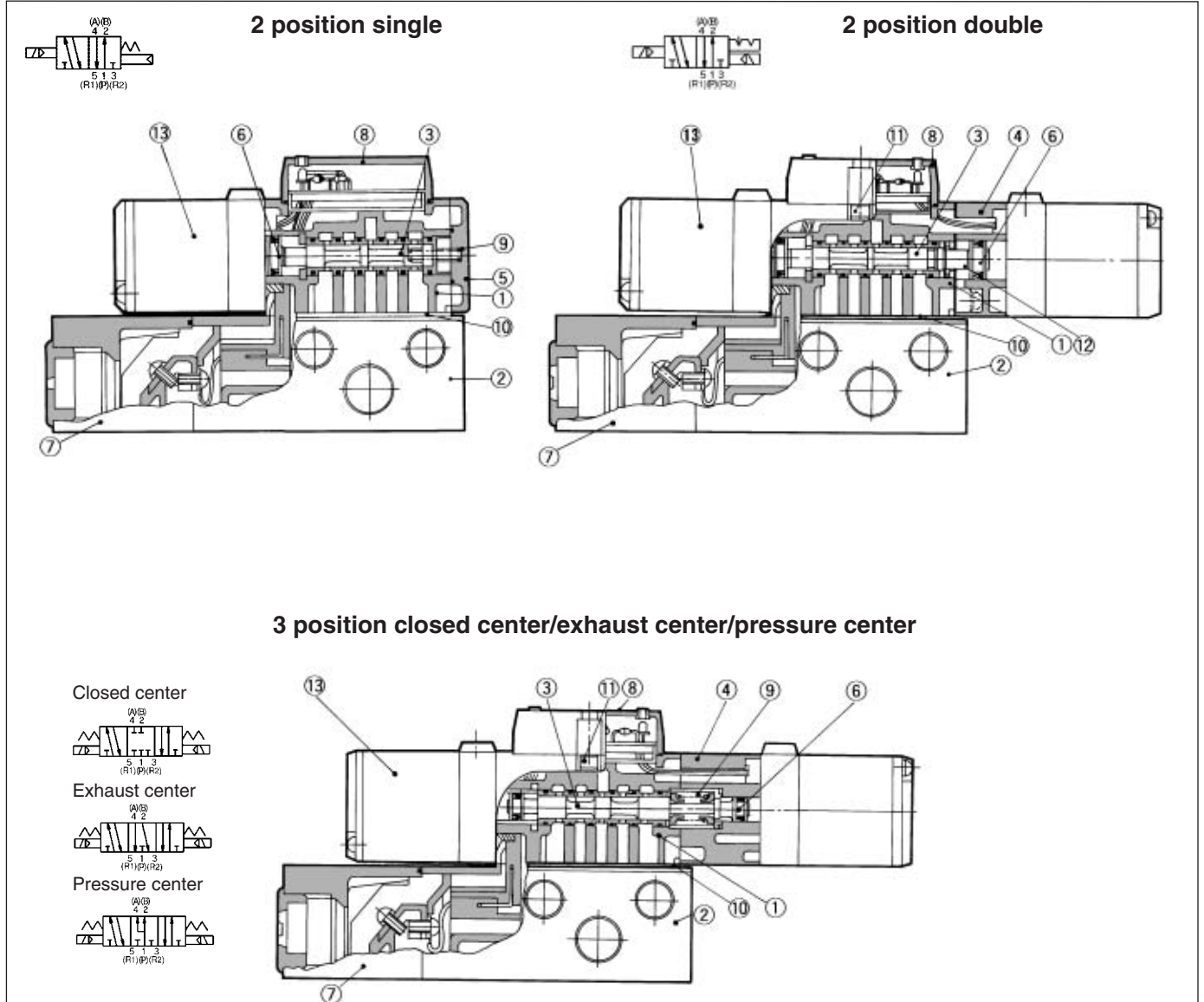
Check Valve Operating



- The combination of VFS21₁0, VFS22₁0 and a double check spacer can be used as prevention of falling at the stroke end but cannot hold the intermediate position of the cylinder.

Series VFS2000

Construction



Component Parts

No.	Description	Material	Note
①	Body	Aluminum die-casted	Platinum silver
②	Sub-plate	Aluminum die-casted	Platinum silver
③	Spool/Sleeve	Stainless steel	—
④	Adapter plate	Aluminum die-casted	Platinum silver
⑤	End plate	Resin	Black
⑥	Piston	Resin	—
⑦	Junction cover	Resin	—
⑧	Cover	Resin	—

Sub-plate Assembly (Standard) Part No.

Plug-in	VFS2000-LP- ⁰¹ / ₀₂
Non plug-in	VFS2000-LS- ⁰¹ / ₀₂



* Mounting bolt and gasket are not included.

Part no. for mounting bolt and gasket
BG-VFS2000

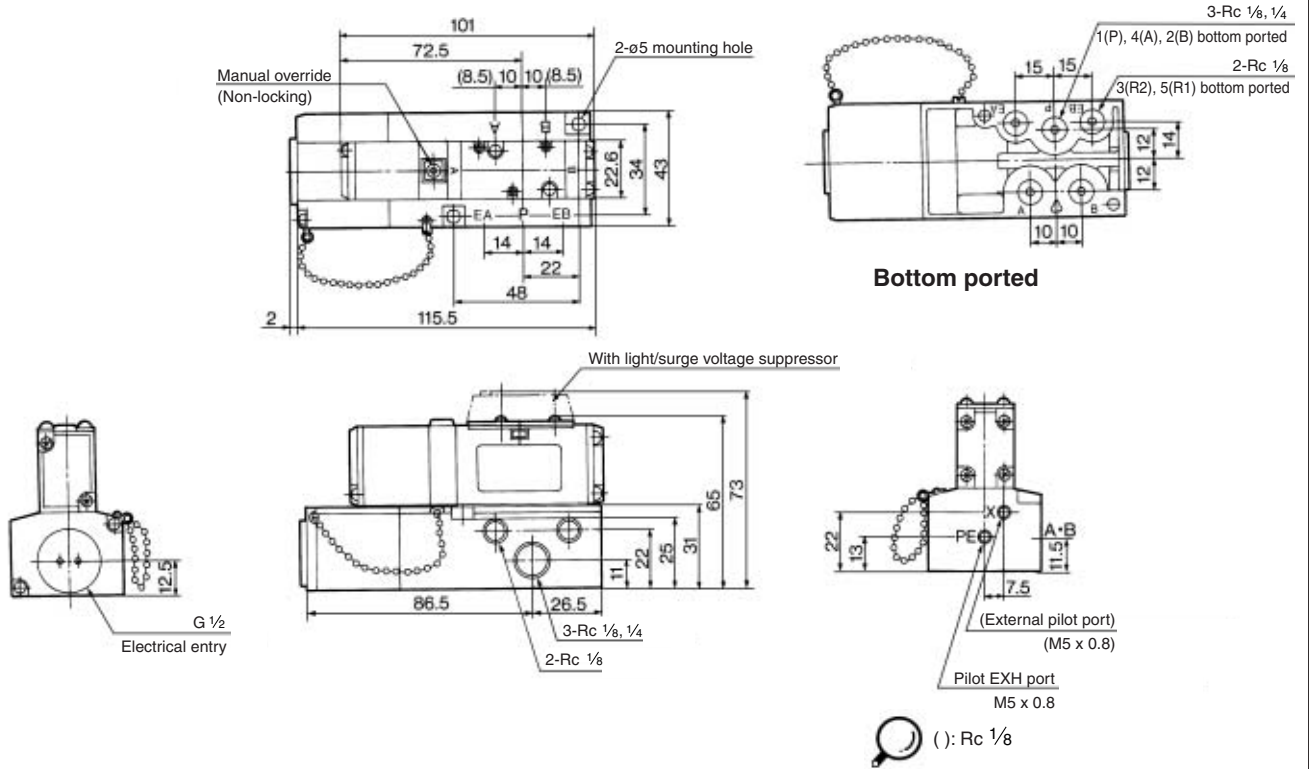
Replacement Parts

No.	Description	Material	Part no.		
			VFS21□□	VFS2□□	VFS23□□/24□□/25□□
⑨	Return spring	Stainless steel	NVF2000-48	—	AXT624-19-1
⑩	Gasket	NBR	AXT624-20-2	AXT624-20-2	AXT624-20-2
⑪	Hexagon socket head screw	Steel	AXT624-26	AXT624-26	AXT624-26
⑫	Detent assembly	—	—	AXT624-11A	—
⑬	Pilot valve assembly	—	Refer to "How to Order Pilot Valve Assembly" on page 3-8-34.		

5 Port Pilot Operated Solenoid Valve Metal Seal, Plug-in/Non Plug-in Series VFS2000

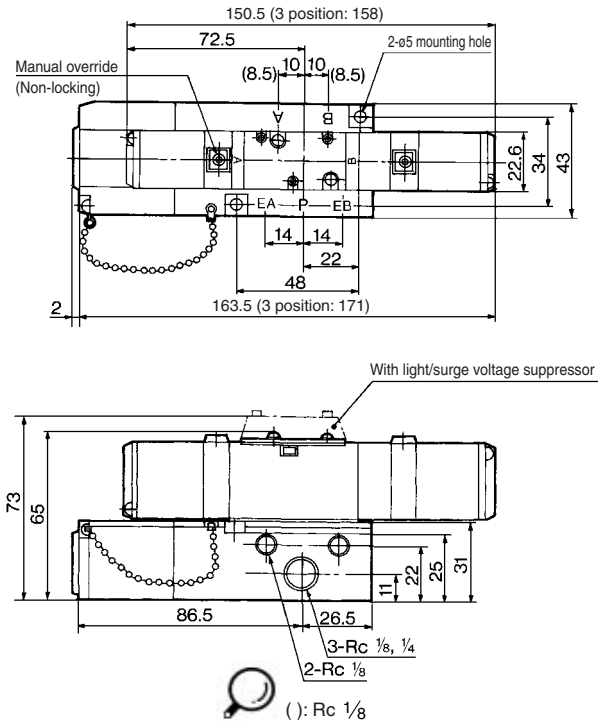
Plug-in 2 Position single/double, 3 position closed center/exhaust center/pressure center/double check

2 position single: VFS2100-□F-01
02

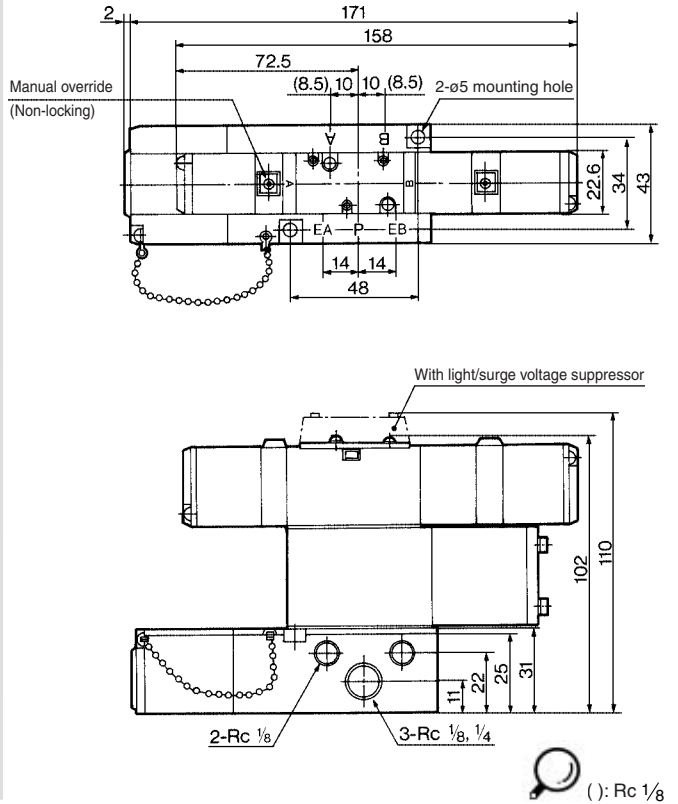


- VK
- VZ
- VF
- VFR
- VP4
- VZS
- VFS**
- VS4
- VQ7
- EVS
- VFN

2 position double: VFS2200-□F-01
02
3 position closed center: VFS2300-□F-01
02
3 position exhaust center: VFS2400-□F-01
02
3 position pressure center: VFS2500-□F-01
02



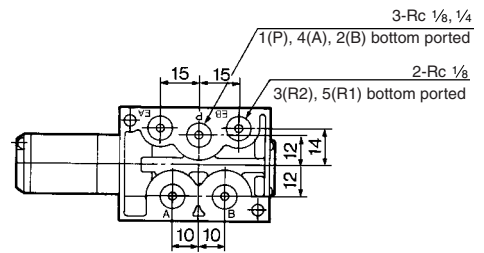
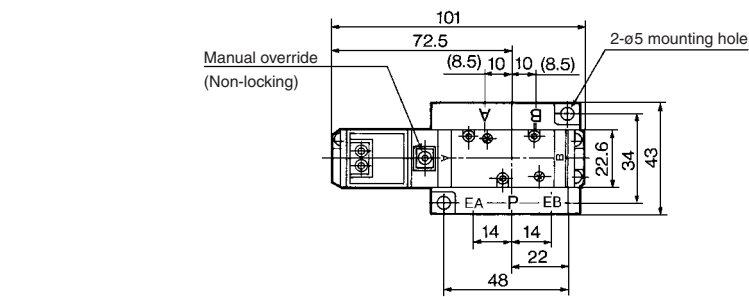
3 position double check: VFS2600-□F-01
02



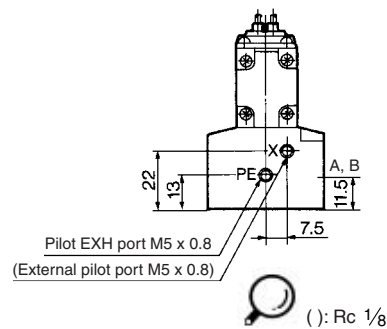
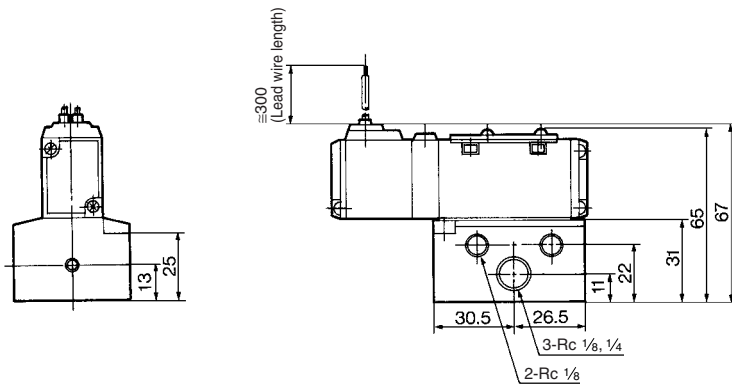
Series VFS2000

Non Plug-in 2 position single

Grommet: VFS2110-□G⁰¹₀₂

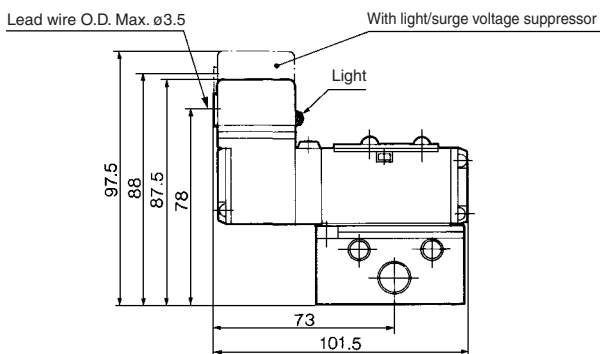


Bottom ported

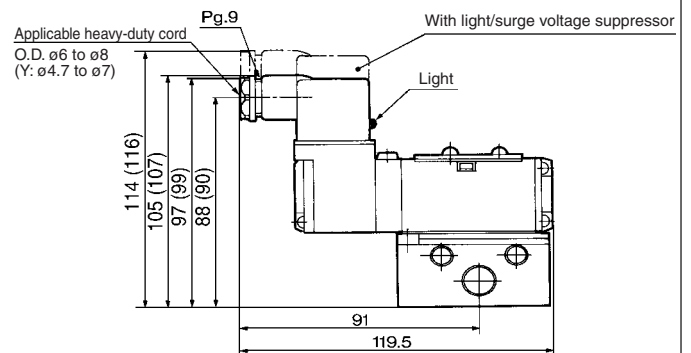


(): Rc 1/8

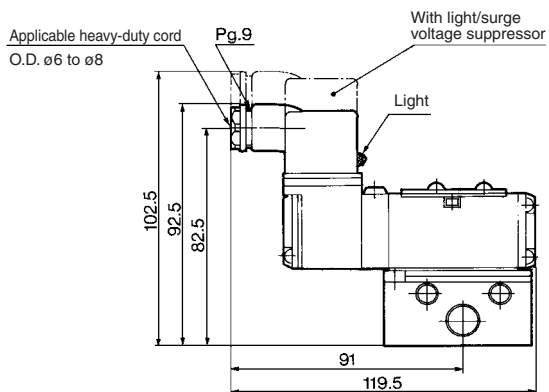
Grommet terminal: VFS2110-□E⁰¹₀₂



DIN terminal: VFS2110-□D⁰¹₀₂



Conduit terminal: VFS2110-□T⁰¹₀₂

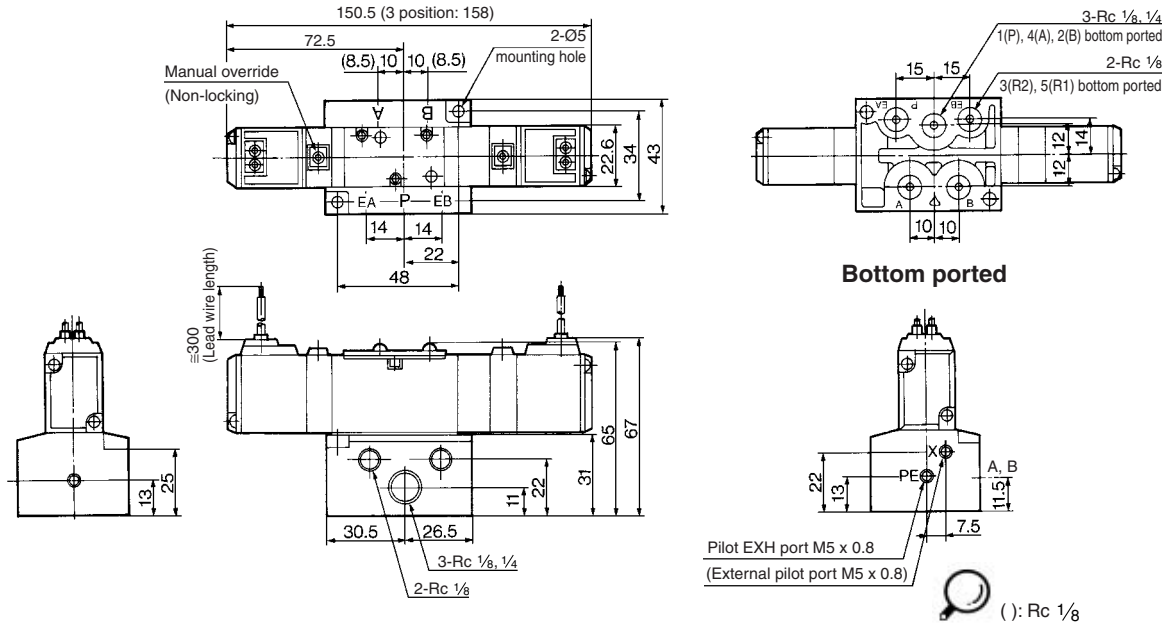


(): Y, YZ

5 Port Pilot Operated Solenoid Valve Metal Seal, Plug-in/Non Plug-in Series VFS2000

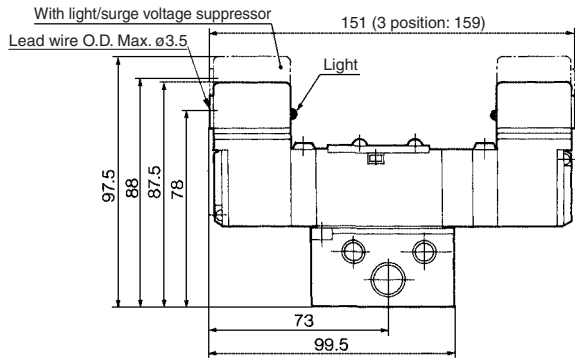
Non Plug-in 2 Position double, 3 position closed center/exhaust center/pressure center

Grommet: Double VFS2210-□G-⁰¹/₀₂
 Closed center VFS2310-□G-⁰¹/₀₂, Exhaust center VFS2410-□G-⁰¹/₀₂, Pressure center VFS2510-□G-⁰¹/₀₂

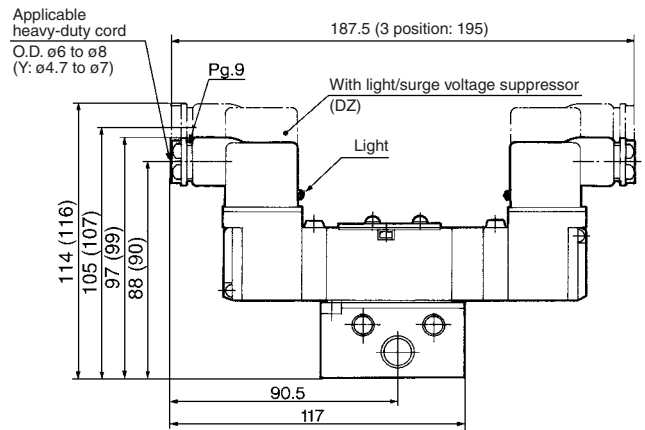


- VK
- VZ
- VF
- VFR
- VP4
- VZS
- VFS**
- VS4
- VQ7
- EVS
- VFN

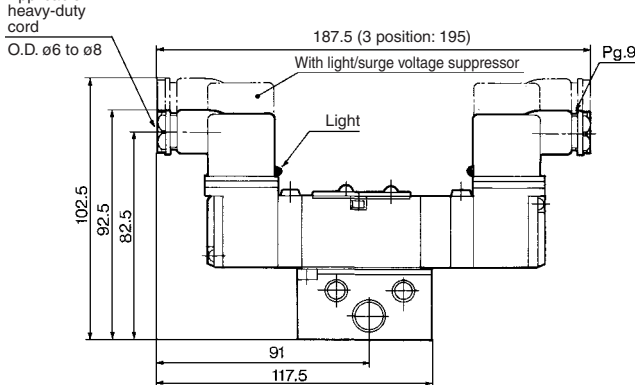
Grommet terminal: Double VFS2210-□E-⁰¹/₀₂
 Closed center VFS2310-□E-⁰¹/₀₂
 Exhaust center VFS2410-□E-⁰¹/₀₂
 Pressure center VFS2510-□E-⁰¹/₀₂



DIN terminal: Double VFS2210-□D-⁰¹/₀₂
 Closed center VFS2310-□D-⁰¹/₀₂
 Exhaust center VFS2410-□D-⁰¹/₀₂
 Pressure center VFS2510-□D-⁰¹/₀₂



Conduit terminal: Double VFS2210-□T-⁰¹/₀₂
 Closed center VFS2310-□T-⁰¹/₀₂
 Exhaust center VFS2410-□T-⁰¹/₀₂
 Pressure center VFS2510-□T-⁰¹/₀₂

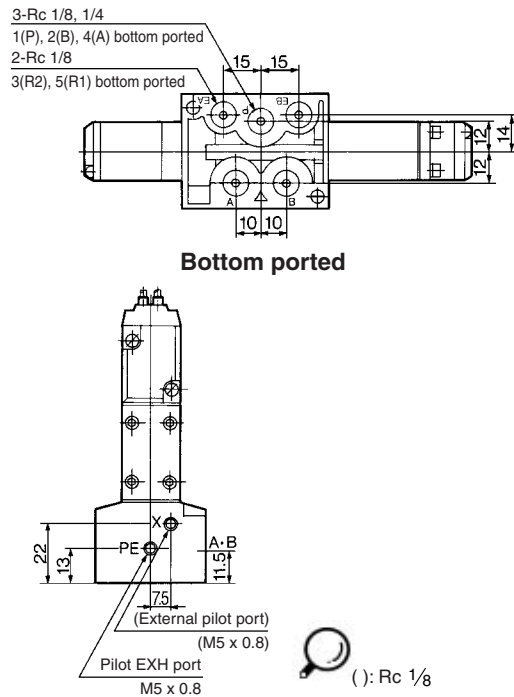
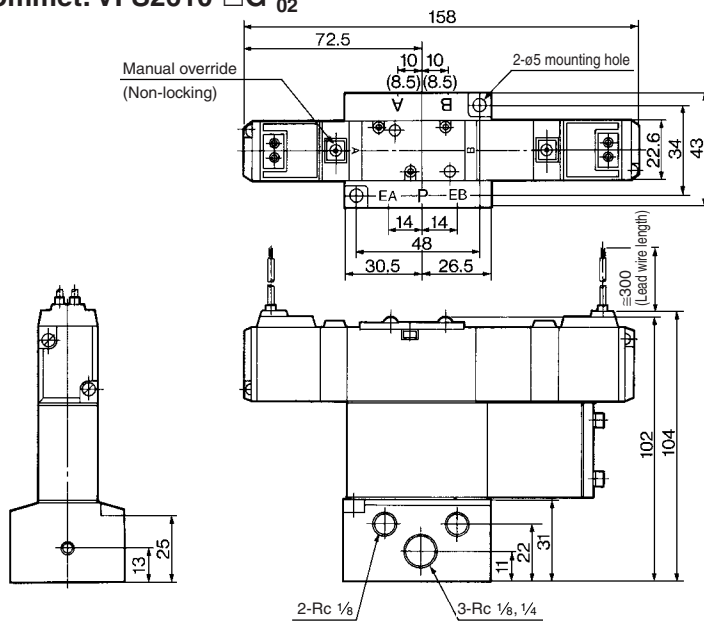


(): Y, YZ

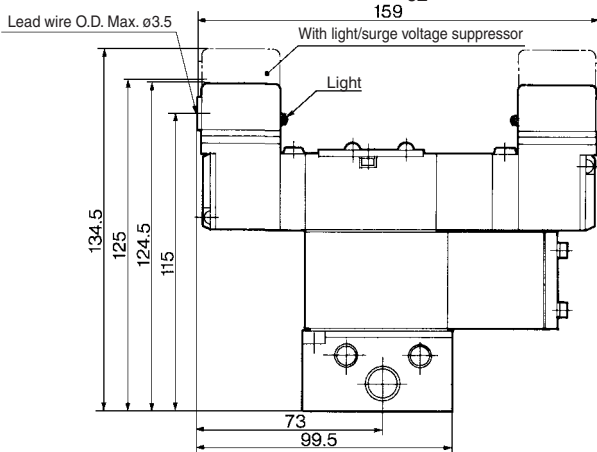
Series VFS2000

Non Plug-in 3 position double check

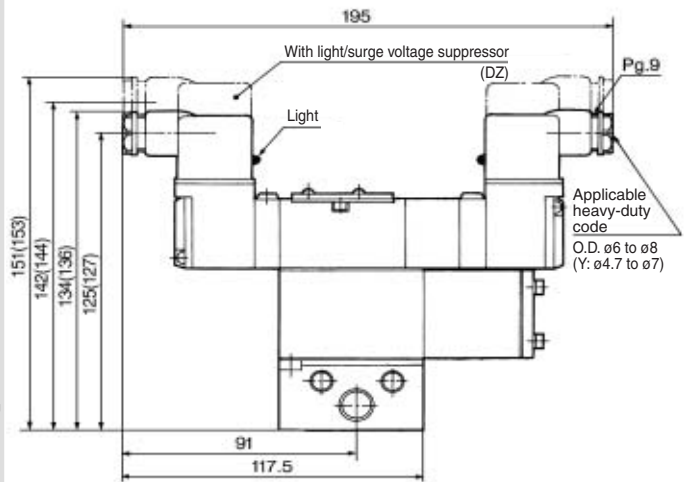
Grommet: VFS2610-□G⁰¹₀₂



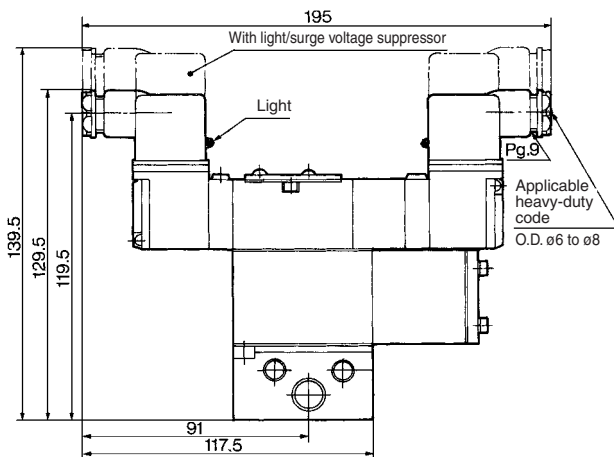
Grommet terminal: VFS2610-□E⁰¹₀₂



DIN terminal: VFS2610-□D⁰¹₀₂



Conduit terminal: VFS2610-□T⁰¹₀₂



(): Y, YZ

SERIES NVFS 2000, 3000, 4000, 5000, 6000
5 PORT PILOT OPERATED
BASE-MOUNTED / PLUG-IN TYPE

- ✓ Large Flow Capacity
- ✓ Low Power Consumption
- ✓ Long Life
- ✓ Ease Maintenance
- ✓ Many Variations Available

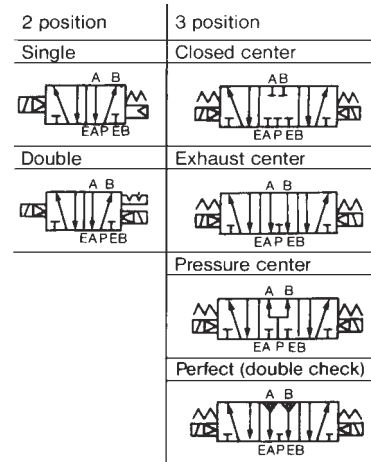
For further information, consult SMC Customer Service



MODEL
NVFS2000

Position	Number Of Solenoid	Type Plug-In	Port Size (NPTF)	Cv Factor	Response Time (ms)
2 Position	Single	NVFS2100	1/8	0.7	15 or less
			1/4	0.83	
3 Position	Double	NVFS2200	1/8	0.7	13 or less
			1/4	0.83	
	Closed Center	NVFS2300	1/8	0.65	20 or less
			1/4	0.67	
	Exhaust Center	NVFS2400	1/8	0.65	20 or less
			1/4	0.67	
Pressure Center	NVFS2500	1/8	0.65	20 or less	
		1/4	0.67		
Perfect (Double Check)	NVFS2600	1/8	0.4	25 or less	
		1/4	0.4		

SYMBOLS



TECHNICAL SPECIFICATIONS STANDARD

	Fluid	Air and Inert Gas	
Valve	Max Operating Pressure	150 PSI (1MPa)	
	Min Operating Pressure	2 Position	15 PSI (0.1MPa)
		3 Position	22 PSI (0.15MPa)
	Ambient & Fluid Temperature	14~140°F (-10~60°C)	
	Lubrication	Not Required	
	Pilot Operator Manual Override	Non Locking Push Type (Flush)	
	Protection Construction	Dust Proof	
Electrical	Rated Voltage	AC	110VAC50/60Hz, 220V50/60Hz, 24V50/60Hz
		DC	12V, 24V
	Allowable Voltage Range	-15 ~ 10% Rated Voltage	
	Coil Insulation	Class B or Equivalent	
	Apparent Power AC (Power Consumption)	InRush	5.0VA/60Hz, 5.6VA/50Hz
		Holding	2.3VA(1.5W)/60Hz, 3.4VA(2.1W)/50Hz
	Power Consumption DC	1.8W	
Electrical Entry	Plug In	Conduit Terminal (Base Access)	

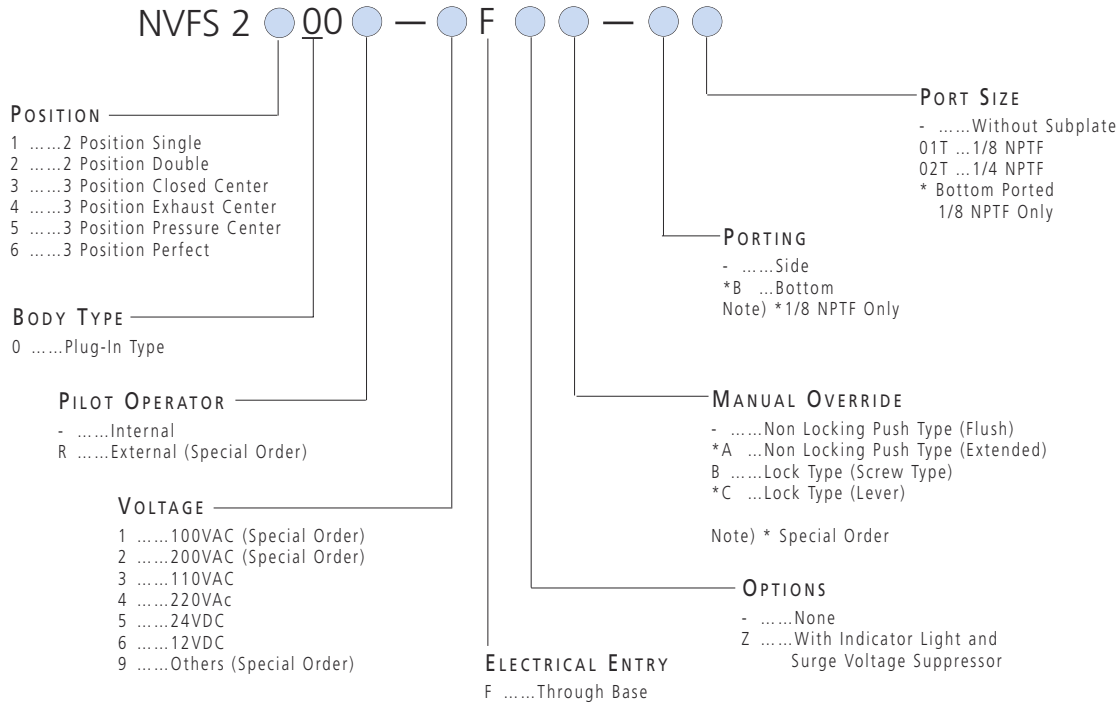
TECHNICAL SPECIFICATIONS OPTIONAL

Pilot Type		External Pilot Type
Manual Override	Pilot Operator	Non Locking Push Type (Extended), Lock Type (Tool), Lock Type (Lever)
Voltage	AC	100V50/60Hz, 200V50/60Hz
	DC	6V, 48V, 100V
Porting	Bottom Ported Subplate	
Option	W/Indicator Light & Surge Voltage Suppressor	



FOR FURTHER TECHNICAL DETAILS ON THIS PRODUCT, REQUEST CATALOG REFERENCE N233

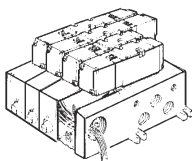
HOW TO ORDER NVFS2000



HOW TO ORDER MANIFOLD

Plug-in Type: Connector with Lead Wire ("wire harness")

● The insert plug is attached to the manifold block and is connected with valve side. Connect leads with corresponding power supply.



NVV5FS2-01-06 1-01T

**Series NVFS2000
Manifold valve**

**Plug-in Type
Connector with
Lead wire**
(AXT624-52A-D1-3)

Stations

- 02 | 2 stations
- ⋮ | ⋮
- 15 | 15 stations

Symbol	P, EA, EB	A, B
01T	1/8 NPTF	1/8 NPTF
02T	1/4 NPTF	1/4 NPTF

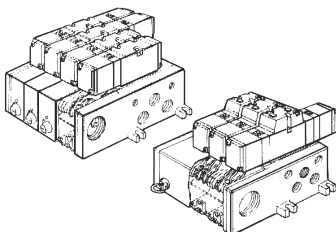
Symbol	Port specifications	Porting Specifications (A,B)
	P	EA, EB
1	Common	Common
*2†	Common	Common
	Mixed	

*Special Order
† Bottom porting specification with
"-02T" is 1/8" P,A,B bottom and 1/4" A,B side.

Unit type conduit cover: AXT625-28-3A
Unit type conduit retainer: AXT625-87

Plug-in Type: With Terminal Blocks

● Lead wires of solenoid valve are connected with the terminals on upper surface of terminal block, corresponding lead wires from power source can be wired at the bottom of terminal block.



NVV5FS2-01T 1-08 1-02T

**Series NVFS2000
Manifold valve**

**Plug-in type
With terminal block**

**Junction cover/
classification**

- Unit type individual station cover
- 1 One-pc. type cover

Note: Individual cover part no. above.

Stations

- 02 | 2 stations
- ⋮ | ⋮
- 15 | 15 stations

Symbol	P, EA, EB	A, B
01T	1/8 NPTF	1/8 NPTF
02T	1/4 NPTF	1/4 NPTF

Symbol	Port specifications	Porting Specifications (A,B)
	P	EA, EB
1	Common	Common
*2†	Common	Common
	Mixed	

*Special Order
† Bottom porting specification with
"-02T" is 1/8" P,A,B bottom and 1/4" A,B side

SEE INSIDE FRONT COVER FOR
DETAILS OF YOUR LOCAL SALES OFFICE



FOR FURTHER TECHNICAL
DETAILS ON THIS
PRODUCT, REQUEST
CATALOG REFERENCE
N233