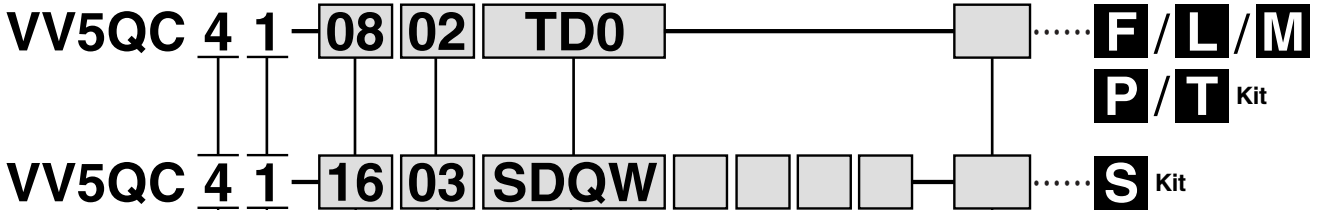


Series VQC4000

Base Mounted Plug-in Unit

How to Order Manifold



Series

4	VQC4000
---	---------

Manifold model

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

Stations

01	1 station
⋮	⋮

The maximum number of stations differs depending on the electrical entry.

Cylinder port size

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

Note 1) Indicate the size in the specification order sheet in the case of "CM".
 Note 2) Symbols for inch sizes are as follows:
 <For One-touch fittings>
 N7: ø1/4"
 N9: ø5/16"
 N11: ø3/8"
 NM: Mixed

Option

Nil	None
K	Special wiring specifications (except for double wiring) ^{Note 1)}
N	With name plate (available for T kit only) ^{Note 2)}

* When specifying more than one option, enter symbols in alphabetical order. Example: -KN
 Note 1) Be sure to indicate the wiring specifications on the specification order sheet.
 Note 2) The mounting position of the name plate is on the top face of the cover for the terminal block box.

Input block COM. (Fill out for I/O unit only)

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

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

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

Note) Max. 4 for EX240 and max 8 for EX250.

SI unit COM.

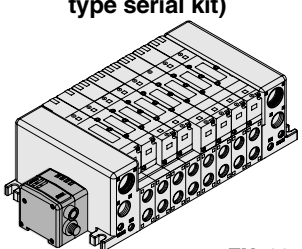
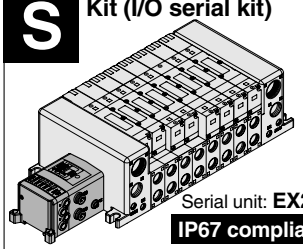
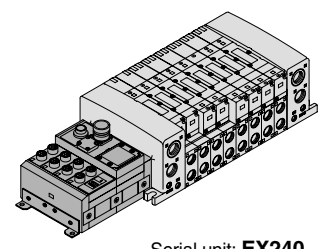
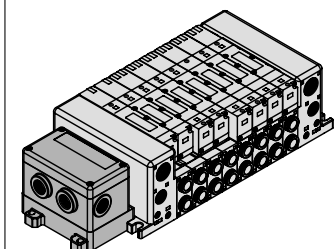
SI unit COM	EX240			EX250				EX500				EX126
	DeviceNet	PROFIBUS-DP	DeviceNet	PROFIBUS-DP	CC-LINK	AS-i	CANopen	DeviceNet	PROFIBUS-DP	CC-LINK	Remote I/O	CC-LINK
Nil +COM	○	—	—	—	○	—	—	○	○	○	○	○
N -COM	—	○	○	○	—	○	○	○	○	○	○	—

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

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

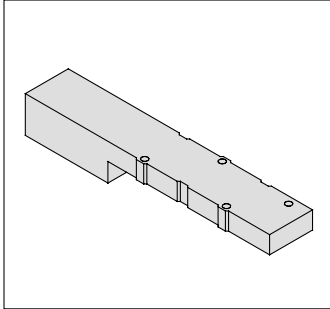
Nil	Without input block
0	M12, 8 inputs (EX240)
1	M12, 2 inputs (EX250)
2	M12, 4 inputs (EX250)
3	M8, 4 inputs (EX250)

Kit Designation/Electrical Entry/Cable Length

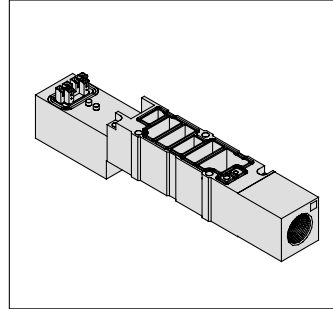
S Kit (Decentralized wiring type serial kit)	S Kit (I/O serial kit)	S Kit (I/O serial transmission kit)	S Kit (Serial output kit)																																																
 <p>Serial unit: EX500 IP67 compliant</p>	 <p>Serial unit: EX250 IP67 compliant</p>	 <p>Serial unit: EX240 IP65 compliant</p>	 <p>Serial unit: EX126 IP67 compliant</p>																																																
<table border="1"> <tr> <td>SD0</td> <td>Serial kit without SI unit</td> <td>1 to 8 stations (16 stations)</td> </tr> <tr> <td>SDA1</td> <td>Serial kit for Remote I/O</td> <td>1 to 8 stations (16 stations)</td> </tr> <tr> <td>SDA2</td> <td>Serial kit for DeviceNet/PROFIBUS-DP/CC-LINK</td> <td>1 to 8 stations (16 stations)</td> </tr> </table>	SD0	Serial kit without SI unit	1 to 8 stations (16 stations)	SDA1	Serial kit for Remote I/O	1 to 8 stations (16 stations)	SDA2	Serial kit for DeviceNet/PROFIBUS-DP/CC-LINK	1 to 8 stations (16 stations)	<table border="1"> <tr> <td>SD0</td> <td>Serial kit without SI unit</td> <td>1 to 4 stations (8 stations)</td> </tr> <tr> <td>SDY</td> <td>Serial kit for CANopen</td> <td>1 to 2 stations (4 stations)</td> </tr> <tr> <td>SDQ</td> <td>Serial kit for DeviceNet</td> <td>1 to 4 stations (8 stations)</td> </tr> <tr> <td>SDN</td> <td>Serial kit for PROFIBUS-DP</td> <td>1 to 4 stations (8 stations)</td> </tr> <tr> <td>SDV</td> <td>Serial kit for CC-LINK</td> <td>1 to 2 stations (4 stations)</td> </tr> <tr> <td>SDTA</td> <td>AS-i, 8 in/out, 31 slave modes, 2 power supply systems</td> <td>1 to 4 stations (8 stations)</td> </tr> <tr> <td>SDTB</td> <td>AS-i, 4 in/out, 31 slave modes, 2 power supply systems</td> <td>1 to 2 stations (4 stations)</td> </tr> <tr> <td>SDTC</td> <td>AS-i, 8 in/out, 31 slave modes, 1 power supply systems</td> <td>1 to 4 stations (8 stations)</td> </tr> <tr> <td>SDTD</td> <td>AS-i, 4 in/out, 31 slave modes, 1 power supply systems</td> <td>1 to 2 stations (4 stations)</td> </tr> </table>	SD0	Serial kit without SI unit	1 to 4 stations (8 stations)	SDY	Serial kit for CANopen	1 to 2 stations (4 stations)	SDQ	Serial kit for DeviceNet	1 to 4 stations (8 stations)	SDN	Serial kit for PROFIBUS-DP	1 to 4 stations (8 stations)	SDV	Serial kit for CC-LINK	1 to 2 stations (4 stations)	SDTA	AS-i, 8 in/out, 31 slave modes, 2 power supply systems	1 to 4 stations (8 stations)	SDTB	AS-i, 4 in/out, 31 slave modes, 2 power supply systems	1 to 2 stations (4 stations)	SDTC	AS-i, 8 in/out, 31 slave modes, 1 power supply systems	1 to 4 stations (8 stations)	SDTD	AS-i, 4 in/out, 31 slave modes, 1 power supply systems	1 to 2 stations (4 stations)	<table border="1"> <tr> <td>SD0W</td> <td>Serial kit without SI unit</td> <td>1 to 12 stations (16 stations)</td> </tr> <tr> <td>SDQW</td> <td>Serial kit for DeviceNet</td> <td>1 to 12 stations (16 stations)</td> </tr> <tr> <td>SDNW</td> <td>Serial kit for PROFIBUS-DP</td> <td>1 to 12 stations (16 stations)</td> </tr> </table>	SD0W	Serial kit without SI unit	1 to 12 stations (16 stations)	SDQW	Serial kit for DeviceNet	1 to 12 stations (16 stations)	SDNW	Serial kit for PROFIBUS-DP	1 to 12 stations (16 stations)	<table border="1"> <tr> <td>SDVB</td> <td>Serial kit for CC-LINK</td> <td>1 to 8 stations (16 stations)</td> </tr> </table>	SDVB	Serial kit for CC-LINK	1 to 8 stations (16 stations)
SD0	Serial kit without SI unit	1 to 8 stations (16 stations)																																																	
SDA1	Serial kit for Remote I/O	1 to 8 stations (16 stations)																																																	
SDA2	Serial kit for DeviceNet/PROFIBUS-DP/CC-LINK	1 to 8 stations (16 stations)																																																	
SD0	Serial kit without SI unit	1 to 4 stations (8 stations)																																																	
SDY	Serial kit for CANopen	1 to 2 stations (4 stations)																																																	
SDQ	Serial kit for DeviceNet	1 to 4 stations (8 stations)																																																	
SDN	Serial kit for PROFIBUS-DP	1 to 4 stations (8 stations)																																																	
SDV	Serial kit for CC-LINK	1 to 2 stations (4 stations)																																																	
SDTA	AS-i, 8 in/out, 31 slave modes, 2 power supply systems	1 to 4 stations (8 stations)																																																	
SDTB	AS-i, 4 in/out, 31 slave modes, 2 power supply systems	1 to 2 stations (4 stations)																																																	
SDTC	AS-i, 8 in/out, 31 slave modes, 1 power supply systems	1 to 4 stations (8 stations)																																																	
SDTD	AS-i, 4 in/out, 31 slave modes, 1 power supply systems	1 to 2 stations (4 stations)																																																	
SD0W	Serial kit without SI unit	1 to 12 stations (16 stations)																																																	
SDQW	Serial kit for DeviceNet	1 to 12 stations (16 stations)																																																	
SDNW	Serial kit for PROFIBUS-DP	1 to 12 stations (16 stations)																																																	
SDVB	Serial kit for CC-LINK	1 to 8 stations (16 stations)																																																	

Manifold Option

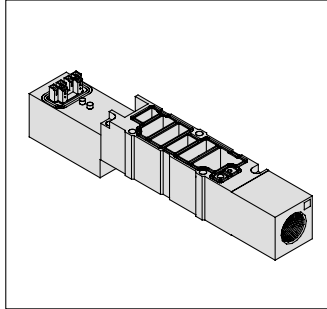
Blanking plate assembly
VVQ4000-10A-1



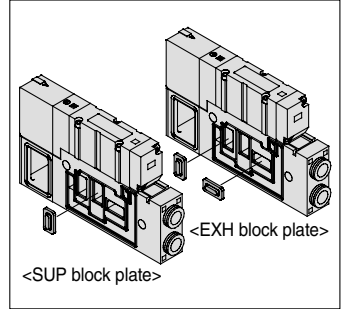
Individual SUP spacer
VVQ4000-P-1-02
03



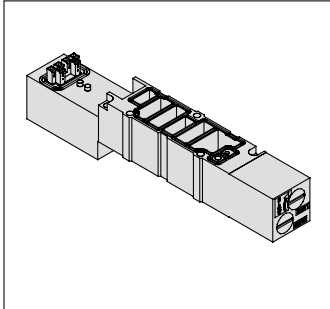
Individual EXH spacer
VVQ4000-R-1-02
03



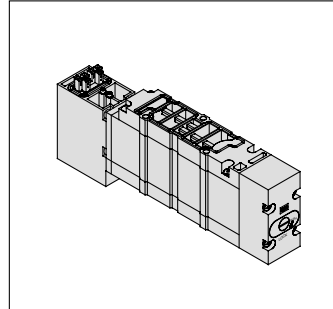
SUP/EXH block plate
VVQ4000-16A



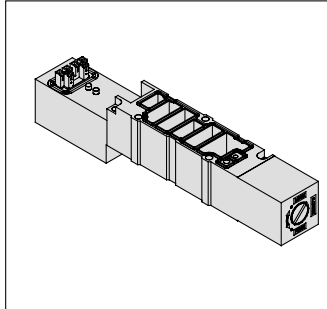
Throttle valve spacer
VVQ4000-20A-1



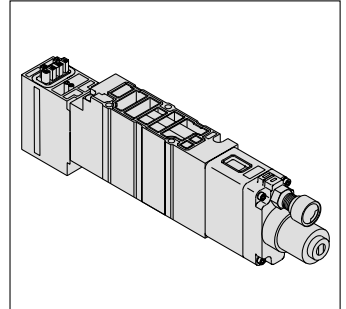
Residual pressure release valve
perfect spacer
VVQ4000-25A-1 (Note 1)




SUP stop valve spacer
VVQ4000-37A-1



Interface regulator
ARBQ4000-00-0-1



- VQC
- SQ
- VQ0
- VQ4
- VQ5
- VQZ
- VQD

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

Series VQC

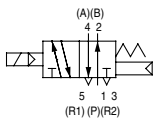
Base Mounted

Plug-in Unit

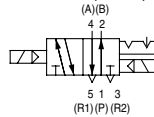


JIS Symbol

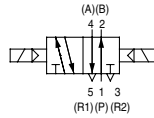
2 position single



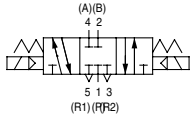
2 position double (metal)



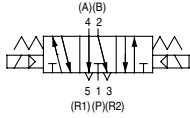
2 position double (rubber)



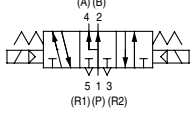
3 position closed center



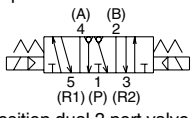
3 position exhaust center



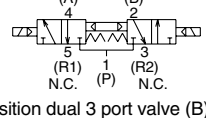
3 position pressure center



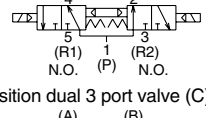
3 position exhaust center with pressure release valves



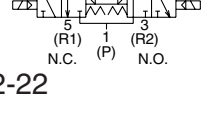
4 position dual 3 port valve (A)



4 position dual 3 port valve (B)



4 position dual 3 port valve (C)



Model

Series	No. of solenoids	Model	Flow characteristics						Response time (ms) ^{Note 2)}		Weight (g)			
			1 → 4, 2 (P → A, B)			4, 2 → 5, 3 (A, B → R1, R2)			Standard: 1 W	Low wattage				
			C[dm ³ /(s·bar)]	b	Cv	C[dm ³ /(s·bar)]	b	Cv						
VQC1000	2 position	Single	Metal seal	VQC1100	0.70	0.15	0.16	0.72	0.25	0.18	12 or less	15 or less	64	
			Rubber seal	VQC1101	0.85	0.20	0.21	1.0	0.30	0.25	15 or less	20 or less		
		Double	Metal seal	VQC1200	0.70	0.15	0.16	0.72	0.25	0.18	10 or less	13 or less		
			Rubber seal	VQC1201	0.85	0.20	0.21	1.0	0.30	0.25	15 or less	20 or less		
	3 position	Closed center	Metal seal	VQC1300	0.68	0.15	0.16	0.72	0.25	0.18	20 or less	26 or less		78
			Rubber seal	VQC1301	0.70	0.20	0.16	0.65	0.42	0.18	25 or less	33 or less		
		Exhaust center	Metal seal	VQC1400	0.68	0.15	0.16	0.72	0.25	0.18	20 or less	26 or less		
			Rubber seal	VQC1401	0.70	0.20	0.16	1.0	0.30	0.25	25 or less	33 or less		
		Pressure center	Metal seal	VQC1500	0.70	0.15	0.16	0.72	0.25	0.18	20 or less	26 or less		
			Rubber seal	VQC1501	0.85	0.20	0.21	0.65	0.42	0.18	25 or less	33 or less		
4 position	Dual 3 port valve	Rubber seal	VQC1 ^A _C 01	0.70	0.20	0.16	0.70	0.20	0.16	25 or less	33 or less			
VQC2000	2 position	Single	Metal seal	VQC2100	2.0	0.15	0.46	2.6	0.15	0.60	22 or less	29 or less	90	
			Rubber seal	VQC2101	2.2	0.28	0.55	3.2	0.30	0.80	24 or less	31 or less		
		Double	Metal seal	VQC2200	2.0	0.15	0.46	2.6	0.15	0.60	15 or less	20 or less		
			Rubber seal	VQC2201	2.2	0.28	0.55	3.2	0.30	0.80	20 or less	26 or less		
	3 position	Closed center	Metal seal	VQC2300	2.0	0.15	0.46	2.0	0.18	0.46	29 or less	38 or less		110
			Rubber seal	VQC2301	2.0	0.28	0.49	2.2	0.31	0.60	34 or less	44 or less		
		Exhaust center	Metal seal	VQC2400	2.0	0.15	0.46	2.6	0.15	0.60	29 or less	38 or less		
			Rubber seal	VQC2401	2.0	0.28	0.49	3.2	0.30	0.80	34 or less	44 or less		
		Pressure center	Metal seal	VQC2500	2.4	0.17	0.57	2.0	0.18	0.46	29 or less	38 or less		
			Rubber seal	VQC2501	3.2	0.28	0.80	2.2	0.31	0.60	34 or less	44 or less		
4 position	Dual 3 port valve	Rubber seal	VQC2 ^A _C 01	1.8	0.28	0.46	1.8	0.28	0.46	34 or less	44 or less			
VQC4000	2 position	Single	Metal seal	VQC4100	6.2	0.19	1.5	6.9	0.17	1.7	20 or less	22 or less	230	
			Rubber seal	VQC4101	7.2	0.43	2.1	7.3	0.38	2.0	25 or less	27 or less		
		Double	Metal seal	VQC4200	6.2	0.19	1.5	6.9	0.17	1.7	12 or less	12 or less		
			Rubber seal	VQC4201	7.2	0.43	2.1	7.3	0.38	2.0	15 or less	15 or less		
	3 position	Closed center	Metal seal	VQC4300	5.9	0.23	1.5	6.3	0.18	1.6	45 or less	47 or less	280	
			Rubber seal	VQC4301	7.0	0.34	1.9	6.4	0.42	1.9	50 or less	52 or less		
		Exhaust center	Metal seal	VQC4400	6.2	0.18	1.5	6.9	0.17	1.7	45 or less	47 or less		
			Rubber seal	VQC4401	7.0	0.38	1.9	7.3	0.38	2.0	50 or less	52 or less		
		Pressure center	Metal seal	VQC4500	6.2	0.18	1.9	6.4	0.18	1.6	45 or less	47 or less		
			Rubber seal	VQC4501	7.0	0.38	1.9	7.1	0.38	2.0	50 or less	52 or less		
Perfect	Metal seal	VQC4600	2.7	—	—	3.7	—	—	55 or less	57 or less	500			
	Rubber seal	VQC4601	2.8	—	—	3.9	—	—	62 or less	64 or less				



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

- VQC1000: Cylinder port size C6 without a back pressure check valve
- VQC2000: Cylinder port size C8 without a back pressure check valve
- VQC4000: Cylinder port size Rc 3/8

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

Standard Specifications

Valve Configuration		Metal seal		Rubber seal		
		Air/Inert gas				
Valve specifications	VQC1000/2000	Max. operating pressure		0.7 MPa (High pressure type: 1.0 MPa) ^{Note 4)}		
		Min. operating pressure	Single	0.1 MPa	0.15 MPa	
			Double	0.1 MPa		
			3 position	0.1 MPa	0.2 MPa	
			4 position	—	0.15 MPa	
	VQC4000	Max. operating pressure ^{Note 3)}		1.0 MPa (0.7 MPa)		
		Min. operating pressure	Single	0.15 MPa	0.2 MPa	
			Double	0.15 MPa		
	3 position	0.15 MPa	0.2 MPa			
	Proof pressure		1.5 MPa			
Ambient and fluid temperature		-10 to 50°C ^{Note 1)}				
Lubrication		Not required				
Manual override		Push type/Locking type (tool required)/Locking type (Manual override) ^{Note 5)} /Slide locking type ^{Note 5)}				
Impact resistance/Vibration resistance		150/30 m/s ² ^{Note 2)}				
Enclosure		Dust proof (IP67 compliant)				
Electrical specifications	Rated coil voltage		24 VDC			
	Allowable voltage fluctuation		±10% of rated voltage			
	Coil insulation type		Equivalent to B type			
	Power consumption (Current)	24 VDC	1 W DC (42 mA), 0.5 W DC (21 mA)			
		12 VDC	1 W DC (83 mA), 0.5 W DC (42 mA)			

- VQC
- SQ
- VQ0
- VQ4
- VQ5
- VQZ
- VQD

Note 1) Use dry air to prevent condensation at low temperatures.
 Note 2) **Impact resistance:** No malfunction resulted from the impact test using a drop impact tester. The test was performed one time each in the axial and right angle directions of the main valve and armature, for both energized and de-energized states.
Vibration resistance: No malfunction occurred in a one-sweep test between 45 and 2000Hz. Test was performed in the axial and right angle directions of the main valve and armature for both energized and de-energized states.
 Note 3) Values in () are for the low wattage (0.5 W) specification.
 Note 4) Metal seal type only.
 Note 5) Only for VQC1000/2000.



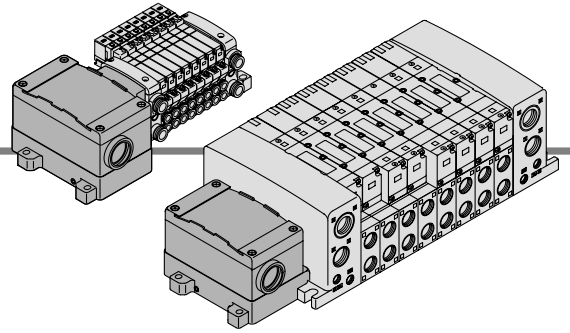
Manifold Specifications

Series	Base model	Connection type	Piping specifications		Applicable stations ^{Note 2)}	Applicable solenoid valves	5 station weight (g)
			Port direction	Port size ^{Note 1)}			
VQC1000	VV5QC11-□□□	<ul style="list-style-type: none"> ■ F Kit: D-sub connector ■ P Kit: Flat cable ■ T Kit: Terminal block box ■ S Kit: Serial transmission ■ L Kit: Lead wire ■ M Kit: Multiple connector 	Side	C8 (For ø8) Options Direct outlet with built-in silencer C3 (For ø3.2) C4 (For ø4) C6 (For ø6) M5 (M5 threads)	(F, L, M and P kits) 1 to 12 stations T kit 1 to 10 stations S kit 1 to 8 stations: EX500 1 to 12 stations: EX250 1 to 8 stations: EX126	VQC1□00-5 VQC1□01-5	628 (Single) 759 (Double, 3P)
VQC2000	VV5QC21-□□□		Side	C10 (For ø10) Options Direct outlet with built-in silencer Branch type C12 (for ø12) C4 (For ø4) C6 (For ø6) C8 (For ø8)	1 to 8 stations: EX500 1 to 12 stations: EX250 1 to 8 stations: EX126	VQC2□00-5 VQC2□01-5	1051 (Single) 1144 (Double, 3P)
VQC4000	VV5QC41-□□□		Side Bottom	C8 (For ø8) C10 (For ø10) C12 (For ø12) Rc 1/4 Rc 3/8 Rc 1/4	(F, L, M and P kits) 1 to 12 stations T kit 1 to 10 stations S kit 1 to 12 stations: EX240, EX250 1 to 8 stations: EX500 1 to 8 stations: EX126	VQC4□00-5 VQC4□01-5	4150 • S kit (without unit) • Solenoid weight is not included.

Note 1) One-touch fittings in inch sizes are also available.
 Note 2) An optional specification for special wiring is available to increase the maximum number of stations.



T VQC1000/2000/4000
Kit (Terminal block box kit) IP67 compliant

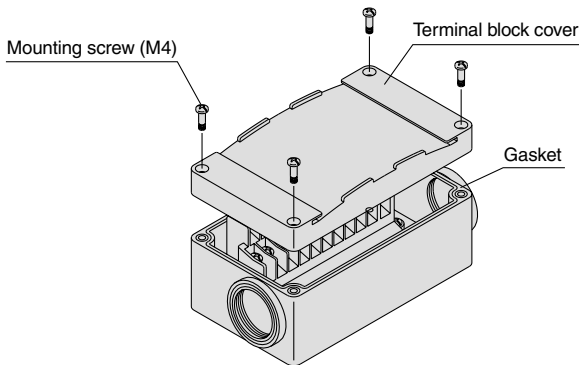


• This kit has a small terminal block inside a junction box. The provision of a G 3/4 electrical entry allows connection of conduit fittings.

Terminal Block Connection

Step 1. How to remove terminal block cover

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



Step 3. How to replace the terminal block cover

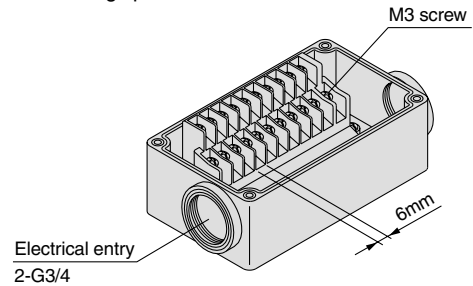
Securely tighten the screws to the torque shown in the table below, after confirming that the gasket is installed correctly.

Proper tightening torque (N·m)
0.7 to 1.2

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

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

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



- Applicable crimp terminal (fork tongue type): 1.25-3S, 1.25Y-3, 1.25Y-3N, 1.25Y-3.5

Electrical Wiring Specifications (Conforms to IP67)

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

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

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

Special Wiring Specifications (Option)

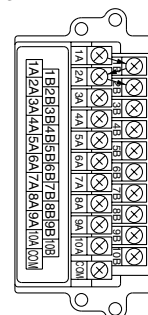
Mixed single and double wiring are available as options. The maximum number of manifold stations is determined by the number of solenoids. Count one point for a single solenoid type and two points for a double solenoid type. The total number of solenoids (points) must not exceed 20.

1. How to order

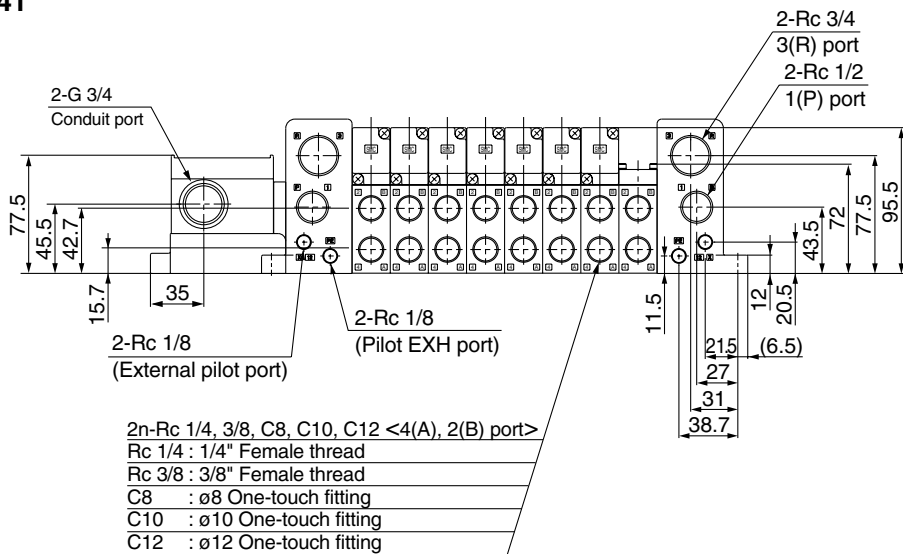
Indicate option symbol "-K" in the manifold part number and be sure to specify station positions for single or double wiring on the manifold specification sheet.

2. Wiring specifications

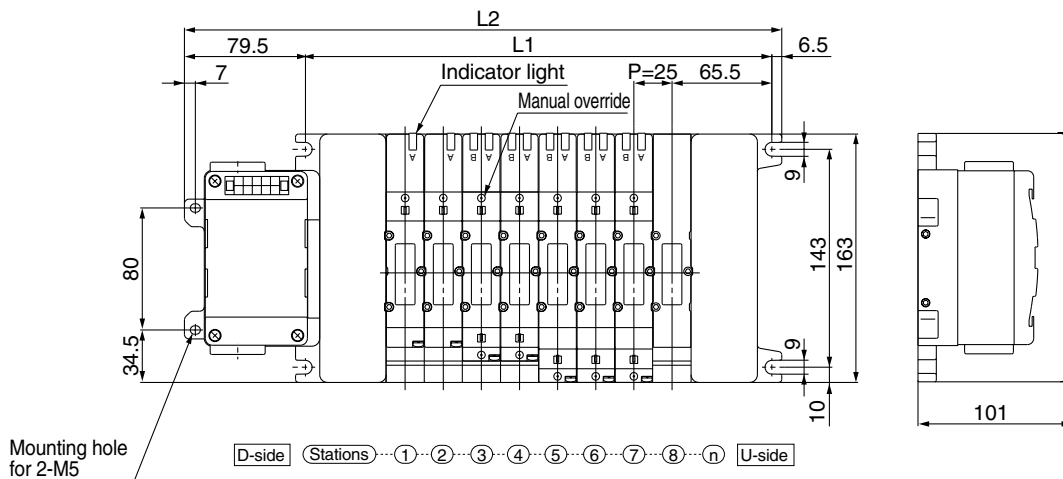
Connector terminal numbers are connected from solenoid station 1 on the A side in the order indicated by the arrows without skipping any terminal numbers.



VV5QC41



- VQC
- SQ
- VQ0
- VQ4
- VQ5
- VQZ
- VQD



Formulas

$L1 = 25n + 106$ (Maximum 16 single wiring stations)
 $L2 = 25n + 192$

n: Stations

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