

## How to Order Valves

**VQC 2 1 0 0 5**

**Series**  
2 VQC2000

**Type of actuation**

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

**Manual override**

**Nil:** Non-locking push type (Slotted)  
**B:** Locking type (Slotted)  
**C:** Locking type (Manual)  
**D:** Slide locking type (Manual)

**Light/Surge voltage suppressor**

Nil	With
E	Without Note)

Note) Not applicable to S kit.

**Coil voltage**

5	24 VDC Note)
6	12 VDC

Note) S kit is only available for 24 VDC.

**Function**

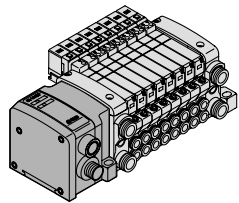
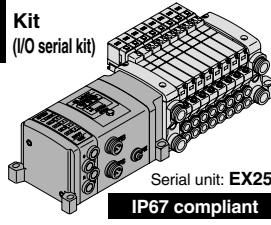
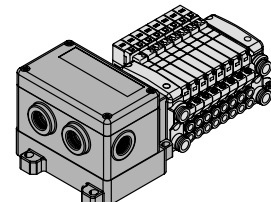
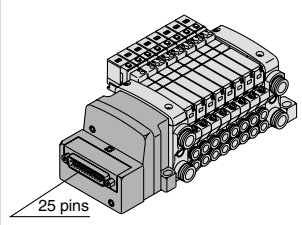
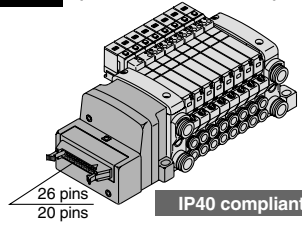
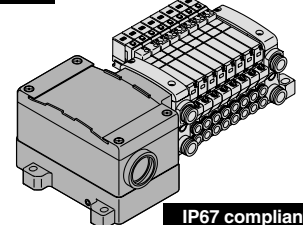
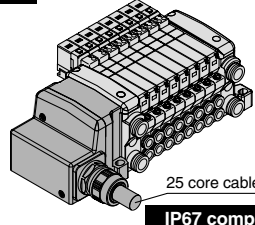
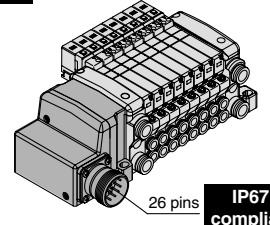
Nil	Standard type (1 W)
K Note 1)	High pressure type (1.0 MPa)
N	Negative COM
R Note 2)	External pilot
Y	Low wattage type (0.5 W)

\* When specifying more than one option, enter symbols in alphabetical order.  
Note 1) For metal seal type only.  
Note 2) Not applicable for dual 3 port valve.

**Seal type**

0	Metal seal
1	Rubber seal

### Kit Designation/Electrical Entry/Cable Length

<p><b>S</b> Kit (Decentralized wiring type serial kit)</p>  <p>Serial unit: <b>EX500</b> IP67 compliant</p> <p>Note) A separate gateway unit and communication cable are required.</p> <table border="1"> <tr> <td>SD0</td> <td>Serial kit without SI unit</td> <td></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></td> </tr> </table>	SD0	Serial kit without SI unit		SDA1	Serial kit for Remote I/O	1 to 8 stations (16 stations)	SDA2	Serial kit for DeviceNet/PROFIBUS-DP/CC-LINK		<p><b>S</b> Kit (I/O serial kit)</p>  <p>Serial unit: <b>EX250</b> IP67 compliant</p> <table border="1"> <tr> <td>SD0</td> <td>Serial kit without SI unit</td> <td></td> </tr> <tr> <td>SDY</td> <td>Serial kit for CANopen</td> <td></td> </tr> <tr> <td>SDQ</td> <td>Serial kit for DeviceNet</td> <td>1 to 12 stations (24 stations)</td> </tr> <tr> <td>SDN</td> <td>Serial kit for PROFIBUS-DP</td> <td></td> </tr> <tr> <td>SDV</td> <td>Serial kit for CC-LINK</td> <td></td> </tr> <tr> <td>SDTA</td> <td>AS-4, 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-4, 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-4, 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-4, 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		SDY	Serial kit for CANopen		SDQ	Serial kit for DeviceNet	1 to 12 stations (24 stations)	SDN	Serial kit for PROFIBUS-DP		SDV	Serial kit for CC-LINK		SDTA	AS-4, 8 in/out, 31 slave modes, 2 power supply systems	1 to 4 stations (8 stations)	SDTB	AS-4, 4 in/out, 31 slave modes, 2 power supply systems	1 to 2 stations (4 stations)	SDTC	AS-4, 8 in/out, 31 slave modes, 1 power supply systems	1 to 4 stations (8 stations)	SDTD	AS-4, 4 in/out, 31 slave modes, 1 power supply systems	1 to 2 stations (4 stations)	<p><b>S</b> Kit (Serial output kit)</p>  <p>Serial unit: <b>EX126</b> IP67 compliant</p> <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)	<p><b>F</b> Kit (D-sub connector kit)</p>  <p>25 pins</p> <p>IP40 compliant</p> <table border="1"> <tr> <td>FD0</td> <td>D-sub connector kit (25P) without cable</td> <td></td> </tr> <tr> <td>FD1</td> <td>D-sub connector kit (25P) with 1.5 m cable</td> <td>1 to 12 stations (24 stations)</td> </tr> <tr> <td>FD2</td> <td>D-sub connector kit (25P) with 3.0 m cable</td> <td></td> </tr> <tr> <td>FD3</td> <td>D-sub connector kit (25P) with 5.0 m cable</td> <td></td> </tr> </table>	FD0	D-sub connector kit (25P) without cable		FD1	D-sub connector kit (25P) with 1.5 m cable	1 to 12 stations (24 stations)	FD2	D-sub connector kit (25P) with 3.0 m cable		FD3	D-sub connector kit (25P) with 5.0 m cable	
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<p><b>P</b> Kit (Flat ribbon cable kit)</p>  <p>26 pins 20 pins</p> <p>Note) For a 20P flat ribbon cable, the cable assembly must be ordered separately.</p> <table border="1"> <tr> <td>PD0</td> <td>Flat ribbon cable kit (26P) without cable</td> <td></td> </tr> <tr> <td>PD1</td> <td>Flat ribbon cable kit (26P) with 1.5 m cable</td> <td>1 to 12 stations (24 stations)</td> </tr> <tr> <td>PD2</td> <td>Flat ribbon cable kit (26P) with 3.0 m cable</td> <td></td> </tr> <tr> <td>PD3</td> <td>Flat ribbon cable kit (26P) with 5.0 m cable</td> <td></td> </tr> <tr> <td>PDC</td> <td>Flat ribbon cable kit (20P) without cable</td> <td>1 to 9 stations (18 stations)</td> </tr> </table>	PD0	Flat ribbon cable kit (26P) without cable		PD1	Flat ribbon cable kit (26P) with 1.5 m cable	1 to 12 stations (24 stations)	PD2	Flat ribbon cable kit (26P) with 3.0 m cable		PD3	Flat ribbon cable kit (26P) with 5.0 m cable		PDC	Flat ribbon cable kit (20P) without cable	1 to 9 stations (18 stations)	<p><b>T</b> Kit (Terminal block box kit)</p>  <p>IP67 compliant</p> <table border="1"> <tr> <td>TD0</td> <td>Terminal block box kit</td> <td>1 to 10 stations (20 stations)</td> </tr> </table>	TD0	Terminal block box kit	1 to 10 stations (20 stations)	<p><b>L</b> Kit (Lead wire kit)</p>  <p>25 core cable</p> <p>IP67 compliant</p> <table border="1"> <tr> <td>LD0</td> <td>Lead wire kit (25 core) 0.6 m lead wire</td> <td>1 to 12 stations (24 stations)</td> </tr> <tr> <td>LD1</td> <td>Lead wire kit (25 core) 1.5 m lead wire</td> <td></td> </tr> <tr> <td>LD2</td> <td>Lead wire kit (25 core) 3.0 m lead wire</td> <td></td> </tr> </table>	LD0	Lead wire kit (25 core) 0.6 m lead wire	1 to 12 stations (24 stations)	LD1	Lead wire kit (25 core) 1.5 m lead wire		LD2	Lead wire kit (25 core) 3.0 m lead wire		<p><b>M</b> Kit (Multiple connector kit)</p>  <p>26 pins</p> <p>IP67 compliant</p> <table border="1"> <tr> <td>MD0</td> <td>Multiple connector kit (26P) without cable</td> <td></td> </tr> <tr> <td>MD1</td> <td>Multiple connector kit (26P) with 1.5 m cable</td> <td>1 to 12 stations (24 stations)</td> </tr> <tr> <td>MD2</td> <td>Multiple connector kit (26P) with 3.0 m cable</td> <td></td> </tr> <tr> <td>MD3</td> <td>Multiple connector kit (26P) with 5.0 m cable</td> <td></td> </tr> </table>	MD0	Multiple connector kit (26P) without cable		MD1	Multiple connector kit (26P) with 1.5 m cable	1 to 12 stations (24 stations)	MD2	Multiple connector kit (26P) with 3.0 m cable		MD3	Multiple connector kit (26P) with 5.0 m cable													
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# Series VQC

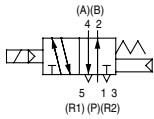
## Base Mounted

### Plug-in Unit

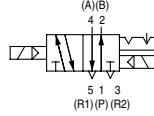


#### JIS Symbol

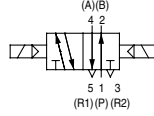
2 position single



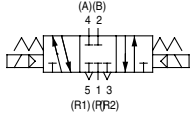
2 position double (metal)



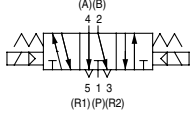
2 position double (rubber)



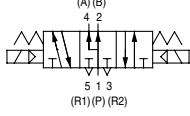
3 position closed center



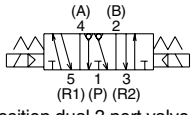
3 position exhaust center



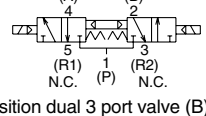
3 position pressure center



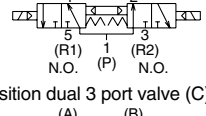
3 position exhaust center with pressure release valves



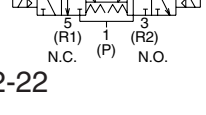
4 position dual 3 port valve (A)



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) <sup>Note 2)</sup>		Weight (g)		
			1 → 4, 2 (P → A, B)			4, 2 → 5, 3 (A, B → R1, R2)			Standard: 1 W	Low wattage			
			C[dm <sup>3</sup> /(s·bar)]	b	Cv	C[dm <sup>3</sup> /(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 <sup>A</sup> <sub>C</sub> 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 <sup>A</sup> <sub>C</sub> 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			
	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		
Fluid		Air/Inert gas			
Valve specifications	VQC1000/2000	Max. operating pressure			
		0.7 MPa (High pressure type: 1.0 MPa) <sup>Note 4)</sup>			
		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 <sup>Note 3)</sup>		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 <sup>Note 1)</sup>			
Lubrication		Not required			
Manual override		Push type/Locking type (tool required)/Locking type (Manual override) <sup>Note 5)</sup> /Slide locking type <sup>Note 5)</sup>			
Impact resistance/Vibration resistance		150/30 m/s <sup>2</sup> <sup>Note 2)</sup>			
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 <sup>Note 2)</sup>	Applicable solenoid valves	5 station weight (g)		
			Port direction	Port size <sup>Note 1)</sup>					
VQC1000	VV5QC11-□□□	<ul style="list-style-type: none"> <li>■ F Kit: D-sub connector</li> <li>■ P Kit: Flat cable</li> <li>■ T Kit: Terminal block box</li> <li>■ S Kit: Serial transmission</li> <li>■ L Kit: Lead wire</li> <li>■ M Kit: Multiple connector</li> </ul>	Side	1, 3 (P, R)	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)	VQC2□00-5 VQC2□01-5	1051 (Single) 1144 (Double, 3P)	
VQC4000	VV5QC41-□□□		Side	P: Rc 1/2 R: Rc 3/4	C8 (For ø8) C10 (For ø10) C12 (For ø12) Rc 1/4 Rc 3/8	(F, L, M and P kits) 1 to 12 stations T kit 1 to 10 stations S kit 1 to 12 stations: EX240, EX250 1 to 8 stations: EX500 1 to 8 stations: EX126	VQC4□00-5 VQC4□01-5	4150 • S kit (without unit) • Solenoid weight is not included.	
			Bottom	Rc 1/4					

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