Series *VFR3000*
Manifold Specifications

Manifold Specifications

Base mounted	Wiring	Porting specifications	Port size			Stations	Applicable valve model
		A, B port	P, EA, EB	A, B			
Plug-in type VV5FR3-01□	• With terminal block	Side/Bottom	Note) 1/2	1/4, 3/8 C8, C10		2 to 10	VFR3□00-□F
	• With multi-connector					2 to 8	
	• With D-sub connector						
Non plug-in type VV5FR3-10	• Grommet terminal					2 to 10	VFR3□1□-□E VFR3□1□-□D
	• DIN terminal						
Non plug-in type VV5FR3-40	• Grommet						VFR3□4□-□G VFR3□4□-□E VFR3□4□-□T VFR3□4□-□D
	• Grommet terminal						
	• Conduit terminal						
	• DIN terminal						

Note) If silencer is mounted to EA/EB port, use silencer "AN403-04" (O.D. ø27).

How to Order Manifold Assembly

<Example> Plug-in type with terminal block: 6 stations

| VV5FR3-01T-061-02 ············· 1 set (Manifold base part no.) |
| ∗VFR3100-5FZ ···················· 3 sets (2 position single part no.) |
| ∗VFR3200-5FZ ···················· 2 sets (2 position double part no.) |
| ∗VVFS3000-10A ················· 1 set (Blanking plate) |

The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the solenoid valve, etc.

Valve arrangement is counted from the D side.
When ordering, specify the part nos. in order from the 1st. station in the D side. When entry of part numbers becomes complicated, indicate on the manifold specification sheet.

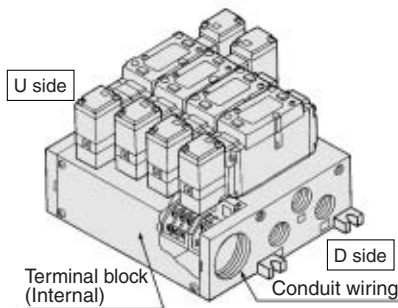<Example> Non plug-in type: 6 stations

| VV5FR3-10-061-03 ·············· 1 set (Manifold base part no.) |
| ∗VFR3110-5D ······················ 5 sets (2 position single part no.) |
| ∗VFR3410-5D ······················ 1 set (3 position exhaust center part no.) |
| ∗VVF3000-R-03-2 ················ 1 set (Individual EXH spacer part no.) |

The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the solenoid valve, etc.

Valve arrangement is counted from the D side.
When ordering, specify the part nos. in order from the 1st. station in the D side. When entry of part numbers becomes complicated, indicate on the manifold specification sheet.

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.

U side

Terminal block (Internal)

D side

Conduit wiring

VV5FR3 – 01T – 06 1 – 02 □

Series VFR3000 Manifold

Plug-in type with terminal block

Stations

02	2 stations
⋮	⋮
10	10 stations

Symbol

Symbol	Passage		Porting specifications (A, B)
	P	EA, EB	
1	Common	Common	Side
2			Bottom ∗

∗ Option

Port size

Symbol	P, EA, EB	A, B ∗
02		1/4
03		3/8
C8	1/2	One-touch fitting for ø8
C10		One-touch fitting for ø10
M		Mixed

∗ For bottom ported: Rc 1/4, 3/8 only.

Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

Plug-in Type: With Multi-connector (For wiring specifications, refer to page 3-5-8.)

• Master connection of power and solenoid valves.
• Quick wiring permits ease of installation.

U side

D side

Multi-connector

VV5FR3 – 01C D – 05 1 – 02 □

Series VFR3000 Manifold

Plug-in type with multi-connector

Connector mounting direction

D	D side mounting
U	U side mounting

Stations

02	2 stations
⋮	⋮
08 ∗	8 stations

∗ Max: 8 stations

Symbol

Symbol	Passage		Porting specifications (A, B)
	P	EA, EB	
1	Common	Common	Side
2			Bottom ∗

∗ Option

Port size

Symbol	P, EA, EB	A, B ∗
02		1/4
03		3/8
C8	1/2	One-touch fitting for ø8
C10		One-touch fitting for ø10
M		Mixed

∗ For bottom ported: Rc 1/4, 3/8 only.
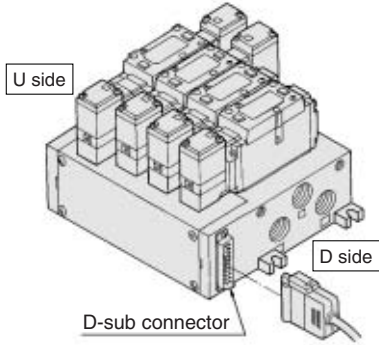
Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

Series *VFR3000*

Plug-in Type: With D-sub Connector (For wiring specifications, refer to page 3-5-8.)

- **Wide range of interchangeability** (25 pin D-sub connector conforms to MIL standard)
- **Quick wiring permits easier installation.**

U side

D side

D-sub connector

VV5FR3 – 01F **D** **– 06** **1** **– 02** ☐

Series VFR3000 Manifold

Plug-in type with D-sub connector

Connector mounting direction

D	D side mounting
U	U side mounting

Stations

02	2 stations
⋮	⋮
08 *	8 stations

* Max: 8 stations

Symbol

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

* Option

Port size

Symbol	P, EA, EB	A, B *
02		¼
03		⅜
C8	½	One-touch fitting for ø8
C10		One-touch fitting for ø10
M		Mixed

* For bottom ported: Rc 1/4, 3/8 only.

Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

Non Plug-in Type: Grommet Terminal, DIN Terminal (Common electrical entry)

- **Individual wiring for every valve**

Grommet terminal   DIN terminal
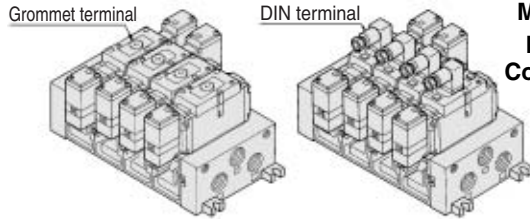
VV5FR3 – 10 **– 05** **1** **– 02** ☐

Series VFR3000 Manifold

Non plug-in type Common electrical entry

Stations

02	2 stations
⋮	⋮
10	10 stations

Symbol

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

* Option

Port size

Symbol	P, EA, EB	A, B *
02		¼
03		⅜
C8	½	One-touch fitting for ø8
C10		One-touch fitting for ø10
M		Mixed

* For bottom ported: Rc 1/4, 3/8 only.

Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

Non Plug-in Type: Grommet, Grommet Terminal, Conduit Terminal, DIN Terminal (Individual electrical entry)

- **Individual wiring for every valve**

VV5FR3 – 40 **– 05** **1** **– 02** ☐

Note) Manifold base is in common with "VV5FR3-10".

Series VFR3000 Manifold

Non plug-in type Individual electrical entry

Stations

02	2 stations
⋮	⋮
10	10 stations

Symbol

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

* Option

Port size

Symbol	P, EA, EB	A, B *
02		¼
03		⅜
C8	½	One-touch fitting for ø8
C10		One-touch fitting for ø10
M		Mixed

* For bottom ported: Rc 1/4, 3/8 only.

Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

Note) Manifold base is in common with Series VFS3000.

SMC

Manifold/Option Parts Assembly

Individual SUP spacer
Setting individual SUP spacer on the manifold block enables individual SUP port for each valve.
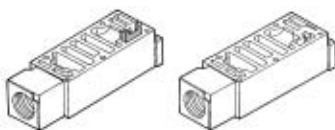
Body type	Plug-in type	Non plug-in type
Part no.	VVFS3000-P-03-1	VVFS3000-P-03-2
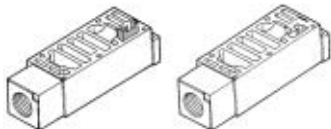
Individual EXH spacer
Setting individual EXH spacer on the manifold block enables individual EXH port for each valve.

Body type	Plug-in type	Non plug-in type
Part no.	VVFS3000-R-03-1	VVFS3000-R-03-2

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

Body type	Plug-in type	Non plug-in type
Part no.	AXT636-1A	

EXH block disk
When valve exhaust affects the other stations on the circuit, insert EXH block disk in between stations to separate valve exhaust.

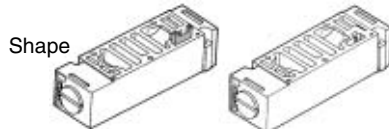| Body type	Plug-in type	Non plug-in type
Part no.	AXT636-1A	

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

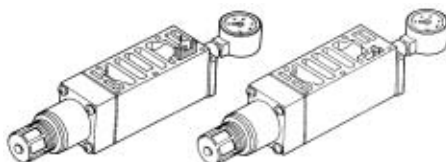| Body type	Plug-in type	Non plug-in type
Part no.	VVFS3000-20A-1	VVFS3000-20A-2

Shape

Interface regulator
Interface regulator set on the manifold block can regulate pressure for each valve. (Refer to "Flow Characteristics" on page 3-5-6 before operation.)

Body type	Plug-in type	Non plug-in type
P port regulation	ARBF3050-00-P-1	ARBF3050-00-P-2
A port regulation	ARBF3050-00-A-1	ARBF3050-00-A-2
B port regulation	ARBF3050-00-B-1	ARBF3050-00-B-2

SUP stop valve spacer
If SUP stop valve spacer is set, valve can be removed for maintenance without stopping air pressure supply for other valves.

Body type	Plug-in type	Non plug-in type
Part no.	VVFS3000-37A-1	VVFS3000-37A-2

(Height will be 27.5 mm higher.)

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.	VVFS3000-10A	

∗ Mounting screws: 4 positions

Manifold Option

With exhaust cleaner
Plug-in type/Non plug-in type
- **Valve exhaust noise dampening: 35 dB or more.**
- **Collects oil mist: collecting rate 99.9% or more**
- **Piping process reduced.**

For details, refer to page 3-5-44.

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 3-5-44.

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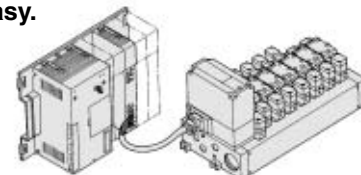
For details, refer to "Serial Transmission" catalog separately.

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

Manifold Plug-in type

With terminal block: VV5FR3-01T- [Station] 1- [Port size]

2n-Rc 1/4, 3/8
(A, B port)

(Pitch)
48 P = 33

Max. 3 15 50.5

79.5
63

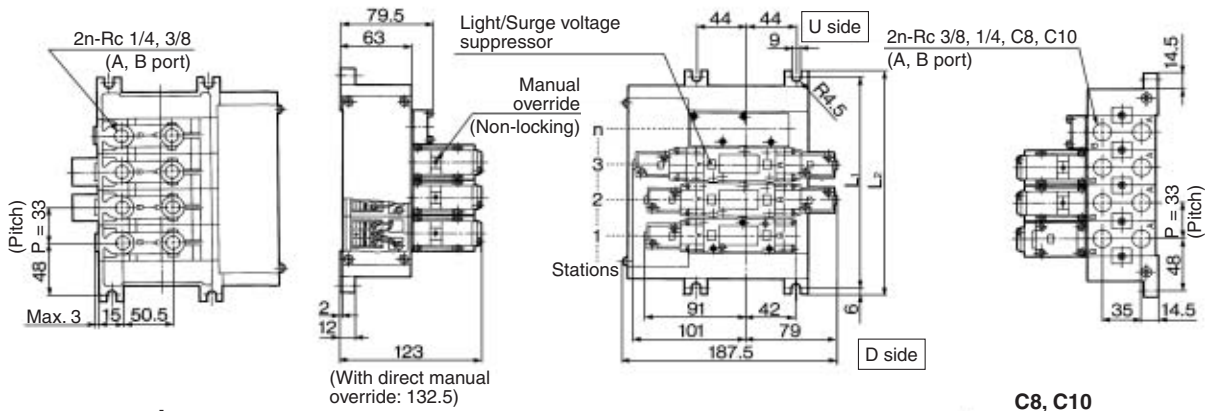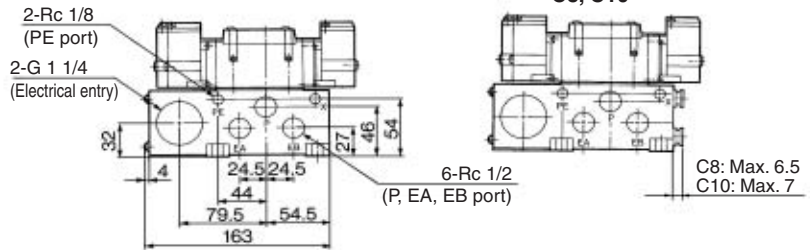Light/Surge voltage suppressor

Manual override
(Non-locking)

2
12

123

(With direct manual override: 132.5)

44 44 U side
9

R4.5

n

3

2

1

Stations

91 42
101 79
187.5

D side

2n-Rc 3/8, 1/4, C8, C10
(A, B port)

14.5

P = 33 (Pitch)
48

35 14.5

Bottom ported:
VV5FR3-01T- [Station] 2- [Port size]

2-Rc 1/8
(PE port)

2-G 1 1/4
(Electrical entry)

32
4

27 46 54

24.5 24.5
44
79.5 54.5
163

6-Rc 1/2
(P, EA, EB port)

C8, C10

C8: Max. 6.5
C10: Max. 7

n: Station

L \\ Stations	2	3	4	5	6	7	8	9	10	Formula
L_1	129	162	195	228	261	294	327	360	393	$L_1 = 33 \times n + 63$
L_2	141	174	207	240	273	306	339	372	405	$L_2 = 33 \times n + 75$

With multi-connector: VV5FR3-01CD- [Station] 1- [Port size] , VV5FR3-01CU- [Station] 1- [Port size]
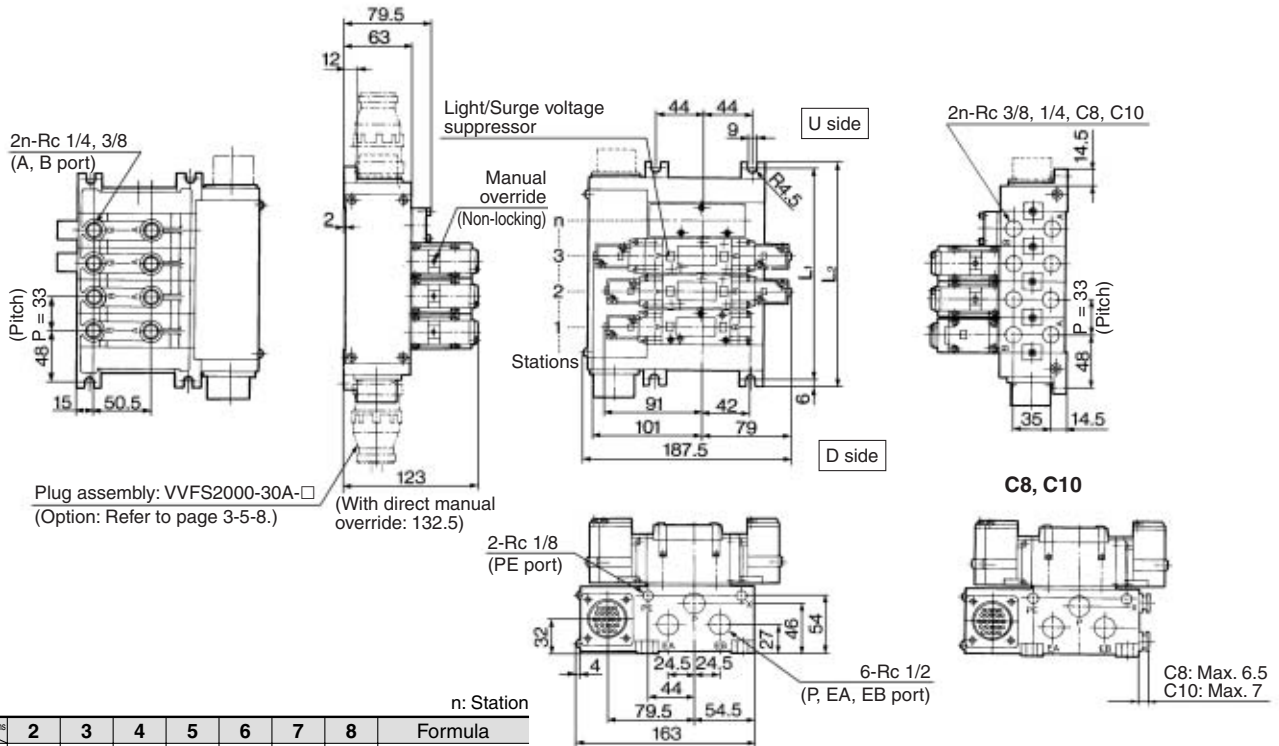
2n-Rc 1/4, 3/8
(A, B port)

(Pitch)
48 P = 33

15 50.5

79.5
63

12

2

Light/Surge voltage suppressor

Manual override
(Non-locking)

Plug assembly: VVFS2000-30A-□
(Option: Refer to page 3-5-8.)

123

(With direct manual override: 132.5)

44 44 U side
9

R4.5

n

3

2

1

Stations

91 42
101 79
187.5

D side

2n-Rc 3/8, 1/4, C8, C10
(A, B port)

14.5

P = 33 (Pitch)
48

35 14.5

2-Rc 1/8
(PE port)

32
4

27 46 54

24.5 24.5
44
79.5 54.5
163

6-Rc 1/2
(P, EA, EB port)

C8, C10

C8: Max. 6.5
C10: Max. 7

n: Station

L \\ Stations	2	3	4	5	6	7	8	Formula
L_1	129	162	195	228	261	294	327	$L_1 = 33 \times n + 63$
L_2	141	174	207	240	273	306	339	$L_2 = 33 \times n + 75$

SMC

Manifold Plug-in type

With D-sub connector: VV5FR3-01FD- Station **1-** Port size **, VV5FR3-01FU-** Station **1-** Port size

Plug assembly: VVZS3000-21A-□
(Option: Refer to page 3-5-8.)

2-Rc 1/8 (PE port)

6-Rc 1/2 (P, EA, EB port)

C8, C10

C8: Max. 6.5
C10: Max. 7

For wiring specifications, refer to page 3-5-8. n: Station

L \ Stations	2	3	4	5	6	7	8	Formula
L_1	129	162	195	228	261	294	327	$L_1 = 33 \times n + 63$
L_2	141	174	207	240	273	306	339	$L_2 = 33 \times n + 75$

Manifold Non plug-in type

VV5FR3-10- Station **1-** Port size

Applicable cable O.D. ø8 to ø10

Manual override (Non-locking)
(With direct manual override: 161)

Bottom ported:
VV5FR3-10- Station **2-** Port size

C8, C10

C8: Max. 6.5
C10: Max. 7

2-Rc 1/8 (PE port)

6-Rc 1/2 (P, EA, EB port)

Grommet with terminal

(With direct manual override: 132.5)

n: Station

L \ Stations	2	3	4	5	6	7	8	9	10	Formula
L_1	129	162	195	228	261	294	327	360	393	$L_1 = 33 \times n + 63$
L_2	141	174	207	240	273	306	339	372	405	$L_2 = 33 \times n + 75$

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

SMC

Series *VFR3000*

Manifold **Plug-in type**

VV5FR3-40- Station **1-** Port size
G: Grommet
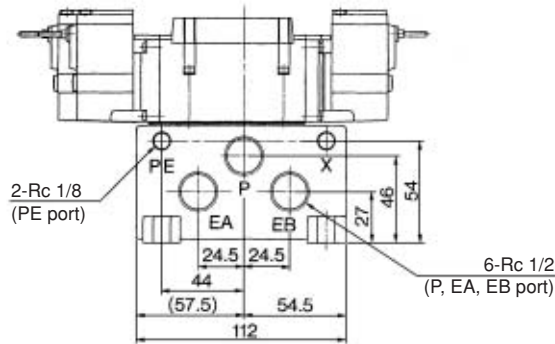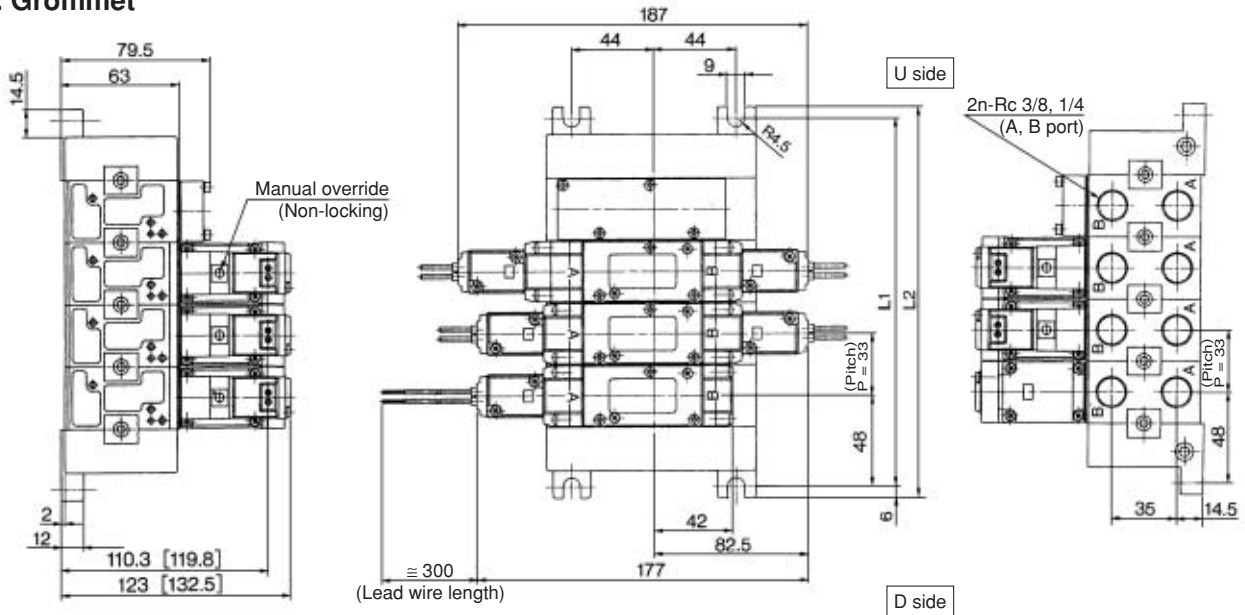
Manual override
(Non-locking)

79.5
63
14.5

2
12
110.3 [119.8]
123 [132.5]

187
44 44
9
R4.5

U side

2n-Rc 3/8, 1/4
(A, B port)

L₁
L₂

(Pitch)
P = 33

48
6

42
82.5
177

≅ 300
(Lead wire length)

D side

35 14.5

(Pitch)
P = 33
48

2-Rc 1/8
(PE port)

PE   X
P

EA EB

24.5 24.5
44
(57.5) 54.5
112

46
27
54

6-Rc 1/2
(P, EA, EB port)

n: Station

L \ Stations	2	3	4	5	6	7	8	9	10	Formula
L₁	129	162	195	228	261	294	327	360	393	$L_1 = 33 \times n + 63$
L₂	141	174	207	240	273	306	339	372	405	$L_2 = 33 \times n + 75$

[ ]: With direct manual override

E: Grommet terminal

228 [248]
218 [238]
115.5 [125.5]
105.5 [115.5]   93.5 [103.5]

Applicable cable O.D.
ø2.3 to ø2.8

PE   X
P
EA   EB

123 [132.5]
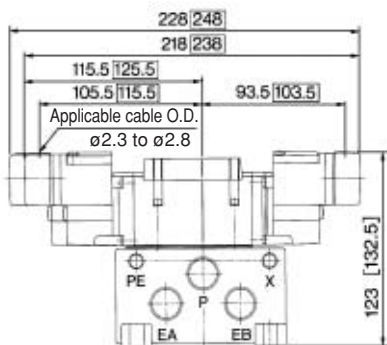
[ ]: With light/surge voltage suppressor

T: Conduit terminal

Applicable cable O.D.
ø6 to ø8

238 [258]
228 [248]
120 [130]
110 [120]   98 [108]

Pg.9

PE   X
P
EA   EB

Max. 10
133 [142.5]
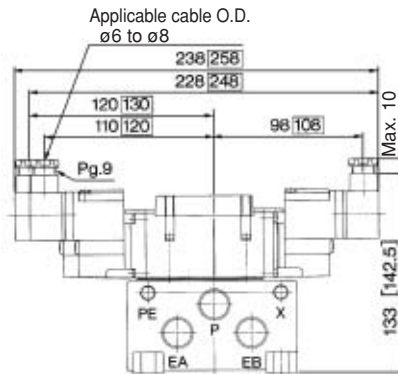
[ ]: With light/surge voltage suppressor

D, Y: DIN terminal
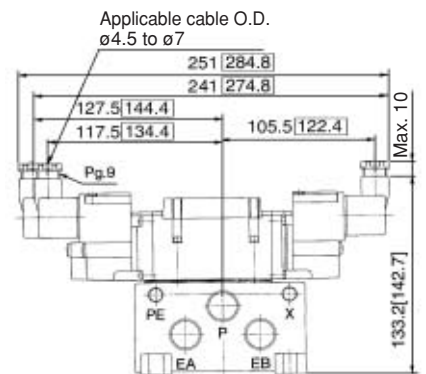
Applicable cable O.D.
ø4.5 to ø7

251 [284.8]
241 [274.8]
127.5 [144.4]
117.5 [134.4]   105.5 [122.4]

Pg.9

PE   X
P
EA   EB

Max. 10
133.2 [142.7]

[ ]: With light/surge voltage suppressor

SMC

Manifold/Option Parts Assembly | Plug-in type/Non plug-in type

Individual SUP spacer:
VVFS3000-P-03-1 (Plug-in type)
VVFS3000-P-03-2 (Non plug-in type)

Individual EXH spacer:
VVFS3000-R-03-1 (Plug-in type)
VVFS3000-R-03-2 (Non plug-in type)

SUP/EXH block disk: AXT636-1A

Block disk mounting position

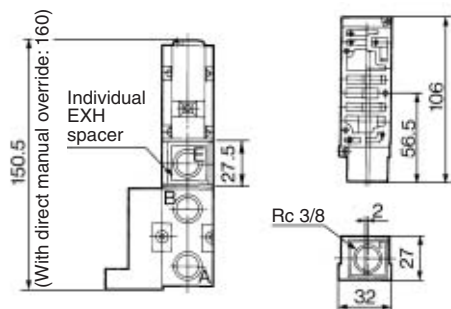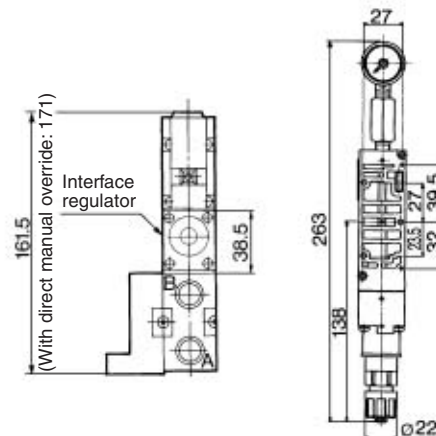Note) Used with exclusive manifold block

Throttle valve spacer:
VVFS3000-20A-1 (Plug-in type)
VVFS3000-20A-2 (Non plug-in type)
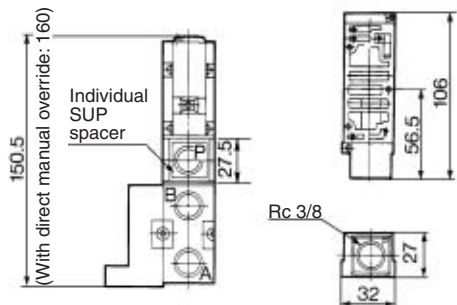
Interface regulator/P port regulation:
ARBF3050-00-P-1 (Plug-in type)
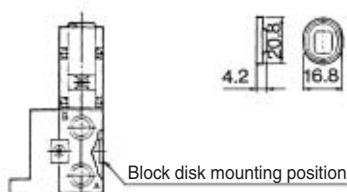### ARBF3050-00-P-2 (Non plug-in type)

Interface regulator/A port regulation:
ARBF3050-00-A-1 (Plug-in type)
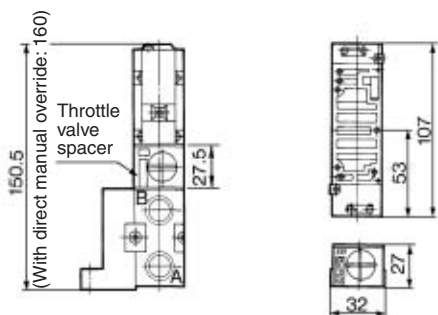### ARBF3050-00-A-2 (Non plug-in type)

Interface regulator/B port regulation:
ARBF3050-00-B-1 (Plug-in type)
ARBF3050-00-B-2 (Non plug-in type)
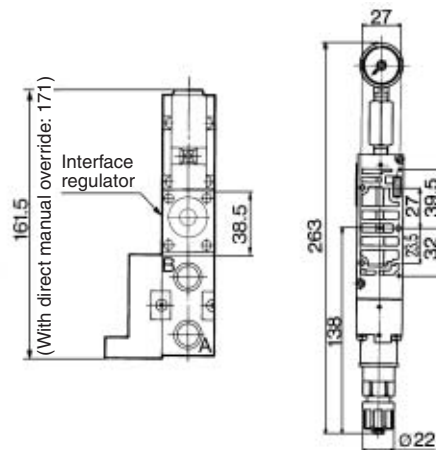
| VK |
| VZ |
| VF |
| VFR |
| VP4 |
| VZS |
| VFS |
| VS4 |
| VQ7 |
| EVS |
| VFN |

Series *VFR3000*

## 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.**

Plug-in type

Exhaust cleaner AMC610-10
(Option)

U side

Non plug-in type

D side

Exhaust cleaner AMC610-10
(Option)

Manifold Specifications

Manifold	Plug-in type: VV5FR3-01□	Non plug-in type: VV5FR3-10	Non plug-in type: VV5FR3-40
Wiring	With terminal block With multi-connector With D-sub connector	DIN terminal Grommet terminal	Grommet, Grommet terminal Conduit terminal, DIN terminal
Applicable valve model	VFR3□0□-□F	VFR3□1□-□D VFR3□1□-□E	VFR3□4□-□G, VFR3□4□-□E VFR3□4□-□T, VFR3□4□-□D
Porting specifications	Common SUP, Common EXH		
Rc	A, B port	Side: Rc 1/4, 3/8, C8, C10 Bottom: Rc 1/4, 3/8 (Option)	
	P port	Side: Rc 1/2 EXH port: Rc 1	
Stations	2 to 10 stations (With multi-connector/D-sub connector: 2 to 8 stations)		
Applicable exhaust cleaners	AMC610-10 (Port size: R1) Note)		

Note) Exhaust cleaner "AMC610-10" is not included.
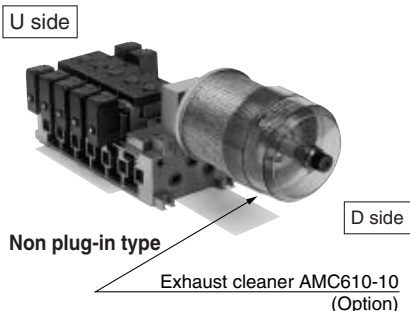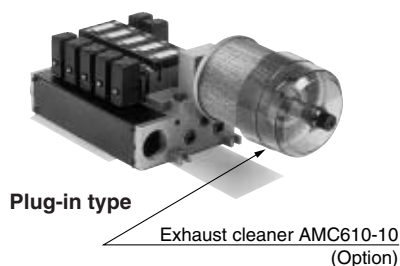
How to Order

VV5FR3-**10**-**06**-**1**-**03**-**CD**

Series VFR3000 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 Common electrical entry
40	Non plug-in type Individual electrical entry

Connector mounting direction

Symbol	With connector	Applicable base
Nil	None	01T, 10, 40
D	D side mounting	01C, 01F
U	U side mounting	

Stations

02	2 stations
⋮	⋮
10 Note)	10 stations

Note) • Base 01T/10/40: 2 to 10 stations
• Base 01C/01F: 2 to 8 stations

Symbol

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

* Option

Port size

Symbol	P, EA, EB	A, B*
02		1/4
03		3/8
C8	1/2	One-touch fitting for ø8
C10		One-touch fitting for ø10
M		Mixed

* For bottom ported: Rc 1/4, 3/8

Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

Exhaust cleaner mounting direction

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

How to Order Manifold Assembly

<Example> Plug-in type with terminal block (6 stations)

VV5FR3-01T-061-03-CD ·········· 1 set (Manifold base part no.)
∗VFR3100-5FZ ·························· 3 sets (2 position single part no.)
∗VFR3200-5FZ ·························· 2 sets (2 position double part no.)
∗VVFS3000-10A ······················ 1 set (Blanking plate assembly part no.)
∗AMC610-10 ······························ 1 set (Exhaust cleaner part no.)

⌐→ The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the solenoid valve, etc.

Valve arrangement is counted from the D side.
When ordering, specify the part nos. in order from the 1st. station in the D side.
When entry of part numbers becomes complicated, indicate on the manifold specification sheet.

⚠**Caution**
When using an exhaust cleaner, mount it downwards.

<Example> Non plug-in type: 6 stations

VV5FR3-10-061-03-CU ··········· 1 set (Manifold base part no.)
∗VFR3110-5E ···························· 3 sets (2 position single part no.)
∗VFR3210-5E ···························· 2 sets (2 position double part no.)
∗VVFS3000-10A ······················ 1 set (Blanking plate assembly part no.)
∗AMC610-10 ······························ 1 set (Exhaust cleaner part no.)

⌐→ The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the solenoid valve, etc.

Valve arrangement is counted from the D side.
When ordering, specify the part nos. in order from the 1st. station in the D side.
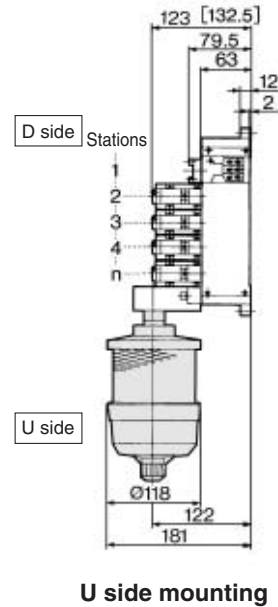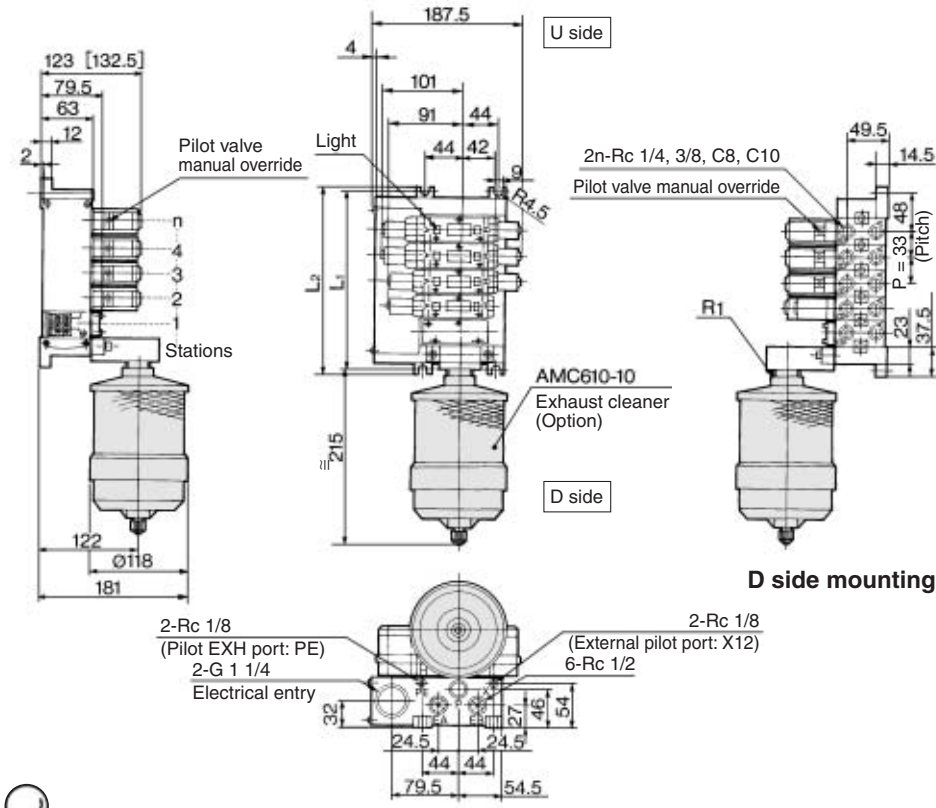When entry of part numbers becomes complicated, indicate on the manifold specification sheet.

📖 Refer to Best Pneumatics Vol. 5 for Exhaust Cleaner details.

⬤SMC

Manifold with Exhaust Cleaner Plug-in type/Non plug-in type

Plug-in type: VV5FR3-01T- Station **1-** Port size **-CD/CU**

U side

Light

Pilot valve manual override

n
4
3
2
1

Stations

123 [132.5]
79.5
63
12
2

187.5
4
101
91
44
44 42
9
R4.5

2n-Rc 1/4, 3/8, C8, C10
Pilot valve manual override

49.5
14.5
P = 33 48 (Pitch)
23
37.5

R1

123 [132.5]
79.5
63
12
2

D side
Stations
1
2
3
4
n

AMC610-10
Exhaust cleaner
(Option)

D side

D side mounting

122
Ø118
181

U side

Ø118
122
181

U side mounting

2-Rc 1/8
(Pilot EXH port: PE)
2-G 1 1/4
Electrical entry

2-Rc 1/8
(External pilot port: X12)
6-Rc 1/2

32
27 46 54
24.5 24.5
44 44
79.5 54.5

[ ]: With direct manual override

Non plug-in type: VV5FR3-10- Station **1-** Port size **-CD/CU**

163.5 [173]
123 [132.5]
79.5
63
12
2

n
4
3
2
1

Light

Stations

180
79
91
44
44 42
9
R4.5

2n-Rc 1/4, 3/8, C8, C10
Pilot valve manual override

49.5
14.5
P = 33 48 (Pitch)
23
37.5

R1

163.5 [173]
123 [132.5]
79.5
63
12
2

D side
Stations
1
2
3
4
n

AMC610-10
Exhaust cleaner
(Option)

D side

D side mounting

122
Ø118
181

U side

Ø118
122
181

U side mounting

2-Rc 1/8
(Pilot EXH port: PE)

2-Rc 1/8
(External pilot port: X12)
6-Rc 1/2

27 46 54
24.5 24.5
44 44
57.5 54.5

[ ]: With direct manual override

n: Station

L \\ Stations	2	3	4	5	6	7	8	9	10	Formula
L_1	129	162	195	228	261	294	327	360	393	$L_1 = 33 \times n + 63$
L_2	141	174	207	240	273	306	339	372	405	$L_2 = 33 \times n + 75$

VK
VZ
VF
VFR
VP4
VZS
VFS
VS4
VQ7
EVS
VFN

Series *VFR3000*

Non plug-in type: VV5FR3-40- Station **1-** Port size **- CD/CU**

(Lead wire length)
≅ 300

Manual override
(Non-locking)

Stations

2n-Rc 3/8, 1/4, C8, C10
(A, B port)

U side

D side

Exhaust cleaner
(Option)
AMC610-10

Stations

Manual override
(Non-locking)

AMC610-10
Exhaust cleaner
(Option)

U side

U side mounting

Exhaust cleaner
(Option)
AMC610-10

2-Rc 1/8
(X port)

2-Rc 1/8
(PE port)

6-Rc 1/2

[ ]: With direct manual override

n: Station

Stations L	2	3	4	5	6	7	8	9	10	Formula
L_1	129	162	195	228	261	294	327	360	393	$L_1 = 33 \times n + 63$
L_2	141	174	207	240	273	306	339	372	405	$L_2 = 33 \times n + 75$

SMC
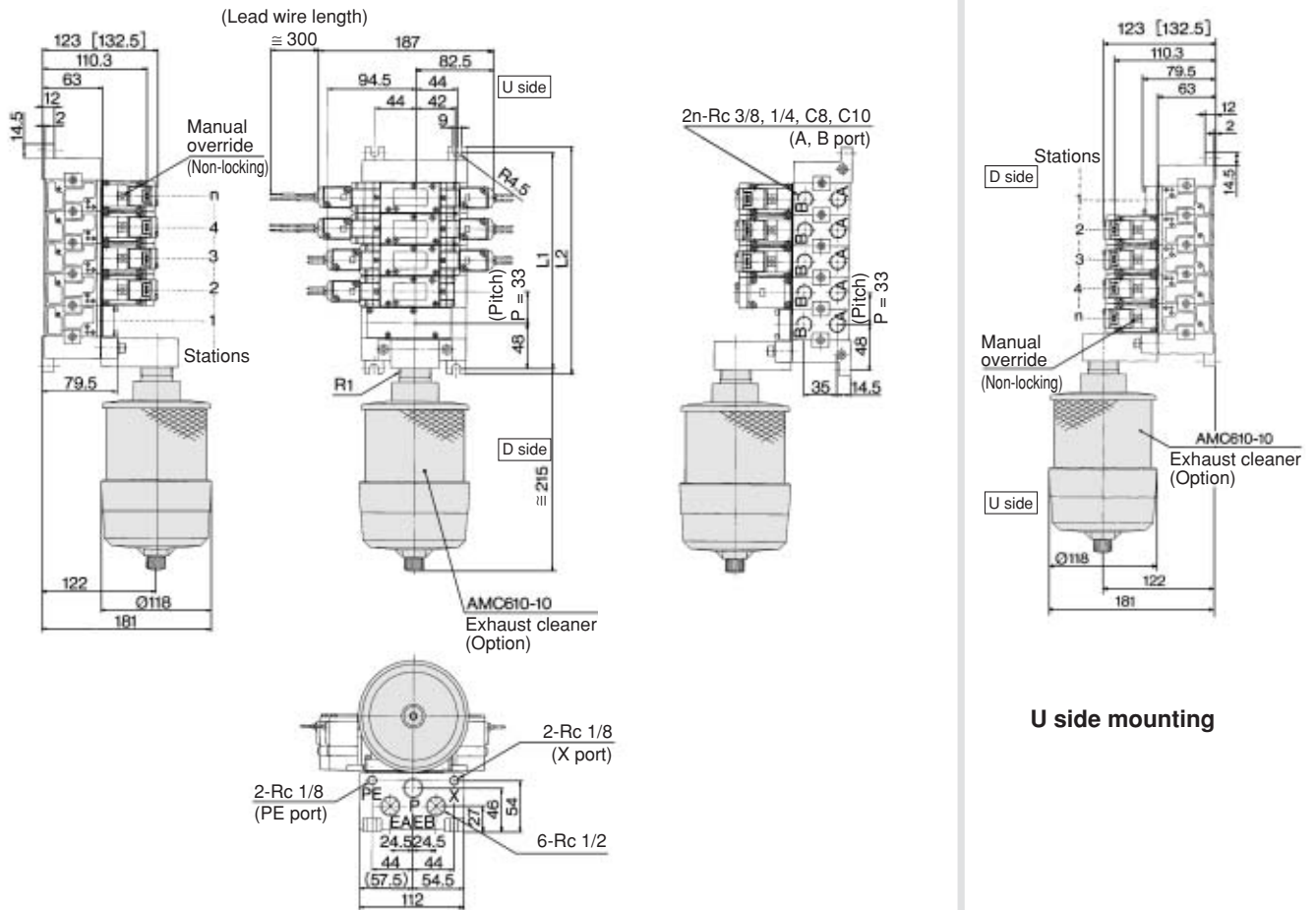
Manifold with Control Unit

- **Control unit (Filter, Regulator, Pressure switch, Air release valve) are all standardized to the one unit, and can be mounted on the manifold base without any attachments.**

- **Piping processes are eliminated.**

U side

Plug-in type

D side
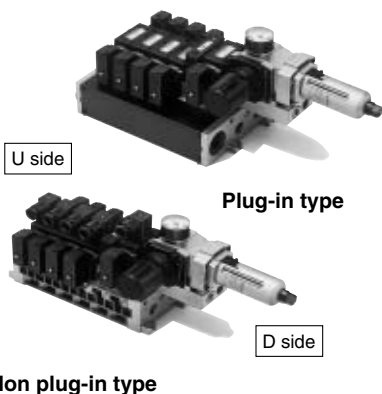
Non plug-in type

⚠ Caution

Air filter with auto-drain or manual drain must be mounted with the air filter at the bottom.

Manifold Specifications

Manifold	Plug-in type: VV5FR3-01□	Non plug-in type: VV5FR3-10	Non plug-in type: VV5FR3-40
Wiring	With terminal block With multi-connector With D-sub connector	DIN terminal Grommet terminal	Grommet, Grommet terminal Conduit terminal, DIN terminal
Applicable valve model	VFR3□0□-□F	VFR3□1□-□D VFR3□1□-□E	VFR3□4□-□G, VFR3□4□-□E VFR3□4□-□T, VFR3□4□-□Y
Porting specifications Rc	Common SUP, Common EXH		
	A, B port	Side: Rc 1/4, 3/8, C8, C10 Bottom: Rc 1/4, 3/8 (Option)	
	P, EA, EB port	Side: Rc 1/2	
Stations	2 to 10 (With multi-connector/D-sub connector: 2 to 8) *		

∗ Including station of control unit

Control Unit Specifications

Air filter (With auto-drain/With manual drain)	
Filtration degree	5 µm
Regulator	
Set pressure (Outlet pressure)	0.05 to 0.85 MPa
Pressure switch	
Set pressure range: OFF	0.1 to 0.6 MPa
Differential	0.08 MPa
Contact	1a
Indicator light	LED (RED)
Max. switch capacity	2 VA AC, 2 W DC
Max. operating current	24 VAC, DC or less: 50 mA 100 VAC, DC: 20 mA
Inside voltage drop	4 V or less
Air release valve (Single only)	
Operating pressure range	0.2 to 0.9 MPa

Control Unit/Option

Air release valve spacer (1)	<Plug-in type> VVFS3000-24A-1R (D side mounting)	
	<Non plug-in type> VVFS3000-24A-2R (D side mounting)	
Pressure switch (2)	IS1000P-2-1	
Blanking plate	For filter regulator	MP2-3
	For pressure switch	MP3-2
	For air release valve	VVFS3000-24A-10
Filter element	INA-13-854-12-5B	

Note 1) Combining valve "VFR31□□" (single) and release valve spacer makes it possible to use this as an air release valve.

Note 2) Pressure switch cannot be mounted later on non plug-in type.

VK

VZ

VF

VFR

VP4

VZS

VFS

VS4

VQ7

EVS

VFN

Series *VFR3000*

How to Order

VV5FR3 – **10** □ – **08** **1** – **02** □ – **AP** □

Series VFR3000 Manifold

Base type/Electrical entry

01T	Plug-in with terminal block
01C	Plug-in with multi-connector
01F	Plug-in type with D-sub connector
10	Non plug-in type (Common entry)
40	Non plug-in type (Individual entry)

Connector mounting direction

Symbol	With connector	Applicable base
Nil	None	01T, 10, 40
D	D side mounting	01C, 01F
U	U side mounting	

Stations

02	2 stations
⋮	⋮
10 Note)	10 stations

Note) • Base 01T/10/40: 2 to 10 stations
• Base 01C/01F: 2 to 8 stations
• Including stations of control unit.

Symbol

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

∗ Option

Port size

Symbol	P, EA, EB	A, B *
02		1/4
03		3/8
C8	1/2	One-touch fitting for ø8
C10		One-touch fitting for ø10
M		Mixed

∗ For bottom ported: only 1/4, 3/8

Air release valve coil rating

Nil	None
1	100 VAC, 50/60 Hz
5	24 VDC
9	Other

Control unit type

Control equipment \ Symbol	Nil	MP	AP	M	A	G	F	C	E
Air release valve		●	●	●	●			●	●
Air filter regulator with manual drain		●		●		●			
Air filter regulator with auto-drain			●		●		●		
Pressure switch		●	●						
Blanking plate (Air release valve)						●	●		
Blanking plate (Filter regulator)								●	
Blanking plate (Pressure switch)			●	●	●	●	●		
Required stations		2 stations							1 station

Note) Control unit is D side mounting only.

Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

How to Order Manifold Assembly

<Example> Plug-in type with terminal block

| VV5FR3-01T-081-03-AP5 ······· 1 set (Manifold base part no.) |
| ∗VFR3100-5FZ ·························· 4 sets (2 position single part no.) |
| ∗VFR3200-5FZ ·························· 2 sets (2 position double part no.) |

⮕ The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the solenoid valve, etc.

The 1st and 2nd station are used for control unit mounting.
When ordering, specify the part nos. in order from the 3rd. station in the D side.
When entry of part numbers becomes complicated, indicate on the manifold specification sheet.

<Example> Non plug-in type

| VV5FR3-10-061-03-A5 ··········· 1 set (Manifold base part no.) |
| ∗VFR3110-5D ···························· 4 sets (2 position single part no.) |

⮕ The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the solenoid valve, etc.
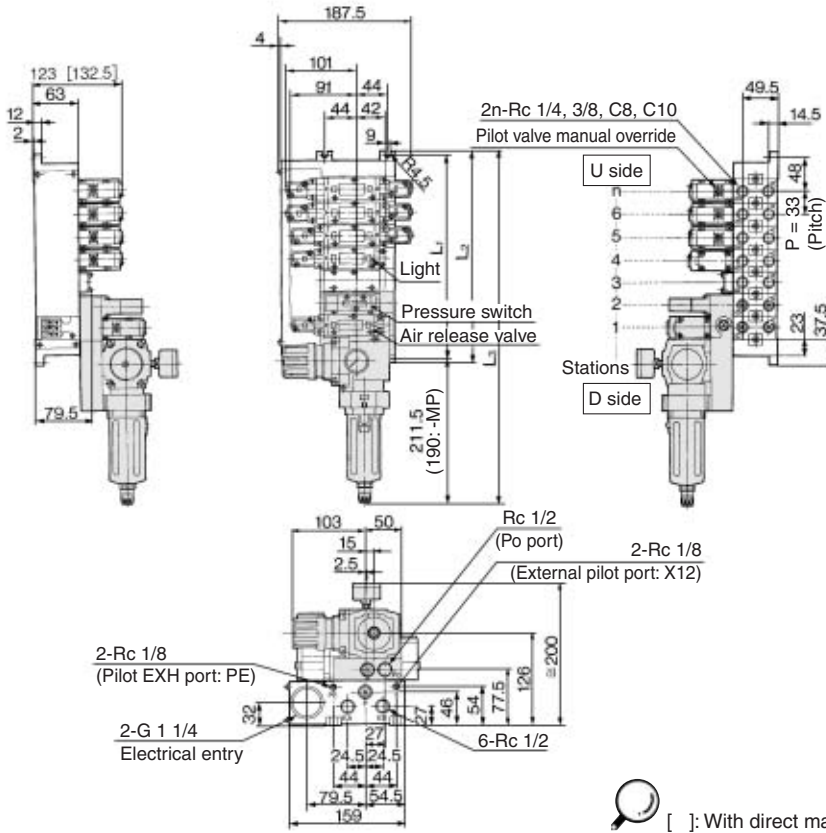
The 1st and 2nd station are used for control unit mounting.
When ordering, specify the part nos. in order from the 3rd. station in the D side.
When entry of part numbers becomes complicated, indicate on the manifold specification sheet.
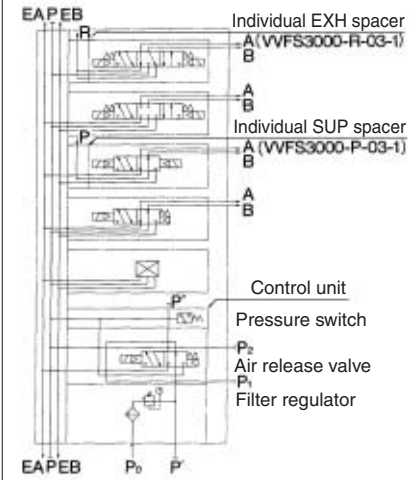
SMC

Manifold with Control Unit | Plug-in type/Non plug-in type

Plug-in type:

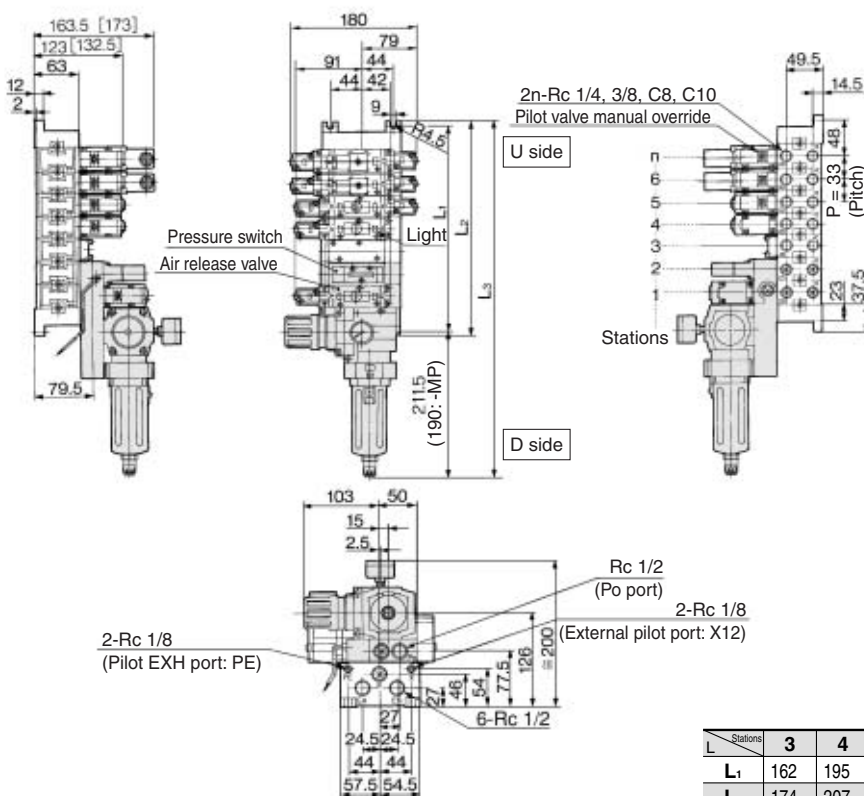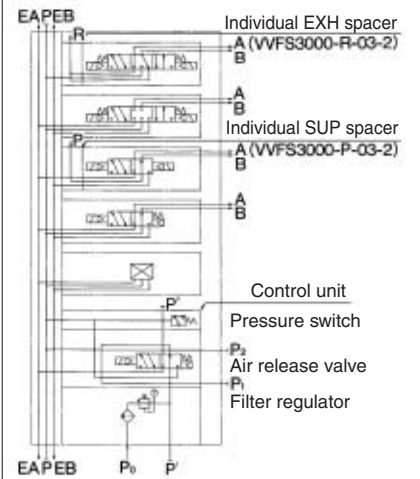**VV5FR3-01T- | Station | 1- | Port size | -AP | Voltage of air release valve**

U side

Light

Pressure switch
Air release valve

Stations

D side

2n-Rc 1/4, 3/8, C8, C10
Pilot valve manual override

Rc 1/2
(Po port)

2-Rc 1/8
(External pilot port: X12)

2-Rc 1/8
(Pilot EXH port: PE)

2-G 1 1/4
Electrical entry

6-Rc 1/2

[ ]: With direct manual override

Example for manifold

Individual EXH spacer
A (VVFS3000-R-03-1)
B

Individual SUP spacer
A (VVFS3000-P-03-1)
B

Control unit
Pressure switch

Air release valve

Filter regulator

VK
VZ
VF
VFR
VP4
VZS
VFS
VS4
VQ7
EVS
VFN

Non plug-in type:

VV5FR3-10- | Station | 1- | Port size | -AP | Voltage of air release valve

Pressure switch
Air release valve

Light

U side

2n-Rc 1/4, 3/8, C8, C10
Pilot valve manual override

Stations

D side

Rc 1/2
(Po port)

2-Rc 1/8
(External pilot port: X12)

2-Rc 1/8
(Pilot EXH port: PE)

6-Rc 1/2

[ ]: With direct manual override

Example for manifold

Individual EXH spacer
A (VVFS3000-R-03-2)
B

Individual SUP spacer
A (VVFS3000-P-03-2)
B

Control unit
Pressure switch

Air release valve

Filter regulator

n: Station

L \ Stations	3	4	5	6	7	8	9	10	Formula
L_1	162	195	228	261	294	327	360	393	$L_1 = 33 \times n + 63$
L_2	174	207	240	273	306	339	372	405	$L_2 = 33 \times n + 75$
L_3 (MP)	363	396	429	462	495	528	561	594	$L_3 = 33 \times n + 264$
L_3 (AP)	384.5	417.5	450.5	483.5	516.5	549.5	582.5	615.5	$L_3 = 33 \times n + 285.5$

SMC

3-5-49

Series **VFR3000**

Manifold with Control Unit | **Non plug-in type**

Non plug-in type: VV5FR3-40- | **Station** | **1-** | **Port size** | **-AP** | **Voltage of air release valve**

Manual override
(Non-locking)

(Lead wire length)
≅300

U side

R4.5

Pressure switch
Air release valve

D side

2n-Rc 3/8, 1/4, C8, C10
(A, B port)

n
6
5
4
3
2
1

L1
L2
L3

(Pitch)
P = 33

48
14.5
49.5

Stations

211.5
(202: -MP)

Rc 1/2
(Po port)

2-Rc 1/8
(External pilot port)

2-Rc 1/8
(PE port)

6-Rc 1/2

[ ]: With direct manual override

L \ Stations	3	4	5	6	7	8	9	10	Formula
L₁	162	195	228	261	294	327	360	393	$L_1 = 33 \times n + 63$
L₂	174	207	240	273	306	339	372	405	$L_2 = 33 \times n + 75$
L₃ (MP)	363	396	429	462	495	528	561	594	$L_3 = 33 \times n + 264$
L₃ (AP)	384.5	417.5	450.5	483.5	516.5	549.5	582.5	615.5	$L_3 = 33 \times n + 285.5$

n: Station

( ): MP

SMC

Manifold Base Construction — Plug-in type/Non plug-in type

End plate (D side)

End plate (U side)

VK
VZ
VF
VFR
VP4
VZS
VFS
VS4
VQ7
EVS
VFN

Replacement Parts

No.	Description	Material	Part no.
①	Connection fitting A	Steel	VVFS3000-5-1A
②	Connection fitting B	Steel	VVFS3000-5-2
③	Gasket	NBR	VVFS3000-7-1
④	Gasket	NBR	VVFS3000-8
⑤	O-ring	NBR	19.8 x 16.6 x 1.6 (for end plate)
⑥	O-ring	NBR	20 x 16 x 2 (for manifold block)
⑦	O-ring	NBR	6.2 x 3 x 1.6
⑧	Terminal assembly	—	VVFS3000-6A
⑨	Junction cover assembly	—	For 01T: VVFS3000-4A-[Stations] / For 01SU: AZ738-22A-[Stations]
⑬	Rubber plug	NBR	AXT336-9

Replacement Parts: Sub Assembly

Note) Manifold Base/Construction: Plug-in type with terminal block.

No.	Description	Assembly part no.	Component parts	Applicable manifold base
⑩	Manifold block assembly Note)	VVFS3000-1A-1-$^{02}_{03}{}^{C8}_{C10}$	Manifold block ⑩, Terminal ⑧, Connection bracket ①, ②, Gasket ③, ④, O-ring ⑥, ⑦, Receptacle assembly	Plug-in type
		VVFS3000-1A-2-$^{02}_{03}{}^{C8}_{C10}$	Manifold block ⑨, Connection bracket ①, ②, Gasket ③, ④, O-ring ⑥, ⑦	Non plug-in type
⑪	End plate (U side) assembly	VVFS3000-2A-1	End plate (U) ⑪, Connection bracket ①, ②, Gasket ④, O-ring ⑤, ⑦	Plug-in type
		VVFS3000-2A-2	End plate (U) ⑪, Connection bracket ①, ②, Gasket ④, O-ring ⑤, ⑦	Non plug-in type
⑫	End plate (D side) assembly	VVFS3000-3A-1	End plate (D) ⑫, Connection bracket ①, ②, Gasket ③	Plug-in type
		VVFS3000-3A-2	End plate (D) ⑫, Connection bracket ①, ②, Gasket ③	Non plug-in type

Note) For side ported