

# Series VZS2000

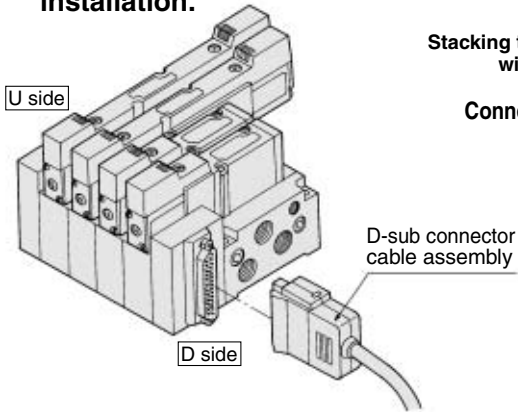
## Manifold Specifications



Refer to page 3-7-4 for wiring specifications.

### Plug-in Type: Stacking Type Manifold Base with D-sub Connector

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



VV5ZS2 - 51F D - 06 1 - 01

Series VZS2000 Manifold  
Plug-in type Stacking type manifold base with D-sub connector

Connector mounting direction

Symbol	Connector mounting position	Applicable stations
D	D side	2 to 8
U	U side	2 to 8
B	Both sides	9 to 16

Stations

02	2 stations
⋮	⋮
16*	16 stations

\* Max. 16 stations.

Thread type

Standard	Nil	Rc
	N	NPT
Option	T	NPTF
	F	G

Port size

01	Rc 1/8
C4	Embedded type One-touch fitting Applicable tubing O.D.: ø4
C6	Embedded type One-touch fitting Applicable tubing O.D.: ø6

Symbol

Symbol	Passage		Porting specifications
	1(P)	5(R1), 3(R2)	
1	Common	Common	Side

VK

VZ

VF

VFR

VP4

VZS

VFS

VS4

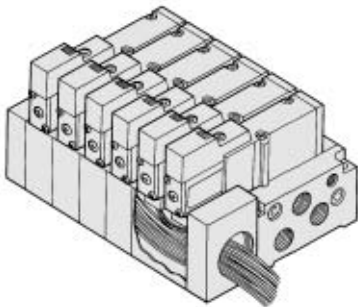
VQ7

### Plug-in Type: Stacking Type Manifold Base with Attachment Plug Lead Wire



Refer to page 3-7-4 for wiring specifications.

- The insert plug is attached to the manifold block and lead wire is plugged in with valve side. Please connect with corresponding power side.



VV5ZS2 - 51G - 06 1 - C6

Series VZS2000 Manifold  
Plug-in type Stacking type manifold base with attachment plug lead wire

Stations

02	2 stations
⋮	⋮
15*	15 stations

\* Max. 15 stations.

Thread type

Standard	Nil	Rc
	N	NPT
Option	T	NPTF
	F	G

Port size

01	Rc 1/8
C4	Embedded type One-touch fitting Applicable tubing O.D.: ø4
C6	Embedded type One-touch fitting Applicable tubing O.D.: ø6

Symbol

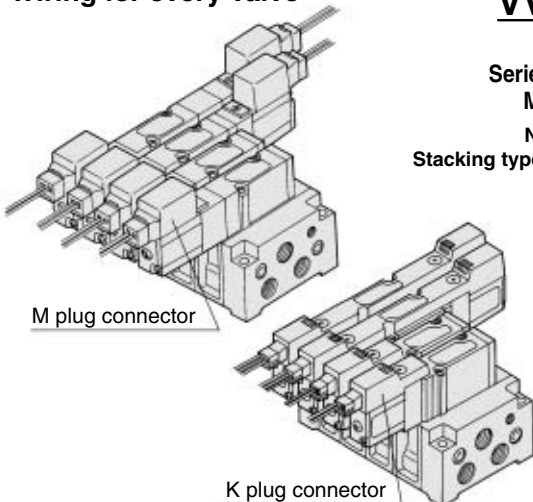
Symbol	Passage		Porting specifications
	1(P)	5(R1), 3(R2)	
1	Common	Common	Side

EVS

VFN

### Non Plug-in Type: Stacking Type Manifold Base

- Wiring for every valve



VV5ZS2 - 51 - 06 1 - C4

Series VZS2000 Manifold  
Non plug-in type Stacking type manifold base

Stations

02	2 stations
⋮	⋮
24*	24 stations

\* Max. 24 stations.

Thread type

Standard	Nil	Rc
	N	NPT
Option	T	NPTF
	F	G

Port size

01	Rc 1/8
C4	Embedded type One-touch fitting Applicable tubing O.D.: ø4
C6	Embedded type One-touch fitting Applicable tubing O.D.: ø6

Symbol

Symbol	Passage		Porting specifications
	1(P)	5(R1), 3(R2)	
1	Common	Common	Side

# Series VZS2000

## Manifold Specifications

Base model	Wiring	Porting specifications		Port size Rc	Stations	Applicable solenoid valve
		4(A), 2(B) Port	1(P), 5(R1) 3(R2)			
<b>Plug-in type</b> VV5ZS2-51F VV5ZS2-51G	<ul style="list-style-type: none"> <li>With D-sub connector</li> <li>With attachment plug lead wire</li> </ul>	Side	1/8	1/8	2 to 16*	VZS2□50-□FZ
<b>Non plug-in type</b> VV5ZS2-51	<ul style="list-style-type: none"> <li>Grommet</li> <li>L plug connector</li> <li>M plug connector</li> <li>K plug connector</li> <li>DIN terminal</li> </ul>				C4	2 to 24 stations

\* With attachment plug lead wire: 15 stations max.

## Flow Characteristics at the Number of Manifold Stations (Operated single/double type individually)

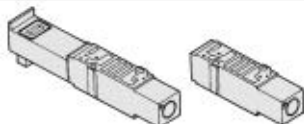
Passage/Stations		Station 1	Station 5	Station 10	Station 15	Station 20
1 → 4/2 (P → A/B)	C [dm <sup>3</sup> /(s·bar)]	1.3	1.4	1.4	1.4	1.4
	b	0.12	0.12	0.12	0.12	0.14
	Cv	0.31	0.33	0.33	0.35	0.36
4/2 → 5/3 (A/B → R1/R2)	C [dm <sup>3</sup> /(s·bar)]	1.5	1.6	1.6	1.6	1.5
	b	0.12	0.11	0.11	0.10	0.11
	Cv	0.37	0.36	0.36	0.36	0.35

## Manifold Option Parts Assembly

### Individual SUP spacer

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

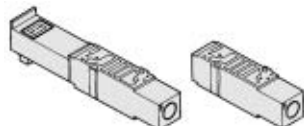
Body type	Plug-in type	Non plug-in type
Part no. Rc 1/8	VVZS2000-P-01-1	VVZS2000-P-01-2



### Individual EXH spacer

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

Body type	Plug-in type	Non plug-in type
Part no. Rc 1/8	VVZS2000-R-01-1	VVZS2000-R-01-2



### 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.	VVZS2000-26A	

### EXH block disk

When valve exhaust affects the other stations on the circuit or when the reverse pressure valve is used to 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.	VVZS2000-26A	



### 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.	VVZS2000-10A-1	VVZS2000-10A-2



### Interface regulator (P port regulation)

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

Body type	Plug-in type	Non plug-in type
Part no.	ARBZS2000-00-P-1	ARBZS2000-00-P-2



(Note) • Apply pressure from the P port of the base to operate the interface regulator.  
• To use concurrently with a double check spacer, assemble in the following order: the valve, the interface regulator, and the double check spacer.

## How to Order Manifold Assembly

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

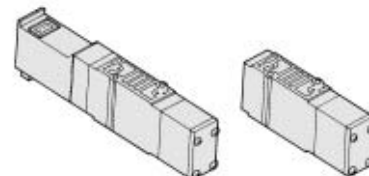
(Example)

- Plug-in type (At 6 stations)  
(Manifold base) VV5ZS2-51FD-061-01...1  
(2 position single) VZS2150-5FZ.....3  
(2 position double) VZS2250-5FZ .....2  
(Blanking plate) VVZS2000-10A-1 .....1
- Non plug-in type (At 6 stations)  
(Manifold base) VV5ZS2-51-061-01....1  
(2 position single) VZS2150-5G .....5  
(3 position exhaust center) VZS2450-5G ...1  
(Individual EXH spacer) VVZS2000-R-01-2 ...1

### Double check spacer

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

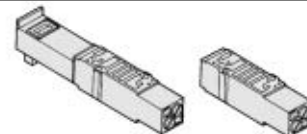
Body type	Plug-in type	Non plug-in type
Part no.	VVZS2000-22A-1	VVZS2000-22A-2



### 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.	VVZS2000-20A-1	VVZS2000-20A-2

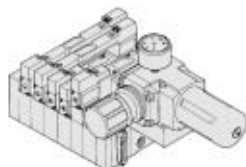


## Manifold Option

### With control unit

Plug-in type/Non plug-in type

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



For details, refer to pages 3-7-19 and 3-7-20.

### With serial interface unit for serial transmission

Plug-in type

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

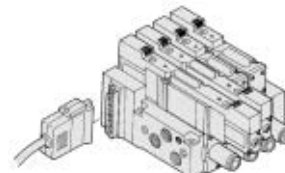


For details, refer to catalog (CAT. 02-6, 7, 8, 9).

### With coaxial fitting

Plug-in type/Non plug-in type

- Piping man-hours reduced
- One-touch piping
- 1/2 the number of tubes

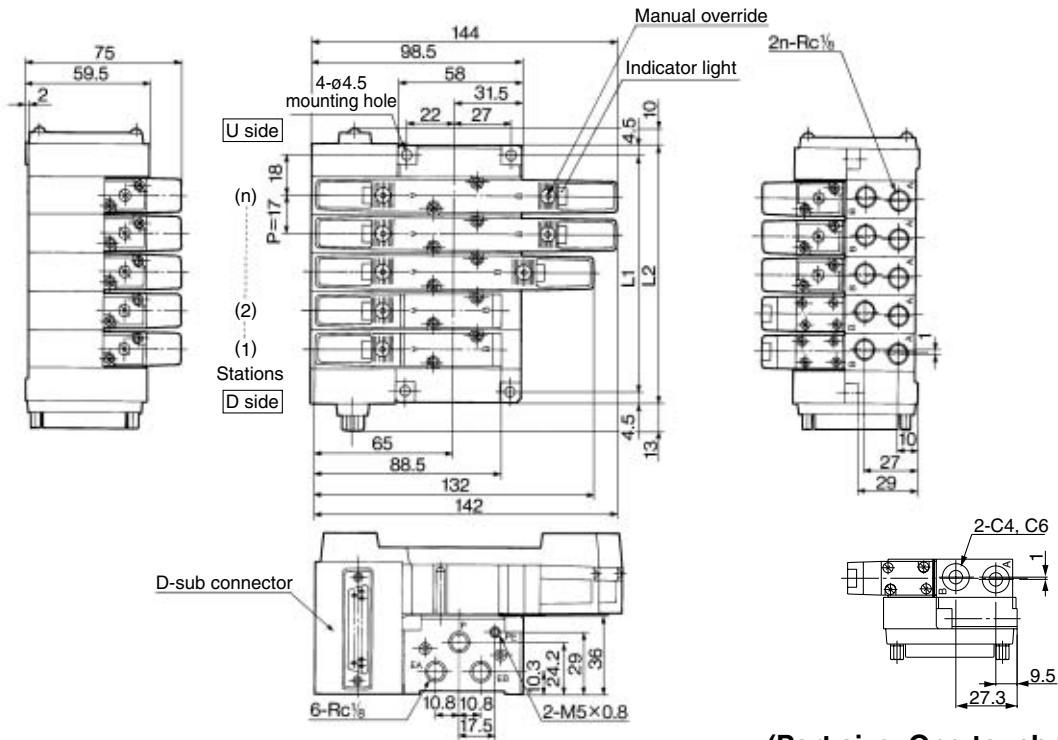


For details, refer to catalog (CAT. 02-5).

# 5 Port Pilot Operated Solenoid Valve Metal Seal, Plug-in/Non Plug-in Series VZS2000

## Manifold Plug-in type

With D-sub connector: VV5ZS2-51F□ - Station 1- Port size

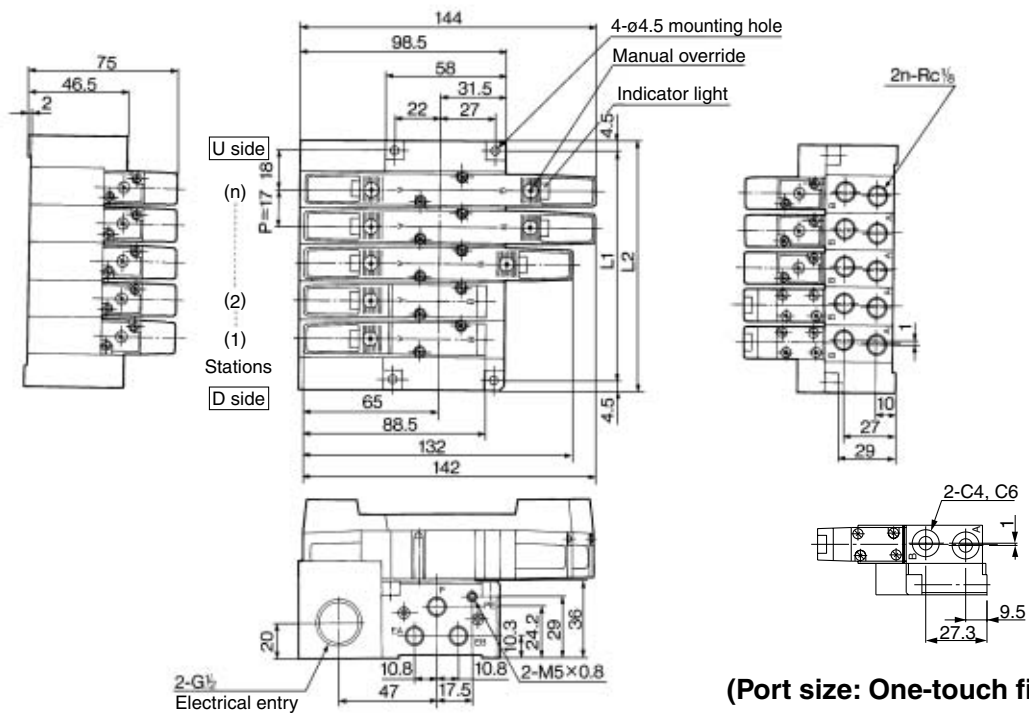


(Port size: One-touch fitting type)

n: Stations

L	Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Formula
L1		53	70	87	104	121	138	155	172	189	206	223	240	257	274	291	17n + 19
L2		62	79	96	113	130	147	164	181	198	215	232	249	266	283	300	17n + 28

With attachment plug lead wire: VV5ZS2-51G□ - Station 1- Port size



(Port size: One-touch fitting type)

n: Stations

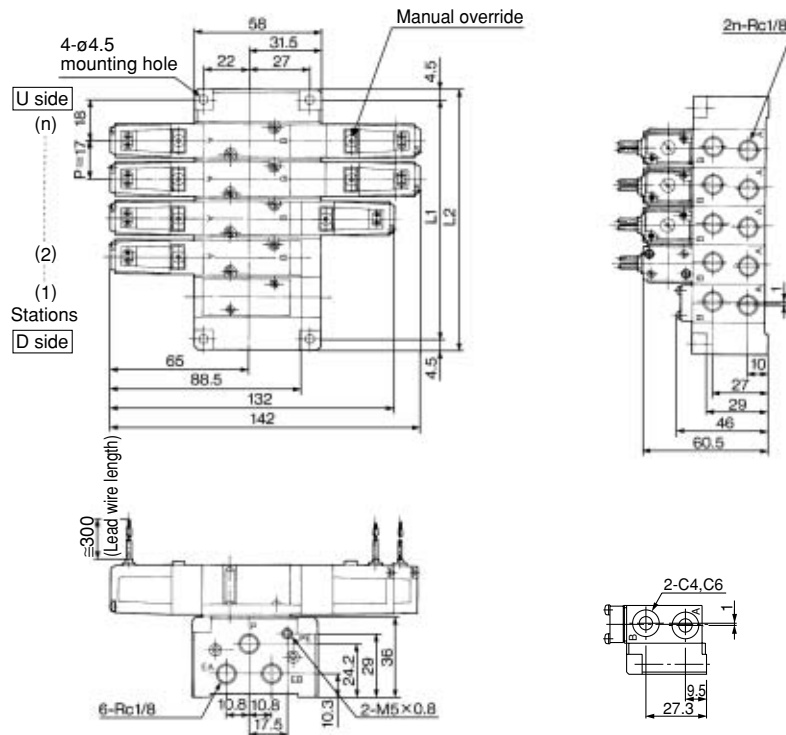
L	Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Formula
L1		53	70	87	104	121	138	155	172	189	206	223	240	257	274	17n + 19
L2		62	79	96	113	130	147	164	181	198	215	232	249	266	283	17n + 28

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

# Series VZS2000

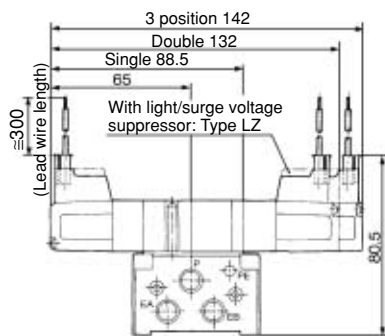
## Manifold Non plug-in type

VV5ZS2-51- Station 1- Port size  
Grommet (G)

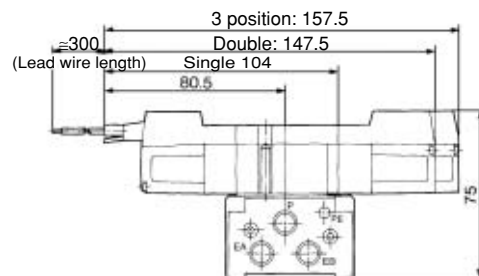


(Port size: One-touch fitting type)

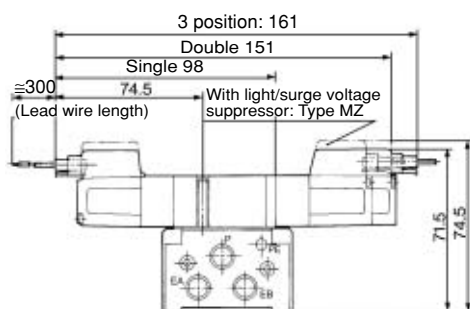
### Plug connector (L)



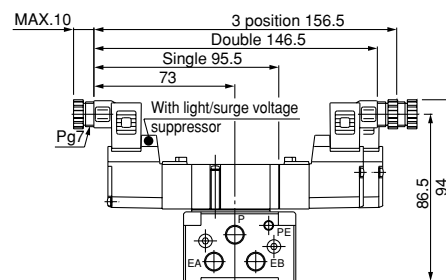
### Plug connector (K)



### Plug connector (M)



### DIN terminal (D)



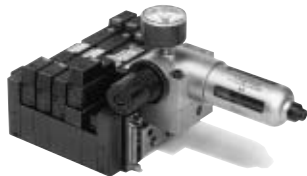
n: Stations

L	Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Formula
L1		53	70	87	104	121	138	155	172	189	206	223	240	257	274	291	308	325	342	359	376	393	410	427	17n + 19
L2		62	79	96	113	130	147	164	181	198	215	232	249	266	283	300	317	334	351	368	385	402	419	436	17n + 28

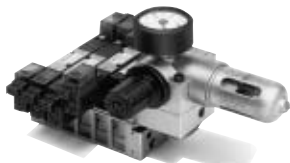
# 5 Port Pilot Operated Solenoid Valve Metal Seal, Plug-in/Non Plug-in Series VZS2000

## 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 override drain, mount the filter vertically.

## Manifold Specifications

Base model	Wiring	Porting specifications		Port size		Stations	Applicable valve model
		4(A), 2(B) port	1(P), 5(R1) 3(R2)	4(A) 2(B)			
Plug-in type VV5ZS2-51F VV5ZS2-51G	<ul style="list-style-type: none"> <li>With D-sub connector</li> <li>With attachment plug lead wire</li> </ul>	Side	Rc 1/8	Rc 1/8		2 to 16* stations	VZS2□50-□FZ
Non plug-in type VV5ZS2-51	<ul style="list-style-type: none"> <li>Grommet</li> <li>L plug connector</li> <li>M plug connector</li> <li>K plug connector</li> </ul>			C4			2 to 24 stations



\* With attachment plug lead wire: 15 stations max.

## Control Unit Specifications

Air filter (With auto-drain/With manual drain)	
Filtration degree	10 μm
Regulator	
Set pressure (Outlet pressure)	0.05 to 0.7 MPa
Pressure switch	
Set pressure range: OFF	0.1 to 0.4 MPa
Differential pressure	0.08 MPa
Contact	1a
Max. switch capacity	2 VA AC, 2 W DC
Max. operating current	24 VAC, DC or less: 50 mA 100 VAC, DC: 20 mA
Operating voltage	100 VAC, DC or less
Air release valve (Single only)	
Operating pressure range	0.1 to 1.0 MPa

## Control Unit/Option

Blanking plate	MP2-1 (With control unit/Filter regulator)
	VVZS2000-15A (With pressure switch)
	VVZS2000-24A-10-1/2 (Release valve)
Filter element	XTO-1889-10
Pressure switch	Plug-in type VVZS2000-14A
	Non plug-in type IS1000-00-X204

## How to Order

**VV5ZS2-51F D-08 1-01-□-AP 5**

Series VZS2000  
Manifold  
Base type/Electrical entry

51F	Plug-in type: Stacking type manifold base with D-sub connector
51G	Plug-in type: Stacking type manifold base with attachment plug lead wire
51	Non plug-in type: Stacking type manifold base

Connector mounting direction

Symbol	With connector	Applicable base	Applicable stations
Nil	None	51	2 to 24
		51G	2 to 15
D	D side	51F	2 to 8
U	U side		
B	Both sides		

Stations

02	2 stations
⋮	⋮
24	24 stations

Note) Maximum stations  
51F... 16 stations  
51G... 15 stations  
51... 24 stations

Symbol

Symbol	Passage		Porting specifications
	1(P)	5(R1), 3(R2)	4(A), 2(B)
1	Common	Common	Side

Thread type

Standard	Nil	Rc
	N	NPT
Option	T	NPTF
	F	G

Port size

01	Rc 1/8
C4	Embedded type One-touch fitting Applicable tubing O.D.: ø4
C6	Embedded type One-touch fitting Applicable tubing O.D.: ø6

Coil voltage of air release valve

Nil	None	Note)
1	100 VAC, 50/60 Hz	How to take out the lead wire of air release valve is the same method as the other valve equipped on the same manifold.
2	200 VAC, 50/60 Hz	
5	24 VDC	
9*	Other	

\* Option

Control unit type

Control equipment	Symbol								
	Nil	A	AP	M	MP	F	G	C	E
Air filter regulator with auto-drain	—	●	●	—	—	●	—	—	—
Air filter regulator with manual drain	—	—	—	●	●	—	●	—	—
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				1			



Note) Operating voltage of pressure switch: 100 VAC, 100 VDC or less.

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

<Example>

- Plug-in base type with D-sub connector  
(Manifold base) VV5ZS2-51FD-091-01-MP5... 1  
(2 position single) VZS2150-5FZ... 5  
(2 position double) VZS2250-5FZ... 2
- \* 2 stations are needed to mount control unit.
- Non plug-in type  
(Manifold base) VV5ZS2-51-071-01-M5... 1  
(2 position single) VZS2150-5MZ... 5
- \* 2 stations are needed to mount control unit.

VK

VZ

VF

VFR

VP4

VZS

VFS

VS4

VQ7

EVS

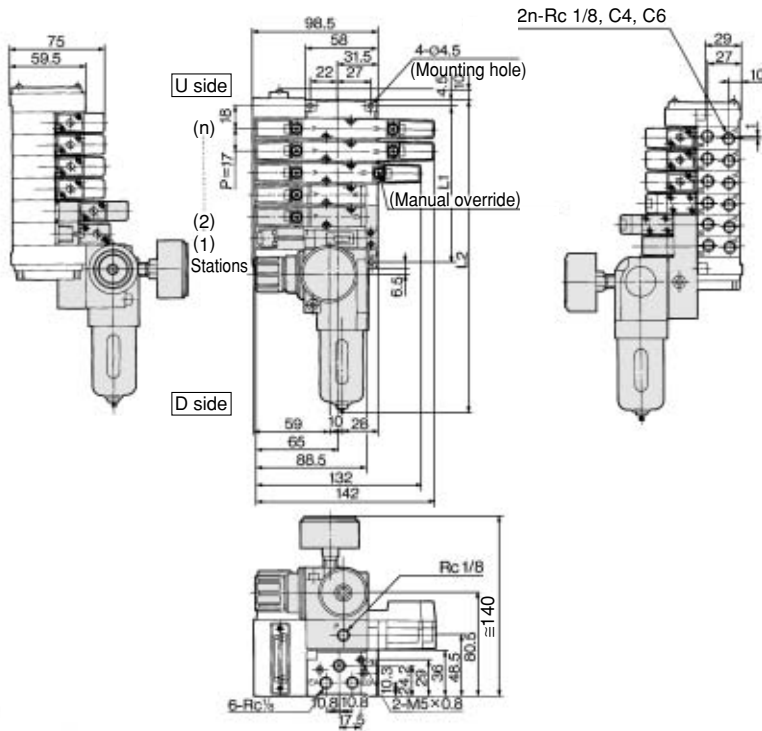
VFN

# Series VZS2000

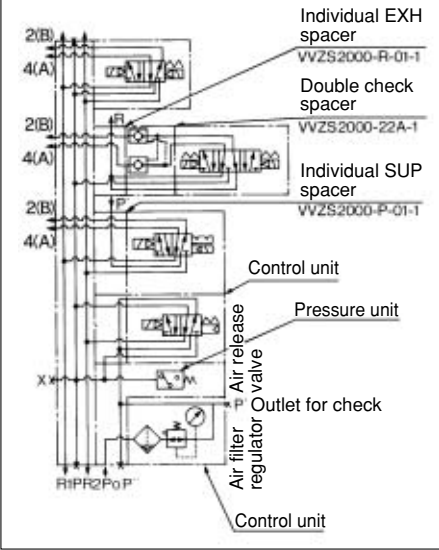
## Manifold with Control Unit Plug-in type, Non plug-in type

Plug-in base type:

VV5ZS2-51F□ - Station 1 - Port size - Classification of control unit



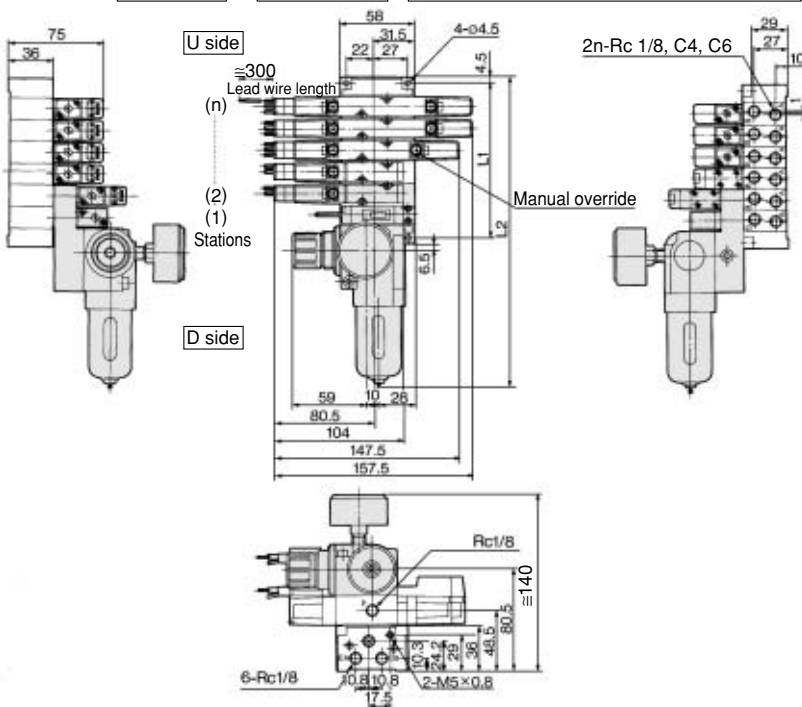
Example for manifold



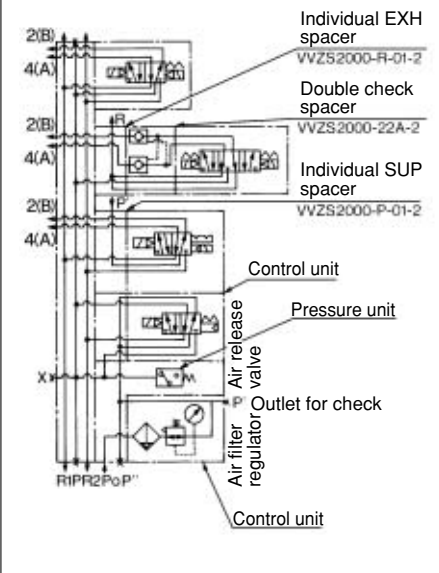
		n: Stations															Formula
L	Stations	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Formula	
L1		70	87	104	121	138	155	172	189	206	223	240	257	274	291	17n + 19	
L2 (MP)		195.5	212.5	229.5	246.5	263.5	280.5	297.5	314.5	331.5	348.5	365.5	382.5	399.5	416.5	17n + 144.5	
L2 (AP)		215.5	232.5	249.5	266.5	283.5	300.5	317.5	334.5	351.5	368.5	385.5	402.5	419.5	436.5	17n + 164.5	

Non plug-in base type:

VV5ZS2-51- Station 1 - Port size - Classification of control unit



Example for manifold

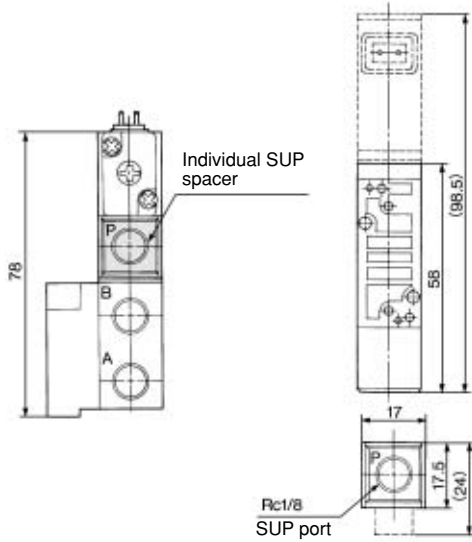


		n: Stations																								Formula
L	Stations	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Formula		
L1		70	87	104	121	138	155	172	189	206	223	240	257	274	291	308	325	342	359	376	393	410	427	17n + 19		
L2 (MP)		195.5	212.5	229.5	246.5	263.5	280.5	297.5	314.5	331.5	348.5	365.5	382.5	399.5	416.5	433.5	450.5	467.5	484.5	501.5	518.5	535.5	552.5	17n + 144.5		
L2 (AP)		215.5	232.5	249.5	266.5	283.5	300.5	317.5	334.5	351.5	368.5	385.5	402.5	419.5	436.5	453.5	470.5	487.5	504.5	521.5	538.5	555.5	572.5	17n + 164.5		

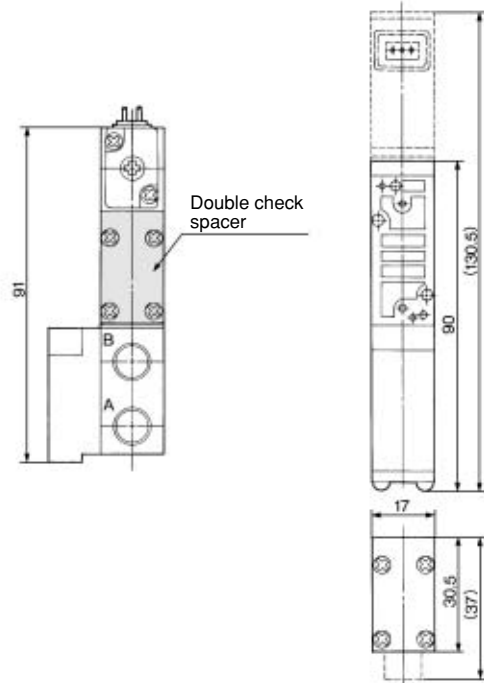
# 5 Port Pilot Operated Solenoid Valve Metal Seal, Plug-in/Non Plug-in Series VZS2000

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

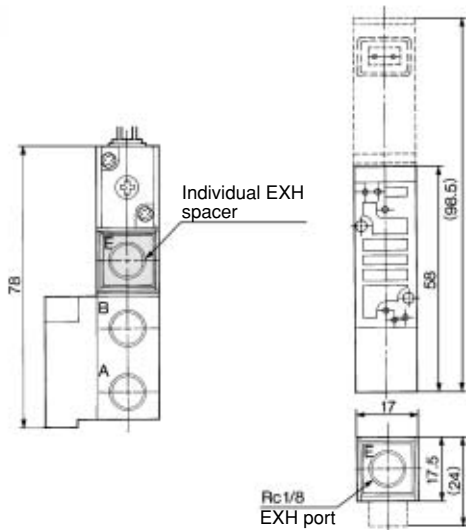
**Individual SUP spacer**  
 Plug-in type: VVZS2000-P-01-1  
 Non plug-in type: VVZS-2000-P-01-2



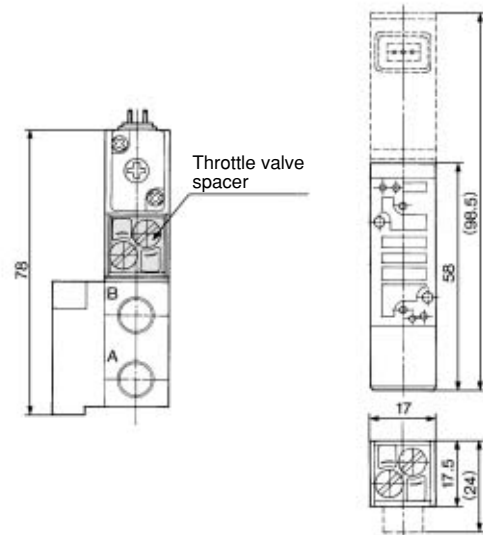
**Double check spacer**  
 Plug-in type: VVZS2000-22A-1  
 Non plug-in type: VVZS2000-22A-2



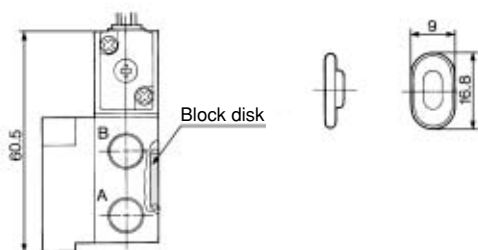
**Individual EXH spacer**  
 Plug-in type: VVZS2000-R-01-1  
 Non plug-in type: VVZS2000-R-01-2



**Throttle valve spacer**  
 Plug-in type: VVZS2000-20A-1  
 Non plug-in type: VVZS2000-20A-2



**SUP block disk**  
**EXH blocking plate** : VVZS2000-26A

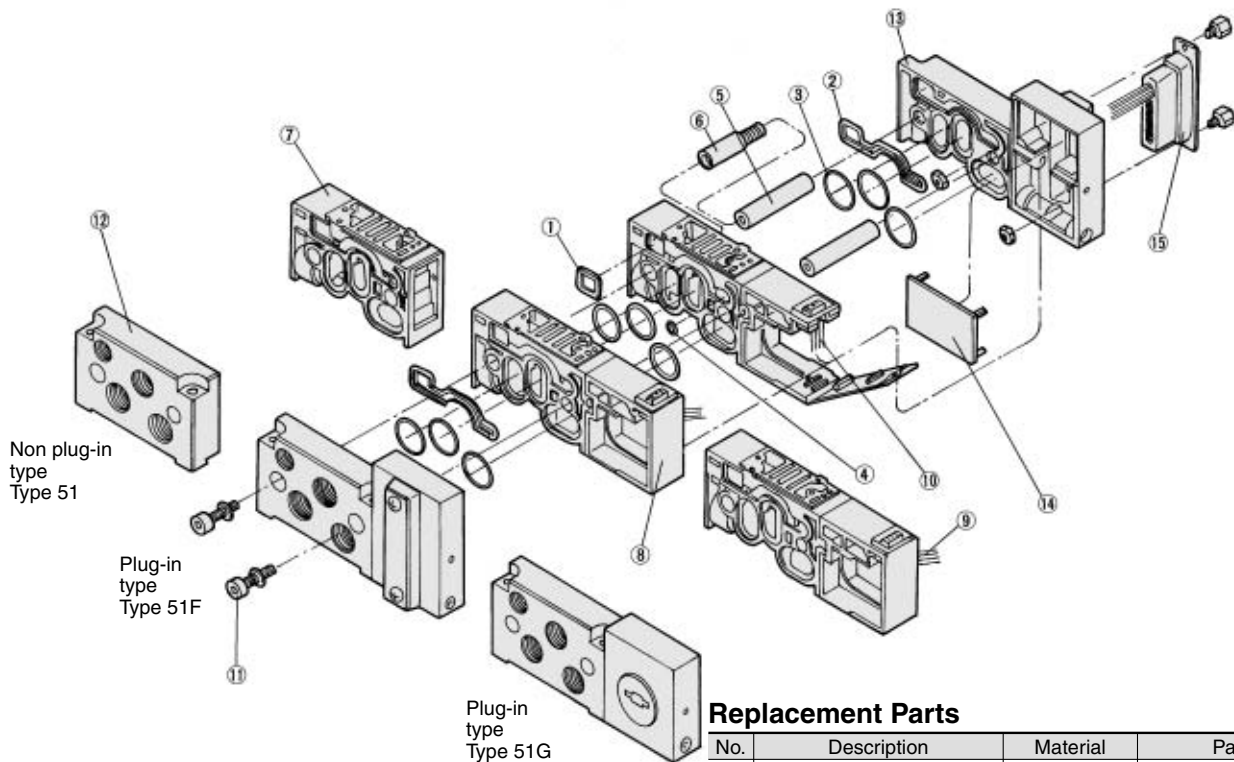


- VK
- VZ
- VF
- VFR
- VP4
- VZS
- VFS
- VS4
- VQ7
- EVS
- VFN

( ): Plug-in base type

# Series VZS2000

## Exploded View of Manifold



### Replacement Parts

No.	Description	Material	Part no.
①	Seal A	NBR	VVZS3000-4-1
②	Seal B	NBR	VVZS2000-4
③	O-ring	NBR	14.4 x 12 x 1.2
④	O-ring	NBR	7.5 x 4.5 x 1.5
⑤	Tie-rod	Carbon steel	VVZS2000-11-n <sup>(1)</sup>
⑥	Tie-rod for station addition	Carbon steel	VVZS2000-11-1-1 <sup>(2)</sup>

Note 1) n: Stations

Note 2) Manifold block assembly is attached with tie-rod for increasing stations.

Description	Applicable manifold base	Assembly part no.	Component parts
Manifold block assembly	Plug-in type With attachment plug lead wire: Type 51G	VVZS2000-1A-1-Port size <sup>(1)</sup>	Manifold block ⑦, Junction box ⑧, Lead wire assembly ⑨ Tie-rod ⑥, O-ring ③, ④, Seal A ①
	Non plug-in type: Type 51	VVZS2000-1A-2-Port size <sup>(1)</sup>	Manifold block ⑦, Tie-rod ⑥, O ring ③, ④, Seal A ①
	Plug-in type With D-sub connector: Type 51F*	VVZS2000-1A-3-Port size <sup>(1)</sup> (-1) <sup>(2)</sup>	Manifold block ⑦, Junction box ⑧, Lead wire assembly ⑩ Tie-rod ⑥, O-ring ③, ④, Seal A ①



Note 1) Bore-01: Rc 1/8, -C4: Embedded type One-touch fitting for ø4, -C6: Embedded type One-touch fitting for ø6.

Note 2) Refer to page 3-7-5 for the model of D-sub connector type manifold block assembly.

### How to Increase Manifold Base

Arrange an applied manifold block assembly.

1. Loosen the bolt ⑪ and remove the end plate ⑫ or ⑬ in the side added with manifold block.

2. Joint the tie-rod ⑥ to increase stations and add manifold block assembly. (Put packing B ② on the surface contacting to the end plate.)

3. For a style with a D-sub connector, open the cover ⑭ and insert the pin of lead wire assembly ⑩ as shown in the right figure.

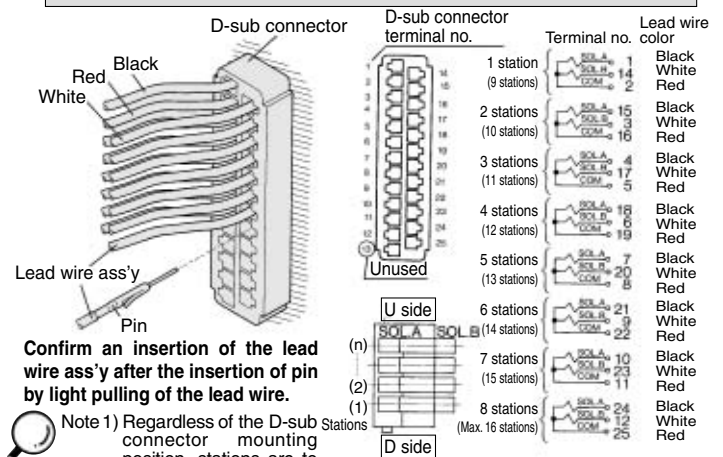
4. Mount the end plate ⑫ and ⑬ and tighten the bolt ⑪.



Note 1) Be careful that the packing and the O-ring do not fall out of the groove.

Note 2) The tightening torque of bolt ⑪ should be 2 to 2.2 N.

### Insertion Method for Pin of D-Sub Connector



Confirm an insertion of the lead wire ass'y after the insertion of pin by light pulling of the lead wire.



Note 1) Regardless of the D-sub connector mounting position, stations are to be counted from D side as the 1st one.

Note 2) D-sub connector can use up to 8 stations in on side fitting (Type F<sub>D</sub>). More than 9 stations are for both sides fitting (Type F<sub>B</sub>).

( ) is for the case of a D-sub connector for both sides (Type F<sub>B</sub>).