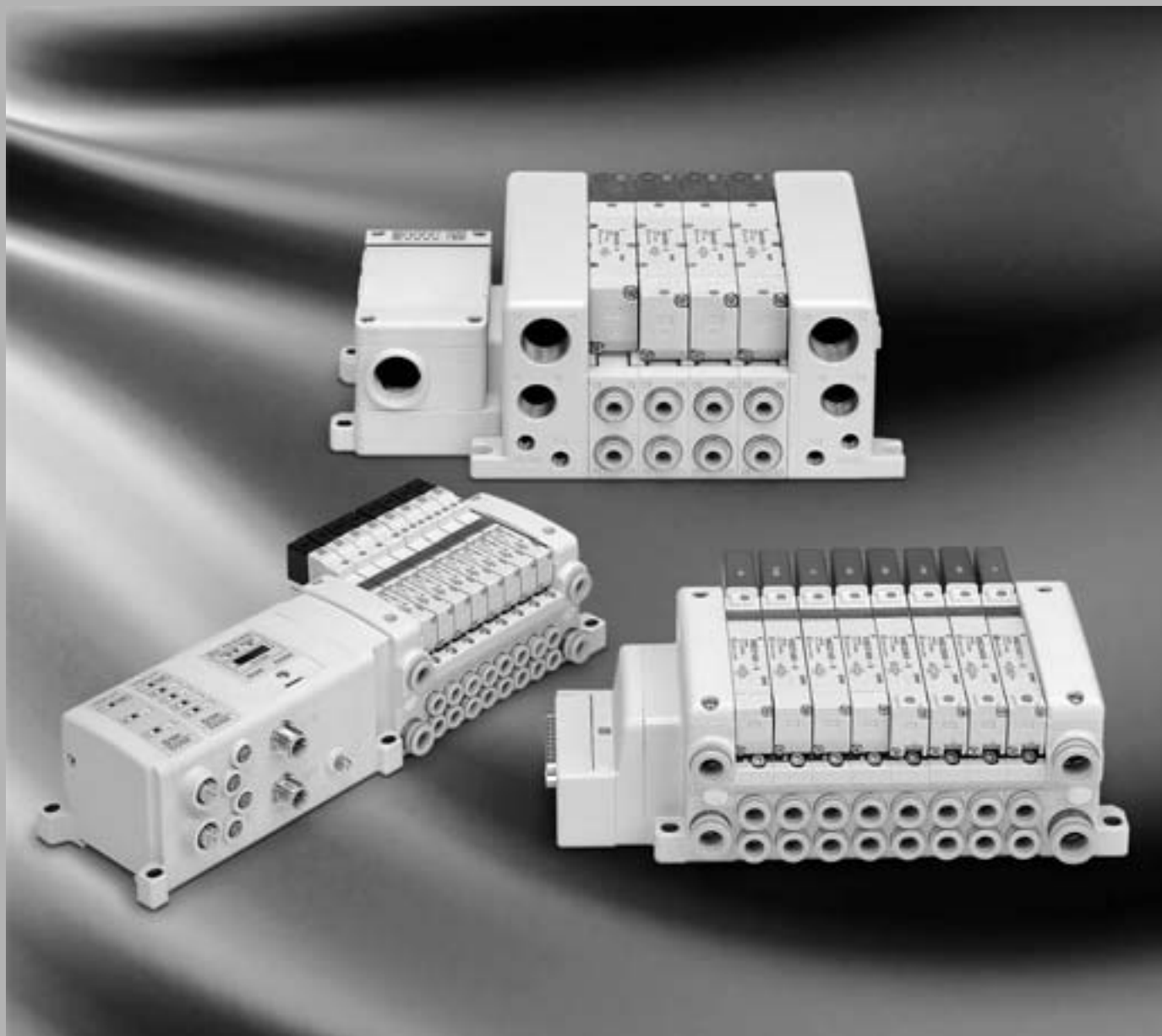


5 Port Solenoid Valve

Series *VQC1000/2000/4000*

Metal Seal

Rubber Seal



***NEW CONCEPT* Connector Type Manifold**

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

Connector Type Manifold

Series VQC1000/2000/4000

Outstanding response times and long service life

(Metal seal: Single type with light/surge voltage suppressor)

- VQC1100: 10 ms ±2 ms; 200 million cycles
- VQC2100: 20 ms ±2 ms; 200 million cycles
- VQC4100: 17 ms ±3 ms; 100 million cycles

IP67 enclosure compatible
Dusttight and Immersible type
(Based on IEC60529) (For kits S, T, L and M)

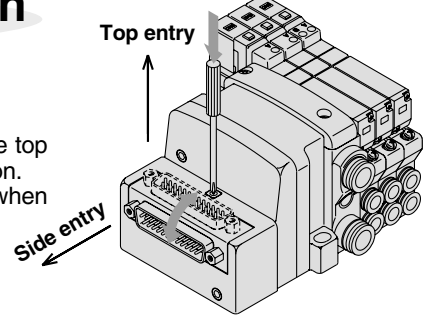
Compact and large flow

Type (Series)	Manifold pitch (mm)	Flow characteristics ^{Note)}						Applicable cylinder size (mm)
		Metal seal			Rubber seal			
		C[dm³/(s·bar)]	b	Cv	C[dm³/(s·bar)]	b	Cv	
VQC1000	10.5	0.72	0.25	0.18	1.0	0.30	0.25	to ø50
VQC2000	16	2.6	0.15	0.60	3.2	0.30	0.80	to ø80
VQC4000	25	6.9	0.17	1.7	7.3	0.38	2.0	to ø140

Note) Flow characteristics: 2 position single, 4/2 → 5/3 (A/B → R1/R2)

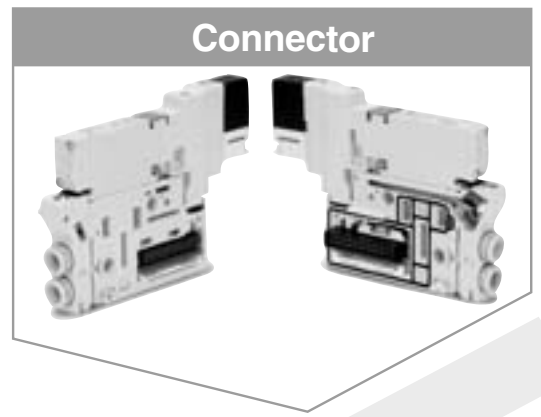
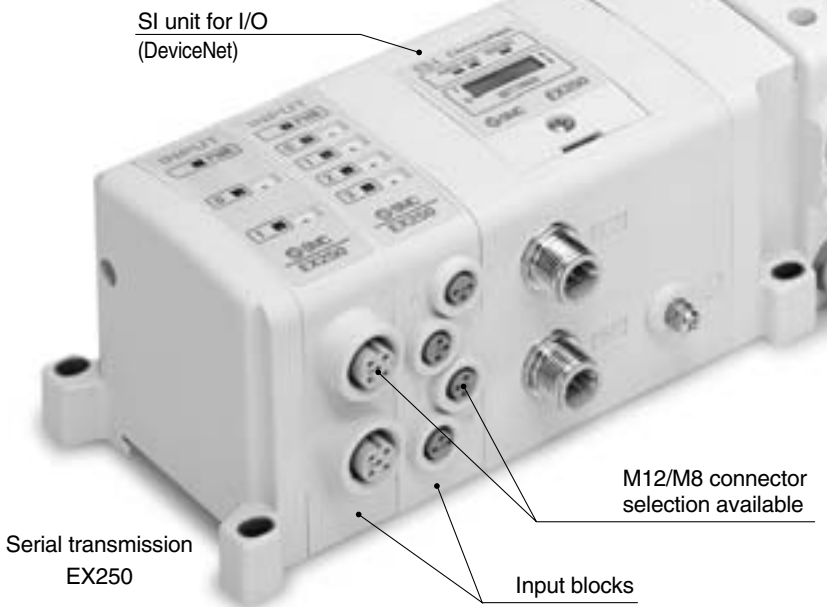
Connector entry direction can be changed with a single push (F, P kits)

The connector entry direction can be changed from the top to the side by simply pressing the manual release button. It is not necessary to use the manual release button when switching from the side to the top.



Accommodates gateway type serial wiring

- Gateway unit types include DeviceNet, PROFIBUS DP, CC-Link, and EtherNet/IP.
- Because just one gateway unit controls up to 4 branch lines, it offers much more freedom in choosing valve mounting locations in comparison to other serial units.
- Manifolds and input blocks can be mounted near the actuator, allowing for use of short air piping or electric wiring.
- The package wiring with connector cable reduces the potential for incorrect wiring and improves wiring efficiency.
- A single cable from the gateway provides both signal and power to each branch, thus eliminating the need for separate power connections for each manifold valve and input block.
- The input block also employs a multi-pin connector so that the number of stations can be changed easily, as with the manifold.



A wide variety of prepackaged wiring configurations

S Kit
(Serial transmission)

Protective enclosure conforms to IP 67

F Kit
(D-sub connector)

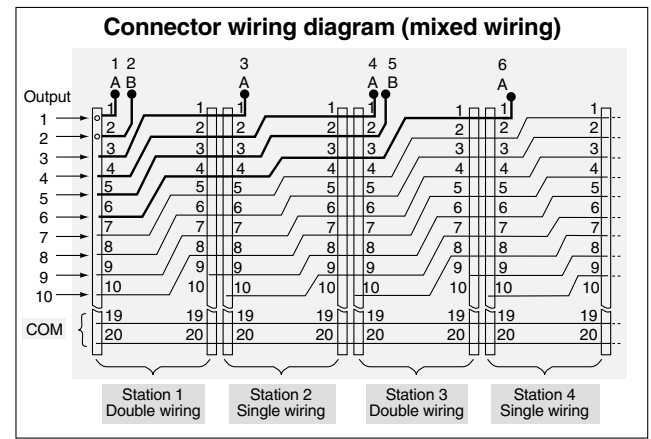
25 pins

P Kit
(Flat ribbon cable)**T Kit**
(Terminal block box)**L Kit**
(Lead wire)**M Kit**
(Circular connector)

- Our six standard wiring packages bring a world of ease to wiring and maintenance work, while the protective enclosures of four of them conform to IP67 standards.
- The S Kit is compatible with a combined I/O unit. (Not applicable to Gateway unit)

Connector type manifold

- The use of multi-pin connectors to replace wiring inside manifold blocks provides flexibility when adding stations or changing manifold configuration.
- All kits use multi-pin connectors, so switching from the F kit (D-sub connector) to the S kit (serial transmission) can be done simply by changing the kit section.



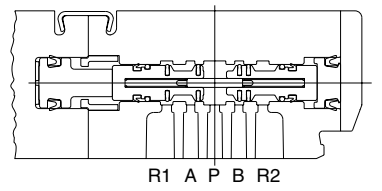
(Refer to the connector wiring diagram.)
Printed circuit board patterns between connectors are shifted at every station. This allows for viable connections to take place without necessarily specifying whether the manifold station is double, single, or mixed wiring.

Dual 3 port valves, 4 positions

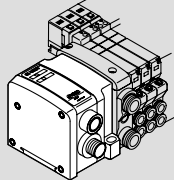
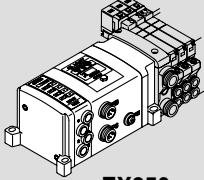
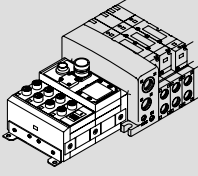
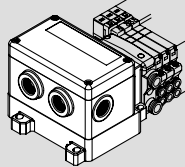
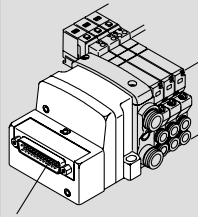
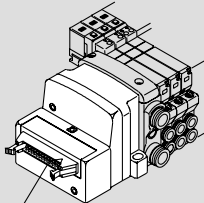
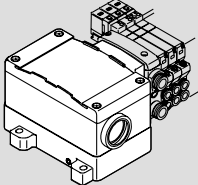
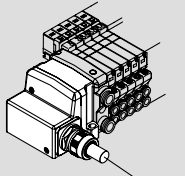
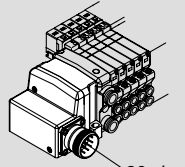
VQC1000/2000 (Rubber seal type only)

- Two 3 port valves built into one body.
- The 3 port valves on the A and B sides can operate independently.
- When used as 3 port valves, only half the number of stations is required.
- Can also be used as a 4 position, 5 port type valve.

Exhaust center : **VQC1A01**
VQC2A01
Pressure center: **VQC1B01**
VQC2B01



Model	A side	B side	JIS Symbol
VQC1A01 VQC2A01	N.C. valve	N.C. valve	
VQC1B01 VQC2B01	N.O. valve	N.O. valve	
VQC1C01 VQC2C01	N.C. valve	N.O. valve	

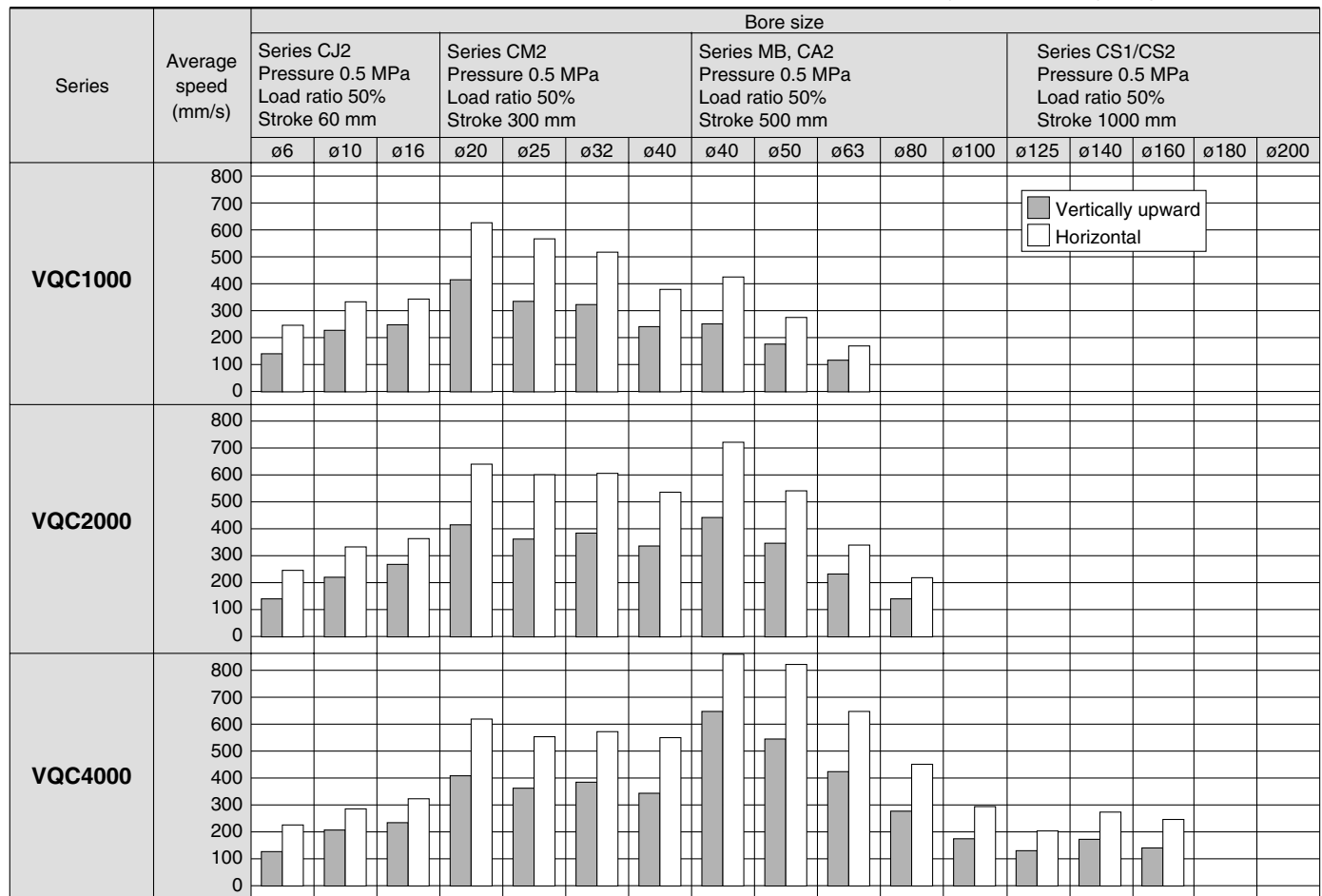
			Sonic Conductance C[dm³/(s·bar)] Values: CYL → EXH 4/2 → 5/3		Applicable bore size	S Kit				F Kit	P Kit	T Kit	L Kit	M Kit	Port size	
						Serial transmission				D-sub connector	Flat ribbon cable	Terminal block box	Electrical entry	Circular connector	SUP EXH port 1, 3 (P, R)	Cylinder port 2, 4 (A, B)
						Gateway application Compatible network • DeviceNet • PROFIBUS DP • CC-Link • EtherNet/IP Decentralized Serial Wiring Gateway application requires a gateway unit and communication cable separately. Please contact SMC for more details.  Serial unit: EX500 IP67 compliant	Compatible network • DeviceNet • PROFIBUS DP • CC-Link • AS-Interface • CANopen • ControlNet • EtherNet/IP  Serial unit: EX250 IP67 compliant	Compatible network • DeviceNet • PROFIBUS DP  Serial unit: EX240 IP65 compliant	Compatible network • CC-Link  Serial unit: EX126 IP67 compliant	D-sub connector (Compatible with D-sub connector that complies with MIL standard.)  25 pins	Flat ribbon cable (Compatible with flat ribbon cable connector that complies with MIL standard.)  26 pins 20 pins	Terminal block box (Terminal blocks) Terminals are concentrated in compact clusters within the terminal block box.  IP67 compliant	Electrical entry Lead wire (IP67 enclosure with use of multiple wire cable with sheath and waterproof connector)  25 core cable IP67 compliant	Circular connector (IP67 enclosure with use of waterproof multiple connector)  26 pins IP67 compliant		
Series VQC1000 P. 858	Metal seal	VQC1□00	0.72	0.72	to ø50			—							C8 (for ø8) N9 (ø5/16")	C3 (For ø3.2) C4 (For ø4) C6 (For ø6) M5 (M5 thread) N1 (ø1/8") N3 (ø5/32") N7 (ø1/4")
	Rubber seal	VQC1□01	1.0	0.65												
Series VQC2000 P. 862	Metal seal	VQC2□00	2.6	2.0	to ø80			—							C10 (for ø10) N11 (ø3/8") In case of branch type C12 (for ø12) N13 (ø1/2")	C4 (For ø4) C6 (For ø6) C8 (For ø8) N3 (ø5/32") N7 (ø1/4") N9 (ø5/16")
	Rubber seal	VQC2□01	3.2	2.2												
Series VQC4000 P. 866	Metal seal	VQC4□00	6.9	6.3	to ø140										<SUP port> Rc 1/2 (NPT, NPTF, G) <EXH port> Rc 1/4 Rc 3/8 Rc 1/4 (Bottom ported) (NPT, NPTF, G)	C8 (For ø8) C10 (For ø10) C12 (For ø12) N7 (ø1/4") N9 (ø5/16") N11 (ø3/8") Rc 1/4 Rc 3/8 Rc 1/4 (Bottom ported) (NPT, NPTF, G)
	Rubber seal	VQC4□01	7.3	6.4												

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

Series VQC

Cylinder Average Speed

This chart is provided as guidelines only.
For performance under various conditions, use SMC's Model Selection Program before making a judgment.



- * Values at extension of a directly coupled cylinder when meter-out speed controllers are used with the needle full open.
- * The average speed of the cylinder is obtained by dividing the stroke by the total stroke time.
- * The load ratio is obtained by the following formula: $((\text{Load weight} \times 9.8) / \text{Theoretical output}) \times 100\%$

Conditions

Base piping		Series CJ2	Series CM2	Series MB, CA2	Series CS1/CS2
VQC1000	Tube x Length	T0604 x 1m			—
	Speed controller	AS3001F-06			—
	Silencer	AN200-KM8			—
VQC2000	Tube x Length	T0604 x 1m	T0806 x 1m		—
	Speed controller	AS3001F-06	AS3001F-08		—
	Silencer	AN200-KM10			—
VQC4000	Tube x Length	T0604 x 1m	T1075 x 1m	T1209 x 1m	
	Speed controller	AS3001F-06	AS4001F-10	AS4001F-12	
	Silencer	AN400-04			AN400-04

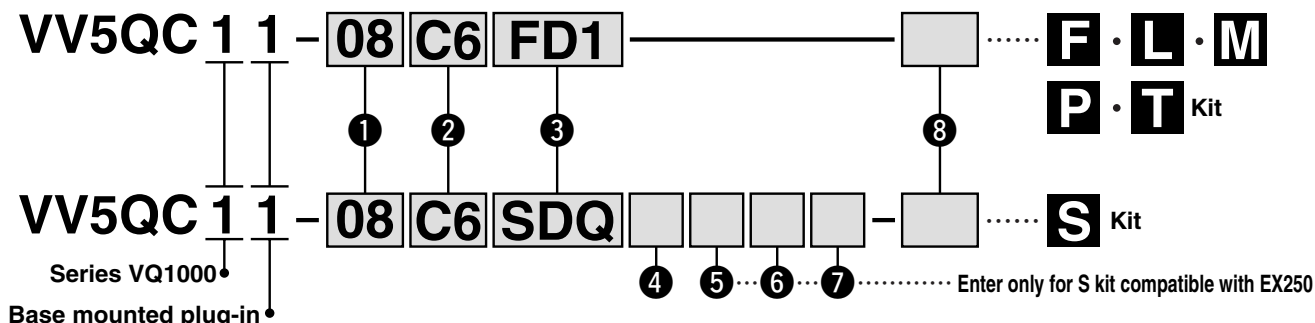
Conditions (With SGP (Stainless steel gas piping))

Direct piping		Series MB, CA2	Series CS1/CS2
VQC4000	Tube x Length	SGP10A x 1m	
	Speed controller	AS420-03	
	Silencer	AN400-04	

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

Base Mounted Plug-in Unit Series VQC1000

How to Order Manifold



1 Stations

01	1 station
⋮	⋮

The minimum or maximum number of stations differs depending on the electrical entry. (Refer to ③)
 Note) In the case of compatibility with the S kit/AS-Interface, the maximum number of solenoids is as shown below, so please be careful of the number of stations.
 8 in/8 out: Maximum 8 solenoids
 4 in/4 out: Maximum 4 solenoids

2 Cylinder port size

C3	With ø3.2 One-touch fitting
C4	With ø4 One-touch fitting
C6	With ø6 One-touch fitting
M5	M5 thread
CM	Mixed sizes and with port plug
L3	Top ported elbow With ø3.2 One-touch fitting
L4	Top ported elbow With ø4 One-touch fitting
L6	Top ported elbow With ø6 One-touch fitting
L5	M5 thread
B3	Bottom ported elbow With ø3.2 One-touch fitting
B4	Bottom ported elbow With ø4 One-touch fitting
B6	Bottom ported elbow With ø6 One-touch fitting
B5	M5 thread
LM	Elbow port, mixed sizes

Note 1) Indicate the size in the specification sheet in the case of "CM" and "LM".

Note 2) Symbols for inch sizes areas follows:

<For One-touch fittings>

N1: ø1/8"
 N3: ø5/32"
 N7: ø1/4"
 NM: Mixed

The top ported elbow is LN□ and the bottom ported elbow is BN□.

4 SI unit COM

SI unit COM		EX250 integrated type (for I/O) serial transmission system						
		DeviceNet	PROFIBUS DP	CC-Link	AS-Interface	CANopen	ControlNet	EtherNet/IP
Nil	+ COM	—	—	○	—	—	—	—
N	- COM	○	○	—	○	○	○	○

SI unit COM		EX500 gateway type serial transmission system				EX126
		DeviceNet	PROFIBUS DP	CC-Link	EtherNet/IP	CC-Link
Nil	+ COM	○	○	○	○	○
N	- COM	○	○	○	○	—

Note) Leave the box blank for the SI unit COM without SI unit (SD0□).

5 Number of input blocks (Enter only for S kit compatible with EX250)

Nil	Without SI unit/input block (SD0)
0	Without input block
1	With 1 input block
⋮	⋮
8	With 8 input blocks

Note) For the S kit compatible with AS-Interface, the maximum number of stations is limited. Refer to page 859 for details.

6 Input block type (Enter only for S kit compatible with EX250)

Nil	Without input block
1	M12, 2 inputs
2	M12, 4 inputs
3	M8, 4 inputs (3 pins)

7 Input block COM (Enter only for S kit compatible with EX250)

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

8 Option

Nil	None
B	All stations with back pressure check valve Note 2)
D	With DIN rail (Rail length: Standard)
D□	With DIN rail (Rail length: Special) Note 3)
K	Special wiring specifications Note 4) (Except double wiring)
N	With name plate
R	External pilot Note 5)
S	Direct exhaust with built-in silencer Note 6)

Note 1) When specifying more than one option, enter symbols in alphabetical order.
 Example: -BRS

Note 2) When using the back pressure check valve for the necessary stations only, enter the back pressure check valve part no. and indicate the number of manifold stations on the specification sheet.

Note 3) For special DIN rail length, indicate "D□". (Enter the number of stations inside □.)
 Example: -D08

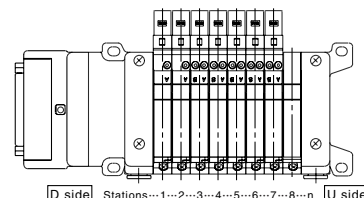
In this case, stations will be mounted on a DIN rail for 8 stations regardless of the actual number of manifold stations.

The specified number of stations must be larger than the number of stations on the manifold. The number of stations that may be displayed is longer than the manifold number of stations. Indicate "D0" for the option without DIN rail.

Note 4) Be sure to indicate the wiring specifications on the specification sheet.

Note 5) For external pilot option, "-R", indicate the external pilot specification "R" for the applicable valves as well.

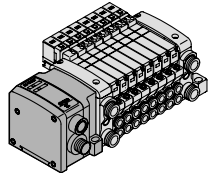
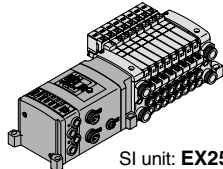
Note 6) The built-in silencer type does not satisfy the IP67 standard.

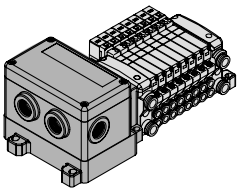
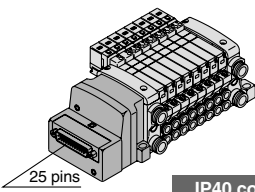


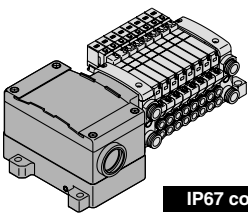
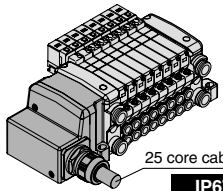
* Stations are counted from station 1 on the D side.

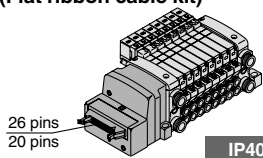
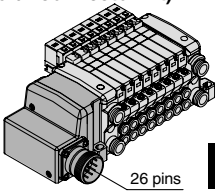
3 Kit Designation/Electrical Entry/Cable Length

* Numbers in parentheses represent the maximum number of solenoids in the case of mixed single and double wiring. The total number of solenoids determines the maximum number of stations. When ordering mixed wiring, please add the option symbol "K".

S Kit (Serial transmission kit: EX500 gateway type)		S Kit (Serial transmission kit: EX250 integrated type (for I/O))			
					
SI unit: EX500 IP67 compliant		SI unit: EX250 IP40 compliant IP67 compliant			
Note) A separate gateway unit and communication cable are required.					
SD0	Serial kit without SI unit	1 to 8 stations	SDTC (Note 1)	AS-i, 8 in/out, 31 slave modes, 1 power supply systems	1 to 4 stations (8 stations)
SDA2	DeviceNet, PROFIBUS DP, CC-Link, EtherNet/IP	(16 stations)	SDTD (Note 1)	AS-i, 4 in/out, 31 slave modes, 1 power supply systems	1 to 2 stations (4 stations)
SDV	Serial kit for CC-LINK		SDY	For CANopen	1 to 12 stations
SDTA	AS-i, 8 in/out, 31 slave modes, 2 power supply systems	1 to 4 stations (8 stations)	SDZCN	For ControlNet (IP40 complaint) (Note 2)	(24 stations)
SDTB	AS-i, 4 in/out, 31 slave modes, 2 power supply systems	1 to 2 stations (4 stations)	SDZEN	For EtherNet/IP	

S Kit (Serial transmission kit: EX126 integrated type (for output))		F Kit (D-sub connector kit)			
					
SI unit: EX126 IP67 compliant		25 pins IP40 compliant			
SDVB	Serial kit for CC-LINK	1 to 8 stations (16 stations)	FD0	D-sub connector kit (25P) without cable	
			FD1	D-sub connector kit (25P) with 1.5 m cable	1 to 12 stations
			FD2	D-sub connector kit (25P) with 3.0 m cable	(24 stations)
			FD3	D-sub connector kit (25P) with 5.0 m cable	

T Kit (Terminal block box kit)		L Kit (Lead wire kit)			
					
IP67 compliant		25 core cable IP67 compliant			
TD0	Terminal block box kit	1 to 10 stations (20 stations)	LD0	Lead wire kit (25 core) 0.6 m lead wire	1 to 12 stations
			LD1	Lead wire kit (25 core) 1.5 m lead wire	(24 stations)
			LD2	Lead wire kit (25 core) 3.0 m lead wire	

P Kit (Flat ribbon cable kit)		M Kit (Circular connector kit)			
					
26 pins 20 pins IP40 compliant		26 pins IP67 compliant			
Note) For a 20P flat ribbon cable, the cable assembly must be ordered separately.					
PD0	Flat ribbon cable kit (26P) without cable		MD0	Circular connector kit (26P) without cable	
PD1	Flat ribbon cable kit (26P) with 1.5 m cable	1 to 12 stations	MD1	Circular connector kit (26P) with 1.5 m cable	1 to 12 stations
PD2	Flat ribbon cable kit (26P) with 3.0 m cable	(24 stations)	MD2	Circular connector kit (26P) with 3.0 m cable	(24 stations)
PD3	Flat ribbon cable kit (26P) with 5.0 m cable		MD3	Circular connector kit (26P) with 5.0 m cable	
PDC	Flat ribbon cable kit (20P) without cable	1 to 9 stations (18 stations)			

* The maximum number of stations displayed in parentheses is applied to the special wiring specification (Option "K").

Note 1) When selecting SI units with SDTC or SDTD specifications, there are limits to the supply current from the SI unit to the input block or valve. Refer to page 1667 for details.

Note 2) When selecting SI units with SDZCN specifications only, IP40 is compatible. (All other SI units are IP67 compliant.)

EX500 SI Unit Part No. Table

Symbol	Protocol type	Serial unit No.		Page
		NPN output (+ COM.)	PNP output (- COM.)	
SDA2	Serial kit for DeviceNet	EX500-Q001	EX500-Q101	P. 1688
	Serial kit for PROFIBUS-DP			
	Serial kit for CC-LINK			
	EtherNet/IP			

Refer to pages 1680 to 1694 for the details of EX500 gateway type serial transmission systems, pages 1664 to 1679 for the details of EX250 integrated-type (for I/O) serial transmission systems and pages 1653 to 1655 for the details of EX126 integrated-type (for output) serial transmission systems.

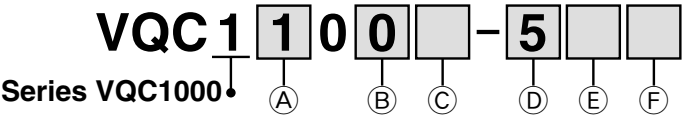
EX250 SI Unit Part No.

Symbol	Protocol type	Serial unit no.	Page
SDQ	Serial kit for DeviceNet	EX250-SDN1	P. 1664
SDN	Serial kit for PROFIBUS-DP	EX250-SPR1	
SDV	Serial kit for CC-LINK	EX250-SMJ2	
SDTA	AS-i, 8 in/out, 31 slave modes, 2 power supply systems	EX250-SAS3	
SDTB	AS-i, 4 in/out, 31 slave modes, 2 power supply systems	EX250-SAS5	
SDTC	AS-i, 8 in/out, 31 slave modes, 1 power supply systems	EX250-SAS7	
SDTD	AS-i, 4 in/out, 31 slave modes, 1 power supply systems	EX250-SAS9	
SDY	CANopen	EX250-SCA1A	
SDZCN	ControlNet	EX250-SCN1	
SDZEN	EtherNet/IP	EX250-SEN1	

EX126 SI Unit Part No.

Symbol	Protocol type	Serial unit no.	Page
SDVB	CC-Link	EX126D-SMJ1	P. 1653

How to Order Valves



A Type of actuation

1	2 position single (A) (B) 4 2 5 1 3 (R1) (P) (R2)	A Note)	4 position dual 3 port valve (A) (B) 4 2 5 1 3 (R1) (P) (R2) N.C (P) N.C
2	2 position double (metal) (A) (B) 4 2 5 1 3 (R1) (P) (R2)	B Note)	4 position dual 3 port valve (A) (B) 4 2 5 1 3 (R1) (P) (R2) N.O (P) N.O
	2 position double (rubber) (A) (B) 4 2 5 1 3 (R1) (P) (R2)	C Note)	4 position dual 3 port valve (A) (B) 4 2 5 1 3 (R1) (P) (R2) N.C (P) N.O
3	3 position closed center (A) (B) 4 2 5 1 3 (R1) (P) (R2)	Note) For rubber seal type only.	
4	3 position exhaust center (A) (B) 4 2 5 1 3 (R1) (P) (R2)		
5	3 position pressure center (A) (B) 4 2 5 1 3 (R1) (P) (R2)		

B Seal type

0	Metal seal
1	Rubber seal

C Function

Nil	Standard type (1 W)
K ⁽²⁾	High pressure type (1.0 MPa)
N ⁽³⁾	Negative COM
R ⁽⁴⁾	External pilot
Y	Low wattage type (0.5 W)

Note 1) When specifying more than one option, enter symbols in alphabetical order.
Note 2) For metal seal type only.
Note 3) Not applicable for 12 VDC, 1 W.
Note 4) Not applicable for dual 3 port valve.
Note 5) Please select when you expect to energize the unit for extended periods of time. Refer to page 3 for details.

D Coil voltage

5	24 VDC Note)
6	12 VDC

Note) S kit is only available for 24 VDC.

E Light/Surge voltage suppressor

Nil	With
E	Without Note)

Note) Not applicable to S kit.

F Manual override

Nil: Non-locking push type
(Tool required)



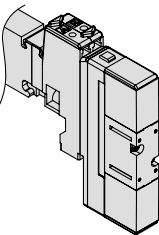
B: Locking type
(Tool required)

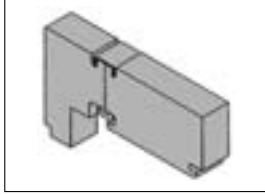
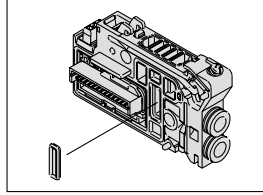
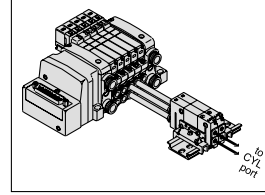
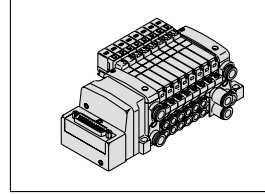
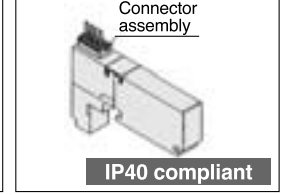


C: Locking type
(Manual)

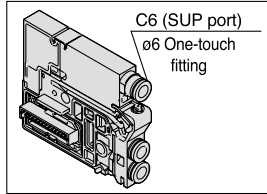
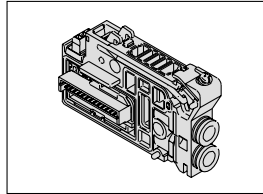
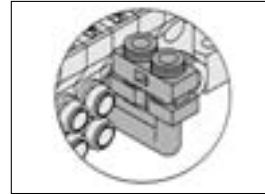
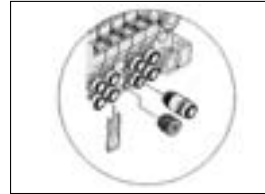


D: Slide locking type
(Manual)

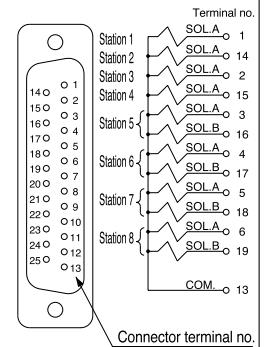


Manifold Option Refer to pages 736 to 741 for option details.**Blanking plate assembly**
VVQ1000-10A-1**SUP block plate**
VVQ1000-16A**Perfect block**
VVQ1000-FPG-□□**Dual flow fitting assembly**
VVQ1000-52A-C8**Blanking plate with connector**
VVQ1000-1C□-□

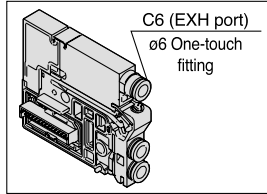
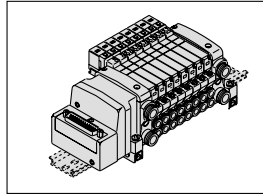
IP40 compliant

Individual SUP spacer
VVQ1000-P-1-C6C6 (SUP port)
ø6 One-touch
fitting**EXH block plate assembly**
VVQC1000-19A-D-^{C3}<sub>S-^{C4}
MS</sub>**Elbow fitting assembly**
VVQ1000-F-L□**Port plug**
VVQ0000-58A**Electrical wiring specifications [-K]**

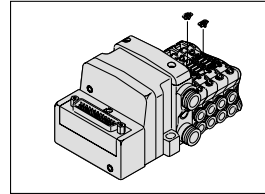
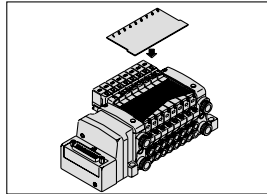
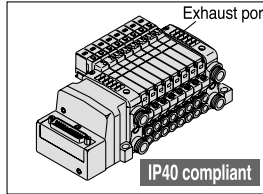
D-sub connector



Standard manifolds are for double wiring, but mixed wiring (single and double wiring) can be specified as options.

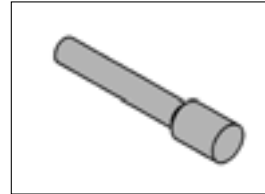
Individual EXH spacer
VVQ1000-R-1-C6C6 (EXH port)
ø6 One-touch
fitting**DIN rail mounting bracket [-D]**
VVQ1000-57A
for {F, L, M, P, S (EX500) kit}
VVQC1000-57A-S
for {S (EX250) kit}
VVQC1000-57A-T
for {T kit}**Silencer (For EXH port)**
AN200-KM8
AN203-KM8

IP40 compliant

Back pressure check valve assembly [-B]
VVQ1000-18A**Name plate [-N]**
VVQ1000-N-Stations (1 to max. no. of stations)**Direct EXH outlet with built-in silencer [-S]**

Exhaust port

IP40 compliant

Blanking plug
KQ2P-□

SJ

SY

SV

SYJ

SZ

VP4

S0700

VQ

VQ4

VQ5

VQC

VQZ

SQ

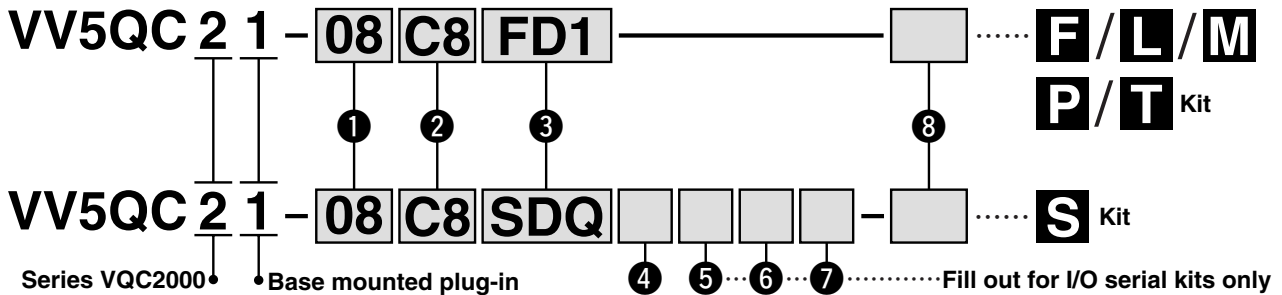
VFS

VFR

VQ7

Base Mounted Plug-in Unit Series VQC2000

How to Order Manifold



1 Stations

01	1 station
⋮	⋮

The minimum or maximum number of stations differs depending on the electrical entry. (Refer to ③)
 Note) In the case of compatibility with the S kit/AS-Interface, the maximum number of solenoids is as shown below, so please be careful of the number of stations.
 8 in/8 out: Maximum 8 solenoids
 4 in/4 out: Maximum 4 solenoids

2 Cylinder port size

C4	With ø4 One-touch fitting
C6	With ø6 One-touch fitting
C8	With ø8 One-touch fitting
CM	Mixed sizes and with port plug
L4	Top ported elbow With ø4 One-touch fitting
L6	Top ported elbow With ø6 One-touch fitting
L8	Top ported elbow With ø8 One-touch fitting
B4	Bottom ported elbow With ø4 One-touch fitting
B6	Bottom ported elbow With ø6 One-touch fitting
B8	Bottom ported elbow With ø8 One-touch fitting
LM	Elbow port, mixed sizes

Note 1) Indicate the size in the specification sheet in the case of "CM" and "LM".

Note 2) Symbols for inch sizes are as follows:

<For One-touch fittings>

N3: ø5/32"

N7: ø1/4"

N9: ø5/16"

NM: Mixed

The top ported elbow is LN□ and the bottom ported elbow is BN□.

4 SI unit COM

SI unit COM		EX250 integrated type (for I/O) serial transmission system						
		DeviceNet	PROFIBUS DP	CC-Link	AS-Interface	CANopen	ControlNet	EtherNet/IP
Nil	+ COM	—	—	○	—	—	—	—
N	- COM	○	○	—	○	○	○	○

SI unit COM		EX500 gateway type serial transmission system				EX126
		DeviceNet	PROFIBUS DP	CC-Link	EtherNet/IP	CC-Link
Nil	+ COM	○	○	○	○	○
N	- COM	○	○	○	○	—

Note) Leave the box blank for the SI unit COM without SI unit (SDO□).

5 Number of input blocks (Enter only for S kit compatible with EX250)

Nil	Without SI unit/input block (SDO)
0	Without input block
1	With 1 input block
⋮	⋮
8	With 8 input blocks

Note) For the S kit compatible with AS-Interface, the maximum number of stations is limited. Refer to page 863 for details.

6 Input block type (Enter only for S kit compatible with EX250)

Nil	Without input block
1	M12, 2 inputs
2	M12, 4 inputs
3	M8, 4 inputs (3 pins)

7 Input block COM. (Enter only for S kit compatible with EX250)

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

8 Option

Nil	None
B	All stations with back pressure check valve Note 2)
D	With DIN rail (Rail length: Standard)
D□	With DIN rail (Rail length: Special) Note 3)
K	Special wiring specifications Note 4) (Except double wiring)
N	With name plate
R	External pilot Note 5)
S	Direct exhaust with built-in silencer Note 6)
T	Branched P and R ports on U side Note 7)

Note 1) When specifying more than one option, enter symbols in alphabetical order.
 Example: BRS

Note 2) When using the back pressure check valve for the necessary stations only, enter the back pressure check valve part no. and indicate the number of manifold stations on the specification sheet.

Note 3) For special DIN rail length, indicate "D□". (Enter the number of stations inside □.)
 Example: -D08

In this case, stations will be mounted on a DIN rail for 8 stations regardless of the actual number of manifold stations.

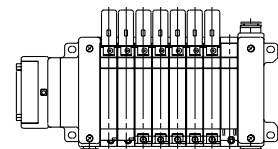
The specified number of stations must be larger than the number of stations on the manifold. Indicate "-D0" for the option without DIN rail.

Note 4) Be sure to indicate the wiring specifications on the specification sheet.

Note 5) For external pilot option, "-R", indicate the external pilot specification "R" for the applicable valves as well.

Note 6) The built-in silencer type does not satisfy the IP67 standard.

Note 7) The SUP and EXH ports on U side are branched (toward the cylinder port and coil) with ø12 one-touch fittings for connection.

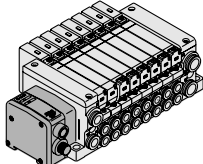
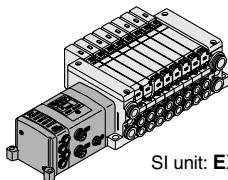


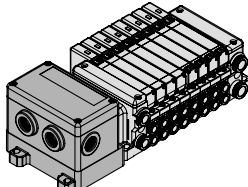
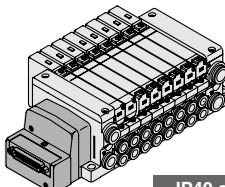
D side Stations...1...2...3...4...5...6...7...8...n U side

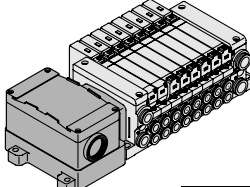
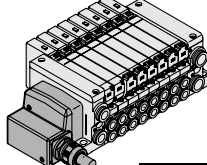
* Stations are counted from station 1 on the D side.

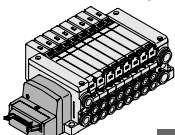
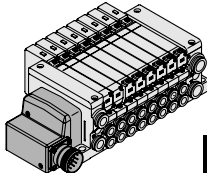
3 Kit Designation/Electrical Entry/Cable Length

* Numbers in parentheses represent the maximum number of solenoids in the case of mixed single and double wiring. The total number of solenoids determines the maximum number of stations. When ordering mixed wiring, please add the option symbol "K".

S Kit (Serial transmission kit: EX500 gateway type)		S Kit (Serial transmission kit: EX250 integrated type (for I/O))		
				
SI unit: EX500 IP67 compliant		SI unit: EX250 IP40 compliant IP67 compliant		
Note) A separate gateway unit and communication cable are required.				
SD0	Serial kit without SI unit	1 to 8 stations	SDTC Note 1) AS-i, 8 in/out, 31 slave modes, 1 power supply systems	1 to 4 stations (8 stations)
SDA2	DeviceNet, PROFIBUS DP, CC-Link, EtherNet/IP	(16 stations)	SDTD Note 1) AS-i, 4 in/out, 31 slave modes, 1 power supply systems	1 to 2 stations (4 stations)
SDV	Serial kit for CC-LINK		SDY For CANopen	
SDTA	AS-i, 8 in/out, 31 slave modes, 2 power supply systems	1 to 4 stations (8 stations)	SDZCN For ControlNet (IP40 compliant) Note 2)	1 to 12 stations
SDTB	AS-i, 4 in/out, 31 slave modes, 2 power supply systems	1 to 2 stations (4 stations)	SDZEN For EtherNet/IP	(24 stations)

S Kit (Serial transmission kit: EX126 integrated type (for output))		F Kit (D-sub connector kit)		
				
SI unit: EX126 IP67 compliant		IP40 compliant		
SDVB	Serial kit for CC-LINK	1 to 8 stations (16 stations)	FD0 D-sub connector kit (25P) without cable	
			FD1 D-sub connector kit (25P) with 1.5 m cable	1 to 12 stations
			FD2 D-sub connector kit (25P) with 3.0 m cable	(24 stations)
			FD3 D-sub connector kit (25P) with 5.0 m cable	

T Kit (Terminal block box kit)		L Kit (Lead wire kit)		
				
IP67 compliant		IP67 compliant		
TD0	Terminal block box kit	1 to 10 stations (20 stations)	LD0 Lead wire kit (25 core) 0.6 m lead wire	1 to 12 stations
			LD1 Lead wire kit (25 core) 1.5 m lead wire	(24 stations)
			LD2 Lead wire kit (25 core) 3.0 m lead wire	

P Kit (Flat ribbon cable kit)		M Kit (Circular connector kit)		
				
IP40 compliant		IP67 compliant		
Note) For a 20P flat ribbon cable, the cable assembly must be ordered separately.				
PD0	Flat ribbon cable kit (26P) without cable		MD0 Circular connector kit (26P) without cable	
PD1	Flat ribbon cable kit (26P) with 1.5 m cable	1 to 12 stations	MD1 Circular connector kit (26P) with 1.5 m cable	1 to 12 stations
PD2	Flat ribbon cable kit (26P) with 3.0 m cable	(24 stations)	MD2 Circular connector kit (26P) with 3.0 m cable	(24 stations)
PD3	Flat ribbon cable kit (26P) with 5.0 m cable		MD3 Circular connector kit (26P) with 5.0 m cable	
PDC	Flat ribbon cable kit (20P) without cable	1 to 9 stations (18 stations)		

* The maximum number of stations displayed in parentheses is applied to the special wiring specification (Option "K").

Note 1) When selecting SI units with SDTC or SDTD specifications, there are limits to the supply current from the SI unit to the input block or valve. Refer to page 1667 for details.

Note 2) When selecting SI units with SDZCN specifications only, IP40 is compatible. (All other SI units are IP67 compliant.)

EX500 SI Unit Part No. Table

Symbol	Protocol type	Serial unit No.		Page
		NPN output (+ COM.)	PNP output (- COM.)	
SDA2	Serial kit for DeviceNet	EX500-Q001	EX500-Q101	P. 1688
	Serial kit for PROFIBUS-DP			
	Serial kit for CC-LINK			
	EtherNet/IP			

Refer to pages 1680 to 1694 for the details of EX500 gateway type serial transmission systems, pages 1664 to 1679 for the details of EX250 integrated-type (for I/O) serial transmission systems and pages 1653 to 1655 for the details of EX126 integrated-type (for output) serial transmission systems.

EX250 SI Unit Part No.

Symbol	Protocol type	Serial unit no.	Page
SDQ	Serial kit for DeviceNet	EX250-SDN1	P. 1664
SDN	Serial kit for PROFIBUS-DP	EX250-SPR1	
SDV	Serial kit for CC-LINK	EX250-SMJ2	
SDTA	AS-i, 8 in/out, 31 slave modes, 2 power supply systems	EX250-SAS3	
SDTB	AS-i, 4 in/out, 31 slave modes, 2 power supply systems	EX250-SAS5	
SDTC	AS-i, 8 in/out, 31 slave modes, 1 power supply systems	EX250-SAS7	
SDTD	AS-i, 4 in/out, 31 slave modes, 1 power supply systems	EX250-SAS9	
SDY	CANopen	EX250-SCA1A	
SDZCN	ControlNet	EX250-SCN1	
SDZEN	EtherNet/IP	EX250-SEN1	

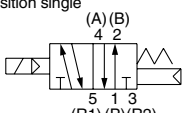
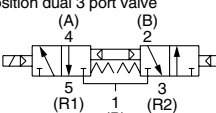
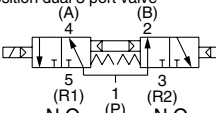
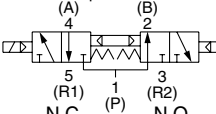
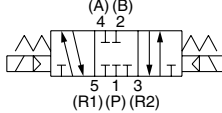
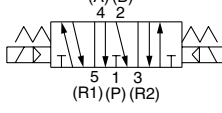
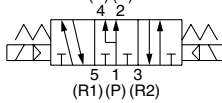
EX126 SI Unit Part No.

Symbol	Protocol type	Serial unit no.	Page
SDVB	CC-Link	EX126D-SMJ1	P. 1653

How to Order Valves

VQC2 1 0 0 - 5
 Series VQC2000 • (A) (B) (C) (D) (E) (F)

A Type of actuation

1 2 position single  (A) (B) 4 2 5 1 3 (R1) (P) (R2)	A Note) 4 position dual 3 port valve (A) (B)  5 1 3 (R1) (P) (R2) N.C N.C
2 2 position double (metal) (A) (B) 4 2 5 1 3 (R1) (P) (R2)	B Note) 4 position dual 3 port valve (A) (B)  5 1 3 (R1) (P) (R2) N.O N.O
2 position double (rubber) (A) (B) 4 2 5 1 3 (R1) (P) (R2)	C Note) 4 position dual 3 port valve (A) (B)  5 1 3 (R1) (P) (R2) N.C N.O
3 3 position closed center (A) (B) 4 2  5 1 3 (R1) (P) (R2)	 Note) For rubber seal type only.
4 3 position exhaust center (A) (B) 4 2  5 1 3 (R1) (P) (R2)	
5 3 position pressure center (A) (B) 4 2  5 1 3 (R1) (P) (R2)	

B Seal type

0	Metal seal
1	Rubber seal

C Function

Nil	Standard type (1 W)
K ⁽²⁾	High pressure type (1.0 MPa)
N ⁽³⁾	Negative COM
R ⁽⁴⁾	External pilot
Y	Low wattage type (0.5 W)

 Note 1) When specifying more than one option, enter symbols in alphabetical order.
 Note 2) For metal seal type only.
 Note 3) Not applicable for 12 VDC, 1 W.
 Note 4) Not applicable for dual 3 port valve.
 Note 5) Please select when you expect to energize the unit for extended periods of time. Refer to page 3 for details.

D Coil voltage

5	24 VDC Note)
6	12 VDC

 Note) S kit is only available for 24 VDC.

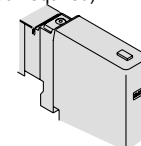
E Light/Surge voltage suppressor

Nil	With
E	Without Note)

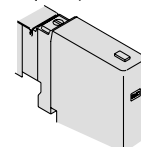
 Note) Not applicable to S kit.

F Manual override

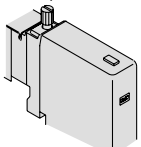
Nil: Non-locking push type (Tool required)



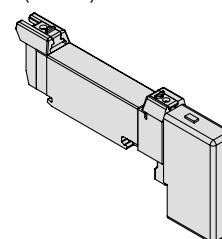
B: Locking type (Tool required)



C: Locking type (Manual)



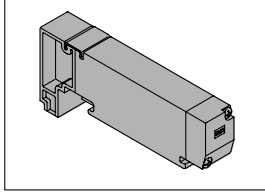
D: Slide locking type (Manual)



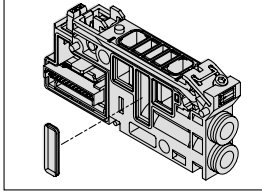
Manifold Option

Refer to pages 742 to 745 for option details.

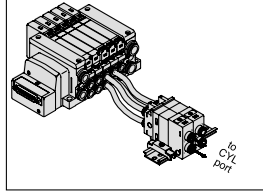
Blanking plate assembly
VVQ2000-10A-1



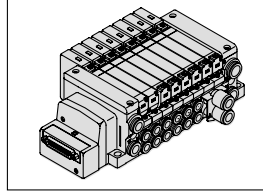
SUP block plate
VVQ2000-16A



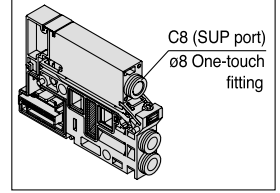
Perfect block
VVQ2000-FPG-□□



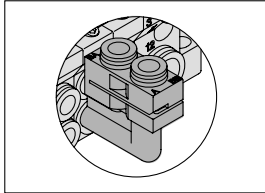
Dual flow fitting assembly
VVQ2000-52A-C10



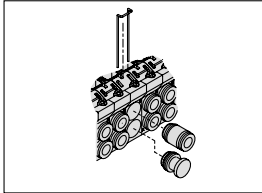
Individual SUP spacer
VVQ2000-P-1-C8



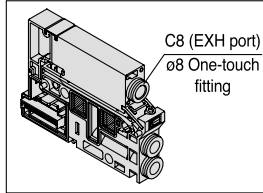
Elbow fitting assembly
VVQ2000-F-L□



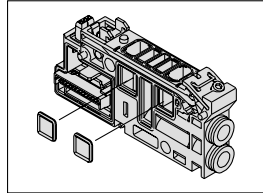
Port plug
VVQ1000-58A



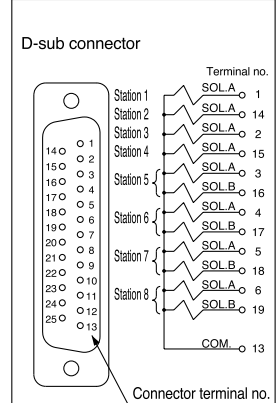
Individual EXH spacer
VVQ2000-R-1-C8



EXH block plate
VVQ2000-19A



Electrical wiring specifications [-K]

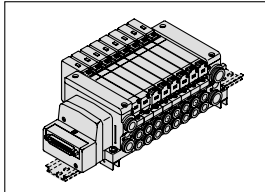


DIN rail mounting bracket [-D]

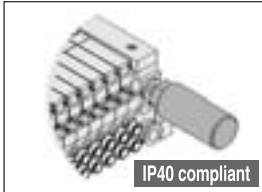
for {F, L, M, P, S (EX500) kit}

for {S (EX250) kit}

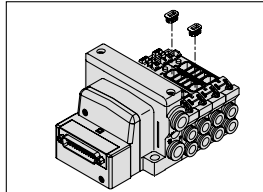
for {T kit}



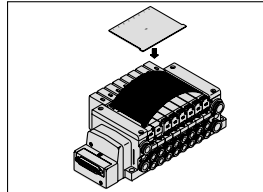
Silencer (for EXH port)
AN200-KM10



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

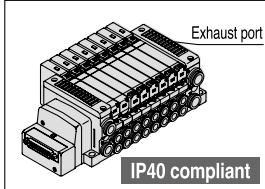


Name plate [-N]
VVQ2000-N-Stations
(1 to max. no. of stations)

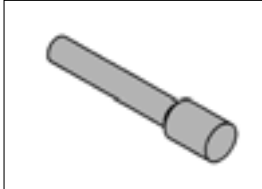


Standard manifolds are for double wiring, but mixed wiring (single and double wiring) can be specified as options.

Direct EXH outlet with built-in silencer [-S]



Blanking plug
KQ2P-□



SJ

SY

SV

SYJ

SZ

VP4

S0700

VQ

VQ4

VQ5

VQC

VQZ

SQ

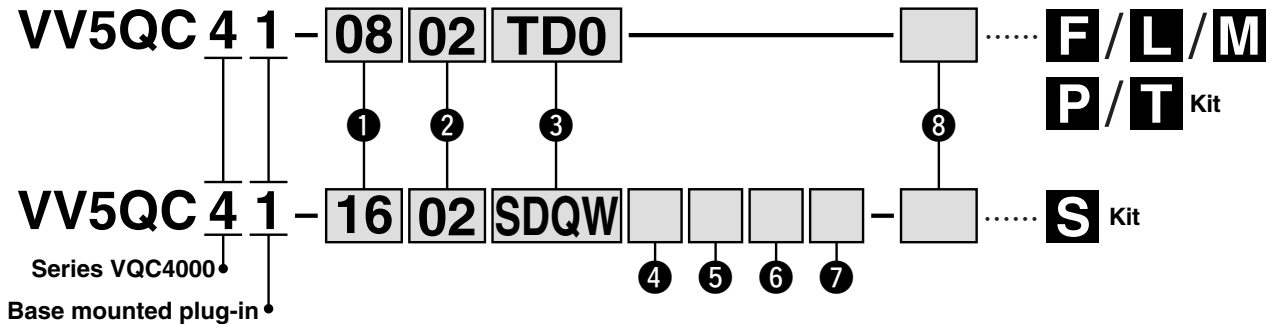
VFS

VFR

VQ7

Base Mounted Plug-in Unit Series VQC4000

How to Order Manifold



1 Stations

01	1 station
⋮	⋮

The minimum or maximum number of stations differs depending on the electrical entry. (Refer to ③)
 Note) In the case of compatibility with the S kit/AS-Interface, the maximum number of solenoids is as shown below, so please be careful of the number of stations.
 8 in/8 out: Maximum 8 solenoids
 4 in/4 out: Maximum 4 solenoids

2 Cylinder port size

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

Note) Besides Rc, also compatible with G, NPT/NPTF.
 Part number displayed is as shown below.

V5QC41-0803 [] TD0

Cylinder port

Thread type

Nil	Rc
F	G
T	NPT/NPTF

4 SI unit COM

SI unit COM	EX240 integrated type (for I/O) serial transmission system	
	DeviceNet	PROFIBUS DP
Nil	+ COM	○
N	- COM	○

SI unit COM	EX250 integrated type (for I/O) serial transmission system						
	DeviceNet	PROFIBUS DP	CC-Link	AS-Interface	CANopen	ControlNet	EtherNet/IP
Nil	+ COM	—	—	○	—	—	—
N	- COM	○	○	—	○	○	p

SI unit COM	EX500 gateway type serial transmission system			
	DeviceNet	PROFIBUS DP	CC-Link	EtherNet/IP
Nil	+ COM	○	○	○
N	- COM	○	○	○

Note) Leave the box blank for the SI unit COM without SI unit (SDO□).

5 Number of input blocks (Enter only for S kit compliant with EX240 and EX250)

Symbol	No. of blocks	EX240	EX250
Nil	Without SI unit	○	○
0	Without input block	○	○
1	With 1 input block	○	○
⋮	⋮	○	○
4	With 4 input blocks	○	○
⋮	⋮	—	○
8	With 8 input blocks	—	○

7 Input block COM (Enter only for S kit compliant with EX240 and EX250)

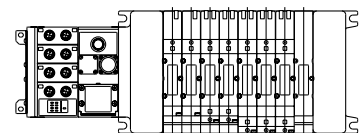
Nil	PNP sensor input (+ COM) or without input block
N	NPN sensor input (- COM)

8 Option

Nil	None
K	Special wiring specifications (except for double wiring)
N	With name plate (available for T kit only)

6 Input block type (Fill out for I/O unit only)

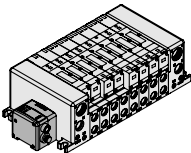
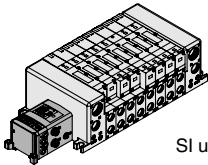
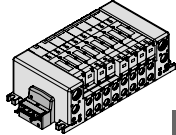
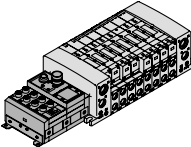
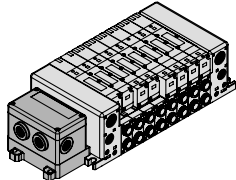
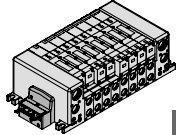
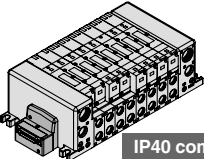
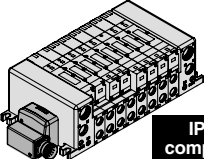
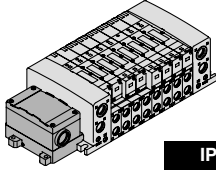
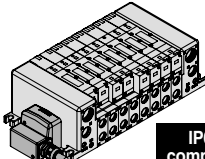
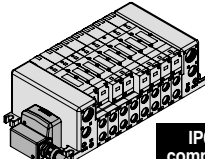
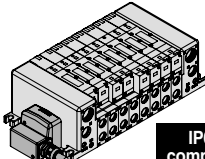
Nil	Without input block
0	M12, 8 inputs (EX240)
1	M12, 2 inputs (EX250)
2	M12, 4 inputs (EX250)
3	M8, 4 inputs (EX250)



D side Stations...1...2...3...4...5...6...7...8...n U side
 * Stations are counted from station 1 on the D side.

3 Kit Designation/Electrical Entry/Cable Length

* Numbers in parentheses represent the maximum number of solenoids in the case of mixed single and double wiring. The total number of solenoids determines the maximum number of stations. When ordering mixed wiring, please add the option symbol "K".

S Kit (Serial transmission kit: EX500 gateway type)		S Kit (Serial transmission kit: EX250 integrated type (for I/O))		P Kit (Flat ribbon cable kit)	
					
SI unit: EX500 IP67 compliant		SI unit: EX250 IP40 compliant IP67 compliant		Note) For a 20P flat ribbon cable, the cable assembly must be ordered separately.	
SD0A	Serial kit without SI unit	1 to 8 stations	SD0	Serial kit without SI unit	1 to 12 stations (16 stations)
SDA2	Device Net, PROFIBUS DP, CC-Link, Ether Net/IP	(16 stations)	SDQ	Serial kit for DeviceNet	
			SDN	Serial kit for PROFIBUS-DP	
			SDV	Serial kit for CC-LINK	
			SDTA	AS-i, 8 in/out, 31 slave modes, 2 power supply systems	1 to 4 stations (8 stations)
			SDTB	AS-i, 4 in/out, 31 slave modes, 2 power supply systems	1 to 2 stations (4 stations)
			SDTC (Note 1)	AS-i, 8 in/out, 31 slave modes, 1 power supply systems	1 to 4 stations (8 stations)
			SDTD (Note 1)	AS-i, 4 in/out, 31 slave modes, 1 power supply systems	1 to 2 stations (4 stations)
			SDY	For CANopen	1 to 12 stations (16 stations)
			SDZCN	For ControlNet (IP40 compliant) (Note 2)	
			SDZEN	For EtherNet/IP	
S Kit (Serial transmission kit: EX240 integrated type (for I/O))		S Kit (Serial transmission kit: EX126 integrated type (for output))		P Kit (Flat ribbon cable kit)	
					
SI unit: EX240 IP65 compliant		SI unit: EX126 IP67 compliant		Note) For a 20P flat ribbon cable, the cable assembly must be ordered separately.	
SD0W	Serial kit without SI unit	1 to 12 stations (16 stations)	SDVB	Serial kit for CC-LINK	1 to 8 stations (16 stations)
SDQW	Serial kit for DeviceNet				
SDNW	Serial kit for PROFIBUS-DP				
F Kit (D-sub connector kit)		M Kit (Circular connector kit)		T Kit (Terminal block box kit)	
					
IP40 compliant		IP67 compliant		IP67 compliant	
FD0	D-sub connector kit (25P) without cable	1 to 12 stations (16 stations)	MD0	Circular connector kit (26P) without cable	1 to 12 stations (16 stations)
FD1	D-sub connector kit (25P) with 1.5 m cable		MD1	Circular connector kit (26P) with 1.5 m cable	
FD2	D-sub connector kit (25P) with 3.0 m cable		MD2	Circular connector kit (26P) with 3.0 m cable	
FD3	D-sub connector kit (25P) with 5.0 m cable		MD3	Circular connector kit (26P) with 5.0 m cable	
			TD0	Terminal block box kit	1 to 10 stations (16 stations)
L Kit (Lead wire kit)		L Kit (Lead wire kit)		L Kit (Lead wire kit)	
					
IP67 compliant		IP67 compliant		IP67 compliant	
LD0	Lead wire kit (25 core) 0.6 m lead wire	1 to 12 stations (16 stations)	LD1	Lead wire kit (25 core) 1.5 m lead wire	
LD2	Lead wire kit (25 core) 3.0 m lead wire		LD2	Lead wire kit (25 core) 3.0 m lead wire	

* The maximum number of stations displayed in parentheses is applied to the special wiring specification (Option "K").

Note 1) When selecting SI units with SDTC or SDTD specifications, there are limits to the supply current from the SI unit to the input block or valve. Refer to page 1667 for details.

Note 2) When selecting SI units with SDZCN specifications only, IP40 is compatible. (All other SI units are IP67 compliant.)

EX500 SI Unit Part No. Table

Symbol	Protocol type	Serial unit No.		Page
		NPN output (+ COM)	PNP output (- COM)	
SDA2	Serial kit for DeviceNet	EX500-Q001	EX500-Q101	P. 1688
	Serial kit for PROFIBUS-DP			
	Serial kit for CC-LINK			
	EtherNet/IP			

EX240 SI Unit Part No. Table

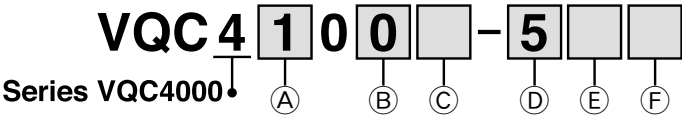
Symbol	Protocol type	Serial unit No.	Page
SDQW	For DeviceNet	EX240-SDN2	P. 1661
SDNW	For PROFIBUS DP	EX240-SPR1	

EX250 SI Unit Part No. Table

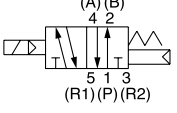
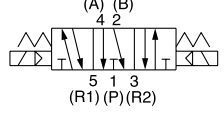
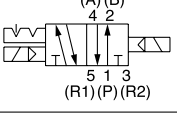
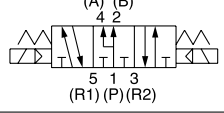
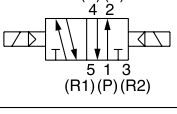
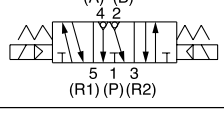
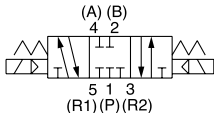
Symbol	Protocol type	Serial unit no.	Page
SDQ	Serial kit for DeviceNet	EX250-SDN1	P. 1664
SDN	Serial kit for PROFIBUS-DP	EX250-SPR1	
SDV	Serial kit for CC-LINK	EX250-SMJ2	
SDTA	AS-i, 8 in/out, 31 slave modes, 2 power supply systems	EX250-SAS3	
SDTB	AS-i, 4 in/out, 31 slave modes, 2 power supply systems	EX250-SAS5	
SDTC	AS-i, 8 in/out, 31 slave modes, 1 power supply systems	EX250-SAS7	
SDTD	AS-i, 4 in/out, 31 slave modes, 1 power supply systems	EX250-SAS9	
SDY	CANopen	EX250-SCA1A	
SDZCN	ControlNet	EX250-SCN1	
SDZEN	EtherNet/IP	EX250-SEN1	

Refer to pages 1680 to 1694 for the details of EX500 gateway type serial transmission systems, pages 1664 to 1679 for the details of EX250 integrated-type (for I/O) serial transmission systems and pages 1661 to 1663 for the details of EX240 integrated-type (for I/O) serial transmission systems.

How to Order Valves



A Type of actuation

1	2 position single  (A) (B) 4 2 (R1) (P) (R2)	4	3 position exhaust center  (A) (B) 4 2 (R1) (P) (R2)
2	2 position double (metal)  (A) (B) 4 2 (R1) (P) (R2)	5	3 position pressure center  (A) (B) 4 2 (R1) (P) (R2)
	2 position double (rubber)  (A) (B) 4 2 (R1) (P) (R2)	6	3 position perfect  (A) (B) 4 2 (R1) (P) (R2)
3	3 position closed center  (A) (B) 4 2 (R1) (P) (R2)		

B Seal type

0	Metal seal
1	Rubber seal

C Function

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



Note 1) When specifying more than one option, enter symbols in alphabetical order.

Note 2) Please select when you expect to energize the unit for extended periods of time. Refer to page 3 for details.

D Coil voltage

5	24 VDC Note)
6	12 VDC



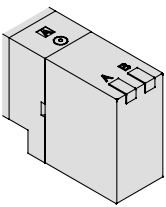
Note) S kit is only available for 24 VDC.

E Light/Surge voltage suppressor

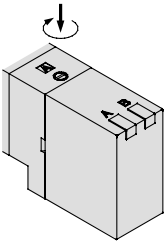
Nil	With
E	Without light, with surge voltage suppressor

F Manual override

Nil: Non-locking push type (Tool required)

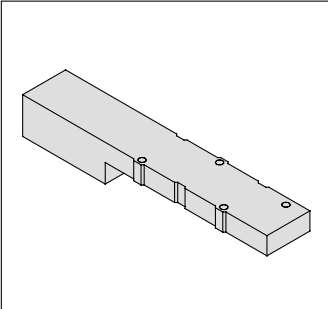


B: Locking type (Tool required)

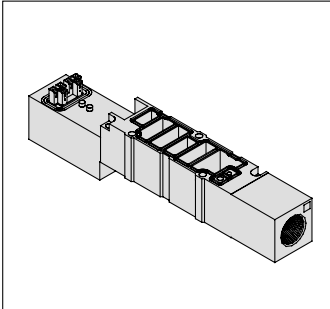


Manifold Option Refer to pages 790 to 791 for option details.

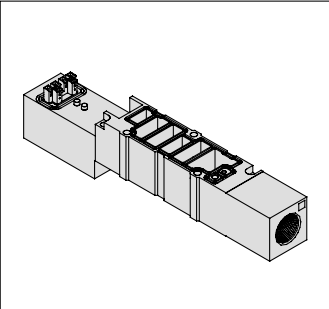
Blanking plate assembly
VVQ4000-10A-1



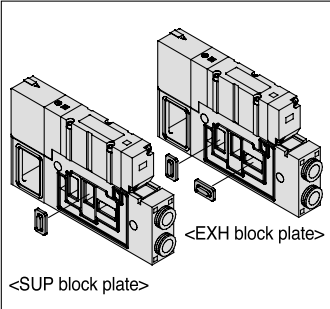
Individual SUP spacer
VVQ4000-P-1-⁰²₀₃



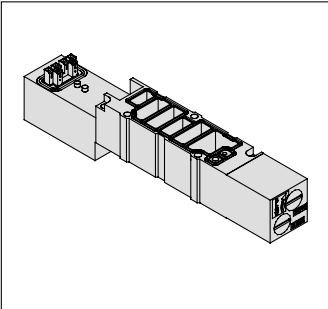
Individual EXH spacer
VVQ4000-R-1-⁰²₀₃



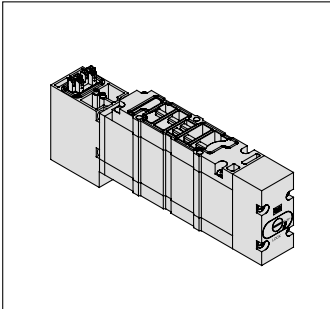
SUP/EXH block plate
VVQ4000-16A



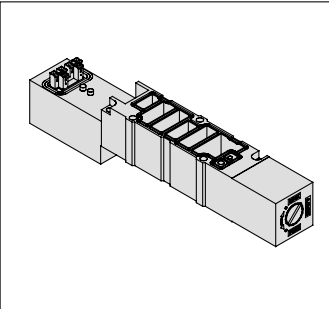
Throttle valve spacer
VVQ4000-20A-1



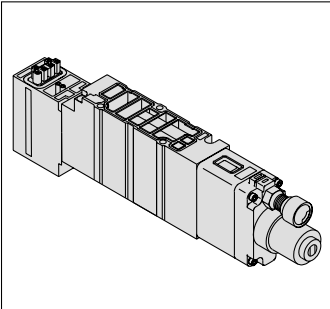
Residual pressure release valve
perfect spacer
VVQ4000-25A-1 Note 1)



SUP stop valve spacer
VVQ4000-37A-1



Interface regulator
ARBQ4000-00-^A_P-1



 Note 1) Perfect spacers with residual pressure release valve cannot be combined with external pilot specifications.

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

Series VQC

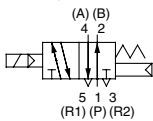
Base Mounted Plug-in Unit

Model

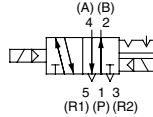


JIS Symbol

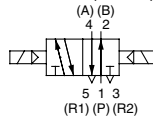
2 position single



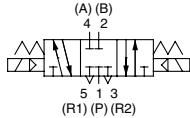
2 position double (metal)



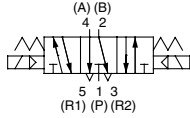
2 position double (rubber)



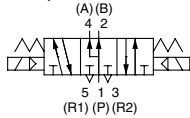
3 position closed center



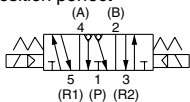
3 position exhaust center



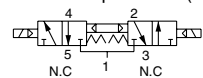
3 position pressure center



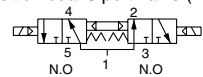
3 position perfect



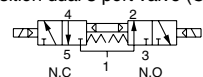
4 position dual 3 port valve (A)



4 position dual 3 port valve (B)



4 position dual 3 port valve (C)



Series	No. of solenoids	Model		Flow characteristics						Note 2) Response time (ms)		Mass (g)	
				1 → 4, 2 (P → A, B)			4, 2 → 5, 3 (A, B → R1, R2)			Standard: 1 W	Low wattage		
				C[dm³/(s·bar)]	b	Cv	C[dm³/(s·bar)]	b	Cv				
VQC1000	2 position	Single	Metal seal	VQC1100	0.70	0.15	0.16	0.72	0.25	0.18	12 or less	15 or less	64
			Rubber seal	VQC1101	0.85	0.20	0.21	1.0	0.30	0.25	15 or less	20 or less	
	2 position	Double	Metal seal	VQC1200	0.70	0.15	0.16	0.72	0.25	0.18	10 or less	13 or less	78
			Rubber seal	VQC1201	0.85	0.20	0.21	1.0	0.30	0.25	15 or less	20 or less	
	3 position	Closed center	Metal seal	VQC1300	0.68	0.15	0.16	0.72	0.25	0.18	20 or less	26 or less	
			Rubber seal	VQC1301	0.70	0.20	0.16	0.65	0.42	0.18	25 or less	33 or less	
		Exhaust center	Metal seal	VQC1400	0.68	0.15	0.16	0.72	0.25	0.18	20 or less	26 or less	
			Rubber seal	VQC1401	0.70	0.20	0.16	1.0	0.30	0.25	25 or less	33 or less	
	3 position	Pressure center	Metal seal	VQC1500	0.70	0.15	0.16	0.72	0.25	0.18	20 or less	26 or less	
			Rubber seal	VQC1501	0.85	0.20	0.21	0.65	0.42	0.18	25 or less	33 or less	
4 position	Dual 3 port valve	Rubber seal	VQC1801 A C	0.70	0.20	0.16	0.70	0.20	0.16	25 or less	33 or less		
VQC2000	2 position	Single	Metal seal	VQC2100	2.0	0.15	0.46	2.6	0.15	0.60	22 or less	29 or less	90
			Rubber seal	VQC2101	2.2	0.28	0.55	3.2	0.30	0.80	24 or less	31 or less	
	2 position	Double	Metal seal	VQC2200	2.0	0.15	0.46	2.6	0.15	0.60	15 or less	20 or less	110
			Rubber seal	VQC2201	2.2	0.28	0.55	3.2	0.30	0.80	20 or less	26 or less	
	3 position	Closed center	Metal seal	VQC2300	2.0	0.15	0.46	2.0	0.18	0.46	29 or less	38 or less	
			Rubber seal	VQC2301	2.0	0.28	0.49	2.2	0.31	0.60	34 or less	44 or less	
		Exhaust center	Metal seal	VQC2400	2.0	0.15	0.46	2.6	0.15	0.60	29 or less	38 or less	
			Rubber seal	VQC2401	2.0	0.28	0.49	3.2	0.30	0.80	34 or less	44 or less	
	3 position	Pressure center	Metal seal	VQC2500	2.4	0.17	0.57	2.0	0.18	0.46	29 or less	38 or less	
			Rubber seal	VQC2501	3.2	0.28	0.80	2.2	0.31	0.60	34 or less	44 or less	
4 position	Dual 3 port valve	Rubber seal	VQC2801 A C	1.8	0.28	0.46	1.8	0.28	0.46	34 or less	44 or less		
VQC4000	2 position	Single	Metal seal	VQC4100	6.2	0.19	1.5	6.9	0.17	1.7	20 or less	22 or less	230
			Rubber seal	VQC4101	7.2	0.43	2.1	7.3	0.38	2.0	25 or less	27 or less	
	2 position	Double	Metal seal	VQC4200	6.2	0.19	1.5	6.9	0.17	1.7	12 or less	12 or less	260
			Rubber seal	VQC4201	7.2	0.43	2.1	7.3	0.38	2.0	15 or less	15 or less	
	3 position	Closed center	Metal seal	VQC4300	5.9	0.23	1.5	6.3	0.18	1.6	45 or less	47 or less	280
			Rubber seal	VQC4301	7.0	0.34	1.9	6.4	0.42	1.9	50 or less	52 or less	
		Exhaust center	Metal seal	VQC4400	6.2	0.18	1.5	6.9	0.17	1.7	45 or less	47 or less	
			Rubber seal	VQC4401	7.0	0.38	1.9	7.3	0.38	2.0	50 or less	52 or less	
		Pressure center	Metal seal	VQC4500	6.2	0.18	1.9	6.4	0.18	1.6	45 or less	47 or less	
			Rubber seal	VQC4501	7.0	0.38	1.9	7.1	0.38	2.0	50 or less	52 or less	
	3 position	Perfect	Metal seal	VQC4600	2.7	—	—	3.7	—	—	55 or less	57 or less	500
			Rubber seal	VQC4601	2.8	—	—	3.9	—	—	62 or less	64 or less	



Note 1) Values represented in this column are in the following conditions:

VQC1000: Cylinder port size C6 without a back pressure check valve

VQC2000: Cylinder port size C8 without a back pressure check valve

VQC4000: Cylinder port size Rc 3/8

Note 2) Values represented in this column are based on JIS B 8375-1981 (operating with clean air and a supply pressure of 0.5 MPa. Equipped with light/surge voltage suppressor. Values vary depending on the pressure as well as the air quality.) Values for double types are when the switch is ON.

Standard Specifications

Valve specifications	Valve Configuration		Metal seal		Rubber seal		
	Fluid		Air/Inert gas				
	VQC1000/2000	Max. operating pressure		0.7 MPa (High pressure type: 1.0 MPa) ^{Note 4)}			
		Min. operating pressure	Single	0.1 MPa		0.15 MPa	
			Double	0.1 MPa			
			3 position	0.1 MPa		0.2 MPa	
			4 position	—		0.15 MPa	
	VQC4000	Max. operating pressure ^{Note 3)}		1.0 MPa (0.7 MPa)			
		Min. operating pressure	Single	0.15 MPa		0.2 MPa	
			Double	0.15 MPa			
			3 position	0.15 MPa		0.2 MPa	
	Proof pressure		1.5 MPa				
	Ambient and fluid temperature		−10 to 50°C ^{Note 1)}				
	Lubrication		Not required				
	Manual override		Push type/Locking type (tool required) option				
	Impact resistance/Vibration resistance		150/30 m/s ² ^{Note 2)}				
	Enclosure		Dust proof (IP67 compliant)				
Electrical specifications	Rated coil voltage		24 VDC				
	Allowable voltage fluctuation		±10% of rated voltage				
	Coil insulation type		Equivalent to B type				
	Power consumption (Current)	24 VDC	1 W DC (42 mA), 0.5 W DC (21 mA)				
		12 VDC	1 W DC (83 mA), 0.5 W DC (42 mA)				



Note 1) Use dry air to prevent condensation at low temperatures.

Note 2) **Impact resistance:** No malfunction resulted from the impact test using a drop impact tester. The test was performed one time each in the axial and right angle directions of the main valve and armature, for both energized and de-energized states.

Vibration resistance: No malfunction occurred in a one-sweep test between 45 and 2000Hz. Test was performed in the axial and right angle directions of the main valve and armature for both energized and de-energized states.

Note 3) Values in () are for the low wattage (0.5 W) specification.

Note 4) Metal seal type only.

Manifold Specifications

Series	Base model	Connection type	Piping specifications			Applicable stations Note 2)	Applicable solenoid valves	5 station mass (g)
			Port direction	Port size Note 1)				
				1, 3 (P, R)	2, 4 (A, B)			
VQC1000	VV5QC11-□□□	■ F Kit: D-sub connector ■ P Kit: Flat cable ■ T Kit: Terminal block box ■ S Kit: Serial transmission ■ L Kit: Lead wire ■ M Kit: Circular connector	Side	C8 (For ø8) Options Direct outlet with built-in silencer	C3 (For ø3.2) C4 (For ø4) C6 (For ø6) M5 (M5 threads)	(F, L, M and P kits) 1 to 12 stations (T kit 1 to 10 stations)	VQC1□00-5 VQC1□01-5	628 (Single) 759 (Double, 3P)
VQC2000	VV5QC21-□□□		Side	C10 (For ø10) Options Direct outlet with built-in silencer Branch type C12 (for ø12)	C4 (For ø4) C6 (For ø6) C8 (For ø8)	(S kit 1 to 8 stations: EX500 1 to 12 stations: EX250)	VQC2□00-5 VQC2□01-5	1051 (Single) 1144 (Double, 3P)
VQC4000	VV5QC41-□□□		Side	P: Rc 1/2 R: Rc 3/4	C8 (For ø8) C10 (For ø10) C12 (For ø12) Rc 1/4 Rc 3/8	(F, L, M and P kits) 1 to 12 stations (T kit 1 to 10 stations: S kit 1 to 12 stations: EX240, EX250 1 to 8 stations: EX500)	VQC4□00-5 VQC4□01-5	4150 • S kit (without unit) • Solenoid mass is not included.
		Bottom	Rc 1/4					



Note 1) One-touch fittings in inch sizes are also available.

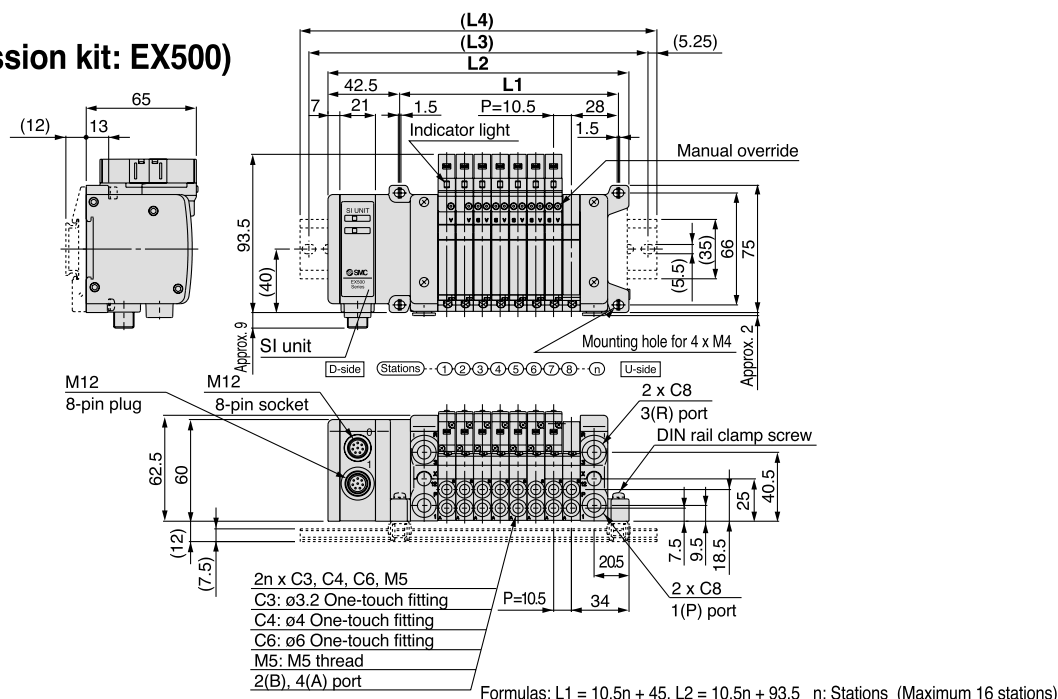
Note 2) An optional specification for special wiring is available to increase the maximum number of stations.

VQC1000/2000/4000

Kit (Serial Transmission Kit) Compatible with EX500 Gateway Type Serial Transmission System **IP67 compliant**

VV5QC11

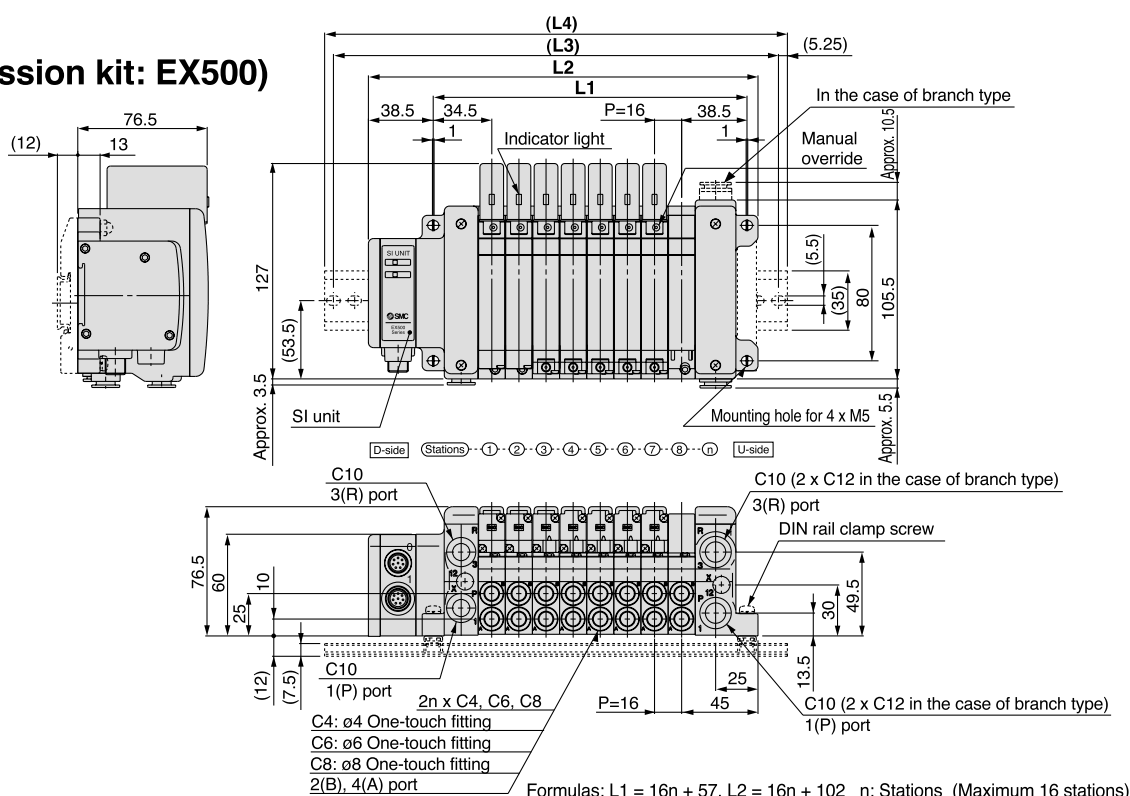
S Kit (Serial transmission kit: EX500)



Formula: $LE = (LEH \cdot F) + (L \cdot LE) + (LEH \cdot F \cdot S) + L$ Stations (Maximum 16 Stations)																	
L	n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1		55.5	66	76.5	87	97.5	108	118.5	129	139.5	150	160.5	171	181.5	192	202.5	213
L2		104	114.5	125	135.5	146	156.5	167	177.5	188	198.5	209	219.5	230	240.5	251	261.5
L3		125	137.5	150	162.5	175	187.5	187.5	200	212.5	225	237.5	250	250	262.5	275	287.5
L4		135.5	148	160.5	173	185.5	198	198	210.5	223	235.5	248	260.5	260.5	273	285.5	298

VV5QC21

S Kit
(Serial transmission kit: EX500)



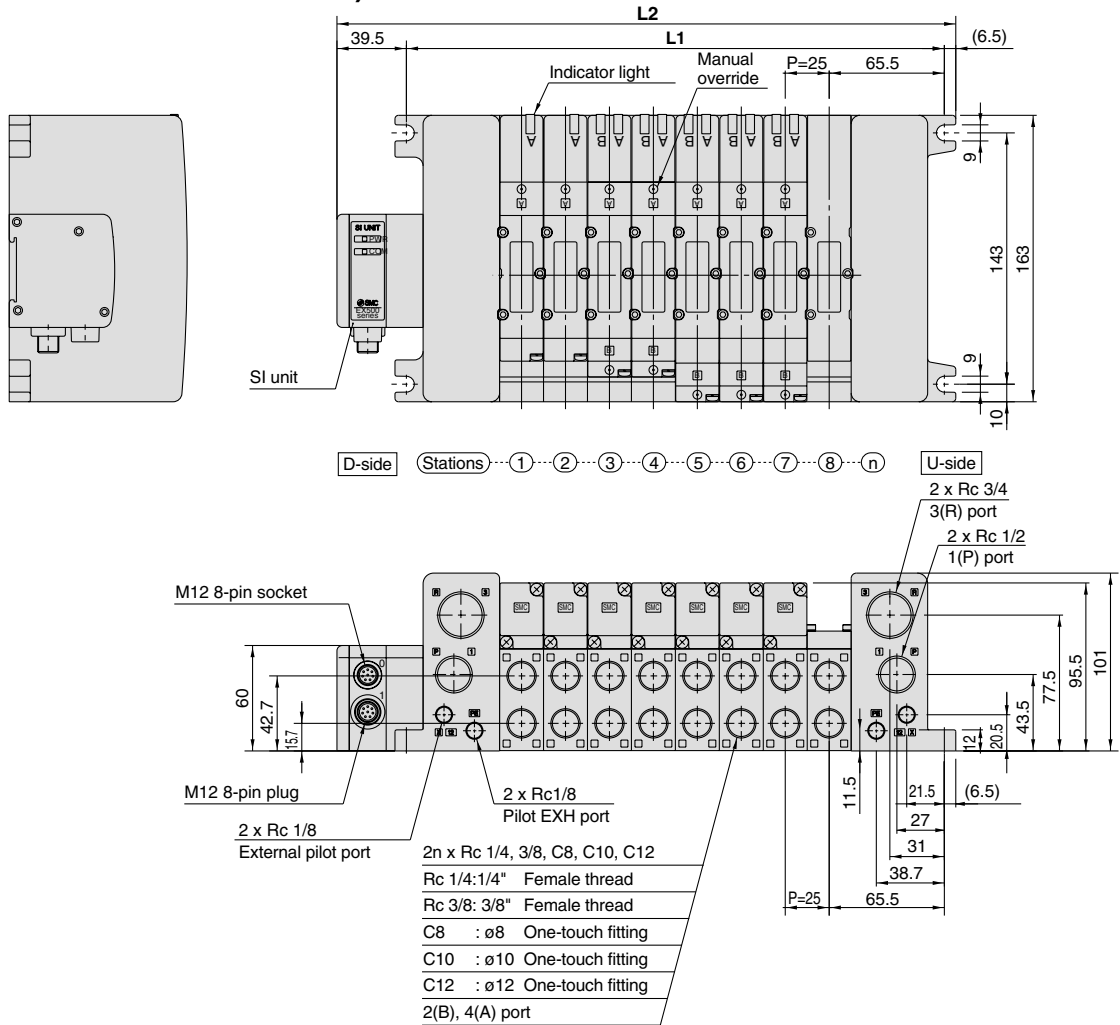
L		Formulas: L1 = L0 + 37, L2 = L0 + 102 n: Stations (maximum 16 stations)															
n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
L1	73	89	105	121	137	153	169	185	201	217	233	249	265	281	297	313	
L2	118	134	150	166	182	198	214	230	246	262	278	294	310	326	342	358	
L3	137.5	150	175	187.5	200	212.5	237.5	250	262.5	287.5	300	312.5	337.5	350	362.5	375	
L4	148	160.5	185.5	198	210.5	223	248	260.5	273	298	310.5	323	348	360.5	373	385.5	

S VQC1000/2000/4000

Kit (Serial Transmission Kit) Compatible with EX500 Gateway Type Serial Transmission System **IP67 compliant**

VV5QC41

S Kit (Serial transmission kit: EX500)



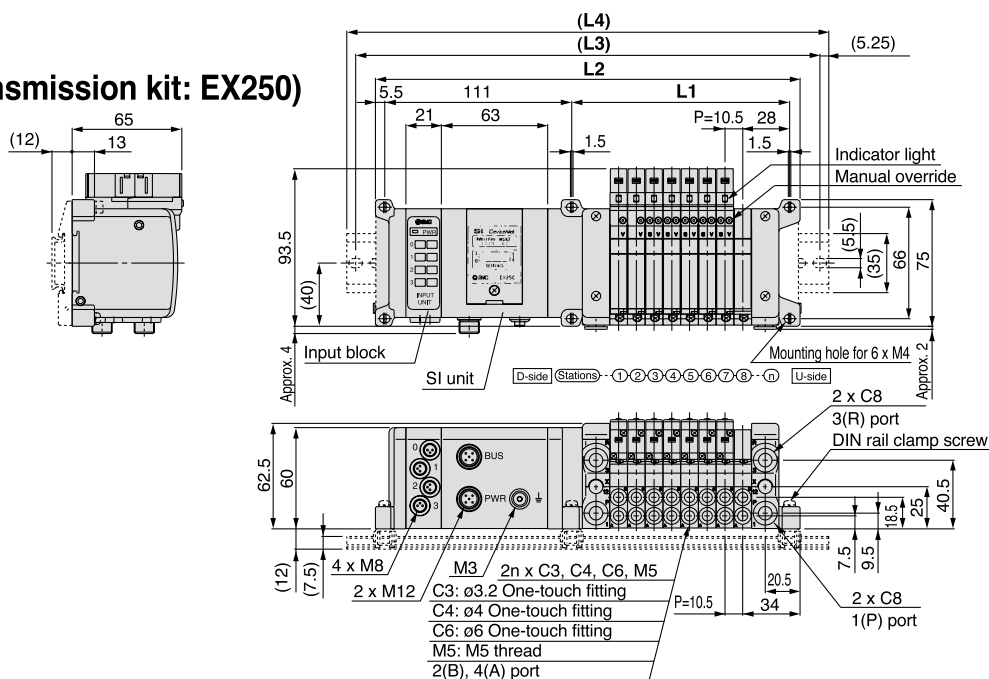
Formulas: $L1 = 25n + 106$, $L2 = 25n + 152$ n: Stations (Maximum 16 stations)

n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	131	156	181	206	231	256	281	306	331	356	381	406	431	456	481	506
L2	177	202	227	252	277	302	327	352	377	402	427	452	477	502	527	552

S VQC1000/2000/4000

Kit (Serial Transmission Kit) Compatible with EX250 Integrated Type (for I/O) Serial Transmission System IP67 compliant

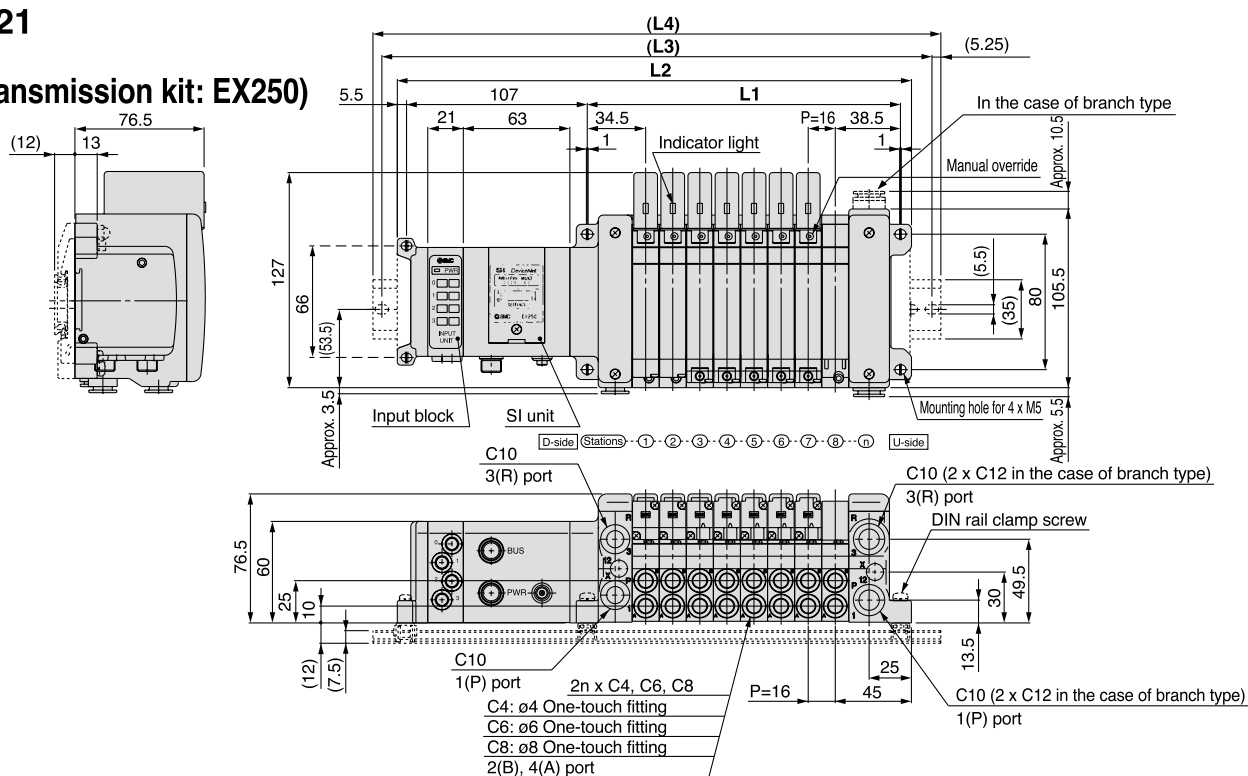
VV5QC11 S Kit (Serial transmission kit: EX250)



Formulas: $L1 = 10.5n + 45$, $L2 = 10.5n + 167.5$ (For one input block. Add 21 mm for each additional input block.) n: Stations (Maximum 24 stations)

L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	55.5	66	76.5	87	97.5	108	118.5	129	139.5	150	160.5	171	181.5	192	202.5	213	223.5	234	244.5	255	265.5	276	286.5	297
L2	178	188.5	199	209.5	220	230.5	241	251.5	262	272.5	283	293.5	304	314.5	325	335.5	346	356.5	367	377.5	388	398.5	409	419.5
L3	200	212.5	225	237.5	250	250	262.5	275	287.5	300	312.5	325	325	337.5	350	362.5	375	387.5	387.5	400	412.5	425	437.5	450
L4	210.5	223	235.5	248	260.5	260.5	273	285.5	298	310.2	323	335.5	335.5	348	360.5	373	385.5	398	398	410.5	423	435.5	448	448

VV5QC21 S Kit (Serial transmission kit: EX250)



Formulas: $L1 = 16n + 57$, $L2 = 16n + 176$ (For one input block. Add 21 mm for each additional input block.) n: Stations (Maximum 24 stations)

L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	73	89	105	121	137	153	169	185	201	217	233	249	265	281	297	313	329	345	361	377	393	409	425	441
L2	192	208	224	240	256	272	288	304	320	336	352	368	384	400	416	432	448	464	480	496	512	528	544	560
L3	212.5	237.5	250	262.5	275	287.5	312.5	325	337.5	362.5	375	387.5	400	425	437.5	450	462.5	487.5	500	512.5	537.5	550	562.5	587.5
L4	223	248	260.5	273	285.5	298	323	335.5	348	373	385.5	398	410.5	435.5	448	460.5	473	498	510.5	523	548	560.5	573	598

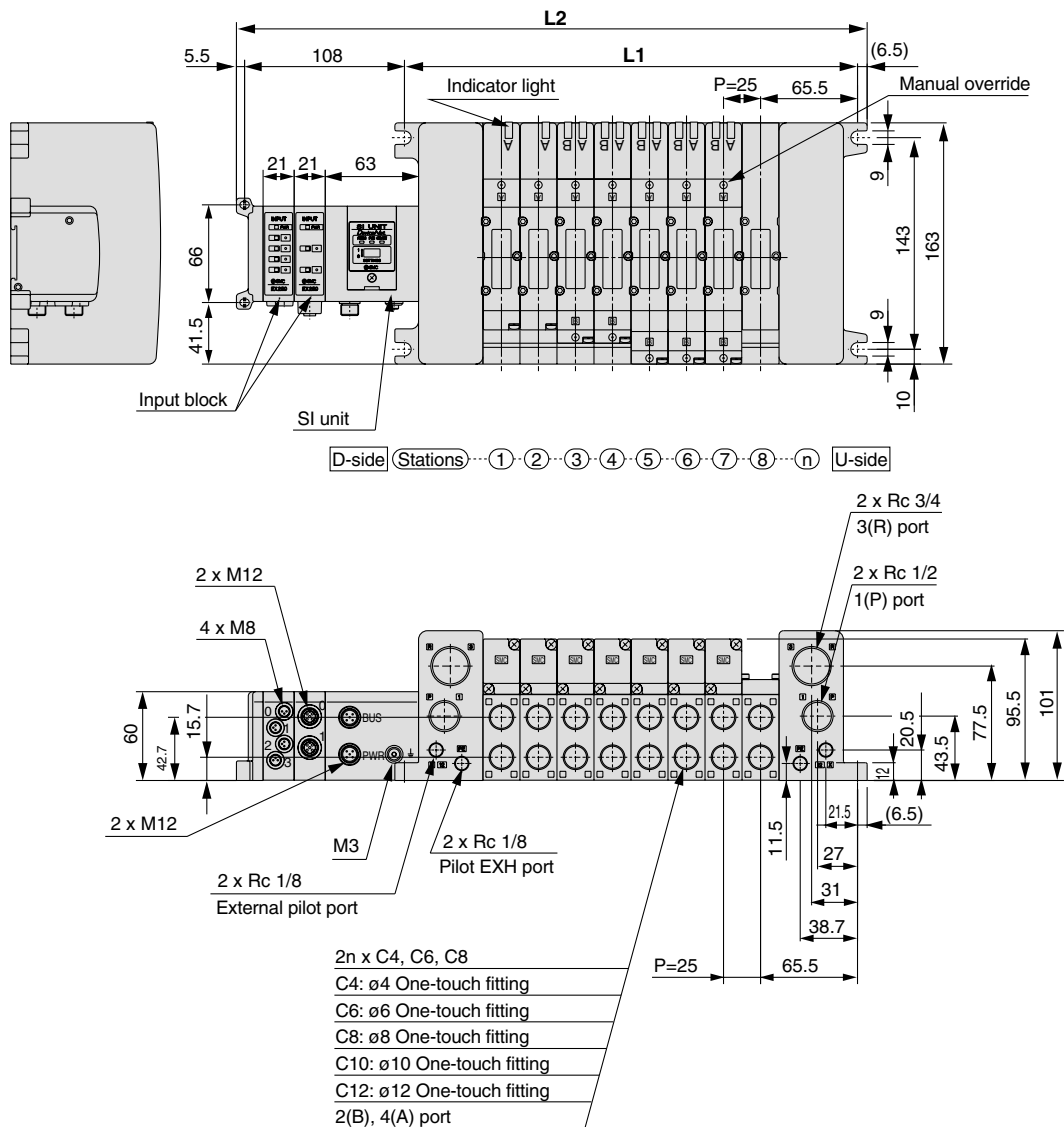
S VQC1000/2000/4000

Kit (Serial Transmission Kit) Compatible with EX250 Integrated Type (for I/O) Serial Transmission System **IP67 compliant**

VV5QC41

S Kit

(Serial transmission kit: EX250)



Formulas: $L1 = 25n + 106$, $L2 = 25n + 205$ (For one input block. Add 21 mm for each additional input block.) n: Stations (Maximum 16 stations)

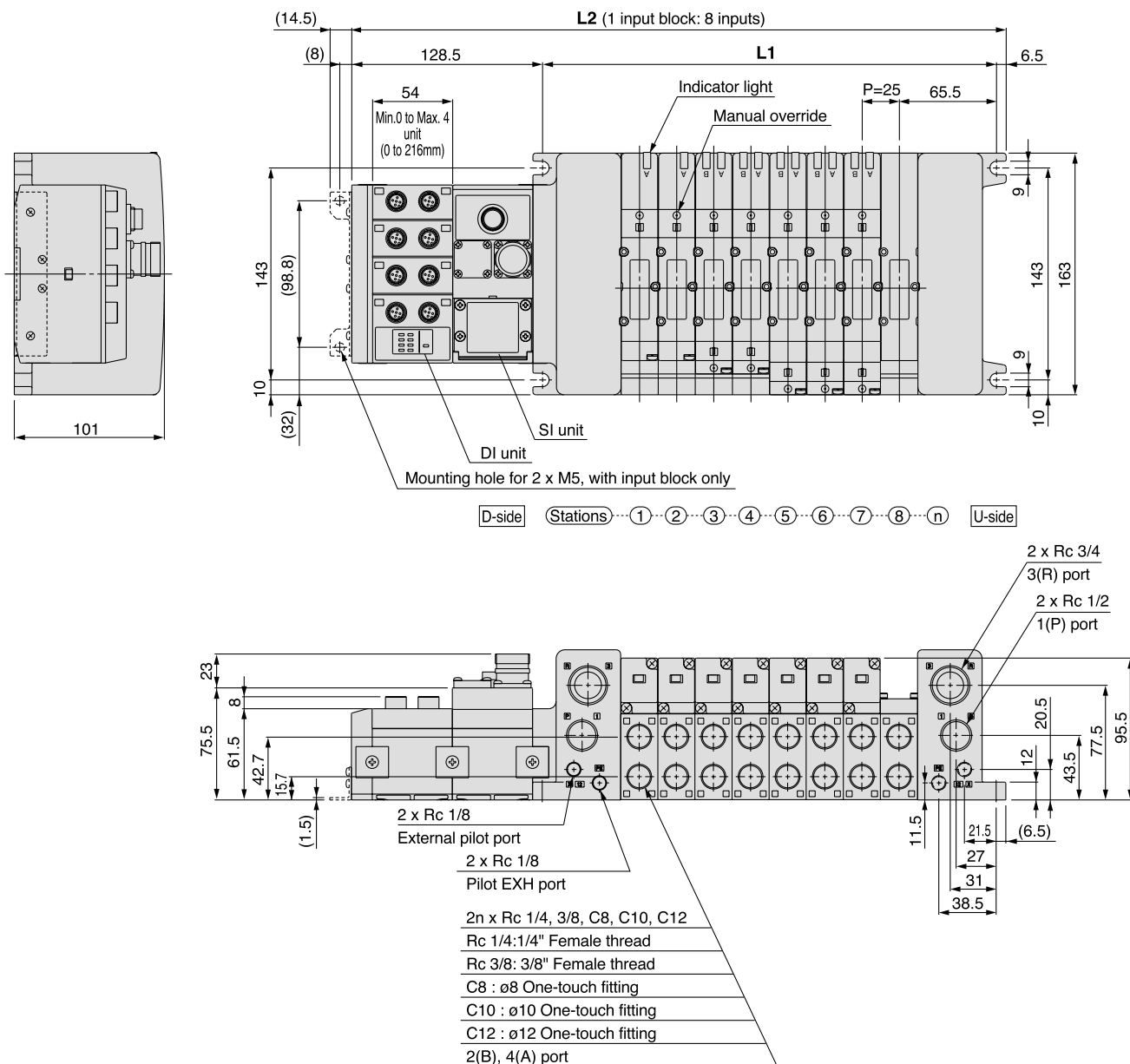
L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	131	156	181	206	231	256	281	306	331	356	381	406	431	456	481	506
L2	230	255	280	305	330	355	380	405	430	455	480	505	530	555	580	605

S VQC4000

Kit (Serial Transmission Kit) Compatible with EX240 Integrated Type (for I/O) Serial Transmission System

VV5QC41

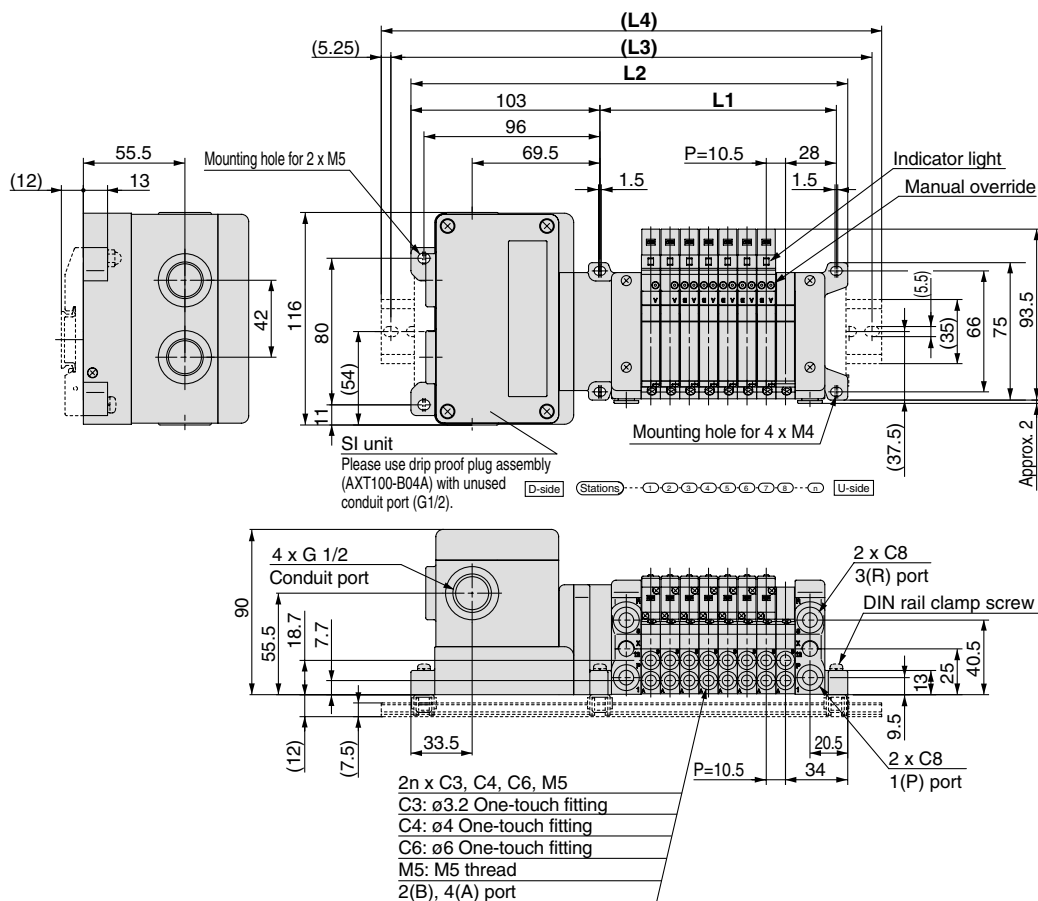
S Kit (Serial transmission kit: EX240)



Formulas: $L1 = 25n + 106$, $L2 = 25n + 241$ (For 1 input block. For each additional input block, add 54 mm.) n: Stations (Maximum 16 stations)

L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	131	156	181	206	231	256	281	306	331	356	381	406	431	456	481	506
L2	266	291	316	341	366	391	416	441	466	491	516	541	566	591	616	641

S VQC1000/2000/4000

Kit (Serial Transmission Kit) Compatible with EX126 Integrated Type (for Output) Serial Transmission System **IP67 compliant****VV5QC11****S Kit (Serial transmission kit: EX126)**Formulas: $L1 = 10.5n + 45$, $L2 = 10.5n + 154.5$ n: Stations (Maximum 16 stations)

L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	55.5	66	76.5	87	97.5	108	118.5	129	139.5	150	160.5	171	181.5	192	202.5	213
L2	165	175.5	186	196.5	207	217.5	228	238.5	249	259.5	270	280.5	291	301.5	312	322.5
L3	187.5	200	212.5	212.5	225	237.5	250	262.5	275	275	287.5	300	312.5	325	337.5	337.5
L4	198	210.5	223	223	235.5	248	260.5	273	285.5	285.5	298	310.5	323	335.5	348	348

* With signal cut block, L4 is obtained by adding approximately 30 mm to L2.



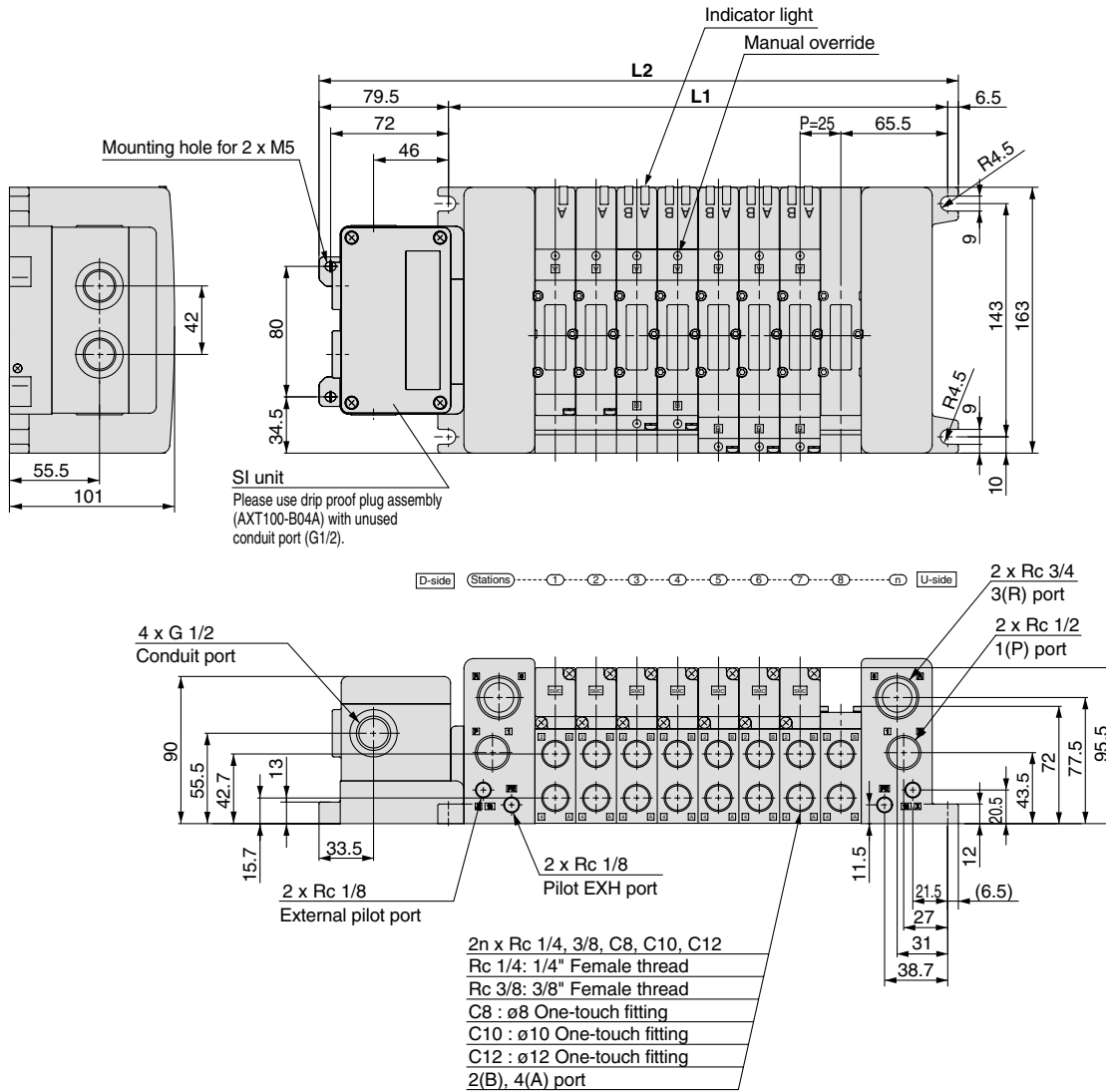
L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	73	89	105	121	137	153	169	185	201	217	233	249	265	281	297	313
L2	179	195	211	227	243	259	275	291	307	323	339	355	371	387	403	419
L3	200	212.5	237.5	237.5	262.5	262.5	287.5	312.5	325	371	362.5	375	408.5	412.5	425	437.5
L4	210.5	223	248	248	273	273	298	323	335.5	360.5	373	385.5	398	423	435.5	448

S VQC1000/2000/4000

Kit (Serial Transmission Kit) Compatible with EX126 Integrated Type (for Output) Serial Transmission System **IP67 compliant**

VV5QC41

S Kit (Serial transmission kit: EX126)

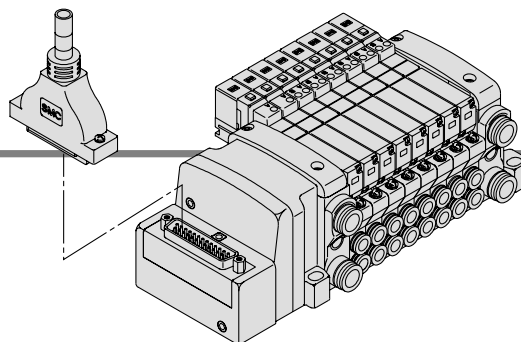


L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	131	156	181	206	231	256	281	306	331	356	381	406	431	456	481	506
L2	217	242	267	292	317	342	367	392	417	442	467	492	517	542	567	592

F VQC1000/2000/4000

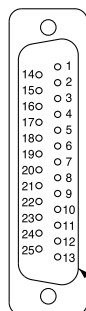
Kit (D-sub connector kit) IP40 compliant

- Using our D-sub connector for electrical connections greatly reduces labor, while it also minimizes wiring and saves space.
- We use a D-sub connector (25P) that conforms to MIL standards and is therefore widely compatible with many standard commercial models.
- Top or side entry for the connector can be changed freely, allowing for changes even after mounting, to meet any changing needs for space.



Electrical Wiring Specifications

D-sub connector



As the standard electrical wiring specification used is for 12 stations or less, double wiring (connected to SOL. A and SOL. B) is used for the internal wiring of each station regardless of valve and option types. Mixed single and double wiring are available as options. Refer to special wiring specifications (options) below.

Lead wire colors for D-sub connector assemblies (AXT100-DS25-015, 030, 050)

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

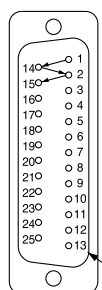
Positive COM spec. Negative COM spec.



Note) When using the negative COM specification for VQC1000/2000, use valves for negative COM.

Special Wiring Specifications (Options)

(For 25P)



Mixed single and double wiring are available as options. The maximum number of manifold stations is determined by the number of solenoids. Count one point for a single solenoid type and two points for a double solenoid type. The total number of solenoids (points) must not exceed 24.

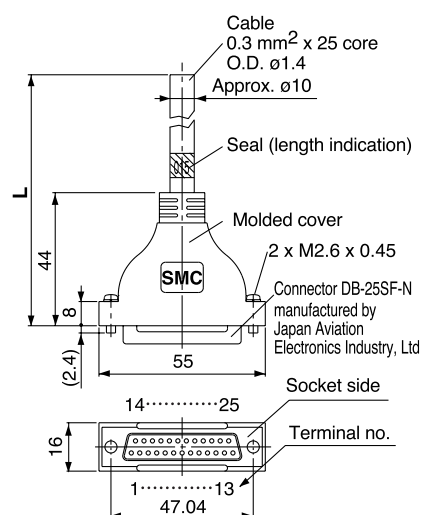
COM

Cable Assembly

AXT100-DS25-015, 030, 050

(D-sub connector cable assemblies can be ordered with manifolds. Refer to manifold ordering.)

Lead wire colors for D-sub connector cable assembly terminal numbers



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

D-sub connector cable assemblies

Cable length (L)	Part no.	Note
1.5 m	AXT100-DS25-015	Cable 0.3 mm ² x 25 cores
3 m	AXT100-DS25-030	
5 m	AXT100-DS25-050	

- * When using a standard commercial connector, use a type 25P female connector conforming to MIL-C-24308.
- * Cannot be used for transfer wiring.
- * Lengths other than the above is also available. Please contact SMC for details.

Electrical characteristics

Item	Characteristic
Conductor resistance Ω/km , 20°C	65 or less
Voltage limit V, 1 minute, AC	1000
Insulation resistance $\text{M}\Omega/\text{km}$, 20°C	5 or more



Note) The minimum bending radius for D-sub connector cables is 20 mm.

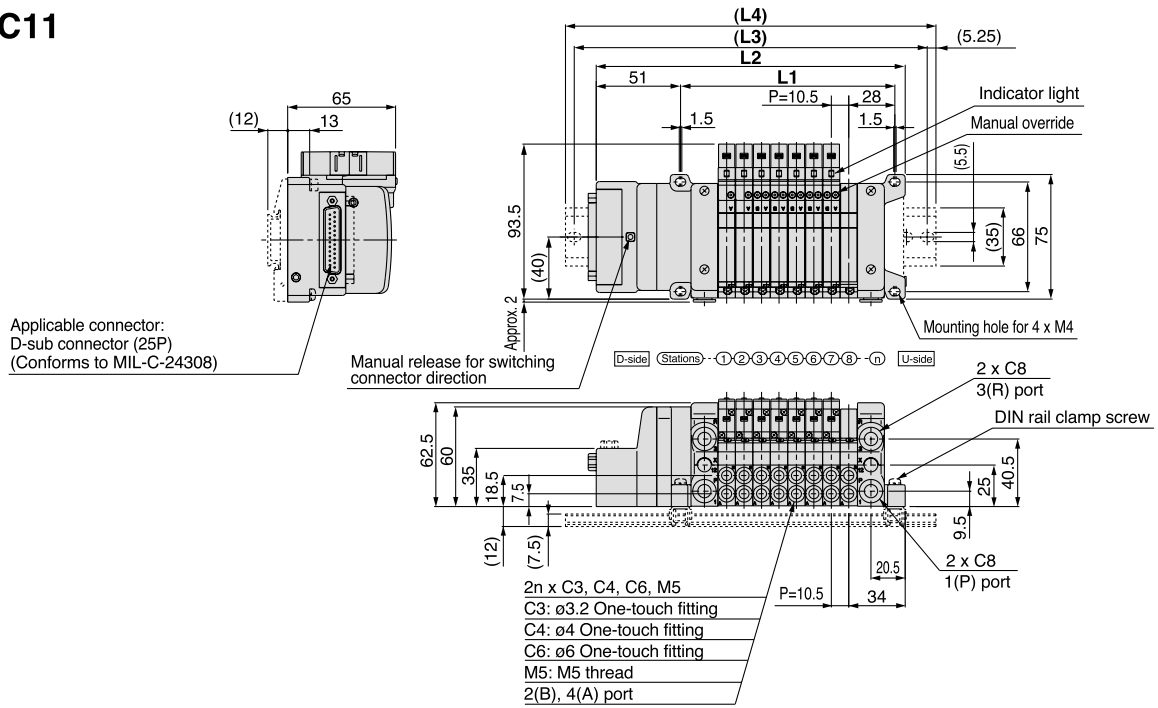
Some connector manufacturers:

- Fujitsu, Ltd.
- Japan Aviation Electronics Industry, Ltd.
- J.S.T. Mfg. Co., Ltd.
- HIROSE ELECTRIC CO., LTD.

F VQC1000/2000/4000

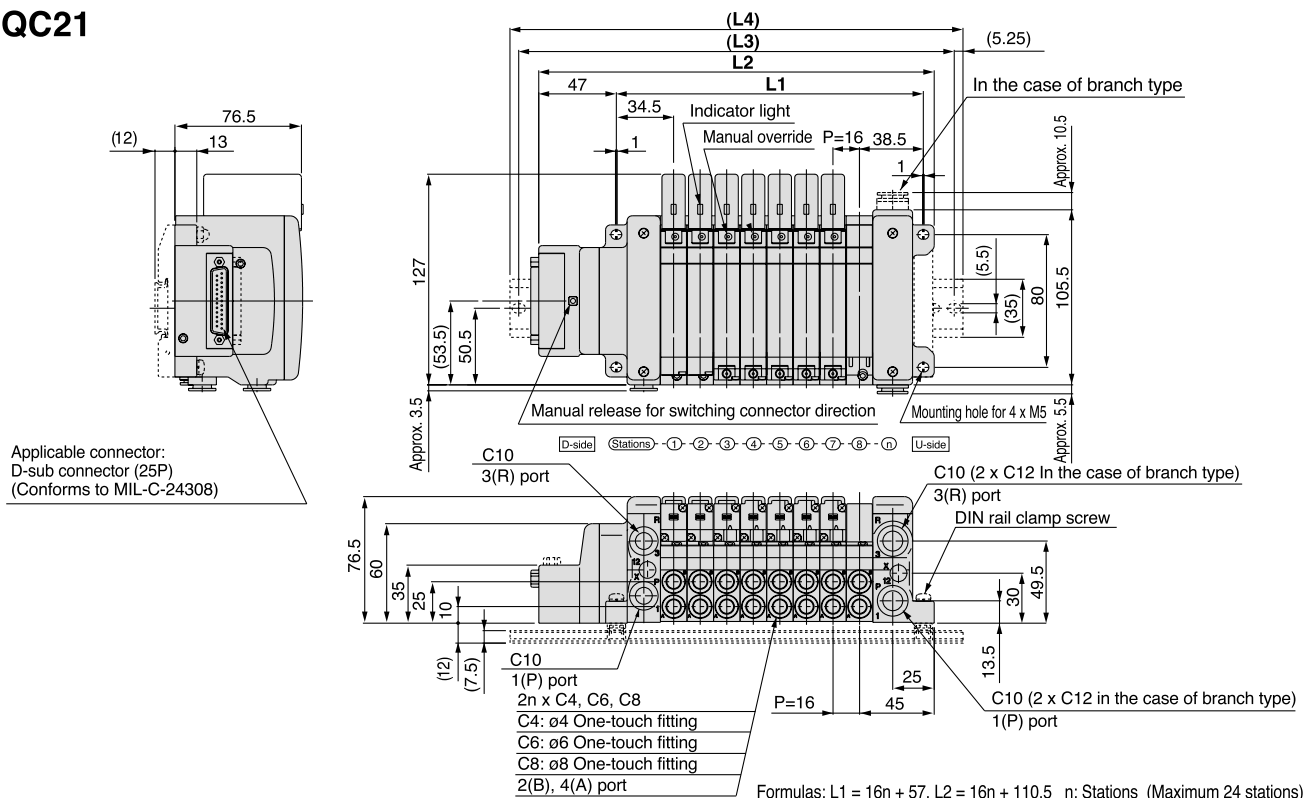
Kit (D-sub connector kit) IP40 compliant

VV5QC11



L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	55.5	66	76.5	87	97.5	108	118.5	129	139.5	150	160.5	171	181.5	192	202.5	213	223.5	234	244.5	255	265.5	276	286.5	297
L2	112.5	123	133.5	144	154.5	165	175.5	186	196.5	207	217.5	228	238.5	249	259.5	270	280.5	291	301.5	312	322.5	333	343.5	354
L3	137.5	150	162.5	175	175	187.5	200	212.5	225	237.5	237.5	250	262.5	275	287.5	300	300	312.5	325	337.5	350	362.5	375	375
L4	148	160.5	173	185.5	185.5	198	210.5	223	235.5	248	248	260.5	273	285.5	298	310.5	310.5	323	335.5	348	360.5	373	385.5	385.5

VV5QC21

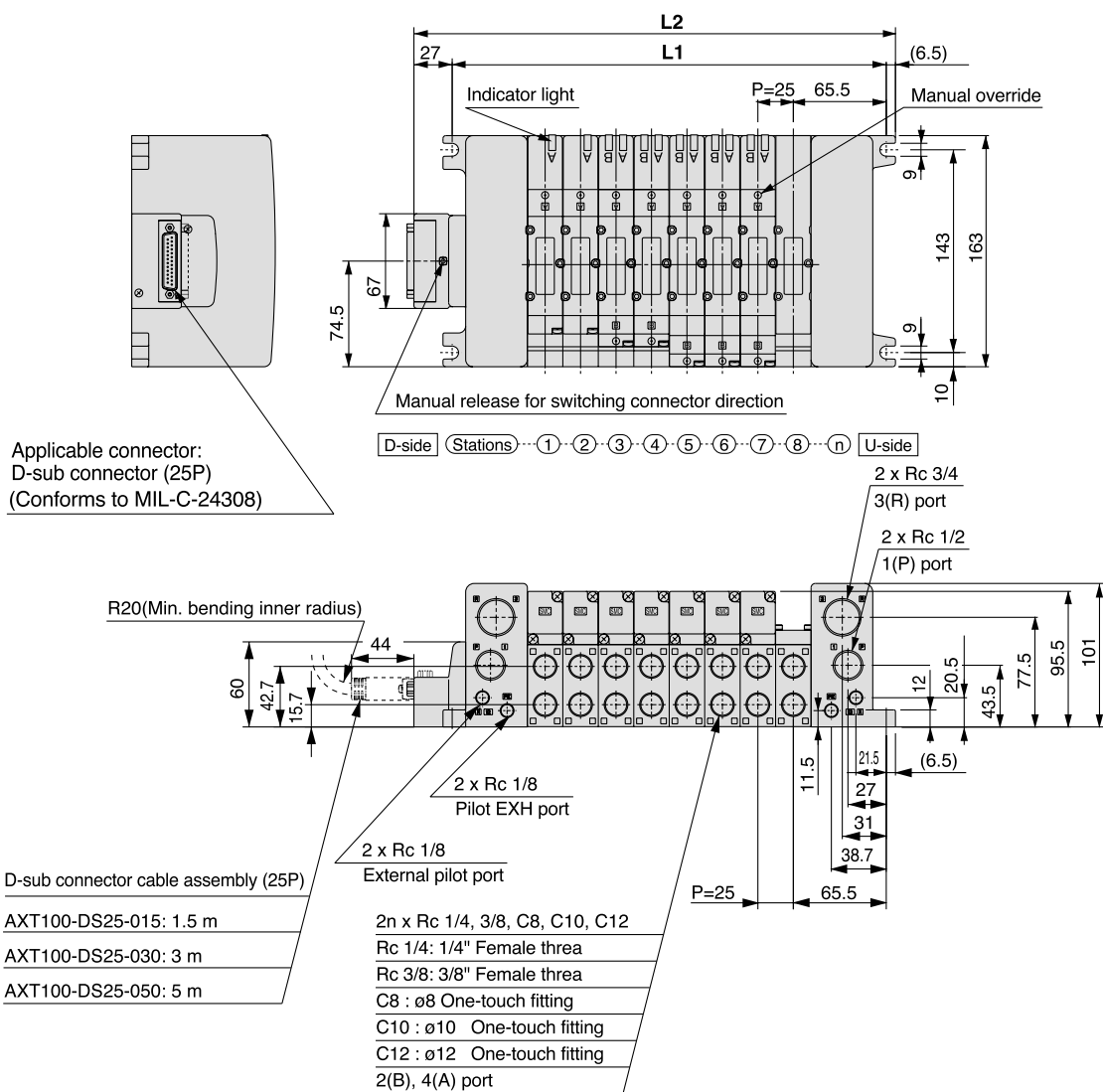


L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	73	89	105	121	137	153	169	185	201	217	233	249	265	281	297	313	329	345	361	377	393	409	425	441
L2	126.5	142.5	158.5	174.5	190.5	206.5	222.5	238.5	254.5	270.5	286.5	302.5	318.5	334.5	350.5	366.5	382.5	398.5	414.5	430.5	446.5	462.5	478.5	494.5
L3	150	162.5	187.5	200	212.5	237.5	250	262.5	275	300	312.5	325	350	362.5	375	387.5	412.5	425	437.5	450	475	487.5	500	525
L4	160.5	173	198	210.5	223	248	260.5	273	285.5	310.5	323	335.5	360.5	373	385.5	398	423	435.5	448	460.5	485.5	498	510.5	535.5

F VQC1000/2000/4000

Kit (D-sub connector kit) IP40 compliant

VV5QC41



Formulas: $L1 = 25n + 106$, $L2 = 25n + 139.5$ n: Stations (Maximum 16 stations)

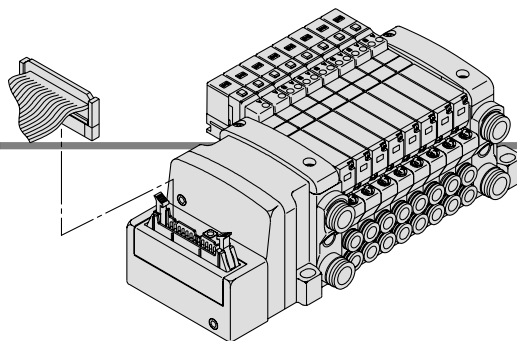
L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	131	156	181	206	231	256	281	306	331	356	381	406	431	456	481	506
L2	164.5	189.5	214.5	239.5	264.5	289.5	314.5	339.5	364.5	389.5	414.5	439.5	464.5	489.5	514.5	539.5

SJ
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SV
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P VQC1000/2000/4000

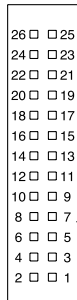
Kit (Flat ribbon cable kit) IP40 compliant

- Using our flat ribbon cable for electrical connections greatly reduces labour, while it also minimizes wiring and saves space.
- We use flat ribbon cables whose connectors (26P and 20P) conform to MIL standards, and are therefore widely compatible with many standard commercial models.
- Top or side entry for the connector can be changed freely, allowing for changes even after mounting, to meet any changing needs for space.



Electrical Wiring Specifications

Flat ribbon cable connector

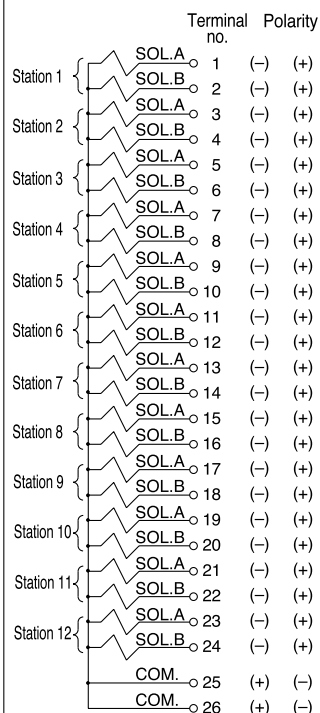


Connector terminal number

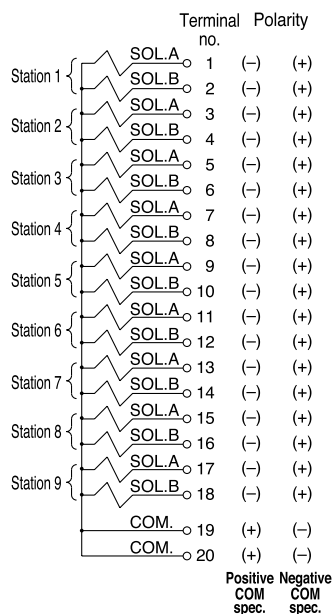
Triangle mark indicator position

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

<26P>



<20P>



Positive COM spec. Negative COM spec.

Positive COM spec. Negative COM spec.

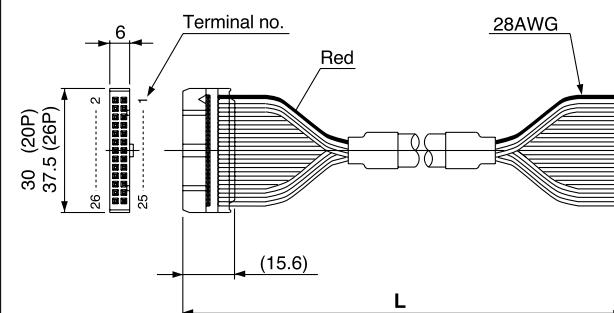


Note) When using the negative COM specification for VQC1000/2000, use valves for negative COM.

Cable Assembly

AXT100-FC²⁰₂₆₋₃

(Type 26P flat ribbon cable connector assemblies can be ordered with manifolds. Refer to manifold ordering.)



Flat ribbon cable connector assemblies

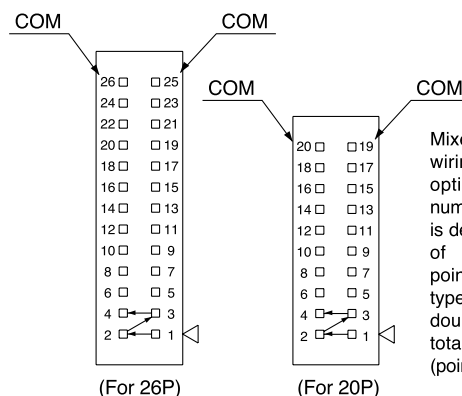
Cable length (L)	Part no.	
	26P	20P
1.5 m	AXT100-FC26-1	AXT100-FC20-1
3 m	AXT100-FC26-2	AXT100-FC20-2
5 m	AXT100-FC26-3	AXT100-FC20-3

- * When using a standard commercial connector, use a type 26P connector conforming to MIL-C-83503 or a type 20P with strain relief.
- * Cannot be used for transfer wiring.
- * Lengths other than the above is also available. Please contact SMC for details.

Connector Manufacturers Example:

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

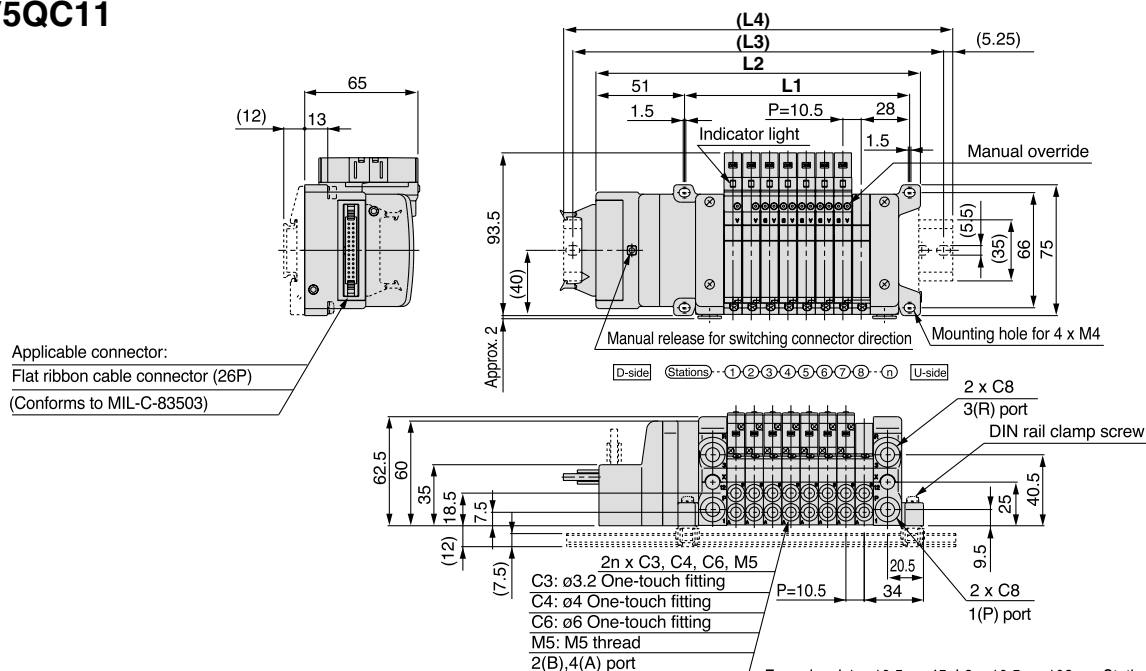
Special Wiring Specifications (Option)



Mixed single and double wiring are available as options. The maximum number of manifold stations is determined by the number of solenoids. Count one point for a single solenoid type and two points for a double solenoid type. The total number of solenoids (points) must not exceed 24.

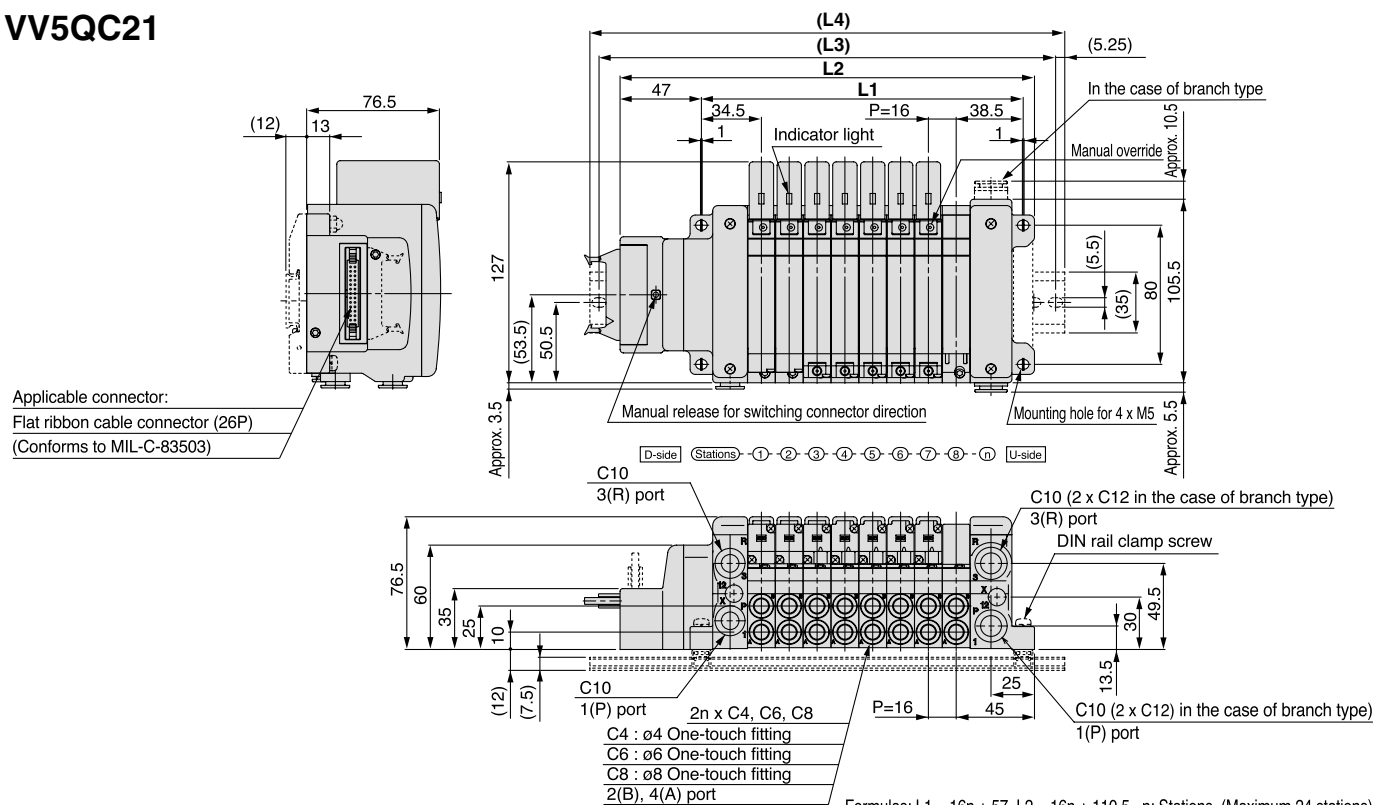
P **VQC1000/2000/4000**
Kit (Flat ribbon cable kit) IP40 compliant

VV5QC11



2(B),4(A)_port												Formulas: L1 = 10.5n + 45, L2 = 10.5n + 102 n: Stations (Maximum 24 stations)												
L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	55.5	66	76.5	87	97.5	108	118.5	129	139.5	150	160.5	171	181.5	192	202.5	213	223.5	234	244.5	255	265.5	276	286.5	297
L2	112.5	123	133.5	144	154.5	165	175.5	186	196.5	207	217.5	228	238.5	249	259.5	270	280.5	291	301.5	312	322.5	333	343.5	354
L3	137.5	150	162.5	175	187.5	200	212.5	225	237.5	250	262.5	275	287.5	300	300	312.5	325	337.5	350	362.5	375	375		
L4	148	160.5	173	185.5	185.5	198	210.5	223	235.5	248	248	260.5	273	285.5	298	310.5	310.5	323	335.5	348	360.5	373	385.5	385.5

VV5QC21



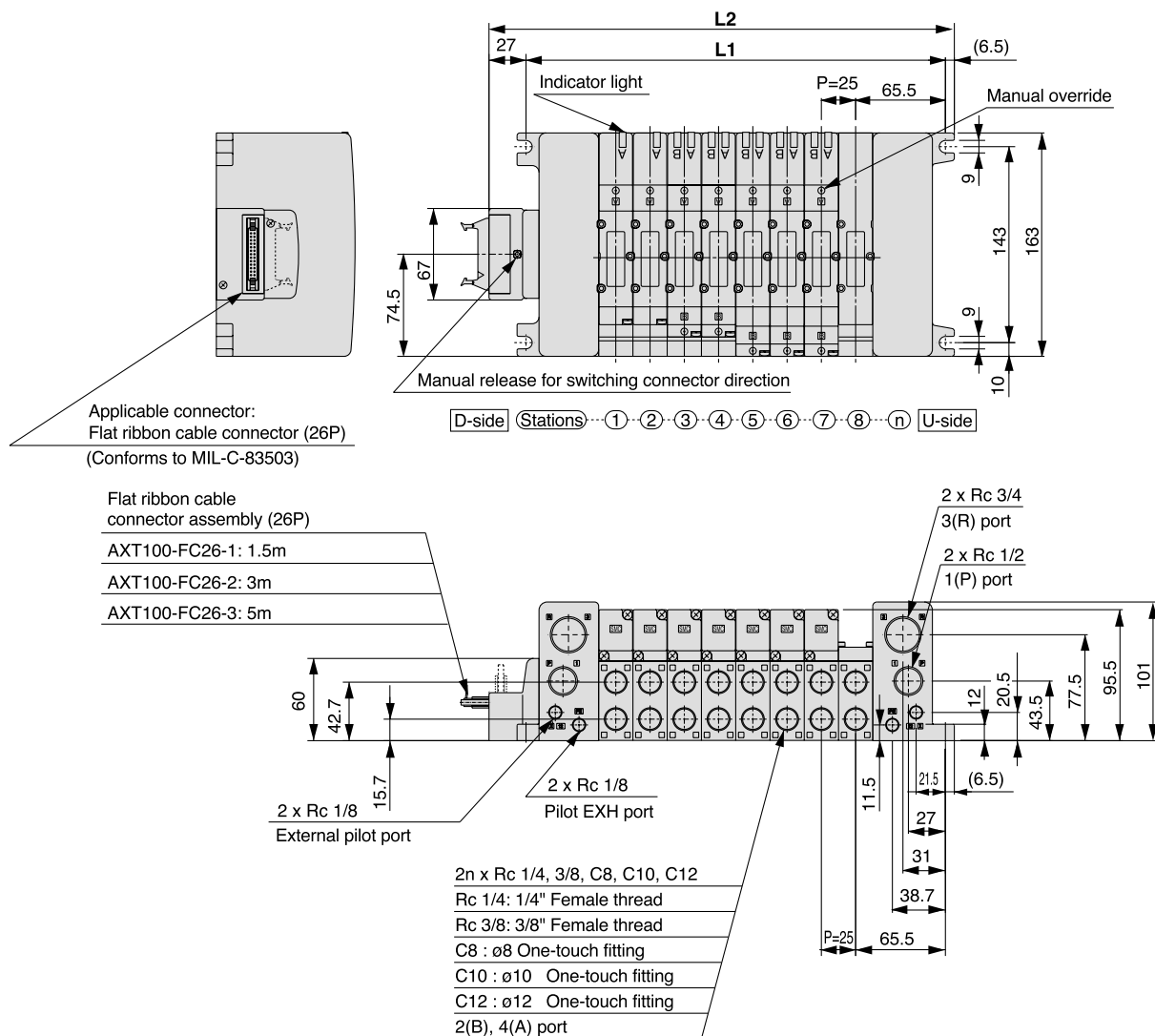
2(B), 4(A) port														Formulas: L1 = 16n + 57, L2 = 16n + 110.5 n: Stations (Maximum 24 stations)										
L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	73	89	105	121	137	153	169	185	201	217	233	249	265	281	297	313	329	345	361	377	393	409	425	441
L2	126.5	142.5	158.5	174.5	190.5	206.5	222.5	238.5	254.5	270.5	286.5	302.5	318.5	334.5	350.5	366.5	382.5	398.5	414.5	430.5	446.5	462.5	478.5	494.5
L3	150	162.5	187.5	200	212.5	237.5	250	262.5	275	300	312.5	325	350	362.5	375	387.5	412.5	425	437.5	450	475	487.5	500	525
L4	160.5	173	198	210.5	223	248	260.5	273	285.5	310.5	323	335.5	360.5	373	385.5	398	423	435.5	448	460.5	485.5	498	510.5	535.5

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SYJ
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S0700
VQ
VQ4
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VFR
VQ7

P VQC1000/2000/4000

Kit (Flat ribbon cable kit) IP40 compliant

VV5QC41



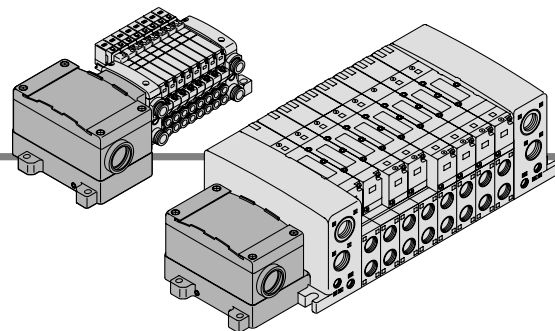
Formulas: $L1 = 25n + 106$, $L2 = 25n + 139.5$ n: Stations (Maximum 16 stations)

L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	131	156	181	206	231	256	281	306	331	356	381	406	431	456	481	506
L2	164.5	189.5	214.5	239.5	264.5	289.5	314.5	339.5	364.5	389.5	414.5	439.5	464.5	489.5	514.5	539.5

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T VQC1000/2000/4000

Kit (Terminal block box kit) IP67 compliant

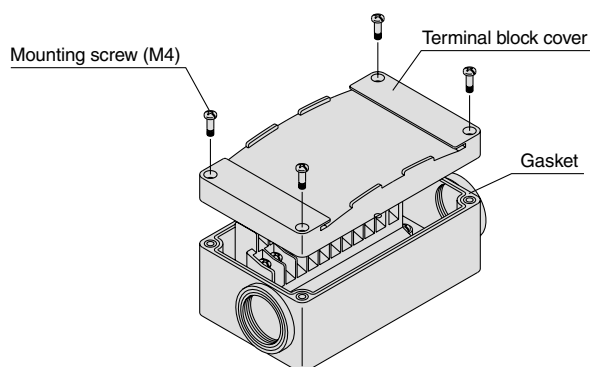


- This kit has a small terminal block inside a junction box. The provision of a G 3/4 electrical entry allows connection of conduit fittings.

Terminal Block Connection

Step 1. How to remove terminal block cover

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



Step 3. How to replace the terminal block cover

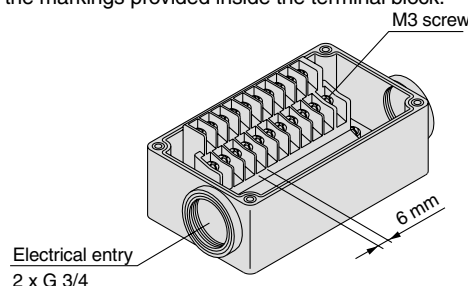
Securely tighten the screws to the torque shown in the table below, after confirming that the gasket is installed correctly.

Proper tightening torque (N·m)
0.7 to 1.2

Step 2. The diagram below shows the terminal block wiring.

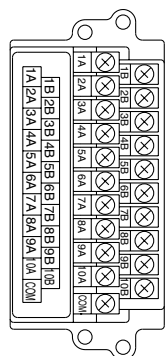
All stations are provided with double wiring regardless of the valves which are mounted.

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



- Applicable crimped terminal: 1.25-3S, 1.25Y-3, 1.25Y-3N, 1.25Y-3.5
- Name plate: VVQ5000-N-T
- Drip proof plug assembly (for G 3/4): AXT100-B06A

Electrical Wiring Specifications (Conforms to IP67)



The internal wiring is double (connected to SOL. A and SOL. B) for all stations regardless of the type of valve or options. Mixed single and double wiring are available as options.



Note) When using the negative COM specification for VQC1000/2000, use valves for negative COM.

Standard wiring

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

Positive Negative
COM COM

Special Wiring Specifications (Option)

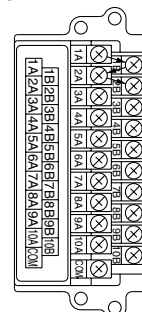
Mixed single and double wiring are available as options. The maximum number of manifold stations is determined by the number of solenoids. Count one point for a single solenoid type and two points for a double solenoid type. The total number of solenoids (points) must not exceed 20.

1. How to order

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

2. Wiring specifications

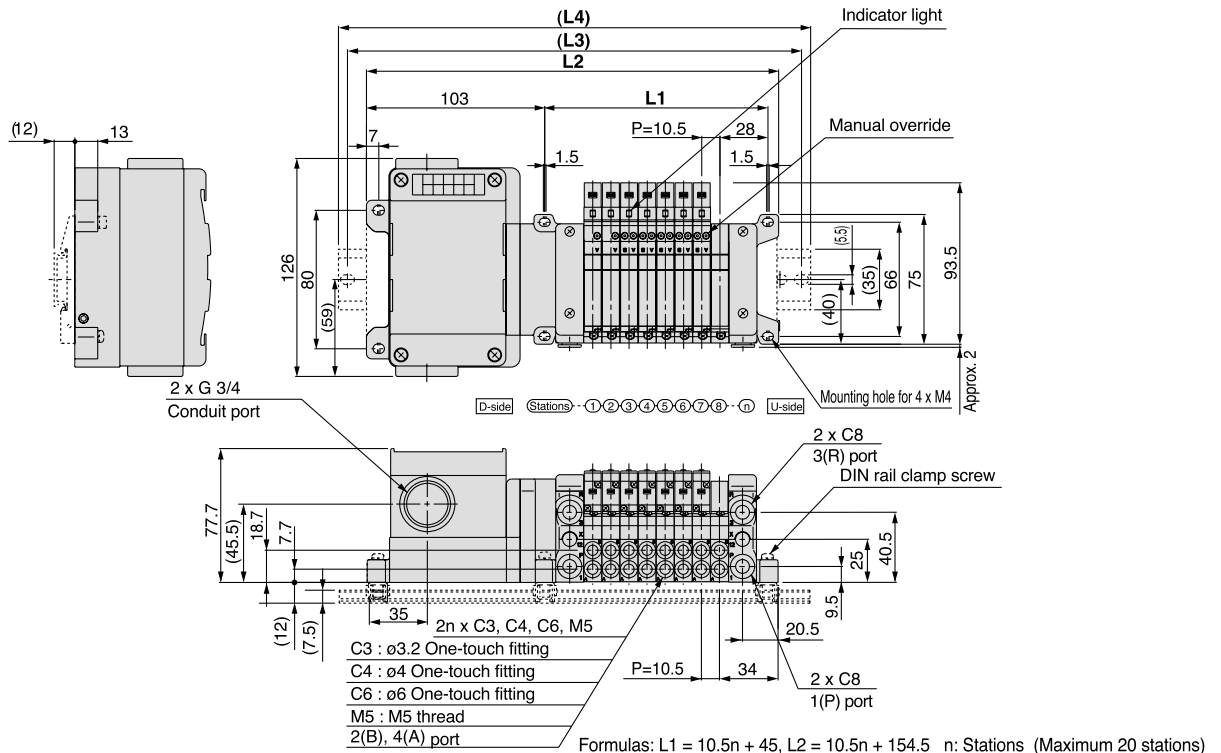
Connector terminal numbers are connected from solenoid station 1 on the A side in the order indicated by the arrows without skipping any terminal numbers.



T VQC1000/2000/4000

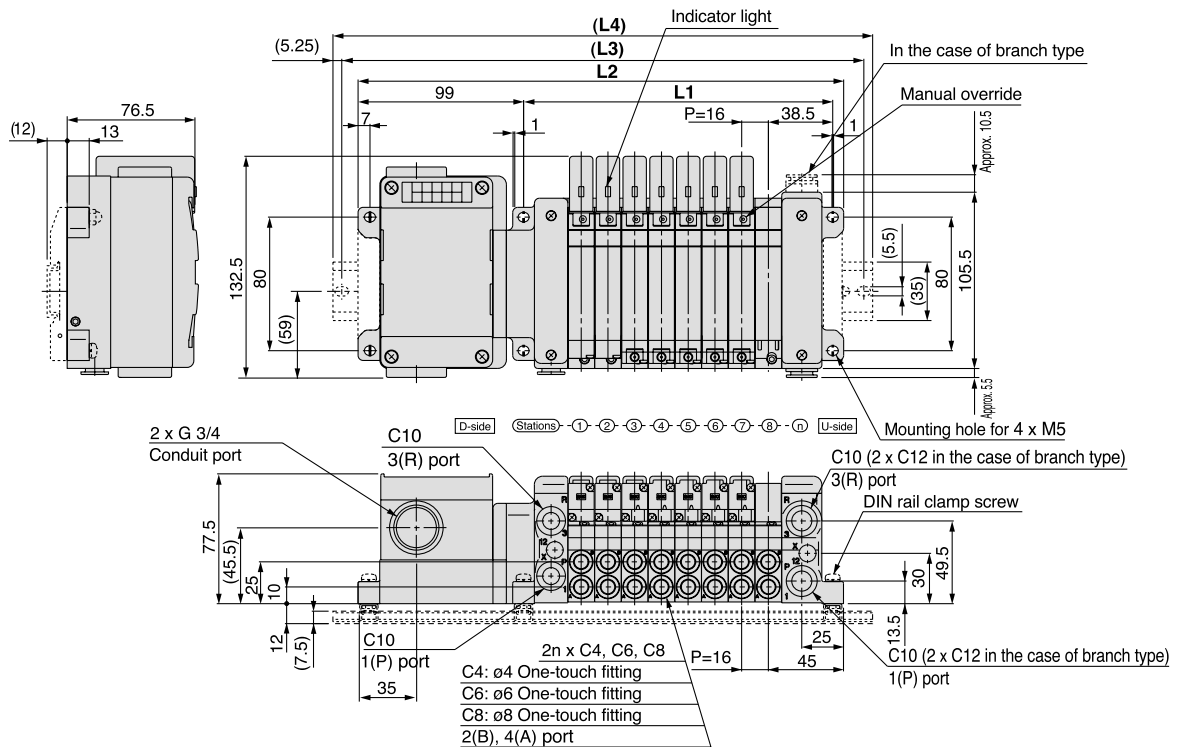
Kit (Terminal block box kit) **IP67 compliant**

VV5QC11



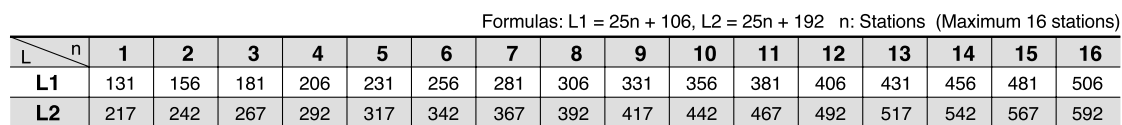
L	n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1		55.5	66	76.5	87	97.5	108	118.5	129	139.5	150	160.5	171	181.5	192	202.5	213	223.5	234	244.5	255
L2		165	175.5	186	196.5	207	217.5	228	238.5	249	259.5	270	280.5	291	301.5	312	322.5	333	343.5	354	364.5
L3		187.5	200	212.5	212.5	225	237.5	250	262.5	275	275	287.5	300	312.5	325	337.5	337.5	350	362.5	375	387.5
L4		198	210.5	223	223	235.5	248	260.5	273	285.5	285.5	298	310.5	323	335.5	348	348	360.5	373	385.5	398

VV5QC21



L	n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1		73	89	105	121	137	153	169	185	201	217	233	249	265	281	297	313	329	345	361	377
L2		179	195	211	227	243	259	275	291	307	323	339	355	371	387	403	419	435	451	467	483
L3		200	212.5	237.5	237.5	262.5	262.5	287.5	312.5	325	371	362.5	375	408.5	412.5	425	437.5	462.5	496	487.5	500
L4		210.5	223	248	248	273	273	298	323	335.5	360.5	373	385.5	398	423	435.5	448	473	485.5	498	510.5

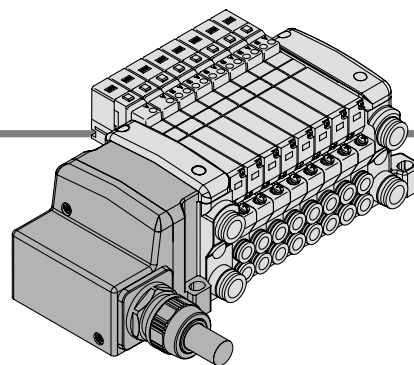
VV5QC41



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L VQC1000/2000/4000

Kit (Lead wire kit) IP67 compliant

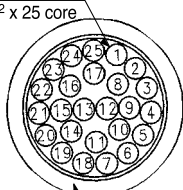


- Direct electrical entry type.
- IP67 enclosure is available with use of cables with sheath and waterproof connectors.

Electrical Wiring Specifications

Lead wire specifications

Lead wire
0.3 mm² x 25 core



Sheath
Colour: Urban white

As the standard electrical wiring specification used is for 12 stations or less, double wiring (connected to SOL. A and SOL. B) is used for the internal wiring of each station regardless of valve and option types.

Mixed single and double wiring are available as options.

Refer to special wiring specifications (options) below.

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



Note) When using the negative COM. specification for VQC1000/2000, use valves for negative COM.

Lead wire length

VV5QC11-08 C6 LD 0

Lead wire length

0	0.6 m
1	1.5 m
2	3.0 m

Electrical characteristics

Item	Characteristic
Conductor resistance Ω/km, 20°C	65 or less
Withstand pressure V, 1 minute, AC	1000
Insulation resistance MΩ/km, 20°C	5 or more



Note) Cannot be used for transfer wiring.
The minimum bending radius for cables is 20 mm.

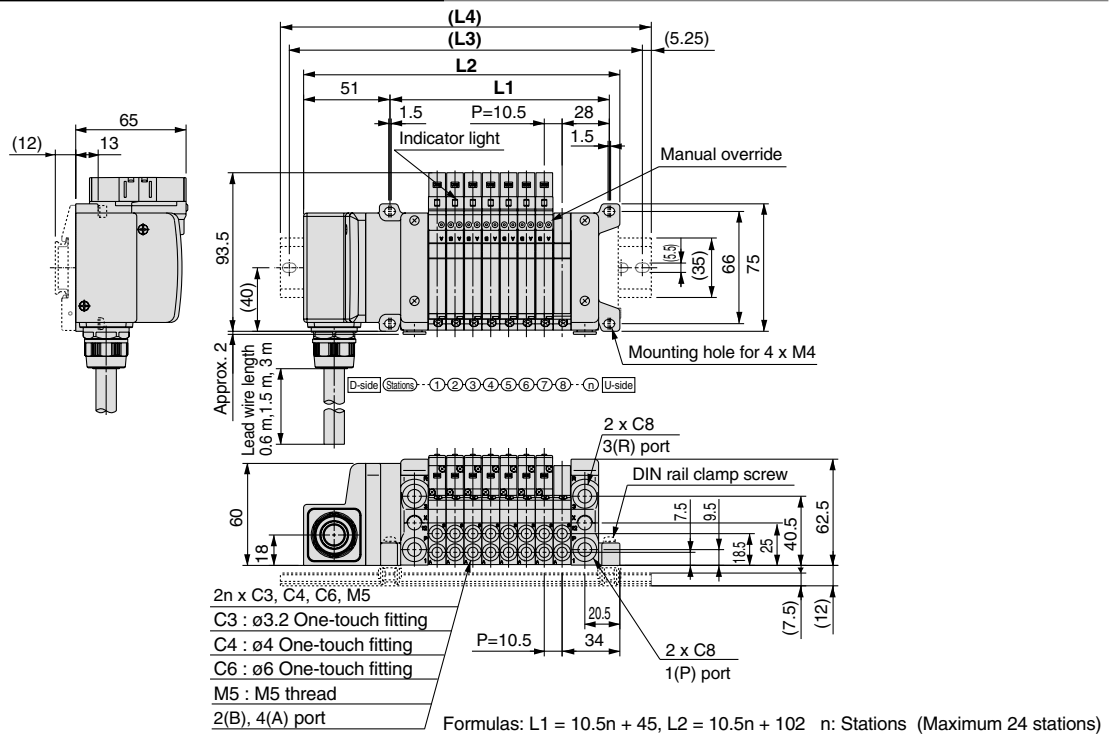
Special Wiring Specifications (Option)

Mixed single and double wiring are available as options. The maximum number of manifold stations is determined by the number of solenoids. Count one point for a single solenoid type and two points for a double solenoid type. The total number of solenoids (points) must not exceed 24.

VQC1000/2000/4000

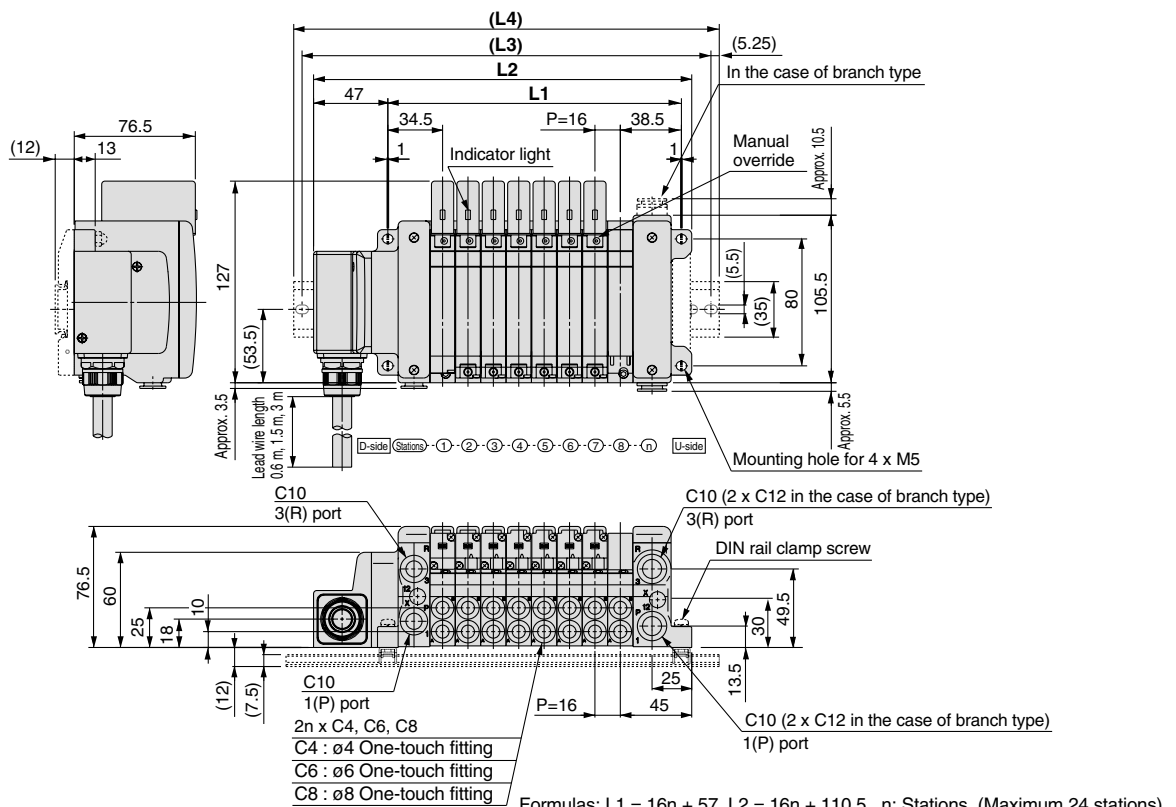
Kit (Lead wire kit) **IP67 compliant**

VV5QC11



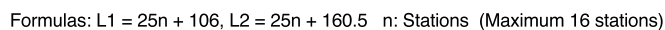
L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	55.5	66	76.5	87	97.5	108	118.5	129	139.5	150	160.5	171	181.5	192	202.5	213	223.5	234	244.5	255	265.5	276	286.5	297
L2	112.5	123	133.5	144	154.5	165	175.5	186	196.5	207	217.5	228	238.5	249	259.5	270	280.5	291	301.5	312	322.5	333	343.5	354
L3	137.5	150	162.5	175	187.5	200	212.5	225	237.5	250	262.5	275	287.5	300	312.5	325	337.5	350	362.5	375	387.5	400	412.5	425
L4	148	160.5	173	185.5	198	210.5	223	235.5	248	260.5	273	285.5	298	310.5	323	335.5	348	360.5	373	385.5	398	410.5	423	435.5

VV5QC21



L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	73	89	105	121	137	153	169	185	201	217	233	249	265	281	297	313	329	345	361	377	393	409	425	441
L2	126.5	142.5	158.5	174.5	190.5	206.5	222.5	238.5	254.5	270.5	286.5	302.5	318.5	334.5	350.5	366.5	382.5	398.5	414.5	430.5	446.5	462.5	478.5	494.5
L3	150	162.5	187.5	200	212.5	237.5	250	262.5	275	300	312.5	325	350	362.5	375	387.5	412.5	425	437.5	450	475	487.5	500	525
L4	160.5	173	198	210.5	223	248	260.5	273	285.5	310.5	323	335.5	360.5	373	385.5	398	423	435.5	448	460.5	485.5	498	510.5	535.5

VV5QC41

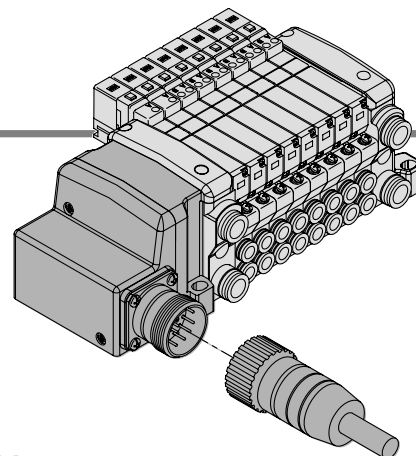
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M VQC1000/2000/4000

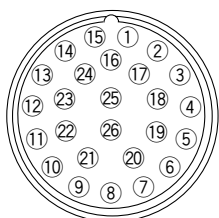
Kit (Circular connector kit) IP67 compliant

- Use of circular connectors helps streamline wiring procedure to save labor.
- IP67 enclosure is available with use of waterproof multiple connectors.



Electrical Wiring Specifications

Multiple connector



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

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

Positive COM spec. Negative COM spec.



Note) When using the negative COM specification for VQC1000/2000, use valves for negative COM.

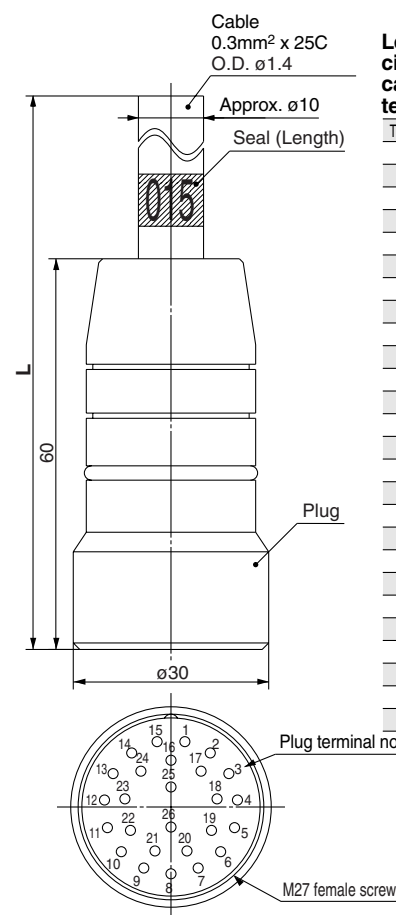
Special Wiring Specifications (Option)

Mixed single and double wiring are available as an option. The maximum number of manifold stations is determined by the number of solenoids. Count one point for a single solenoid type and two points for a double solenoid type. The total number of solenoids (points) must not exceed 24.

Cable Assembly

015
AXT100-MC26-030
050

(Type 26P circular connector cable assemblies can be ordered with manifolds. Refer to manifolds ordering.)



Lead wire colors for circular connector cable assembly terminal numbers

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

Electric characteristics

Item	Property
Conductor resistance Ω/km, 20°C	65 or less
Voltage limit V, 1 minute, AC	1000
Insulation resistance MΩ/km, 20°C	5 or more

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

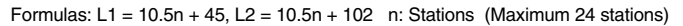
Circular connector cable assemblies

Cable length (L)	Assembly no.
	26P
1.5 m	AXT100-MC26-015
3 m	AXT100-MC26-030
5 m	AXT100-MC26-050

* Cannot be used for transfer wiring.
* Lengths other than the above is also available. Please contact SMC for details.

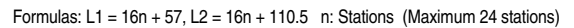
Kit (Circular connector kit) IP67 compliant

VV5QC11



L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	55.5	66	76.5	87	97.5	108	118.5	129	139.5	150	160.5	171	181.5	192	202.5	213	223.5	234	244.5	255	265.5	276	286.5	297
L2	112.5	123	133.5	144	154.5	165	175.5	186	196.5	207	217.5	228	238.5	249	259.5	270	280.5	291	301.5	312	322.5	333	343.5	354
L3	137.5	150	162.5	175	175	187.5	200	212.5	225	237.5	237.5	250	262.5	275	287.5	300	300	312.5	325	337.5	350	362.5	375	375
L4	148	160.5	173	185.5	185.5	198	210.5	223	235.5	248	248	260.5	273	285.5	298	310.5	310.5	323	335.5	348	360.5	373	385.5	385.5

VV5QC21



L	n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
	L1	73	89	105	121	137	153	169	185	201	217	233	249	265	281	297	313	329	345	361	377	393	409	425	441
	L2	126.5	142.5	158.5	174.5	190.5	206.5	222.5	238.5	254.5	270.5	286.5	302.5	318.5	334.5	350.5	366.5	382.5	398.5	414.5	430.5	446.5	462.5	478.5	494.5
	L3	150	162.5	187.5	200	212.5	237.5	250	262.5	275	300	312.5	325	350	362.5	375	387.5	412.5	425	437.5	450	475	487.5	500	525
	L4	160.5	173	198	210.5	223	248	260.5	273	285.5	310.5	323	335.5	360.5	373	385.5	398	423	435.5	448	460.5	485.5	498	510.5	535.5

SJ
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VQ7

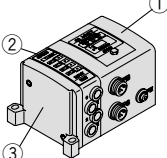
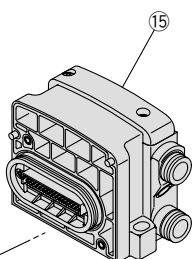
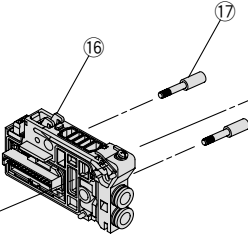
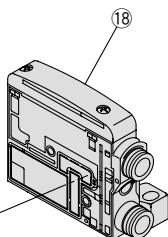
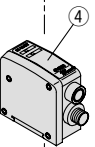
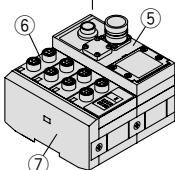
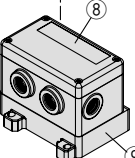
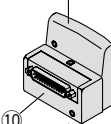
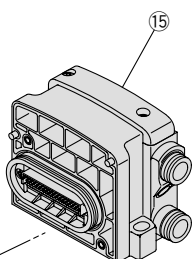
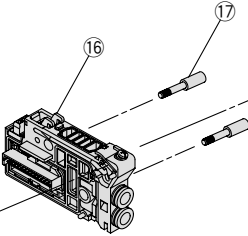
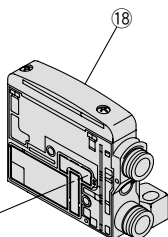
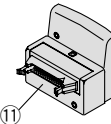
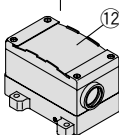
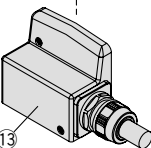
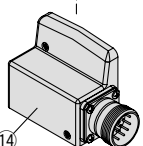
VV5QC41



$\frac{L}{n}$	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	131	156	181	206	231	256	281	306	331	356	381	406	431	456	481	506
L2	185.5	210.5	235.5	260.5	285.5	310.5	335.5	360.5	385.5	410.5	435.5	460.5	485.5	510.5	535.5	560.5

SJ
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S0700
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VQ4
VQ5
VQC
VQZ
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VFS
VFR
VQ7

Exploded View of Manifold

	Housing assembly and SI unit	D-side end plate assembly	Manifold block assembly	U-side end plate assembly
S Kit (Serial)	EX250 VQC1000 VQC2000 VQC4000 			
	EX500 VQC1000 VQC2000 VQC4000 			
	EX240 VQC4000 			
	EX126 VQC1000 VQC2000 VQC4000 			
F Kit (D-sub connector)	VQC1000 VQC2000 VQC4000 			
P Kit (Flat ribbon cable)	VQC1000 VQC2000 VQC4000 			
T Kit (Terminal block)	VQC1000 VQC2000 VQC4000 			
L Kit (Lead wire)	VQC1000 VQC2000 VQC4000 			
M Kit (Multiple connector)	VQC1000 VQC2000 VQC4000 			

Manifold Assembly Part No.**Housing Assembly and SI Unit/Input Block**

No.	Description	Part no.	Note	Applicable model		
				VQC1000	VQC2000	VQC4000
1	SI unit	EX250-SPR1	PROFIBUS DP (– COM.)	●	●	●
		EX250-SMJ2	CC-Link (+ COM.)	●	●	●
		EX250-SAS3	As-i, 8 in/out, 31 slave modes, 2 power supply systems (– COM.)	●	●	●
		EX250-SAS5	As-i, 4 in/out, 31 slave modes, 2 power supply systems (– COM.)	●	●	●
		EX250-SAS7	As-i, 8 in/out, 31 slave modes, 1 power supply systems (– COM.)	●	●	●
		EX250-SAS9	As-i, 4 in/out, 31 slave modes, 1 power supply systems (– COM.)	●	●	●
		EX250-SCA1A	CANopen (– COM.)	●	●	●
		EX250-SCN1	ControlNet (– COM.)	●	●	●
		EX250-SDN1	DeviceNet (– COM.)	●	●	●
		EX250-SEN1	EtherNet/IP (– COM.)	●	●	●
2	Input block	EX250-IE1	M12, 2 inputs	●	●	●
		EX250-IE2	M12, 4 inputs	●	●	●
		EX250-IE3	M8, 4 inputs	●	●	●
3	End plate assembly	EX250-EA1	Standard	●	●	●
		EX250-EA2	DIN rail mounting	●	●	—
4	SI unit	EX500-Q001	DeviceNet (+ COM.)	●	●	●
		EX500-Q101	DeviceNet (– COM.)	●	●	●
5	SI unit	EX240-SDN2	DeviceNet (+ COM.)	—	—	●
		EX240-SPR1	PROFIBUS DP (– COM.)	—	—	●
6	DI unit	EX240-IE1	M12, 8 inputs	—	—	●
7	End bowl assembly	EX240-EA2	DI unit with manifold	—	—	●
		EX240-EA4	DI unit without manifold	—	—	●
8	SI unit	EX126D-SMJ1	CC-Link (+ COM.)	●	●	●
9	Terminal plate	VVQC1000-74A-2	For EX126 SI unit mounting	●	●	●
10	D-sub connector housing assembly	VVQC1000-F25-1	F kit, 25 pins	●	●	●
11	Flat ribbon cable housing assembly	VVQC1000-P26-1	P kit, 26 pins	●	●	●
		VVQC1000-P20-1	P kit, 20 pins	●	●	●
12	Terminal block box housing assembly	VVQC1000-T0-1	T kit	●	●	●
13	Lead wire housing assembly	VVQC1000-L25-0-1	L kit with 0.6 m lead wire	●	●	●
		VVQC1000-L25-1-1	L kit with 1.5 m lead wire	●	●	●
		VVQC1000-L25-2-1	L kit with 3.0 m lead wire	●	●	●
14	Multiple connector housing assembly	VVQC1000-M26-1	M kit 26 pins	●	●	●

SJ

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SYJ

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S0700

VQ

VQ4

VQ5

VQC

VQZ

SQ

VFS

VFR

VQ7

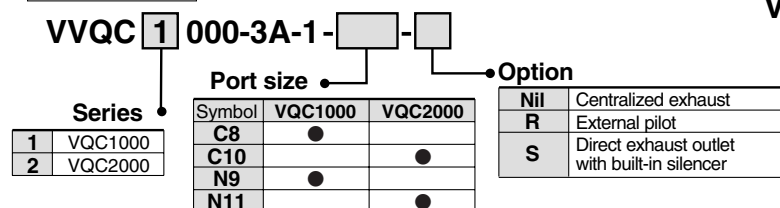
Series VQC

Manifold Assembly Part No.

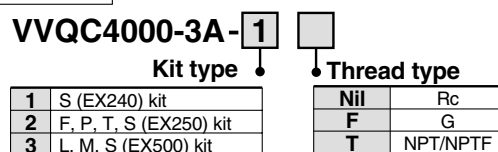
D-side end plate assembly

⑮ D-side end plate assembly part no.

VQC1000/2000



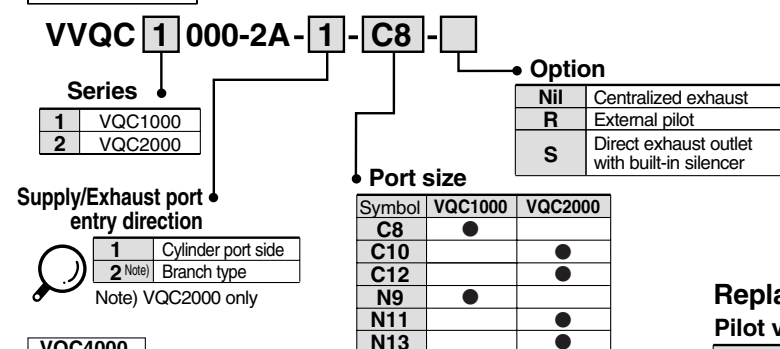
VQC4000



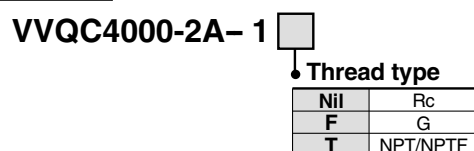
U-side end plate assembly

⑮ U-side end plate assembly part no.

VQC1000/2000

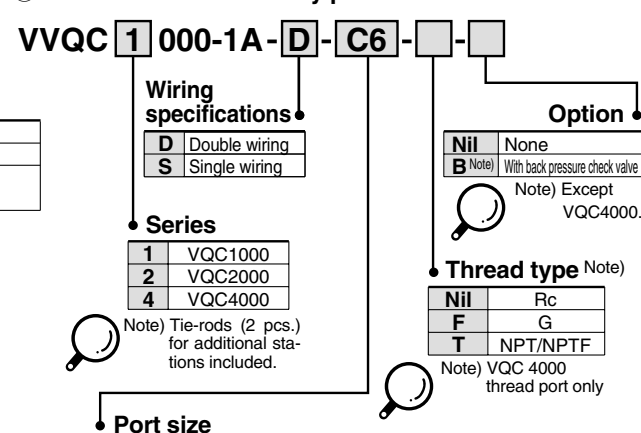


VQC4000



Manifold block assembly

⑮ Manifold block assembly part no.



Port size

Symbol	Port size	VQC1000	VQC2000	VQC4000
C3	For ø3.2 One-touch fitting	●		
C4	For ø4 One-touch fitting	●	●	
C6	For ø6	●	●	
C8	For ø8		●	●
C10	For ø10			●
C12	For ø12			●
N1	For ø1/8"	●		
N3	For ø5/32"	●	●	
N7	For ø1/4"	●	●	●
N9	For ø5/16"		●	●
N11	For ø3/8"			●
M5	For M5 thread	●		
O2	Rc 1/4"			●
O3	Rc 3/8"			●
B	Rc 1/4" bottom ported			●

Replacement parts

Pilot valve assembly

VQC1000	VQ111 ^(K) (Y)W-□-1	Single type
	VQ131 ^(K) (Y)W-□-1	Double type
VQC2000	VQ111 ^(K) (Y)□-1	Single type
	VQ131 ^(K) (Y)□-1	Double type
VQC4000	VQZ111P(Y)-□ ^{Note 3)}	

Note 1) (Y): 0.5 W, (K): High pressure type 1.0 W

Note 2) □: Coil rated voltage Ex.) 24 VDC: 5

Note 3) This model no. does not include an indicator light subplate. If it is required, please order it separately.

⑮ Tie-rod assembly part no. (2 units)

VQC1000	VVQC1000-TR-□
VQC2000	VVQC2000-TR-□
VQC4000	VVQC4000-TR-□

Note 1) Please order when reducing the number of manifold stations. When increasing the number of stations, additional orders are not required since they are included in the manifold block assembly.

Note 2) □: Number of stations, 02 to 24 (VQC4000: 02 to 16)



Series VQC Specific Product Precautions 1

Be sure to read this 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.

Manual Override

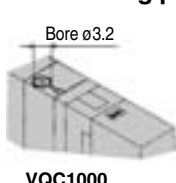
Warning

Since connected equipment will operate when the manual override is activated, confirm that conditions are safe prior to activation.

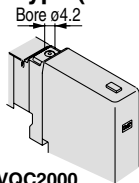
The non-locking push type (tool required) is standard, and the slotted locking type (tool required) is optional.

■VQC1000/2000

Non-locking push type (Tool required)



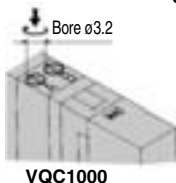
VQC1000



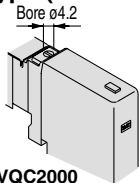
VQC2000

Push down the manual override button with a small screwdriver, etc., until it stops. The manual override will return when released.

Slotted locking type (Tool required) <Option>



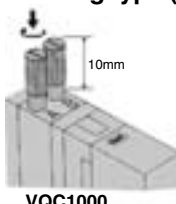
VQC1000



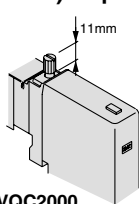
VQC2000

Push down the manual override button with a small flat head screwdriver until it stops, and turn it clockwise 90° to lock it. Turn it counterclockwise to release it.

Locking type (Manual) <Option>



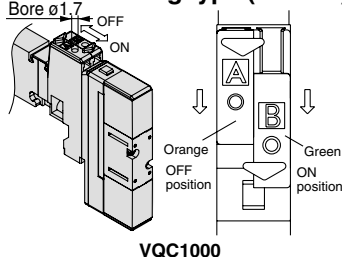
VQC1000



VQC2000

Push down the manual override button with a small flat head screwdriver or with your finger until it stops, and turn it clockwise 90° to lock it. Turn it counterclockwise to release it.

Slide locking type (Manual) <Option>

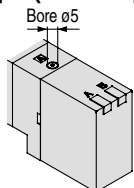


VQC1000

Slide the manual override button with a small flat head screwdriver or with your finger until it stops at the pilot valve side (ON side) to lock it. Slide it to the fitting side (OFF side) to release it. It can also be used as a push type using a screwdriver, etc., of ø1.7 or less.

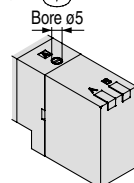
■VQC4000

Push type (Tool required)

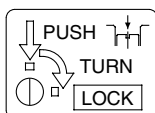


Push down the manual override button with a small screwdriver until it stops. The manual override will return when released.

Locking type (Tool required) <Optional>

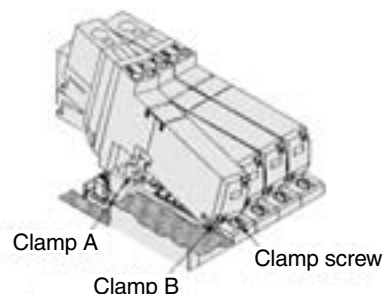


Push down the manual override button with a small flat head screwdriver until it stops, and turn it clockwise 90° to lock it. Turn it counterclockwise to release it.



Solenoid Valve Removal and Mounting (VQC1000/2000)

Caution



Removal steps

1. Loosen the clamp screws until they turn freely. (The screws do not come out.)
2. Remove the solenoid valve from clamp B by lifting the coil side of the valve while pushing on the screw top.

If pushing down on the screw is difficult, you can alternately press down on the valve gently in the area near the manual override.

Mounting steps

1. Push the clamp screws. Clamp A opens. Now insert the end plate hook of the valve into clamp B from an angle.
2. Push the valve down into place. (When you release the screws, the valve will be locked into clamp A.)
3. Tighten the clamp screws with a tightening torque of 0.25 to 0.35 N·m for VQC1000 and 0.5 to 0.7 N·m for VQC2000.

Caution

Do not let foreign matter stick on the seal side of the gasket and solenoid, as this will cause air leakage.

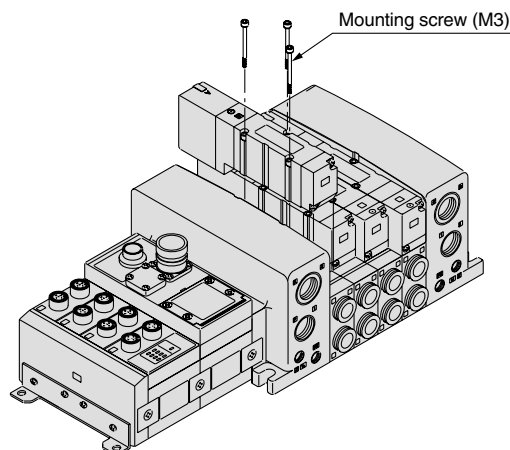
Valve Mounting (VQC4000)

Caution

After confirming that the gasket is installed correctly, securely tighten the mounting screws according to the tightening torque shown below.

Proper tightening torque (N·m)

0.8 to 1.2



SJ

SY

SV

SYJ

SZ

VP4

S0700

VQ

VQ4

VQ5

VQC

VQZ

SQ

VFS

VFR

VQ7



Series VQC Specific Product Precautions 2

Be sure to read this 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.

Replacing One-touch Fittings

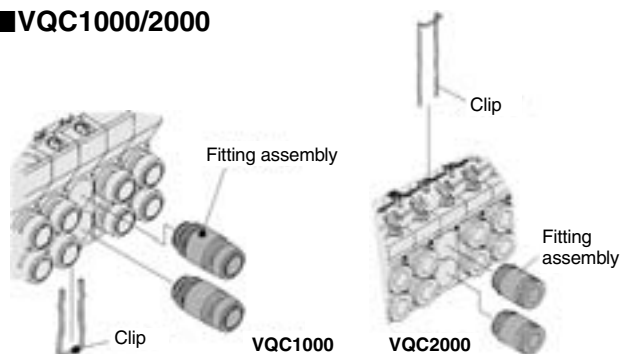
Caution

Cylinder port fittings are available in cassette type and can be replaced easily.

Fittings are secured with a retaining clip that is inserted from the top side of the valve. After removing the valve, remove the clip with a flat head screw driver to replace the fittings.

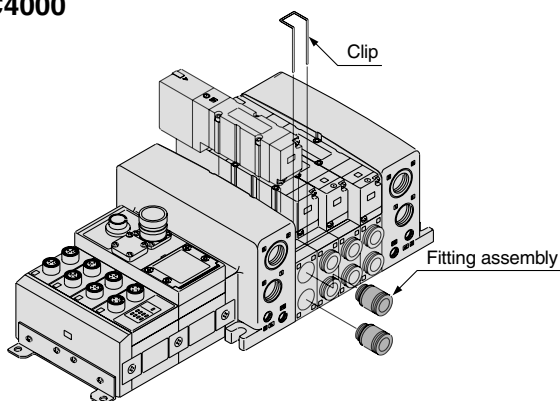
To mount a fitting, insert the fitting assembly until it stops and reinsert the retaining clip to its designated position.

■VQC1000/2000



Applicable tube O.D.	Fitting assembly part no.	
	VQC1000	VQC2000
ø3.2	VVQ1000-50A-C3	—
ø4	VVQ1000-50A-C4	VVQ1000-51A-C4
ø6	VVQ1000-50A-C6	VVQ1000-51A-C6
ø8	—	VVQ1000-51A-C8
M5	VVQ1000-50A-M5	—
ø1/8"	VVQ1000-50A-N1	—
ø5/32"	VVQ1000-50A-N3	VVQ1000-51A-N3
ø1/4"	VVQ1000-50A-N7	VVQ1000-51A-N7
ø5/16"	—	VVQ1000-51A-N9

■VQC4000



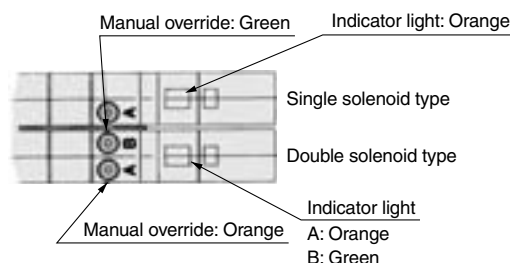
Applicable tube O.D.	Fitting assembly part no.	
	VQC4000	
ø8	VVQ4000-50B-C8	
ø10	VVQ4000-50B-C10	
ø12	VVQ4000-50B-C12	
ø1/4"	VVQ4000-50B-N7	
ø5/16"	VVQ4000-50B-N9	
ø3/8"	VVQ4000-50B-N11	

Light/Surge Voltage Suppressor (VQC1000/2000)

Caution

Indicator lights are all positioned on one side for both single solenoid and double solenoid type valves.

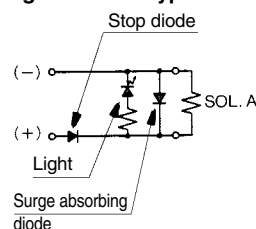
For double solenoid type, 2 colours that are same as the manual override are used to indicate the energization of A-side or B-side.



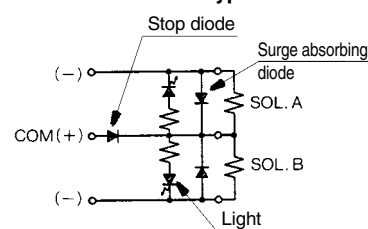
(For VQC1000)

DC circuit

Single solenoid type



Double solenoid type

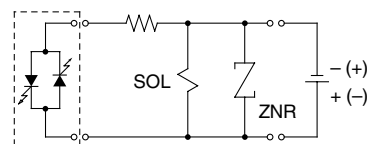


Note 1) A-side energized: Light (orange) ON With miswiring prevention mechanism (stop diode)
B-side energized: Light (green) ON With surge absorbing mechanism (surge absorbing diode) mechanism

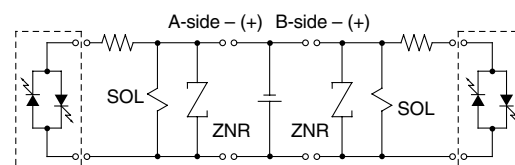
Note 2) Coil surge voltage generated when OFF is about -40V. Please contact SMC separately for further suppression of the coil surge voltage.

Internal Wiring Specifications (VQC4000)

Caution



Light circuit assembly DC: Single (orange)



A-side light circuit assembly (orange) DC: Double COM+ (-) B-side light circuit assembly (green)

Note) Coil surge voltage generated when OFF is about -60V. Please contact SMC separately for further suppression of the coil surge voltage.

How to Calculate the Flow Rate

Refer to Front matters 44 to 47.



Series VQC

Specific Product Precautions 3

Be sure to read this 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.

Serial Wiring EX500/EX250/EX240/EX126 Precautions

⚠ Warning

1. These products are intended for use in general factory automation equipment.

Avoid using these products in machinery/equipment which affects human safety, and in cases where malfunction or failure can result in extensive damage.

2. Do not use in explosive environments, in the presence of inflammable gases, or in corrosive environments. This can cause injury or fire.
3. Work such as transporting, installing, piping, wiring, operation, control and maintenance should be performed by knowledgeable and qualified personnel only. As handling involves the risk of a danger of electrocution, injury or fire.
4. Install an external emergency stop circuit that can promptly stop operation and shut off the power supply.
5. Do not modify these products. Modifications done to these products carry the risk of injury and damage.

⚠ Caution

1. Read the instruction manual carefully, strictly observe the precautions and operate within the range of the specifications.
2. Do not drop these products or submit them to strong impacts. This can cause damage, failure or malfunction.
3. In locations with poor electrical conditions, take steps to ensure a steady flow of the rated power supply. Use of a voltage outside of the specifications can cause malfunction, damage to the unit, electrocution or fire.
4. Do not touch connector terminals or internal circuit elements when current is being supplied. There is a danger of malfunction, damage to the unit or electrocution if connector terminals or internal circuit elements are touched when current is being supplied.

Be sure that the power supply is OFF when adding or removing manifold valves or input blocks or when connecting or disconnecting connectors.

5. Operate at an ambient temperature that is within the specifications. Even when the ambient temperature range is within the specifications, do not use in locations where there are rapid temperature changes.
6. Keep wire scraps and other extraneous materials from getting inside these products. This can cause fire, failure or malfunction.
7. Give consideration to the operating environment depending on the type of enclosure being used.

To achieve IP65 and IP67 protection, provide appropriate wiring between all units using electrical wiring cables, communication connectors and cables with M12 connectors. Also, provide waterproof caps when there are unused ports, and perform proper mounting of input units, input blocks, SI units and manifold valves. Provide a cover or other protection for applications in which there is constant exposure to water.

8. Use the proper tightening torques.

There is a possibility of damaging threads if tightening exceeds the tightening torque range.

⚠ Caution

9. Provide adequate protection when operating in locations such as the following:

- Where noise is generated by static electricity
- Where there is a strong electric field
- Where there is a danger of exposure to radiation
- When in close proximity to power supply lines

10. When these products are installed in equipment, provide adequate protection against noise by using noise filters.

11. Since these products are components whose end usage is obtained after installation in other equipment, the customer should confirm conformity to EMC directives for the finished product.

12. Do not remove the name plate.

13. Perform periodic inspections and confirm normal operation, otherwise it may be impossible to guarantee safety due to unexpected malfunction or erroneous operation.

Power Supply Safety Instructions

⚠ Caution

1. Operation is possible with a single power supply or a separate power supply. However, be sure to provide two wiring systems (one for solenoid valves, and one for input and control units).

2. Use the following UL approved products for DC power supply combinations.

- (1) Controlled voltage current circuit conforming to UL508
Circuit uses the secondary coil of an isolated transformer as the power supply, satisfying the following conditions.
 - Max. voltage (with no load): 30 Vrms (42.4 V peak) or less
 - Max. current: ① 8 A or less (including shorts), and
② When controlled by a circuit protector (fuse) with the following ratings:

No-load voltage (V peak)	Max. current rating
0 to 20 [V]	5.0
Over 20 [V] and up to 30 [V]	100
Peak voltage value	

- (2) A circuit (class 2 circuit) with maximum 30 Vrms (42.4 V peak) or less, and a power supply consisting of a class 2 power supply unit conforming to UL1310, or a class 2 transformer conforming to UL1585.

Cable Safety Instructions

⚠ Caution

1. Avoid miswiring, as this can cause malfunction, damage and fire in the unit.

2. To prevent noise and surge in signal lines, keep all wiring separate from power lines and high voltage lines. Otherwise, this can cause a malfunction.

3. Check wiring insulation, as defective insulation can cause damage to the unit when excessive voltage or current is applied.

4. Do not bend or pull cables repeatedly, and do not place heavy objects on them or allow them to be pinched. This can cause broken lines.

SJ

SY

SV

SYJ

SZ

VP4

S0700

VQ

VQ4

VQ5

VQC

VQZ

SQ

VFS

VFR

VQ7