

Base Mounted Metal Seal/Rubber Seal Series VQ

Space-saving profile

All pilot valves are compactly mounted on one side. The space-saving design of mounting all fittings on one side permits mounting in three directions.

Space-saving 45% less

Capacity-saving 50% less



VQ0000
(VV5Q05)

Unprecedented high speed response and long service life

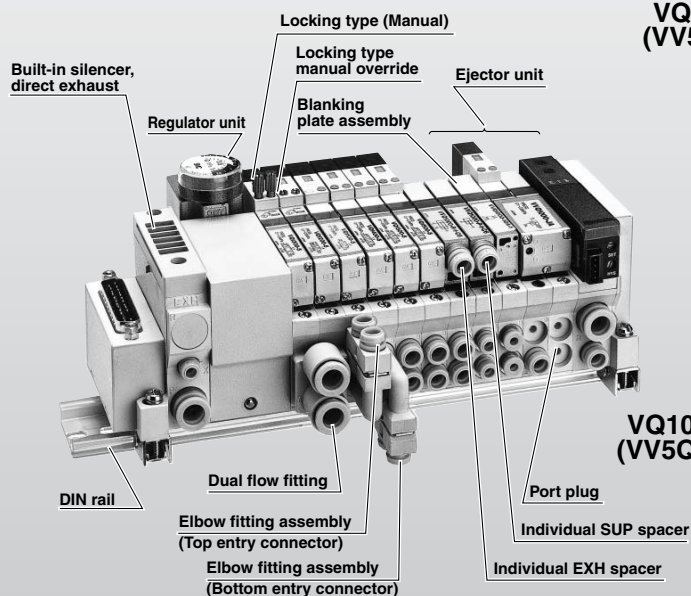
(Metal seal, single, with indicator light/surge voltage suppressor)

VQ0000	10 ms	} 200 million cycles
VQ1000	10 ms	
VQ2000	20 ms	
Dispersion accuracy ± 2 ms		

Thin compact design with large flow capacity

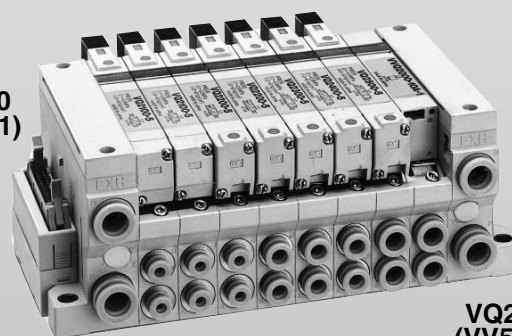
Model	Manifold pitch (mm)	Flow characteristics		Cylinder size
		Metal seal	Rubber seal	
		C [dm ³ /(s·bar)]	C [dm ³ /(s·bar)]	
VQ0000	10.7	0.44	0.53	Up to $\phi 40$
VQ1000	10.5	0.72	1.0	Up to $\phi 50$
VQ2000	16	2.6	3.2	Up to $\phi 80$

* Flow characteristics: 4/2 $\rightarrow$ 5/3 (A/B $\rightarrow$ R1/R2)



* The photo does not show an actual use example.

A variety of options



VQ2000
(VV5Q21)

Innovative mounting methods

The non-bias, one-clamp structure permits easy valve replacement. (Plug-in unit)

Built-in One-touch fittings for easy piping.

A variety of common wiring methods are standardized.

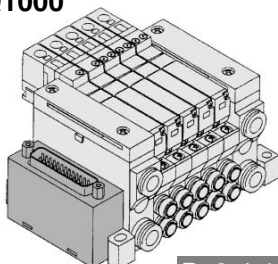
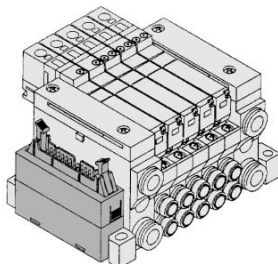
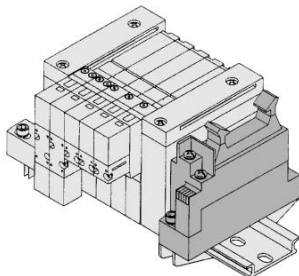
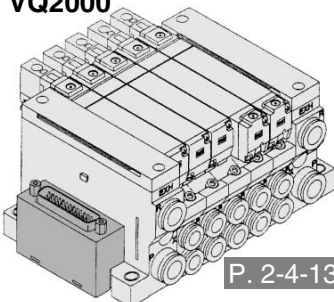
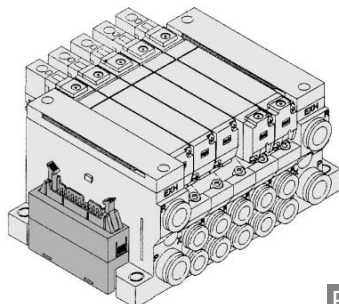
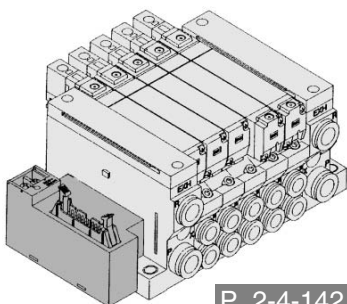
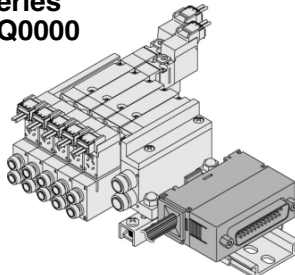
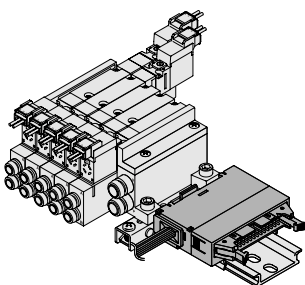
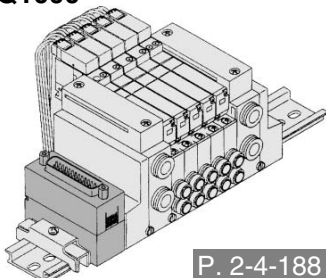
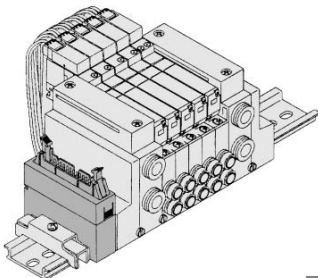
F kit (D-sub connector) Number of pins: 15, 25  Top entry  Side entry	P kit (Flat ribbon cable connector) Number of pins: 10, 16, 20, 26  Top entry  Side entry	J kit (Flat ribbon cable connector) Number of pins: 20 (PC Wiring System compliant)  Top entry  Side entry		
G kit (Flat ribbon cable with terminal block) Number of pins: 20 	T kit (Terminal box) 	L kit (Lead wire) 	S kit (Serial transmission unit) 	M kit (Multi-connector kit)  (VQ2000 only)

Valve Specifications

Base Mounted																		
Plug-in																		
Series VQ1000	Rubber seal	VQ□00	0.72	0.72														
	Metal seal	VQ1□01	1.0	0.65								(F/L kit only)						
	P. 2-4-120																	
	P. 2-4-128																	
Series VQ2000	Rubber seal	VQ2□00	2.6	2.0														
	Metal seal	VQ2□01	3.2	2.2								(F/L kit only)						
	P. 2-4-124																	
	P. 2-4-128																	
Plug lead																		
Series VQ0000	Rubber seal	VQ0□50	0.44	0.32														
	Metal seal	VQ0□51	0.53	0.44														
	P. 2-4-182																	
	P. 2-4-186																	
Series VQ1000	Rubber seal	VQ1□10	0.72	0.72														
	Metal seal	VQ1□11	1.0	0.65														
	P. 2-4-184																	
	P. 2-4-186																	

Option					Manifold Option				
P. 2-4-215				External pilot					Blanking plate
				D-sub connector 15P					Individual SUP/EXH
				Flat ribbon cable 10P 16P 20P					SUP/EXH passage spacer
	For S kit, please contact SMC.	For S kit, please contact SMC.	For S, G kit, please contact SMC.	Negative common specifications					Name plate
				One-touch fitting Inch size					Back pressure check valve
	Except L kit	Except L kit	Except L kit	For special wiring spec.					DIN rail mounting style
P. 2-4-210									Built-in silencer
									Silencer for EXH port
									Elbow fitting for cylinder port
									Two stations matching fittings for double flow rate
									Plug for cylinder port
									Regulator unit
									Ejector unit mounted
									Double check block
P. 2-4-208									
P. 2-4-177									
P. 2-4-172									
P. 2-4-215									

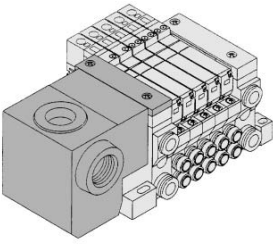
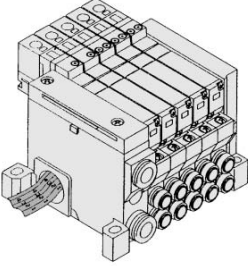
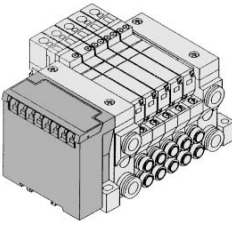
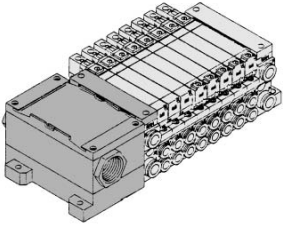
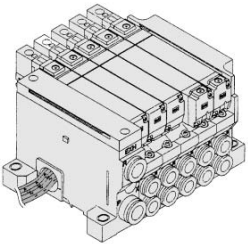
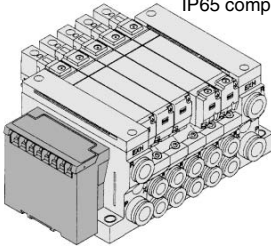
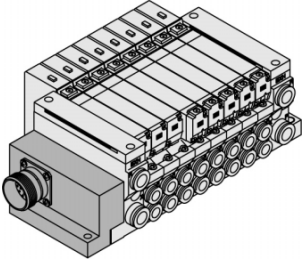
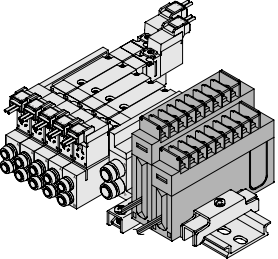
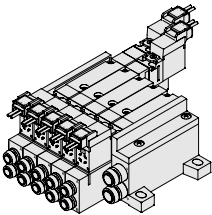
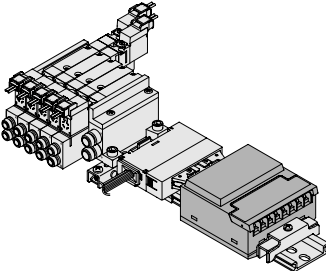
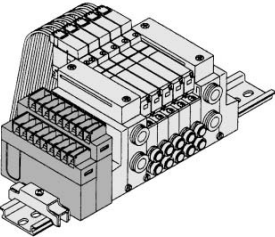
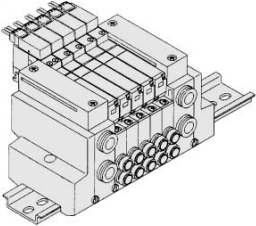
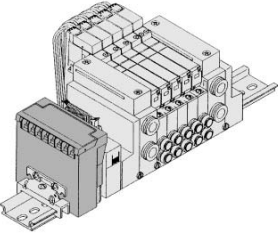
Series VQ/Base Mounted: Variations

Manifold Variations			
F kit	P kit	J kit	G kit
D-sub connector Conforming to MIL D-sub connector	Flat ribbon cable connector (26, 20, 16, 10 pins) Conforming to MIL flat ribbon cable connector	Flat ribbon cable connector (20 pins) Conforming to MIL flat ribbon cable connector PC Wiring System compatible	Flat ribbon cable with power supply terminal block Conforming to MIL flat ribbon cable connector Applicable to OMRON's serial transmission unit PC Wiring System compatible
Series VQ1000  P. 2-4-130	 P/J kit P. 2-4-134	 P. 2-4-142	
Series VQ2000  P. 2-4-130	 P/J kit P. 2-4-134	 P. 2-4-142	
Series VQ0000  P. 2-4-188	 P kit only P. 2-4-192		
Series VQ1000  P. 2-4-188	 P kit only P. 2-4-192		

Plug-in

Plug Lead

Manifold Variations

T kit Terminal block box (Terminal block) Terminal blocks are compactly arranged on one side.	L C kit Lead wire Direct electrical entry type	S kit Serial transmission unit Enables single-wire solenoid valve-PLC operation	M kit Circular connector IP65 (Dusttight/Low jetproof type)
 Terminal block box P. 2-4-146	L kit  P. 2-4-150	 P. 2-4-154	—
 Enclosure IP65 compliant P. 2-4-146	L kit  Enclosure IP65 compliant P. 2-4-150	 Enclosure IP65 compliant P. 2-4-154	 W type only P. 2-4-158
 Terminal block P. 2-4-196	C kit  P. 2-4-200	 P. 2-4-204	—
 Terminal block P. 2-4-196	C kit  P. 2-4-200	 P. 2-4-204	—

VQC

SQ

VQ0

VQ4

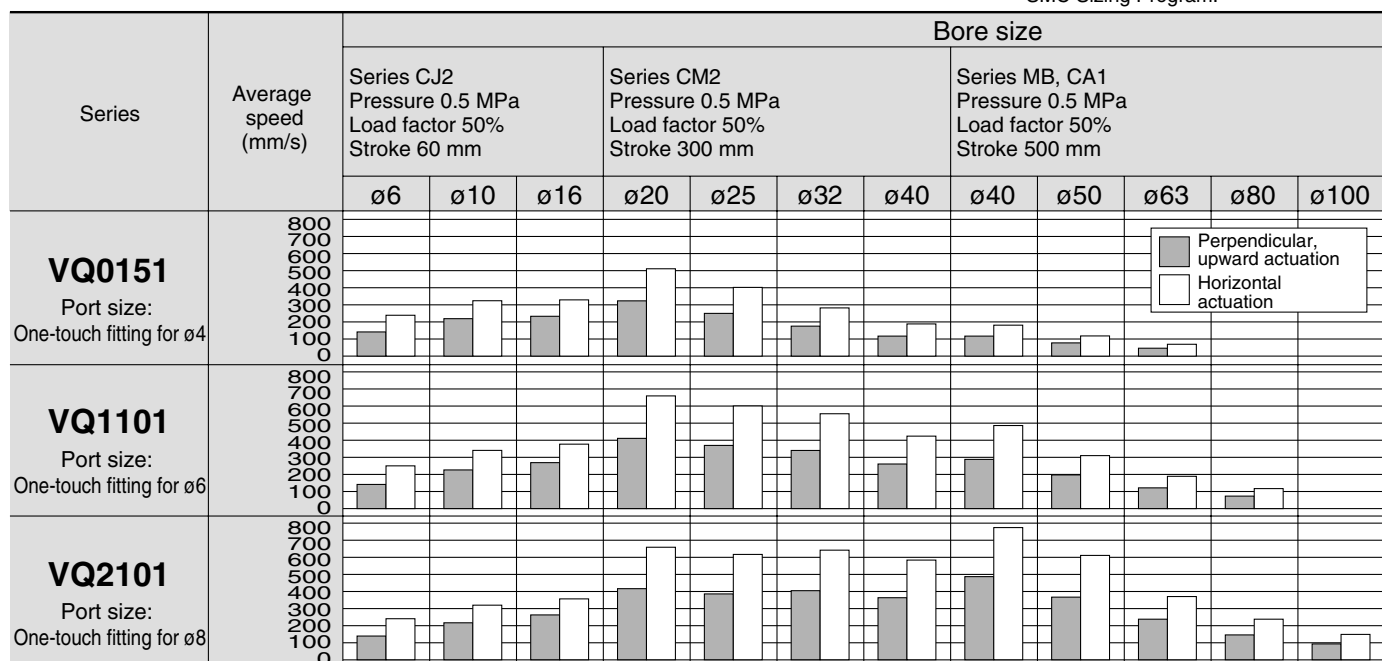
VQ5

VQZ

VQD

Cylinder Speed Chart

Use as a guide for selection.
Please confirm the actual conditions with
SMC Sizing Program.



VQC

SQ

VQ0

VQ4

VQ5

VQZ

VQD



- * It is when the cylinder is extending that is meter-out controlled by speed controller which is directly connected with cylinder, and its needle valve with being fully open.
- * The average velocity of the cylinder is what the stroke is divided by the total stroke time.
- * Load factor: $((\text{Load weight} \times 9.8) / \text{Theoretical force}) \times 100\%$

Conditions

Series	Conditions	Series CJ2	Series CM2	Series MB, CA1
VQ0151	Tube bore x Length		T0425 x 1 m	
	Speed controller		AS2001F-04	
	Silencer		AN103-X233	
VQ1101	Tube bore x Length		T0604 x 1 m	
	Speed controller		AS3001F-06	
	Silencer		AN103-X233	
VQ2101	Tube bore x Length		T0806 x 1 m	
	Speed controller		AS3001F-08	
	Silencer		AN200-KM8	

Series VQ1000

Base Mounted

Plug-in Unit

How to Order Manifold

VV5Q 1 1-08 C6 F U1

Series
1 VQ1000

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.)

Option

Symbol	Option
Nil	None
2	200/220 VAC models (Applicable to F and L kits)
B	With back pressure check valve ⁽²⁾
D	DIN rail mounting
G1	1 set of regulator unit ⁽³⁾
G2	2 sets of regulator unit ⁽³⁾
G3	3 sets of regulator unit ⁽³⁾
J	With vacuum ejector unit ⁽⁴⁾
K	Special wiring specifications (Not double wiring) ⁽⁵⁾
N	With name plate
R	External pilot ⁽⁶⁾
S	Built-in silencer, direct exhaust

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

Note 2) Models with a suffix "-B" have check valves for prevention of back pressure at all manifold stations. If not all stations need this check valve, specify the stations where check valves are installed by using the manifold specification sheet.

Note 3) Specify the mounting position in the manifold specification sheet.

Note 4) Refer to page 2-4-170 for the details of ejector mounted styles. A combination of "J" and "N" is unavailable.

Note 5) Specify the wiring by means of the manifold specification sheet. (Except L kit)

Note 6) Indicate "R" for the valve with external pilot.



Cylinder port

Symbol	Port size	Symbol	Port size
C3	With One-touch fitting for ø3.2	L6	W/ elbow One-touch fitting ø6 for top piping
C4	With One-touch fitting for ø4	L5	Elbow M5 thread for top piping
C6	With One-touch fitting for ø6	B3	W/ elbow One-touch fitting ø3.2 for bottom piping
M5	M5 thread	B4	W/ elbow One-touch fitting ø4 for bottom piping
CM	With mixed size/with port plug ⁽¹⁾	B6	W/ elbow One-touch fitting ø6 for bottom piping
L3	W/ elbow One-touch fitting ø3.2 for top piping	B5	Elbow M5 thread for bottom piping
L4	W/ elbow One-touch fitting ø4 for top piping	LM	Mixed size for elbow piping

Note 1) Specify "Mixed size/with port plug" in the manifold specification sheet.
Note 2) Inch-size One-touch fittings are also available. For details, refer to page 2-4-179.
Note 3) M5 fittings for M5 thread are attached without being incorporated.



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

Kit/Electrical entry/Cable length

F

kit
(D-sub connector)

Connector entry direction

Top entry

Side entry

P. 2-4-130

Kit	U0	Kit	S0	Without cable	(2) 2 to 24 stations
	U1		S1	With cable (1.5 m)	
	F		S2	With cable (3 m)	
	U3		S3	With cable (5 m)	

P

kit
(Flat ribbon cable connector)

Connector entry direction

Top entry

Side entry

P. 2-4-134

Kit	U0	Kit	S0	Without cable	(2) 2 to 24 stations
	U1		S1	With cable (1.5 m)	
	P		S2	With cable (3 m)	
	U3		S3	With cable (5 m)	

J

kit
(Flat ribbon cable connector (20P))

Connector entry direction

Top entry

Side entry

P. 2-4-138

Kit	U0	Kit	S0	Without cable	(2) 2 to 16 stations
	U1		S1	With cable (1.5 m)	
	J		S2	With cable (3 m)	
	U3		S3	With cable (5 m)	

G

Kit
(Flat ribbon cable connector with power supply terminal block)

Connector entry direction

Top entry

Side entry

P. 2-4-142

Kit	U0	Kit	S0	Without cable	(2) 2 to 16 stations
	U1		S1	With cable (1.5 m)	
	G		S2	With cable (3 m)	
	U3		S3	With cable (5 m)	

The valve is equipped with Compatible only with 24 VDC valves.

Order separately SI unit made by OMRON Corp.

Note 1) Besides the above, F and P kits with different number of pins are available. Refer to page 2-4-177 for details.
Note 2) For details, refer to page 2-4-178.

How to Order Valves

VQ 1 1 0 0 Y 5

Series
1 VQ1000

Type of actuation
1 2 position single
2 Metal 2 position double
Rubber 2 position double

Seal
0 Metal seal
1 Rubber seal

Manual override
Nil: Non-locking push type (Tool required)
B: Push-locking slotted type
C: Locking type (Manual)

Light/Surge voltage suppressor
Nil Yes
E (Note) None
Note) Inapplicable to the S kit.

Function
3 3 position closed center
4 3 position exhaust center
5 3 position pressure center
A 4 position dual 3 port valve
B 4 position dual 3 port valve
C 4 position dual 3 port valve

Coil voltage
1 100 VAC (50/60 Hz)
2 (Note) 200 VAC (50/60 Hz)
3 110 VAC (50/60 Hz)
4 (Note) 220 VAC (50/60 Hz)
5 24 VDC
6 12 VDC
Note) 200/220 VAC models are applicable to F and L kits.

Specifications
Symbol Specifications DC AC
Nil Standard type (1.0 W) (Note)
H High pressure type (1.5 W) —
Y Low wattage type (0.5 W) —
Note) For power consumption of AC type, refer to page 2-4-129.
Note) For external pilot and negative COM specifications, refer to "Option" on pages 2-4-178 to 2-4-179.
Note) Rubber seal type only.

How to Order Manifold Assembly

Example

Single solenoid (24 VDC)
VQ1100-5 (4 sets)

Double solenoid (24 VDC)
VQ1200-5 (4 sets)

Blanking plate
VQ1000-10A-1 (1 set)

D-sub connector

Cylinder ports
C6: With One-touch fitting for ø6

F kit
(D-sub connector)

Manifold base (9 stations)
VV5Q11-09C6FU2

VV5Q11-09C6FU2 1 set (F kit 9 station manifold base no.)
*VQ1100-5 4 sets (Single solenoid part no.)
*VQ1200-5 4 sets (Double solenoid part no.)
*VV1000-10A-1 1 set (Blanking plate part no.)

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

Specify the part numbers for valves and options together beneath the manifold base part number. Besides, when the arrangement will be complicated, specify them by means of the manifold specification sheet.

VQC

SQ

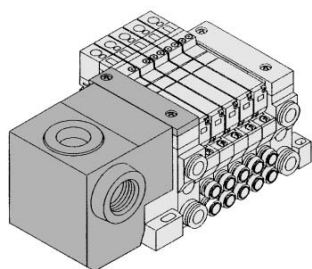
VQ0

VQ4

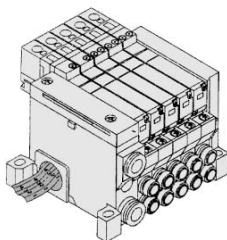
VQ5

VQZ

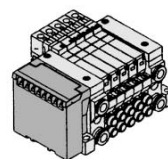
VQD

T kit
(Terminal box)

P. 2-4-146

L kit
(Lead wire cable)

P. 2-4-150

S kit
(Serial transmission unit)

The valve is equipped with an indicator light and surge voltage suppressor, and the voltage is 24 VDC. The dust proof SI unit is also available. Refer to page 2-4-154 for details.

P. 2-4-154

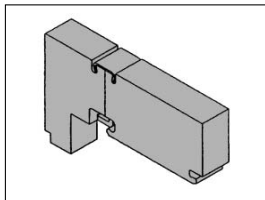
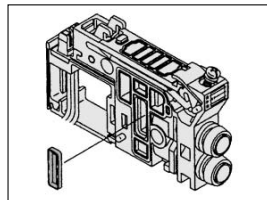
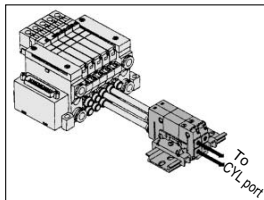
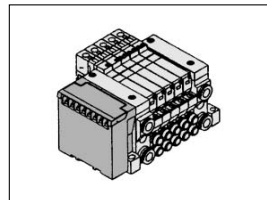
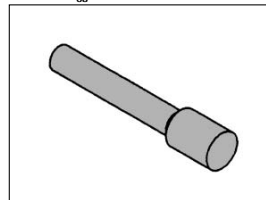
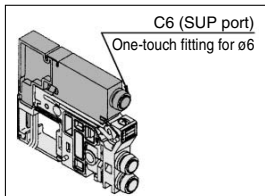
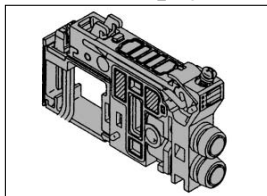
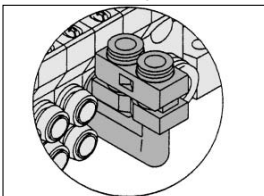
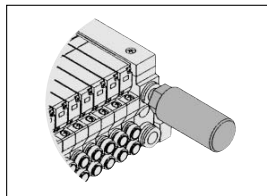
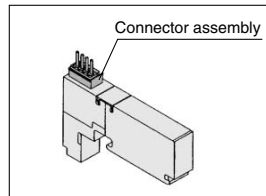
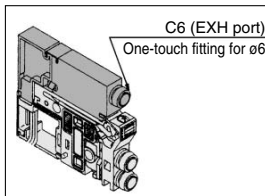
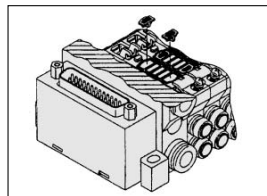
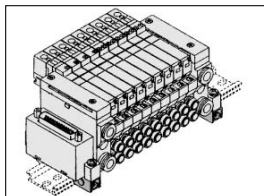
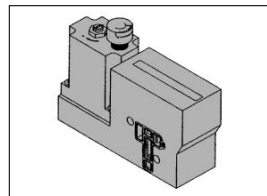
Kit T O Terminal block box 2 to 24 stations⁽²⁾

Kit L			
0	With cable (0.6 m)	1 to 8 stations	
1	With cable (1.5 m)		
2	With cable (3 m)		

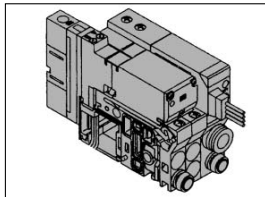
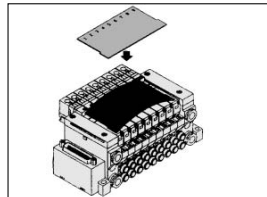
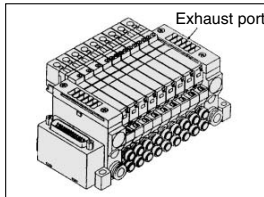
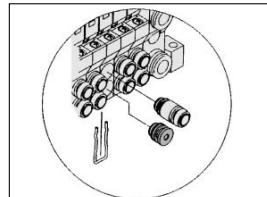
Kit S	0	Without SI unit	Max. 16 ⁽²⁾ stations
	A	With general type SI unit (Series EX300)	
	B	Mitsubishi Electric Corp.: MELSECNET/MINI-S3 Data Link System	
	C	OMRON Corp.: SYSBUS Wire System	
	D	SHARP Corp.: Satellite I/O Link System	
	E	Matsushita Electric Works: MEWNET-F System	
	F1	NKE Corp.: Uni-wire System (16 output points)	Max. 8 stations
	G	Rockwell Automation: Allen Bradley Remote I/O (RIO) System	
	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)	Max. 16 stations
	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)	Max. 8 stations
	V	Mitsubishi Electric Corp.: CC-LINK System	Max. 16 stations

Manifold Option

P. 2-4-208

Blanking plate assembly
VVQ1000-10A-1SUP block plate
VVQ1000-16ADouble check block
VQ1000-FPG-□□2 stations matching fitting assembly
VVQ1000-52A-C8Blanking plug
KQ2P-□□□□Individual SUP spacer
VVQ1000-P-1-C6EXH block base assembly
VVQ1000-19A-□□-□□Elbow fitting assembly
VVQ1000-F-L-□□□□Silencer (For EXH port)
AN200-KM8/AN203-KM8Blanking plate with connector
VVQ1000-1C□-□Individual EXH spacer
VVQ1000-R-1-C6Back pressure check valve assembly [-B]
VVQ1000-18ADIN rail mounting bracket [-D]
VVQ1000-57ARegulator unit
VVQ1000-AR-1

- For cylinder port fittings part no., refer to page 2-4-175.
- For replacement parts, refer to page 2-4-227.

With vacuum ejector unit
[-J□]Name plate [-N]
VVQ1000-N-Station (1 to Max. stations)Built-in silencer,
direct exhaust [-S]Port plug
VVQ0000-58A

Series VQ2000

Base Mounted

Plug-in Unit

How to Order Manifold

VV5Q 2 1 - 08 C6 F U1

Series
2 VQ2000

Manifold
1 Plug-in unit

Cylinder port
08

Kit type
C6 F U1

Option

Symbol	Option
Nil	None
B	Back pressure check valve ⁽²⁾
D	DIN rail mounting style
K	Special wiring specifications (Except double wiring) ⁽³⁾
N	With name plate
R	External pilot ⁽⁴⁾
S	Built-in silencer, direct exhaust
W	Enclosure: Dust tight/splashproof type (IP65) [T, L, S and M kits only]

Stations

Symbol	Port size
01	1 station
:	:

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

Symbol **Port size**

Symbol	Port size
C4	With One-touch fitting for ø4
C6	With One-touch fitting for ø6
C8	With One-touch fitting for ø8
CM	With mixed size/with port plug ⁽¹⁾
L4	W/ elbow One-touch fitting ø4 for top piping
L6	W/ elbow One-touch fitting ø4 for top piping

Note 1) Specify "Mixed size/with port plug" on the manifold specification sheet.

Note 2) Inch-size One-touch fittings are available. For details, refer to page 2-4-179.

Symbol **Port size**

Symbol	Port size
L8	W/ elbow One-touch fitting ø8 for top piping
B4	W/ elbow One-touch fitting ø4 for bottom piping
B6	W/ elbow One-touch fitting ø6 for bottom piping
B8	W/ elbow One-touch fitting ø8 for bottom piping
LM	Mixed size for elbow piping

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

Note 2) Models with a suffix "-B" have check valves for prevention of back pressure at all manifold stations. If not all stations need this check valve, specify the stations where check valves are installed by manifold specification sheet.

Note 3) Specify the wiring specifications in the manifold specification sheet. (Except L kit)

Note 4) Indicate "R" for the valve with external pilot.

Simple specials are available with SMC Simple Specials System.
For details about applicable models, Contact SMC.

Kit/Electrical entry/Cable length

F kit (D-sub connector)

P kit (Flat ribbon cable connector)

J kit (Flat ribbon cable connector (20P))

G kit (Flat ribbon cable connector with power supply terminal block)

Compatible only with 24 VDC valves.

Connector entry direction

Top entry	Side entry	P. 2-4-130
U0	S0	Without cable
U1	S1	With cable (1.5 m)
U2	S2	With cable (3 m)
U3	S3	With cable (5 m)

(2) 2 to 24 stations

Connector entry direction

Top entry	Side entry	P. 2-4-134
U0	S0	Without cable
U1	S1	With cable (1.5 m)
U2	S2	With cable (3 m)
U3	S3	With cable (5 m)

(2) 2 to 24 stations

Connector entry direction

Top entry	Side entry	P. 2-4-138
U0	S0	Without cable
U1	S1	With cable (1.5 m)
U2	S2	With cable (3 m)
U3	S3	With cable (5 m)

(2) 2 to 16 stations

Connector entry direction

Top entry	Side entry	P. 2-4-142
U0	S0	Without cable
U1	S1	With cable (1.5 m)
U2	S2	With cable (3 m)
U3	S3	With cable (5 m)

(2) 2 to 16 stations

How to Order Valves

VQ 2 1 0 0 Y 5

Series
2 VQ2000

Type of actuation

1 2 position single (A)(B)
(R1)(P)(R2)

2 Metal 2 position double (A)(B)
(R1)(P)(R2)
Rubber 2 position double (A)(B)
(R1)(P)(R2)

3 3 position closed center (A)(B)
(R1)(P)(R2)

4 3 position exhaust center (A)(B)
(H1)(P)(R2)

5 3 position pressure center (A)(B)
(R1)(P)(R2)

Note) For sub-plate single unit type, refer to page 2-4-165.

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

Manual override
Nil: Non-locking push type (tool required)
B: Push-locking slotted type
C: Locking type (Manual)

Light/Surge voltage suppressor
Nil Yes
E (Note) None
(Note) Inapplicable to the S kit.

Function

Symbol	Specifications	DC	AC
Nil	Standard type	(1.0 W)	(Note)
H	High pressure type	(1.5 W)	—
Y	Low wattage type	(0.5 W)	—

Note) For power consumption of AC type, refer to page 2-4-129.
Note) For external pilot and negative COM specifications, refer to "Option" on page 2-4-178 to 2-4-179.

Coil voltage

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

Note) 200/220 VAC models are applicable to F and L kits.

Seal
0 Metal seal
1 Rubber seal
(Note) Rubber seal type only.

How to Order Manifold Assembly

Example

Double solenoid (24 VDC)
VQ2200-5 (4 sets)

Single solenoid (24 VDC)
VQ2100-5 (3 sets)

Blanking plate
VQ2000-10A-1 (1 set)

Manifold base (8 stations)
VV5Q21-08C8FU2

D-sub connector
AXT100-DS25-030

F kit (D-sub connector)

Cylinder ports
C8: With One-touch fitting for ø8

VV5Q21-08C8FU2 ... 1 set (F kit 8 station manifold base no.)
*VQ2100-5 3 sets (Single solenoid part no.)
*VQ2200-5 4 sets (Double solenoid part no.)
*VVQ2000-10A-1 ... 1 set (Blanking plate part no.)

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

Specify the part numbers for valves and options together beneath the manifold base part number. Besides, when the arrangement will be complicated, specify them by means of the manifold specification sheet.

VQC

SQ

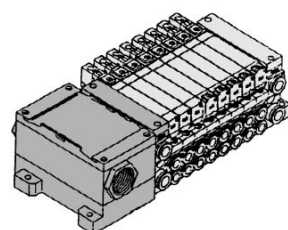
VQ0

VQ4

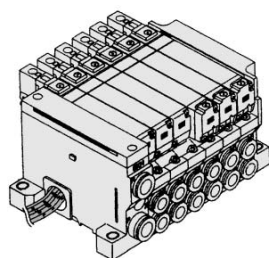
VQ5

VQZ

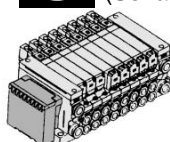
VQD

T kit
(Terminal box)Dust tight/Low jetproof type
(IP65) available P. 2-4-146

Kit	T	O	Terminal block box	2 to 20 stations ⁽²⁾
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L kit
(Lead wire cable)Dust tight/Low jetproof type
(IP65) available P. 2-4-150

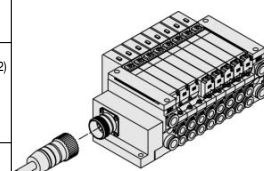
Kit	L	0	With cable (0.6 m)	1 to 8 stations
		1	With cable (1.5 m)	
		2	With cable (3 m)	

S kit
(Serial transmission unit)⁽⁴⁾

The valve is equipped with an indicator light and surge voltage suppressor, and the voltage is 24 VDC. The dusttight SI unit is available. Refer to page 2-4-154 for details. Dusttight/splashproof type (IP65) is also available. (Except SE and SG.)

P. 2-4-154

Kit	S	Without SI unit		Max. 16 stations ⁽²⁾
		O	A With general type SI unit (Series EX300)	
		B	Mitsubishi Electric Corp.: MELSECNET/MINI-S3 Data Link System	
		BB ⁽⁴⁾	Mitsubishi Electric Corp.: MELSECNET/MINI-S3 Data Link System (2 power supply lines)	Dust tight/Low jetproof type (IP65) only available
		C	OMRON Corp.: SYSBUS Wire System	
		D	SHARP Corp.: Satellite I/O Link System	
		E	Matsushita Electric Works: MEWNET-F System	
		F1	NKE Corp.: Uni-wire System (16 output points)	Max. 16 stations ⁽²⁾
		G	Rockwell Automation: Allen Bradley Remote I/O (RIO) System	
		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)	Max. 8 stations
		K	Fuji Electric Co.: T-LINK Mini System	
		Q	DeviceNet, CompoBus/D (OMRON Corp.)	Max. 16 stations
		R1	OMRON Corp.: CompoBus/S System (16 output points)	
		R2	OMRON Corp.: CompoBus/S System (8 output points)	Max. 8 stations
		V	Mitsubishi Electric Corp.: CC-LINK System	Max. 16 stations

M kit
(Multi-connector)

P. 2-4-162

Kit	M	0	Without cable	2 to 24 stations ⁽²⁾
		1	With cable (1.5 m)	
		2	With cable (3 m)	
		3	With cable (5 m)	



Note 1) Besides the above, F and P kits with different number of pins are available. Refer to page 2-4-177 for details.

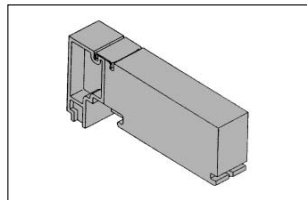
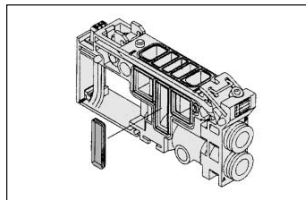
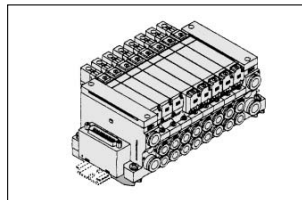
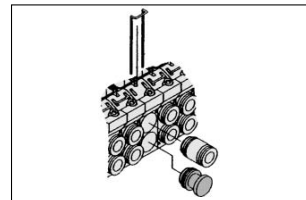
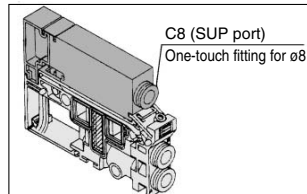
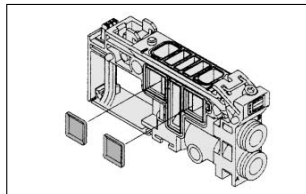
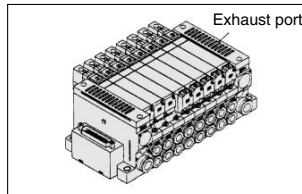
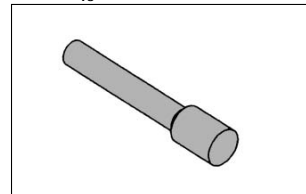
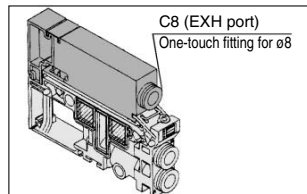
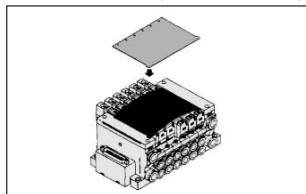
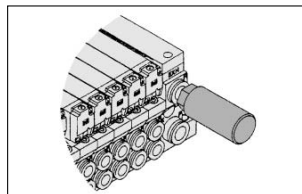
Note 2) For details, refer to page 2-4-178.

Note 3) Refer to the pages on respective kits for IP65 type. (T, L and S kits)

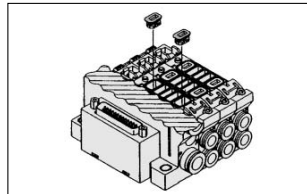
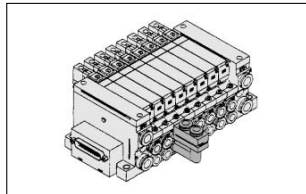
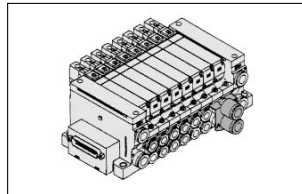
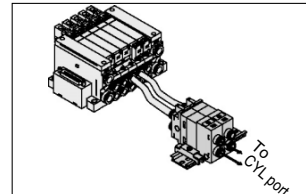
Note 4) Kits with IP65 enclosure applicable to input/output are also available. Refer to page 2-4-162 for details.

Manifold Option

P. 2-4-210

Blanking plate assembly
VVQ2000-10A-1**SUP block plate**
VVQ2000-16A**DIN rail mounting bracket [-D]**
VVQ2000-57A**Port plug**
VVQ1000-58A**Individual SUP spacer**
VVQ2000-P-1-C8**EXH block plate**
VVQ2000-19A**Built-in silencer, direct exhaust [-S]****Blanking plug**
KQ2P-
ø4
ø6
ø8
16**Individual EXH spacer**
VVQ2000-R-1-C8**Name plate [-N]**
VVQ2000-N-Station (1 to Max. stations)**Silencer (For EXH port)**
AN200-KM10

- For cylinder port fittings part no., refer to page 2-4-175.
- For replacement parts, refer to page 2-4-227.

Back pressure check valve assembly [-B]
VVQ2000-18A**Elbow fitting assembly**
VVQ2000-F-L (C4, C6, C8)**2 stations matching fitting assembly**
VVQ2000-52A-C10**Double check block**
VQ2000-FPG-□□

VQC

SQ

VQ0

VQ4

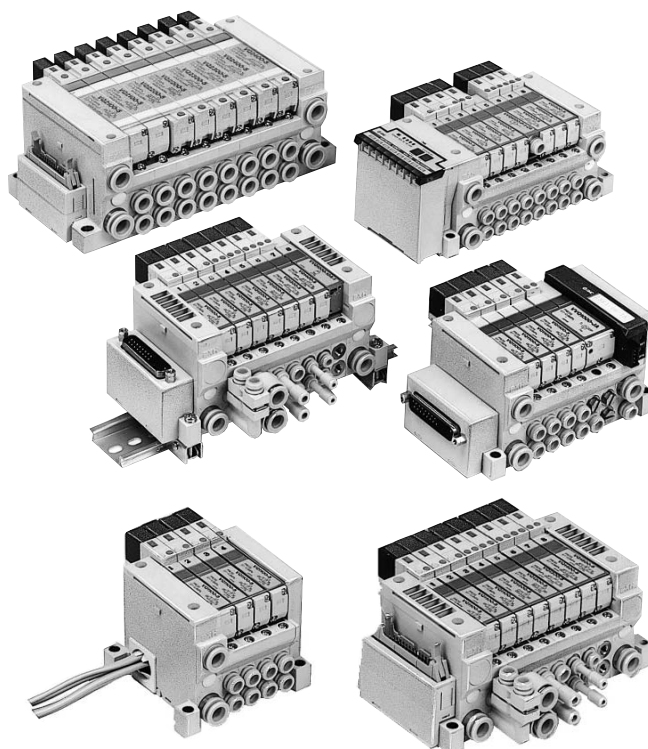
VQ5

VQZ

VQD

Series VQ1000/2000

Base Mounted Plug-in Unit



Model

Series	Number of solenoids		Model		Flow characteristics ⁽¹⁾						Response time (ms) ⁽²⁾			Weight (g)
					1 → 2/4 (P → A/B)			2/4 → 3/5 (A/B → R1/R2)			Standard: 1 W H: 1.5 W	Low wattage: 0.5 W	AC	
					C [dm³/(s·bar)]	b	Cv	C [dm³/(s·bar)]	b	Cv				
VQ1000	2 position	Single	Metal seal	VQ1100	0.70	0.15	0.16	0.72	0.25	0.18	12 or less	15 or less	29 or less	64
			Rubber seal	VQ1101	0.85	0.20	0.21	1.0	0.30	0.25	15 or less	20 or less	34 or less	
		Double	Metal seal	VQ1200	0.70	0.15	0.16	0.72	0.25	0.18	10 or less	13 or less	13 or less	
			Rubber seal	VQ1201	0.85	0.20	0.21	1.0	0.30	0.25	15 or less	20 or less	20 or less	
	3 position	Closed center	Metal seal	VQ1300	0.68	0.15	0.16	0.72	0.25	0.18	20 or less	26 or less	40 or less	78
			Rubber seal	VQ1301	0.70	0.20	0.16	0.65	0.42	0.18	25 or less	33 or less	47 or less	
		Exhaust center	Metal seal	VQ1400	0.68	0.15	0.16	0.72	0.25	0.18	20 or less	26 or less	40 or less	
			Rubber seal	VQ1401	0.70	0.20	0.16	1.0	0.30	0.25	25 or less	33 or less	47 or less	
		Pressure center	Metal seal	VQ1500	0.70	0.15	0.16	0.72	0.25	0.18	20 or less	26 or less	40 or less	
			Rubber seal	VQ1501	0.85	0.20	0.21	0.65	0.42	0.18	25 or less	33 or less	47 or less	
	4 position	Dual 3 port valve	Rubber seal	VQ1 ^A _B 01 _C	0.70	0.20	0.16	0.70	0.20	0.16	25 or less	33 or less	47 or less	
VQ2000	2 position	Single	Metal seal	VQ2100	2.0	0.15	0.46	2.6	0.15	0.60	22 or less	29 or less	49 or less	90
			Rubber seal	VQ2101	2.2	0.28	0.55	3.2	0.30	0.80	24 or less	31 or less	51 or less	
		Double	Metal seal	VQ2200	2.0	0.15	0.46	2.6	0.15	0.60	15 or less	20 or less	20 or less	
			Rubber seal	VQ2201	2.2	0.28	0.55	3.2	0.30	0.80	20 or less	26 or less	26 or less	
	3 position	Closed center	Metal seal	VQ2300	2.0	0.15	0.46	2.0	0.18	0.46	29 or less	38 or less	58 or less	110
			Rubber seal	VQ2301	2.0	0.28	0.49	2.2	0.31	0.60	34 or less	44 or less	64 or less	
		Exhaust center	Metal seal	VQ2400	2.0	0.15	0.46	2.6	0.15	0.60	29 or less	38 or less	58 or less	
			Rubber seal	VQ2401	2.0	0.28	0.49	3.2	0.30	0.80	34 or less	44 or less	64 or less	
		Pressure center	Metal seal	VQ2500	2.4	0.17	0.57	2.0	0.18	0.46	29 or less	38 or less	58 or less	
			Rubber seal	VQ2501	3.2	0.28	0.80	2.2	0.31	0.60	34 or less	44 or less	64 or less	
	4 position	Dual 3 port valve	Rubber seal	VQ2 ^A _B 01 _C	1.8	0.28	0.46	1.8	0.28	0.46	34 or less	44 or less	64 or less	



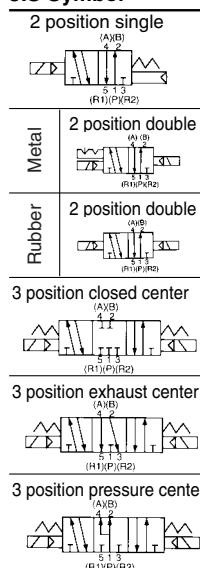
Note 1) Cylinder port size C6: (VQ1000), C8: (VQ2000) without check valve option for prevention of back pressure.

Note 2) As per JIS B 8375-1981 (Supply pressure; 0.5 MPa; with indicator light/surge voltage suppressor; clean air)

The response time is subject to the pressure and quality of the air. The values at the time of ON are given for double types.

Standard Specifications

JIS Symbol



Valve specifications	Valve construction		Metal seal	Rubber seal
	Fluid		Air/Inert gas	Air/Inert gas
	Maximum operating pressure		0.7 MPa (High pressure type: 0.8 MPa)	
	Minimum operating pressure	Single	0.1 MPa	0.15 MPa
		Double	0.1 MPa	0.1 MPa
		3 position	0.1 MPa	0.2 MPa
	Ambient and fluid temperature		-10 to 50°C ⁽¹⁾	
	Lubrication		Not required	
	Manual override		Push type/Locking type (Tool required, Manual type) Option	
	Impact/Vibration resistance ⁽²⁾		150/30 m/s ²	
Solenoid	Enclosure		Dust-protected, Dust tight/Low jetproof type (IP65) ⁽⁵⁾	
	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), 1.5 W DC (63 mA) ⁽³⁾ , 0.5 W DC (21 mA) ⁽⁴⁾	
		12 VDC	1 W DC (83 mA), 1.5 W DC (125 mA) ⁽³⁾ , 0.5 W DC (42 mA) ⁽⁴⁾	
		100 VAC	Inrush 1.2 VA (12 mA), Holding 1.2 VA (12 mA)	
		110 VAC	Inrush 1.3 VA (12 mA), Holding 1.3 VA (12 mA)	
		200 VAC	Inrush 2.4 VA (12 mA), Holding 2.4 VA (12 mA)	
		220 VAC	Inrush 2.6 VA (12 mA), Holding 2.6 VA (12 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) Value for high voltage type (1.5 W)

Note 4) Value for low voltage type (0.5 W)

Note 5) Dusttight/Low jetproof type (IP65) is available on T, L, S and M kits of VQ2000.

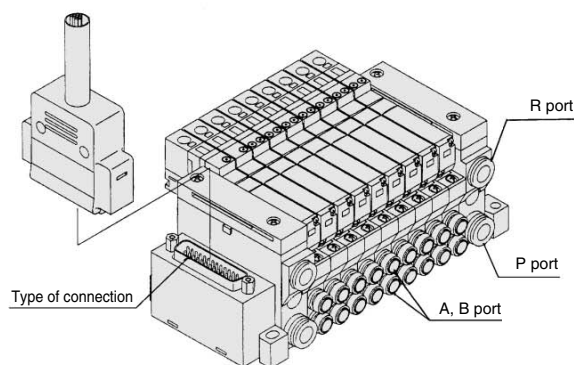
Manifold Specifications

Series	Base model	Type of connection	Porting specifications			Applicable stations ⁽²⁾	Applicable solenoid valve	5 station weight (g)
			Port location	Port size ⁽¹⁾				
					1(P), 3(R)	4(A), 2(B)		
VQ1000	VV5Q11-□□□	■ F kit—D-sub connector ■ P kit—Flat ribbon cable connector ■ J kit—Flat ribbon cable connector (20P) ■ G kit—Flat ribbon cable connector with terminal block ■ T kit—Terminal box ■ L kit—Lead wire cable ■ S kit—Serial transmission unit	Side	C8 (ø8) Option Built-in silencer, direct exhaust	C3 (ø3.2) C4(ø4) C6 (ø6) M5 (M5 thread)	F, P, T kits 2 to 24 stations (J, G, S kit 2 to 16 stations) (L kit 1 to 8 stations)	VQ1□00 VQ1□01	628 (Single) 759 (Double, 3 position)
VQ2000	VV5Q21-□□□	■ F kit—D-sub connector ■ P kit—Flat ribbon cable connector ■ J kit—Flat ribbon cable connector (20P) ■ G kit—Flat ribbon cable connector with terminal block ■ T kit—Terminal box ■ L kit—Lead wire cable ■ S kit—Serial transmission unit ■ M kit—Multi-connector	Side	C10 (ø10) Option Built-in silencer, direct exhaust	C4 (ø4) C6 (ø6) C8 (ø8)	(F, P kits 2 to 24 stations) (J, G, S kit 2 to 16 stations) (L kit 1 to 8 stations) (T kit 2 to 20 stations)	VQ2□00 VQ2□01	1051 (Single) 1144 (Double, 3 position)

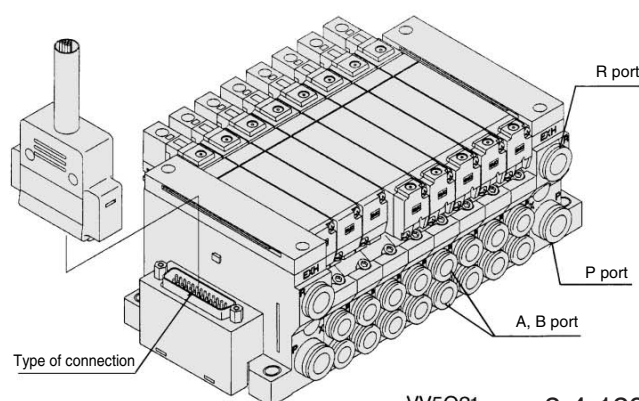


Note 1) Inch-size One-touch fittings are also available. For details, refer to page 2-4-179.

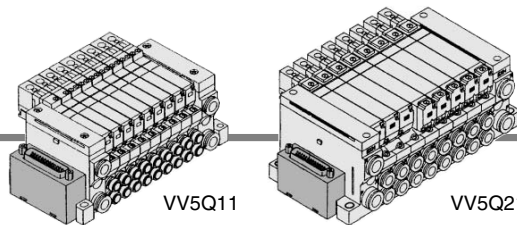
Note 2) For details, refer to page 2-4-178.



VV5Q11



VV5Q21



VV5Q11

VV5Q21

- The D-sub connector reduces installation labor for electrical connections.
- Using the D-sub connector (25P), (15P as an option) conforming to MIL standard permits the use of connectors put on the market and gives a wide interchangeability.
- Top or side receptacle position can be selected in accordance with the available mounting space.
- Maximum stations are 24.

Manifold Specifications

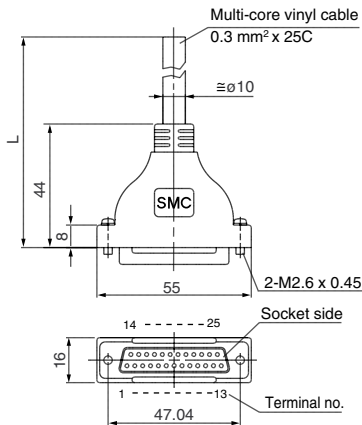
Series	Porting specifications			Applicable stations
	Port location	Port size		
		1(P), 3(R)	4(A), 2(B)	
VQ1000	Side	C8	C3, C4, C6, M5	Max. 24 stations
VQ2000	Side	C10	C4, C6, C8	Max. 24 stations

D-sub Connector (25 pins)

Cable Assembly ●

AXT100-DS25-
015
030
050

(The D-sub connector cable assembly can be ordered individually or included in a specific manifold model no. 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 core 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 Limited
- 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 V, 1 min, AC	1000
Insulation resistance MΩkm, 20°C	5 or more

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

Wire Color by Terminal No. of D-sub Connector Cable Assembly

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



Note) Types with 15 pin are also available. Refer to page 2-4-177 for details.

How to Order Manifold

VV5Q 1 1-08 C6 F U 1-N

Series

1	VQ1000
2	VQ2000

Manifold

1	Plug-in unit
---	--------------

Stations

02	2 stations
⋮	⋮
24	24 stations



Note) For details, refer to page 2-4-178.

Connector entry direction

U	Top entry
S	Side entry

Cylinder port

Symbol	Port size	VQ1000	VQ2000
C3	With One-touch fitting for ø3.2	●	
C4	With One-touch fitting for ø4	●	●
C6	With One-touch fitting for ø6	●	●
C8	With One-touch fitting for ø8	●	●
M5	M5 thread	●	
CM	With mixed size/with port plug	●	● (3)



Note 1) Insert "L" (top piping) or "B" (bottom piping) for elbow type. Example) B6 (Elbow One-touch fittings for ø6, bottom piping.)



Note 2) Indicate "LM" for models with elbow fittings and mixed cylinder port sizes.

Note 3) Specify "Mixed size/with port plug" in the manifold specification sheet.

Note 4) Inch-size One-touch fittings are available. For details, refer to page 2-4-179.

Cable (Length)

0	Without cable
1	With cable (1.5 m)
2	With cable (3 m)
3	With cable (5 m)

Option

Symbol	Option	VQ1000	VQ2000	Note
Nil	None	●	●	
B	With back pressure check valve	●	●	(2)
D	DIN rail mounting style	●	●	
G1	1 set of regulator unit	●		(3)
G2	2 sets of regulator unit			
G3	3 sets of regulator unit			
J□	With vacuum ejector unit	●		(4)
K	Special wiring specifications (Not double wiring)	●	●	(5)
N	With name plate	●	●	
R	External pilot	●	●	(6)
S	Built-in silencer, direct exhaust	●	●	



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



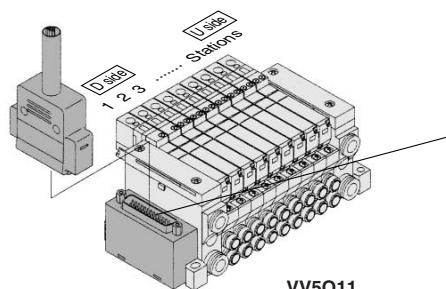
Note 2) Models with a suffix "B" have check valves for prevention of back pressure at all manifold stations. If not all stations need this check valve, specify the stations where check valves are installed by using the manifold specification sheet.

Note 3) Specify the mounting position in the manifold specification sheet.

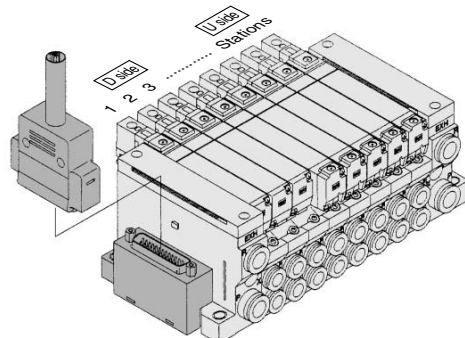
Note 4) Refer to page 2-4-170 for the details of ejector mounted styles. A combination of "J" and "N" is unavailable.

Note 5) Specify the wiring by using of the manifold specification sheet.

Note 6) Indicate "R" for the valve with external pilot.



VV5Q11

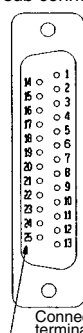


VV5Q21

The total number of stations is tabulated starting from station one on the D side.

Electrical wiring specifications

D-sub connector



Connector terminal no.

D-sub connector assembly

015
AXT100-DS25-030 Wire color
050

As the standard electrical wiring specifications, double wiring (connected to SOL. A and SOL. B) is adopted for the internal wiring of each station for 12 stations or less, regardless of valve and option types. Mixed single and double wiring is available as an option. For details, refer to page 2-4-178.



Note) When using the negative common specifications, use valves for negative common. (Refer to page 2-4-178.)
For details, refer to "Option" on page 2-4-178.

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

Note)
Positive common Negative common
specifications specifications

How to Order Valves

VQ 1 1 0 0 Y - 5

Series

1	VQ1000
2	VQ2000

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

Manual override

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

Light/Surge voltage suppressor

Nil	Yes
E	None

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

Function

Symbol	Specifications	DC	AC
Nil	Standard type	(1.0 W) ○	(Note) ○
H	High pressure type	(1.5 W) ○	—
Y	Low wattage type	(0.5 W) ○	—

Note) For power consumption of AC type, refer to page 2-4-129.

Seal

0	Metal seal
1	Rubber seal



Note) For external pilot and negative COM specifications, refer to "Option" on pages 2-4-178 to 2-4-179.

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)

VV5Q11-09C6FU2 1 set—Manifold base no.

*VQ1100-5 2 sets—Valve part no. (Stations 1 to 2)

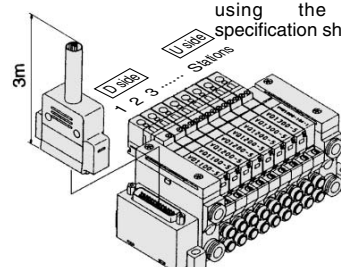
*VQ1200-5 4 sets—Valve part no. (Stations 3 to 6)

*VQ1300-5 2 sets—Valve part no. (Stations 7 to 8)

*VVQ1000-10A-1 1 set—Blanking plate part no. (Station 9)

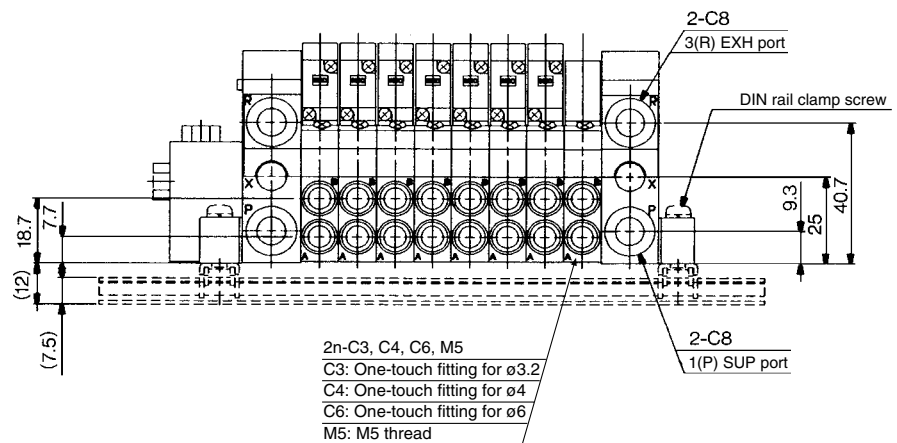
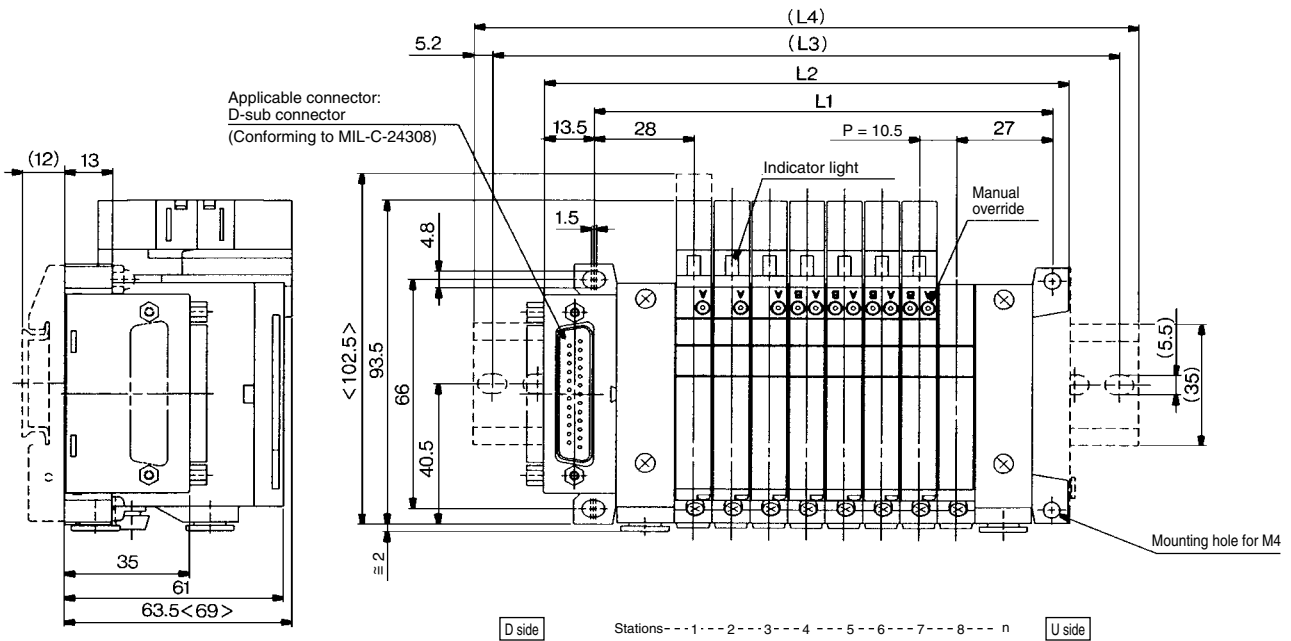
Prefix the asterisk to the part nos. of the solenoid valve, etc.

Write sequentially from the 1st station on the D side. When part nos. written collectively are complicated, specified by using the manifold specification sheet.



VQ1000

The broken lines indicate the DIN rail mounting style [-D] and the side entry connection [-FS].



< >: AC

Dimensions

Formula $L1 = 10.5n + 44.5$, $L2 = 10.5n + 62.5$ n: Station (Maximum 24 stations)

L	n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1		65.5	76	86.5	97	107.5	118	128.5	139	149.5	160	170.5	181	191.5	202	212.5	223	233.5	244	254.5	265	275.5	286	296.5
L2		83.5	94	104.5	115	125.5	136	146.5	157	167.5	178	188.5	199	209.5	220	230.5	241	251.5	262	272.5	283	293.5	304	314.5
(L3)		112.5	125	125	137.5	150	162.5	175	187.5	187.5	200	212.5	225	237.5	250	250	262.5	275	287.5	300	312.5	325	325	337.5
(L4)		123	135.5	135.5	148	160.5	173	185.5	198	198	210.5	223	235.5	248	260.5	260.5	273	285.5	298	310.5	323	335.5	335.5	348

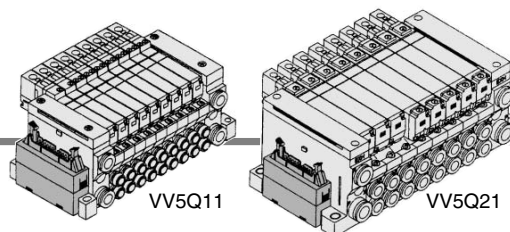
Vacuum ejector unit style: Formula $L1 = 10.5n + 28.7 + (\text{Number of ejector units} \times 26.7)$

$L2 = 10.5n + 46.3 + (\text{Number of ejector units} \times 26.7)$

L4 is L2 plus about 30.

P

VQ1000/2000 Kit (Flat ribbon cable connector)



- MIL flat ribbon cable connector reduces installation labor for electrical connection.
- Using the connector for flat ribbon cable (26P) conforming to MIL standard permits the use of connectors put on the market and gives a wide interchangeability.
- Top or side receptacle position can be selected in accordance with the available mounting space.
- Maximum stations are 24.

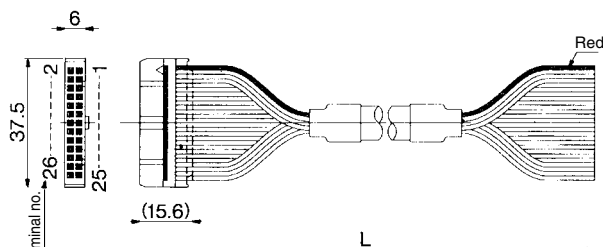
Manifold Specifications

Series	Porting specifications			Applicable stations
	Port location	Port size		
		1(P), 3(R)	4(A), 2(B)	
VQ1000	Side	C8	C3, C4, C6, M5	Max. 24 stations
VQ2000	Side	C10	C4, C6, C8	Max. 24 stations

Flat Ribbon Cable (26 pins)

AXT100-FC26-1¹

(Flat ribbon cable connector assembly can be ordered individually or included in a specific manifold model no. Refer to How to Order Manifold.)



Flat Ribbon Cable Connector Assembly (Option)

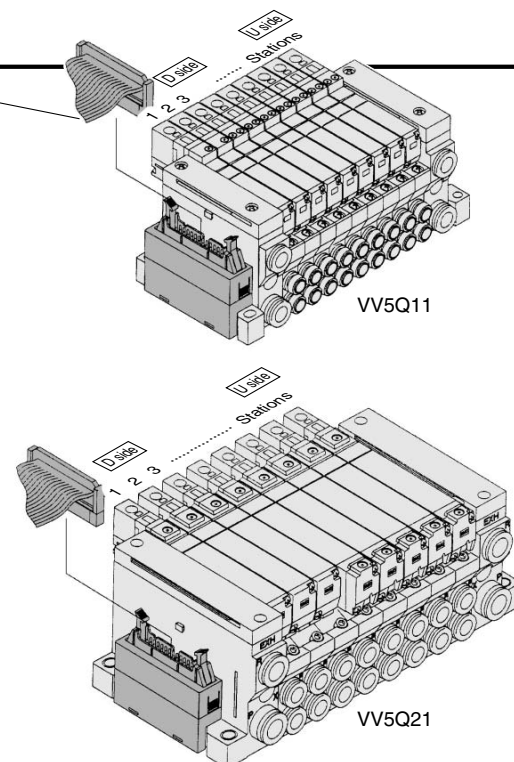
Cable length (L)	Assembly part no.	Note
1.5 m	AXT100-FC26-1	Cable 26 core x 28AWG
3 m	AXT100-FC26-2	
5 m	AXT100-FC26-3	

* For other commercial connectors, use a 26 pins type with strain relief conforming to MIL-C-83503.

Connector manufacturers' example

- Hirose Electric Co., Ltd.
- Sumitomo 3M Limited
- Fujitsu Limited
- Japan Aviation Electronics Industry, Ltd.
- J.S.T. Mfg. Co., Ltd.
- Oki Electric Cable Co., Ltd.

Cable assembly



The total number of stations is tabulated starting from one on the D side.

How to Order Manifold

VV5Q 1 1-08 C6 P U 1 N

Series

1	VQ1000
2	VQ2000

Manifold

1	Plug-in unit
---	--------------

Stations

02	2 stations
⋮	⋮
24	24 stations

Note) For details, refer to page 2-4-178.

Connector entry direction

U	Top entry
S	Side entry

Cylinder port

Symbol	Port size	VQ1000	VQ2000
C3	With One-touch fitting for ø3.2	●	
C4	With One-touch fitting for ø4	●	●
C6	With One-touch fitting for ø6	●	●
C8	With One-touch fitting for ø8		●
M5	M5 thread	●	
CM	With mixed size/with port plug	●	● ⁽³⁾

Note 1) Insert "L" (top piping) or "B" (bottom piping) for elbow type. Example) B6 (Elbow One-touch fittings for ø6, bottom piping.)

Note 2) Indicate "LM" for models with elbow fittings and mixed cylinder port sizes.

Note 3) Specify "Mixed size/with port plug" in the manifold specification sheet.

Note 4) Inch-size One-touch fittings are available. For details, refer to page 2-4-179.

Cable (Length)

0	Without cable
1	With cable (1.5 m)
2	With cable (3 m)
3	With cable (5 m)

Option

Symbol	Option	VQ1000	VQ2000	Note
Nil	None	●	●	
B	Back pressure check valve	●	●	(2)
D	DIN rail mounting style	●	●	
G1	1 set of regulator unit			(3)
G2	2 sets of regulator unit	●		
G3	3 sets of regulator unit			
J	With vacuum ejector unit	●		(4)
K	Special Wiring Specifications (Not double wiring)	●	●	(5)
N	With name plate	●	●	
R	External pilot	●	●	(6)
S	Built-in silencer, direct exhaust	●	●	

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

Note 2) Models with a suffix "-B" have check valves for prevention of back pressure at all manifold stations. If not all stations need this check valve, specify the stations where check valves are installed by using the manifold specification sheet.

Note 3) Specify the mounting position in the manifold specification sheet.

Note 4) Refer to page 2-4-170 for the details of ejector mounted styles. A combination of "J" and "N" is unavailable.

Note 5) Specify the wiring specifications in the manifold specification sheet.

Note 6) Indicate "R" for the valve with external pilot.

VQC

SQ

VQ0

VQ4

VQ5

VQZ

VQD

● Electrical wiring specifications

Flat ribbon cable connector

Connector terminal no.

Triangle mark indicator position

Terminal no.	Polarity
SOL.A. 1	(-)
SOL.B. 2	(+)
SOL.A. 3	(-)
SOL.B. 4	(+)
SOL.A. 5	(-)
SOL.B. 6	(+)
SOL.A. 7	(-)
SOL.B. 8	(+)
SOL.A. 9	(-)
SOL.B. 10	(+)
SOL.A. 11	(-)
SOL.B. 12	(+)
SOL.A. 13	(-)
SOL.B. 14	(+)
SOL.A. 15	(-)
SOL.B. 16	(+)
SOL.A. 17	(-)
SOL.B. 18	(+)
SOL.A. 19	(-)
SOL.B. 20	(+)
SOL.A. 21	(-)
SOL.B. 22	(+)
SOL.A. 23	(-)
SOL.B. 24	(+)
COM. 25	(+)
COM. 26	(-)

Electrical wiring specifications

Positive common specifications

Negative common specifications (Note)

As the standard electrical wiring specifications, double wiring (connected to SOL. A and SOL. B) is adopted for the internal wiring of each station for 12 stations or less, regardless of valve and option types. Mixed single and double wiring is available as an option. For details, refer to page 2-4-178.

Note) When using the negative common specifications, use valves for negative common. (Refer to page 2-4-178.) For details, refer to "Option" on page 2-4-178.

How to Order Valves

VQ 1 1 0 0 Y 5

Series

1	VQ1000
2	VQ2000

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

Seal

0	Metal seal
1	Rubber seal

Manual override

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

Light/Surge voltage suppressor

Nil	Yes
E	None

Coil voltage

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

Function

Symbol	Specifications	DC	AC
Nil	Standard type	(1.0 W)	(Note)
H	High pressure type	(1.5 W)	—
Y	Low wattage type	(0.5 W)	—

Note) For external pilot and negative COM specifications, refer to "Option" on pages 2-4-178 to 2-4-179.

Note) For power consumption of AC type, refer to page 2-4-129.

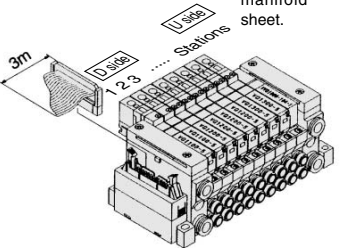
How to Order Manifold Assembly

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

<Example>
 Flat ribbon cable kit with 3 m cable
 VV5Q11-09C6PU2 ... 1 set—Manifold base no.
 *VQ1100-5 2 sets—Valve part no. (Stations 1 to 2)
 *VQ1200-5 4 sets—Valve part no. (Stations 3 to 6)
 *VQ1300-5 2 sets—Valve part no. (Stations 7 to 8)
 *VVQ1000-10A-1 1 set—Blanking plate no. (Station 9)

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

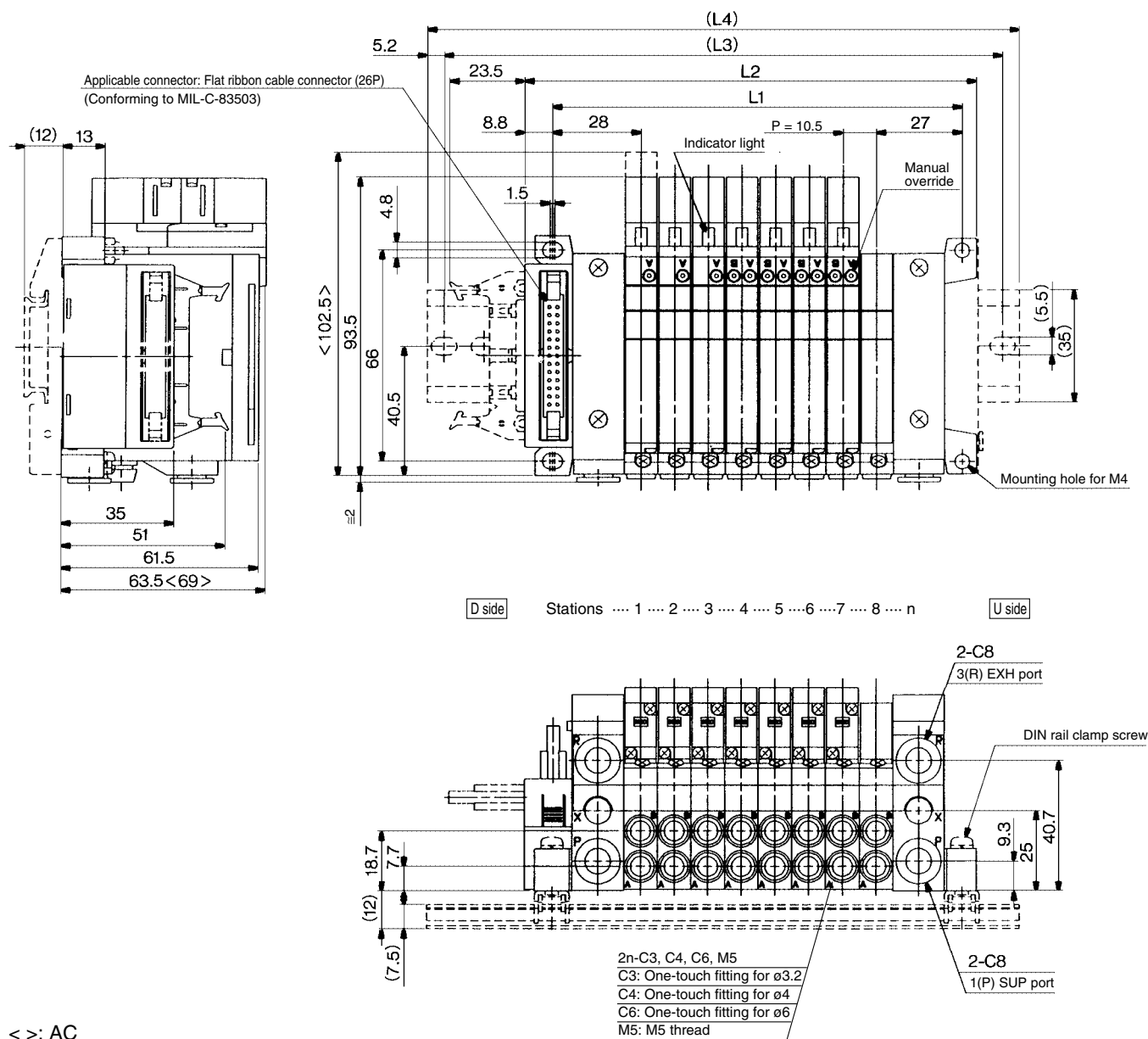
Write sequentially from the 1st station on the D side. When part nos. written collectively are complicated, specified by using the manifold specification sheet.



P VQ1000/2000 Kit (Flat ribbon cable connector)

VQ1000

The broken lines indicate the DIN rail mounting style [-D] and the side entry connection [-PS].



< >: AC

Dimensions

Formula $L1 = 10.5n + 44.5$, $L2 = 10.5n + 57.5$ n: Station (Maximum 24 stations)

L	n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1		65.5	76	86.5	97	107.5	118	128.5	139	149.5	160	170.5	181	191.5	202	212.5	223	233.5	244	254.5	265	275.5	286	296.5
L2		78.5	89	99.5	110	120.5	131	141.5	152	162.5	173	183.5	194	204.5	215	225.5	236	246.5	257	267.5	278	288.5	299	309.5
(L3)		112.5	125	135	148	160.5	173	185.5	198	210.5	223	235.5	248	260.5	273	285.5	298	310.5	323	335.5	348			
(L4)		123	135.5	148	160.5	173	185.5	198	210.5	223	235.5	248	260.5	273	285.5	298	310.5	323	335.5	348				

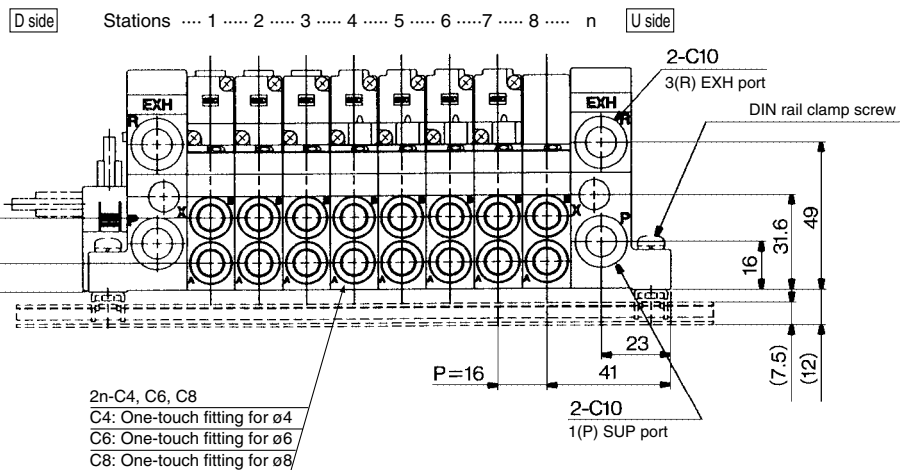
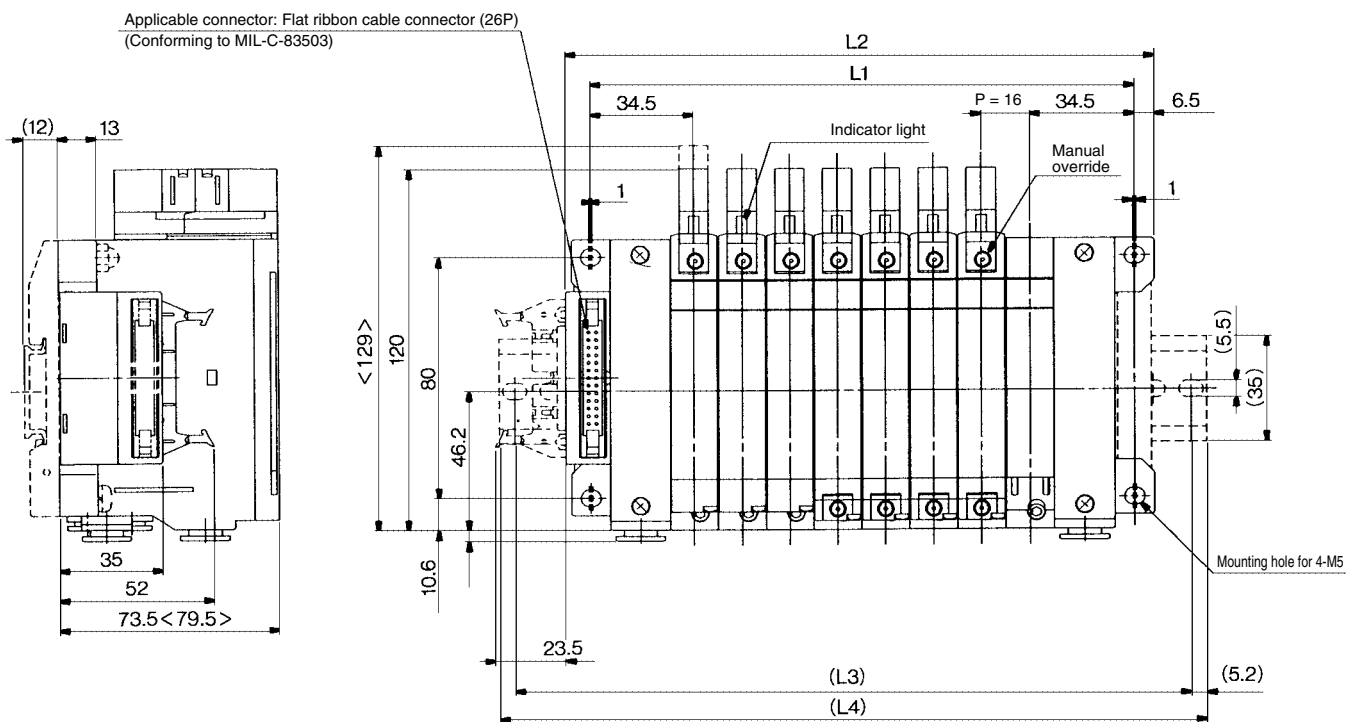
Vacuum ejector unit style: Formula $L1 = 10.5n + 28.7 + (\text{Number of ejector units} \times 26.7)$

$L2 = 10.5n + 41.3 + (\text{Number of ejector units} \times 26.7)$

L4 is L2 plus about 30.

VQ2000

The broken lines indicate the DIN rail mounting style [-D] and the side entry connection [-PS].



< >: AC

Dimensions

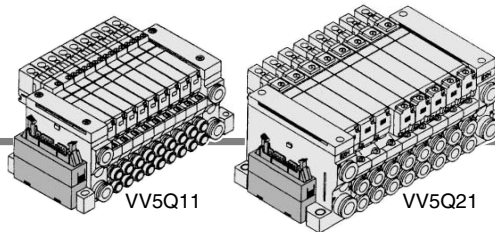
Formula $L1 = 16n + 53$, $L2 = 16n + 68$ n: Station (Maximum 24 stations)

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	85	101	117	133	149	165	181	197	213	229	245	261	277	293	309	325	341	357	373	389	405	421	437
L2	100	116	132	148	164	180	196	212	228	244	260	276	292	308	324	340	356	372	388	404	420	436	452
(L3)	125	150	162.5	175	187.5	212.5	225	237.5	262.5	275	287.5	300	312.5	337.5	350	362.5	387.5	400	412.5	425	450	462.5	475
(L4)	135.5	160.5	173	185.5	198	223	235.5	248	273	285.5	298	310.5	323	348	360.5	373	398	410.5	423	435.5	460.5	473	485.5

J

VQ1000/2000 Kit (Flat ribbon cable connector)

- MIL flat ribbon cable connector reduces installation labor for electrical connection.
- The use of flat ribbon cable connectors (20P) conforming to MIL standards provides a wide range of compatibility with conventional connectors.
- Top or side receptacle position can be selected in accordance with the available mounting space.
- Maximum stations are 16.



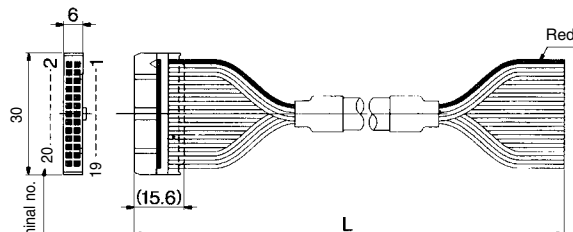
Manifold Specifications

Series	Porting specifications			Applicable stations
	Port location	Port size		
		1(P), 3(R)	4(A), 2(B)	
VQ1000	Side	C8	C3, C4, C6, M5	Max. 16 stations
VQ2000	Side	C10	C4, C6, C8	Max. 16 stations

Flat Ribbon Cable (26 pins)

AXT100-FC20-1₃

(Flat ribbon cable connector assembly can be ordered individually or included in a specific manifold model no. Refer to How to Order Manifold.)



Flat Ribbon Cable Connector Assembly (Option)

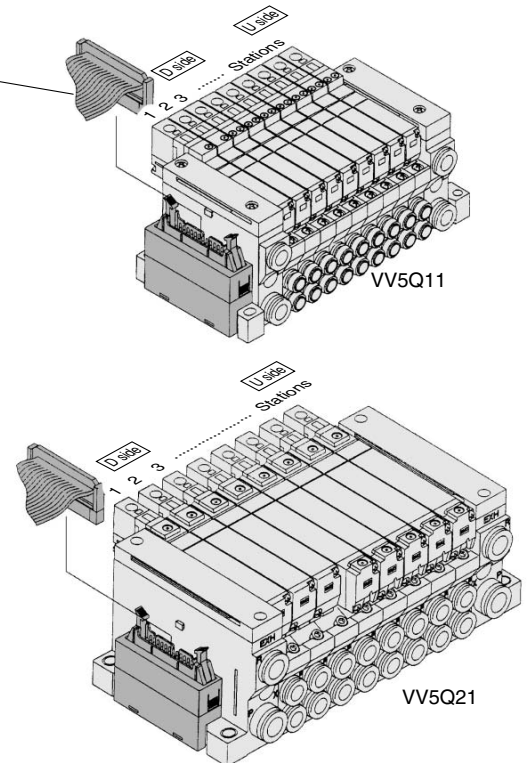
Cable length (L)	Assembly part no.	Note
1.5 m	AXT100-FC20-1	Cable 20 core x 28AWG
3 m	AXT100-FC20-2	
5 m	AXT100-FC20-3	

* For other commercial connectors, use a 20 pins with strain relief conforming to MIL-C-83503.

Connector manufacturers' example

- Hirose Electric Co., Ltd.
- Sumitomo 3M Limited
- Fujitsu Limited
- Japan Aviation Electronics Industry, Ltd.
- J.S.T. Mfg. Co., Ltd.
- Oki Electric Cable Co., Ltd.

Cable assembly



The total number of stations is tabulated starting from one on the D side.

How to Order Manifold

VV5Q 1 1-08 C6 J U 1-N

Series

1	VQ1000
2	VQ2000

Manifold

1	Plug-in unit
---	--------------

Stations

02	2 stations
...	...
16	16 stations

Note) For details, refer to page 2-4-178.

Connector entry direction

U	Top entry
S	Side entry

Cylinder port

Symbol	Port size	VQ1000	VQ2000
C3	With One-touch fitting for ø3.2	●	
C4	With One-touch fitting for ø4	●	●
C6	With One-touch fitting for ø6	●	●
C8	With One-touch fitting for ø8		●
M5	M5 thread	●	
CM	With mixed size/with port plug	●	● (3)

Note 1) Insert "L" (top piping) or "B" (bottom piping) for elbow type.
Example) B6 (Elbow One-touch fittings for ø6, bottom piping.)

Note 2) Indicate "LM" for models with elbow fittings and mixed cylinder port sizes.

Note 3) Specify "Mixed size/with port plug" in the manifold specification sheet.

Note 4) Inch-size One-touch fittings are available. For details, refer to page 2-4-179.

Cable (Length)

0	Without cable
1	With cable (1.5 m)
2	With cable (3 m)
3	With cable (5 m)

Option

Symbol	Option	VQ1000	VQ2000	Note
Nil	None	●	●	
B	Back pressure check valve	●	●	(2)
D	DIN rail mounting style	●	●	
G1	1 set of regulator unit	●		(3)
G2	2 sets of regulator unit			
G3	3 sets of regulator unit			
J	With vacuum ejector unit	●		(4)
K	Special Wiring Specifications (Not double wiring)	●	●	(5)
N	With name plate	●	●	
R	External pilot	●	●	(6)
S	Built-in silencer, direct exhaust	●	●	

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

Note 2) Models with a suffix "-B" have check valves for prevention of back pressure at all manifold stations. If not all stations need this check valve, specify the stations where check valves are installed by using the manifold specification sheet.

Note 3) Specify the mounting position in the manifold specification sheet.

Note 4) Refer to page 2-4-170 for the details of ejector mounted styles. A combination of "J" and "N" is unavailable.

Note 5) Specify the wiring specifications in the manifold specification sheet.

Note 6) Indicate "R" for the valve with external pilot.

VQC

SQ

VQ0

VQ4

VQ5

VQZ

VQD

• Electrical wiring specifications

Flat ribbon cable connector

Terminal no. Polarity

Station	Terminal no.	Polarity
1 station	SOL A 20	(-) (+)
	SOL B 18	(-) (+)
2 stations	SOL A 16	(-) (+)
	SOL B 14	(-) (+)
3 stations	SOL A 12	(-) (+)
	SOL B 10	(-) (+)
4 stations	SOL A 8	(-) (+)
	SOL B 6	(-) (+)
5 stations	SOL A 19	(-) (+)
	SOL B 17	(-) (+)
6 stations	SOL A 15	(-) (+)
	SOL B 13	(-) (+)
7 stations	SOL A 11	(-) (+)
	SOL B 9	(-) (+)
8 stations	SOL A 7	(-) (+)
	SOL B 5	(-) (+)
	COM 2	(+) (-)
	COM 1	(+) (-)

Positive common specifications Negative common specifications (Note)

As the standard electrical wiring specifications, double wiring (connected to SOL. A and SOL. B) is adopted for the internal wiring of each station for 12 stations or less, regardless of valve and option types. Mixed single and double wiring is available as an option. For details, refer to page 2-4-178.

Note) When using the negative common specifications, use valves for negative common. (Refer to page 2-4-178.) For details, refer to "Option" on page 2-4-178.

How to Order Valves

VQ 1 1 0 0 Y 5

Series

1	VQ1000
2	VQ2000

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

Manual override

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

Light/Surge voltage suppressor

Nil	Yes
E	None

Coil voltage

5	24 VDC
---	--------

Function

Symbol	Specifications	DC
Nil	Standard type	(1.0 W)
H	High pressure type	(1.5 W)
Y	Low wattage type	(0.5 W)

Seal

0	Metal seal
1	Rubber seal

Note) For external pilot and negative COM specifications, refer to "Option" on pages 2-4-178 to 2-4-179.

How to Order Manifold Assembly

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

<Example>

Flat ribbon cable kit with 3 m cable

VV5Q11-09C6PU2 ... 1 set—Manifold base no.

*VQ1100-5 2 sets—Valve part no. (Stations 1 to 2)

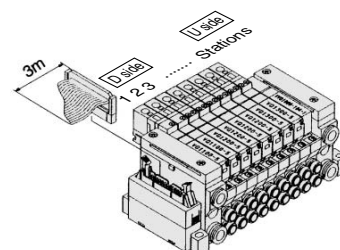
*VQ1200-5 4 sets—Valve part no. (Stations 3 to 6)

*VQ1300-5 2 sets—Valve part no. (Stations 7 to 8)

*VVQ1000-10A-1 1 set—Blanking plate part no. (Station 9)

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

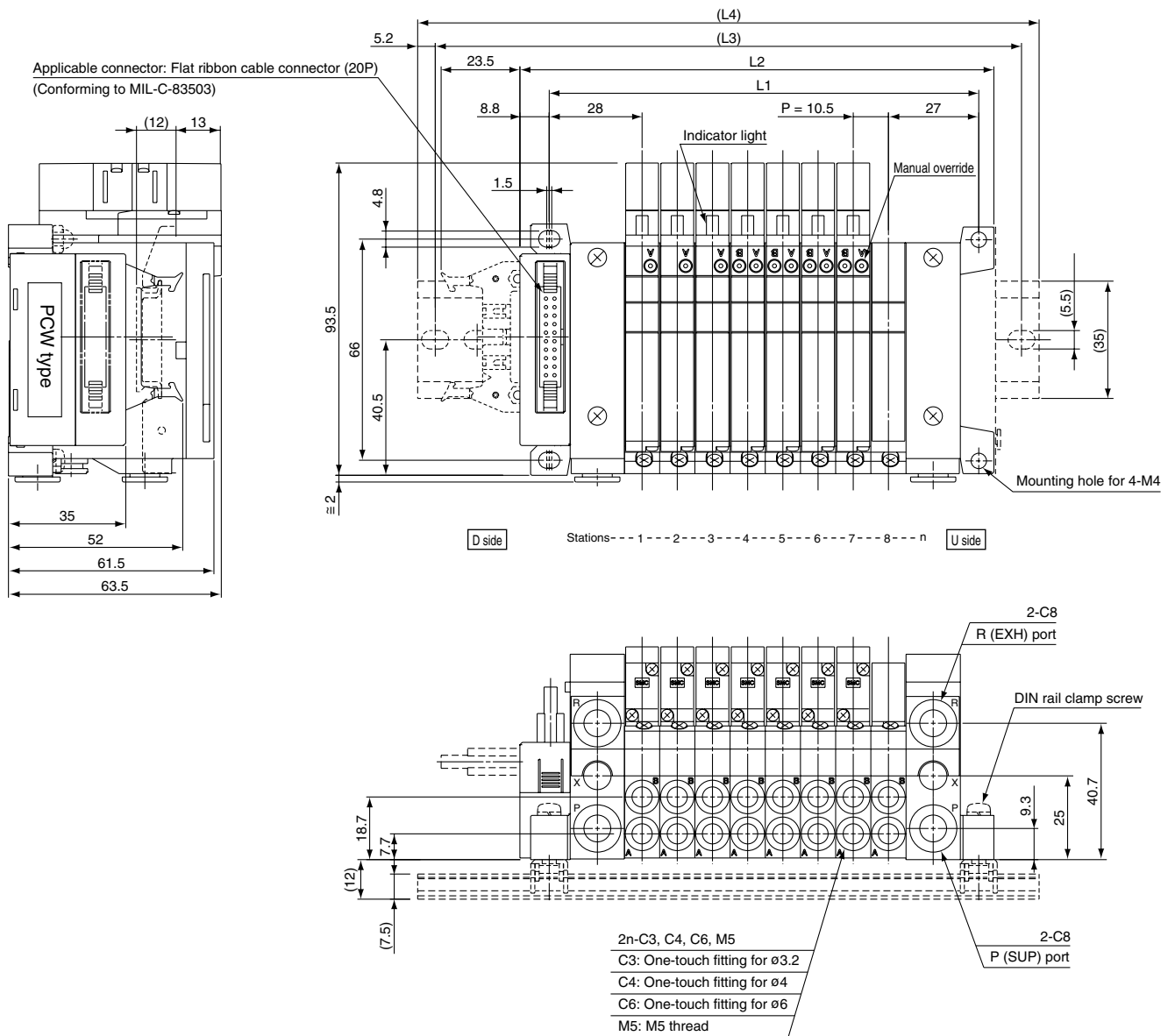
When ordering, specify the part nos. in order from the 1st. station in the D side. When part nos. written collectively are complicated, specify by using the manifold specification sheet.



J VQ1000/2000 Kit (Flat ribbon cable connector)

VQ1000

The broken lines indicate the DIN rail mounting style [-D] and the side entry connection [-PS].



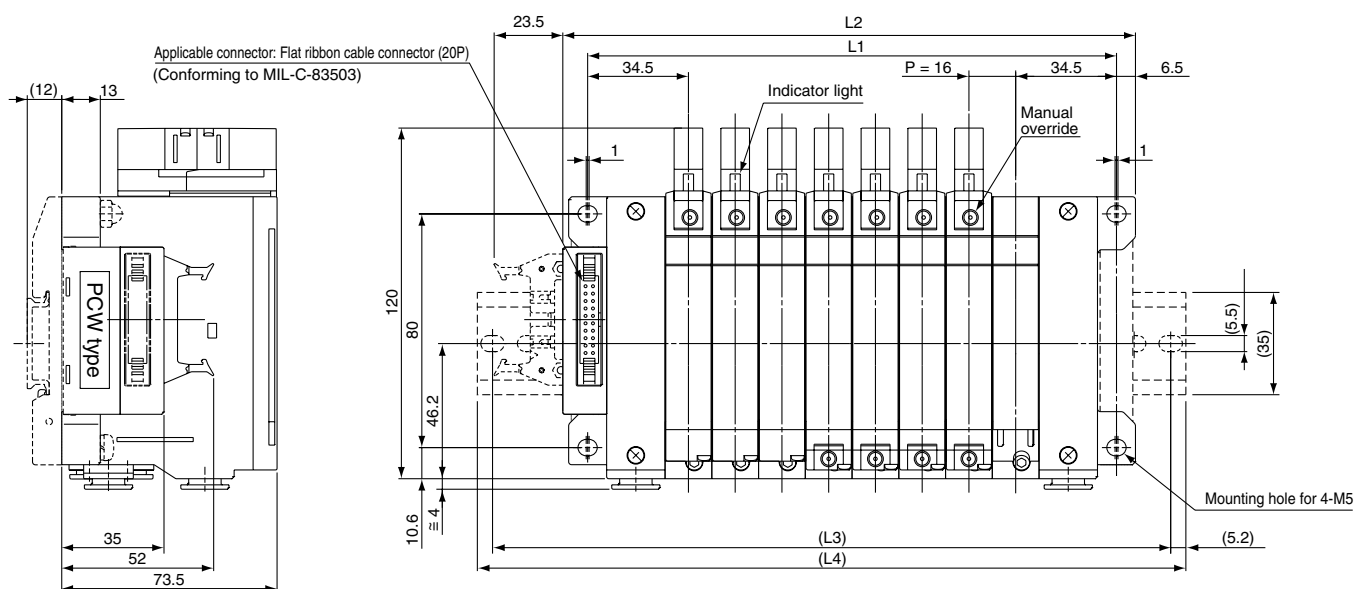
Dimensions

Formula $L1 = 10.5n + 44.5$, $L2 = 10.5n + 57.5$ n: Station (Maximum 16 stations)

n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	65.5	76	86.5	97	107.5	118	128.5	139	149.5	160	170.5	181	191.5	202	212.5
L2	78.5	89	99.5	110	120.5	131	141.5	152	162.5	173	183.5	194	204.5	215	225.5
(L3)	112.5	125	125	137.5	150	162.5	175	187.5	187.5	200	212.5	225	225	237.5	250
(L4)	123	135.5	135.5	148	160.5	173	185.5	198	198	210.5	223	235.5	235.5	248	260.5

VQ2000

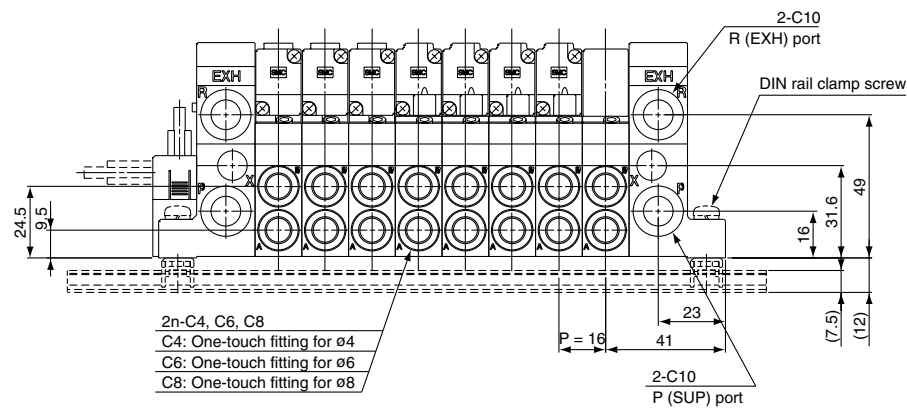
The broken lines indicate the DIN rail mounting style [-D] and the side entry connection [-PS].



D side

Stations --- 1 --- 2 --- 3 --- 4 --- 5 --- 6 --- 7 --- 8 --- n

U side

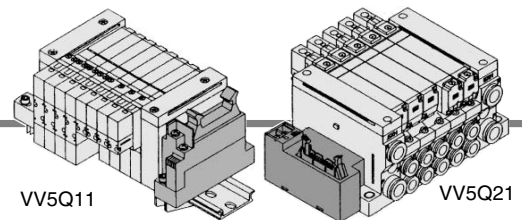
**Dimensions**

Formula $L1 = 16n + 53$, $L2 = 16n + 68$ n: Station (Maximum 16 stations)

L	n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1		85	101	117	133	149	165	181	197	213	229	245	261	277	293	309
L2		100	116	132	148	164	180	196	212	228	244	260	276	292	308	324
(L3)		125	150	162.5	175	187.5	212.5	225	237.5	262.5	275	287.5	300	312.5	337.5	350
(L4)		135.5	160.5	173	185.5	198	223	235.5	248	273	285.5	298	310.5	323	348	360.5



VQ1000/2000 Kit (Flat ribbon cable connector with terminal block)



VV5Q11

VV5Q21

- Terminal block for power supply equipped with a 20 pins flat cable connection for rationalized connection of valves.
- Solenoid valves and power supply can be connected by the same cable to a specific output unit that requires power supply from the output section to the internal circuit. (SI unit)
- Maximum stations are 16.

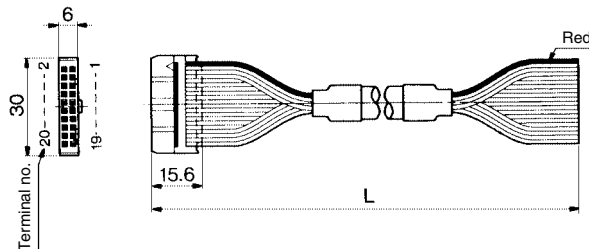
Manifold Specifications

Series	Port location	Porting specifications		Applicable stations
		1(P), 3(R)	4(A), 2(B)	
VQ1000	Side	C8	C3, C4, C6, M5	Max. 16 stations
VQ2000	Side	C10	C4, C6, C8	Max. 16 stations

Flat Ribbon Cable (20 pins)

AXT100-FC20-1/3

(Flat ribbon cable connector assembly can be ordered individually or included in a specific manifold model no. Refer to How to Order Manifold.)



Flat Ribbon Cable Connector Assembly (Option)

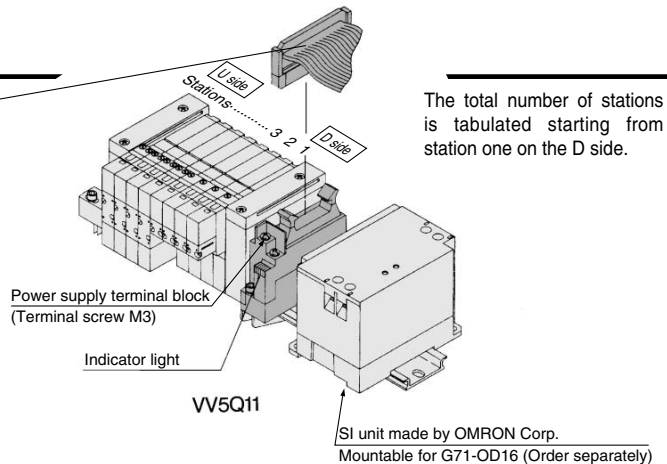
Cable length (L)	Assembly part no.	Note
1.5 m	AXT100-FC20-1	Cable 20 core x 28AWG
3 m	AXT100-FC20-2	
5 m	AXT100-FC20-3	

* For other commercial connectors, use a 20 pins with strain relief conforming to MIL-C-83503.

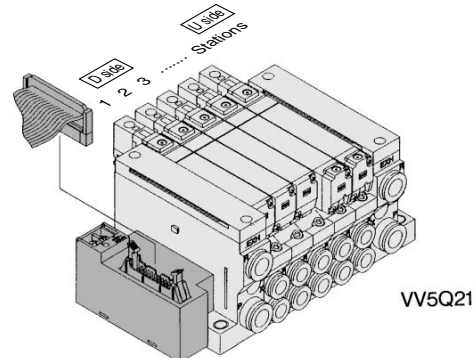
Connector manufacturers' example

- Hirose Electric Co., Ltd.
- Japan Aviation Electronics Industry, Ltd.
- Oki Electric Cable Co. Ltd.
- Sumitomo 3M Limited
- J.S.T. Mfg. Co., Ltd.
- Fujitsu Limited

Cable assembly



The total number of stations is tabulated starting from station one on the D side.



VV5Q21

How to Order Manifold

VV5Q 1 1-08 C6 G N

Series

1	VQ1000
2	VQ2000

Manifold

1	Plug-in unit
---	--------------

Stations

02	2 stations
...	...
16 ^(Note)	16 stations

Note) For details, refer to page 2-4-178.

Connector entry direction, Top entry

Nil	For VQ1000
U	For VQ2000

Cylinder port

Symbol	Port size	VQ1000	VQ2000
C3	With One-touch fitting for ø3.2	●	
C4	With One-touch fitting for ø4	●	●
C6	With One-touch fitting for ø6	●	●
C8	With One-touch fitting for ø8		●
M5	M5 thread	●	
CM	With mixed size/with port plug	●	●

Note 1) Insert "L" (top piping) or "B" (bottom piping) for elbow type.
Example) B6 (Elbow One-touch fittings for ø6, bottom piping.)

Note 2) Indicate "LM" for models with elbow fittings and mixed cylinder port sizes.

Note 3) Specify "Mixed size/with port plug" in the manifold specification sheet.

Note 4) Inch-size One-touch fittings are available. For details, refer to page 2-4-179.

Cable (Length)

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

Option

Symbol	Option	VQ1000	VQ2000	Note
Nil	None	●	●	
B	Back pressure check valve	●	●	(2)
D	DIN rail mounting style	●	●	
G1	1 set of regulator unit			(3)
G2	2 sets of regulator unit	●		
G3	3 sets of regulator unit			
J	With vacuum ejector unit	●		(4)
K	Special Wiring Specifications (Not double wiring)	●	●	(5)
N	With name plate	●	●	
R	External pilot	●	●	(6)
S	Built-in silencer, direct exhaust	●	●	

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

Note 2) Models with a suffix "-B" have check valves for prevention of back pressure at all manifold stations. If not all stations need this check valve, specify the stations where check valves are installed by using the manifold specification sheet.

Note 3) Specify the mounting position in the manifold specification sheet.

Note 4) Refer to page 2-4-170 for the details of ejector mounted styles. A combination of "J" and "N" is unavailable.

Note 5) Specify the wiring specifications in the manifold specification sheet.

Note 6) Indicate "R" for the valve with external pilot.

VQC

SQ

VQ0

VQ4

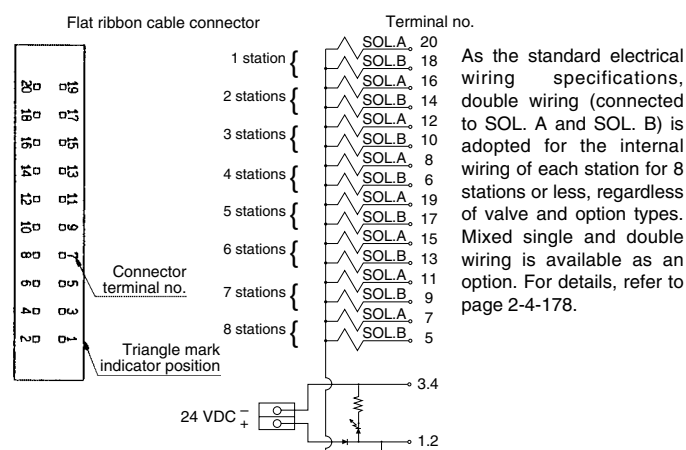
VQ5

VQZ

VQD

● Connector assembly

Electric circuit diagram (Below wiring is the case of all double solenoid connections.)



How to Order Valves

VQ 1 1 0 0 Y — 5

Series

1	VQ1000
2	VQ2000

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

Seal

0	Metal seal
1	Rubber seal

Manual override

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

Light/Surge voltage suppressor

Nil	Yes
E	None

Coil voltage

5	24 VDC
---	--------

Function

Symbol	Specifications	DC
Nil	Standard type	(1.0 W) ○
H	High pressure type	(1.5 W) ○
Y	Low wattage type	(0.5 W) ○



Note) For external pilot specifications, refer to "Option" on page 2-4-179.

How to Order Manifold Assembly

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

<Example>

Flat ribbon cable with power supply terminal block and 3 m cable

VV5Q11-08C6G2 ... 1 set—Manifold base no.

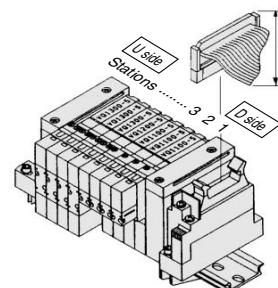
*VQ1100-5 4 sets—Valve part no. (Stations 1 to 4)

*VQ1200-5 1 set—Valve part no. (Station 5)

*VQ1300-5 3 sets—Valve part no. (Stations 6 to 8)

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

Write sequentially from the 1st station on the D side. When part nos. written collectively are complicated, specify by using the manifold specification sheet.



The broken lines indicate the DIN rail mounting style [-D].

24.5
9.5

EXH

2-C10
3(R) EXH port

DIN rail clamp screw

49

31.6

16

23

41

P = 16

2-C10
1(P) SUP port

2n-C4, C6, C8
C4: One-touch fitting for ø4
C6: One-touch fitting for ø6
C8: One-touch fitting for ø8

(7.5)
(12)

Formula $L1 = 16n + 53$, $L2 = 16n + 87$ n: Station (Maximum 16 stations)

Vacuum ejector unit style: Formula L1 = 10.5n + 29.7 + (Number of ejector units x 26.7)
L2 = 10.5n + 46.8 + (Number of ejector units x 26.7)
L4 is L2 plus about 30.

T

VQ1000/2000 Kit (Terminal block box kit)

IP65 compliant

- This kit has a small terminal box inside a junction box. The electrical entry port {VQ1000: G 1/2, VQ2000: G 3/4} permits connection of conduit fittings.
- Maximum stations are 24.
- Enclosure: Dusttight/Low jetproof type (IP65) compliant (Series VQ2000)

Manifold Specifications

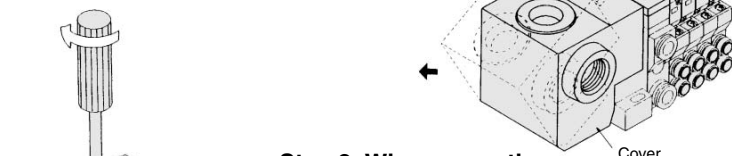
Series	Porting specifications			Applicable stations
	Port location	Port size		
		1(P), 3(R)	4(A), 2(B)	
VQ1000	Side	C8	C3, C4, C6, M5	Max. 24 stations
VQ2000	Side	C10	C4, C6, C8	Max. 20 stations

Terminal block connection

Open the terminal block cover to connect the wires to the terminal block.

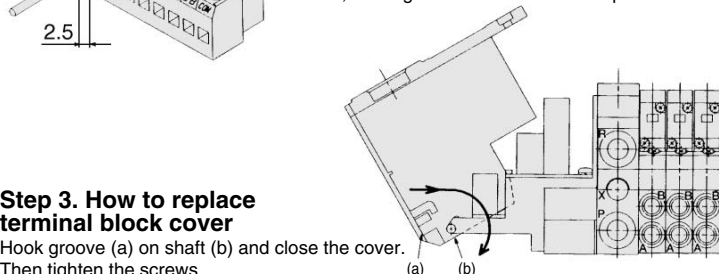
Step 1. How to remove terminal block cover

Loosen the screws on the terminal block cover and open it in the direction shown by the arrow. The cover can then be removed from the terminal block.



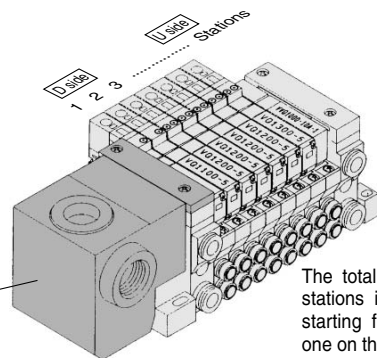
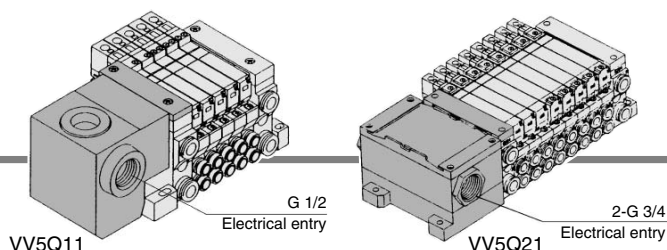
Step 2. Wire connection

The diagram on the left shows the terminal block wiring schematic. All stations are provided with double solenoid wiring. Insert each lead wire into the terminal opening and tighten the screw directly above. How to connect is inserting the lead wire into the terminal window, then tighten the screw on the top.



Step 3. How to replace terminal block cover

Hook groove (a) on shaft (b) and close the cover. Then tighten the screws.



The total number of stations is tabulated starting from station one on the D side.

Electrical wiring specifications: VQ1000

		Terminal no.	Polarity
		COM.	COM (+) (-)
1 station	SOL.A.	1A	(-) (+)
	SOL.B.	1B	(-) (+)
2 stations	SOL.A.	2A	(-) (+)
	SOL.B.	2B	(-) (+)
3 stations	SOL.A.	3A	(-) (+)
	SOL.B.	3B	(-) (+)
4 stations	SOL.A.	4A	(-) (+)
	SOL.B.	4B	(-) (+)
5 stations	SOL.A.	5A	(-) (+)
	SOL.B.	5B	(-) (+)
6 stations	SOL.A.	6A	(-) (+)
	SOL.B.	6B	(-) (+)
7 stations	SOL.A.	7A	(-) (+)
	SOL.B.	7B	(-) (+)
8 stations	SOL.A.	8A	(-) (+)
	SOL.B.	8B	(-) (+)
9 stations	SOL.A.	9A	(-) (+)
	SOL.B.	9B	(-) (+)
10 stations	SOL.A.	10A	(-) (+)
	SOL.B.	10B	(-) (+)
11 stations	SOL.A.	11A	(-) (+)
	SOL.B.	11B	(-) (+)
12 stations	SOL.A.	12A1	(-) (+)
	SOL.B.	2B	(-) (+)
		COM.	COM (+) (-)

Note) When using the negative common specifications, use valves for negative common. For details, refer to "Option" on page 2-4-178.

How to Order Manifold

VV5Q 1 1-08 C6 T 0-N

Series

1	VQ1000
2	VQ2000

Manifold

1	Plug-in unit
---	--------------

Stations

02	2 stations
:	:
24 (Note)	24 stations

Note) VQ2000: Max. 20 stations
For details, refer to page 2-4-178.

Cylinder port

Symbol	Port size	VQ1000	VQ2000
C3	With One-touch fitting for ø3.2	●	
C4	With One-touch fitting for ø4	●	●
C6	With One-touch fitting for ø6	●	●
C8	With One-touch fitting for ø8		●
M5	M5 thread	●	
CM	With mixed size/with port plug	●	● (3)

Note 1) Insert "L" (top piping) or "B" (bottom piping) for elbow type.
Example) B6 (Elbow One-touch fittings for ø6, bottom piping.)

Note 2) Indicate "LM" for models with elbow fittings and mixed cylinder port sizes.

Note 3) Specify "Mixed size/with port plug" in the manifold specification sheet.

Note 4) For One-touch fittings in inch size, refer to "Option" on page 2-4-179.

Option

Symbol	Option	VQ1000	VQ2000	Note
Nil	None	●	●	
B	With back pressure check valve	●	●	(2)
D	DIN rail mounting style	●	●	
G1	1 set of regulator unit			
G2	2 sets of regulator unit	●		(3)
G3	3 sets of regulator unit			
J□	With vacuum ejector unit	●		(4)
K	Special wiring specifications (Not double wiring)	●	●	(5)
N	With name plate	●	●	
R	External pilot	●	●	(6)
S	Built-in silencer, direct exhaust	●	●	
W	Enclosure: Dusttight/Low jetproof type (IP65)		●	

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

Note 2) Models with a suffix "B" have check valves for prevention of back pressure at all manifold stations. If not all stations need this check valve, specify the stations where check valves are installed by using the manifold specification sheet.

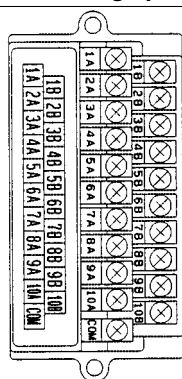
Note 3) Specify the mounting position in the manifold specification sheet.

Note 4) Refer to page 2-4-170 for the details of ejector mounted styles. A combination of "J" and "N" is unavailable.

Note 5) Specify the wiring specifications in the manifold specification sheet.

Note 6) Indicate "R" for the valve with external pilot.

● Special wiring specifications: VQ2000



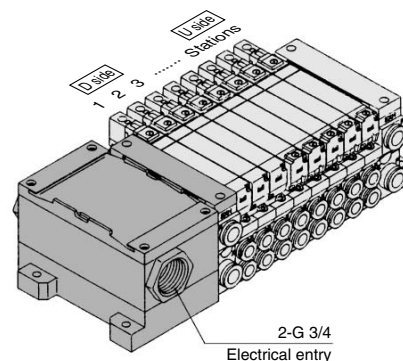
	Terminal no.	Polarity
1 station	SOL.A 1A	(-) (+)
	SOL.B 1B	(-) (+)
2 stations	SOL.A 2A	(-) (+)
	SOL.B 2B	(-) (+)
3 stations	SOL.A 3A	(-) (+)
	SOL.B 3B	(-) (+)
4 stations	SOL.A 4A	(-) (+)
	SOL.B 4B	(-) (+)
5 stations	SOL.A 5A	(-) (+)
	SOL.B 5B	(-) (+)
6 stations	SOL.A 6A	(-) (+)
	SOL.B 6B	(-) (+)
7 stations	SOL.A 7A	(-) (+)
	SOL.B 7B	(-) (+)
8 stations	SOL.A 8A	(-) (+)
	SOL.B 8B	(-) (+)
9 stations	SOL.A 9A	(-) (+)
	SOL.B 9B	(-) (+)
10 stations	SOL.A 10A	(-) (+)
	SOL.B 10B	(-) (+)
	COM.	(+) (-)

Irrespective of the valves or options, the internal wiring is made double (connected to SOL.A and SOL.B) for respective stations of the manifold.

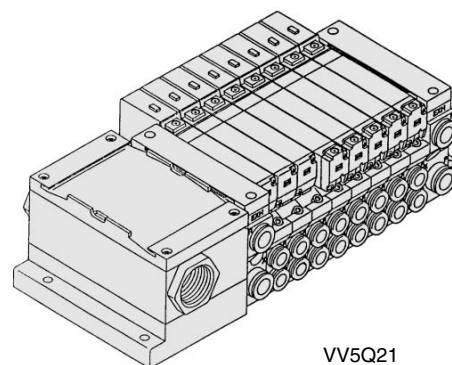
Mixed single and double wiring is available as an option. For details, refer to page 2-4-178.

Note) When using the negative common specifications, use valves for negative common.
For details, refer to "Option" on page 2-4-178.

Note)
Positive common specifications
Negative common specifications



The total number of stations is tabulated starting from station one on the D side.



VV5Q21
Dust tight/Low jetproof type

VQC

SQ

VQ0

VQ4

VQ5

VQZ

VQD

How to Order Valves

VQ 1 1 0 0 Y 5

Series

1	VQ1000
2	VQ2000

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

Seal

0	Metal seal
1	Rubber seal



Note) For external pilot and negative COM specifications, refer to "Option" on pages 2-4-178 to 2-4-179.

Function

Symbol	Specifications	DC	AC
Nil	Standard type	(1.0 W) ○	Note) ○
H	High pressure type	(1.5 W) ○	—
Y	Low wattage type	(0.5 W) ○	—



Note) For power consumption of AC type, refer to page 2-4-179.

Enclosure

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

Note) VQ2000 only.

Manual override

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

Light/Surge voltage suppressor

Nil	Yes
E	None

Coil voltage

1	100 VAC (50/60 Hz)
3	100 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

VV5Q11-08C6T0 ... 1 set—Manifold base no.

*VQ1100-5 ... 2 sets—Valve part no. (Stations 1 to 2)

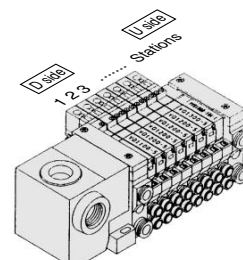
*VQ1200-5 ... 4 sets—Valve part no. (Stations 3 to 6)

*VQ1300-5 ... 1 set—Valve part no. (Station 7)

*VVQ1000-10A-1 ... 1 set—Blanking plate part no. (Station 8)

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

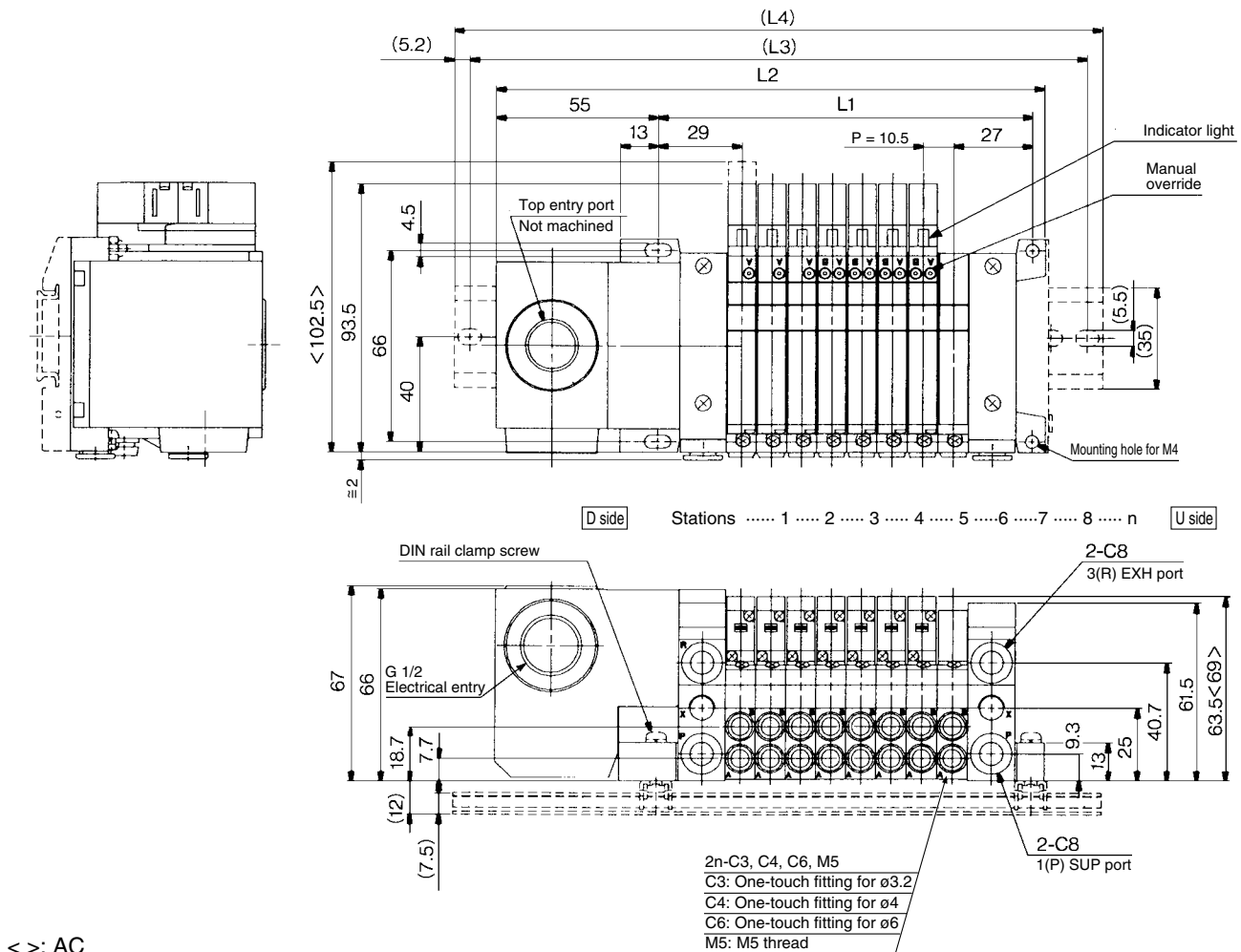
Write sequentially from the 1st station on the D side. When part nos. written collectively are complicated, specify by using the manifold specification sheet.



T VQ1000/2000 Kit (Terminal block box kit)

VQ1000

The broken lines and dimensions in parentheses indicate DIN rail mounting style [-D].



< >: AC

Dimensions

Formula L1 = 10.5n + 45.5, L2 = 10.5n + 105 n: Station (Maximum 24 stations)

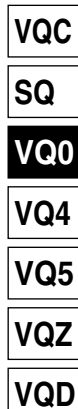
L	n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1		66.5	77	87.5	98	108.5	119	129.5	140	150.5	161	171.5	182	192.5	203	213.5	224	234.5	245	255.5	266	276.5	287	297.5
L2		126	136.5	147	157.5	168	178.5	189	199.5	210	220.5	231	241.5	252	262.5	273	283.5	294	304.5	315	325.5	336	346.5	357
(L3)		150	162.5	175	187.5	187.5	200	212.5	225	237.5	250	262.5	262.5	275	287.5	300	312.5	325	325	337.5	350	362.5	375	387.5
(L4)		160.5	173	185.5	198	198	210.5	223	235.5	248	260.5	273	273	285.5	298	310.5	323	335.5	335.5	348	360.5	373	385.5	398

Vacuum ejector unit style: Formula L1 = 10.5n + 29.7 + (Number of ejector units x 26.7)

L2 = 10.5n + 88.8 + (Number of ejector units x 26.7)

L4 is L2 plus about 30.

The broken lines and dimensions in parentheses indicate DIN rail mounting style [-D].



< >: AC

Formula $L1 = 16n + 118.5$, $L2 = 16n + 131$ n : Station (Maximum 10 stations)

L	n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1		150.5	166.5	182.5	198.5	214.5	230.5	246.5	262.5	278.5	294.5	310.5	326.5	342.5	358.5	374.5	390.5	406.5	422.5	438.5
L2		163	179	195	211	227	243	259	275	291	307	323	339	355	371	387	403	419	435	451
(L3)		187.5	200	225	237.5	250	262.5	287.5	300	312.5	337.5	350	362.5	375	400	412.5	425	450	462.5	475
(L4)		198	210.5	235.5	248	260.5	273	298	310.5	323	348	360.5	373	385.5	410.5	423	435.5	460.5	473	485.5

L

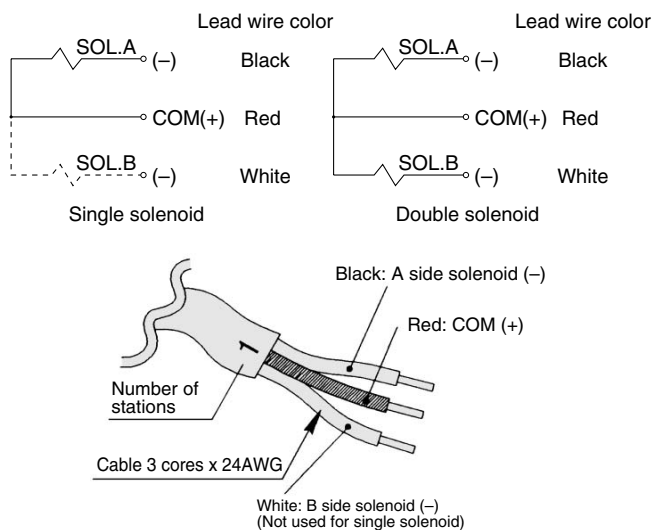
VQ1000/2000 Kit (Lead wire cable)

IP65 compliant

- Direct electrical entry. Models with one or more stations are available.
- (SUP) and R (EXH) ports are provided on one side for further space savings.
- Maximum stations are 8.
- Enclosure: Dusttight/Low jetproof type (IP65) compliant (Series VQ2000)

Wiring specifications: Positive COM ●

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

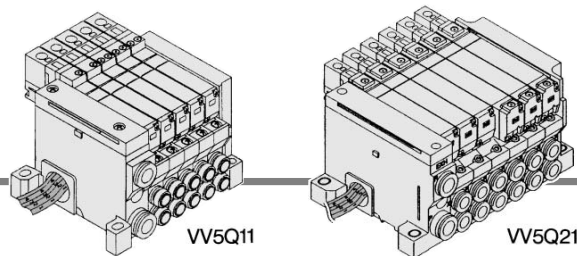


Use any of the following cable lead wire assembly to change the lead wire length:

Lead Wire Assembly with Connector

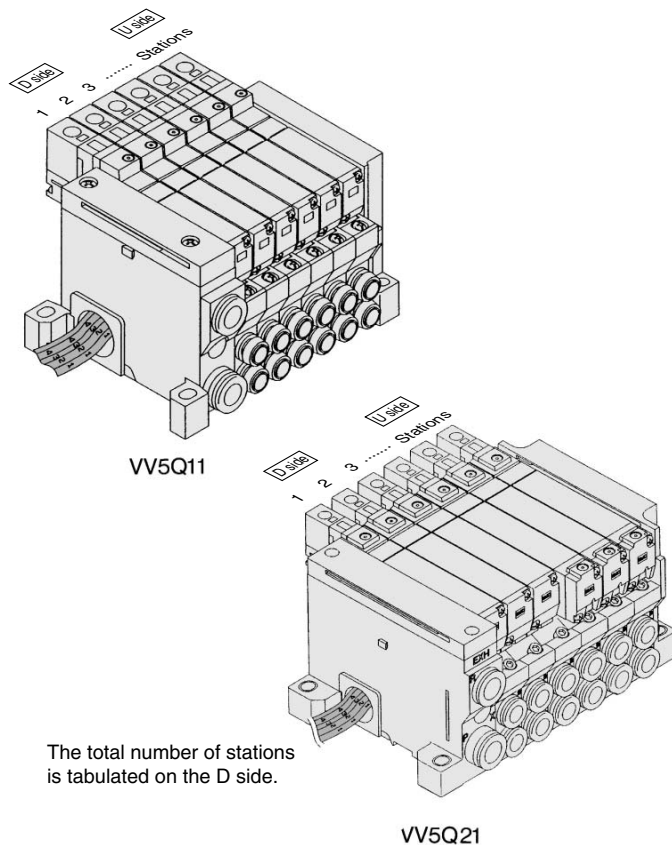
Lead wire length	Part no.
0.6 m	VVQ1000-84A-6-*
1.5 m	VVQ1000-84A-15-*
3 m	VVQ1000-84A-30-*

* No. of stations 1 to 8

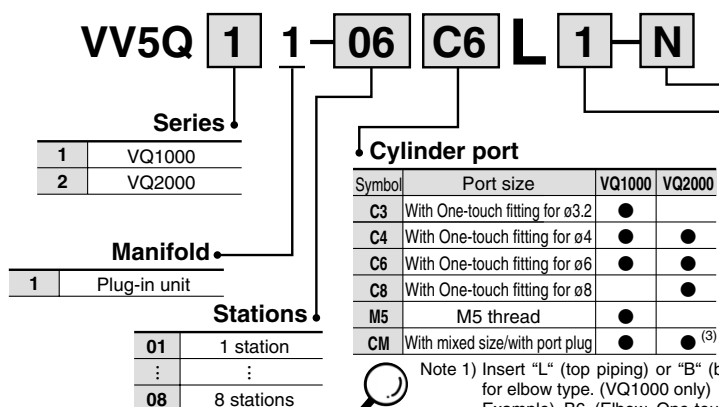


Manifold Specifications

Series	Port location	Porting specifications		Applicable stations
		1(P), 3(R)	4(A), 2(B)	
VQ1000	Side	C8	C3, C4, C6, M5	Max. 8 stations
VQ2000	Side	C10	C6, C8	Max. 8 stations



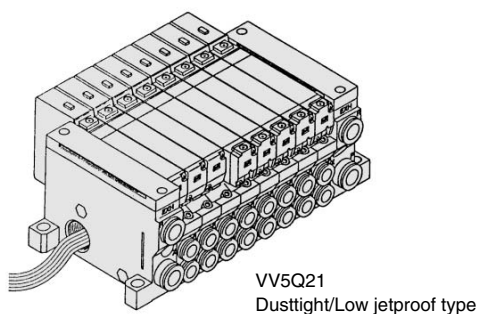
How to Order Manifold



Option

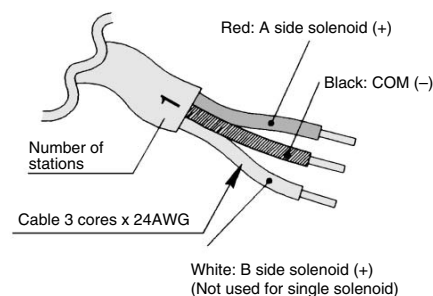
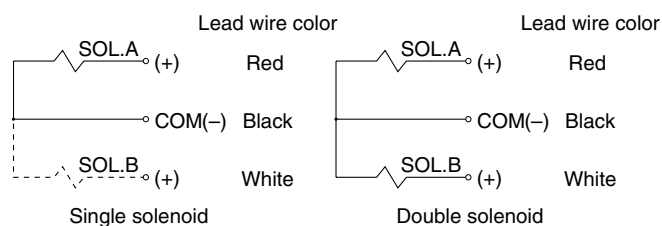
Symbol	Option	VQ1000	VQ2000	Note
NII	None	●	●	
B	With back pressure check valve	●	●	(2)
D	DIN rail mounting style	●	●	
G1	1 set of regulator unit	●		(3)
G2	2 sets of regulator units	●		(3)
G3	3 sets of regulator units	●		(3)
J□	With vacuum ejector unit	●		(4)
N	With name plate	●	●	
R	External pilot	●	●	(5)
S	Built-in silencer, direct exhaust	●	●	
W	Enclosure: Dusttight/Low jetproof type (IP65)		●	

- Note 1) When two or more symbols are specified, indicate them alphabetically. Example) -BRS
- Note 2) Models with a suffix "-B" have check valves for prevention of back pressure at all manifold stations. If not all stations need this check valve, specify the stations where check valves are installed by the manifold specification sheet.
- Note 3) Specify the mounting position in the manifold specification sheet.
- Note 4) Refer to page 2-4-170 for the details of ejector mounted styles. A combination of "J" and "N" is unavailable.
- Note 5) Indicate "R" for the valve with external pilot.



● Wiring specifications: Negative COM (Option)

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



Lead Wire Assembly with Connector

Lead wire length	Part no.
0.6 m	VVQ1000-84AN-6-*
1.5 m	VVQ1000-84AN-15-*
3 m	VVQ1000-84AN-30-*

* No. of stations 1 to 8



Note) When using the negative common specifications, use valves for negative common. For negative common specifications, refer to "Option" on page 2-4-178.

How to Order Valves

VQ 1 1 0 0 Y 5

Series

1	VQ1000
2	VQ2000

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

Seal

0	Metal seal
1	Rubber seal

Enclosure

Nil	Dusttight
W	Dusttight/Low jetproof type (IP65)

Note) VQ2000 only.

Manual override

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

Light/Surge voltage suppressor

Nil	Yes
E	None

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

Function

Symbol	Specifications	DC	AC
Nil	Standard type	(1.0 W) ○	○ (Note)
H	High pressure type	(1.5 W) ○	—
Y	Low wattage type	(0.5 W) ○	—

Note) For external pilot and negative COM specifications, refer to "Option" on 2-4-178 to 2-4-179.

Note) For power consumption of AC type, refer to page 2-4-129.

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)

VV5Q11-06C6L2 1 set—Manifold base no.

*VQ1100-5 2 sets—Valve part no. (Stations 1 to 2)

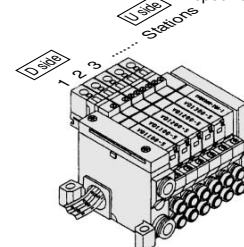
*VQ1200-5 2 sets—Valve part no. (Stations 3 to 4)

*VQ1300-5 1 set—Valve part no. (Station 5)

*VVQ1000-10A-1 1 set—Blanking plate part no. (Station 6)

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

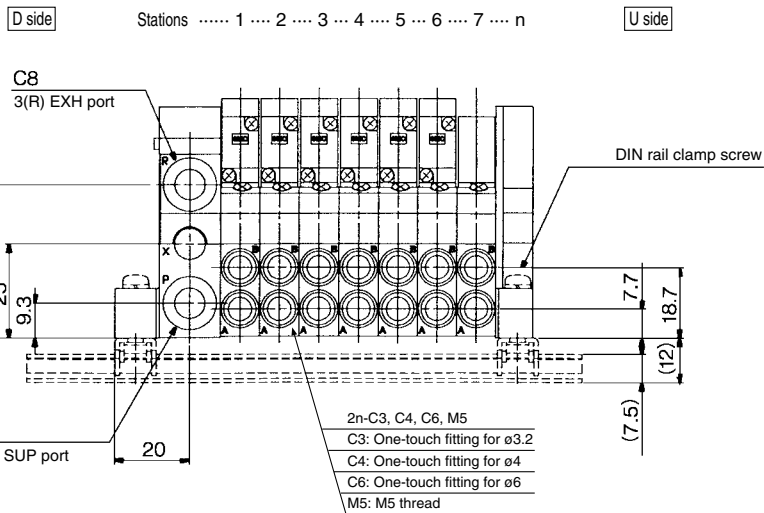
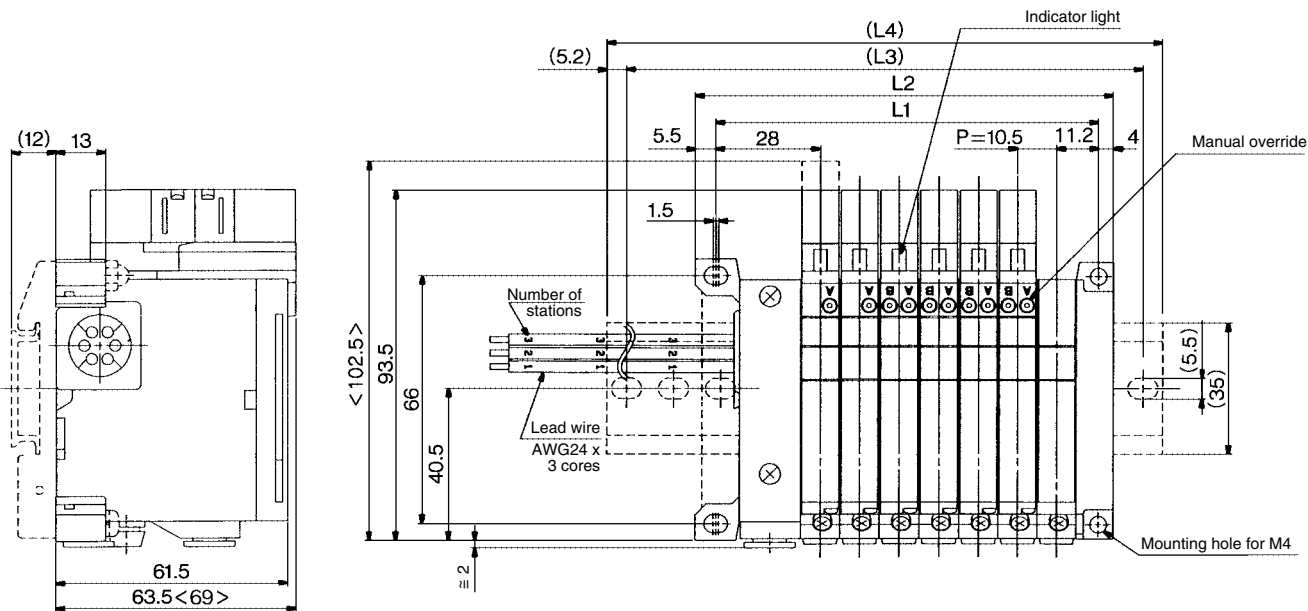
Write sequentially from the 1st station on the D side. When part nos. written collectively are complicated, specify by using the manifold specification sheet.



VQ0000/1000/2000 Kit (Lead wire cable)

VQ1000

The broken lines indicate DIN rail mounting style [-D].



< >: AC

Dimensions

Formula L1 = 16n + 35, L2 = 16n + 47 n: Station (Maximum 8 stations)

L	n	1	2	3	4	5	6	7	8
L1		39	49.5	60	70.5	81	91.5	102	112.5
L2		48.5	59	69.5	80	90.5	101	111.5	122
(L3)		75	87.5	87.5	100	112.5	125	137.5	150
(L4)		85.5	98	98	110.5	123	135.5	148	160.5

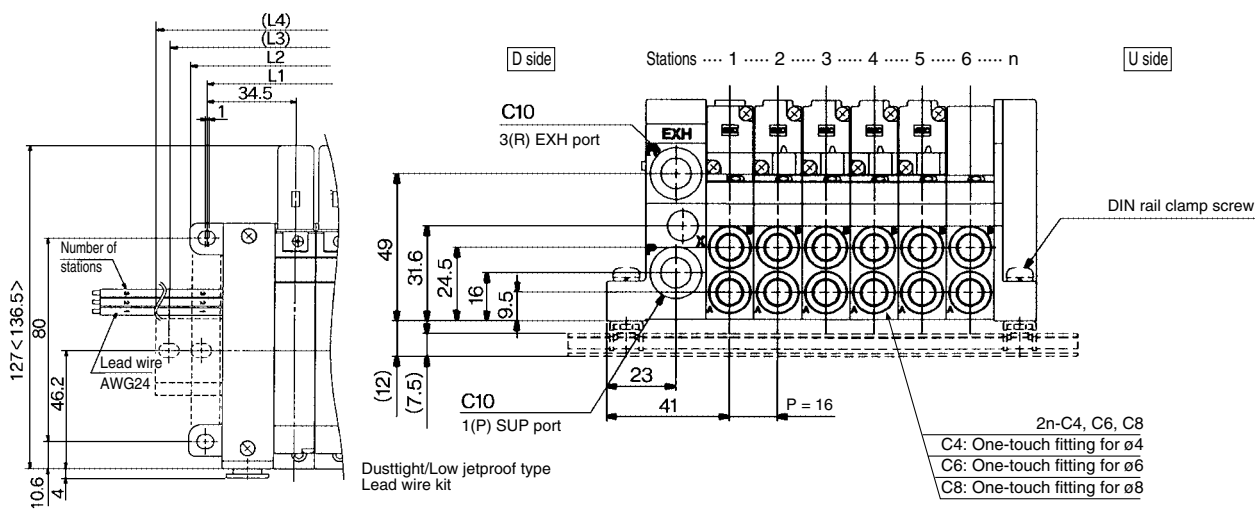
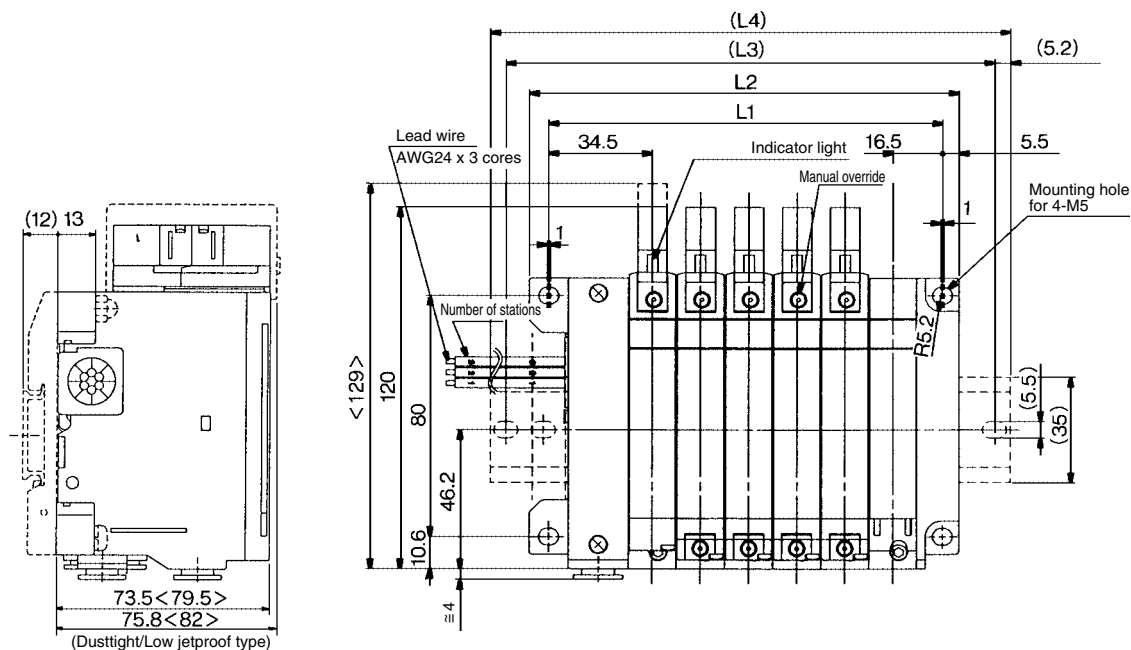
Vacuum ejector unit style: Formula L1 = 10.5n + 28.5 + (Number of ejector units x 26.7)

L2 = 10.5n + 38 + (Number of ejector units x 26.7)

L4 is L2 plus about 30.

VQ2000

The broken lines indicate the DIN rail mounting style [-D].



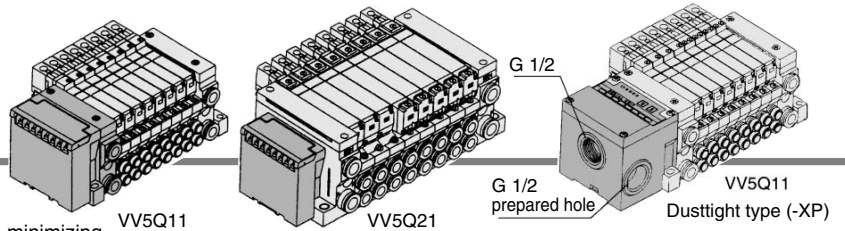
< >: AC

DimensionsFormula $L1 = 16n + 35$, $L2 = 16n + 47$ n: Station (Maximum 8 stations)

L	n	1	2	3	4	5	6	7	8
L1		51	67	83	99	115	131	147	163
L2		63	79	95	111	127	143	159	175
(L3)		87.5	100	125	137.5	150	162.5	184.5	200
(L4)		98	110.5	135.5	148	160.5	173	198	210.5

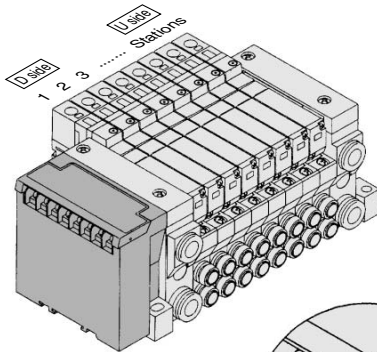
S

VQ1000/2000 Kit (Serial transmission unit)

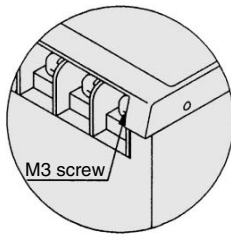


IP65 compliant

- The serial transmission system reduces wiring work, while minimizing wiring and saving space.
- The system comes in 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.), type SF (applicable to NKE models: 128 points max.), type SJ (applicable to SUNX models), type SK (applicable to Fuji Electric models), type SQ (applicable to OMRON's Compo Bus/D), and type SR (applicable to OMRON's Compo Bus/S).
- Max. 16 stations. (Specify a model with 9 to 16 stations by using the manifold specification sheet.)
- Enclosure: Dusttight, Low jetproof type (IP65) compliant (Series VQ2000)



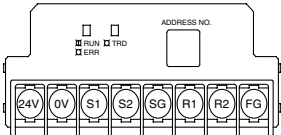
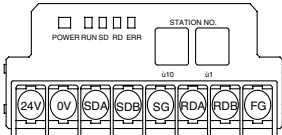
- Stations are counted from station 1 on the D side.
- Double wiring (connected to SOL. A and SOL. B) is adopted for the internal wiring of each station, regardless of valve and option types. The optional specification permits the mixture of single and double wiring. For details, refer to page 2-4-178.



Item	Specifications
External power supply	24 VDC +10%, -5%
Current consumption (Internal unit)	SA, SB, SBB, SD, SE, SF1, SH, SG, SJ, SK, SQ, SR, SU, SV: 0.1A SC: 0.3A

Manifold Specifications

Series	Port location	Porting specifications		Applicable stations
		1(P), 3(R)	4(A), 2(B)	
VQ1000	Side	C8	C3, C4, C6, M5	Max. 16 stations
VQ2000	Side	C10	C4, C6, C8	Max. 16 stations

	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)	 <table><tr><th>LED</th><th>Description</th></tr><tr><td>TRD</td><td>Lighting during data reception</td></tr><tr><td>RUN/ERR</td><td>Blinking when received data is normal; Lighting when data reception</td></tr></table>	LED	Description	TRD	Lighting during data reception	RUN/ERR	Blinking when received data is normal; Lighting when data reception	 <table><tr><th>LED</th><th>Description</th></tr><tr><td>POWER</td><td>Lighting when power is turned ON</td></tr><tr><td>RUN</td><td>Lighting when data transmission with the master station is normal</td></tr><tr><td>RD</td><td>Lighting during data reception</td></tr><tr><td>SD</td><td>Lighting during data transmission</td></tr><tr><td>ERR.</td><td>Lighting when reception data error occurs. Light turns off when the error is corrected.</td></tr></table>	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.
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 models of OMRON Corporation EX300-TFU1...For models of Fuji Electric Co., Ltd. EX300-TOO1... For general models * Up to 32 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 1 1-08 C6 S A-N-XP

Series
1 VQ1000
2 VQ2000

Manifold
1 Plug-in unit

Stations
02 2 stations
16 16 stations

Note) For details, refer to page 2-4-178.

Cylinder port

Symbol	Port size	VQ1000	VQ2000
C3	With One-touch fitting for ø3.2	●	●
C4	With One-touch fitting for ø4	●	●
C6	With One-touch fitting for ø6	●	●
C8	With One-touch fitting for ø8	●	●
M5	M5 thread	●	●
CM	With mixed size/with port plug	●	● (3)

Note 1) Insert "L" (top piping) or "B" (bottom piping) for elbow type. (VQ1000 only).
Example) B6 (Elbow One-touch fittings for ø6, bottom piping.)

Note 2) Specify as "LM" for models with elbow fittings and mixed cylinder port sizes.

Note 3) Specify "Mixed size/with port plug" in the manifold specification sheet.

Note 4) For inch-size One-touch fittings, refer to "Option" on page 2-4-179.

Model

Model	Without SI unit	Max. stations
O	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 lines)	
C	OMRON Corp.: SYSBUS Wire System	
D	SHARP Corp.: Satellite I/O Link System	
E	Matsushita Electric Works: MEWNET-F System	
F1	NKE Corp.: Uni-wire System (16 output points)	
G	Rockwell Automation: Allen Bradley Remote I/O (RIO) System	
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)	
U	JEMANET (JPCN-1)	
V	Mitsubishi Electric Corp.: CC-LINK System	

Note 1) The general type requires a transmission unit on CPU side.

Note 2) SBB kit is usable only for VQ2000 dusttight/low jetproof type (IP65).

Dust-protected type (-XP)
Suffix "-XP" for the dust-protected type SI units. (Except SE and SQ)

Option

Symbol	Option	VQ1000	VQ2000	Note
Nil	None	●	●	
B	With back pressure check valve	●	●	(2)
D	DIN rail mounting style	●	●	
G1	1 set of regulator unit			
G2	2 sets of regulator unit	●		(3)
G3	3 sets of regulator unit			
J	With vacuum ejector unit	●		(4)
K	Special wiring specifications (Not double wiring)	●	●	(5)
N	With name plate	●	●	
R	with external pilot	●	●	(6)
S	Built-in silencer, direct exhaust	●	●	
W	Enclosure: Dust tight/Low jetproof type (IP65) (Except SE)		●	(8)

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

Note 2) Models with a suffix "-B" have check valves for prevention of back pressure at all manifold stations. If not all stations need this check valve, specify the stations where check valves are installed by manifold specification sheet.

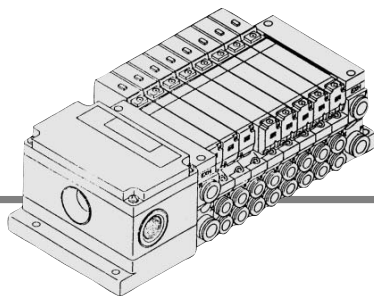
Note 3) Specify the mounting position in the manifold specification sheet.

Note 4) Refer to page 2-4-170 for the details of ejector mounted styles. A combination of "J" and "N" is unavailable.

Note 5) Specify the wiring specifications in the manifold specification sheet.

Note 6) Indicate "R" for the valve with external pilot.
Note 7) A combination of "W" and "XP" is unavailable.

Note 8) Refer to "Dimensions" on page 2-4-157 for SI unit and valve, in case of W (dusttight/low jetproof type).



VV5Q21
Dust tight Low jetproof type (-W)

Mixed wiring is available as an option.

Use the manifold specification sheet to specify.

● SI unit output and coil numbering

<Wiring example 1>

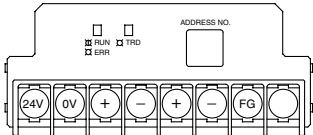
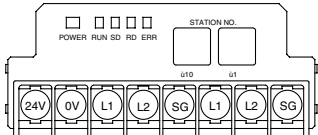
SI unit	0	1	2	3	4	5	6	7	8	9
output no.										
	A	B	A	B	A	Un-used	A	Un-used	A	B
SI unit	Double		Double		Single		Single		Single	
Stations	1		2		3		4		5	

Double wiring (Standard)

<Wiring example 2>

SI unit	0	1	2	3	4	5	6	7
output no.								
	A	B	A	B	A	A	A	B
SI unit	Double		Double		Single		Single	
Stations	1		2		3		4	

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)	 <table><tr><th>LED</th><th>Description</th></tr><tr><td>RUN</td><td>Lights when transmission is normal and PLC is in operation mode</td></tr><tr><td>T/R ERR</td><td>Blinks during data transmission/reception ON when transmission is abnormal.</td></tr></table>	LED	Description	RUN	Lights when transmission is normal and PLC is in operation mode	T/R ERR	Blinks during data transmission/reception ON when transmission is abnormal.	 <table><tr><th>LED</th><th>Description</th></tr><tr><td>POWER</td><td>ON when power supply is ON</td></tr><tr><td>RUN</td><td>Lights when power is ON and slave stations are operating normally</td></tr><tr><td>ERROR</td><td>Lights when slave station switch setting is abnormal, communication is abnormal, PLC stopped and defective slave unit</td></tr><tr><td>R.SET HOLD</td><td>ON for master unit control input</td></tr></table>	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
LED	Description																	
RUN	Lights when transmission is normal and PLC is in operation mode																	
T/R ERR	Blinks during data transmission/reception 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's 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	1	1	0	0	Y	5		
Series	1	2						
Type of actuation	1	2	3	4	5			
Seal	0	1						
Coil voltage					5			
Function								
Enclosure								
Manual override								

Symbol	Specifications	DC
Nil	Standard type	(1.0 W) ○
H	High pressure type	(1.5 W) ○
Y	Low wattage type	(0.5 W) ○

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

Note) VQ2000 only.

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

How to Order Manifold Assembly

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

<Example>

Serial transmission kit

VV5Q11-08C6SA ... 1 set—Manifold base no.

*VQ1100-5 2 sets—Valve part no. (Stations 1 to 2)

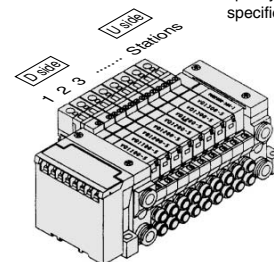
*VQ1200-5 4 sets—Valve part no. (Stations 3 to 6)

*VQ1300-5 1 set—Valve part no. (Station 7)

*VVQ1000-10A-1 ... 1 set—Blanking plate part no. (Station 8)

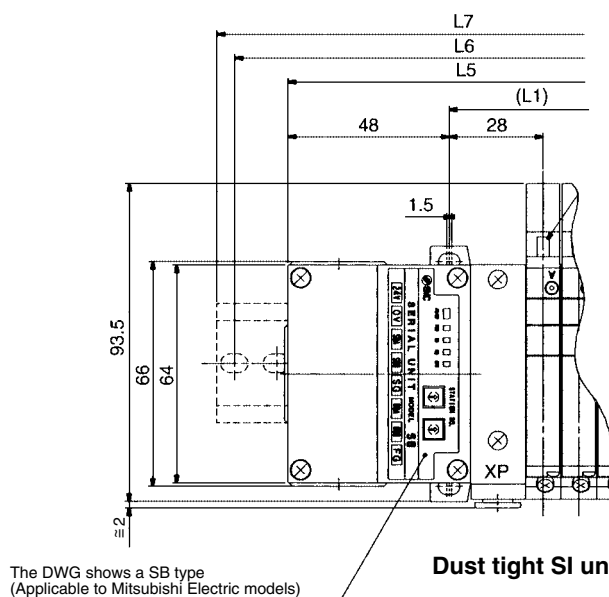
Prefix the asterisk to the part nos. of the solenoid valve, etc.

Write sequentially from the 1st station on the D side. When part nos. written collectively are complicated, specify by using the manifold specification sheet.

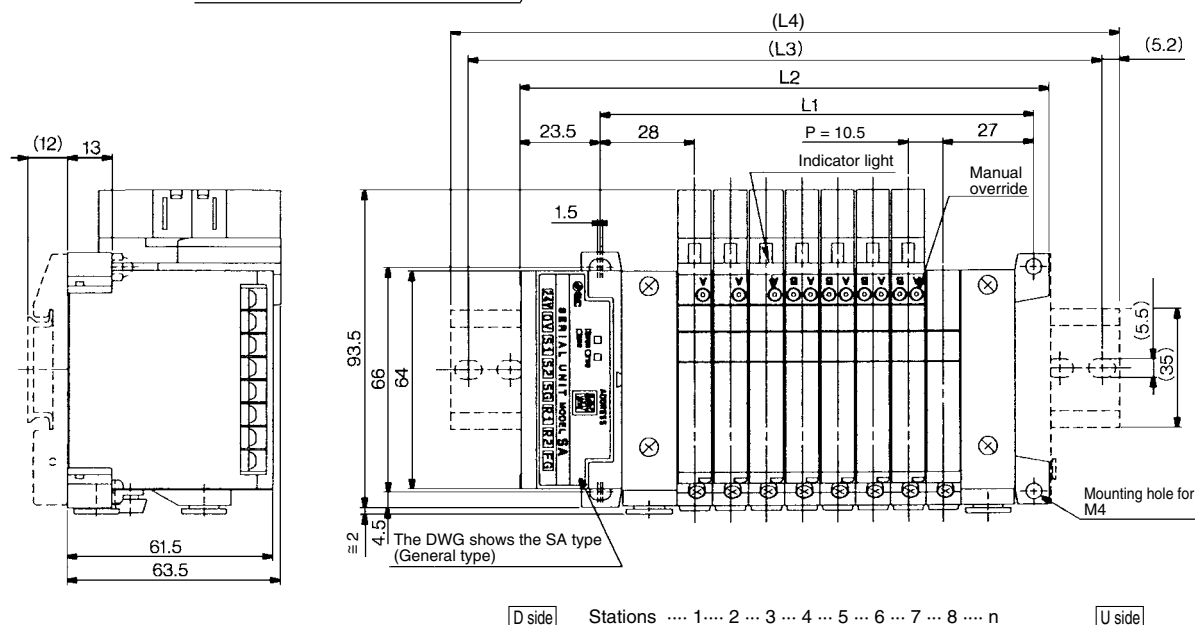


S VQ1000/2000 Kit (Serial transmission unit)

VQ1000

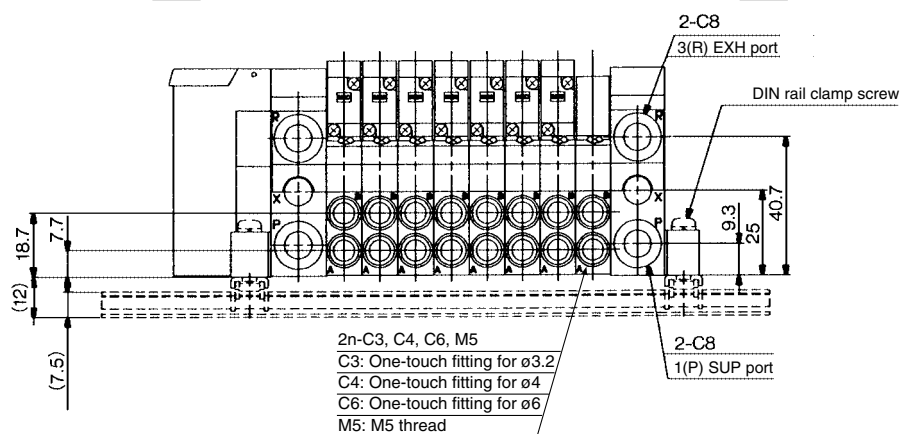


The broken lines indicate DIN rail mounting style [-D].



D side Stations 1 2 3 4 5 6 7 8 ... n

U side



Vacuum ejector unit style: Formula
 $L1 = 10.5n + 28.7 + (\text{Number of ejector units} \times 26.7)$
 $L2 = 10.5n + 56.3 + (\text{Number of ejector units} \times 26.7)$
 $L4$ is $L2$ plus about 30.



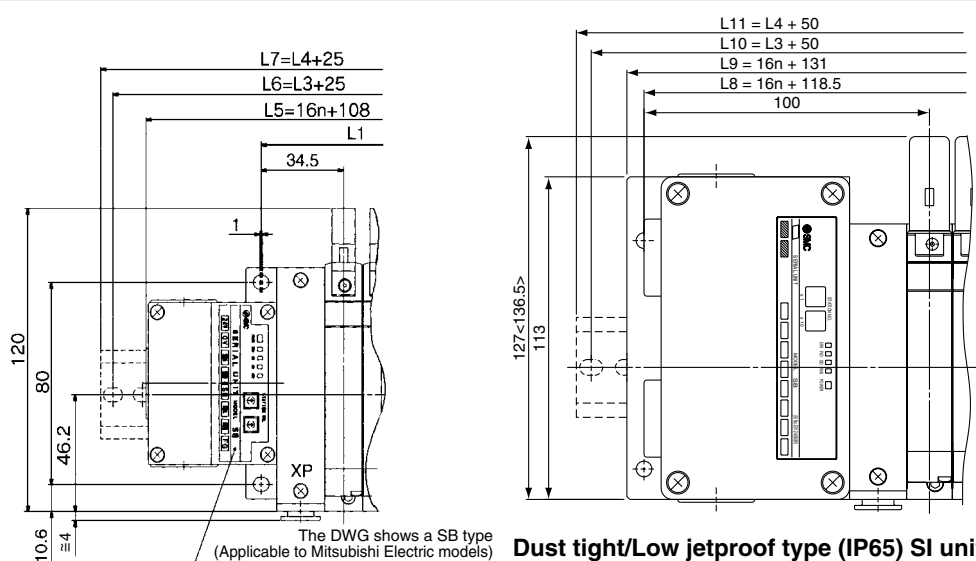
Note) Manifolds with SI unit for Matsushita Electric Works' MEWNET FP and Rockwell Automation's model are the same with $L5$, $L6$ and $L7$ dimensions of dustproof SI unit.

Dimensions

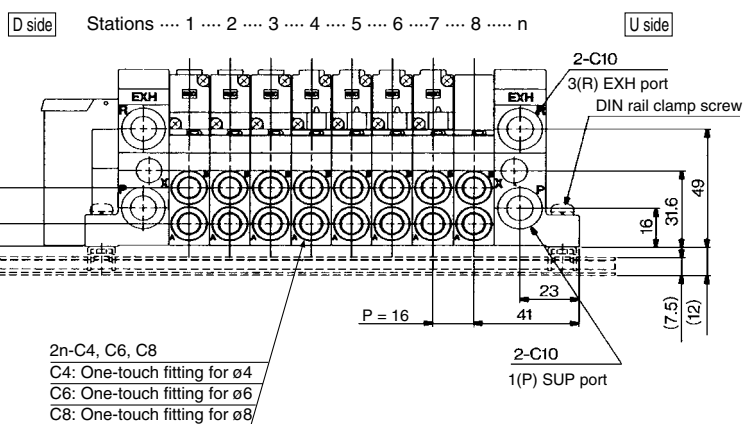
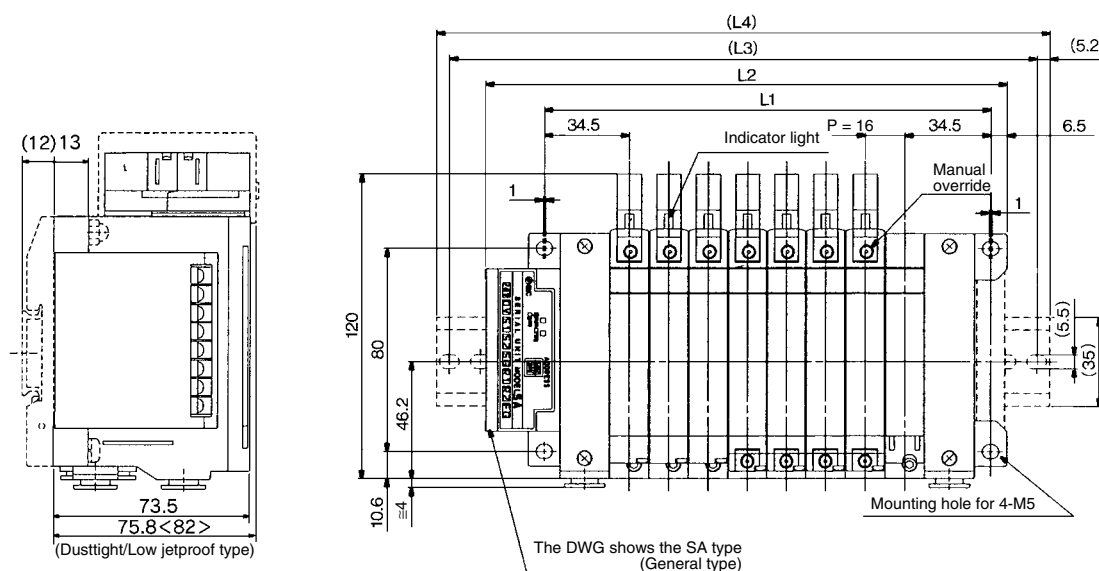
Dust-protected type SI unit: $L5 = 10.5n + 97$, $L6 = L3 + 25$, $L7 = L4 + 25$
 Formula $L1 = 10.5n + 44.5$, $L2 = 10.5n + 72.5$ n: Station (Maximum 16 stations)

n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	65.5	76	86.5	97	107.5	118	128.5	139	149.5	160	170.5	181	191.5	202	212.5
L2	93.5	104	114.5	125	135.5	146	156.5	167	177.5	188	198.5	209	219.5	230	240.5
(L3)	125	125	137.5	150	162.5	175	187.5	187.5	200	212.5	225	237.5	250	250	262.5
(L4)	135.5	135.5	148	160.5	173	185.5	198	198	210.5	223	235.5	248	260.5	260.5	273

VQ2000



Dusttight SI unit



Dust-protected type SI unit: L5 = 16 + 108, L6 = L3 + 25, L7 = L4 + 25
Dusttight/Low jetproof SI unit: L8 = 16n + 118.5, L9 = 16n + 131
L10 = L3 + 50, L11 = L4 + 50

Formula : L1 = 16n + 53, L2 = 16n + 83 n: Stations (Maximum 16 stations)

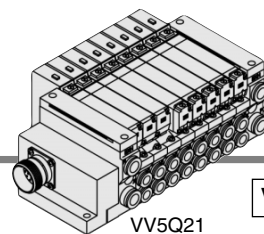
Dimensions

L	n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1		85	101	117	133	149	165	181	197	213	229	245	261	277	293	309
L2		115	131	147	163	179	195	211	227	243	259	275	291	307	323	339
(L3)		137.5	162.5	175	187.5	200	225	237.5	250	262.5	287.5	300	312.5	337.5	350	362.5
(L4)		148	173	185.5	198	210.5	235.5	248	260.5	273	298	310.5	323	348	360.5	373

Note) Manifolds with SI unit for Matsushita Electric Works' MEWNET FP and Rockwell Automation's model are the same with L5, L6 and L7 dimensions of dustproof SI unit.

M

VQ2000 Kit (Flat ribbon cable connector)



VQ2000 only

- MIL flat cable connector reduces installation labor for electrical connection.
- Manifold and connectors, both compliant with the IP65 rating (dusttight, low jetproof), provide a high degree of protection for the electrical parts.
- Maximum stations are 24.

Manifold Specifications

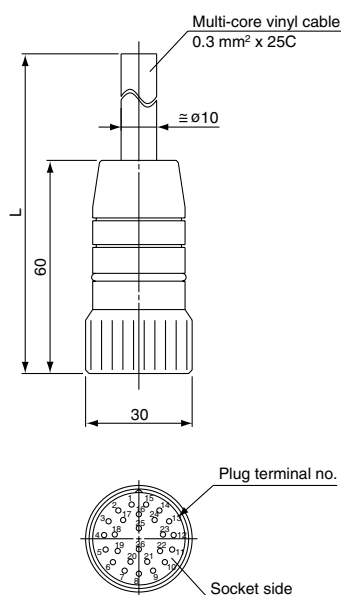
Series	Porting specifications			Applicable stations
	Port location	Port size		
		1(P), 3(R)	4(A), 2(B)	
VQ2000	Side	C10	C4, C6, M8	Max. 24 stations

Circular Connector (26 pins)

Cable assembly ●

AXT100-MC26-015
030
050

(Circular connector assembly included in a specific manifold model no.)
(specific manifold model no. Refer to How to Order Manifold.)



Circular Connector Cable Assembly (Option)

Cable length (L)	Assembly part no.	Note
1.5 m	AXT100-MC26-015	Cable 25 core x 24AWG
3 m	AXT100-MC26-030	
5 m	AXT100-MC26-050	

Electric Characteristics

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

Note) The minimum bending radius of circular connector cable is 20 mm.

Circular 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
26	White	None

How to Order Manifold

VV5Q 2 1-08 C6 M 1-N W

Series
2 VQ2000

Manifold
1 Plug-in unit

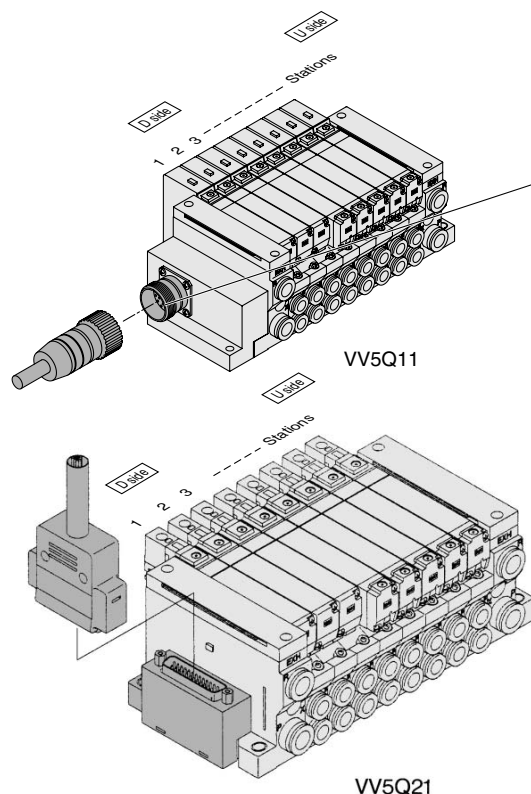
Stations
02 2 stations
: :
24 24 stations
Note) For details, refer to page 2-4-178.

Cable (Length)
0 Without cable
1 With cable (1.5 m)
2 With cable (3 m)
3 With cable (5 m)

Cylinder port
Symbol Port size
C4 With One-touch fitting for ø4
C6 With One-touch fitting for ø6
C8 With One-touch fitting for ø8
CM With mixed size/with port plug
Note 1) Insert "L" (top piping) or "B" (bottom piping) for elbow type. Example) B6 (Elbow One-touch fittings for ø6, bottom piping.)
Note 2) Indicate "LM" for models with elbow fittings and mixed cylinder port sizes.
Note 3) Specify "Mixed size/with port plug" in the manifold specification sheet.
Note 4) Inch-size One-touch fittings are available. For details, refer to page 2-7-179.

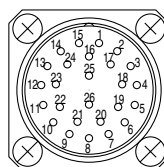
Option
Symbol Option Note
Nil None
B With back pressure check valve (2)
D DIN rail mounting
K Special wiring specifications (Not double wiring) (3)
N With name plate
R External pilot (4)
Note 1) When two or more symbols are specified, indicate them alphabetically. Example) -BKR
Note 2) Models with a suffix "-B" have check valves for prevention of back pressure at all manifold stations.
Note 3) If not all stations need this check valve, specify the stations where check valves are installed by using the manifold specification sheet.
Note 4) Specify the wiring by using of the manifold specification sheet. Indicate "R" for the valve with external pilot.

Enclosure
IP65 (Dust tight/Low jetproof type)



The total number of stations is tabulated starting from station one on the D side.

Electrical wiring specifications



As the standard electrical wiring specifications, double wiring (connected to SOL. A and SOL. B) is adopted for the internal wiring of each station for 12 stations or less, regardless of valve and option types. Mixed single and double wiring is available as an option. For details, refer to page 2-7-178.



Note) When using the negative common specifications, use valves for negative common. (Refer to page 2-4-178.) For details, refer to "Option" on page 2-4-178.

Circular connector cable assembly

AXT100-MC26-015 Wire Color 050

Terminal no.	Polarity	Lead wire color	Dot marking
1 station { SOL.A. 1	(-)	(+) Black	None
SOL.B. 2	(-)	(+) Brown	None
2 stations { SOL.A. 3	(-)	(+) Red	None
SOL.B. 4	(-)	(+) Orange	None
3 stations { SOL.A. 5	(-)	(+) Yellow	None
SOL.B. 6	(-)	(+) Pink	None
4 stations { SOL.A. 7	(-)	(+) Blue	None
SOL.B. 8	(-)	(+) Purple	White
5 stations { SOL.A. 9	(-)	(+) Gray	Black
SOL.B. 10	(-)	(+) White	Black
6 stations { SOL.A. 11	(-)	(+) White	Red
SOL.B. 12	(-)	(+) Yellow	Red
7 stations { SOL.A. 13	(-)	(+) Orange	Red
SOL.B. 14	(-)	(+) Yellow	Black
8 stations { SOL.A. 15	(-)	(+) Pink	Black
SOL.B. 16	(-)	(+) Blue	White
9 stations { SOL.A. 17	(-)	(+) Purple	None
SOL.B. 18	(-)	(+) Gray	None
10 stations { SOL.A. 19	(-)	(+) Orange	Black
SOL.B. 20	(-)	(+) Red	White
11 stations { SOL.A. 21	(-)	(+) Brown	White
SOL.B. 22	(-)	(+) Pink	Red
12 stations { SOL.A. 23	(-)	(+) Gray	Red
SOL.B. 24	(-)	(+) Black	White
(Max.) COM. 25	(+)	(-) White	None
COM. 26	(+)	(-) White	None

Note) Positive common specifications Negative common specifications

How to Order Valves

VQ 2 1 0 0 Y 5 **W**

Series
2 VQ2000

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

Seal

0	Metal seal
1	Rubber seal

Function

Symbol	Specifications	DC	AC
Nil	Standard type	(1.0 W) ○	○ (Note)
H	High pressure type	(1.5 W) ○	—
Y	Low wattage type	(0.5 W) ○	—

Manual override

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

Light/Surge voltage suppressor

Nil	Yes
E	None

Coil voltage

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

Enclosure
IP (Dusttight/ Low jetproof type)

How to Order Manifold Assembly

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

<Example>

Flat ribbon cable kit with 3 m cable

VV5Q21-09C6M2-W... 1 set—Manifold base no.

*VQ2100-5w 2 sets—Valve part no. (Stations 1 to 2)

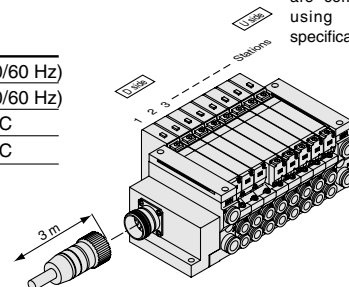
*VQ2200-5w 4 sets—Valve part no. (Stations 3 to 6)

*VQ2300-5w 2 sets—Valve part no. (Stations 7 to 8)

*VVQ2000-10A-1 1 set—Blanking plate part no. (Station 9)

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

When ordering, specify the part nos. in order from the 1st station in the D side. When part nos. written collectively are complicated, specify by using the manifold specification sheet.



Note) For external pilot and negative COM specifications, refer to "Option" on 2-4-178 to 2-4-179.

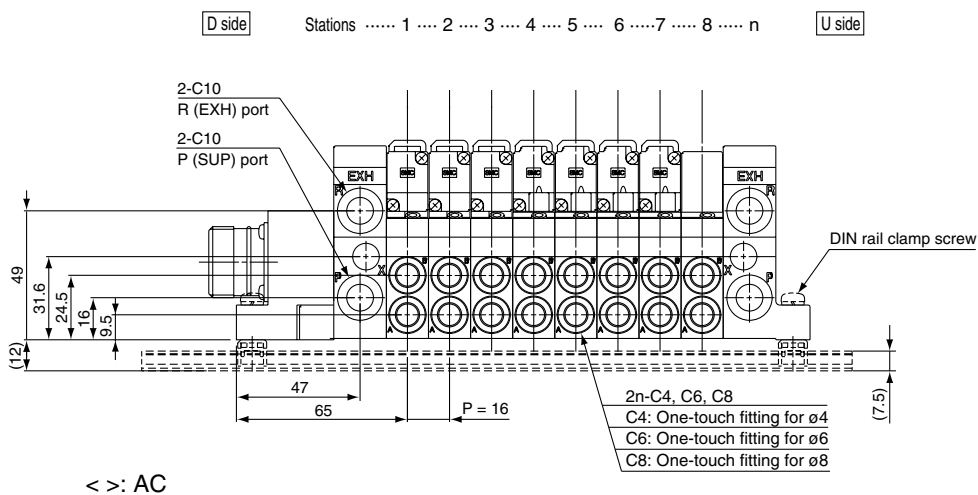
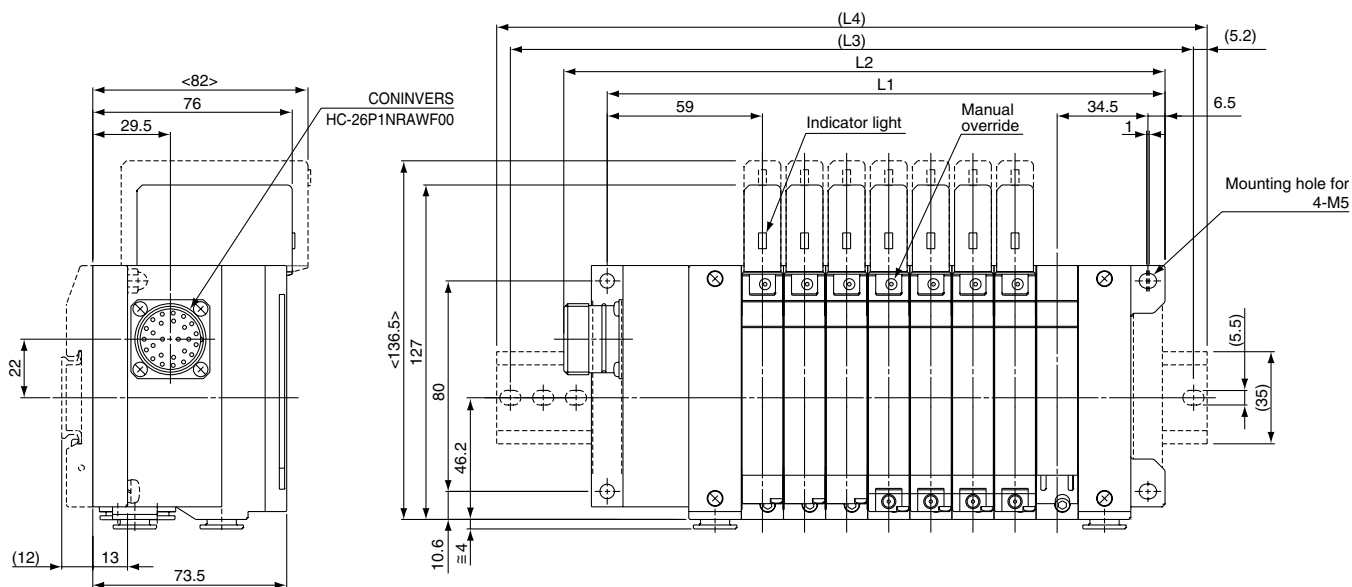


Note) For power consumption of AC type, refer to page 2-4-129.

M VQ2000 Kit (Flat ribbon cable connector)

VQ2000

The broken lines indicate the DIN rail mounting style [-D] and the side entry connection [-FS].



< >: AC

Dimensions

Formula $L1 = 16n + 77.5$, $L2 = 16n + 100.5$ n: Station (Maximum 12 stations)

L	n	2	3	4	5	6	7	8	9	10	11	12
L1		109.5	125.5	141.5	157.5	173.5	189.5	205.5	221.5	237.5	253.5	269.5
L2		132.5	148.5	164.5	180.5	196.5	212.5	228.5	244.5	260.5	276.5	292.5
(L3)		162.5	175	187.5	200	225	237.5	250	275	287.5	300	312.5
(L4)		173	185.5	198	210.5	235.5	248	260.5	285.5	298	310.5	323

VQC

SQ

VQ0

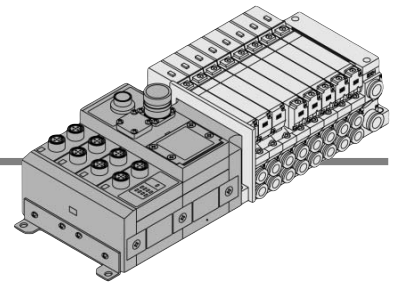
VQ4

VQ5

VQZ

VQD

S VQ2000 Kit (Serial transmission kit) for I/O IP65 compliant



VQ2000 only

Applicable network **DeviceNet/PROFIBUS-DP**

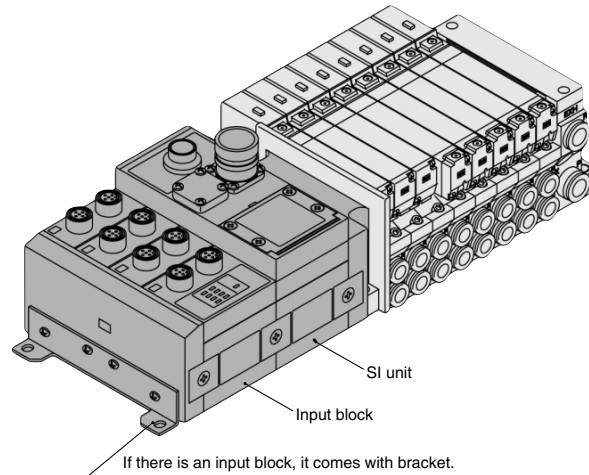
- The serial transmission system reduces wiring work, while minimizing wiring and saving space.

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.



VQ2000 IP65, Applicable to Input/Output, Serial Transmission Type

How to Order Manifold

VV5Q21 — 08 C6 S D QW 1 — N W

VQ2000 Plug-in series

Stations

01	1 station
⋮	⋮
16	16 stations

Cylinder port

Symbol	Port size
C4	With One-touch fitting for ø4
C6	With One-touch fitting for ø6
C8	With One-touch fitting for ø8
CM	With mixed size/with port plug

SI unit mounting
D: D side mounting

Model

0W	Without SI unit
QW	DeviceNet +COM
NWN	PROFIBUS-DP -COM

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.

Enclosure
IP65 (Dust tight/Low jetproof type)

Option

Symbol	Option
Nil	None
B	With back pressure check valve
D	DIN rail mounting style
K	Special wiring specifications (Not double wiring)
N	With name plate
R	External pilot



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

Input block COM

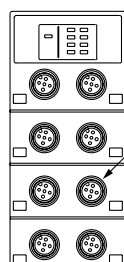
Nil	PNP(+) or SI/Input block: None
N	NPN (-)

Input block

Nil	SI unit/Input block: None
0	Input block: None
1	Input block 1 pc.
2	Input block 2 pcs.
3	Input block 3 pcs.
4	Input block 4 pcs.

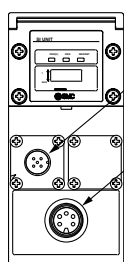
Details in Connector

Input block

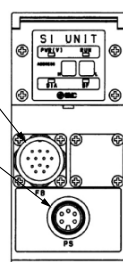


Input connector

SI Unit (DeviceNet)



SI Unit (PROFIBUS-DP)



Communication connector

Power source connector

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

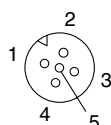
Number	Description	Function
1	M5V	GND Terminal
2	A	Signal-N
4	B	Signal-P
6	+5V	Terminal +5 V
9	SHIELD	Shield ground
12	RTS	Optical fiber (Reserve)

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.

- **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.

Connector input no.: 0, 2, 4, 6	Input no.: 1, 3, 5, 7
SW +	1
SIGNAL-n+1	2
SW-	3
SIGNAL-n	4
PE	5

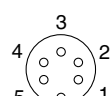
Caution

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) 5 pins (72309-0115-80-05)**

Cable side connector example: Franz Binder GmbH 72309-0114-70-15, etc.

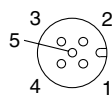
* Din type 5 pins.



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

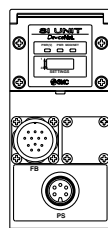


Number	Description	Function
1	Drain	Drain/Shield
2	V+	Circuit power supply +
3	V-	Circuit power supply -
4	CAN_H	Signal H
5	CAN_L	Signal L

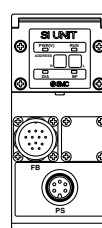
Item conforming to Micro Style connector in DeviceNet specifications.

Indicator Unit (LED) Descriptions and Functions

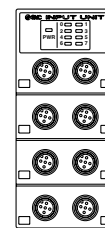
■ SI Unit (DeviceNet)



■ SI Unit (PROFIBUS-DP)



■ Input block



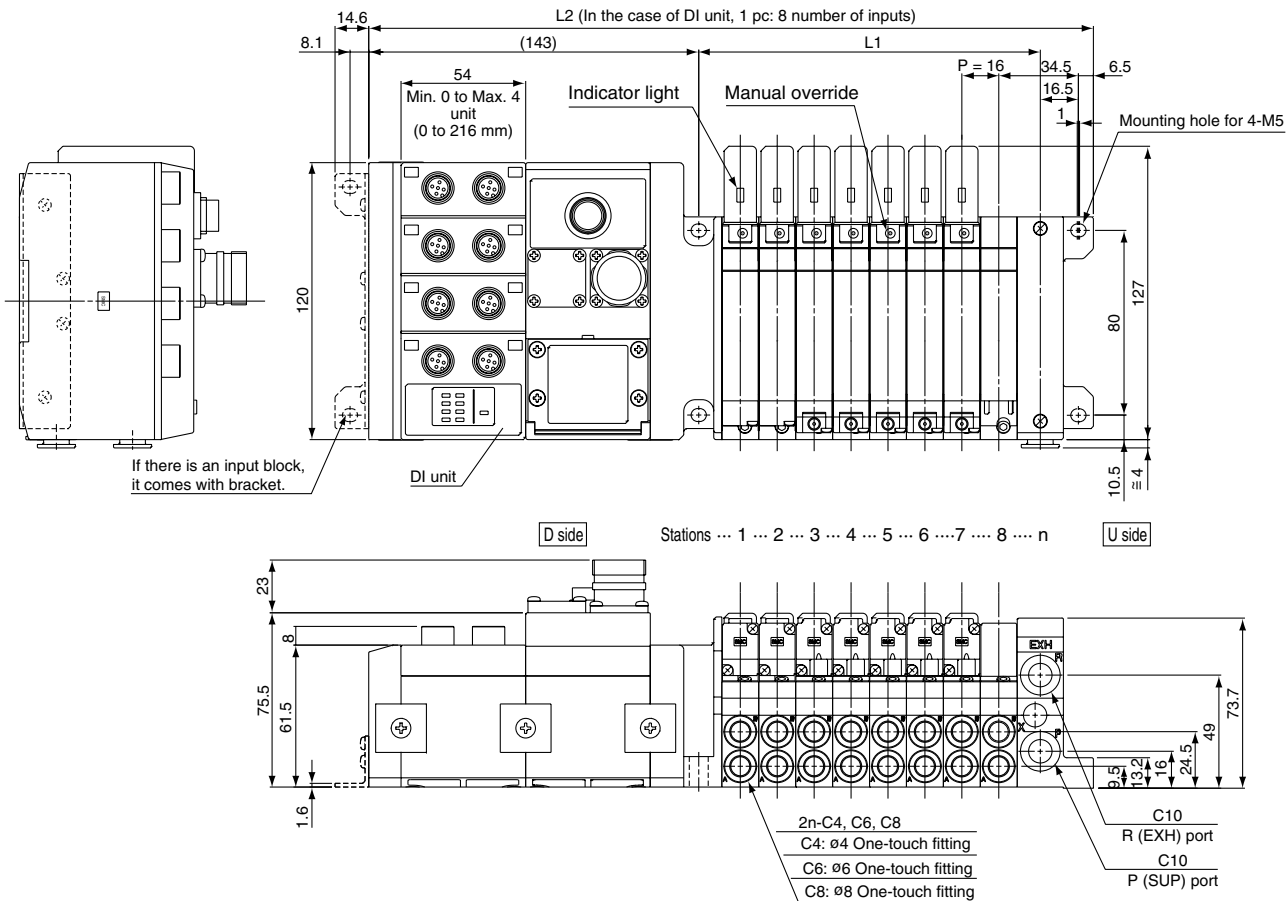
Description	Function
PWR(V)	ON when solenoid valve power supply is turned ON
PWR	ON when DeviceNet circuit power supply input is turned ON
MOD/NET	OFF: Power supply off, off line, or when checking duplication of MAC_ID
	Green blinking: Waiting for connection (On line)
	Green ON: Connection established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

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

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

VV5Q21S kit

(Serial transmission kit: EX240)



Dimensions

Formula L1 = 16n + 36.5, L2 = 16n + 186 (In the case of 1 pc. DI unit, 54 mm will be added for increasing every 1 pcs.) n: Station

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	68.5	84.5	100.5	116.5	132.5	148.5	164.5	180.5	196.5	212.5	228.5	244.5	260.5	276.5	292.5
L2	218	234	250	266	282	298	314	330	346	362	378	394	410	426	442

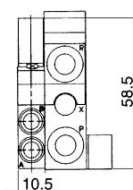
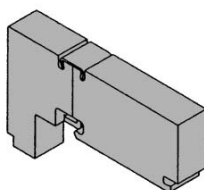
Manifold Option Parts for VQ1000

Blanking plate assembly
VVQ1000-10A-1

JIS Symbol



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.



Individual SUP spacer

VVQ1000-P-1-C6

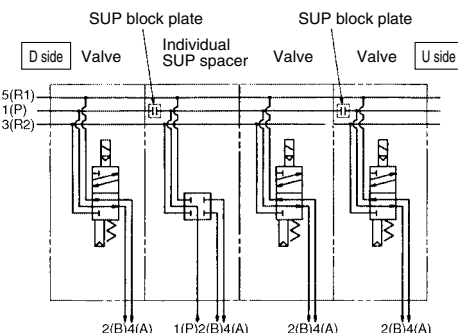
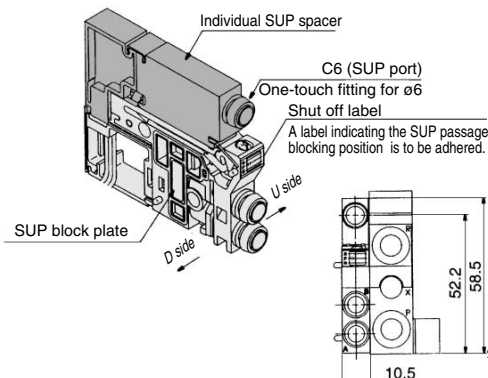
When the same manifold is to be used for different pressures, individual SUP spacers are used as SUP ports for different pressures. (One station space is occupied.)

Block both sides of the station, for which the supply pressure from the individual SUP spacer is used, with SUP block plates. (Refer to the application ex.)

* Specify the spacer mounting position and SUP block plate position on the manifold specification sheet.

The block plate are used in two places for one set. (Two SUP block plates for blocking SUP station are attached to the individual SUP spacer.)

* Electric wiring is connected to the position of the manifold station where the individual SUP spacer is mounted.



Individual EXH spacer

VVQ1000-R-1-C6

When valve exhaust affects other stations due to the circuit configuration, this spacer is used for individual valve exhaust. (One station space is occupied.)

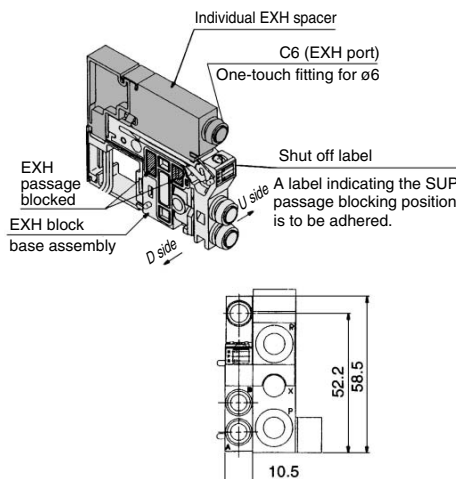
Block both sides of the individual valve EXH station. (See example)

* Specify the mounting position, as well as the EXH block base or EXH block plate position on the manifold specification sheet. The block plate are used in two places for one set. (Two EXH block plates for blocking EXH station are attached to the individual EXH spacer.)

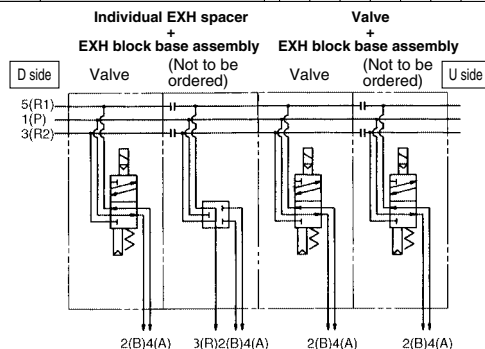
* An EXH block base assembly is used in the blocking position when ordering an EXH spacer incorporated with a manifold no. However, do not order an EXH block base assembly because it is attached to the spacer.

When separately ordering an individual EXH spacer, separately order an EXH block base assembly because it is not attached to the spacer.

* Electric wiring is connected to the position of the manifold station where the individual EXH spacer is mounted.



Description/Model		Stations						
Valve	Single	1	2	3	4	5	6	7
Option	Individual EXH spacer VVQ1000-R-1-C6							
	EXH shut off position: Specify 2 places.							



SUP block plate

VVQ1000-16A

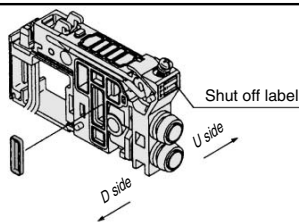
When different pressures, high and low, are supplied to one manifold, a SUP block plate is inserted between the stations under different pressures.

* Specify the number of stations on the manifold specification sheet.

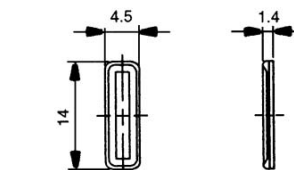
<Shut off label>

When using block plates for SUP passage, indication label for confirmation of the blocking position from outside is attached. (One label of each)

* When ordering a block plate incorporated with the manifold no., a block indication label is attached to the manifold.



SUP passage block



SUP/EXH passage blocked

Blanking plate with connector

VVQ1000-1C-□

JIS Symbol

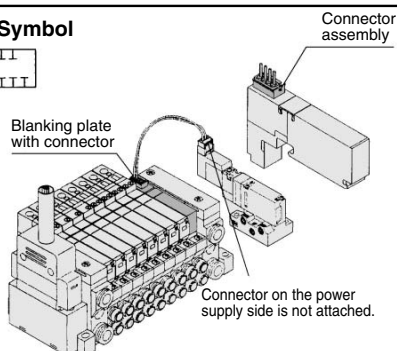


Style of manifold		Lead wire length (mm)			
1	VV5Q11	Nil	300	20	2000
	Connector	6	600	25	2500
		10	1000	30	3000
		15	1500		
Nil	Without connector				
1	With connector/2-wire				
2	With connector/4-wire				

Blanking plate with a connector for individually outputting electricity to drive a single valve or equipment that are not on the manifold base.

* When "N" is suffixed to the nameplate, the plate will be different from a standard shape.

Note) Electric current should be 1A or less. (Including the mounted valves.)



Connector assembly part no.

AXT661-43 A-6

Lead wire length: L

Nil	300 mm
6	600 mm
10	1000 mm
20	2000 mm
30	3000 mm

43	4-wire
44	2-wire

Lead wire color: Black

Lead wire color: Red

Lead wire color: White

24AWG

Cover O.D. ø1.5

Blanking plate side (10.8)

(11)

Power supply side

EXH block base assembly**VVQ1000-19A- $\begin{smallmatrix} \text{F} \\ \text{P} \\ \text{P} \end{smallmatrix}$ (C3, C4, C6, M5)****Manifold block assembly****Electrical entry**

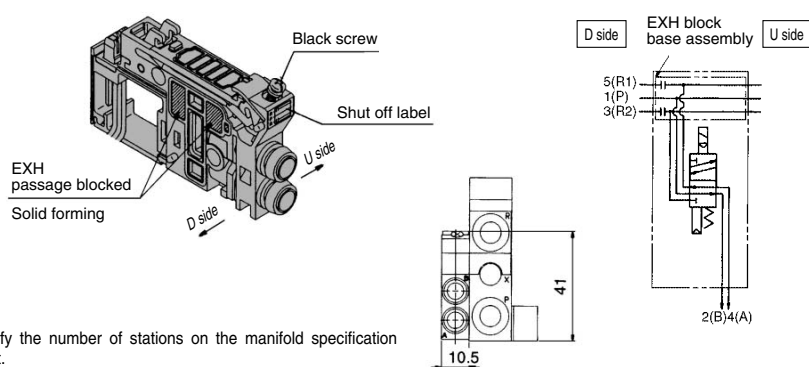
F1	For F kit (2 to 12 stations)/Double wiring
F2	For F kit (13 to 24 stations)/Double wiring
F3	For F kit (2 to 24 stations)/Single wiring
P1	For P, G, T, S kit (2 to 12 stations)/Double wiring
P2	For P, G, T, S kit (13 to 24 stations)/Double wiring
P3	For P, G, T, S kit (2 to 24 stations)/Single wiring
L0*	L0 kit
L1*	L1 kit
L2*	L2 kit

The manifold block assembly is used between stations for which exhaust is desired to be divided when valve exhaust affects other stations due to the circuit configuration. The EXH passage on the D-side is blocked in the EXH block base assembly. It is also used in combination with an individual EXH spacer for individual exhaust.

<Blocking indication label>

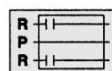
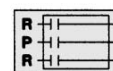
When blocking the EXH passage with an EXH block base assembly, indication label for confirmation of the blocking position from outside is attached. (One label for each)

* When ordering a EXH block base incorporated with the manifold no., a block indication label is attached to the manifold.



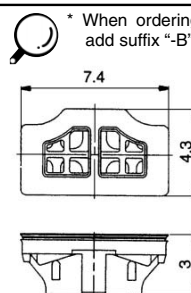
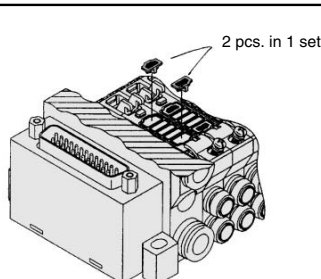
* Specify the number of stations on the manifold specification sheet.

* When ordering by using the manifold specification form, specify the EXH block base assembly no. by adding suffix "*" below the manifold no.

**EXH passage blocked****SUP/EXH passage blocked****Back pressure check valve assembly [-B]****VVQ1000-18A**

It prevents cylinder malfunction caused by other valve exhaust. Insert it into R (EXH) port on the manifold side of a valve which is affected. It is effective when a single action cylinder is used or an exhaust center type solenoid valve is used.

Note) When a check valve for back pressure prevention is desired, and is to be installed only in certain manifold stations, write clearly the part no. and specify the number of stations by using the manifold specification sheet.



* When ordering assemblies incorporated with a manifold, add suffix "-B" to the manifold no.

(Precautions)

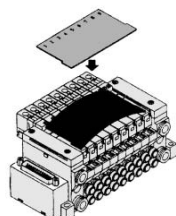
1. The back pressure check valve assembly parts with a check valve structure. However, as slight air leakage is allowed for the back pressure, take care the exhaust air will not be throttled at the exhaust port.
2. When a back pressure check valve is mounted, the effective area of the valve will decrease, by about 20%.

Name plate [-N]**VVQ1000- $\begin{smallmatrix} \text{N} \\ \text{NC} \end{smallmatrix}$ N-Station (1 to Max. stations)**

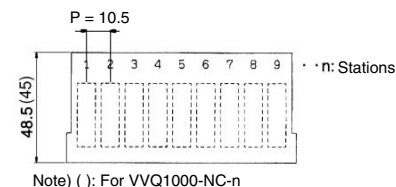
It is a transparent resin plate for placing a label that indicates solenoid valve function, etc. Insert it into the groove on the side of the end plate and bend it as shown in the figure.

* When the blanking plate with connector is mounted, it automatically will be "VVQ1000-NC-n" with an option symbol [-N]

N: Standard
NC: For mounting blanking plate with connector



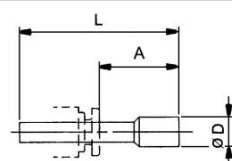
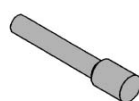
* When ordering assemblies incorporated with a manifold, add suffix "-N" to the manifold no.



Note) () : For VVQ1000-NC-n

Blanking plug (For One-touch fittings)**KQ2P- $\begin{smallmatrix} 23 \\ 04 \\ 06 \\ 08 \end{smallmatrix}$**

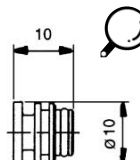
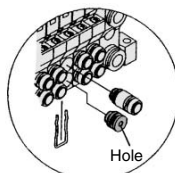
It is inserted into an unused cylinder port and SUP/EXH ports. Purchasing order is available in units of 10 pieces.

**Dimensions**

Applicable fittings size ϕ d	Model	A	L	D
3.2	KQ2P-23	16	31.5	3.2
4	KQ2P-04	16	32	6
6	KQ2P-06	18	35	8
8	KQ2P-08	20.5	39	10

Port plug**VVQ0000-58A**

The plug is used to block the cylinder port when using a 4 port valve as a 3 port valve.



* When ordering a plug incorporated with a manifold, indicate "CM" for the port size in the manifold no., as well as, the mounting position and number of stations and cylinder port mounting positions, A and B, on the manifold specification sheet.

* Lightly screw an M3 screw in the port plug hole and pull it for removal.

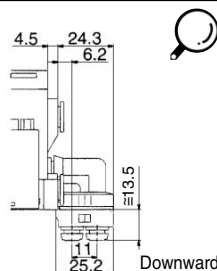
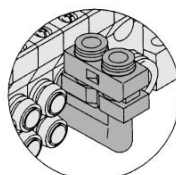
Elbow fitting assembly**VVQ1000-F-L (C3, C4, C6, M5)**

It is used for piping that extends upward or downward from the manifold.

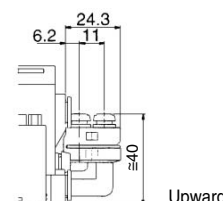
When installing it in part of the manifold stations, specify the assembly no. and the mounting position and number of stations by means of the manifold specification sheet.

* When mounting elbow fittings assembly on the edge of manifold station and a silencer on EXH port, select a silencer, AN203-KM8.

Silencer (AN200-KB8) is interfered with fittings.



* When ordering assemblies incorporated with a manifold, indicate "L□" or "B□" for the manifold port size. (When installed in all stations.)



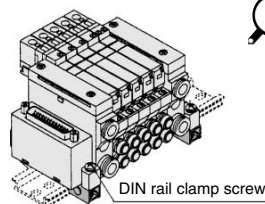
Manifold Option Parts for VQ1000

DIN rail mounting bracket

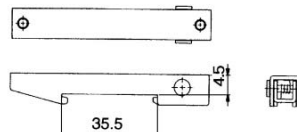
VVQ1000-57A

It is used for mounting a manifold on a DIN rail. The DIN rail mounted bracket is fixed to the manifold end plate. (The specification is the same as that for the option "-D".)

1 set of DIN rail mounting bracket is used for 1 manifold (2 DIN rail mounting brackets).



* When ordering assemblies incorporated with a manifold, add suffix "D" to the manifold no.



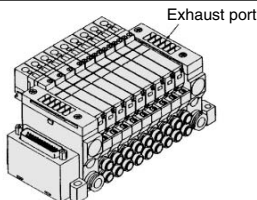
Mounting screws are attached

Built-in silencer, Direct exhaust [-S]

This is a type with an exhaust port at the top of the manifold end plate. The built-in silencer exhibits an excellent noise suppression effect. (Silencing effect: 30 dB)



Note) A large quantity of drainage generated in the air source results in exhaust of air together with drainage. For maintenance, refer to page 2-4-176.



* When ordering assemblies incorporated with a manifold, add suffix "S" to the manifold no.

2 stations matching fitting assembly

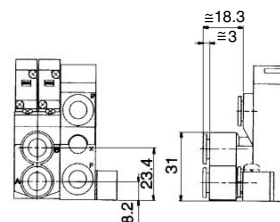
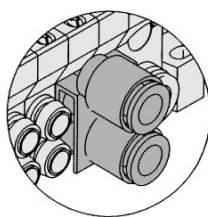
VVQ1000-52A-C8

For driving a cylinder with a large bore, valves for two stations are operated to double the flow rate. This assembly for the cylinder port is used in that case. The assembly is equipped with One-touch fittings for a $\phi 8$ bore.

* The bore for the manifold no. is "CM".

Clearly indicate the 2 station matching fitting assembly no., and specify the number of stations and positions by means of the manifold specifications.

* In 2 station matching fitting assembly, a special clip which is combined in one-piece of 2 stations is attached as a holding clip.

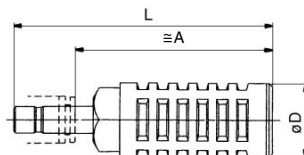


Silencer (For EXH port)

This silencer is to be inserted into the EXH port (One-touch fittings) of the common exhaust type

* When mounting elbow fittings assembly (VVQ1000-F-□) on the edge of manifold station, select a silencer, AN203-KM8.

Silencer (AN200-KM8) is interfered with fittings.



Dimensions

Series	Applicable fittings size ϕ d	Model	A	L	D	Effective area (mm ²)	Noise reduction (dB)
VQ1000	8	AN200-KM8	59	78	22	20	30
		AN203-KM8	32	51	16	14	25 *

Regulator unit

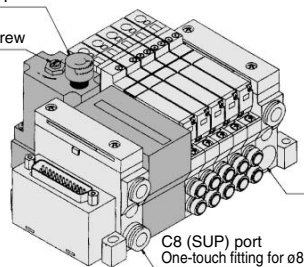
VVQ1000-AR-1

The regulator controls the SUP air pressure in a manifold. Supply air from D side SUP port is regulated. SUP port on U side is plugged.

Specifications

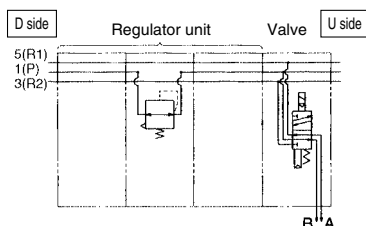
Maximum operating pressure	0.8 MPa
Set pressure range	0.05 to 0.7 MPa
Ambient and fluid temp.	5 to 50°C
Fluid	Air
Cracking pressure	0.02 MPa
Structure	Relieving type

Pressure gauge
G27-10-01
Pressure
control screw



SUP port on
U side is plugged

C8 (SUP) port
One-touch fitting for $\phi 8$

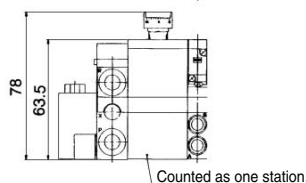
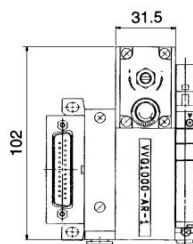


• How to Order

Indicate an option symbol "-G-*" for the manifold no. and be sure to specify the mounting position and number of stations by means of the manifold specification form. One unit is counted as one station and occupies a space for three stations, therefore, pay attention to the manifold size. The regulator valve unit, to which no wire is connected, valves can be mounted up to the standard max. number of stations of each kit.

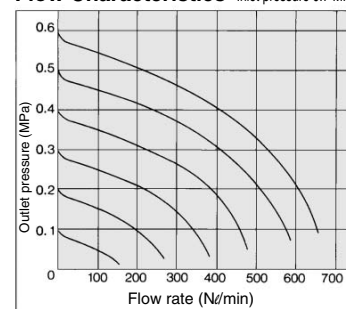
How to order manifold
VV5Q11-14C6FUO-DG2

Number of manifold stations
Number of mounted valves (12)
+
Number of regulator units (2)
Number of regulator units (2)
(Max. 3 units)
• With regulator unit
• Others, option symbols: to be indicated alphabetically.



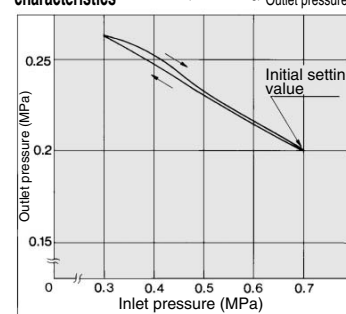
Flow Characteristics

Conditions:
Inlet pressure 0.7 MPa



Pressure Characteristics

Conditions (Initial setting)
Inlet pressure 0.7 MPa
Outlet pressure 0.2 MPa



⚠ Caution

• Pressure setting

Check the supply pressure and then turn the pressure control screw to set the secondary pressure. Turning the screw clockwise will increase the secondary pressure while turning it counterclockwise decrease the pressure. (Set the pressure by turning the screw in the increase direction.)

• Installation

Since some level of the actuator's operational frequency may lead to a sharp pressure change, pay attention to the pressure gauge durability.

Double check block (Separated type): For VQ1000**VQ1000-FPG-□□**

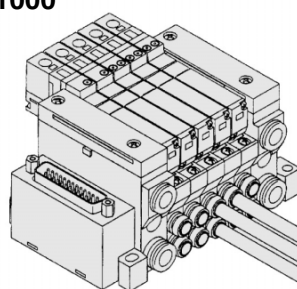
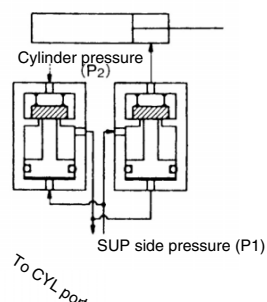
It is used on the outlet side piping to keep the cylinder in the intermediate position for a long time. Combining the double check block with a built-in pilot type double check valve and a 3 position exhaust center solenoid valve will enable the cylinder to stop in the middle or maintain its position for a long time.

The combination with a 2 position single/double solenoid valve will permit this block to be used for preventing the dropping at the cylinder stroke end when the SUP residual pressure is released.

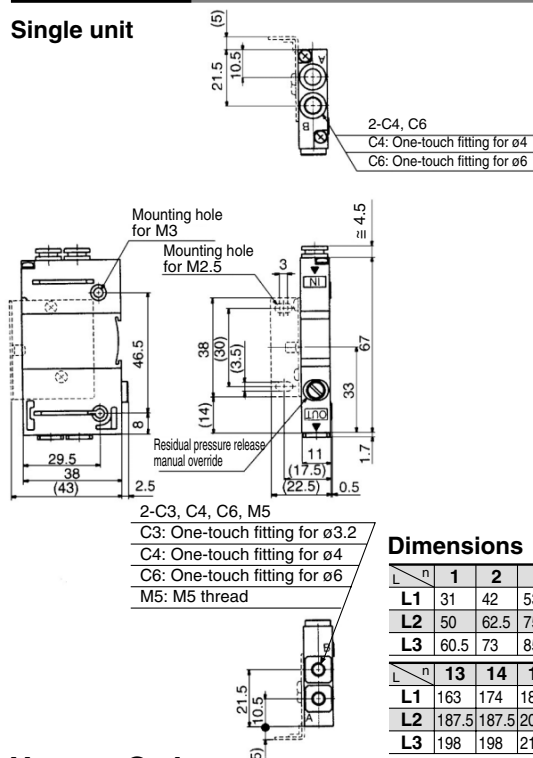
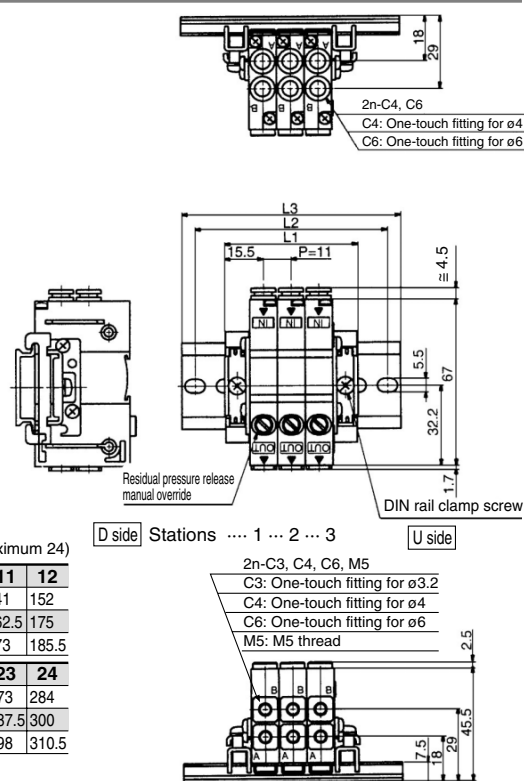
Specifications

Max. operating pressure	0.8 MPa
Min. operating pressure	0.15 MPa
Ambient and fluid temp.	-5 to 50°C
Flow characteristics: C	0.60 dm ³ /(s·bar)
Max. operating frequency	180 CPM

Note) Based on JIS B 8375-1981
(Supply pressure: 0.5 MPa)

**(Check valve operation principle)**

VVQ1000-FPG-02 1 set
* VQ1000-FPG-C6M5-D 2 pcs.

Dimensions**Single unit****Manifold****Dimensions**

Formula $L1 = 11n + 20$ n: Station (Maximum 24)

L	n	1	2	3	4	5	6	7	8	9	10	11	12
L1	31	42	53	64	75	86	97	108	119	130	141	152	
L2	50	62.5	75	87.5	100	112.5	125	137.5	150	162.5	175		
L3	60.5	73	85.5	98	110.5	123	135.5	148	160.5	173	185.5		
L	n	13	14	15	16	17	18	19	20	21	22	23	24
L1	163	174	185	196	207	218	229	240	251	262	273	284	
L2	187.5	187.5	200	212.5	225	237.5	250	262.5	275	287.5	300		
L3	198	198	210.5	223	235.5	248	260.5	273	285.5	298	310.5		

How to Order**Double check block**

VQ1000-FPG-**C4** **M5** **F**

IN side port size

C4	With One-touch fitting for ø4
C6	With One-touch fitting for ø6

OUT side port size

M5	M5 thread
C3	One-touch fitting for ø3.2
C4	One-touch fitting for ø4
C6	One-touch fitting for ø6

Option

Nil	None
F	With bracket
D	DIN rail mounting style (For manifold)
N	Name plate

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

Manifold

VVQ1000-FPG-**06**

Stations

01	1 station
:	:
16	16 stations

<Example>

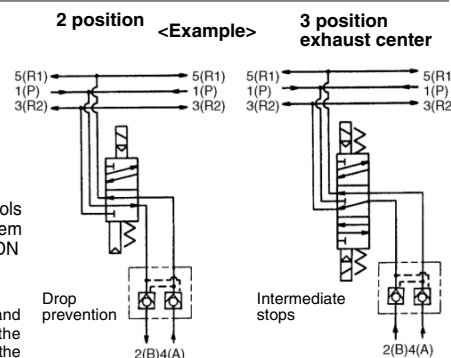
VVQ1000-FPG-06-6 types of manifold
*VQ1000-FPG-C4M5-D, 3 sets } Double Check block
*VQ1000-FPG-C6M5-D, 3 sets }

Bracket Assembly

Part no.	Tightening torque
VQ1000-FPG-FB	0.22 to 0.25 N·m

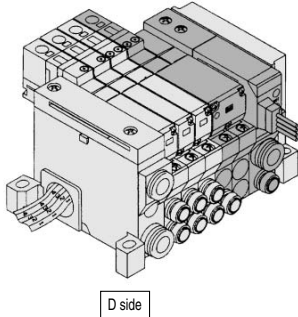
Caution

- Air leakage from the pipe between the valve and cylinder or from the fittings will prevent the cylinder from stopping for a long time. Check the leakage using neutral household detergent, such as dish washing soap. Also check the cylinder's tube gasket, piston packing and rod packing for air leakage.
- Since One-touch fittings allow slight air leakage, screw piping (with M5 thread) is recommended when stopping the cylinder in the middle for a long time.
- Combining double check block with 3 position closed center or pressure center solenoid valve will not work.
- M5 fitting assembly is attached, not incorporated into the double check block. After screwing in the M5 fittings, mount the assembly on the double check block. (Tightening torque: 0.8 to 1.2 N·m)
- If the exhaust of the double check block is throttled too much, the cylinder may not operate properly and may not stop intermediately.
- Set the cylinder load so that the cylinder pressure will be within two times that of the supply pressure.



Manifold Option/Vacuum Ejector Unit: VQ1000

A vacuum ejector unit can be mounted on the manifold base for a solenoid valve. Instead of mounting the valve and vacuum ejector unit separately, this option reduces piping, wiring and creates additional space savings.



Note 1) SUP and EXH ports on the vacuum ejector unit manifold base are arranged on D side alone. The end plate on the U side is the same as that used in the L kit.

Note 2) Individual piping is provided for the supply and exhaust ports of the vacuum ejector unit.

Note 3) The manifold with an vacuum ejector unit type is mounted from the U side.

Note 4) One vacuum ejector unit corresponds to one station.
* Specify the position of stations on the manifold specification sheet.

Specifications

Unit no.	VVQ1000-J□-□□□-A	VVQ1000-J□-□□□-B
Nozzle diameter (mm)	0.7	1.0
Max. suction flow rate N (ℓ/min)	11	20
Max. vacuum pressure	-630 mmHg	
Max. operating pressure	0.8 MPa	
Standard supply pressure	0.5 MPa	
Operating temperature	5 to 50°C	

Maximum Number of Ejector Units

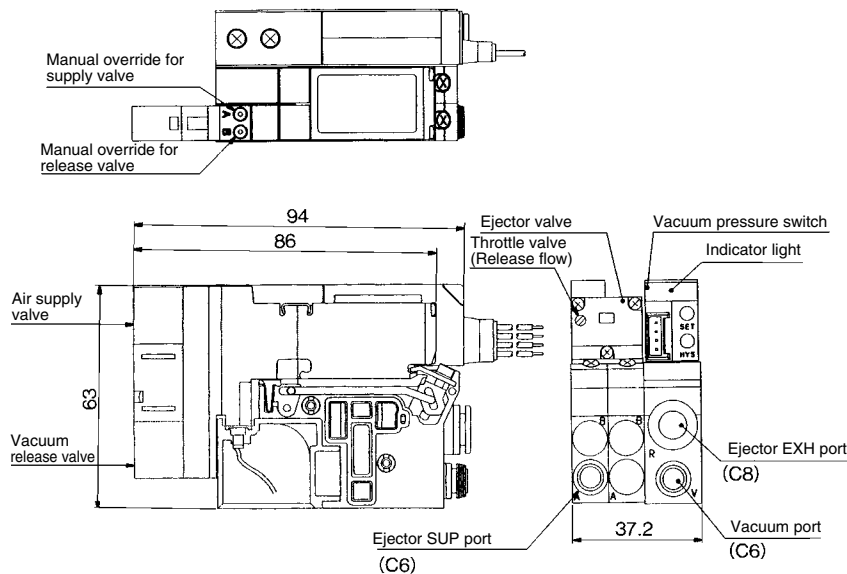
(Max. number of ejector units is subject to the number of valve stations.)

Max. number of ejector units	Max. number of mounted valves		
	F, P, T kit	S, G, J kit	L kit
1	11(20)	7(14)	7
2	10(16)	6(12)	6
3	9(12)	5(10)	5
4	8(8)	4(8)	—
5	4(4)	3(4)	—



Note) The max. number of mounted valves applies to double wiring. Parenthesized numbers apply to single wiring. Please contact SMC for conditions other than the above or mixed wiring.

Dimensions



How to Order

VV5Q11-05C6FUO-J **P** **1** **S**

Vacuum switch	
Nil	None
P	With

Others, option symbols:
to be indicated
alphabetically.

Ejection unit
1 to 5

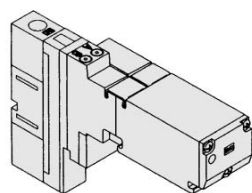
Example) VV5Q11-05C6FUO-JP1...1 set—Manifold part no.

- *VQ1100-5 2 sets—Valve part no. (Stations 1 to 2)
- *VQ1200-5 2 sets—Valve part no. (Stations 3 to 4)
- *VVQ1000-J1-5-A ... 1 set—Ejector valve part no.
- *ZSE1-00-15-CL 1 set—Vacuum switch part no.



- Note 1) Count one ejector unit as one manifold station.
- Note 2) The ejector unit is mounted next to the U-side end plate.
- Note 3) The U-side end plate is used exclusively for ejector units. (Without P and R port)
- Note 4) The dimension of manifold with an ejector unit is different from the standard dimension. See the formula for calculating the dimensions for each kit.

How to Order Vacuum Ejector Valves



VQ1000 – J 1 – 5 H C – A

Manifold

1 Plug-in unit

Coil voltage

1	100 VAC (50/60 Hz)	5	24 VDC
2	200 VAC (50/60 Hz)	6	12 VDC
3	110 VAC (50/60 Hz)	9	Others
4	220 VAC (50/60 Hz)		

Function

Symbol	Specifications	DC	AC
Nil	Standard type	(1.0W) ○	○ ⁽¹⁾
H	High pressure type	(1.5 W) ○	—
Y	Low wattage type	(0.5W) ○	—
N	Negative COM	○	—

Specifications

Symbol	Nozzle diameter	Vacuum release valve
A	ø0.7	With
B	ø1.0	

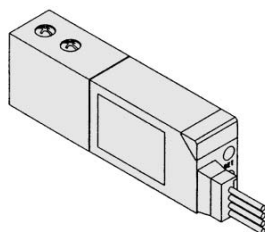
Manual override

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



Note 1) For power consumption of AC type, refer to page 2-4-129.
 Note 2) When two or more symbols are specified, indicate them alphabetically.

How to Order Vacuum Pressure Switches



ZSE1 – 00 – 15 – CL

Switch/Voltage (Solid state: 12 to 24 VDC)

14	NPN/1 setting, 3 revolution adjustment
15	NPN/1 setting, 200° adjustment
16	NPN/2 setting, 3 revolution adjustment
17	NPN/2 setting, 200° adjustment
18	NPN/1 setting, 3 revolution adjustment, analog
19	NPN/1 setting, 200° adjustment, analog

Wiring specifications

Nil	Grommet type, Lead wire length 0.6 m
L	Grommet type, Lead wire length 3 m
C	Connector type, Lead wire length 0.6 m
CL	Connector type, Lead wire length 3 m
CN	Without connector ^{Note)}

Note) When ordering the switch with 5 m lead wire length, order separately the switch without connector and the connector. (Refer to below.) Besides, as for details, refer to the Vacuum Equipment catalog.

How to order connectors

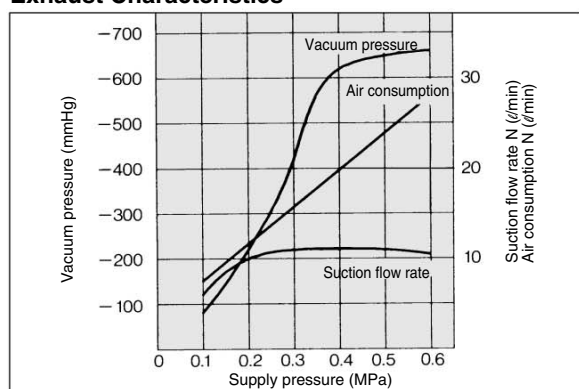
- Without lead wire (Connector 1 pc., Socket 4 pcs.) ZS-20-A
- With lead wire ZS-20-5A-50

Lead wire length

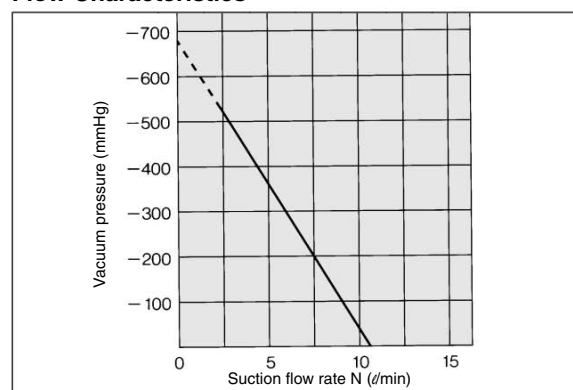
Nil	0.6 m
30	3 m
50	5 m

(The flow characteristics are for the supply pressure of 0.5 MPa.)

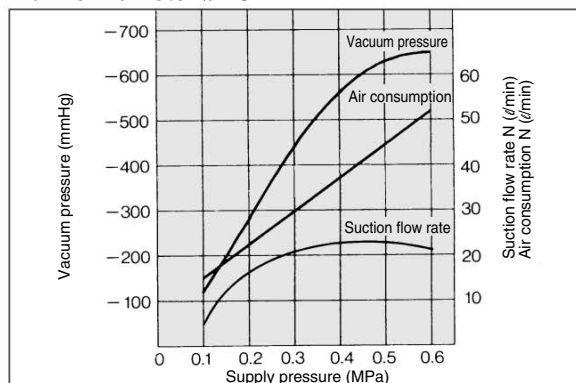
Flow/Exhaust Characteristics of Ejector Unit

Nozzle Diameter ø0.7
Exhaust Characteristics

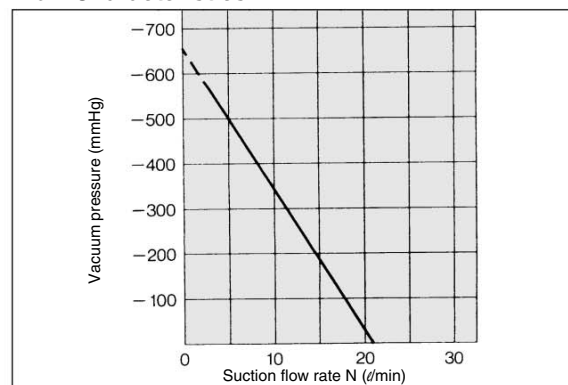
Flow Characteristics



Nozzle Diameter ø1.0



Flow Characteristics

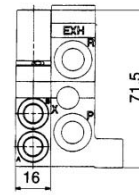
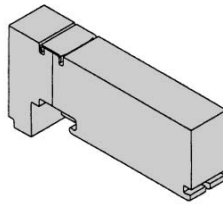


Manifold Option Parts for VQ2000

Blanking plate assembly VVQ2000-10A-1

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.

JIS Symbol



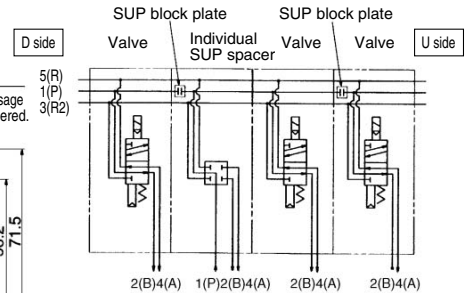
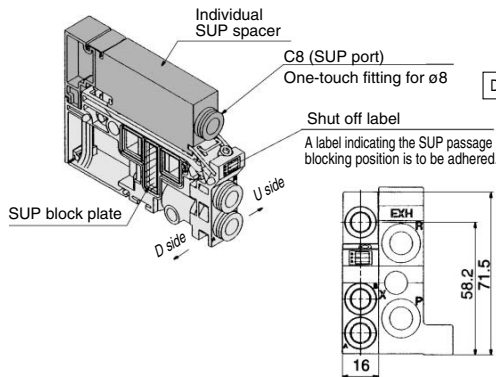
Individual SUP spacer VVQ2000-P-1-C8

When the same manifold is to be used for different pressures, individual SUP spacers are used as SUP ports for different pressures. (One station space is occupied.)

Block both sides of the station, for which the supply pressure from the individual SUP spacer is used, with SUP block plates. (Refer to the application ex.)

* Specify the spacer mounting position and SUP block plate position on the manifold specification sheet. The block plate are used in two places for one set. (Two SUP block plates for blocking SUP station are attached to the individual SUP spacer.)

* Electric wiring is connected to the position of the manifold station where the individual SUP spacer is mounted.



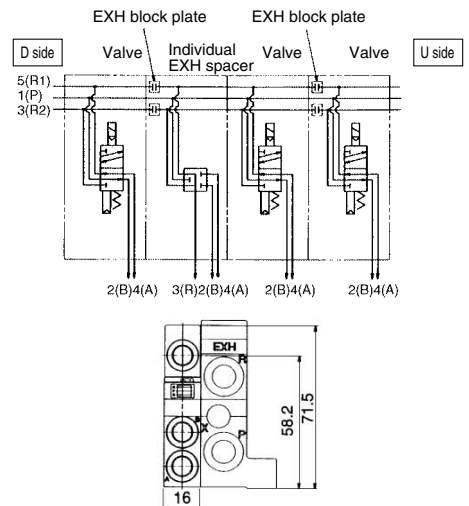
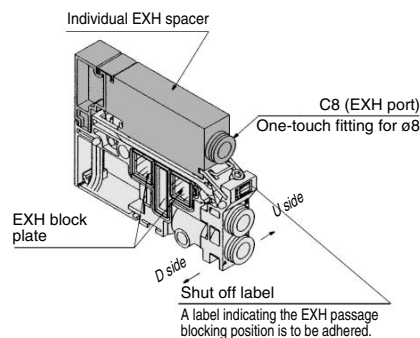
Individual EXH spacer VVQ2000-R-1-C8

When valve exhaust affects other stations due to the circuit configuration, this spacer is used for individual valve exhaust. (One station space is occupied.)

Block both sides of the individual valve EXH station. (See example)

* Specify the mounting position, as well as the EXH block base or EXH block plate position on the manifold specification sheet. The block plates are used in two places for one set. (Two EXH block plates for blocking EXH station are attached to the individual EXH spacer.)

* Electric wiring is connected to the position of the manifold station where the individual EXH spacer is mounted.



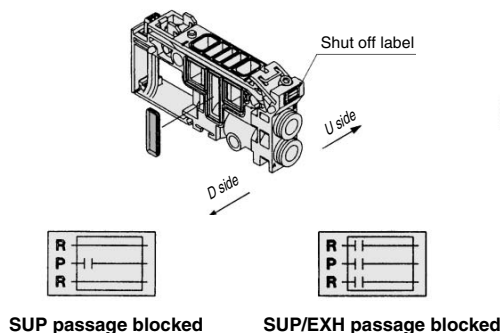
SUP block plate VVQ2000-16A

When different pressures, high and low, are supplied to one manifold, a SUP block plate is inserted between the stations under different pressures.

* Specify the number of stations on the manifold specification sheet.

<Blocking indication label>

When using block plates for SUP passage, indication label for confirmation of the blocking position from outside is attached. (One label of each)



SUP passage blocked

SUP/EXH passage blocked



* When ordering a block plate incorporated with the manifold no., a block indication label is attached to the manifold.

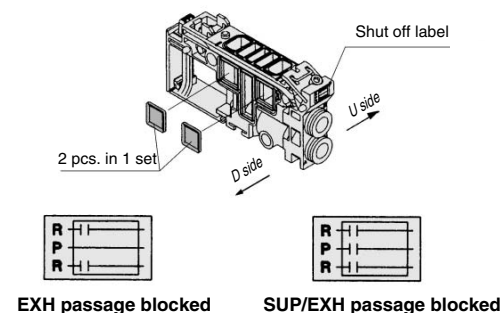
EXH block plate VVQ2000-19A

The EXH block plate is used between stations for which exhaust is desired to be divided when valve exhaust affects other stations due to the circuit configuration. It is also used in combination with an individual EXH spacer for individual exhaust.

* Specify the number of stations on the manifold specification sheet.

<Blocking indication label>

When blocking the EXH passage with an EXH block plate, an indication label for confirmation of the blocking position from outside is attached. (One label for each)



EXH passage blocked

SUP/EXH passage blocked

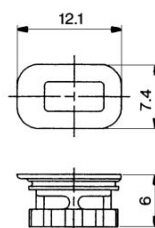
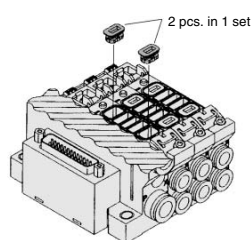


* When ordering a block plate incorporated with the manifold no., a block indication label is attached to the manifold.

Back pressure check valve assembly [-B] VVQ2000-18A

It prevents cylinder malfunction caused by other valve exhaust. Insert it into R (EXH) port on the manifold side of a valve which is affected. It is effective when a single action cylinder is used or an exhaust center type solenoid valve is used.

Note) When a check valve for back pressure prevention is desired, and is to be installed only in certain manifold stations, write clearly the part no. and specify the number of stations by using the manifold specification sheet.



* When ordering assemblies incorporated with a manifold, add suffix "-B" to the manifold no.

(Precautions)

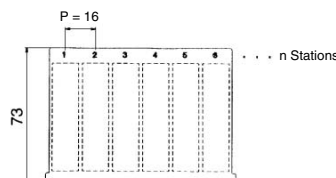
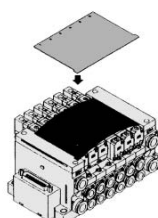
1. The back pressure check valve assembly is assembly parts with a check valve structure. However, as slight air leakage is allowed for the back pressure, take care the exhaust air will not be throttled at the exhaust port.
2. When a back pressure check valve is mounted, the effective area of the valve will decrease, by about 20%.

Name plate [-N] VVQ2000-N-Station (1 to Max. stations)

It is a transparent resin plate for placing a label that indicates solenoid valve function, etc.

Insert it into the groove on the side of the end plate and bend it as shown in the figure.

• Suffix "N" to the manifold part no.

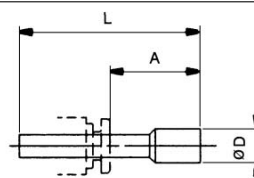
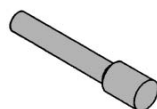


* When ordering assemblies incorporated with a manifold, add suffix "-N" to the manifold no.

Blanking plug (For One-touch fittings)

KQ2P-⁰⁴₀₆₀₈

It is inserted into an unused cylinder port and SUP/EXH ports. Purchasing order is available in units of 10 pieces.

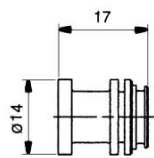
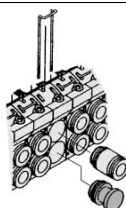


Dimensions

Applicable fittings size Ød	Model	A	L	D
4	KQ2P-04	16	32	6
6	KQ2P-06	18	35	8
8	KQ2P-08	20.5	39	10

Port plug VVQ1000-58A

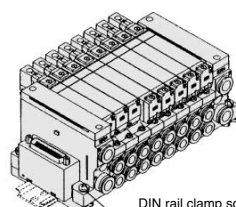
The plug is used to block the cylinder port when using a 4 port valve as a 3 port valve.



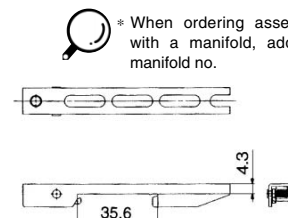
* When ordering a plug incorporated with a manifold, indicate "CM" for the port size in the manifold no., as well as, the mounting position and number of stations and cylinder port mounting positions, A and B, in the manifold specification sheet.

DIN rail mounting bracket VVQ2000-57A

It is used for mounting a manifold on a DIN rail. The DIN rail mounted bracket is fixed to the manifold end plate. (The specification is the same as that for the option "-D".) 1 set of DIN rail mounting bracket is used for 1 manifold (2 DIN rail mounting brackets).



DIN rail clamp screw



* When ordering assemblies incorporated with a manifold, add suffix "-D" to the manifold no.

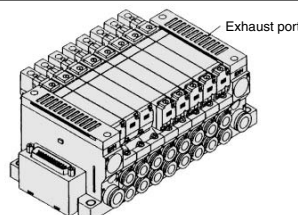
Built-in silencer, Direct exhaust [-S]

This is a type with an exhaust port atop the manifold end plate. The built-in silencer exhibits an excellent noise suppression effect. (Silencing effect: 30 dB)



Note) A large quantity of drainage generated in the air source results in exhaust of air together with drainage.

● For maintenance, refer to page 2-4-176.

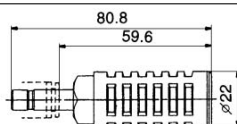


Exhaust port

* When ordering assemblies incorporated with a manifold, add suffix "-S" to the manifold no.

Silencer (For EXH port)

This silencer is to be inserted into the EXH port (One-touch fittings) of the common exhaust type.



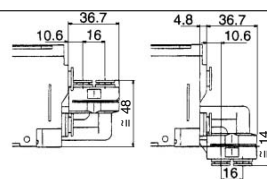
Dimensions

Series	Applicable fittings size Ød	Model	A	L	D	Effective area (mm ²) (Cv factor)	Noise reduction (dB)
VQ2000	10	AN200-KM10	59.6	80.8	22	26 (1.4)	30

Elbow fitting assembly VVQ2000-F-L (C4, C6, C8)

It is used for piping that extends upward or downward from the manifold.

When installing it in part of the manifold stations, specify the assembly no. and the mounting position and number of stations by using the manifold specification sheet.



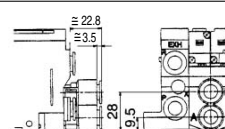
2 stations matching fitting assembly VVQ2000-52A-C10

For driving a cylinder with a large bore, valves for two stations are operated to double the flow rate. This assembly for the cylinder port is used in that case.

This assembly for the cylinder port is used in that case.



* The bore for the manifold no. is "CM". Clearly indicate the 2 station matching fitting assembly no., and specify the number of stations and positions in the manifold specification sheet.



Manifold Option

Double check block (Separated type)

VQ2000-FPG-□□-□

It is used on the outlet side piping to keep the cylinder in the intermediate position for a long time. Combining the double check block with a built-in pilot type double check valve and a 3 position exhaust center solenoid valve will enable the cylinder to stop in the middle or maintain its position for a long time.

The combination with a 2 position single/double solenoid valve will prevent the dropping at the cylinder stroke end when the SUP residual pressure is released.

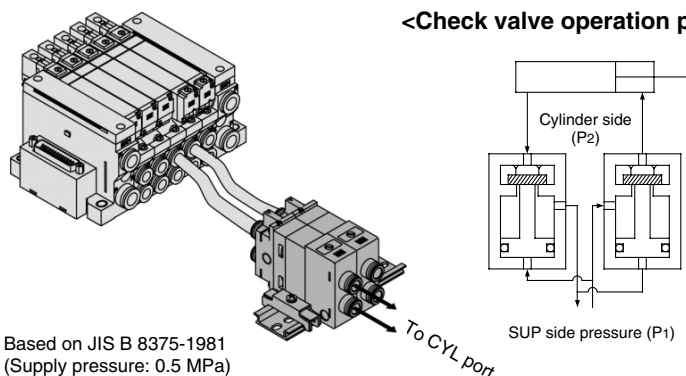
Specifications

Max. operating pressure	0.8 MPa
Min. operating pressure	0.15 MPa
Ambient and fluid temp.	-5 to 50°C
Flow characteristics: C	-3.0 dm ³ /(s·bar)
Max. operating frequency	180 c.p.m



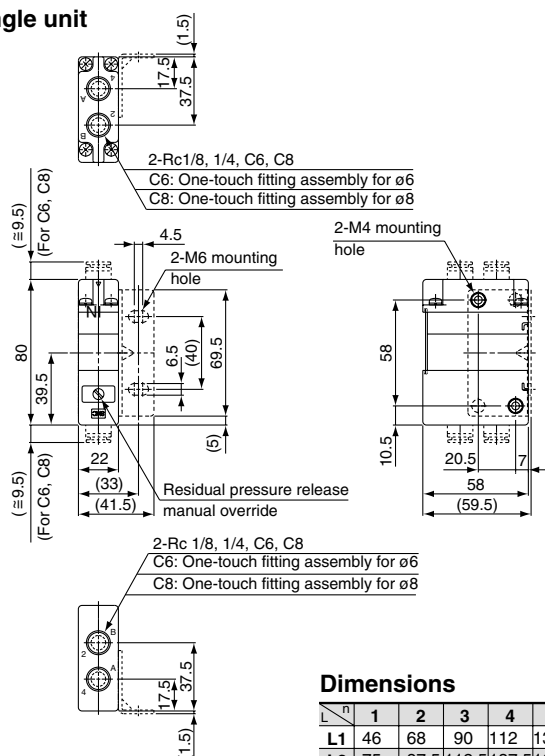
Note) Based on JIS B 8375-1981
(Supply pressure: 0.5 MPa)

<Check valve operation principle>

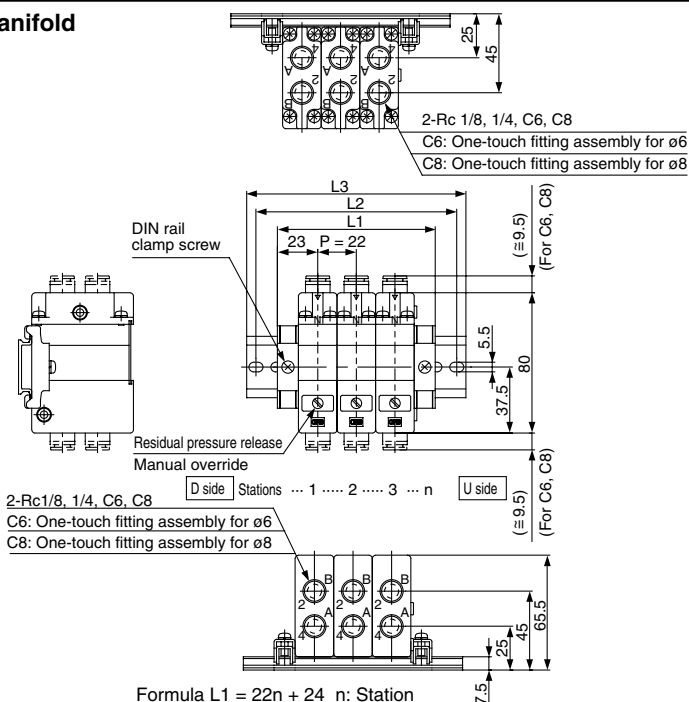


Dimensions

Single unit



Manifold



Dimensions

L	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	46	68	90	112	134	156	178	200	222	244	266	288	310	332	354	376
L2	75	87.5	112.5	137.5	162.5	175	200	225	250	262.5	287.5	312.5	337.5	362.5	375	400
L3	85.5	98	123	148	173	185.5	210.5	235.5	260.5	273	298	323	348	373	385.5	410.5

Formula L1 = $22n + 24$ n: Station

How to Order

Double check block

VQ2000-FPG-01 01-F

IN side port size	
01	Rc 1/8
02	Rc 1/4
C6	One-touch fitting for ø6
C8	One-touch fitting for ø8

- **OUT side port size**

01	Rc 1/8
02	Rc 1/4
C6	One-touch fitting for ø6
C8	One-touch fitting for ø8

Option

NIL	None
D	DIN rail mounting style (For manifold)
F	With bracket
N	Name plate

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

Manifold

VVQ2000-FPG-06

● Stations

01	1 station
:	:
16	16 stations

<Ordering Example>

VVQ2000-FPG-06....6 stations manifold

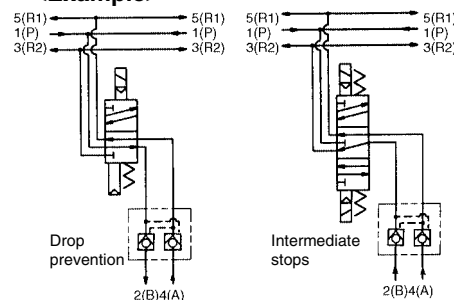
*VQ2000-FPG-C6C6-D: 3 sets

*VQ2000-FPG-C8C8-D: 3 sets } Double check block

Bracket Assembly

Part no.	Tightening torque
VQ2000-FPG-FB	0.8 to 1.0 N·m

<Example>



⚠ Caution

- Air leakage from the pipe between the valve and cylinder or from the fittings will prevent the cylinder from stopping for a long time. Check the leakage using neutral household detergent, such as dish washing soap.
Also check the cylinder's tube gasket, piston packing and rod packing for air leakage.
- Since One-touch fittings allow slight air leakage, screw piping (with M5 thread) is recommended when stopping the cylinder in the middle for a long time.
- Combining double check block with 3 position closed center or pressure center solenoid valve will not work.

- M5 fitting assembly is attached, not incorporated into the double check block. After screwing in the M5 fittings, mount the assembly on the double check block.
[Tightening torque: 0.8 to 1.2 N·m]

Connection threads	Proper tightening torque (N·m)
Rc 1/8	7 to 9
Rc 1/4	12 to 14

- If the exhaust of the double check block is throttled too much, the cylinder may not operate properly and may not stop intermediately.
- Set the cylinder load so that the cylinder pressure will be within two times that of the supply pressure.

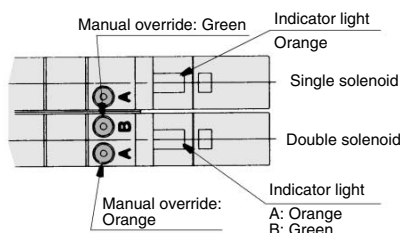
⚠ Precautions 1

Be sure to read before handling. For Safety Instructions and Solenoid Valve Precautions, refer to page 2-9-2.

Light/Surge Voltage Suppressor

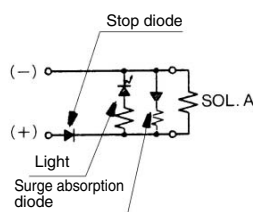
⚠ Caution

The lighting positions are concentrated on one side for both single solenoid type and double solenoid type. In the double solenoid type, A side and B side energization are indicated by two colors which match the colors of the manual overrides.



(DWG shows a VQ1000 case.)

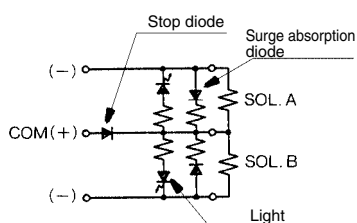
DC circuit diagram Single solenoid



Note)

A side energization: A light (orange) illuminates.
B side energization: B light (green) illuminates.

Double solenoid



With wrong wiring preventing ability (stop diode).
Equipped with a surge absorption (surge absorption diode) mechanism.

Manual Override

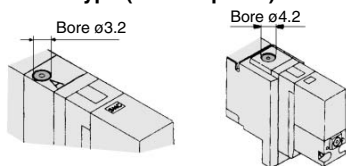
⚠ Warning

Without an electric signal for the solenoid valve the manual override is used for switching the main valve.

Push type is standard. (Tool required)

Option: Locking type (Tool required/Manual)

■ Push type (Tool required)

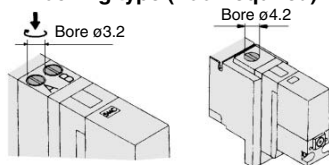


VQ1000

VQ2000

Push down on the manual override button with a small screwdriver until it stops. Release the screwdriver and the manual override will return.

■ Locking type (Tool required) <Option>

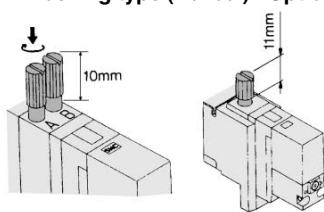


VQ1000

VQ2000

Push down on the manual override button with a small screwdriver or with your fingers until it stops. Turn clockwise by 90° to lock it. Turn it counterclockwise to release it.

■ Locking type (Manual) <Option>



VQ1000

VQ2000

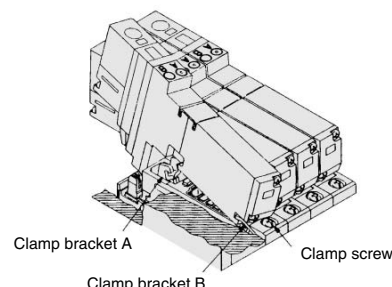
Push down on the manual override button with a small screwdriver or with your fingers until it stops. Turn clockwise by 90° to lock it. Turn it counterclockwise to release it.

⚠ Caution

Do not apply excessive torque when turning the locking type manual override.
(0.1 N·m or less)

How to Mount/Remove Solenoid Valve

⚠ Caution



Removing

1. Loosen the clamp screw until it turns freely. (The screw is captive.)
2. Lift the coil side of the valve body while pressing down slightly on the screw head and remove it from the clamp bracket B. When the screw head cannot be pressed easily, gently press the area near the manual override of the valve.

Mounting

1. Press down on the clamp screw. → Clamp bracket A opens. Diagonally insert the hook on the valve end plate side into clamp B.
2. Press the valve body downward. (When the screw is released, it will be locked by clamp bracket A.)
3. Tighten the clamp screw. (Proper tightening torque: VQ1000, 0.25 to 0.35 N·m; VQ2000, 0.5 to 0.7 N·m.)

⚠ Caution

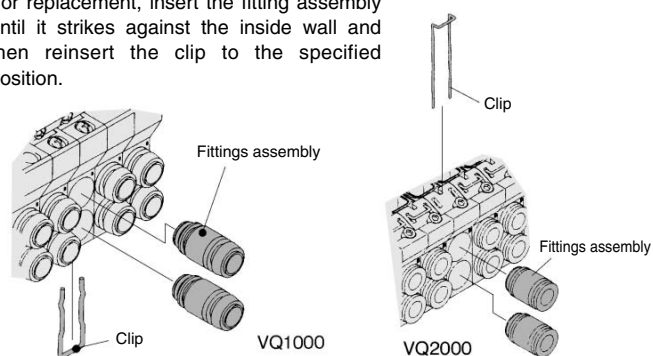
Dust on the sealing surface of the gasket or solenoid valve can cause air leakage.

Replacement of Cylinder Port Fittings

⚠ Caution

The cylinder port fittings are a cassette for easy replacement. The fittings are blocked by a clip inserted from the top of manifold. Remove the clip with a screwdriver to remove fittings.

For replacement, insert the fitting assembly until it strikes against the inside wall and then reinsert the clip to the specified position.



Applicable tubing O.D.	Fitting assembly part no.	
	VQ1000	VQ2000
Applicable tubing ø3.2	VVQ1000-50A-C3	—
Applicable tubing ø4	VVQ1000-50A-C4	VVQ1000-51A-C4
Applicable tubing ø6	VVQ1000-50A-C6	VVQ1000-51A-C6
Applicable tubing ø8	—	VVQ1000-51A-C8
M5	VVQ1000-50A-M5	—

* Refer to "Option" on pages 2-4-172 to 2-4-173 for other types of fittings.

⚠ Caution

1. Use caution that O-rings must be free from scratches and dust. Otherwise, air leakage may result.
2. After screwing in the fittings, mount the M5 fitting assembly on the manifold base. (Tightening torque: 0.8 to 1.2 N·m)
3. Purchasing order is available in units of 10 pieces.

⚠ Precautions 2

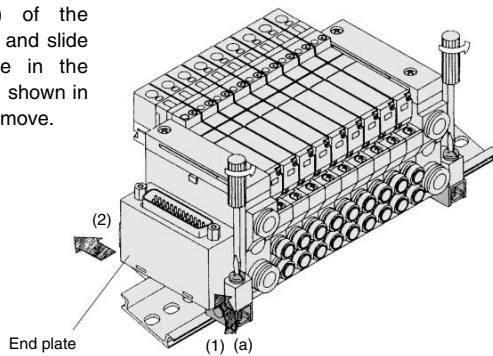
Be sure to read before handling. For Safety Instructions and Solenoid Valve Precautions, refer to page 2-9-2.

Mounting/Removing from the DIN Rail

⚠ Caution

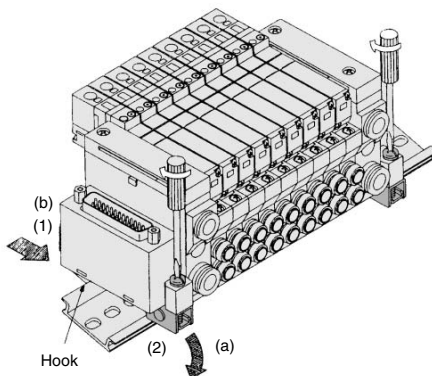
Removing

1. Loosen the clamp screw on side (a) of the end plate on both sides.
2. Lift side (a) of the manifold base and slide the end plate in the direction of (2) shown in the figure to remove.



Mounting

1. Hook side (b) of the manifold base on the DIN rail.
2. Press down side (a) and mount the end plate on the DIN rail. Tighten the clamp screw on side (a) of the end plate. The proper tightening torque for screws is 0.4 to 0.6 N·m.



Enclosure IP65

⚠ Caution

Wires, cables, connectors, etc. used for models conforming to IP65 should also have enclosures equivalent to or of stricter than IP65.

Built-in Silencer Replacement Element

⚠ Caution

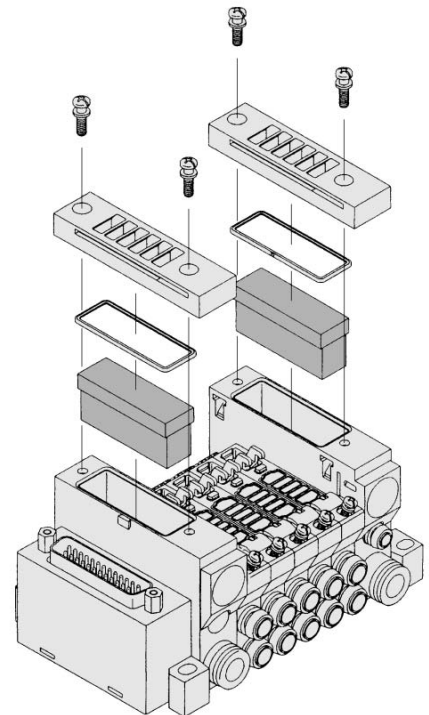
A silencer element is incorporated in the end plate on both sides of the A. A dirty and choked element may reduce cylinder speed or cause malfunction. Clean or replace the dirty element.

Element Part No.

Type	Element part no.	
	VQ1000	VQ2000
Built-in silencer, direct exhaust	VVQ1000-82A-1	VVQ2000-82A-1

* The minimum order quantity is 10 pcs.

Remove the cover from the top of the end plate and remove the old element with a screwdriver, etc.



How to Calculate the Flow Rate

For obtaining the flow rate, refer to pages 2-1-8 to 2-1-11.

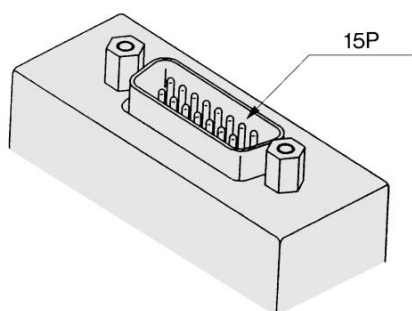
Option

Different Number of Connector Pins

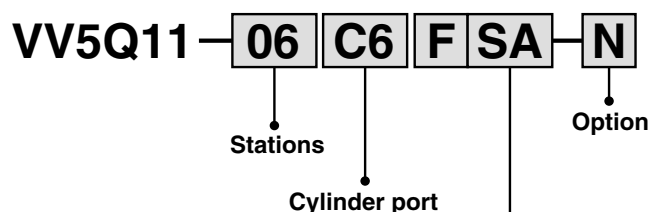
F and P kits with the following number of pins are available besides the standard number (F = 25; P = 26). Select the desired number of pins and cable length from the cable assembly list. Place an order for the cable assembly separately.

F

kit (D-sub connector) 15 pins



How to order manifold



How to Order

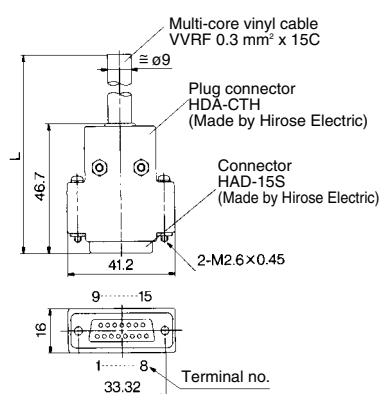
D-sub connector, 15 pins
Connector location—Side (horizontal)
Without cable

Kit/Electrical entry

Pins	Location	Top entry		Side entry	
15P (Max. 7 stations)		Kit F	UA	Kit F	SA

Wiring Specifications

* In the same way as the 25-pin models (standard), the terminal no. 1 is for SOL.A at the 1st station, the terminal no. 9 for SOL.B at the 1st station, and the terminal no. 8 for COM.



Wire Color Table by Terminal No. of D-sub Connector Cable Assembly

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

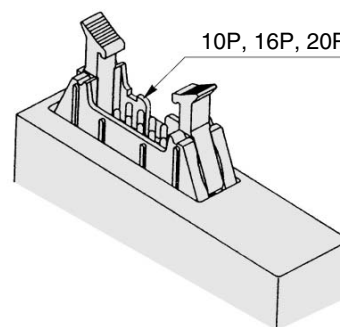
D-sub Connector Cable Assembly

Cable length (L)	Pins	15P
1.5 m		AXT100-DS15-1
3 m		AXT100-DS15-2
5 m		AXT100-DS15-3

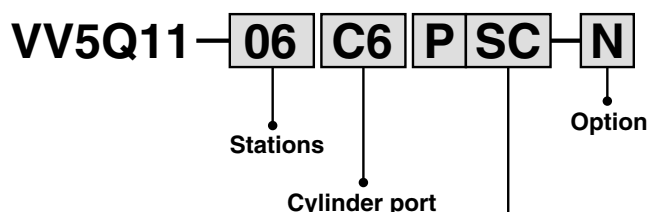
* For other commercial connectors, use a type conforming to MIL-C-24308.

P

kit (Flat ribbon cable connector) 10 pins, 16 pins, 20 pins



How to order manifold



How to Order

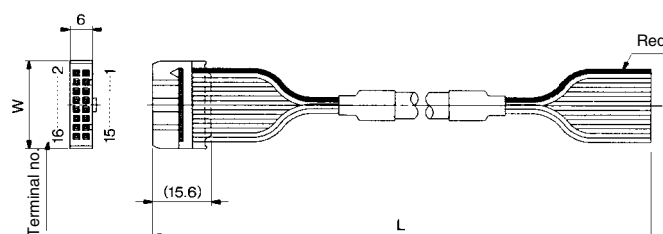
Flat ribbon cable, 20 pins
Connector location—Side (Horizontal)
Without cable

Kit/Electrical entry

Pins	Location	Top entry		Side entry	
10P (Max. 4 stations)		Kit P	UA	Kit P	SA
16P (Max. 7 stations)			UB		SB
20P (Max. 9 stations)			UC		SC

Wiring Specifications

* In the same way as the 26-pin models (standard), the terminal no. 1 is for SOL.A at the 1st station, the terminal no. 2 for SOL.B at the 1st station, and two pins from the max. terminal numbers are for COM.



Flat Ribbon Cable Assembly

Cable length (L)	Pins	10P	16P	20P
1.5 m		AXT100-FC10-1	AXT100-FC16-1	AXT100-FC20-1
3 m		AXT100-FC10-2	AXT100-FC16-2	AXT100-FC20-2
5 m		AXT100-FC10-3	AXT100-FC16-3	AXT100-FC20-3
Connector width (W)		17.2	24.8	30

* For other commercial connectors, use a type with strain relief conforming to MIL-C-83503.

VQC

SQ

VQ0

VQ4

VQ5

VQZ

VQD

Option

Special Wiring Specifications

In the internal wiring of F kit, P kit, J kit, G kit, T kit and S kit, double wiring (connected to SOL. A and SOL. B) is adopted for each station regardless of the valve and option types.

Mixed single and double wiring is available as an option.

1. How to Order

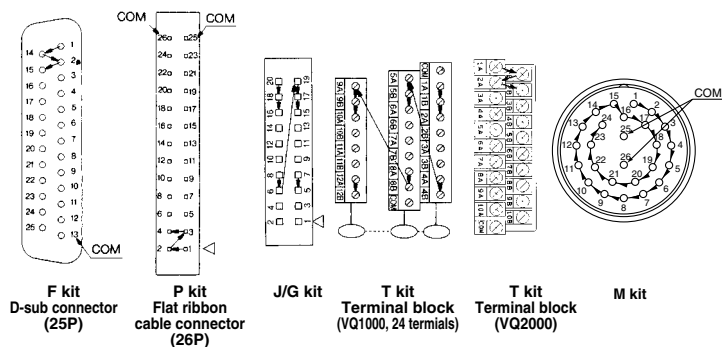
Indicate an option symbol “-K”, for the manifold no. and be sure to specify the mounting position and number of stations of the single and double wiring by means of the manifold specification sheet.

Example) **VV5Q11-08C6FU1-D K S**

Others, option symbols:
to be indicated alphabetically.

2. Wiring specifications

With the A side solenoid of the 1st station as no.1 (meaning, to be connected to no.1 terminal), without making any terminals vacant.



3. Max. number of stations

The maximum number of stations depends upon the number of solenoids. Assuming one for a single and two for a double, determine the number of stations so that the total number is not more than the max. number given in the following table.

Kit	F kit (D-sub connector)		P kit (Flat ribbon cable connector)				J kit (Flat ribbon cable connector)	G kit (Flat ribbon cable with terminal block)
Type	F _S □ 25P	F _S A 15P	P _S □ 26P	P _S C 20P	P _S B 16P	P _S A 10P	J _S □ 20P	G
Max. points	24	14	24	18	14	8	16	16
Kit	T kit (Terminal block)			S kit (Serial transmission)		M kit (Circular connector)		
Type	VQ1000			S□		M□		
	2 rows of terminal blocks							
	16							
	3 rows of terminal blocks							
	24							
Max. points	VQ2000			20		16		
						24		

Negative Common Specifications

Specify the valve model no. as shown below for negative COM specification. The manifold no. shown below is for the T and L kits. For other kits the standard manifold can be used. For negative COM S or G kit, please contact SMC.

VQ1100 N - 5

• Negative common specifications

How to order negative COM manifold

T kit:

VV5Q11-06 C6 T N - N

• Option

• Negative common specifications

• Cylinder port

• Stations

L kit:

VV5Q11-06 C6 L N 1 - N

• Stations

• Cylinder port

• Negative common specifications

• Option

Electrical entry
Cable length

0	With cable (0.6 m)
1	With cable (1.5 m)
2	With cable (3 m)

External Pilot Specifications

When the supply air pressure is lower than the required minimum operating pressure (0.1 to 0.2 MPa) for the solenoid valve (or when the valve is used for vacuum), specify an external pilot model. Order a manifold or valve by suffixing the external pilot specification, "R".

The X-port of the manifold base is equipped with One-touch fittings for external pilot.

VQ1000: C4 (One-touch fitting for ø4)

VQ2000: C6 (One-touch fitting for ø6)

How to order manifold

VV5Q11-08C6FU1-R S

Others, option symbols:
to be indicated alphabetically.

How to order valves

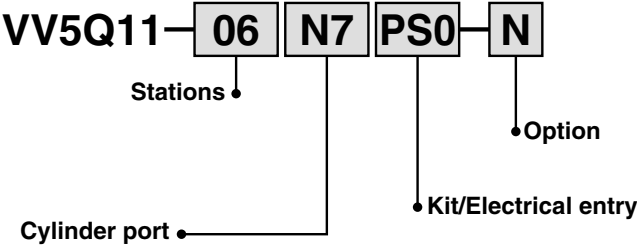
VQ1100 R – 5

External pilot specifications

Note 1) When low wattage type is also desired, specify as "RY".
Note 2) In this valve pilot exhaust is connected to the EA passage of the manifold. Therefore, it is not possible to supply air from EXH port, nor vacuum from ports other than SUP port.

Inch-size One-touch Fittings

The valve with inch-size One-touch fittings is shown below.



Symbol	N1	N3	N7	N9	M5T	NM
Applicable tubing O.D. (Inch)	ø 1/8"	ø 5/32"	ø 1/4"	ø 5/16"	10-32UNF (M5 thread)	Mixed
4(A), 2(B) port	VQ1000	●	●	—	●	●
	VQ2000	—	●	●	—	●

Note) When inch-size fittings are selected for the cylinder port, use inch size fittings for both P and R port.

1(P), 3(R) port size
VQ1000 ø 5/16" (N9)
VQ2000 ø 3/8" (N11)

VQC

SQ

VQ0

VQ4

VQ5

VQZ

VQD

Series **VQ1000/2000**

Option

DIN Rail Mounting

Each manifold can be mounted on a DIN rail. Order it by indicating a DIN rail mounting option symbol, "-D". In this case, a DIN rail which is approx. 30 mm longer than the manifold with the specified number of stations is attached.

- **When DIN rail is unnecessary**
(DIN rail mounting brackets only are attached.)
Indicate the option symbol, -DO, for the manifold no.

Example)

VV5Q11-08C6FU1-D0S

Others, option symbols:
to be indicated alphabetically.

- **When using DIN rail longer than the manifold with specified number of stations**
Clearly indicate the necessary number of stations next to the option symbol "-D" for the manifold no.

Example)

VV5Q11-08C6FU1-D09S

DIN rail for 9 stations

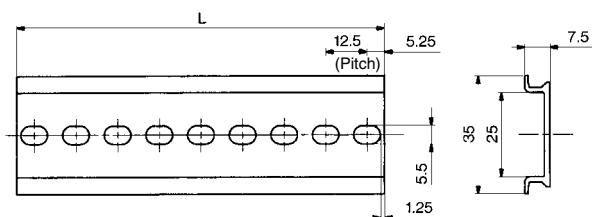
Others, option symbols:
to be indicated alphabetically.

- **When changing the manifold style into a DIN rail mounting style.**
Order brackets for mounting a DIN rail. (Refer to "Option" on pages 2-4-168 and 2-4-173.)

No. VVQ1000-57A (For VQ1000)
VVQ2000-57A (For VQ2000)
2 pcs. per one set.

- **When ordering DIN rail only**
DIN rail no.: AXT100-DR-□

As for □, specify the number from the DIN rail table.
For L dimension, refer to the dimensions of each kit.

**L Dimension**

$$L = 12.5 \times n + 10.5$$

No.	1	2	3	4	5	6	7	8	9	10
L dimension	23	35.5	48	60.5	73	85.5	98	110.5	123	135.5
No.	11	12	13	14	15	16	17	18	19	20
L dimension	148	160.5	173	185.5	198	210.5	223	235.5	248	260.5
No.	21	22	23	24	25	26	27	28	29	30
L dimension	273	285.5	298	310.5	323	335.5	348	360.5	373	385.5
No.	31	32	33	34	35	36	37	38	39	40
L dimension	398	410.5	423	435.5	448	460.5	473	485.5	498	510.5

Plug-in Unit Series **VQ1000/2000**

VQC
SQ
VQ0
VQ4
VQ5
VQZ
VQD

Series VQ0000

Base Mounted

Plug Lead Unit

How to Order Manifold

VV5Q 05 - 08 C4 F U1 - D

Series/Manifold
05 VQ0000

Kit type

Option

Stations

01	1 station
:	:

The number of max. stations differs from kit to kit. (Refer to the table below.)

Symbol	Port size
C3	With One-touch fitting for ø3.2
C4	With One-touch fitting for ø4
M5	M5 thread
CM	With mixed size/with port plug ^{Note)}

- Note 1) Specify "Mixed size/with port plug" on the manifold specification sheet.
 Note 2) For inch-size One-touch fittings, refer to "Option" on page 2-4-216.
 Note 3) M5 fittings for M5 thread are attached without being incorporated.

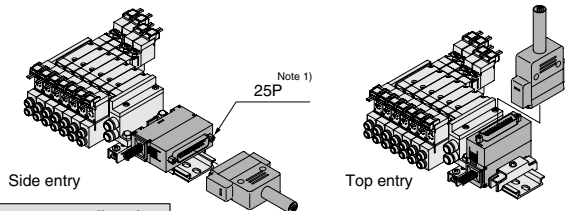
Symbol	Option
Nil	None
D	DIN rail mounting style ⁽²⁾
K	Special wiring specifications (Not double wiring) ⁽³⁾
N	With name plate
S	Built-in silencer, direct exhaust

- Note 1) When two or more symbols are specified, indicate them alphabetically.
 Example) -DNS
 Note 2) F, P, S, and T kits for VQ0000 are all equipped with a DIN rail, so include suffix "-D."
 Note 3) Specify the wiring specifications on the manifold specification sheet. (Except C kit)

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

Kit/Electrical entry: Cable length

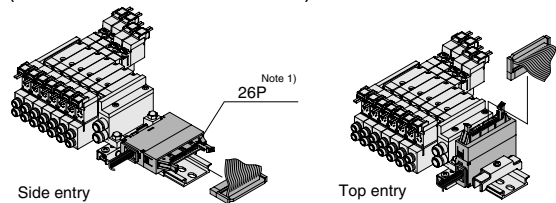
F kit
(D-sub connector)



Connector entry direction					
Top entry	Side entry	Kit	Kit		
U0	S0			Without cable	
U1	S1			With cable (1.5 m)	
U2	S2	F	F	With cable (3 m)	Max. 16 stations ⁽²⁾
U3	S3			With cable (5 m)	

P. 2-4-188

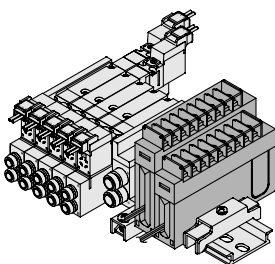
P kit
(Flat ribbon cable connector)



Connector entry direction					
Top entry	Side entry	Kit	Kit		
U0	S0			Without cable	
U1	S1			With cable (1.5 m)	
U2	S2	P	P	With cable (3 m)	Max. 16 stations ⁽²⁾
U3	S3			With cable (5 m)	

P. 2-4-192

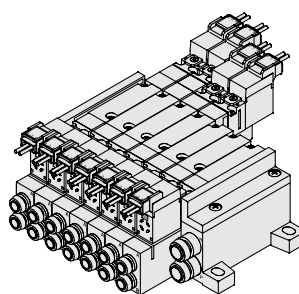
T kit
(Terminal block)



P. 2-4-196

Kit	Number of terminals:	Applicable stations
1	8, 1 row	1 to 8 stations
2	16, 2 rows	5 to 16 stations

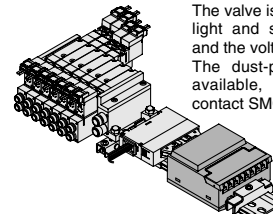
C kit
(Connector)



P. 2-4-200

C	Connector kit	Max. 16 stations
---	---------------	------------------

S kit
(Serial transmission unit)



P. 2-4-204

Without SI unit			
		Kit	
0	With general type SI unit (Series EX300)		
A	Mitsubishi Electric Corp.: MELSECNET/mini-S3 Data Link System		
B	OMRON Corp.: SYSBUS Wire System		
C	SHARP Corp.: Satellite I/O Link System		
D	NKE Corp.: Uni-wire System (16 output points)		
F1	NKE Corp.: Uni-wire H System		
H			

Max. 16 stations ⁽²⁾

Note 1) Besides the above, F and P kits with different number of pins are available. Refer to page 2-4-215 for details.

Note 2) For details, refer to page 2-4-216.

Note 3) Please consult with SMC for the following serial transmission kits: Matsushita Electric Works, Ltd.; Rockwell Automation, Inc.; SUNX Corporation; Fuji Electric Co., Ltd.; OMRON Corporation.

How to Order Valves

VQ 0 1 5 0 Y 5 LO

Series
0 VQ0000

Type of actuation

1	2 position single (A/B)	(R1)(P)(R2)
	2 position double (A/B)	(R1)(P)(R2)
2	2 position double (A/B)	(R1)(P)(R2)
	2 position double (A/B)	(R1)(P)(R2)
3	3 position closed center (A/B)	(R1)(P)(R2)
	3 position exhaust center (A/B)	(R1)(P)(R2)
4	3 position closed center (A/B)	(R1)(P)(R2)
	3 position exhaust center (A/B)	(R1)(P)(R2)

Body type
5 VQ0000

Seal
0 Metal seal
1 Rubber seal

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

Electrical entry

G: Grommet (C Kit only Except AC.)	L: L plug connector With lead wire With light/surge voltage suppressor	LO: L plug connector Without connector With light/surge voltage suppressor
M: M plug connector With lead wire With light/surge voltage suppressor	MO: M plug connector Without connector With light/surge voltage suppressor	

Note 1) LO or MO type valve is used for F, P, T, and S kits. The plug connector and lead wire are attached to the manifold.
Note 2) In cases of L and M type the connector direction is based on the pilot valve.

Function

Symbol	Specifications	DC	AC
Nil	Standard type	(1.0 W)	Note)
H	High pressure type	(1.5 W)	—
Y	Low wattage type	(0.5 W)	—

Note) For power consumption of AC type, refer to page 2-4-186.

Coil voltage

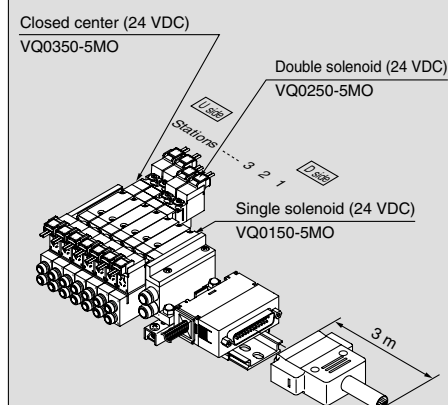
1	100 VAC (50/60 Hz)
2	200 VAC (50/60 Hz)
3	110 VAC (50/60 Hz)
4	220 VAC (50/60 Hz)
5	24 VDC
6	12 VDC

Note) The C kits are applicable to 200/220 VAC. Please contact SMC for other kits.

Note 1) For negative common specifications, refer to "Option" on page 2-4-216.
Note 2) F, P, T and S kits requires connector assembly when increasing valve stations. Refer to "Option" on page 2-4-216 for parts nos.

How to Order Valve Manifold Assembly

Example



VV5Q05-07C4FS2-D... 1 set (F kit 7 station manifold base no.)
 * VQ0150-5MO... 3 sets (Single solenoid part no.)
 * VQ0250-5MO... 2 sets (Double solenoid part no.)
 * VQ0350-5MO... 2 sets (3 position solenoid part no.)

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

Specify the part numbers for valves and options together beneath the manifold base part number. Besides, when the arrangement will be complicated, specify them by means of the manifold specification sheet.

VQC

SQ

VQ0

VQ4

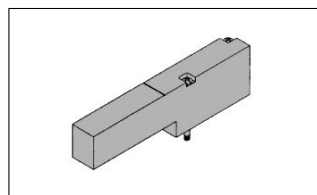
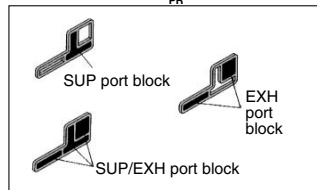
VQ5

VQZ

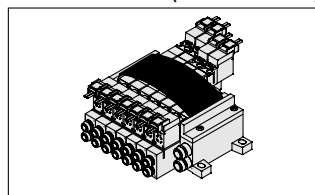
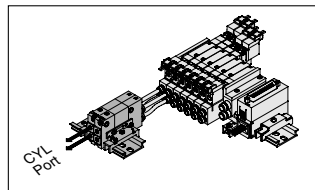
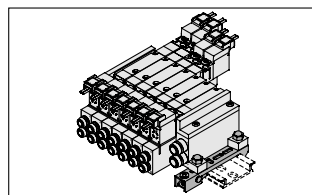
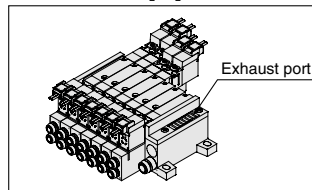
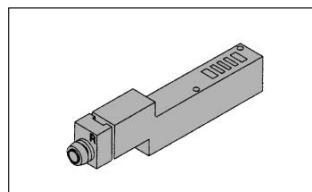
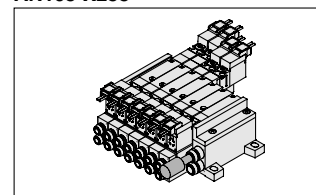
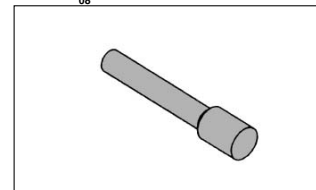
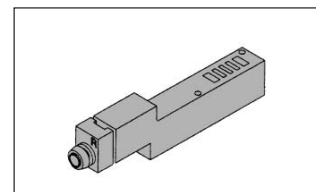
VQD

Manifold Option

P. 2-4-208

Blanking plate assembly
VVQ0000-10A-5SUP/EXH block plate
VVQ0000-16A-5-PR

- For cylinder port fittings part no., refer to page 2-4-213.
- For replacement parts, refer to page 2-4-231.

Name plate [-N*]
VVQ0000-N5-Station (1 to Max. stations)Double check block
VQ1000-FPG-□□DIN rail mounting bracket [-D]
VVQ0000-57A-5Built-in silencer,
direct exhaust [-S]Individual SUP spacer
VVQ0000-P-5-C4Silencer
AN103-X233Blanking plug
KQ2P-Individual EXH spacer
VVQ0000-R-5-C4

Series VQ1000

Base Mounted

Plug Lead Unit

How to Order Manifold

Series/Manifold 12 VQ1000

Stations

01	1 station
⋮	⋮

The number of max. stations differs from kit to kit. (Refer to the table below.)

Cylinder port

Symbol	Port size
C3	With One-touch fitting for ø3.2
C4	With One-touch fitting for ø4
C6	With One-touch fitting for ø6
M5	M5 thread
CM	With mixed size/with port plug
L3	With elbow One-touch fitting ø3.2 for top piping
L4	With elbow One-touch fitting ø4 for top piping
L6	With elbow One-touch fitting ø6 for top piping
L5	Elbow M5 thread for top piping
B3	With elbow One-touch fitting ø3.2 for bottom piping
B4	With elbow One-touch fitting ø4 for bottom piping
B6	With elbow One-touch fitting ø6 for bottom piping
B5	Elbow M5 thread for bottom piping
LM	Mixed size for elbow piping

Kit type

Option

Symbol	Option
Nil	None
B	With back pressure check valve
D	DIN rail mounting style ⁽³⁾
K	Special wiring specifications (Not double wiring) ⁽⁴⁾
N	With name plate
S	Built-in silencer, direct exhaust

Note 1) Specify "Mixed size/with port plug" in the manifold specification sheet.

Note 2) For One-touch fittings in inch sizes, refer to "Option" on page 2-4-216.

Note 3) M5 fittings for M5 thread are attached without being incorporated.

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

Note 2) Models with a suffix "-B" have check valves for prevention of back pressure at all manifold stations. If not all stations need this check valve, specify the stations where check valves are installed by using manifold specification sheet.

Note 3) Manifold is a DIN rail mounting style, and so suffix -D should be indicated.

Note 4) Specify the wiring specifications in the manifold specification sheet. (Except C kit)

Kit/Electrical entry/Cable length

F kit (D-sub connector)

Side entry

Top entry

Note 2) 25P

Connector entry direction

Top entry	Side entry		
U0	S0	Without cable	Max. 16 stations ⁽²⁾
U1	S1	With cable (1.5 m)	
U2	S2	With cable (3 m)	
U3	S3	With cable (5 m)	

P. 2-4-188

P kit (Flat ribbon cable connector)

Side entry

Top entry

Note 2) 26P

Connector entry direction

Top entry	Side entry		
U0	S0	Without cable	Max. 16 stations ⁽²⁾
U1	S1	With cable (1.5 m)	
U2	S2	With cable (3 m)	
U3	S3	With cable (5 m)	

P. 2-4-192

T kit (Terminal block)

Connector entry direction

Top entry	Side entry		
U0	S0	Without cable	Max. 16 stations ⁽²⁾
U1	S1	With cable (1.5 m)	
U2	S2	With cable (3 m)	
U3	S3	With cable (5 m)	

P. 2-4-196

C kit (Connector)

Connector entry direction

Top entry	Side entry		
U0	S0	Without cable	Max. 16 stations ⁽²⁾
U1	S1	With cable (1.5 m)	
U2	S2	With cable (3 m)	
U3	S3	With cable (5 m)	

P. 2-4-200

S kit (Serial transmission unit)

The valve is equipped with an indicator light and surge voltage suppressor, and the voltage is 24 VDC.

The dust-protected type SI unit is available, too. For details, please contact SMC.

P. 2-4-204

Kit	Without SI unit	With general type SI unit (Series EX300)	
A	Without SI unit	With general type SI unit (Series EX300)	Max. 16 stations ⁽²⁾
B	Mitsubishi Electric Corp.: MELSECNET/mini-S3 Data Link System		
C	OMRON Corp.: SYSBUS Wire System		
D	SHARP Corp.: Satellite I/O Link System		
E	Matsushita Electric Works: MEWNET-F System		Max. 8 stations
F1	NKE Corp.: Uni-wire System (16 output points)		
G	Rockwell Automation: Allen Bradley Remote I/O (RIO) System		
H	NKE Corp.: Uni-wire H System		
J1	SUNX Corp.: S-LINK System (16 output points)		Max. 16 stations
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)		Max. 8 stations
R2	OMRON Corp.: CompoBus/S System (8 output points)		
V	Mitsubishi Electric Corp.: CC-LINK System		

kit T

1	Number of terminals: 8, 1 row	Applicable stations 1 to 8 stations
2	Number of terminals: 16, 2 rows	Applicable stations 5 to 16 stations ⁽²⁾

C Connector kit

Max. 16 stations

Note 1) Besides the above, F and P kits with different number of pins are available. Refer to page 2-4-215 for details.

Note 2) For details, refer to page 2-4-216.

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

How to Order Valves

VQ 1 1 1 0 Y 5 LO

Series: VQ0000

Type of actuation:

- 1: 2 position single (A/B) (R1)(P)(H2)
- 2: 2 position double (A/B) (H1)(P)(H2)
- 3: 3 position closed center (A/B) (R1)(P)(R2)
- 4: 3 position pressure center (A/B) (R1)(P)(R2)

Body type:

- 1: VQ1000

Seal:

- 0: Metal seal
- 1: Rubber seal

Manual override:

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

Electrical entry:

- L: L plug connector With lead wire
- LO: L plug connector Without connector

Note) LO type valve is used for F, P, T, and S kits. The plug connector and lead wire are attached to the manifold.

Function:

Symbol	Specifications	DC
Nil	Standard type	(1.0 W)
H	High pressure type	(1.5 W)
Y	Low wattage type	(0.5 W)

Coil voltage:

5	24 VDC
6	12 VDC

How to Order Valve Manifold Assembly

Example

Single solenoid (24 VDC) VQ1110-5LO

Double solenoid (24 VDC) VQ1210-5LO

3m

D-sub connector cable VVZS3000-21A-2

F kit (D-sub connector)

Cylinder ports C6: With One-touch fitting for ø6

Manifold base (9 stations) VV5Q12-08C6FU2-D

VQC

SQ

VQ0

VQ4

VQ5

VQZ

VQD

VV5Q12-08C6FU2-D ... 1 set (F kit 8 station manifold base no.)

*VQ1110-5LO ... 4 sets (Single solenoid part no.)

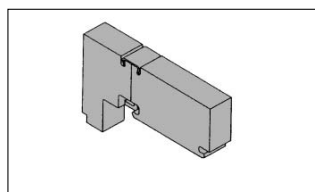
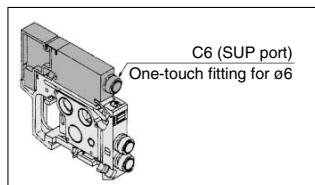
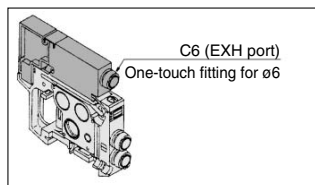
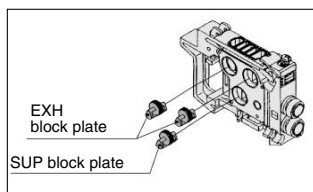
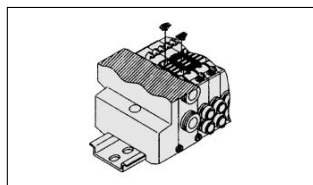
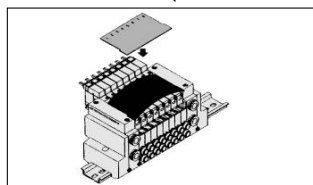
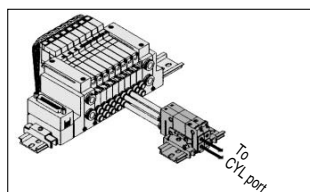
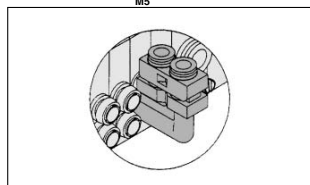
*VQ1210-5LO ... 4 sets (Double solenoid part no.)

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

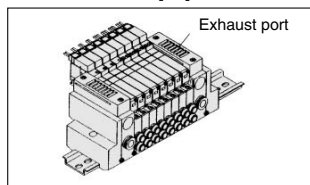
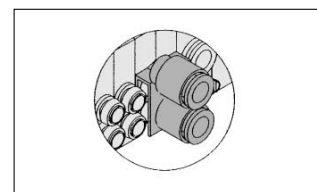
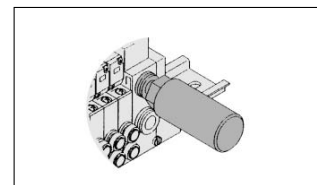
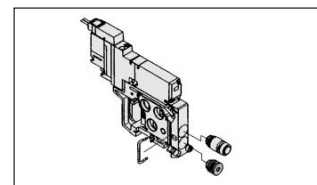
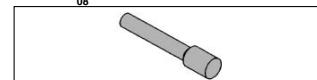
Specify the part numbers for valves and options together beneath the manifold base part number. Besides, when the arrangement will be complicated, specify them by means of the manifold specification sheet.

Manifold Option

P. 2-4-208

Blanking plate assembly
VVQ1000-10A-1Individual SUP spacer
VVQ1000-P-1-C6Individual EXH spacer
VVQ1000-R-1-C6SUP/EXH block plate
VVQ1000-16A-2Back pressure check valve assembly [-B]
VVQ1000-18AName plate [-N*]
VVQ1000-N2-Station (1 to Max. stations)Double check block
VVQ1000-FPG-□□Elbow fitting assembly
VVQ1000-F-L

Built-in silencer, direct exhaust [-S]

2 stations matching fitting assembly
VVQ1000-52A-C8Silencer
AN200-KM8Port plug
VVQ0000-58ABlanking plug
KQ2P-23 04 06 08

- For cylinder port fittings part no., refer to page 2-4-213.
- For replacement parts, refer to page 2-4-231.

Series VQ0000/1000

Base Mounted Plug Lead Unit



Model

Series	Number of solenoids		Model		Flow characteristic ⁽¹⁾						Response time (ms) ⁽²⁾			Weight (g)
					1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → R1/R2)			Standard: 1 W H: 1.5 W	Low wattage: ⁽³⁾ 0.5 W	AC ⁽³⁾	
					C [dm³/(s·bar)]	b	Cv	C [dm³/(s·bar)]	b	Cv				
VQ0000	2 position	Single	Metal seal	VQ0150	0.41	0.20	0.10	0.44	0.26	0.11	12 or less	15 or less	29 or less	36
			Rubber seal	VQ0151	0.53	0.20	0.12	0.53	0.22	0.13	15 or less	20 or less	34 or less	
		Double	Metal seal	VQ0250	0.41	0.20	0.10	0.44	0.26	0.11	10 or less	13 or less	13 or less	
			Rubber seal	VQ0251	0.53	0.20	0.12	0.53	0.22	0.13	15 or less	20 or less	20 or less	
	3 position	Closed center	Metal seal	VQ0350	0.32	0.10	0.07	0.32	0.20	0.07	20 or less	26 or less	40 or less	50
			Rubber seal	VQ0351	0.43	0.21	0.10	0.44	0.24	0.11	25 or less	33 or less	47 or less	
		Exhaust center	Metal seal	VQ0450	0.32	0.10	0.07	0.44	0.26	0.11	20 or less	26 or less	40 or less	
			Rubber seal	VQ0451	0.43	0.21	0.10	0.53	0.22	0.13	25 or less	33 or less	47 or less	
VQ1000	2 position	Single	Metal seal	VQ1110	0.70	0.15	0.16	0.72	0.25	0.18	12 or less	15 or less	29 or less	64
			Rubber seal	VQ1111	0.85	0.20	0.21	1.0	0.30	0.25	15 or less	20 or less	34 or less	
		Double	Metal seal	VQ1210	0.70	0.15	0.16	0.72	0.25	0.18	10 or less	13 or less	13 or less	
			Rubber seal	VQ1211	0.85	0.20	0.21	1.0	0.30	0.25	15 or less	20 or less	20 or less	
	3 position	Closed center	Metal seal	VQ1310	0.68	0.15	0.16	0.72	0.25	0.18	20 or less	26 or less	40 or less	78
			Rubber seal	VQ1311	0.70	0.20	0.16	0.65	0.42	0.18	25 or less	33 or less	47 or less	
		Exhaust center	Metal seal	VQ1410	0.68	0.15	0.16	0.72	0.25	0.18	20 or less	26 or less	40 or less	
			Rubber seal	VQ1411	0.70	0.20	0.16	1.0	0.30	0.25	25 or less	33 or less	47 or less	
		Pressure center	Metal seal	VQ1510	0.70	0.15	0.16	0.72	0.25	0.18	20 or less	26 or less	40 or less	
			Rubber seal	VQ1511	0.85	0.20	0.21	0.65	0.42	0.18	25 or less	33 or less	47 or less	

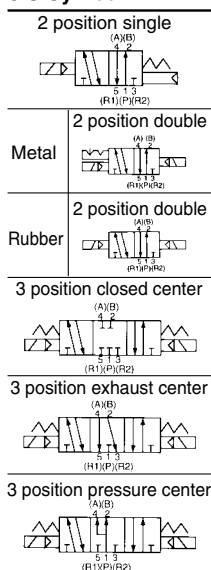


Note 1) Cylinder port size C4: (VQ0000), C6: (VQ1000) without check valve option for prevention of back pressure. As per JIS B 8375-1981 (Supply pressure: 0.5 MPa; with indicator light/surge voltage suppressor; clean air)

Note 2) The response time is subject to the pressure and quality of the air. The values at the time of ON are given for double types.

Note 3) AC type is only for VQ0000.

JIS Symbol



Standard Specifications

Valve specifications	Valve construction		Metal seal		Rubber seal	
	Fluid		Air/Inert gas			
	Maximum operating pressure		0.7 MPa (High pressure type: 0.8 MPa)			
	Min. operating pressure	Single	0.1 MPa		0.15 MPa	
		Double	0.1 MPa			
		3 position	0.1 MPa		0.2 MPa	
	Ambient and fluid temperature		−10 to 50°C ⁽¹⁾			
	Lubrication		Not required			
	Manual override		Non-locking push type/Locking type (Tool required, Manually operated) Option			
Impact/Vibration resistance ⁽²⁾		150/30 m/s ²				
Enclosure		Dust tight				
Solenoid	Coil rated voltage		12, 24 VDC, 100, 110, 200, 220 VAC (50/60 Hz)			
	Allowable voltage fluctuation		±10% of rated voltage			
	Coil insulation type		Equivalent to class B			
	Power consumption (Current)	24 VDC	VQ0000	1 W DC (42 mA), 1.5 W DC (63 mA) ⁽³⁾ , 0.5 W DC (21 mA) ⁽⁴⁾		
		12 VDC		1 W DC (83 mA), 1.5 W DC (125 mA) ⁽³⁾ , 0.5 W DC (42 mA) ⁽⁴⁾		
		100 VAC		Inrush 0.5 VA (5 mA), Holding 0.5 VA (5 mA)		
		110 VAC		Inrush 0.55 VA (5 mA), Holding 0.55 VA (5 mA)		
		200 VAC		Inrush 1.0 VA (5 mA), Holding 1.0 VA (5 mA)		
220 VAC		Inrush 1.1 VA (5 mA), Holding 1.1 VA (5 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) Value for high pressure type (1.5 W)

Note 4) Value for low pressure type (0.5 W)

Note 5) AC type is available only on VQ0000.

Plug Lead Unit Series VQ0000/1000

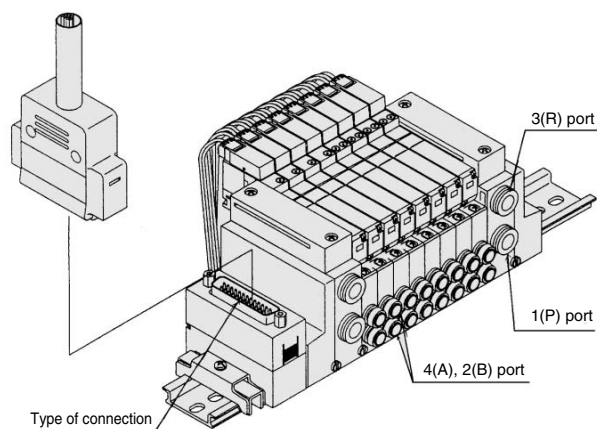
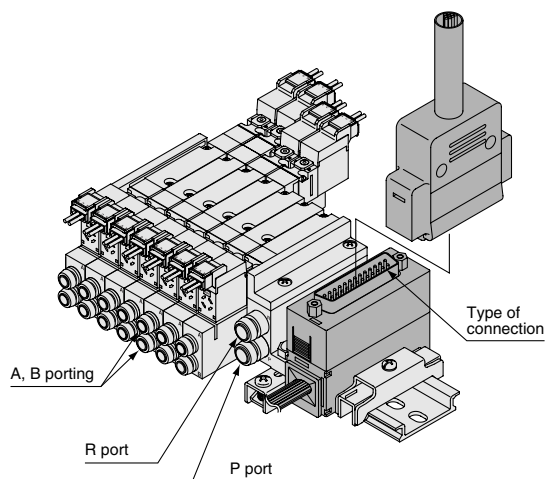
Manifold Specifications

Series	Base model	Type of connection	Porting specifications			Applicable stations ⁽²⁾	Applicable solenoid valve	5 station weight (g)
			Port location	Port size ⁽¹⁾				
				1(P), 3(R)	4(A), 2(B)			
VQ0000	VV5Q05-□□□	■ F kit– D-sub connector ■ P kit–Flat ribbon cable connector ■ T kit–Terminal block ■ C kit–Individual connector ■ S kit–Serial transmission	Side	C6 (ø6) Option Built-in silencer, direct exhaust	C3 (ø3.2) C4 (ø4) M5 (M5 thread)	1 to 16 stations	VQ0□50 VQ0□51	330 (Single) 400 (Double, 3 position)
VQ1000	VV5Q12-□□□	■ F kit–D-sub connector ■ P kit–Flat ribbon cable connector ■ T kit–Terminal block ■ C kit–Individual connector ■ S kit–Serial transmission	Side	C8 (ø8) Option Built-insilencer, direct exhaust	C3 (ø3.2) C4 (ø4)C6 (ø6) M5 (M5 thread)	1 to 16 stations	VQ1□10 VQ1□11	818 (Single) 885 (Double, 3 position)



Note 1) Inch-size One-touch fittings are also available. For details, refer to page 2-4-216.

Note 2) For details, refer to page 2-4-216.



VV5Q12

VQC

SQ

VQ0

VQ4

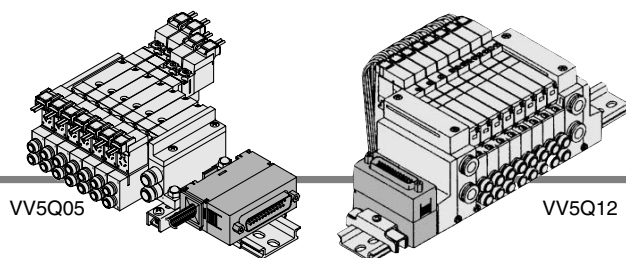
VQ5

VQZ

VQD

F VQ0000/1000 Kit (D-sub connector)

- The D-sub connector reduces installation labor for electrical connections.
- Using the D-sub connector (25P), (15P as an option) conforming to MIL standard permits the use of connectors put on the market and gives a wide interchangeability.
Top or side connector receptacle position can be selected in accordance with the available mounting space.
- Maximum stations are 16.

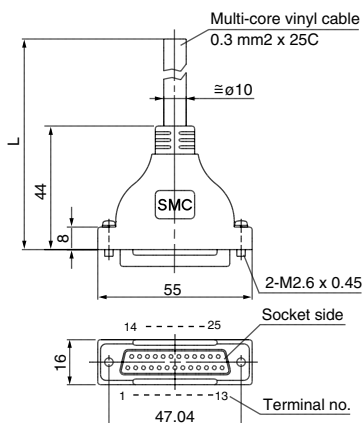


Manifold Specifications

Series	Port location	Porting specifications		Applicable stations
		1(P), 3(R)	4(A), 2(B)	
VQ0000	Side	C6	C3, C4, M5	Max. 16 stations
VQ1000	Side	C8	C3, C4, C6, M5	Max. 16 stations

D-sub Connector (25 pins)

AXT100-DS25-015
030
050
(The D-sub connector cable assembly can be ordered individually or included with manifold. 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-core 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 Limited
- 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
Insulation resistance V, 1 min, AC	1000
Insulation resistance M Ω D, 20°C	5 or more

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

Cable assembly ●

Wire Color by Terminal No. of D-sub Connector Cable Assembly

Terminal no.	Dot marking	Lead wire color
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



Note) Types with 15 pin are also available. Refer to page 2-4-215 for details.

How to Order Manifold

VV5Q 12-08 C6 F U 1-D

Series/Manifold		
05	VQ0000	Plug lead
12	VQ1000	unit

Stations	
01	1 station
...	...
08	8 stations (Note)

Note) As option, the maximum number of stations can be increased by special wiring specifications. For details, refer to page 2-4-216.

Cylinder port

Symbol	Port size	VQ0000	VQ1000
C3	With One-touch fitting for $\phi 3.2$	●	●
C4	With One-touch fitting for $\phi 4$	●	●
C6	With One-touch fitting for $\phi 6$	●	●
M5	M5 thread	●	●
CM	With mixed size/with port plug	●	●

Note 1) Specify "Mixed size/with port plug" on the manifold specification sheet.

Note 2) For inch-size One-touch fittings, refer to "Option" on page 2-4-216.

Connector entry direction	
U	Top entry
S	Side entry

Cable (Length)	
0	Without cable
1	With cable (1.5 m)
2	With cable (3 m)
3	With cable (5 m)

Option

Symbol	Option	VQ0000	VQ1000
B	With back pressure check valve		● (2)
D	DIN rail mounting style	●	● (3)
K	Special wiring specifications (Not double wiring)	●	● (4)
N	With name plate	●	●
S	Built-in silencer, direct exhaust	●	●

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

Note 2) Models with a suffix "B" have the back pressure check valve at all manifold stations. If not all stations need this check valve, specify the stations where check valves are installed by using the manifold specification sheet.

Note 3) F kit of VQ0000 and all of VQ1000 are equipped with a DIN rail, so indicate suffix "D".

Note 4) Specify the wiring specifications on the manifold specification sheet.

VQC

SQ

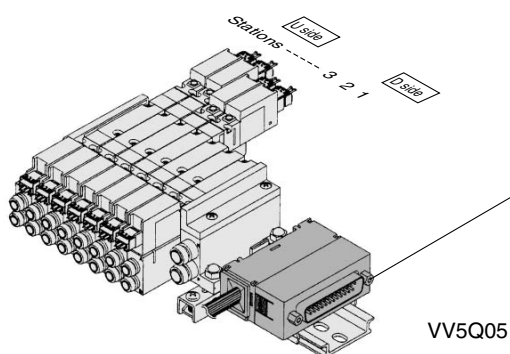
VQ0

VQ4

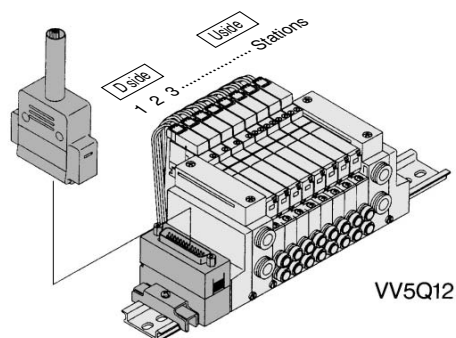
VQ5

VQZ

VQD



The total number of stations is tabulated starting from station one on the D side.



Electrical wiring specifications

D-sub connector assembly

015

AXT100-DS25-030 Wire color
050

D-sub connector

	Terminal no.	Polarity	Lead wire color	Dot marking	
1 station {	<u>SOL.A</u>	1 (-)	(+)	Black	None
	<u>SOL.B</u>	14 (-)	(+)	Yellow	Black
2 stations {	<u>SOL.A</u>	2 (-)	(+)	Brown	None
	<u>SOL.B</u>	15 (-)	(+)	Pink	Black
3 stations {	<u>SOL.A</u>	3 (-)	(+)	Red	None
	<u>SOL.B</u>	16 (-)	(+)	Blue	White
4 stations {	<u>SOL.A</u>	4 (-)	(+)	Orange	None
	<u>SOL.B</u>	17 (-)	(+)	Purple	None
5 stations {	<u>SOL.A</u>	5 (-)	(+)	Yellow	None
	<u>SOL.B</u>	18 (-)	(+)	Gray	None
6 stations {	<u>SOL.A</u>	6 (-)	(+)	Pink	None
	<u>SOL.B</u>	19 (-)	(+)	Orange	Black
7 stations {	<u>SOL.A</u>	7 (-)	(+)	Blue	None
	<u>SOL.B</u>	20 (-)	(+)	Red	White
8 stations {	<u>SOL.A</u>	8 (-)	(+)	Purple	White
	<u>SOL.B</u>	21 (-)	(+)	Brown	White
	<u>COM.</u>	13 (+)	(-) Orange (Note)	Orange	Red
		Positive common specifications	Negative common specifications		

As the standard electrical wiring specifications, double wiring (connected to SOL.A and SOL.B) is adopted for the internal wiring of each station for 8 stations or less, regardless of valve and option types. Mixed single and double wiring is available as an option. For details, refer to page 2-4-216.

Note) When using the negative common specifications, use valves for negative common. (Refer to page 2-4-216.)

How to Order Valves

VQ 1 1 1 0 Y 5 LO

Series

0	VQ0000
1	VQ1000

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 (VQ1000 only)

Body type

5	VQ0000	Plug lead unit
1	VQ1000	Plug lead unit

Seal

0	Metal seal
1	Rubber seal

Manual override

Nil	Non-locking push type (Tool required)
B	Locking type (Tool required)
C	Locking type (Manual) ^{Note)}

Note) VQ1000 only.

Electrical entry

	VQ0000	VQ1000
LO	L plug connector without connector	●
MO	M plug terminal without connector	●

Note) Plug connector and lead wire layers are attached to the manifold.

Function

Symbol	Specifications	DC	AC
Nil	Standard type	(1.0 W) ○	Note) ○
H	High pressure type	(1.5 W) ○	—
Y	Low wattage type	(0.5 W) ○	—

Coil voltage

	VQ0000	VQ1000
1	100 VAC (50/60 Hz)	●
3	110 VAC (50/60 Hz)	●
5	24 VDC	●
6	12 VDC	●

Note 1) For negative common specifications, refer to "Option" on page 2-4-216.
Note 2) Connector assembly will be required when the F kits add a valve. For part nos., refer to "Option" on page 2-4-216.

Note) For power consumption of AC type, refer to page 2-4-186.

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)

VV5Q12-08C6FU2-D ... 1 set—Manifold base no.

*VQ1110-5LO 4 sets—Valve part no. (Stations 1 to 4)

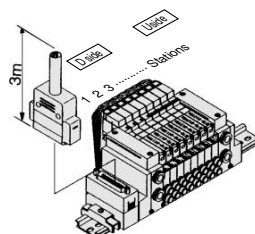
*VQ1210-5LO 4 sets—Valve part no. (Stations 5 to 8)

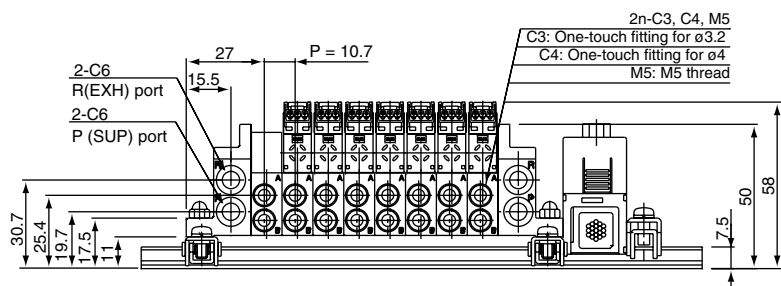
*VQ1310-5LO 2 sets—Valve part no. (Stations 7 to 8)

*VVQ1000-10A-1 1 set—Blanking plate part no. (Station 9)

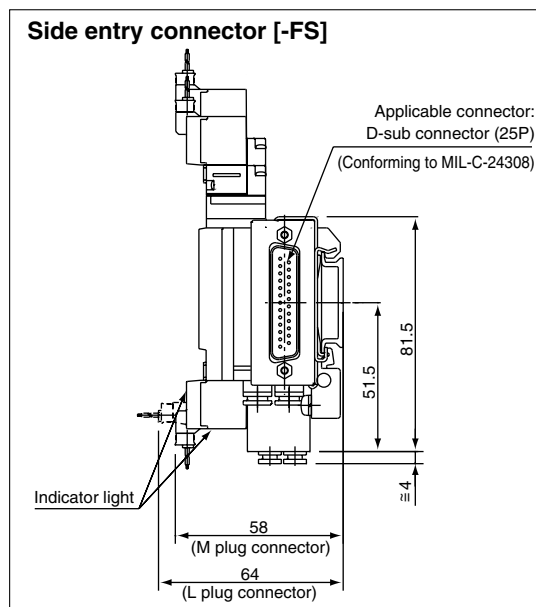
Prefix the asterisk to the part nos. of the solenoid valve, etc.

Write sequentially from the 1st station on the D side. When part nos. written collectively are complicated, specified by using the manifold specification sheet.





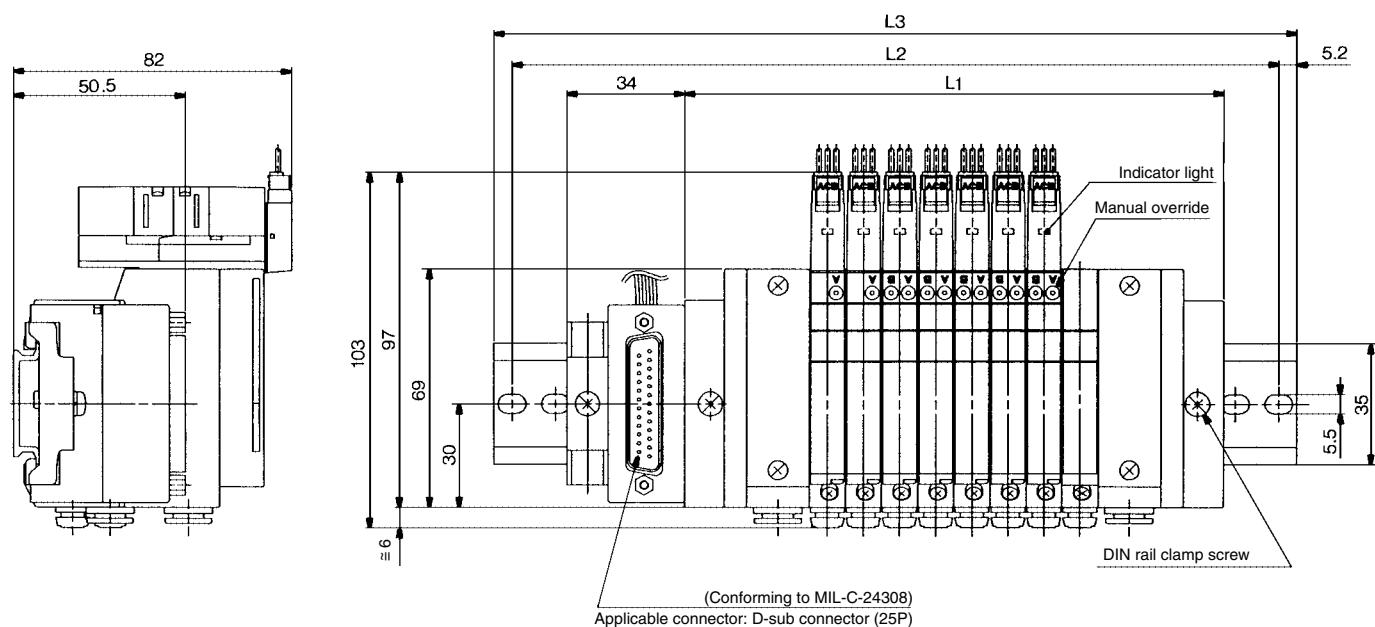
< >: AC



Formula $L1 = 10.7n + 36$, $L2 = 10.7n + 45$
n: Station (Maximum 16 stations)

L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	46.5	57.4	68.1	78.8	89.5	100.2	110.9	121.6	132.3	143	153.7	164.4	175.1	185.8	196.5	207.2
L2	55.7	66.4	77.1	87.8	98.5	109.2	119.9	130.6	141.3	152	162.7	173.4	184.1	194.8	205.5	216.2
L3	112.5	125	137.5	150	162.5	175	175	187.5	200	212.5	225	237.5	250	250	262.5	275
L4	123	135.5	148	160.5	173	185.5	185.5	198	210.5	223	235.5	248	260.5	260.5	273	285.5

L	n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L3		137.5	150	150	162.5	175	187.5	200	212.5	225	225	237.5	250	262.5	275	287.5	300
L4		148	160.5	160.5	173	185.5	198	210.5	223	235.5	235.5	248	260.5	273	285.5	298	310.5

VQ1000

VQC

SQ

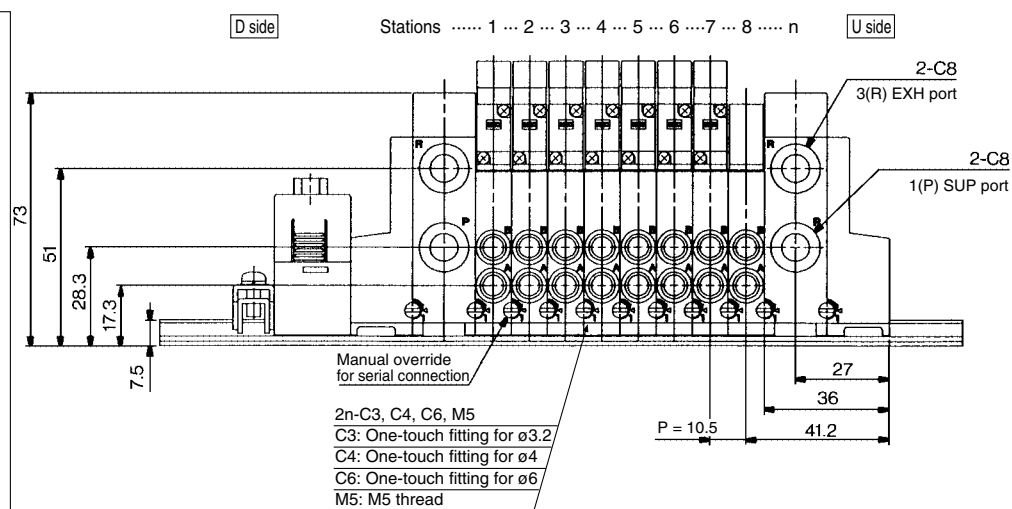
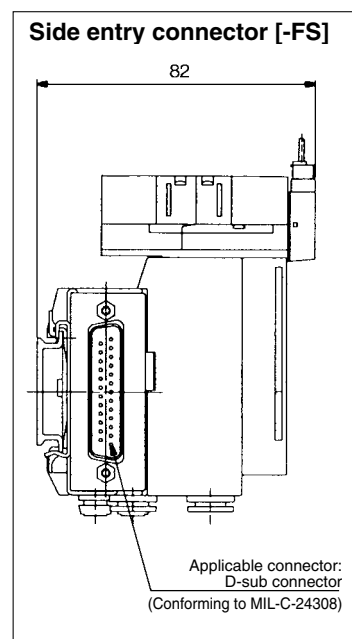
VQ0

VQ4

VQ5

VQZ

VQD

**Dimensions: Top Entry Connector [-FU]**Formula $L1 = 10.5n + 72$ n: Station (Maximum 16 stations)

L	n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1		82.5	93	103.5	114	124.5	135	145.5	156	166.5	177	187.5	198	208.5	219	229.5	240
L2		137.5	150	162.5	175	187.5	200	200	212.5	225	237.5	250	262.5	262.5	275	287.5	300
L3		148	160.5	173	185.5	198	210.5	210.5	223	235.5	248	260.5	273	273	285.5	298	310.5

Dimensions: Side Entry Connector [-FS]

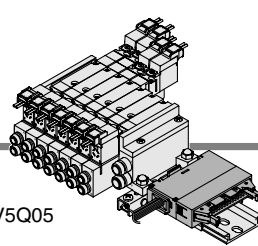
L	n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L2		162.5	175	187.5	187.5	200	212.5	225	237.5	250	250	262.5	275	287.5	300	312.5	312.5
L3		173	185.5	198	198	210.5	223	235.5	248	260.5	260.5	273	285.5	298	310.5	323	323

P

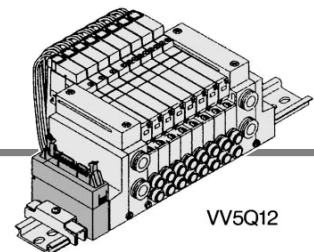
VQ0000/1000 Kit (Flat ribbon cable connector)

- MIL flat ribbon cable connector reduces installation labor savings for electrical connection.
- Using the connector for flat ribbon cable (26P), (10P, 16P, 20P as an option) conforming to MIL standard permits the use of connectors put on the market and gives a wide interchangeability.
Top or side receptacle position can be selected in accordance with the available mounting space.
- Maximum stations are 16.

VV5Q05



VV5Q12



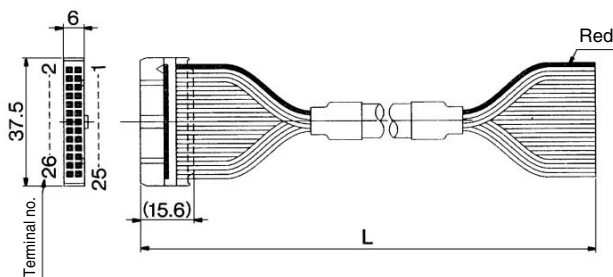
Manifold Specifications

Series	Porting specifications			Applicable stations
	Port location	Port size		
		1(P), 3(R)	4(A), 2(B)	
VQ0000	Side	C6	C3, C4, M5	Max.16 stations
VQ1000	Side	C8	C3, C4, C6, M5	Max.16 stations

Flat Ribbon Cable (26 pins)

AXT100-FC26-1¹/₁₀

(Flat ribbon cable connector assembly can be ordered individually or included in a specific manifold model no. Refer to "How to Order Manifold".)



Flat Ribbon Cable Connector Assembly (Option)

Cable length (L)	Assembly part no.	Note
1.5 m	AXT100-FC26-1	Cable 26 cores x 28AWG
3 m	AXT100-FC26-2	
5 m	AXT100-FC26-3	

* For other commercial connectors, use a 26 pins type with strain relief conforming to MIL-C-83503.

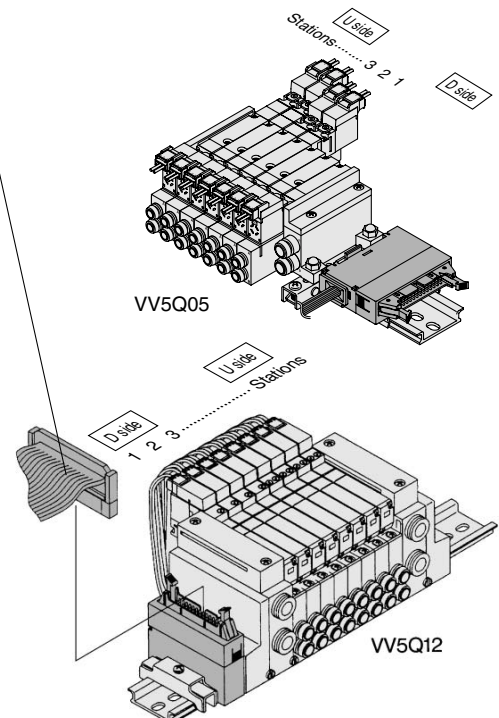
Connector manufacturers' example

- Hirose Electric Co., Ltd.
- Sumitomo 3M Limited
- Fujitsu Limited
- Japan Aviation Electronics Industry, Ltd.
- J.S.T. Mfg. Co., Ltd.
- Oki Electric Cable Co., Ltd.



Note) Types with 10, 16, or 20 pin are also available. Refer to page 2-4-215 for details.

Cable assembly ●



The total number of stations is tabulated starting from one on the D side.

How to Order Manifold

VV5Q 12 08 C6 P U 1 D

Series/Manifold

05	VQ0000	Plug lead unit
12	VQ1000	

Stations

01	1 station
...	...
16	16 stations ^{Note)}



Note) As an option, the maximum number of stations can be increased by special wiring specifications. For details, refer to page 2-4-216.

Connector entry direction

U	Top (Vertical)
S	Side (Horizontal)

Cylinder port

Symbol	Port size	VQ0000	VQ1000
C3	With One-touch fitting for ø3.2	●	●
C4	With One-touch fitting for ø4	●	●
C6	With One-touch fitting for ø6	●	●
M5	M5 thread	●	●
CM	With mixed size/with port plug	●	●



Note 1) Specify "Mixed size/with port plug" on the manifold specification sheet.
Note 2) For inch-size One-touch fittings, refer to "Option" on page 2-4-216.

Cable (Length)

0	Without cable
1	With cable (1.5 m)
2	With cable (3 m)
3	With cable (5 m)

Option

Symbol	Option	VQ0000	VQ1000
B	With back pressure check valve	●	● ⁽²⁾
D	DIN rail mounting style	●	● ⁽³⁾
K	Special wiring specification (Not double wiring)	●	● ⁽⁴⁾
N	With name plate	●	●
S	Built-in silencer (Direct exhaust)	●	●



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

Note 2) Models with a suffix "B" have the back pressure check valve at all manifold stations. If not all stations need this check valve, specify the stations where check valves are installed by using the manifold specification sheet.

Note 3) P kit of VQ0000 and all of VQ1000 are equipped with a DIN rail, so indicate suffix "D".

Note 4) Specify the wiring specifications on the manifold specification sheet.

VQC

SQ

VQ0

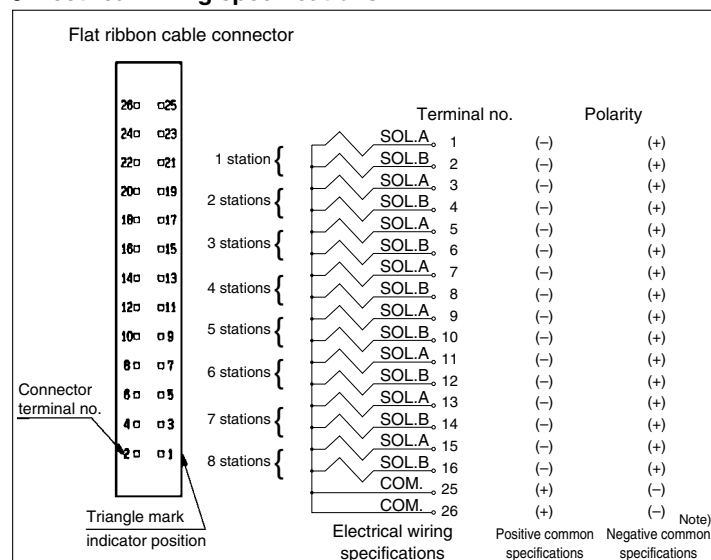
VQ4

VQ5

VQZ

VQD

● Electrical wiring specifications



As the standard electrical wiring specifications, double wiring (connected to SOL. A and SOL. B) is adopted for the internal wiring of each station for 8 stations or less, regardless of valve and option types.

Mixed single and double wiring is available as an option.

For details, refer to page 2-4-216.

Note) When using the negative commons specifications, use valves for negative common. (Refer to page 2-4-216.)

How to Order Valves

VQ 1 1 1 0 Y 5 LO

Series

0	VQ0000
1	VQ1000

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 (VQ1000 only)

Body type

5	VQ0000	Plug lead unit
1	VQ1000	unit

Seal

0	Metal seal
1	Rubber seal

Manual override

Nil	Non-locking push type (Tool required)
B	Locking type (Tool required)
C	Locking type (Manual) ^{Note)}

Note) VQ1000 only.

Electrical entry

	VQ0000	VQ1000
LO	L plug connector without connector	●
MO	M plug terminal without connector	●

Note) Plug connector and lead wire are attached to the manifold.

Coil voltage

	VQ0000	VQ1000
1	100 VAC (50/60 Hz)	●
3	110 VAC (50/60 Hz)	●
5	24 VDC	●
6	12 VDC	●

Function

Symbol	Specifications	DC	AC
Nil	Standard type	(1.0 W) ○	(Note) ○
H	High pressure type	(1.5 W) ○	—
Y	Low wattage type	(0.5 W) ○	—

Note) For power consumption of AC type, refer to page 2-4-186.

Note 1) For negative common specifications, refer to "Option" on page 2-4-126.
Note 2) Connector assembly will be required when the P kits add a valve. For part nos., refer to "Option" on page 2-4-126.

How to Order Manifold Assembly

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

<Example>

Flat ribbon cable kit with 3 m cable

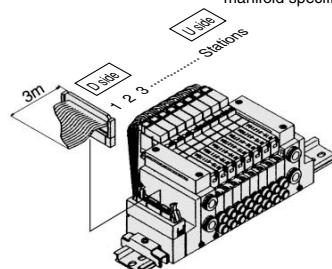
VV5Q12-08C6PU1-D ...1 set—Manifold base no.

*VQ1110-5LO4 sets—Valve part no. (Stations 1 to 4)

*VQ1210-5LO3 sets—Valve part no. (Stations 5 to 8)

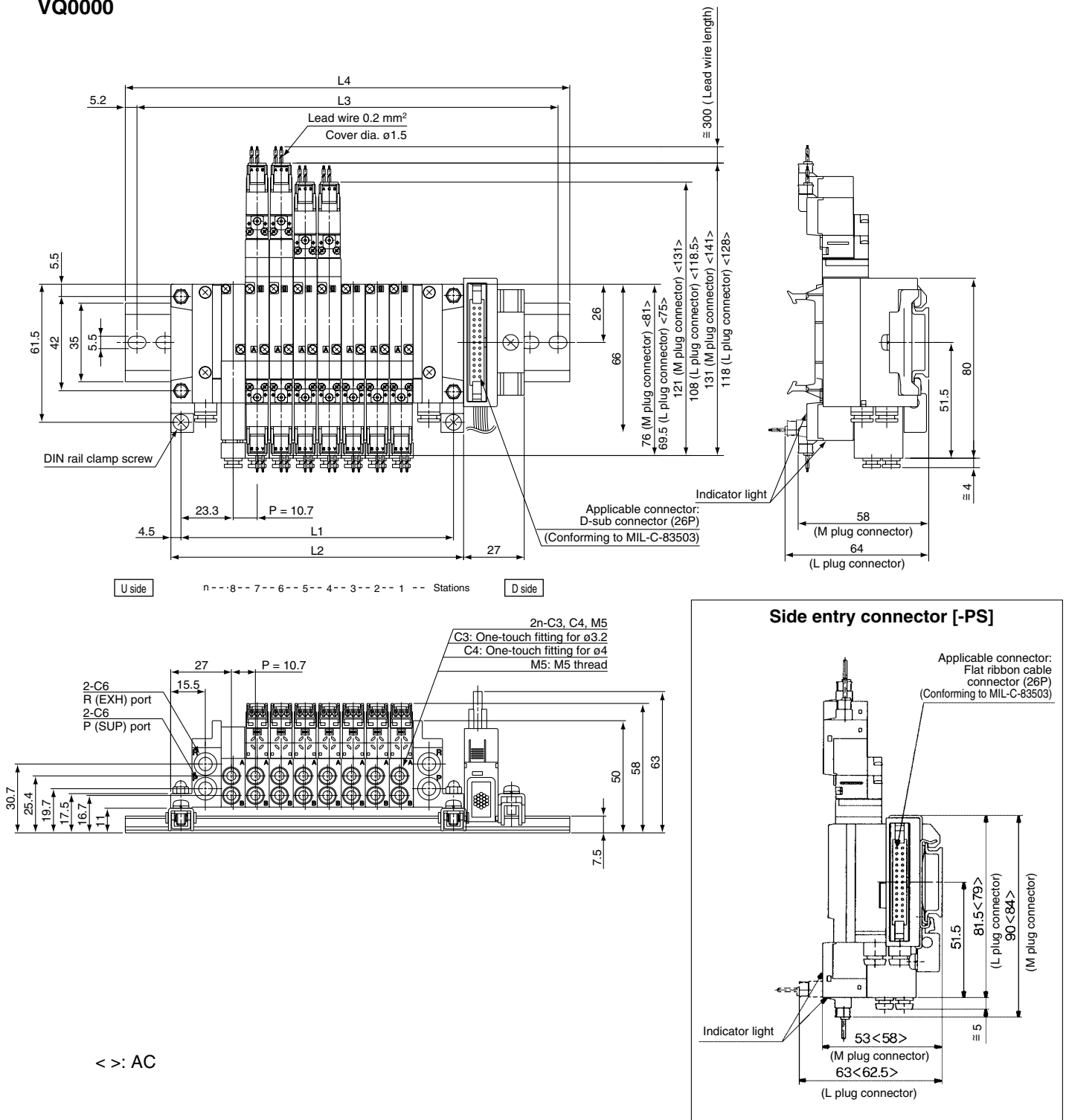
Prefix the asterisk to the part nos. of the solenoid valve, etc.

Write sequentially from the 1st station on the D side. When part nos. written collectively are complicated, specify by using the manifold specification sheet.



P VQ0000/1000 Kit (Flat ribbon cable connector)

VQ0000



Dimensions: Top Entry Connector [-PU]

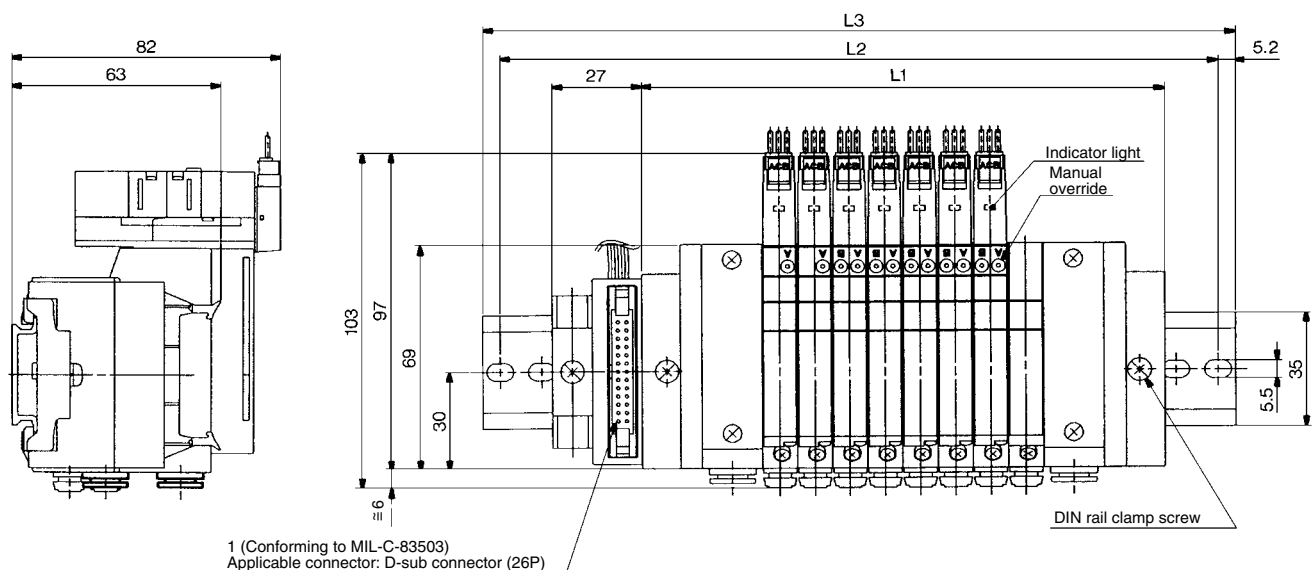
Formula L1 = 10.7n + 36, L2 = 10.7n + 45
n: Station (Maximum 16 stations)

n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	46.7	57.4	68.1	78.8	89.5	100.2	110.9	121.6	132.3	143	153.7	164.4	175.1	185.8	196.5	207.2
L2	55.7	66.4	77.1	87.8	98.5	109.2	119.9	130.6	141.3	152	162.7	173.4	184.1	194.8	205.5	216.2
L3	112.5	125	125	137.5	150	162.5	175	187.5	200	200	212.5	225	237.5	250	262.5	275
L4	123	135.5	135.5	148	160.5	173	185.5	198	210.5	210.5	223	235.5	248	260.5	273	285.5

Dimensions: Side Entry Connector [-PS]

n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L3	137.5	150	150	162.5	175	187.5	200	212.5	225	225	237.5	250	262.5	275	287.5	300
L4	148	160.5	160.5	173	185.5	198	210.5	223	235.5	235.5	248	260.5	273	285.5	298	310.5

VQ1000



VQC

SQ

VQ0

VQ4

VQ5

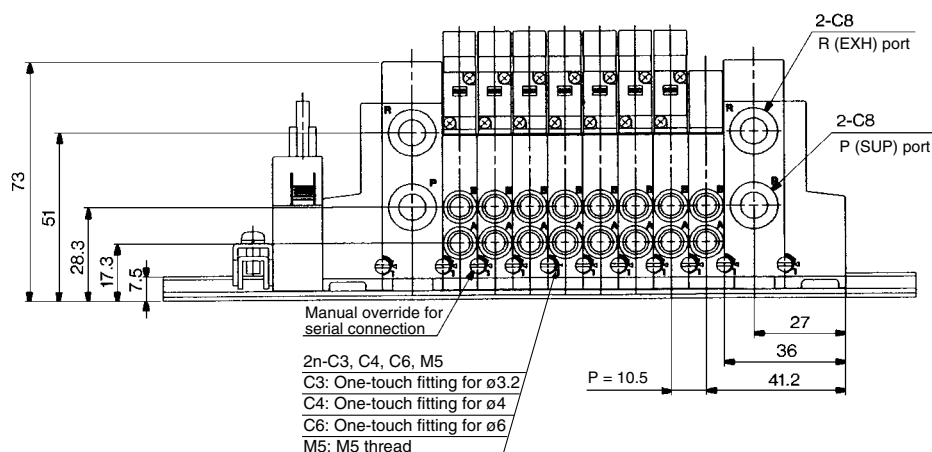
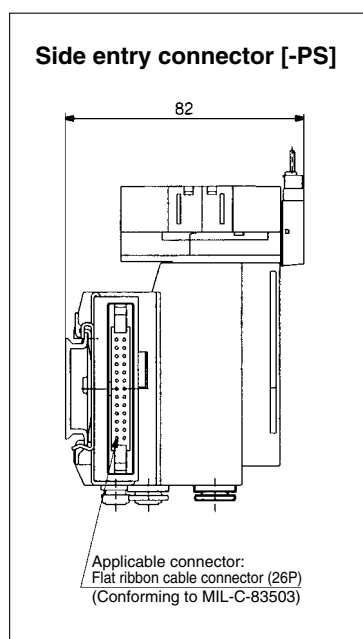
VQZ

VQD

D side

Stations .. 1 .. 2 .. 3 .. 4 .. 5 .. 6 .. 7 .. 8 .. n

U side



Dimensions: Top Entry Connector [-PU]

Formula $L1 = 10.5n + 72$ n: Station (Maximum 16 stations)

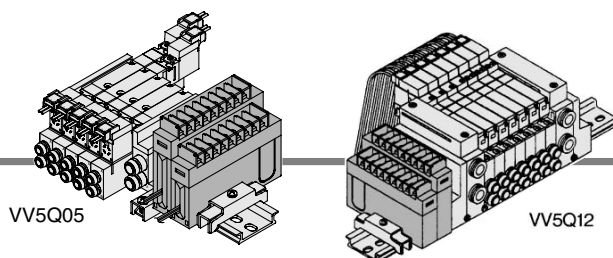
n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	82.5	93	103.5	114	124.5	135	145.5	156	166.5	177	187.5	198	208.5	219	229.5	240
L2	137.5	150	150	162.5	175	187.5	200	212.5	225	225	237.5	250	262.5	275	287.5	298.5
L3	148	160.5	160.5	173	185.5	198	210.5	223	235.5	235.5	248	260.5	273	285.5	298	298

Dimensions: Side Entry Connector [-PS]

n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L2	162.5	175	187.5	187.5	200	212.5	225	237.5	250	250	262.5	275	287.5	300	312.5	312.5
L3	173	185.5	198	198	210.5	223	235.5	248	260.5	260.5	273	285.5	298	310.5	323	323

T VQ0000/1000 Kit (Terminal block)

- It is a standard terminal block type.
- Two quantities of terminals can be selected in accordance with the number of stations. (8 terminals/16 terminals)
- Maximum stations are 8. (16 stations as an option)



Manifold Specifications

Series	Porting specifications			Applicable stations
	Port location	Port size		
		1(P), 3(R)	4(A), 2(B)	
VQ0000	Side	C6	C3, C4, M5	Max.16 stations
VQ1000	Side	C6	C3, C4, C6, M5	Max.16 stations

Electrical wiring specifications

Terminal no.

T1

Terminal no.

T2

1 station { SOL.A₁ (-) SOL.B₂ (-) 5 stations { SOL.A₁ (-) SOL.B₂ (-)

2 stations { SOL.A₃ (-) SOL.B₄ (-) 6 stations { SOL.A₃ (-) SOL.B₄ (-)

3 stations { SOL.A₅ (-) SOL.B₆ (-) 7 stations { SOL.A₅ (-) SOL.B₆ (-)

4 stations { SOL.A₇ (-) SOL.B₈ (-) 8 stations { SOL.A₇ (-) SOL.B₈ (-)

COM₉ COM (+)

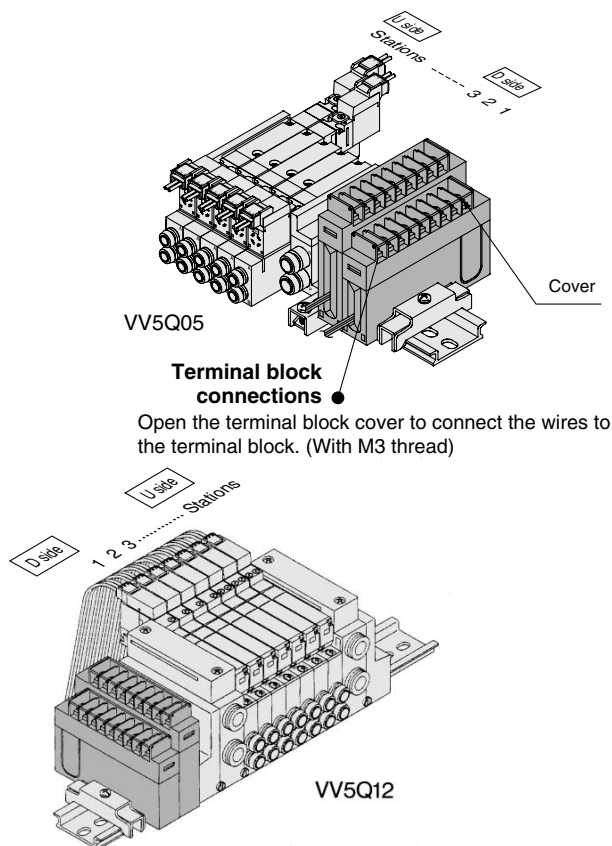
In the case of double wiring (standard spec.)
T1 (Terminal block of 1 row): 1-4 stations
T2 (Terminal block of 2 rows): 5-8 stations
T1 and T2 can be optionally chosen by adopting the combinations of single and double wiring (option spec.) etc.

The quantity of terminal blocks used depends on the number of manifold stations

Manifold	Terminal blocks
1 to 4 stations	1 row
5 to 8 stations	2 rows

Note) Wiring other than those above is possible. For details, refer to page 2-4-216.

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 page 2-4-216.



How to Order Manifold

VV5Q 12 08 C6 T 2 D

Series/Manifold

Symbol	Option	VQ0000	VQ1000
B	With back pressure check valve	●	● ⁽²⁾
D	DIN rail mounting style	●	● ⁽³⁾
K	Special wiring specifications (Not double wiring)	●	● ⁽⁴⁾
N	With name plate	●	●
S	Built-in silencer, direct exhaust	●	●

Stations

Symbol	Option	VQ0000	VQ1000
01	1 station	●	●
16	16 stations	●	●

Note) Refer to page 2-4-216 for details.

Number of terminals

Symbol	Option	VQ0000	VQ1000
1	8 terminals in 1 row	●	●
2	16 terminals in 2 rows	●	●

Note) The number of terminal blocks can be chosen regardless of station qty. Suffix the option symbol, "K" when the wiring specifications are special.

Cylinder ports

Symbol	Option	VQ0000	VQ1000
C3	With One-touch fitting for ø3.2	●	●
C4	With One-touch fitting for ø4	●	●
C6	With One-touch fitting for ø6	●	●
M5	M5 thread	●	●
CM	With mixed size/with port plug	●	●

Note 1) Specify "Mixed size/with port plug" on the manifold specification sheet.
Note 2) For inch-size One-touch fittings, refer to "Option" on page 2-4-216.

VQC

SQ

VQ0

VQ4

VQ5

VQZ

VQD

How to Order Valves

VQ 1 1 1 0 Y 5

Series

0	VQ0000
1	VQ1000

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 (VQ1000 only)

Body type

5	VQ0000	Plug lead unit
1	VQ1000	

Seal

0	Metal seal
1	Rubber seal

Function

Symbol	Specifications	DC	AC
Nil	Standard type	(1.0 W) ○	Note) ○
H	High pressure type	(1.5 W) ○	—
Y	Low wattage type	(0.5 W) ○	—

Manual override

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

Note) Available only for VQ1000

Electrical entry

	VQ0000	VQ1000
LO	L plug connector without connector	●
MO	M plug connector without connector	—

Note) Plug connector and lead wire layers are attached to the manifold.

Coil voltage

	VQ0000	VQ1000
1	100 VAC (50/60 Hz)	●
3	110 VAC (50/60 Hz)	●
5	24 VDC	●
6	12 VDC	●

Note) For power consumption of AC type, refer to page 2-4-186.

Note 1) For negative common specifications, refer to "Option" on page 2-4-216.

Note 2) Connector assembly will be required when the T kits add a valve. For part nos., refer to "Option" on page 2-4-216.

How to Order Manifold Assembly

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

<Example>

Flat ribbon cable kit with 3 m cable

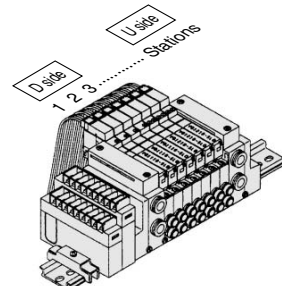
VV5Q12-07C6T2-D ... 1 set—Manifold base no.

*VQ1110-5LO 4 sets—Valve part no. (Stations 1 to 4)

*VQ1210-5LO 3 sets—Valve part no. (Stations 5 to 8)

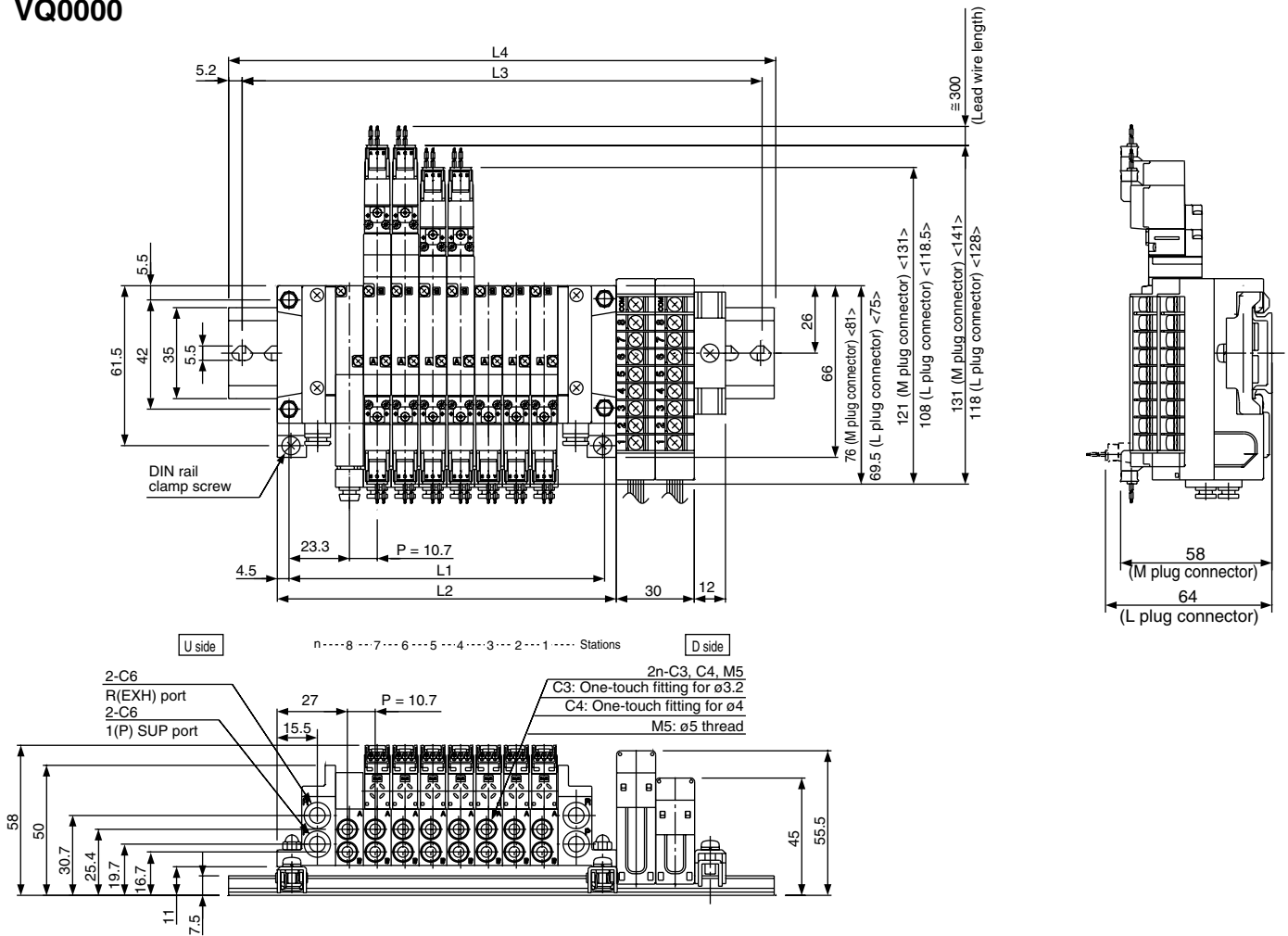
Prefix the asterisk to the part nos. of the solenoid valve, etc.

Write sequentially from the 1st station on the D side. When part nos. written collectively are complicated, specify by using the manifold specification sheet.



T VQ0000/1000 Kit (Terminal block)

VQ0000



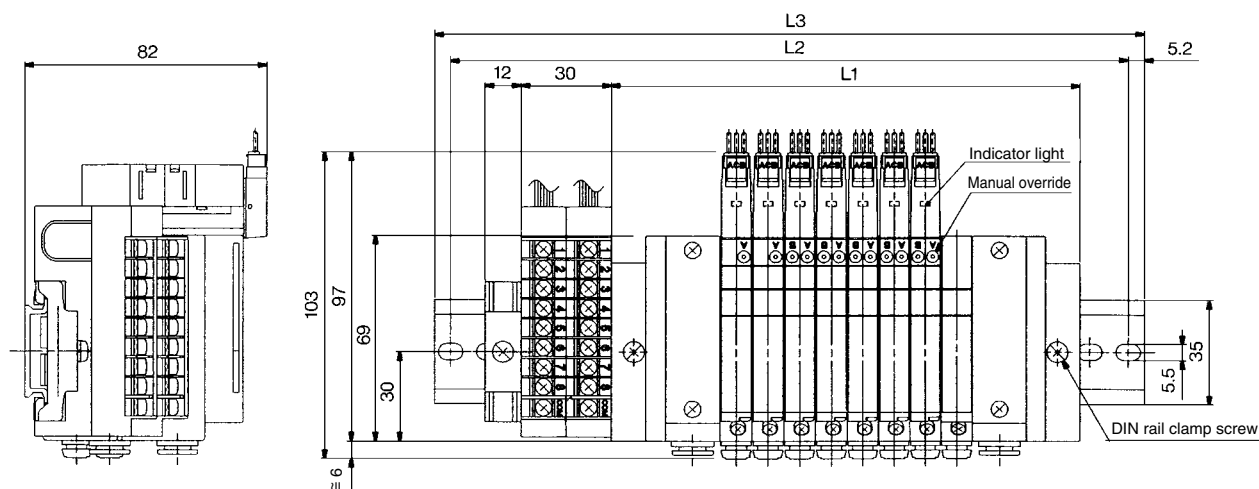
This drawing shows the case of VV5Q05-□□T2-D□.

< >: AC

Dimensions

Formula $L1 = 10.7n + 36$, $L2 = 10.7n + 45$ n: Station (Maximum 16 stations)

L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	46.7	57.4	68.1	78.8	89.5	100.2	110.9	121.6	132.3	143	153.7	164.4	175.1	185.8	196.5	207.2
L2	55.7	66.4	77.1	87.8	98.5	109.2	119.9	130.6	141.3	152	162.7	173.4	184.1	194.8	205.5	216.2
L3	125	137.5	150	162.5	175	187.5	200	212.5	225	237.5	250	262.5	275	287.5	300	312.5
L4	135.5	148	160.5	173	185.5	198	210.5	223	235.5	248	260.5	273	285.5	298	310.5	323

VQ1000

VQC

SQ

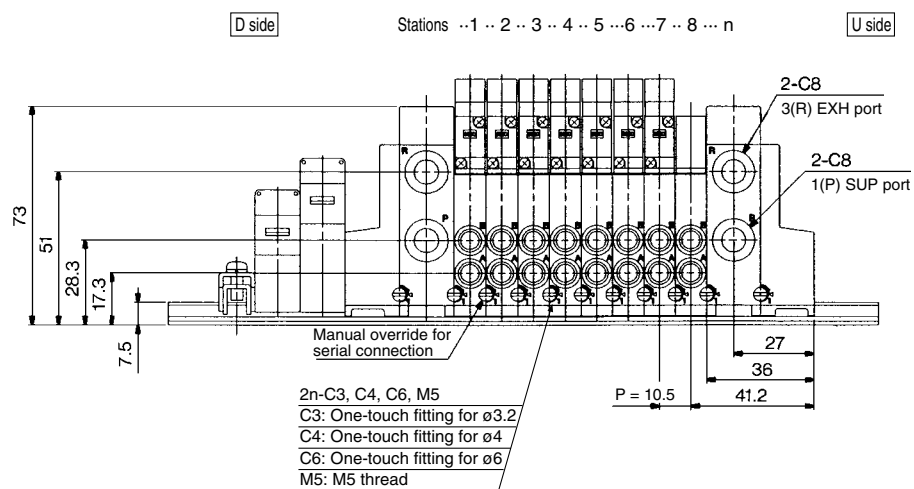
VQ0

VQ4

VQ5

VQZ

VQD



This drawing shows the case of VV5Q12-□□T2-D□.

Dimensions

Formula $L1 = 10.5n + 72$ n: Station (Maximum 16 stations)

L	n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1		82.5	93	103.5	114	124.5	135	145.5	156	166.5	177	187.5	198	208.5	219	229.5	240
L2		150	162.5	175	187.5	187.5	200	212.5	225	237.5	250	250	262.5	275	287.5	300	312.5
L3		160.5	173	185.5	198	198	210.5	223	235.5	248	260.5	260.5	273	285.5	298	310.5	323

C VQ0000/1000 Kit (Connector)

- Standard with lead wires plug-connected to each valve individually.
- Maximum stations are 16.

VV5Q05

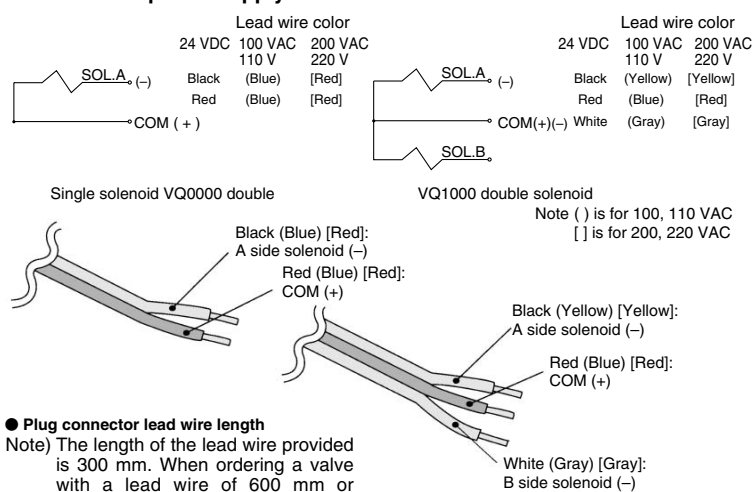
VV5Q12

Manifold Specifications

Series	Port location	Porting specifications		Applicable stations
		1(P), 3(R)	4(A), 2(B)	
VQ0000	Side	C6	C3, C4, M5	Max. 16
VQ1000	Side	C8	C3, C4, C6, M5	Max.16 stations

Wiring specifications: Positive COM ●

- The lead wires are connected to the valve as shown below. Connect each to the power supply side.



● Plug connector lead wire length

Note) The length of the lead wire provided is 300 mm. When ordering a valve with a lead wire of 600 mm or longer, be sure to indicate the model number of the valve without connector and connector assembly.

Example) Lead wire length 1000 mm
VQ1110-5LO..... 3 pcs.
AXT661-14A-10 3 pcs.

Connector Assembly (For DC)

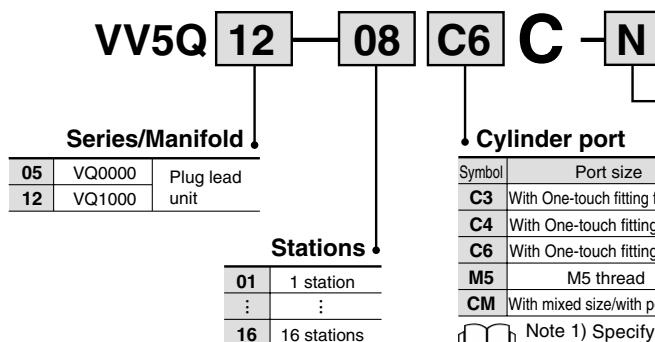
Lead wire length	Part no. for single & VQ0000 double	Part no. for VQ1000 double
Socket (3 pcs.)	AXT661-12A	
300 mm	AXT661-14A	AXT661-13A
600 mm	AXT661-14A-6	AXT661-13A-6
1000 mm	AXT661-14A-10	AXT661-13A-10
2000 mm	AXT661-14A-20	AXT661-13A-20
3000 mm	AXT661-14A-30	AXT661-13A-30

Note) 100/110 VAC for single: AXT661-31A-□; for double: AXT661-32A-□
200/220 VAC for single: AXT661-34A-□; for double: AXT661-35A-□

VV5Q05

VV5Q12

How to Order Manifold

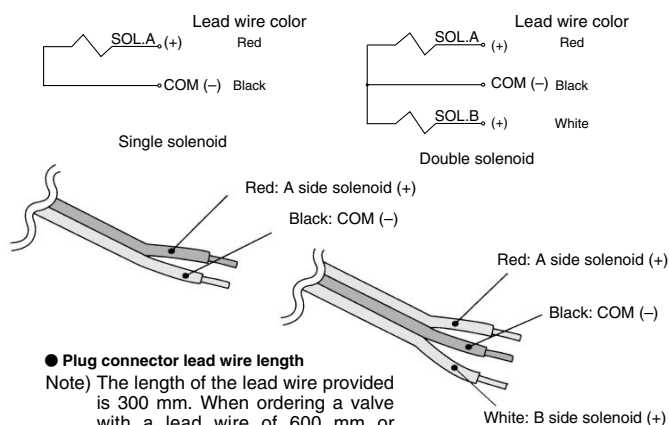


Note 1) Specify "Mixed size/with port plug" on the manifold specification sheet.
Note 2) For One-touch fittings in inch sizes, refer to "Option" on page 2-4-216.

Note 1) When two or more symbols are specified, indicate them alphabetically.
Example) -BNS
Note 2) Models with a suffix "-B" have the back pressure check valve at all manifold stations. If not all stations need this check valve, specify the stations where check valves are installed by using the manifold specification sheet.
Note 3) VQ1000 are all equipped with a DIN rail, so indicate suffix "-D".

● Wiring specifications: Negative COM (Option) for VQ1000

- The lead wires are connected to the valve as shown below.
Connect each to the power supply side.



● Plug connector lead wire length

Note) The length of the lead wire provided is 300 mm. When ordering a valve with a lead wire of 600 mm or longer, be sure to indicate the model number of the valve without connector and connector assembly.

Example) Lead wire length 1000 mm

VQ1110N-5LO.....3 pcs.

AXT661-14AN-10.....3 pcs.

Connector Assembly Part No.

Lead wire length	Single	Double solenoid part no.
Socket (3 pcs.)	AXT661-12A	
300 mm	AXT661-14AN	AXT661-13AN
600 mm	AXT661-14AN-6	AXT661-13AN-6
1000 mm	AXT661-14AN-10	AXT661-13AN-10
2000 mm	AXT661-14AN-20	AXT661-13AN-20
3000 mm	AXT661-14AN-30	AXT661-13AN-30

Note) When using the negative common specifications, use valves for negative common.

(Series VQ0□50 has no polarity, so the negative common is applicable to standard models.)

How to Order Valves

VQ 1 1 1 0 Y 5 L

Series

0	VQ0000
1	VQ1000

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 (VQ1000 only)

Body type

5	VQ0000	Plug lead unit
1	VQ1000	Plug lead unit

Seal

0	Metal seal
1	Rubber seal

Manual override

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

Note) Available only for VQ1000.

Electrical entry

	VQ0000	VQ1000
G	Grommet (Except AC)	●
L	L plug connector with lead wire	●
LO	L plug connector without connector	●
M	M plug connector with lead wire	●
MO	M plug terminal without connector	●

Coil voltage

	VQ0000	VQ1000
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	●

Function

Symbol	Specifications	DC	AC
Nil	Standard type	(1.0 W) ○	Note) ○
H	High pressure type	(1.5 W) ○	—
Y	Low wattage type	(0.5 W) ○	—



Note 1) For negative common specifications, refer to "Option" on page 2-4-216.



Note) For power consumption of AC type, refer to page 2-4-186.

How to Order Manifold Assembly

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

<Example>

Connector kit

VV5Q12-08C6C-D1 set—Manifold base no.

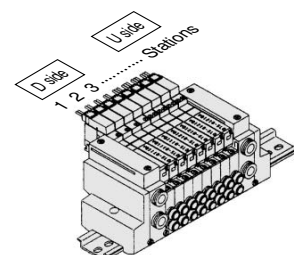
*VQ1110-53 sets—Valve part no. (Stations 1 to 3)

*VQ1210-54 sets—Valve part no. (Stations 4 to 7)

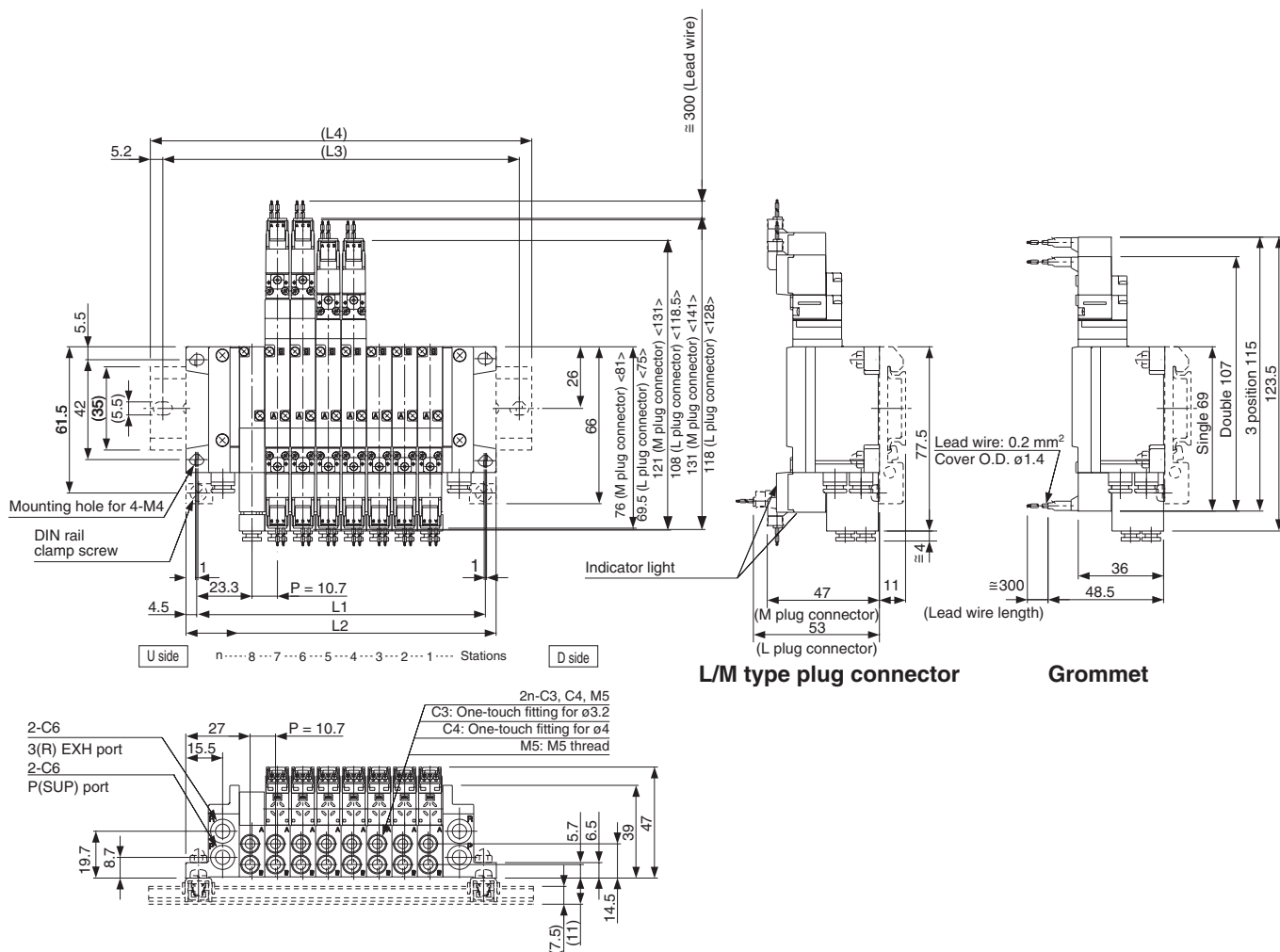
*VVQ1000-10A-1...1 set—Blanking plate part no. (stations 8)

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

Write sequentially from the 1st station on the D side. When part nos. written collectively are complicated, specify by using the manifold specification sheet.



The broken lines indicate DIN rail mounting style [-D].



< >: AC

Dimensions

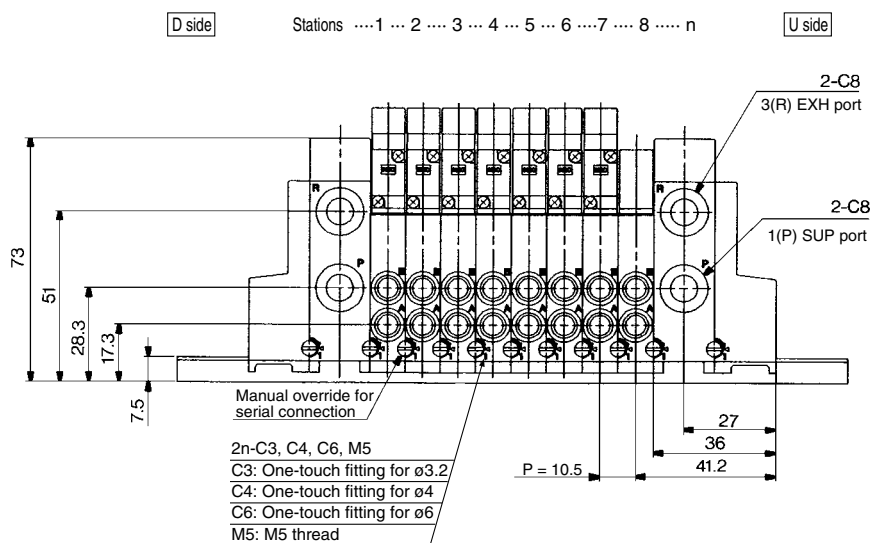
Formula L1 = 10.7n + 36, L2 = 10.7n + 45 n: Station (Maximum 16 stations)

L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	46.7	57.4	68.1	78.8	89.5	100.2	110.9	121.6	132.3	143	153.7	164.4	175.1	185.8	196.5	207.2
L2	55.7	66.4	77.1	87.8	98.5	109.2	119.9	130.6	141.3	152	162.7	173.4	184.1	194.8	205.5	216.2
(L3)	87.5	87.5	100	112.5	125	137.5	150	162.5	162.5	175	187.5	200	212.5	225	225	237.5
(L4)	98	98	110.5	123	135.5	148	160.5	173	173	185.5	198	210.5	223	235.5	235.5	248

The technical drawing includes three views of the E6-800 relay unit:

- Front View (Left):** Shows the width of the unit as 82 mm.
- Side View (Top Left):** Shows the height of the unit as 103 mm.
- Top View (Right):** Shows the depth and terminal layout. Key dimensions include:
 - Total depth: 97 mm
 - Distance from front face to terminal block centerline: 69 mm
 - Terminal pitch: 30 mm
 - Lead wire length: ≈ 300 mm
 - Mounting hole offset: 5.2 mm
 - Indicator light and Manual override labels point to specific terminals.
 - DIN rail clamp screw location is indicated at the bottom right.
 - Other dimensions shown are 5.5 mm and 35 mm for mounting details.

VQD

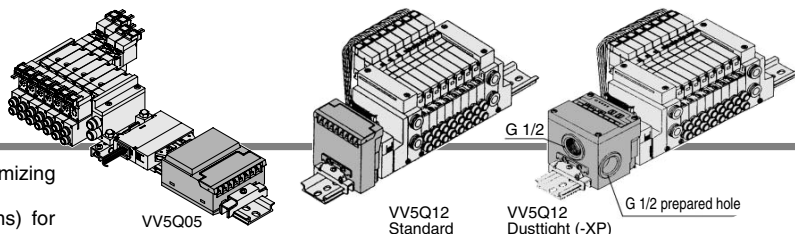


Formula L1 = 10.5n + 72 n: Station (Maximum 16 stations)

$\backslash n$	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	82.5	93	103.5	114	124.5	135	145.5	156	166.5	177	187.5	198	208.5	219	229.5	240
L2	112.5	112.5	125	137.5	150	162.5	175	187.5	187.5	200	212.5	225	237.5	250	250	262.5
L3	123	123	135.5	148	160.5	173	185.5	198	198	210.5	223	235.5	248	260.5	260.5	273

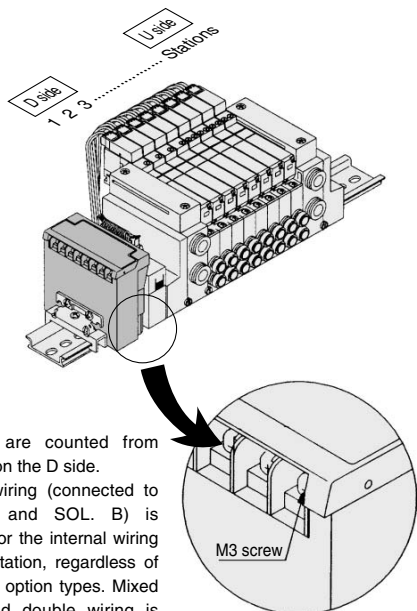
S VQ0000/1000 Kit (Serial transmission unit)

- The serial transmission system reduces wiring work, while minimizing wiring and saving space.
- The system comes in 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.), type SF (applicable to NKE models: 128 points max.), type SJ (applicable to SUNX models), type SK (applicable to Fuji Electric models), type SQ (applicable to OMRON's Compo Bus/D), and type SR (applicable to OMRON's Compo Bus/S).
- Max. 8 stations. (Specify a option model with 9 to 16 stations by using the manifold specification sheet.)



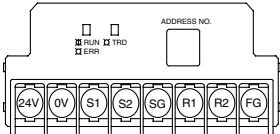
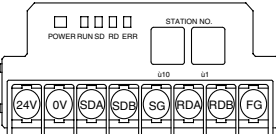
Manifold Specifications

Series	Porting specifications			Applicable stations
	Port location	Port size		
		1(P), 3(R)	4(A), 2(B)	
VQ0000	Side	C6	C3, C4, M5	Max.16 stations
VQ1000	Side	C8	C3, C4, C6, M5	Max.16 stations



- 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. Mixed single and double wiring is available as an option. For details, refer to page 2-4-216.

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

	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)																			
	<table><tr><th>LED</th><th>Description</th></tr><tr><td>TRD</td><td>Lighting during data reception</td></tr><tr><td>RUN/ERR</td><td>Blinking when received data is normal; Lighting when data reception</td></tr></table>	LED	Description	TRD	Lighting during data reception	RUN/ERR	Blinking when received data is normal; Lighting when data reception	<table><tr><th>LED</th><th>Description</th></tr><tr><td>POWER</td><td>Lighting when power is turned ON</td></tr><tr><td>RUN</td><td>Lighting when data transmission with the master station is normal</td></tr><tr><td>RD</td><td>Lighting during data reception</td></tr><tr><td>SD</td><td>Lighting during data transmission</td></tr><tr><td>ERR.</td><td>Lighting when reception data error occurs Light turns off when the error is corrected</td></tr></table>	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.
LED	Description																		
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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 models of OMRON Corporation EX300-TFU1.... For models of Fuji Electric Co., Ltd. EX300-T001... For general models * Up to 32 points per unit. • No. of output points, 16 point	• 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 sta. occupied, 2 stations																	

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

How to Order Manifold

VV5Q 12-08 C6 S A-D -XP

Series/Manifold

05	VQ0000	Plug lead unit
12	VQ1000	

Stations

01	1 station
16	16 stations (Note)

Cylinder port

Symbol	Port size	VQ0000	VQ1000
C3	With One-touch fittings for ø3.2	●	●
C4	With One-touch fitting for ø4	●	●
C6	With One-touch fitting for ø6	—	●
M5	M5 thread	●	●
CM	With mixed size/with port plug	●	●

Note 1 Specify "Mixed size/with port plug" on the manifold specification sheet.
Note 2 For inch-size One-touch fittings, refer to "Option" on page 2-4-216.

Dust-protected type (-XP) (VQ1000 only)
Suffix "-XP" for the dust-protected type SI unit. (Except SE and SQ.)

Option

Symbol	Option	VQ0000	VQ1000	Note
B	With back pressure check valve	—	●	(2)
D	DIN rail mounting	●	●	(3)
K	Special wiring specifications (Not double wiring)	●	●	(4)
N	With name plate	●	●	
S	Built-in silencer, direct exhaust	●	●	

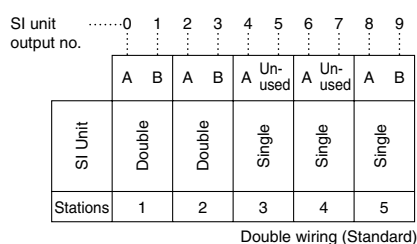
Model

Model	Without SI unit	Max. stations
0	Without SI unit (Series EX300)	
A	With general type SI unit (Series EX300)	
B	Mitsubishi Electric Corp.: MELSECNET/MINI-S3 Data Link System	
C	OMRON Corp.: SYSBUS Wire System	
D	SHARP Corp.: Satellite I/O Link System	
E	Matsushita Electric Works: MEWNET-F System	
F1	NKE Corp.: Uni-wire System (16 output points)	Max. 16 stations
G	Rockwell Automation: Allen Bradley Remote I/O (RIO) System	
H	NKE Corp.: Uni-wire H System	
J1	SUNX Corp.: S-LINK System (16 output points)	Max. 8 stations
J2	SUNX Corp.: S-LINK System (8 output points)	Max. 16 stations
K	Fuji Electric Co.: T-LINK Mini System	
Q	DeviceNet, CompoBus/D (OMRON Corp.)	Max. 16 stations
R1	OMRON Corp.: CompoBus/S System (16 output points)	Max. 8 stations
R2	OMRON Corp.: CompoBus/S System (8 output points)	Max. 16 stations
V	Mitsubishi Electric Corp.: CC-LINK System	Max. 16 stations

Note 1 The general type requires a transmission unit on CPU side.
Note 2 Usable only for VQ1000

● SI unit output and coil numbering

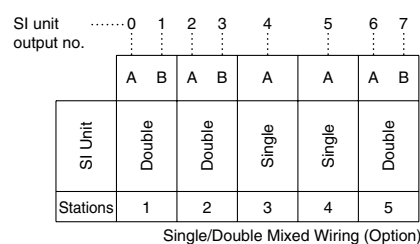
<Wiring example 1>



<Wiring example 2>

Mixed wiring is available as an option.

Use the manifold specification sheet to specify.



	Type SC OMRON Corporation SYSBUS Wire System	Type SD SHARP Corporation Satellite I/O Link System																
Name of terminal block (LED)	<table><thead><tr><th>LED</th><th>Description</th></tr></thead><tbody><tr><td>RUN</td><td>Lights when transmission is normal and PLC is in operation mode</td></tr><tr><td>T/R ERR</td><td>Blinks during data transmission/reception ON when transmission is abnormal</td></tr></tbody></table>	LED	Description	RUN	Lights when transmission is normal and PLC is in operation mode	T/R ERR	Blinks during data transmission/reception ON when transmission is abnormal	<table><thead><tr><th>LED</th><th>Description</th></tr></thead><tbody><tr><td>POWER</td><td>ON when power supply is ON</td></tr><tr><td>RUN</td><td>Lights when power is ON and slave stations are operating normally</td></tr><tr><td>ERROR</td><td>Lights when slave station switch setting is abnormal, communication is abnormal, PLC stopped and defective slave unit</td></tr><tr><td>R.SET HOLD</td><td>ON for master unit control input</td></tr></tbody></table>	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
LED	Description																	
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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's 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																

VQC

SQ

VQ0

VQ4

VQ5

VQZ

VQD

How to Order Valves

VQ 1 1 1 0 Y - 5 LO

Series

0	VQ0000
1	VQ1000

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 (VQ1000 only)

Body type

5	VQ0000	Plug lead unit
1	VQ1000	Plug lead unit

Seal

0	Metal seal
1	Rubber seal

Manual override

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

Note) Available only for VQ1000

Electrical entry

	VQ0000	VQ1000
LO	L plug terminal without connector	●
MO	M plug terminal without connector	●

Note) Plug connector and lead wire layers are attached to the manifold.

Coil voltage

5	24 VDC: With light/surge voltage suppressor
---	---

Function

Symbol	Specifications	DC
Nil	Standard type	(1.0 W) ○
H	High pressure type	(1.5 W) ○
Y	Low wattage type	(0.5 W) ○

Note) Connector assembly will be required when the S kits add a valve.
For part nos., refer to "Option" on page 2-4-216.

How to Order Manifold Assembly

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

<Example>

Serial transmission kit

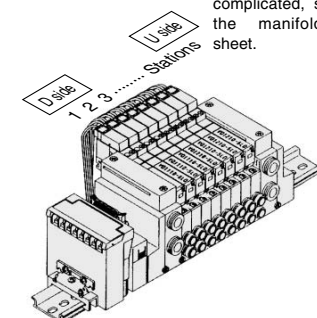
VV5Q12-08C6SA-D 1 set-Manifold base no.

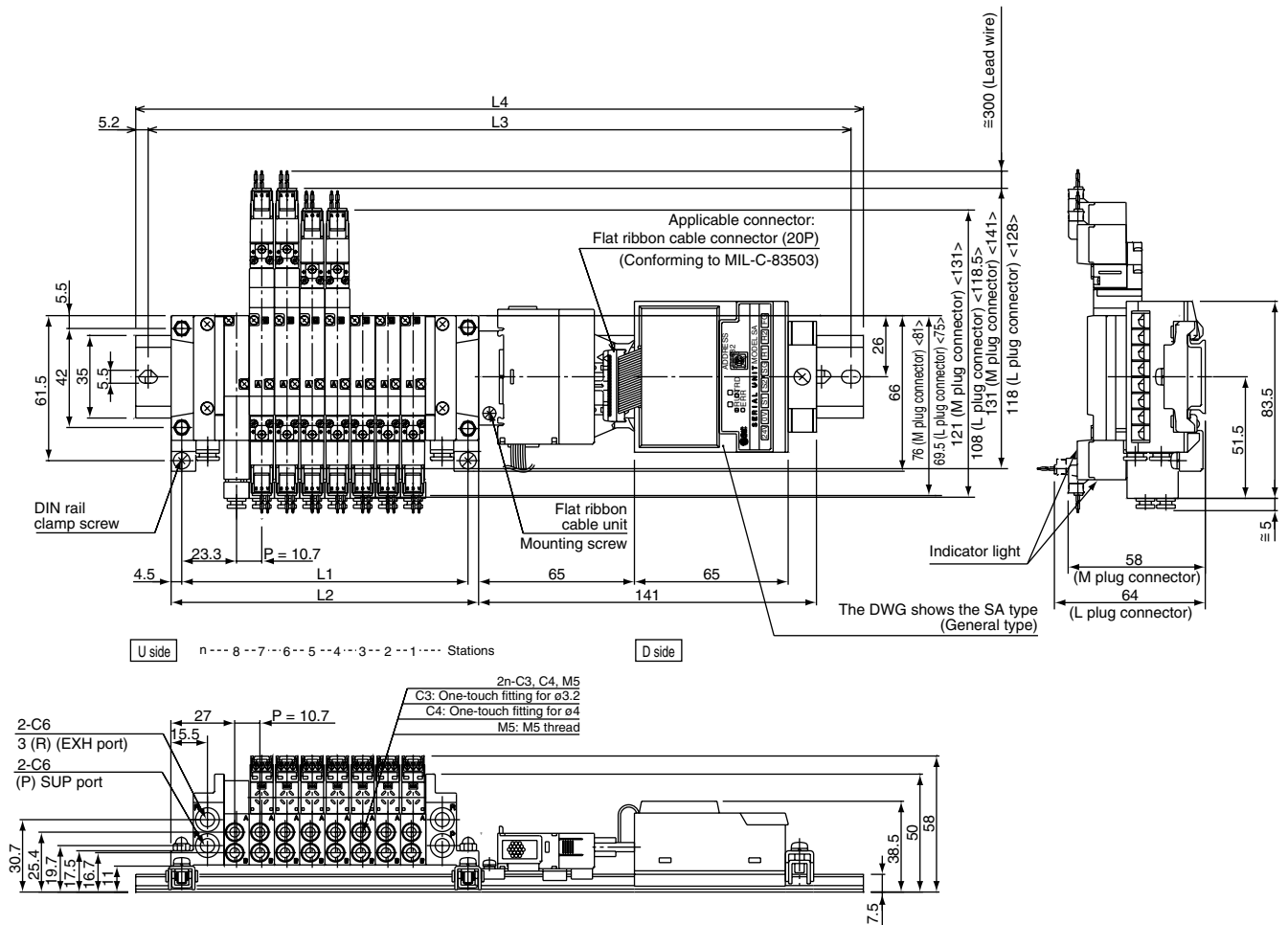
*VQ1110-5LO 4 sets-Valve part no. (Stations 1 to 4)

*VQ1210-5LO 3 sets-Valve part no. (Stations 5 to 8)

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

Write sequentially from the 1st station on the D side. When part nos. written collectively are complicated, specify by using the manifold specification sheet.



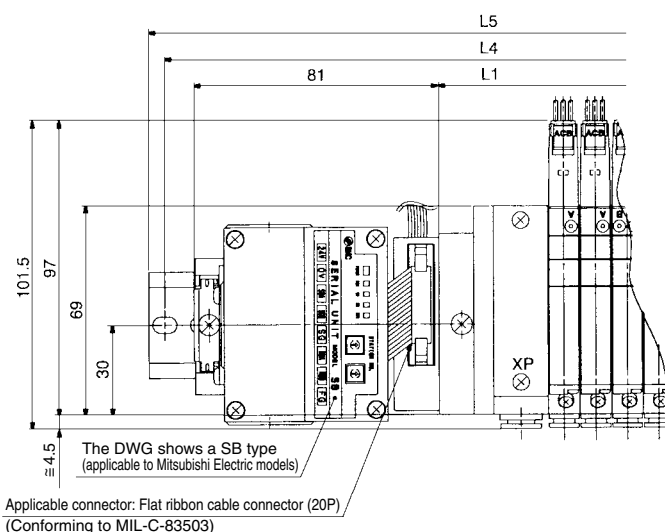


Dimensions

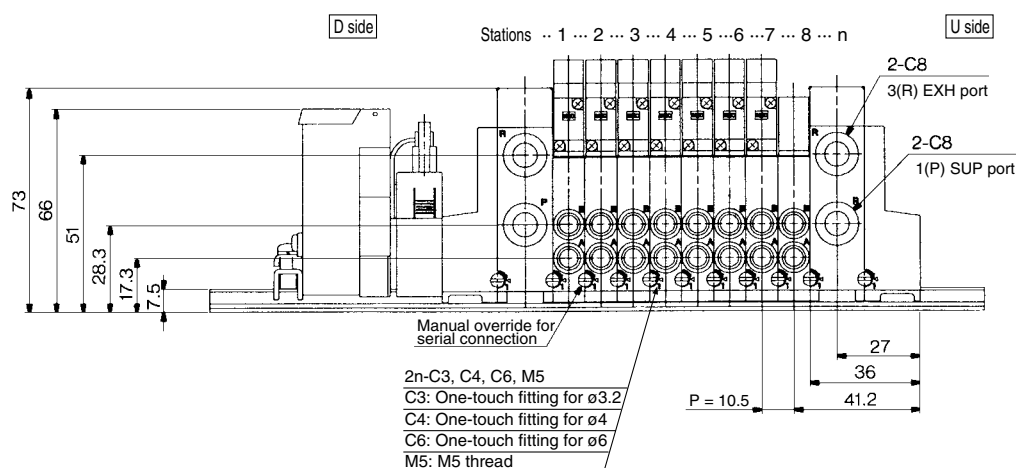
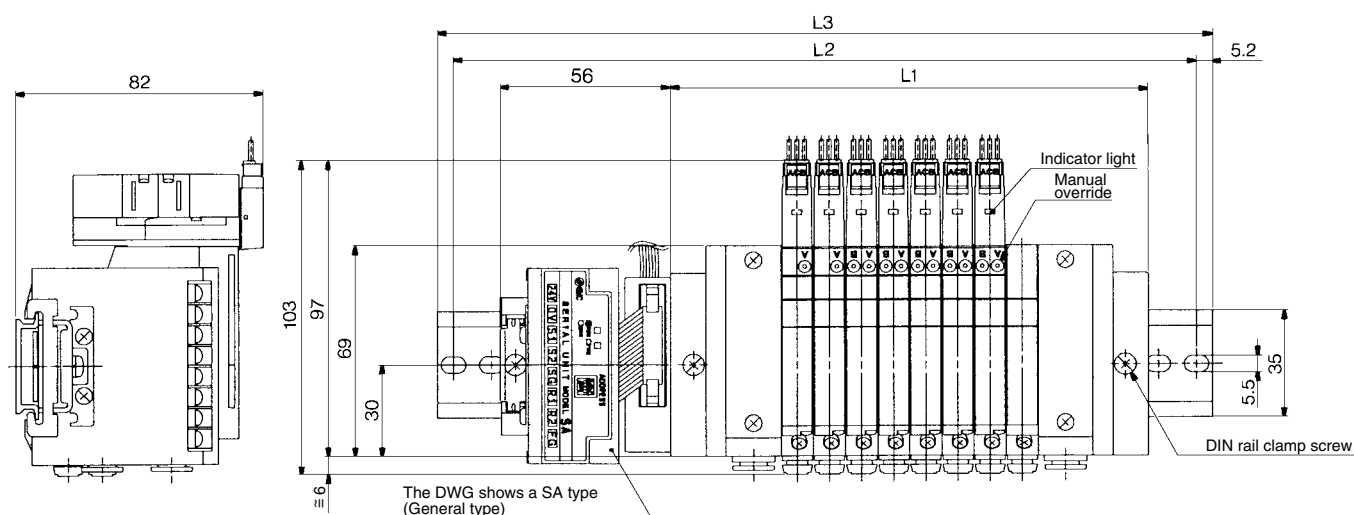
Formula $L1 = 10.7n + 36$, $L2 = 10.7n + 45$ n: Station (Maximum 16 stations)

L	n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1		46.7	57.4	68.1	78.8	89.5	100.2	110.9	121.6	132.3	143	153.7	164.4	175.1	185.8	196.5	207.2
L2		55.7	66.4	77.1	87.8	98.5	109.2	119.9	130.6	141.3	152	162.7	173.4	184.1	194.8	205.5	216.2
L3		225	237.5	250	250	262.5	275	287.5	300	312.5	325	325	337.5	350	362.5	375	387.5
L4		235.5	248	260.5	260.5	273	285.5	298	310.5	323	335.5	335.5	348	360.5	373	385.5	398

VQ1000



Dusttight SI unit



Dimensions

Dust-protected type SI unit: $L4 = L3 + 25$, $L5 = L4 + 25$
 Formula $L1 = 10.5n + 72$ n: Station (Maximum 16 stations)

n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	82.5	93	103.5	114	124.5	135	145.5	156	166.5	177	187.5	198	208.5	219	229.5	240
L2	162.5	175	187.5	200	200	212.5	225	237.5	250	262.5	275	275	287.5	300	312.5	325
L3	173	185.5	198	210.5	210.5	223	235.5	248	260.5	273	285.5	285.5	298	310.5	323	335.5

* Manifolds with SI unit for Matsushita Electric Works' MEWNET FP and Rockwell Automation's model are the same with L4 and L5 dimensions of dustproof SI unit.

Series **VQ0000**

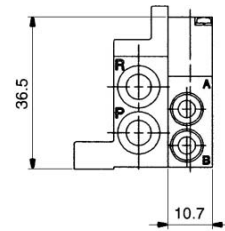
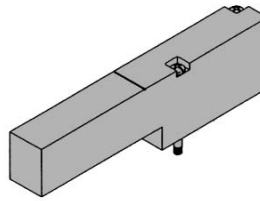
Manifold Option Parts for VQ0000

Blanking plate assembly
VVQ0000-10A-5

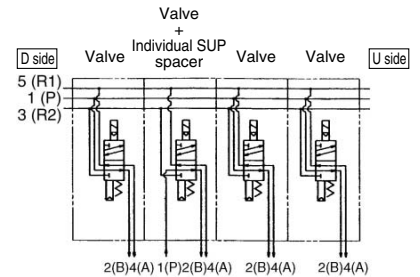
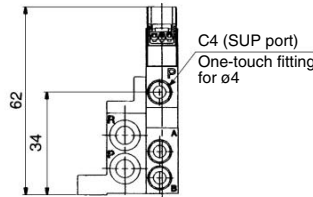
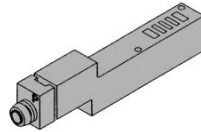
JIS Symbol



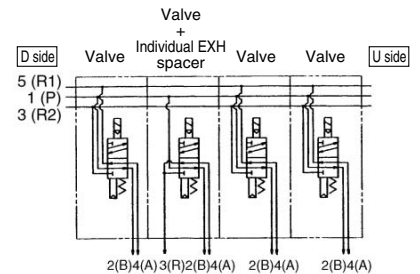
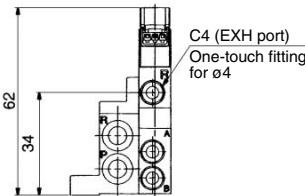
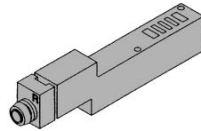
It is used by attaching on the manifold block for being prepared for removing a valve for maintenance reasons or planning to mount a spare valve, etc.

**Individual SUP spacer**
VVQ0000-P-5-C4

When the same manifold is to be used for different pressures, this spacer is mounted under the valve to equip each valve with an individual supply port.

**Individual EXH spacer**
VVQ0000-R-5-C4

When a valve exhaust affects other stations due to the circuit configuration, this spacer is mounted under the valve to equip each valve with an individual valve exhaust.

**SUP/EXH block plate****VVQ0000-16A-5**
P (SUP)
R (EXH)
PR (SUP/EXH)**1(P) (For SUP)**

When different pressures, high and low, are supplied to one manifold, block a plate is inserted between the stations under different pressures.

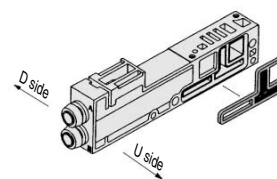
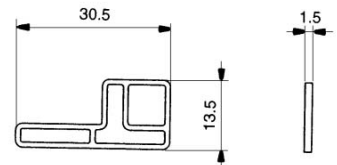
3(R) (For EXH)

When a valve exhaust affects other stations due to the circuit configuration, this plate is used between the stations where exhaust should be separated.

1(P), 3(R) (For SUP/EXH)

When blocking SUP and EXH simultaneously, SUP/EXH block plate (PR) is used.

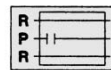
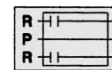
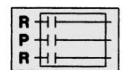
* Specify the number of stations on the manifold specification sheet.



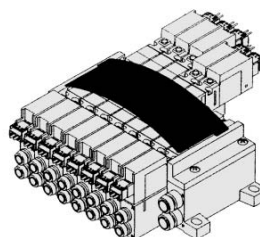
<Blocking indication label>

When blocking the SUP, EXH passage with a SUP, EXH block plate, indication label for confirmation of the blocking position from outside is attached. (One label for each)

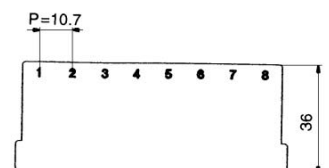
* When ordering a block plate incorporated with the manifold no., a block indication label is attached to the manifold.

SUP passage blocked
(VVQ0000-16A-5-P)EXH passage blocked
(VVQ0000-16A-5-R)SUP/EXH passage blocked
(VVQ0000-16A-5-PR)**Name plate [-N*]****VVQ0000-N5-Station (1 to Max. stations)**

It is a transparent resin plate for placing a label that indicates solenoid valve function, etc. Insert it into the groove on the side of the end plate and bend it as shown in the figure.



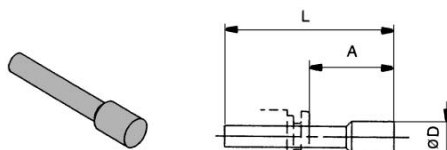
* When ordering assemblies incorporated with a manifold, add suffix "N" to the manifold no.



Blanking plug (For One-touch fittings)**KQ2P-**²³₀₄⁰⁶

It is inserted into an unused cylinder port and SUP/EXH ports.

Purchasing order is available in units of 10 pieces.

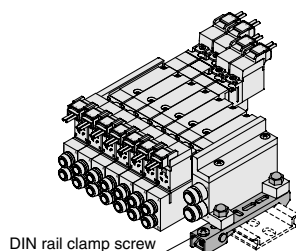
**Dimensions**

Applicable fitting size ϕ D	Model	A	L	D
3.2	KQ2P-23	16	31.5	3.2
4	KQP-04	16	32	6
6	KQP-06	18	35	8

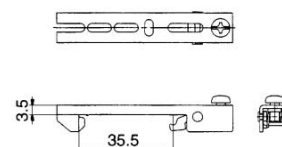
DIN rail mounting bracket [-D]**VVQ0000-57A-5 (VQ0000)**

It is used for mounting a VV5Q05 type manifold on a DIN rail. The DIN rail mounting bracket is fixed to the manifold end plate. (The specification is the same as that for the option "-D".)

1 set of DIN rail mounting bracket is used for 1 set of manifold (2 DIN rail mounting brackets).



* When ordering assemblies incorporated with a manifold, add suffix "-D" to the manifold no.

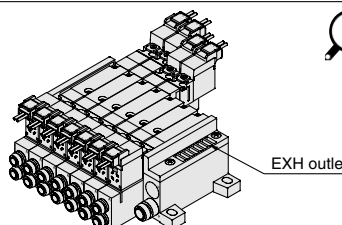
**Built-in silencer, Direct exhaust [-S]**

This is an exhaust port on the manifold end plate. The built-in silencer exhibits an excellent noise suppression effect. (Silencing effect: 20 dB)



Note) A large quantity of drainage generated in the air source results in exhaust of air together with drainage.

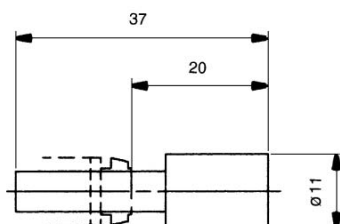
- For maintenance, refer to page 2-4-214.



* When ordering assemblies incorporated with a manifold, add suffix "-S" to the manifold no.

Silencer (For EXH port)

This is inserted into the centralized type EXH port (One-touch fitting).

**Dimensions**

Series	Applicable fitting size ϕ D	Model	A	L	D	Effective area (mm ²)	Noise reduction (dB)
VQ0000	6	AN103-X233	20	37	11	7	25

VQC

SQ

VQ0

VQ4

VQ5

VQZ

VQD

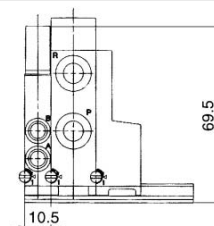
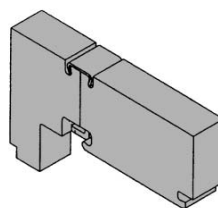
Manifold Option Parts for VQ1000

Blanking plate assembly
VVQ1000-10A-1

JIS Symbol



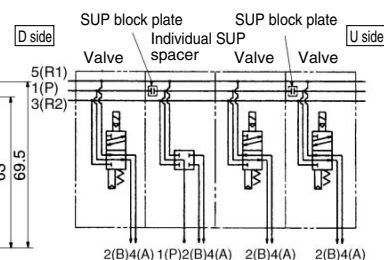
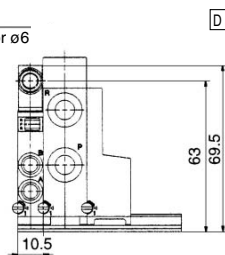
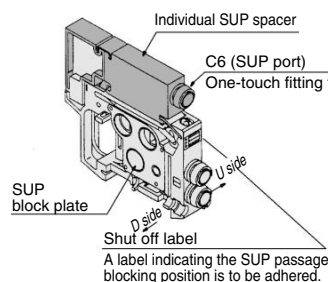
It is used by attaching on the manifold block for being prepared for removing a valve for maintenance reasons or planning to mount a spare valve, etc.

**Individual SUP spacer**
VVQ1000-P-2-C6

When the same manifold is to be used for different pressures, individual SUP spacers are used as SUP ports for different pressures. (One station space is occupied.)

Block both sides of the station, for which the supply pressure from the individual SUP spacer is used, with SUP block plates. (Refer to the application ex.)

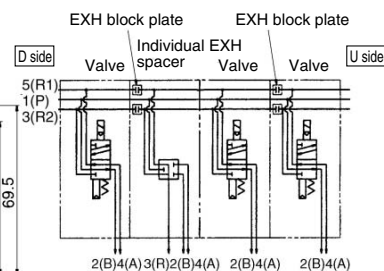
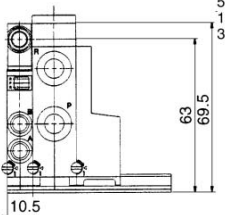
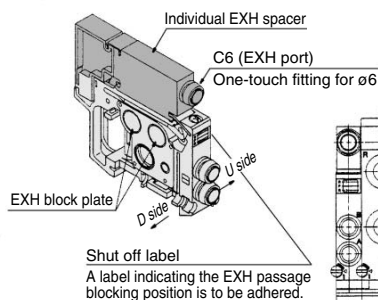
* Specify the spacer mounting position and SUP block plate position on the manifold specification sheet. The block plates are used in two places for one set. (Two SUP block plates for blocking SUP station are attached to the individual SUP spacer.)

**Individual EXH spacer**
VVQ1000-R-2-C6

When valve exhaust affects other stations due to the circuit configuration, this spacer is used for individual valve exhaust. (One station space is occupied.)

Block both sides of the individual valve EXH station. (See example.)

* Specify the mounting position, as well as EXH block base or EXH block plate position on the manifold specification sheet. The block plates are used in two places for one set.

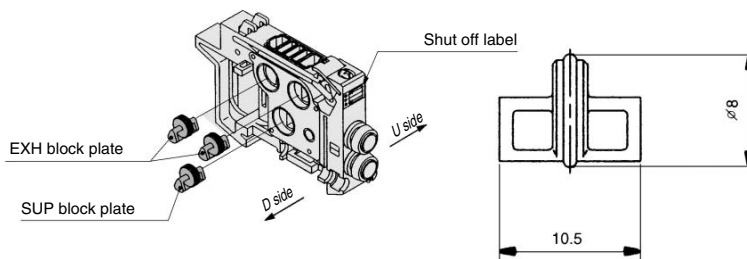
**SUP/EXH block plate**
VVQ1000-16A-2

When different pressures, high and low, are supplied to one manifold, a SUP block plate is inserted between the stations under different pressures.

When a valve exhaust affects other stations due to the circuit configuration, this plate is also used between the stations where exhaust should be separated. It is also used for individual exhaust by combining an EXH block plate with an individual EXH spacer. (2 EXH plates are necessary for 1 station.)

Note) The SUP/EXH block plate is common.

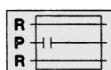
* Specify the number of stations on the manifold specification sheet.



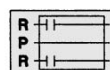
<Blocking indication label>

When using block plates for SUP/EXH passage, the indication label for confirmation of the blocking position from outside is attached. (One label for each)

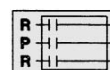
* When ordering a block plate incorporated with the manifold no., a block indication label is attached to the manifold.



SUP passage blocked



EXH passage blocked

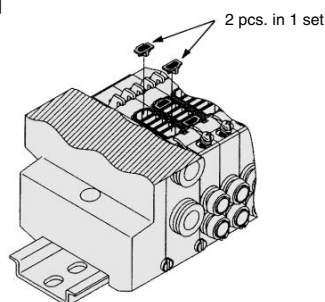


SUP/EXH passage blocked

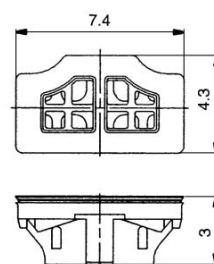
Back pressure check valve assembly [-B]
VVQ1000-18A

It prevents cylinder malfunction caused by other valve exhaust. Insert it into R (EXH) port on the manifold side of a valve which is affected. It is effective when a single acting cylinder is used or an exhaust center type solenoid valve is used.

Note) When a check valve for back pressure prevention is desired to be installed only in certain manifold stations, write clearly the part no. and specify the station numbers by using the manifold specification sheet.



* When ordering assemblies incorporated with a manifold, add suffix "-B" to the manifold no.



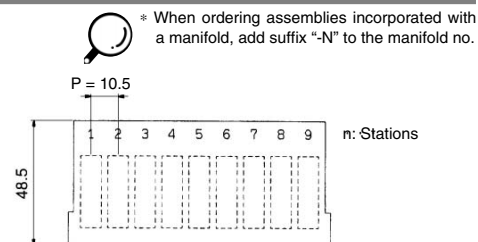
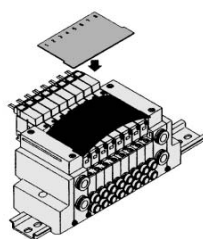
<Precautions>

1. Back pressure check valve assembly is assembled with a check valve structure. However, as slight air leakage is allowed for the back pressure, take note the exhaust air will not be throttled at the exhaust port.
2. When a back pressure check valve is mounted, the effective orifice of the valve will decrease by about 20%.

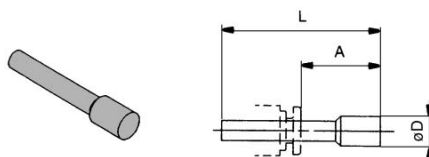
Name plate [-N*]**VVQ1000-N2-Station (1 to Max. stations)**

It is a transparent resin plate for placing a label that indicates solenoid valve function, etc.

Insert it into the groove on the side of the end plate and bend it as shown in the figure.

**Blanking plug (For One-touch fittings)****KQ2P-**
23
04
06
08

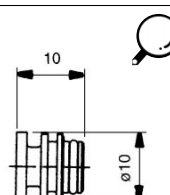
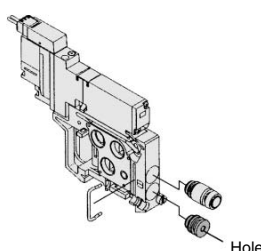
It is inserted into an unused cylinder port and SUP/EXH ports. Purchasing order is available in units of 10 pieces.

**Dimensions**

Applicable fitting size øD	Model	A	L	D
3.2	KQ2P-23	16	31.5	3.2
4	KQP-04	16	32	6
6	KQP-06	18	35	8
8	KQP-08	20.5	39	10

Port plug VVQ0000-58A

The plug is used to block the cylinder port when using a 4 port valve as a 3 port valve.

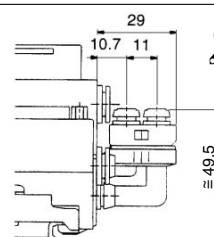
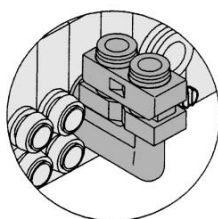
**Elbow fittings assembly****VVQ1000-F-L**
04
06
08
MS

It is used for piping that extends upward or downward from the manifold.

When not mounting it to all manifold stations, clearly write the elbow type fitting assembly no. and specify the station's qty and position by manifold specifications.

* When mounting elbow fittings assembly on the edge of manifold station and a silencer on EXH port, select a silencer, AN203-KM8.

Silencer (AN200-KM8) is interfered with fittings.

**Built-in silencer, Direct exhaust [-S]**

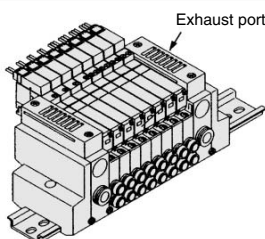
This is an exhaust port on the manifold end plate.

The built-in silencer exhibits an excellent noise suppression effect. (Silencing effect: 30 dB)

(Note) A large quantity of drainage generated in the air source results in exhaust of air together with drainage.



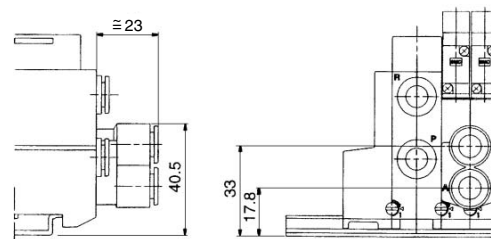
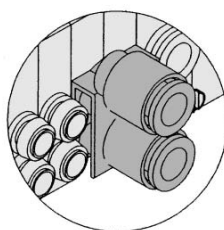
• For maintenance, refer to page 2-4-214.

**2 stations matching fitting assembly****VVQ1000-52A-C8**

For driving a cylinder with a large bore, valves for two stations are operated to double the flow rate. This assembly for the cylinder port is used in that case. The assembly is equipped with One-touch fittings for a ø8 bore.

* The bore for the manifold no. is "CM".

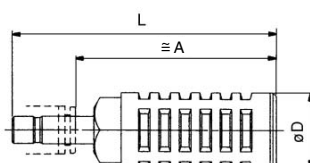
Clearly indicate the 2 station matching fitting assembly no., and specify the number of stations and positions on the manifold specification sheet.

**Silencer (For EXH port)**

This is inserted into the centralized type EXH port (One-touch fitting).

* When mounting elbow fittings assembly (VVQ1000-F-L□) on the edge of manifold station, select a silencer, AN203-KM8.

Silencer (AN200-KM8) is interfered with fittings.

**Dimensions**

Series	Applicable fitting size øD	Model	A	L	D	Effective area (mm ²)	Noise reduction (dB)
VQ1000	8	AN200-KM8	59	78	22	20	30
		AN203-KM8	32	51	16	14	25*

Manifold Option Parts for VQ0000/VQ1000

Double check block (Separated type)

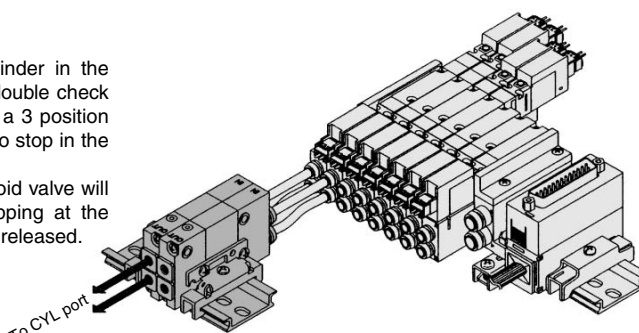
VQ1000-FPG-□□

It is used on the outlet side piping to keep the cylinder in the intermediate position for a long time. Combining the double check block with a built-in pilot type double check valve and a 3 position exhaust center solenoid valve will enable the cylinder to stop in the middle or maintain its position for a long time.

The combination with a 2 position single/double solenoid valve will permit this block to be used for preventing the dropping at the cylinder stroke end when the SUP residual pressure is released.

Specifications

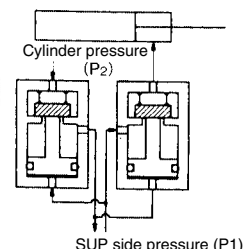
Max. operating pressure	0.8 MPa
Min. operating pressure	0.15 MPa
Ambient and fluid temperature	-5 to 50°C
Flow characteristics: C	0.60 dm ³ /(s·bar)
Max. operating frequency	180 CPM



VVQ1000-FPG-02 1 set
*VQ1000-FPG-C6M5-D 2 pcs.

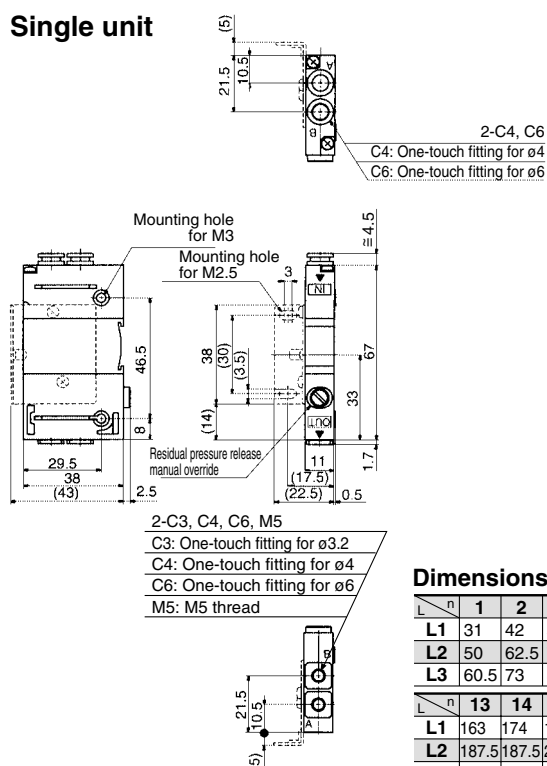
Note) Based on JIS B 8375-1981
(Supply pressure: 0.5 MPa)

<Check valve operation principle>

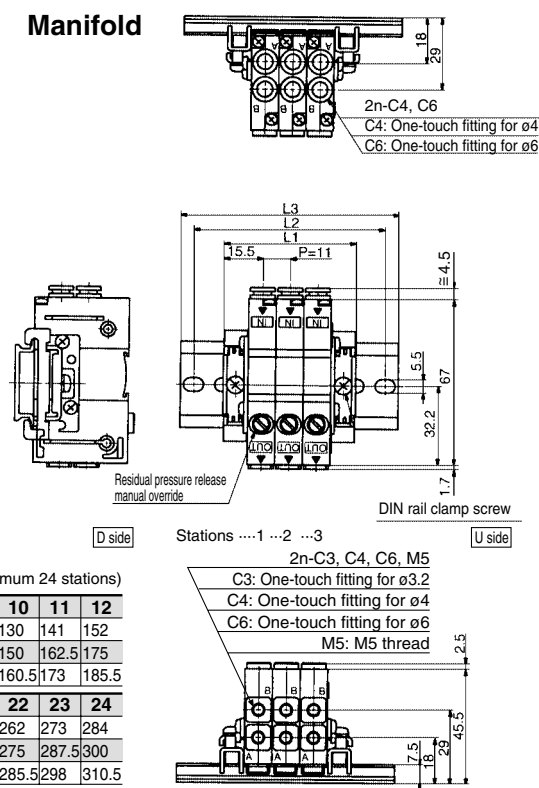


Dimensions

Single unit



Manifold



Dimensions

Formula L1=11n+20 n: Station (Maximum 24 stations)

n	1	2	3	4	5	6	7	8	9	10	11	12
L1	31	42	53	64	75	86	97	108	119	130	141	152
L2	50	62.5	75	87.5	100	112.5	125	137.5	150	162.5	175	
L3	60.5	73	85.5	98	110.5	123	135.5	148	160.5	173	185.5	

n	13	14	15	16	17	18	19	20	21	22	23	24
L1	163	174	185	196	207	218	229	240	251	262	273	284
L2	187.5	187.5	200	212.5	225	237.5	250	262.5	275	287.5	300	
L3	198	198	210.5	223	235.5	248	260.5	260.5	273	285.5	298	310.5

How to Order

Double check block

VQ1000-FPG-□□-□□-□□

IN side port size	OUT side port size	Option
C4	M5	Nil
C6	C3	F
	C4	D
	C6	N

Nil	None
F	With bracket
D	DIN rail mounting style (For manifold)
N	Name plate

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

Manifold

VVQ1000-FPG-06

Stations	
01	1 station
...	...
16	16 stations

<Example>

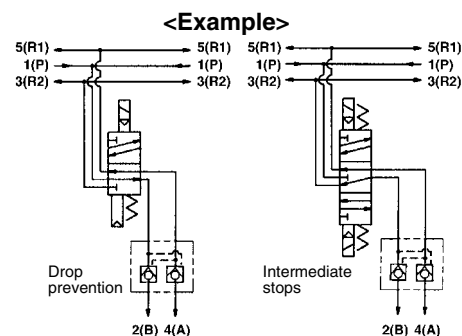
VVQ1000-FPG-06 ... 6 types of manifold
*VQ1000-FPG-C4M5-D, 3 sets } Doublecheck block
*VQ1000-FPG-C6M5-D, 3 sets }

Bracket Assembly

Part no.	Tightening torque
VQ1000-FPG-FB	0.22 to 0.25 N·m

Caution

- Air leakage from the pipe between the valve and cylinder or from the fittings will prevent the cylinder from stopping for a long time. Check the leakage using neutral household detergent, such as dish washing soap.
- Also check the cylinder's tube gasket, piston packing and rod packing for air leakage.
- Since One-touch fittings allow slight air leakage, screw piping (with M5 thread) is recommended when stopping the cylinder in the middle for a long time.
- Combining double check block with 3 position closed center or pressure center solenoid valve will not work.
- M5 fitting assembly is attached, not incorporated into the double check block. After screwing in the M5 fittings, mount the assembly on the double check block.
- (Tightening torque: 0.8 to 1.2 N·m)
- If the exhaust of the double check block is throttled too much, the cylinder may not operate properly and may not stop immediately.
- Set the cylinder load so that the cylinder pressure will be within two times that of the supply pressure.



⚠ Precautions 1

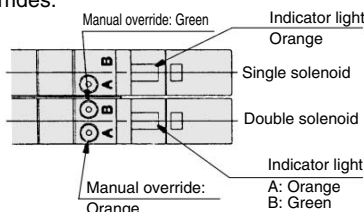
Be sure to read before handling. For Safety Instructions and Solenoid Valve Precautions, refer to page 2-9-2.

Light/Surge Voltage Suppressor

⚠ Caution

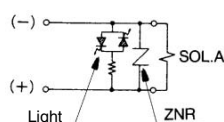
In the case of VQ1000, the standard model is equipped with an indicator light and surge voltage suppressor. The lighting positions are concentrated on one side for both single solenoid type and double solenoid type.

For the double solenoid type, A side and B side energization are indicated by two colors which match the colors of the manual overrides.



* In the case of VQ0000, solenoid and manual override on both sides.

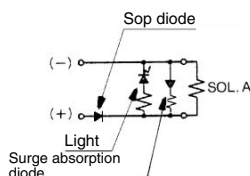
DC circuit diagram VQ0000



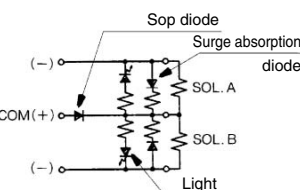
* In the case of VQ0000, solenoid and manual override on both sides.

Note) A side energization:
A light (orange) illuminates.
With wrong wiring preventing ability (stop diode)
B side energization:
B light (green) illuminates.
Equipped with a surge absorption (surge absorption diode) mechanism.

VQ1000 (DC)/Single solenoid



VQ1000/Double solenoid



Manual Override

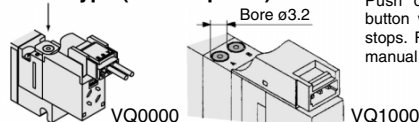
⚠ Warning

Without an electric signal for the solenoid valve the manual override is used for switching the main valve.

Push type is standard. (Tool required)

Option: Locking type (Tool required/Manual)

■ Push type (Tool required)



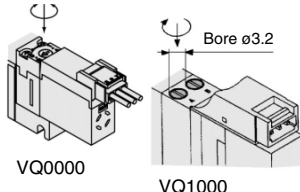
Push down on the manual override button with a small screwdriver until it stops. Release the screwdriver and the manual override will return.

■ Locking type (Tool required) <Option>

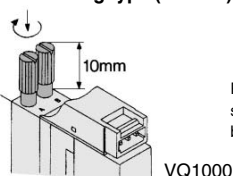
If the manual override is turned by 180° clockwise and the ► mark is adjusted to 1, it will be locked in the ON state.

If the manual override is turned by 180° counterclockwise and the ► mark is adjusted to 0, locking will be released and the manual override will return.

Push down completely on the manual override button with a small screwdriver. While down, turn clockwise 90° to lock it. Turn it counterclockwise to release it.



■ Locking type (Manual) <Option>



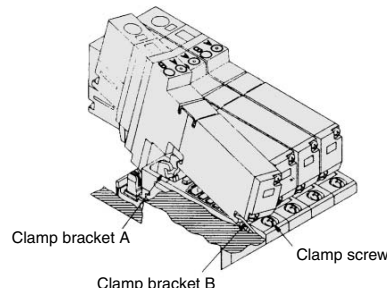
Push down on the manual override button with a small screwdriver or with your fingers until it stops. Turn clockwise by 90° to lock it. Turn it counterclockwise to release it.

⚠ Caution

Do not apply excessive torque when turning the locking type manual override. (0.1 N·m or less)

How to Mount/Remove Solenoid Valve

⚠ Caution



How to Remove

1. Loosen the clamp screw until it turns freely. (The screw is captive.)
2. Lift the coil side of the valve body while pressing down slightly on the screw head and remove it from the clamp bracket B. When the screw head cannot be pressed easily, gently press the area near the manual override of the valve.

How to Remove

1. Press down on the clamp screw. → Clamp bracket A opens. Diagonally insert the hook on the valve end plate side into clamp B.
2. Press the valve body downward. (When the screw is released, it will be locked by clamp bracket A.)
3. Tighten the clamp screw. (Proper tightening torque: 0.25 to 0.35 N·m)

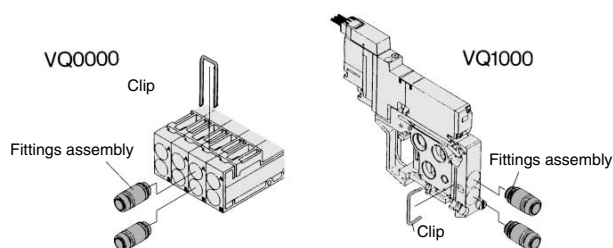
Mounting

1. Dust on the sealing surface of the gasket or solenoid valve can cause air leakage.
2. In the case of VQ0000, valve mounting screw clamping torque is 0.18 to 0.25 N·m.

Replacement of Cylinder Port Fittings

⚠ Caution

The cylinder port fittings are a cassette for easy replacement. The fittings are blocked by a clip inserted from the top of manifold. Remove the clip with a screwdriver to remove fittings. For replacement, insert the fitting assembly until it strikes against the inside wall and then re-insert the clip to specified position.



Take off the valve and remove the clip.

Remove the clip after taking off the manifold.

Applicable tubing O.D.	Fitting assembly part no.	
	VQ0000	VQ1000
Applicable tubing ø3.2	VVQ1000-51A-C3	VVQ1000-50A-C3
Applicable tubing ø4	VVQ1000-51A-C4	VVQ1000-50A-C4
Applicable tubing ø6	—	VVQ1000-50A-C6
M5	—	VVQ1000-50A-M5

* Refer to "Option" on pages 2-4-208 to 2-4-211 for other types of fittings.

⚠ Caution

1. Use caution that O-rings must be free from scratches and dust. Otherwise, air leakage may result.
2. After screwing in the fittings, mount the M5 fitting assembly on the manifold base. (Tightening torque 0.8 to 1.2 N·m)
3. Purchasing order is available in units of 10 pieces.

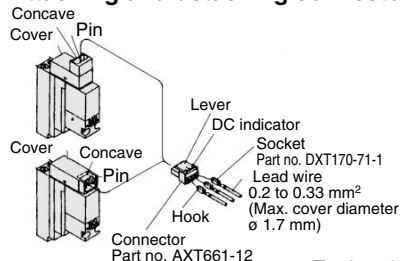
⚠ Precautions 2

Be sure to read before handling. For Safety Instructions and Solenoid Valve Precautions, refer to page 2-9-2.

How to Use Plug Connector

⚠ Caution

Attaching and detaching connectors



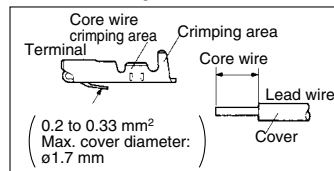
To attach a connector, hold the lever and connector unit between your fingers and insert straight onto the pins of the solenoid valve so that the lever's pawl is pushed into the groove and locks.

To detach a connector, remove the pawl from the groove by pushing the lever downward with your thumb, and pull the connector straight out.

Crimping the lead wire and socket

Peel 3.2 to 3.7 mm of the tip of lead wire, neatly into a socket and press contact it by a press tool.

Be careful so that the cover of lead wire does not enter into the core press contacting part.



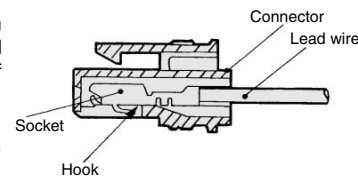
Attaching and detaching lead wires with sockets

Attaching
Insert a socket in the square hole (Indicated as ⊕, ⊖) of connector, push in the lead wire and lock by hanging the hook of socket to the seat of connector. (Pushing-in can open the hook and lock it automatically.) Then confirm the lock by lightly pulling on the lead wire.

Detaching

For pulling-out the socket from the connector, pull out the lead wire while pushing the hook of the socket with a fine point (ca. 1 mm) tool.

If the socket is to be re-used, spread the hook to the outside.

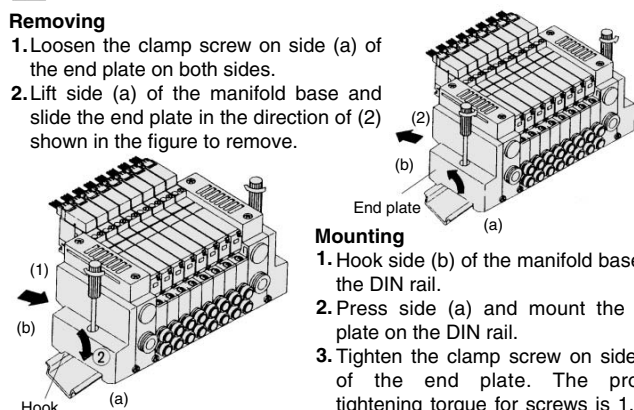


Mounting/Removing from the DIN Rail (VQ1000)

⚠ Caution

Removing

1. Loosen the clamp screw on side (a) of the end plate on both sides.
2. Lift side (a) of the manifold base and slide the end plate in the direction of (2) shown in the figure to remove.



Mounting

1. Hook side (b) of the manifold base on the DIN rail.
2. Press side (a) and mount the end plate on the DIN rail.
3. Tighten the clamp screw on side (a) of the end plate. The proper tightening torque for screws is 1.2 to 1.6 N·m.

Enclosure IP65

⚠ Caution

Wires, cables, connectors, etc. used for models conforming to IP65 should also have enclosures equivalent to or of stricter than IP65.

How to Calculate the Flow Rate

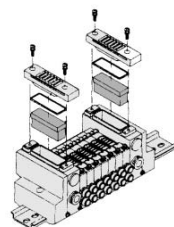
⚠ Caution

For obtaining the flow rate, refer to pages 2-1-8 to 2-1-11.

2-4-214

Built-in Silencer Replacement

⚠ Caution



A silencer element is incorporated in the end plate on both sides of the manifold base. A dirty and choked element may reduce cylinder speed and cause malfunction. Clean or replace the dirty element.

Remove the cover from the top of the end plate and remove the old element with a screwdriver, etc.

Element part no.

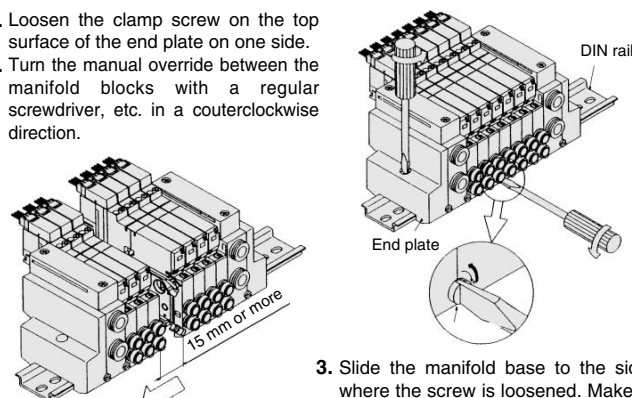
Type	Element part no.	
	VQ0000	VQ1000
Built-in silencer, direct exhaust (-S)	VVQ0000-82A-1	VVQ1000-82A-1

* The minimum order quantity is 10 pcs.

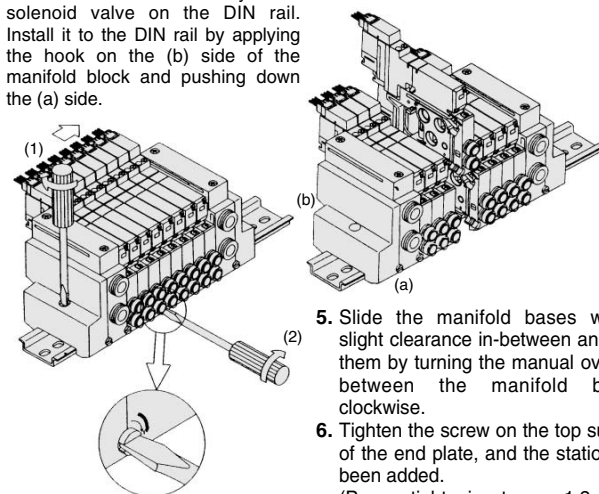
Manifold Base Station Increasing Procedure (VQ1000)

⚠ Caution

1. Loosen the clamp screw on the top surface of the end plate on one side.
2. Turn the manual override between the manifold blocks with a regular screwdriver, etc. in a counterclockwise direction.



4. Mount the station increasing manifold block assembly and solenoid valve on the DIN rail. Install it to the DIN rail by applying the hook on the (b) side of the manifold block and pushing down the (a) side.



3. Slide the manifold base to the side where the screw is loosened. Make a clearance of 15 mm or more.

5. Slide the manifold bases with a slight clearance in-between and lock them by turning the manual override between the manifold blocks clockwise.
6. Tighten the screw on the top surface of the end plate, and the station has been added. (Proper tightening torque 1.2 to 1.6 N·m)

Manifold Block Assembly

VQ1000	Port size
VVQ1000-1A-2-C3	With One-touch fitting for ø3.2
VVQ1000-1A-2-C4	With One-touch fitting for ø4
VVQ1000-1A-2-C6	With One-touch fitting for ø6
VVQ1000-1A-2-M5	M5 thread

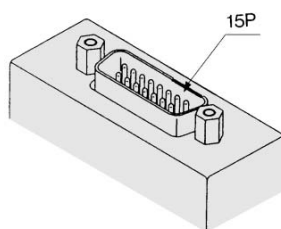
Option

Different Number of Connector Pins

F and P kits with the following number of pins are available besides the standard number (F = 25; P = 26). Select the desired number of pins and cable length from the cable assembly list. Place an order for the cable assembly separately.

F

kit (D-sub connector) 15 pins



How to order manifold

VV5Q12-06 F SA-D

Stations

Option

How to Order

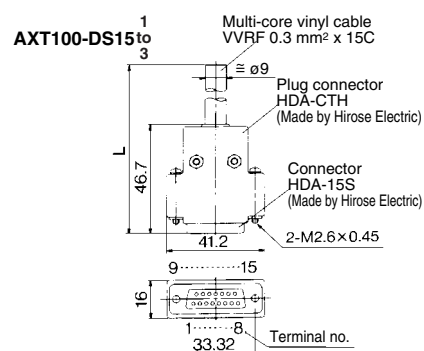
D-sub connector, 15 pins
Connector location –
Side (horizontal)
Without cable

Kit/Electrical entry

Pins	Location	Top entry		Side entry	
15P (Max. 7 stations)		Kit F	UA	Kit F	SA

Wiring Specifications

* In the same way as the 25-pin models (standard), terminal no. 1 for is SOL.A at the 1st station, terminal no. 9 for SOL.B at the 1st station, and terminal no. 8 for COM.



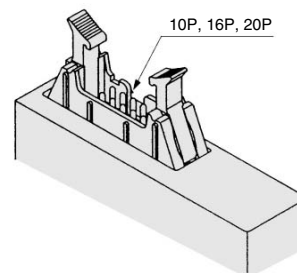
Wire Color by Terminal No. of D-sub Connector Cable Assembly

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

D-sub Connector Cable Assembly

Cable length (L)	Pins	15P
1.5 m		AXT100-DS15-1
3 m		AXT100-DS15-2
5 m		AXT100-DS15-3

* For other commercial connectors, use a type conforming to MIL-C-24308.

Pkit (Flat ribbon cable connector)
10 pins, 16 pins, 20 pins

How to order manifold

VV5Q12-06 P SC-D

Stations

Option

How to Order

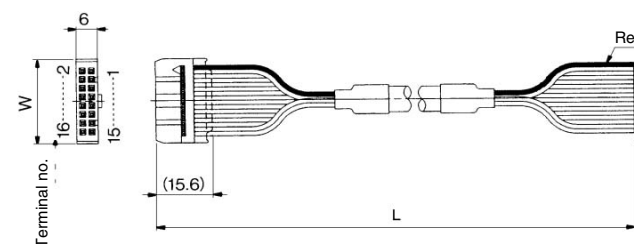
Flat ribbon cable, 20 pins
Connector location –
Side (horizontal)
Without cable

Kit/Electrical entry

Pins	Location	Top entry		Side entry	
10P (Max. 4 stations)		Kit P	UA	Kit P	SA
16P (Max. 7 stations)			UB		SB
20P (Max. 9 stations)			UC		SC

Wiring Specifications

* In the same way as the 26-pin models (standard), terminal no. 1 is SOL.A at the 1st station, terminal no. 2 for SOL.B at the 1st station, and two pins from the max.



Flat Ribbon Cable Assembly

Pins	10P	16P	20P
Cable length (L)			
1.5 m	AXT100-FC10-1	AXT100-FC16-1	AXT100-FC20-1
3 m	AXT100-FC10-2	AXT100-FC16-2	AXT100-FC20-2
5 m	AXT100-FC10-3	AXT100-FC16-3	AXT100-FC20-3
Connector width (W)	17.2	24.8	30

* For other commercial connectors, use a type with strain relief conforming to MIL-C-83503.

VQC

SQ

VQ0

VQ4

VQ5

VQZ

VQD

Option

Special Wiring Specifications

In the internal wiring of F kit, P kit, T kit and S kit, double wiring (connected to SOL. A and SOL. B) is adopted for each station regardless of the valve and option types. Mixed single and double wiring is available as an option.

1. How to Order

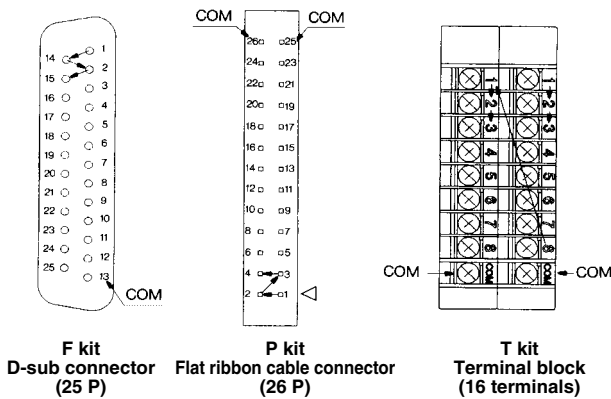
Indicate an option symbol “-K”, for the manifold no. and be sure to specify the mounting position and number of stations of the single and double wiring by means of the manifold specification sheet.

Example) VV5Q05-08C4FU1-D K S

Others, option symbols:
to be indicated alphabetically.

2. Wiring specifications

With the A side solenoid of the 1st station as no. 1 (meaning, to be connected to no. 1 terminal), without making any terminals vacant.



3. Max. number of stations

The maximum number of stations depends upon the number of solenoids. Assuming one for a single and two for a double, determine the number of stations so that the total number is not more than the max. number given in the following table.

Kit	F kit (D-sub connector)		P kit (Flat ribbon cable connector)			T kit (Terminal block)		S kit (Serial transmission)
Type	F ^U ₂₅ □	F ^U ₁₅ A	P ^U ₂₆ □	P ^U ₂₀ C	P ^U ₁₆ B	P ^U ₁₀ A	T1 T2	S□
Max. points	16 ^{Note)} 14	14	16 ^{Note)} 16 ^{Note)} 14	16 ^{Note)} 14	14	8	8 16	16

Note) Due to the limitation of internal wiring.

Negative Common Specifications [Series VQ1□10]

The following valve part numbers are for negative COM specifications. Manifold model no. is the same as the standard products.

How to order negative COM valves

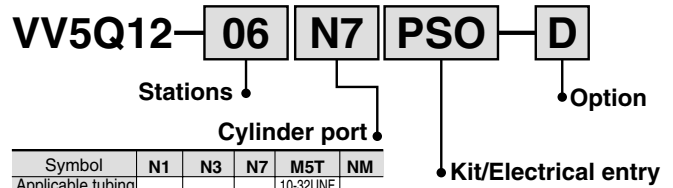
VQ1110 N - 5M

• Negative common specifications

* Series VQ0□50 has no polarity, so the negative common is applicable to standard models.

Inch-size One-touch Fittings

Valve with inch-size One-touch fittings is shown below.



Symbol	N1	N3	N7	M5T	NM
Applicable tubing O.D. (Inch)	ø1/8"	ø5/32"	ø1/4"	10-32UNF (M5 thread)	Mixed
A, B port	VQ0000	○	○	○	○
	VQ1000	○	○	○	○

Note) When inch size fittings are selected for a cylinder port, use inch size fittings for both P and R port, too.

1(P), 3(R) port size
VQ0000ø1/4"
VQ1000ø5/16"

Plug Connector Assembly Model

Connector assembly will be required when the F, P, S kits add a valve. Specify the style of valve and connector assembly.

Connector Assembly Part No.

Specifications		Part no.
Single VQ0000 (2-wire)	Positive common	AXT661-14A-F
	Negative common	AXT661-14AN-F
Double (latching) (3-wire)	Positive common	AXT661-13A-F
	Negative common	AXT661-13AN-F

Note) Lead wire length: 300 mm

The part numbers above are applicable to 2 to 10 stations. 11 to 16 stations: "AXT661-13A(N)-F-425".

DIN Rail Mounting

Each manifold can be mounted on a DIN rail. Order it by indicating a DIN rail mounting option symbol, "-D". In this case, a DIN rail which is approx. 30 mm longer than the manifold with the specified number of stations is attached. Other than this, it is applicable for the following cases.

● When DIN rail is unnecessary (C kit VQ0000 only)

Indicate the option symbol, "-DO", for the manifold no.

Example)

VV5Q05-08C4C-DOS

Others, option symbols:
to be indicated alphabetically.

● When using DIN rail longer than the manifold with specified number of stations (VQ0000/VQ1000)

Clearly indicate the necessary number of stations next to the option symbol. "D" for the manifold no.

Example)

VV5Q05-08C4FU1-D09S

DIN rail for 9 stations
Others, option symbols:
to be indicated alphabetically.

● When changing the manifold style into a DIN rail mounting style (VQ0000 only)

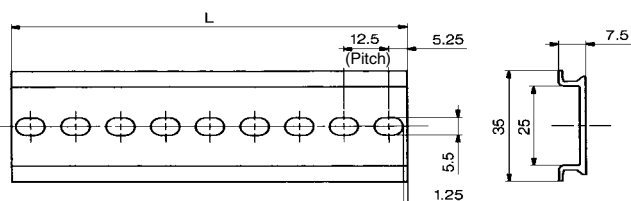
Order brackets for mounting a DIN rail. (Refer to "Option" on page 2-4-209.)

No. VVQ0000-57A-5 2 pcs. per one set.

● When ordering DIN rail only (VQ0000 only)

DIN rail no.: AXT100-DR-□

As for □, specify the number from the DIN rail table.
For L dimension, refer to the dimensions of each kit.



L Dimension

$$L = 12.5 \times n + 10.5$$

No.	1	2	3	4	5	6	7	8	9	10
L dimension	23	35.5	48	60.5	73	85.5	98	110.5	123	135.5
No.	11	12	13	14	15	16	17	18	19	20
L dimension	148	160.5	173	185.5	198	210.5	223	235.5	248	260.5
No.	21	22	23	24	25	26	27	28	29	30
L dimension	273	285.5	298	310.5	323	335.5	348	360.5	373	385.5
No.	31	32	33	34	35	36	37	38	39	40
L dimension	398	410.5	423	435.5	448	460.5	473	485.5	498	510.5

VQC

SQ

VQ0

VQ4

VQ5

VQZ

VQD

Series VQ

Single Unit

Model

Series		Number of solenoid		Model		Flow characteristic ⁽¹⁾						Response time (ms) ⁽²⁾			Weight (g)
						1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → R1/R2)			Standard: 1W H: 1.5W	Low wattage: 0.5 W	AC	
						C [dm³/(s·bar)]	b	Cv	C [dm³/(s·bar)]	b	Cv				
Base mounted	VQ0000 Plug lead	2 position	Single	Metal seal	VQ0150	0.41	0.20	0.10	0.44	0.26	0.11	12 or less	15 or less	29 or less	50 ⁽³⁾
				Rubber seal	VQ0151	0.53	0.20	0.12	0.53	0.22	0.13	15 or less	20 or less	34 or less	
			Double	Metal seal	VQ0250	0.41	0.20	0.10	0.44	0.26	0.11	10 or less	13 or less	13 or less	
				Rubber seal	VQ0251	0.53	0.20	0.12	0.53	0.22	0.13	15 or less	20 or less	20 or less	
		3 position	Closed center	Metal seal	VQ0350	0.32	0.10	0.07	0.32	0.20	0.07	20 or less	26 or less	40 or less	65 ⁽³⁾
				Rubber seal	VQ0351	0.43	0.21	0.10	0.44	0.24	0.11	25 or less	33 or less	47 or less	
			Exhaust center	Metal seal	VQ0450	0.32	0.10	0.07	0.44	0.26	0.11	20 or less	26 or less	40 or less	
				Rubber seal	VQ0451	0.43	0.21	0.10	0.53	0.22	0.13	25 or less	33 or less	47 or less	



Note 1) Cylinder port size C4: (VQ0000)

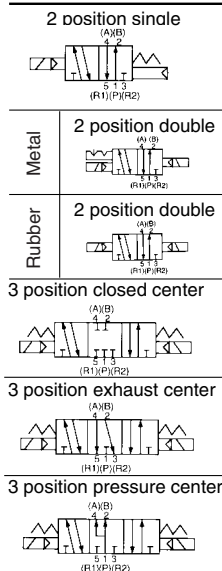
Note 2) Based on JIS B 8375-1981 (Supply pressure: 0.5 MPa; with indicator light and surge voltage suppressor; clean air) The response time is subject to the pressure and quality of the air. The valves at the time of ON are given for double types.

Note3) Weight including sub-plate.

For individual use of a single valve.



JIS Symbol



Standard Specifications

Valve specifications	Valve construction		Metal seal	Rubber seal
	Fluid		Air/Inert gas	Air/Inert gas
	Maximum operating pressure		0.7 MPa (High pressure type: 0.8 MPa)	
	Min. operating pressure	Single	0.1 MPa	0.15 MPa
		Double	0.1 MPa	0.1 MPa
		3 position	0.1 MPa	0.2 MPa
	Ambient and fluid temperature		-10 to 50°C ⁽¹⁾	
	Lubrication		Not required	
	Manual override		Push type/Locking type (Tool required, Manual type) Option	
	Impact/Vibration resistance ⁽²⁾		150/30 m/s ²	
Solenoid	Enclosure		Dust tight	
	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), 1.5 W DC (63 mA) ⁽³⁾ , 0.5 W DC (21 mA) ⁽⁴⁾	
		12 VDC	1 W DC (83 mA), 1.5 W DC (125 mA) ⁽³⁾ , 0.5 W DC (42 mA) ⁽⁴⁾	
		100 VAC	Inrush 0.5 VA (5 mA), Holding 0.5 VA (5 mA)	
		110 VAC	Inrush 0.55 VA (5 mA), Holding 0.55 VA (5 mA)	
		200 VAC	Inrush 1.0 VA (5 mA), Holding 1.0 VA (5 mA)	
		220 VAC	Inrush 1.1 VA (5 mA), Holding 1.1 VA (5 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 for high pressure type (1.5 W)

Note 4) Values for low wattage type (0.5 W)

How to Order Valves

VQ0 1 5 0 Y 5 L □ C4

Series VQ0000

Type of actuation

1	2 position single
2	2 position double
3	3 position closed center
4	3 position exhaust center

Seal

0	Metal seal
1	Rubber seal

Function

Symbol	Specifications	DC	AC
Nil	Standard type	(1.0 W) ○	(Note) ○
H	High pressure type	(1.5 W) ○	—
Y	Low wattage type	(0.5 W) ○	—

Note) For power consumption of AC type, refer to page 2-4-218.

Sub-plate SUP, Cylinder port

Nil	Without sub-plate
C3	With One-touch fitting for ø3.2
C4	With One-touch fitting for ø4
M5	M5 thread

Note) EXH port: M5 thread

Manual override

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

* Option

Electrical entry

G	Grommet (Except AC)
L	L plug connector with lead wire
LO	L plug connector without connector
M	M plug connector with lead wire
MO	M plug connector without connector

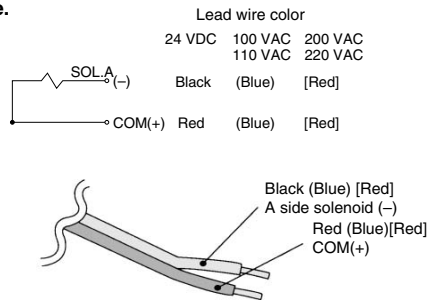
Coil rated voltage

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

VQC
SQ
VQ0
VQ4
VQ5
VQZ
VQD

Wiring Specifications

- The lead wires are connected to the valve as shown below. Connect each to the power supply side.



- Plug connector lead wire length

Note) The length of the lead wire provided is 300 mm. When ordering a valve with a lead wire of 600 mm or longer, be sure to indicate the model number of the valve without connector and connector assembly.

Example) Lead wire length 1000 mm
VQ0150-5LO 3 pcs.
AXT661-14A-10 3 pcs.

Connector Assembly Part No. (For DC)

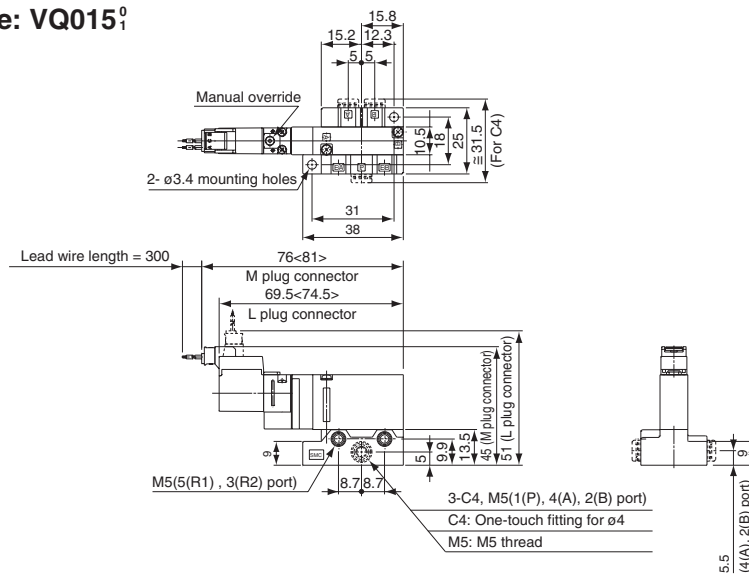
Lead wire length	Part no.
Socket (3 pcs.)	AXT661-12A
300 mm	AXT661-14A
600 mm	AXT661-14A-6
1000 mm	AXT661-14A-10
2000 mm	AXT661-14A-20
3000 mm	AXT661-14A-30

Note) AXT661-31A-□, for 100/110 VAC.
AXT661-34A-□, for 200/220 VAC.

Series VQ

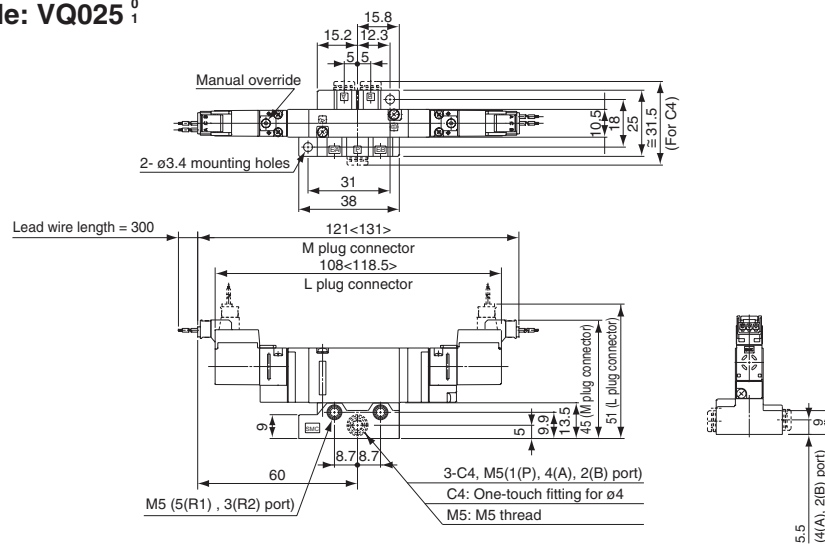
Dimensions

2 position single: VQ015⁰₁



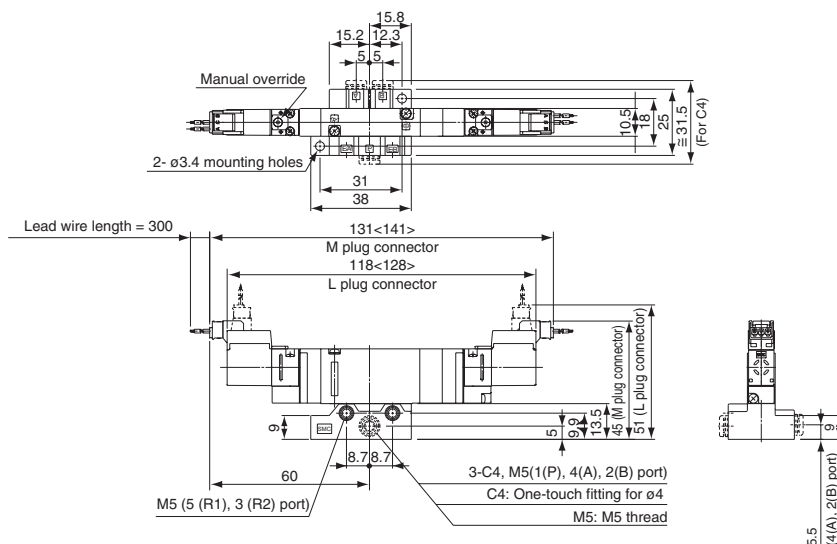
< >: AC

2 position double: VQ025⁰₁



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3 position exhaust center: VQ035⁰₁



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VQC

SQ

VQ0

VQ4

VQ5

VQZ

VQD

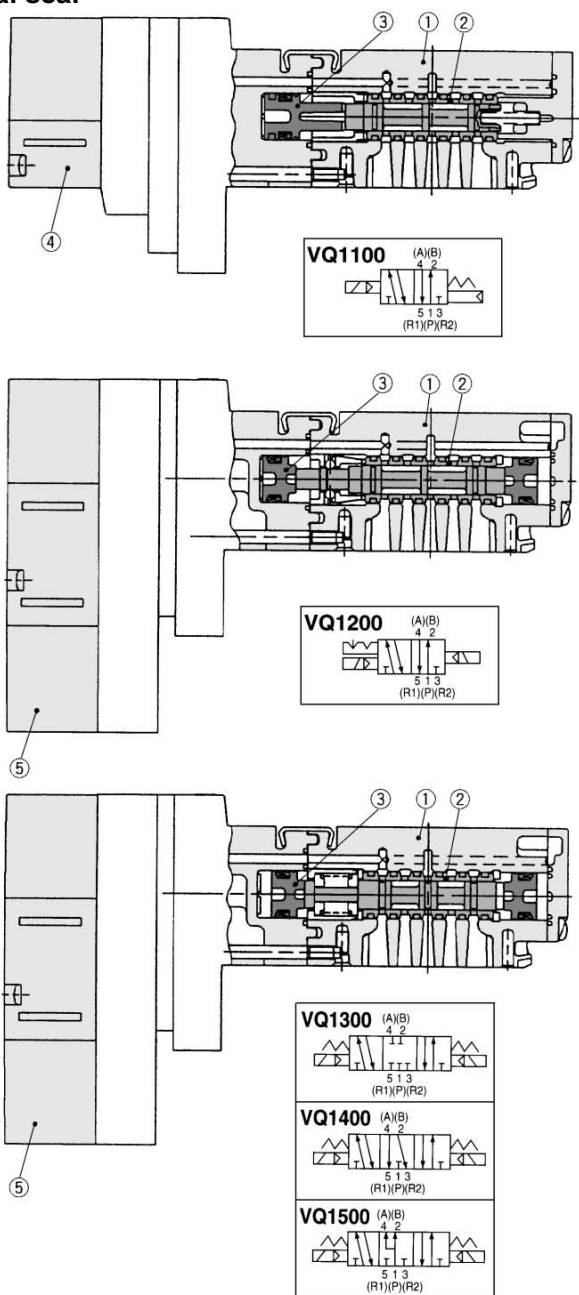
Series VQ

Construction

Main Parts, Replacement Parts

Construction: VQ1000/Plug-in Unit

Metal seal



Component Parts

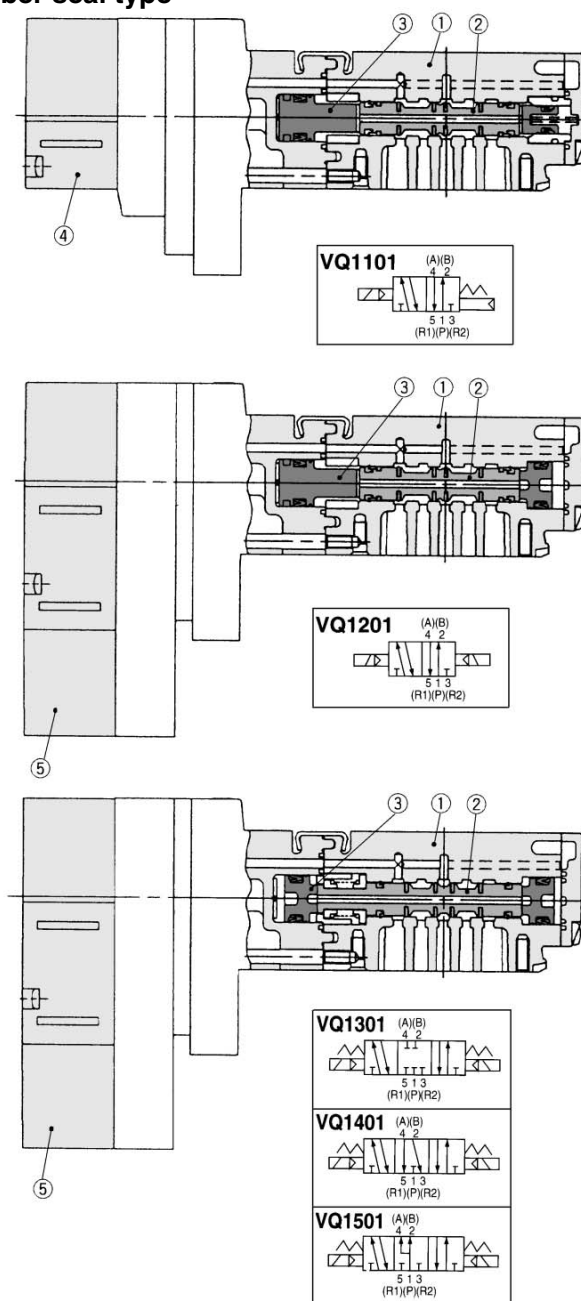
No.	Description	Material	Note
①	Body	Zinc die-casted	
②	Spool/Sleeve	Stainless steel	
③	Piston	Resin	

Replacement Parts

④	Pilot valve assembly	VQ111 ^(H) _(Y) -□-1 Note) Voltage 1 to 6	Single
⑤	Pilot valve assembly	VQ131 ^(H) _(Y) -□-1 Note) Voltage 1 to 6	Double/3 position

Note) (H): 1.5 W, (Y): 0.5 W

Rubber seal type



Component Parts

No.	Description	Material	Note
①	Body	Zinc die-casted	
②	Spool valve	Aluminum/HNBR	
③	Piston	Resin	

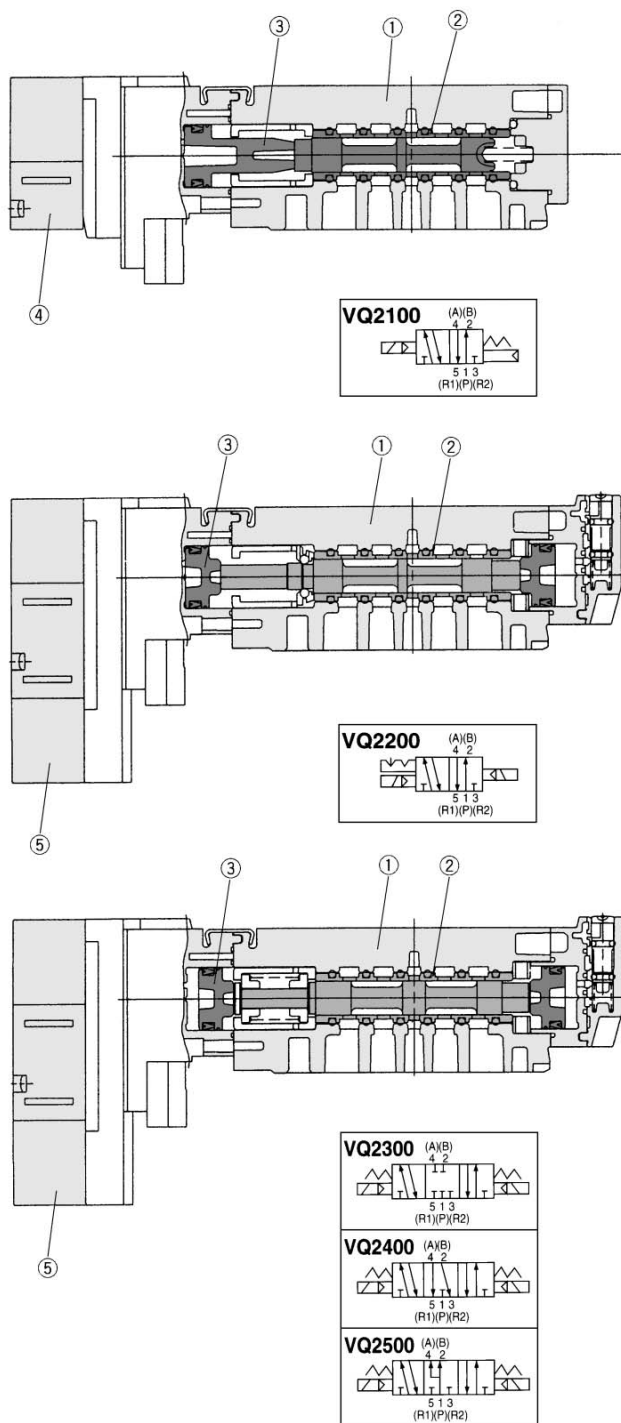
Replacement Parts

④	Pilot valve assembly	VQ111 ^(H) _(Y) -□-1 Note) Voltage 1 to 6	Single
⑤	Pilot valve assembly	VQ131 ^(H) _(Y) -□-1 Note) Voltage 1 to 6	Double/3 position

Note) (H): 1.5 W, (Y): 0.5 W

Construction: VQ2000/Plug-in Unit

Metal seal



Component Parts

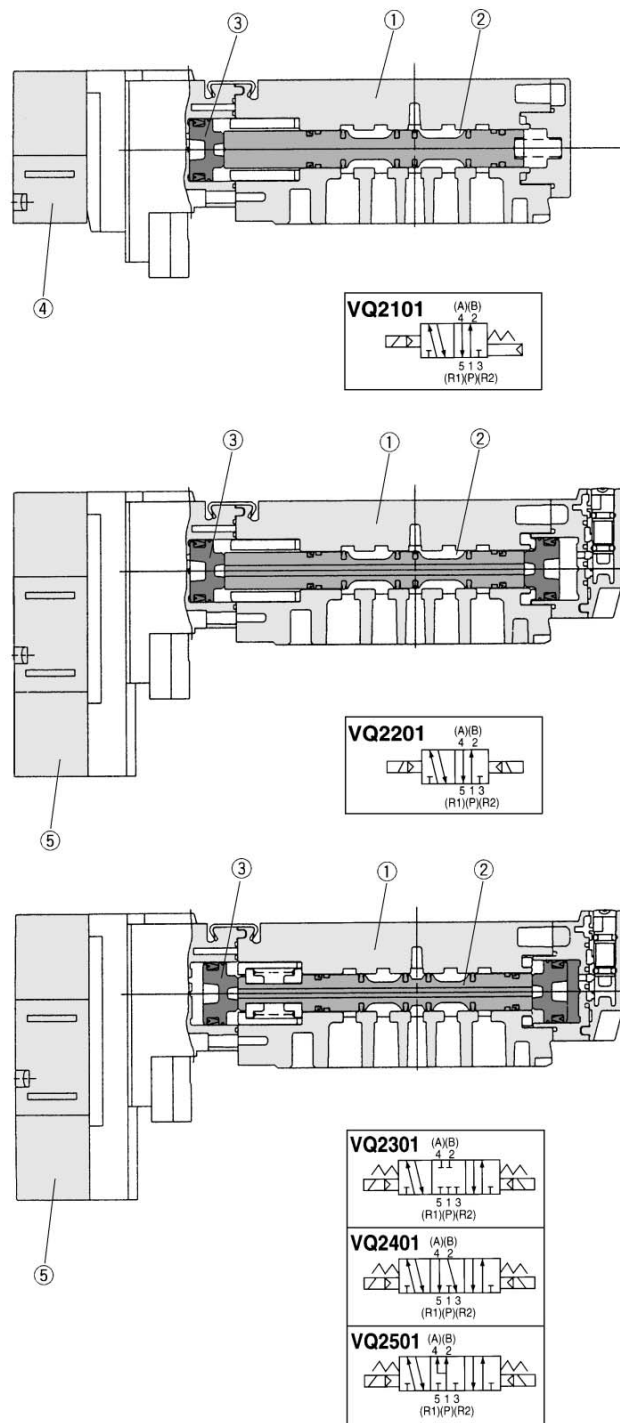
No.	Description	Material	Note
①	Body	Aluminum die-casted	
②	Spool/Sleeve	Stainless steel	
③	Piston	Resin	

Replacement Parts

④	Pilot valve assembly	VQ111 ^(H) _(Y) -□-1 Note) Voltage1 to 6	Single
⑤	Pilot valve assembly	VQ131 ^(H) _(Y) -□-1 Note) Voltage1 to 6	Double/3 position

 Note) (H): 1.5 W, (Y): 0.5 W

Rubber seal type



Component Parts

No.	Description	Material	Note
①	Body	Aluminum die-casted	
②	Spool valve	Aluminum/HNBR	
③	Piston	Resin	

Replacement Parts

④	Pilot valve assembly	VQ111 ^(H) _(Y) -□-1 Note) Voltage1 to 6	Single
⑤	Pilot valve assembly	VQ131 ^(H) _(Y) -□-1 Note) Voltage1 to 6	Double/3 position

 Note) (H): 1.5 W, (Y): 0.5 W

VQC

SQ

VQ0

VQ4

VQ5

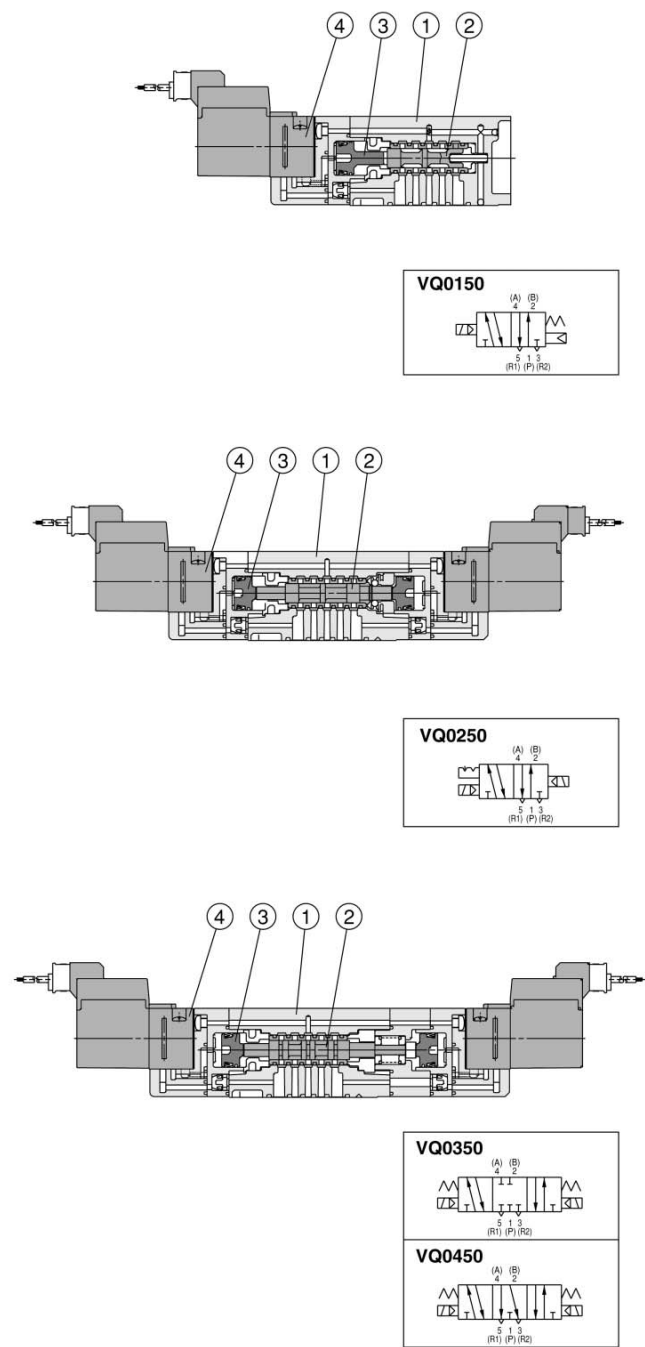
VQZ

VQD

Series VQ

Construction: VQ0000/Plug Lead Unit

Metal seal



Component Parts

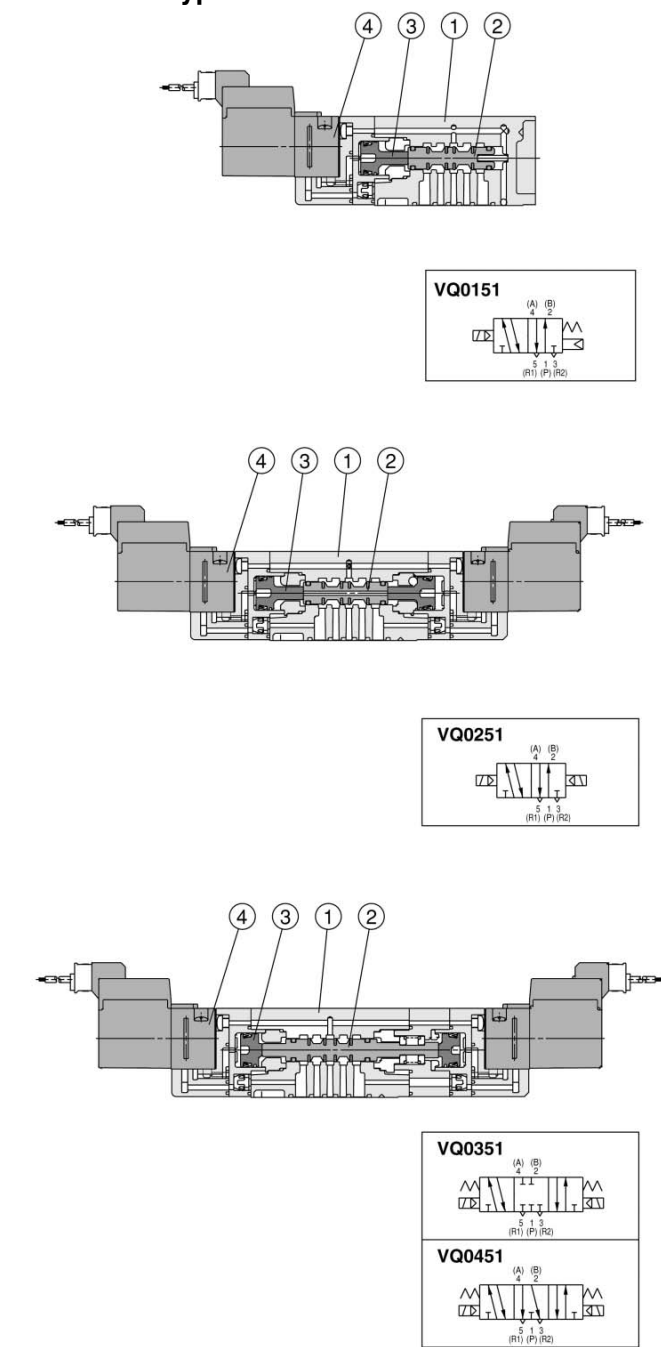
No.	Description	Material	Note
①	Body	Aluminum die-casted	
②	Spool/Sleeve	Stainless steel	
③	Piston	Resin	

Replacement Parts

④	Pilot valve assembly	VQ110 (H) (Y) (G) (Note)	
---	----------------------	--------------------------	--

Note) (Y): 0.5 W, (H): 1.5 W, (G): DC

Rubber seal type



Component Parts

No.	Description	Material	Note
①	Body	Aluminum die-casted	
②	Spool valve	Aluminum/HNBR	
③	Piston	Resin	

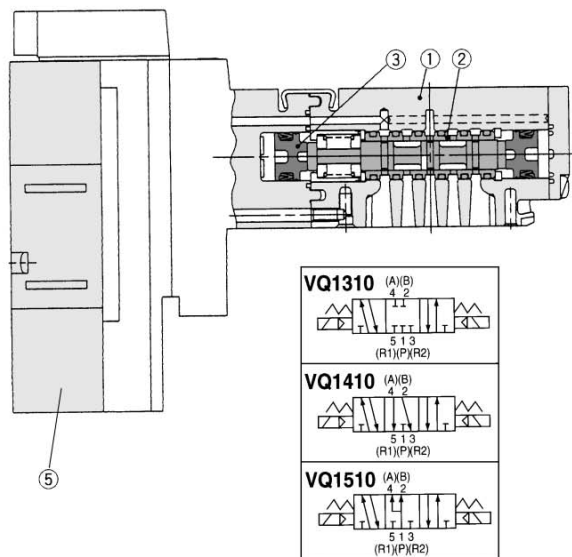
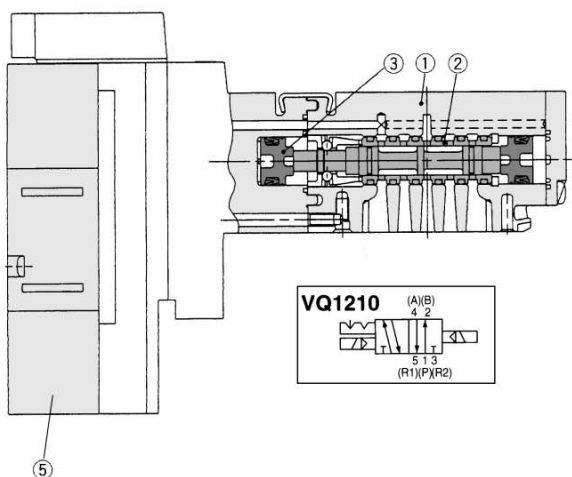
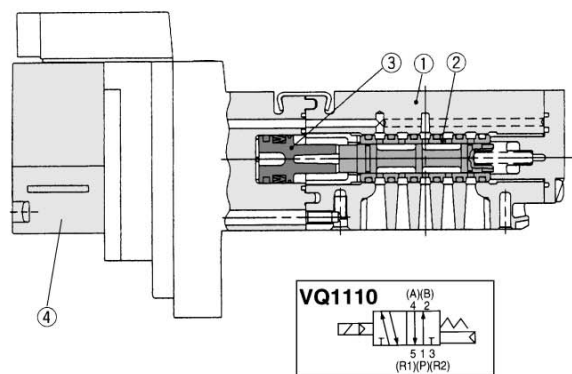
Replacement Parts

④	Pilot valve assembly	VQ110 (H) (Y) (G) (Note)	
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Note) (Y): 0.5 W, (H): 1.5 W, (G): DC

Construction: VQ1000/Plug Lead Unit

Metal seal



Component Parts

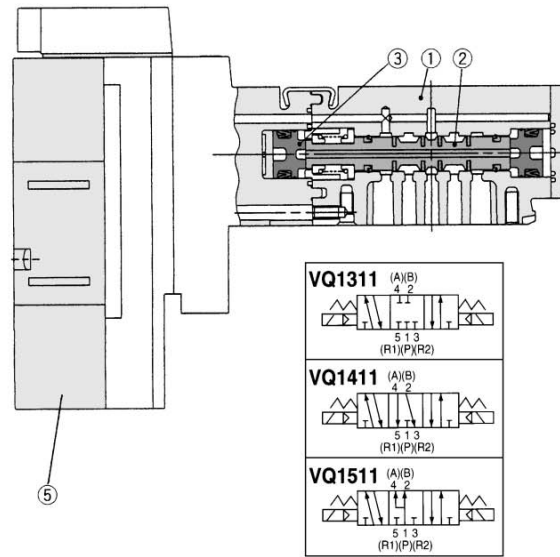
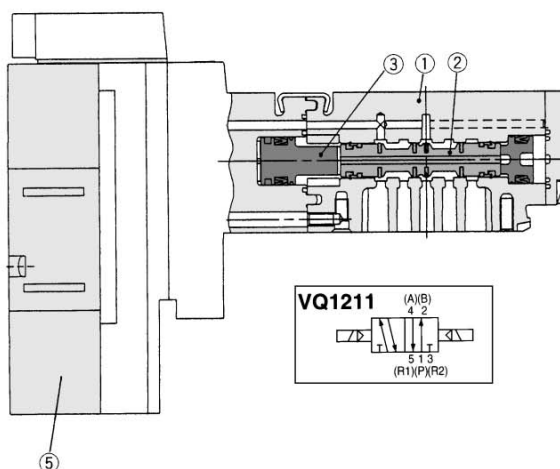
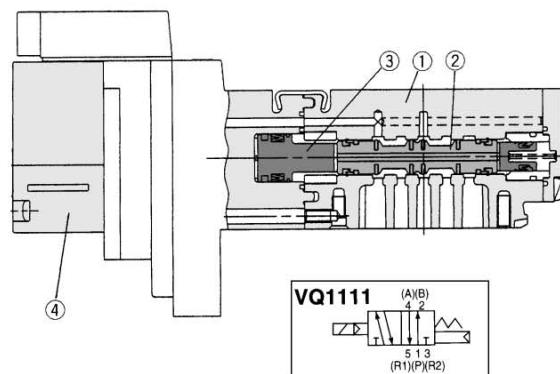
No.	Description	Material	Note
①	Body	Zinc die-casted	
②	Spool/Sleeve	Stainless steel	
③	Piston	Resin	

Replacement Parts

④	Pilot valve assembly	VQ111 ^(H) _(Y) - □ - 1 Note) Voltage 1 to 6	Single
⑤	Pilot valve assembly	VQ131 ^(H) _(Y) - □ - 1 Note) Voltage 1 to 6	Double/3 position

Note) (H): 1.5 W, (Y): 0.5 W

Rubber seal type



Component Parts

No.	Description	Material	Note
①	Body	Zinc die-casted	
②	Spool valve	Aluminum/HNBR	
③	Piston	Resin	

Replacement Parts

④	Pilot valve assembly	VQ111 ^(H) _(Y) - □ - 1 Note) Voltage 1 to 6	Single
⑤	Pilot valve assembly	VQ131 ^(H) _(Y) - □ - 1 Note) Voltage 1 to 6	Double/3 position

Note) (H): 1.5 W, (Y): 0.5 W

VQC

SQ

VQ0

VQ4

VQ5

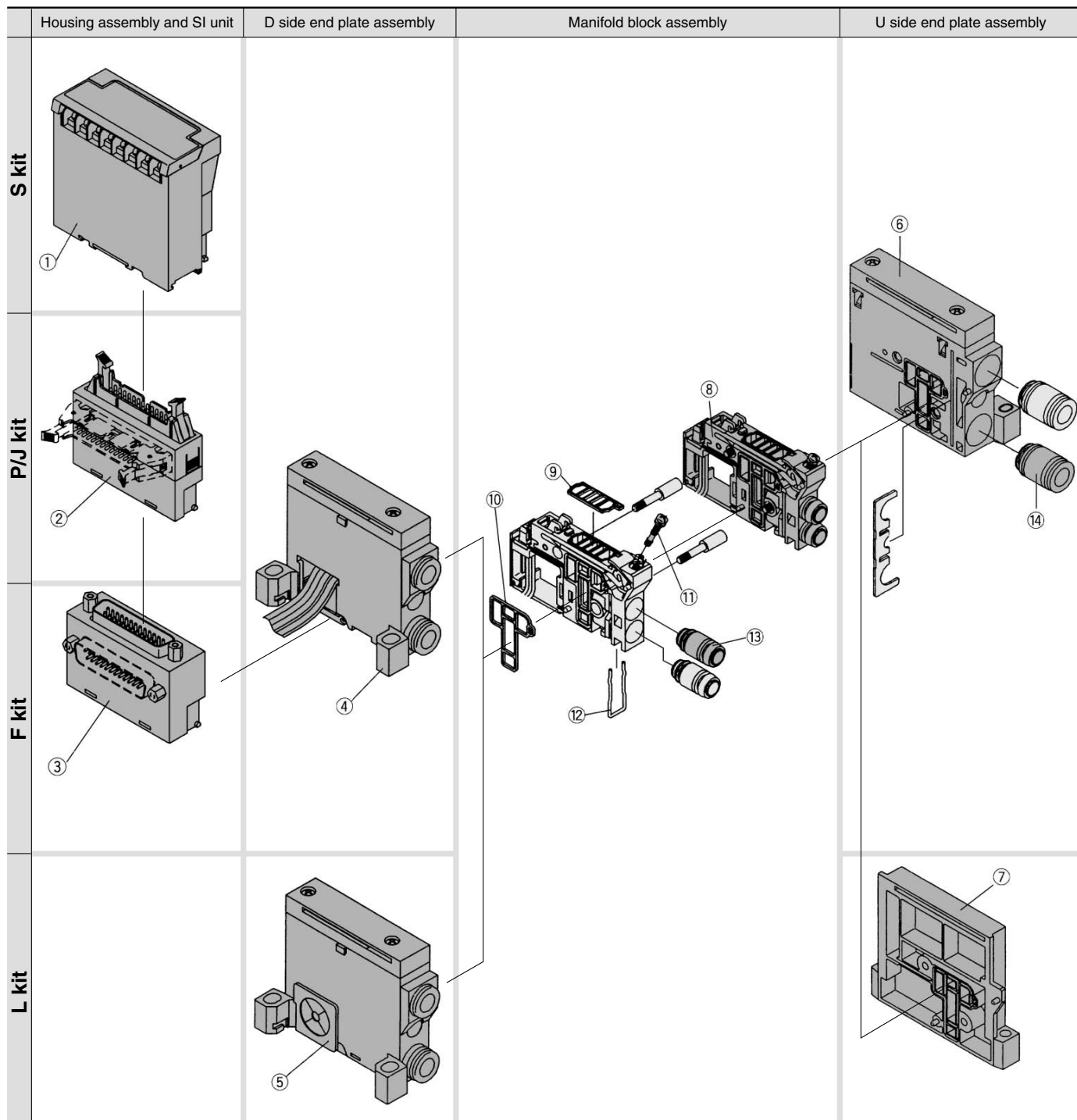
VQZ

VQD

Exploded View of Manifold

Exploded view: VQ1000/Plug-in Unit

(F, P, J, L, Skit)



<Housing Assembly and SI Unit>

Housing assembly and SI unit no.

No.	Manifold	Part no.	Description
①	(SA kit)	EX320-S001(-XP) ⁽²⁾	General type SI unit (Series EX300)
	(SB kit)	EX120-SMB1(-XP) ⁽²⁾	SI unit for MELSECNET/MINI-S3 Data Link System (Mitsubishi Electric Corporation)
	(SC kit)	EX120-STA1(-XP) ⁽²⁾	SI unit for SYSBUS Wire System (OMRON Corporation)
	(SD kit)	EX120-SSH1(-XP) ⁽²⁾	SI unit for Satellite I/O Link System (SHARP Corporation)
	(SE kit)	EX120-SPA1	SI unit for MEWNET-F System (Matsushita Electric Works, Ltd.)
	(SF1 kit)	EX120-SUW1(-XP) ⁽²⁾	SI unit for 16 point Uni-wire System (NKE Corporation)
	(SG kit)	EX120-SAB1(-XP) ⁽²⁾	SI unit for Allen Bradley Remote I/O (RIO) System (Rockwell Automation, Inc.)
	(SH kit)	EX120-SUH1(-XP) ⁽²⁾	SI unit for 16 point Uni-wire H System (NKE Corporation)
	(SJ1 kit)	EX120-SSL1(-XP) ⁽²⁾	16 point S-LINK System (SUNX Corporation)
	(SJ2 kit)	EX120-SSL2(-XP) ⁽²⁾	8 point S-LINK System (SUNX Corporation)
	(SK kit)	EX120-SFU1(-XP) ⁽²⁾	T-LINK Mini System (Fuji Electric Co., Ltd.)
	(SQ kit)	EX120-SDN1	DeviceNet, CompoBus/D (OMRON Corporation)
	(SR1 kit)	EX120-SCS1(-XP) ⁽²⁾	OMRON Corporation: CompoBus/S (16 output points)
	(SR2 kit)	EX120-SCS2(-XP) ⁽²⁾	OMRON Corporation: CompoBus/S (8 output points)
	(SV kit)	EX120-SMJ1(-XP) ⁽²⁾	Mitsubishi Electric Corporation: CC-LINK System
②	P $\frac{1}{2}$ kit	AXT100-1-P $\frac{1}{2}$ □ ⁽¹⁾	Flat cable housing assembly □ = Number of pins: 26, 20, 16, 10
	J $\frac{1}{2}$ kit	AXT100-1-J $\frac{1}{2}$ 20 ⁽¹⁾	Flat cable housing assembly
③	F $\frac{1}{2}$ kit	AXT100-1-F $\frac{1}{2}$ □ ⁽¹⁾	D-sub connector housing assembly □ = Number of pins: 25, 15

Note 1) Top (vertical) entry connector for FU, PU and JU while side (horizontal) entry connector for FS, JS and PS.

Note 2) Enter suffix "-XP" at the end of the part number for dust proof type SI unit.

VQC

SQ

VQ0

VQ4

VQ5

VQZ

VQD

<D Side End Plate Assembly>

④⑤ D side end plate assembly no.

VVQ1000-3A-1-□-□

Electrical entry □ Option

F	For F kit	Nil	Common exhaust type
P	For P kit	R ⁽¹⁾	External pilot
J	For J kit	S ⁽¹⁾	Built-in silencer, direct exhaust
L	For L kit		
S	For S kit		



Note 1) When both options are specified, indicate as RS.

Note 2) The housing assembly and SI unit of F/P/S kit are not included.

Separately place an order for ①, ②, and ③.

<U Side End Plate Assembly>

⑥ U side end plate assembly no. (For F, P, J, S kit)

VVQ1000-2A-1-□

Option

Nil	Common exhaust type
R	External pilot
S	Built-in silencer, direct exhaust



Note) The ④'s fitting assembly is included.

<Manifold Block Assembly>

⑧ Manifold block assembly no. Tie-rod (2 pcs.) and lead wire assembly for extensions are attached

VVQ1000-1A-□

Electrical entry □ Port size

F1	F kit for 2 to 12 stations/Double wiring	C3	With One-touch fitting for ø3.2
F2	F kit for 13 to 24 stations/Double wiring	C4	With One-touch fitting for ø4
F3	F kit for 2 to 24 stations/Single wiring	C6	With One-touch fitting for ø6
P1	P, J, S kit for 2 to 12 stations/Double wiring	M5	M5 thread
P2	P, J, S kit for 13 to 24 stations/Double wiring		
P3	P, J, S kit for 2 to 24 stations/Single wiring		
L0 □	L0 kit □ Stations (1 to 8)		
L1 □	L1 kit □ Stations (1 to 8)		
L2 □	L2 kit □ Stations (1 to 8)		

<Replacement Parts for Manifold Block>

Replacement Parts

No.	Part no.	Description	Material	Number
⑨	VVQ1000-80A-1	Gasket	NBR	12
⑩	VVQ1000-80A-2	Packing	NBR	12
⑪	VVQ1000-80A-3	Clamp screw	Carbon steel	12
⑫	VVQ1000-80A-4	Clip	Stainless steel	12



Note) A set of parts containing 12 pcs. each is enclosed.

⑦ U side end plate assembly no. (For L kit)

VVQ1000-2A-1-L

<Fitting Assembly>

⑬ Fitting assembly part no. (For cylinder port)

VVQ1000-50A-□

Port size



Note) Purchasing order is available in units of 10 pieces.

C3	Applicable tubing ø3.2
C4	Applicable tubing ø4
C6	Applicable tubing ø6
M5	M5 thread

⑭ Fitting assembly part no. (For P, R port)

VVQ1000-51A-C8

Applicable tubing ø8

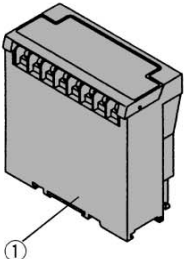
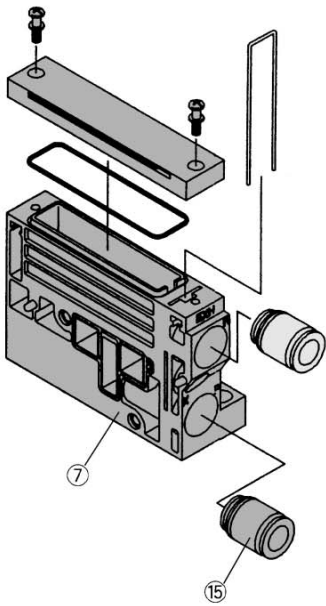
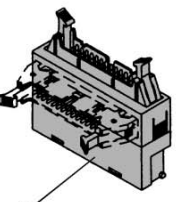
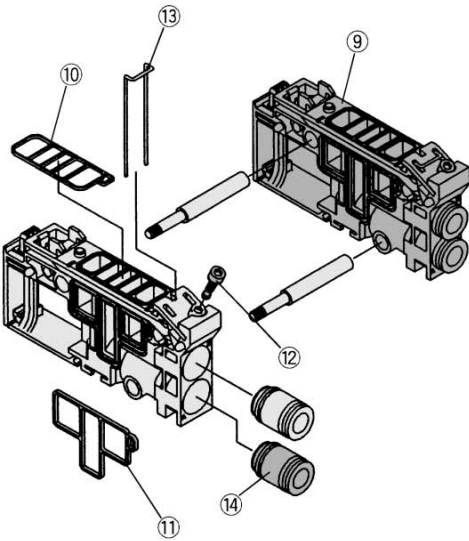
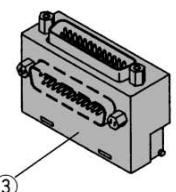
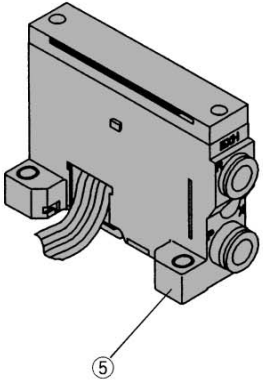
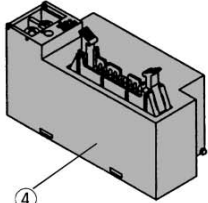
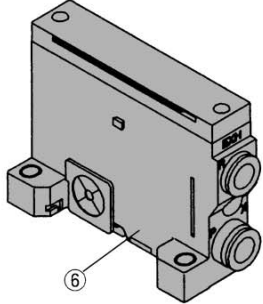
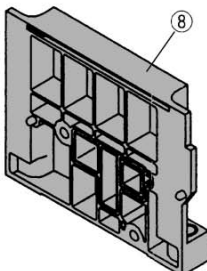


Note) Purchasing order is available in units of 10 pieces.

Series **VQ**

Exploded View: VQ2000/Plug-in Unit

(F, P, J, L, G, S kit)

	Housing assembly and SI unit	D side end plate assembly	Manifold block assembly	U side end plate assembly
S kit				
P/J kit				
F kit				
G kit				
L kit				

<Housing Assembly and SI Unit>

Housing assembly and SI unit no.

No.	Manifold	Part no.	Description
	(SA kit)	EX320-S001(-XP) ⁽¹⁾ [EX323-S001] ⁽²⁾	General type SI unit (Series EX300)
	(SB kit)	EX120-SMB1(-XP) ⁽¹⁾ [EX123-SMB1] ⁽²⁾	SI unit for MELSECNET/MINI-S3 Data Link System (Mitsubishi Electric)
	(SBB kit)	[EX124-SMB1] ⁽³⁾	SI unit for MELSECNET/MINI-S3 Data Link System (2 power supply lines) (Mitsubishi Electric Corp.)
	(SC kit)	EX120-STA1(-XP) ⁽¹⁾ [EX123-STA1] ⁽²⁾	SI unit for SYSBUS Wire System (OMRON Corporation)
	(SD kit)	EX120-SSH1(-XP) ⁽¹⁾ [EX123-SSH1] ⁽²⁾	SI unit for Satellite I/O Link System (SHARP Corporation)
	(SE kit)	EX120-SPA1	SI unit for MEWNET-F System (Matsushita Electric Works, Ltd.)
	(SF1 kit)	EX120-SUW1(-XP) ⁽¹⁾ [EX123-SUW1] ⁽²⁾	SI unit for 16 point Uni-wire System (NKE Corporation)
①	(SG kit)	EX120-SAB1	SI unit for Allen Bradley Remote I/O (RIO) System (Rockwell Automation, Inc.)
	(SH kit)	EX120-SUH1(-XP) ⁽¹⁾ [EX123-SUH1] ⁽²⁾	SI unit for 16 point Uni-wire H System (NKE Corporation)
	(SJ1 kit)	EX120-SSL1(-XP) ⁽¹⁾ [EX123-SSL1] ⁽²⁾	16 point S-LINK System (SUNX Corporation)
	(SJ2 kit)	EX120-SSL2(-XP) ⁽¹⁾ [EX123-SSL2] ⁽²⁾	8 point S-LINK System (SUNX Corporation)
	(SK kit)	EX120-SFU1(-XP) ⁽¹⁾ [EX123-SFU1] ⁽²⁾	T-LINK Mini System (Fuji Electric Co., Ltd.)
	(SQ kit)	EX120-SDN1 [EX124-SDN1] ⁽²⁾	SI unit for DeviceNet, CompoBus/D (OMRON Corporation)
	(SR1 kit)	EX120-SCS1(-XP) ⁽¹⁾ [EX124-SCS1] ⁽²⁾	SI unit for 16 point Compo Bus/S System (OMRON)
	(SR2 kit)	EX120-SCS2(-XP) ⁽¹⁾ [EX124-SCS2] ⁽²⁾	SI unit for 8 point Compo Bus/S System (OMRON)
	(SV kit)	EX120-SMJ1(-XP) ⁽¹⁾ [EX124-SMJ1] ⁽²⁾	SI unit for CC-LINK System (2 power supply systems) (Mitsubishi Electric Corporation)
②	P _U kit	AXT100-1-P _U ⁽⁴⁾	Flat ribbon cable housing assembly □ = Number of pins: 26, 20, 16, 10
	J _U kit	AXT100-1-J _U ⁽⁴⁾	Flat ribbon cable housing assembly
③	G kit	AXT100-1-GU20	Flat ribbon cable housing assembly with terminal block
④	F _U kit	AXT100-1-F _U ⁽⁴⁾	D-sub connector housing assembly □ = Number of pins: 25, 15

Note 1) Suffix "-XP" for dust-protected type SI unit.

Note 2) Dusttight/Low jetproof type (IP65)

Note 3) SBB kit is usable only for dust tight/low jetproof type (IP65).

Note 4) Top entry connector for FU and PU while side entry connector for FS and PS.

VQC

SQ

VQ0

VQ4

VQ5

VQZ

VQD

<D Side End Plate Assembly>

⑤⑥ D side end plate assembly no.

VVQ2000-3A-1-□-□

Electrical entry

Option

F	For F kit
P	For P kit
J	For J kit
L	For L kit
G	For G kit
S	For S kit

Nil	Common EXH
R ⁽¹⁾	External pilot
S ⁽¹⁾	Built-in silencer, direct exhaust



Note 1) When both options are specified, indicate as RS.

Note 2) The housing assembly and SI unit of F/P/J/G/S kit are not included.

Note 3) Separately place an order for ①, ②, ③, and ④.

For Dusttight/Low jetproof type (IP65), please consult with SMC.

<U Side End Plate Assembly>

⑦ U side end plate assembly no. (For F/P/G/S kits)

VVQ2000-2A-1-□-□

Option

Nil	Common EXH
R	External pilot
S	Built-in silencer, direct exhaust



Note 1) The ⑤'s fitting assembly is included.

Note 2) The housing assembly and SI unit of F/P/J/G/S kit are not included.

Note 3) Separately place an order for ①, ②, ③, and ④.

For Dusttight/Low jetproof type (IP65), please consult with SMC.

⑧ U side end plate assembly no. (For L kit)

VVQ2000-2A-1-L

<Manifold Block Assembly> Tie-rod (2 pcs.) and lead wire assembly for extensions are attached

⑨ Manifold block assembly no.

VVQ2000-1A-□-□-□

Electrical entry

Port size

Enclosure

F1	F kit for 2 to 12 stations/Double wiring
F2	F kit for 13 to 24 stations/Double wiring
F3	F kit for 2 to 24 stations/Single wiring
P1	P, J, G, S kit for 2 to 12 stations/Double wiring
P2	P, J, G, S kit for 13 to 24 stations/Double wiring
P3	P, J, G, S kit for 2 to 24 stations/Single wiring
L0□	L0 kit □ Stations (1 to 8)
L1□	L1 kit □ Stations (1 to 8)
L2□	L2 kit □ Stations (1 to 8)
T1	T kit for 2 to 20 stations/Double wiring
T3	T kit for 2 to 20 stations/Single wiring
M1	M kit for 2 to 12 stations/Double wiring
M2	M kit for 13 to 24 stations/Double wiring
M3	M kit for 2 to 24 stations/Single wiring

C4	One-touch fitting for ø4
C6	One-touch fitting for ø6
C8	One-touch fitting for ø8

Nil	Dusttight
W	Dusttight/Low jetproof type (IP65)

Note) F, P, J, G kits are available with "Nil" only.

M kit is available with [W] only.

S, L, T kits are selectable, depending upon the manifold type.

<Fitting Assembly>

⑭ Fitting assembly part no. (For cylinder port)

VVQ1000-51A-□

Port size



Note) Purchasing order is available in units of 10 pieces.

C4	Applicable tubing ø4
C6	Applicable tubing ø6
C8	Applicable tubing ø8

⑮ Fitting assembly part no. (For P, R ports)

VVQ2000-51A-C10

Applicable tubing ø10



Note) Purchasing order is available in units of 10 pieces.



Note) A set of parts containing 12 pcs. each is enclosed.

<Replacement Parts for Manifold Block>

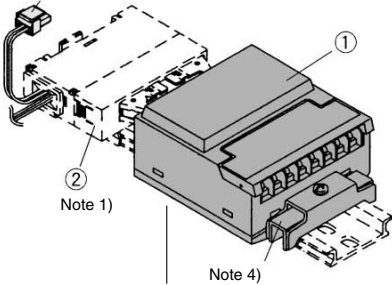
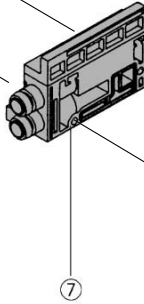
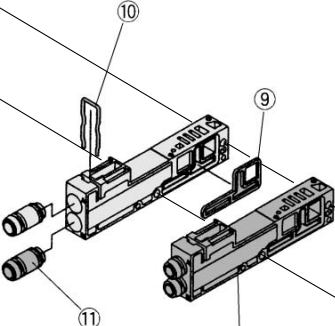
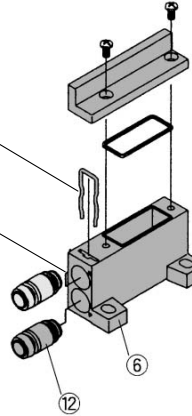
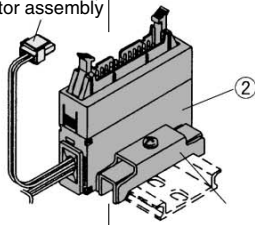
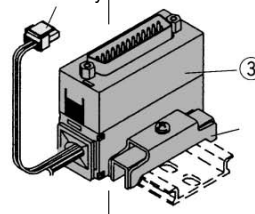
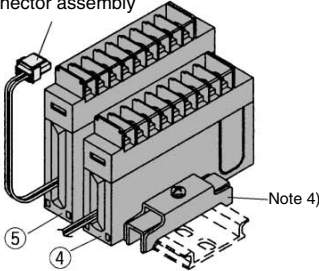
Replacement Parts

No.	Part no.	Description	Material	Number
⑩	VVQ2000-80A-1	Gasket	HNBR	12
⑪	VVQ2000-80A-2	Packing	HNBR	12
⑫	VVQ2000-80A-3	Clamp screw	Carbon steel	12
⑬	VVQ2000-80A-4	Clip	Stainless steel	12

Exploded View: VQ0000/Plug Lead Unit

(F, P, C, S kit)

* For how to increase the stations, refer to the instruction manual.

	Tie-rod	U side end block assembly	Manifold block assembly	D side end block assembly	Housing assembly and SI unit ^{Note 3)}	
S kit					Note 2) Connector assembly  Note 1) Note 4)	S kit
P kit					Note 2) Connector assembly  The drawing shows PU. (Top entry connector)	P kit
F kit					Note 2) Connector assembly  The drawing shows FU. (Top entry connector)	F kit
T kit					Note 2) Connector assembly  Note 4)	T kit

- 

Note 1) S kit is composed of a flat ribbon cable housing assembly (AXT100-2-PS20) of ① SI unit and ② P kit (20 pins).
- 

Note 2) Since no connector assembly is included, order it separately. (Refer to page 2-4-216.)
- 

Note 3) A housing assembly is not used for a C kit.
- 

Note 4) A DIN rail clamping bracket is attached to each.

<Housing Assembly and SI Unit>

Housing assembly and SI unit no.

No.	Manifold	Part no.	Description
①	(SA kit)	EX330-S001	General type SI unit (Series EX300)
	(SB kit)	EX130-SMB1	SI unit for MELSECNET/MINI-S3 Data Link System (Mitsubishi Electric Corp.)
	(SC kit)	EX130-STA1	SI unit for SYSBUS Wire System (OMRON Corporation)
	(SD kit)	EX130-SSH1	SI unit for Satellite I/O Link System (SHARP Corporation)
	(SF1 kit)	EX130-SUW1	16 point Uni-wire System (NKE Corporation)
	(SH kit)	EX130-SUH1	SI unit for 16 point Uni-wire H System (NKE Corporation)
②	P _S ^U kit	AXT100-2-P _S ^U □ ⁽²⁾	Flat ribbon cable housing assembly l = Number of pins: 26, 20, 16, 10
③	F _S ^U kit	AXT100-2-F _S ^U □ ⁽²⁾	D-sub connector housing assembly l = Number of pins: 25, 15
④	T kit	AXT100-2-TB1 ⁽⁴⁾	Terminal block assembly (8 terminals)
⑤	T kit	AXT100-2-TB2 ⁽⁴⁾	Terminal block assembly (8 terminals)



Note 1) S kit is composed of a flat ribbon cable housing assembly (AXT100-2-PS20) of ① SI unit and ② P kit (20 pins). Place an order for AXT100-2-PS20 separately.

Note 2) Top/vertical entry connector for FU and PU while side (horizontal) entry connector for FS and PS.



Note 3) Since no connector assembly is included, order it separately. (Refer to page 2-4-216.)

Note 4) In the case of standard specifications and double wiring, ④ is for 1 to ⑤ stations and t is for 5 to 8 stations.

VQC

SQ

VQ0

VQ4

VQ5

VQZ

VQD

<D Side End Plate Assembly>

⑥ D side end plate assembly no.

VVQ0000-3A-5-□

• Option

Nil	Common exhaust type
S	Built-in silencer, direct exhaust



Note) The ⑫'s fitting assembly is included.

<U Side End Plate Assembly>

⑦ U side end plate assembly no.

VVQ0000-2A-5-□

• Option

Nil	Common exhaust type
S	Built-in silencer, direct exhaust

<Manifold Block Assembly>

⑧ manifold block assembly no.

VVQ0000-1A-5-□

• Port size

C3	With One-touch fitting for ø3.2
C4	With One-touch fitting for ø4
M5	M5 thread

<Replacement Parts for Manifold Block>

Replaceable Parts

No.	Part no.	Description	Material	Number
⑨	VVQ0000-80A-5-2	Seal	HNBR	12
⑩	VVQ0000-80A-5-4	Clip	HNBR	12



Note) A set of parts containing 12 pcs. each is enclosed.

<Fitting Assembly>

⑪ Fittings assembly part no. (For cylinder port)

VVQ0000-50A-□

• Port size



Note)
Purchasing order is available
in units of 10 pieces.

C3	With One-touch fitting for ø3.2
C4	With One-touch fitting for ø4

⑫ Fitting assembly part no. (For P, R port)

VVQ1000-50A-C6



• Applicable tubing ø6

Note) Purchasing order is available in units of 10 pieces.

<Tie-rod Bolt>

⑬ Tie-rod bolt

VVQ0000-103A-5-□

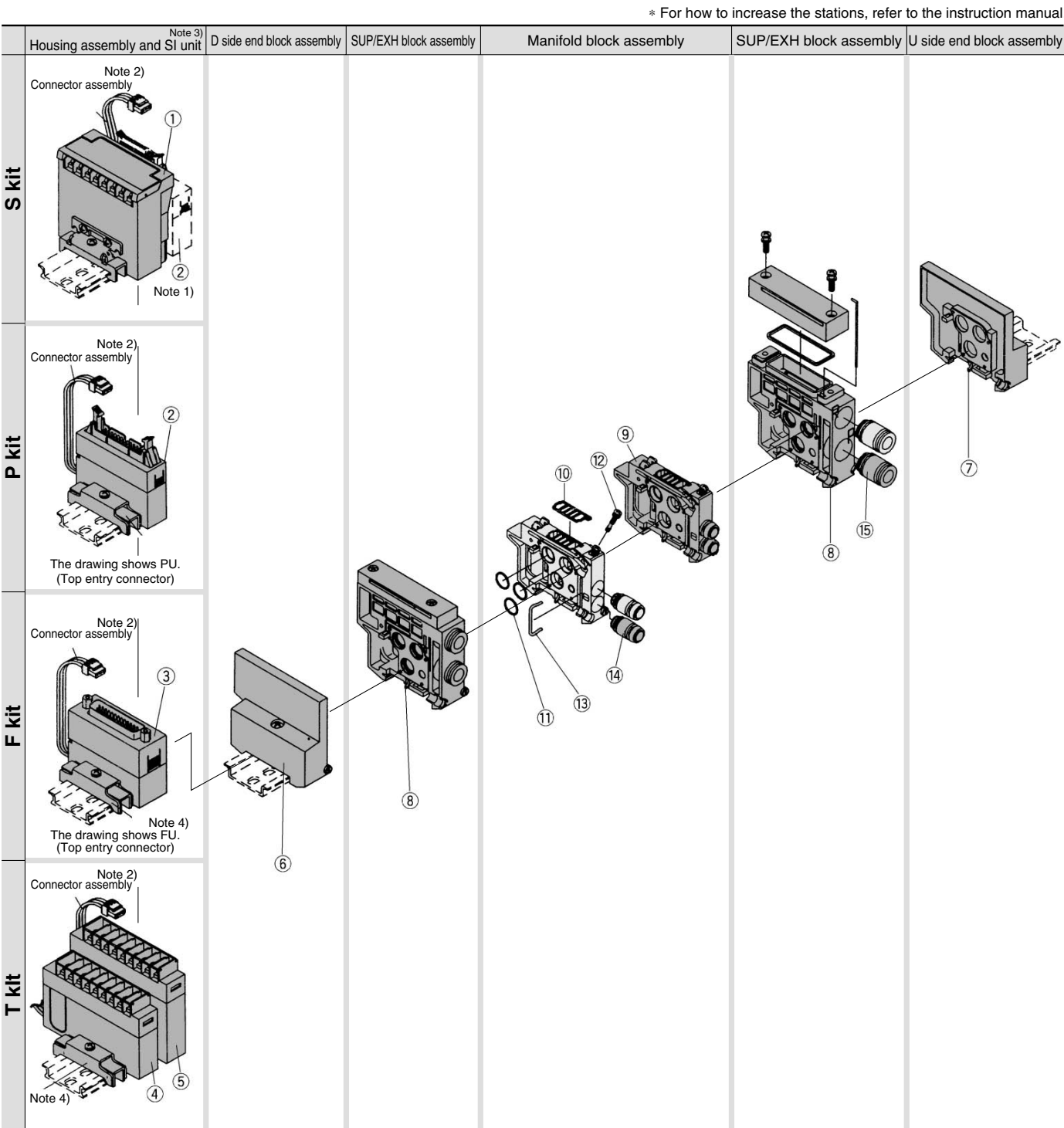
• Stations

1	For 1 station
2	For 2 station
⋮	⋮
16	For 16 station



Note) 2 bolts per one set.

Exploded View: VQ1000/Plug Lead Unit
(F, P, T, S kit)



-  Note 1) S kit is composed of a flat ribbon cable housing assembly (AXT100-2-PU20) of ① SI unit and ② P kit (20 pins).
 Note 2) Since no connector assembly is included, order it separately. (Refer to page 2-4-216.)
Note 3) A housing assembly is not used for a C kit.
Note 4) A DIN rail clamping bracket is attached to each.

<Housing Assembly and SI Unit>

Housing assembly and SI unit no.

No.	Manifold	Part no.	Description
①	(SA kit)	EX321-S001(-XP) ⁽⁵⁾	General type SI unit (Series EX300)
	(SB kit)	EX121-SMB1(-XP) ⁽⁵⁾	SI unit for MELSECNET/MINI-S3 Data Link System (Mitsubishi Electric Corporation)
	(SC kit)	EX121-STA1(-XP) ⁽⁵⁾	SI unit for SYSBUS Wire System (OMRON Corporation)
	(SD kit)	EX121-SSH1(-XP) ⁽⁵⁾	SI unit for Satellite I/O Link System (SHARP Corporation)
	(SE kit)	EX121-SPA1	SI unit for MEWNET-F System (Matsushita Electric Works, Ltd.)
	(SF1kit)	EX121-SUW1(-XP) ⁽⁵⁾	SI unit for 16 point Uni-wire System (NKE Corporation)
	(SG kit)	EX121-SAB1(-XP) ⁽⁵⁾	SI unit for Allen Bradley Remote I/O (RIO) System (Rockwell Automation, Inc.)
	(SH kit)	EX120-SUH1(-XP) ⁽⁵⁾	SI unit for 16 point Uni-wire H System (NKE Corporation)
	(SJ1 kit)	EX121-SSL1(-XP) ⁽⁵⁾	16 point S-LINK System (SUNX Corporation)
	(SJ2 kit)	EX121-SSL2(-XP) ⁽⁵⁾	8 point S-LINK System (SUNX Corporation)
	(SK kit)	EX121-SFU1(-XP) ⁽⁵⁾	T-LINK Mini System (Fuji Electric Co., Ltd.)
	(SQ kit)	EX121-SDN1	DeviceNet, CompoBus/D (OMRON Corporation)
	(SR1 kit)	EX121-SCS1(-XP) ⁽⁵⁾	OMRON Corporation: CompoBus/S System (16 output points)
	(SR2 kit)	EX121-SCS2(-XP) ⁽⁵⁾	OMRON Corporation: CompoBus/S System (8 output points)
	(SV kit)	EX120-SMJ1(-XP) ⁽⁵⁾	Mitsubishi Electric Corporation: CC-LINK System
②	P _U kit	AXT100-2-P _U □ ⁽²⁾	Flat ribbon cable housing assembly □ = Number of pins: 26, 20, 16, 10
③	F _S kit	AXT100-2-F _S □ ⁽²⁾	D-sub connector housing assembly □ = Number of pins: 25, 15
④	T kit	AXT100-2-TB1 ⁽⁴⁾	Terminal block assembly (8 terminals)
⑤	T kit	AXT100-2-TB2 ⁽⁴⁾	Terminal block assembly (8 terminals)

Note 1) A S kit is composed of a flat ribbon cable housing assembly (AXT100-2-PS20) of ① SI unit and ② P kit (20 pins).
Place an order for AXT100-2-PU20 separately.

Note 2) Top/vertical entry connector for FU and PU while side (horizontal) entry connector for FS and PS.

Note 3) Since no connector assembly is included, order it separately. (Refer to page 2-4-216.)

Note 4) In the case of standard specifications and double wiring, ④ is for 1 to 4 stations and ⑤ is for 5 to 8 stations.

Note 5) Suffix "-XP" for dust-protected type SI unit.

<D Side End Plate Assembly>

⑥ D side end plate assembly no.

VVQ1000-3A-2

<U Side End Plate Assembly>

⑦ U side end plate assembly no.

VVQ1000-2A-2

<SUP/EXH block Assembly>

⑧ SUP/EXH block assembly no.

VVQ1000-PR-2-C8-□

Option

NIL	Common exhaust type
S	Built-in silencer, direct exhaust

Note) The ⑮'s fitting assembly is included.

<Replacement Parts for Manifold Block>

Replaceable Parts

No.	Part no.	Description	Material	Number
⑩	VVQ1000-80A-1	Gasket	HNBR	12
⑪	VVQ1000-80A-2-2	O-ring	HNBR	12
⑫	VVQ1000-80A-3	Clamp screw	Carbon steel	12
⑬	VVQ1000-80A-2-4	Clip	Stainless steel	12

Note) A set of parts containing 12 pcs. each is enclosed.

<Fitting Assembly>

⑭ Fitting assembly part no. (For cylinder port)

VVQ1000-50A-□

Port size

C3	Applicable tubing ø3.2
C4	Applicable tubing ø4
C6	Applicable tubing ø6
M5	With M5 thread

Note) Purchasing order is available in units of 10 pieces.

<Manifold Block Assembly>

⑧ Manifold block assembly no.

VVQ1000-1A-2-□

Port size

C3	With One-touch fitting for ø3.2
C4	With One-touch fitting for ø4
C6	With One-touch fitting for ø6
M5	M5 thread

⑮ Fitting assembly part no. (For P, R port)

VVQ1000-51A-C8

Applicable tubing ø8

Note) Purchasing order is available in units of 10 pieces.

