

5 Port Solenoid Valve

Series VQ1000/2000

Metal Seal

Rubber Seal

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

Unprecedented high speed response and long service life

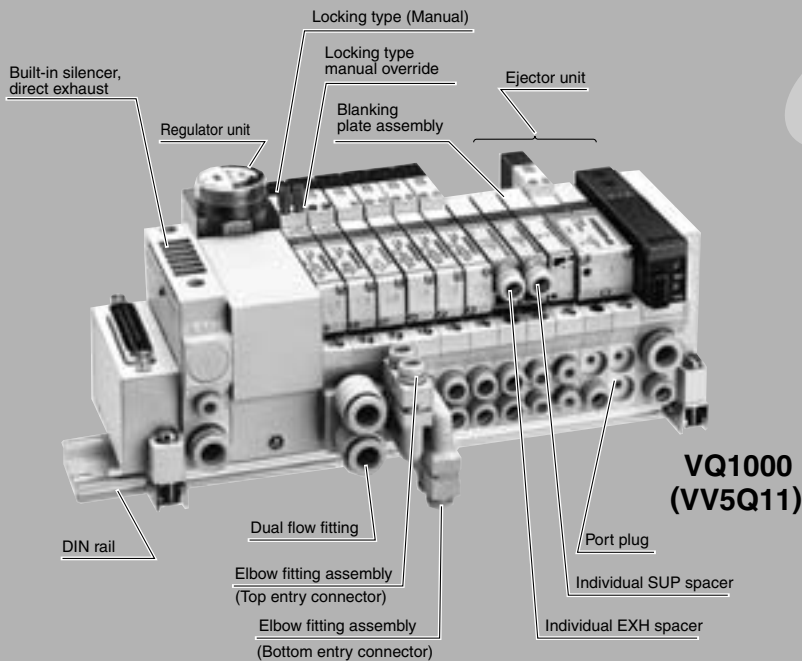
(Metal seal, Single, With indicator light/surge voltage suppressor)

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

Thin compact design with large flow capacity

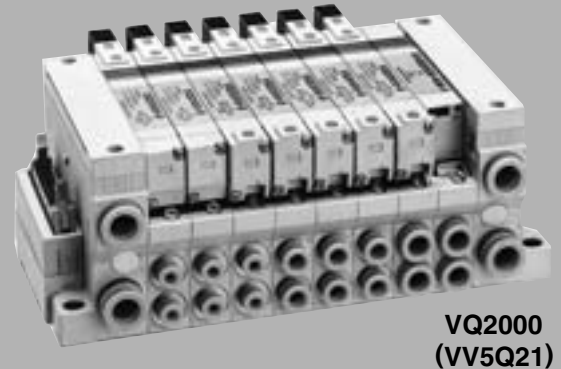
Model	Manifold pitch (mm)	Flow characteristics		Cylinder size
		Metal seal C[dm ³ /(s·bar)]	Rubber seal C[dm ³ /(s·bar)]	
VQ1000	10.5	0.72	1.0	to ø50
VQ2000	16	2.6	3.2	to ø80

* Flow characteristics: 4/2 → 5/3 (A/B → R1/R2)



* The photo does not show an actual use example.

A variety of options

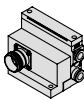


Innovative mounting methods

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 (PC Wiring System compliant Flat ribbon cable connector) Number of pins: 20  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)

SJ
SY
SV
SYJ
SZ
VP4
S0700
VQ
VQ4
VQ5
VQC
VQZ
SQ
VFS
VFR
VQ7

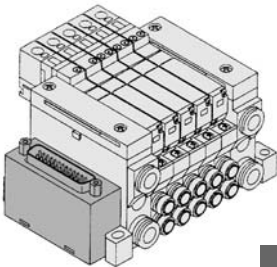
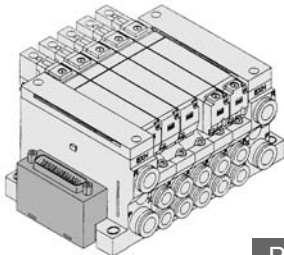
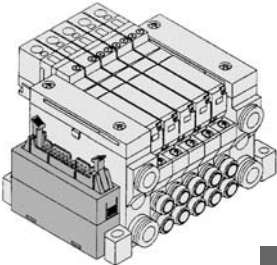
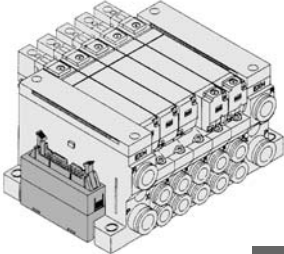
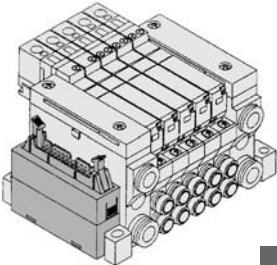
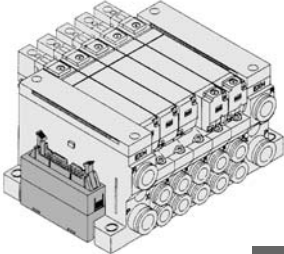
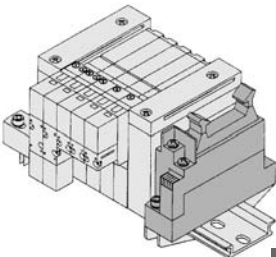
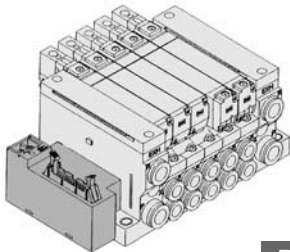
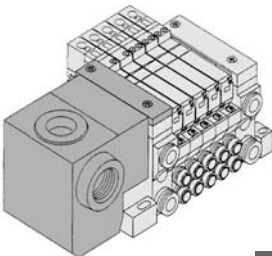
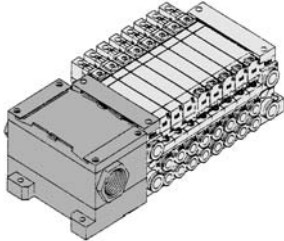
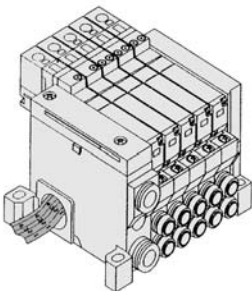
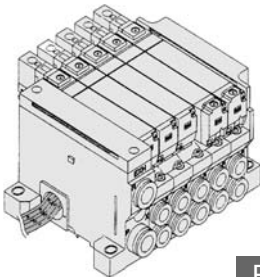
Valve Specifications

Base Mounted									
Plug-in									
Series VQ1000	Metal seal	VQ□00	0.72	0.72					
	Rubber seal	VQ1□01	1.0	0.65					
P. 688		P. 696							
Series VQ2000	Metal seal	VQ2□00	2.6	2.0					
	Rubber seal	VQ2□01	3.2	2.2					
P. 692		P. 696							

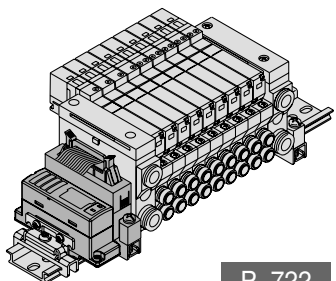
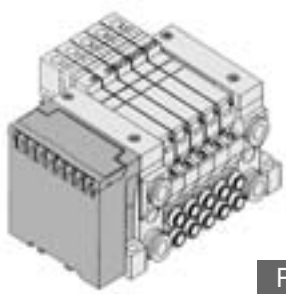
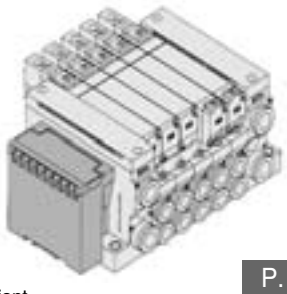
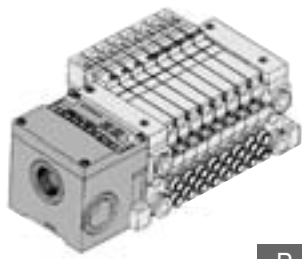
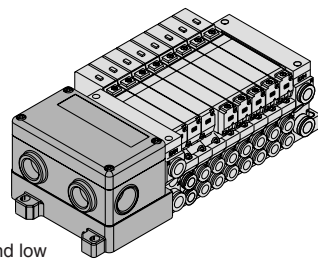
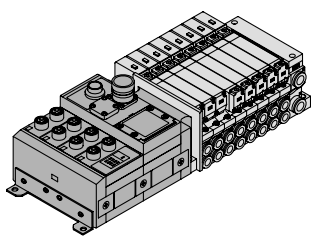
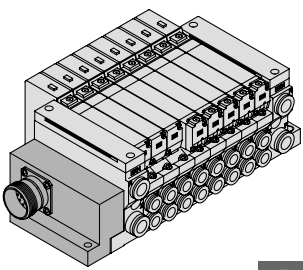
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SJ
SY
SV
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SZ
VP4
S0700
VQ
VQ4
VQ5
VQC
VQZ
SQ
VFS
VFR
VQ7

Series VQ/Base Mounted: Variations

Manifold Variations		
Plug-in		
	Series VQ1000	Series VQ2000
F kit D-sub connector Conforming to MIL D-sub connector	 P. 698	 P. 698
P kit Flat ribbon cable connector (26, 20, 16, 10 pins) Conforming to MIL flat ribbon cable connector	 P. 702	 P. 702
J kit Flat ribbon cable connector (20 pins) Conforming to MIL flat ribbon cable connector PC Wiring System compatible	P/J kit  P. 702	P/J kit  P. 702
G kit Flat ribbon cable with terminal block Conforming to MIL flat ribbon cable connector Applicable to OMRON's serial transmission unit PC Wiring System compatible	 P. 710	 P. 710
T kit Terminal block box (Terminal block) Terminal blocks are compactly arranged on one side.	 P. 714	 P. 714
L kit Lead wire Direct electrical entry type	 P. 718	 P. 718

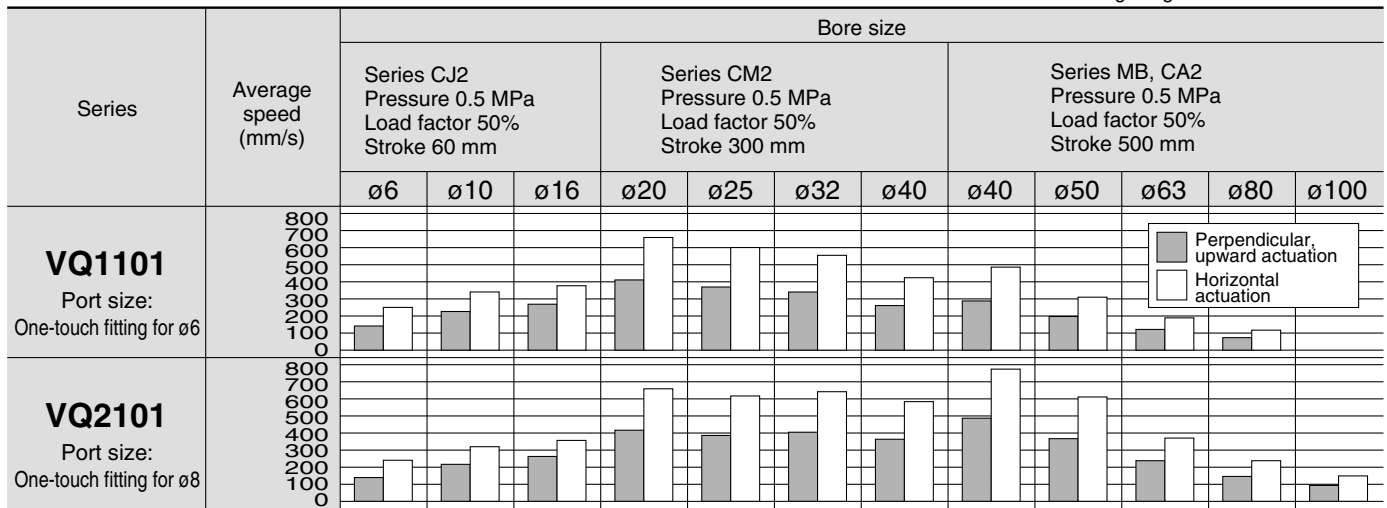
Manifold Variations

		Plug-in	
		Series VQ1000	Series VQ2000
Gateway system serial transmission system Serial unit: EX510		 Enclosure IP20 compliant P. 722	
		 P. 726	 Enclosure IP20 compliant P. 726
S Integrated type serial transmission system (for output) Serial unit: EX120, 123, 124		 Dustproof type (-XP) P. 726	 Dusttight and low jetproof type (-W) Enclosure IP65 compliant P. 726
Integrated type serial transmission system (for I/O) Serial unit: EX240			 Enclosure IP65 compliant P. 730
M Circular connector kit IP65 (Dusttight/Low jetproof type)			 W type only P. 732

SJ
 SY
 SV
 SYJ
 SZ
 VP4
 S0700
VQ
 VQ4
 VQ5
 VQC
 VQZ
 SQ
 VFS
 VFR
 VQ7

Cylinder Speed Chart

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



- * 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: ((Load weight x 9.8)/Theoretical force) x 100%

Conditions

Series	Conditions	Series CJ2	Series CM2	Series MB, CA2
VQ1101	Tube bore x Length	T0604(O.D. ø6/I.D. ø4) x 1m		
	Speed controller	AS3001F-06		
	Silencer	AN103-X233		
VQ2101	Tube bore x Length	T0806(O.D. ø8/I.D. ø6) x 1m		
	Speed controller	AS3001F-08		
	Silencer	AN200-KM8		

SJ
SY
SV
SYJ
SZ
VP4
S0700
VQ
VQ4
VQ5
VQC
VQZ
SQ
VFS
VFR
VQ7

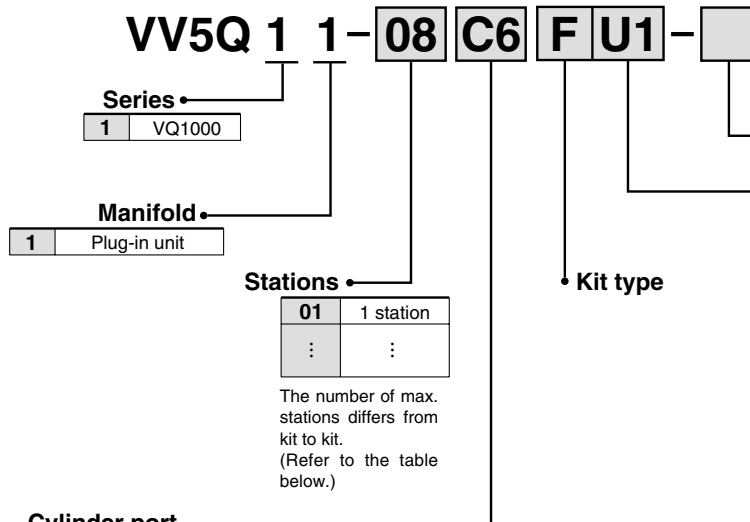
Plug-in Unit Base Mounted

Series VQ1000



Refer to SMC website for the details of the products conforming to the international standards.

How to Order Manifold



Symbol	Option
Nil	None
2	200/220 VAC models (For F and L kits only)
B	With back pressure check valve ⁽²⁾
D	DIN rail mounting
D0	With DIN rail bracket (Without DIN rail)
D□	DIN rail length specified ⁽⁷⁾
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

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 751

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 refer to front matters page 53.



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 740 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.

Note 7) □: Station. Ex.) D08: The number of stations that may be displayed is longer than the manifold number of stations.

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)			
Connector entry direction Top entry Side entry				Connector entry direction Top entry Side entry				Connector entry direction Top entry Side entry				P. 710			
P. 698				P. 702				P. 706							
Kit	U0	S0	Without cable	Kit	U0	S0	Without cable	Kit	U0	S0	Without cable	Kit	0		
	U1	S1	With cable (1.5 m)		U1	S1	With cable (1.5 m)		U1	S1	With cable (1.5 m)		1	With cable (1.5 m)	⁽²⁾ 2 to 16 stations
	U2	S2	With cable (3 m)		U2	S2	With cable (3 m)		U2	S2	With cable (3 m)		2	With cable (3 m)	
	U3	S3	With cable (5 m)		U3	S3	With cable (5 m)		U3	S3	With cable (5 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 749 for details.

Note 2) For details, refer to page 750.

How to Order Valves

How to Order Manifold Assembly

VQ 1 1 0 0 - 5

Series
1 VQ1000

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)

Seal
0 Metal seal
1 Rubber seal

Function

Symbol	Specifications	DC	AC
Nil	Standard type	(1.0W)	(Note)
H	High pressure type (0.8 MPa)	(1.5W)	—
K	High pressure type (1.0 MPa) (Note 2)	(1.0W)	—
N	Negative common (Note 4)	—	—
R	External pilot	—	—
Y	Low wattage type (Note 3)	(0.5W)	—

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

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

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 1) For power consumption of AC type, refer to page 697.
Note 2) For the metal seal type only
Note 3) Please select when you expect to energize the unit for extended periods of time. Refer to page 3 for details.
Note 4) Negative common is not compatible with 12 VDC, 1W and 1.5W specifications.
Note) For external pilot and negative common specifications, refer to "Option" on pages 750 to 751.
Note) Rubber seal type only.

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
AXT100-DS25-030

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.)
*VVQ1000-10A-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.

T kit
(Terminal box)

L kit
(Lead wire cable)

S kit
(Serial transmission unit)

P. 714

P. 718

P. 726

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 726 for details.

Kit	Option	Specification	Max. stations
T	0	Without SI unit	Max. 16 ⁽²⁾ stations
	F1	NKE Corp.: Uni-wire System	
	H	NKE Corp.: Uni-wire H System	
	J1	SUNX Corp.: S-LINK (16 output points)	
L	J2	SUNX Corp.: S-LINK (8 output points)	Max. 8 stations
	Q	DeviceNet	
	R1	OMRON Corp.: CompoBus/S (16 output points)	
	R2	OMRON Corp.: CompoBus/S (8 output points)	
S	V	CC-LINK	Max. 16 stations

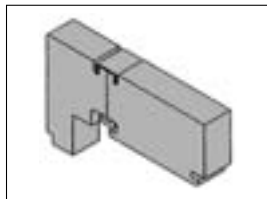
Kit T 0 Terminal block box 2 to 24 stations⁽²⁾

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

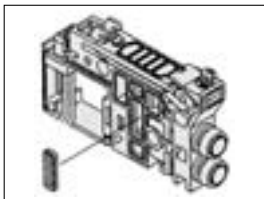
Manifold Option

P. 736 to 739

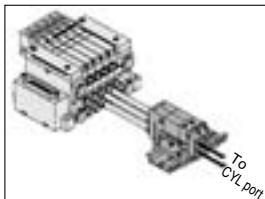
Blanking plate assembly
VVQ1000-10A-1



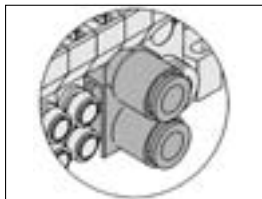
SUP block plate
VVQ1000-16A



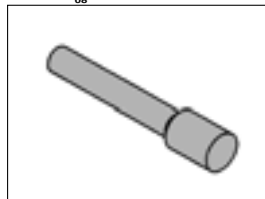
Double check block
VVQ1000-FPG-□□



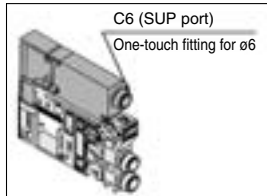
2 stations matching fitting assembly
VVQ1000-52A-C8



Blanking plug
KQ2P-
□□□□□□



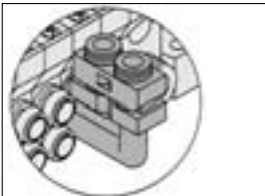
Individual SUP spacer
VVQ1000-P-1-C6



EXH block base assembly
VVQ1000-19A-
F□□□□□
L□□□□□
M□□□□□



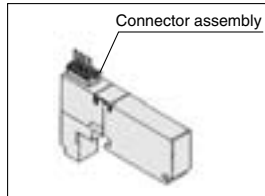
Elbow fitting assembly
VVQ1000-F-L-
□□□□□□
□□□□□□
M□□□□□



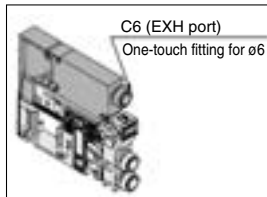
Silencer (For EXH port)
AN200-KM8/AN203-KM8



Blanking plate with connector
VVQ1000-1C□□-□□



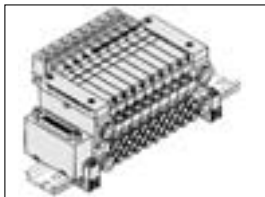
Individual EXH spacer
VVQ1000-R-1-C6



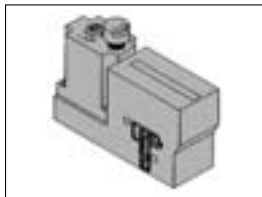
Back pressure check valve assembly [-B]
VVQ1000-18A



DIN rail mounting bracket [-D, -D0, -D□]
VVQ1000-57A

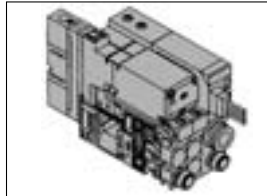


Regulator unit
VVQ1000-AR-1



- For cylinder port fittings part no., refer to page 747.
- For replacement parts, refer to page 755.

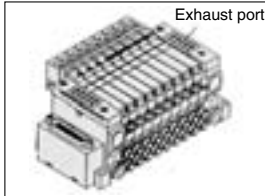
With vacuum ejector unit
[-J□]



Name plate [-N]
VVQ1000-N-Station (1 to Max. stations)



Built-in silencer,
direct exhaust [-S]



Port plug
VVQ0000-58A



SJ
SY
SV
SYJ
SZ
VP4
S0700
VQ
VQ4
VQ5
VQC
VQZ
SQ
VFS
VFR
VQ7

Plug-in Unit Base Mounted

Series VQ2000



Refer to SMC website for the details of the products conforming to the international standards.

How to Order Manifold

Series 2 VQ2000

Manifold 1 Plug-in unit

Cylinder port 08 C6 F U1

Kit type

Stations 01 1 station

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

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 751.

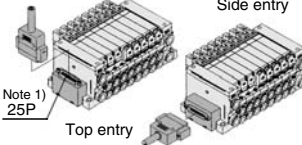
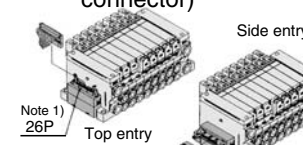
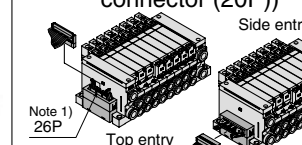
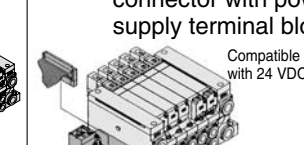
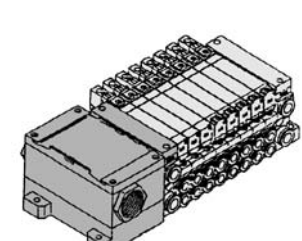
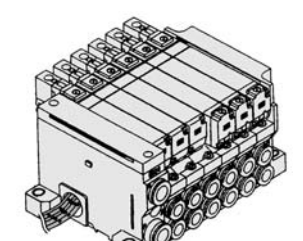
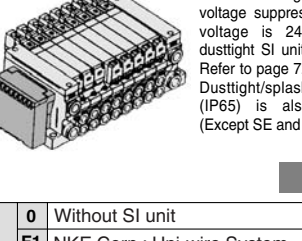
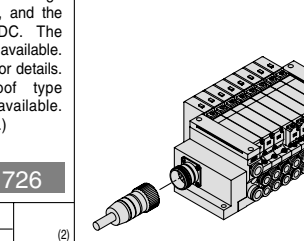
Simple specials are available with SMC Simple Specials System. For details about applicable models, refer to front matters page 53.

Symbol	Option
Nil	None
2	200/220 VAC models (For F and L kits only)
B	With back pressure check valve ⁽²⁾
D	DIN rail mounting
D0	With DIN rail bracket (Without DIN rail)
D□	DIN rail length specified ⁽⁵⁾
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]



- 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.
- Note 5) □: Station. Ex.) D08: The number of stations that may be displayed is longer than the manifold number of stations.

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)							
																			
Connector entry direction Top entry Side entry				Connector entry direction Top entry Side entry				Connector entry direction Top entry Side entry				Connector entry direction Top entry Side entry							
P. 698				P. 702				P. 706				P. 710							
Kit	U0	Kit	S0	Without cable	(2) 2 to 24 stations	Kit	U0	Kit	S0	Without cable	(2) 2 to 16 stations	Kit	U0	Without cable	(2) 2 to 16 stations				
U1	S1	With cable (1.5 m)	U1	S1		With cable (1.5 m)	U1	S1	With cable (1.5 m)										
U2	S2	With cable (3 m)	U2	S2		With cable (3 m)	U2	S2	With cable (3 m)										
U3	S3	With cable (5 m)	U3	S3		With cable (5 m)	U3	S3	With cable (5 m)										
T kit (Terminal box)				L kit (Lead wire cable)				S kit (Serial transmission unit) ⁽⁴⁾				M kit (Multi-connector)							
																			
Dust tight/Low jetproof type (IP65) available				Dust tight/Low jetproof type (IP65) available				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 726 for details. Dusttight/splashproof type (IP65) is also available. (Except SE and SG.)											
P. 714				P. 718				P. 726				P. 732							
Dust tight/Low jetproof type (IP65) available				Dust tight/Low jetproof type (IP65) available															
Kit	T	O	Terminal block box	2 to 20 stations ⁽²⁾	Kit	L	0	With cable (0.6 m)	1 to 8 stations	Kit	S	0	Without SI unit	Max. 16 stations ⁽²⁾	Kit	M	0	Without cable	2 to 24 stations ⁽²⁾
							1	With cable (1.5 m)				F1	NKE Corp.: Uni-wire System				1	With cable (1.5 m)	
							2	With cable (3 m)				H	NKE Corp.: Uni-wire H System				2	With cable (3 m)	
												J1	SUNX Corp.: S-LINK (16 output points)	Max. 8 stations			3	With cable (5 m)	
												J2	SUNX Corp.: S-LINK (8 output points)	Max. 8 stations					
												Q	DeviceNet, CompoBus/D (OMRON Corp.)	Max. 16 stations					
												R1	OMRON Corp.: CompoBus/S (16 output points)	Max. 8 stations					
												R2	OMRON Corp.: CompoBus/S (8 output points)	Max. 16 stations					
												V	Mitsubishi Electric Corp.: CC-LINK	Max. 16 stations					



- Note 1) Besides the above, F and P kits with different number of pins are available. Refer to page 749 for details.
- Note 2) For details, refer to page 750.
- Note 3) Refer to the pages on respective kits for IP65 type. (T, L and S kits)
- Note 4) Serial transmission system with IP65 enclosure applicable to input/output is also available. Refer to page 730 for details.

How to Order Valves

VQ 2 1 0 0 - 5

Series
2 VQ2000

Seal
0 Metal seal
1 Rubber seal

Type of actuation

1	2 position single (A)(B) (R1)(P)(R2)	Note A 4 position dual 3 port valve (A) (R1)(P)(R2)
	2 position double (A)(B) (R1)(P)(R2)	
2	Metal 2 position double (A)(B) (R1)(P)(R2)	Note B 4 position dual 3 port valve (B) (R1)(P)(R2)
	Rubber 2 position double (A)(B) (R1)(P)(R2)	
3	3 position closed center (A)(B) (R1)(P)(R2)	Note C 4 position dual 3 port valve (C) (R1)(P)(R2)
4	3 position exhaust center (A)(B) (R1)(P)(R2)	
5	3 position pressure center (A)(B) (R1)(P)(R2)	

Note) For sub-plate single unit type, refer to page 735.

Function

Symbol	Specifications	DC	AC
Nil	Standard type	(1.0W)	Note
H	High pressure type (0.8 MPa)	(1.5W)	—
K	High pressure type (1.0 MPa) (Note 2)	(1.0W)	—
N	Negative common (Note 4)	—	—
R	External pilot	—	—
Y	Low wattage type (Note 3)	(0.5W)	—

Note 1) For power consumption of AC type, refer to page 697.
Note 2) For the metal seal type only.
Note 3) Please select when you expect to energize the unit for extended periods of time. Refer to page 3 for details.
Note 4) Negative common is not compatible with 12 VDC, 1W and 1.5W specifications.

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

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

Light/Surge voltage suppressor
Nil Yes
E Note None

Note) Inapplicable to the S kit.

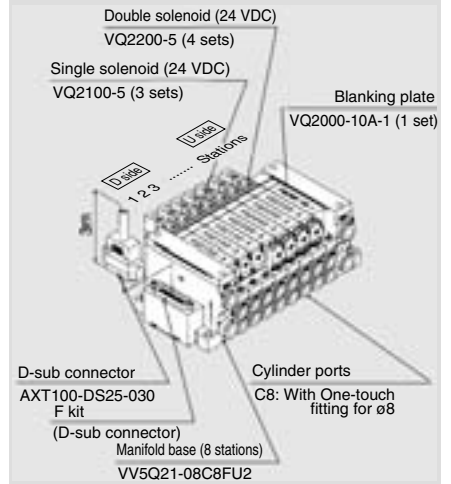
Coil voltage

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 and 220 VAC: F and L kits only

How to Order Manifold Assembly

Example



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.

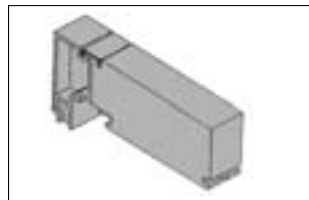
Specify the part numbers for valves and options together beneath the manifold base part number. Besides, when the arrangement will be complicated, specify them by means of the manifold specification sheet.

SJ
SY
SV
SYJ
SZ
VP4
S0700
VQ
VQ4
VQ5
VQC
VQZ
SQ
VFS
VFR
VQ7

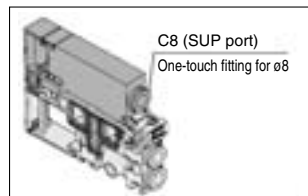
Manifold Option

P. 742 to 745

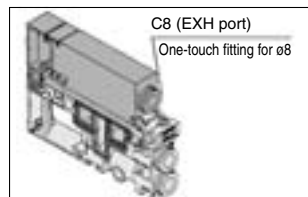
Blanking plate assembly
VVQ2000-10A-1



Individual SUP spacer
VVQ2000-P-1-C8



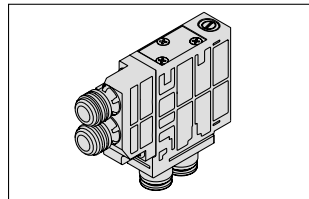
Individual EXH spacer
VVQ2000-R-1-C8



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



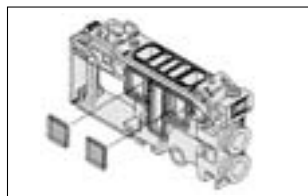
Double check block (Direct mounting)
VVQ2000-23A-□



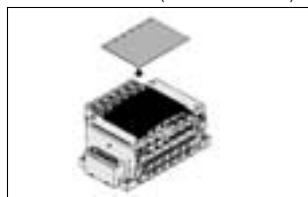
SUP block plate
VVQ2000-16A



EXH block plate
VVQ2000-19A



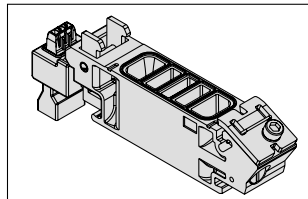
Name plate [-N]
VVQ2000-N-Station (1 to Max. stations)



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



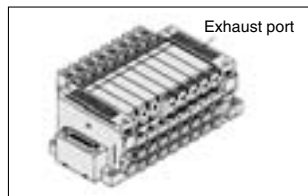
SUP stop valve spacer
VVQ2000-24A-1



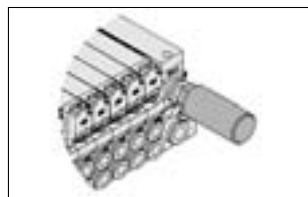
DIN rail mounting bracket [-D, -D0, -D□]
VVQ2000-57A



Built-in silencer,
direct exhaust [-S]



Silencer (For EXH port)
AN200-KM10



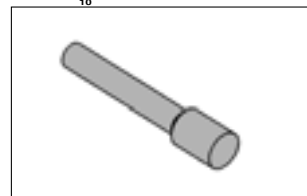
2 stations matching fitting assembly
VVQ2000-52A-C10



Port plug
VVQ1000-58A

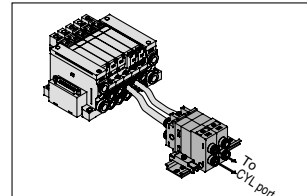


Blanking plug
KQ2P-□
C8
ø8
16



- For cylinder port fittings part no., refer to page 747.
- For replacement parts, refer to page 757.

Double check block (Separated)
VVQ2000-FPG-□□

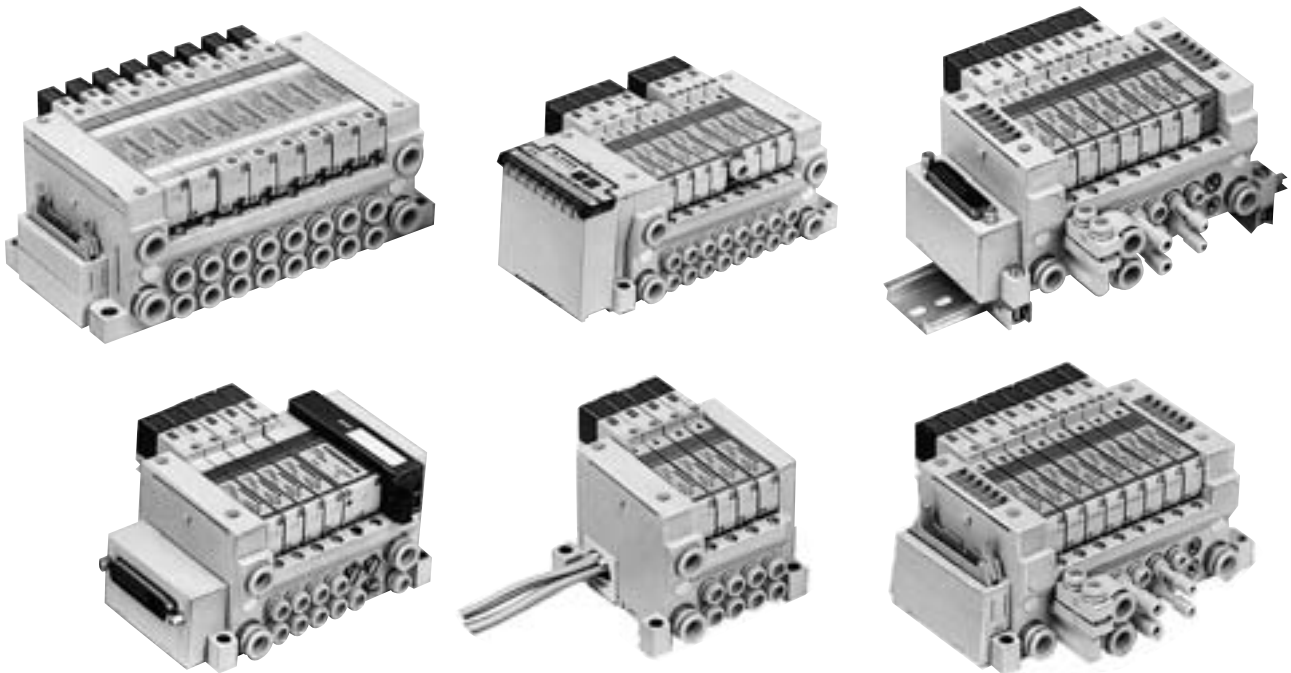


SJ
SY
SV
SYJ
SZ
VP4
S0700
VQ
VQ4
VQ5
VQC
VQZ
SQ
VFS
VFR
VQ7

Plug-in Unit

Base Mounted

Series VQ1000/2000



Model

Series	Number of solenoids		Model		Flow characteristics ⁽¹⁾						Response time (ms) ⁽²⁾			Mass (g)	
					1 → 2/4 (P → A/B)			2/4 → 3/5 (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					
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
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		



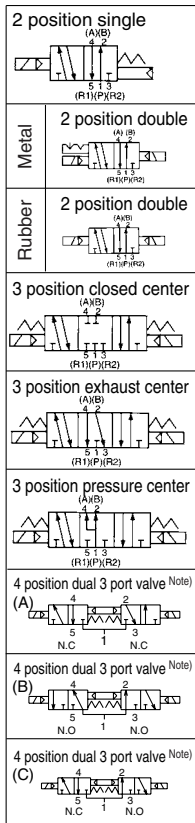
Note 1) Cylinder port size C6: (VQ1000), C8: (VQ2000) without check valve option for prevention of back pressure.

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



Note) Rubber seal type only.

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, 1.0 MPa) ⁽⁶⁾	
	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
		4 position	—	0.15 MPa
	Ambient and fluid temperature		-10 to 50°C ⁽¹⁾	
	Lubrication		Not required	
	Manual override		Push type/Locking type (Tool required, Manual type) Option	
Solenoid	Impact/Vibration resistance ⁽²⁾		150/30 m/s ²	
	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.

Note 6) High pressure type (1.0 MPa) is compatible with metal seal only.

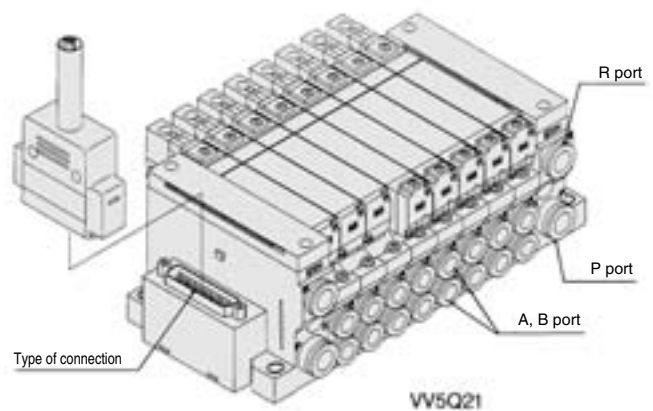
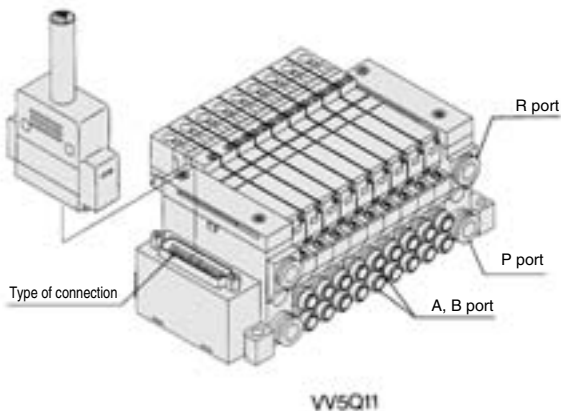
Manifold Specifications

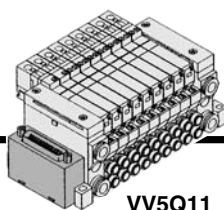
Series	Base model	Type of connection	Porting specifications			⁽²⁾ Applicable stations	Applicable solenoid valve	5 station mass (g)
			Port location	Port size ⁽¹⁾				
					1(P), 3(R)	4(A), 2(B)		
VQ1000	VV5Q11-□□□	■ F kit-D-sub connector ■ P kit-Flat ribbon cable connector ■ J kit-Flat ribbon cable connector (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)



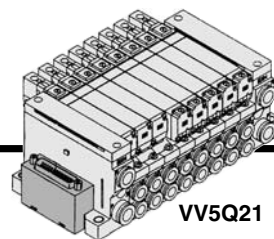
Note 1) Inch-size One-touch fittings are also available. For details, refer to page 751.

Note 2) For details, refer to page 750.





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.

D-sub Connector (25 pins)

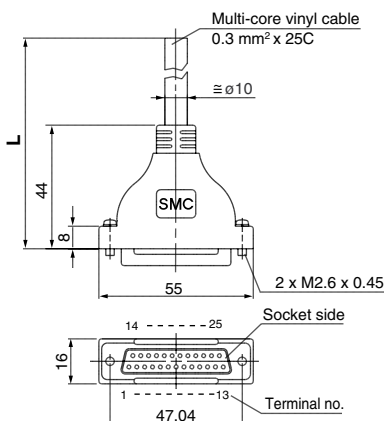
Manifold Specifications

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

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.
* Cannot be used for transfer wiring.

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.

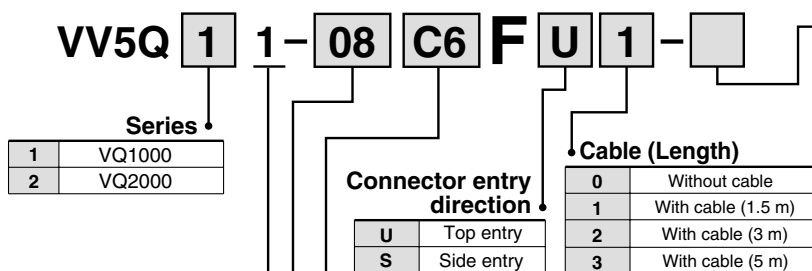
Wire Color by Terminal No. of D-sub Connector Cable Assembly

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 1) Types with 15 pin are also available. Refer to page 749 for details.

Note 2) Lengths other than the above are also available. Please contact SMC for details.

How to Order Manifold



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 ⁽³⁾	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 751.

Symbol	Option	VQ1000	VQ2000	Note
Nil	None	●	●	
2	200/220 VAC models (For F and L kits only)	●	●	
B	With back pressure check valve	●	●	(2)
D	DIN rail mounting	●	●	
D0	With DIN rail bracket (Without DIN rail)	●	●	
D□	DIN rail length specified (□: Station, 02 to 24)	●	●	(3)
G1	1 set of regulator unit			
G2	2 sets of regulator unit	●		(4)
G3	3 sets of regulator unit			
J□	With vacuum ejector unit	●	●	(5)
K	Special wiring specifications (Not double wiring)	●	●	(6)
N	With name plate	●	●	
R	External pilot	●	●	(7)
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.

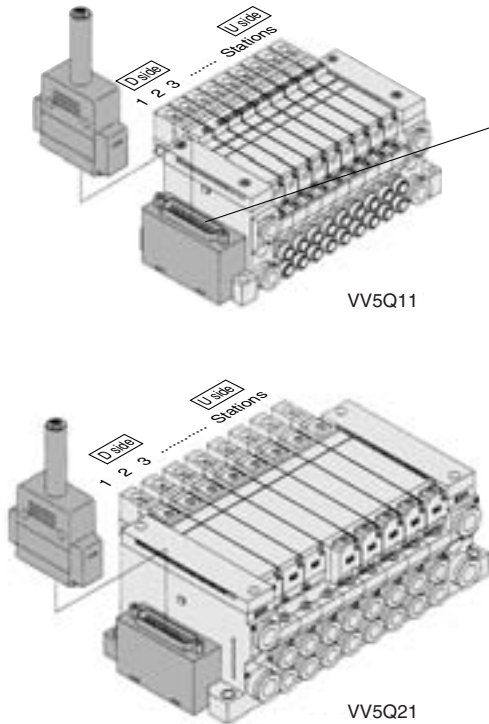
Note 3) The number of stations that may be displayed is longer than the manifold number of stations.

Note 4) Specify the mounting position in the manifold specification sheet.

Note 5) Refer to page 740 for the details of ejector mounted styles. A combination of "J" and "N" is unavailable.

Note 6) Specify the wiring by using of the manifold specification sheet.

Note 7) Indicate "R" for the valve with external pilot.



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

Electrical wiring specifications

D-sub connector assembly
AXT100-DS25-030 Wire color **050**

Terminal no.	Polarity	Lead wire color	Dot marking
1	(-)	Black	None
2	(-)	Yellow	Black
3	(-)	Brown	None
4	(-)	Pink	Black
5	(-)	Red	None
6	(-)	Blue	White
7	(-)	Orange	None
8	(-)	Purple	None
9	(-)	Yellow	None
10	(-)	Gray	None
11	(-)	Pink	None
12	(-)	Orange	Black
13	(-)	Blue	None
14	(-)	Red	White
15	(-)	Purple	White
16	(-)	Brown	White
17	(-)	Gray	Black
18	(-)	Pink	Red
19	(-)	White	Black
20	(-)	Gray	Red
21	(-)	White	Red
22	(-)	Black	White
23	(-)	Yellow	Red
24	(-)	White	None
25	(-)	Orange	Red
COM.	(+)	(-) ^{Note1} Orange	Red

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 750.

Note) When using the negative common specifications, use valves for negative common. (Refer to page 750.) For details, refer to "Option" on page 750.

How to Order Valves

VQ 1 1 0 0 - 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
A	4 position dual port (N.C. +N.C.)
B	4 position dual port (N.O. +N.O.)
C	4 position dual port (N.C. +N.O.)

Seal

0	Metal seal
1	Rubber seal

Function

Symbol	Specifications	DC	AC
Nil	Standard type	(1.0W) ○	(note) ○
H	Standard type (0.8 MPa)	(1.5W) ○	—
K	High pressure type (1.0 MPa) ^{Note 2}	(1.0W) —	—
N	Negative common ^{Note 4}	—	—
R	External pilot	○	○
Y	Low wattage type ^{Note 3}	(0.5W) ○	—

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

Note 1) For power consumption of AC type, refer to page 697.
 Note 2) For the metal seal type only.
 Note 3) Please select when you expect to energize the unit for extended periods of time. Refer to page 3 for details.
 Note 4) Negative common is not compatible with 12 VDC, 1W and 1.5W specifications.

How to Order Manifold Assembly

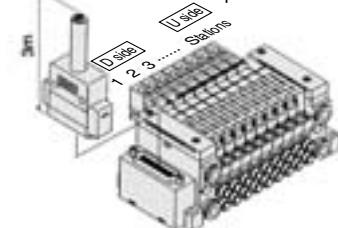
Specify the part numbers for valves and options together beneath the manifold base part number.

<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)

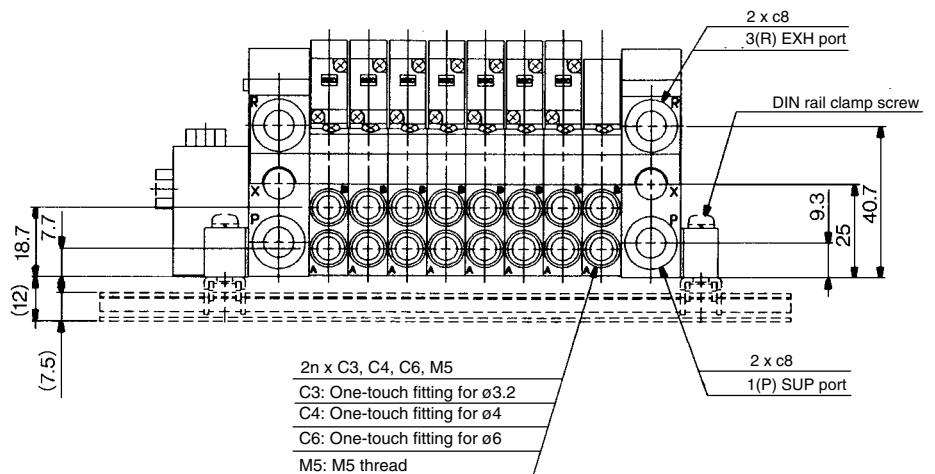
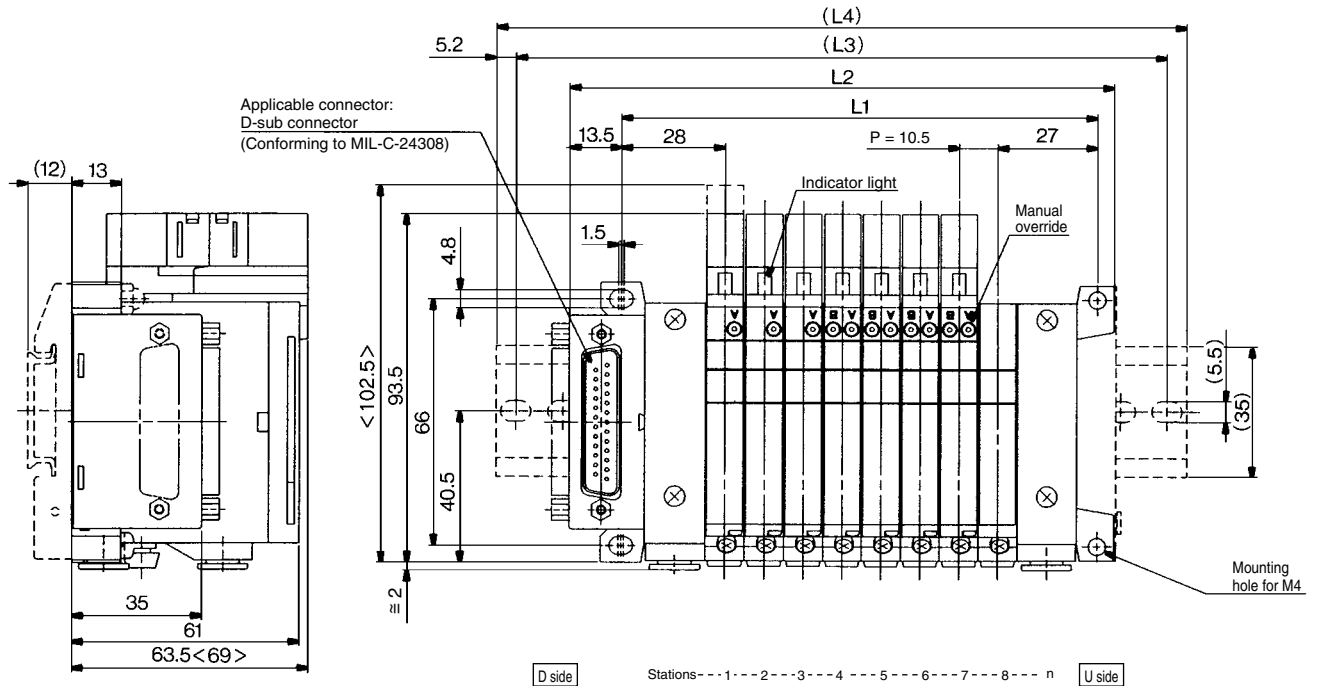
Prefix the asterisk to the part nos. of the solenoid valve, etc.

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

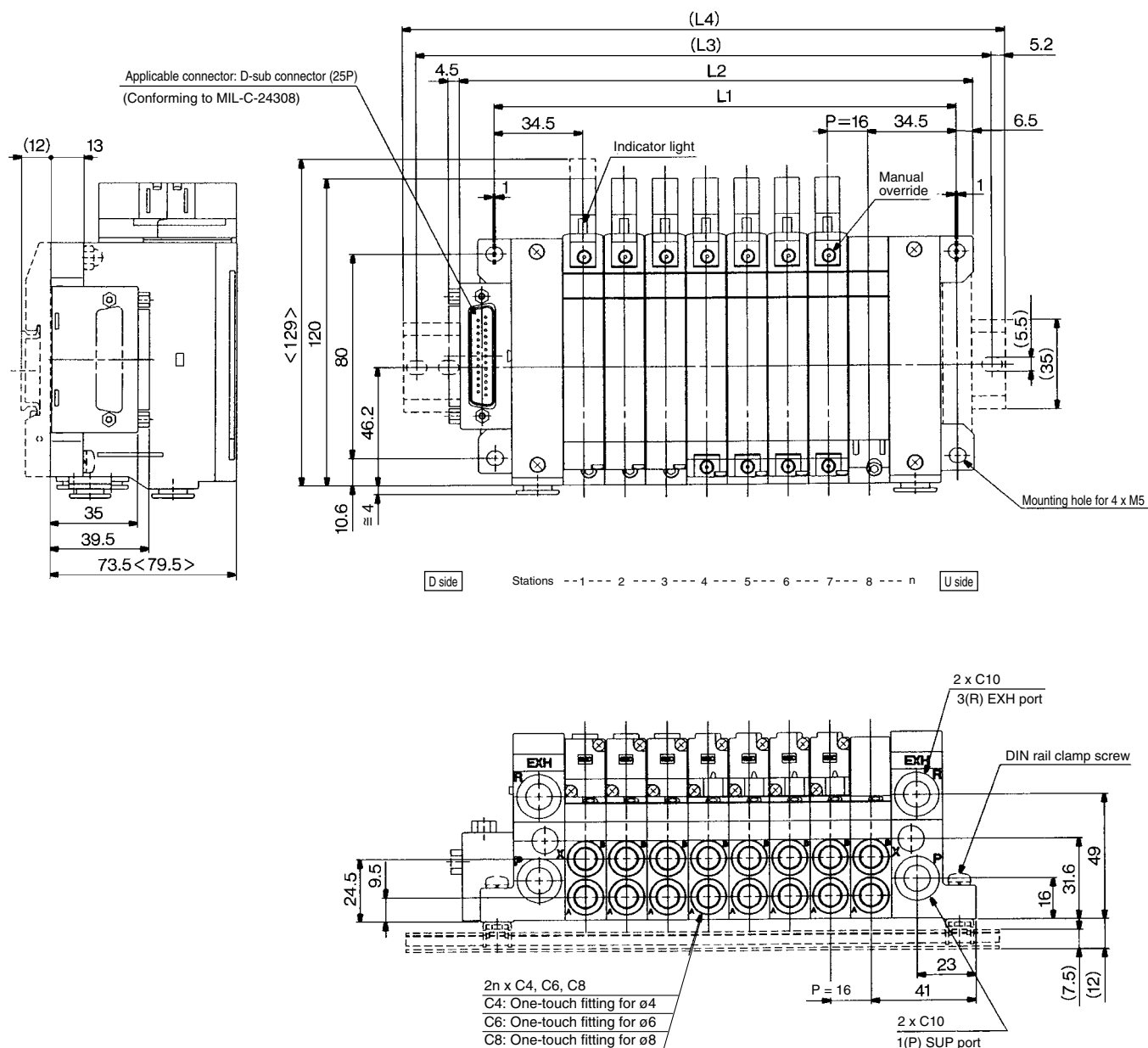
Formula L1 = 10.5n + 44.5, L2 = 10.5n + 62.5 n: Station (Maximum 24 stations)

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 + (Number of ejector units x 26.7)
L2 = 10.5n + 46.3 + (Number of ejector units x 26.7)
L4 is L2 plus about 30.

VQ2000

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



< >: AC

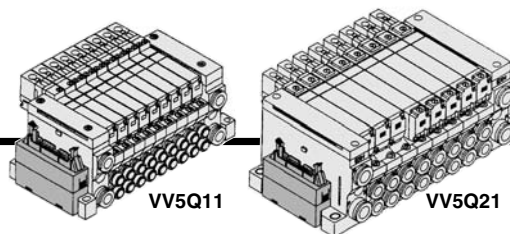
Dimensions

Formula $L1 = 16n + 53$, $L2 = 16n + 73$ 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		105	121	137	153	169	185	201	217	233	249	265	281	297	313	329	345	361	377	393	409	425	441	457
(L3)		137.5	150	162.5	187.5	200	212.5	225	250	262.5	275	300	312.5	325	337.5	350	375	387.5	400	412.5	437.5	450	462.5	487.5
(L4)		148	160.5	173	198	210.5	223	235.5	260.5	273	285.5	310.5	323	335.5	348	360.5	385.5	398	410.5	423	448	460.5	473	498

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	Port location	Porting specifications		Applicable stations
		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-FC26-1 to 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
1.5m	AXT100-FC26-1	Cable 26 core x 28AWG
3m	AXT100-FC26-2	
5m	AXT100-FC26-3	

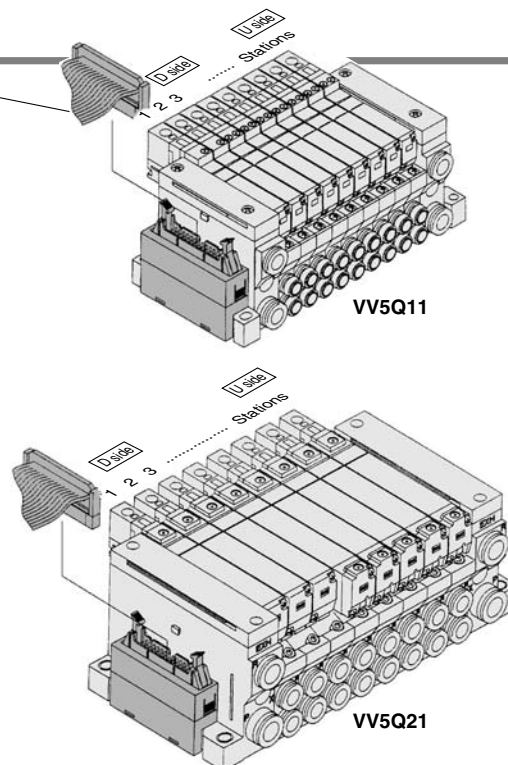
* For other commercial connectors, use a 26 pins type with strain relief conforming to MIL-C-83503.
* Cannot be used for transfer wiring.

Connector manufacturers' example

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

Note 1) Other than the above model, 10 P, 16P and 20P are also available. Refer to page 749 for details.
Note 2) Lengths other than the above are also available. Please contact SMC for details.

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-

Series

1	VQ1000
2	VQ2000

Manifold

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

Stations

02	2 stations
:	:
24	24 stations

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)

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 ⁽³⁾	With mixed size/with port plug	●	●

Option

Symbol	Option	VQ1000	VQ2000	Note
Nil	None	●	●	
B	Back pressure check valve	●	●	(2)
D	DIN rail mounting	●	●	
D0	With DIN rail bracket (Without DIN rail)	●	●	
D□	DIN rail length specified (□: Station, 02 to 24)	●	●	(3)
G1	1 set of regulator unit			
G2	2 sets of regulator unit	●		(4)
G3	3 sets of regulator unit			
J□	With vacuum ejector unit	●		(5)
K	Special Wiring Specifications (Not double wiring)	●	●	(6)
N	With name plate	●	●	
R	External pilot	●	●	(7)
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) The number of stations that may be displayed is longer than the manifold number of stations.
- Note 4) Specify the mounting position in the manifold specification sheet.
- Note 5) Refer to page 740 for the details of ejector mounted styles. A combination of "J" and "N" is unavailable.
- Note 6) Specify the wiring specifications in the manifold specification sheet.
- Note 7) Indicate "R" for the valve with external pilot.

● Electrical wiring specifications

Flat ribbon cable connector

Terminal no. Polarity

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

Electrical wiring specifications

Positive common specifications Negative common specifications

Note) When using the negative common specifications, use valves for negative common. (Refer to page 750.)
For details, refer to "Option" on page 750.

How to Order Valves

VQ 1 1 0 0 - 5

Series

1	VQ1000
2	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
A	4 position dual port (N.C. +N.C.)
B	4 position dual port (N.O. +N.O.)
C	4 position dual port (N.C. +N.O.)

Seal

0	Metal seal
1	Rubber seal

Function

Symbol	Specifications	DC	AC
Nil	Standard type	(1.0W)	○ ⁽¹⁾
H	High pressure type (0.8 MPa)	(1.5W)	—
K	High pressure type (1.0 MPa) ⁽²⁾	(1.0W)	—
N	Negative common ⁽⁴⁾	—	—
R	External pilot	—	—
Y	Low wattage type ⁽³⁾	(0.5W)	—

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	AC100V(50/60Hz)
3	AC110V(50/60Hz)
5	DC24V
6	DC12V

Note) For external pilot and negative common specifications, refer to "Option" on pages 750 to 751.

Note 1) For power consumption of AC type, refer to page 697.
Note 2) For the metal seal type only
Note 3) Please select when you expect to energize the unit for extended periods of time. Refer to page 3 for details.
Note 4) Negative common is not compatible with 12 VDC, 1W and 1.5W specifications.

How to Order Manifold Assembly

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

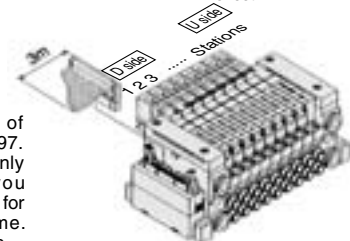
<Example>

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)

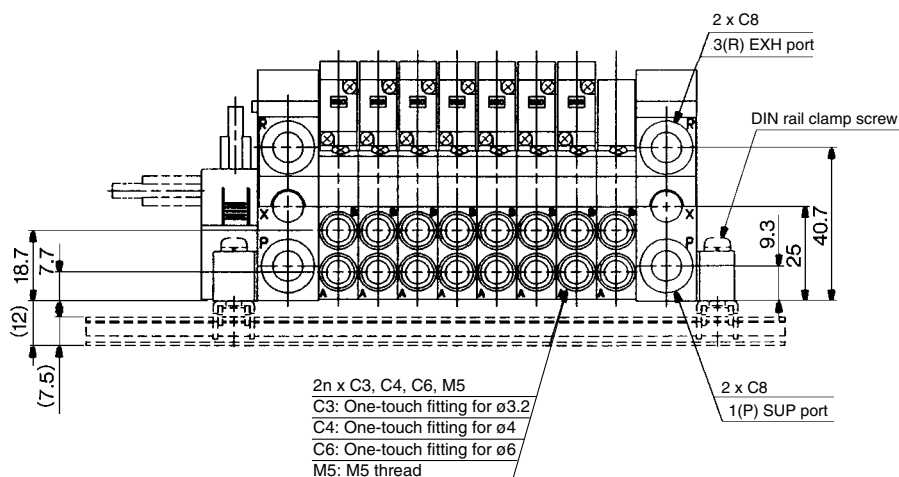
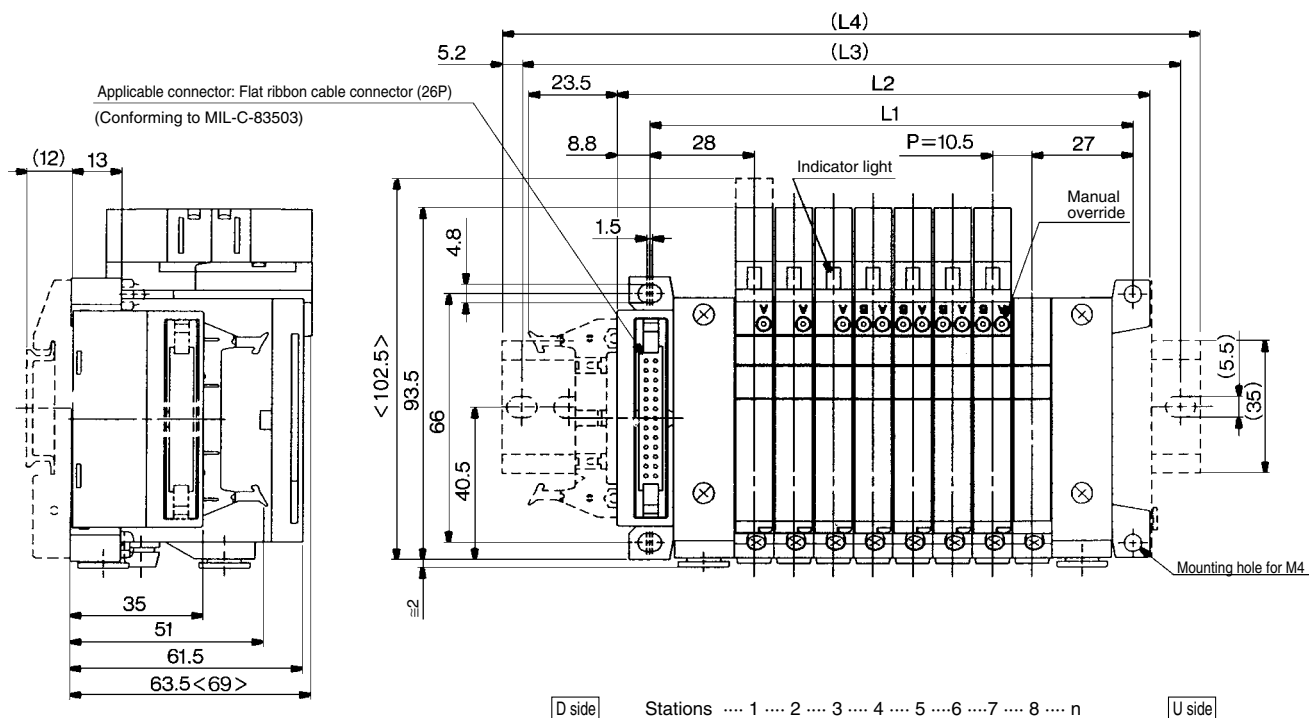
Prefix the asterisk to the part nos. of the solenoid valve, etc.

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



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	125	137.5	150	162.5	175	187.5	187.5	200	212.5	225	225	237.5	250	262.5	275	287.5	287.5	300	312.5	325	337.5
(L4)		123	135.5	135.5	148	160.5	173	185.5	198	198	210.5	223	235.5	235.5	248	260.5	273	285.5	298	298	310.5	323	335.5	348

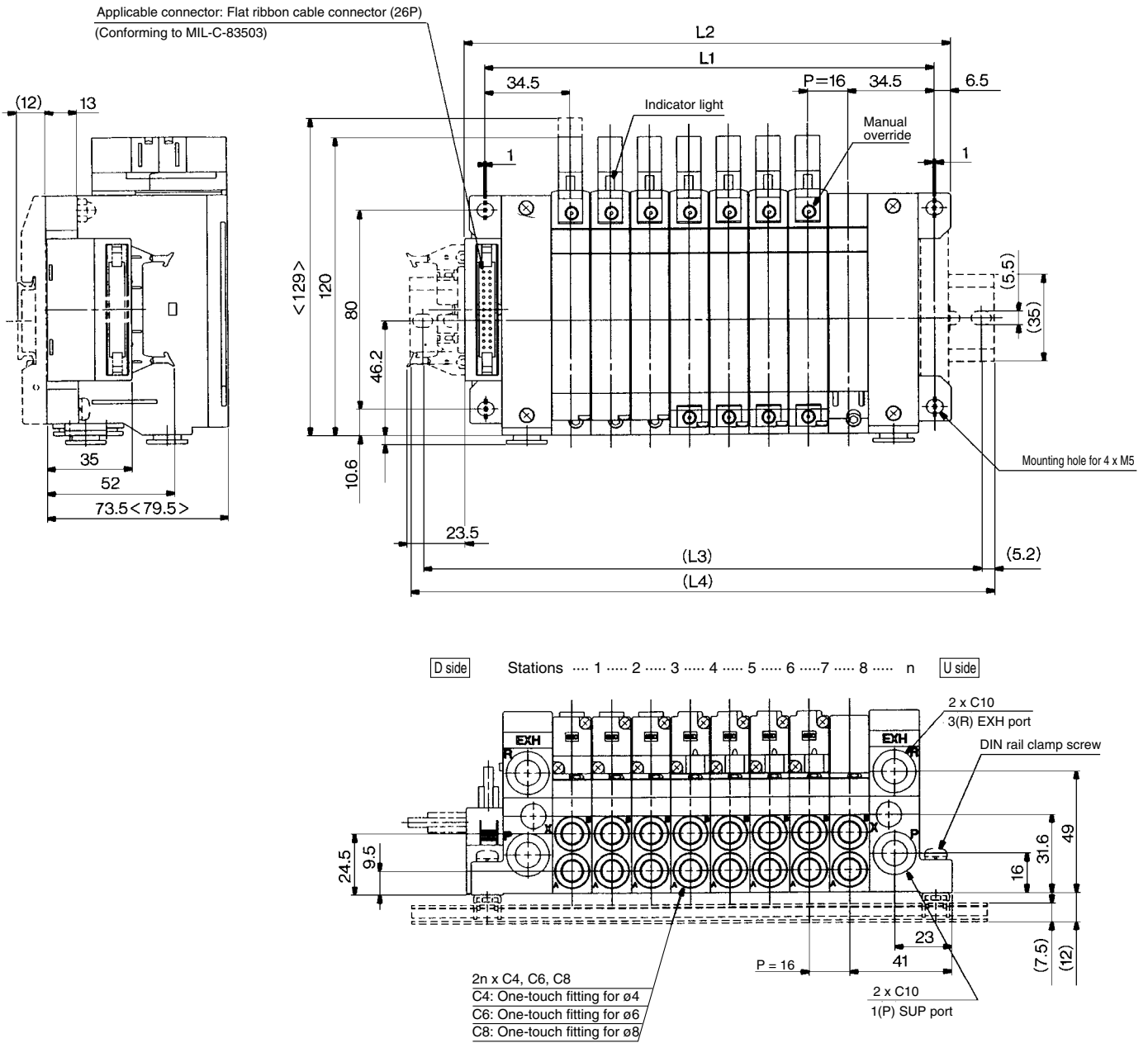
Vacuum ejector unit style: Formula L1 = 10.5n + 28.7 + (Number of ejector units x 26.7)

L2 = 10.5n + 41.3 + (Number of ejector units x 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

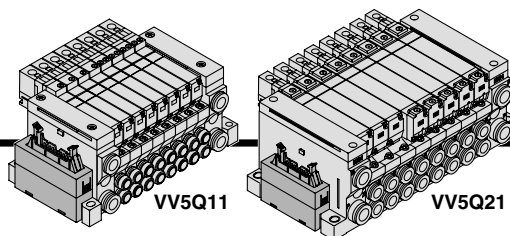
Dimensions

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	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
(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)

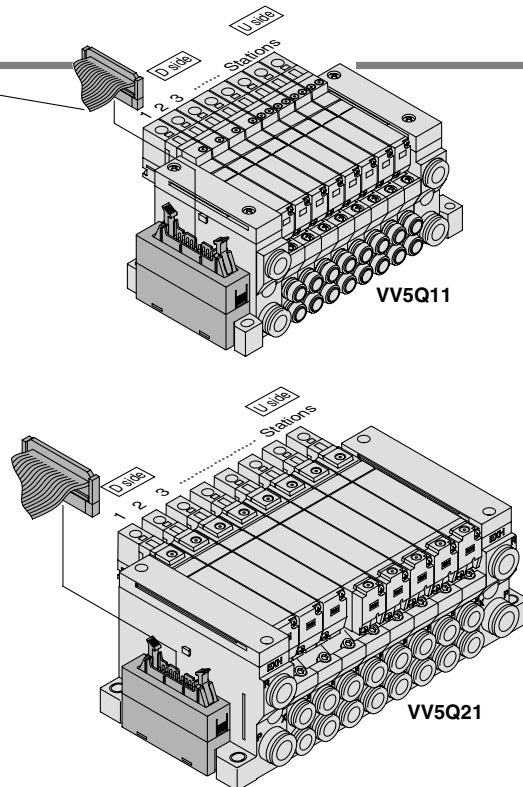
Cable length (L)	Assembly part no.	Note
1.5m	AXT100-FC20-1	Cable 20 core x 28AWG
3m	AXT100-FC20-2	
5m	AXT100-FC20-3	

* For other commercial connectors, use a 20 pins with strain relief conforming to MIL-C-83503.
* Cannot be used for transfer wiring.

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) Lengths other than the above are also available. Please contact SMC for details.



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-

Series

1	VQ1000
2	VQ2000

Manifold

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

Stations

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

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)

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 ⁽³⁾	With mixed size/with port plug	●	●

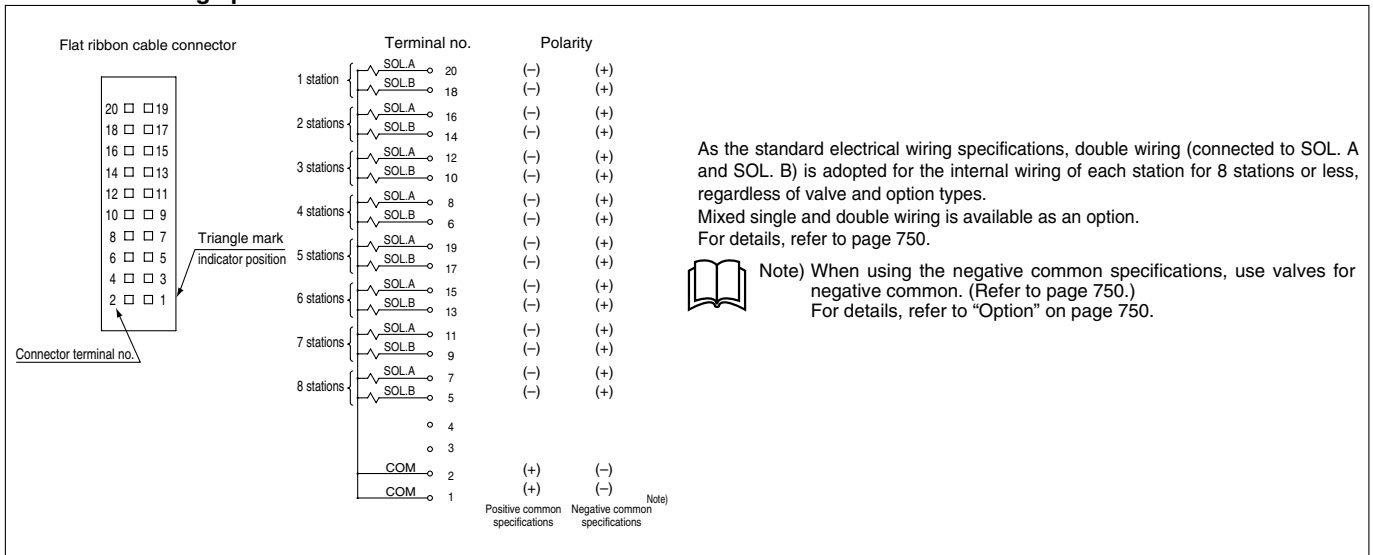
Option

Symbol	Option	VQ1000	VQ2000	Note
	None	●	●	
B	Back pressure check valve	●	●	(2)
D	DIN rail mounting	●	●	
D0	With DIN rail bracket (Without DIN rail)	●	●	
D□	DIN rail length specified (□: Station, 02 to 24)	●	●	(3)
G1	1 set of regulator unit	●	●	(4)
G2	2 sets of regulator unit	●	●	
G3	3 sets of regulator unit	●	●	
J□	With vacuum ejector unit	●	●	(5)
K	Special Wiring Specifications (Not double wiring)	●	●	(6)
N	With name plate	●	●	
R	External pilot	●	●	(7)
S	Built-in silencer, direct exhaust	●	●	

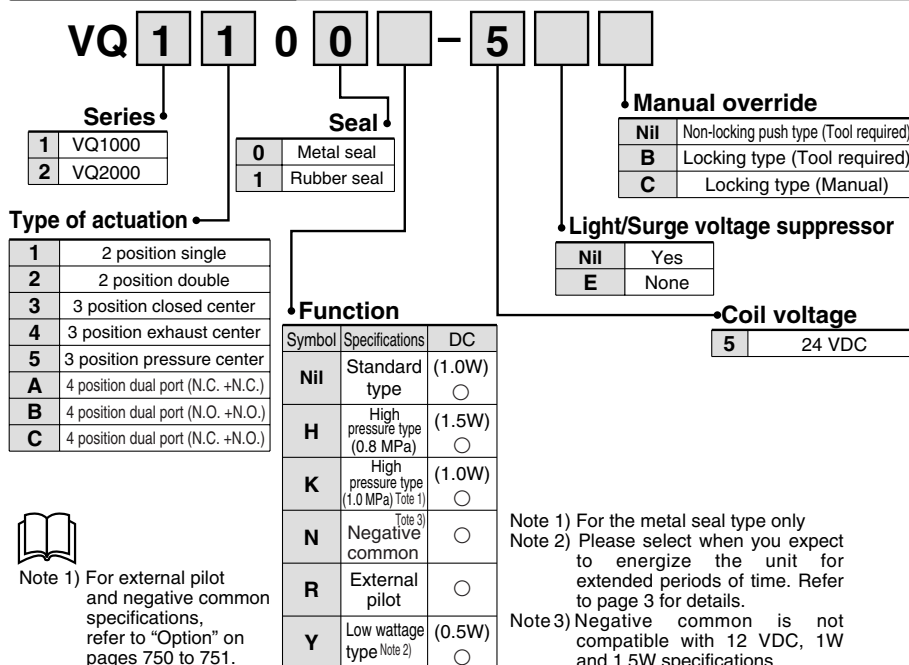


- Note 1) When two or more symbols are specified, indicate them alphabetically. Example) -BRS
- Note 2) Models with a suffix "B" have check valves for prevention of back pressure at all manifold stations. If not all stations need this check valve, specify the stations where check valves are installed by using the manifold specification sheet.
- Note 3) The number of stations that may be displayed is longer than the manifold number of stations.
- Note 4) Specify the mounting position in the manifold specification sheet.
- Note 5) Refer to page 740 for the details of ejector mounted styles. A combination of "J" and "N" is unavailable.
- Note 6) Specify the wiring specifications in the manifold specification sheet.
- Note 7) Indicate "R" for the valve with external pilot.

• Electrical wiring specifications



How to Order Valves



How to Order Manifold Assembly

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

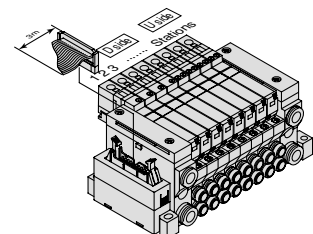
<Example>

Flat ribbon cable kit with 3 m cable

VV5Q11-08C6JU2 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. (Station 7)
*VVQ1000-10A-1 1 set—Blanking plate part no. (Station 8)

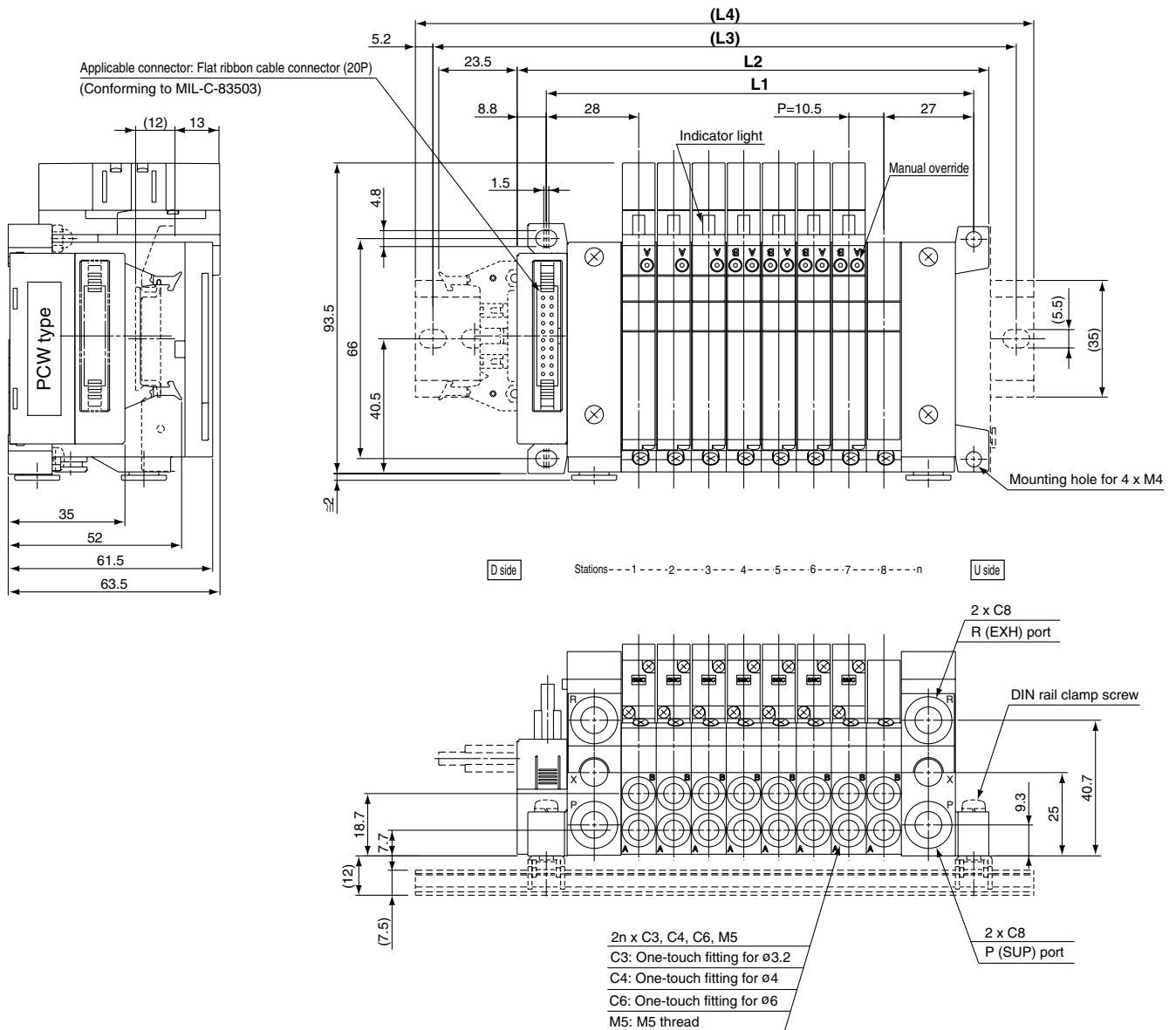
Prefix the asterisk to the part nos. of the solenoid valve, etc.

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.



VQ1000

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



Dimensions

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

L	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

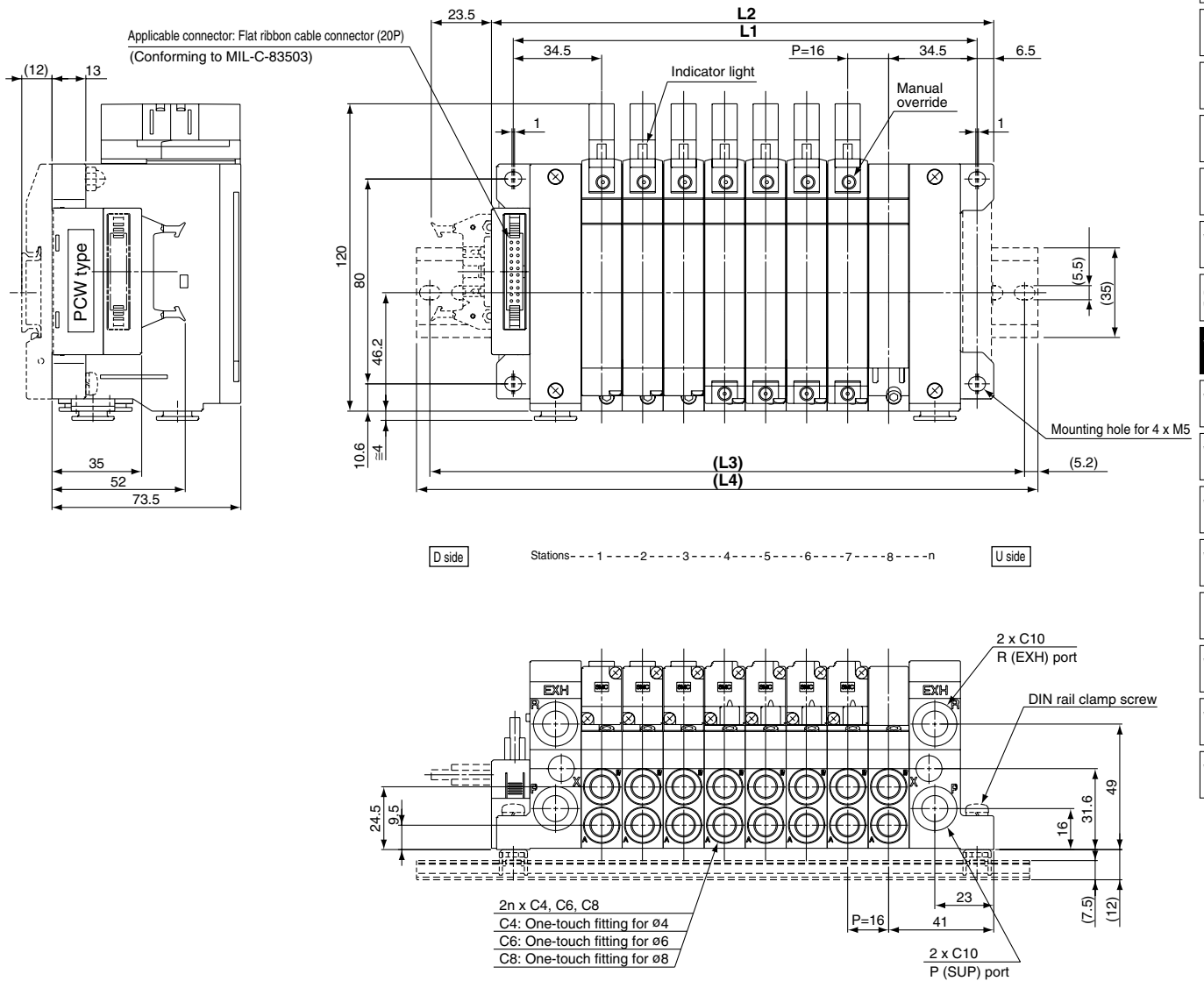
Vacuum ejector unit style: Formula $L1 = 10.5n + 28.7 + (\text{Number of ejector units} \times 26.7)$

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

L4 is L2 plus about 30.

VQ2000

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



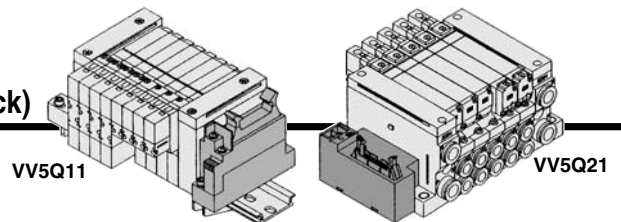
Dimensions

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)



- 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)

Cable assembly

AXT100-FC20-1

(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

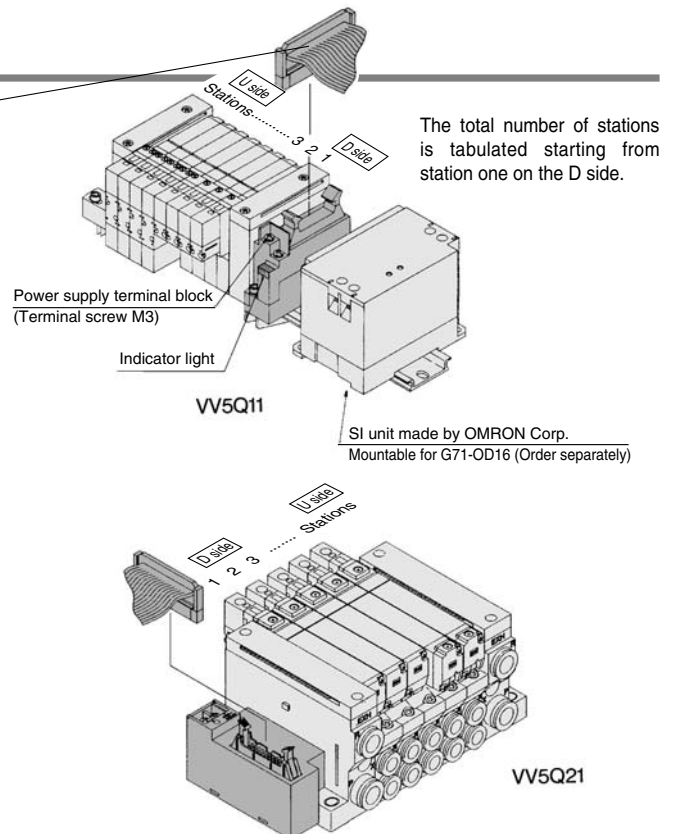
Cable length (L)	Assembly part no.	Note
1.5m	AXT100-FC20-1	Cable 20 core x 28AWG
3m	AXT100-FC20-2	
5m	AXT100-FC20-3	

* For other commercial connectors, use a 20 pins with strain relief conforming to MIL-C-83503.
* Cannot be used for transfer wiring.

Connector manufacturers' example

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

Note) Lengths other than the above are also available. Please contact SMC for details.



How to Order Manifold

VV5Q 1 1-08 C6 G

Series

1	VQ1000
2	VQ2000

Manifold

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

Stations

02	2 stations
...	...
16 ^{Note}	16 stations

Note) For details, refer to page 750.

Connector entry direction, Top entry

Nil	For VQ1000
U	For VQ2000

Cable (Length)

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

Cylinder port

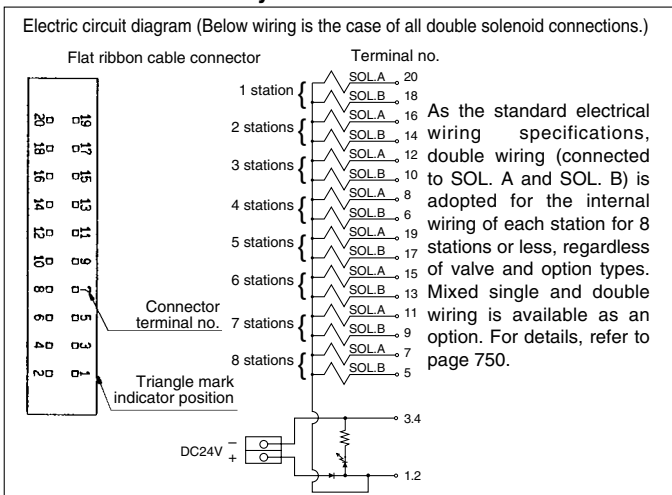
Symbol	Port size	VQ1000	VQ2000
C3	With One-touch fitting for ø3.2	●	
C4	With One-touch fitting for ø4	●	●
C6	With One-touch fitting for ø6	●	●
C8	With One-touch fitting for ø8		●
M5	M5 thread	●	
CM ⁽³⁾	With mixed size/with port plug	●	●

Option

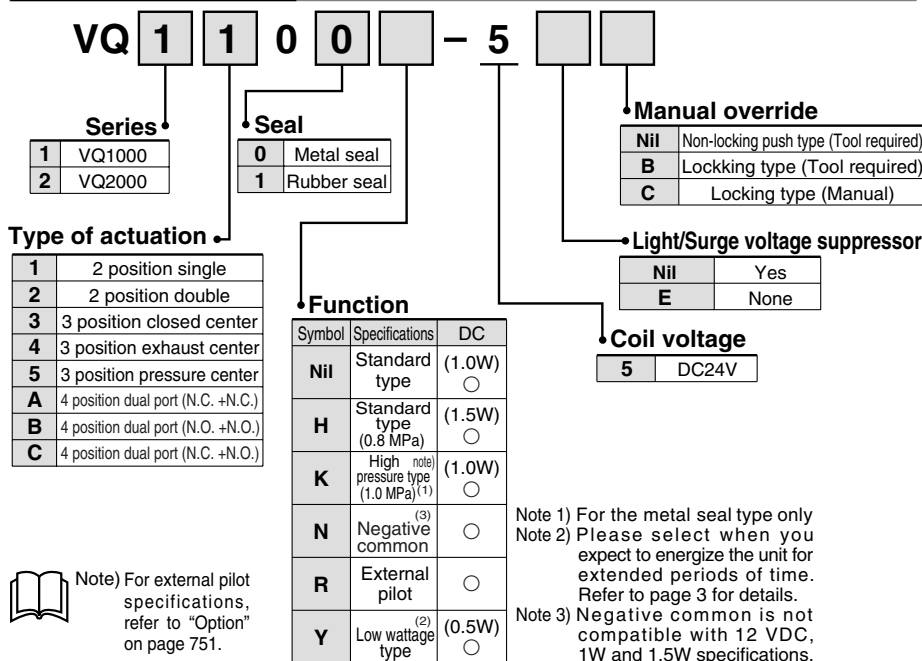
Symbol	Option	VQ1000	VQ2000	Note
Nil	None	●	●	
B	Back pressure check valve	●	●	(2)
D	DIN rail mounting	●	●	
D0	With DIN rail bracket (Without DIN rail)	●	●	
D□	DIN rail length specified (□: Station, 02 to 24)	●	●	(3)
G1	1 set of regulator unit			
G2	2 sets of regulator unit	●		(4)
G3	3 sets of regulator unit			
J□	With vacuum ejector unit	●		(5)
K	Special Wiring Specifications (Not double wiring)	●	●	(6)
N	With name plate	●	●	
R	External pilot	●	●	(7)
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) The number of stations that may be displayed is longer than the manifold number of stations.
- Note 4) Specify the mounting position in the manifold specification sheet.
- Note 5) Refer to page 740 for the details of ejector mounted styles. A combination of "J" and "N" is unavailable.
- Note 6) Specify the wiring specifications in the manifold specification sheet.
- Note 7) Indicate "R" for the valve with external pilot.

● Connector assembly



How to Order Valves



How to Order Manifold Assembly

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

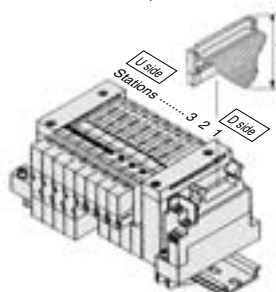
<Example>

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.



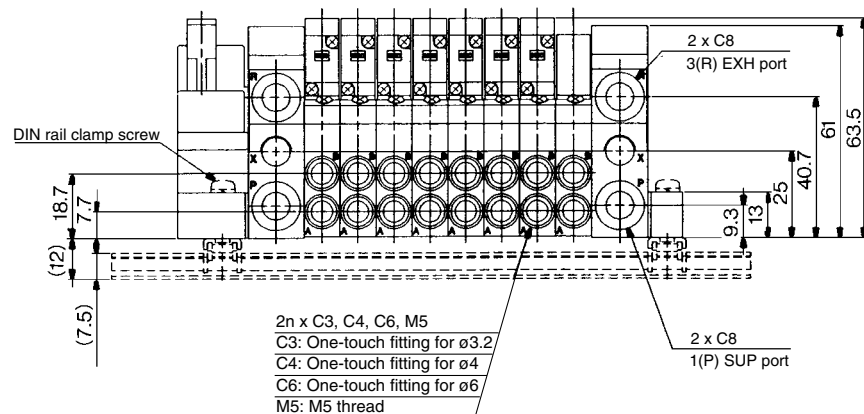
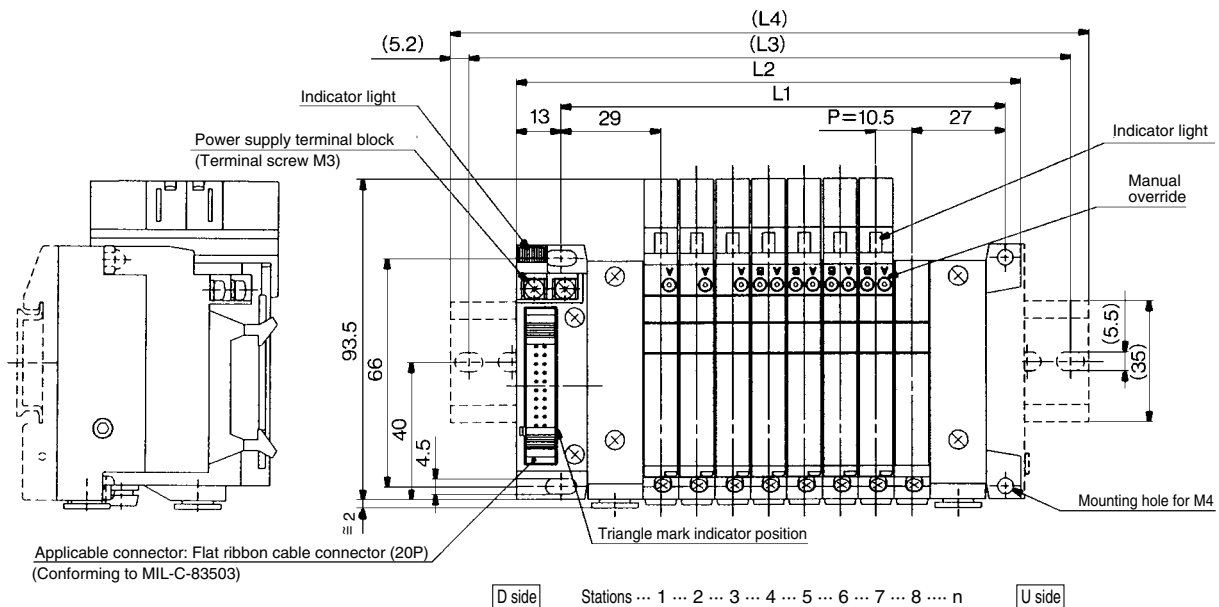
SJ
SY
SV
SYJ
SZ
VP4
S0700
VQ
VQ4
VQ5
VQC
VQZ
SQ
VFS
VFR
VQ7



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

VQ1000

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



Dimensions

Formula $L1 = 10.5n + 45.5$, $L2 = 10.5n + 63$ n: Station (Maximum 16 stations)

L	n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1		66.5	77	87.5	98	108.5	119	129.5	140	150.5	161	171.5	182	192.5	203	213.5
L2		84	94.5	105	115.5	126	136.5	147	157.5	168	178.5	189	199.5	210	220.5	231
(L3)		112.5	125	125	137.5	150	162.5	175	187.5	187.5	200	212.5	225	237.5	250	262.5
(L4)		123	135.5	135.5	148	160.5	173	185.5	198	198	210.5	223	235.5	248	260.5	273

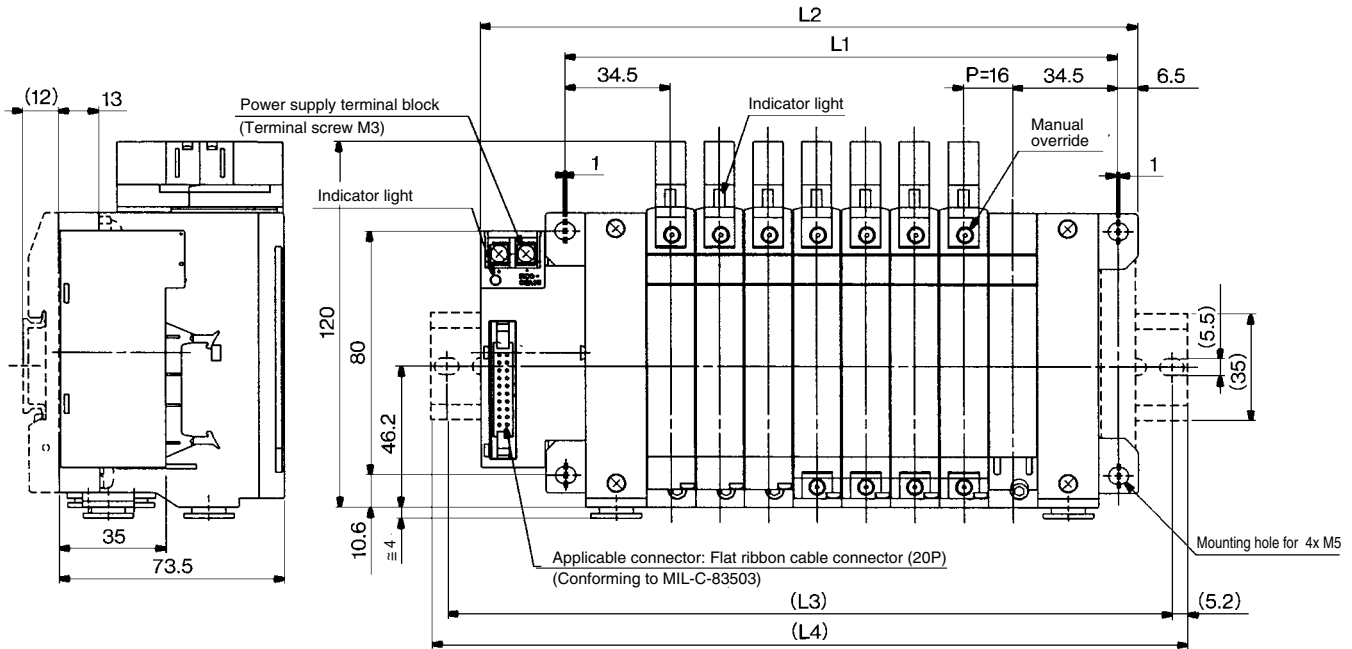
Vacuum ejector unit style: Formula $L1 = 10.5n + 29.7 + (\text{Number of ejector units} \times 26.7)$

$L2 = 10.5n + 46.8 + (\text{Number of ejector units} \times 26.7)$

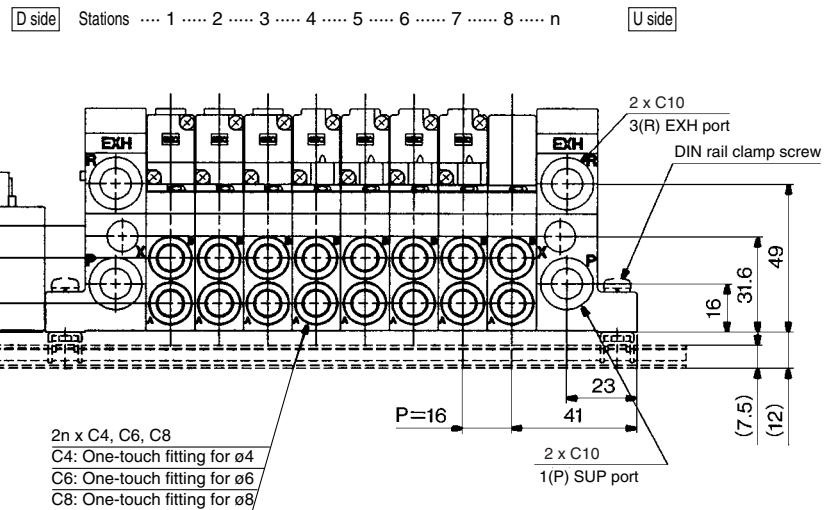
L4 is L2 plus about 30.

VQ2000

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



Flat ribbon cable connector assembly (20P)
 AXT100-FC20-1: 1.5 m
 AXT100-FC20-2: 3 m
 AXT100-FC20-3: 5 m



Dimensions

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

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	119	135	151	167	183	199	215	231	247	263	279	295	311	327	343
(L3)	150	162.5	175	187.5	212.5	225	237.5	262.5	275	287.5	300	325	337.5	350	362.5
(L4)	160.5	173	185.5	198	223	235.5	248	273	285.5	298	310.5	335.5	348	360.5	373

T

VQ1000/2000 Kit (Terminal block box kit)

IP65 compliant

VV5Q11

- 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: 24 (VQ1000), 20 (VQ2000)
- Enclosure: Dusttight/Low jetproof type (IP65) compliant (Series VQ2000)

Manifold Specifications

Series	Port location	Porting specifications		Applicable stations
		1(P),3(R)	Port size 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 (VQ1000)

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

Step 1. How to remove terminal block cover

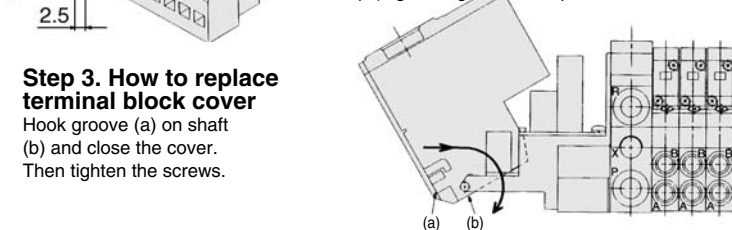
Loosen the screws on the terminal block cover and open it in the direction shown by the arrow. The cover can then be removed from the terminal block.



Step 2. Wire connection

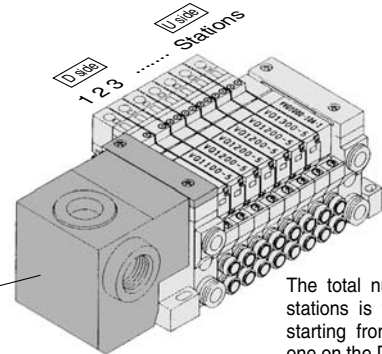
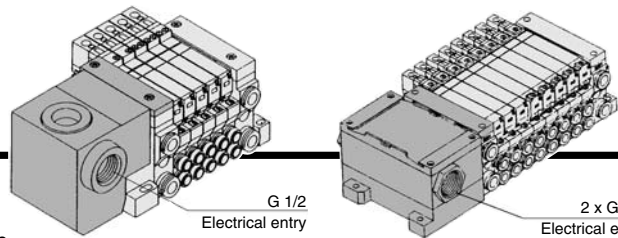
The diagram on the left shows the terminal block wiring schematic. All stations are provided with double solenoid wiring. Insert each lead wire into the terminal opening and tighten the screw directly above.

How to connect is inserting the lead wire into the terminal window, then tighten the screw on the top. (Tightening torque: 0.25 to 0.35 Nom)



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
1 station	COM	COM	(+) (-)
	SOL A	1A	(-) (+)
2 stations	SOL B	1B	(-) (+)
	SOL A	2A	(-) (+)
3 stations	SOL B	2B	(-) (+)
	SOL A	3A	(-) (+)
4 stations	SOL B	3B	(-) (+)
	SOL A	4A	(-) (+)
5 stations	SOL B	4B	(-) (+)
	SOL A	5A	(-) (+)
6 stations	SOL B	5B	(-) (+)
	SOL A	6A	(-) (+)
7 stations	SOL B	6B	(-) (+)
	SOL A	7A	(-) (+)
8 stations	SOL B	7B	(-) (+)
	SOL A	8A	(-) (+)
9 stations	SOL B	8B	(-) (+)
	SOL A	9A	(-) (+)
10 stations	SOL B	9B	(-) (+)
	SOL A	10A	(-) (+)
11 stations	SOL B	10B	(-) (+)
	SOL A	11A	(-) (+)
12 stations	SOL B	11B	(-) (+)
	SOL A	12A	(-) (+)
	SOL B	12B	(-) (+)
	COM	COM	(+) (-) (Note)

1st row - 2nd row - 3rd row

The quantity of terminal blocks used depends on the number of manifold stations:

Manifold	Terminal blocks
2 to 8 stations	2 rows
9 to 12 stations	3 rows

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 750.

Note) When using the negative common specifications, use valves for negative common. For details, refer to "Option" on page 750.

How to Order Manifold

VV5Q 1 1-08 C6 T 0-

Series

1	VQ1000
2	VQ2000

Manifold

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

Stations

02	2 stations
...	...
24 ^{Note}	24 stations

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 ⁽³⁾	With mixed size/with port plug	●	●

Option

Symbol	Option	VQ1000	VQ2000	Note
Nil	None	●	●	
B	With back pressure check valve	●	●	(2)
D	DIN rail mounting	●	●	
D0	With DIN rail bracket (Without DIN rail)	●	●	
D□	DIN rail length specified (□: Station, 02 to 24)	●	●	(6)
G1	1 set of regulator unit	●	●	
G2	2 sets of regulator unit	●	●	(4)
G3	3 sets of regulator unit	●	●	
J□	With vacuum ejector unit	●	●	(5)
K	Special wiring specifications (Not double wiring)	●	●	(6)
N	With name plate	●	●	
R	External pilot	●	●	(7)
S	Built-in silencer, direct exhaust	●	●	
W	Enclosure: Dusttight/Low jetproof type (IP65)	●	●	

Note) VQ2000: Max. 20 stations
For details, refer to page 750.

Note) For negative common specifications, refer to "Option" on page 750.

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 751.

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) The number of stations that may be displayed is longer than the manifold number of stations.

Note 4) Specify the mounting position in the manifold specification sheet.

Note 5) Refer to page 740 for the details of ejector mounted styles. A combination of "J" and "N" is unavailable.

Note 6) Specify the wiring specifications in the manifold specification sheet.

Note 7) Indicate "R" for the valve with external pilot.

● Terminal block wiring (VQ2000)

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

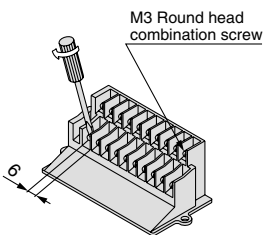
Step 1. Remove the terminal block cover.

Loosen mounting screws (4 pcs.) on the terminal block cover and remove the cover.

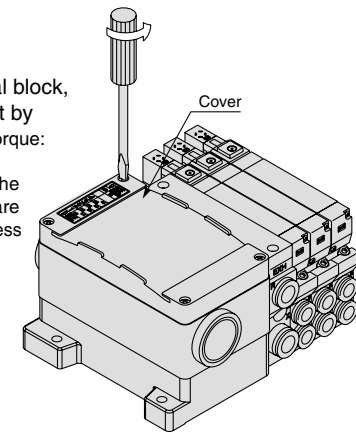
Step 2. Wiring

Loosen screws on the terminal block, connect wiring and complete it by tightening screws. (Tightening torque: 0.5 to 0.7 N·m)

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



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

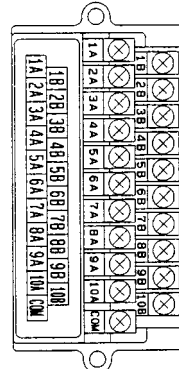


Step 3. How to attach the terminal block cover

Securely tighten the screws after confirming that the gasket is installed correctly.

(Tightening torque: 0.7 to 1.2 N·m)

● Special wiring specifications: VQ2000



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

Mixed single and double wiring is available as an option. For details, refer to page 750.

(Note) When using the negative common specifications, use valves for negative common. For details, refer to "Option" on page 750.

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

(Note)
Positive common specifications
Negative common specifications

How to Order Valves

VQ 1 1 0 0 - 5

Series

1	VQ1000
2	VQ2000

Seal

0	Metal seal
1	Rubber seal

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
A	4 position dual port (N.C. +N.C.)
B	4 position dual port (N.O. +N.O.)
C	4 position dual port (N.C. +N.O.)

Enclosure

Nil	Dust-protected
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

Function

Symbol	Specifications	DC	AC
Nil	Standard type	(1.0W) ○	(⁽¹⁾) ○
H	High pressure type (0.8 MPa)	(1.5W) ○	—
K	High pressure type (⁽²⁾) (1.0 MPa)	(1.0W) ○	—
N	Negative common (⁽³⁾)	○	—
R	External pilot	○	○
Y	Low wattage type (⁽³⁾)	(0.5W) ○	—



(Note) For external pilot and negative common specifications, refer to "Option" on pages 750 to 751.



Note 1) For power consumption of AC type, refer to page 697.
Note 2) For the metal seal type only.
Note 3) Please select when you expect to energize the unit for extended periods of time. Refer to page 3 for details.
Note 4) Negative common is not compatible with 12 VDC, 1W and 1.5W specifications.

Coil voltage

1	100 VAC (50/60Hz)
3	110 VAC (50/60Hz)
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.

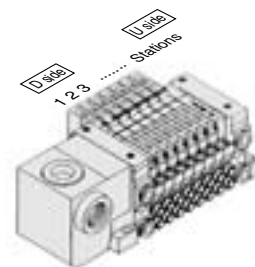
<Example>

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)

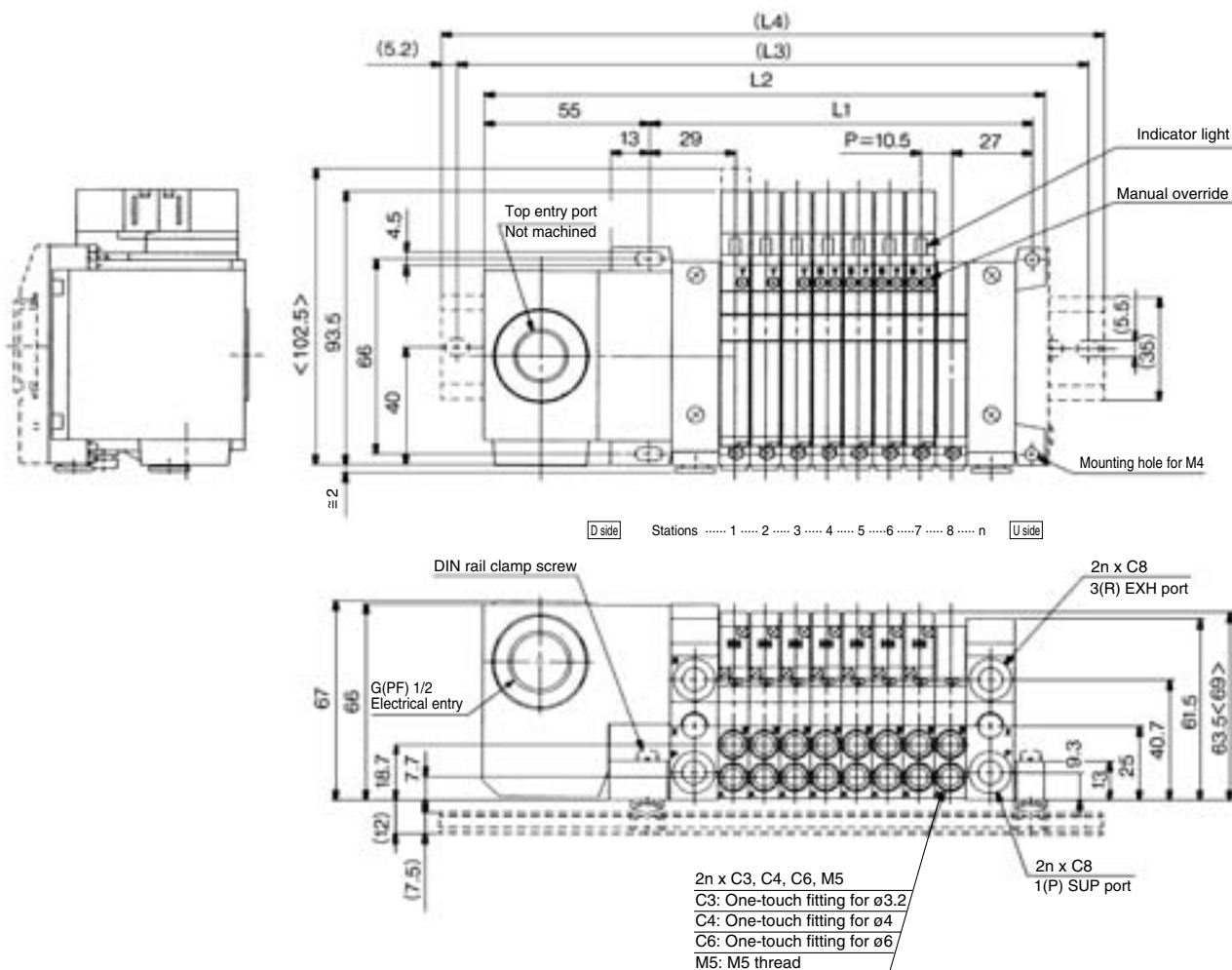
Prefix the asterisk to the part nos. of the solenoid valve, etc.

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



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	198.5	210.5	223	235.5	248	260.5	273	285.5	298	310.5	323	335.5	348	360.5	373	385.5	398		
(L4)		160.5	173	185.5	198	210.5	223	235.5	248	260.5	273	285.5	298	310.5	323	335.5	348	360.5	373	385.5	398			

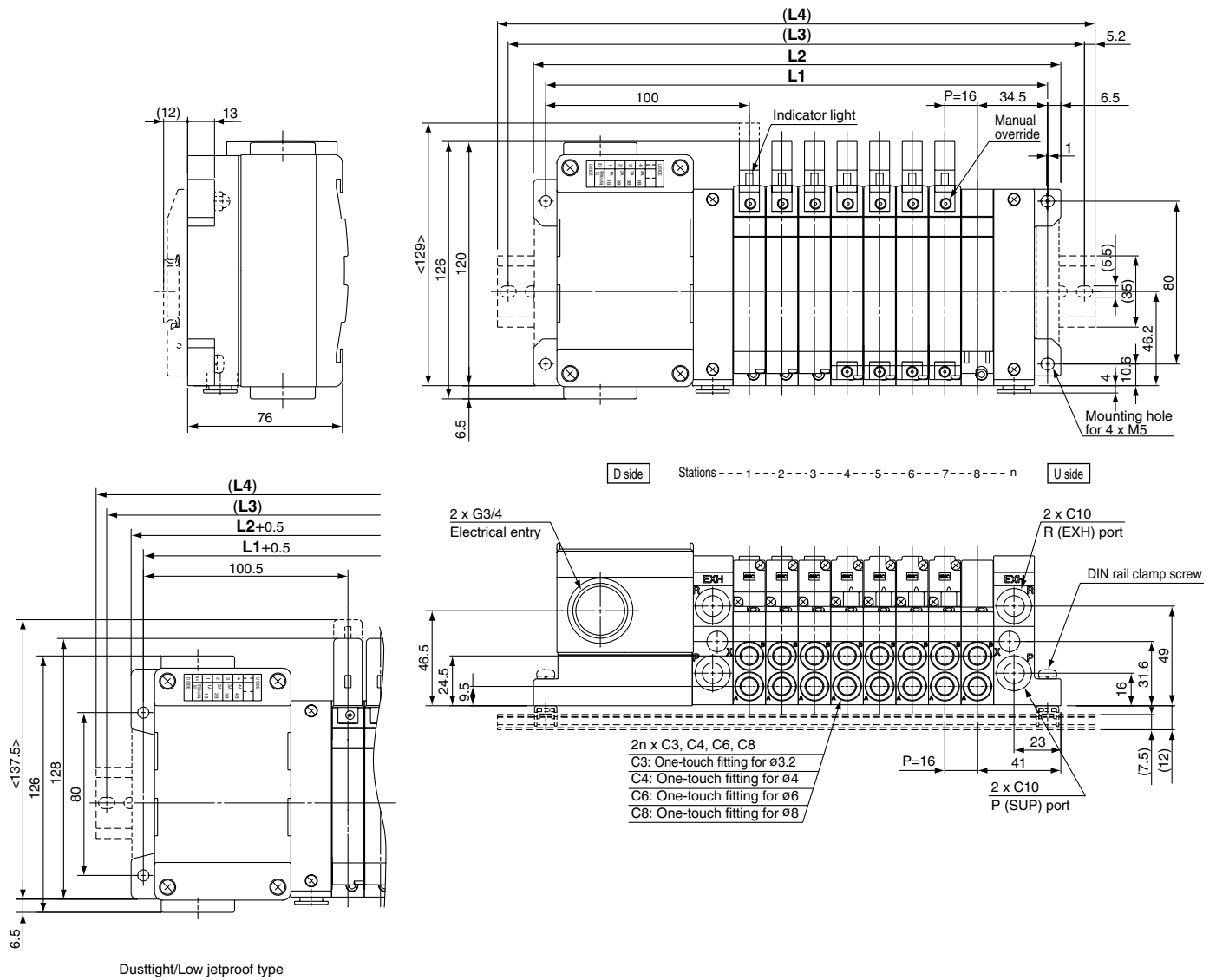
Vacuum ejector unit style: Formula L1 = 10.5n + 29.7 + (Number of ejector units x 26.7)

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

L4 is L2 plus about 30.

VQ2000

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



< >: AC

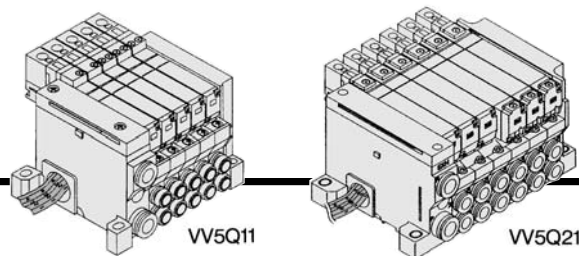
Dimensions

Formula $L1 = 16n + 118.5$, $L2 = 16n + 131$ n: Station (Maximum 20 stations)

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)

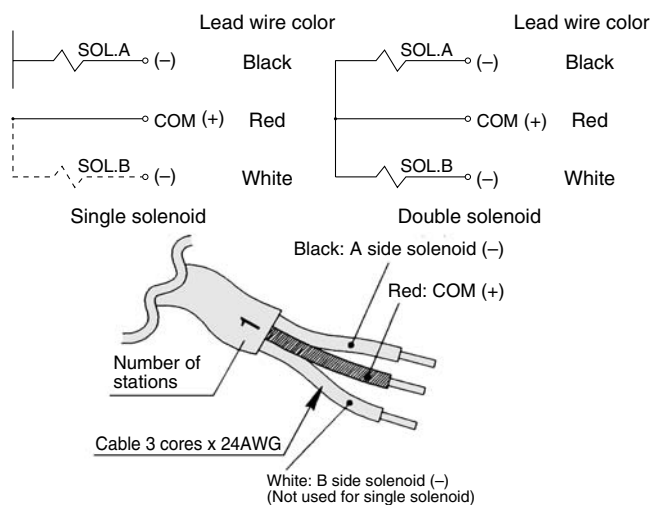


IP65 compliant

- 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:

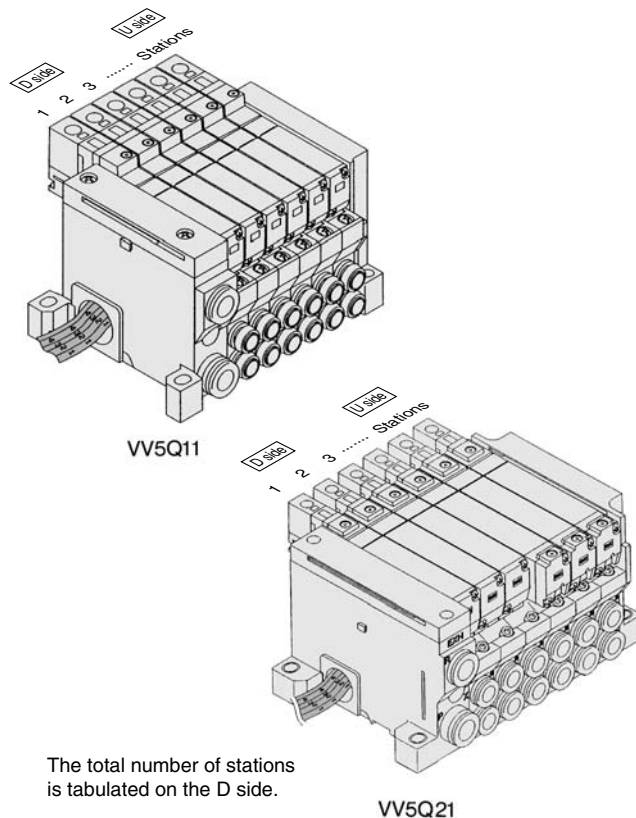
Lead Wire Assembly with Connector

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

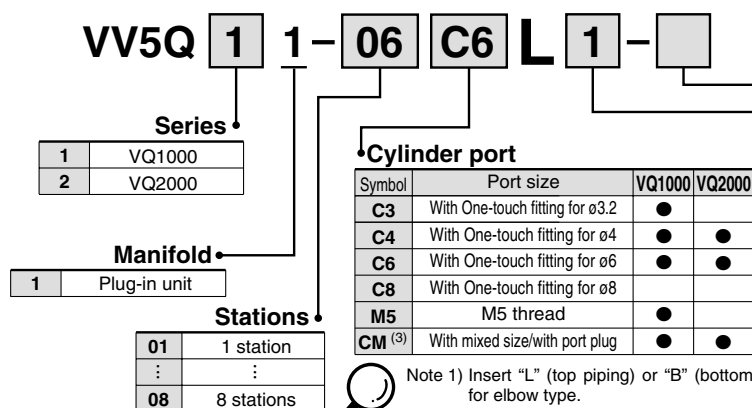
* No. of stations 1 to 8

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



Note) For negative common specifications, refer to "Option" on page 750.



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 751.



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) The number of stations that may be displayed is longer than the manifold number of stations.

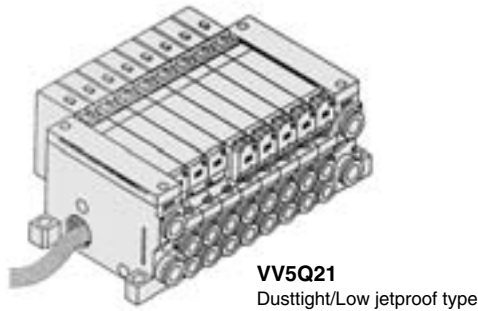
Note 4) Specify the mounting position in the manifold specification sheet.

Note 5) Refer to page 2-4-170 for the details of ejector mounted styles. A combination of "J" and "N" is unavailable.

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

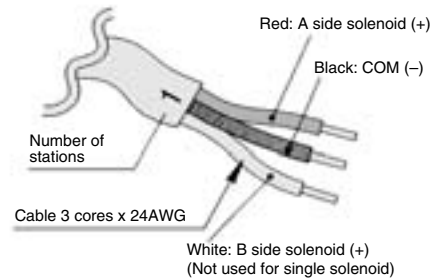
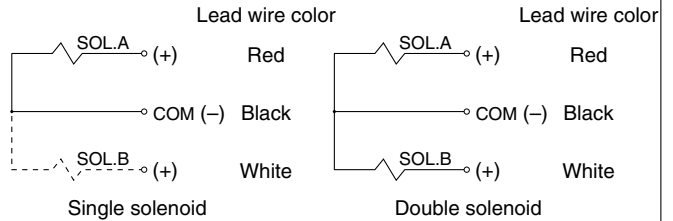
Option

Symbol	Option	VQ1000	VQ2000	Note
Nil	None	●	●	
2	200/220 VAC models (For F and L kits only)	●	●	
B	With back pressure check valve	●	●	(2)
D	DIN rail mounting	●	●	
D0	With DIN rail bracket (Without DIN rail)	●	●	
D□	DIN rail length specified (□: Station, 02 to 24)	●	●	(3)
G1	1 set of regulator unit	●		(4)
G2	2 sets of regulator unit	●		(4)
G3	3 sets of regulator unit	●		(4)
J□	With vacuum ejector unit	●		(5)
N	With name plate	●	●	
R	External pilot	●	●	(6)
S	Built-in silencer, direct exhaust	●	●	
W	Enclosure: Dusttight/Low jetproof type (IP65)		●	



P 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.
0.6m	VVQ1000-84AN-6-*
1.5m	VVQ1000-84AN-15-*
3m	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 750.

How to Order Valves

VQ 1 1 0 0 - 5

Series

1	VQ1000
2	VQ2000

Seal

0	Metal seal
1	Rubber seal

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
A	4 position dual port (N.C. +N.C.)
B	4 position dual port (N.O. +N.O.)
C	4 position dual port (N.C. +N.O.)

Function

Symbol	Specifications	DC	AC
Nil	Standard type	(1.0W) ○	○ ⁽¹⁾
H	High pressure type (0.8 MPa)	(1.5W) p	—
K	High ⁽²⁾ pressure type (1.0 MPa)	(1.0W) ○	—
N	Negative common ⁽⁴⁾	○	—
R	External pilot	○	○
Y	Low wattage type ⁽³⁾	(0.5W) ○	—

Enclosure

Nil	Dusttight
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 (50/60Hz)
2	200 VAC (50/60Hz)
3	110 VAC (50/60Hz)
4	220 VAC (50/60Hz)
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.

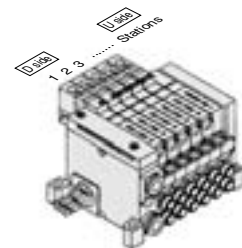
<Example>

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.



Note 1) For power consumption of AC type, refer to page 697.
 Note 2) For the metal seal type only
 Note 3) Please select when you expect to energize the unit for extended periods of time.
 Note 4) Negative common is not compatible with 12 VDC, 1W and 1.5W specifications.



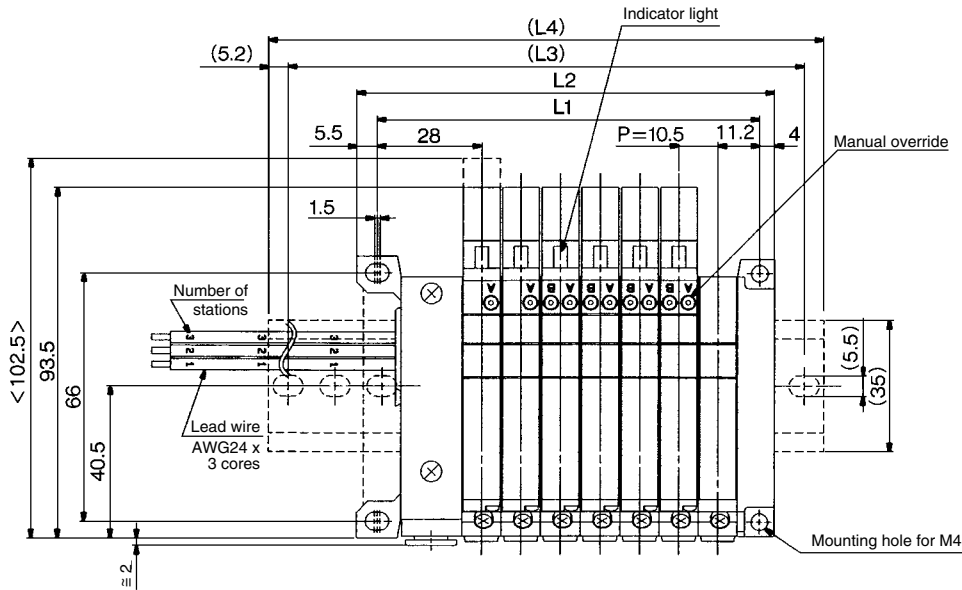
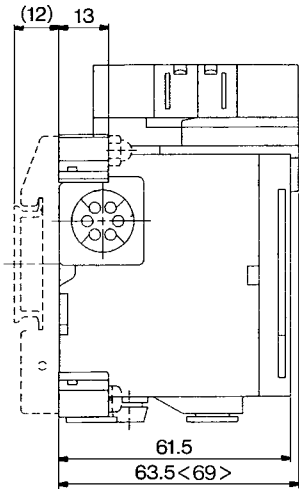
Note) For external pilot and negative common specifications, refer to "Option" on 750 to 751.



VQ1000/2000
Kit (Lead wire cable)

VQ1000

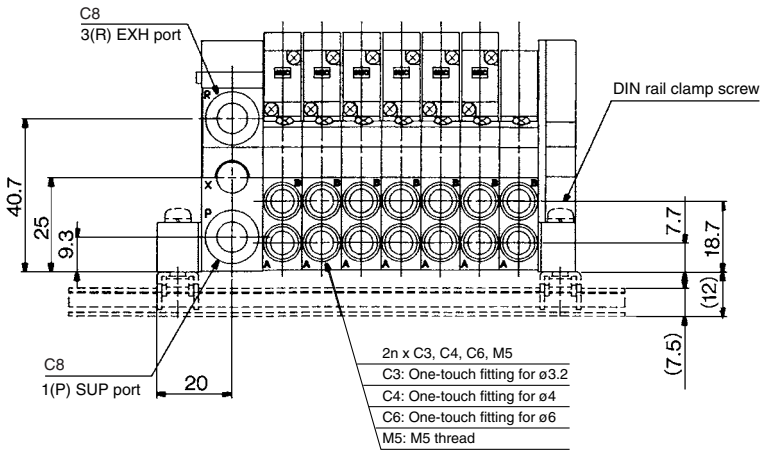
The broken lines indicate DIN rail mounting style [-D].



D side

Stations 1 2 3 4 5 6 7 n

U side



< >: AC

Dimensions

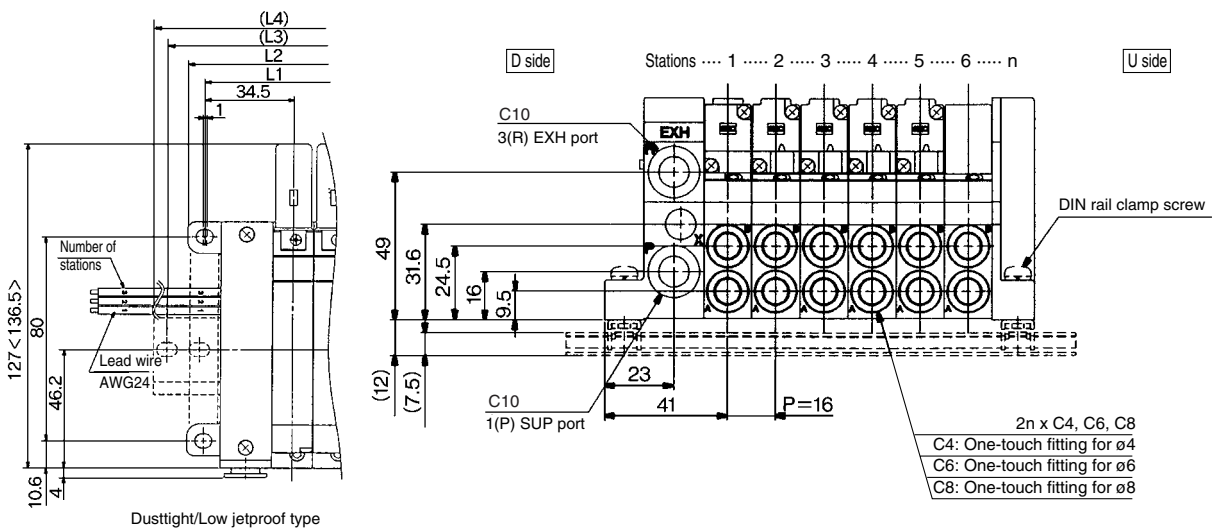
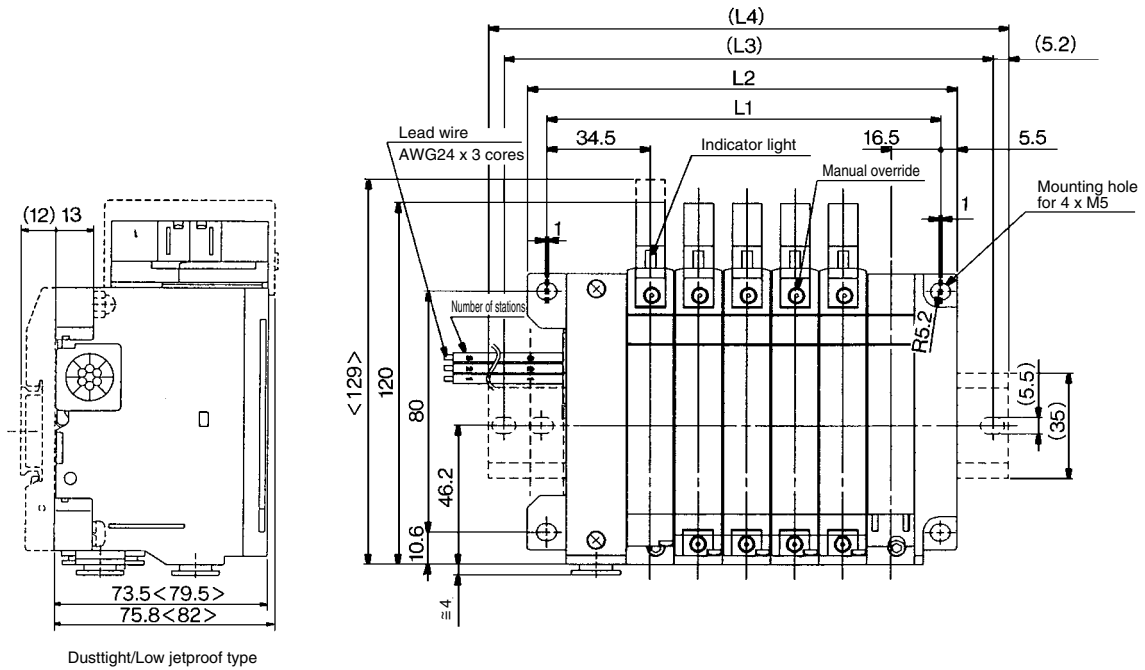
Formula L1 = 10.5n + 28.5, L2 = 10.5n + 38 n: Station (Maximum 8 stations)

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

Dimensions

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

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

How to Order Manifold

VV5Q 1 1 - SB 08 - D

Manifold series

1	VQ1000
2	VQ2000

SI unit specifications

Nil	NPN output(+COM.)
N	PNP output(-COM.)

Valve stations

Symbol	Stations
01	1 station
:	:
08	8 stations

Max. 16 stations.
(Special wiring specifications)

SI unit part no.

Symbol	SI unit specifications	SI unit part no.	Page
Nil	NPN output(+COM.)	EX510-S002A	P.1715 to 1717
N	PNP output(-COM.)	EX510-S102A	

Cylinder port

	Symbol	Port size	VQ1000	VQ2000
Metric size	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)	○	○
	L3	With one-touch fitting for ø3.2 top ported elbow	○	
	L4	With one-touch fitting for ø4 top ported elbow	○	○
	L6	With one-touch fitting for ø6 top ported elbow	○	○
	L8	With one-touch fitting for ø8 top ported elbow		○
Inch size	L5	M5 thread for top ported elbow	○	
	B3	With one-touch fitting for ø3.2 bottom ported elbow	○	
	B4	With one-touch fitting for ø4 bottom ported elbow	○	○
	B6	With one-touch fitting for ø6 bottom ported elbow	○	○
	B8	With one-touch fitting for ø8 bottom ported elbow		○
	B5	M5 thread for bottom ported elbow	○	
	LM	Top and bottom ported elbow	○	○
	N1	With One-touch fitting for ø1/8"	○	
	N3	With One-touch fitting for ø5/32"	○	○
	N7	With One-touch fitting for ø1/4"	○	○
	N9	With One-touch fitting for ø5/16"		○
	M5T	UNF10-32 thread	○	
	NM	With mixed size/with port plug	○	○
	LN1	With one-touch fitting for ø1/8" top ported elbow	○	
	LN3	With one-touch fitting for ø5/32" top ported elbow	○	○
	LN7	With one-touch fitting for ø1/4" top ported elbow	○	○
	LN9	With one-touch fitting for ø5/16" top ported elbow		○
	L5T	UNF10-32 thread for ø4 top ported elbow	○	
	BN1	With one-touch fitting for ø1/8" bottom ported elbow	○	
	BN3	With one-touch fitting for ø5/32" bottom ported elbow	○	○
	BN7	With one-touch fitting for ø1/4" bottom ported elbow	○	○
	BN9	With one-touch fitting for ø5/16" bottom ported elbow		○
	B5T	UNF10-32 thread for bottom ported elbow	○	
	LNM	Top and bottom ported elbow	○	○

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

Refer to pages 1696 to 1724 for the details of EX510 gateway system serial transmission system.

Option

Nil	None
B	With back pressure check valve ⁽²⁾
D□	DIN rail length specified ⁽⁸⁾ (□: Station, 02 to 16)
G1	1 set of regulator unit ⁽³⁾⁽⁷⁾
G2	2 sets of regulator unit ⁽³⁾⁽⁷⁾
G3	3 sets of regulator unit ⁽³⁾⁽⁷⁾
J□	With vacuum ejector unit ⁽⁴⁾⁽⁷⁾
K	Special wiring specifications (excluding double wiring) ⁽⁵⁾
N	With name plate
R	with 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 manifold specification sheet.

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

Note 4) Refer to page 740 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.

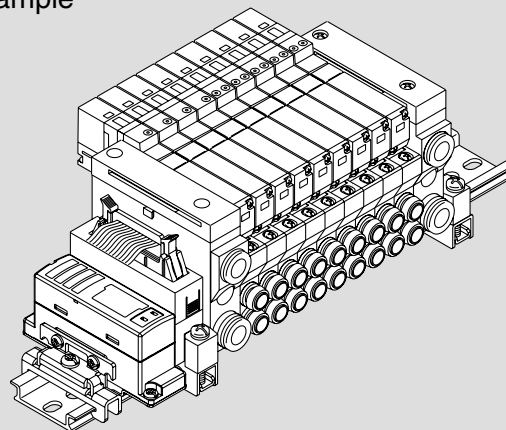
Note 7) VQ 1000 only

Note 8) The number of stations that may be displayed is longer than the manifold number of stations.

DIN rail mounting style

How to Order Manifold Assembly (Order Example)

Example



VV5Q11-SB08C6-D 1 set (SB kit, 8-station manifold part no.)

*VQ1100-5 4 sets (Single type part no.)

*VQ1200-5 3 sets (Double type part no.)

*VQ1300-5 1 set (3 position type part no.)

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

→ Enter in order starting from the first station on the D side.

Add the valve and option part numbers under the manifold base part number. In the case of complex arrangement, specify them on the manifold specification sheet.

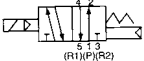
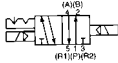
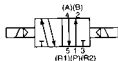
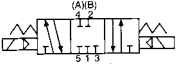
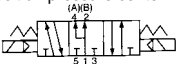
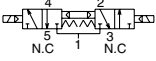
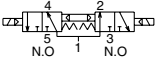
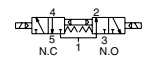
How to Order Valves

VQ 1 1 0 0 Y - 5

Series

1	VQ1000
2	VQ2000

Type of actuation

1	2 position single (A)(B) 
2	2 position double (A)(B) 
	2 position double (A)(B) 
3	3 position closed center (A)(B) 
4	3 position exhaust center (A)(B) 
5	3 position pressure center (A)(B) 
Note) A	4 position dual 3 port valve (A) 
Note) B	4 position dual 3 port valve (B) 
Note) C	4 position dual 3 port valve (C) 



Note) Rubber seal type only.

Manual override

Nil: Non-locking push type (tool required)



B: Locking type (tool required)



C: Locking type (Manual)



Coil voltage

5 24 VDC

Function

Symbol	Specifications
Nil	Standard type
H	High pressure type (0.8 MPa)
K	High pressure type (1 MPa) ⁽¹⁾
N	Negative common
R	External pilot ⁽²⁾
Y	Low wattage type (0.5W) ⁽³⁾

Note 1) For the metal seal type only

Note 2) Not compatible with dual 3 port valves.

Note 3) Please select when you expect to energize the unit for extended period of time.
Refer to page 3 for details.

Seal

0	Metal seal
1	Rubber seal

SJ

SY

SV

SYJ

SZ

VP4

S0700

VQ

VQ4

VQ5

VQC

VQZ

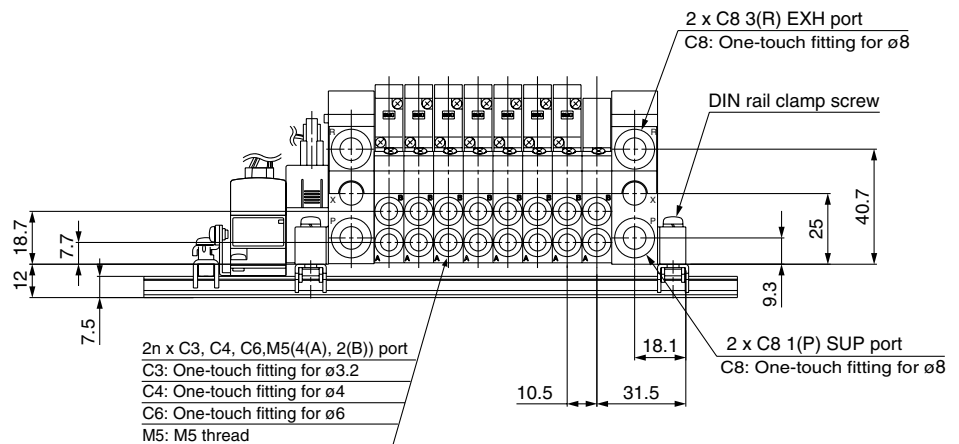
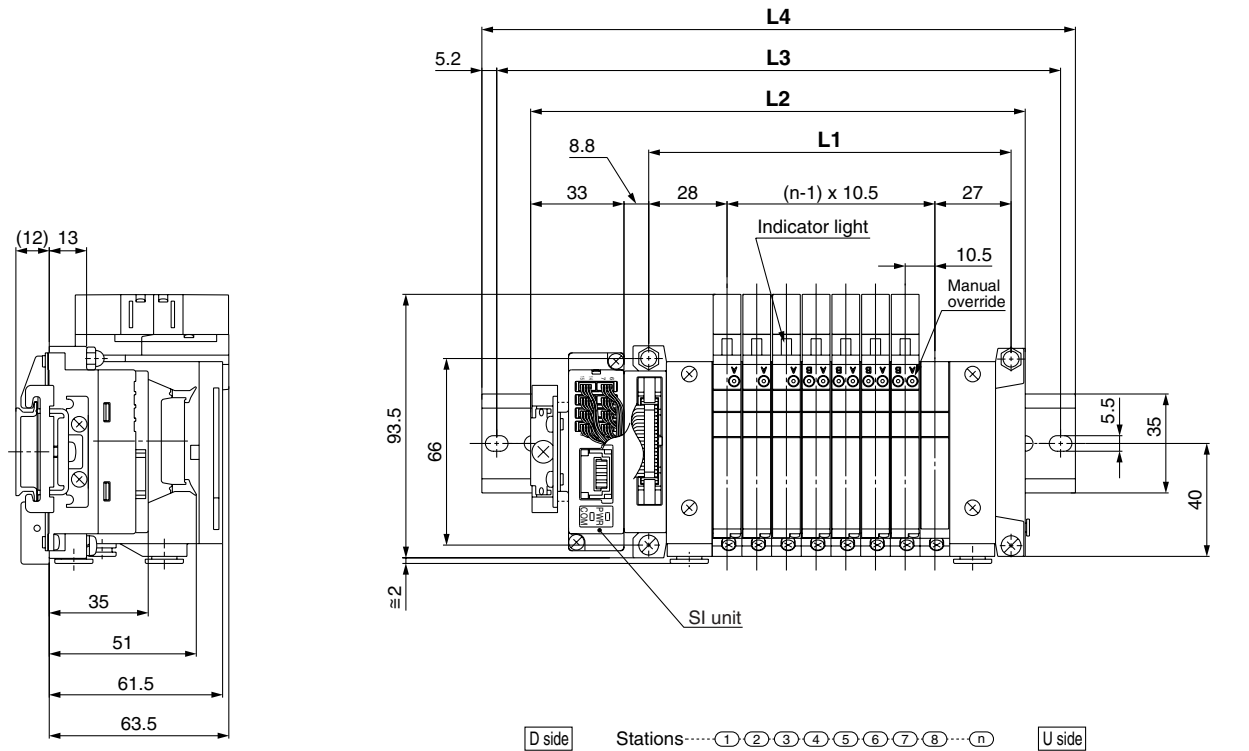
SQ

VFS

VFR

VQ7

VQ1000

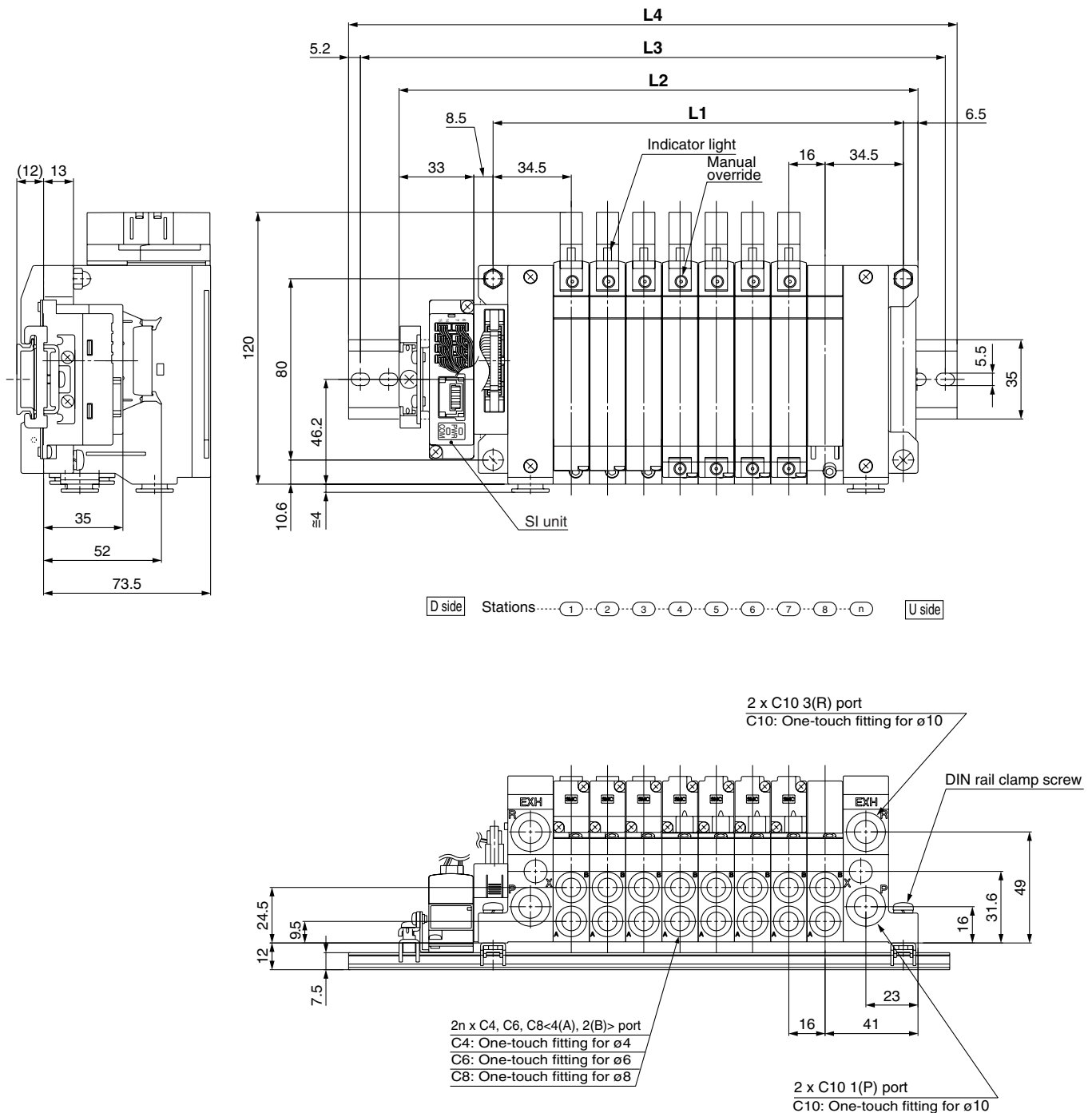


Dimensions

Formula : $L1 = 10.5n + 44.5$, $L2 = 10.5n + 91$ n: Stations (Max. 16 stations)

L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	55	65.5	76	86.5	97	107.5	118	128.5	139	149.5	160	170.5	181	191.5	202	212.5
L2	101.5	112	122.5	133	143.5	154	164.5	175	185.5	196	206.5	217	227.5	238	248.5	259
L3	125	137.5	150	162.5	175	175	187.5	200	212.5	225	237.5	237.5	250	262.5	275	287.5
L4	135.5	148	160.5	173	185.5	185.5	198	210.5	223	235.5	248	248	260.5	273	285.5	298

VQ2000



Dimensions

Formula : $L1 = 16n + 53$, $L2 = 16n + 101$ n: Stations (Max. 16 stations)

L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	69	85	101	117	133	149	165	181	197	213	229	245	261	277	293	309
L2	117	133	149	165	181	197	213	229	245	261	277	293	309	325	341	357
L3	137.5	162.5	175	187.5	212.5	225	237.5	250	275	287.5	300	312.5	337.5	350	362.5	387.5
L4	148	173	185.5	198	223	235.5	248	260.5	285.5	298	310.5	323	348	360.5	373	398

IP65 compliant

- The serial transmission system reduces wiring work, while minimizing wiring and saving space.
- 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. 16 stations
VQ2000	Side	C10	C4, C6, C8	Max. 16 stations

How to Order Manifold

VV5Q 1 1 - 08 C6 S V - -XP

Series

1	VQ1000
2	VQ2000

Manifold

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

Stations

02	2 stations
⋮	⋮
16 ^{Note 2)}	16 stations

Note 1) For details, refer to page 750.

Note 2) Max. 16 stations. (Specify a model with 9 to 16 stations by using the manifold specification sheet.)

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 ⁽³⁾	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) 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 751.

SI unit specifications

Symbol	Protocol type	Stations
0	Without SI unit	
F1	NKE Corp.: Uni-wire System (16 output points)	Max. 16 stations
H	NKE Corp.: Uni-wire H System	
J1	SUNX Corp.: S-LINK (16 output points)	
J2	SUNX Corp.: S-LINK (8 output points)	Max. 8 stations
Q	DeviceNet, Complanca	Max. 16 stations
R1	OMRON Corp.: CompoBus/S (16 output points)	Max. 8 stations
R2	OMRON Corp.: CompoBus/S (8 output points)	Max. 16 stations
V	CC-LINK	Max. 16 stations

Dust-protected type (-XP)

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

(Except Q (compatible with Device Net) when the SI unit specifications are.)

Option

Symbol	Option	VQ1000	VQ2000	Note
Nil	None	●	●	
B	With back pressure check valve	●	●	(2)
D	DIN rail mounting style	●	●	
D□	DIN rail mounting style (□: Station, 02 to 24)	●	●	(3)
G1	1 set of regulator unit			
G2	2 sets of regulator unit	●		(4)
G3	3 sets of regulator unit			
J□	With vacuum ejector unit	●		(5)
K	Special wiring specifications (Not double wiring)	●	●	(6)
N	With name plate	●	●	
R	with external pilot	●	●	(7)
S	Built-in silencer, direct exhaust	●	●	
W	Enclosure: Dust tight/Low jetproof type (IP65)		●	(8) (9)



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) The number of stations that may be displayed is longer than the manifold number of stations.

Note 4) Specify the mounting position in the manifold specification sheet.

Note 5) Refer to page 740 for the details of ejector mounted styles. A combination of "J" and "N" is unavailable.

Note 6) Specify the wiring specifications in the manifold specification sheet.

Note 7) Indicate "R" for the valve with external pilot.

Note 8) A combination of "W" and "XP" is unavailable.

Note 9) Refer to "Dimensions" on page 729 for SI unit and valve, in case of W (dusttight/low jetproof type).

SI unit part no.

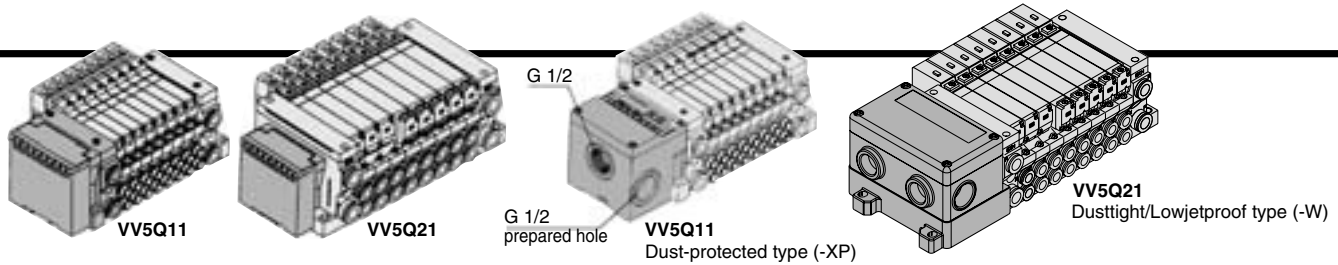
(Without option W [Dustproof type (-XP) is included.])

Symbol	Protocol type	SI unit part no.	Page
F1	NKE Corp.: Uni-wire System	Standard: EX120-SUW1 Dustproof: EX120-SUW1-XP	P.1650
H	NKE Corp.: Uni-wire H System	Standard: EX120-SUH1 Dustproof: EX120-SUH1-XP	
J1	SUNX Corp.: S-LINK (16 output points)	Standard: EX120-SSL1 Dustproof: EX120-SSL1-XP	
J2	SUNX Corp.: S-LINK (8 output points)	Standard: EX120-SSL2 Dustproof: EX120-SSL2-XP	
Q	DeviceNet	Standard: EX120-SDN1 Dustproof: No part no.	
R1	OMRON Corp.: CompoBus/S (16 output points)	Standard: EX120-SCS1 Dustproof: EX120-SCS1-XP	
R2	OMRON Corp.: CompoBus/S (8 output points)	Standard: EX120-SCS2 Dustproof: EX120-SCS2-XP	
V	CC-LINK	Standard: EX120-SMU1 Dustproof: EX120-SMU1-XP	

SI unit part no. (Without option W)

Symbol	Protocol type	SI unit part no.	Page
F1	NKE Corp.: Uni-wire System	EX123D-SUW1	P.1653
H	NKE Corp.: Uni-wire H System	EX123D-SUH1	
J1	SUNX Corp.: S-LINK (16 output points)	EX123D-SSL1	
J2	SUNX Corp.: S-LINK (8 output points)	EX123D-SSL2	
Q	DeviceNet System	EX124D-SDN1	
R1	OMRON Corp.: CompoBus/S (16 output points)	EX124D-SCS1	
R2	OMRON Corp.: CompoBus/S (8 output points)	EX124D-SCS2	
V	CC-LINK	EX124D-SMU1	

Refer to pages 1650 to 1652 for the details of EX120 integrated type (for output) serial transmission system and pages 1653 and 1655 for the details of EX123/124 integrated type (for output) serial transmission system.



How to Order Valves

VQ 1 1 0 0 - 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
A	4 position dual port (N.C. +N.C.)
B	4 position dual port (N.O. +N.O.)
C	4 position dual port (N.C. +N.O.)

Seal

0	Metal seal
1	Rubber seal

Enclosure

Nil	Dust-protected
W	Dust-protected type (IP65)

Note) VQ2000 only.

Manual override

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

Coil voltage

5	24 VDC; With indicator light/surge voltage suppressor
---	---

Function

Symbol	Specifications	DC
Nil	Standard type	(1.0W) ○
H	High pressure type (0.8 MPa)	(1.5W) ○
K	High (1) pressure type (1.0 MPa)	(1.0W) ○
R	External pilot	○
Y	Low wattage type (2)	(0.5W) ○

Note 1) For the metal seal type only
Note 2) Please select when you expect to energize the unit for extended periods of time. Refer to page 3 for details.

How to Order Manifold Assembly (Order Example)

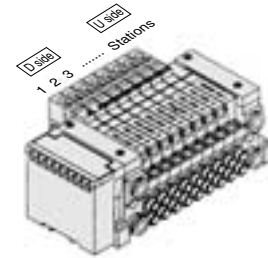
Specify the part numbers for valves and options together beneath the manifold base part number.

<Example>

VV5Q11-08C6SV 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.

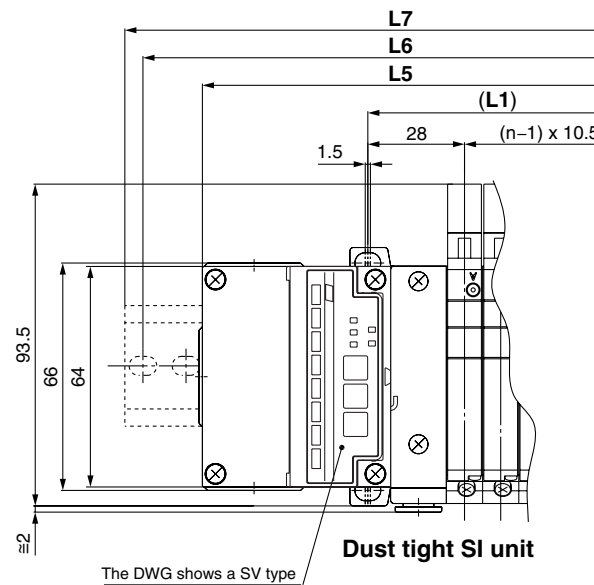


SJ
SY
SV
SYJ
SZ
VP4
S0700
VQ
VQ4
VQ5
VQC
VQZ
SQ
VFS
VFR
VQ7

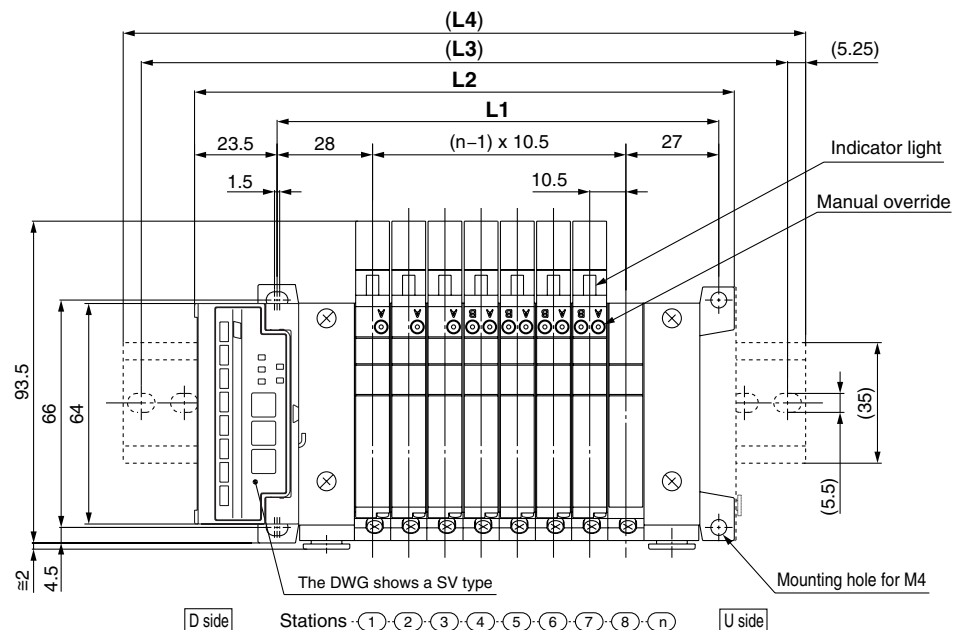
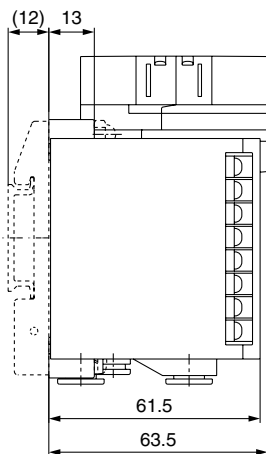


Note 1) For external pilot and negative common specifications, refer to "Option" on pages 750 to 751.

VQ1000



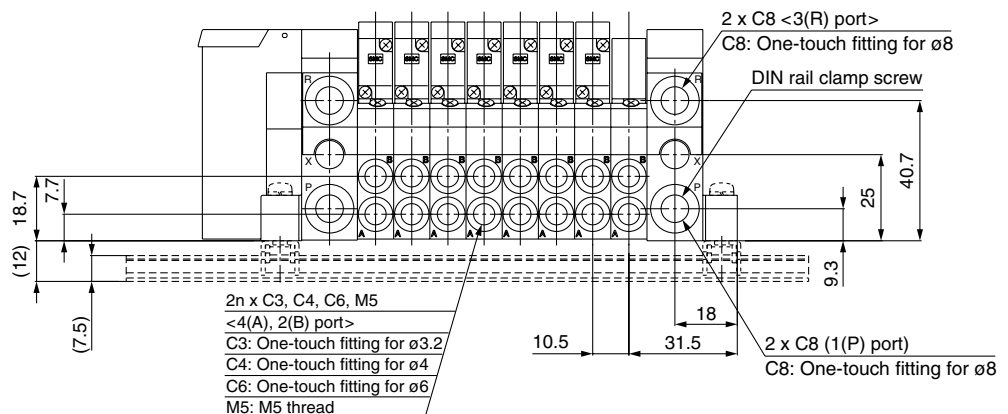
The broken lines indicate
DIN rail mounting style [-D].



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.

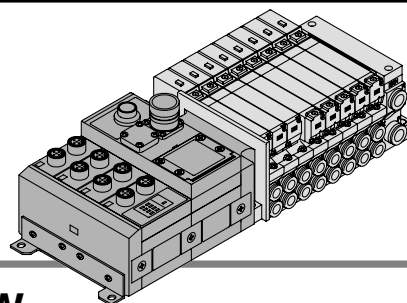
Dimensions

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)

L	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 only

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



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
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: -BNR

DI unit specifications

Nil	PNP sensor input (+COM) or without SI/DI unit
N	NPN sensor input (-COM)

Number of DI unit

Nil	Without SI unit or DI unit
0	DI unit: None
1	DI unit: 1 pc.
2	DI unit: 2 pcs.
3	DI unit: 3 pcs.
4	DI unit: 4 pcs.

Refer to pages 1661 to 1663 for the details of EX240 integrated type (for I/O) serial transmission type.

How to Order Manifold

VQ 2 **1** **0** **0** — **5** **W**

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
A	4 position dual port (N.C. +N.C.)
B	4 position dual port (N.O. +N.O.)
C	4 position dual port (N.C. +N.O.)

Seal

0	Metal seal
1	Rubber seal

Enclosure

W	Dusttight/Low jetproof type (IP65)
---	------------------------------------

Manual override

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

Coil voltage

5	24 VDC; With indicator light/surge voltage suppressor
---	---

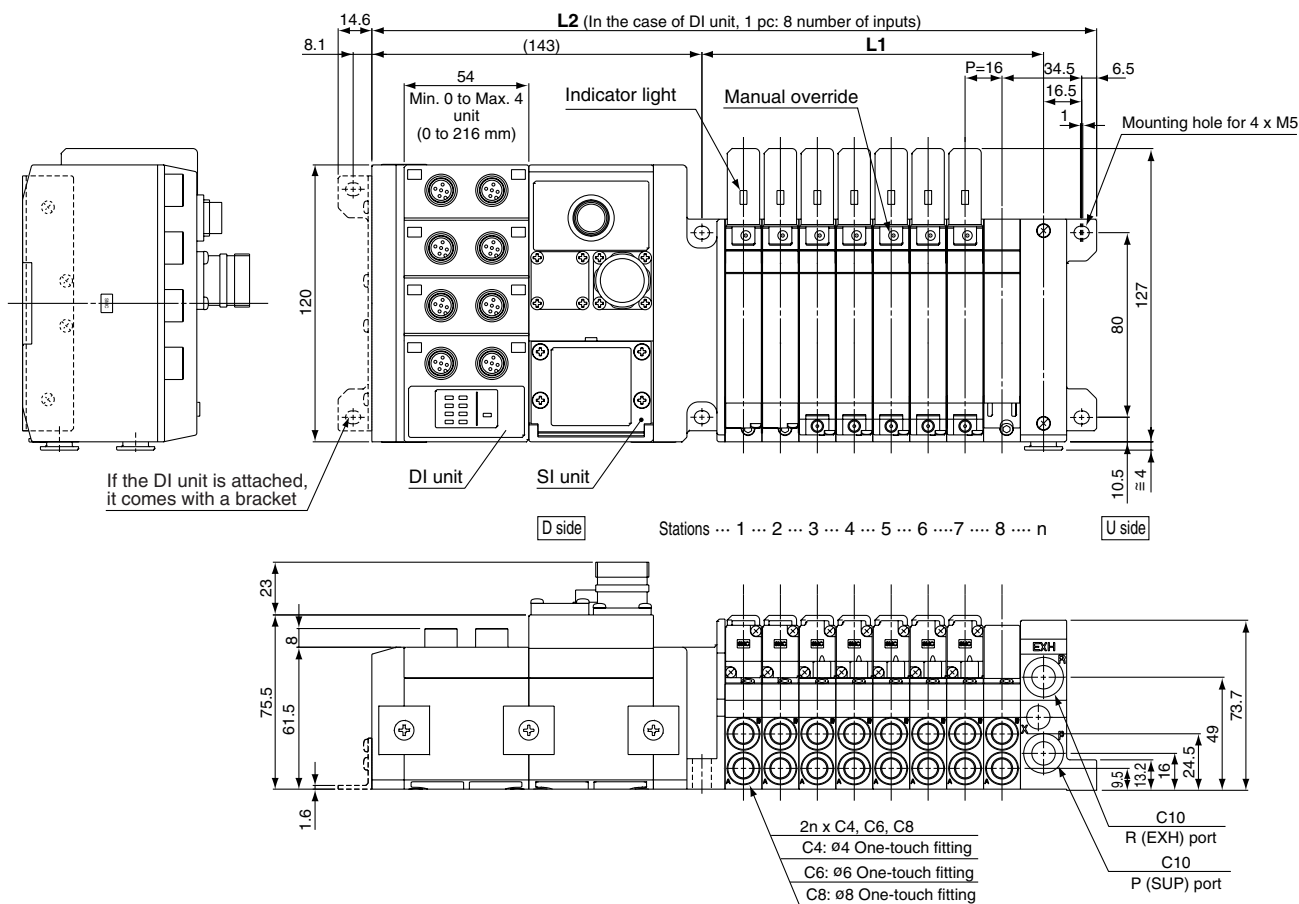
Function

Symbol	Specifications	DC
Nil	Standard type	(1.0W) ○
H	High pressure type (0.8 MPa)	(1.5W) ○
K	High (1) pressure type (1.0 MPa)	(1.0W) ○
N	Negative common (3)	○
R	External pilot	○
Y	Low wattage type (2)	(0.5W) ○

Note 1) For the metal seal type only.
Note 2) Please select when you expect to energize the unit for extended periods of time. Refer to page 3 for details.
Note 3) When a valve is compatible with PROFIBUS DP, the SI unit is negative common. Select valves for negative common.

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

VV5Q21S kit
(Serial transmission kit: EX240)



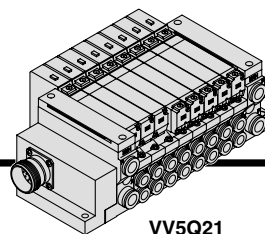
Dimensions

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 (Maximum 24 stations)

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

L \ n	17	18	19	20	21	22	23	24
L1	308.5	324.5	340.5	356.5	372.5	388.5	404.5	420.5
L2	458	474	490	506	522	538	554	570

M VQ2000 Kit (Circular 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	
VQ2000	Side	1(P),3(R) 4(A),2(B)	Max. 24 stations

Circular Connector (26 pins)

Cable assembly ●

AXT100-MC26-
015
030
050

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

Multi-core vinyl cable
0.3 mm² x 25C

Plug terminal no.

Socket side

Circular Connector Cable Assembly

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

* Cannot be used for transfer wiring.

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

Note) Lengths other than the above are also available. Please contact SMC for details.

How to Order Manifold

VV5Q 2 1 - 08 C6 M 1 - N W

Enclosure
IP65 (Dust tight/Low jetproof type)

Option

Series

2 VQ2000

Manifold

1 Plug-in unit

Stations

02	2 stations
...	...
24	24 stations

Note) For details, refer to page 750.

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 ⁽³⁾	With mixed size/with port plug

Option

Symbol	Option	Note
Nil	None	
B	With back pressure check valve	(2)
D	DIN rail mounting	
D0	With DIN rail bracket (Without DIN rail)	
D□	DIN rail mounting style (□: Station, 02 to 24)	(3)
K	Special wiring specifications (Not double wiring)	(4)
N	With name plate	
R	External pilot	(5)

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. When mounting back pressure check valves only on the stations that required, specify the mounting positions on a manifold specification sheet.

Note 3) The number of stations that may be displayed is longer than the manifold number of stations.

Note 4) If not all stations need this check valve, specify the stations where check valves are installed by using the manifold specification sheet.

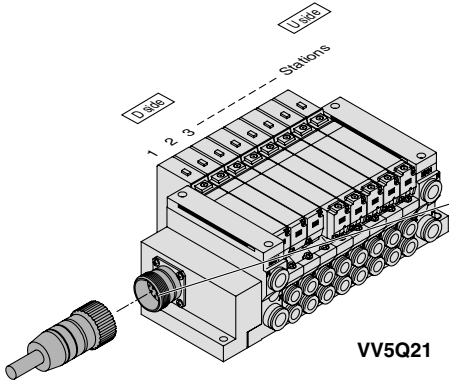
Note 5) Specify the wiring by using of the manifold specification sheet. Indicate "R" for the valve with external pilot.

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.

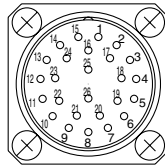
Note 3) Specify "Mixed size/with port plug" in the manifold specification sheet.

Note 4) Inch-size One-touch fittings are available. For details, refer to page 751.



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 750.



Note) When using the negative common specifications, use valves for negative common. (Refer to page 750.) For details, refer to "Option" on page 750.

Circular connector cable assembly
015
AXT100-MC26-030 Wire Color
050

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

How to Order Valves

VQ 2 1 0 0 - 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
A	4 position dual port (N.C. +N.C.)
B	4 position dual port (N.O. +N.O.)
C	4 position dual port (N.C. +N.O.)

Function

Symbol	Specification	DC	AC
Nil	Standard type	(1.0W) ○	(1) ○
H	High pressure type (0.8 MPa)	(1.5W) ○	—
K	High pressure type (1.0 MPa)	(1.0W) ○	—
N	Negative common (4)	○	—
R	External pilot	○	○
Y	Low wattage type (3)	(0.5W) ○	—

Seal

0	Metal seal
1	Rubber seal

Enclosure
IP (Dusttight/ Low jetproof type)

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



Note 1) For external pilot and negative common specifications, refer to "Option" on 750 to 751.



Note 1) For power consumption of AC type, refer to page 697.
Note 2) For the metal seal type only
Note 3) Please select when you expect to energize the unit for extended periods of time. Refer to page 3 for details.
Note 4) Negative common is not compatible with 12 VDC, 1W and 1.5W specifications.

How to Order Manifold Assembly

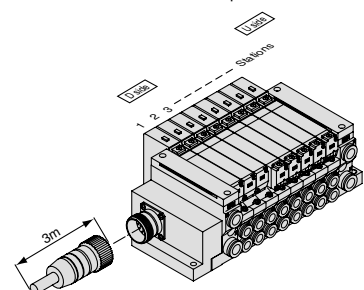
Specify the part numbers for valves and options together beneath the manifold base part number.

<Example>

Circular connector 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)

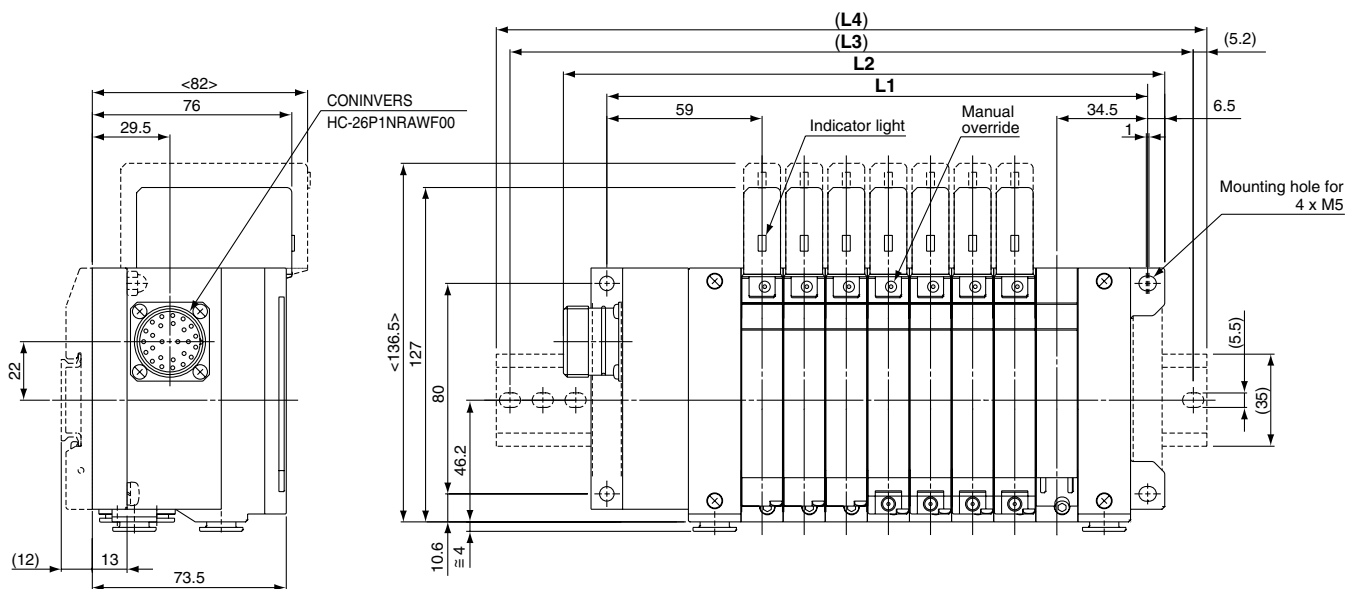
When ordering, specify the part nos. in order from the 1st station in the D side. When part nos. written collectively are complicated, specify by using the manifold specification sheet.

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



VQ2000

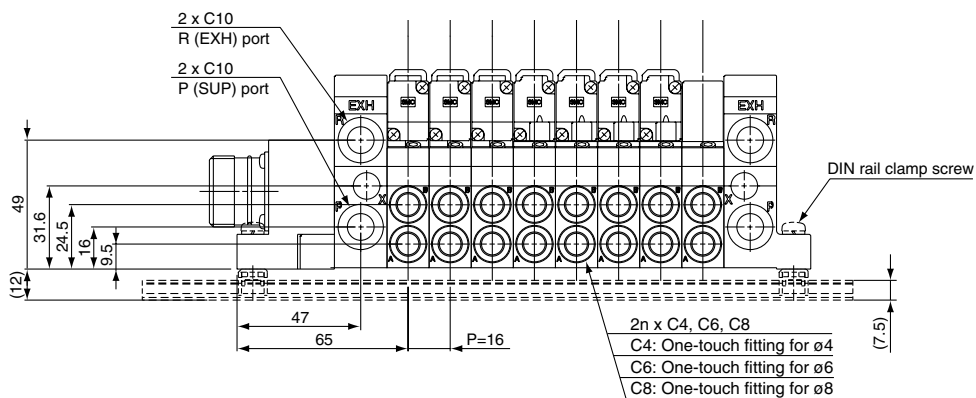
The broken lines indicate the DIN rail mounting style [-D] and the side entry connection [-FS].



D side

Stations 1 2 3 4 5 6 7 8 n

U side



< >: 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

SJ
SY
SV
SYJ
SZ
VP4
S0700
VQ
VQ4
VQ5
VQC
VQZ
SQ
VFS
VFR
VQ7

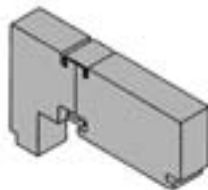
Manifold Option Parts for VQ1000

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.)

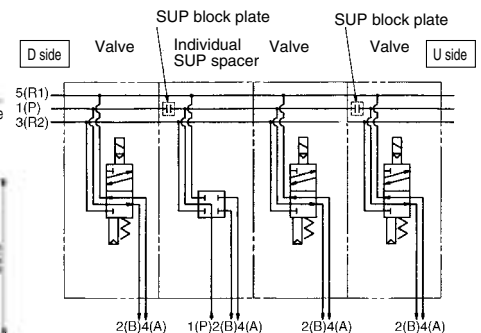
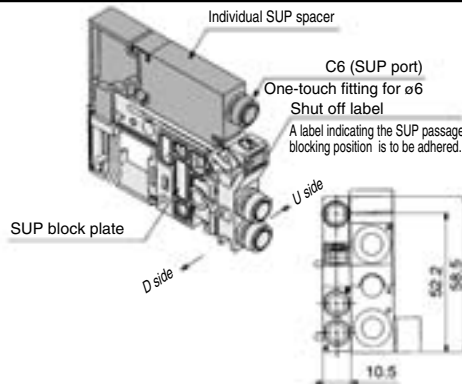
* Specify the spacer mounting position and SUP block plate position on the manifold specification sheet.

The block plate is used in one or two places for one set.

(Two SUP block plates for blocking SUP station are attached to the individual SUP spacer.)

* As a standard, electric wiring is connected to the position of the manifold station where the individual SUP spacer is mounted.

* If wiring is not required for stations equipped with spacers, enter "X" in the special wiring specifications column in the manifold specification sheet.



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)

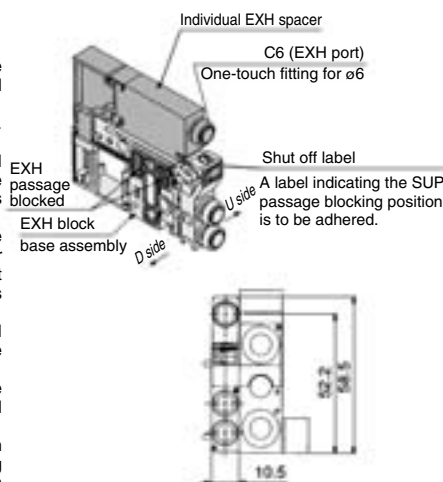
* Specify the mounting position, as well as the EXH block base or EXH block plate position on the manifold specification sheet. The block plate is used in one or two places for one set.

* 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.

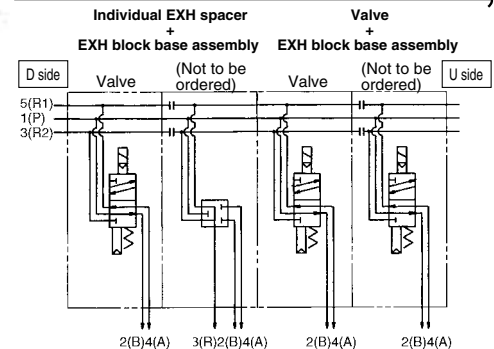
When separately ordering an individual EXH spacer, separately order an EXH block base assembly because it is not attached to the spacer.

* As a standard, electric wiring is connected to the position of the manifold station where the individual EXH spacer is mounted.

* If wiring is not required for stations equipped with spacers, enter "X" in the special wiring specifications column in the manifold specification sheet.



Description/Model		Stations						
Valve	Single	●	●	●				
	Individual EXH spacer VVQ1000-R-1-C6							
Option	EXH shut off position: Specify 2 places.	●	●					



SUP block plate VVQ1000-16A

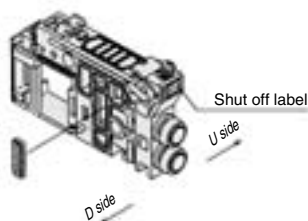
When different pressures are supplied to a manifold, a SUP block plate is used to block the stations under different pressures.

*Please specify the mounting position on the manifold specification sheet.

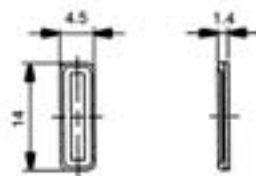
<Shut off label>

Indication labels to confirm the blocking position are attached (Each for Stainless steel passage and Stainless steel/EXH passage blocking positions).

* 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



Connector assembly

Connector assembly part no.

AXT661-43 A-6

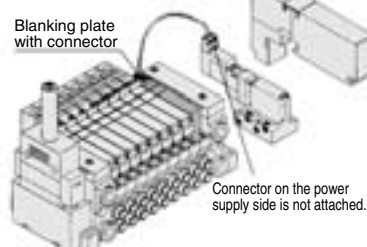
Lead wire length (mm)

Connector		Connector lead wire length (mm)			
Nil	Without connector	6	300	20	2000
1	With connector/2-wire	10	1000	25	2500
2	With connector/4-wire	15	1500	30	3000

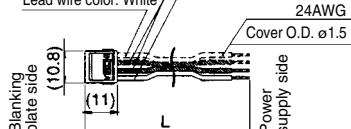
Blanking plate with a connector for individually outputting electricity to drive a single valve or equipment that are not on the manifold base.

* 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.)



Lead wire color: Black
Lead wire color: Red
Lead wire color: White



Lead wire length (mm)		Lead wire length (mm)	
Nil	300	10	1000
6	600	20	2000
15	1500	30	3000

EXH block base assembly

VVQ1000-19A--(C3,C4,C6,M5)

Manifold block assembly
Electrical entry

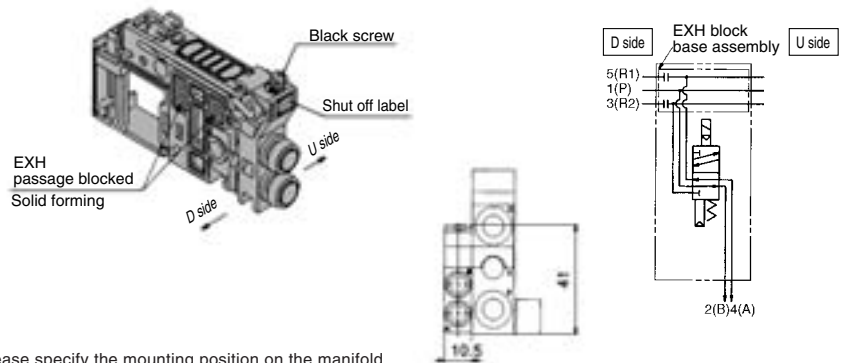
F0	Without lead wire
F1	For F kit (2 to 12 stations)/Double wiring
F2	For F kit (13 to 24 stations)/Double wiring
F3	For F kit (2 to 24 stations)/Single wiring
P1	For P, G, T, S kit (2 to 12 stations)/Double wiring
P2	For P, G, T, S kit (13 to 24 stations)/Double wiring
P3	For P, G, T, S kit (2 to 24 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>

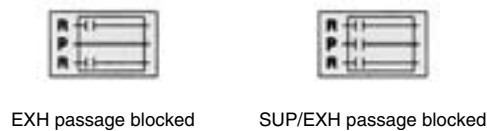
Indication labels to confirm the blocking position are attached (Each for EXH passage and SUS/EXH passage blocking positions).

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



* Please specify the mounting position on the manifold specification sheet.

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



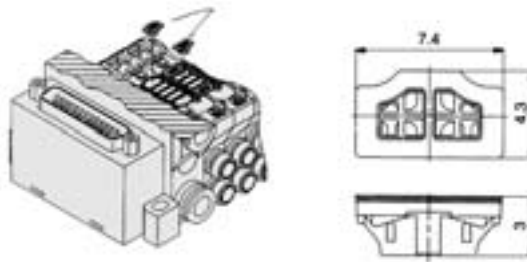
Back pressure check valve assembly [-B]

VVQ1000-18A

It prevents cylinder malfunction caused by other valve exhaust entry. 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.

* When ordering it being mounted on all manifold stations, suffix "-B" at the end of the manifold number.

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.



(Precautions)

1. The back pressure check valve assembly is the parts with a check valve structure. However, since the valve has slight air leakage, take precautions for the exhaust air not to 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--N-Station (1 to Max. stations)

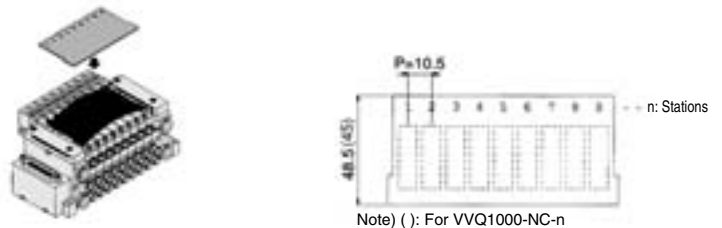
It is a transparent resin plate for placing a label that indicates solenoid valve function, etc.

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"

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

N: Standard
NC: For mounting blanking plate with connector

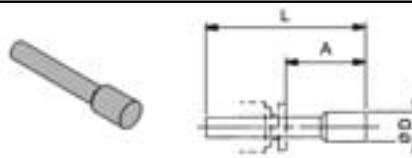


Note) (): For VVQ1000-NC-n

Blanking plug (For One-touch fittings)

KQ2P-

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

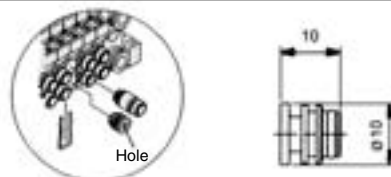
Port plug

VVQ0000-58A

The plug is used to block the cylinder port.

* When 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, N1, N3, N7)

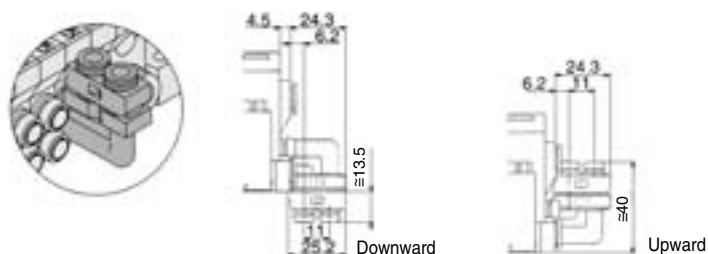
It is used for piping that extends upward or downward from the manifold.

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

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-KM8) is interfered with fittings.



Manifold Option Parts for VQ1000

DIN rail mounting bracket

VVQ1000-57A

It is used for mounting a manifold on a DIN rail.

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

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



DIN rail clamp screw



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)

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



Note) A large quantity of drainage generated in the air source results in exhaust of air together with drainage. For maintenance, refer to page 748.



Exhaust port

2 stations matching fitting assembly

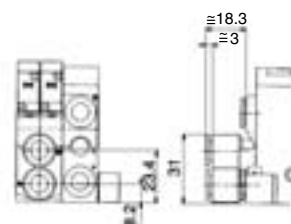
VVQ1000-52A-C₈N₈

This is a fitting to multiply the flow rate by combining the outputs of 2 valve stations. It is used for driving a large bore cylinder. This is a one-touch fitting for a port size of $\phi 8$ or $\phi 5/16$ ".

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

Clearly indicate the 2 station matching fitting assembly no., and specify the mounting 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.

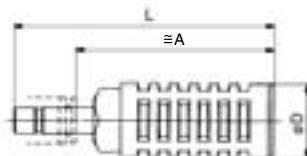


Silencer (For EXH port)

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 ϕd	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 pressure in a manifold. Supply air from D side SUP port is regulated. SUP port on U side is plugged.

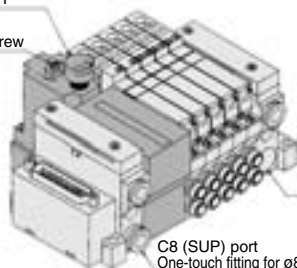
When a regulator unit is mounted, the SUP port on the U side of the manifold will be plugged. A maximum of 3 units can be mounted on a manifold.

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

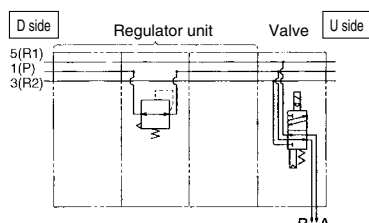
Pressure gauge
G27-10-01

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

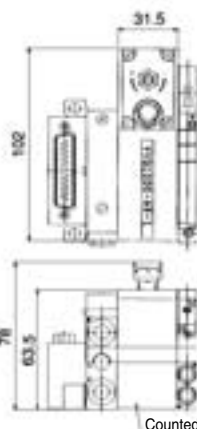
VV5Q11-14C6FUO-D G 2

Number of manifold stations
Number of mounted valves 12 set
+
Number of regulator units 2 set
=
Number of regulator units 2 set

Number of regulator units 2 set

With regulator unit

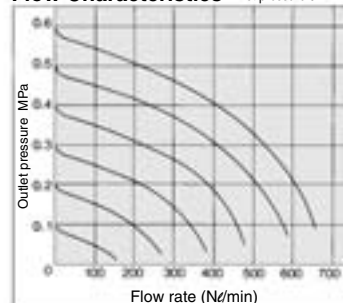
Others, option symbols: to be indicated alphabetically.



Counted as one station.

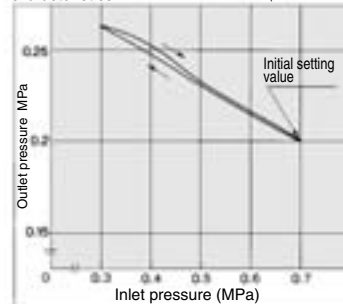
Flow Characteristics

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-□□

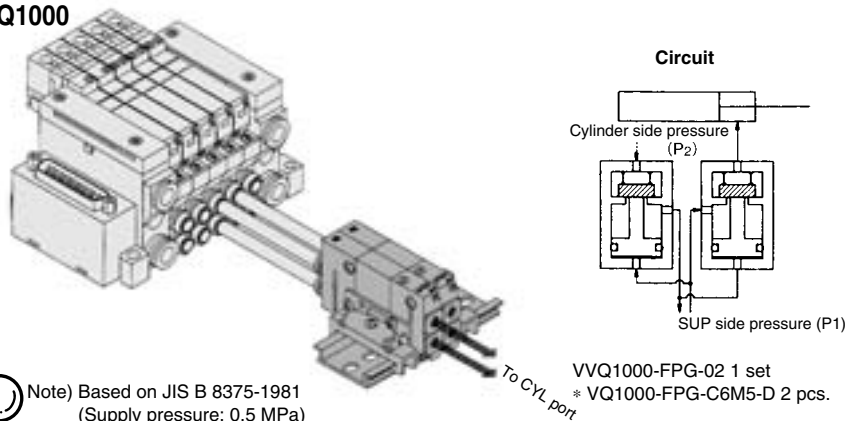
It is used on the outlet side piping to keep the cylinder in the intermediate position for a long time. Combining the double check block with a built-in pilot type double check valve and a 3 position exhaust center solenoid valve will enable the cylinder to stop in the middle or maintain its position 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	0.8MPa
Min. operating pressure	0.15MPa
Ambient and fluid temp.	-5 to 50°C
Flow characteristics: C	0.60dm ³ /(s·bar)
Max. operating frequency	180CPM

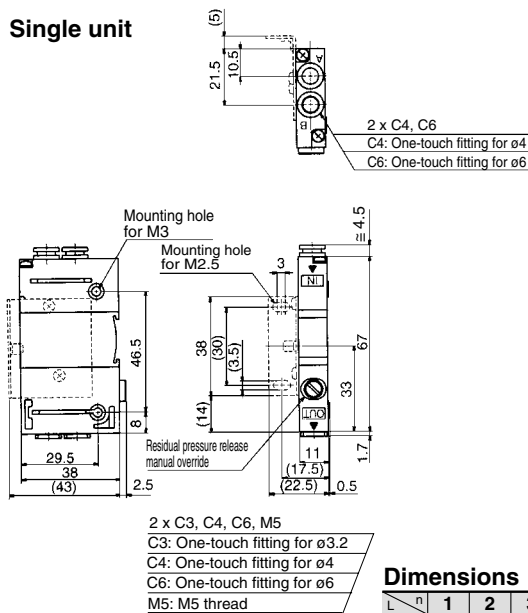
Note) Based on JIS B 8375-1981
(Supply pressure: 0.5 MPa)



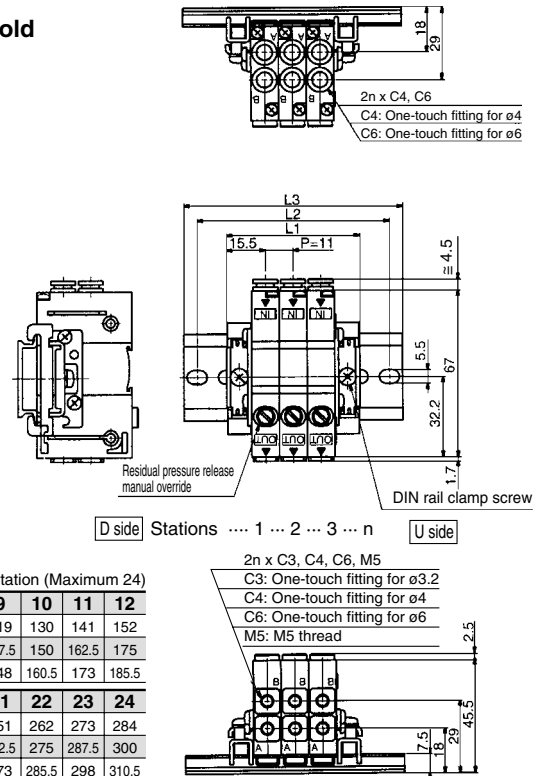
VVQ1000-FPG-02 1 set
* VQ1000-FPG-C6M5-D 2 pcs.

Dimensions

Single unit



Manifold



Dimensions

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

L	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	187.5
L3	60.5	73	85.5	98	110.5	123	135.5	148	160.5	173	185.5	198

L	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	198.5	209.5	220.5	231.5	242.5	253.5	264.5	275.5	286.5	297.5	308.5
L3	198	209	220	231	242	253	264	275	286	297	308	319

How to Order

Double check block

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

IN 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
N3	One-touch fitting for ø5/32"
N7	One-touch fitting for ø1/4"

OUT side port size

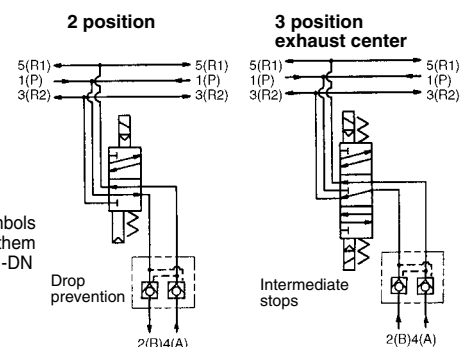
M5	M5 thread
C3	One-touch fitting for ø3.2
C4	One-touch fitting for ø4
C6	One-touch fitting for ø6
N3	One-touch fitting for ø5/32"
N7	One-touch fitting for ø1/4"

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

<Example>



Manifold (DIN rail mounting)

VVQ1000-FPG-**06**

Stations

01	1 station
...	...
16	16 stations

When ordering a double check block, order the DIN rail mounting style [-D].

<Ordering Example>

VVQ1000-FPG-06...6 types of manifold

*VQ1000-FPG-C4M5-D, 3sets
*VQ1000-FPG-C6M5-D, 3sets

Bracket Assembly

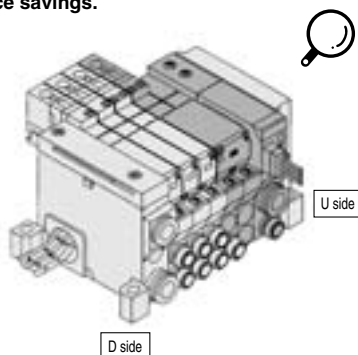
Part no.	Tightening torque
VQ1000-FPG-FB	0.22 to 0.25N·m

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.

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 (Nl/min)	11	20
Max. vacuum pressure (mmHg)	-630	
Max. operating pressure (MPa)	0.8	
Standard supply pressure (MPa)	0.5	
Operating temperature (°C)	5 to 50	

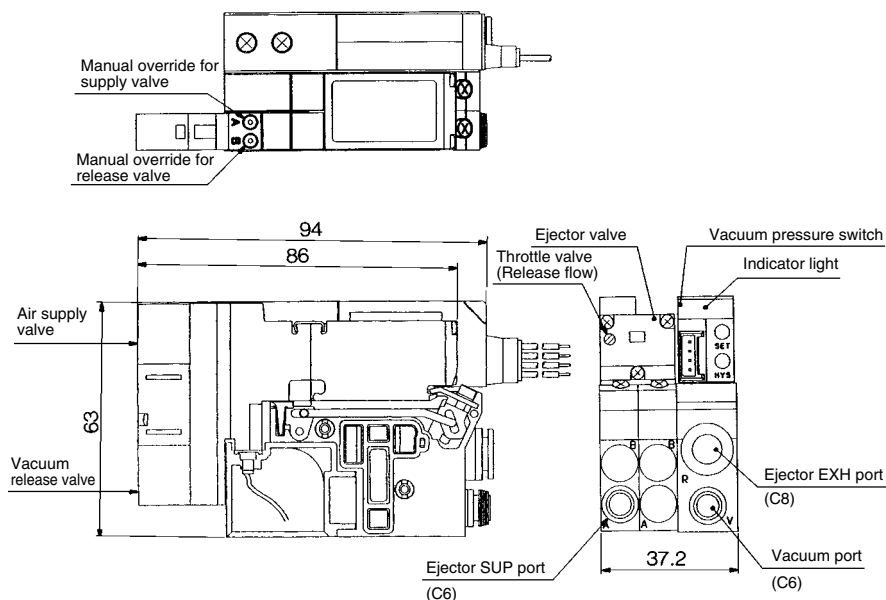
Maximum Number of Ejector Units

(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

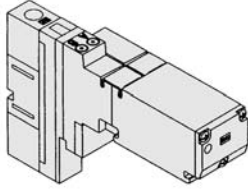
1 to 5

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



VVQ1000 – J 1 – 5 H C – A

Manifold	
1	Plug-in unit
Coil voltage	
1	100 VAC (50/60Hz)
2	200 VAC (50/60Hz)
3	110 VAC (50/60Hz)
4	220 VAC (50/60Hz)
5	24 VDC
6	12 VDC
9	Others

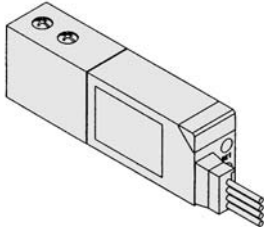
•Function			
Symbol	Specifications	DC	AC
Nil	Standard type	(1.0W)	○ ⁽¹⁾
H	High pressure type	(1.5W)	○
Y	Low wattage type	(0.5W)	○
N	Negative COM	○	—

•Specifications		
Symbol	Nozzle diameter	Vacuum release valve
A	0.7	With
B	1.0	With

•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 697.
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 CAT.E100.

How to order connectors

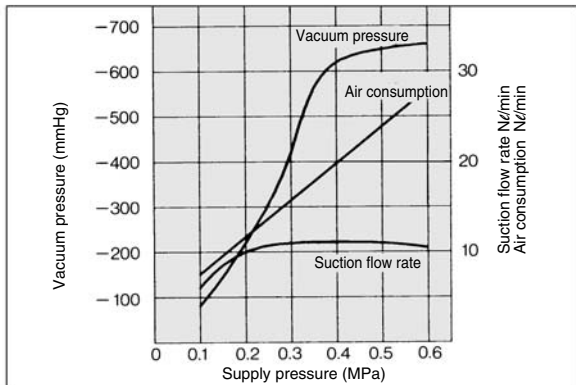
- Without lead wire (Connector 1 pc., Socket 4 pcs.) **ZS-20-A**
- With lead wire **ZS-20-5A-50**

•Lead wire length (m)	
Nil	0.6
30	3
50	5

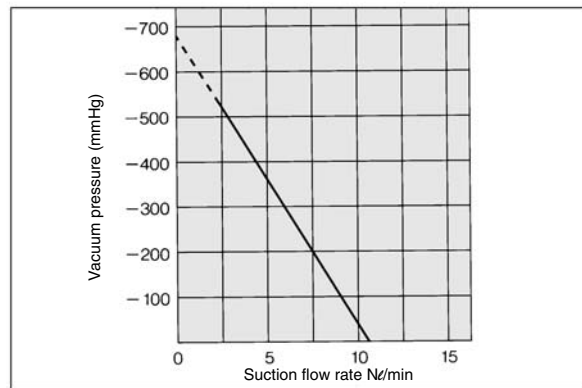
Flow/Exhaust Characteristics of Ejector Unit

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

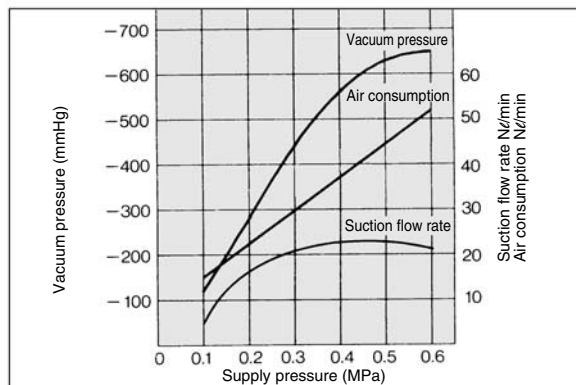
Nozzle Diameter ø0.7 Exhaust Characteristics



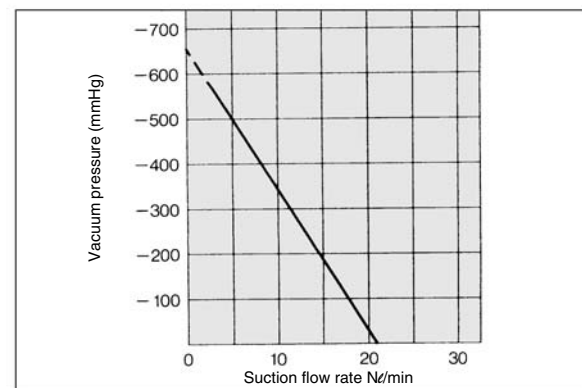
Flow Characteristics



Nozzle Diameter ø1.0



Flow Characteristics

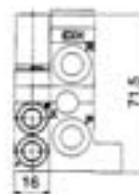
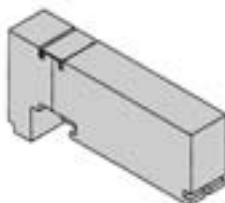


Manifold Option Parts for VQ2000

Blanking plate assembly JIS Symbol 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.



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.)

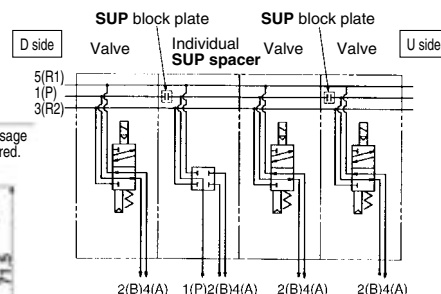
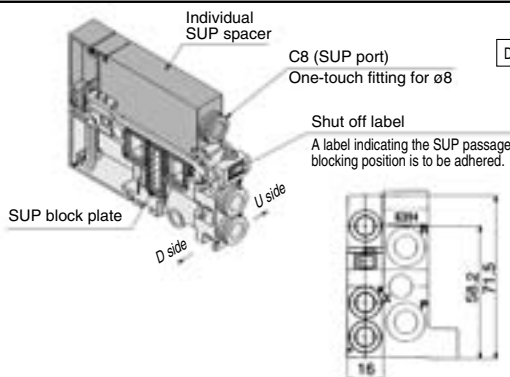
* Specify the spacer mounting position and SUP block plate position on the manifold specification sheet.

The block plate is used in one or two places for one set.

(Two SUP block plates for blocking SUP station are attached to the individual SUP spacer.)

* As a standard, electric wiring is connected to the position of the manifold station where the individual SUP spacer is mounted.

* If wiring is not required for stations equipped with spacers, enter "X" in the special wiring specifications column in the manifold specification sheet.



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)

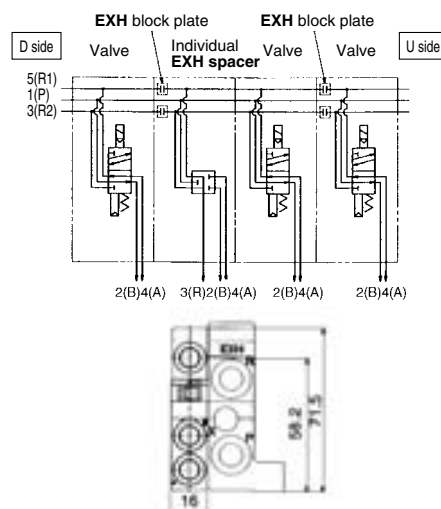
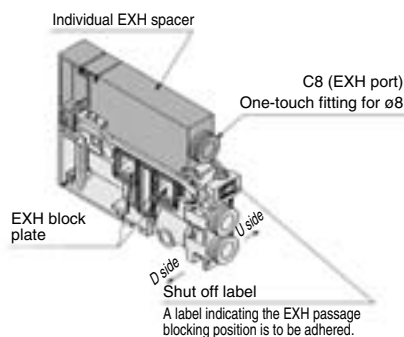
* Specify the mounting position, as well as the EXH block base or EXH block plate position on the manifold specification sheet.

The block plate is used in one or two places for one set.

(Two EXH block plates for blocking EXH station are attached to the individual EXH spacer.)

* As a standard, electric wiring is connected to the position of the manifold station where the individual EXH spacer is mounted.

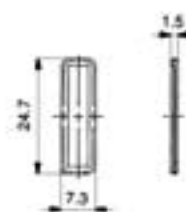
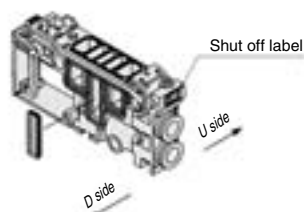
* If wiring is not required for stations equipped with spacers, enter "X" in the special wiring specifications column in the manifold specification sheet.



SUP block plate VVQ2000-16A

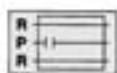
When different pressures are supplied to a manifold, a SUP block plate is used to block the stations under different pressures.

* Please specify the mounting position on the manifold specification sheet.



<Blocking indication label>

Indication labels to confirm the blocking position are attached (Each for Stainless steel passage and Stainless steel/EXH passage blocking positions).



SUP passage blocked



SUP/EXH passage blocked

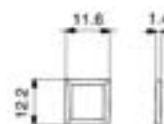
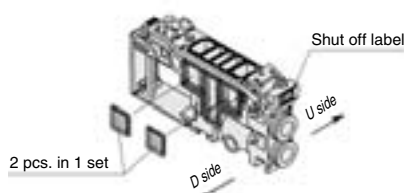


* When ordering a block plate incorporated with the manifold no., a block indication label is attached to the manifold.

EXH block plate VVQ2000-19A

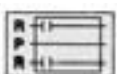
The EXH block plate is used between stations for which exhaust is desired to be divided when valve exhaust affects other stations configuration. It is also used in combination with an individual EXH spacer for individual exhaust.

* Please specify the mounting position on the manifold specification sheet.



<Blocking indication label>

Indication labels to confirm the blocking position are attached (Each for EXH passage and SUS/EXH passage blocking positions).



EXH passage blocked



SUP/EXH passage blocked

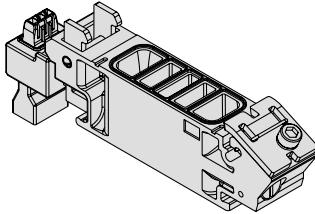


* When ordering a block plate incorporated with the manifold no., a block indication label is attached to the manifold.

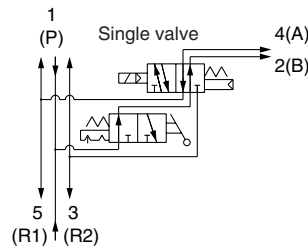
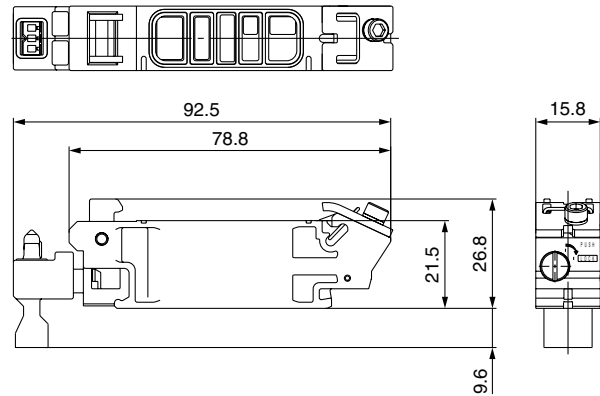
SUP stop valve spacer VVQ2000-24A-1

A SUP stop valve spacer is mounted on a manifold block, making it possible to individually shut off supply air to each valve.

Enclosure: Dusttight, Low jetproof type (IP65) compliant.



Note) This cannot be combined with a dusttight and low jetproof type (IP65) for AC.



Circuit diagram
(Example of a spacer with a built-in single valve)

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

It prevents cylinder malfunction caused by other valve exhaust entry. 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. It is effective when a single action cylinder is used or an exhaust center type solenoid valve is used.

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

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 mounting position by using the manifold specification sheet.



(Precautions)

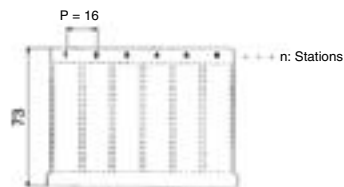
- 1.The back pressure check valve assembly is assembly parts with a check valve structure. However, as slight air leakage is allowed for the back pressure, take care the exhaust air will not be throttled at the exhaust port.
- 2.When a back pressure check valve is mounted, the effective area of the valve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

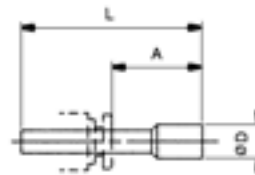
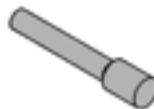
*When ordering assemblies incorporated with a manifold, add suffix "-N" to the manifold no.



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.



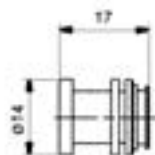
Dimensions

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.

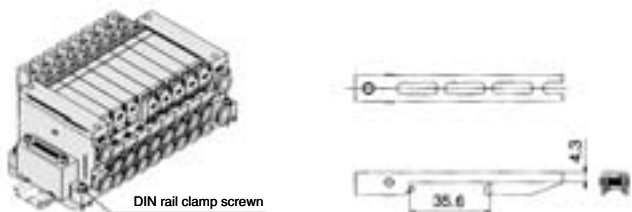
* When ordering a plug incorporated with a manifold, indicate "CM" for the port size in the manifold no., as well as, the mounting position and number of stations and cylinder port mounting positions, A and B, in the manifold specification sheet.



Manifold Option Parts for VQ2000

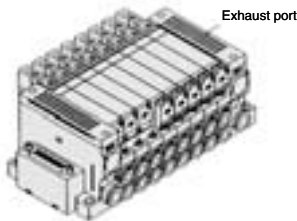
DIN rail mounting bracket
VVQ2000-57A

It is used for mounting a manifold on a DIN rail.
* When ordering assemblies incorporated with a manifold, add suffix
“-D” to the manifold no.
1 set of DIN rail mounting bracket is used for 1 manifold (2 DIN
rail mounting brackets).



Built-in silencer, Direct exhaust [-S]

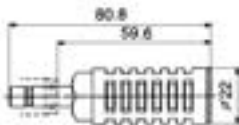
This is a type with an exhaust port atop the manifold end plate.
The built-in silencer exhibits an excellent noise suppression
effect. (Silencing effect: 30 dB)
* When ordering assemblies incorporated with a manifold, add suffix
“-S” to the manifold no.



Note) A large quantity of drainage generated in the air source
results in exhaust of air together with drainage.
● For maintenance, refer to page 748.

Silencer (For EXH port)

This silencer is to be inserted into the EXH port (one-touch
fittings).

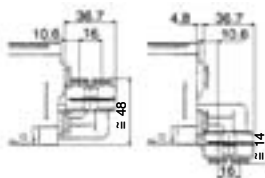


Dimensions

Series	Applicable fittings size ϕ d	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,N3,N7,N9)

It is used for piping that extends upward or downward from the manifold.
When installed it in part of the manifold stations, specify the
assembly no. and the mounting position by means of the manifold
specification sheet.

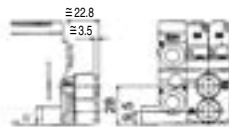


2 stations matching fitting assembly
VVQ2000-52A-C10-N11

This is a fitting to multiply the flow rate by combining the outputs
of 2 valve stations. It is used for driving a large bore cylinder. This
is a one-touch fitting for a port size of ϕ 10 or ϕ 3/8".



* The bore for the manifold no. is "CM".
Clearly indicate the 2 stations matching
fitting assembly no., and specify
the positions by means of the
manifold specifications.



Manifold Option

Double check block (Separated type) for VQ2000 VQ2000-FPG-□□-□

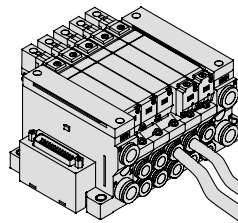
It is mounted on the outlet side piping to keep the cylinder in the intermediate position for a long time. Combining the double check block with a built-in pilot type double check valve and a 3 position exhaust center solenoid valve will enable the cylinder to stop in the middle or maintain its position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

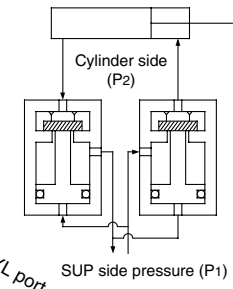
Max. operating pressure	0.8MPa
Min. operating pressure	0.15MPa
Ambient and fluid temp.	-5 to 50°C
Flow characteristics: C	3.0dm ³ /(s·bar)
Max. operating frequency	180 c.p.m



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

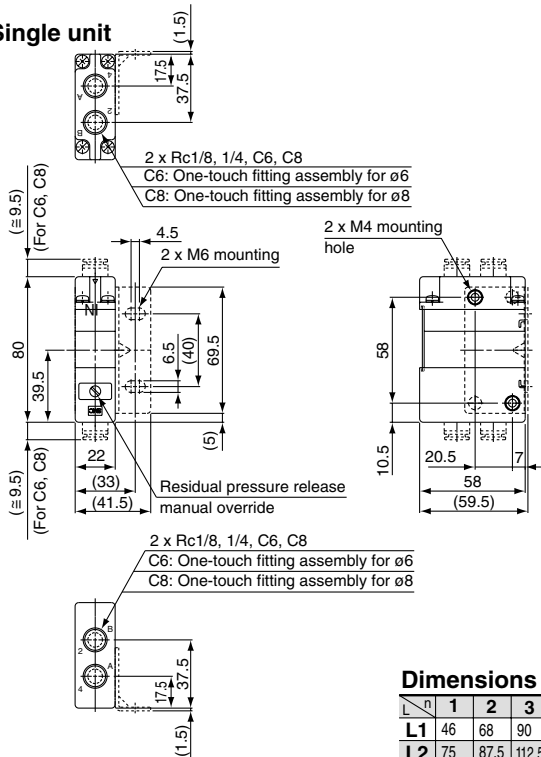


<Circuit diagram>

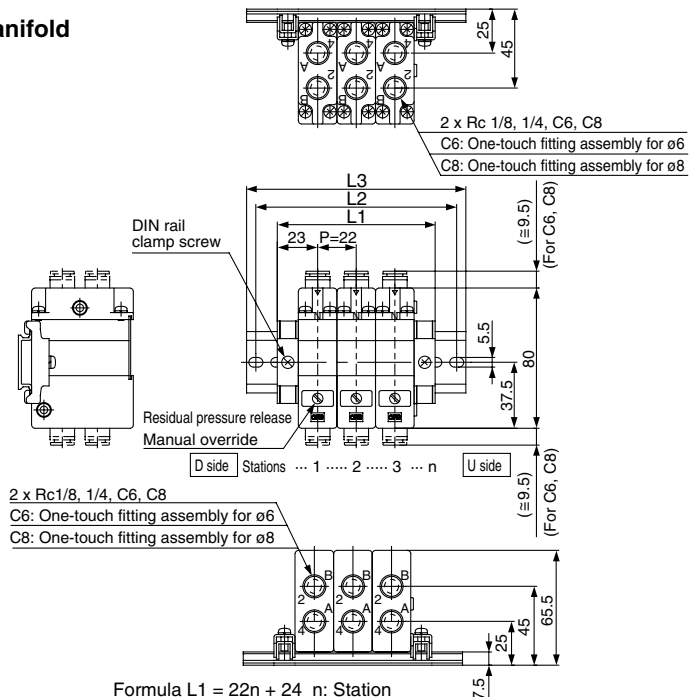


Dimensions

Single unit



Manifold



Dimensions

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

n	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

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
N7	One-touch fitting for ø1/4"
N9	One-touch fitting for ø5/16"

OUT side port size

01	Rc 1/8
02	Rc 1/4
C6	One-touch fitting for ø6
C8	One-touch fitting for ø8
N7	One-touch fitting for ø1/4"
N9	One-touch fitting for ø5/16"

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 (DIN rail mounting)

VVQ2000-FPG-06

Stations

01	1 station
...	...
16	16 stations

When ordering a double check block, order the DIN rail mounting style [-D].

<Ordering Example>

VVQ2000-FPG-06--6 types of manifold

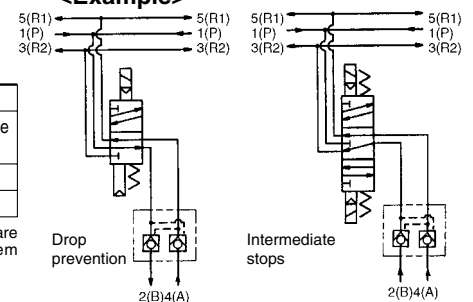
*VQ2000-FPG-
C6C6-D; 3set
*VQ2000-FPG-
C8C8-D; 3set

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 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.
- When fittings, etc. are being screwed to the double check block, tighten them with the torque below.
- 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.

Connection threads	Proper tightening torque (N·m)
Rc1/8	7 to 9
Rc1/4	12 to 14

Manifold Option

Double check block (Direct mounting)

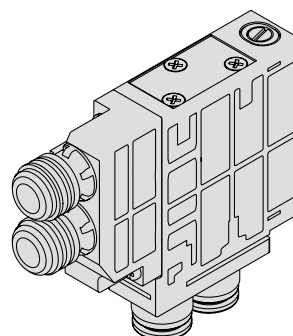
VVQ2000-23A- $\frac{B}{C}$ $\frac{6}{8}$

It is mounted directly on the manifold 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.

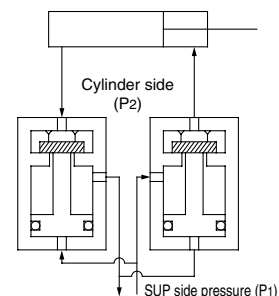
The combination with a 2 position single/double solenoid valve will permit this block to be used for preventing the dropping at the cylinder stroke end when the SUP residual pressure is released.

Specifications

Max. operating pressure	0.7MPa
Min. operating pressure	0.15MPa
Ambient and fluid temp.	-5 to 50°C
Flow characteristics: C	1.8dm ³ /(s·bar)
Max. operating frequency	180 c.p.m

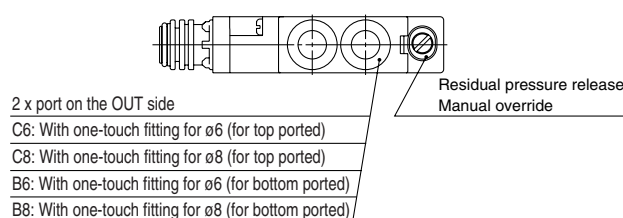
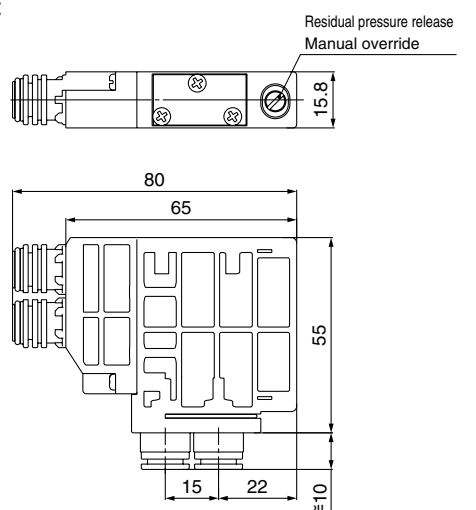


<Check valve operation principle>

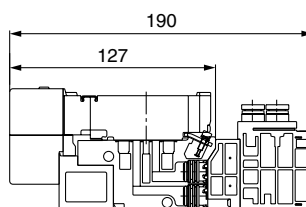


Dimensions

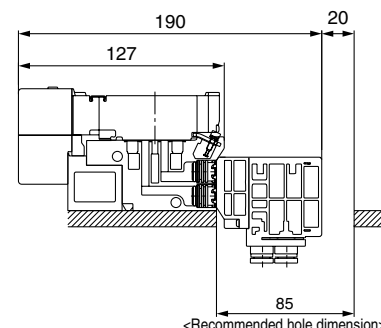
Single unit



When the manifold is mounted



Top ported (VVQ2000-23A-C□)

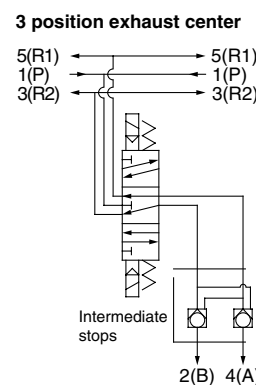
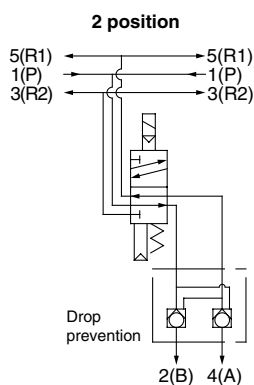


Bottom ported (VVQ2000-23A-B□)

⚠ 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 zero air leakage is not guaranteed, it is sometimes not possible to hold a stop position for an extended period of time.
- Combining double check block with 3 position closed center or pressure center solenoid valve will not work.
- 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.

<Example>





Series VQ1000/2000

Specific Product Precautions 1

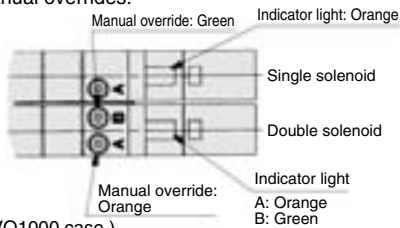
Be sure to read before handling.

Refer to front matters 58 and 59 for Safety Instructions and pages 3 to 7 for 3/4/5 Port Solenoid Valve Precautions.

Light/Surge Voltage Suppressor

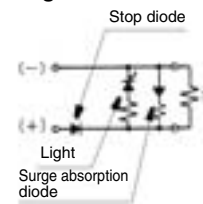
⚠ Caution

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.

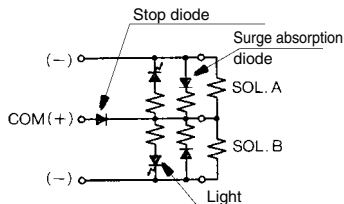


(DWG shows a VQ1000 case.)

DC circuit diagram Single solenoid



Double solenoid



Note 1) 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.

Note 2) Coil surge voltage generated when OFF is about -30V.

Manual Override

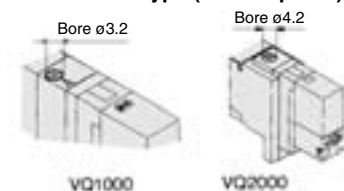
⚠ Warning

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

Push type is standard. (Tool required)

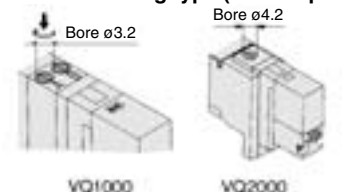
Option: Locking type (Tool required/Manual)

■ Push type (Tool required)



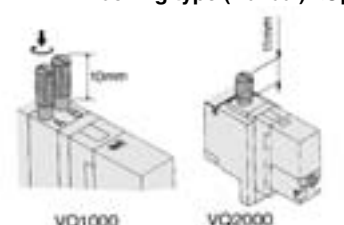
Push down on the manual override button with a small screwdriver until it stops. Release the screwdriver and the manual override will return.

■ Locking type (Tool required) <Option>



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>



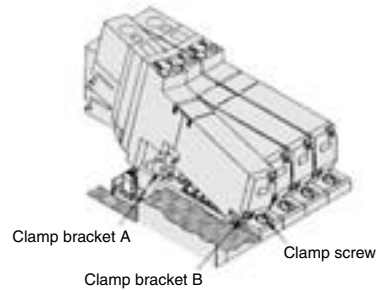
Push down on the manual override button with a small screwdriver or with your fingers until it stops. Turn clockwise by 90° to lock it. Turn it counterclockwise to release it.

⚠ 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.

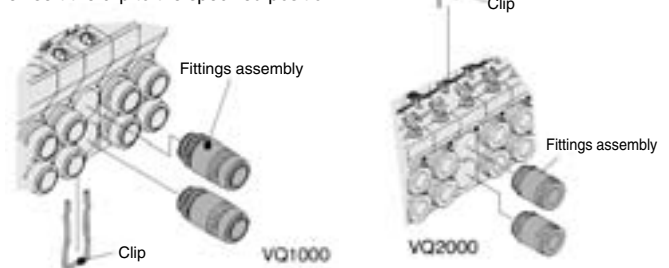
Replacement of Cylinder Port Fittings

⚠ 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 737,738 and 744 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.



Series VQ1000/2000

Specific Product Precautions 2

Be sure to read before handling.

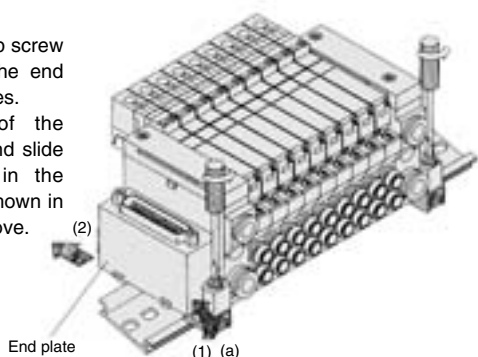
Refer to front matters 58 and 59 for Safety Instructions and pages 3 to 7 for 3/4/5 Port Solenoid Valve Precautions.

Mounting/Removing from the DIN Rail

⚠ Caution

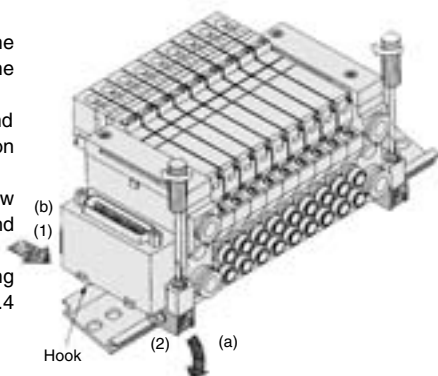
Removing

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

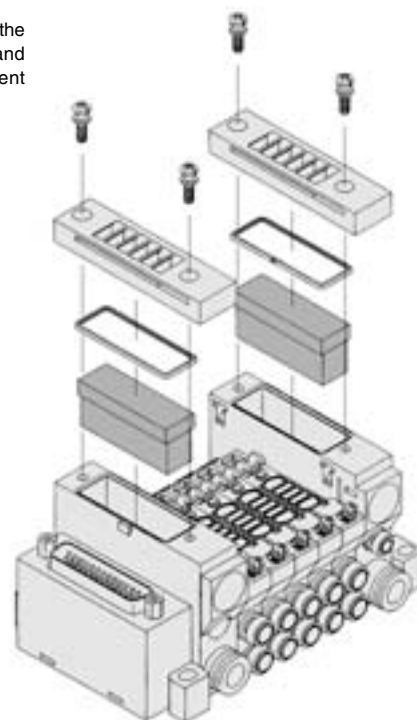
A silencer element is incorporated in the end plate on both sides of the A dirty and choked element may reduce cylinder speed or cause malfunction. Clean or replace the dirty element.

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

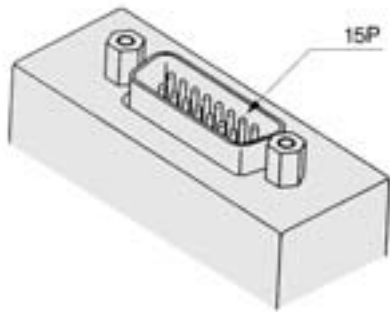
For obtaining the flow rate, refer to front matters 44 to 47.

Option

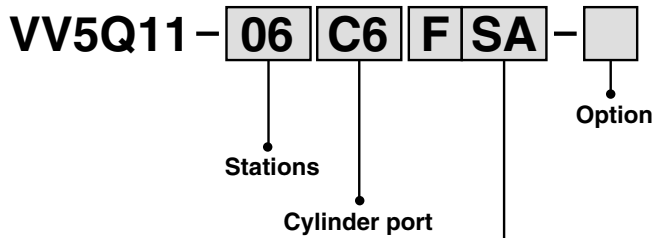
Different Number of Connector Pins

F and P kits with the following number of pins are available besides the standard number (F = 25P; P = 26P). 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

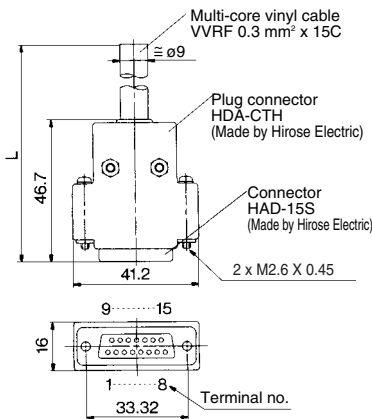


How to Order
D-sub connector, 15 pins
Connector location-Side (horizontal)
Without cable

Kit/Electrical entry

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

* 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

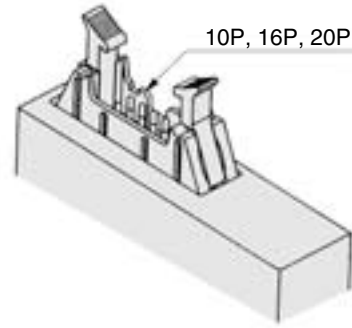
Terminal no.	Lead wire color	Dot marking
1	Black	None
2	Brown	None
3	Red	None
4	Orange	None
5	Yellow	None
6	Pink	None
7	Blue	None
8	Purple	White
9	Gray	Black
10	White	Black
11	White	Red
12	Yellow	Red
13	Orange	Red
14	Yellow	Black
15	Pink	Black

D-sub Connector Cable Assembly

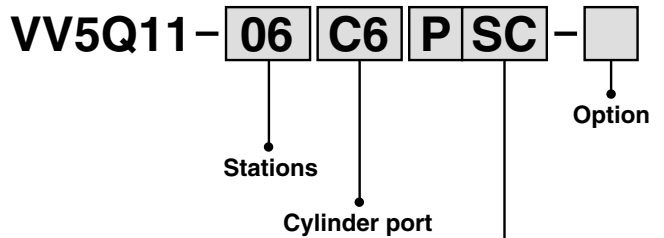
Pins	15P
Cable length (L)	
1.5m	AXT100-DS15-1
3m	AXT100-DS15-2
5m	AXT100-DS15-3

* 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

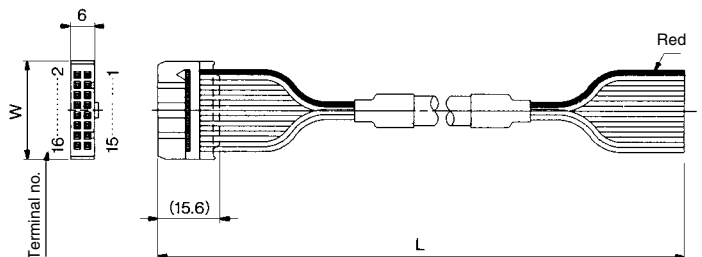


How to Order
Flat ribbon cable, 20 pins
Connector location-Side (Horizontal)
Without cable

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

* 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

Pins	10P	16P	20P
Cable length (L)			
1.5m	AXT100-FC10-1	AXT100-FC16-1	AXT100-FC20-1
3m	AXT100-FC10-2	AXT100-FC16-2	AXT100-FC20-2
5m	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.

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

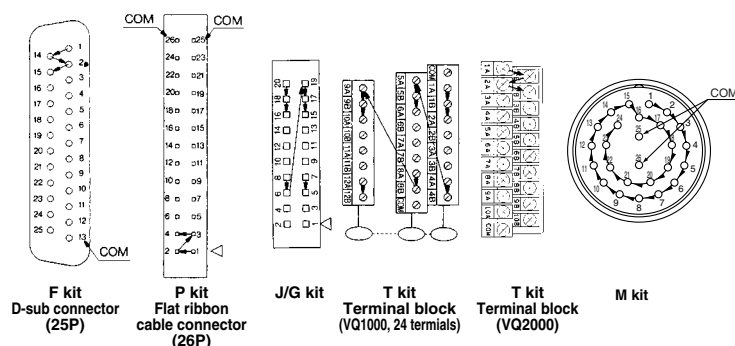
Indicate an option symbol “-K”, for the manifold no. and be sure to specify the mounting position and number of stations of the single and double wiring by means of the manifold specification sheet.

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 ₁₅ P	P _S □ 26P	P _S C ₂₀ P	P _S B ₁₆ P	P _S A ₁₀ P	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	2 rows of terminal blocks 16				3 rows of terminal blocks 24		S□	
Max. points	20				16		24	

Negative Common Specifications

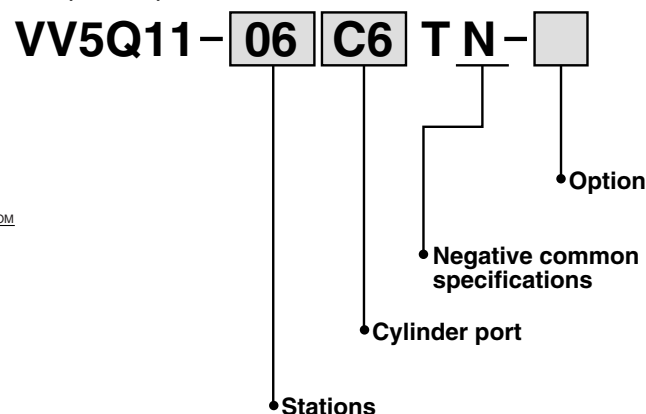
Specify the valve model no. as shown below for negative common specification. However, it is not compatible with 12 VDC, 1 W and 1.5 W specifications. The manifold no. shown below is for the T (VQ1000) and L (VQ1000, 2000) kits. For other kits the standard manifold can be used. However, negative common is not compatible with S and G kits.

VQ1100 N - 5

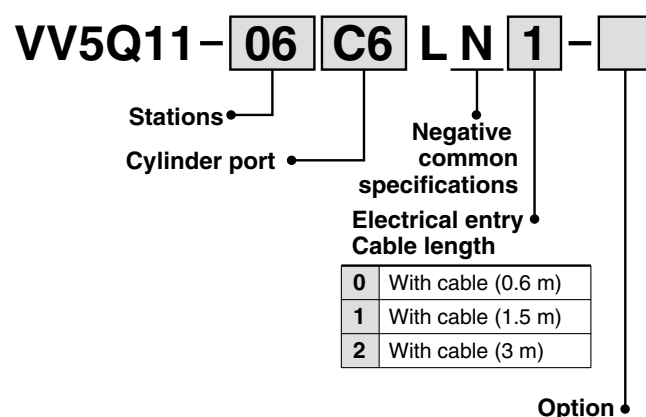
• Negative common specifications

How to order negative common manifold

T kit (VQ1000):



L kit (VQ1000/2000):



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 $\phi 4$)

VQ2000: C6 (One-touch fitting for $\phi 6$)

How to order manifold

VV5Q11-08C6FU1-R S

External pilot specifications

Others, option symbols: to be indicated alphabetically.

How to order valves

VQ1100 R - 5

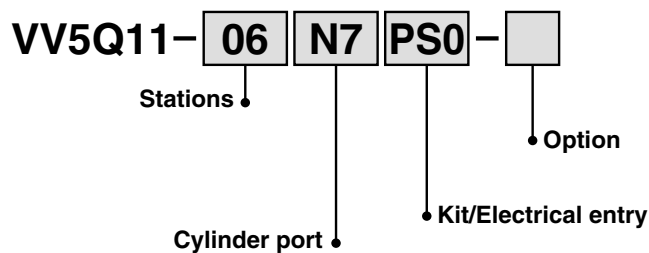
External pilot specifications

Note 1) When two or more functions are specified, indicate them alphabetically.

Note 2) Since the pilot EXH of this valve is released from the R1 passage, it is not possible to vacuum from a part other than EXH pressure and SUP ports.

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)	$\phi 1/8"$	$\phi 5/32"$	$\phi 1/4"$	$\phi 5/16"$	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 $\phi 5/16"$ (N9)

VQ2000 $\phi 3/8"$ (N11)

SJ

SY

SV

SYJ

SZ

VP4

S0700

VQ

VQ4

VQ5

VQC

VQZ

SQ

VFS

VFR

VQ7

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

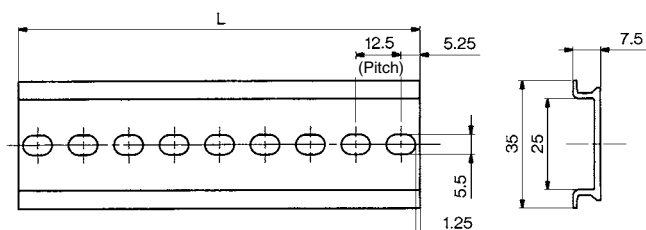
Others, option symbols:
to be indicated alphabetically.

*The number of stations that may be displayed is longer than the manifold number of stations.

- **When changing the manifold style into a DIN rail mounting style.**
Order brackets for mounting a DIN rail. (Refer to “Option” on pages 738 and 744.)
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

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

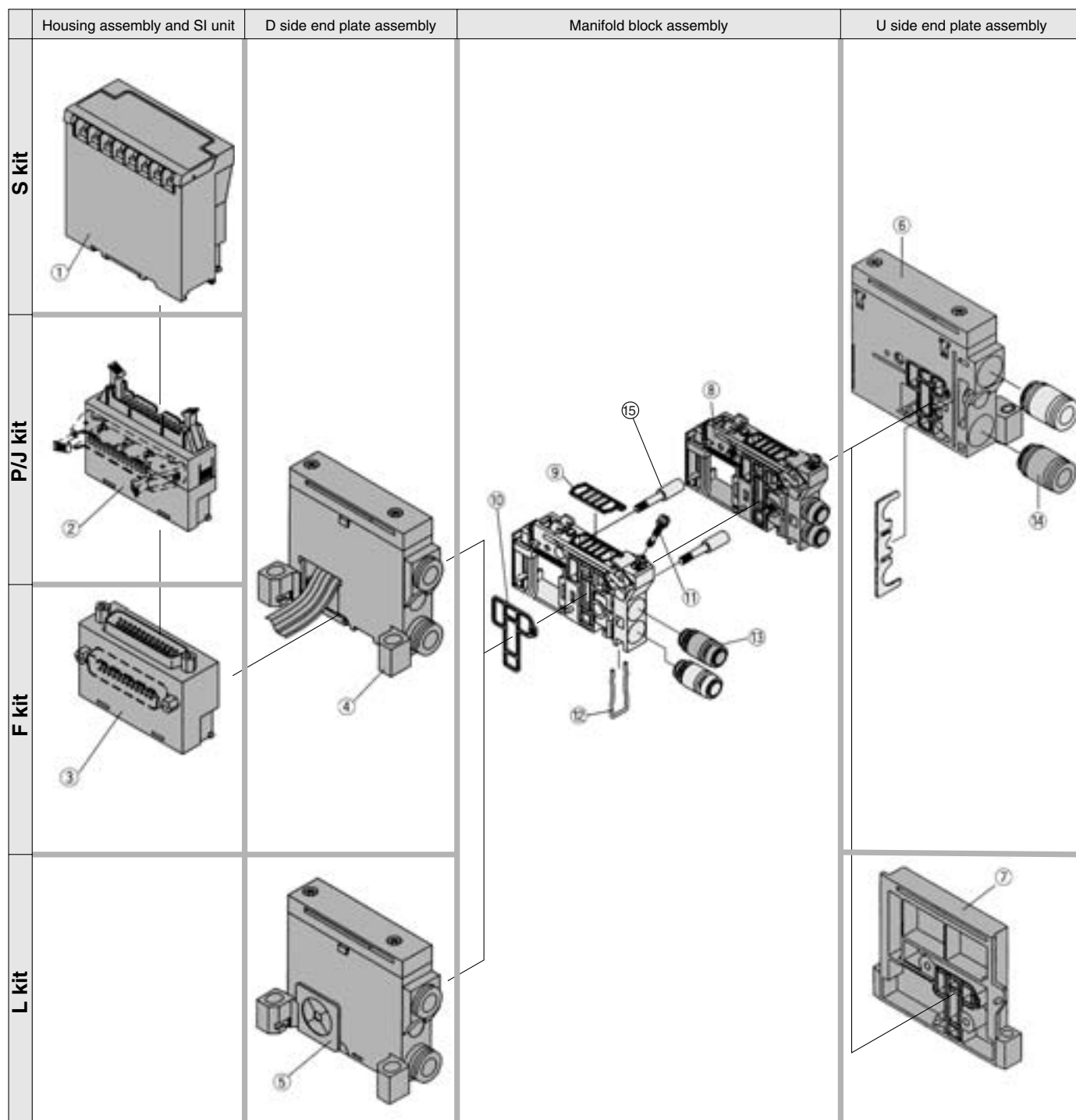
No.	1	2	3	4	5	6	7	8	9	10
L dimension	23	35.5	48	60.5	73	85.5	98	110.5	123	135.5
No.	11	12	13	14	15	16	17	18	19	20
L dimension	148	160.5	173	185.5	198	210.5	223	235.5	248	260.5
No.	21	22	23	24	25	26	27	28	29	30
L dimension	273	285.5	298	310.5	323	335.5	348	360.5	373	385.5
No.	31	32	33	34	35	36	37	38	39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

SJ
SY
SV
SYJ
SZ
VP4
S0700
VQ
VQ4
VQ5
VQC
VQZ
SQ
VFS
VFR
VQ7

Exploded View of Manifold

Exploded view: VQ1000/Plug-in Unit

(F, P, J, L, S kit)



<Housing Assembly and SI Unit>

Housing assembly and SI unit no.

No.	Manifold	Part no.	Description
1	(SF1 kit)	EX120-SUW1(-XP) ⁽²⁾	SI unit for 16 point Uni-wire System (NKE Corporation)
	(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)
	(SQ kit)	EX120-SDN1	DeviceNet
	(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⁾	CC-LINK
2	P _U kit	AXT100-1-P _U □ ⁽¹⁾	Flat cable housing assembly □ = Number of pins: 26, 20, 16, 10
	J _S kit	AXT100-1-J _S □ ⁽¹⁾	Flat cable housing assembly
3	F _S kit	AXT100-1-F _S □ ⁽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. (Not available for S and SQ kits)

<D Side End Plate Assembly>

④⑤ D side end plate assembly no.

VVQ1000-3A-1-□-□

Electrical entry

F	For F kit
P	For P kit
J	For J kit
L	For L kit
S	For S kit

Option

Nil	Common exhaust type
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/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 ⑭'s fitting assembly is included.

⑦ U side end plate assembly no. (For L kit)

VVQ1000-2A-1-L

<Manifold Block Assembly>

⑧ Manifold block assembly no.

VVQ1000-1A-□-□

Tie-rod (2 pcs.) and lead wire assembly for extensions are attached

Electrical entry

F0	Without lead wire
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, S kit for 2 to 12 stations/Double wiring
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)

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
C0	Without one-touch fitting (With a clip)

<Fitting Assembly>

⑬ 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	M5 thread

Note) Purchasing order is available in units of 10 pieces.

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.

<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.

⑮ Tie-rod assembly part no. (2 pcs./set)

VVQ1000-TR-□

Note 1) Please order when eliminating manifold stations. When adding stations, tie-rods are attached to the manifold block assembly. Therefore, it is not necessary to order.

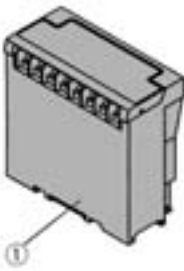
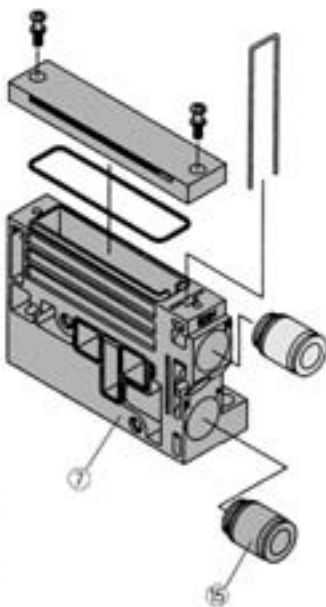
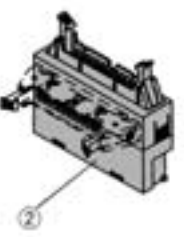
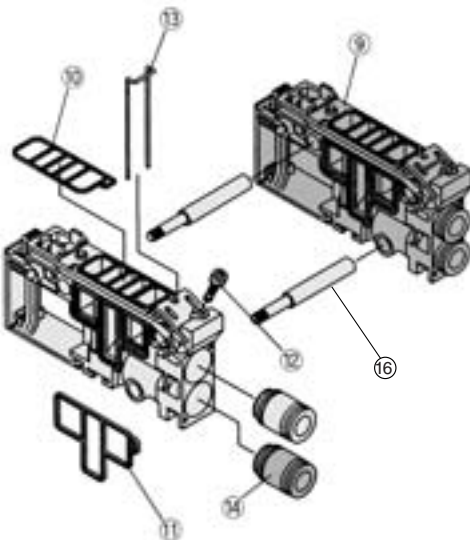
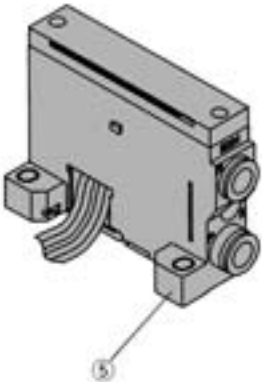
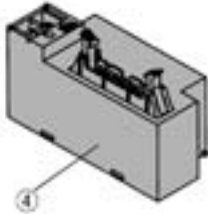
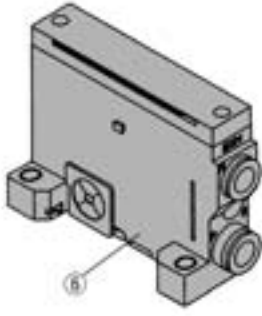
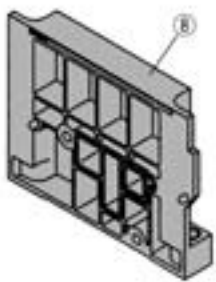
Note 2) □: Stations 02 to 24

Note 3) For S, P, J, F and L kits

Exploded View of Manifold

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
1	(SF 1kit)	EX120-SUW1(-XP) ⁽¹⁾ [EX123D-SUW1] ⁽²⁾	SI unit for 16 point Uni-wire System (NKE Corporation)
	(SH 1kit)	EX120-SUH1(-XP) ⁽¹⁾ [EX123D-SUH] ⁽²⁾	SI unit for 16 point Uni-wire H System (NKE Corporation)
	(SJ1 1kit)	EX120-SSL1(-XP) ⁽¹⁾ [EX123D-SSL1] ⁽²⁾	16 point S-LINK System (SUNX Corporation)
	(SJ2 1kit)	EX120-SSL2(-XP) ⁽¹⁾ [EX123D-SSL2] ⁽²⁾	8 point S-LINK System (SUNX Corporation)
	(SQ 1kit)	EX120-SDN1 [EX124D-SDN1] ⁽²⁾	SI unit for DeviceNet
	(SR1 1kit)	EX120-SCS1(-XP) ⁽¹⁾ [EX124D-SCS1] ⁽²⁾	SI unit for 16 point Compo Bus/S (OMRON)
	(SR2 1kit)	EX120-SCS2(-XP) ⁽¹⁾ [EX124D-SCS2] ⁽²⁾	SI unit for 8 point Compo Bus/S (OMRON)
2	(SV 1kit)	EX120-SMJ1(-XP) ⁽¹⁾ [EX124D-SMJ1] ⁽²⁾	SI unit for CC-LINK
	P _S 1kit	AXT100-1-P _S ⁽³⁾	Flat ribbon cable housing assembly □ = Number of pins: 26, 20, 16, 10
3	J _S 1kit	AXT100-1-J _S ⁽³⁾	Flat ribbon cable housing assembly
4	G 1kit	AXT100-1-GU20	Flat ribbon cable housing assembly with terminal block
5	F _S 1kit	AXT100-1-F _S ⁽³⁾	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) Top entry connector for FU and PU while side entry connector for FS and PS.

<D Side End Plate Assembly>

⑤ ⑥ D side end plate assembly no.

VVQ2000-3A-1-□-□

Electrical entry

F	For F kit
P	For P kit
J	For J kit
L	For L kit
G	For G kit
S	For S kit

Enclosure

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.

Option

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. Separately place an order for ①, ②, ③, and ④.

Note 3) "S" (built-in silencer) and "W" (IP65) cannot be combined.

<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

Enclosure

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.



Note 1) The ⑥'s fitting assembly is included.

Note 2) The housing assembly and SI unit of F/P/J/G/S kit are not included. Separately place an order for ①, ②, ③, and ④.

Note 3) "S" (built-in silencer) and "W" (IP65) cannot be combined.

⑧ U side end plate assembly no. (For L kit)

VVQ2000-2A-1-L-□

Enclosure

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.

<Manifold Block Assembly>

⑨ Manifold block assembly no.

Tie-rod (2 pcs.) and lead wire assembly for extensions are attached

VVQ2000-1A-□-□-□

Electrical entry

F0	Without lead wire
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

Port size

C4	One-touch fitting for ø4
C6	One-touch fitting for ø6
C8	One-touch fitting for ø8
C0	Without one-touch fitting (With a clip)

Enclosure

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

C4	Applicable tubing ø4
C6	Applicable tubing ø6
C8	Applicable tubing ø8



Note) Purchasing order is available in units of 10 pieces.

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.

⑯ Tie-rod assembly part no. (2 pcs./set)

VVQ2000-TR-□

Note 1) Please order when eliminating manifold stations. When adding stations, tie-rods are attached to the manifold block assembly. Therefore, it is not necessary to order.

Note 2) □: Stations 02 to 24

Note 3) For S, P, J, F and L kits

<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



Note) A set of parts containing 12 pcs. each is enclosed.

