Series VQ5000
Base Mounted
Plug-in Unit

How to Order Manifold

VV5Q 5 1 – 08 03 F U1 □

Series

5	VQ5000

Manifold

1	Plug-in Unit

Station

01	1 station
⋮	⋮

Minimum number of stations depends on the kit.
(Refer to the table below.)

Cylinder port

03	Rc 3/8
04	Rc 1/2
B	Bottom ported Rc 1/2
CM	Mixed Note)

Note) In case of mixed specification, indicate on the manifold specification sheet.

Kit type

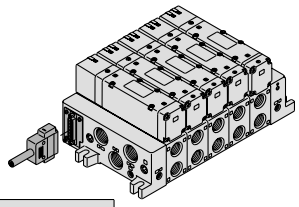
Option

Symbol	Option
Nil	None
CD1 (2)	Exhaust cleaner for Rc 1: D side exhaust
CD2 (2)	Exhaust cleaner for Rc 1 1/2: D side exhaust
CU1 (2)	Exhaust cleaner for Rc 1: U side exhaust
CU2 (2)	Exhaust cleaner for Rc 1 1/2: U side exhaust
K (4)	Special wiring specifications (Except double wiring)
N	Name plate (T kit only)
SB (3)	Direct exhaust with silencer box: Exhaust from both D and U sides
SD (2)	Direct exhaust with silencer box: D side exhaust
SU (2)	Direct exhaust with silencer box: U side exhaust
W	IP65 enclosure (except F and T1 kits)

Note 1) When two or more symbols are specified, indicate them alphabetically.
Example) -CD1K
Note 2) Combination of [C$^{U}_{D}$□] and [S$^{U}_{D}$] is not possible.
Note 3) Available only with F, L and T1 kits.
Note 4) Specify the wiring specifications on the manifold specification sheet. (Except L kit)

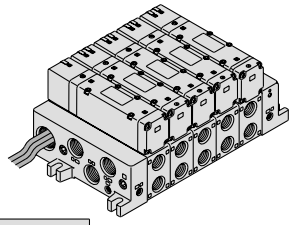
Kit/Electrical entry/Cable length

F kit
(D-sub connector)



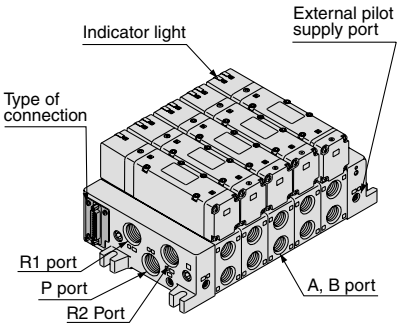
Connector entry direction					
D side		U side			
Kit F	D0	Kit F	U0	Without cable	1 to 12 stations
	D1		U1	Cable length 1.5 m	
	D2		U2	Cable length 3 m	
	D3		U3	Cable length 5 m	

L kit
(Lead wire cable)



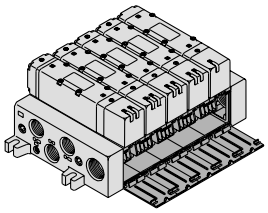
IP65 compatible

Electrical entry					
D side		U side			
Kit L	D0	Kit L	U0	Cable length 0.6 m	1 to 12 stations
	D1		U1	Cable length 1.5 m	
	D2		U2	Cable length 3 m	



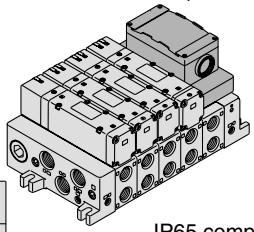
Note) The drawing shows a VV5Q51-0504FDO.

T1 kit
(Individual terminal block kit)



Kit T1	With terminal blocks	1 to 12 stations

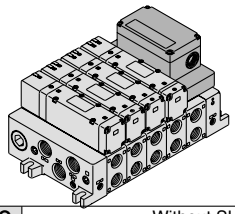
T kit
(Terminal block box kit)



IP65 compatible

Box mounting position			
D side	U side		
TD	TU	Terminal block box	2 to 12 stations

S kit
(Serial transmission unit)



The valve voltage is 24 VDC and it is equipped with light/surge voltage suppressor.

IP65 compatible

Unit mounting position				
D side	U side			
SD	SU	O	Without SI unit	2 to 12 stations
		A	With general type SI unit (Series EX300)	
		B	Mitsubishi Electric Corp.: MELSECNET/MINI-S3 Data Link System	
		BB	Mitsubishi Electric Corp.: MELSECNET/MINI-S3 Data Link System (2 power supply systems)	
		C	OMRON Corp.: SYSBUS Wire System	
		D	SHARP Corp.: Satellite I/O Link System	
		F1	NKE Corp.: Uni-wire System (16 output points)	
		J1	SUNX Corp.: S-LINK System (16 output points)	
		J2	SUNX Corp.: S-LINK System (8 output points)	
		K	Fuji Electric Co.: T-LINK Mini System	
		Q	DeviceNet, CompoBus/D (OMRON Corp.)	
		R1	OMRON Corp.: CompoBus/S System (16 output points)	
		R2	OMRON Corp.: CompoBus/S System (8 output points)	
		U	JEMANET (JPCN-1)	
		V	Mitsubishi Electric Corp.: CC-LINK System	
		G	Rockwell Automation: Allen Bradley Remote I/O (RIO) System	
		H	NKE Corp.: Uni-wire H System	

Manifold Specifications

Series	Base model	Type of connection	Porting specifications			Maximum applicable stations	Applicable solenoid valve	5 station weight (kg)
			4(A), 2(B) port location	Port size Note)				
				1(P) , 5(R1) , 3(R2)	4(A), 2(B)			
VQ5000	**VV5Q51-□□□**	■ F kit–D-sub connector ■ T kit–Terminal block box ■ T1 kit–Individual terminal block kit ■ L kit–Lead wire ■ S kit–Serial transmission	Side	Rc 3/4 Option (Direct exhaust with silencer box)	Rc 3/8 Rc 1/2	F, L, T1 kits 12 stations T kit 11 stations S kit 9 stations	VQ5L00 VQ5L01	4.1 • L kit • Not including solenoid valve weight.
			Bottom		Rc 1/2			

Note) For details about international standard threads other than Rc threads, refer to "Option" on page 2-6-39.

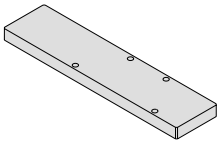
Flow Characteristics at the Number of Manifold Stations (Operated individually)

Model	Passage/Stations		Station 1	Station 5	Station 10
2 position metal seal **VQ5$^{1}_{2}$00**	1 → 4/2 (P → A/B)	C [dm³/(s·bar)]	11	11	11
		b	0.24	0.24	0.24
		Cv	2.7	2.7	2.7
	4/2 → 5/3 (A/B → EA/EB)	C [dm³/(s·bar)]	12	12	12
		b	0.14	0.14	0.14
		Cv	2.9	2.9	2.9
2 position rubber seal **VQ5$^{1}_{2}$01**	1 → 4/2 (P → A/B)	C [dm³/(s·bar)]	12	12	12
		b	0.33	0.33	0.33
		Cv	3.4	3.4	3.4
	4/2 → 5/3 (A/B → EA/EB)	C [dm³/(s·bar)]	16	16	16
		b	0.33	0.33	0.33
		Cv	4.4	4.4	4.4

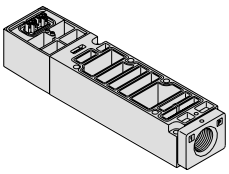
Note) For port size Rc 1/2

Manifold Option

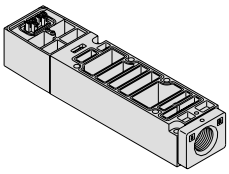
Blanking plate assembly
VVQ5000-10A-1



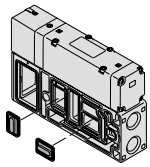
Individual SUP spacer
VVQ5000-P-1-$^{03}_{04}$



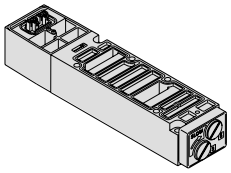
Individual EXH spacer
VVQ5000-R-1-$^{03}_{04}$



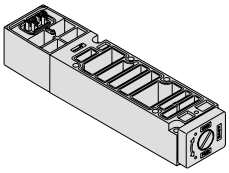
EXH block plate
VVQ5000-16A-2



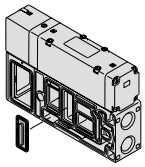
Throttle valve spacer
VVQ5000-20A-1



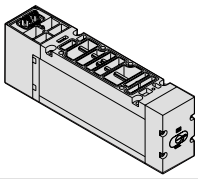
SUP stop valve spacer
VVQ5000-37A-1



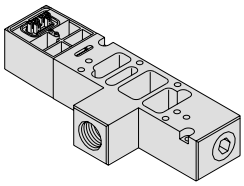
SUP block plate
VVQ5000-16A-1



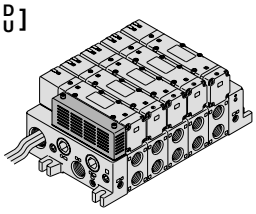
Double check spacer with residual pressure release valve
VVQ5000-25A-1



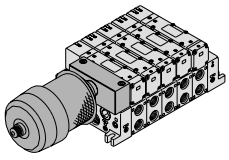
Release valve spacer
VVQ5000-24A-1D



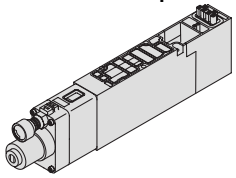
Direct exhaust with silencer box
[-S$^{D}_{U}$]



For exhaust cleaner mounting
[-C$^{D}_{U}$□]

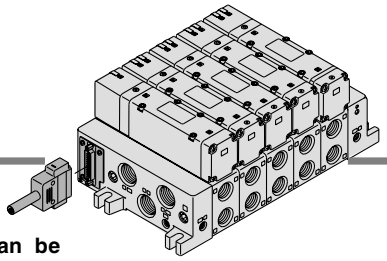


Interface regulator
ARBQ5000-00-$^{A}_{B}$$^{}_{P}$-1



• Refer to pages 2-6-34 to 2-6-38 for detailed dimensions of each option.
• For replacement parts, refer to page 2-6-43.

F Kit (D-sub Connector kit)



- **Simplification and labor savings for wiring work can be achieved by using a D-sub connector for the electrical connection.**
- **Using connector for flat ribbon cable (25P) conforming to MIL standard permits the use of connectors put on the market and gives a wide interchangeability.**
- **Connector entry can be selected on either the U side or the D side according to the mounting orientation.**
- **Maximum stations are 12.**

Manifold Specifications

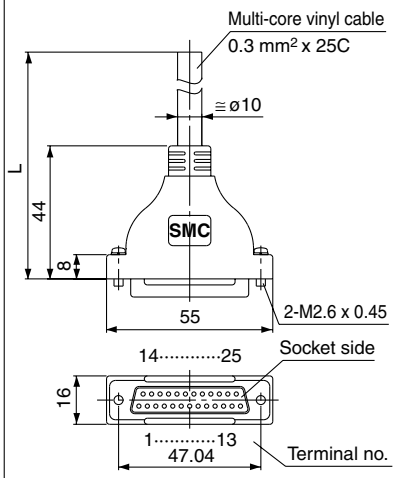
Series	Porting specifications			Applicable stations
	4(A), 2(B) port location	Port size		
		1(P), 5(R1), 3(R2)	4(A), 2(B)	
VQ5000	Side	Rc 3/4	Rc 3/8 Rc 1/2	Max. 12 stations
	Bottom		Rc 1/2	

D-Sub Connector Kit (25Pins)

Cable assembly ●

AXT100-DS25- 015 / 030 / 050

(D-sub connector cable assemblies can be ordered with manifolds. Refer to How to Order Manifold.)



D-sub Connector Cable Assembly (Option)

Cable length (L)	Assembly part no.	Note
1.5 m	AXT100-DS25-015	Cable 25 cores x 24AWG
3 m	AXT100-DS25-030	
5 m	AXT100-DS25-050	

* For other commercial connectors, use a 25 pins type with female connector conforming to MIL-C-24308.

Connector manufacturers' example
- Fujitsu, Ltd.
- Japan Aviation Electronics Industry, Ltd.
- J.S.T. Mfg. Co., Ltd.
- Hirose Electric Co., Ltd.

Electric Characteristics

Item	Characteristics
Conductor resistance Ω/km, 20°C	65 or less
Voltage limit VAC, 1 min.	1000
Insulation resistance MΩkm, 20°C	5 or less

Note) The min. bending radius of D-sub cable is 20 mm.

D-sub Connector Cable Assembly Terminal No.

Terminal no.	Lead wire color	Dot marking
1	Black	None
2	Brown	None
3	Red	None
4	Orange	None
5	Yellow	None
6	Pink	None
7	Blue	None
8	Purple	White
9	Gray	Black
10	White	Black
11	White	Red
12	Yellow	Red
13	Orange	Red
14	Yellow	Black
15	Pink	Black
16	Blue	White
17	Purple	None
18	Gray	None
19	Orange	Black
20	Red	White
21	Brown	White
22	Pink	Red
23	Gray	Red
24	Black	White
25	White	None

How to Order Manifold

VV5Q 5 1 – 08 03 F U 1 – □

Series ●

5	VQ5000

Manifold ●

1	Plug-in unit

Stations ●

02	2 stations
⋮	⋮
12	12 stations

Cylinder port ●

03	Rc 3/8
04	Rc 1/2
B	Bottom ported Rc 1/2
CM	Mixed

Connector entry direction ●

D	D side entry
U	U side entry

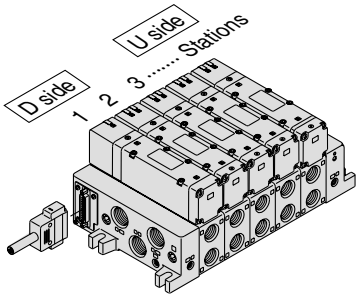
Cable (Length) ●

0	Without cable
1	Cable length 1.5 m
2	Cable length 3 m
3	Cable length 5 m

Option ●

Symbol	Option
Nil	None
CD1	Exhaust cleaner for Rc 1: D side exhaust
CD2	Exhaust cleaner for Rc 1 1/2: D side exhaust
CU1	Exhaust cleaner for Rc 1: U side exhaust
CU2	Exhaust cleaner for Rc 1 1/2: U side exhaust
K (3)	Special wiring specifications (Except double wiring)
SB	Direct exhaust with silencer box: For mounting on both D and U sides
SD	Direct exhaust with silencer box: D side exhaust
SU	Direct exhaust with silencer box: U side exhaust

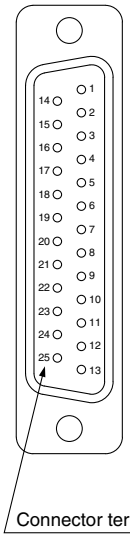
Note 1) When two or more symbols are specified, indicate them alphabetically. Example) -CD1K.
Note 2) Combination of [C_D^U□] and [S_D^U] is not possible.
Note 3) Specify the wiring specifications on the manifold specification sheet.



Stations are counted starting from the first station on the D side.

● Electrical wiring specifications

D-sub connector



Connector terminal no.

Double wiring (connected to SOL. A and SOL. B) is adopted for the internal wiring of each station, regardless of valve and option types.
Mixed single and double wiring is available as an option. For details, refer to below.

Note) There is no polarity.
It can also be used as a negative common.

Standard wiring

D-sub connector assembly (AXT100-DS25-$^{015}_{030}$$_{050}$) Wire colors

	Terminal no.	Polarity		Lead wire color	Dot marking
1 station	SOL.A 1	(–)	(+)	Black	None
	SOL.B 14	(–)	(+)	Yellow	Black
2 stations	SOL.A 2	(–)	(+)	Brown	None
	SOL.B 15	(–)	(+)	Pink	Black
3 stations	SOL.A 3	(–)	(+)	Red	None
	SOL.B 16	(–)	(+)	Blue	White
4 stations	SOL.A 4	(–)	(+)	Orange	None
	SOL.B 17	(–)	(+)	Purple	None
5 stations	SOL.A 5	(–)	(+)	Yellow	None
	SOL.B 18	(–)	(+)	Gray	None
6 stations	SOL.A 6	(–)	(+)	Pink	None
	SOL.B 19	(–)	(+)	Orange	Black
7 stations	SOL.A 7	(–)	(+)	Blue	None
	SOL.B 20	(–)	(+)	Red	White
8 stations	SOL.A 8	(–)	(+)	Purple	White
	SOL.B 21	(–)	(+)	Brown	White
9 stations	SOL.A 9	(–)	(+)	Gray	Black
	SOL.B 22	(–)	(+)	Pink	Red
10 stations	SOL.A 10	(–)	(+)	White	Black
	SOL.B 23	(–)	(+)	Gray	Red
11 stations	SOL.A 11	(–)	(+)	White	Red
	SOL.B 24	(–)	(+)	Black	White
12 stations	SOL.A 12	(–)	(+)	Yellow	Red
	SOL.B 25	(–)	(+)	White	None
	COM. 13	(+)	(–)	Orange	Red
		Positive common specifications	**Negative common specifications** Note)		

Special Wiring Specifications

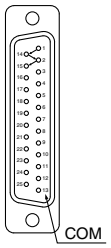
Double wiring (connected to SOL. A and SOL. B) is used for the internal wiring of each station regardless of valve and option types.
Mixed single and double wiring is available as an option.

1. How to Order

Indicate option symbol "-K" in the manifold part number and be sure to specify station positions for single or double wiring on the manifold specification sheet.

2. Wiring specifications

Connections begin with the A side solenoid of the first station being connected to terminal no. 1, and continue in the order indicated by the arrows in the drawing without skipping any terminals.
However, the maximum number of stations is 12.



D-sub connector

How to Order Valves

VQ 5 1 0 0 – 5

Series

5	VQ5000

Type of actuation

1	2 position single
2	2 position double
3	3 position closed center
4	3 position exhaust center
5	3 position pressure center
6	3 position double check

Seal

0	Metal seal
1	Rubber seal

Function

Nil	Standard type (1 W)
Y (1)	Low wattage type (0.5 W)
R (2)	External pilot

Note 1) Applicable to DC specifications.
Note 2) Refer to page 2-6-39 for details on external pilot specifications.
Note 3) When two or more symbols are specified, indicate them alphabetically.

Coil voltage

1	100 VAC (50/60 Hz)
2	200 VAC (50/60 Hz)
3	110 VAC (50/60 Hz)
4	220 VAC (50/60 Hz)
5	24 VDC
6	12 VDC

Light/Surge voltage suppressor

Nil	Yes
E	Without light, with surge voltage suppressor

Manual override

Nil	Non-locking push type (Tool required)
B	Locking type (Tool required)

How to Order Manifold Assembly

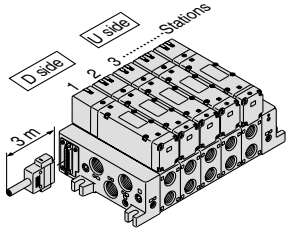
Specify the part numbers for valves and options together beneath the manifold base part number.

<Example>
D-sub connector kit with cable (3 m)

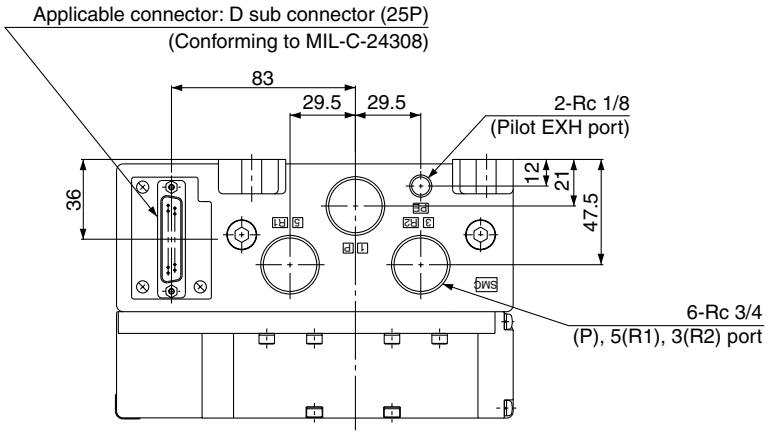
VV5Q51-0503FD2 ··1 set – Manifold base part no.
∗VQ5100-5 ····· 2 sets – Valve part no. (Stations 1 and 2)
∗VQ5200-5 ····· 2 sets – Valve part no. (Stations 3 and 4)
∗VQ5300-5 ····· 1 set – Valve part no. (Station 5)

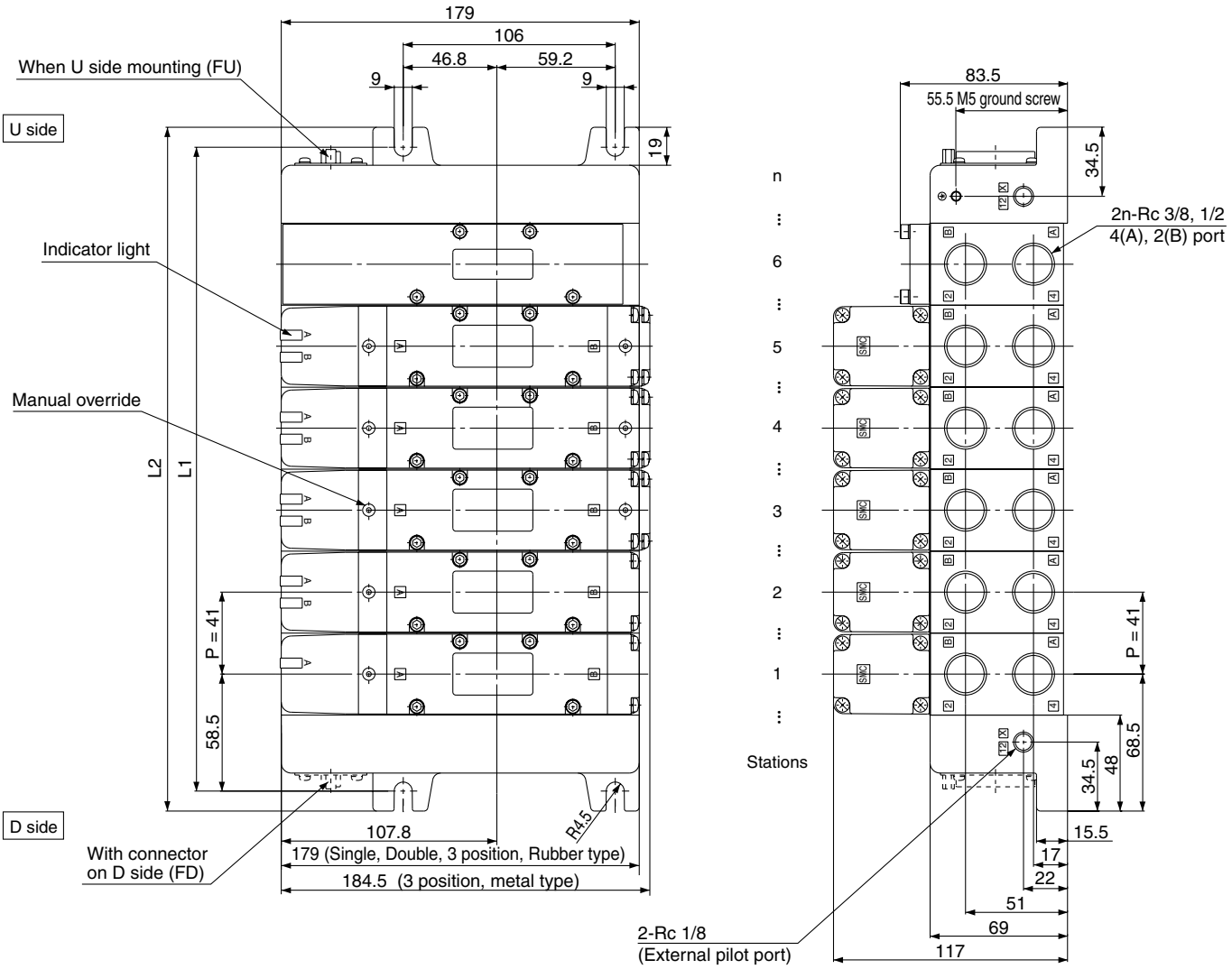
Prefix the asterisk to the part nos. of the solenoid valve, etc.

Enter in order starting from the first station on the D side. When entry of part numbers becomes complicated, indicate in the manifold specification sheet.

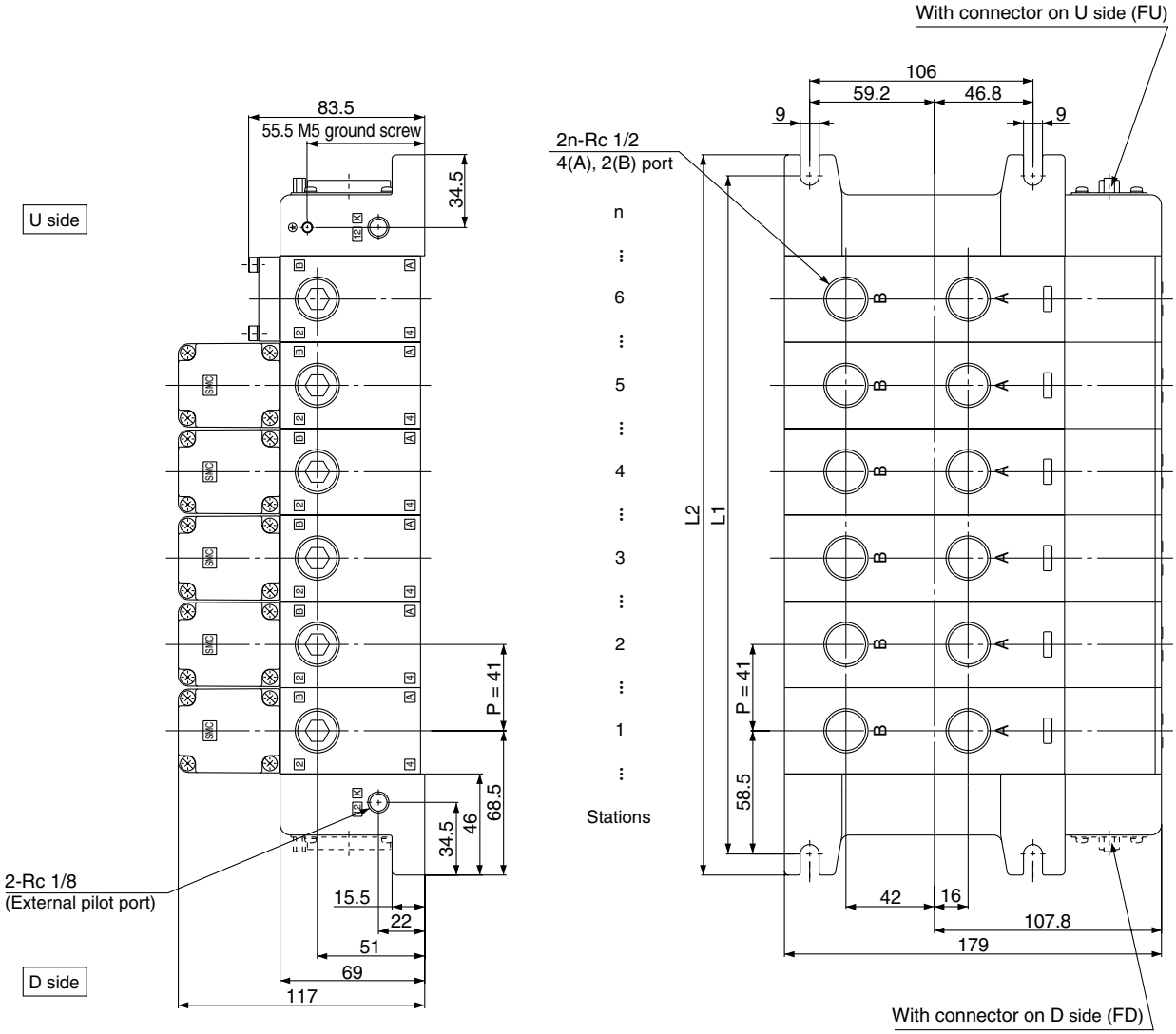


F Kit (D-sub Connector kit)





Bottom ported drawing



Dimensions

Formula: L1 = 41n + 76, L2 = 41n + 96
n: Stations (Maximum 12 stations)

L \ n	1	2	3	4	5	6	7	8	9	10	11	12
L1	117	158	199	240	281	322	363	404	445	486	527	568
L2	137	178	219	260	301	342	383	424	465	506	547	588