Series VZ5000/Body ported **Manifold Specifications**

Manifold Standard



Manifold Specifications

Mo	odel	Type 20	Type 21			
Manifold type		Single base/B mount				
P(SUP)/R(EXH)		Common SUP	Common EXH			
Valve stations		2 to 15 stations 2 to 20 stations				
4(A), 2(B) port lo	cation	Valve				
Dort oizo	1(P), 3/5(R) port	Rc 1/8	Rc 1/ ₄			
Port size	4(A), 2(B) port	Rc 1/8 , Co	6, C8			

Flow Characteristics

		Port si	ze	Flow characteristics						
Manifo	1(P), 5/3(R)	2(B), 4(A)	$1 \rightarrow 4/2 (P \rightarrow A/B)$			$4/2 \rightarrow 5/3 \text{ (A/B} \rightarrow \text{R)}$				
		port	port	C [dm3/(s-bar)]	b	Cv	C [dm3/(s-bar)]	b	Cv	
VV5Z5-20-01		1/8	1/8	2.2	0.35	0.57	2.3	0.26	0.55	
VV5Z5-20-C6		1/8	C6	1.4	0.32	0.37	2.0	0.25	0.49	
VV5Z5-20-C8	VZ5□2□	1/8	C8	1.7	0.38	0.45	2.1	0.25	0.51	
VV5Z5-21-01	VZ5UZU	1/4	1/8	2.1	0.36	0.55	2.3	0.26	0.54	
VV5Z5-21-C6		1/4	C6	1.4	0.32	0.36	2.1	0.24	0.50	
VV5Z5-21-C8		1/4	C8	1.8	0.37	0.50	2.1	0.20	0.50	



Note) Value at manifold base mounted, 2 position single operating

How to Order Manifold

Instruct by specifying the valves and blanking plate assembly to be mounted on the manifold along

with the manifold base model no. (Example) VV5Z5-20-031------1 pc. (Manifold base)

*VZ5120-5G-01.....2 pcs. (Valve)

*DXT199-22-1A·······1 pc. (Blanking plate assembly)

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

Flat Ribbon Cable Manifold -

One-touch wiring to consolidate connection of external wires.

Clean appearance

The flat cable provides wiring on a printed circuit board to the individual valves at the manifold base, enabling the consolidation of external wiring at a touch through a 26 pins MIL connector.



Flat Ribbon Cable Manifold Specifications

Mo	odel	Type 21P				
Manifold type		Single base/B mount				
P(SUP), R(EXH)		Common SUP/Common EXH				
Valve stations		3 to 12 stations				
4(A), 2(B) port loc	cation	Valve				
Port size	1(P), 3/5(R) port	Rc 1/ ₄				
1 011 3126	4(A), 2(B) port	Rc 1/8, C6, C8				
Applicable flat ribb	on cable connector	Socket: 26 pins MIL, with strain relief				
Applicable flat flut	on cable connector	(Conforming to MIL-C-83503)				
Internal wiring		+COM (For -COM, please contact SMC separately.)				
Applicable soleno	oid valve	VZ5□23- ¹ / ₈ MOZ□-VZ3□- ⁰¹ / ₆₈				
Rated voltage		100 VAC 50/60 Hz, 110 VAC 50/60 Hz, 24 VDC, 12 VDC				
Note) Withstand voltage specification of wiring unit part is equivalent to JIS C 0704 class 1.						



Flow Characteristics

			ze	Flow characteristics						
Manifold	1(P), 5/3(R)	2(B), 4(A)	$1 \rightarrow 4/2 (P \rightarrow A/B)$			$4/2 \rightarrow 5/3 \text{ (A/B} \rightarrow \text{R)}$				
	port	port	C [dm3/(s-bar)]	b	Cv	C [dm3/(s.bar)]	b	Cv		
VV5Z5-21P-01		1/4	1/8	2.1	0.36	0.55	2.3	0.26	0.54	
VV5Z5-21P-C6	V5Z5-21P-C6 VZ5□23		C6	1.4	0.32	0.36	2.1	0.24	0.50	
VV5Z5-21P-C8		1/4	C8	1.8	0.37	0.50	2.1	0.20	0.50	
_										



Note) Value at manifold base mounted, 2 position single operating

How to Order Manifold

Instruct by specifying the valves, blanking plate assembly and connector assembly to be mounted on the manifold along with the manifold base model no.

(Example) VV5Z5-21P-07......1 pc. (Manifold base)

*VZ5123-5MOZ-C8...3 pcs. (Valve)

*VZ5223-5MOZ-C8.... 3 pcs. (Valve)

*DXT199-22-3A······· 1 pc. (Blanking plate assembly) *DXT192-52-1-4A······ 3 pcs. (Connector assembly)

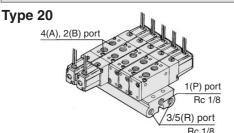
*DXT192-52-2-4A······ 3 pcs. (Connector assembly)

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

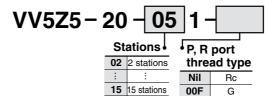


5 Port Solenoid Valve Body Ported Series VZ5000

Common SUP/Common EXH



How to Order



Note) For more than 6 stations, supply air to both sides of P port and exhaust air from both sides of R port.

How to Order

Applicable solenoid valve

VZ5□2□-□ M □□-C6

DXT199-29-1A

Applicable blanking plate assembly DXT199-22-1A Applicable individual EXH spacer assembly

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VF

VFR

VP4

VZS

VFS

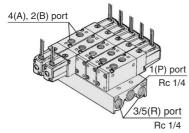
VS4

VQ7

EVS

VFN

Type 21



VV5Z5 - 21 P. R port Stations | 02 2 stations

thread type Rc 20 20 stations 00F G 00N NPT 00T NPTF

00N

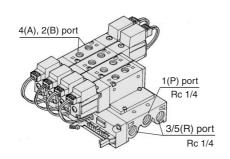
00T

NPT

NPTF

Note) For more than 10 stations, supply air to both sides of P port and exhaust air from both sides of R port.

Flat Ribbon Cable Type 21P



How to Order



thread type Nil Rc 12 12 stations 00F G 00N NPT 00T NPTF

Applicable solenoid valve

 $VZ5\square 23 - \frac{9}{5}MOZ\square - \frac{01}{26}$

Applicable blanking plate assembly DXT199-22-3A

Applicable connector assembly DXT192-52-1- ** A (For 2 position single)

DXT192-52-1- **■** A (For 2 position double, 3 position)

1: 100 VAC, 3: 110 VAC, 4: DC



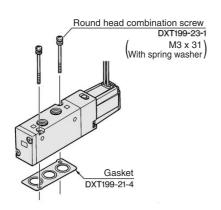
For "How to order applicable connector assemblies", refer to page 3-3-7.



Note) For more than 10 stations, supply air to both sides of 1(P) port and exhaust air from both sides of 3 and 5(R) port.

Option

Combinations of Solenoid Valve, Manifold Gasket and Manifold Base



Applicable base VV5Z5-20 VV5Z5-21 VV5Z5-21P

Individual EXH Spacer Assembly

Round head combination screw AXT623-14 (M3 x 47 (With spring washer) 5(Rt) 5(Rt) 2-Rc 1/8 (EXH port) AXT623-14 CARCALLER SALE CONTROLLER SALE CONTROLLER

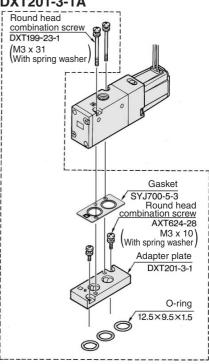
Applicable base VV5Z5-20 VV5Z5-21

Note) Please contact SMC when using an individual EXH spacer assembly, an individual or an adapter plate assembly on VV5Z5-21P.

Installation of the VZ500 Valve on the VZ5000 Manifold

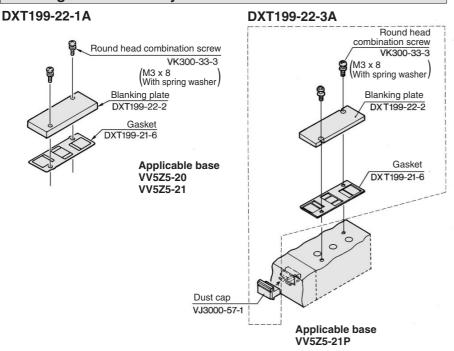
- Use of an adaptor plate makes it possible to mount Series VZ500 on the manifold base of Series VZ5000.
- The mounting direction is shown in the diagram below. Mount the solenoid so that it will be on the same side as the single solenoid of the Series VZ5000.

Adapter plate assembly DXT201-3-1A



Applicable base VV5Z5-20 VV5Z5-21

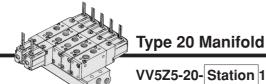
Blanking Plate Assembly



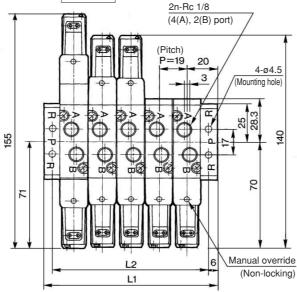
⚠ Caution

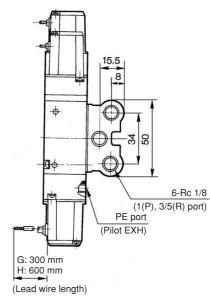
Mounting Screw Tightening Torques
M3: 0.8 N·m

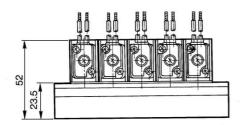
5 Port Solenoid Valve Body Ported Series VZ5000



Grommet (G), (H)







VFS VS4

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VZ

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VFR

VP4

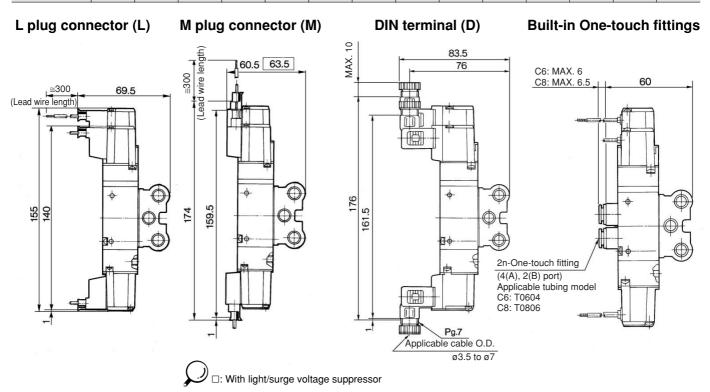
VZS

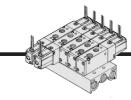
VQ7

EVS

VFN

														(mm)	
Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
L ₁	59	78	97	116	135	154	173	192	211	230	249	268	287	306	
L ₂	47	66	85	104	123	142	161	180	199	218	237	256	275	294	

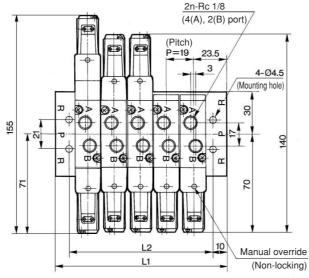


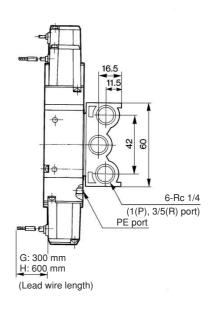


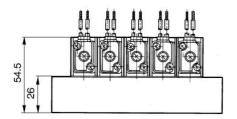
Type 21 Manifold

VV5Z5-21- Station 1

Grommet (G), (H)



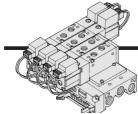




																			(,
Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L ₁	66	85	104	123	142	161	180	199	218	237	256	275	294	313	332	351	370	389	408
L ₂	46	65	84	103	122	141	160	179	198	217	236	255	274	293	312	331	350	369	388

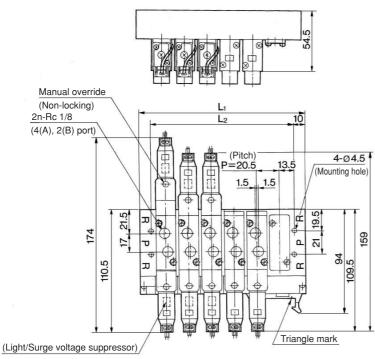
L plug connector (L) M plug connector (M) DIN terminal (D) **Built-in One-touch fittings** 10 length MAX. 63 66 78.5 C6: MAX. 6 C8: MAX. 6.5 <u>≅</u>300 62.5 (Lead wire (Lead wire length 176 55 54 159.5 Applicable cable O.D. ø3.5 to ø7 2n-One-touch fitting (4(A), 2(B) port) Applicable tubing model C6: T0604 C8: T0806 □: With light/surge voltage suppressor

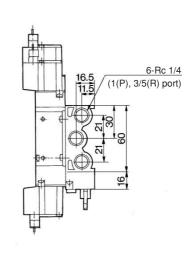
5 Port Solenoid Valve Body Ported Series VZ5000



Type 21P Manifold

VV5Z5-21P- Station



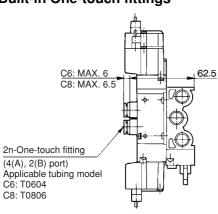


Connector polarity indicator

Applicable connector: 26 pins MIL

(Conforming to MIL-C-83503)

Built-in One-touch fittings



										(111111)
Stations	3	4	5	6	7	8	9	10	11	12
L ₁	88	108.5	129	149.5	170	190.5	211	231.5	252	272.5
L ₂	68	109	109	129.5	150	170.5	191	211.5	232	252.5

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VFR

VP4

VZS

VFS

VS4

VQ7

EVS

VFN

SMC

Series VZ5000/Base Mounted **Manifold Specifications**

Manifold Standard





Manifold Specifications

Mo	del	Type 40	Type 41	Type 42			
Manifold type		Single base/B mount					
P(SUP), R(EXH)		Common SUP and EXH					
Valve stations			2 to 20				
4(A), 2(B) port	Position	Base	Ва	ise			
porting specifications	orting specifications Direction		Side				
	1(P), 3/5(R) port	Rc 1/4					
Port size	4(A), 2(B) port	Ro	1/8	O1 (Rc 1/8) C6 (One-touch fitting for ø6) C8 (One-touch fitting for ø8) B7 (One-touch fitting for 1/4") C9 (One-touch fitting for 5/16")			

Flow Characteristics

				Flow characteristics						
Manifo	1(P), 5/3(R)	2(B), 4(A)	$1 \rightarrow 4/2 \text{ (P} \rightarrow A/B)$ $4/2 \rightarrow 5/3 \text{ (A/B} \rightarrow$					→ R)		
	port		C [dm³/(s·bar)]	b	Cv	C [dm³/(s·bar)]	b	Cv		
VV5Z5-40		1/4	1/8	2.1	0.28	0.51	2.5	0.23	0.59	
VV5Z5-41	VZ5 □4□	1/4	1/8	2.0	0.30	0.50	2.2	0.30	0.55	
VV5Z5-42-C6	VZ3⊔4⊔	1/4	C6	1.5	0.32	0.38	2.2	0.23	0.52	
VV5Z5-42-C8		1/4	C8	1.9	0.24	0.46	2.2	0.26	0.53	



Note) Value at manifold base mounted, 2 position single operating

How to Order Manifold

Instruct by specifying the valves and blanking plate assembly to be mounted on the manifold along with the manifold base model no.

(Example) VV5Z5-41-031-01....1 pc. (Manifold base)

*VZ5140-5G.....2 pcs. (Valve)

*DXT199-22-1A······ 1 pc. (Blanking plate assembly)

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

DIN Rail Manifold





Manifold Specifications

Mod	del	Type 45	Type 45F				
Manifold type		Stacking type non plug-in type Stacking type plug-in type					
P(SUP), R(EXH)		Common SUP and EXH					
Valve stations		2 to	20				
4(A), 2(B) port	Position	Ва	ise				
Porting specifications	Direction	Side					
	1(P), 3/5(R) port	C10 (One-touch fitting for ø10)					
Port size	4(A), 2(B) port		h fitting for ø6)				
		,	h fitting for ø8)				
Connector		_	MIL-C-24308 Applicable for D-sub JIS-X-5101 connector				
Internal wiring		— COM Note)					



Note) It is available at +COM or -COM.

Flow Characteristics

	Port s	ize	Flow characteristics						
Manifo	1(P), 5/3(R)	2(B), 4(A)	$1 \rightarrow 4/2 (P \rightarrow A/B)$			4/2 → 5/	$4/2 \rightarrow 5/3 \text{ (A/B} \rightarrow \text{R)}$		
	port	port	C [dm³/(s·bar)]	b	Cv	C [dm³/(s·bar)]	b	Cv	
VV5Z5-45	VV5Z5-45 VZ5□4□		C6	1.5	0.31	0.38	2.2	0.17	0.52
V V 3 Z 3 - 4 3	VZ5U4U	C10	C8	2.1	0.26	0.51	2.2	0.15	0.52



Note) Value at manifold base mounted, 2 position single operating

How to Order Manifold

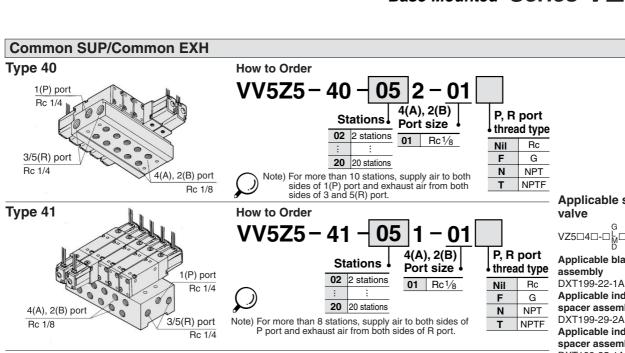
Instruct by specifying the valves and blanking plate assembly to be mounted on the manifold along with the manifold base model no.

(Example) VV5Z5-45FD-06-C8C---1 pc. (Manifold base)

*VZ5143-5FZ-----2 pcs. (Valve) *VZ5243-5FZ-----3 pcs. (Valve)

*VZ5000-65-1A········1 pc. (Blanking plate assembly)

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



Type 42 **How to Order VV5Z5 - 42** Stations | 02 2 stations One-touch fitting for ø6 1(P) port One-touch fitting for ø8 Rc 1/4 **B7** One-touch fitting for 1/4" 20 20 stations One-touch fitting for 5/16" 4(A), 2(B) por C6, C8 3/5(R) port

Applicable solenoid

VK

٧Z

VF

VFR

VP4

VZS

VFS

VS4

VQ7

EVS

VFN

VZ5□4□-□ [□□□

Applicable blanking plate

Applicable individual EXH spacer assembly

Applicable individual SUP spacer assembly DXT199-35-1A Applicable interface

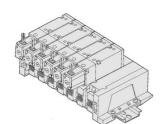
regulator ARBZ5000-00-P

P. R port thread type Rc Nil G NPT NPTF

DIN Rail Manifold

Common SUP/Common EXH

Type 45 (Non plug-in type) **How to Order**



VV5Z5 - 45 - 05 | D

20 20 stations

SUP/EXH block 02 2 stations

IIIOui	itilig pos	SILIOII &
Symbol	Position	Applicable stations
U	U side	2 to 10 stations
D	D side	2 to 10 stations
В	Both sides	2 to 20 stations
M *	Special specifications	Special
IVI	specifications	specifications

special specifications. indicate separately by the manifold specification sheet

4 (A), 2 (B) port size

Note) For more than 8 stations, supply air to both sides of 1(P) port and exhaust air from both sides of 3 and 5(R) port.

One-touch fitting for ø6
One-touch fitting for ø8
Mixed

In the case of mixed specifications (M), indicate separately on the manifold specification sheet.

4(A), 2(B)

port size

C6

One-touch

One-touch

fitting for ø6

manifold specification sheet.

Applicable solenoid valve

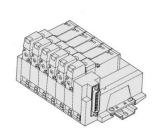
VZ5□4□-□ μ̅□□

Applicable blanking plate assembly VZ5000-65-2A

DIN rail length specified

Nil	Standard length												
3	For 3 stations	(Specify a longer											
:	:	(Specify a longer rail than the											
20	For 20 stations	standard length.)											

Type 45F (Plug-in type)



How to Order VV5Z5 -45F D

Connector mounting direction Symbol Mounting direction Applicable stations U U side 2 to 10 stations D D side 11 to 10 stations Both sides

Stations •

2 stations 20 20 stations

SUP/EXH block mounting position For 2 to 10 stations : One side

(Same as direction of connector mount) For 11 to 20 stations: Both sides В For 2 to 10 stations: Both sides M * Special specifications

* For special specifications, indicate separately by the manifold specification sheet.

Applicable solenoid valve

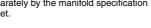
VZ5□43-□FZ□

Applicable blanking plate assembly

VZ5000-65-1A

DIN rail length specified Standard length Nil For 3 stations (Specify a longer

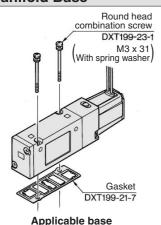
rail than the fitting for $\emptyset 8$ standard length.) Mixed 20 For 20 stations * In the case of mixed specifications (M), indicate separately on the





Option/Standard Manifold

Combinations of Solenoid Valve, Manifold Gasket and Manifold Base

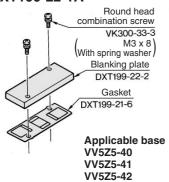


Blanking Plate Assembly

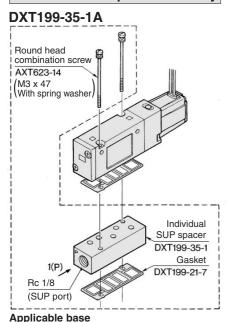
VV5Z5-40

VV5Z5-41 VV5Z5-42

DXT199-22-1A

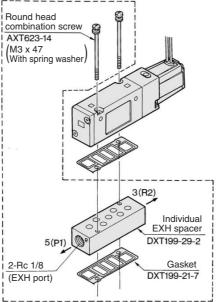


Individual SUP Spacer Assembly



Individual EXH Spacer Assembly

DXT199-29-2A

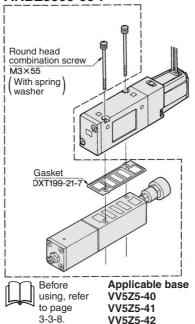


Applicable base VV5Z5-40 VV5Z5-41 VV5Z5-42

Interface Regulator (P port regulation)

Interface style regulators can be placed on top of the manifold base to reduce the pressure of each of the valves.

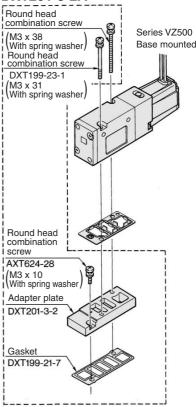
ARBZ5000-00-P



Installation of the VZ500 Valve on the VZ5000 Manifold

- Use of an adaptor plate makes it possible to mount Series VZ500 on the manifold base of Series VZ5000.
- The mounting direction is shown in the diagram below. Mount the solenoid so that it will be on the same side as the single solenoid of the Series VZ5000.
- In the case of base mounting, 2(A) port of 3 port valve should be 2(B) port of manifold base.

Adapter Plate Assembly DXT201-3-2A



Applicable base VV5Z5-40 VV5Z5-41 VV5Z5-42

∧ Caution

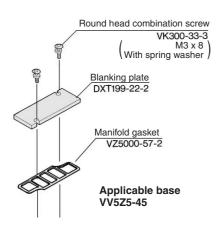
Mounting Screw Tightening Torques
M3: 0.8 N·m

VV5Z5-40

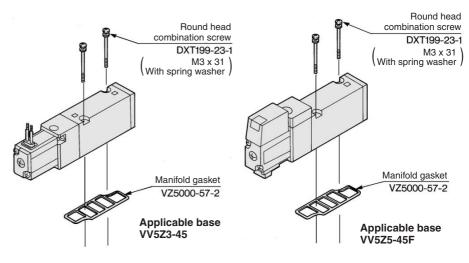
Option/DIN Rail Manifold

Blanking Plate Assembly

VZ5000-65-2A



Combination of Solenoid Valve, Gasket and Manifold Base



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VFR

VP4

VZS

VFS

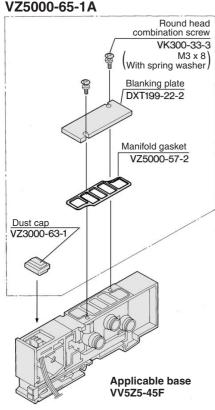
VS4

VQ7

EVS

VFN

V75000 05 4 A



SUP Block Disk

By installing a SUP block disk in the pressure supply passage of a manifold valve, it is possible to supply two or more different high and low pressures to one manifold.

VZ5000-68-1A



VZ5000-68-1A

EXH Block Disk

it does not affect another valve.



By installing an EXH block disk in the

exhaust passage of a manifold valve, it is

possible to divide the valve's exhaust so that

Applicable Plug Assembly (D-sub connector cable assembly)

Cable length	Assembly part no.	Component parts
1.5 m	VVZS3000-21A-1	Diver MIL standard D. sub-sampastar
3 m	VVZS3000-21A-2	Plug MIL standard D-sub connector Number of terminals: 25
5 m	VVZS3000-21A-3	Cable: 25 cores x 0.3 mm ²
8 m	VVZS3000-21A-4	Odbie: 20 00103 X 0.0 111111

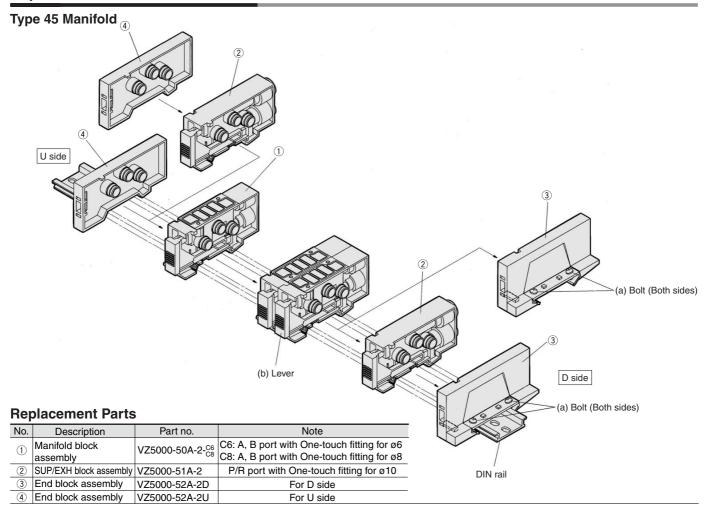


For details, refer to page 3-3-8.

Mounting Screw Tightening Torques
M2.5: 0.32 N·m
(For stacking type manifold)

SMC

Exploded View/DIN Rail Manifold

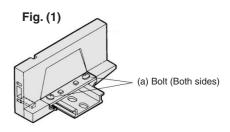


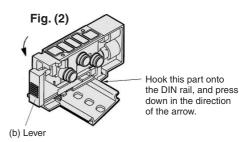
How to Increase Manifold Base

Station expansion is possible at any position.

- (1) Loosen (both) bolts (a), which are securing the manifold onto the DIN rail, 1 to 2 turns.
 - (To remove the manifold base from the DIN rail, loosen the bolts 4 to 5 turns.)
- (2) Press lever (b) to disconnect the manifold block assembly at the location in which you wish to place an additional manifold block assembly. (However, there are no levers between ① and ④ or between ③ and ④. They can be disconnected by merely pulling them apart.)
- (3) Mount additional manifold block assembly on the DIN rail as | shown in the Fig. (2).
- (4) Press the block assemblies and tighten the bolts (a) to fix them to the DIN rail.

Note) When there are 10 or fewer manifold block assemblies, and more are added to make a total of 11 or more, a supply/exhaust block assembly must also be added.





VK

VFR

VP4

VZS

VFS

VS4

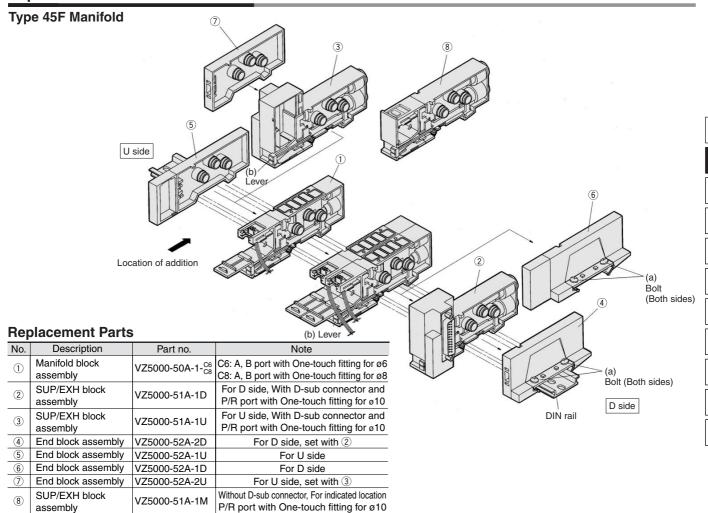
VQ7

EVS

VFN

3 - 3 - 79

Exploded View/DIN Rail Manifold

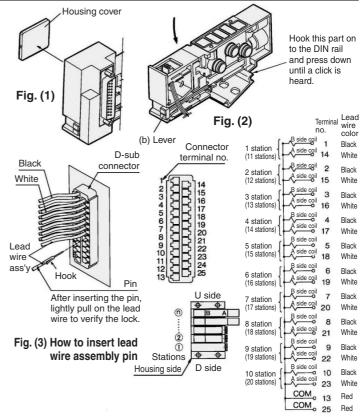


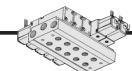
How to Increase Manifold Base

To add a manifold block assembly, add it to the U side so that the terminal number of the D-sub connector and the valve link position will be in accordance with the circuit diagram.

- (1) Loosen (both) bolts (a), which are securing the manifold onto the DIN rail, 1 to 2 turns. (To remove the manifold base from the DIN rail, loosen the bolts 4 to 5 turns.)
- (2) Using a flat screwdriver, press lever (b) to disengage the link of the manifold block assembly on the U side or the D side from the SUP/EXH block assembly or from the end block assembly. (However, there are no levers between ⑤ and ①. They can be disconnected by merely pulling them apart.)
- (3) Remove the housing cover from the D-sub connector portion of the SUP/EXH block assembly. (Refer to Fig. (1).)
- (4) Following the procedure shown in Fig. (2), mount the manifold block assembly to be added onto the DIN rail. As shown in Fig. (3), insert the pin of the lead wire assembly into the D-sub connector, and attach the round crimped terminal to the screw that connects the wires.
- (5) Press the block assemblies and tighten the bolts (a) to fix them to the DIN rail.

Note) When there are 10 or fewer manifold block assemblies, and more are added to make a total of 11 or more, a supply/exhaust block assembly must also be added.

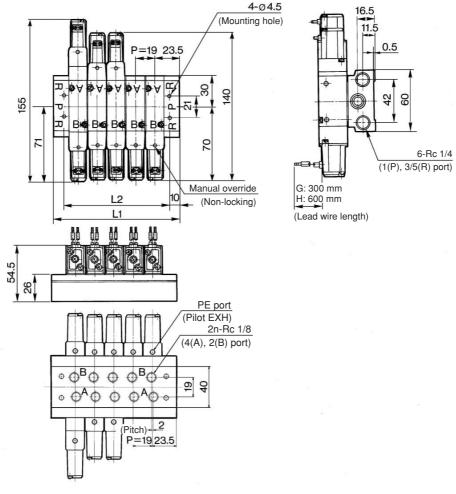




Type 40 Manifold: Bottom Ported

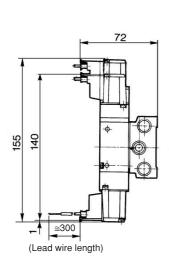
VV5Z5-40- Station 2-01

Grommet (G), (H)

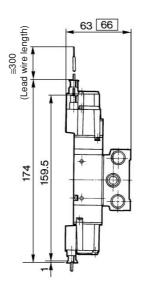


(mm) Stations

L plug connector (L)

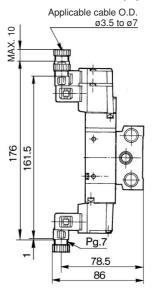


M plug connector (M)

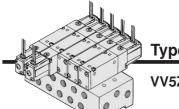




DIN terminal (D)

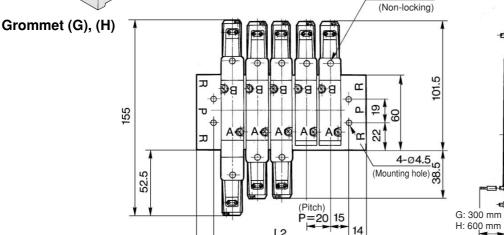


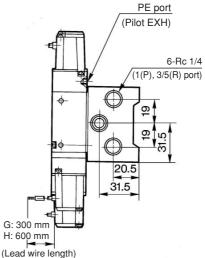
Manual override

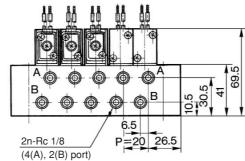


Type 41 Manifold: Side Ported



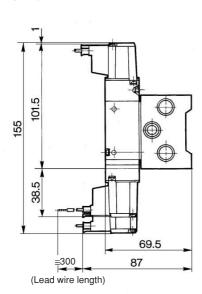




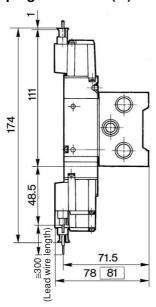


																			(mm)
Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L ₁	78	98	118	138	158	178	198	218	238	258	278	298	318	338	358	378	398	418	438
L ₂	50	70	90	110	130	150	170	190	210	230	250	270	290	310	330	350	370	390	410

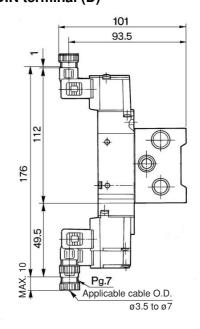
L plug connector (L)



M plug connector (M)



DIN terminal (D)



☐: With light/surge voltage suppressor

٧Z

٧K

۷F

VFR

VP4

VZS

VFS

VS4

VQ7

EVS

VFN

Type 42 Manifold: Side Ported VV5Z5-42- Station 1-88 Manual override (Non-locking) Grommet (G), (H) (Pilot EXH) 101.5 ۵ U 6 60 155 38.5 52.5

L1

70.5 42 7 8 P=19 25 Stations 11 12 13 16 17 18 19 115 134 153 172 191 210 229 248 286 305 324 343 362 381 400 77 96 267

201

4-Ø4.5

2n-One-touch fitting

(Mounting hole)

(4(A), 2(B) port) Applicable tubing model C6: T0604

C8: T0806

G: 300 mm

H: 600 mm

277

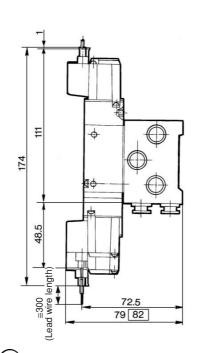
(Lead wire length)

L plug connector (L)

101.5 155 38.5 70.5 88 (Lead wire length)

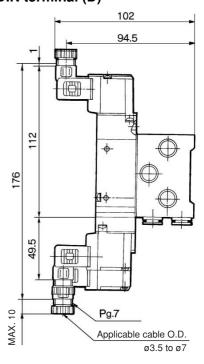
106

M plug connector (M)



315 DIN terminal (D)

296



PE port

18.5

8

6.5

89 89

353

372

20

419

391

32.5

6-Rc 1/4 (1(P), 3/5(R) port)

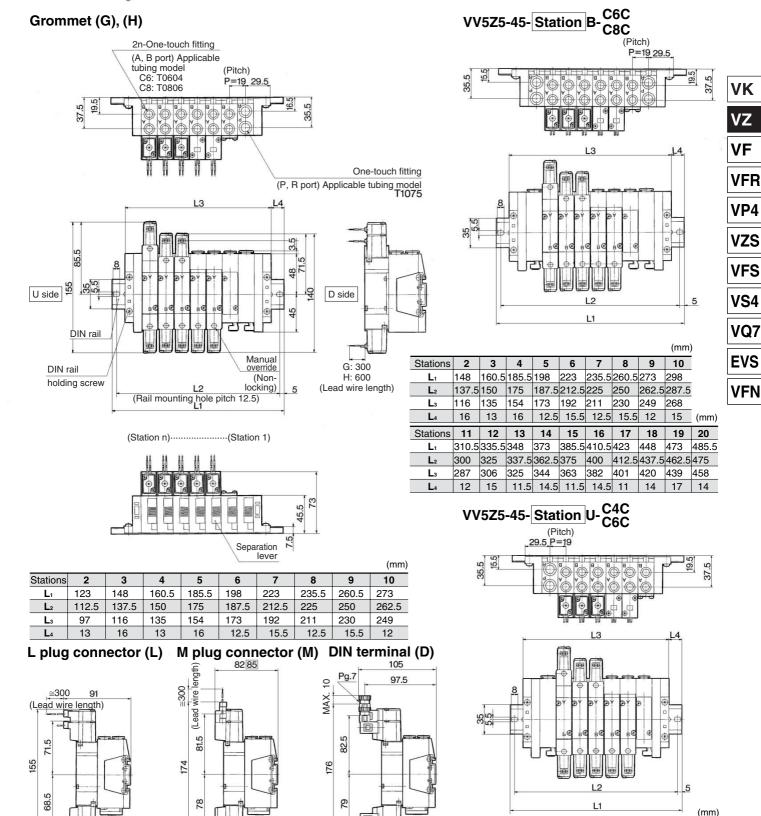
☐: With light/surge voltage suppressor





Type 45 DIN Rail Manifold (Non Plug-in): Side Ported





Applicable cable O.D. ø3.5 to ø7

Stations

123

97

13

148

112.5 137.5 150

116

16

135

13

15.5 12

10

262.5

235.5 260.5 273

250

230

6

173 | 192

223

187.5 212.5 225

12.5 15.5 12.5

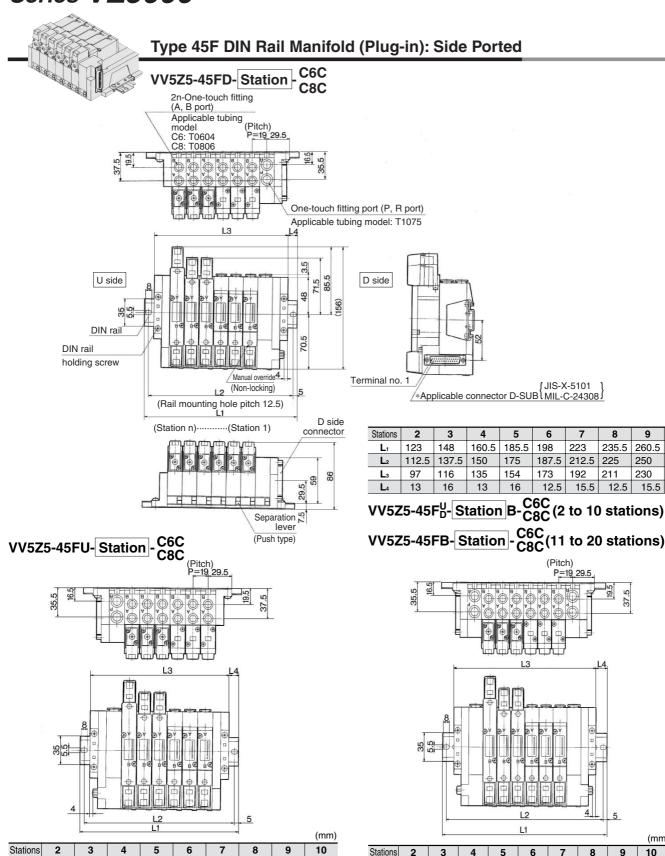
211

160.5 185.5 198

175

154

16



(mm)

262.5

235.5

19.5

212.5

260.5

(mm)

112.5

L

L

137.5

160.5

185.5

12.5

212.5

15.5

235.5

12.5

260.5

262.5