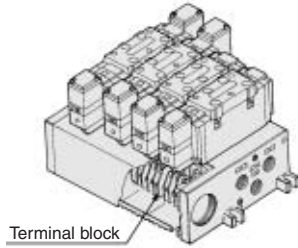


Series VFS4000

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	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

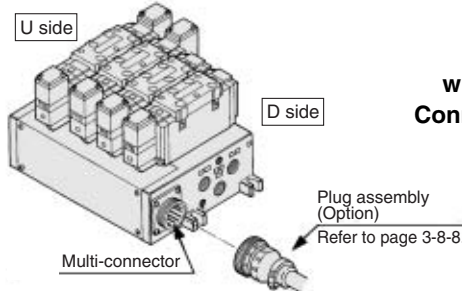
VFR

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	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

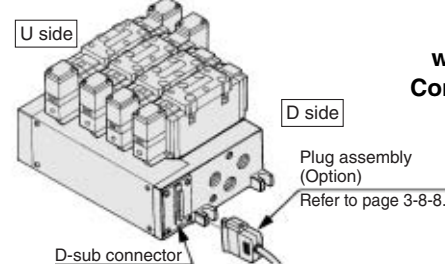
VQ7

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	Rc 1/2
M		Mixed

Thread type

Nil	Rc
N*	NPT
T*	NPTF
F*	G

Symbol

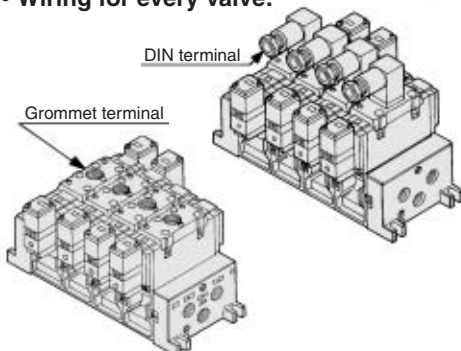
Symbol	Passage		Porting specifications (A, B)
	P	R1, R2	
1	Common	Common	Side
2			Bottom*

* 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	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		
Plug-in type VV5FS4-01□	<ul style="list-style-type: none"> • With terminal block • With multi-connector • With D-sub connector 	Side/ Bottom	1/2	3/8, 1/2	2 to 10*	VFS4□00-□F
Non plug-in type VV5FS4-10	<ul style="list-style-type: none"> • 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 ³ /(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 ³ /(s·bar)]	11	11	11
		b	0.20	0.20	0.20
		Cv	2.9	2.9	2.9



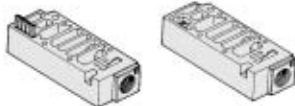
* Port size: Rc 1/2

Manifold Option Parts Assembly

Individual SUP spacer

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

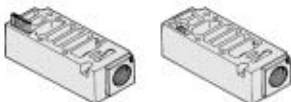
Body type	Plug-in type	Non plug-in type
Part no.	VVFS4000-P-03-1	VVFS4000-P-03-2



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	



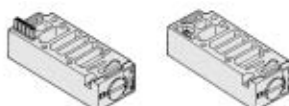
EXH block disk

SUP block disk

Throttle valve spacer

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

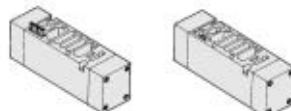
Body type	Plug-in type	Non plug-in type
Part no.	VVFS4000-20A-1	VVFS4000-20A-2



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.

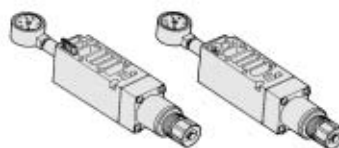
Body type	Plug-in type	Non plug-in type
Part no.	VVFS4000-22A-1	VVFS4000-22A-2



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.

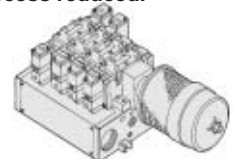
Body type	Plug-in type	Non plug-in type
Part no.	VVFS4000-10A	

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.

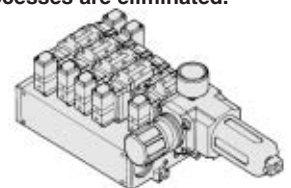


For details, refer to page 3-8-79.

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.

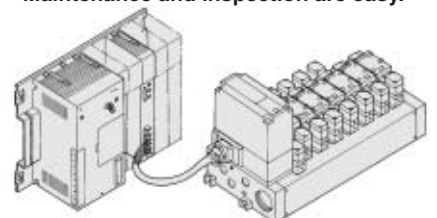


For details, refer to page 3-8-81.

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.

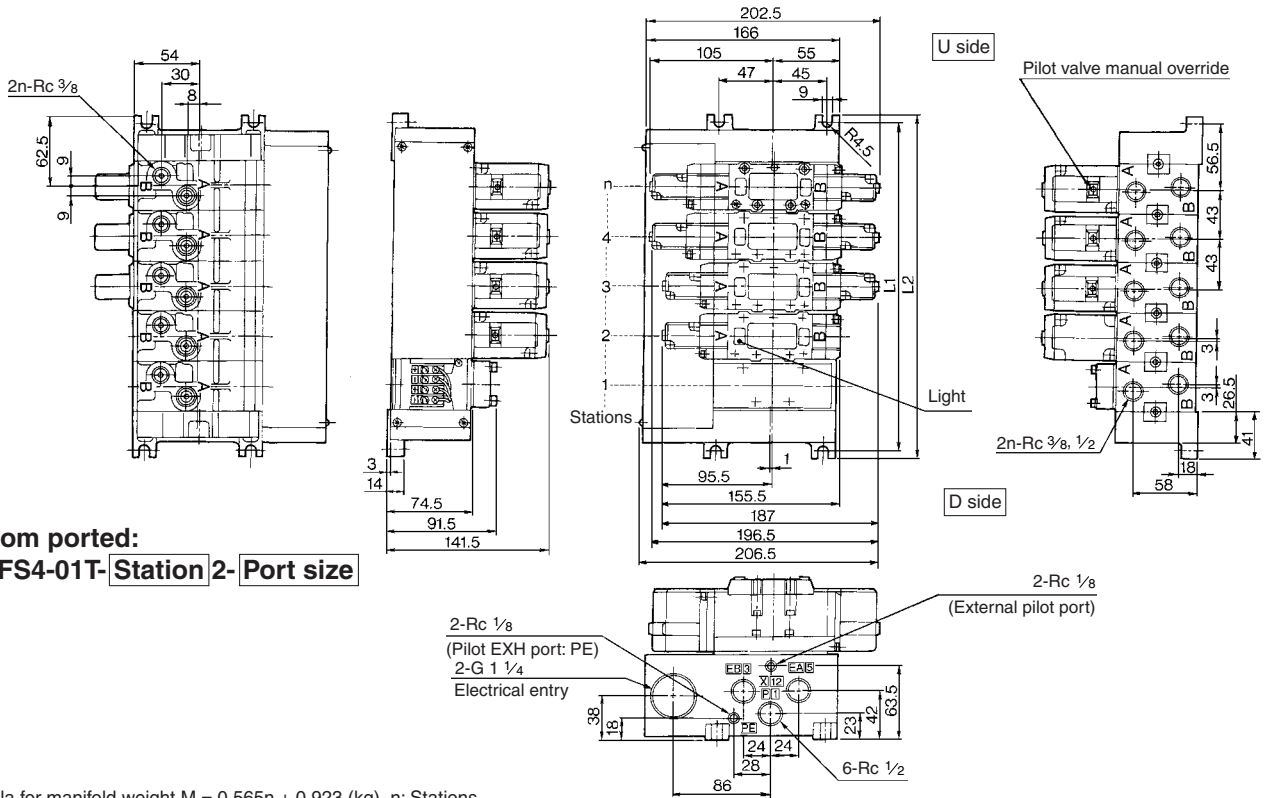


For details, refer to "Serial Transmission" catalog separately.

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

Manifold Plug-in type, Non plug-in type

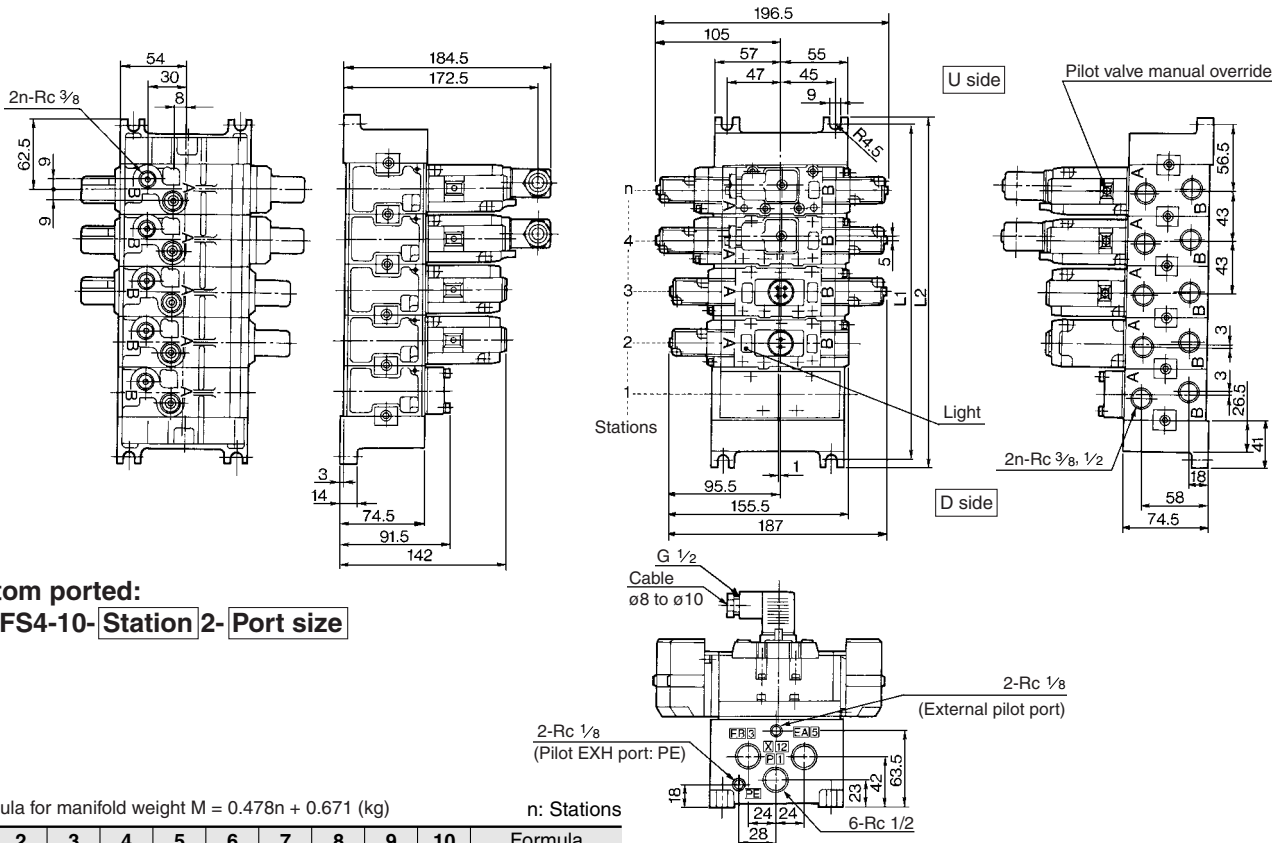
Plug-in type (With terminal block): VV5FS4-01T- Station 1- Port size



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 ₁		156	199	242	285	328	371	414	457	500	L ₁ = 43 x n + 70
L ₂		168	211	254	297	340	383	426	469	512	L ₂ = 43 x n + 82

VK

VZ

VF

VFR

VP4

VZS

VFS

VS4

VQ7

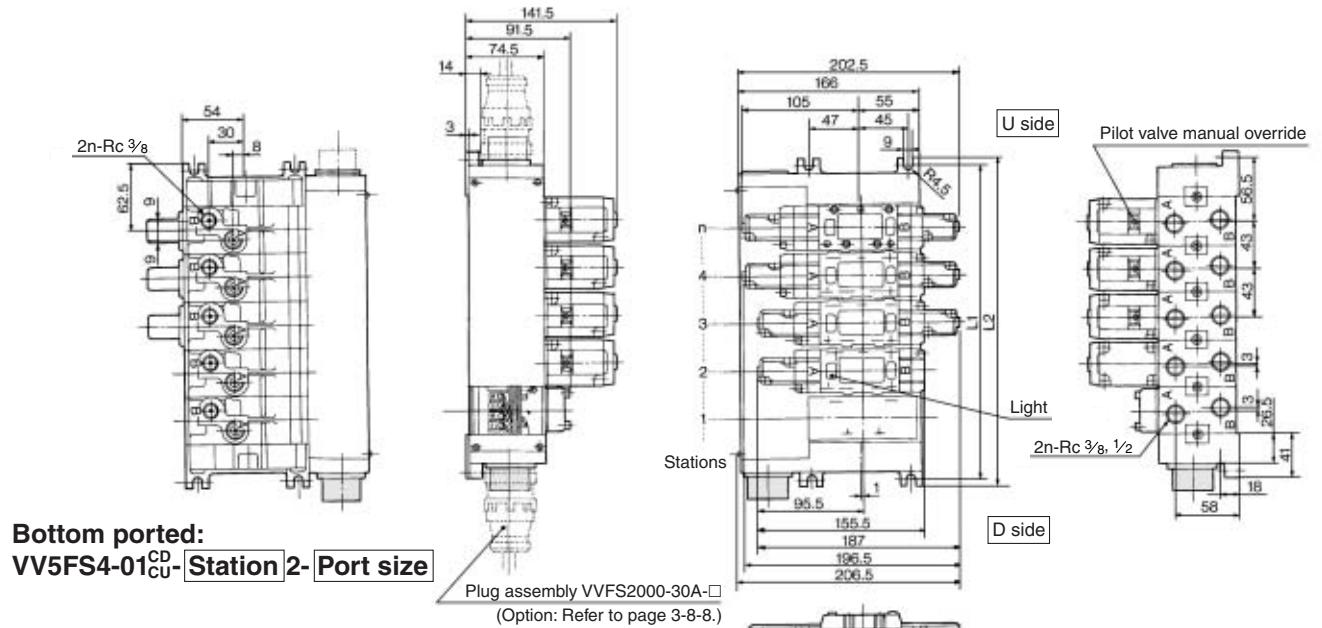
EVS

VFN

Series VFS4000

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

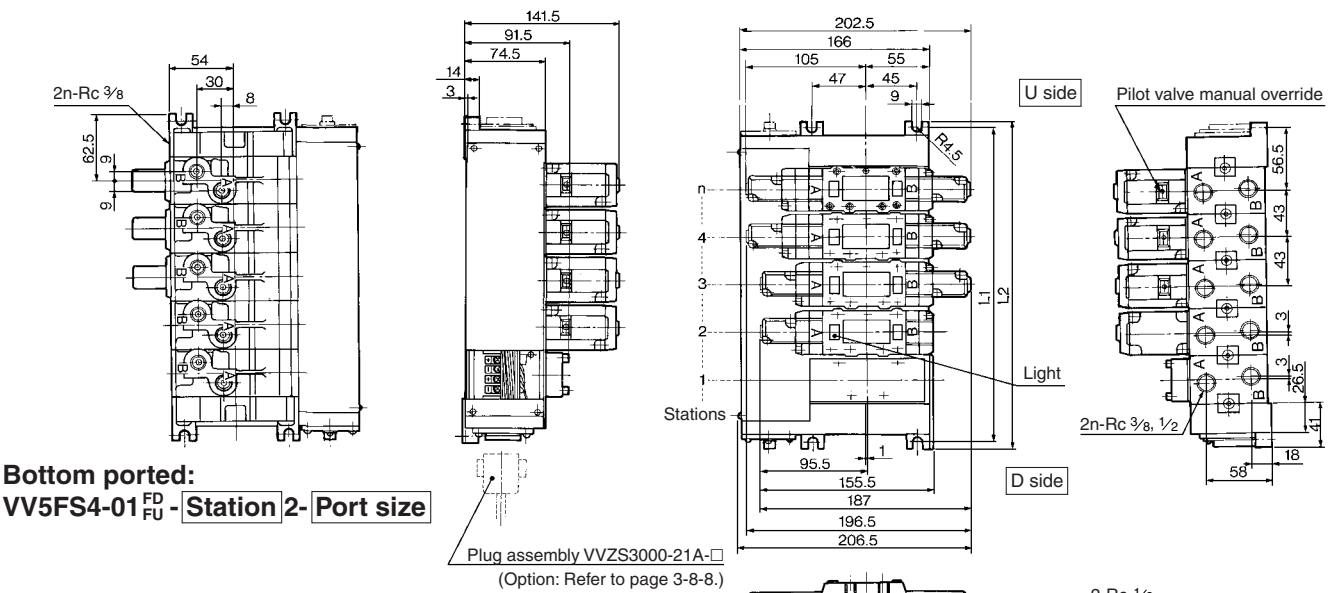
Plug-in type with multi-connector: **VV5FS4-01CD-Station 1- Port size**, **VV5FS4-01CU-Station 1- Port size**



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



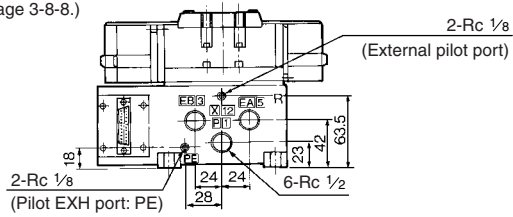
Plug-in type with D-sub connector: **VV5FS4-01FD-Station 1- Port size**, **VV5FS4-01FU-Station 1- Port size**



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



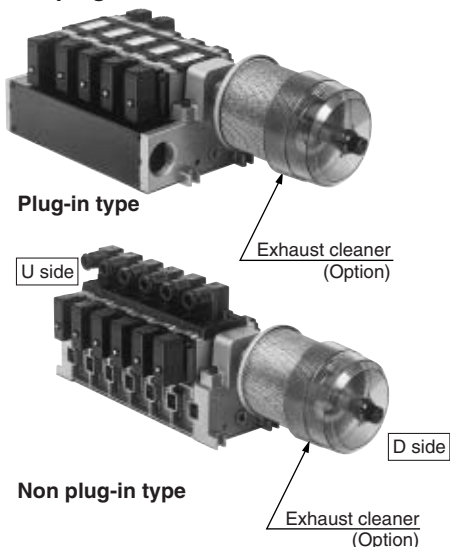
		n: Stations								
Stations		2	3	4	5	6	7	8	Formula	
L ₁		156	199	242	285	328	371	414	$L_1 = 43 \times n + 70$	
L ₂		168	211	254	297	340	383	426	$L_2 = 43 \times n + 82$	



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 ⁽¹⁾	
	AMC610-10 (Connecting port size R 1), AMC810-14 (Connecting port size R 1 1/2) ⁽²⁾	

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.

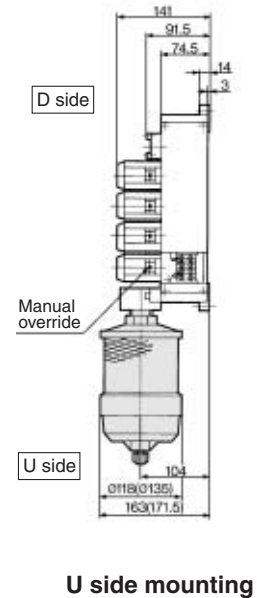
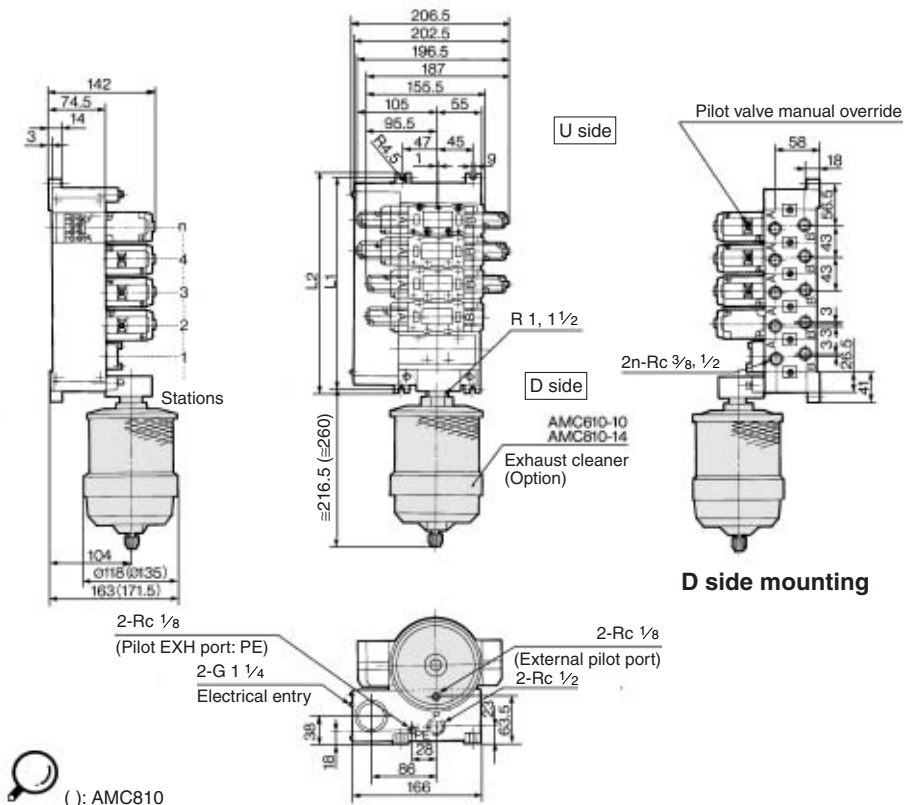
<Example>

- 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

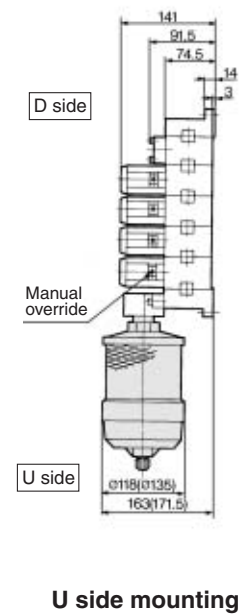
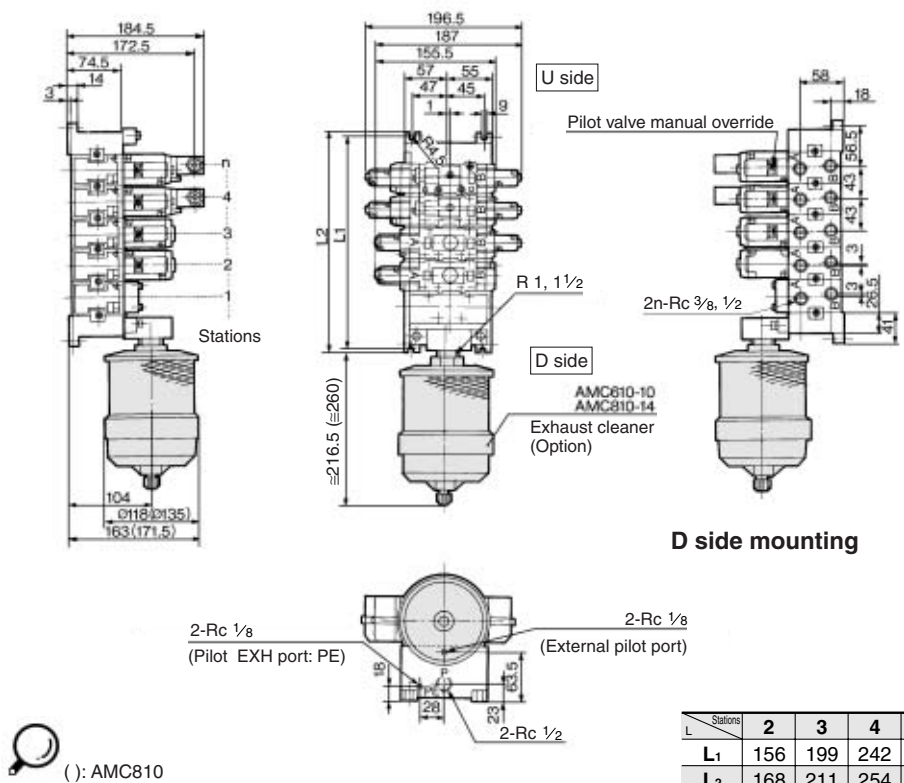
Series VFS4000

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

Plug-in type: VV5FS4-01T- Station 1- Port size -^{CD}_{CU}



Non plug-in type: VV5FS4-10- Station 1- Port size -^{CD}_{CU}



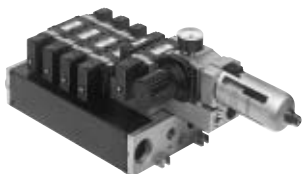
n: Stations

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

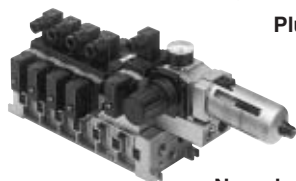
5 Port Pilot Operated Solenoid Valve Metal Seal, Plug-in/Non Plug-in Series VFS4000

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.



Plug-in type



Non plug-in type

Caution

When using an air filter with auto-drain or manual drain, mount the filter vertically.

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 1(P), 3(R2), 5(R1) port	Side: Rc 3/8, 1/2, Bottom: Rc 3/8 Side: Rc 1/2
Stations	2 to 10*	

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

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 ⁽¹⁾	
Set pressure range: OFF	0.1 to 0.6 MPa
Differential	0.08 MPa or less
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
	48 VAC/DC: 40 mA
	100 VAC/DC: 20 mA
Air release valve (Single only)	
Operating pressure range	0.1 to 1.0 MPa

Control Unit/Option

Air release valve spacer	<Plug-in type>	
	VVFS4000-24A-1R (D side mounting)	
Pressure switch	<Non plug-in type>	
	VVFS4000-24A-2R (D side mounting)	
Pressure switch	IS1000P-2-1	
Blanking plate	Filter regulator	MP2-3
	Pressure switch	MP3-2
	Release valve	VVFS4000-24A-10
Filter element	11104-5B	

- Note 1) Voltage: 24 VDC to 100 VAC
Inner voltage drop: 4 V
- Note 2) Combination of a valve VFS41□□ (single) and a release valve spacer can be used as an air release valve.
- Note 3) The non plug-in type cannot be mounted afterwards.

How to Order

VV5FS4-01C D-08 1-03 □ AP □

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	

Stations

02	2 stations
10*	10 stations

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

Symbol

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

* Option

Port size

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

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

Thread type

Nil	Rc
N*	NPT
T*	NPTF
F*	G

* Option

Air release valve coil rating

Nil	None (F, G type only)
1	100 VAC, 50/60 Hz
5	24 VDC
9	Other

Control unit type

Symbol	Nil	A	AP	M	MP	F	G	C	E
Control equipment									
Air filter with auto-drain		●	●			●			
Air filter with manual drain				●	●		●		
Regulator		●	●	●	●	●	●		
Air release valve		●	●	●	●			●	●
Pressure switch			●		●				
Blanking plate (Air release valve)						●	●		
Blanking plate (Filter, Regulator)								●	
Blanking plate (Pressure switch)		●	●		●	●	●		
Number of manifold blocks required for mounting (stations)	2	2	2	2	2	2	2	2	1

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

<Example>

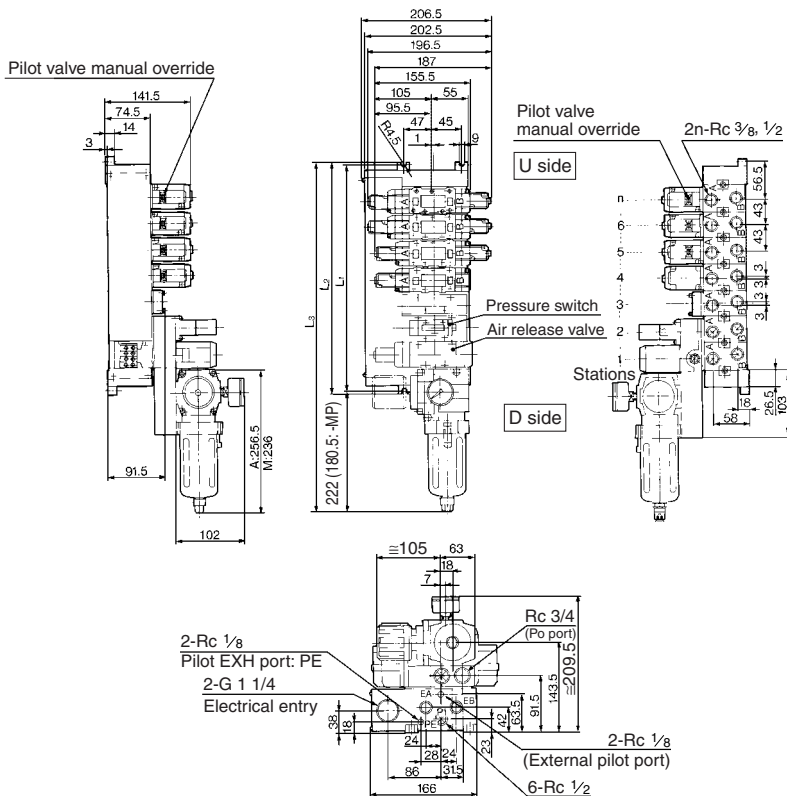
- Plug-in type with terminal block: In order to mount control unit, it requires 2 stations.
 - (Manifold base) VV5FS4-01T-081-03-AP5 1
 - (2 position single) VFS4100-5FZ 4
 - (2 position double) VFS4200-5FZ 2
- Non plug-in type: In order to mount control unit, it requires 2 stations.
 - (Manifold base) VV5FS4-10-061-03-A 1
 - (2 position single) VFS4110-5D 4

VK
VZ
VF
VFR
VP4
VZS
VFS
VS4
VQ7
EVS
VFN

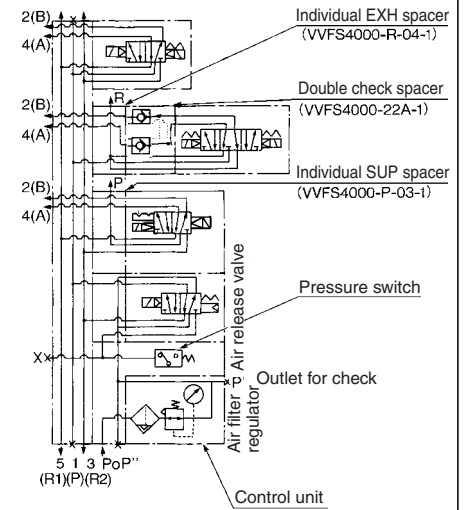
Series VFS4000

Manifold with Control Unit Plug-in type, Non plug-in type

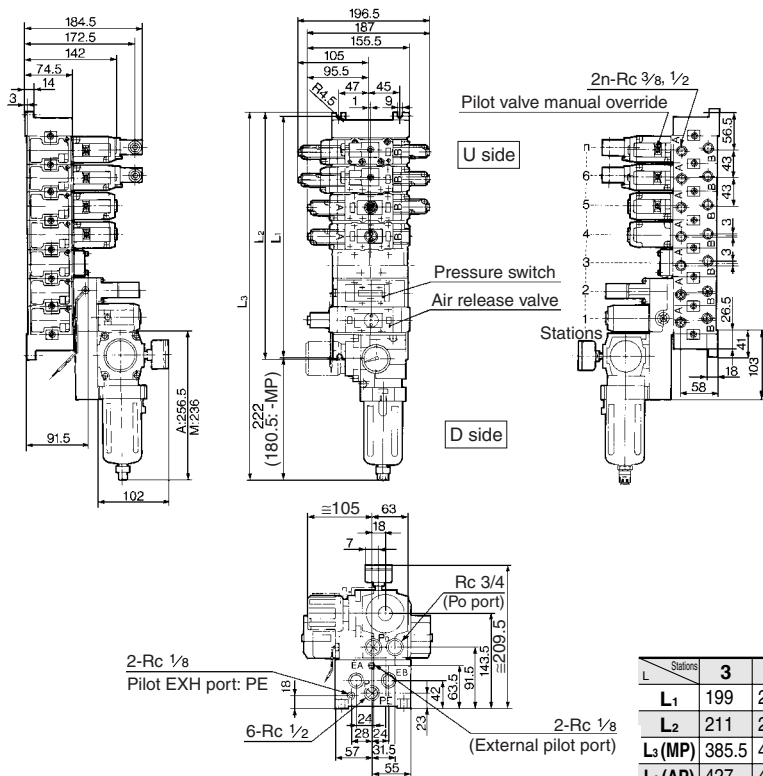
Plug-in type: VV5FS4-01T-Station 1- Port size -AP Voltage for release valve



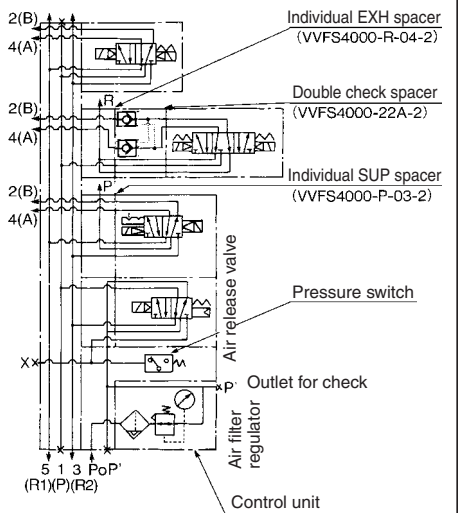
Example for manifold



Non plug-in type: VV5FS4-10-Station 1- Port size -AP Voltage for release valve



Example for manifold

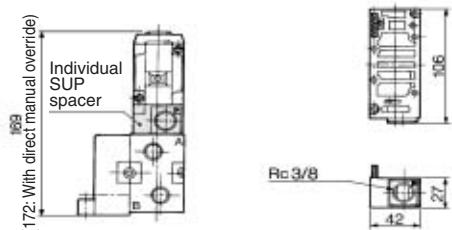


		n: Stations								
L	Stations	3	4	5	6	7	8	9	10	Formula
L ₁		199	242	285	328	371	414	457	500	L ₁ = 43 x n + 70
L ₂		211	254	297	340	383	426	469	512	L ₂ = 43 x n + 82
L ₃ (MP)		385.5	428.5	471.5	514.5	557.5	600.5	643.5	686.5	L ₃ = 43 x n + 256.5
L ₃ (AP)		427	470	513	556	599	642	685	728	L ₃ = 43 x n + 298

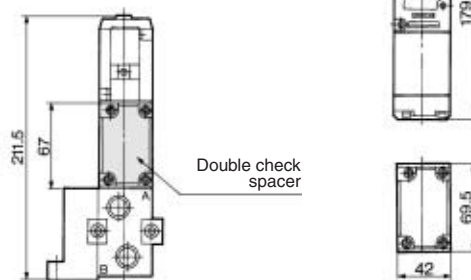
5 Port Pilot Operated Solenoid Valve Metal Seal, Plug-in/Non Plug-in Series VFS4000

Manifold Option Parts Plug-in type, Non plug-in type

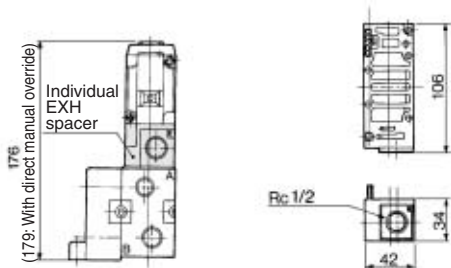
Individual SUP spacer:
VVFS4000-P-03-1 (Plug-in type)
VVFS4000-P-03-2 (Non plug-in type)



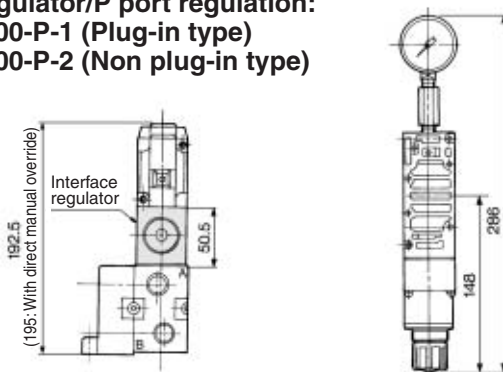
Double check spacer:
VVFS4000-22A-1 (Plug-in type)
VVFS4000-22A-2 (Non plug-in type)



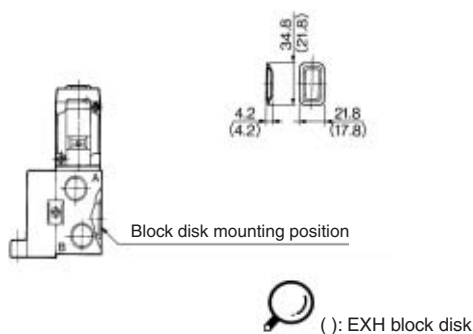
Individual EXH spacer:
VVFS4000-R-04-1 (Plug-in type)
VVFS4000-R-04-2 (Non plug-in type)



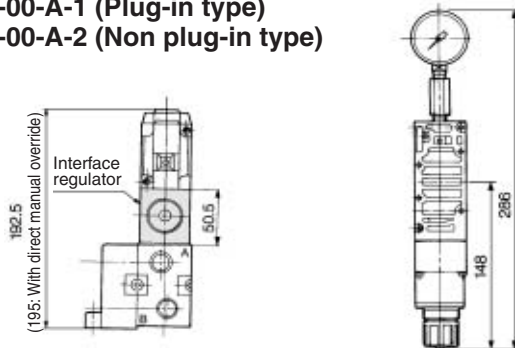
Interface regulator/P port regulation:
ARBF4050-00-P-1 (Plug-in type)
ARBF4050-00-P-2 (Non plug-in type)



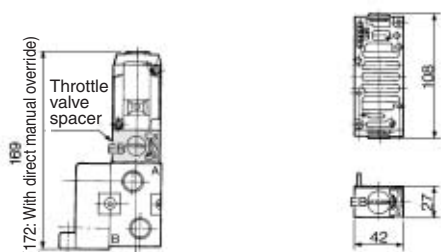
SUP block disk: AXT634-10A
EXH block disk: AXT634-11A



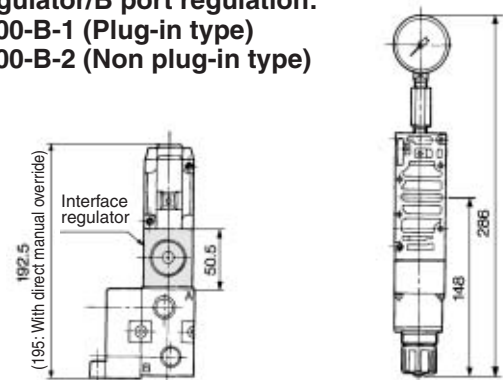
Interface regulator/A port regulation:
ARBF4050-00-A-1 (Plug-in type)
ARBF4050-00-A-2 (Non plug-in type)



Throttle valve spacer:
VVFS4000-20A-1 (Plug-in type)
VVFS4000-20A-2 (Non plug-in type)



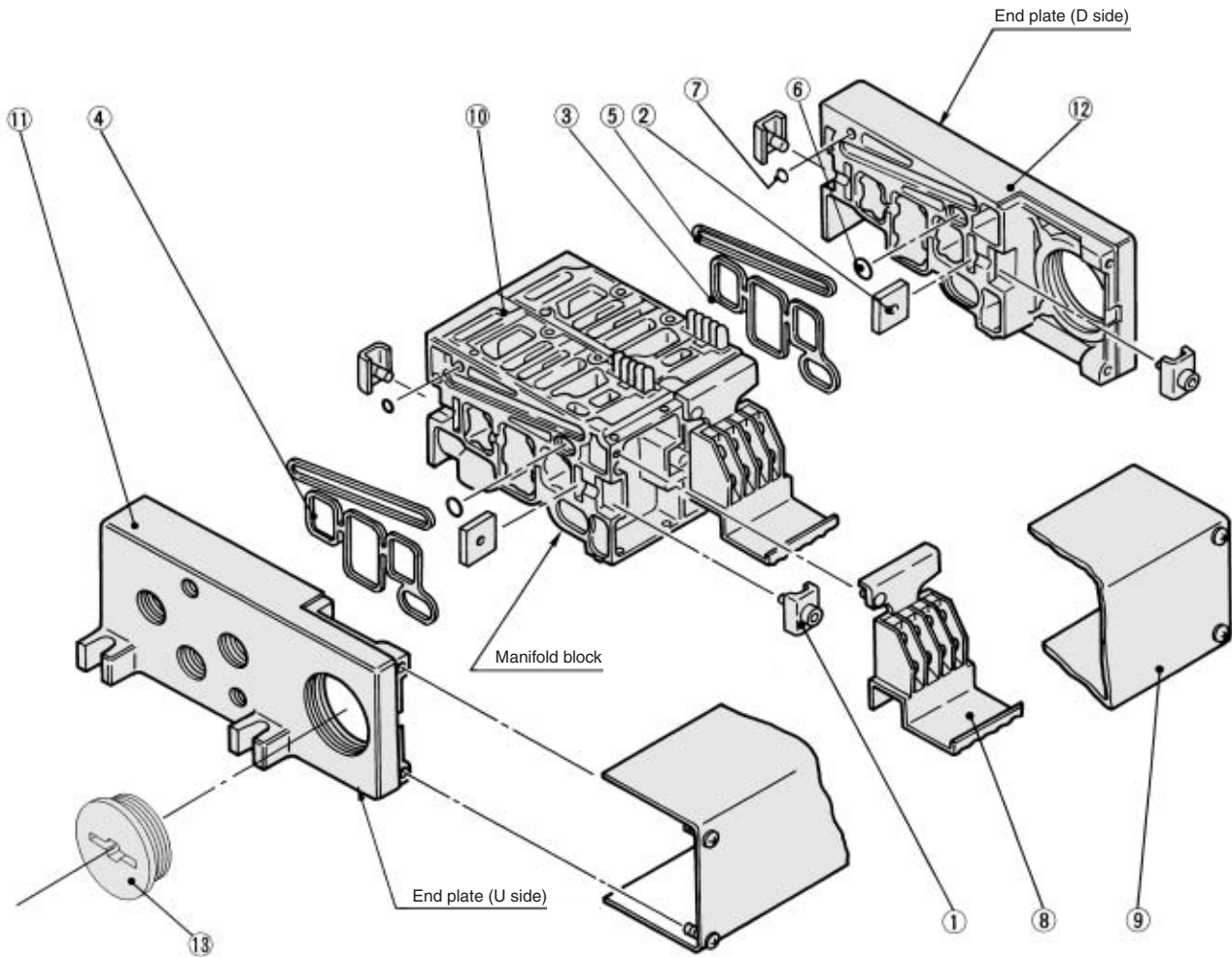
Interface regulator/B port regulation:
ARBF4050-00-B-1 (Plug-in type)
ARBF4050-00-B-2 (Non plug-in type)



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

Series VFS4000

Manifold Base Construction Plug-in type, Non Plug-in type



Replacement Parts

No.	Description	Material	Part no.
①	Connection fitting A	Steel plate	VVF4000-5-1A
②	Connection fitting B	Steel plate	VVF4000-5-2
③	Gasket	NBR	VVF4000-7 (End plate)
④	Gasket	NBR	VVF4000-7-1 (Manifold block)
⑤	Gasket	NBR	VVF4000-8
⑥	O-ring	NBR	AS568-011
⑦	O-ring	NBR	P-3
⑧	Terminal assembly	—	VVF4000-6A
⑨	Junction cover assembly	For 01T	VVF4000-4A- <small>[Stations]</small>
		For 01SU	AZ738-30A- <small>[Stations]</small>
⑬	Rubber plug	NBR	AXT336-9

- For increasing the manifold bases, please order the manifold block assembly number of the principal part assembly ⑩. For plug-in type: The manifold base with terminal stand (integrated with a junction cover) is required with the ⑨ junction cover assembly.

Replacement Parts: Sub Assembly

No.	Description	Assembly part no.	Component parts	Applicable manifold base
⑩	Manifold block assembly	VVF4000-1A-1- <small>03</small> / <small>04</small>	Manifold block ⑩, Terminal ⑧, Metal joint ①, ②, Gasket ④, Receptacle assembly	Plug-in type
		VVF4000-1A-2- <small>03</small> / <small>04</small>	Manifold block ⑩, Metal joint ①, ②, Gasket ④	Non plug-in type
⑪	End plate (U side) assembly	VVF4000-2A-1	End plate (U) ⑪, Metal joint ①, ②	Plug-in type
		VVF4000-2A-2	End plate (U) ⑪, Metal joint ①, ②	Non plug-in type
⑫	End plate (D side) assembly	VVF4000-3A-1	End plate (D) ⑫, Metal joint ①, ②, Gasket ③, ⑤, O-ring ⑥, ⑦	Plug-in type
		VVF4000-3A-2	End plate (D) ⑫, Metal joint ①, ②, Gasket ③, ⑤, O-ring ⑤, ⑥	Non plug-in type



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