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Series VQ4000

Base Mounted

Plug-in/Plug Lead Single Unit

Model

Series	Configuration		Model		Port size	Flow characteristics: 1 → 4/2 (P → A/B) C [dm³/(s·bar)]	b	Cv	Flow characteristics: 4/2 → 5/3 (A/B → EA/EB) C [dm³/(s·bar)]	b	Cv	Response time (ms): Standard 1 W	Low wattage 0.5 W	AC	Weight (kg)
VQ4000	2 position	Single	Metal seal	VQ41$^{0}_{5}$0	Rc 3/8	6.2	0.19	1.5	6.9	0.17	1.7	20 or less	22 or less	22 or less	0.23 (0.29)
			Rubber seal	VQ41$^{0}_{5}$1		7.2	0.43	2.1	7.3	0.38	2.0	25 or less	27 or less	27 or less	
		Double	Metal seal	VQ42$^{0}_{5}$0		6.2	0.19	1.5	6.9	0.17	1.7	12 or less	14 or less	14 or less	0.26 (0.32)
			Rubber seal	VQ42$^{0}_{5}$1		7.2	0.43	2.1	7.3	0.38	2.0	15 or less	17 or less	17 or less	
	3 position	Closed center	Metal seal	VQ43$^{0}_{5}$0		5.9	0.23	1.5	6.3	0.18	1.6	45 or less	47 or less	47 or less	0.28 (0.34)
			Rubber seal	VQ43$^{0}_{5}$1		7.0	0.34	1.9	6.4	0.42	1.9	50 or less	52 or less	52 or less	
		Exhaust center	Metal seal	VQ44$^{0}_{5}$0		6.2	0.18	1.5	6.9	0.17	1.7	45 or less	47 or less	47 or less	0.28 (0.34)
			Rubber seal	VQ44$^{0}_{5}$1		7.0	0.38	1.9	7.3	0.38	2.0	50 or less	52 or less	52 or less	
		Pressure center	Metal seal	VQ45$^{0}_{5}$0		6.2	0.18	1.6	6.4	0.18	1.6	45 or less	47 or less	47 or less	0.28 (0.34)
			Rubber seal	VQ45$^{0}_{5}$1		7.0	0.38	1.9	7.1	0.38	2.0	50 or less	52 or less	52 or less	
		Double check	Metal seal	VQ46$^{0}_{5}$0		2.7	—	—	3.7	—	—	55 or less	57 or les	57 or les	0.50 (0.56)
			Rubber seal	VQ46$^{0}_{5}$1		2.8	—	—	3.9	—	—	62 or less	64 or less	64 or less	

Note 1) Value for valve on sub-plate and cylinder port Rc 3/8
Note 2) Based on JIS B 8375-1981 Supply pressure: 0.5 MPa, with indicator light and surge voltage suppressor, clean air. This will change depending on pressure and air quality.) The value when ON for the double type.
Note 3) Values inside ( ) indicate the weight of plug lead units.
Table: Without sub-plate, With sub-plate: Add 0.41 kg for plug-in type, 0.30 kg for plug lead type.



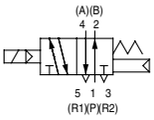
Plug-in unit



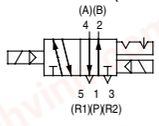
Plug lead unit

JIS Symbol

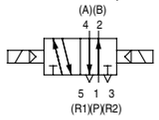
2 position single



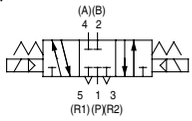
2 position double (Metal)



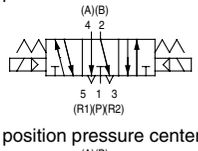
2 position double (Rubber)



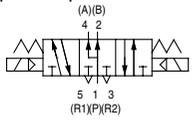
3 position closed center



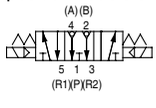
3 position exhaust center



3 position pressure center



3 position double check



Standard Specifications

			Metal seal	Rubber seal
Valve specifications	Valve construction		Metal seal	Rubber seal
	Fluid		Air/Inert gas	Air/Inert gas
	Maximum operating pressure(3)		1.0 MPa (0.7 MPa)	
	Min. operating pressure	Single	0.15 MPa	0.20 MPa
		Double	0.15 MPa	0.15 MPa
		3 position	0.15 MPa	0.20 MPa
	Ambient and fluid temperature		–10 to 50°C (1)	–5 to 50°C (1)
	Lubrication		Not required	
	Manual override		Push type/Locking type (Tool required) Option	
	Shock/Vibration resistance		150/30 m/s²	
	Enclosure		Dust tight (IP65 compatible)	
Solenoid specifications	Coil rated voltage		12, 24 VDC, 100, 110, 200, 220 VAC (50/60 Hz)	
	Allowable voltage fluctuation		±10% of rated voltage	
	Coil insulation type		Class B or equivalent	
	Power consumption (Current)	24 VDC	1 W DC (42 mA), 0.5 W DC (21 mA)	
		12 VDC	1 W DC (83 mA), 0.5 W DC (42 mA)	
		100 VAC	Inrush 1.2 VA (12 mA), Holding 1.2 VA (12 mA)	
		110 VAC	Inrush 1.3 VA (11.7 mA), Holding 1.3 VA (11.7 mA)	
		200 VAC	Inrush 2.4 VA (12 mA), Holding 2.4 VA (12 mA)	
		220 VAC	Inrush 2.6 VA (11.7 mA), Holding 2.6 VA (11.7 mA)	

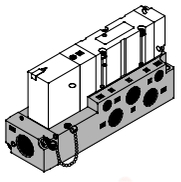
Note 1) Use dry air to prevent condensation when operating at low temperatures.
Note 2) Impact resistance: No malfunction occurred when it is tested with a drop tester in the axial direction and at the right angles to the main valve and armature in both energized and de-energized states every once for each condition. (Values at the initial period)
Vibration resistance: No malfunction occurred in a one-sweep test between 45 and 2000 Hz. Test was performed at both energized and de-energized states in the axial direction and at the right angles to the main valve and armature. (Values at the initial period)
Note 3) Values inside ( ) denote the low wattage (0.5 W) specifications.

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How to Order Valves

Body

0: Plug-in sub-plate



Port size

Nil	Without sub-plate (For manifold)
02	Rc 1/4
03	Rc 3/8

Note) For thread standard, refer to page 2-5-39.

Porting specifications

Nil	Side ported
B	Bottom ported

Plug-in	**VQ4**	**1**	**0**	**0**							
Plug lead	**VQ4**	**2**	**5**	**1**							

Type of actuation

1		2 position single
2	Metal	2 position double
	Rubber	2 position double
3		3 position closed center
4		3 position exhaust center
5		3 position pressure center
Note) **6**		3 position double check

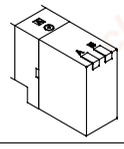
Note) For double check style, refer to page 2-5-36.

Enclosure

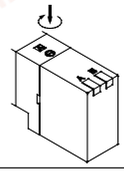
Nil	Dust-protected
W	Dusttight/Low jetproof type (IP65)

Manual override

Nil: Non-locking push type (Tool required)



B: Slotted locking type (Tool required)

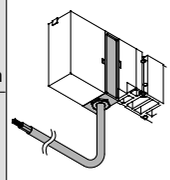


Light/Surge voltage suppressor

Nil	Yes
E	Without light, with surge voltage suppressor

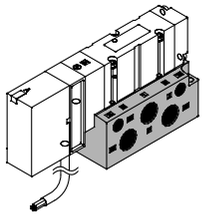
Electrical entry

Grommet	**G**	Lead wire length 0.6 m
	H	Lead wire length 1.5 m



Body

5: Plug lead sub-plate



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

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) For external pilot specifications, refer to page 2-5-39. Combination of external pilot and perfect interface is not possible.
Note 3) When two or more symbols are specified, indicate them alphabetically.

Replacement of pilot valve assembly (Voltage)

- Refer to pages 2-5-44 and 2-5-45 for pilot valve assembly part numbers.
- For "How to Replace", refer to page 2-5-3.

How to Order Sub-plates

VQ4000 – □ □ – □ □

Electrical entry

P	Plug-in conduit terminal
S	Plug lead

Enclosure

Nil	Dust-protected
W Note)	Dusttight/Low jetproof type

Note) It is not necessary for plug lead type.

Porting specifications

Nil	Side ported
B	Bottom ported(1)

Port size

02	Rc 1/4
03	Rc 3/8

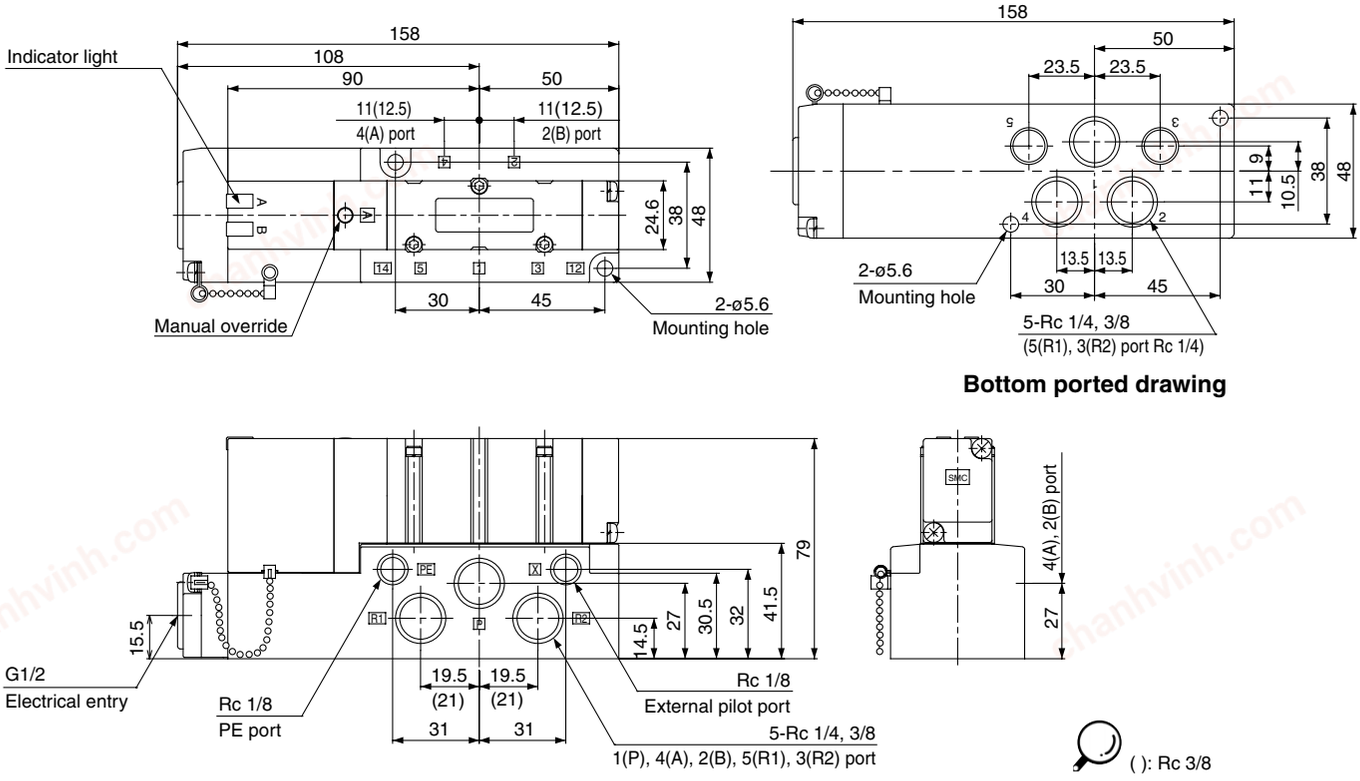
Note 1) For bottom ported port size is RC 1/4 only.
Note 2) For thread standard, refer to page 2-5-39.

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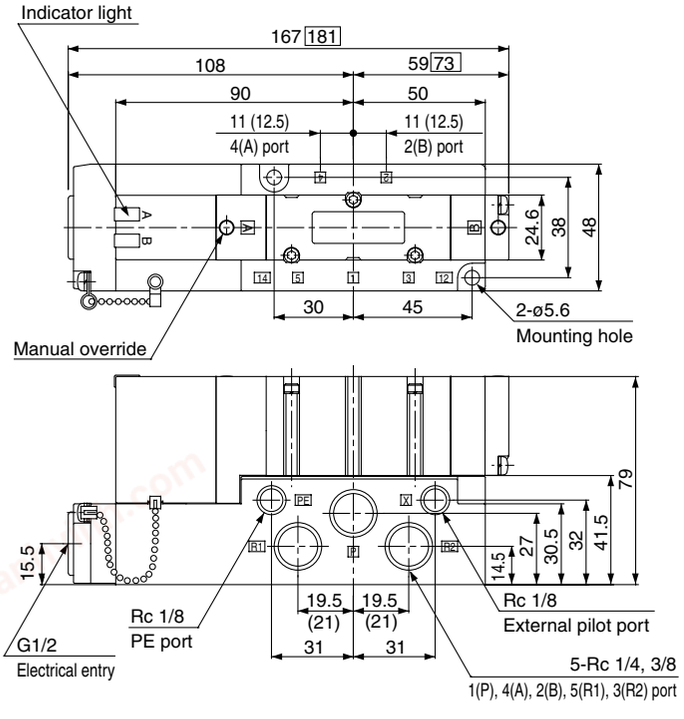
Plug-in Type

Conduit terminal

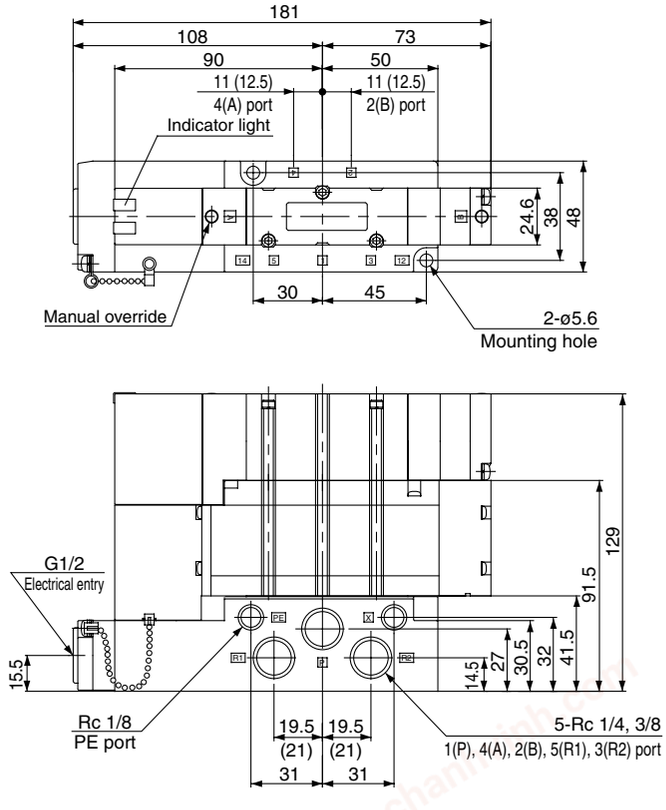
2 position single: VQ410$^{0}_{1}$-□



2 position double: VQ420$^{0}_{1}$-□
3 position closed center: VQ430$^{0}_{1}$-□
3 position exhaust center: VQ440$^{0}_{1}$-□
3 position pressure center: VQ450$^{0}_{1}$-□



3 position double check: VQ460$^{0}_{1}$-□



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Series VQ4000
Base Mounted
Plug-in Unit



How to Order Manifold

VV5Q 4 1 – 08 C8 F U1 [ ] – K

Series

4	VQ4000

Manifold

1	Plug-in unit

Stations

01	1 station
⋮	⋮

The maximum and minimum number of stations are varied depending on kit. (Refer to the table below.)

Cylinder port

C8	With One-touch fitting for ø8
C10	With One-touch fitting for ø10
C12	With One-touch fitting for ø12
02	Rc 1/4
03	Rc 3/8
B	Bottom ported Rc 1/4
CM	Mixed

Kit type

Control unit

Refer to pages 2-5-40 to 2-5-43.

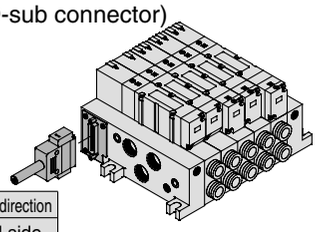
Option

Symbol	Option
Nil	None
CD (2)	Exhaust cleaner: For D side mounting
CU (2)	Exhaust cleaner: For U side mounting
K (3)	Special wiring specifications (Except double wiring)
N	Name plate (T kit only)
SB	Direct exhaust with silencer box: Exhaust from both sides (F/L kits only)
SD (2)	Direct exhaust with silencer box: D side exhaust
SU (2)	Direct exhaust with silencer box: U side exhaust
W	Enclosure IP65 (Except F kit)

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

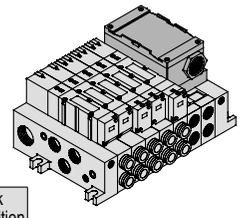
Kit/Electrical entry/Cable length

F kit (D-sub connector)



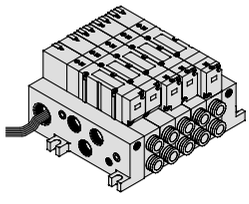
Connector entry direction					
D side		U side			
Kit F	D0	F	U0	Without cable	1 to 18 stations
	D1		U1	Cable length 1.5 m	
	D2		U2	Cable length 3 m	
	D3		U3	Cable length 5 m	

T kit (Terminal block box kit)



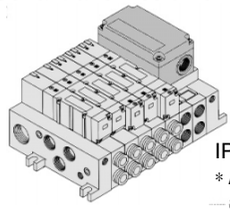
Terminal block mounting position			
D side	U side	IP65 compatible	
TD	TO	Terminal block box	3 to 18 stations

L kit (Lead wire cable)



Electrical entry					
D side		U side		IP65 compatible	
Kit L	D0	L	U0	Cable length 0.6 m	1 to 16 stations
	D1		U1	Cable length 1.5 m	
	D2		U2	Cable length 3 m	

S kit (Serial transmission unit)



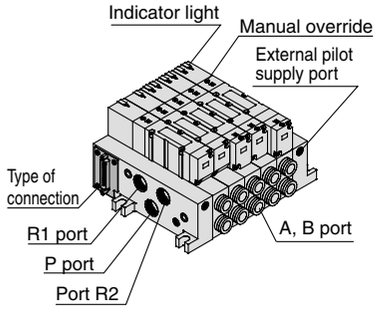
The valve is equipped with a lamp/surge suppressor, and the voltage is 24 VDC.

IP65 compatible

* Applicable to INPUT and OUTPUT type.

Unit mounting position			
D side	U side		
SD	S	0	Without SI unit
		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

3 to 18 stations



Note) Shown VV5Q41-05C12FD0

Simple specials are available with SMC Simple Special System. For details about applicable models, please contact SMC.

* For INPUT and OUTPUT type, refer to pages 2-5-26 to 2-5-29.

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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)			
VQ4000	**VV5Q41-□□□**	■ F kit–D-sub connector ■ T kit–Terminal block box ■ L kit–Lead wire ■ S kit–Serial transmission	Side	Rc 1/2 Option Direct exhaust with silencer box	C8 (For ø8) C10 (For ø10) C12 (For ø12) Rc 1/4 Rc 3/8	F, T kit 12 stations L kit 16 stations S kit 10 stations	VQ4□00 VQ4□01	2.24 • L kit • Except solenoid valve weight
			Bottom		Rc 1/4			

Note) For details about inch-size One-touch fittings and other thread standards, refer to page 2-5-39.

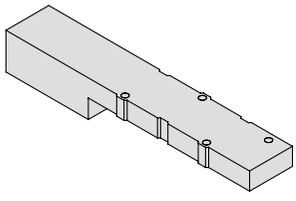
Flow Characteristics at the Number of Manifold Stations (Operated individually)

Model	Passage/Stations		Station 1	Station 5	Station 10	Station 15
2 position metal seal **VQ4$^{1}_{2}$00**	1 → 4/2 (P → A/B)	C [dm³/(s·bar)]	5.9	5.9	5.9	5.9
		b	0.23	0.23	0.23	0.23
		Cv	1.5	1.5	1.5	1.5
	4/2 → 5/3 (A/B → EA/EB)	C [dm³/(s·bar)]	6.2	6.2	6.2	6.2
		b	0.19	0.19	0.19	0.19
		Cv	1.5	1.5	1.5	1.5
2 position rubber seal **VQ4$^{1}_{2}$01**	1 → 4/2 (P → A/B)	C [dm³/(s·bar)]	6.8	6.8	6.8	6.8
		b	0.31	0.31	0.31	0.31
		Cv	1.8	1.8	1.8	1.8
	4/2 → 5/3 (A/B → EA/EB)	C [dm³/(s·bar)]	7.0	7.0	7.0	7.0
		b	0.38	0.38	0.38	0.38
		Cv	1.9	1.9	1.9	1.9

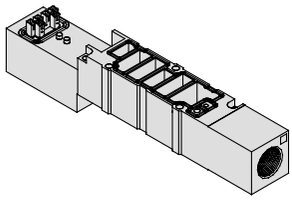
Note) Port size: Rc 3/8

Manifold Option

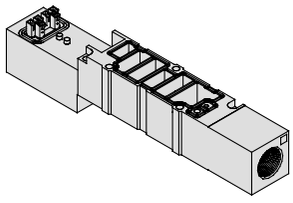
Blanking plate assembly
VVQ4000-10A-1



Individual SUP spacer
VVQ4000-P-1-$^{02}_{03}$

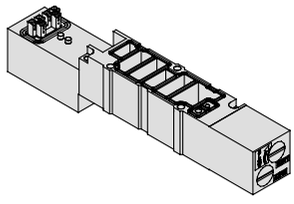


Individual EXH spacer
VVQ4000-R-1-$^{02}_{03}$

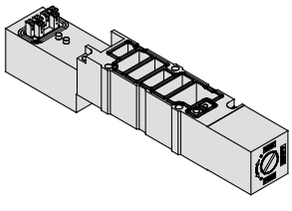


- Refer to pages 2-5-34 to 2-5-38 for detailed dimensions of each option. For replacement parts, refer to page 2-5-47.
- Refer to pages 2-5-40 to 2-5-43 for control unit.

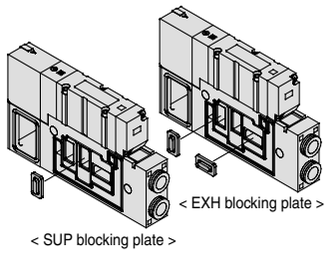
Throttle valve spacer
VVQ4000-20A-1



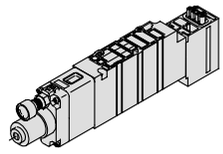
SUP stop valve spacer
VVQ4000-37A-1



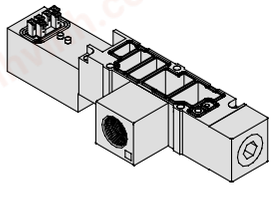
SUP/EXH block plate
VVQ4000-16A



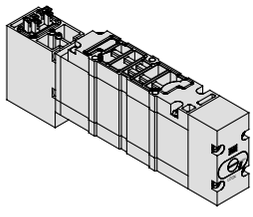
Interface regulator
ARBQ4000-00-$^{A}_{B}$$_{P}$-1



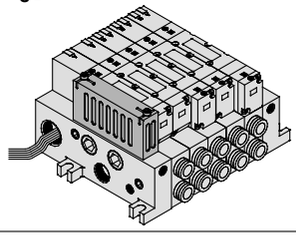
Release valve spacer
VVQ4000-24A-1D (1, 2)



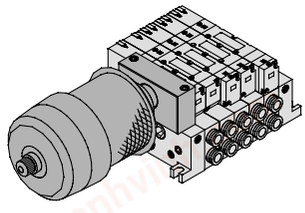
Double check spacer with residual pressure exhaust
VVQ4000-25A-1 (1)



Direct exhaust with silencer box
[-S$^{D}_{U}$](1)



For exhaust cleaner mounting
[-C$^{D}_{U}$](1)



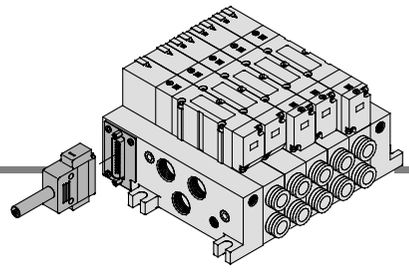
Note 1) Release valve spacer, built-in silencer (direct exhaust), exhaust cleaner mounting and double check spacer for residual pressure exhaust cannot be combined with external pilot.
Note 2) Can be mounted on L kit only. For other kits, order E type control unit. (Refer to pages 2-5-40 to 2-5-43.)

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Base Mounted

Series VQ4000

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 18.**

Manifold Specifications

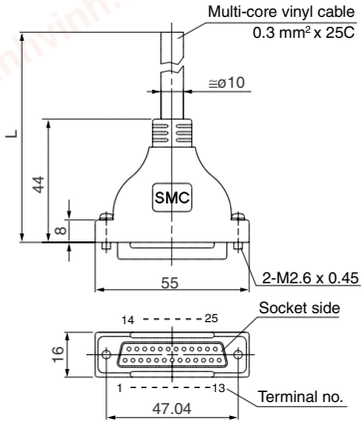
Series	Porting specifications			Applicable stations
	4(A), 2(B) port location	Port size		
		1(P), 5(R1), 3(R2)	4(A), 2(B)	
VQ4000	Side	Rc 1/2	C 8, 10, 12 Rc 1/4, 3/8	Max. 18 stations
	Bottom		Rc 1/4	

D-Sub Connector Kit (25 pins)

Cable assembly ●

AXT100-DS25- 015 / 030 / 050

(D-sub connector cable assemblies can be ordered by 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 minimum bending radius for D-sub connector cables 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 4 1 – 08 C8 F U 1 – □

Series

4	VQ4000

Manifold

1	Plug-in unit

Stations

01	1 station
⋮	⋮
18	18 stations

Cylinder port

C8	With One-touch fitting for ø8
C10	With One-touch fitting for ø10
C12	With One-touch fitting for ø12
02	Rc 1/4
03	Rc 3/8
B	Bottom ported Rc 1/4
CM	Mixed

Note) As an option, the maximum number of stations can be increased by special wiring specifications. For details, refer to page 2-5-11.

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
CD(2)	Exhaust cleaner: For D side mounting
CU(2)	Exhaust cleaner: For U side mounting
K(3)	Special wiring specifications (Except double wiring)
SB	Direct exhaust with silencer box: Exhaust from both sides
SD(2)	Direct exhaust with silencer box: D side exhaust
SU(2)	Direct exhaust with silencer box: U side exhaust

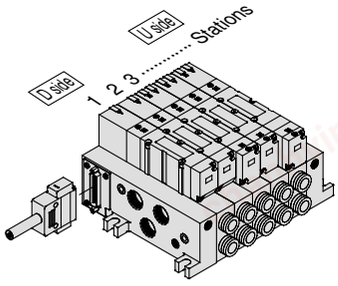
Note 1) When two or more symbols are specified, indicate them alphabetically.
Example) -CDK

Note 2) Combination of [C $^{U}_{D}$] and [S $^{U}_{D}$] is not possible.

Note 3) Specify the wiring specifications on the manifold specification sheet.

Note 4) Refer to pages 2-5-40 to 2-5-43 for with control unit.

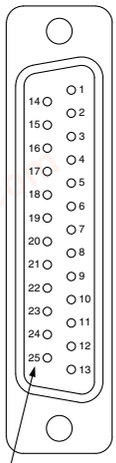
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Stations are counted starting from the first station on the D side.

● 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.

	Standard wiring Terminal no.	Wiring with control unit Terminal no.	Polarity	D-sub connector assembly AXT100-DS25- 015 030 050 Lead wire color	Dot marking
1 station	SOL.A 1	Release valve 1 (–)	(+)	Black	None
	SOL.B 14	14 (+)	(–)	Yellow	Black
2 stations	SOL.A 2	Pressure switch 2 (–)	(+)	Brown	None
	SOL.B 15	15 (+)	(–)	Pink	Black
3 stations	SOL.A 3	SOL.A 3 (–)	(+)	Red	None
	SOL.B 16	SOL.B 16 (–)	(+)	Blue	White
4 stations	SOL.A 4	SOL.A 4 (–)	(+)	Orange	None
	SOL.B 17	SOL.B 17 (–)	(+)	Purple	None
5 stations	SOL.A 5	SOL.A 5 (–)	(+)	Yellow	None
	SOL.B 18	SOL.B 18 (–)	(+)	Gray	None
6 stations	SOL.A 6	SOL.A 6 (–)	(+)	Pink	None
	SOL.B 19	SOL.B 19 (–)	(+)	Orange	Black
7 stations	SOL.A 7	SOL.A 7 (–)	(+)	Blue	None
	SOL.B 20	SOL.B 20 (–)	(+)	Red	White
8 stations	SOL.A 8	SOL.A 8 (–)	(+)	Purple	White
	SOL.B 21	SOL.B 21 (–)	(+)	Brown	White
9 stations	SOL.A 9	SOL.A 9 (–)	(+)	Gray	Black
	SOL.B 22	SOL.B 22 (–)	(+)	Pink	Red
10 stations	SOL.A 10	SOL.A 10 (–)	(+)	White	Black
	SOL.B 23	SOL.B 23 (–)	(+)	Gray	Red
11 stations	SOL.A 11	SOL.A 11 (–)	(+)	White	Red
	SOL.B 24	SOL.B 24 (–)	(+)	Black	White
12 stations	SOL.A 12	SOL.A 12 (–)	(+)	Yellow	Red
	SOL.B 25	SOL.B 25 (–)	(+)	White	None
	COM. 13	COM. 13 (+)	(–)	Orange	Red
			Positive common specifications	Negative common specifications Note)	

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

Special Wiring Specifications

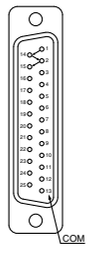
Double wiring (connected to SOL. A and SOL. B) is used for the internal wiring of each station regardless of valve and option types.
Mixed single and double wiring is available as an option.

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.
Maximum stations are 18.



D-sub connector

How to Order Valves

VQ 4 1 0 0 — 5

Series

4	VQ4000

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

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)

Note 1) Applicable to DC specifications.
Note 2) Refer to page 2-5-39 for external pilot specification. Combination of external pilot and perfect interface is not possible.
Note 3) When two or more symbols are specified, indicate them alphabetically.

How to Order Manifold Assembly

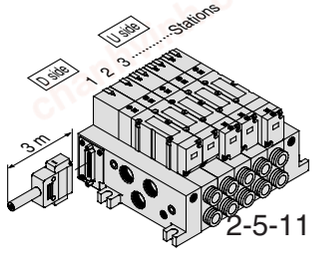
Specify the part numbers for valves and options together beneath the manifold base part number.

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

VV5Q41-05C8FD2····1 set — Manifold base part no.
∗VQ4100-5·····2 sets — Valve part no. (Stations 1 and 2)
∗VQ4200-5·····2 sets — Valve part no. (Stations 3 and 4)
∗VQ4300-5·····1 set — Valve part no. (Station 5)

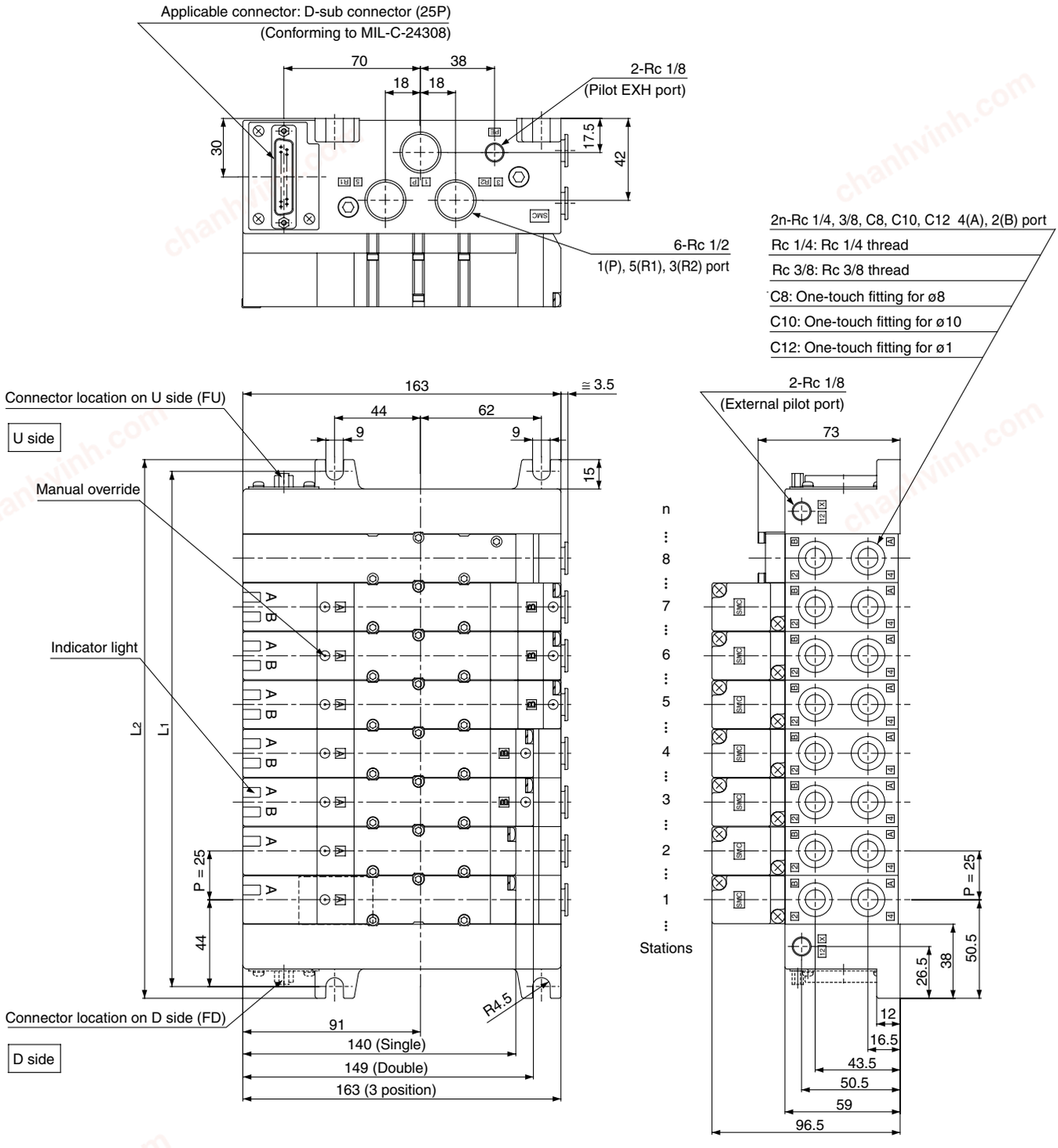
Prefix the asterisk to the part nos. of the solenoid valve, etc.

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.



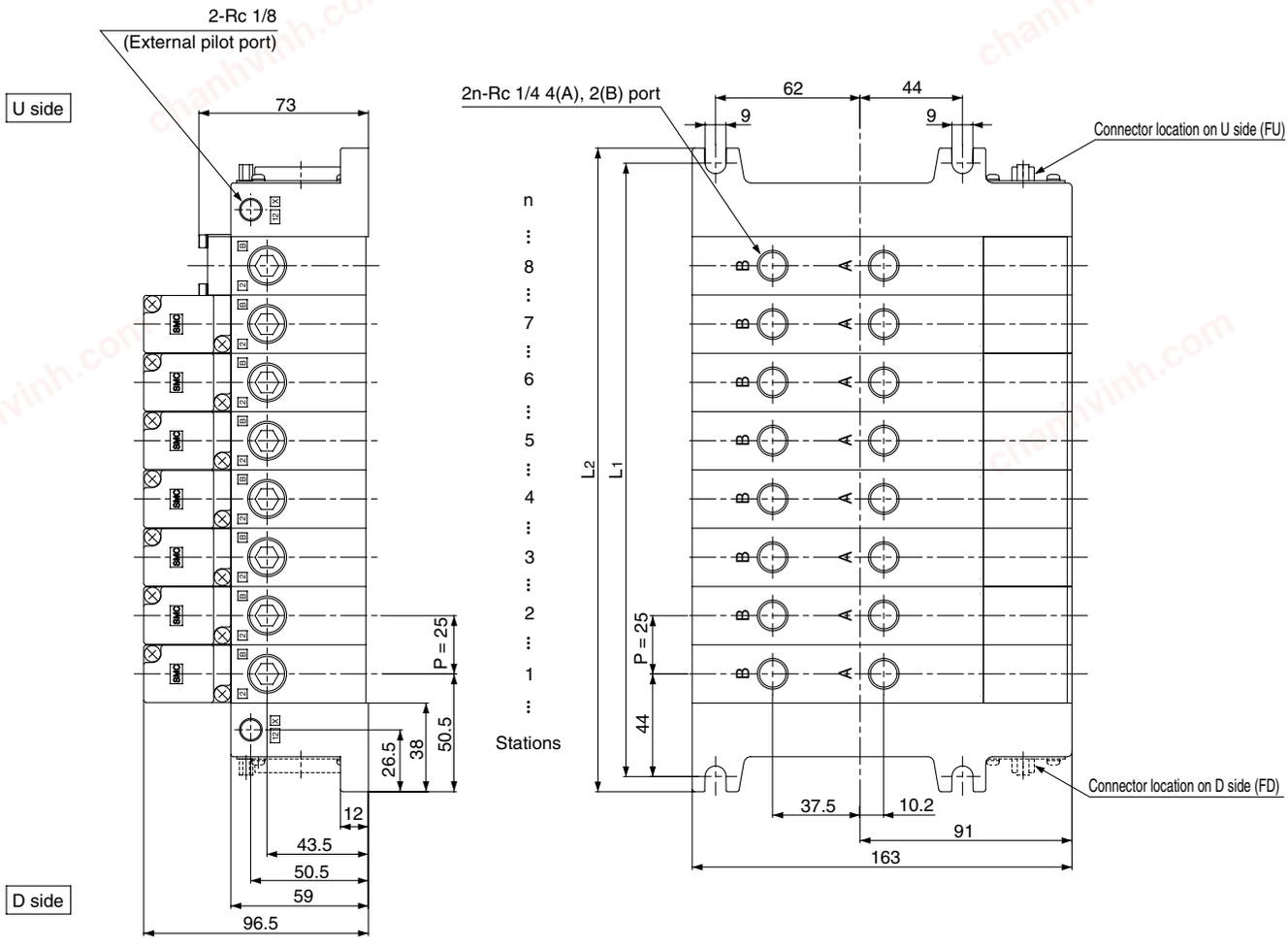
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F Kit (D-sub connector kit)



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Bottom ported drawing



Dimensions

Formula L1 = 25n + 63, L2 = 25n + 76 n: Station (Maximum standard 18 stations)

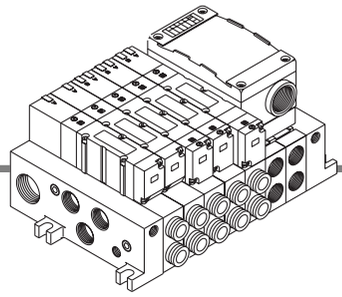
L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
L1	88	113	138	163	188	213	238	263	288	313	338	363	388	413	438	463	488	513
L2	101	126	151	176	201	226	251	276	301	326	351	376	401	426	451	476	501	526

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Base Mounted

Series VQ4000

T Kit (Terminal block box kit)



IP65 compliant

- Enclosure IP65 compliant
- This type has a small terminal block inside a junction box. The provision of a G 3/4 electrical entry allows connection of conduit fittings.
- Maximum stations are 18.
- 2 stations are used for terminal box mounting.

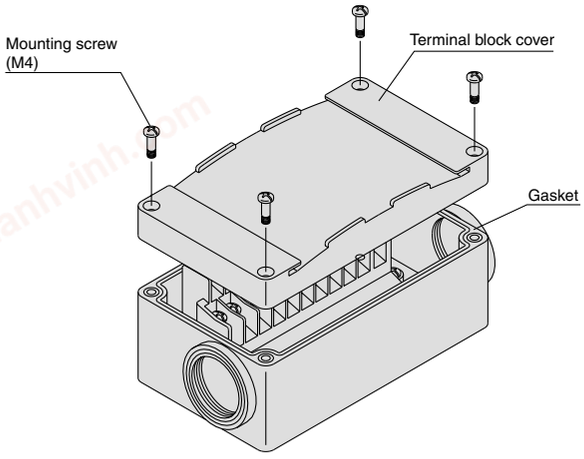
Manifold Specifications

Series	Porting specifications			Applicable stations
	4(A), 2(B) port location	Port size		
		1(P), 5(R1), 3(R2)	4(A), 2(B)	
VQ4000	Side	Rc 1/2	C 8, 10, 12 Rc 1/4, 3/8	Max. 18 stations
	Bottom		Rc 1/4	

Terminal Block Connections

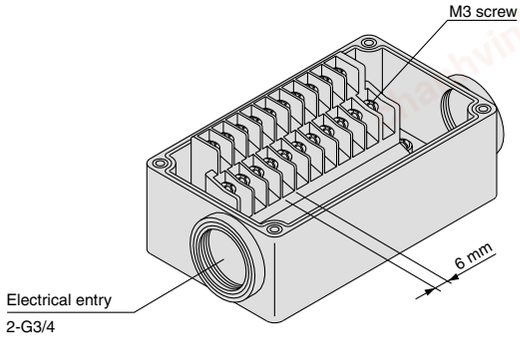
Step 1. How to remove terminal block cover

Loosen the 4 mounting screws (M4) and open the terminal block cover.



Step 2. The diagram on the right shows the terminal block wiring. All stations are provided with double wiring regardless of the valves which are mounted.

Connect each wire to the power supply side, according to the markings provided inside the terminal block.



Step 3. How to attach the terminal block cover

Securely tighten the screws with the torque shown in thetable below, after confirming that the gasket is installed correctly.

Proper tightening torque (N·m)
0.7 to 1.2

- Applicable terminal 1.25-3S, 1.25Y-3, 1.25Y-3N, 1.25Y-3.5

How to Order Manifold

VV5Q 4 1 – 08 C8 T 0 –

Series

4	VQ4000

Manifold

1	Plug-in unit

Stations

03	3 stations
⋮	⋮
18	18 stations

Note) Add 2 stations for terminal block box mounting.

Cylinder port

C8	With One-touch fitting for ø8
C10	With One-touch fitting for ø10
C12	With One-touch fitting for ø12
02	Rc 1/4
03	Rc 3/8
B	Bottom ported Rc 1/4
CM	Mixed

Note) As an option, the maximum number of stations can be increased by special wiring specifications. For details, refer to page 2-5-15.

Stations

O	U side mounting
D	D side mounting

Option

Symbol	Option
Nil	None
CD(2)	Exhaust cleaner: For D side mounting
CU(2)	Exhaust cleaner: For U side mounting
K (3)	Special wiring specifications (Except double wiring)
N (4)	Name plate
SD(2)	Direct exhaust with silencer box: D side exhaust
SU(2)	Direct exhaust with silencer box: U side exhaust
W	IP65 enclosure

Note 1) When two or more symbols are specified, indicate them alphabetically. Example) -CDK

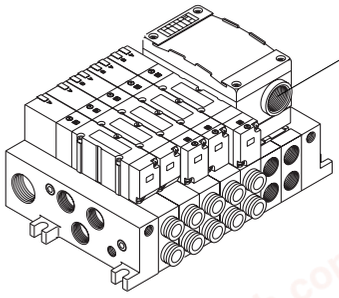
Note 2) Combination of [CD] and [SD] is not possible.

Note 3) Specify the wiring specifications on the manifold specification sheet.

Note 4) Name plate is inlaid in the terminal block cover.

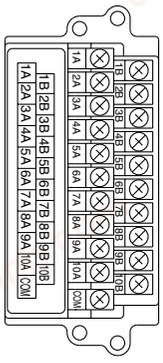
Note 5) Refer to pages 2-5-40 to 2-5-43 for with control unit.

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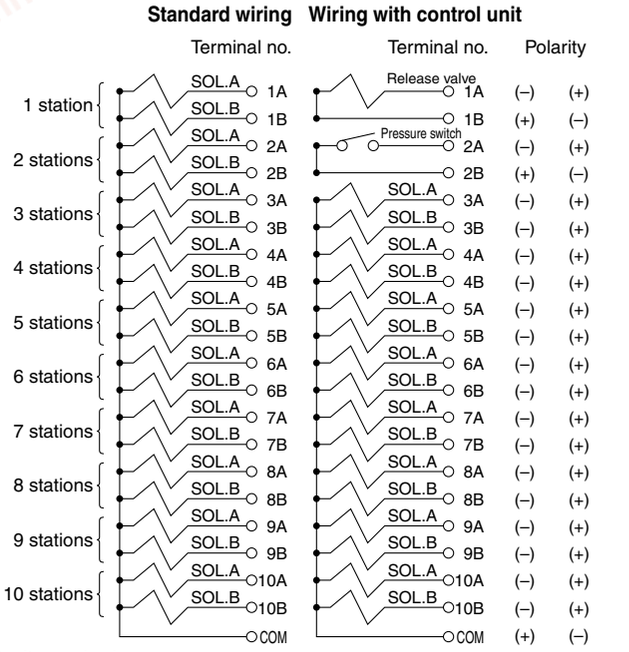


Stations are counted starting from the first station on the D side.

● Electrical wiring specifications



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.



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

Special Wiring Specifications

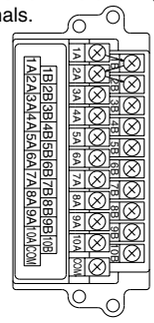
Double wiring (connected to SOL. A and SOL. B) is used for the internal wiring of each station regardless of valve and option types. The optional specification permits mixture of single and double wiring. However, the maximum number of stations is 16.

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 arrowsin the drawing without skipping any terminals.



How to Order Valves

VQ 4 1 0 0 — 5

Series

4	VQ4000

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 2-5-39 for external pilot specification. Combination of external pilot and perfect interface is not possible.
Note 3) When two or more symbols are specified, indicate them alphabetically.

Enclosure

Nil	Dust tight
W	Dust tight/Low jetproof type (IP65)

Manual override

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

Ligh/Surge voltage suppressor

Nil	Yes
E	Without light, with surge voltage suppressor

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

How to Order Manifold Assembly

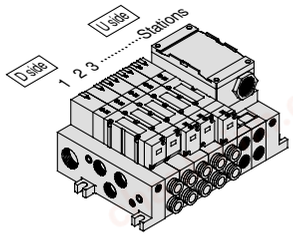
Specify the part numbers for valves and options together beneath the manifold base part number.

<Example>
Terminal block box kit

VV5Q41-07C8T0····1 set —Manifold base part no.
∗VQ4100-5·····2 sets —Valve part no. (Stations 1 and 2)
∗VQ4200-5·····2 sets —Valve part no. (Stations 3 and 4)
∗VQ4300-5·····1 set —Valve part no. (Station 5)

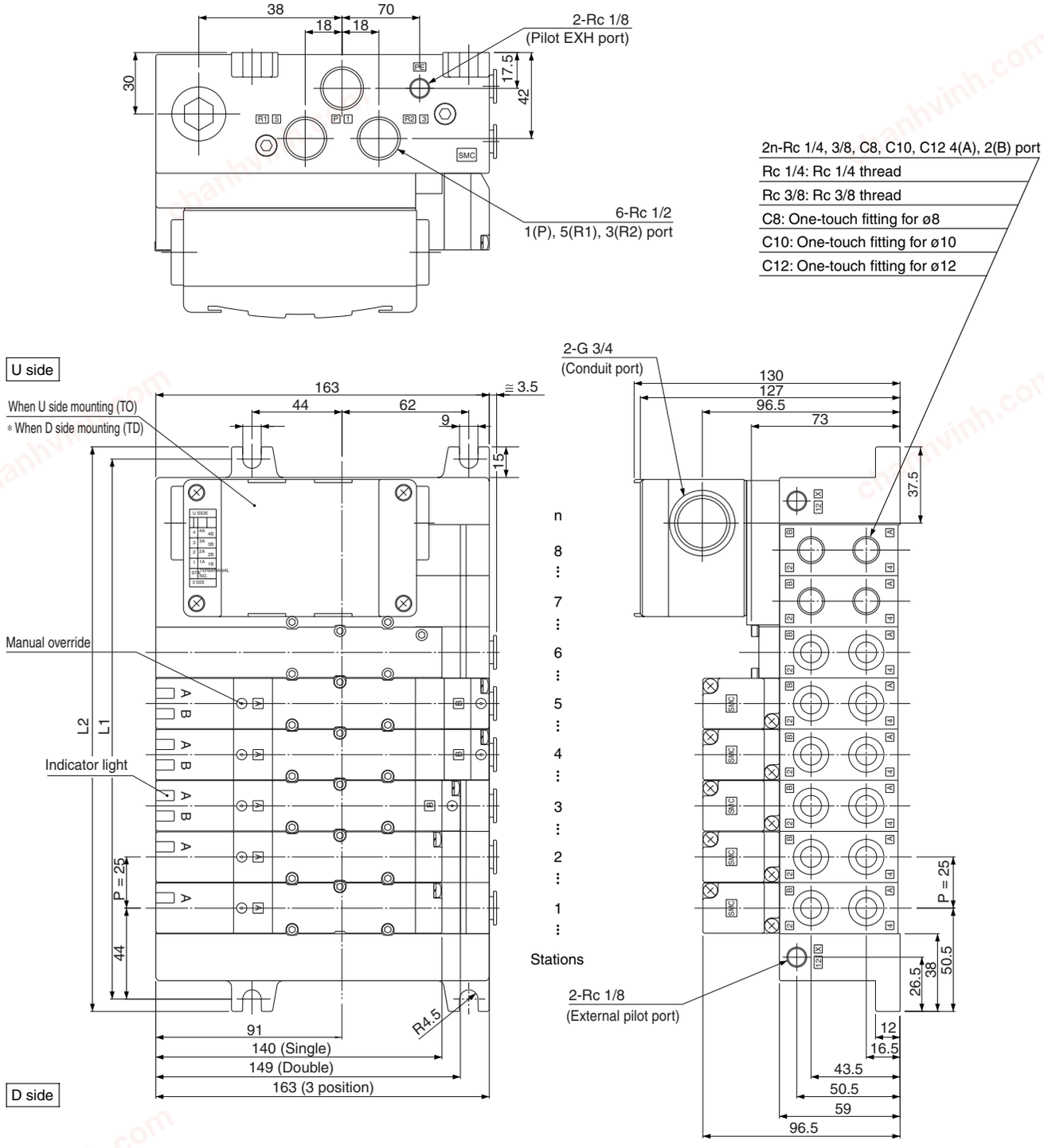
Prefix the asterisk to the part nos. of the solenoid valve, etc.

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.



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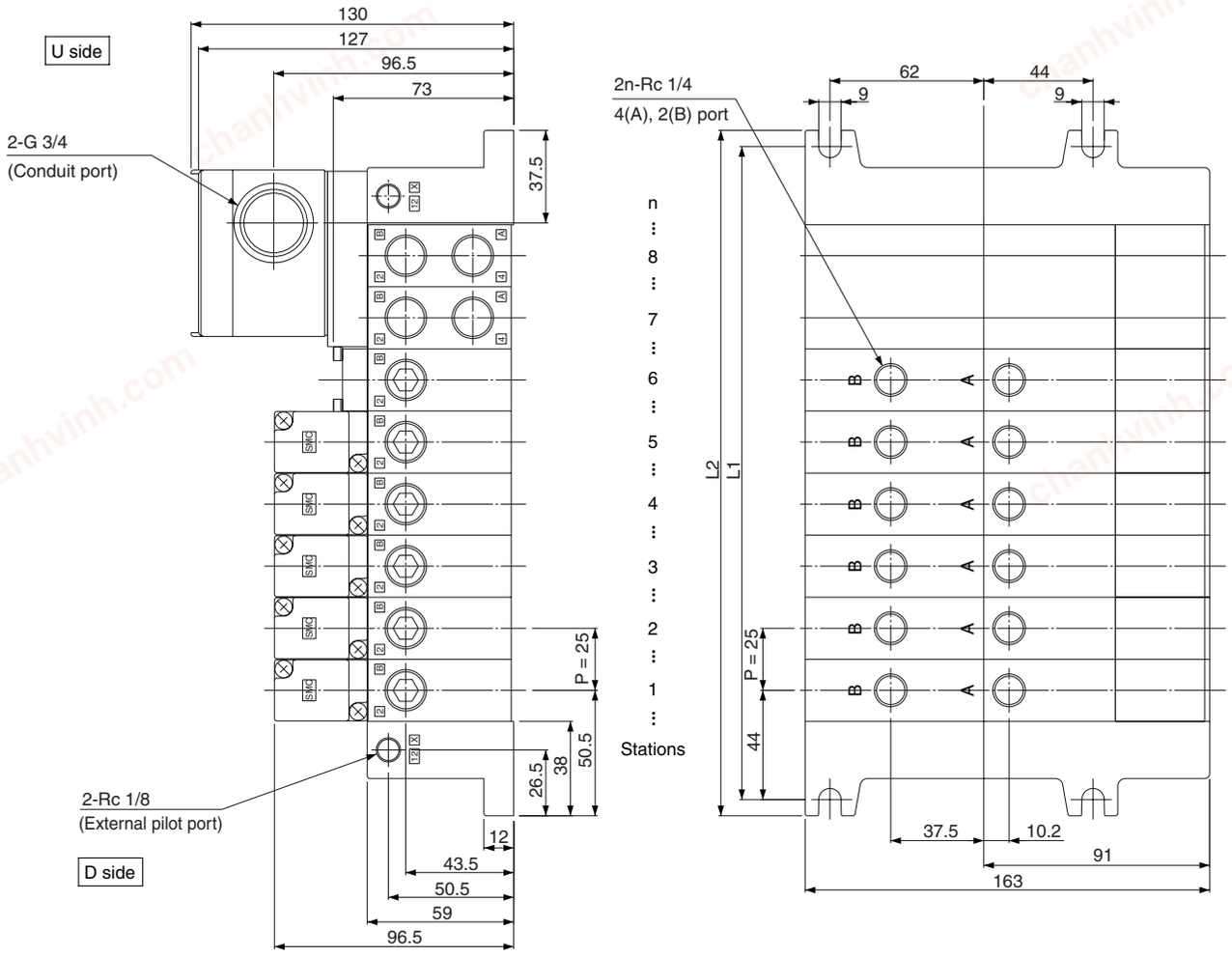
T Kit (Terminal block box kit)



Note) Shown VV5Q41-08C12TO-W

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Bottom ported drawing



Formula L1 = 25n + 63, L2 = 25n + 76
n: Station (Maximum standard 18 stations)
∗ Including 2 stations for terminal box.

Dimensions

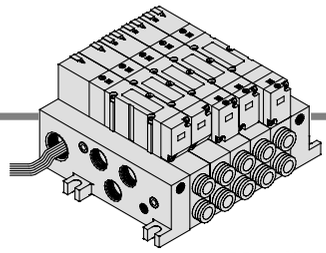
L \ n	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
L1	138	163	188	213	238	263	288	313	338	363	388	413	438	463	488	513
L2	151	176	201	226	251	276	301	326	351	376	401	426	451	476	501	526

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Base Mounted

Series VQ4000

L Kit (Lead wire cable)



IP65 compliant

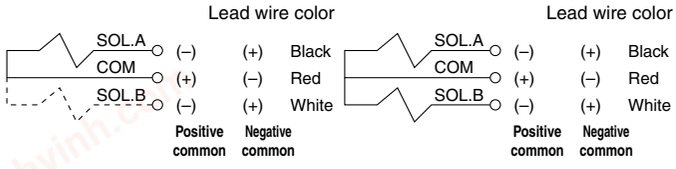
- Enclosure IP65 compliant
- Direct electrical entry. Models with two or more stations are available.
- Electrical entry can be selected on either the U side or the D side according to the mounting orientation.
- Maximum stations are 16.

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)	
VQ4000	Side	Rc 1/2	C 8, 10, 12 Rc 1/4, 3/8	Max. 16 stations
	Bottom		Rc 1/4	

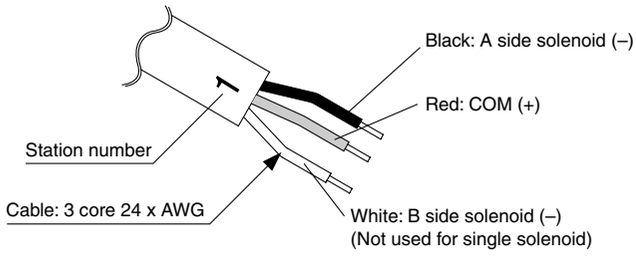
Wiring Specifications

Three lead wires are attached to each station regardless of the type of valve which is mounted.
The red wire is for COM connection.



Single solenoid

Double solenoid



Lead Wire Assembly with Connector

Lead wire length	Part no.
0.6 m	VVQ4000-44A-8-☐
1.5 m	VVQ4000-44A-15-☐
3 m	VVQ4000-44A-30-☐

☐: Number of stations 1 to 16.

For different lead wire lengths, order a lead wire assembly with connector shown in the table on the right.
Note 1) There is no polarity. It can also be used as a negative common.
Note 2) Connect the release valve and the pressure switch to SOL. A side on the manifold with control unit.

How to Order Manifold

VV5Q 4 1 – 08 C8 L U ☐ – ☐

Series

4	VQ4000

Manifold

1	Plug-in unit

Stations

01	1 station
⋮	⋮
16	16 stations

Cylinder port

C8	With One-touch fitting for ø8
C10	With One-touch fitting for ø10
C12	With One-touch fitting for ø12
02	Rc 1/4
03	Rc 3/8
B	Bottom ported Rc 1/4
CM	Mixed

Connector locations

D	D side entry
U	U side entry

Cable (Length)

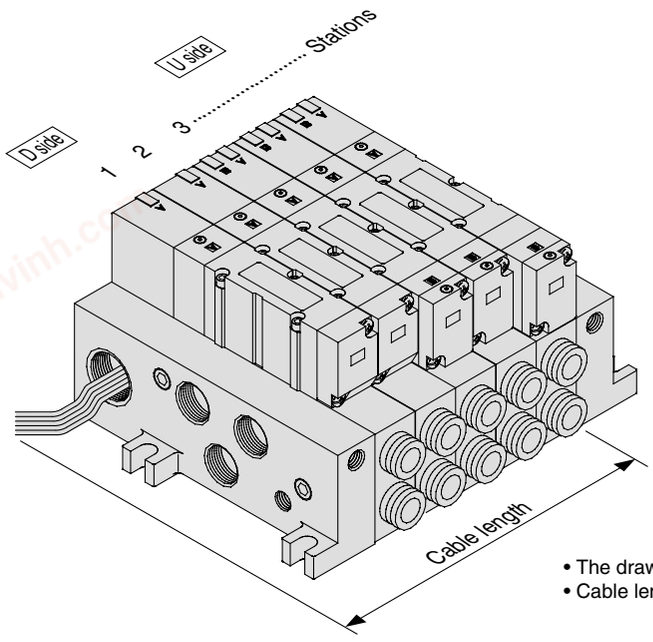
0	Cable length 0.6 m
1	Cable length 1.5 m
2	Cable length 3 m

Option

Symbol	Option
Nil	None
CD	Exhaust cleaner: For D side mounting
CU	Exhaust cleaner: For U side mounting
SB	Direct exhaust with silencer box: Exhaust from both sides
SD	Direct exhaust with silencer box: D side exhaust
SU	Direct exhaust with silencer box: U side exhaust
W	IP65 enclosure

Note) When two or more symbols are specified, indicate them alphabetically.
Example) -CDW

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- The drawing shows the electrical entry on the D side.
- Cable length is measured from the solenoid valve body.

How to Order Valves

VQ 4 1 0 0 0 — 5 □ □ □

Series

4	VQ4000

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 specification.
Note 2) Refer to page 2-5-39 for external pilot specification. Combination of external pilot and perfect interface is not possible.
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)

Enclosure

Nil	Dust tight
W	Dust tight/Low jetproof type (IP65)

How to Order Manifold Assembly

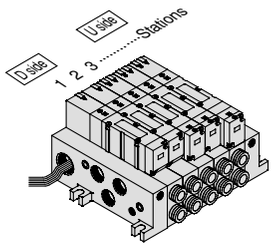
Specify the part numbers for valves and options together beneath the manifold base part number.

<Example>
Lead wire kit with cable (3 m)

VV5Q41-05C8LD2···· 1 set —Manifold base part no.
∗VQ4100-5·····2 sets —Valve part no. (Stations 1 and 2)
∗VQ4200-5·····2 sets —Valve part no. (Stations 3 and 4)
∗VQ4300-5 ····· 1 set —Valve part no. (Station 5)

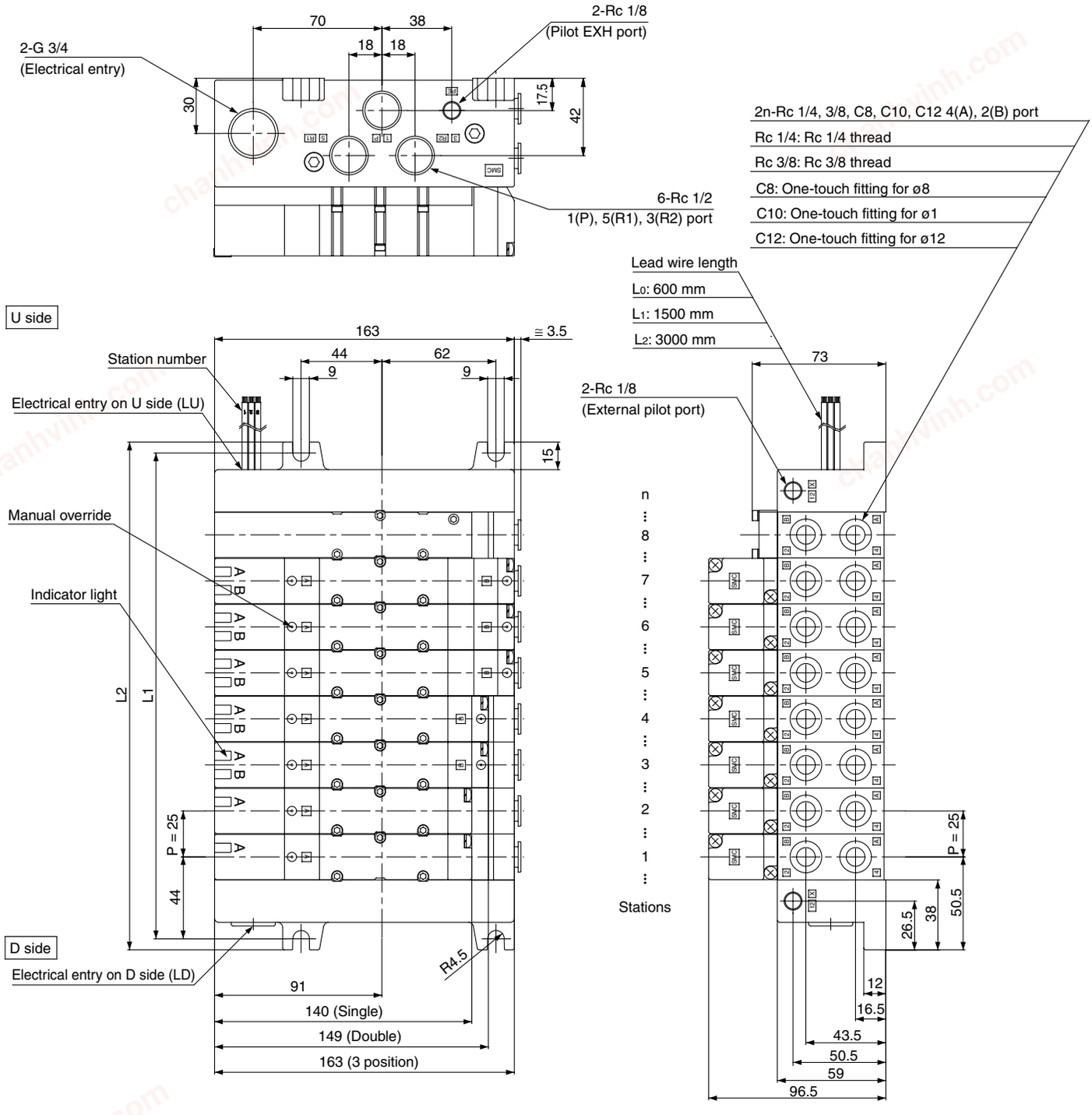
Prefix the asterisk to the part nos. of the solenoid valve, etc.

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.



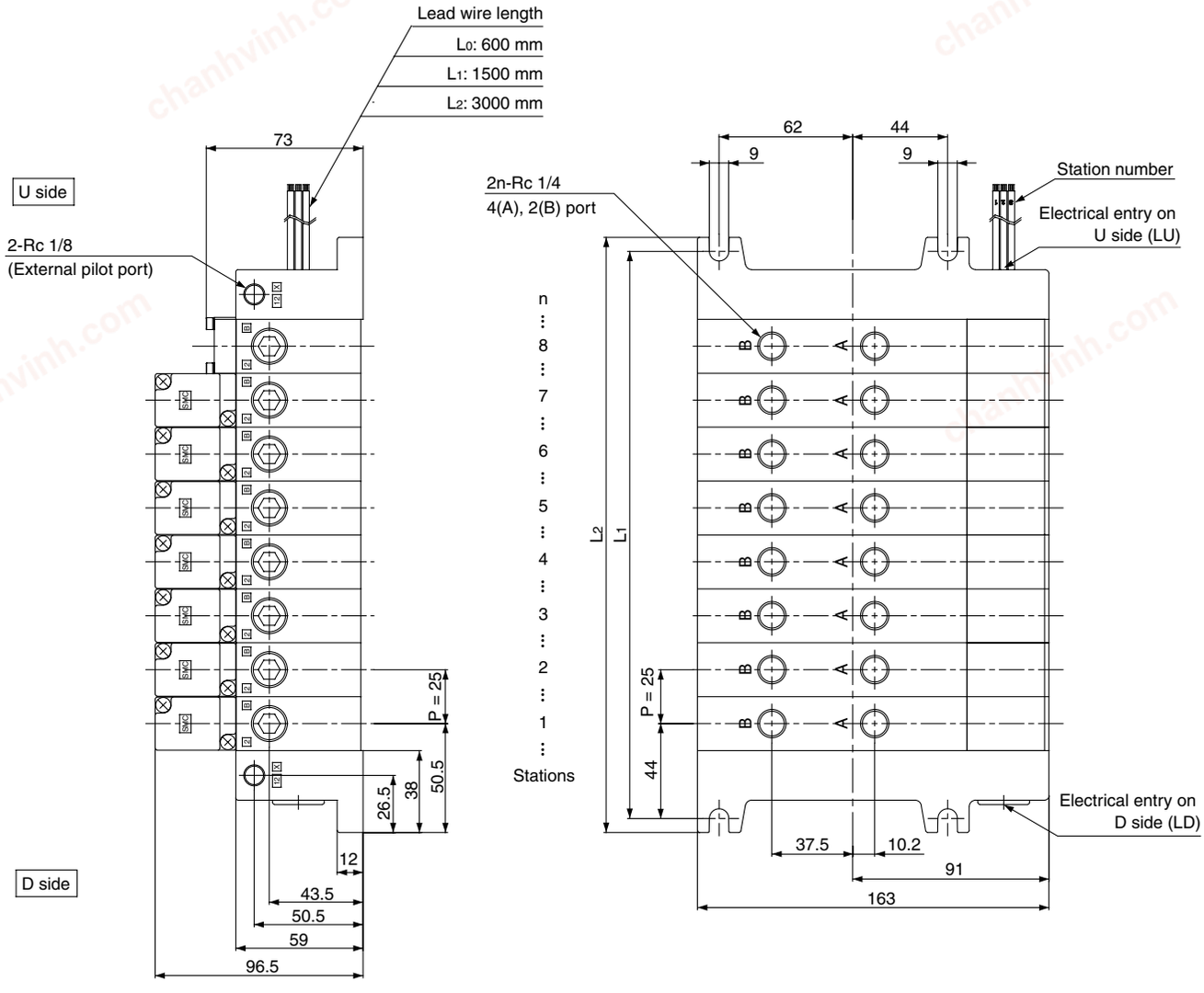
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L Kit (Lead wire cable)



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Bottom ported drawing



Dimensions

Formula L1 = 25n + 63, L2 = 25n + 76 n: Station (Maximum 16 stations)

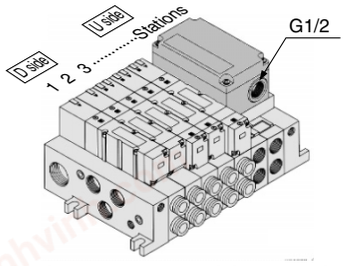
L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	88	113	138	163	188	213	238	263	288	313	338	363	388	413	438	463
L2	101	126	151	176	201	226	251	276	301	326	351	376	401	426	451	476

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S Kit (Serial transmission unit)

IP65 compliant

- **The serial transmission system reduces wiring work, while minimizing wiring and saving space.**
- **The system comes in an type SA (generic for small scale systems) for equipment with a small number of I/O points, or 32 points max., type SB (applicable to Mitsubishi Electric models) for controlling 512 I/O points max., type SC (applicable to OMRON models), type SD (applicable to SHARP models; 504 points max.), and type SF (applicable to NKE Uni-wire System; 128 points max.), type SJ (applicable to SUNX models), type SK (applicable to Fuji Electric models), type SQ (applicable to OMRON CompoBus/D), type SR (CompoBus/S).**
- **Maximum stations are 18.**
- **2 stations are used for serial unit mounting.**

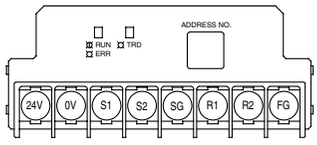
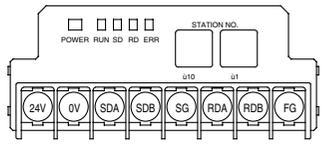


- **Stations are counted from station 1 on the D side.**
- **Double wiring (connected to SOL. A and SOL. B) is adopted for the internal wiring of each station, regardless of valve and option types.**

Item	Specifications
External power supply	24 VDC +10%, –5%
Current consumption (Internal unit)	SA, SB, SBB, SD, SF, SH, SJ, SK, SQ, SR, SV: 0.1A SC: 0.3A

Manifold Specifications

Series	Porting specifications			Applicable stations
	4(A), 2(B) port port location	Port size		
		1(P), 5(R1), 3(R2)	4(A), 2(B)	
VQ4000	Side	Rc 1/2	C 8, 10, 12 Rc 1/4, 3/8	Max. 18 stations
	Bottom		Rc 1/4	

	Type SA With general type SI unit (Series EX300)	Type SB Mitsubishi Electric Corporation MELSECNET/MINI-S3 Data Link System
Name of terminal block (LED)		
	LED / Description TRD — Lighting during data reception RUN/ERR — Blinking when received data is normal; Lighting when data reception	LED / Description POWER — Lighting when power is turned ON RUN — Lighting when data transmission with the master station is normal RD — Lighting during data reception SD — Lighting during data transmission ERR. — Lighting when reception data error occurs. Light turns off when the error is corrected.
Note	• T unit Can be connected with PLC I/O card for serial transmission. EX300-TMB1·····For models of Mitsubishi Electric Corporation EX300-TTA1·····For OMRON EX300-TFU1·····For Fuji Electric EX300-T001·····General purpose ∗ T units have 32 control points per unit • No. of output points, 16 points	• Master station PLC made by Mitsubishi Electric Corporation Series MELSEC-A AJ71PT32-S3, AJ71T32-S3 A1SJ71PT32-S3 ∗ Max. 64 stations, connected to remote I/O stations (Max. 512 points). • No. of output points, 16 points. No. of stations occupied, 2 stations

∗ For details on specifications and handling, refer to the separate technical instruction manual.

How to Order Manifold

VV5Q 4 1 – 08 C8 S [ ] A – [ ]

Series

4	VQ4000

Manifold

1	Plug-in unit

Stations

03	3 stations
⋮	⋮
18	18 stations

Note) Add 2 stations for serial unit mounting.

Cylinder ports

C8	With One-touch fitting for ø8
C10	With One-touch fitting for ø10
C12	With One-touch fitting for ø12
02	Rc 1/4
03	Rc 3/8
B	Bottom ported Rc 1/4
CM	Mixed

SI unit mounting position

Nil	U side mounting
D	D side mounting

Model

0	Without SI unit
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)
H	NKE Corp.: Uni-wire H System
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)
V	Mitsubishi Electric Corp.: CC-LINK System
G	Rockwell Automation: Allen Bradley Remote I/O (RIO) System
U	JEMANET (JPCN-1)

Option

Symbol	Option
Nil	None
CD (2)	Exhaust cleaner: D side mounting
CU (2)	Exhaust cleaner for Rc 1: U side exhaust
K (3)	Special wiring specifications (Except double wiring)
SD (2)	Direct exhaust with silencer box: D side exhaust
SU (2)	Direct exhaust with silencer box: U side exhaust
W (2)	IP65 enclosure

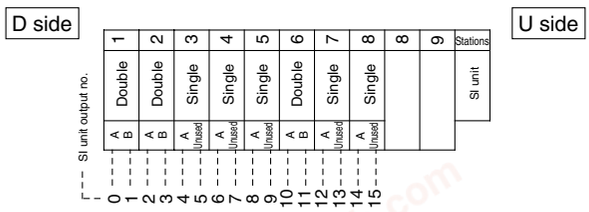
Note 1) When two or more symbols are specified, indicate them alphabetically.
Example) -CDK
Note 2) Combination of [CD] and [SD] is not possible.
Note 3) Specify the wiring specifications in the manifold specification sheet.
Note 4) Refer to pages 2-5-40 to 2-5-43 for with control unit.consumption of AC type.
Note 5) The release valve and the pressure switch on the manifold with control unit are connected to another power supply. Cable length is 0.6 m for L kit.

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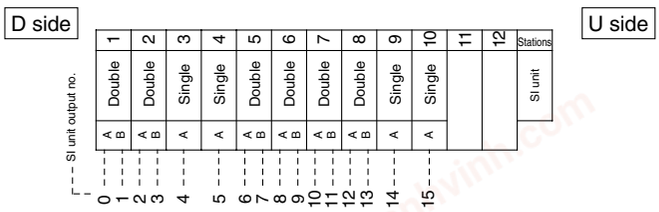
● Correspondence of SI unit output numbers and solenoid valve coils

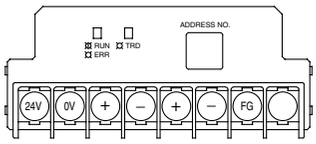
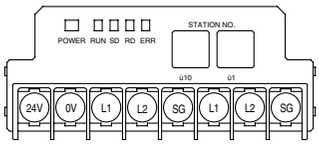
Mixed wiring is available as an option.
Use the manifold specification sheet to specify.

<Wiring example 1> Double wiring (Standard)



<Wiring example 2> Single/Double mixed wiring (Option)



	Type SC OMRON Corporation SYSBUS Wire System	Type SD SHARP Corporation Satellite I/O Link System
Name of terminal block (LED)		
	LED / Description RUN: Lights when transmission is normal and PLC is in operation mode T/R: Blinks during data transmission/reception ERR: ON when transmission is abnormal.	LED / Description POWER: ON when power supply is ON RUN: Lights when power is ON and slave stations are operating normally ERROR: Lights when slave station switch setting is abnormal, communication is abnormal, PLC stopped and defective slave unit R.SET HOLD: ON for master unit control input
Note	• Master station unit OMRON PLC SYSMAC C(CV) series Types C500-RM201 and C200H-RM201 * 32 units max., transmission terminal connection (512 points max.) • No. of output points, 16 points	• Master station unit SHARP Corporation PLC New Satellite Series W ZW-31LM New Satellite Series JW JW-23LM, JW-31LM * Max. 31 units, I/O slave stations connected (504 points max.) • No. of output points, 16 points

How to Order Valves

VQ 4 1 0 0 — 5

Series

4	VQ4000

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) For external pilot specifications, refer to page 2-5-39. Combination of the external pilot and perfect interface is not possible.
Note 3) When two or more symbols are specified, indicate them alphabetically.

Manual override

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

Coil voltage

5	24 VDC

Enclosure

Nil	Dusttight
W	Dusttight/Low jetproof type (IP65)

How to Order Manifold Assembly

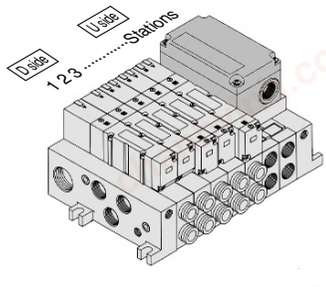
Specify the part numbers for valves and options together beneath the manifold base part number.

<Example>
Serial transmission unit

VV5Q41-07C8SA ····1 set —Manifold base part no.
*VQ4100-5·····2 sets —Valve part no. (Stations 1 and 2)
*VQ4200-5·····2 sets —Valve part no. (Stations 3 and 4)
*VQ4300-5·····1 set —Valve part no. (Station 5)

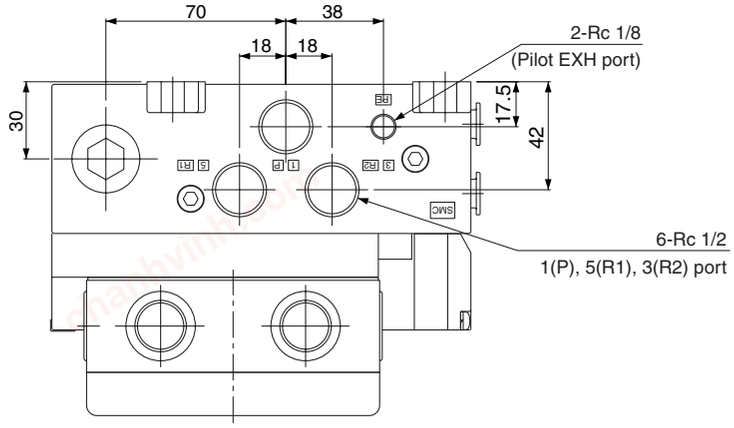
Prefix the asterisk to the part nos. of the solenoid valve, etc.

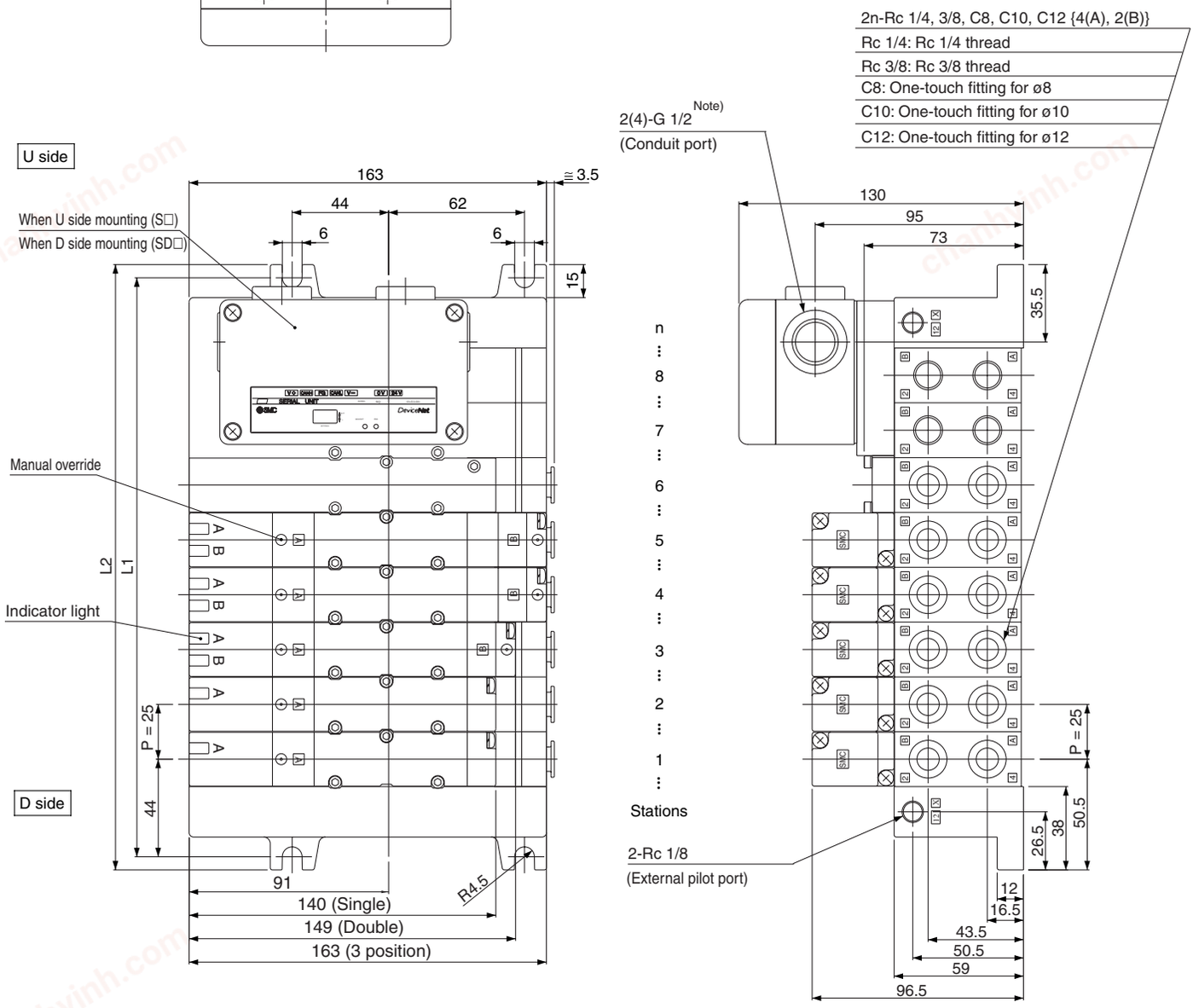
Enter in order starting from the first station on the D side.
When entry of part numbers becomes complicated, indicate in the manifold specification sheet.



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S Kit (Serial transmission unit)





Note) In the case of EX124 for SI unit, conduit port (G 1/2) will be 4 locations.

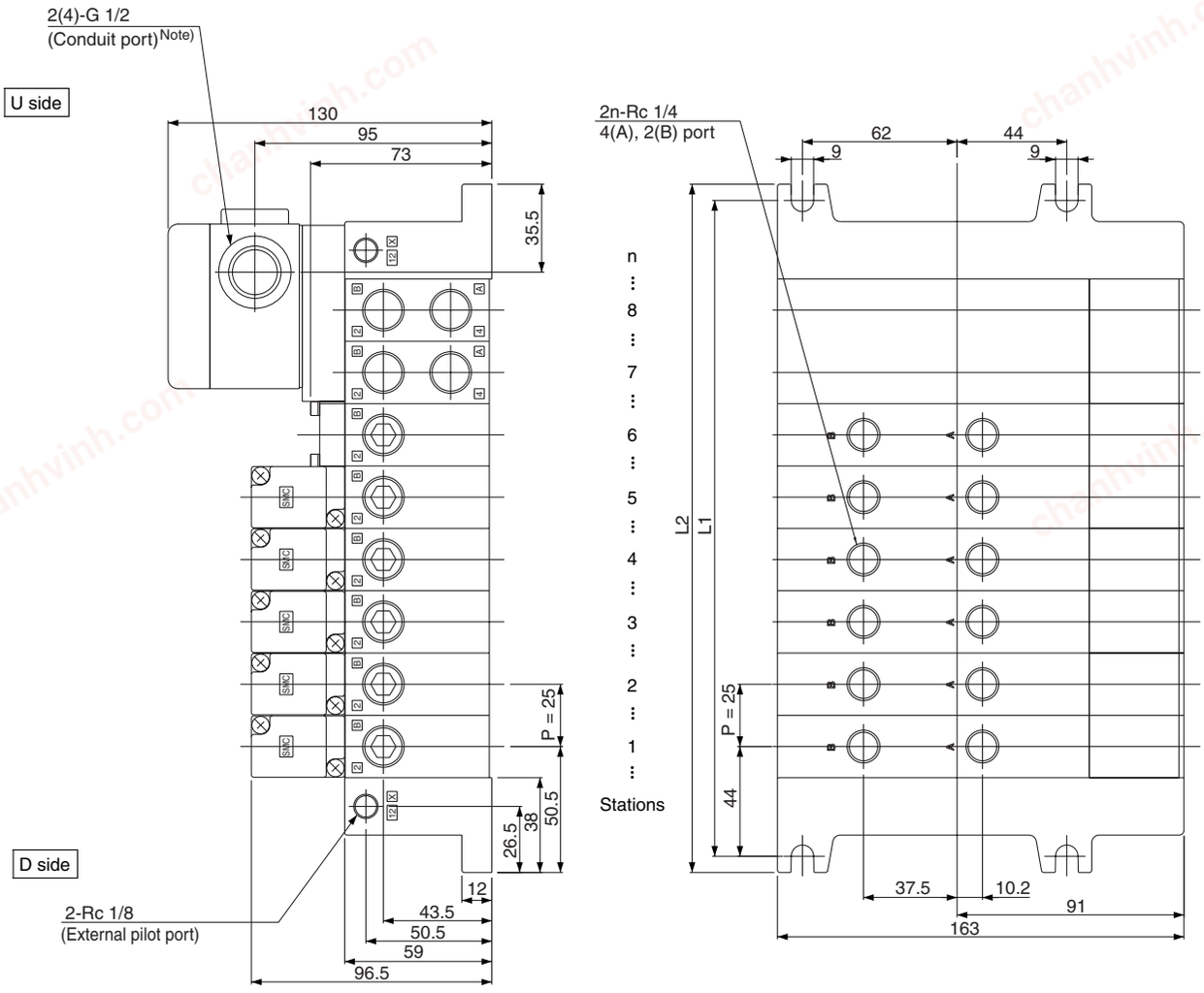
Note) Shown VV5Q41-08C12SQ-W

Dimensions

Formula L1 = 25n + 63, L2 = 25n + 76
n: Station (Maximum standard 18 stations)
∗ Including 2 stations for mounting SI unit box.

L \ n	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
L1	138	163	188	213	238	263	288	313	338	363	388	413	438	463	488	513
L2	151	176	201	226	251	276	301	326	351	376	401	426	451	476	501	526

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Formula L1 = 25n + 63, L2 = 25n + 76
n: Station (Maximum standard 18 stations)
∗ Including 2 stations for mounting SI unit box.

Dimensions

L \ n	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
L1	138	163	188	213	238	263	288	313	338	363	388	413	438	463	488	513
L2	151	176	201	226	251	276	301	326	351	376	401	426	451	476	501	526

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Base Mounted

Series VQ4000

S Kit (Serial transmission kit) for I/O

IP65 compliant

Applicable network: DeviceNet/PROFIBUS-DP

● **The serial transmission system reduces wiring work, while minimizing wiring and saving-space.**

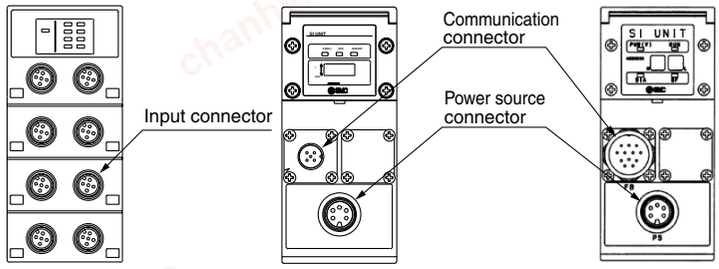
SI unit for DeviceNet/PROFIBUS

As a slave for DeviceNet/PROFIBUS, it is possible to control ON/OFF of a solenoid valve with the maximum of 32 points. Furthermore, by connecting a discrete input block, it is possible to input the sensor signal for 32 points at the maximum.

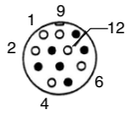
Input block

Meaning of an expansion block, connecting with SI unit, for sensor-inputting for auto switches, etc. Sensor-input is available up to 8 per one input block. By the NPN/PNP switch, it is able to adjust COM to sensor.

Details in Connector



● **Communication connector (PROFIBUS-DP):**
Made by CONINVERS GmbH RC-2RS1N12 12 pins
Cable side connector example:
Made by Siemens AG 6ES5 760-2CB11



Number	Description	Function
1	M5V	GND Terminal
2	A	Signal-N
4	B	Signal-P
6	+5V	Terminal + 5V
9	SIELD	Shield ground
12	RTS	Optical fiber (Reserve)

Pin no. 3, 5, 7, 8, 10 and 11 marked with ● are open.
∗ Connector's shape and pin assignment is interchangeable with ET200C made by Siemens AG.

How to Order Manifold

VV5Q 4 1 – 08 C8 S D QW □ 1 □ – □ W

Series

4	VQ4000

Manifold

1	Plug-in unit

Stations

01	1 station
⋮	⋮
16	16 stations

Cylinder ports

Symbol	Port size
C8	With One-touch fitting for ø8
C10	With One-touch fitting for ø10
C12	With One-touch fitting for ø12
02	Rc 1/4
03	Rc 3/8
B	Bottom ported Rc 1/4
CM	Mixed

Kit
Serial transmission kit

Mounting SI unit

D	D side mounting
U	U side mounting

SI unit

OW	With no SI unit, nor input unit
QW	DeviceNet
NW	Profibus DP

SI unit COM

Nil	With no SI/Input unit (For SDOW)	
	+COM	DeviceNet (SDQW)
N	–COM	Profibus DP (SDNWN)

Note) Only +COM is available for DeviceNet. Order a mounting valve with +COM.
Since PROFIBUS is –COM only, order –COM for valves to be mounted.

Input unit

Nil	With no SI unit, or input unit (In the case of SDOW)
0	Without input unit
1	With 1 input unit
2	With 2 input units
3	With 2 input units
4	With 4 input units

Input unit COM

Nil	PNP (+) or with no SI unit (for SDOW)
N	NPN (–)

Option

Symbol	Option
Nil	None
CD (2) (3)	Exhaust cleaner: For D side mounting
CU (2) (3)	Exhaust cleaner: For U side mounting
K	Special wiring specification (Except double wiring)
SD (2) (3)	Direct exhaust with silencer box: D side exhaust
SU (2) (3)	Direct exhaust with silencer box: U side exhaust

Note 1) When two or more symbols are specified, indicate them alphabetically.
Example) -CDK
Note 2) Combination of [C^{U}_{D}] and [S^{U}_{D}] is not possible.
Note 3) Mounting side for exhaust cleaner, silencer box is available only in the opposite side from SI unit mounting side.

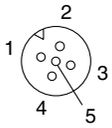
Enclosure
IP65 (Dusttight/Low jetproof type)

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Details in Connector

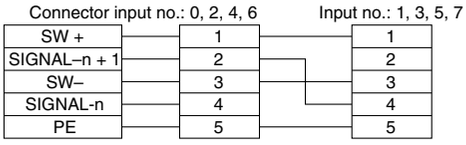
● **Input connector: M12 5 pins (XS2F compatible made by OMRON Corp.) x 8 pcs.**

Cable side connector example: XS2G made by OMRON Corp.



Number	Description	Function
1	SW+	Sensor power supply +
2	N.C.	Open*
3	SW–	Sensor power supply –
4	SIGNAL	Sensor input signal
5	PE	Protective sensor ground

* No. 2 pin of the input no. 0, 2, 4, 6 connector (connectors aligned in the right side on the input block) is connected internally with no. 4 pin (sensor input no.) of the input no. 1, 3, 5, 7 respectively. Thereby, it is possible to directly input 2 points which is bundled into 1 cable by the cluster connector, etc.

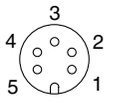


⚠ Caution

When an enclosure equivalent to IP65 is required, place a waterproof cover on the unused input connector. As for waterproof cover, order it separately.
Example: OMRON Corp. XS2Z-12

● **Power source connector: Series 723 (made by Franz Binder GmbH & Co. KG) 5 pins (72309-0115-80-05)**

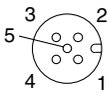
Cable side connector example: Franz Binder GmbH & Co. KG 72309-0114-70-15, etc.
* DIN type 5 pins



Number	Description	Function
1	SV24V	For solenoid valve +24 V
2	SV0V	For solenoid valve 0 V
3	PE	Protective ground
4	SW24V	<DeviceNet>For input block + 24 V, <Profibus or Interbus>For input unit and SI unit + 24 V
5	SW0V	<DeviceNet>For input block 0 V, <Profibus or Interbus>For input unit and SI unit 0 V

● **Communication connector (DeviceNet): M12 5 pins (for DeviceNet compliant)**

Example of corresponding cable assemblies with connector:
OMRON Corporation: DCA1-5CN05F1
Karl Lumberg GmbH & Co. KG: RKT5-56



Number	Description	Function
1	Drain	Drain/Shield
2	V+	Circuit power supply +
3	V–	Circuit power supply –
4	CAN_H	Signal H
5	CAN_L	Signal L

Item conforming to Micro style connector in DeviceNet specifications.

How to Order Valves

VQ 4 1 0 0 □ — 5 □ □

Series

4	VQ4000

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) For external pilot specifications, refer to page 2-5-39. Combination of the external pilot and perfect interface is not possible.
Note 3) When two or more symbols are specified, indicate them alphabetically.

Coil voltage

5	24 VDC

Manual override

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

Enclosure

Nil	Dusttight
W	Dusttight/ Low jetproof type (IP65)

How to Order Manifold Assembly

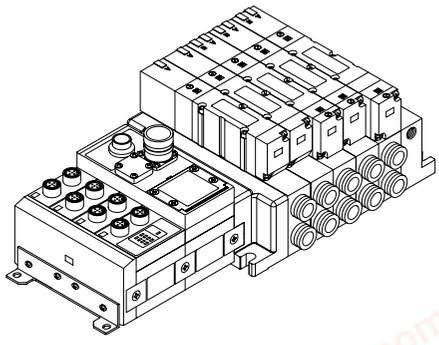
Specify the part numbers for valves and options together beneath the manifold base part number.

<Example>
Serial transmission unit

VV5Q41-05C8SDQW1-W····1 set —Manifold base part no.
*VQ4100-5W·····2 sets —Valve part no. (Stations 1 and 2)
*VQ4200-5W·····2 sets —Valve part no. (Stations 3 and 4)
*VQ4300-5W·····1 set —Valve part no. (Station 5)

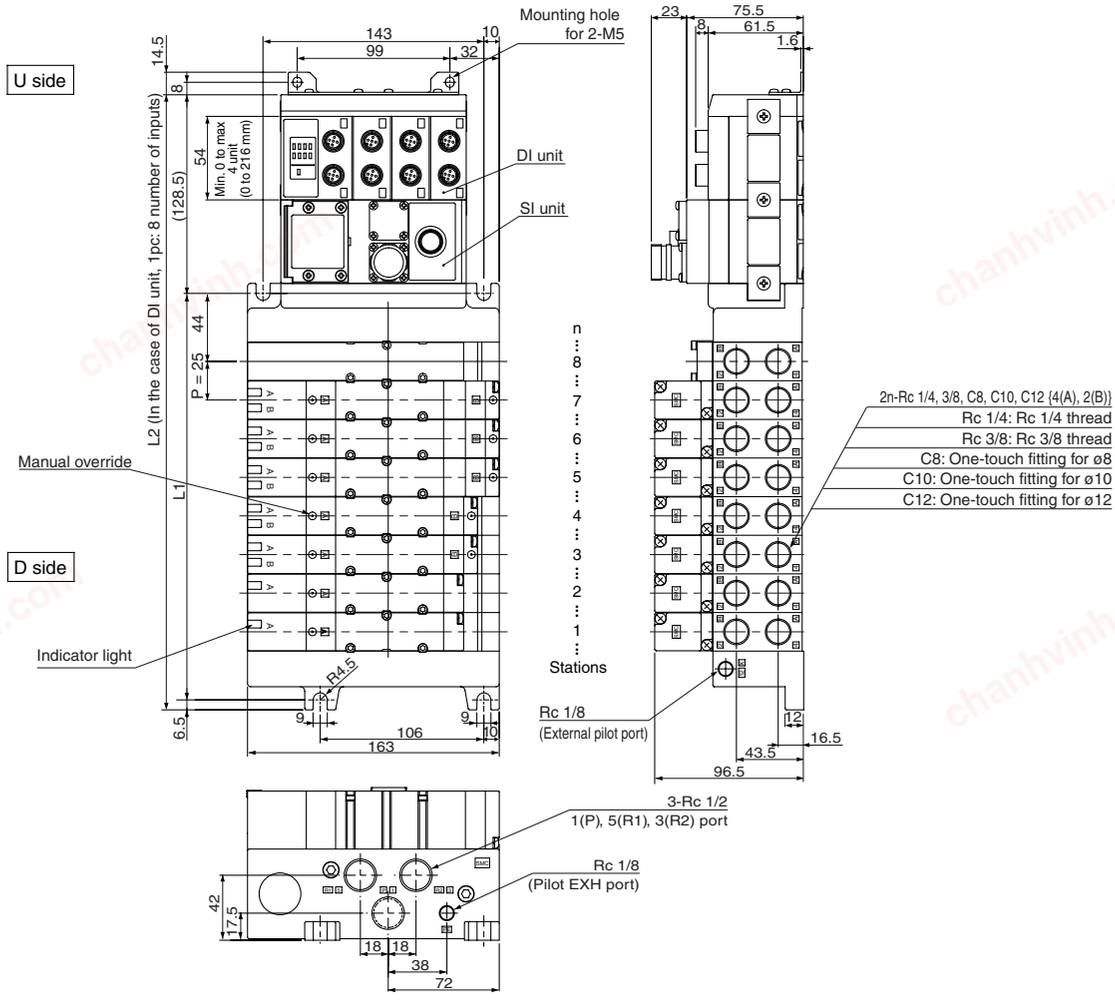
Prefix the asterisk to the part nos. of the solenoid valve, etc.

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.



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S Kit (Serial transmission unit) for I/O



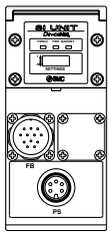
Dimensions

Formula L1 = 25n + 63, L2 = 25n + 198
n: Stations ∗ In the case of DI unit, 1 pc., 54 mm is added per 1 pc.

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	113	138	163	188	213	238	263	288	313	338	363	388	413	438	463
L2	248	273	298	323	348	373	398	423	448	473	498	523	548	573	598

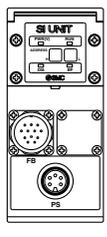
Indicator Unit (LED) Descriptions and Functions

■ SI Unit (DeviceNet)



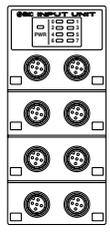
Description	Function
PWR(V)	ON when solenoid valve power supply is turned ON
PWR	ON when DeviceNet circuit power supply input is turned ON
MOD/NET	OFF: Power supply off, off line, or when checking duplication of MAC_ID
	Green blinking: Waiting for connection (On line)
	Green ON: Connection established (On line)
	Red blinking: Connection time out (Minor communication abnormality occurs)
	Red ON: MAC_DI duplication error, or BUSOFF error (Major communication abnormality occurs)

■ SI Unit (PROFIBUS-DP)



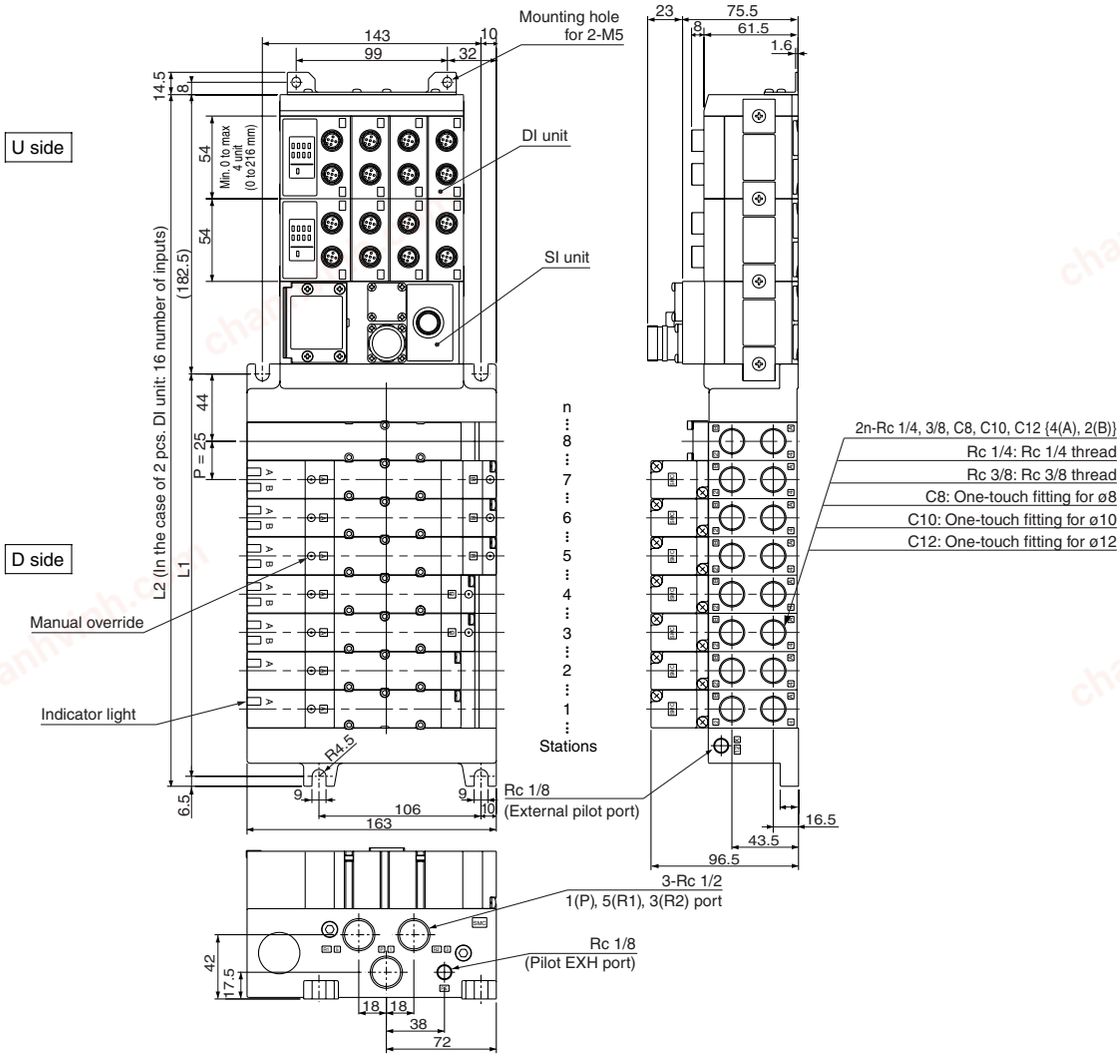
Description	Function
PWR	ON when solenoid valve power supply is turned ON OFF when the power supply voltage is less than 19 V
RUN	ON when operating (SI unit power supply is ON)
DIA	ON when self-diagnosis device detects abnormality
BF	ON for BUS abnormality

■ Input block



Description	Function
PWR	ON when sensor power is turned ON OFF when short circuit protection is working
0 to 7	ON when each sensor input goes ON

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Formula L1 = 25n + 63, L2 = 25n + 252
n: Stations

Dimensions

∗ In the case of 2 pcs. DI unit, 105 mm will be added per 2 pcs.

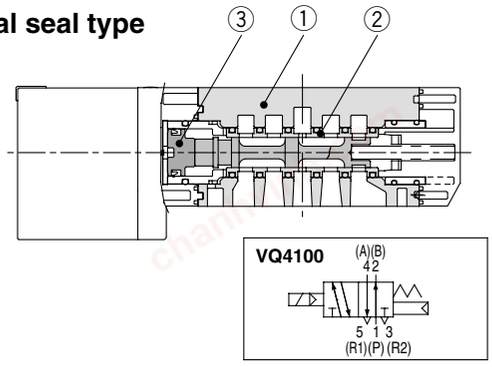
L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	113	138	163	188	213	238	263	288	313	338	363	388	413	438	463
L2	302	327	352	377	402	427	452	477	502	527	552	577	602	627	652

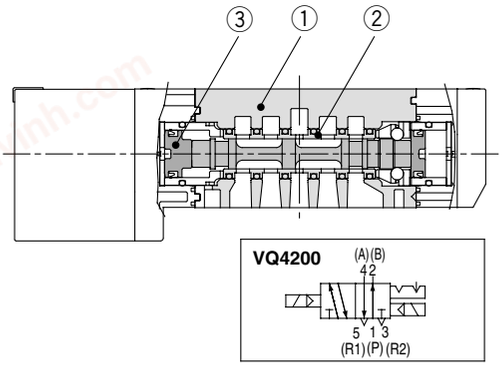
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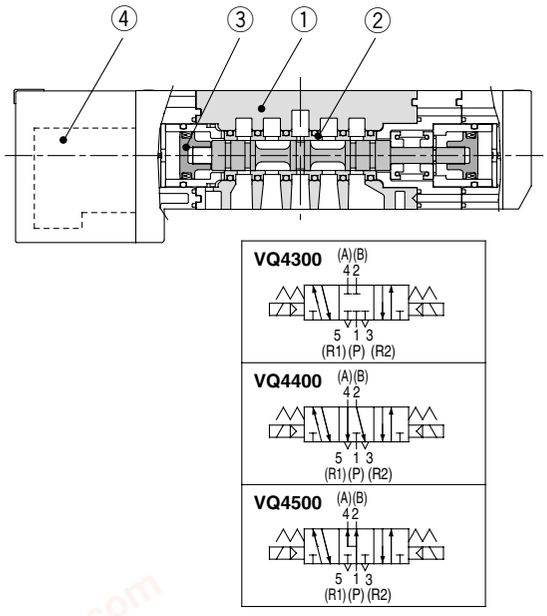
Series VQ4000
Construction

Plug-in Unit

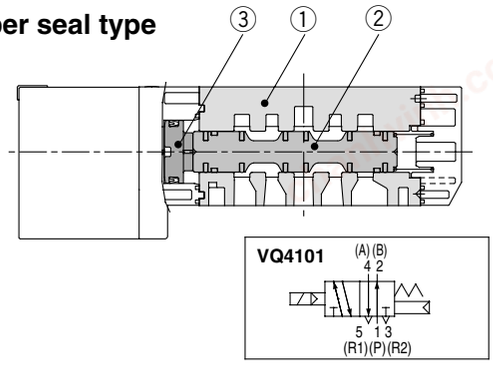
Metal seal type

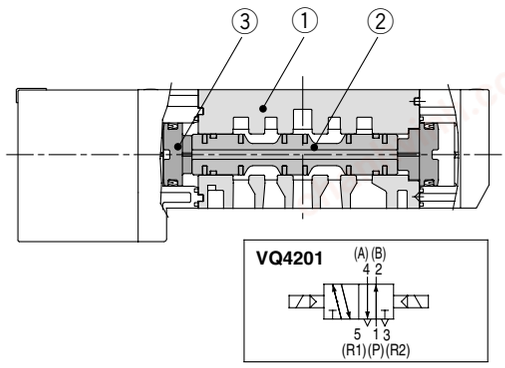


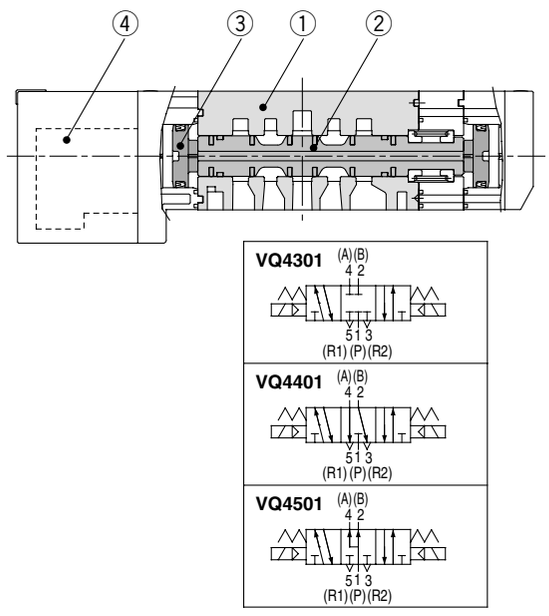




Rubber seal type







Component Parts

Number	Description	Material	Note
①	Body	Aluminum die-casted	
②	Spool/Sleeve	Stainless steel	
③	Piston	Resin	

Replacement Parts

④	Pilot valve assembly	VQZ111P-□	∗: Coil rated voltage Example) 24 VDC: 5

Component Parts

Number	Description	Material	Note
①	Body	Aluminum die-casted	
②	Spool valve	Aluminum, NBR	
③	Piston	Resin	

Replacement Parts

④	Pilot valve assembly	VQZ111P-□	∗: Coil rated voltage Example) 24 VDC: 5