How to Order Valves

Note) For CE-compliant models, DC-type only. CE [Option]

VQ 1 1 0 0 □ – 5 □ □ 1 – □

Series

1	VQ1000

Type of actuation

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

Note) Rubber seal only

Seal

0	Metal seal
1	Rubber seal

Function

Symbol	Specifications	DC	AC
Nil	Standard	(0.4 W) ○	○ Note 1)
B	High-speed response type	(0.95 W) ○	—
K Note 2)	High-pressure type (1.0 MPa)	(0.95 W) ○	—
N Note 3)	Negative common	○	—
R Note 3) Note 5)	External pilot	○	○

Note 1) Refer to page 381 for power consumption of AC type.
Note 2) Metal seal only
Note 3) For external pilot and negative common specifications, refer to "Semi-standard" on pages 419 and 420.
Note 4) When two or more symbols are specified, indicate them alphabetically. Combination of [B] and [K] is not possible.
Note 5) Dual 3-port valve is not applicable.

Manual override

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

Light/surge voltage suppressor

Nil	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.

Coil voltage

		CE-compliant
1	100 VAC (50/60 Hz)	—
2 Note)	200 VAC (50/60 Hz)	—
3	110 VAC (50/60 Hz)	—
4 Note)	220 VAC (50/60 Hz)	—
5	24 VDC	●
6	12 VDC	●

Note) 200 and 220 VAC: F/L kit only

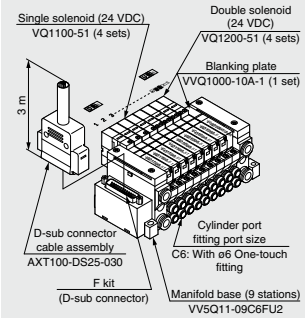
CE-compliant

Nil	—
Q	CE-compliant

Note) For CE-compliant models, DC-type only.

How to Order Manifold Assembly

Example



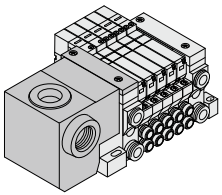
VV5Q11-09C6FU2 ··· **1 set** (F kit 9-station manifold base part no.)
※**VQ1100-51** ··· **4 sets (Single solenoid part no.)**
※**VQ1200-51** ··· **4 sets (Double solenoid part no.)**
※**VVQ1000-10A-1** ··· **1 set (Blanking plate part no.)**
→ The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the solenoid valve, etc.

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

⚠Caution

Use the standard (DC) specification when continuously energizing for long periods of time.

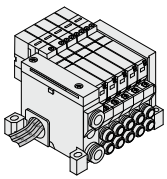
T kit (Terminal block box)



P. 398

T0	Terminal block box	2 to 24 stations Note 2)

L kit (Lead wire)

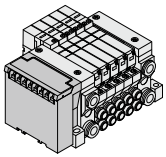


P. 402

L0	With cable (0.6 m)	1 to 8 stations
L1	With cable (1.5 m)	
L2	With cable (3 m)	

S kit (Serial transmission)

The valve is equipped with an indicator light and surge voltage suppressor, and the voltage is 24 VDC.



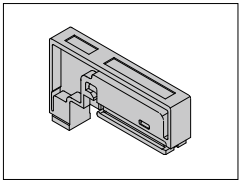
P. 410

S0	Without SI unit	Note 2) Max.16 stations
SQ	DeviceNet®	Max.16 stations
SR1	OMRON Corp.: CompoBus/S (16 outputs)	
SR2	OMRON Corp.: CompoBus/S (8 outputs)	Max. 8 stations
SV	CC-LINK	Max. 16 stations
SZB	CompoNet® (Positive common)	
SZBN	CompoNet® (Negative common)	

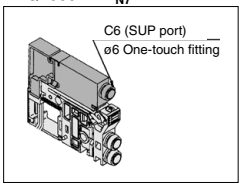
VQ1000: Manifold Options

P. 428 to 432

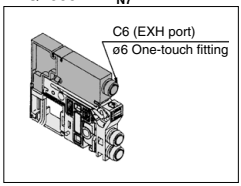
Blanking plate assembly
VVQ1000-10A-1



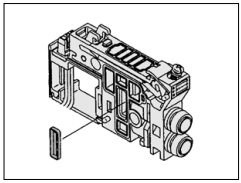
Individual SUP spacer
VVQ1000-P-1-C6/N7



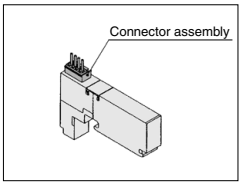
Individual EXH spacer
VVQ1000-R-1-C6/N7



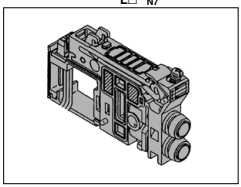
SUP block plate
VVQ1000-16A



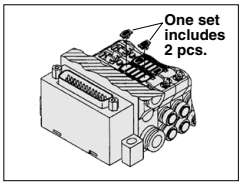
Blanking plate with connector
VVQ1000-1C□-□



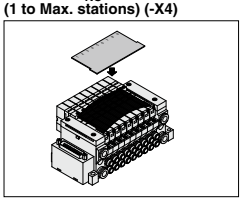
EXH block base assembly
VVQ1000-19A-P□-F□/L□ C3, C4, C5, M5, N1, N3, N7



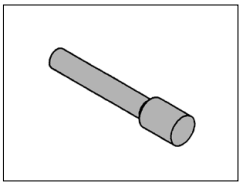
Back pressure check valve assembly [-B]
VVQ1000-18A



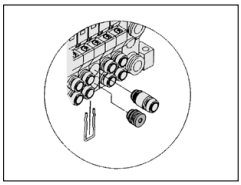
Name plate [-N]
VVQ1000-N/NC-Station
(1 to Max. stations) (-X4)



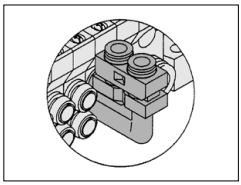
Blanking plug
KQ2P-□



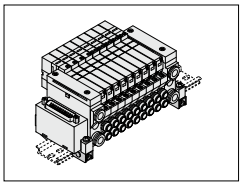
Port plug
VVQ0000-58A



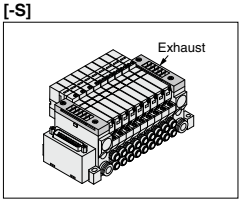
Elbow fitting assembly
VVQ1000-F-L□



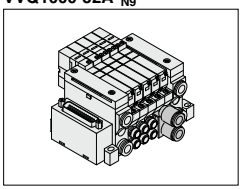
DIN rail mounting bracket
[-D/-D0/-D□]
VVQ1000-57A



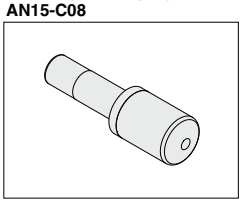
Direct EXH outlet with built-in silencer
[-S]



Dual flow fitting assembly
VVQ1000-52A-C8/N9

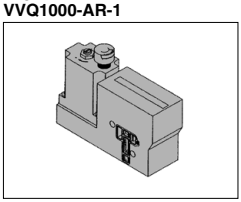


Silencer (For EXH port)
AN15-C08

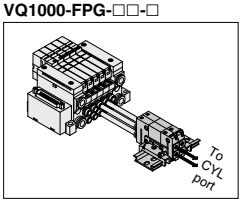


- Refer to page 442 for cylinder port fittings part number.
- Refer to page 425 for replacement parts.

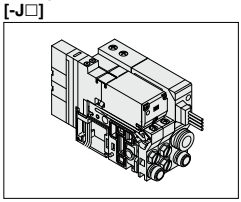
Regulator unit
VVQ1000-AR-1



Double check block
VQ1000-FPG-□□-□



With ejector unit
[-J□]



Plug-in Unit
Base Mounted
VQ2000 Series

[Option]
Note) For CE-compliant models, DC-type only.

How to Order Manifold

VV5Q 2 1 – 08 C6 FU1 – □ – □

Series

2	VQ2000

Manifold

1	Plug-in unit

CE-compliant

Nil	—
Q	CE-compliant

Note) For CE-compliant models, DC-type only.

Stations

01	1 station
⋮	⋮

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

Cylinder port

Symbol	Port size
C4	With ø4 One-touch fitting
C6	With ø6 One-touch fitting
C8	With ø8 One-touch fitting
CM Note 1)	Mixed sizes and with port plug
L4	Top ported elbow with ø4 One-touch fitting
L6	Top ported elbow with ø6 One-touch fitting

Symbol	Port size
L8	Top ported elbow with ø8 One-touch fitting
B4	Bottom ported elbow with ø4 One-touch fitting
B6	Bottom ported elbow with ø6 One-touch fitting
B8	Bottom ported elbow with ø8 One-touch fitting
LM Note 1)	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 "Mixed size and with port plug" by means of the manifold specification sheet.
Note 2) When selecting the mixed size for different types of piping, dual flow fitting assembly, or double check block (direct mounting), enter "MM" and give instructions in the manifold specification sheet.
Note 3) Inch-size One-touch fittings are also available. Refer to page 420 for details.

Simple specials are available with SMC Simple Specials System.
Please contact your local representative for more details.

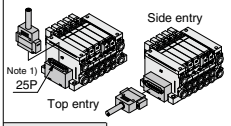
Option

Symbol	Option
Nil	None
2	200/220 VAC models (F/L kit only)
B Note 2)	With back pressure check valve
D	DIN rail mounting
D0	With DIN rail bracket (Without DIN rail)
D□ Note 5)	DIN rail length specified
K Note 3)	Special wiring spec. (Except double wiring)
N Note 6)	With name plate
R Note 4)	External pilot
S	Direct EXH outlet with built-in silencer
W Note 7)	Enclosure: Dust-tight, Water-jet-proof (IP65) (T/L/S/M kit only)

Note 1) When multiple symbols are specified, indicate them by letter in the order that they appear in the table, starting from the top. Example: -BRS
Note 2) Models with a suffix "-B" have check valves for prevention of back pressure at all manifold stations. 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) Specify the wiring specifications by means of the manifold specification sheet. (Except L kit)
Note 4) Indicate "R" for the valve with external pilot.
Note 5) □: Station. Example: D08: The number of stations that may be displayed is longer than the manifold number of stations.
Note 6) When mounting the slide locking manual type valve by ordering only the manifold, order the name plate separately. For details, refer to page 435.
Note 7) When used in combination with the direct EXH outlet with built-in silencer type, keep the exhaust port from coming into direct contact with water or other liquids.

Kit type/Electrical entry/Cable length

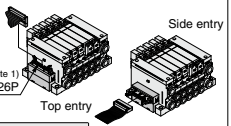
F kit (D-sub connector)



Connector entry direction			
Top entry	Side entry		
FU0	FS0	Without cable	Note 2) 2 to 24 stations
FU1	FS1	With cable (1.5 m)	
FU2	FS2	With cable (3 m)	
FU3	FS3	With cable (5 m)	

P. 382

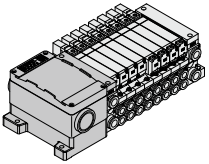
P kit (Flat ribbon cable)



Connector entry direction			
Top entry	Side entry		
PU0	PS0	Without cable	Note 2) 2 to 24 stations
PU1	PS1	With cable (1.5 m)	
PU2	PS2	With cable (3 m)	
PU3	PS3	With cable (5 m)	

P. 386

T kit (Terminal block box)

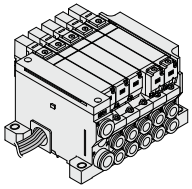


Dust-tight/Water-jet-proof (IP65) compatible Note 3)

P. 398

T0	Terminal block box	2 to 20 stations Note 2)

L kit (Lead wire)

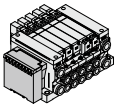


Dust-tight/Water-jet-proof (IP65) compatible Note 3)

P. 402

L0	With cable (0.6 m)	1 to 8 stations
L1	With cable (1.5 m)	
L2	With cable (3 m)	

S kit (Serial transmission)

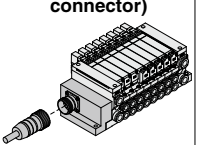


The valve is equipped with an indicator light and surge voltage suppressor, and the voltage is 24 VDC. Dust-tight, Water-jet-proof (IP65) is available. Note 3)

P. 410

S0	Without SI unit	Note 2) Max.16 stations
SQ	DeviceNet®	Max.16 stations
SR1	OMRON Corp.: CompoBus/S (16 outputs)	
SR2	OMRON Corp.: CompoBus/S (8 outputs)	Max. 8 stations
SV	CC-LINK	Max.16 stations
SZB	CompoNet® (Positive common)	
SZBN	CompoNet® (Negative common)	

M kit (Circular-connector)



Dust-tight/Water-jet-proof (IP65) compatible Note 3)

P. 414

M0	Without cable	Note 2) 2 to 24 stations
M1	With cable (1.5 m)	
M2	With cable (3 m)	
M3	With cable (5 m)	

Note 1) Besides the above, F/P kit with different number of pins are available. Refer to page 418 for details.
Note 2) Refer to page 419 for details.
Note 3) Refer to the pages on respective kits for IP65 type. (T/L/S/M kit)

SMC

How to Order Valves

Note) For CE-compliant models, DC-type only. [Option]

How to Order Manifold Assembly

VQ 2 1 0 0 – 5 1 –

Series

2	VQ2000

Seal

0	Metal seal
1	Rubber seal

CE-compliant

Nil	—
Q	CE-compliant

Note) For CE-compliant models, DC-type only.

Enclosure

Nil	—
W Note)	Dust-tight, Water-jet-proof (IP65)

Note) T/L/S/M kit only.

Type of actuation

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

Note) Rubber seal only

Note) For sub-plate single unit type, refer to page 417.

Light/Surge voltage suppressor

Nil	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.

Coil voltage

		CE-Compliant
1	100 VAC (50/60 Hz)	—
2 Note)	200 VAC (50/60 Hz)	—
3	110 VAC (50/60 Hz)	—
4 Note)	220 VAC (50/60 Hz)	—
5	24 VDC	●
6	12 VDC	●

Note) 200 and 220 VAC: F/L kit only

Function

Symbol	Specifications	DC	AC
Nil	Standard	(0.4 W) ○	○ Note 1)
B	High-speed response type	(0.95 W) ○	—
K Note 2)	High-pressure type (1.0 MPa)	(0.95 W) ○	—
N Note 3)	Negative common	○	—
R Note 3) Note 5)	External pilot	○	○

Note 1) For power consumption of AC type, refer to page 381.
Note 2) Metal seal only
Note 3) For external pilot and negative common specifications, refer to "Semi-standard" on pages 419 and 420.
Note 4) When two or more symbols are specified, indicate them alphabetically. Combination of [B] and [K] is not possible.
Note 5) Dual 3-port valve is not applicable.

Manual override

Nil: Non-locking push type (Tool required)



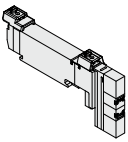
B: Push-locking slotted type (Tool required)



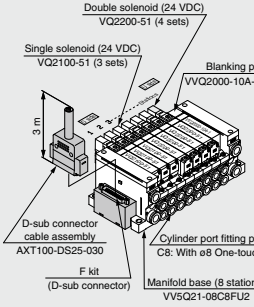
C: Locking type (Manual)



D: Slide locking type (Manual)



Example



VV5Q21-08C8FU2 **1 set** (F kit 8-station manifold base part no.)
∗**VQ2100-51** ····· **3 sets (Single solenoid part no.)**
∗**VQ2200-51** ····· **4 sets (Double solenoid part no.)**
∗**VVQ2000-10A-1** ···· **1 set (Blanking plate part no.)**
→ The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the solenoid valve, etc.

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

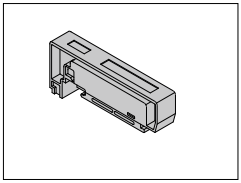
⚠Caution

Use the standard (DC) specification when continuously energizing for long periods of time.

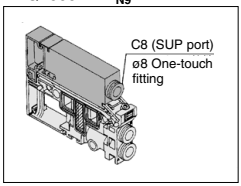
VQ2000: Manifold Options

P. 434 to 438

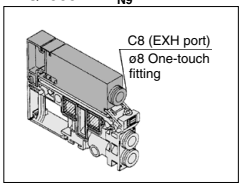
Blanking plate assembly
VVQ2000-10A-1



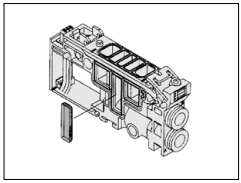
Individual SUP spacer
VVQ2000-P-1-$^{C8}_{N9}$



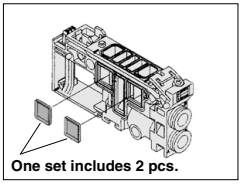
Individual EXH spacer
VVQ2000-R-1-$^{C8}_{N9}$



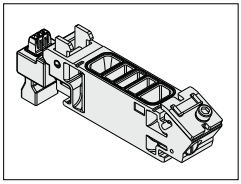
SUP block plate
VVQ2000-16A



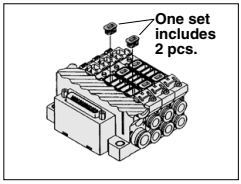
EXH block plate
VVQ2000-19A



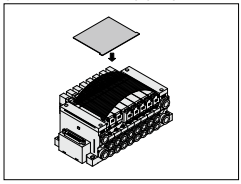
SUP stop valve spacer
VVQ2000-24A-1



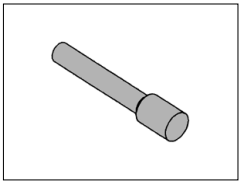
Back pressure check valve assembly [-B]
VVQ2000-18A



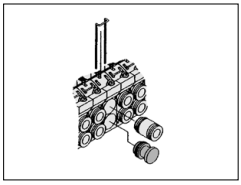
Name plate [-N]
VVQ2000-N-Station
(1 to Max. stations) (-X4)



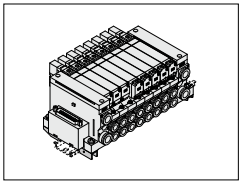
Blanking plug
KQ2P-□



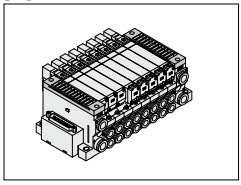
Port plug
VVQ1000-58A



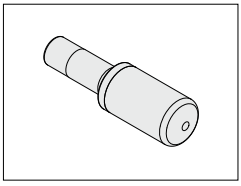
DIN rail mounting bracket [-D/-D0/-D□]
VVQ2000-57A



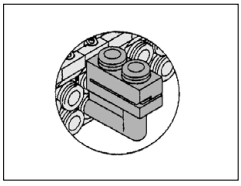
Direct EXH outlet with built-in silencer [-S]



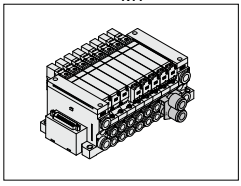
Silencer (For EXH port)
AN20-C10



Elbow fitting assembly
VVQ2000-F-L□

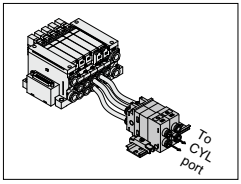


Dual flow fitting assembly
VVQ2000-52A-$^{C10}_{N11}$

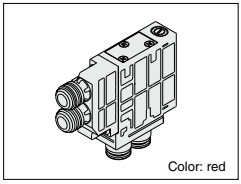


- Refer to page 442 for cylinder port fittings part number.
- Refer to page 427 for replacement parts.

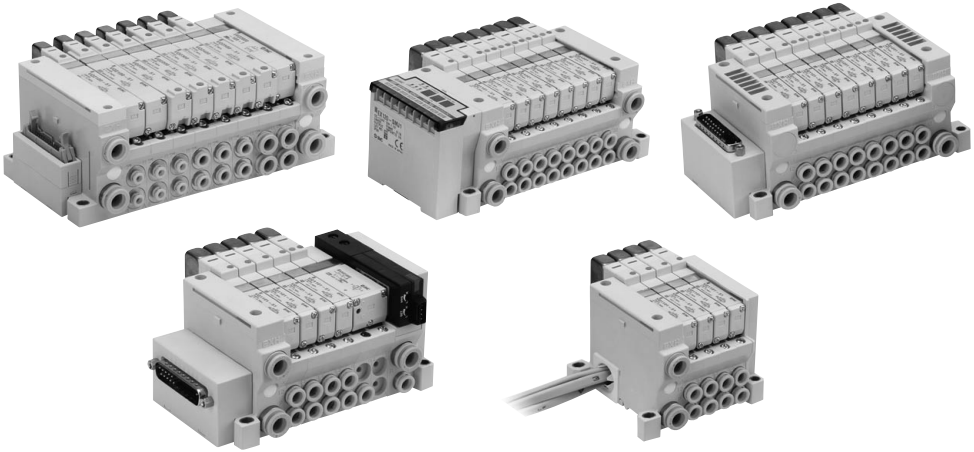
Double check block (Separated)
VQ2000-FPG-□□-□



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



Plug-in Unit
Base Mounted
VQ1000/2000 Series



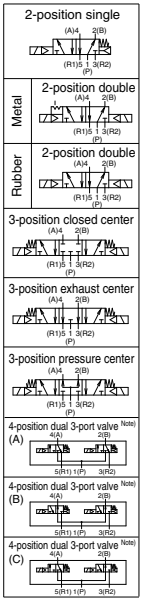
Model

Series	Type of actuation		Model		Flow rate characteristics Note 1)						Response time (ms) Note 2)			Weight (g)
					1 → 2/4 (P → A/B)			2/4 → 3/5 (A/B → R1/R2)			Standard: 0.4 W	High-speed response: 0.95 W	AC	
					C [dm³/(s·bar)]	b	Cv	C [dm³/(s·bar)]	b	Cv				
VQ1000	2-position	Single	Metal seal	VQ1100	0.70	0.15	0.16	0.72	0.25	0.18	15 or less	12 or less	29 or less	67
			Rubber seal	VQ1101	0.85	0.20	0.21	1.0	0.30	0.25	20 or less	15 or less	34 or less	
		Double	Metal seal	VQ1200	0.70	0.15	0.16	0.72	0.25	0.18	13 or less	10 or less	13 or less	77
			Rubber seal	VQ1201	0.85	0.20	0.21	1.0	0.30	0.25	20 or less	15 or less	20 or less	
	3-position	Closed center	Metal seal	VQ1300	0.68	0.15	0.16	0.72	0.25	0.18	26 or less	20 or less	40 or less	
			Rubber seal	VQ1301	0.70	0.20	0.16	0.65	0.42	0.18	33 or less	25 or less	47 or less	
		Exhaust center	Metal seal	VQ1400	0.68	0.15	0.16	0.72	0.25	0.18	26 or less	20 or less	40 or less	
			Rubber seal	VQ1401	0.70	0.20	0.16	1.0	0.30	0.25	33 or less	25 or less	47 or less	
		Pressure center	Metal seal	VQ1500	0.70	0.15	0.16	0.72	0.25	0.18	26 or less	20 or less	40 or less	
			Rubber seal	VQ1501	0.85	0.20	0.21	0.65	0.42	0.18	33 or less	25 or less	47 or less	
	4-position	Dual 3-port valve	Rubber seal	VQ1$^{A}_{C}$01	0.70	0.20	0.16	0.70	0.20	0.16	33 or less	25 or less	47 or less	
VQ2000	2-position	Single	Metal seal	VQ2100	2.0	0.15	0.46	2.6	0.15	0.60	29 or less	22 or less	49 or less	95
			Rubber seal	VQ2101	2.2	0.28	0.55	3.2	0.30	0.80	31 or less	24 or less	51 or less	
		Double	Metal seal	VQ2200	2.0	0.15	0.46	2.6	0.15	0.60	20 or less	15 or less	20 or less	105
			Rubber seal	VQ2201	2.2	0.28	0.55	3.2	0.30	0.80	26 or less	20 or less	26 or less	
	3-position	Closed center	Metal seal	VQ2300	2.0	0.15	0.46	2.0	0.18	0.46	38 or less	29 or less	58 or less	
			Rubber seal	VQ2301	2.0	0.28	0.49	2.2	0.31	0.60	44 or less	34 or less	64 or less	
		Exhaust center	Metal seal	VQ2400	2.0	0.15	0.46	2.6	0.15	0.60	38 or less	29 or less	58 or less	
			Rubber seal	VQ2401	2.0	0.28	0.49	3.2	0.30	0.80	44 or less	34 or less	64 or less	
		Pressure center	Metal seal	VQ2500	2.4	0.17	0.57	2.0	0.18	0.46	38 or less	29 or less	58 or less	
			Rubber seal	VQ2501	3.2	0.28	0.80	2.2	0.31	0.60	44 or less	34 or less	64 or less	
	4-position	Dual 3-port valve	Rubber seal	VQ2$^{A}_{C}$01	1.8	0.28	0.46	1.8	0.28	0.46	44 or less	34 or less	64 or less	

Note 1) The values are given for port size C6: (VQ1000), C8: (VQ2000) without back pressure check valve.

Note 2) As per JIS B 8419: 2010 (Supply pressure 0.5 MPa; with indicator light/surge voltage suppressor; clean air
The response time is subject to the pressure and quality of the air.) The values at the time of ON are given for double types.

Symbol



Note) Rubber seal only

Standard Specifications

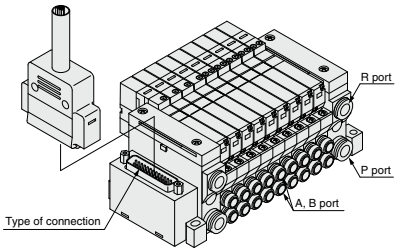
			Metal seal	Rubber seal
Valve specifications	Valve type		Metal seal	Rubber seal
	Fluid		Air	Air
	Maximum operating pressure		0.7 MPa (High-pressure type: 1.0 MPa)	0.7 MPa
	Minimum operating pressure	Single	0.1 MPa	0.15 MPa
		Double	0.1 MPa	0.1 MPa
		3-position	0.1 MPa	0.2 MPa
		4-position	———	0.15 MPa
	Ambient and fluid temperature		–10 to 50°C Note 1)	
	Lubrication		Not required	
	Manual override		Push type, Locking type (Tool required, Manual) semi-standard	
	Impact/Vibration resistance Note 2)		150/30 m/s²	
	Enclosure		Dust-protected; Dust-tight, Water-jet-proof (IP65) Note 4)	
Electrical specifications	Coil rated voltage		12 , 24 VDC, 100, 110, 200, 220 VAC (50/60 Hz)	
	Allowable voltage fluctuation		±10% of rated voltage	
	Coil insulation type		Equivalent to Class B	
	Power consumption (Current)	24 VDC	0.4 W DC (17 mA), 0.95 W DC (40 mA) Note 3)	
		12 VDC	0.4 W DC (34 mA), 0.95 W DC (80 mA) Note 3)	
		100 VAC	Inrush 0.96 VA (10 mA), Holding 0.96 VA (10 mA)	
		110 VAC	Inrush 1.0 VA (9 mA), Holding 1.0 VA (9 mA)	
		200 VAC	Inrush 1.26 VA (6 mA), Holding 1.26 VA (6 mA)	
		220 VAC	Inrush 1.38 VA (6 mA), Holding 1.38 VA (6 mA)	

Note 1) Use dry air to prevent condensation when operating at low temperatures.
Note 2) Impact resistance ····· No malfunction occurred when it is tested in the axial direction and at the right angles to the main valve and armature in both energized and de-energized states every once for each condition. (Values at the initial period)
Vibration resistance ··· No malfunction occurred in a one-sweep test between 45 and 2000 Hz. Test was performed at both energized and de-energized states in the axial direction and at the right angles to the main valve and armature. (Values at the initial period)
Note 3) Value for high-speed response, high-voltage type (0.95 W)
Note 4) Dust-tight, water-jet-proof (IP65) is available on T/L/S/M kit of the VQ2000.

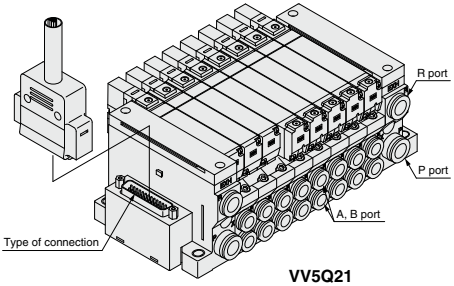
Manifold Specifications

Series	Base model	Connection type	Piping specifications: Piping direction	Piping specifications: Port size Note 1) 1(P), 3(R)	Piping specifications: Port size Note 1) 4(A), 2(B)	Applicable stations Note 2)	Applicable solenoid valve	5-station weight (g)
VQ1000	VV5Q11-□□□	F kit–D-sub connector P kit–Flat ribbon cable T kit–Terminal block box L kit–Lead wire S kit–Serial transmission	Side	C8 (ø8) Option: Direct EXH outlet with built-in silencer	C3 (ø3.2) C4(ø4) C6 (ø6) M5 (M5 thread)	F/P/T kit (2 to 24 stations) S kit (2 to 16 stations) L kit (1 to 8 stations)	VQ1□00 VQ1□01	643 (Single) 754 (Double, 3-position)
VQ2000	VV5Q21-□□□	F kit–D-sub connector P kit–Flat ribbon cable T kit–Terminal block box L kit–Lead wire S kit–Serial transmission M kit–Circular connector	Side	C10 (ø10) Option: Direct EXH outlet with built-in silencer	C4 (ø4) C6 (ø6) C8 (ø8)	F/P kit (2 to 24 stations) S kit (2 to 16 stations) L kit (1 to 8 stations) T kit (2 to 20 stations)	VQ2□00 VQ2□01	1076 (Single) 1119 (Double, 3-position)

Note 1) Inch-size One-touch fittings are also available. Refer to page 420 for details.
Note 2) Refer to page 419 for details.



VV5Q11



VV5Q21