5 Port Solenoid Valve

Connector Type Manifold Metal Seal / Rubber Seal

IP67 enclosure compatible



Connector Type Manifold

Series VQC1000/2000

Power saving

Standard: 0.4 W (Reduced by 60 % compared to existing model)

High-pressure (1 MPa, Metal seal): 0.95 W

○ IP67 enclosure compatible Dust-tight, Immersion-proof

Serial transmission

FX600

(Based on IEC60529) (S/T/L/M kit

Applicable to EX600 (Input/Output) serial transmission system (Fieldbus system)

- Available for DeviceNet[™], PROFIBUS DP, CC-Link, EtherNet/IP[™], EtherCAT® and PROFINET Fieldbus protocols
- EtherNet/IP™ and PROFINET are compatible with wireless systems.
- Max. 9 units Note) can be connected in any order.

The unit to connect input device such as an auto switch, pressure switch and flow switch, and the unit to connect output device such as a solenoid valve, relay and indicator light can be connected in any order.

Note) Except SI unit

 Analogue unit can be connected with analogue input device or analog output device.

As well as a Digital (switch) Input/Output Unit, a unit applicable to analog signal is provided, and can be connected with various device for control.



It is possible to ascertain the maintenance period and identify the parts that require maintenance, by an input (sensor) open circuit detecting function and an input/output signal of ON/OFF counter function. Also, the monitoring of input/output signal and the setting of parameters can be performed with a Handheld Terminal.

The EX260 series supports safety communication (PROFIsafe).

This is a Fieldbus unit which supports safety standard ISO 13849-compliant safety circuit constructions.



PROFIsafe is established as an international standard (IEC 61784-3-3). It is a communication protocol that transmits safety-related data by PROFINET communication and can be used up until safety standards ISO 13849-1 PL e and IEC 61508/IEC 62061 SIL 3.

Using the safety communication protocol

Refer to the EX260 Web Catalogue for details on units that support the safety communication protocol.

When using a manifold valve within an ISO 13849-compliant safety system, the device needs to be considered from both the pneumatic circuit and the electric side.

Devices (including valves) need to be selected based on whether their functions are in line with the safety level of the equipment as a whole.

The use of valves that have been validated as being compliant with ISO 13849-2 may be required.

For details on valves that have been validated, please contact SMC.

In addition, refer to "Safety Instructions" for precautions on model selection.



Compact and high flow

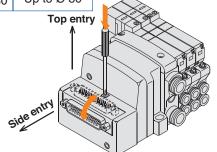
	Manifold	Flow-rate characteristics Note)						Applicable
Series	pitch (mm)	Metal seal			Rubber seal			cylinder bore
	pitori (mm)	C [dm3/(s·bar)]	b	Cv	C [dm3/(s·bar)]	b	Cv	size (mm)
VQC1000	10.5	0.72	0.25	0.18	1.0	0.30	0.25	Up to Ø 50
VQC2000	16	2.6	0.15	0.60	3.2	0.30	0.80	Up to Ø 80

Note) Flow-rate characteristics: 2-position single, 4/2 \rightarrow 5/3 (A/B \rightarrow R1/R2)

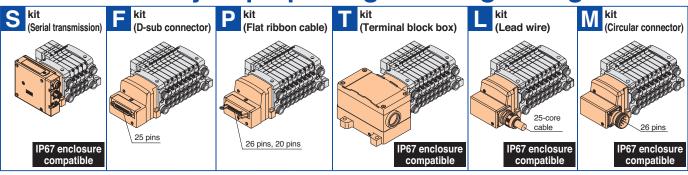
Connector entry direction can be changed with a single push. (F/P kit)

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.



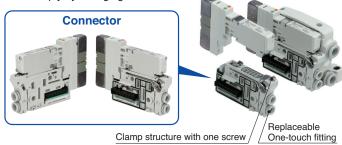
A wide variety of prepackaged wiring configurations

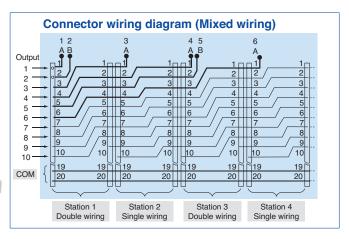


- Our six standard wiring packages bring a world of ease to wiring and maintenance work, while the protective enclosures of four of them conform to IP67 standards.
- The S kit is compatible with a combined I/O unit. (Not applicable to Gateway unit)

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.





Dual 3-port valves, 4 positions

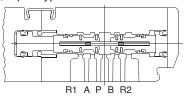
VQC1000/2000 (Rubber seal only)

- 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.

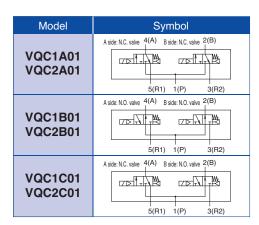
Exhaust centre: VQC1A01: VQC2A01

Pressure centre : VQC1B01

: VQC2B01







Series VQC/Base Mounted: Variations

				So	nic					S	kit			
			conductance C [dm³/(s·bar)] Serial transmission											
			$ \begin{pmatrix} CYL \to EXH \\ 4/2 \to 5/3 \end{pmatrix} $			Gateway-type Integrated-type (I/O) Integrated		Integrated-typ	pe (for output)					
				4/2 -	→ 5/3 /	e size	EX500 Compatible protocol • DeviceNet TM	EX600 Compatible protocol • DeviceNet [™]	EX2 Compatible PROFIN	protocol	EX250 Compatible protocol • DeviceNet™	EX260 Compatible protocol • DeviceNet™	EX126 Compatible protocol • CC-Link	
		111		Single/Double	3-position (Closed center)	Applicable cylinder bore size	EtherNet/IP™ PROFINET	PROFIBUS DP CC-Link EtherNet/IP™* PROFINET* * Compatible with wireless systems	PROFILE		- Deviceret - AS-Interface - EtherNet/IP™	PROFIBUS DP CC-Link EtherCAT PROFINET EtherNet/IP™ Ethernet POWERLINK IO-Link PROFIsafe	CC-LIIIR	
							IP67 compliant	IP67 compliant	IP65 com	npliant	IP67 compliant	IP67 compliant	IP67 compliant	
Ser	ries	Metal seal	VQC1□00	0.72	0.72	Up to								
	. 5	Rubber seal	VQC1□01	1.0	0.65	Ø 50								
	Series VQC2000 P. 11	Metal seal	VQC2□00	2.6	2.0	Up to Ø 80								
		2000	Rubber seal	VQC2□01	3.2	2.2	Ø 80							

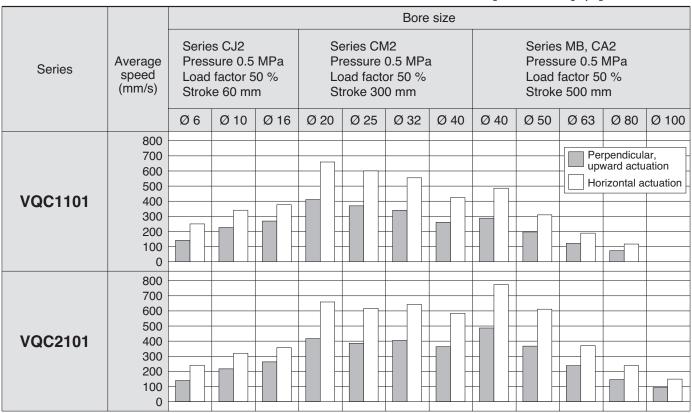
5 Port Solenoid Valve Series VQC1000/2000

F kit	P kit	T kit	L kit	M kit	Port	size
D-sub connector D-sub connector Conforming to MIL D-sub connector	Flat ribbon cable Flat ribbon cable Conforming to MIL flat ribbon cable connector 26 pins 20 pins	Terminal block box (Terminal block) (Terminal block) (Terminal block is compactly arranged on one side. IP67 compliant	Lead wire IP67 enclosure with use of multiple wire cable with sheath and waterproof connector 25-core cable IP67 compliant	Circular connector Circular connector IP67 enclosure with use of waterproof circular connector 26 pins IP67 compliant	SUP port EXH port 1, 3 (P, R)	Cylinder port 2, 4 (A, B)
					C8 (Ø 8) N9 (Ø 5/16")	C3 (Ø 3.2) C4 (Ø 4) C6 (Ø 6) M5 (M5 thread) N1 (Ø 1/8") N3 (Ø 5/32") N7 (Ø 1/4")
					C10 (Ø 10) N11 (Ø 3/8") In case of branch type C12 (Ø 12) N13 (Ø 1/2")	C6 (Ø 6) C8 (Ø 8) N3 (Ø 5/32") N7 (Ø 1/4") N9 (Ø 5/16")

Series VQC1000/2000

Cylinder Speed Chart

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





Note 1) It is when the cylinder is extending that is meter-out controlled by speed controller which is directly connected with cylinder, and its needle valve with being fully open.

Note 1) The average velocity of the cylinder is what the stroke is divided by the total stroke time.

Note 1) Load factor: ((Load mass x 9.8)/Theoretical force) x 100 %

Conditions

Series	Conditions	Series CJ2	Series CM2	Series MB, CA2		
	Tube x Length	T0604 (O.D. Ø 6/I.D. Ø 4) x 1 m				
VQC1101	Speed controller	AS3001F-06				
	Silencer	AN200-KM8				
	Tube x Length	T0806 (O.D. Ø 8/I.D. Ø 6) x 1 m				
VQC2101	Speed controller	AS3001F-08				
	Silencer	AN200-KM10				



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	VQC1000/2000	
	S kit (Serial transmission)	
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	VQC2000	
The state of the s	S kit (Serial transmission) EX245	P.26-1
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Base Mounted

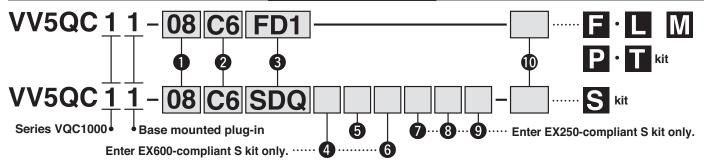
(ECK & **Plug-in Unit** QC1000 Series

refer to the Reduced-wiring



Refer to page 16-1 for details on manifolds that support safety communication (PROFIsafe).

How to Order Manifold



Stations

01	1 station
:	:

The maximum number of stations differs depending on the electrical entry. (Refer to **3** Kit type/Electrical entry/Cable length.) Note) In 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

Cylinder port size

With Ø 3.2 one-touch fitting			
With Ø 4 one-touch fitting			
C6 With Ø 6 one-touch fitting			
M5 thread			
Mixed sizes and with port plug			
Top ported elbow with Ø 3.2 one-touch fitting			
4 Top ported elbow with Ø 4 one-touch fitting			
Top ported elbow with Ø 6 one-touch fitting			
M5 thread			
Bottom ported elbow with Ø 3.2 one-touch fitting			
Bottom ported elbow with Ø 4 one-touch fitting			
Bottom ported elbow with Ø 6 one-touch fitting			
M5 thread			
Elbow port, mixed sizes			
Mixed size for different types of piping, option installed			

Note 1) Indicate the size by means of the manifold specification sheet in case of "CM", "LM", "NM".

Note 2) When selecting the mixed size for different types of piping or dual flow fitting assembly, enter "MM" and give instructions in the manifold specification sheet.

Note 3) Symbols for inch sizes are as follows: • N1: Ø 1/8"

N3: Ø 5/32"NM: Mixed • N7: Ø 1/4" The top ported elbow is LN□ and the bottom ported elbow is BN□.

4 End plate type (Enter EX600-compliant S kit only.)

_	Without end plate
2	M12 power supply connector, B-coded
3	7/8 inch power supply connector
4	M12 power supply connector IN/OUT, A-coded, Pin arrangement 1
5	M12 power supply connector IN/OUT, A-coded, Pin arrangement 2

Note) Without SI unit, the symbol is nothing.

The pin layout for "4" and "5" pin connector is different.

6 I/O unit sations (Enter EX600-compliant S kit only.)

-	None
1	1 station
9	9 stations

Note 1) Without SI unit the symbol is nil

Note 2) SI unit is not included in I/O unit stations.

Note 3) When I/O unit is selected, it is shipped separately, and assembled by customer. Refer to the attached operation manual for mounting method.

Number of input blocks (Enter EX250-compliant S kit only.)

_	Without SI unit/input block (SD0)			
0	Without input block With 1 input block			
1				
-	!			
8	With 8 input blocks			

Note) For the S kit compatible with AS-Interface, the maximum number of stations is limited. Refer to page 6 for details.

lnput block type (Enter EX250-compliant S kit only.)

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

St unit output polarity

	Si unit output polarity									
	SI unit	EX250 integrated-type (I/O) serial transmission system								
	output polarity	DeviceNet™	AS-Interface	EtherNet/IP™						
_	- Positive common	_	_	_						
N	Magative common	0	0	0						

SI unit output polarity		negative common				0						J	
			EX500 Gateway Decentralised System 2	EX260 integrated-type (for output) serial transmission system						EX126 integrated-type (for output) serial transmission system			
	output polarity		(128 points)	DeviceNet™	PROFIBUS DP	CC-Link	EtherCAT	PROFINET	EtherNet/IP™	Ethernet POWERLINK	IO-Link	CC-Link	
	_	Positive common	_	0	0	0	0	0	0	_	_	0	
		NI C				_		_	_	_	_		

	Ol	EX6	00 integrate	ed-type (I/C	D) serial tra	ansmissior	n system (F	ieldbus syst	em)
0	SI unit utput polarity	DeviceNet™	PROFIBUS DP	CC-Link	EtherNet/IP™	PROFINET	EtherNet/IP™ compatible wireless base	PROFINET compatible wireless base	Wireless remote
_	Positive common	0	0	0	0	0	0	0	0
N	Negative common	0	0	0	0	0	0	0	0

* Select "-" for without SI unit (SD0□)

9 Input block specification (Enter EX250-compliant S kit only.)

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

10 Option

_	None
B Note 2)	All stations with back pressure check valve
D	With DIN rail (Rail length: Standard)
D □ Note 3)	With DIN rail (Rail length: Special)
K Note 4)	Special wiring spec. (Except double wiring)
N Note 10)	With name plate
R Note 5)	External pilot
S Note 6)	Direct EXH outlet with built-in silencer

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

Note 2) When a back pressure check valve is desired, and is to be installed only in certain manifold stations, specify the mounting position by means of the manifold specification sheet.

Note 3) For special DIN rail length, indicate "D□" (Enter the number of stations inside \square .) 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) When single wiring and double wiring are mixed, specify wiring type of each station by means of the manifold specification sheet.

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

Note 6) Built-in silencer type does not satisfy IP67.

Note 7) When changing the specifications of the EX600 from no DIN rail to DIN rail mounting, please consult SMC.

Note 8) When the EX600 "Without SI unit (SD60)" is specified, "With DIN rail (D)" cannot be selected.

Note 9) DIN rail is not attached (but shipped together) on the manifold in case of the EX600 with DIN rail. Refer to back page 57 for mounting method.

Note 10) When mounting the blanking plate with connector and the slide locking manual type valve by ordering only the manifold, order the name plate separately. For details, refer to

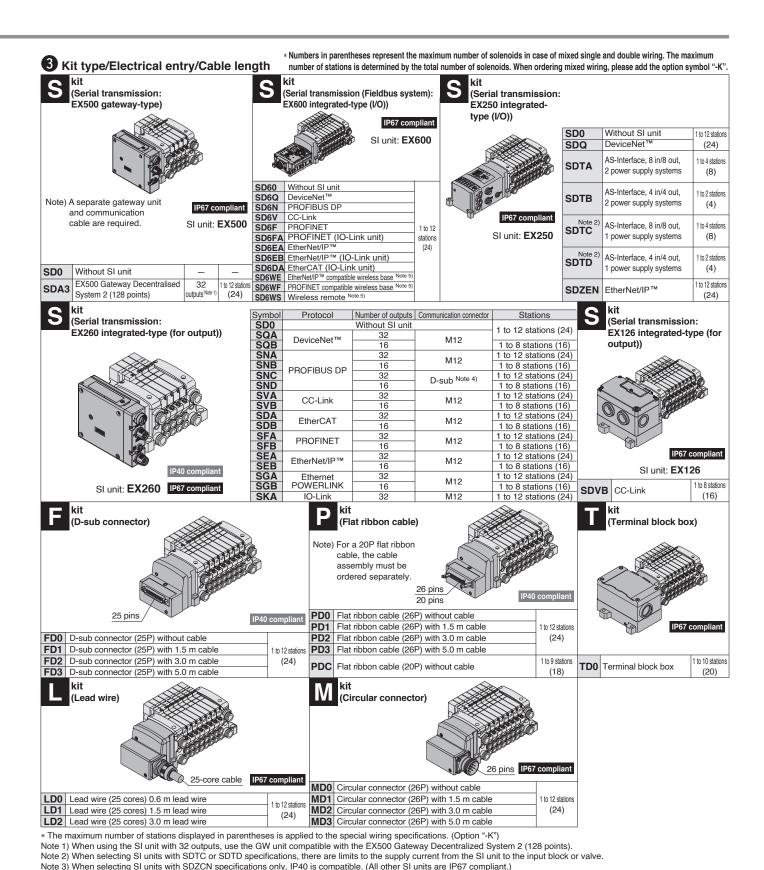


D side Stations -- 1 -- 2 -- 3 -- 4 -- 5 -- 6 -- 7 -- 8 -- n U side

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



Base Mounted Plug-in Unit Series VQC1000



CONC

Note 5) The wireless system is suitable for use only in a country where it is in accordance with the Radio Act and regulations of that country.

Note 4) For the SI unit part no., refer to page 7.

VQC1000 Series

SI Unit Part No.

EX500 Gateway Decentralized System 2 (128 points)

0	SI unit part no.	D
Symbol	Negative common (PNP)	Page
SDA3	EX500-S103	P.46

EX600

Symbol	Compatible	SI unit	part no.	Page
Syllibol	protocol	Positive common (NPN)	Negative common (PNP)	raye
SD6Q	DeviceNet®	EX600-SDN2A	EX600-SDN1A	
SD6N	PROFIBUS DP	EX600-SPR2A	EX600-SPR1A	
SD6V	CC-Link	EX600-SMJ2	EX600-SMJ1	
SD6F	PROFINET	EX600-SPN2	EX600-SPN1	
SD6FA	PROFINET (IO-Link unit)	EX600-SPN4	EX600-SPN3	
SD6EA	EtherNet/IP™	EX600-SEN4	EX600-SEN3	P.46
SD6EB	EtherNet/IP™ (IO-Link unit)	EX600-SEN8	EX600-SEN7	
SD6DA	EtherCAT (IO-Link unit)	EX600-SEC4	EX600-SEC3	
SD6WE	EtherNet/IP™ compatible wireless base Note)	EX600-WEN2	EX600-WEN1	
SD6WF	PROFINET compatible wireless base Note)	EX600-WPN2	EX600-WPN1	
SD6WS	Wireless remote Note)	EX600-WSV2	EX600-WSV1	

Note) The wireless system is suitable for use only in a country where it is in accordance with the Radio Act and regulations of that country.

EX250

Symbol	Compatible protocol	SI unit part no.	Page
SDQ	DeviceNet®	EX250-SDN1	
SDTA	AS-Interface, 8 in/8 out, 2 power supply systems	EX250-SAS3	
SDTB	AS-Interface, 4 in/4 out, 2 power supply systems	EX250-SAS5	
SDTC	AS-Interface, 8 in/8 out, 1 power supply systems	EX250-SAS7	P.47
SDTD	AS-Interface, 4 in/4 out, 1 power supply systems	EX250-SAS9	
SDZEN	EtherNet/IP™	EX250-SEN1	

EX126

Symbol	Compatible protocol	SI unit part no.	Page
SDVB	CC-Link	EX126D-SMJ1	P.47

EX260

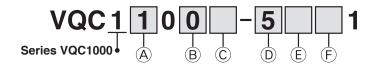
Symbol	Compatible	Number	SI unit	part no.	Communication	Paga
Syllibul	protocol	outputs	Positive common (NPN)	Negative common (PNP)	connector	Page
SQA	Davisa Nat®	32	EX260-SDN2	EX260-SDN1		
SQB	DeviceNet®	16	EX260-SDN4	EX260-SDN3	N40	
SNA	PROFIBUS DP	32	EX260-SPR2	EX260-SPR1	M12	
SNB		16	EX260-SPR4	EX260-SPR3		
SNC		32	EX260-SPR6	EX260-SPR5	D . N-4-\	
SND		16	EX260-SPR8	EX260-SPR7	D-sub Note)	
SVA	∃CC-Link	32	EX260-SMJ2	EX260-SMJ1	M12	
SVB		16	EX260-SMJ4	EX260-SMJ3		
SDA	EtherCAT	32	EX260-SEC2	EX260-SEC1	M12	P.47
SDB		16	EX260-SEC4	EX260-SEC3		ı
SFA	DDOEINET	32	EX260-SPN2	EX260-SPN1	M40	
SFB	PROFINET	16	EX260-SPN4	EX260-SPN3	M12	
SEA	Eth out lot /ID IM	32	EX260-SEN2	EX260-SEN1	N440	
SEB	EtherNet/IP™	16	EX260-SEN4	EX260-SEN3	M12	
SGA	DOMEST WAY	32		EX260-SPL1	M40	
SGB		16	_	EX260-SPL3	M12	
SKA	IO-Link	32	_	EX260-SIL1	M12	

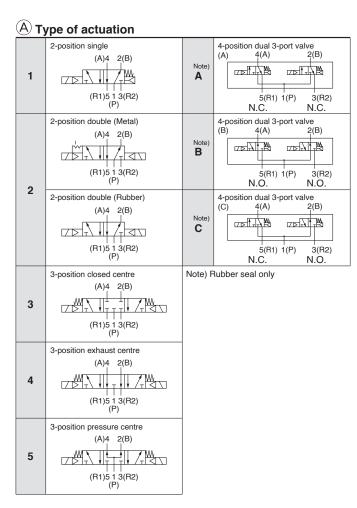
Note) When the communication connector specification is D-sub, the enclosure is IP40. (IP67 for other specifications)

For details about the EX series (Serial transmission system), refer to the **Web Catalog** and the Operation Manual. Please download the Operation Manual via SMC website, https://www.smcworld.com



How to Order Valves





	B Sea	al				
	0	Metal seal				
	1	Rubber seal				
Cunction						

(C) Function

_	Standard (0.4 W)
В	High-speed response type (0.95 W)
K Note 1)	High-pressure type (1.0 MPa, 0.95 W)
Note 2)	Negative common
R Note 3)	External pilot

* When two or more symbols are specified, indicate them alphabetically. However, combination of "B" and "K" is not possible.

Note 1) Metal seal only Note 2) When "-COM." is specified for the SI unit, select and mount the valve of negative common.

Note 3) Dual 3-port is not applicable.

D Coil voltage

NI - I - V O - I	041/00: 11-1-1- 11-	
6	12 VDC	
5 Note)	24 VDC	

Note) Only 24 VDC is available with the S kit.

(E) Light/surge voltage suppressor

_	Yes
E Note1, 2)	None (Non-polar)

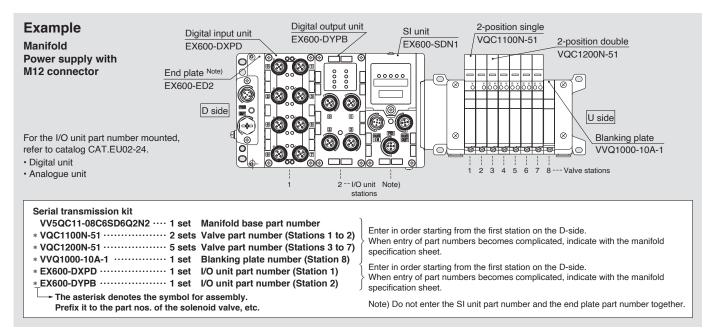
Note 1) Not applicable to the S kit. Note 2) A combination of "Function N (Negative common)" and "E" is unavailable.

Since "E" has no polarity, it can also be used as a negative common. Selection of "Function N" is not required.

Non-locking push type (Tool required) Push-turn locking type (Tool required) Turn locking type (Manual) D Slide locking type (Manual)

Manual override

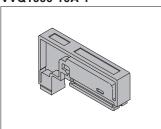
How to Order Manifold Assembly



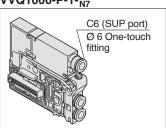
Manifold Options

Refer to pages 49 through to 52 for details.

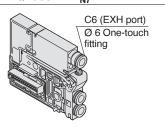
Blanking plate assembly VVQ1000-10A-1



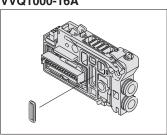
Individual SUP spacer VVQ1000-P-1-C6



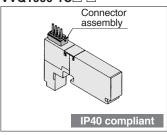
Individual EXH spacer VVQ1000-R-1-C6



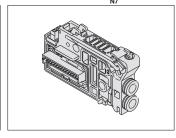
SUP block plate VVQ1000-16A



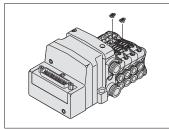
Blanking plate with connector VVQ1000-1C□-□



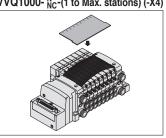
EXH block plate assembly VVQC1000-19A-S-C6, M5



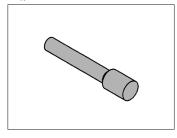
Back pressure check valve assembly [-B] VVQ1000-18A



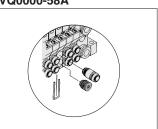
Name plate [-N] VVQ1000- N_C-(1 to Max. stations) (-X4)



Blanking plug KQ2P-□

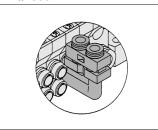


Port plug VVQ0000-58A



Elbow fitting assembly VVQ1000-F-L□

Wiring example)

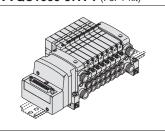


DIN rail mounting bracket [-D] VVQ1000-57A

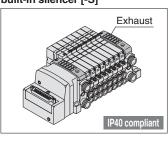
{For F/L/M/P/S (EX500) kit}

VVQC1000-57A-S {For S (EX250) kit}

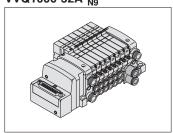
VVQC1000-57A-T (For T kit)



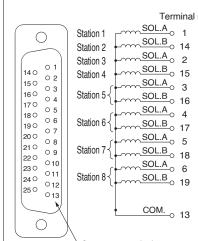
Direct EXH outlet with built-in silencer [-S]

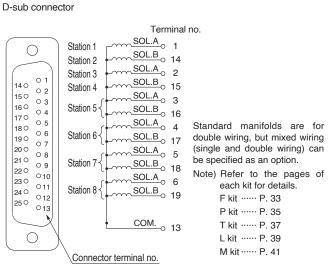


Dual flow fitting assembly VVQ1000-52A-C8

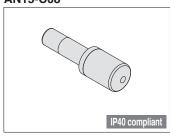


Special electrical wiring specifications [-K]

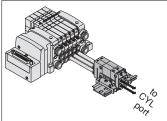




Silencer (For EXH port) AN15-C08



Double check block VVQ1000-FPG-□□-□





Base Mounted

Plug-in Unit VQC2000 Series

refer to the Reduced-wiring Fieldbus System.



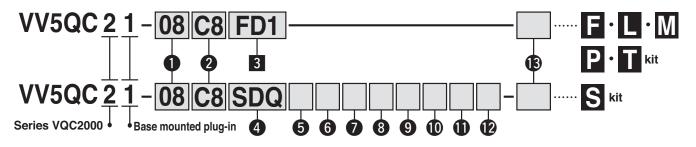
S kit

The selectable items vary for each series. Select from the applicable item numbers in the table below.

Series	Item number (Refer to pages 11, 12 and 12-1)	
EX600	1 , 2 , 4 , 7 , 3 , 9 , 3	
EX245	0, 2, 4, 5, 6, 13	
EX250	1 , 2 , 4 , 3 , 0 , 1 , 2 , 3	
EX500,260,126	1 , 2 , 4 , 8 , 3	

Refer to page 16-1 for details on manifolds that support safety communication (PROFIsafe).

How to Order Manifold



Valve stations

<u> </u>		
01	1 station	
:	:	

The maximum number of stations differs depending on the electrical entry. (Refer to 3 4 Kit type/Electrical entry/Cable length.)

Note) In 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 Ø 4 One-touch fitting	
C6	With Ø 6 One-touch fitting	
C8	With Ø 8 One-touch fitting	
CM	Mixed sizes and with port plug	
L4	Top ported elbow with Ø 4 One-touch fitting	
L6	Top ported elbow with Ø 6 One-touch fitting	
L8	Top ported elbow with Ø 8 One-touch fitting	
B4	Bottom ported elbow with Ø 4 One-touch fitting	
B6	Bottom ported elbow with Ø 6 One-touch fitting	
B8	Bottom ported elbow with Ø 8 One-touch fitting	
LM	Elbow port, mixed sizes (Including upward, downward piping and mixed)	
MM Note 2)	Mixed size for different types of piping, option installed	
Nata di ladianta tha aina haranana af tha manifald		

Note 1) Indicate the size by means of the manifold

specification sheet in case of "CM", "LM", "NM".

Note 2) When selecting the mixed size for different types
of piping or dual flow fitting assembly, enter "MM" and give instructions in the manifold specification sheet.

Note 3) Symbols for inch sizes are as follows:

• N3: Ø 5/32" • N9: Ø 5/16" • N7: Ø 1/4" • NM: Mixed The top ported elbow is LN□ and the bottom ported elbow is BNI.

With or without I/O modules (Enter EX245-complia

With or without to modules (Enter Ex245-compilant 5 ki		Title of without I/O infounces (Effer EA245-compliant 5 kit only.)
	_	Without I/O module
	Υ	With I/O module

6 Number of I/O modules (Enter EX245-compliant S kit only.)

_	, , , , , , , , , , , , , , , , , , , ,
_	Without I/O module (Without SI Unit)
1	1 station
:	:
8	8 stations

End plate type (Enter EX600-compliant S kit only.)

_	Without end plate
2	M12 power supply connector, B-coded
3	7/8 inch power supply connector
4	M12 power supply connector IN/OUT, A-coded, Pin arrangement 1
5	M12 power supply connector IN/OUT, A-coded, Pin arrangement 2

Note) Without SI unit, the symbol is nil.

The pin layout for "4" and "5" pin connector is different.

I/O unit sations (Enter EX600-compliant S kit only.)

_	None
1	1 station
:	:
9	9 stations

Note 1) Without SI unit, the symbol is nil.

Note 2) SI unit is not included in I/O unit stations.

Note 3) When I/O unit is selected, it is shipped separately, and assembled by customer. Refer to the attached operation manual for mounting

Number of input blocks (Enter EX250-compliant S kit only.)

_	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 805 in Best Pneumatics No. 1-1 for details.

Input block type (Enter EX250-compliant S kit only.)

input blook type (Enter Ex250 compl		ipat brook type (Enter Ex200 compilant o kit omy.
	_	Without input block
	1	M12, 2 inputs
	2	M12, 4 inputs
	3	M8, 4 inputs (3 pins)

Input block specification (Enter EX250-compliant S kit only.)

input block specification (Enter Ex250-compliant 5 k		
	_	PNP sensor input or without input block
	N	NPN sensor input

13 Option

_	None
B Note 2)	All stations with back pressure check valve
D	With DIN rail (Rail length: Standard) Note 9)
D □ Note 4)	With DIN rail (Rail length: Special) Note 9)
K Note 5)	Special wiring spec. (Except double wiring)
N Note 12)	With name plate
R Note 6)	External pilot
S Note 7)	Direct EXH outlet with built-in silencer
T Note 8)	Branched P and R ports on U-side

Note 1) When two or more symbols are specified, indicate them alphabetically. Example: -BRS
Note 2) When a back pressure check valve is desired, and is to be

Note 2) When a back pressure check valve is desired, and is to be installed only in certain manifold stations, specify the mounting position by means of the manifold specification sheet.

Note 3) When DIN rail mounting (with DIN rail) is selected with a power supply 7/8 inch connector for end plate of the VQC2000 series, and I/O unit station number is 9, and max. valve station number is 23.

DIN rail mount cannot be specified for 24 stations.

(Refer to the DIN rail full length on page 565.)

Note 4) For special DIN rail length, indicate "□□".

(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

manifold stations.

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

Note 5) When single wiring and double wiring are mixed, specify wiring type of each station by means of the manifold specification sheet.

Note 6) For external pilot option, "-P", indicate the external pilot specification "B" for the applicable valves as well.

Note 7) Built-in silencer type does not satisfy IP67.

Note 8) SUP and EXH ports on the U-side (on cylinder port side and coil side is branched.) Port is equipped with One-touch fitting for Ø 12.

Note 9) When "Without SI unit (SD0, SD60)" and EX245 series are specified, "With DIN rail (D)" cannot be

series are specified, "With DIN rail (D)" cannot be

Note 10) When changing the specifications of the EX600 from no DIN rail to DIN rail mounting, please consult SMC.

Note 11) DIN rail is not attached (but shipped together) on the manifold in case of the EX600 with DIN rail.

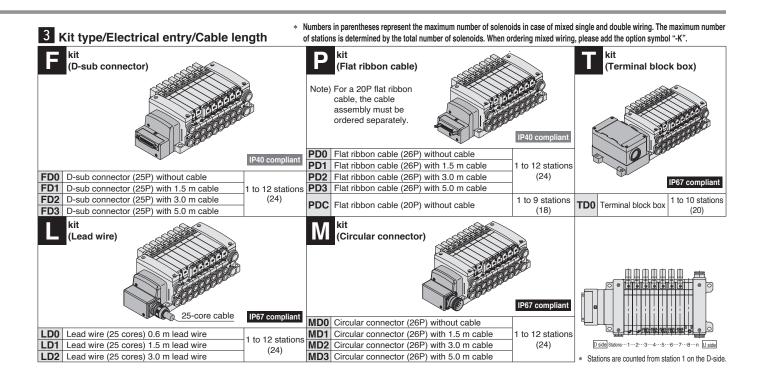
Refer to page 57 for mounting method.

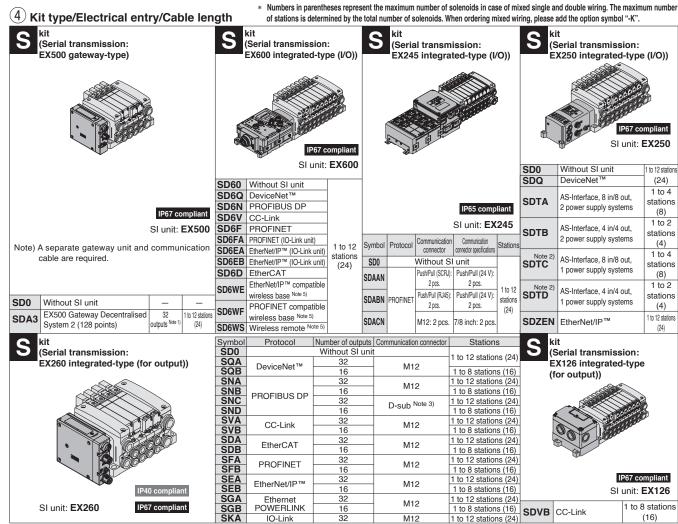
Note 12) When mounting the slide locking manual type valve

by ordering only the manifold, order the name plate separately. For details, refer to page 50.



Base Mounted Plug-in Unit Series VQC2000





The maximum number of stations displayed in parentheses is applied to the special wiring specifications. (Option "-K") Note 1) When using the SI unit with 32 outputs, use the GW unit compatible with the EX500 Gateway Decentralized System 2 (128 points).

SI unit output polarity

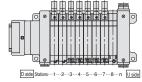
Note 2) When selecting SI units with SDTC or SDTD specifications, there are limits to the supply current from the SI unit to the input block or valve.

Note 3) When selecting SI units with SDZCN specifications only, IP40 is compatible. (All other SI units are IP67 compliant.)

Note 4) For the SI unit part no., refer to page 13.

Note 5) The wireless system is suitable for use only in a country where it is in accordance with the Radio Act and

regulations of that country.



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

SI unit		EX250 integrated-type (I/O) serial transmission system				
output polarity		DeviceNet™		AS-Interface		EtherNet/IP™
_	Positive common	_		_		_
N	Negative common	0		0		0
		EX245	EVE	00 Catoway		
		interested to a	EX50	00 Gateway		

SI unit output polarity		I (I/O) SEI di II									EX126 integrated-type (for output) serial transmission system	
		PROFINET	EtherNet/IP™	PROFINET	DeviceNet™	PROFIBUS DP	CC-Link	EtherCAT	PROFINET	Ethernet POWERLINK	IO-Link	CC-Link
_	Positive common	_	_	_	0	0	0	0	0	_	_	0
N	Negative common	0	0	0	0	0	0	0	0	0	0	_

	SI unit output polarity			EX600 integrated-type (I/O) serial transmission system								
			DeviceNet™	PROFIBUS DP	CC-Link	EtherNet/IP™	EtherCAT	PROFINET	EtherNet/IP™ compatible wireless base	PROFINET compatible wireless base	Wireless remote	
	_	Positive common	0	0	0	0	0	0	0	0	0	
	N	Negative common	0	0	0	0	0	0	0	0	0	

^{*} Select "-" for without SI unit (SD0□).





SI Unit Part No.

EX500 Gateway Decentralised System 2 (128 points)

Symbol	SI unit part no. Negative common (PNP)	Page
SDA3	EX500-S103	P.46

EX600

Symbol	Compatible protocol	SI unit	Page	
Syllibol	Companible protocol	Positive common (NPN)	Negative common (PNP)	raye
SD6Q	DeviceNet™	EX600-SDN2A	EX600-SDN1A	
SD6N	PROFIBUS DP	EX600-SPR2A	EX600-SPR1A	
SD6V	CC-Link	EX600-SMJ2	EX600-SMJ1	
SD6F	PROFINET	EX600-SPN2	EX600-SPN1	
SD6FA	PROFINET (IO-Link unit)	EX600-SPN4	EX600-SPN3	P.46
SD6EA	EtherNet/IP™	EX600-SEN4	EX600-SEN3	1.40
SD6EB	EtherNet/IP™ (IO-Link unit)	EX600-SEN8	EX600-SEN7	
SD6DA	EtherCAT (IO-Link unit)	EX600-SEC4	EX600-SEC3	
SD6WE	EtherNet/IP™ compatible wireless base Note)	EX600-WEN2	EX600-WEN1	
SD6WF	PROFINET compatible wireless base Note)	EX600-WPN2	EX600-WPN1	
SD6WS	Wireless remote Note)	EX600-WSV2	EX600-WSV1	

Note) The wireless system is suitable for use only in a country where it is in accordance with the Radio Act and regulations of that country.

EX245

Symbol	Compatible protocol	SI unit part no.	Page
SDAAN		EX245-SPN1A	
SDABN	PROFINET	EX245-SPN2A	P.46
SDACN		EX245-SPN3A	

EX260

Symbol	Compatible	Number	SI unit	part no.	Communication	Page
Syllibol	protocol	outputs	Positive common (NPN)	Negative common (PNP)	connector	raye
SQA	DavisaNatM	32	EX260-SDN2	EX260-SDN1		
SQB	DeviceNet™	16	EX260-SDN4	EX260-SDN3	1440	
SNA		32	EX260-SPR2	EX260-SPR1	M12	
SNB	PROFIBUS DP	16	EX260-SPR4	EX260-SPR3		
SNC	PROFIBUS DP	32	EX260-SPR6	EX260-SPR5	D l- Noto)	
SND		16	EX260-SPR8	EX260-SPR7	D-sub Note)	P.47
SVA	CC Limb	32	EX260-SMJ2	EX260-SMJ1	1440	
SVB	CC-Link	16	EX260-SMJ4	EX260-SMJ3	M12	
SDA	Eth a #OAT	32	EX260-SEC2	EX260-SEC1	Mao	
SDB	EtherCAT	16	EX260-SEC4	EX260-SEC3	M12	
SFA	DDOEINET	32	EX260-SPN2	EX260-SPN1		
SFB	PROFINET	16	EX260-SPN4	EX260-SPN3	M12	
SEA	Ethanklat/IDIM	32	EX260-SEN2	EX260-SEN1	1440	
SEB	EtherNet/IP™	16	EX260-SEN4	EX260-SEN3	M12	
SGA		32	_	EX260-SPL1	1440	
SGB	POWERLINK	16	_	EX260-SPL3	M12	
SKA	IO-Link	32	_	EX260-SIL1	M12	

Note) When the communication connector specification is D-sub, the enclosure is IP40. (IP67 for other specifications)

EX250

Symbol	Compatible protocol	SI unit part no.	Page
SDQ	DeviceNet™	EX250-SDN1	
SDTA	AS-Interface, 8 in/8 out, 2 power supply systems	EX250-SAS3	
SDTB	AS-Interface, 4 in/4 out, 2 power supply systems	EX250-SAS5	
SDTC	AS-Interface, 8 in/8 out, 1 power supply systems	EX250-SAS7	P.47
SDTD	AS-Interface, 4 in/4 out, 1 power supply systems	EX250-SAS9	
SDZEN	EtherNet/IP™	EX250-SEN1	

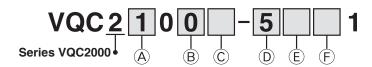
EX126

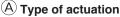
Symbol	Compatible protocol	SI unit part no.	Page
SDVB	CC-Link	EX126D-SMJ1	P.47

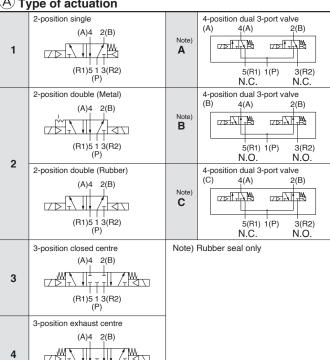
For details about the EX series (Serial transmission system), refer to the **WEB catalogue** and the Operation Manual.



How to Order Valves







(R1)5 1 3(R2) (P) 3-position pressure centre

(A)4 2(B)

(R1)5 1 3(R2) (P)

5

(B) Seal

0	Metal seal
1	Rubber seal

© Function

_	Standard (0.4 W)
В	High-speed response type (0.95 W)
K Note 1)	High-pressure type (1.0 MPa, 0.95 W)
Note 2)	Negative common
R Note 3)	External pilot

* When two or more symbols are specified, indicate them alphabetically. However, combination of "B" and "K"

is not possible. Note 1) Metal seal only Note 2) When "-COM." is specified for the SI unit, select and mount the valve of negative common.

Note 3) Dual 3-port type is not applicable.

(D) Coil voltage

5 Note)	24 VDC				
6	12 VDC				
Note) Only 24 VDC is available with the					

S kit.

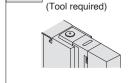
(E) Light/surge voltage suppressor

	proces
_	Yes
E Note1, 2)	None (Non-polar)

Note 1) Not applicable to the S kit. Note 2) A combination of "Function N (Negative common)" and "E" is unavailable. Since "E" has no polarity, it can also be used as a negative common. Selection of "Function N" is not required.

(F) Manual override

Non-locking push type



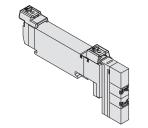
Push-turn locking type (Tool required)



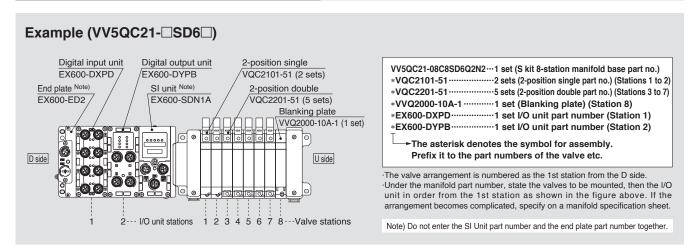
Turn locking type (Tool required)



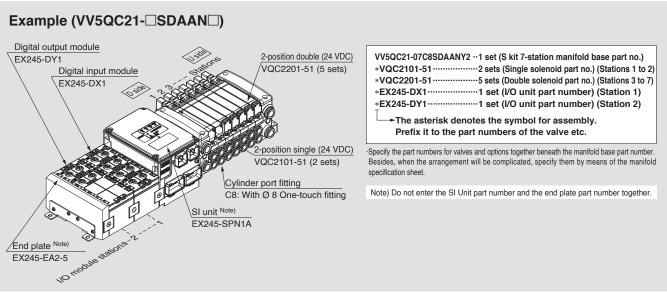
D Slide locking type (Manual)



How to Order Manifold Assembly: EX600*



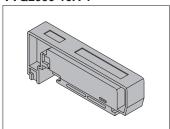
How to Order Manifold Assembly: EX245*



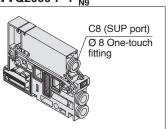
* The EX245/250 I/O module (block) station arrangement is numbered starting from the SI unit side.

Manifold Options Refer to pages 49 through to 52 for details.

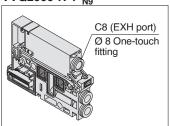
Blanking plate assembly VVQ2000-10A-1



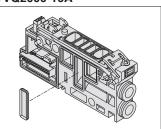
Individual SUP spacer VVQ2000-P-1-C8



Individual EXH spacer VVQ2000-R-1-C8



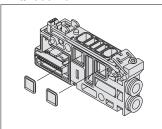
SUP block plate VVQ2000-16A



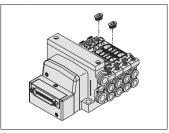
EXH block plate VVQ2000-19A

Port plug

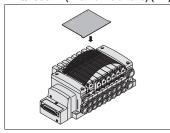
VVQ1000-58A



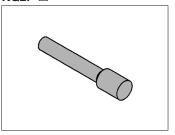
Back pressure check valve assembly [-B] VVQ2000-18A



Name plate [-N] VVQ2000-N-(1 to Max. stations) (-X4) KQ2P-



Blanking plug

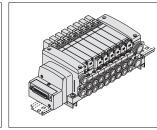


VVQ2000-57A {For F/L/M/P/S (EX500) kit}

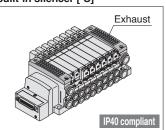
VVQC2000-57A-S (For S (EX250) kit)

VVQC2000-57A-T (For T kit)

DIN rail mounting bracket [-D]



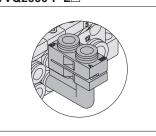
Direct EXH outlet with built-in silencer [-S]



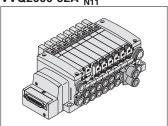
Silencer (For EXH port) AN20-C10



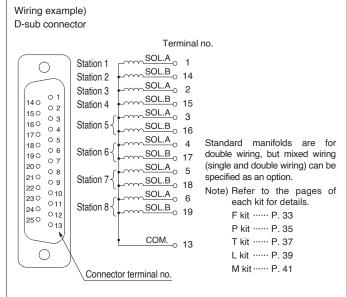
Elbow fitting assembly VVQ2000-F-L□



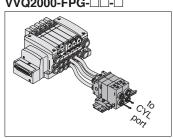
Dual flow fitting assembly VVQ2000-52A-C10



Special electrical wiring specifications [-K]



Double check block VVQ2000-FPG-□□-□





Base Mounted Plug-in Unit

EX260 Safety Communication Protocol (PROFIsafe)

VQC1000/2000 Series C € \(\)

Using the safety communication protocol

Refer to the EX260 **Web Catalogue** for details on units that support the safety communication protocol. When using a manifold valve within an ISO 13849-compliant safety system, the device needs to be considered from both the pneumatic circuit and the electric side.

Devices (including valves) need to be selected based on whether their functions are in line with the safety level of the equipment as a whole.

The use of valves that have been validated as being compliant with ISO 13849-2 may be required. For details on valves that have been validated, please contact SMC.

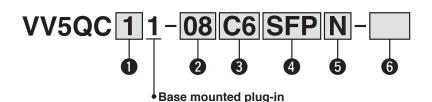
In addition, refer to "Safety Instructions" for precautions on model selection.

How to Order Manifolds





Refer to pages 5 and 11 for details on manifolds that support Fieldbus and Industrial Ethernet.



1 Series

1	VQC1000
2	VQC2000

2 Valve stations

Symbol	Stations	Note
01	1 station	
:	:	Double wiring Note 1)
12	12 stations	
01	1 station	Special wiring appa Note 2)
:	:	Special wiring spec. Note 2) (Up to 24 solenoids available)
24	24 stations	(Op to 24 sole lolus available)

Note 1) Double wiring: 2-position single, double, 3-position, and 4-position valves can be used on all manifold stations.

Use of a 2-position single solenoid will result in an unused control signal If this is not desired, order with a specified layout.

VQC1000 VQC2000

Note 2) Special wiring spec.: Indicate "K" for an option. Indicate the wiring specifications on the manifold specification sheet.

(Note that 2-position double, 3-position, and 4-position valves cannot be used where sinc

4 Kit type

Serial tra	Serial transmission: EX260 integrated-type (for output) IP67 complian											
Symbol Protocol Number of outputs Communication connector SI unit part n												
SD0		Without SI	unit	_								
SFP	PROFIsafe	32	M12	EX260-FPS1								

5 SI unit output polarity

91	nit output polarity	EX260 integrated-type (for output) serial transmission system
Siu	nii output polanty	PROFIsafe
N	Negative common	0

Note) Positive common (NPN) type is not applicable.

3 Cylinder port size C3 With Ø 3.2 One-touch fi

C3	With Ø 3.2 One-touch fitting	•	_
C4	With Ø 4 One-touch fitting	•	•
C6	With Ø 6 One-touch fitting	•	•
C8	With Ø 8 One-touch fitting	_	•
M5	M5 thread	•	_
CM	Mixed sizes and with port plug	•	•
L3	Top ported elbow with Ø 3.2 One-touch fitting	•	-
L4	Top ported elbow with Ø 4 One-touch fitting	•	•
L6	Top ported elbow with Ø 6 One-touch fitting	•	•
L8	Top ported elbow with Ø 8 One-touch fitting	_	•
L5	M5 thread	•	-
B3	Bottom ported elbow with Ø 3.2 One-touch fitting	•	_
B4	Bottom ported elbow with Ø 4 One-touch fitting	•	•
B6	Bottom ported elbow with Ø 6 One-touch fitting	•	•
B8	Bottom ported elbow with Ø 8 One-touch fitting	_	•
B5	M5 thread	•	_
LM	Elbow port, mixed sizes (Including upward, downward piping and mixed)	•	•
MM Note 2)	Mixed size for different types of piping, option installed	•	•

Note 1) Indicate the size by means of the manifold specification sheet in case of "CM", "LM", "NM". Note 2) When selecting the mixed size for different types of piping or dual flow fitting assembly, enter "MM" and give instructions in the manifold specification sheet.

Note 3) Symbols for inch sizes are as follows:

· N1: Ø 1/8" (VV5QC11 only) · N3: Ø 5/32"

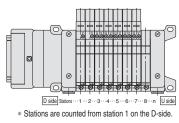
· N7: Ø 1/4" · N9: Ø 5/16" (VV5QC21 only)

· NM: Mixed

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

6 Option

_	None
B Note 2)	All stations with back pressure check valve
D	With DIN rail
ט	(Rail length: Standard) Note 7)
Note 3)	With DIN rail
D_ Note of	(Rail length: Special) Note 7)
K Note 4)	Special wiring spec.
N Hote 4)	(Except double wiring)
Note 10)	With name plate
R Note 5)	External pilot
S Note 6)	Direct EXH outlet with built-in silencer
T Note 9)	Branched P and R ports on U-side



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

Note 2) When a back pressure check valve is desired, and is to be installed only in certain manifold stations, specify the mounting position by means of the manifold 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) When single wiring and double wiring are mixed, specify wiring type of each station by means of the manifold specification sheet.

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

Note 5) For external pilot option, "-R", indicate the external pilot specification "R" for the applicable valves as well Note 6) Built-in silencer type does not satisfy IP67.

Note 7) When "Without SI unit (SD0)" is specified, "With DIN rail (D)" cannot be selected.

Note 8) When mounting the blanking plate with connector by ordering only the manifold, order the name plate separately. For details, refer to page 50.

Note 9) VQC2000 only

SUP and EXH ports on the U-side (on cylinder port side and coil side is branched.) Port is equipped with One-touch fitting for \emptyset 12.

How to Order Valves



Series VQC1000/2000

SI Unit Part No.

EX260 SI Unit (Safety Communication)

EX260-F PS1

• Communication protocol

Symbol	Protocol	Number of outputs	SI unit output polarity	Communication connector	Manifold symbol	Page
PS1	PROFIsafe	32	Source/PNP (Negative common)	M12	SFPN	xxx

For details about the EX series (Serial transmission system), refer to the **WEB catalogue** and the Operation Manual.



Series VQC1000/2000 Base Mounted **Plug-in Unit**

Model

Symbol

2-position single



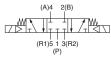
2-position double (Metal)



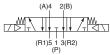
2-position double (Rubber)



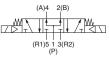
3-position closed centre



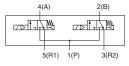
3-position exhaust centre



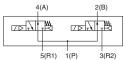
3-position pressure centre



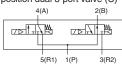
4-position dual 3-port valve (A)



4-position dual 3-port valve (B)



4-position dual 3-port valve (C)



							Flow-	rate ch	aracteristi	ics				time Note 2)	
Series		Type of	Mod	lel	$1 \to 4, 2 \ (P \to A, B)$ $4, 2 \to 5, 3 \ (A, B \to R1, R2)$						1, R2)		High-speed	Weight	
	actuation				C [dm ³ /(s·bar)]	b	Cv	Q [d/min] (ANR) ^{Note 3)}	C [dm ³ /(s·bar)]	b	Cv	Q [t/min] (ANR) ^{Note 3)}	Standard: 0.4 W	response: 0.95 W	(g)
		Cinala	Metal seal	VQC1100	0.70	0.15	0.16	163	0.72	0.25	0.18	178	15 or less	12 or less	67
	sition	Single	Rubber seal	VQC1101	0.85	0.20	0.21	204	1.0	0.30	0.25	254	20 or less	15 or less	07
	2-position	Daubla	Metal seal	VQC1200	0.70	0.15	0.16	163	0.72	0.25	0.18	178	13 or less	10 or less	
		Double	Rubber seal	VQC1201	0.85	0.20	0.21	204	1.0	0.30	0.25	254	20 or less	15 or less	
		Closed	Metal seal	VQC1300	0.68	0.15	0.16	158	0.72	0.25	0.18	178	26 or less	20 or less	
VQC1000		centre	Rubber seal	VQC1301	0.70	0.20	0.16	168	0.65	0.42	0.18	179	33 or less	25 or less	
VQC1000	ition	Exhaust	Metal seal	VQC1400	0.68	0.15	0.16	158	0.72	0.25	0.18	178	26 or less	20 or less	77
	3-position	centre	Rubber seal	VQC1401	0.70	0.20	0.16	168	1.0	0.30	0.25	254	33 or less	25 or less	77
	(-)	Pressure	Metal seal	VQC1500	0.70	0.15	0.16	163	0.72	0.25	0.18	178	26 or less	20 or less	
		centre	Rubber seal	VQC1501	0.85	0.20	0.21	204	0.65	0.42	0.18	179	33 or less	25 or less	
	4-position	Dual 3-port valve	Rubber seal	VQC1B01	0.70	0.20	0.16	168	0.70	0.20	0.16	168	33 or less	25 or less	
		0: 1	Metal seal	VQC2100	2.0	0.15	0.46	466	2.6	0.15	0.60	606	29 or less	22 or less	0.5
	ition	Single	Rubber seal	VQC2101	2.2	0.28	0.55	552	3.2	0.30	0.80	814	31 or less	24 or less	95
	2-position		Metal seal	VQC2200	2.0	0.15	0.46	466	2.6	0.15	0.60	606	20 or less	15 or less	
	.,	Double	Rubber seal	VQC2201	2.2	0.28	0.55	552	3.2	0.30	0.80	814	26 or less	20 or less	
		Closed	Metal seal	VQC2300	2.0	0.15	0.46	466	2.0	0.18	0.46	474	38 or less	29 or less	
V000000		centre	Rubber seal	VQC2301	2.0	0.28	0.49	502	2.2	0.31	0.60	563	44 or less	34 or less	
VQC2000	ition	Exhaust	Metal seal	VQC2400	2.0	0.15	0.46	466	2.6	0.15	0.60	606	38 or less	29 or less	105
	3-position	centre	Rubber seal	VQC2401	2.0	0.28	0.49	502	3.2	0.30	0.80	814	44 or less	34 or less	105
	ന	Pressure	Metal seal	VQC2500	2.4	0.17	0.57	565	2.0	0.18	0.46	474	38 or less	29 or less	
		centre	Rubber seal	VQC2501	3.2	0.28	0.80	804	2.2	0.31	0.60	563	44 or less	34 or less	
	4-position	Dual 3-port valve	Rubber seal	VQC2g01	1.8	0.28	0.46	452	1.8	0.28	0.46	452	44 or less	34 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

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 type are when the switch is turned ON.

Note 3) These values have been calculated according to ISO6358 and indicate the flow rate under standard conditions with an inlet pressure of 0.6 MPa (relative pressure) and a pressure drop of 0.1 MPa.



Base Mounted Plug-in Unit Series VQC1000/2000

Standard Specifications

	Valve type		Metal seal	Rubber seal					
	Fluid		Air						
	Maximum operating	oressure	0.7 MPa (High-pressure type: 1.0 MPa)	0.7 MPa					
Su		Single	0.1 MPa	0.15 MPa					
atio	Minimum operating	Double	0.1	MPa					
ific	pressure	3-position	0.1 MPa	0.2 MPa					
specifications		4-position		0.15 MPa					
Valve	Ambient and fluid ter	nperature	-10 to 50 °C Note 1)						
Va	Lubrication		Not required						
	Manual override		Push type, Locking type (Tool required) semi-standard						
	Impact/Vibration resi	stance	150/30 m/s ² Note 2)						
	Enclosure		Dustproof (IP67 of	compatible) Note 3)					
တ	Rated coil voltage		24 \	/DC					
tion	Allowable voltage flu	ctuation	±10 % of rated voltage						
ctric	Coil insulation type		Equivalent to Class B						
Electrical specifications	Power consumption	24 VDC	0.4 W DC (17 mA), 0.95 W DC (40 mA) Note 4)						
S	(Current)	12 VDC	0.4 W DC (34 mA), 0.9	5 W DC (80 mA) Note 4)					

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

Manifold Specifications

				Piping specificat	ions	Note 2)	Applicable	5-station
Series	Base model	Connection type	Port	Port size Note 1)		Applicable stations	solenoid	weight
			direction	1, 3 (P, R)	2, 4 (A, B)	otationio	valves	(g)
VQC1000	VV5QC11-□□□	F kit: D-sub connector P kit: Flat ribbon cable T kit: Terminal block box	Side	C8 (Ø 8) Option: Direct EXH outlet with built-in silencer	C3 (Ø 3.2) C4 (Ø 4) C6 (Ø 6) M5 (M5 thread)	(F/L/M/P kit 1 to 12 stations) (T kit 1 to 10 stations)	VQC1□00-5 VQC1□01-5	643 (Single) 754 (Double, 3-position)
VQC2000	VV5QC21-□□□	S kit: Serial transmission L kit: Lead wire M kit: Circular connector	Side	C10 (Ø 10) Option: Direct EXH outlet with built-in silencer Branch type C12 (Ø 12)	C4 (Ø 4) C6 (Ø 6) C8 (Ø 8)	S kit Note 3) 1 to 8 stations: EX500 1 to 12 stations: EX250 EX245	VQC2□00-5 VQC2□01-5	1076 (Single) 1119 (Double, 3-position)

Note 1) Inch-size one-touch fittings are also available.



Note 2) Impact resistance No malfunction resulted from the impact test using a drop impact tester. 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 2000 Hz. 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) Refer to page 1 and 2 for applicable variations.

Note 4) Value for high-speed response, high-pressure type (0.95 W)

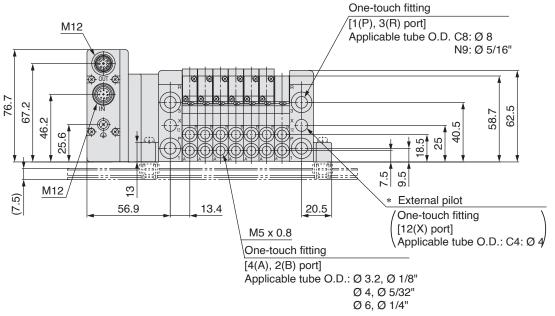
Note 2) Special wiring specifications are available as semi-standard to increase the maximum number of stations.

Note 3) Depending on the protocol, there is a limit to the number of stations an S kit can be applied to. Refer to page 12-1 for details.

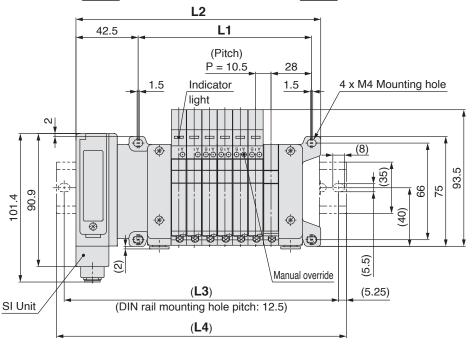
Series VQC1000 Kit (Serial transmission) For EX

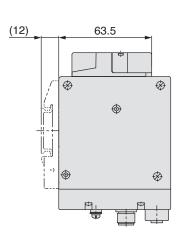
Kit (Serial transmission) For EX500 Gateway Decentralised System 2 (128 points) IP67 compliant

VV5QC11 S kit (Serial transmission kit: EX500)



D side Station --- (1)-(2)-(3)-(4)-(5)-(6)-(7)--(n) U side





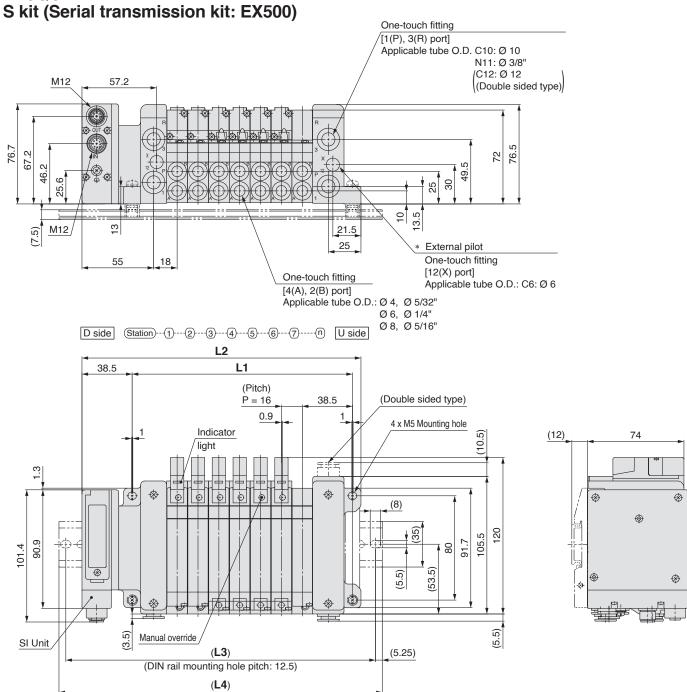
L: Dimensions n: Stations

L n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
L1	55.5	66	76.5	87	97.5	108	118.5	129	139.5	150	160.5	171	181.5	192	202.5
L2	104.2	114.7	125.2	135.7	146.2	156.7	167.2	177.7	188.2	198.7	209.2	219.7	230.2	240.7	251.2
L3	125	137.5	150	162.5	175	187.5	187.5	200	212.5	225	237.5	250	250	262.5	275
L4	135.5	148	160.5	173	185.5	198	198	210.5	223	235.5	248	260.5	260.5	273	285.5

L	16	17	18	19	20	21	22	23	24
L1	213	223.5	234	244.5	255	265.5	276	286.5	297
L2	261.7	272.2	282.7	293.2	303.7	314.2	324.7	335.2	345.7
L3	287.5	300	312.5	325	325	337.5	350	362.5	375
L4	298	310.5	323	335.5	335.5	348	360.5	373	385.5

Kit (Serial transmission) For EX500 Gateway Decentralised System 2 (128 points) IP67 compliant

VV5QC21



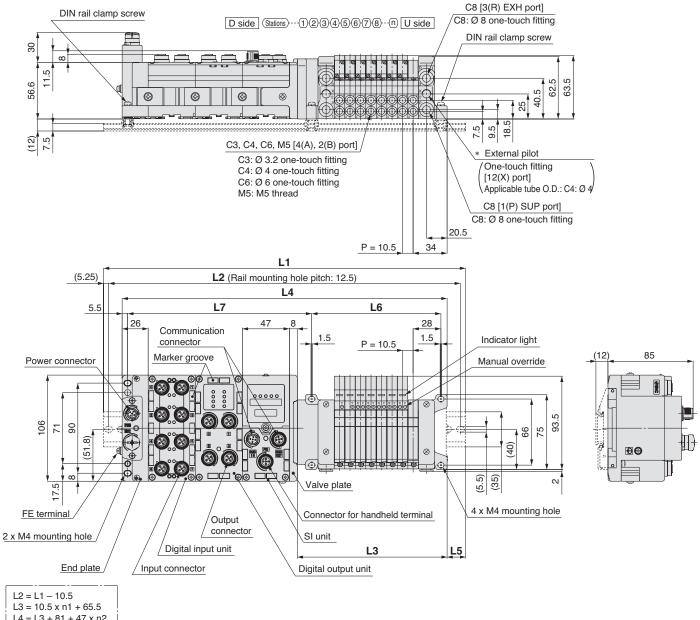
L: Dim	ension	IS												r	n: Stations
L	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
L1	73	89	105	121	137	153	169	185	201	217	233	249	265	281	297
L2	118	134	150	166	182	198	214	230	246	262	278	294	310	326	342
L3	137.5	162.5	175	187.5	212.5	225	237.5	250	275	287.5	300	325	337.5	350	362.5
L4	148	173	185.5	198	223	235.5	248	260.5	285.5	298	310.5	335.5	348	360.5	373

L	16	17	18	19	20	21	22	23	24
L1	313	329	345	361	377	393	409	425	441
L2	358	374	390	406	422	438	454	470	486
L3	387.5	400	412.5	437.5	450	462.5	475	500	512.5
L4	398	410.5	423	448	460.5	473	485.5	510.5	523

Series VQC1000

kit (Serial transmission) For EX600 Integrated-type (I/O) serial transmission system IP67 compliant

VV5QC11 S kit (Serial transmission kit: EX600) Power supply with M12 connector



L3 = 10.5 x n1 + 65.5 $L4 = L3 + 81 + 47 \times n2$ L5 = (L1 - L4)/2

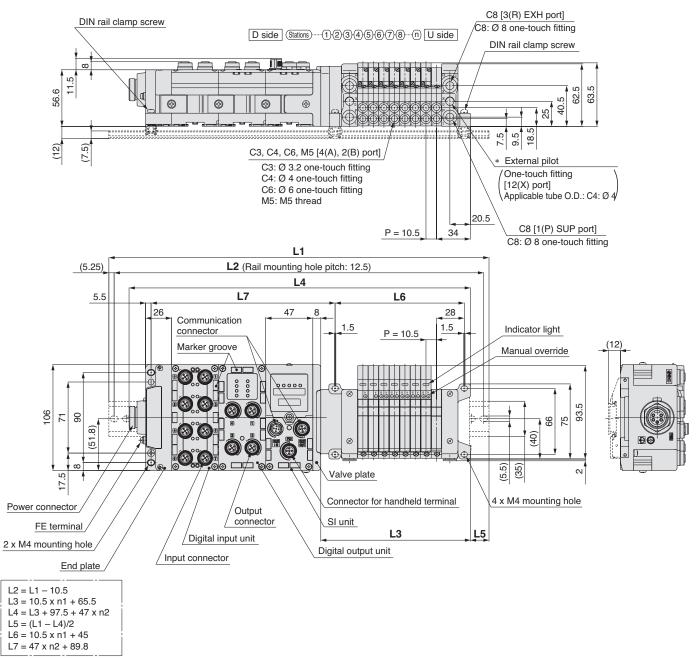
 $L6 = 10.5 \times n1 + 45$ $L7 = 47 \times n2 + 89.8$

I 1: DIN Rail Full I ength

L1: DIN Rai	ı Fui	ı Len	gtn																					
Valve stations unit stations (n2)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
0	198	198	210.5	223	235.5	248	260.5	260.5	273	285.5	298	310.5	323	335.5	335.5	348	360.5	373	385.5	398	398	410.5	423	435.5
1	235.5	248	260.5	273	285.5	298	298	310.5	323	335.5	348	360.5	360.5	373	385.5	398	410.5	423	423	435.5	448	460.5	473	485.5
2	285.5	298	310.5	323	323	335.5	348	360.5	373	385.5	398	398	410.5	423	435.5	448	460.5	460.5	473	485.5	498	510.5	523	523
3	335.5	348	360.5	360.5	373	385.5	398	410.5	423	423	435.5	448	460.5	473	485.5	485.5	498	510.5	523	535.5	548	560.5	560.5	573
4	385.5	385.5	398	410.5	423	435.5	448	460.5	460.5	473	485.5	498	510.5	523	523	535.5	548	560.5	573	585.5	585.5	598	610.5	623
5	423	435.5	448	460.5	473	485.5	485.5	498	510.5	523	535.5	548	548	560.5	573	585.5	598	610.5	623	623	635.5	648	660.5	673
6	473	485.5	498	510.5	523	523	535.5	548	560.5	573	585.5	585.5	598	610.5	623	635.5	648	648	660.5	673	685.5	698	710.5	710.5
7	523	535.5	548	548	560.5	573	585.5	598	610.5	610.5	623	635.5	648	660.5	673	685.5	685.5	698	710.5	723	735.5	748	748	760.5
8	573	585.5	585.5	598	610.5	623	635.5	648	648	660.5	673	685.5	698	710.5	710.5	723	735.5	748	760.5	773	773	785.5	798	810.5
9	610.5	623	635.5	648	660.5	673	673	685.5	698	710.5	723	735.5	748	748	760.5	773	785.5	798	810.5	810.5	823	835.5	848	860.5

kit (Serial transmission) For EX600 Integrated-type (I/O) serial transmission system IP67 compliant

VV5QC11 S kit (Serial transmission kit: EX600) Power supply with 7/8 inch connector



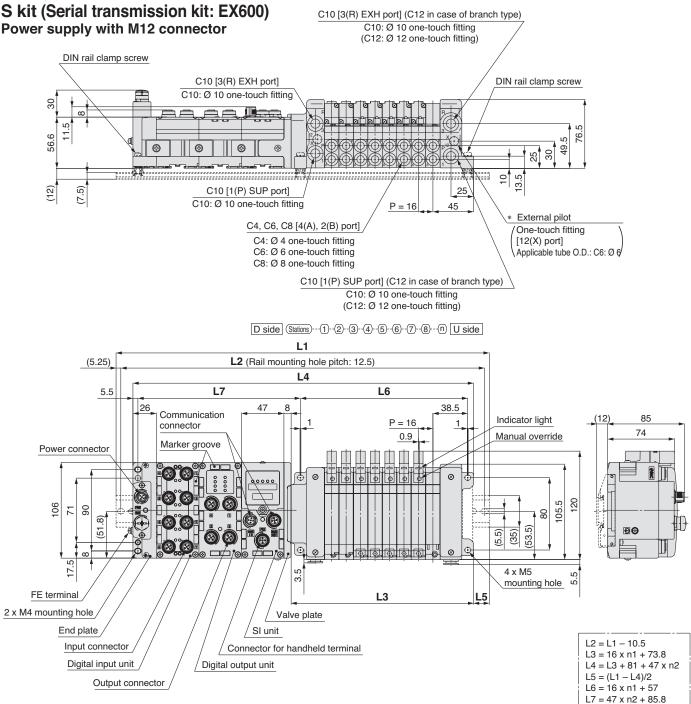
L1: DIN Rail Full Length

I/O stations unit stations (n2)		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
0	210.5	223	235.5	235.5	248	260.5	273	285.5	298	298	310.5	323	335.5	348	360.5	373	373	385.5	398	410.5	423	435.5	435.5	448
1	260.5	273	273	285.5	298	310.5	323	335.5	335.5	348	360.5	373	385.5	398	398	410.5	423	435.5	448	460.5	460.5	473	485.5	498
2	298	310.5	323	335.5	348	360.5	360.5	373	385.5	398	410.5	423	435.5	435.5	448	460.5	473	485.5	498	498	510.5	523	535.5	548
3	348	360.5	373	385.5	398	398	410.5	423	435.5	448	460.5	460.5	473	485.5	498	510.5	523	523	535.5	548	560.5	573	585.5	598
4	398	410.5	423	423	435.5	448	460.5	473	485.5	498	498	510.5	523	535.5	548	560.5	560.5	573	585.5	598	610.5	623	623	635.5
5	448	460.5	460.5	473	485.5	498	510.5	523	523	535.5	548	560.5	573	585.5	585.5	598	610.5	623	635.5	648	660.5	660.5	673	685.5
6	485.5	498	510.5	523	535.5	548	560.5	560.5	573	585.5	598	610.5	623	623	635.5	648	660.5	673	685.5	685.5	698	710.5	723	735.5
7	535.5	548	560.5	573	585.5	585.5	598	610.5	623	635.5	648	648	660.5	673	685.5	698	710.5	723	723	735.5	748	760.5	773	785.5
8	585.5	598	610.5	623	623	635.5	648	660.5	673	685.5	685.5	698	710.5	723	735.5	748	748	760.5	773	785.5	798	810.5	810.5	823
9	635.5	648	648	660.5	673	685.5	698	710.5	710.5	723	735.5	748	760.5	773	785.5	785.5	798	810.5	823	835.5	848	848	860.5	873

Series VQC2000

kit (Serial transmission) For EX600 Integrated-type (I/O) serial transmission system IP67 compliant

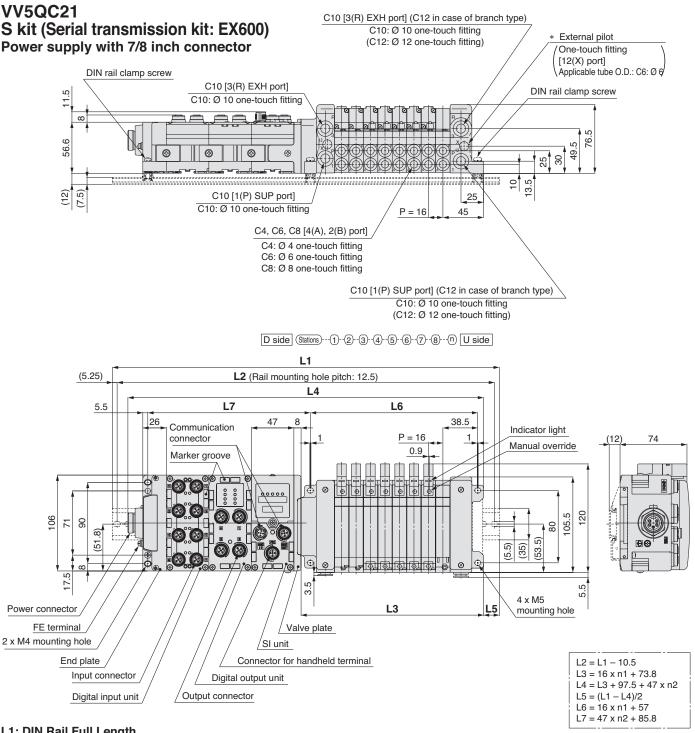




L1: DIN Rail Full Length

Valve stations unit stations (n2)		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
0	210.5	223	235.5	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
1	248	273	285.5	298	323	335.5	348	360.5	385.5	398	410.5	435.5	448	460.5	473	498	510.5	523	548	560.5	573	585.5	610.5	623
2	298	323	335.5	348	360.5	385.5	398	410.5	423	448	460.5	473	498	510.5	523	535.5	560.5	573	585.5	610.5	623	635.5	648	673
3	348	360.5	385.5	398	410.5	423	448	460.5	473	498	510.5	523	535.5	560.5	573	585.5	598	623	635.5	648	673	685.5	698	710.5
4	398	410.5	423	448	460.5	473	485.5	510.5	523	535.5	560.5	573	585.5	598	623	635.5	648	673	685.5	698	710.5	735.5	748	760.5
5	448	460.5	473	485.5	510.5	523	535.5	548	573	585.5	598	623	635.5	648	660.5	685.5	698	710.5	735.5	748	760.5	773	798	810.5
6	485.5	510.5	523	535.5	548	573	585.5	598	623	635.5	648	660.5	685.5	698	710.5	723	748	760.5	773	798	810.5	823	835.5	860.5
7	535.5	548	573	585.5	598	610.5	635.5	648	660.5	685.5	698	710.5	723	748	760.5	773	798	810.5	823	835.5	860.5	873	885.5	898
8	585.5	598	610.5	635.5	648	660.5	673	698	710.5	723	748	760.5	773	785.5	810.5	823	835.5	860.5	873	885.5	898	923	935.5	948
9	635.5	648	660.5	673	698	710.5	723	748	760.5	773	785.5	810.5	823	835.5	848	873	885.5	898	923	935.5	948	960.5	985.5	985.5

kit (Serial transmission) For EX600 Integrated-type (I/O) serial transmission system IP67 compliant



L1: DIN Rail Full Lengt	h

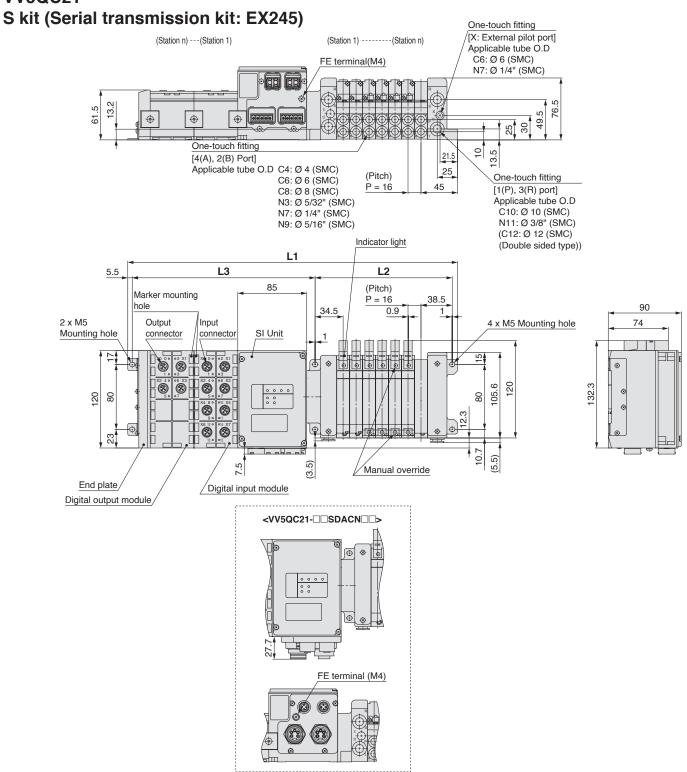
Valve stations unit stations (n2)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
0	223	235.5	260.5	273	285.5	298	323	335.5	348	373	385.5	398	410.5	435.5	448	460.5	485.5	498	510.5	523	548	560.5	573	585.5
1	273	285.5	298	323	335.5	348	360.5	385.5	398	410.5	435.5	448	460.5	473	498	510.5	523	548	560.5	573	585.5	610.5	623	635.5
2	323	335.5	348	360.5	385.5	398	410.5	435.5	448	460.5	473	498	510.5	523	535.5	560.5	573	585.5	610.5	623	635.5	648	673	685.5
3	360.5	385.5	398	410.5	423	448	460.5	473	498	510.5	523	535.5	560.5	573	585.5	610.5	623	635.5	648	673	685.5	698	710.5	735.5
4	410.5	423	448	460.5	473	485.5	510.5	523	535.5	560.5	573	585.5	598	623	635.5	648	673	685.5	698	710.5	735.5	748	760.5	785.5
5	460.5	473	485.5	510.5	523	535.5	560.5	573	585.5	598	623	635.5	648	660.5	685.5	698	710.5	735.5	748	760.5	773	798	810.5	823
6	510.5	523	535.5	548	573	585.5	598	623	635.5	648	660.5	685.5	698	710.5	735.5	748	760.5	773	798	810.5	823	835.5	860.5	873
7	548	573	585.5	598	610.5	635.5	648	660.5	685.5	698	710.5	723	748	760.5	773	798	810.5	823	835.5	860.5	873	885.5	910.5	923
8	598	610.5	635.5	648	660.5	685.5	698	710.5	723	748	760.5	773	785.5	810.5	823	835.5	860.5	873	885.5	898	923	935.5	948	973
9	648	660.5	673	698	710.5	723	748	760.5	773	785.5	810.5	823	835.5	860.5	873	885.5	898	923	935.5	948	960.5	985.5	985.5	_

Series VQC1000/2000



IP65 compliant

VV5QC21



L3 = 54n2 + 117.4

L: Dimensions Formula/L1 = 16n + 186.4 L2 = 16n 57 * The L1 dimension is the dimension without an I/O module. Add 54 mm to this dimension for each I/O module. * n2 is the number of I/O module stations.

L	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
L1	202.4	218.4	234.4	250.4	266.4	282.4	298.4	314.4	330.4	346.4	362.4	378.4	394.4	410.4	426.4
L2	73	89	105	121	137	153	169	185	201	217	233	249	265	281	297

Ì	Ln	16	17	18	19	20	21	22	23	24
	L1	442.4	458.4	474.4	490.4	506.4	522.4	538.4	554.4	570.4
	L2	313	329	345	361	377	393	409	425	441

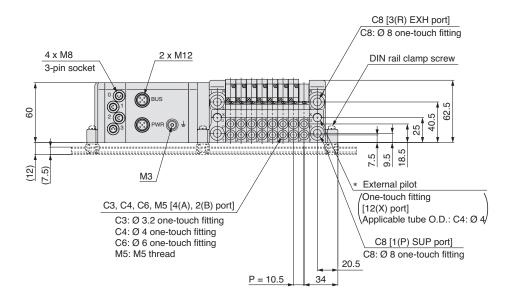


Series VQC1000/2000

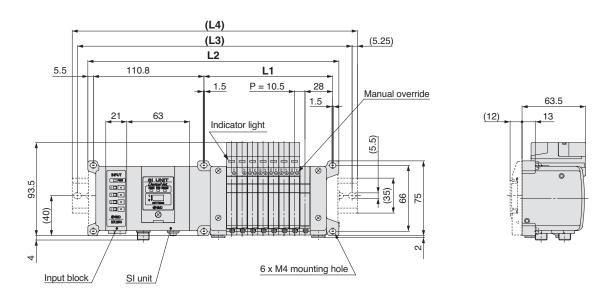
kit (Serial transmission) For EX250 Integrated-type (I/O) serial transmission system IP67 compliant

VV5QC11

S kit (Serial transmission kit: EX250)



D side Stations --- (1)-- (2)-- (3)-- (4)-- (5)-- (6)-- (7)-- (8)-- (n) U side



The dashed lines indicate DIN rail mounting [-D] (with DIN rail mounting bracket).

Formula: 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	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	460.5



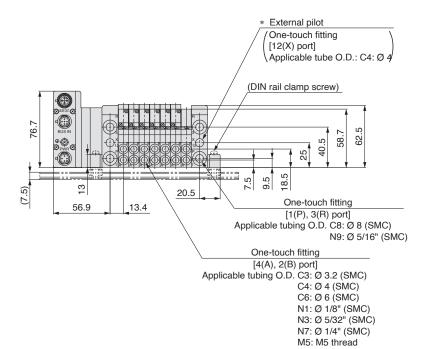


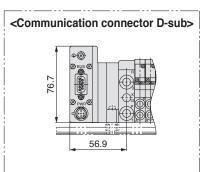
IP40 compliant

Kit (Serial transmission) For EX260 Integrated-type (For Output) Serial Transmission System IP67 compliant

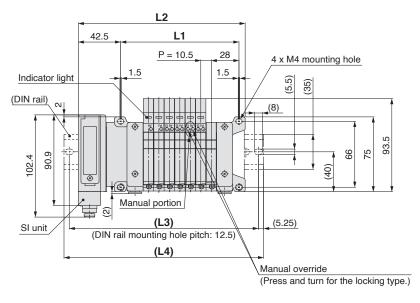
VV5QC11

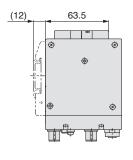
S kit (Serial transmission kit: EX260)





D side (Stations)---(1)(2)(3)(4)(5)(6)(7)--(n) U side





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	104.2	114.7	125.2	135.7	146.2	156.7	167.2	177.7	188.2	198.7	209.2	219.7	230.2	240.7	251.2	261.7	272.2	282.7	293.2	303.7	314.2	324.7	335.2	345.7
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	300	312.5	325	325	337.5	350	362.5	375
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	310.5	323	335.5	335.5	348	360.5	373	385.5



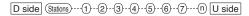
Series VQC2000

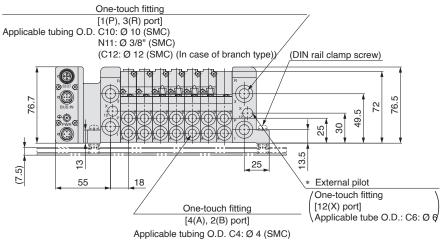
IP40 compliant

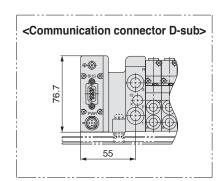
Kit (Serial transmission) For EX260 Integrated-type (For Output) Serial Transmission System IP67 compliant

VV5QC21

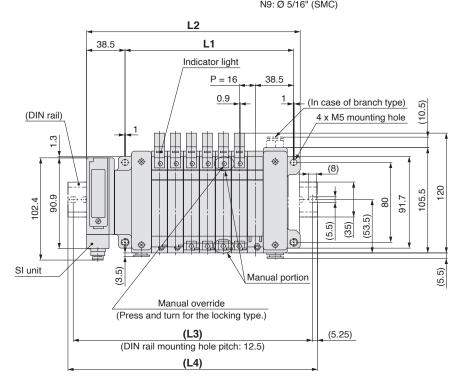
S kit (Serial transmission kit: EX260)

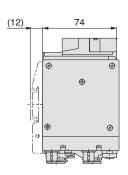






C6: Ø 6 (SMC) C8: Ø 8 (SMC) N3: Ø 5/32" (SMC) N9: Ø 5/16" (SMC)





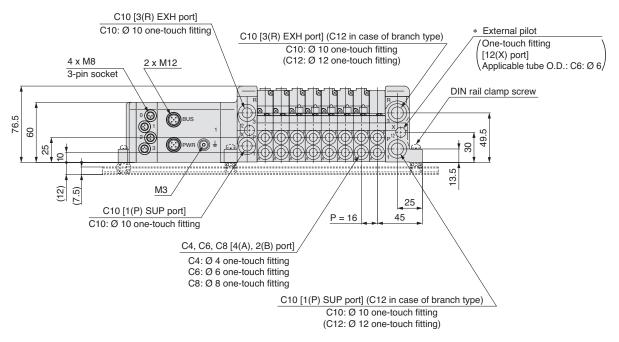
n: Stations (Maximum 24 stations)

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	118	134	150	166	182	198	214	230	246	262	278	294	310	326	342	358	374	390	406	422	438	454	470	486
L3	137.5	162.5	175	187.5	212.5	225	237.5	250	275	287.5	300	325	337.5	350	362.5	387.5	400	412.5	437.5	450	462.5	475	500	512.5
L4	148	173	185.5	198	223	235.5	248	260.5	285.5	298	310.5	335.5	348	360.5	373	398	410.5	423	448	460.5	473	485.5	510.5	523

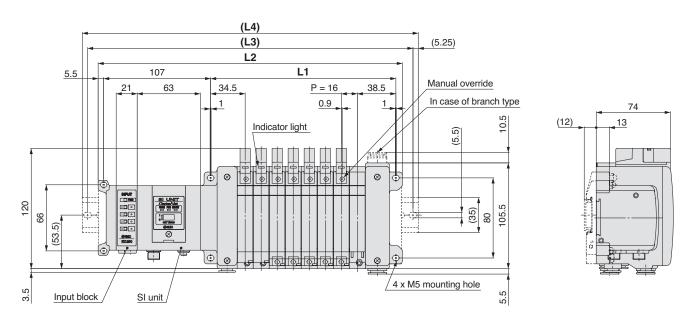
Series VQC1000/2000

kit (Serial transmission) For EX250 Integrated-type (I/O) serial transmission system IP67 compliant

VV5QC21 S kit (Serial transmission kit: EX250)



D side Stations -- (1) -- (2) -- (3) -- (4) -- (5) -- (6) -- (7) -- (8) -- (n) U side



The dashed lines indicate DIN rail mounting [-D] (with DIN rail mounting bracket).

Formula: $L1 = 16n + 57$, $L2 = 16n +$	176 (For one input block.	Add 21 mm for each	additional input block.)	n: Stations	(Maximum 24 stations)
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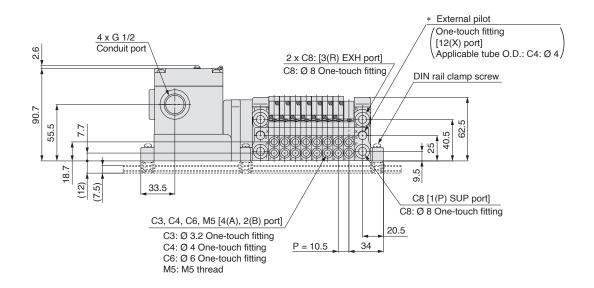
L	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	73	89	105	121	137	153	169	185	201	217	233	249	265	281	297	313	329	345	361	377	393	409	425	441
L2	192	208	224	240	256	272	288	304	320	336	352	368	384	400	416	432	448	464	480	496	512	528	544	560
L3	212.5	237.5	250	262.5	275	287.5	312.5	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



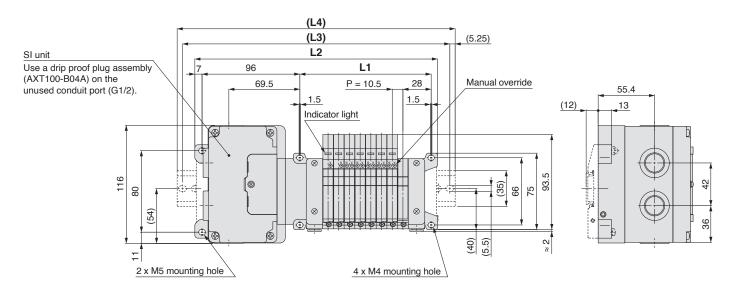
Series VQC1000/2000

Kit (Serial transmission) For EX126 Integrated-type (For Output) Serial Transmission System IP67 compliant

VV5QC11 S kit (Serial transmission kit: EX126)



D side Stations --- (1)-(2)-(3)-(4)-(5)-(6)-(7)-(8)--- (n) U side



The dashed lines indicate DIN rail mounting [-D] (with DIN rail mounting bracket).

Formula: L1 = 10.5n + 45, L2 = 10.5n + 154.5 n: Stations (Maximum 16 stations)

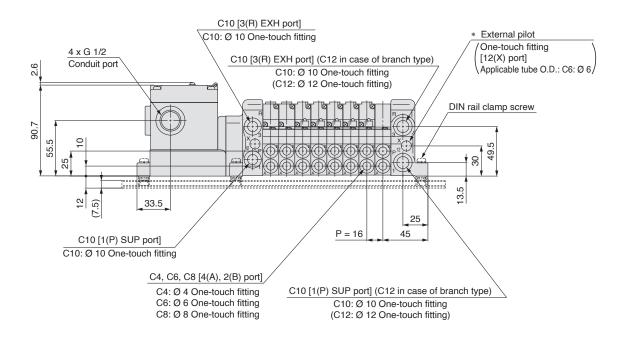
L n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	55.5	66	76.5	87	97.5	108	118.5	129	139.5	150	160.5	171	181.5	192	202.5	213
L2	165	175.5	186	196.5	207	217.5	228	238.5	249	259.5	270	280.5	291	301.5	312	322.5
L3	187.5	200	212.5	225	237.5	237.5	250	262.5	275	287.5	300	300	312.5	325	337.5	350
L4	198	210.5	223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



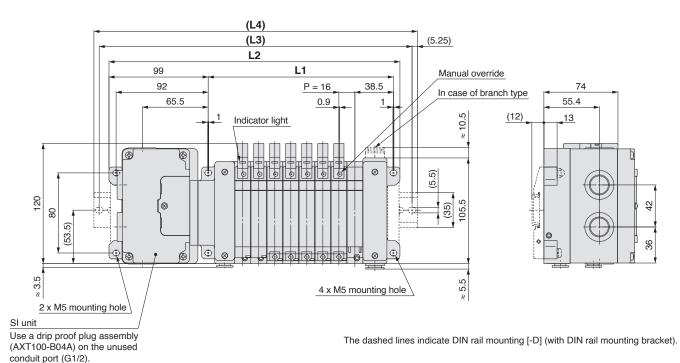
Series VQC1000/2000

Kit (Serial transmission) For EX126 Integrated-type (For Output) Serial Transmission System IP67 compliant

VV5QC21 S kit (Serial transmission kit: EX126)



D side Stations --- (1)-- (2)-- (3)-- (4)-- (5)-- (6)-- (7)-- (8)-- (n) U side



Formula: L1 = 16n + 57, L2 = 16n + 163 n: Stations (Maximum 16 stations)

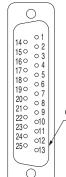
L	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	73	89	105	121	137	153	169	185	201	217	233	249	265	281	297	313
L2	179	195	211	227	243	259	275	291	307	323	339	355	371	387	403	419
L3	200	225	237.5	250	262.5	287.5	300	312.5	337.5	371	362.5	375	400	412.5	425	450
L4	210.5	235.5	248	260.5	273	298	310.5	323	348	360.5	373	385.5	410.5	423	435.5	460.5

Series VQC1000/2000 kit (D-sub connector) IP40 compliant

- Using our D-sub connector for electrical connections greatly reduces labour, while it also minimises 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



If alignment is not specified, the internal wiring is double wiring (connected to SOL. a and SOL. b) regardless of number of stations, valve and option types.

Connector terminal no.

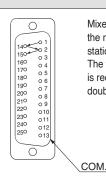
	Lead	wire r	no. Po	olarity
٠ (۲۰۰۰۰	SOL. a	1	(-)	(+)
Station 1	SOL. b _O	14	(-)	(+)
ar is a ct-m	SOL. a _O	2	(-)	(+)
Station 2	SOL. b	15	(-)	(+)
Station 3	SOL. a	3	(-)	(+)
Station 37	SOL. b	16	(-)	(+)
Station 4	SOL. a	4	(-)	(+)
Station 4) -m-	SOL. b	17	(-)	(+)
Station 5	SOL. a	5	(-)	(+)
otation o (SOL. b	18	(-)	(+)
Station 6	SOL. b	6	(-)	(+)
- C-m	SOL. 0	19	(-)	(+)
Station 7	SOL. b	7	(–)	(+)
(-	SOL. a	20	(-)	(+)
Station 8	SOL. b	8	(-)	(+)
(SOL. a	21	(-)	(+)
Station 9	SOL. b	9	(-)	(+)
(fm	SOL. a	22	(-)	(+)
Station 10	SOL. b	10	(-)	(+)
()	SOL. a	23	(-)	(+)
Station 11	SOL. b	11	(-)	(+)
J.m.	SOL. a	24 12	(-)	(+)
Station 12	SOL. b	25	(-) (-)	(+) (+)
<u></u>		25	(-)	(+)
	COM.			
	• • • • • • • • • • • • • • • • • • •	13	(+)	(–)
			Positive	Negative

* When using a valve with no polarity, either positive common or negative common can be used.

Terminal no.	Lead wire colour	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	Grey	Black
10	White	Black
11	White	Red
12	Yellow	Red
13	Orange	Red
14	Yellow	Black
15	Pink	Black
16	Yellow	White
17	White	None
18	Grey	None
19	Orange	Black
20	Red	White
21	Brown	White
22	Pink	Red
23	Grey	Red
24	Black	White
25	White	None

Specified Layout

(25 pins)



Mixed wiring of single and double wiring can be specified on the manifold specification sheet. The maximum number of stations is determined according to the number of solenoids. The total number of solenoids should be 24 or less. 1 solenoid is required for 2-position single, and 2 solenoids for 2-position double, 3-position and 4-position.

Connector Cable

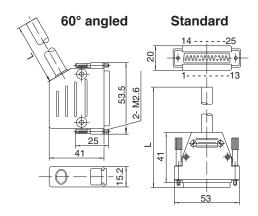
GVVZS3000-21A-□ [IP40]

D-sub connector/cable

Cable length (L)	Assembly part no.	Note
1 m	GVVZS3000-21A-160	60°angled
3 m	GVVZS3000-21A-260	60°angled
5 m	GVVZS3000-21A-360	60°angled
8 m	GVVZS3000-21A-460	60°angled
3 m	GVVZS3000-21A-2	Standard
5 m	GVVZS3000-21A-3	Standard
8 m	GVVZS3000-21A-4	Standard

Shielded cable

Cable length (L)	Assembly part no.	Note
1 m	GVVZS3000-21A-1S	Shieled
3 m	GVVZS3000-21A-2S	Shieled
5 m	GVVZS3000-21A-3S	Shieled
8 m	GVVZS3000-21A-4S	Shieled
20 m	GVVZS3000-21A-5S	Made to order



Electrical characteristics

Item	Property
Conductor resistance h/km, 20 °C	Max. 57
Voltage limit V, 5 minute, AC	1500
Insulation resistance Mh/km, 20 °C	20

Standard

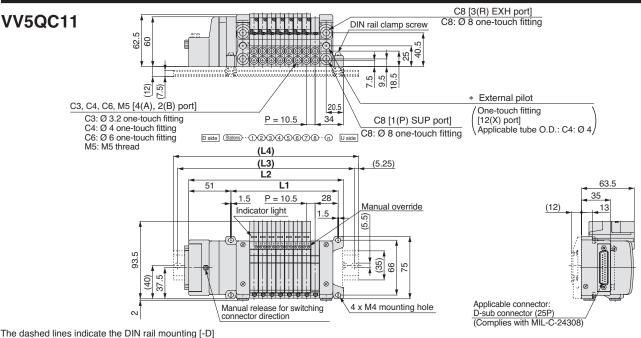
D-Sub connector cable assembly (option)

AXT100-DS25- 030 (According to MIL-C24308)

* Please contact SMC for details.







(with DIN rail mounting bracket). Formula: L1 = 10.5n + 45, L2 = 10.5n + 102 n: Stations (Maximum 24 stations) 8 9 10 11 12 13 15 16 17 19 20 21 22 23 24 5 6 18 L1 297 55.5 76.5 97.5 139.5 160.5 181.5 202.5 213 223.5 244.5 255 276 286.5 66 87 108 118.5 129 150 171 192 234 265.5 L2 112.5 123 133.5 144 154.5 175.5 186 196.5 207 217.5 228 238.5 249 259.5 270 280.5 291 301.5 312 322.5 333 343.5 354 165 13 137.5 150 175 212.5 237 5 237.5 287.5 312.5 325 375 375 162.5 175 187.5 200 225 250 262.5 275 300 300 337 5 350 362.5 L4 148 235.5 160.5 173 185.5 185.5 198 210.5 248 248 273 298 310.5 323 335.5 348 385.5

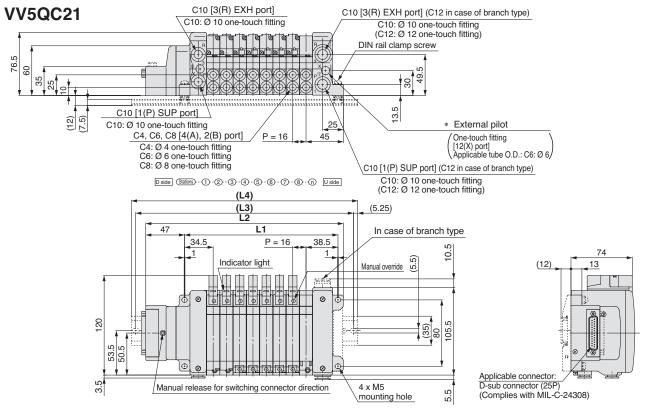
260.5

285.5

310.5

360.5 373 385.5

223



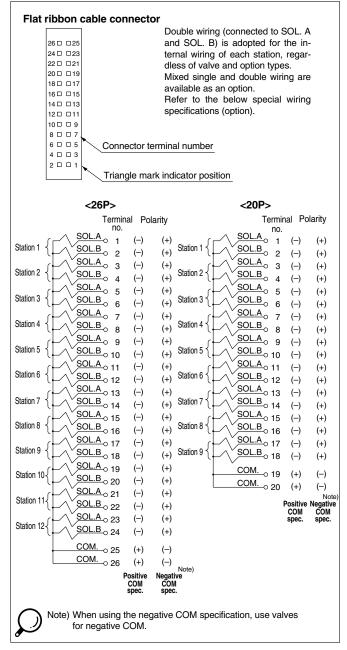
The	e dash	ned line	s indic	ate the	DIN r	ail mou	unting [-D]																	
(wit	th DIN	I rail m	ounting	brack	et).									Formul	la: L1 =	= 16n +	+ 57, L	2 = 16	n + 110	0.5 n:	Station	ns (Ma	aximun	n 24 st	ations)
$\overline{}$	<u> </u>		_	_				_	_	_	4.0	4.4	40	40	4.4	4.5	4.0	4=	40	4.0					-

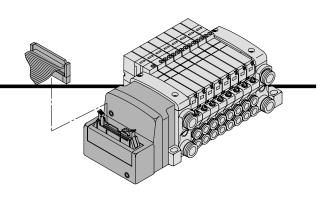
L n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	73	89	105	121	137	153	169	185	201	217	233	249	265	281	297	313	329	345	361	377	393	409	425	441
L2	126.5	142.5	158.5	174.5	190.5	206.5	222.5	238.5	254.5	270.5	286.5	302.5	318.5	334.5	350.5	366.5	382.5	398.5	414.5	430.5	446.5	462.5	478.5	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

Series VQC1000/2000 kit (Flat ribbon cable) IP40 compliant

- Using our flat ribbon cable for electrical connections greatly reduces labour, while it also minimises 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

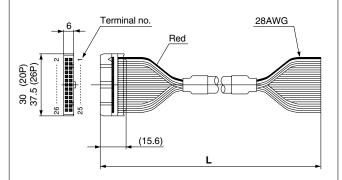




Cable Assembly

AXT100-FC 20 - 2

Type 26P flat ribbon cable connector assembly can be ordered with manifolds. Refer to "How to Order Manifold."



Flat ribbon cable connector assembly

Cable	Assembl	y part no.
length (L)	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

Note 1) When using a standard commercial connector, use a type 26P connector conforming to MIL-C-83503 or a type 20P with strain relief.

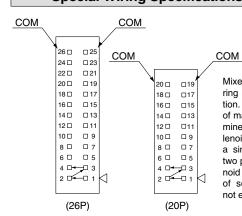
Note 1) Cannot be used for transfer wiring.

Note 1) Lengths other than the above are also available. Please contact SMC for details.

Connector Manufacturers' Example

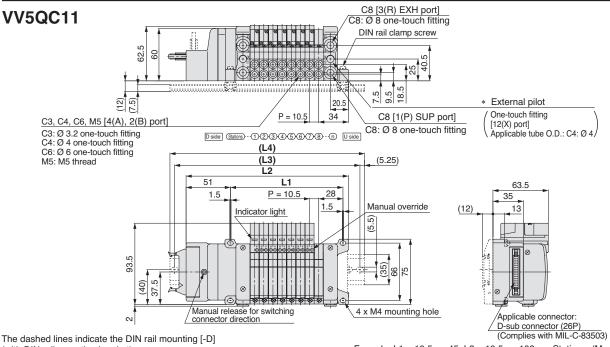
- Hirose Electric Co., Ltd.
- Sumitomo 3M Limited
- Fujitsu, Ltd.
- Japan Aviation Electronics Industry, Ltd.
- J.S.T. Mfg. Co., Ltd.
- Oki Electric Cable Co., Ltd.

Special Wiring Specifications (Option)



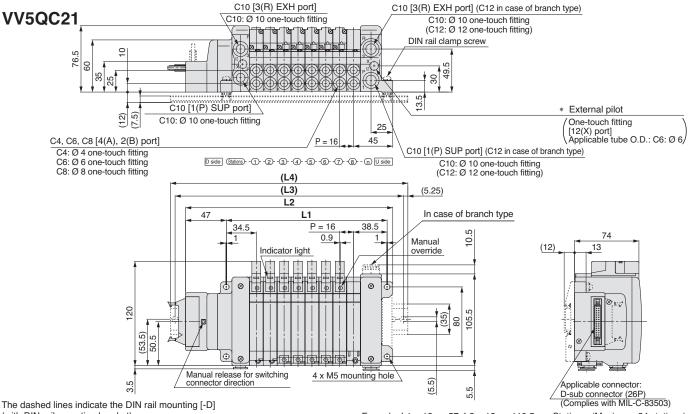
Mixed single and double wiring are available as an option. The maximum number of manifold stations is determined by the number of solenoids. Count one point for a single solenoid type and two points for a double solenoid type. The total number of solenoids (points) must not exceed 24.

Series VQC1000/2000 kit (Flat ribbon cable) IP40 compliant



(with DIN rail mounting bracket). Formula: L1 = 10.5n + 45, L2 = 10.5n + 102 n: Stations (Maximum 24 stations)

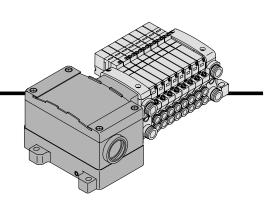
L	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	55.5	66	76.5	87	97.5	108	118.5	129	139.5	150	160.5	171	181.5	192	202.5	213	223.5	234	244.5	255	265.5	276	286.5	297
L2	112.5	123	133.5	144	154.5	165	175.5	186	196.5	207	217.5	228	238.5	249	259.5	270	280.5	291	301.5	312	322.5	333	343.5	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



(with DIN	rail mo	bunting	brack	et).									-ormul	a: L1 =	= 16n +	- 57, L2	2 = 16r	1 + 110).5 n:	Statio	ns (Ma	aximun	1 24 sta	ations)
Ln	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

Series VQC1000/2000 kit (Terminal block box) IP67 compliant

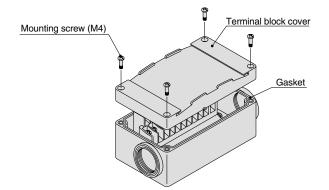
 This kit has a small terminal block inside a junction box. The electrical entry port of a G 3/4 permits connection of conduit fittings.



Terminal Block Connection

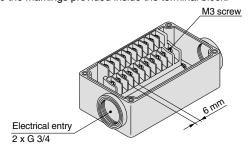
Step 1. Removing the terminal block cover

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



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.



Step 3. Mounting the terminal block cover

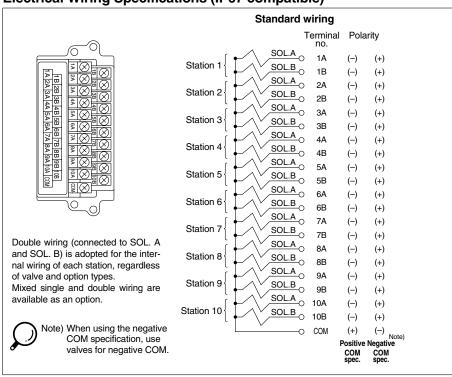
Securely tighten the screws to the torque shown in the table below, after confirming that the gasket is installed correctly.

Proper tightening torque (N·m)

0.7 to 1.2

- 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 (IP67 compatible)



Special Wiring Specifications (Option)

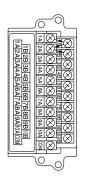
Mixed single and double wiring are available as an option. The maximum number of manifold stations is determined by the number of solenoids. Count one point for a single solenoid type and two points for a double solenoid type. The total number of solenoids (points) must not exceed 20.

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.

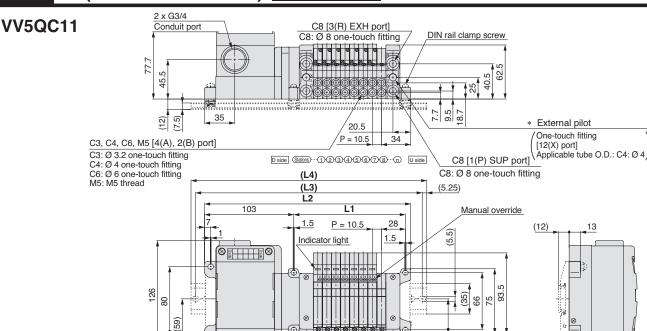
2. Wiring specifications

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.





Series VQC1000/2000 kit (Terminal block box) IP67 compliant



The dashed lines indicate DIN rail mounting [-D]

L4

210.5

235.5

260.5

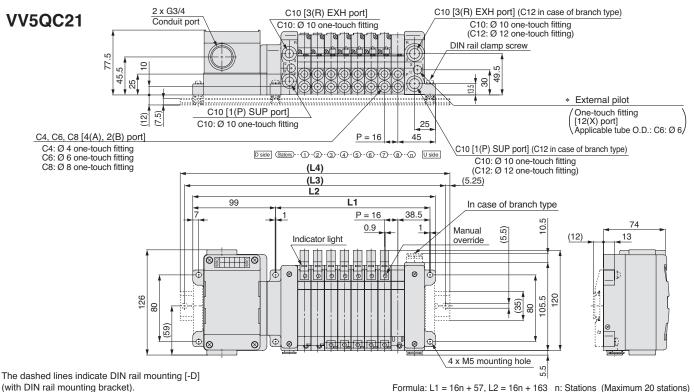
310.5

2 x M5 mounting hole

(with DIN r	ail mou	nting bra	acket).							Forr	nula: L1	= 10.5r	า + 45, L	.2 = 10.5	5n + 154	1.5 n: S	Stations	(Maxim	um 20 s	stations)
L	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	225	237.5	237.5	250	262.5	275	287.5	300	300	312.5	325	337.5	350	362.5	375	375	387.5
L4	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	398

4 x M4 mounting hole

⊗,



L2 512.5 237.5 262.5 287.5 312.5 337.5 362.5 412.5 462.5 487.5

410.5

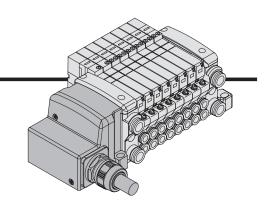
460.5

485.5

435.5

Series VQC1000/2000 kit (Lead wire) IP67 compliant

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



Electrical Wiring Specifications

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

Mixed single and double wiring are available as an option. Refer to the below special wiring specifications (option).

	Termin no.	al Pola	rity L	ead wire colour	Dot marking
Station 1 {	SOL.A 1	(-)	(+)	Black	None
Station	SOL.B o 14	(-)	(+)	Yellow	Black
Station 2	SOL.A 2	(-)	(+)	Brown	None
Station 2	SOL.B 15	(-)	(+)	Pink	Black
Station 3	SOL.A 3	(-)	(+)	Red	None
Stations	SOL.B o 16	(-)	(+)	Blue	White
Station 4 {	SOL.A o 4	(-)	(+)	Orange	None
Station 4	SOL.B 17	(-)	(+)	Purple	None
Station 5 {	SOL.A 5	(-)	(+)	Yellow	None
Stations	SOL.B o 18	(-)	(+)	Grey	None
Station 6	SOL.A 6	(-)	(+)	Pink	None
Otation 0	SOL.B o 19	(-)	(+)	Orange	Black
Station 7 {	SOL.A 7	(-)	(+)	Blue	None
	SOL.B 20	(-)	(+)	Red	White
Station 8	SOL.A 8	(-)	(+)	Purple	White
314113113	SOL.B 0 21	(-)	(+)	Brown	White
Station 9 {	SOL.A 9	(-)	(+)	Grey	Black
3	SOL.B o 22	(-)	(+)	Pink	Red
Station 10 \$	SOL.A 0 10	(-)	(+)	White	Black
	SOL.B o 23	(-)	(+)	Grey	Red
Station 11 5	SOL.A o 11	(-)	(+)	White	Red
]	SOL.B o 24	(-)	(+)	Black	White
Station 12 5	SOL.A o 12	(-)	(+)	Yellow	Red
1	SOL.B o 25	(-)	(+)	White	None
	COM. ○ 13	(+)	(-) Note)	Orange	Red
	- 10	Positive COM spec.	Negative COM spec.	ū	
Note) When using the ne negative COM.	gative CC	M specifica	tion, use v	alves for

Lead wire length

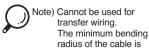
VV5QC11-08 C6 LD 0

Lead wire length

0	0.6 m
1	1.5 m
2	3.0 m

Electrical characteristics

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



20 mm.

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.



Series **VQC1000/2000** kit (Lead wire) IP67 compliant

185.5

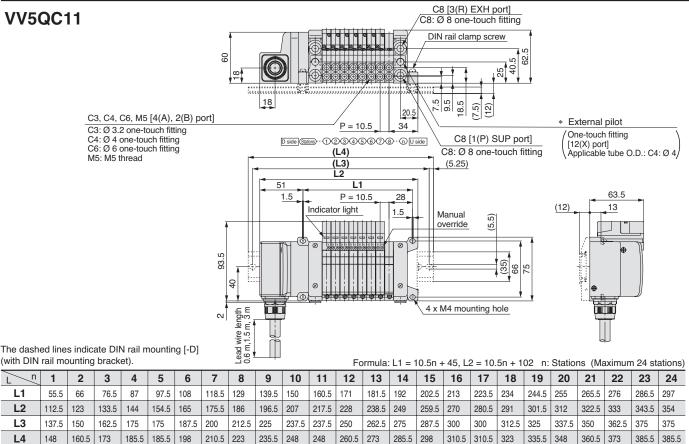
L4

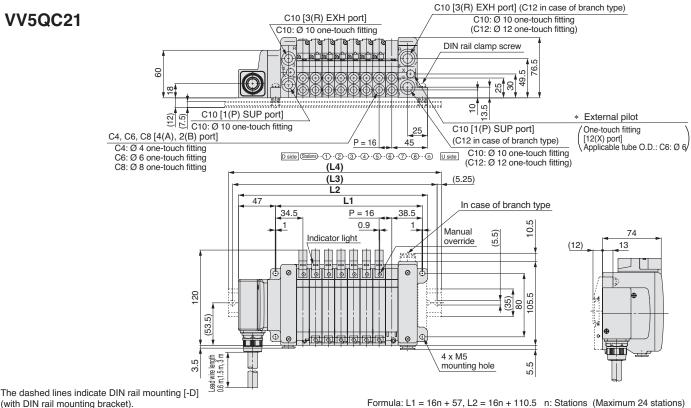
148

160.5 173 185.5

210.5 223 235.5 248 248

260.5 273





298

310.5 310.5 323

335.5 348

360.5 373 385.5 385.5

285.5

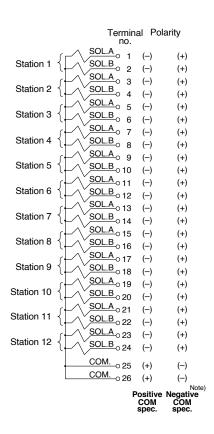
3 7 22 2 4 5 6 8 9 10 11 12 13 14 15 16 17 18 19 20 21 23 24 L₁ 73 105 121 137 153 169 185 201 217 233 249 281 297 313 329 345 361 393 409 425 441 L₂ 126.5 142.5 158.5 174.5 190.5 206.5 222.5 238.5 254.5 270.5 286.5 302.5 318.5 334.5 350.5 366.5 382.5 398.5 414.5 430.5 446.5 462.5 478.5 494.5 L3 150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

Series VQC1000/2000 kit (Circular connector) IP67 compliant

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

Electrical Wiring Specifications

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

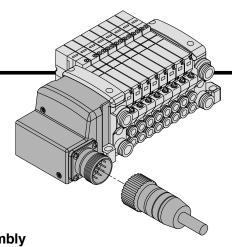


Special Wiring Specifications (Option)

Note) When using the negative COM specification, use valves

for negative COM.

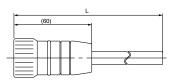
Mixed single and double wiring are available as an option. The maximum number of manifold stations is determined by the number of solenoids. Count one point for a single solenoid type and two points for a double solenoid type. The total number of solenoids (points) must not exceed 24.



Cable Assembly

GAXT100-MC26-030 (According to DIN47100)

Type 26P circular connector cable assembly can be ordered with manifolds. Refer to "How to Order Manifold."





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

Electrical characteristics

Item	Property
Conductor resistance /km, 20 °C	Max. 57
Voltage limit V, 5 minute, AC	1500
Insulation resistance MΩ/km, 20 °C	20

Circular connector cable assembly

 Terminal No. 26 is connected to 25 inside the connector.

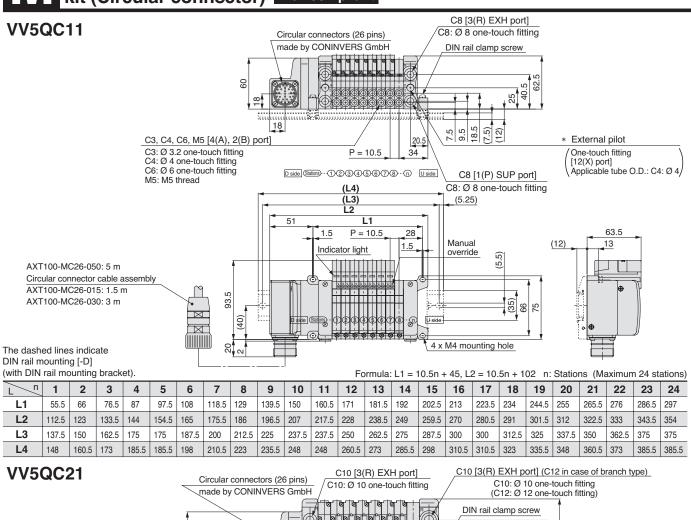
Cable	Assembly part no.
length (L)	26P
1.5 m	GAXT100-MC26-015
3 m	GAXT100-MC26-030
5 m	GAXT100-MC26-050

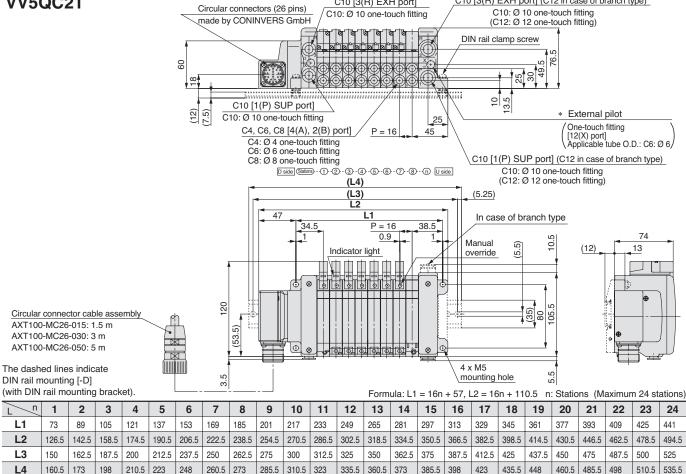
Circular connector cable assembly (option) AXT100-MC26- $^{015}_{030}_{050}$ (According to MIL-C24308)

* Please contact SMC for details.



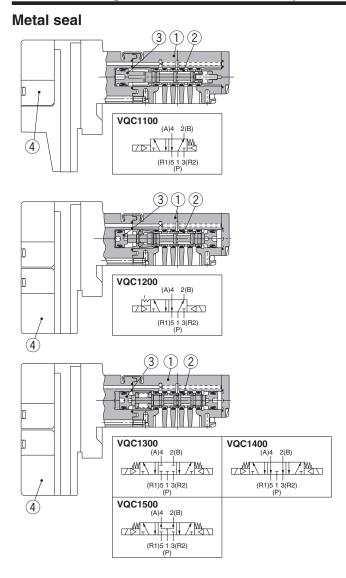
Series VQC1000/2000 kit (Circular connector) IP67 compliant





Series VQC1000/2000 Construction

VQC1000 Plug-in Unit: Main Parts/Replacement Parts



Rubber seal VQC1101 VQC1201 (A)4 2(B) VQC1301 VQC1401 (R1)5 1 3(R2) (P) (R1)5 1 3(R2) VQC1501 (R1)5 1 3(R2) VQC1A01 VQC1B01 5(R1) 1(P) VQC1C01 5(R1) 1(P)

Component Parts

0011	iponiciit i ai to		
No.	Description	Material	Note
1	Body	Zinc die-casted	
2	Spool/Sleeve	Stainless steel	
3	Piston	Resin	
4	Pilot valve assembly	_	

Note) Refer to page 48 for "How to Order Pilot Valve Assembly."



00.	ipononii i arto		
No.	Description	Material	Note
1	Body	Zinc die-casted	
2	Spool valve	Aluminum, HNBR	
3	Piston	Resin	
4	Pilot valve assembly	_	

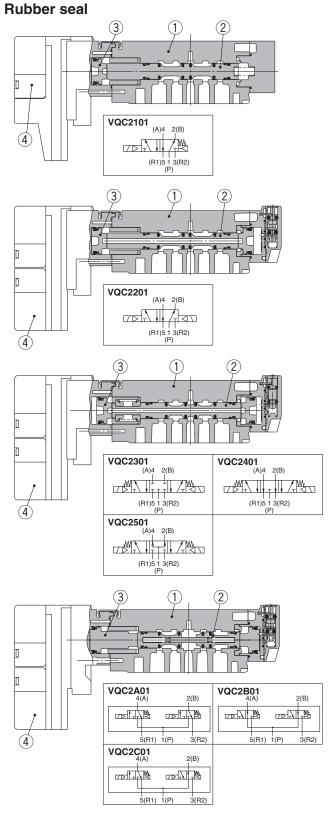
Note) Refer to page 48 for "How to Order Pilot Valve Assembly."



Base Mounted Plug-in Unit Series VQC1000/2000

VQC2000 Plug-in Unit: Main Parts/Replacement Parts

Metal seal VQC2100 (A)4 2(B) (R1)5 1 3(R2) (P) VQC2200 (A)4 2(B) (R1)5 1 3(R2) (P) VQC2300 VQC2400 (A)4 2(B) 2(B) (R1)5 1 3(R2) (P) (R1)5 1 3(R2) (P) VQC2500 (R1)5 1 3(R2) (P)



Component Parts

No.	Description	Material	Note
1	Body	Zinc die-casted	
2	Spool/Sleeve	Stainless steel	
3	Piston	Resin	
4	Pilot valve assembly	_	

Note) Refer to page 48 for "How to Order Pilot Valve Assembly."

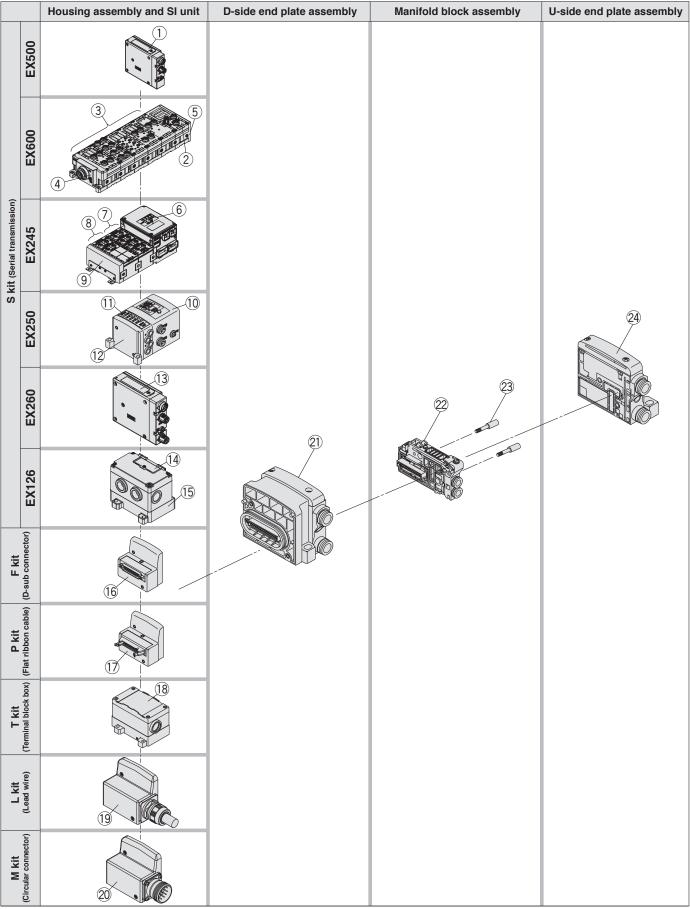


No.	Description	Material	Note
1	Body	Zinc die-casted	
2	Spool valve	Aluminum, HNBR	
3	Piston	Resin	
4	Pilot valve assembly	_	

Note) Refer to page 48 for "How to Order Pilot Valve Assembly."



Series VQC1000/2000 Exploded View of Manifold



Base Mounted Plug-in Unit Series VQC1000/2000

Manifold Assembly Part No.

Housing Assembly and SI Unit/Input Block

No.	Description	Part no.	Note
(1)	SI unit	EX500-S103	Gateway decentralized system 2 (128 points), PNP (Negative common)
<u>.</u>		EX600-SDN1A	DeviceNet® PNP (Negative common)
		EX600-SDN1A	DeviceNet® NPN (Positive common)
			,
		EX600-SMJ1	CC-Link PNP (Negative common)
		EX600-SMJ2	CC-Link NPN (Positive common)
		EX600-SPR1A	PROFIBUS DP PNP (Negative common)
		EX600-SPR2A	PROFIBUS DP NPN (Positive common)
		EX600-SEN3	EtherNet/IP™ PNP (Negative common)
		EX600-SEN4	EtherNet/IP™ NPN (Positive common)
		EX600-SEN7	EtherNet/IP™ (IO-Link unit) PNP (Negative common)
		EX600-SEN8	EtherNet/IP™ (IO-Link unit) NPN (Positive common)
		EX600-SEC3	EtherCAT (IO-Link unit) PNP (Negative common)
2	SI unit	EX600-SEC4	EtherCAT (IO-Link unit) NPN (Positive common)
		EX600-SPN1	PROFINET PNP (Negative common)
			,
		EX600-SPN2	PROFINET NPN (Positive common)
		EX600-SPN3	PROFINET (IO-Link unit) PNP (Negative common)
		EX600-SPN4	PROFINET (IO-Link unit) NPN (Positive common)
		EX600-WEN1 Note 1)	Wireless base module EtherNet/IP™ PNP (Negative common)
		EX600-WEN2 Note 1)	Wireless base module EtherNet/IP™ NPN (Positive common)
		EX600-WPN1 Note 1)	Wireless base module PROFINET PNP (Negative common)
		EX600-WPN2 Note 1)	Wireless base module PROFINET NPN (Positive common)
		EX600-WSV1 Note 1)	Wireless remote module PNP (Negative common)
		EX600-WSV2 Note 1)	Wireless remote module NPN (Positive common)
		EX600-DXNB	NPN input, M12 connector, 5 pins (4 pcs.), 8 inputs
		EX600-DXPB	PNP input, M12 connector, 5 pins (4 pcs.), 8 inputs
		EX600-DXNC	NPN input, M8 connector, 3 pins (8 pcs.), 8 inputs
	Digital input unit	EX600-DXNC1	NPN input, M8 connector, 3 pins (8 pcs.), 8 inputs, with open circuit detection
		EX600-DXPC	PNP input, M8 connector, 3 pins (8 pcs.), 8 inputs
		EX600-DXPC1	PNP input, M8 connector, 3 pins (8 pcs.), 8 inputs, with open circuit detection
		EX600-DXPO1	
			NPN input, M12 connector, 5 pins (8 pcs.), 16 inputs
		EX600-DXPD	PNP input, M12 connector, 5 pins (8 pcs.), 16 inputs
		EX600-DXNE	NPN input, D-sub connector, 25 pins, 16 inputs
		EX600-DXPE	PNP input, D-sub connector, 25 pins, 16 inputs
		EX600-DXNF	NPN input, Spring type terminal box, 32 pins, 16 inputs
		EX600-DXPF	PNP input, Spring type terminal box, 32 pins, 16 inputs
		EX600-DYNB	NPN output, M12 connector, 5 pins (4 pcs.), 8 outputs
3		EX600-DYPB	PNP output, M12 connector, 5 pins (4 pcs.), 8 outputs
	Digital autaut unit	EX600-DYNE	NPN output, D-sub connector, 25 pins, 16 outputs
	Digital output unit	EX600-DYPE	PNP output, D-sub connector, 25 pins, 16 outputs
		EX600-DYNF	NPN output, Spring type terminal box, 32 pins, 16 outputs
		EX600-DYPF	NPN output, Spring type terminal box, 32 pins, 16 outputs
		EX600-DMNE	NPN input/output, D-sub connector, 25 pins, 8 inputs/outputs
		EX600-DMPE	PNP input/output, D-sub connector, 25 pins, 8 inputs/outputs
	Digital input/output unit	EX600-DMNF	NPN input/output, Spring type terminal box, 32 pins, 8 inputs/outputs
		EX600-DMNF	PNP input/output, Spring type terminal box, 32 pins, 8 inputs/outputs
	Analog input unit		1 1 2 1
	Analog input unit	EX600-AXA	M12 connector, 5 pins (2 pcs.), 2-channel input
	Analog output unit	EX600-AYA	M12 connector, 5 pins (2 pcs.), 2-channel output
	Analog input/output unit	EX600-AMB	M12 connector, 5 pins (4 pcs.), 2-channel inputs/outputs
	IO-Link unit Note 2)	EX600-LAB1	Port class A, M12 connector, 5 pins (4 pcs.)
		EX600-LBB1	Port class B, M12 connector, 5 pins (4 pcs.)
		EX600-ED2	M12 power supply connector, B-coded
		EX600-ED2-2	M12 power supply connector, B-coded, with DIN rail mounting bracket
		EX600-ED3	7/8 inch power supply connector
	Ford older	EX600-ED3-2	7/8 inch power supply connector, with DIN rail mounting bracket
4	End plate	EX600-ED4	M12 power supply connector IN/OUT, A-coded, Pin arrangement 1
		EX600-ED4-2	M12 power supply connector IN/OUT, A-coded, Pin arrangement 1, with DIN rail mounting bracket
		EX600-ED5	M12 power supply connector IN/OUT, A-coded, Pin arrangement 2
		EX600-ED5-2	M12 power supply connector IN/OUT, A-coded, Pin arrangement 2, with DIN rail mounting bracket
(5)	Valvo ploto		
(3)	Valve plate	EX600-ZMV1	Enclosed parts: round head screws (M4 x 6) 2 pcs., round head screws (M3 x 8) 4 pcs

Note 1) The wireless system is suitable for use only in a country where it is in accordance with the Radio Act and regulations of that country.

 $[\]cdot \ \, \textbf{EtherCAT compatible: EX600-SEC3/EX600-SEC4}$



Note 2) The compatible SI unit models are as shown below.

[·] PROFINET compatible: EX600-SPN3/EX600-SPN4

[·] EtherNet/IP™ compatible: EX600-SEN7/EX600-SEN8

Series VQC1000/2000

Manifold Assembly Part No.

Housing Assembly and SI Unit/Input Block

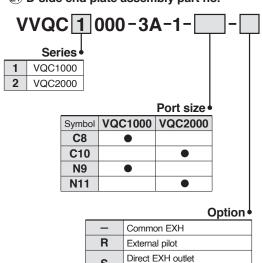
No.	Description	Part no.	Note
		EX245-SPN1A	Communication connector: Push Pull connector (SCRJ): 2 pcs./Power supply connector: Push Pull connector (24 V): 2 pcs
(c)	Classit	EX245-SPN2A	Communication connector: Push Pull connector (RJ45): 2 pcs./Power supply connector: Push Pull connector (24 V): 2 pcs.
6	SI unit	EX245-SPN3A	Communication connector: M12 connector (4-pin, Socket, D-coded): 2 pcs./Power supply connector: 7/8 inch connector (5-pin, Plug): 1 pc. 7/8 inch connector (5-pin, Socket): 1 pc
7	Digital input module	EX245-DX1	Digital input (16 inputs)
(8)	Digital output module	EX245-DY1	Digital output (16 outputs)
9	End plate	EX245-EA2-5	
		EX250-SAS3	AS-Interface, 8 in/8 out, 2 power supply systems PNP (Negative common)
		EX250-SAS5	AS-Interface, 4 in/4 out, 2 power supply systems PNP (Negative common)
10	Land Black	EX250-SAS7	AS-Interface, 8 in/8 out, 1 power supply system PNP (Negative common)
10	Input Block	EX250-SAS9	AS-Interface, 4 in/4 out, 1 power supply system PNP (Negative common)
		EX250-SDN1	DeviceNet™ PNP (Negative common)
		EX250-SEN1	EtherNet/IP™ PNP (Negative common)
		EX250-IE1	M12, 2 inputs
(11)	Input block	EX250-IE2	M12, 4 inputs
		EX250-IE3	M8, 4 inputs
<u> </u>		EX250-EA1	Standard
12	End plate assembly	EX250-EA2	For DIN rail mounting
		EX260-SDN1	DeviceNet™, M12 connector, 32 outputs PNP (Negative common)
		EX260-SDN2	DeviceNet™, M12 connector, 32 outputs NPN (Positive common)
		EX260-SDN3	DeviceNet™, M12 connector, 16 outputs PNP (Negative common)
		EX260-SDN4	DeviceNet™, M12 connector, 16 outputs NPN (Positive common)
		EX260-SPR1	PROFIBUS DP, M12 connector, 32 outputs PNP (Negative common)
		EX260-SPR2	PROFIBUS DP, M12 connector, 32 outputs NPN (Positive common)
		EX260-SPR3	PROFIBUS DP, M12 connector, 16 outputs PNP (Negative common)
		EX260-SPR4	PROFIBUS DP, M12 connector, 16 outputs NPN (Positive common)
		EX260-SPR5	PROFIBUS DP, D-sub connector, 32 outputs PNP (Negative common)
		EX260-SPR6	PROFIBUS DP, D-sub connector, 32 outputs NPN (Positive common)
		EX260-SPR7	PROFIBUS DP, D-sub connector, 16 outputs PNP (Negative common)
		EX260-SPR8	PROFIBUS DP, D-sub connector, 16 outputs NPN (Positive common)
		EX260-SMJ1	CC-Link, M12 connector, 32 outputs PNP (Negative common)
		EX260-SMJ2	CC-Link, M12 connector, 32 outputs NPN (Positive common)
		EX260-SMJ3	CC-Link, M12 connector, 16 outputs PNP (Negative common)
13		EX260-SMJ4	CC-Link, M12 connector, 16 outputs NPN (Positive common)
13	SI unit	EX260-SEC1	EtherCAT, M12 connector, 32 outputs PNP (Negative common)
		EX260-SEC2	EtherCAT, M12 connector, 32 outputs NPN (Positive common)
		EX260-SEC3	EtherCAT, M12 connector, 16 outputs PNP (Negative common)
		EX260-SEC4	EtherCAT, M12 connector, 16 outputs NPN (Positive common)
		EX260-SPN1	PROFINET, M12 connector, 32 outputs PNP (Negative common)
		EX260-SPN2	PROFINET, M12 connector, 32 outputs NPN (Positive common)
		EX260-SPN3	PROFINET, M12 connector, 16 outputs PNP (Negative common)
		EX260-SPN4	PROFINET, M12 connector, 16 outputs NPN (Positive common)
		EX260-SEN1	EtherNet/IP™, M12 connector, 32 outputs PNP (Negative common)
		EX260-SEN2	EtherNet/IP™, M12 connector, 32 outputs NPN (Positive common)
		EX260-SEN3	EtherNet/IP™, M12 connector, 16 outputs PNP (Negative common)
		EX260-SEN4	EtherNet/IP™, M12 connector, 16 outputs NPN (Positive common)
		EX260-SPL1	Ethernet POWERLINK, M12 connector, 32 outputs PNP (Negative common)
		EX260-SPL3	Ethernet POWERLINK, M12 connector, 16 outputs PNP (Negative common)
		EX260-SIL1	IO-Link M12 connector, 32 outputs PNP (Negative common)
		EX260-FPS1	PROFIsafe, M12 connector, 32 outputs PNP (Negative common)
14)	SI unit	EX126D-SMJ1	CC-Link NPN (Positive common)
15	Terminal block plate	VVQC1000-74A-2	For EX126 SI unit mounting
16)	D-sub connector housing assembly	VVQC1000-F25-1	F kit, 25 pins
17)	Flat ribbon cable housing assembly	VVQC1000-P26-1	P kit, 26 pins
		VVQC1000-P20-1	P kit, 20 pins
18	Terminal block box housing assembly	VVQC1000-T0-1	T kit
_		VVQC1000-L25-0-1	L kit with 0.6 m lead wire
19	Lead wire housing assembly	VVQC1000-L25-1-1	L kit with 1.5 m lead wire
<u> </u>		VVQC1000-L25-2-1	L kit with 3.0 m lead wire
20		VVQC1000-M26-1	



Manifold Assembly Part No.

<D-Side End Plate Assembly>

21 D-side end plate assembly part no.

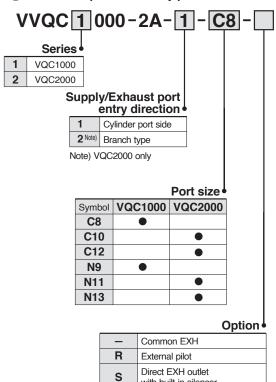


with built-in silencer

<U-Side End Plate Assembly>

S

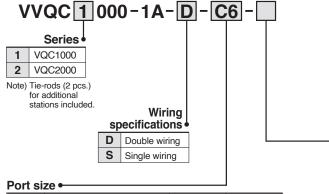
② U-side end plate assembly part no.



with built-in silencer

<Manifold Block Assembly>

22 Manifold block assembly part no.



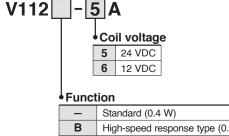
FOIL SIZE 5							
Symbol	Port size	VQC1000	VQC2000				
C3	For Ø 3.2 One-touch fitting	•					
C4	For Ø 4 One-touch fitting	•	•				
C6	For Ø 6	•	•				
C8	For Ø 8		•				
N1	For Ø 1/8"	•					
N3	For Ø 5/32"	•	•				
N7	For Ø 1/4"	•	•				
N9	For Ø 5/16"		•				
M5	For M5 thread	•					

	Options
_	None
В	With back pressure check valve

Ontion

<Replacement Parts>

Pilot valve assembly



	В	High-speed response type (0.95 W)				
	K	High-pressure type (1.0 MPa, 0.95 W)				
lete 1) Common to single coloneid and double coloneid						

Note 2) The voltage (including light/surge voltage suppressor), positive common and negative common cannot be changed by changing the pilot valve assembly.

23 Tie-rod assembly part no. (2 pcs.)

VQC1000	VVQC1000-TR-□
VQC2000	VVQC2000-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

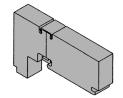
manifold block assembly. Note 2) : Stations 02 to 24

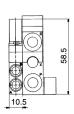
VQC1000: Manifold Optional Parts

Blanking plate assembly VVQ1000-10A-1



It is used by attaching on the manifold block for being prepared for removing a valve for maintenance reasons or planning to mount a spare valve, etc.





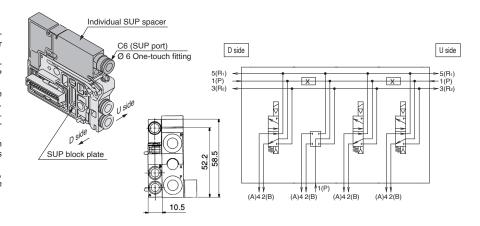
Individual SUP spacer VVQ1000-P-1-N7

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

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

- block plates. (Refer to the application example.)

 * Specify the spacer mounting position and SUP block plate position by means of the manifold specification sheet. The block plate is used in one or two places for one set. (Two SUP block plates for blocking SUP passage are attached to the individual SUP spacer.)
- As a standard, electric wiring is connected to the position of the manifold station where the individual SUP spacer is mounted.
- If wiring is not required for stations equipped with spacers, enter "X" in the special wiring specifications column in the manifold specification sheet.

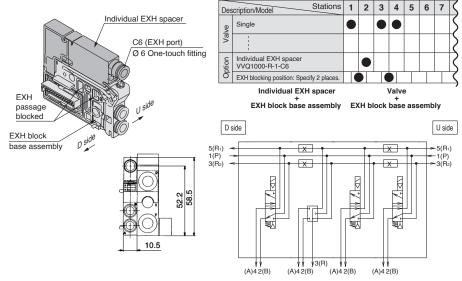


Individual EXH spacer VVQ1000-R-1-N7

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

Block both sides of the individual valve EXH station. (Refer to the application example.)

- * Specify the spacer mounting position, as well as the EXH passage blocking position by means of the manifold specification sheet. The block plate is used in one or two places for one set.
- * An EXH block base assembly is used in the blocking position when ordering an EXH spacer incorporated with a manifold. However, do not order an EXH block base assembly because it is attached to the spacer. When separately ordering an individual EXH spacer, separately order an EXH block base assembly because it is not attached to the spacer.
- As a standard, electric wiring is connected to the position of the manifold station where the individual EXH spacer is mounted.
- If wiring is not required for stations equipped with spacers, enter "X" in the special wiring specifications column in the manifold specification sheet.
- * Do not install any back pressure check valve on the manifold station, on which the spacer is to be mounted. When installing the back pressure check valve on other manifold station, be sure to specify the manifold station position on the manifold specification sheet instead of ordering by specifying the manifold option symbol "B".



SUP block plate VVQ1000-16A

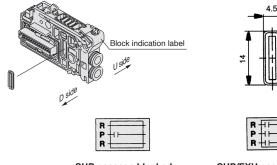
When different pressures are supplied to a manifold, a SUP block plate is used to block the stations under different pressures.

*Specify the mounting position by means of the manifold specification sheet.

<Block indication label>

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

* When ordering a block plate incorporated with a manifold, a block indication label is attached to the manifold.

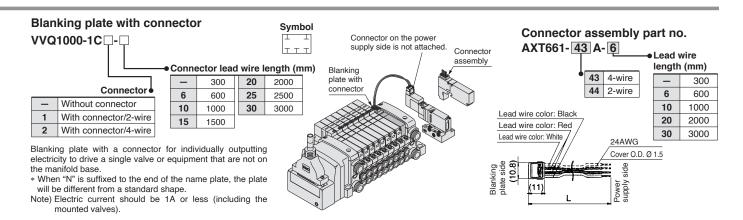




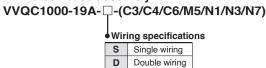
SUP passage blocked

SUP/EXH passage blocked

Base Mounted Plug-in Unit Series VQC1000



EXH block base assembly

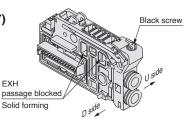


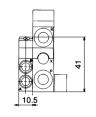
The manifold block assembly is used between stations for which exhaust is desired to be divided when valve exhaust affects other stations due to the circuit configuration. The EXH passage on the D-side is blocked in the EXH block base assembly. It is also used in combination with an individual EXH spacer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

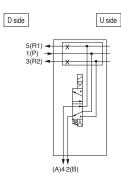
<Block indication label>

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

When ordering this option incorporated with a manifold, a block indication label is attached to the manifold.







- * Specify the mounting position by means of the manifold specification sheet.
- *When ordering this option incorporated with a manifold, specify the EXH block base assembly part number with "*" in front of it beneath the manifold part number.





EXH passage blocked

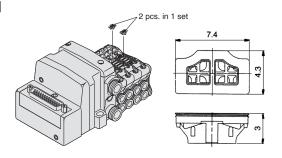
SUP/EXH passage blocked

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

It prevents cylinder from malfunctioning by other valve's exhaust entry. Insert it into R (EXH) port on the manifold side of a valve which is affected. It is effective when a single-acting cylinder is used or an exhaust center type solenoid valve is used.

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

Note) When a back pressure check valve is desired, and is to be installed only in certain manifold stations, clearly indicate the part number and specify the mounting station by means of the manifold specification sheet.



(Precautions)

- 1. The manifold installed type back pressure check valve assembly is assembly parts with a check valve structure. However, since slight air leakage against the back pressure is allowed due to its structure, adverse effects of the back pressure due to increase in exhaust resistance cannot be prevented if the manifold exhaust port and other exhaust ports are put together for piping or if the piping diameter is narrowed. As a result, this may cause the actuator and air operated equipment to malfunction. So, be careful not to restrict the exhaust air.
- When a back pressure check valve is mounted, the effective area of the valve will decrease by about 20 %.

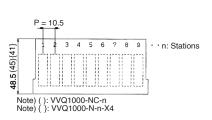
Name plate [-N]

VVQ1000-N_C-Station (1 to Max. stations) (-X4)

 -X4: For mounting slide locking type manual valve

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

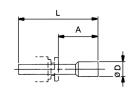
- When the blanking plate with connector is mounted, it automatically will be "VVQ1000-NC-n"
- * When the slide locking type manual valve is mounted, it automatically will be "VVQ1000-N-n-X4"
- * When ordering this option incorporated with a manifold, suffix "-N" to the end of the manifold part number.



Blanking plug (For One-touch fittings) KQ2P-□

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





Dimensions									
Applicable fitting size Ø d	Model	Α	L	D	Applicable fitting size Ø d	Model	Α	L	D
3.2	KQ2P-23	16	31.5	5	1/8"	KQ2P-01	16	31.5	5
4	KQ2P-04	16	32	6	5/32"	KQ2P-03	16	32	6
6	KQ2P-06	18	35	8	1/4"	KQ2P-07	18	35	8.5
8	KQ2P-08	20.5	39	10	5/16"	KQ2P-09	20.5	39	10

VQC1000: Manifold Optional Parts

Port plug VVQ0000-58A

The plug is used to block the cylinder port.

- * When ordering this option incorporated with a manifold, indicate "CM" for the port size of the manifold part number, as well as, the mounting position and number of stations and cylinder port mounting positions, 4(A) and 2(B) by means of the manifold specification sheet.
- * Gently screw an M3 screw in the port plug hole and pull it for removal.





Elbow fitting assembly VVQ1000-F-L(C3/C4/C6/M5/N1/N3/N7)

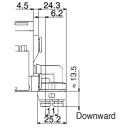
It is used for piping that extends upward or downward from the manifold.

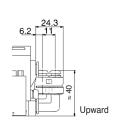
 When ordering this option incorporated with a manifold, indicate "L□" or "B□" for the manifold port size (when installed in all stations.)

When installing it in part of the manifold stations, specify the elbow fitting assembly part number and the mounting position and number of stations by means of the manifold specification sheet.

 When mounting elbow fitting assembly on the edge of manifold station and a silencer on EXH port, select a silencer, AN15-C08.
 A silencer (AN200-KM8) is interfered with fittings.





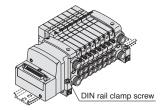


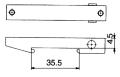
DIN rail mounting bracket [-D] VVQ1000-57A {For F/L/M/P/S (EX500) kit} VVQC1000-57A-S {For S (EX250) kit} VVQC1000-57A-T (For T kit)

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

* When ordering this option incorporated with a manifold, suffix "-D" to the end of the manifold part number.

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







Mounting screws are attached.

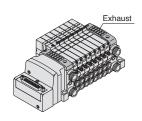
Direct EXH outlet with built-in silencer [-S]

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

* When ordering this option incorporated with a manifold, suffix "-S" to the end of the manifold part number.

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

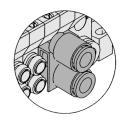
Refer to page 58 for maintenance.

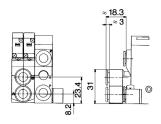


Dual flow fitting assembly VVQ1000-52A-N9

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

- The port size of the manifold part number is "MM". Clearly indicate the dual flow fitting assembly part number and specify the mounting positions by means of the manifold specification sheet.
- In dual flow fitting assembly, a special clip which is combined in one-piece of 2 stations is attached as a holding clip.

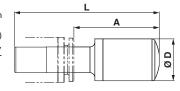




Silencer (For EXH port)

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

* When mounting elbow fitting assembly (VVQ1000-F-L□) on the edge of manifold station, select a silencer, AN15-C08. A silencer (AN200-KM8) is interfered with fittings.



Dimensions

Series	Applicable fitting size Ø d	Model	Α	L	D	Effective area (mm²)	Noise reduction (dB)
VQC1000	8	AN15-C08	26.5	45	13	20	30



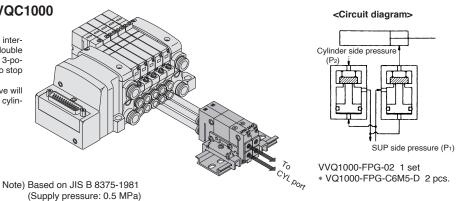
Double check block (Separated) for VQC1000 **VQ1000-FPG-**□□-□

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

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

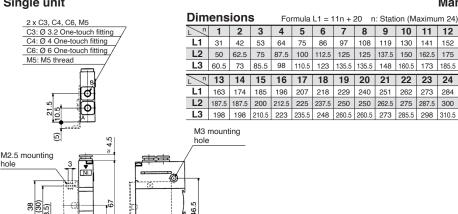
Specifications

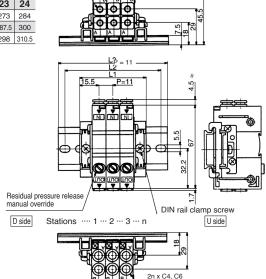
Max. operating pressure	0.8 MPa
Min. operating pressure	0.15 MPa
Ambient and fluid temp.	−5 to 50 °C
Flow characteristics: C	0.60 dm3/(s·bar)
Max. operating frequency	180 c.p.m



Dimensions

Single unit Manifold





2n x C3, C4, C6, M5

C3: Ø 3.2 One-touch fitting
C4: Ø 4 One-touch fitting

C6: Ø 6 One-touch fitting

How to Order

2

Double check block

VQ1000-FPG-| C4 | M5 |

2 x C4, C6 C4: Ø 4 One-touch fitting

C6: Ø 6 One-touch fitting

IN side port size • M5 M5 thread C3 Ø 3.2 One-touch fitting Ø 4 One-touch fitting C6 Ø 6 One-touch fitting N3 Ø 5/32" One-touch fitting

N7 Ø 1/4" One-touch fitting

• OUT side port size						
M5	M5 thread					
C3	Ø 3.2 One-touch fitting					
C4	Ø 4 One-touch fitting					
C6	Ø 6 One-touch fitting					
N3	Ø 5/32" One-touch fitting					
N7	Ø 1/4" One-touch fitting					

Manifold (DIN rail mounting) VVQ1000-FPG- 06

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

<Ordering example> VVQ1000-FPG-06--6-station manifold

*VQ1000-FPG-Double C4M5-D. 3 sets *VQ1000-FPGcheck block C6M5-D, 3 sets

Bracket Assembly

01

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

Stations

1 station

16 stations

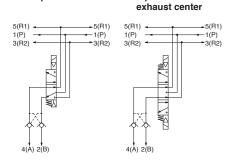
Option

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

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

Caution

 Air leakage from the pipe between the valve and cylinder or from the fittings will prevent the cylinder from stopping for long periods of time. Check the leakage using neutral household detergent, such as dish washing soap.



<Example>

C4: Ø 4 One-touch fitting C6: Ø 6 One-touch fitting

3-position

- Also, check the cylinder's tube gasket, piston packing and rod packing for air leakage. Since One-touch fittings allow slight air leakage, screw piping (with M5 thread) is recommended when stopping the cylinder in the middle for long periods of time.

 Combining double check block with 3-position closed center or pressure center solenoid valve will not

2-position

- M5 fitting assembly is attached, not incorporated into the double check block. the M5 fittings, mount the assembly on the double check block. {Tightening torque: 0.8 to 1.2 N·m} If the exhaust of the double check block is restricted too much, the cylinder may not operate properly and may not stop intermediately
- Set the cylinder load so that the cylinder pressure will be within two times that of the supply pressure.

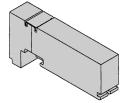


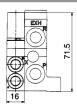
VQC2000: Manifold Optional Parts

Blanking plate assembly VVQ2000-10A-1

Symbol

It is used by attaching on the manifold block for being prepared for removing a valve for maintenance reasons or planning to mount a spare valve, etc.



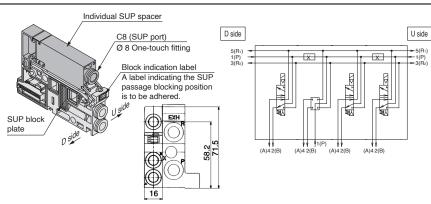


Individual SUP spacer VVQ2000-P-1- N9

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

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

- * Specify the spacer mounting position and SUP passage blocking position by means of the manifold specification sheet. The block plate is used in one or two places for one set. (Two SUP block plates for blocking SUP passage are attached to the individual SUP spacer.)
- * As a standard, electric wiring is connected to the position of the manifold station where the individual SUP spacer is mounted.
- * If wiring is not required for stations equipped with spacers, enter "X" in the special wiring specifications column in the manifold specification sheet.



Individual EXH spacer VVQ2000-R-1-N9

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

Block both sides of the individual valve EXH station. (Refer to

- the application example.)
 *Specify the spacer mounting position, as well as the EXH passage blocking position by means of the manifold specification sheet. The block plate is used in one or two places for one set. (Four EXH block plates (2 sets) for blocking EXH passage are attached to the individual EXH spacer.)
- * As a standard, electric wiring is connected to the position of
- the manifold station where the individual EXH spacer is mounted.

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

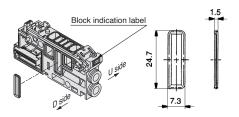
 Do not install any back pressure check valve on the manifold station, on which the spacer is
- Do not install any back pressure check valve on the manifold station, on which the spacer is to be mounted. When installing the back pressure check valve on other manifold station, be sure to specify the manifold station position on the manifold specification sheet instead of ordering by specifying the manifold option symbol "B".

Individual EXH spacer C8 (EXH port) Ø 8 One-touch fitting Block indication label A label indicating the EXH passage blocking position is to be adhered. EXH block plate On, on which the spacer is other manifold station, be cification sheet instead of

SUP block plate VVQ2000-16A

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

* Specify the mounting position by means of the manifold specification sheet.



<Block indication label>

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





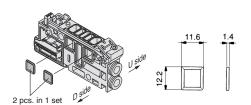
SUP passage blocked SUP/EXH passage blocked

* When ordering a block plate incorporated with a manifold, a block indication label is attached to the manifold.

EXH block plate VVQ2000-19A

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

 Specify the mounting position by means of the manifold specification sheet.



<Block indication label>

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





EXH passage blocked SUP/EXH passage blocked

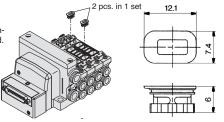
 When ordering a block plate incorporated with a manifold, a block indication label is attached to the manifold.

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

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

* When ordering this option incorporated with a manifold, suffix "-B" to the end of the manifold part number.

Note) When a back pressure check valve is desired, and is to be installed only in certain manifold stations, clearly indicate the part number and specify the mounting position by means of the manifold specification sheet.



<Pre><Pre>cautions>

- 1. The manifold installed type back pressure check valve assembly is assembly parts with a check valve structure. However, since slight air leakage against the back pressure is allowed due to its structure, adverse effects of the back pressure due to increase in exhaust resistance cannot be prevented if the manifold exhaust port and other exhaust ports are put together for piping or if the piping diameter is narrowed. As a result, this may cause the actuator and air operated equipment to malfunction. So, be careful not to restrict the exhaust air.
- When a back pressure check valve is mounted, the effective area of the valve will decrease by about 20 %.

Name plate [-N]

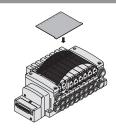
VVQ2000-N-Station (1 to Max. stations) (-X4)

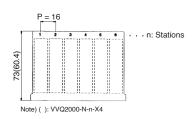
-X4: For mounting slide locking type manual valve

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

* When the slide locking type manual valve is mounted, it automatically will be "VVQ2000-N-n-X4"

- * When ordering this option incorporated with a manifold, suffix "-N" to the end of the manifold part





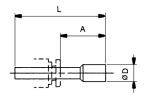
Blanking plug (For One-touch fittings)

KQ2P-□

It is inserted into an unused cylinder port and SUP/EXH ports

Purchasing order is available in units of 10





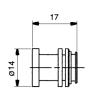
Dimensions Applicable fitting size **Ø d** D Model Α 4 KQ2P-04 16 32 6 8 6 KQ2P-06 18 35 8 KQ2P-08 20.5 39 10 KQ2P-10 10 22 43 12 5/32 KQ2P-03 16 32 6 1/4" KQ2P-07 18 35 8.5 5/16' KQ2P-09 20.5 39 10 KQ2P-11 22 43 11.5 3/8'

Port plug VVQ1000-58A

The plug is used to block the cylinder port.

* When ordering this option incorporated with a manifold, indicate "CM" for the port size of the manifold part number, as well as, the mounting station and cylinder port mounting positions, A and B, by means of the manifold specification sheet.





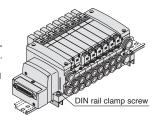
DIN rail mounting bracket [-D]

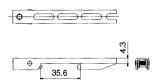
VVQC2000-57A {For F/L/M/P/S (EX500) kit} VVQC2000-57A-S {For S (EX250) kit} VVQC2000-57A-T (For T kit)

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

* When ordering this option incorporated with a manifold, suffix "-D" to the end of the manifold part number.

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





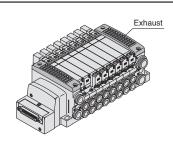
Direct EXH outlet with built-in silencer [-S]

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

* When ordering this option incorporated with a manifold, suffix "-S" to the end of the manifold part number.

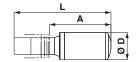
Note) A large quantity of drainage generated in the air source results in exhaust of air together with drainage.

Refer to page 58 for maintenance.



Silencer (For EXH port)

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



Dimensions

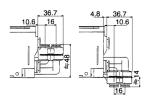
Series	Applicable fitting size Ø d	Model	A	L		Effective area (mm²) (Cv factor)	
VQC2000	10	AN20-C10	36.5	57.5	16.5	30	30

Elbow fitting assembly VVQ2000-F-L(C4/C6/C8/N3/N7/N9)

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

When installing it only in some manifold stations, specify the elbow fitting assembly part number and the mounting position by means of the manifold specification sheet.

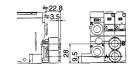




Dual flow fitting assembly VVQ2000-52A-C10

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

* The port size of the manifold part number is "MM". Clearly indicate the dual flow fitting assembly part number and specify the mounting position by means of the manifold specifications.



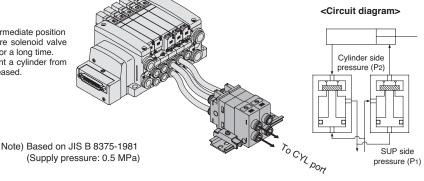


Double check block (Separated) for VQC2000 **VQ2000-FPG-**□□-□

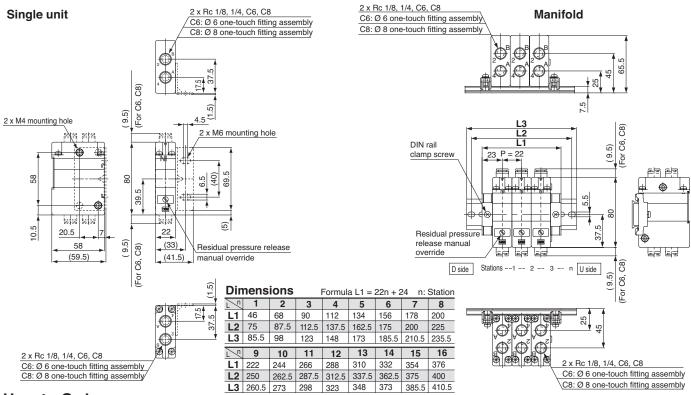
It is mounted on the outlet side piping to keep the cylinder in the intermediate position for long periods of time. Combining with a 3-position exhaust centre solenoid valve will enable the cylinder to stop in the middle or maintain its position for a long time. Combining with a 2-position single/double solenoid valve will prevent a cylinder from dropping at the stroke end when the residual pressure of SUP is released.

Specifications

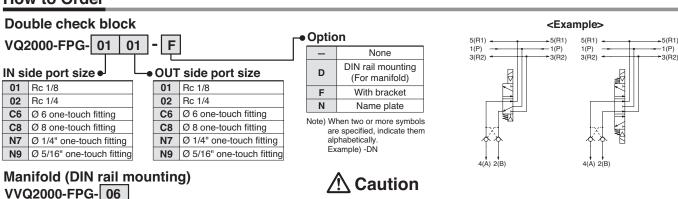
Max. operating pressure	0.8 MPa
Min. operating pressure	0.15 MPa
Ambient and fluid temp.	−5 to 50 °C
Flow characteristics: C	3.0 dm ³ /(s·bar)
Max. operating frequency	180 c.p.m



Dimensions



How to Order



order the DIN rail mounting [-D]. <Ordering example>

VVQ2000-FPG-06--6-station manifold

When ordering a double check block,

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

Double check block

Bracket Assembly

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

Stations

1 station

16 stations

- Air leakage from the pipe between the valve and cylinder or from the fittings will prevent the cylinder from stopping for long periods of time. Check the leakage using neutral household detergent, such as dish washing soap. Also, check the cylinder's tube gasket, piston packing and rod packing for air leakage.
- · Since one-touch fittings allow slight air leakage, screw piping is recommended when stopping the cylinder in
- the middle for long periods of time.

 Combining double check block with 3-position closed centre or pressure centre solenoid valve will not work. • When fittings, etc. are being screwed to the double check block, tighten them with the torque below

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

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





Be sure to read this before handling the products. For safety instructions and 3/4/5-port solenoid valve precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website: https://www.smcworld.com

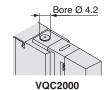
Manual Override

Marning

Connected actuator is started by manual operation. Use the manual override after confirming that there is no danger. Push type is standard. (Tool required) Locking type is semi-standard. (Tool required)

Non-locking push type (Tool required)





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

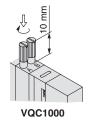
Locking type (Tool required) <Semi-standard>

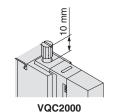




Push down on the manual override with a small flat head screwdriver until it stops. Turn it clockwise by 90 to lock it. Turn it counterclockwise to release it.

Locking type (Manual) <Semi-standard>



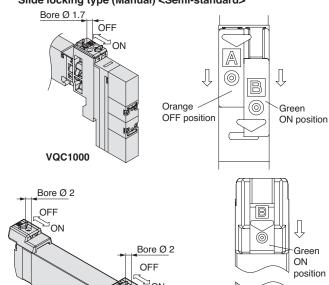


Push down on the manual override with a small screwdriver or with your fingers until it stops. Turn it clockwise by 90 to lock it. Turn it counterclockwise to release it.

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

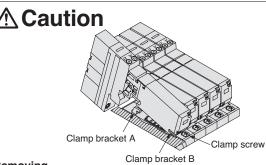
Marning

Slide locking type (Manual) <Semi-standard>





How to Mount/Remove Solenoid Valves



Removing

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

Mounting

- Press down on the clamp screw. Clamp bracket A opens. Diagonally insert the hook on the valve end plate side into clamp B.
- Press the valve body downward. (When the screw is released, it will be locked by clamp bracket A.)
- 3. Tighten the clamp screw. (Proper tightening torque: VQC1000, 0.25 to 0.35 N·m; VQC2000, 0.5 to 0.7 N·m)

▲ Caution

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





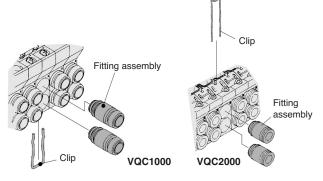
Be sure to read this before handling the products. For safety instructions and 3/4/5-port solenoid valve precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website: https://www.smcworld.com

Cylinder Port Fittings Replacement

⚠ Caution

One-touch fittings on the cylinder port are a cassette for easy replacement. The fittings are blocked by a clip. After removing the corresponding valve and take out the clip with a flat head screwdriver, etc., then replace the fittings.

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



Applicable tubing O.D.	Fitting assembly part no.			
Applicable tubing O.D.	VQC1000	VQC2000		
Applicable tubing Ø 3.2	VVQ1000-50A-C3	_		
Applicable tubing Ø 4	VVQ1000-50A-C4	VVQ1000-51A-C4		
Applicable tubing Ø 6	VVQ1000-50A-C6	VVQ1000-51A-C6		
Applicable tubing Ø 8	_	VVQ1000-51A-C8		
M5	VVQ1000-50A-M5	_		
Applicable tubing Ø 1/8"	VVQ1000-50A-N1	_		
Applicable tubing Ø 5/32"	VVQ1000-50A-N3	VVQ1000-51A-N3		
Applicable tubing Ø 1/4"	VVQ1000-50A-N7	VVQ1000-51A-N7		
Applicable tubing Ø 5/16"		VVQ1000-51A-N9		

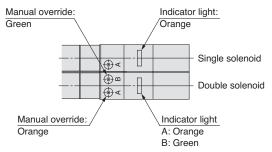
Note) Refer to "Manifold Optional Parts" on pages 51 and 54 for other types of fittings.

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

Light/Surge Voltage Suppressor

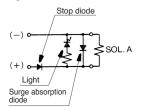
⚠ Caution

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

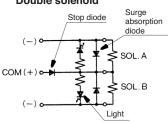


(Drawing shows a VQC1000 case.)

DC circuit diagram Single solenoid



Double solenoid



Note) A-side energization:

A light (Orange) illuminates.

B-side energization:

B light (Green) illuminates.

With wrong wiring prevention (stop diode) mechanism

With a surge absorption (surge absorption diode) mechanism

Continuous Duty

⚠ Caution

If a valve is energized continuously for long periods of time, the rise in temperature due to heat-up of the coil assembly may cause a decline in solenoid valve performance, reduce service life, or have adverse effects on peripheral equipment. In particular, if three or more adjacent stations on the manifold are energized simultaneously for extended periods of time or if the valves on A side and B side are energized simultaneously for long periods of time, take special care as the temperature rise will be greater. In such cases, if it is possible to select a valve with a power-saving circuit, be sure to do so.

UL Approved Product

⚠ Caution

When conformity to UL is required, the product should be used with a UL1310 Class 2 power supply.

The product is a UL approved product only if it has a cause mark on the body.





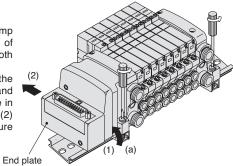
Be sure to read this before handling the products. For safety instructions and 3/4/5-port solenoid valve precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website: https://www.smcworld.com

How to Mount/Remove DIN Rail

⚠ Caution

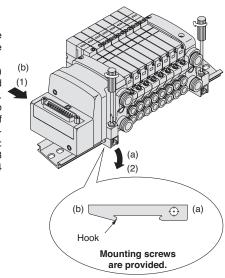
Removing

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



Mounting

- Hook side (b) of the manifold base on the DIN rail.
- 2. Press down side (a) and mount the end plate on the DIN rail. Tighten the clamp screw on side (a) of the end plate. (Proper tightening torque: VQC1000, 1.1 to 1.3 N·m; VQC2000, 1.4 to 1.6 N·m.)



IP67 Enclosure

⚠ Caution

Wiring connection for models conforming to IP67 should also have enclosures equivalent to or of stricter than IP67.

Built-in Silencer Element

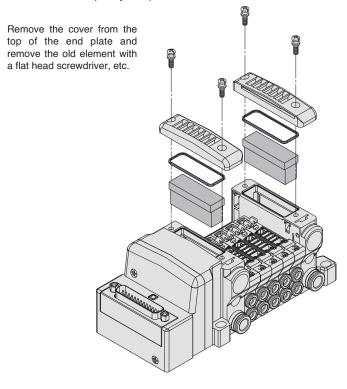
⚠ Caution

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

Element Part No.

Typo	Element part no.		
Туре	VQC1000	VQC2000	
Direct EXH outlet with built-in silencer	VVQ1000-82A-1	VVQ2000-82A-1	

The minimum order quantity is 10 pcs.



How to Calculate Flow Rate

Refer to Best Pneumatics No. 1) for obtaining the flow rate.





Be sure to read this before handling the products. For safety instructions and 3/4/5-port solenoid valve precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website: https://www.smcworld.com

EX500/EX260/EX250/EX126 Precautions

Marning

- 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.
- 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

- 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.
- 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.
- 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 class, 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.

- 9. Provide adequate protection when operating in locations such as follows:
 - 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

△ Caution

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

Safety Instructions on Power Supply

△Caution

- 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).
- When it is UL compliant, use a class 2 power supply unit in accordance with UL1310 for a combined direct current power supply.

Safety Instructions on Cable

△ Caution

- Avoid miswiring, as this can cause malfunction, damage and fire in the unit.
- To prevent noise and surge in signal lines, keep all wiring separate from power lines and high-voltage lines. Otherwise, this can cause malfunction.
- Check wiring insulation, as defective insulation can cause damage to the unit when excessive voltage or current is applied.
- 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.





Be sure to read this before handling the products. For safety instructions and 3/4/5-port solenoid valve precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website: https://www.smcworld.com

EX600 Precautions

Design/Selection

1. Use this product within the specification range.

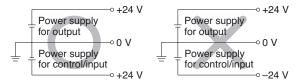
Using beyond the specified specifications range can cause fire, malfunction, or damage to the system. Confirm the specifications when operating.

- 2. When using for an interlock circuit:
 - Provide a multiple interlock system which is operated by another system (such as mechanical protection function).
 - Perform an inspection to check that it is working properly.

This may cause possible injury due to malfunction.

∧ Caution

- When it is UL compliant, use a class 2 power supply unit in accordance with UL1310 for a combined direct current power supply.
- Use this product within the specified voltage range.
 Using beyond the specified voltage range is likely to cause the units and connecting devices to be damaged or to malfunction.
- 3. The power supply for the unit should be 0 V as the standard for both power supply for output as well as power supply for control/input.



Do not install a unit in a place where it can be used as a foothold.

Applying any excessive load such as stepping on the unit by mistake or placing a foot on it, will cause it to break.

- 5. Keep the surrounding space free for maintenance. When designing a system, take into consideration the amount of free space needed for performing maintenance.
- 6. Do not remove the name plate.

Improper maintenance or incorrect use of instruction manual can cause failure and malfunction. Also, there is a risk of losing conformity with safety standards.

7. Beware of inrush current when the power supply is turned on.

Some connected loads can apply an initial charge current which will trigger the over current protection function, causing the unit to malfunction.

Mounting

A Caution

- 1. When handling and assembling units:
 - Do not touch the sharp metal parts of the connector or plug.
 - Do not apply excessive force to the unit.
 The connecting portions of the unit are firmly joined with seals
 - When joining units, take care not to get fingers caught between units.

Injury can result.

2. Do not drop, bump, or apply excessive impact.

Otherwise, the unit can become damaged, malfunction, or fail to function.

3. Observe the tightening torque range.

Tightening outside of the allowable torque range will likely damage the product. IP67 protection class cannot be guaranteed if the screws are not tightened to the specified torque.

 When lifting a large size manifold solenoid valve unit, take care to avoid causing stress to the valve connection joint.

The connection parts of the unit may be damaged. Because the unit may be heavy, carrying and installation should be performed by more than one operator to avoid strain or injury.

When placing a manifold, mount it on a flat surface. Torsion in the whole manifold can lead to trouble such as air leakage or defective insulation.

Wiring

⚠ Caution

 Confirm grounding to maintain the safety of the reduced wiring system and for anti-noise performance.

Provide a specific grounding as close to the unit as possible to minimise the distance to grounding.

2. Avoid repeatedly bending or stretching the cable and applying a heavy object or force to it.

Wiring applying repeated bending and tensile stress to the cable can break the circuit.

3. Avoid miswiring.

If miswired, there is a danger of malfunction or damage to the reduced wiring system.

4. Do not wire while energizing the product.

There is a danger of malfunction or damage to the reduced wiring system or input/output equipment.





Be sure to read this before handling the products. For safety instructions and 3/4/5-port solenoid valve precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website: https://www.smcworld.com

EX600 Precautions

Wiring

⚠ Caution

Avoid wiring the power line and high-pressure line in parallel.

Noise or surge produced by signal line resulting from the power line or high pressure line could cause malfunction. Wiring of the reduced wiring system or input/output device and the power line or high-pressure line should be separated from each other.

6. Confirm the wiring insulation.

Defective insulation (contact with other circuits, improper insulation between terminals, etc.) may cause damage to the reduced wiring system or input/output device due to excessive voltage or current.

7. When a reduced wiring system is installed in machinery/equipment, provide adequate protection against noise by using noise filters, etc.

Noise in signal lines may cause malfunction.

8. When connecting wires of input/output device or handheld terminal, prevent water, solvent or oil from entering inside from the connecter section.

This can cause damage, equipment failure, or malfunction.

9. Avoid wiring patterns in which excessive stress is applied to the connector.

This may cause malfunction or damage to the unit due to contact failure.

Operating Environment

Marning

 Do not use in an atmosphere containing an inflammable gas or explosive gas.

Use in such an atmosphere is likely to cause a fire or explosion. This system is not explosion-proof.

∧ Caution

1. Select the proper type of enclosure according to the environment of operation.

IP65/67 protection class is achieved when the following conditions are met.

- The units are connected properly with wiring cable for power supply, communication connector, and cable with M12 connector.
- 2) Suitable mounting of each unit and manifold valve.
- 3) Be sure to mount a seal cap on any unused connectors.

For IP40 protection class, do not use in atmospheres with corrosive gas, chemicals, sea water, water, steam, or where there is direct contact with any of these. When EX600-DDDE or EX600-DDDF are connected, the enclosure of the manifold should be IP40.

Also, the Handheld Terminal confirms to IP20, so prevent foreign matter from entering inside, and water, solvent or oil from coming in direct contact with it.

Operating Environment

∧ Caution

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

Failure to do so may cause damage or malfunction. The effect of countermeasures should be checked in individual equipment and machine.

- 1) Where noise is generated by static electricity, etc.
- 2) Where there is a strong electric field
- 3) Where there is a danger of exposure to radiation
- 4) When in close proximity to power supply lines
- Do not use in an environment where oil and chemicals are used.

Operating in environments with coolants, cleaning solvents, various oils or chemicals may cause adverse effects (damage, malfunction) to the unit even in a short period of time.

4. Do not use in an environment where the product could be exposed to corrosive gas or liquid.

This may damage the unit and cause it to malfunction.

5. Do not use in locations with sources of surge generation.

Installation of the unit in an area around the equipment (electromagnetic lifters, high frequency induction furnaces, welding machine, motors etc.), which generates the large surge voltage could cause to deteriorate an internal circuitry element of the unit or result in damage. Implement countermeasures against the surge from the generating source, and avoid touching the lines with each other.

6. Use the product type that has an integrated surge absorption element when directly driving a load which generates surge voltage by relay, solenoid valves or lamp.

When a surge generating load is directly driven, the unit may be damaged.

- 7. The product is CE marked, but not immune to lightning strikes. Take measures against lightning strikes in your system.
- 8. Keep dust, wire scraps and other extraneous material from getting inside the product.

This may cause malfunction or damage.

Mount the unit in such locations, where no vibration or shock is affected.

This may cause malfunction or damage.

10. Do not use in places where there are cyclic temperature changes.

In case that the cyclic temperature is beyond normal temperature changes, the internal unit is likely to be adversely effected.

11. Do not use in direct sunlight.

Do not use in direct sunlight. It may cause malfunction or damage.

12. Use this product within the specified ambient temperature range.

This may cause malfunction.

13. Do not use in places where there is radiated heat around it.

Such a place is likely to cause malfunction.





Be sure to read this before handling the products. For safety instructions and 3/4/5-port solenoid valve precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website: https://www.smcworld.com

EX600 Precautions

Adjustment/Operation

Do not perform operation or setting with wet hands.
 There is a risk of electrical shock.

<Ex600 Handheld Terminal>

2. Do not apply pressure to the LCD display.

There is a possibility of the crack of LCD display and injuring.

The forced input/output function is used to change the signal status forcibly. When operating this function, be sure to check the safety of the surroundings and installation.

Otherwise, injury or equipment damage could result.

4. Incorrect setting of parameters can cause malfunction. Be sure to check the settings before use.

This may cause injury or equipment damage.

⚠ Caution

 Use a watchmaker's screwdriver with thin blade for the setting of each switch of the SI unit. When setting the switch, do not touch other unrelated parts.

This may cause parts damage or malfunction due to a short circuit.

2. Provide adequate setting for the operating conditions.

Failure to do so could result in malfunction.

Refer to the instruction manual for setting of the switches.

3. For the details of programming and address setting, refer to the manual from the PLC manufacturer.

The content of programming related to protocol is designed by the manufacturer of the PLC used.

<Ex600 Handheld Terminal>

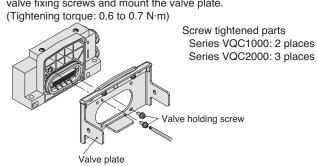
Do not press the setting buttons with a sharp pointed object.

This may cause damage or malfunction.

Do not apply excessive load and impact to the setting buttons.

This may cause damage, equipment failure or malfunction.

When the order does not include the SI unit, the valve plate to connect the manifold and SI unit is not mounted. Use attached valve fixing screws and mount the valve plate.



Maintenance

⚠ Warning

1. Do not disassemble, modify (including circuit board replacement) or repair this product.

Such actions are likely to cause injuries or breakage.

- 2. When an inspection is performed,
 - Turn off the power supply.
 - Stop the air supply, exhaust the residual pressure in piping and verify that the air is released before performing maintenance work.

Unexpected malfunction of system components and injury can result.

⚠ Caution

- 1. When handling and replacing the unit:
 - Do not touch the sharp metal parts of the connector or plug.
 - Do not apply excessive force to the unit.
 The connecting portions of the unit are firmly joined with seals.
 - When joining units, take care not to get fingers caught between units.

Injury can result.

2. Perform periodic inspection.

Unexpected malfunction in the system composition devices is likely to occur due to malfunction of machinery or equipment.

3. After maintenance, make sure to perform an appropriate functionality inspection.

In cases of abnormality such as faulty operation, stop operation. Unexpected malfunction in the system composition devices is likely to occur.

4. Do not use benzene and thinner for cleaning units.

Damage to the surface or erasure of the display can result. Wipe off any stains with a soft cloth. If the stain is persistent, wipe off with a cloth soaked in a dilute solution of neutral detergent and wrung out tightly, and then finish with a dry cloth.



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These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of "Caution," "Warning" or "Danger." They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC) 1), and other safety regulations.

Danger indicates a hazard with a high level of risk ♠ Danger: which, if not avoided, will result in death or serious

injury.

Warning indicates a hazard with a medium level of risk Marning: which, if not avoided, could result in death or serious

Caution indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate

1) ISO 4414: Pneumatic fluid power - General rules and safety requirements for systems and their components.

ISO 4413: Hydraulic fluid power - General rules and safety requirements for systems and their components.

IEC 60204-1: Safety of machinery - Electrical equipment of machines. (Part 1: General requirements)

ISO 10218-1: Robots and robotic devices - Safety requirements for industrial robots - Part 1: Robots.

etc.

Marning

1. The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications.

Since the product specified here is used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results. The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product. This person should also continuously review all specifications of the product referring to its latest catalogue information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.

2. Only personnel with appropriate training should operate machinery and equipment.

The product specified here may become unsafe if handled incorrectly. The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.

- 3. Do not service or attempt to remove product and machinery/ equipment until safety is confirmed.
 - 1. The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.
 - 2. When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.
 - 3. Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.
- 4. Our products cannot be used beyond their specifications. Our products are not developed, designed, and manufactured to be used under the following conditions or environments. Use under such conditions or environments is not covered.
 - 1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
 - 2. Use for nuclear power, railways, aviation, space equipment, ships, vehicles, military application, equipment affecting human life, body, and property, fuel equipment, entertainment equipment, emergency shut-off circuits, press clutches, brake circuits, safety equipment, etc., and use for applications that do not conform to standard specifications such as catalogues and operation manuals.
 - 3. Use for interlock circuits, except for use with double interlock such as installing a mechanical protection function in case of failure. Please periodically inspect the product to confirm that the product is operating properly.

We develop, design, and manufacture our products to be used for automatic control equipment, and provide them for peaceful use in manufacturing industries.

Use in non-manufacturing industries is not covered.

Products we manufacture and sell cannot be used for the purpose of transactions or certification specified in the Measurement Act.

The new Measurement Act prohibits use of any unit other than SI units in Japan.

Limited warranty and **Disclaimer/Compliance** Requirements

The product used is subject to the following "Limited warranty and Disclaimer" and "Compliance Requirements". Read and accept them before using the product.

Limited warranty and Disclaimer

- 1. The warranty period of the product is 1 year in service or 1.5 years after the product is delivered, whichever is first. 2) Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.
- 2. For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided. This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.
- 3. Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalogue for the particular products.
- 2) Vacuum pads are excluded from this 1 year warranty. A vacuum pad is a consumable part, so it is warranted for a year after it is delivered. Also, even within the warranty period, the wear of a product due to the use of the vacuum pad or failure due to the deterioration of rubber material are not covered by the limited

Compliance Requirements

- 1. The use of SMC products with production equipment for the manufacture of weapons of mass destruction (WMD) or any other weapon is strictly prohibited.
- 2. The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulations of the countries involved in the transaction. Prior to the shipment of a SMC product to another country, assure that all local rules governing that export are known and followed.

Revision	n History	
Edition B	- Xxxxxxxxx	QS
Edition C	- Xxxxxxxxx - Xxxxxxxxxx	XU

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