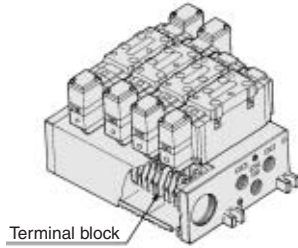


# Series VFS4000

# Manifold Specifications

## Plug-in Type: With Terminal Block

- Since 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.



**VV5FS4 - 01T - 06 1 - 03**

Series VFS4000 Manifold  
Plug-in type with terminal block

**Stations**

02	2 stations
⋮	⋮
10	10 stations

**Port size**

Symbol	P, R1, R2	A, B
03	Rc 1/2	Rc 3/8
04		Rc 1/2
M		Mixed

**Thread type**

Nil	Rc
N*	NPT
T*	NPTF
F*	G

**Symbol**

Symbol	Passage		Porting specifications (A, B)
	P	R1, R2	
1	Common	Common	Side
2			Bottom*

\* Option

\* For bottom ported, Rc 3/8 is only available.

VK

VZ

VF

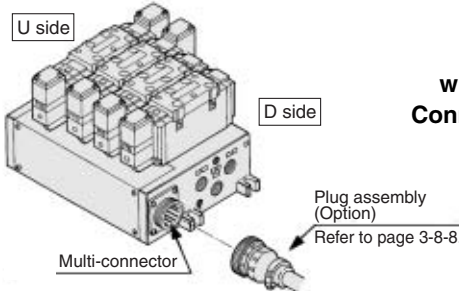
VFR

VP4

VZS

## Plug-in Type: With Multi-connector (Wiring specifications: Refer to page 3-8-8.)

- Master connection of power and solenoid valves.
- Quick wiring permits easier installation.



**VV5FS4 - 01C D - 05 2 - 03**

Series VFS4000 Manifold  
Plug-in type with multi-connector  
Connector mounting direction

**Stations**

02	2 stations
⋮	⋮
08*	8 stations

\* Max. 8 stations

**Port size**

Symbol	P, R1, R2	A, B
03	Rc 1/2	Rc 3/8
04		Rc 1/2
M		Mixed

**Thread type**

Nil	Rc
N*	NPT
T*	NPTF
F*	G

**Symbol**

Symbol	Passage		Porting specifications (A, B)
	P	R1, R2	
1	Common	Common	Side
2			Bottom*

\* Option

\* For bottom ported, Rc 3/8 is only available.

VFS

VS4

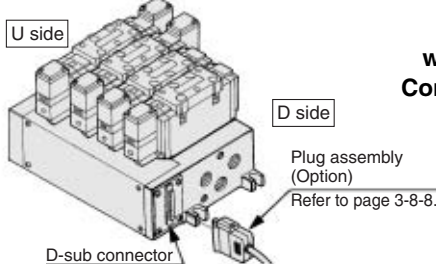
VQ7

EVS

VFN

## Plug-in Type With: D-sub Connector (Wiring specifications: Refer to page 3-8-8.)

- Wide range of interchangeability (MIL Spec DIN connector terminal 25 pcs attached.)
- Quick wiring permits easier installation.



**VV5FS4 - 01F D - 06 1 - 03**

Series VFS4000 Manifold  
Plug-in type with D-sub connector  
Connector mounting direction

**Stations**

02	2 stations
⋮	⋮
08*	8 stations

\* Max. 8 stations

**Port size**

Symbol	P, R1, R2	A, B
03	Rc 1/2	Rc 3/8
04		Rc 1/2
M		Mixed

**Thread type**

Nil	Rc
N*	NPT
T*	NPTF
F*	G

**Symbol**

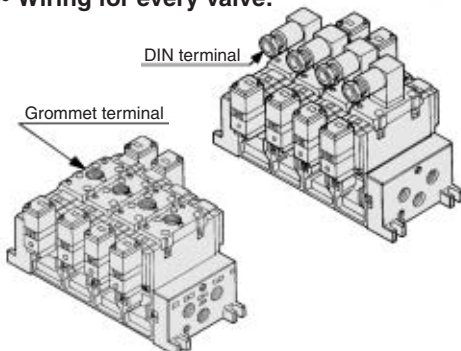
Symbol	Passage		Porting specifications (A, B)
	P	R1, R2	
1	Common	Common	Side
2			Bottom*

\* Option

\* For bottom ported, Rc 3/8 is only available.

## Non Plug-in Type: Grommet Terminal, DIN Terminal

- Wiring for every valve.



**VV5FS4 - 10 - 05 2 - 03**

Series VFS4000 Manifold  
Non plug-in type

**Stations**

02	2 stations
⋮	⋮
10	10 stations

**Port size**

Symbol	P, R1, R2	A, B
03	Rc 1/2	Rc 3/8
04		Rc 1/2
M		Mixed

**Thread type**

Nil	Rc
N*	NPT
T*	NPTF
F*	G

**Symbol**

Symbol	Passage		Porting specifications (A, B)
	P	R1, R2	
1	Common	Common	Side
2			Bottom*

\* Option

\* For bottom ported, Rc 3/8 is only available.

# Series VFS4000

## How to Order Manifold Assembly

Please indicate manifold base type, corresponding valve, and option parts.

<Example>

- Plug-in type with terminal block: 6 stations  
(Manifold base) VV5FS4-01T-061-03 ..... 1  
(2 position single) VFS4100-5FZ ..... 3  
(2 position double) VFS4200-5FZ ..... 2  
(Blanking plate) VVFS4000-10A ..... 1
- Non plug-in type: 6 stations  
(Manifold base) VV5FS4-10-061-04 ..... 1  
(2 position single) VFS4110-5D ..... 5  
(3 position exhaust center) VFS4410-5D ..... 1  
(Individual EXH spacer) VVFS4000-R-04-2 ..... 1

## Manifold Specifications

Base model	Wiring	Porting specifications	Port size Rc		Stations	Applicable valve model
		A, B port	P, EA, EB	A, B		
<b>Plug-in type</b> VV5FS4-01□	• With terminal block • With multi-connector • With D-sub connector	Side/ Bottom	1/2	3/8, 1/2	2 to 10*	VFS4□00-□F
<b>Non plug-in type</b> VV5FS4-10	• DIN terminal • Grommet terminal					VFS4□10-□D VFS4□10-□E



\* With multi-connector, or with D-sub connector: 8 stations max.

## Flow Characteristics at the Number of Manifold Stations (Operated individually)

Model	Passage/Stations	Station 1	Station 5	Station 10	
VV5FS4	1 → 4/2 (P → A/B)	C [dm <sup>3</sup> /(s·bar)]	10.5	10.5	10.5
		b	0.20	0.20	0.20
		Cv	2.5	2.5	2.5
	4/2 → 5/3 (A/B → R1/R2)	C [dm <sup>3</sup> /(s·bar)]	11	11	11
		b	0.20	0.20	0.20
		Cv	2.9	2.9	2.9



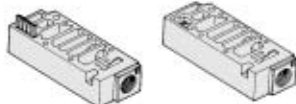
\* Port size: Rc 1/2

## Manifold Option Parts Assembly

### Individual SUP spacer

An individual SUP spacer set on manifold block can form SUP port for every valve.

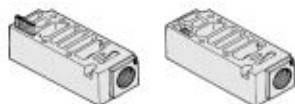
Body type	Plug-in type	Non plug-in type
Part no.	VVFS4000-P-03-1	VVFS4000-P-03-2



### Individual EXH spacer

An individual EXH spacer set on manifold block can form EXH port for every valve. (common EXH type)

Body type	Plug-in type	Non plug-in type
Part no.	VVFS4000-R-04-1	VVFS4000-R-04-2



### \* SUP block disk

When supplying manifold with more than two different pressures, high and low, insert a block disk in between stations subjected to Plug-in different pressures.

Body type	Plug-in type	Non plug-in type
Part no.	AXT634-10A	

### \* EXH block disk

When valve exhaust affects the other stations on the circuit or when a reverse pressure valve is used to a standard manifold valve, insert EXH block disk in between stations to separate valve exhaust.

Body type	Plug-in type	Non plug-in type
Part no.	AXT634-11A	



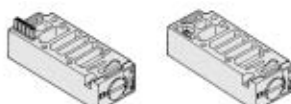
EXH block disk

SUP block disk

### Throttle valve spacer

Needle valve set on the manifold block can control cylinder speed by throttling exhaust.

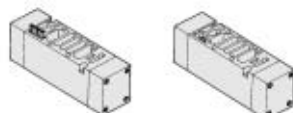
Body type	Plug-in type	Non plug-in type
Part no.	VVFS4000-20A-1	VVFS4000-20A-2



### Double check spacer

If the double check valve 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.

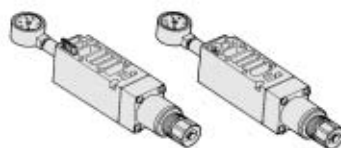
Body type	Plug-in type	Non plug-in type
Part no.	VVFS4000-22A-1	VVFS4000-22A-2



### Interface regulator

Interface regulator set on manifold block can regulate the pressure to each valve. (Refer to page 3-8-6 for "Flow Characteristics".)

Body type	Plug-in type	Non plug-in type
P port regulation	ARBF4050-00-P-1	ARBF4050-00-P-2
A reduced pressure	ARBF4050-00-A-1	ARBF4050-00-A-2
B reduced pressure	ARBF4050-00-B-1	ARBF4050-00-B-2



### Blanking plate

It is used by attaching on the manifold block for being prepared for removing a valve for maintenance reasons or planning to mount a spare valve, etc.

Body type	Plug-in type	Non plug-in type
Part no.	VVFS4000-10A	

## Manifold Option

### With exhaust cleaner

Plug-in type/Non Plug-in type

- Valve exhaust noise dampening: 35 dB or more.
- Oil mist collection: Rate of collection 99.9% or more.
- Piping process reduced.

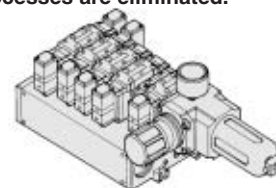


For details, refer to page 3-8-79.

### With control unit

Plug-in type/Non Plug-in type

- Filter, regulation valve, pressure switch and air release valve are all combined to form one unit.
- Piping processes are eliminated.

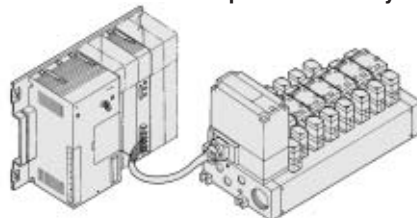


For details, refer to page 3-8-81.

### With serial interface unit for serial transmission

Plug-in type

- Solenoid valve wiring process reduced considerably.
- Disperse installation possible. Manifold solenoid valve: 8 stations max. 32 positions (512 solenoids).
- Maintenance and inspection are easy.

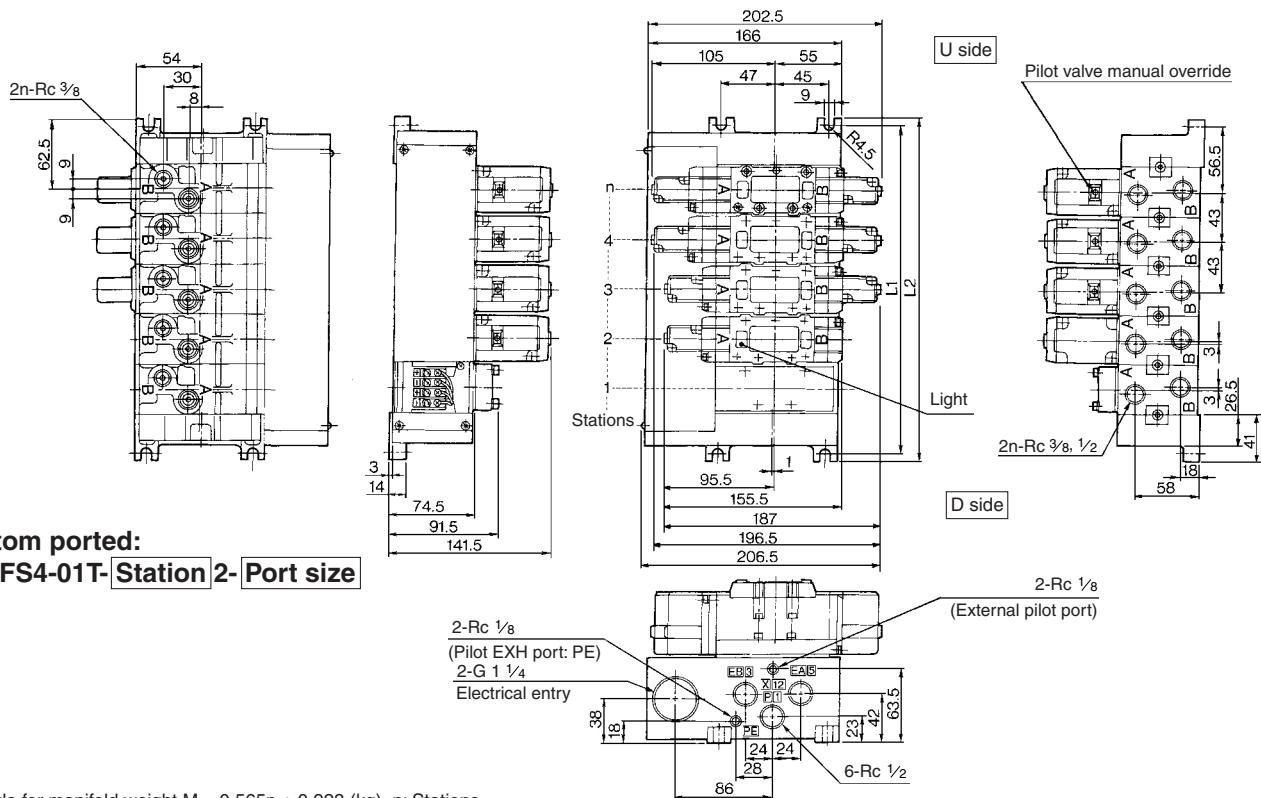


For details, refer to "Serial Transmission" catalog separately.

# 5 Port Pilot Operated Solenoid Valve Metal Seal, Plug-in/Non Plug-in Series VFS4000

## Manifold Plug-in type, Non plug-in type

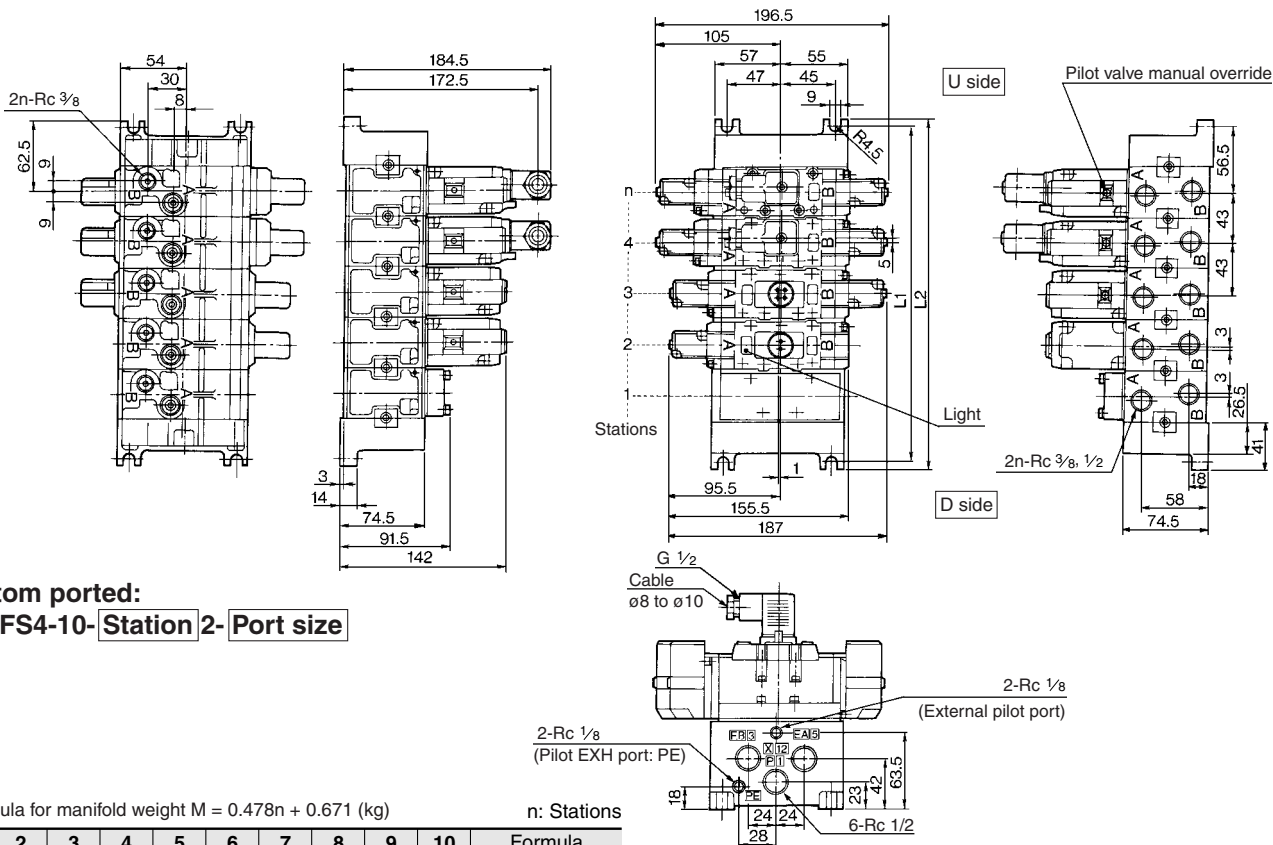
### Plug-in type (With terminal block): VV5FS4-01T-Station 1- Port size



### Bottom ported: VV5FS4-01T-Station 2- Port size

Formula for manifold weight  $M = 0.565n + 0.923$  (kg) n: Stations

### Non plug-in type: VV5FS4-10-Station 1- Port size



### Bottom ported: VV5FS4-10-Station 2- Port size

Formula for manifold weight  $M = 0.478n + 0.671$  (kg) n: Stations

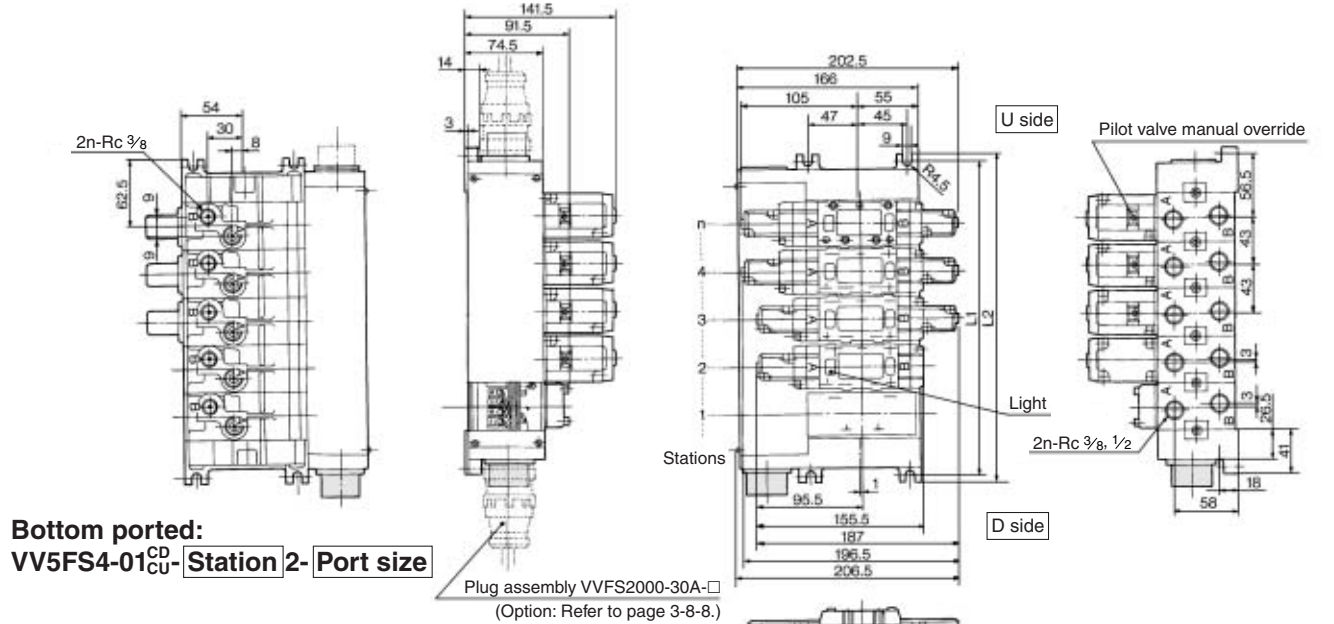
L	Stations	2	3	4	5	6	7	8	9	10	Formula
L <sub>1</sub>		156	199	242	285	328	371	414	457	500	$L_1 = 43 \times n + 70$
L <sub>2</sub>		168	211	254	297	340	383	426	469	512	$L_2 = 43 \times n + 82$

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

# Series VFS4000

## Manifold Plug-in type with multi-connector/D-sub connector

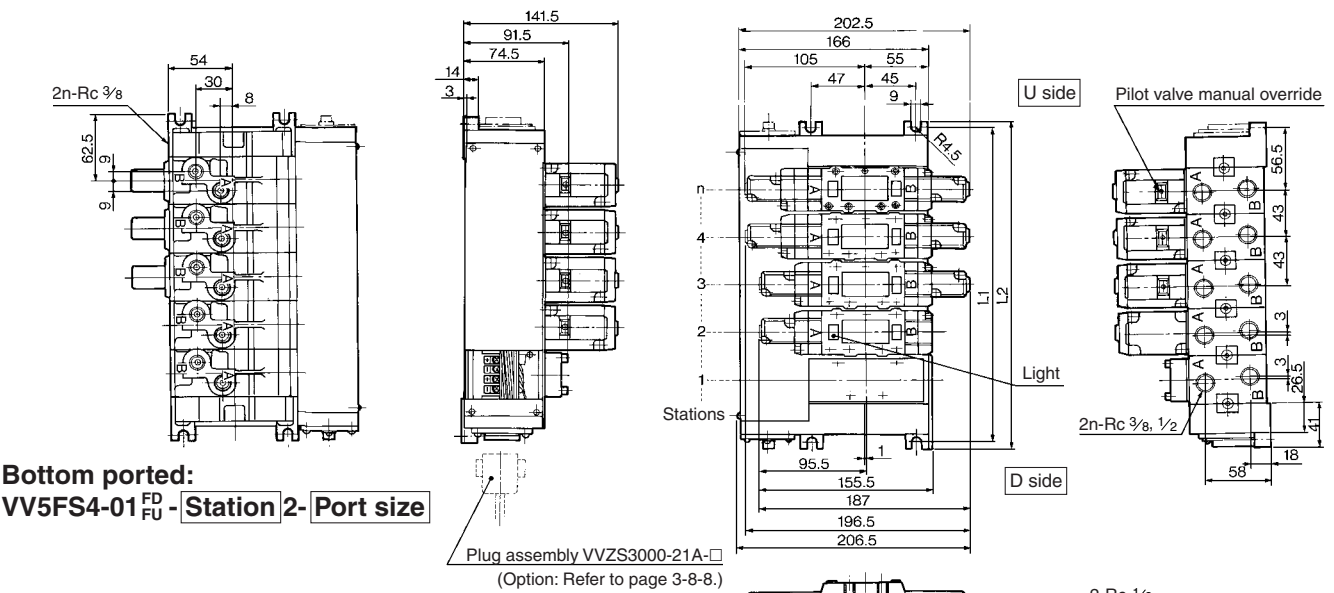
Plug-in type with multi-connector: VV5FS4-01CD-Station 1- Port size, VV5FS4-01CU-Station 1- Port size



Formula for manifold weight  $M = 0.57n + 1.011$  (kg) n: Station  
 \* Wiring specifications: Refer to page 3-8-8.



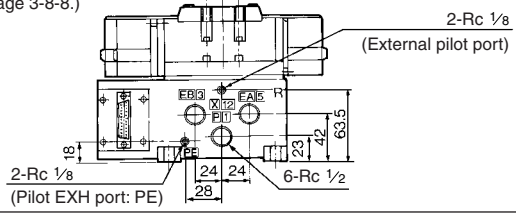
Plug-in type with D-sub connector: VV5FS4-01FD-Station 1- Port size, VV5FS4-01FU-Station 1- Port size



Formula for manifold weight  $M = 0.57n + 0.935$  (kg)  
 \* Wiring specifications: Refer to page 3-8-8.



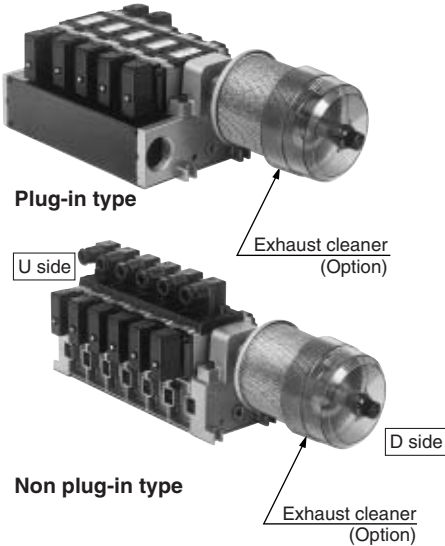
		n: Stations								
L	Stations	2	3	4	5	6	7	8	Formula	
L <sub>1</sub>		156	199	242	285	328	371	414	$L_1 = 43 \times n + 70$	
L <sub>2</sub>		168	211	254	297	340	383	426	$L_2 = 43 \times n + 82$	



# 5 Port Pilot Operated Solenoid Valve Metal Seal, Plug-in/Non Plug-in Series VFS4000

## Manifold with Exhaust Cleaner

- Serves to protect working environment.
- Valve exhaust noise dampening: 35 dB or more.
- Collection rate of drainage and oil mist: 99.9% or more.
- Piping work is reduced.



### Manifold Specifications

Manifold	Plug-in type: VV5FS4-01□	Non plug-in type: VV5FS4-10
Wiring	With terminal block With multi-connector With D-sub connector	DIN terminal Grommet terminal
Applicable valve model	VFS4□00-□F	VFS4□10-□D, VFS4□10-□E
Porting specifications Rc	Common SUP/Common EXH	
	2(B), 4(A) port	Side: Rc 3/8, 1/2, Bottom: Rc 3/8 (Option)
Stations	1(P), 3(R2), 5(R1) port	P: Rc 1/2, EXH: Rc 1, 1 1/2
Applicable exhaust cleaners	2 to 10 <sup>(1)</sup>	
	AMC610-10 (Connecting port size R 1), AMC810-14 (Connecting port size R 1 1/2) <sup>(2)</sup>	

Note 1) With multi-connector, or with D-sub connector: 8 stations max.  
Note 2) Stations of 5 or more and high frequency of operation should be used with AMC810-14. Exhaust cleaners AMC610-10 and AMC810-14 are not attached.

### How to Order

VV5FS4-10-06-1-03-CD

Series VFS4000  
Manifold

#### Base type/Electrical entry

01T	Plug-in type with terminal block
01C	Plug-in type with multi-connector
01F	Plug-in type with D-sub connector
10	Non plug-in type

#### Connector mounting direction

Symbol	With connector	Applicable base
Nil	None	01T, 10
D	D side mounting	01C, 01F
U	U side mounting	01C, 01F

#### Stations

02	2 stations
⋮	⋮
10	10 stations

Base type 01T, 10: 2 to 10 stations  
Base type 01C, 01F: 2 to 8 stations

#### Exhaust cleaner mounting direction

Symbol	Exhaust cleaner mounting direction
CD	D side   D side mounting
CU	U side   U side mounting

\* Please indicate exhaust cleaner size or port size.

#### Thread type

Nil	Rc
N*	NPT
T*	NPTF
F*	G

\* Option

#### Port size

Symbol	P	A, B
03	Rc 1/2	Rc 3/8
04		Rc 1/2
M		Mixed

\* For bottom ported, Rc 3/8 is only available.

#### Symbol

Symbol	Passage		Porting specifications (A, B)
	P	R1, R2	
1	Common	Common	Side
2			Bottom*

\* Option

### ⚠ Caution

When using an exhaust cleaner, mount it downwards.



\* Refer to Best Pneumatics Vol. 5 for Exhaust Cleaner details.

Please indicate manifold base type, corresponding valve, and option parts.

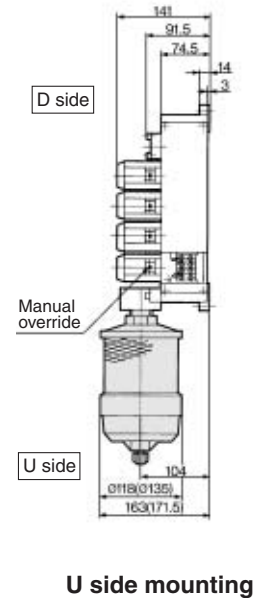
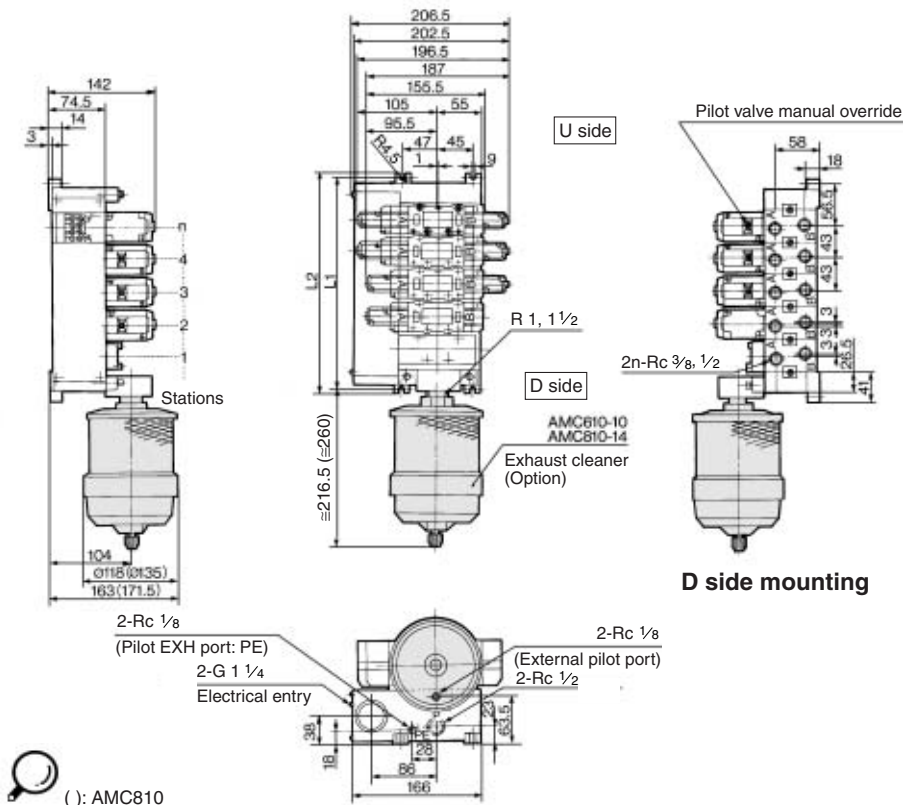
<Example>

- Plug-in type with terminal block (6 stations)
  - (Manifold base) VV5FS4-01T-061-03-CD ..... 1
  - (2 position single) VFS4100-5FZ ..... 3
  - (2 position double) VFS4200-5FZ ..... 2
  - (Blanking plate) VVFS4000-10A ..... 1
  - (Exhaust cleaner) AMC610-10 ..... 1
- Non plug-in type (6 stations)
  - (Manifold base) VV5FS4-10-061-04-CU ..... 1
  - (2 position single) VFS4110-5E ..... 3
  - (2 position double) VFS4210-5E ..... 2
  - (Blanking plate) VVFS4000-10A ..... 1
  - (Exhaust cleaner) AMC810-14 ..... 1

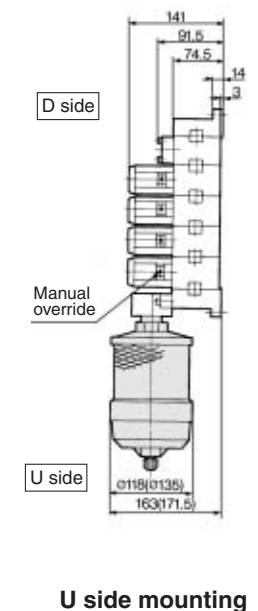
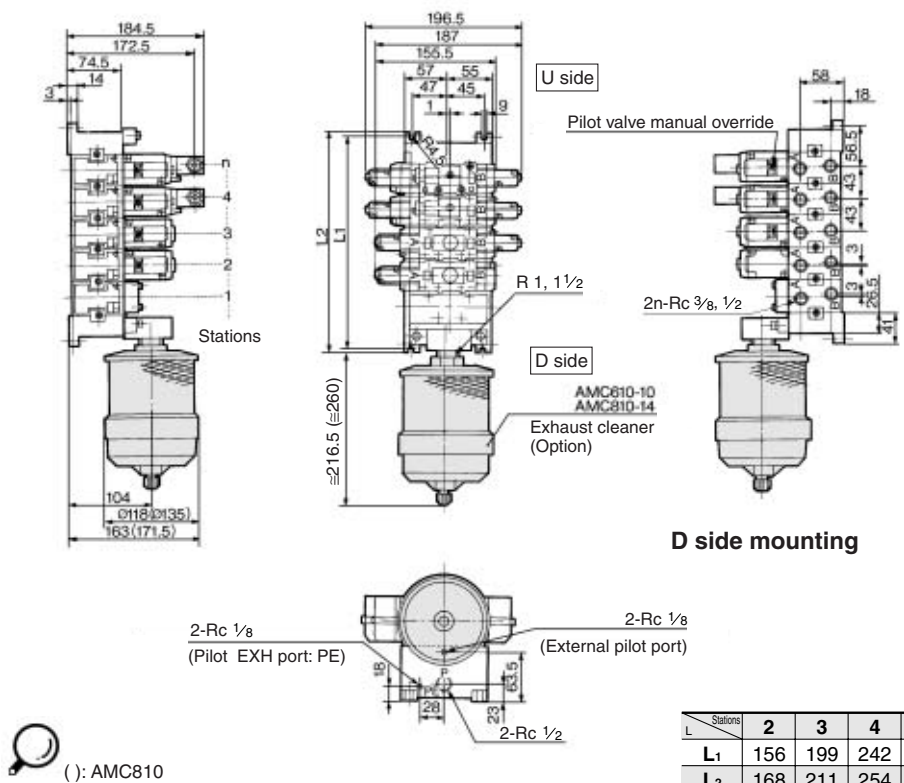
# Series VFS4000

## Manifold with Exhaust Cleaner Plug-in type, Non plug-in type

Plug-in type: VV5FS4-01T- Station 1- Port size -<sup>CD</sup><sub>CU</sub>



Non plug-in type: VV5FS4-10- Station 1- Port size -<sup>CD</sup><sub>CU</sub>



n: Stations

Stations	2	3	4	5	6	7	8	9	10	Formula
L <sub>1</sub>	156	199	242	285	328	371	414	457	500	L <sub>1</sub> = 43 x n + 70
L <sub>2</sub>	168	211	254	297	340	383	426	469	512	L <sub>2</sub> = 43 x n + 82