

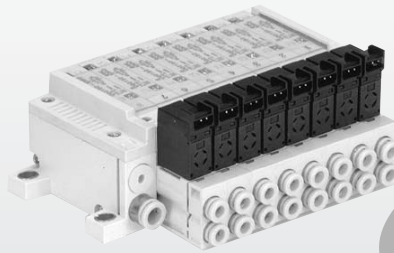
Base Mounted Metal Seal/Rubber Seal Series VQ

Space-saving profile

All pilot valves are compactly mounted on one side. The space-saving design of mounting all fittings on one side permits mounting in three directions.

Space-saving 45% less

Capacity-saving 50% less



VQ0000
(VV5Q05)

Unprecedented high speed response and long service life

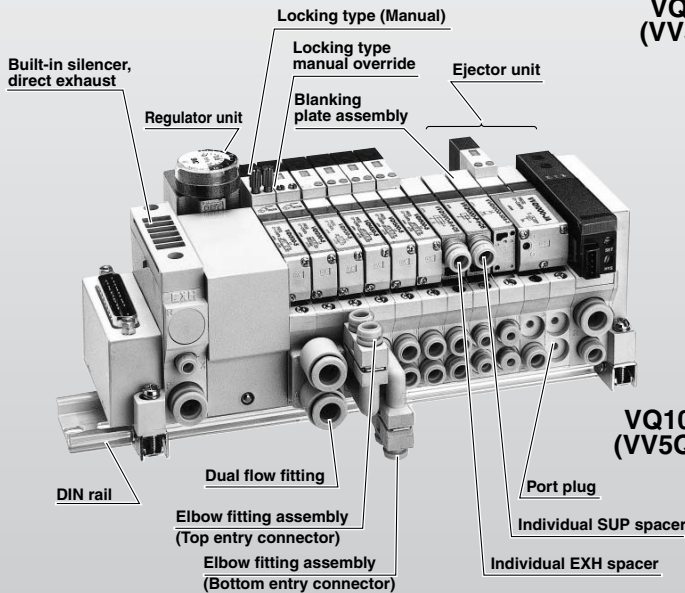
(Metal seal, single, with indicator light/surge voltage suppressor)

VQ0000	10 ms	} 200 million cycles
VQ1000	10 ms	
VQ2000	20 ms	
Dispersion accuracy ±2 ms		

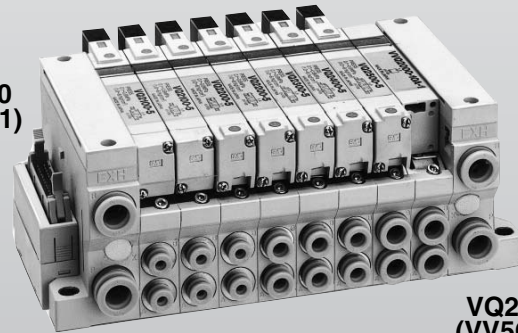
Thin compact design with large flow capacity

Model	Manifold pitch (mm)	Flow characteristics		Cylinder size
		Metal seal	Rubber seal	
		C [dm ³ /(s·bar)]	C [dm ³ /(s·bar)]	
VQ0000	10.7	0.44	0.53	Up to ø40
VQ1000	10.5	0.72	1.0	Up to ø50
VQ2000	16	2.6	3.2	Up to ø80

* Flow characteristics: 4/2 → 5/3 (A/B → R1/R2)



VQ1000
(VV5Q11)



VQ2000
(VV5Q21)

* The photo does not show an actual use example.

A variety of options

Innovative mounting methods

The non-bias, one-clamp structure permits easy valve replacement. (Plug-in unit)

Built-in One-touch fittings for easy piping.

A variety of common wiring methods are standardized.

<p>F kit (D-sub connector) Number of pins: 15, 25</p> <p>Top entry Side entry</p>	<p>P kit (Flat ribbon cable connector) Number of pins: 10, 16, 20, 26</p> <p>Top entry Side entry</p>	<p>J kit (Flat ribbon cable connector) Number of pins: 20 (PC Wiring System compliant)</p> <p>Top entry Side entry</p>		
<p>G kit (Flat ribbon cable with terminal block) Number of pins: 20</p>	<p>T kit (Terminal box)</p>	<p>L kit (Lead wire)</p>	<p>S kit (Serial transmission unit)</p>	<p>M kit (Multi-connector kit) (VQ2000 only)</p>

VQC

SQ

VQ0

VQ4

VQ5

VQZ

VQD

Valve Specifications

Base Mounted

		Sonic conductance C [dm ³ /(s·bar)] (4/2 → 5/3) (A/B → R1/R2)		Type of actuation					Voltage			Electrical entry		Manual override				
				Single	Double	Closed center	Exhaust center	Pressure center	12 V 24 V DC	100 V 110 V AC (50/60 Hz)	200 V 220 V AC (50/60 Hz)	Plug-in	Grommet	L plug connector	M plug connector	Push type, Tool required	Locking type	Locking type (Manual)
Plug-in	Series VQ1000	Rubber seal	VQ□00	0.72	0.72	●	●	●	●	●	●	●				●	●	●
		Metal seal	VQ1□01	1.0	0.65							(F/L kit only)						
	P. 2-4-120		P. 2-4-128															
	Series VQ2000	Rubber seal	VQ2□00	2.6	2.0	●	●	●	●	●	●	●				●	●	●
Metal seal		VQ2□01	3.2	2.2							(F/L kit only)							
P. 2-4-124		P. 2-4-128																
Plug lead	Series VQ0000	Rubber seal	VQ0□50	0.44	0.32	●	●	●	●	●	●	●	●	●	●	●	●	●
		Metal seal	VQ0□51	0.53	0.44													
	P. 2-4-182		P. 2-4-186															
	Series VQ1000	Rubber seal	VQ1□10	0.72	0.72	●	●	●	●	●	●			●		●	●	●
Metal seal		VQ1□11	1.0	0.65														
P. 2-4-184		P. 2-4-186																

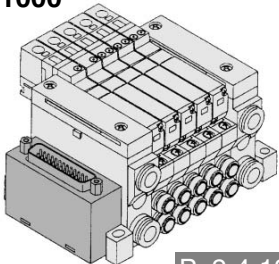
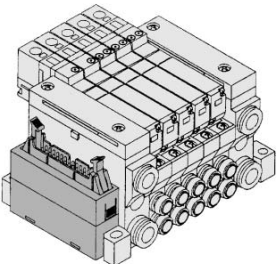
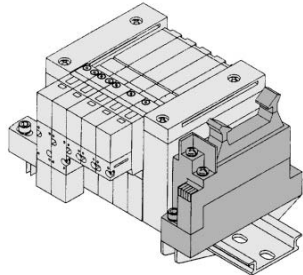
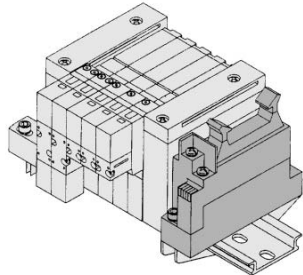
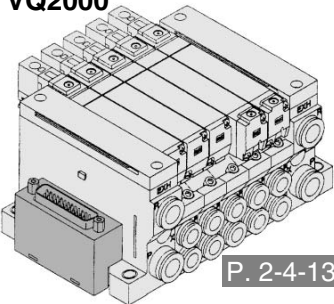
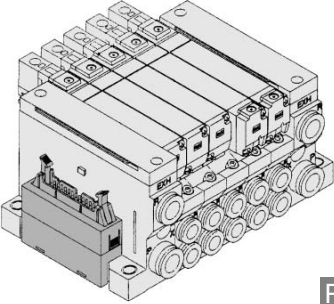
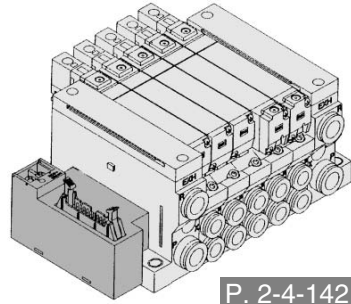
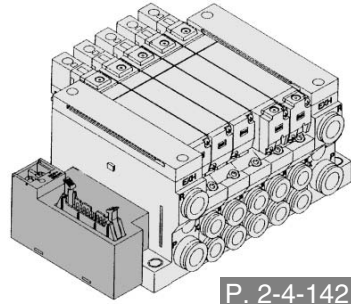
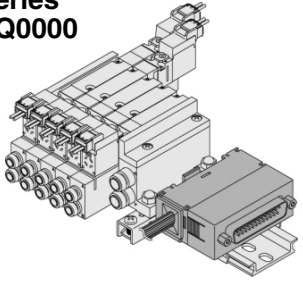
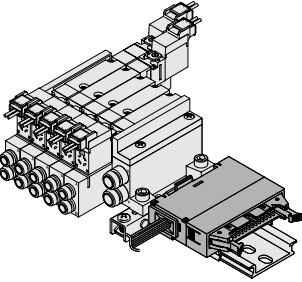
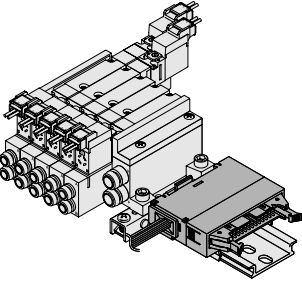
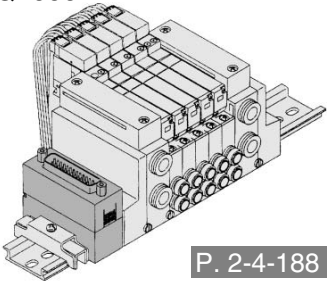
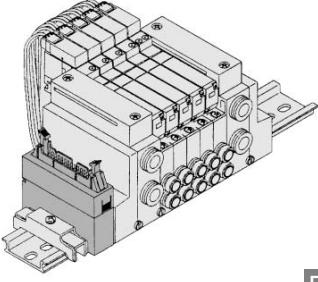
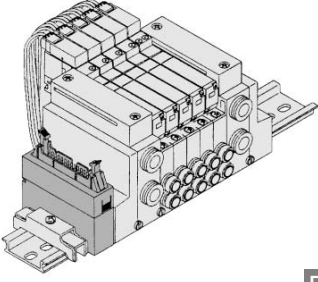
VQC
SQ
VQ0
VQ4
VQ5
VQZ
VQD

		Option		Manifold Option	
P. 2-4-215			External pilot		
			D-sub connector 15P		
			Flat ribbon cable 10P 16P 20P		
	For S kit, please contact SMC.		Negative common specifications		
			One-touch fitting Inch size		
	Except L kit		For special wiring spec.		
P. 2-4-210			Blanking plate		
			Individual SUP/EXH		
			SUP/EXH passage spacer		
			Name plate		
			Back pressure check valve		
	Standard		DIN rail mounting style		
			Built-in silencer		
			Silencer for EXH port		
			Elbow fitting for cylinder port		
			Two stations matching fittings for double flow rate		
			Plug for cylinder port		
			Regulator unit		
			Ejector unit mounted		
			Double check block		
P. 2-4-215					
	For S kit, please contact SMC.				
	Except L kit				
P. 2-4-177					
	For S, G kit, please contact SMC.				
	Except L kit				
P. 2-4-166					
	For S, G kit, please contact SMC.				
	Except L kit				
P. 2-4-208					
	For S kit, please contact SMC.				
	Except L kit				
P. 2-4-172					
	For S, G kit, please contact SMC.				
	Except L kit				

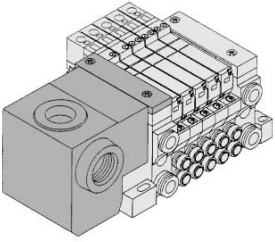
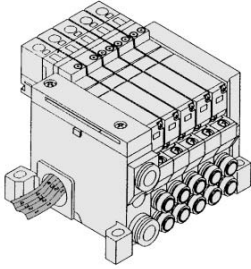
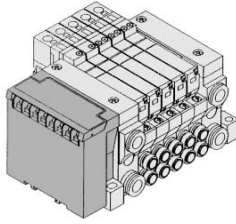
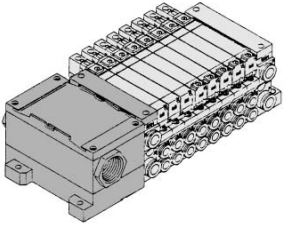
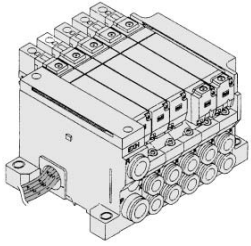
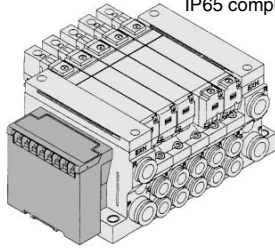
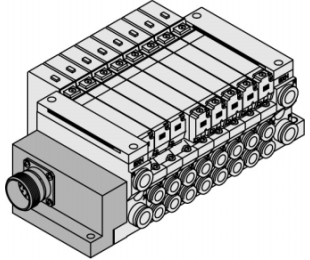
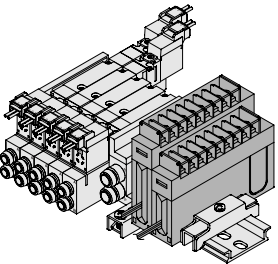
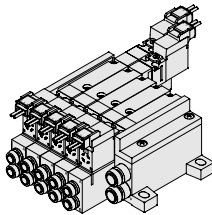
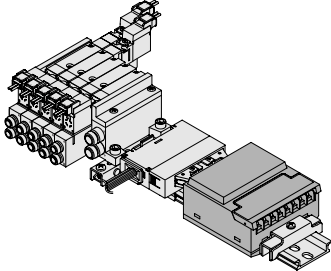
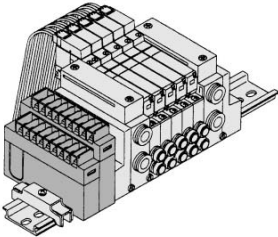
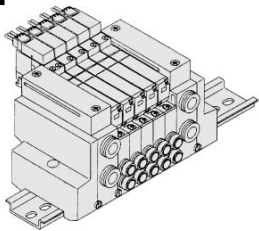
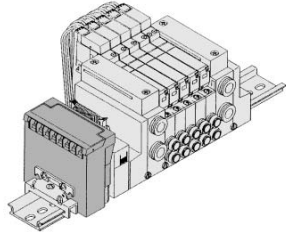


Series VQ/Base Mounted: Variations

Manifold Variations

	F kit	P kit	J kit	G kit
	D-sub connector Conforming to MIL D-sub connector	Flat ribbon cable connector (26, 20, 16, 10 pins) Conforming to MIL flat ribbon cable connector	Flat ribbon cable connector (20 pins) Conforming to MIL flat ribbon cable connector PC Wiring System compatible	Flat ribbon cable with power supply terminal block Conforming to MIL flat ribbon cable connector Applicable to OMRON's serial transmission unit PC Wiring System compatible
Plug-in	Series VQ1000  P. 2-4-130	 P/J kit	 P. 2-4-134	 P. 2-4-142
	Series VQ2000  P. 2-4-130	 P/J kit	 P. 2-4-134	 P. 2-4-142
Plug Lead	Series VQ0000  P. 2-4-188	 P kit only	 P. 2-4-192	—
	Series VQ1000  P. 2-4-188	 P kit only	 P. 2-4-192	—

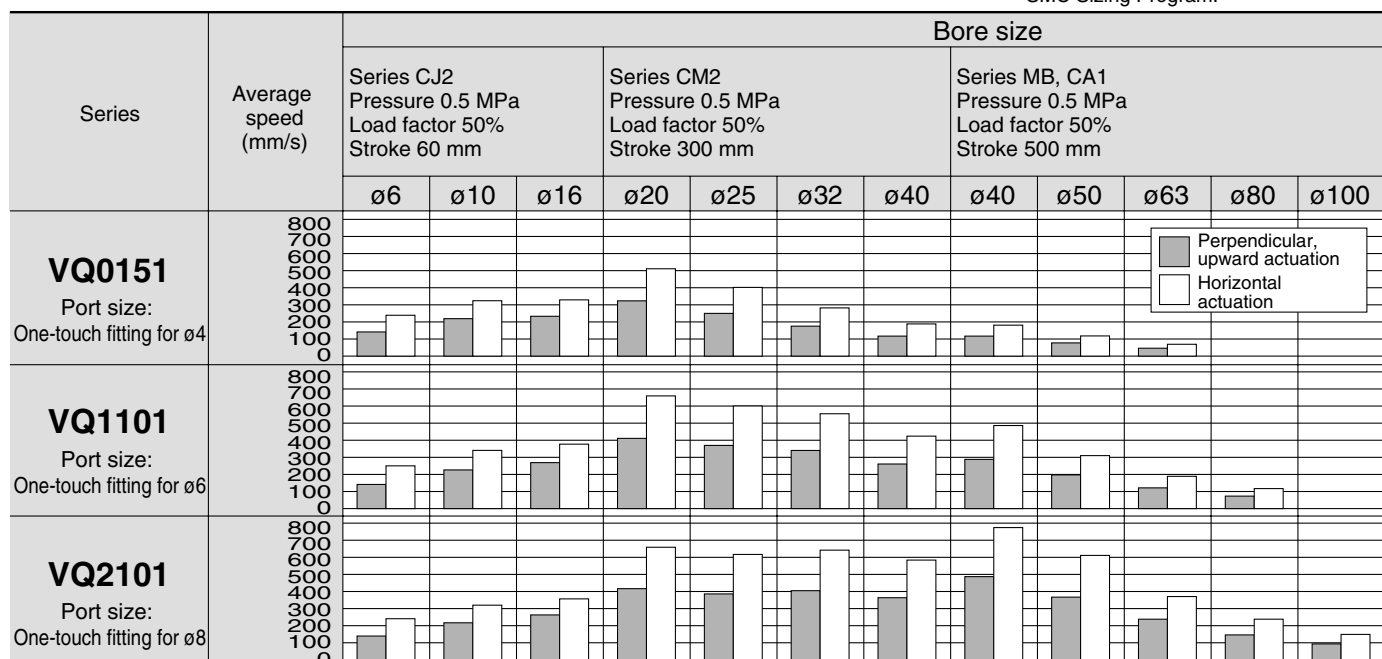
Manifold Variations

<div style="background-color: #ccc; padding: 5px; display: inline-block;">T</div> kit	<div style="background-color: #ccc; padding: 5px; display: inline-block;">L C</div> kit	<div style="background-color: #ccc; padding: 5px; display: inline-block;">S</div> kit	<div style="background-color: #ccc; padding: 5px; display: inline-block;">M</div> kit
<p>Terminal block box (Terminal block)</p> <p>Terminal blocks are compactly arranged on one side.</p>	<p>Lead wire</p> <p>Direct electrical entry type</p>	<p>Serial transmission unit</p> <p>Enables single-wire solenoid valve-PLC operation</p>	<p>Circular connector</p> <p>IP65 (Dusttight/Low jetproof type)</p>
 Terminal block box P. 2-4-146	<div style="background-color: #ccc; padding: 5px; display: inline-block;">L</div> kit  P. 2-4-150	 P. 2-4-154	—
 Enclosure IP65 compliant P. 2-4-146	<div style="background-color: #ccc; padding: 5px; display: inline-block;">L</div> kit  Enclosure IP65 compliant P. 2-4-150	 Enclosure IP65 compliant P. 2-4-154	 W type only P. 2-4-158
 Terminal block P. 2-4-196	<div style="background-color: #ccc; padding: 5px; display: inline-block;">C</div> kit  P. 2-4-200	 P. 2-4-204	—
 Terminal block P. 2-4-196	<div style="background-color: #ccc; padding: 5px; display: inline-block;">C</div> kit  P. 2-4-200	 P. 2-4-204	—

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

Cylinder Speed Chart

Use as a guide for selection.
Please confirm the actual conditions with
SMC Sizing Program.



VQC

SQ

VQ0

VQ4

VQ5

VQZ

VQD

- * 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.
- * The average velocity of the cylinder is what the stroke is divided by the total stroke time.
- * Load factor: $((\text{Load weight} \times 9.8) / \text{Theoretical force}) \times 100\%$

Conditions

Series	Conditions	Series CJ2	Series CM2	Series MB, CA1
VQ0151	Tube bore x Length		T0425 x 1 m	
	Speed controller		AS2001F-04	
	Silencer		AN103-X233	
VQ1101	Tube bore x Length		T0604 x 1 m	
	Speed controller		AS3001F-06	
	Silencer		AN103-X233	
VQ2101	Tube bore x Length		T0806 x 1 m	
	Speed controller		AS3001F-08	
	Silencer		AN200-KM8	

How to Order Valves

VQ 1 1 0 0 Y 5

Series
1 VQ1000

Type of actuation
1 2 position single
2 Metal 2 position double
2 Rubber 2 position double
3 3 position closed center
3 3 position exhaust center
3 3 position pressure center
4 4 position dual 3 port valve
4 4 position dual 3 port valve
4 4 position dual 3 port valve

Seal
0 Metal seal
1 Rubber seal

Manual override
Nil: Non-locking push type (Tool required)
B: Push-locking slotted type
C: Locking type (Manual)

Light/Surge voltage suppressor
Nil Yes
E (Note) None
Note) Inapplicable to the S kit.

Function

Symbol	Specifications	DC	AC
Nil	Standard type	(1.0 W)	(Note)
H	High pressure type	(1.5 W)	—
Y	Low wattage type	(0.5 W)	—

Note) For power consumption of AC type, refer to page 2-4-129.
Note) For external pilot and negative COM specifications, refer to "Option" on pages 2-4-178 to 2-4-179.

Note) Rubber seal type only.

Coil voltage

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) 200/220 VAC models are applicable to F and L kits.

How to Order Manifold Assembly

Example

Single solenoid (24 VDC)
VQ1100-5 (4 sets)

Double solenoid (24 VDC)
VQ1200-5 (4 sets)

Blanking plate
VQ1000-10A-1 (1 set)

D-sub connector

Cylinder ports
C6: With One-touch fitting for ø6

F kit (D-sub connector)

Manifold base (9 stations)
VV5Q11-09C6FU2

VV5Q11-09C6FU2 1 set (F kit 9 station manifold base no.)
*VQ1100-5 4 sets (Single solenoid part no.)
*VQ1200-5 4 sets (Double solenoid part no.)
*VV1000-10A-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.

VQC

SQ

VQ0

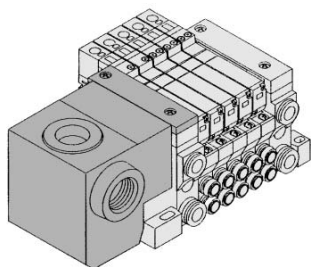
VQ4

VQ5

VQZ

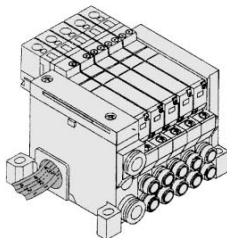
VQD

T kit (Terminal box)



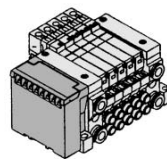
P. 2-4-146

L kit (Lead wire cable)



P. 2-4-150

S kit (Serial transmission unit)



The valve is equipped with an indicator light and surge voltage suppressor, and the voltage is 24 VDC. The dust proof SI unit is also available. Refer to page 2-4-154 for details.

P. 2-4-154

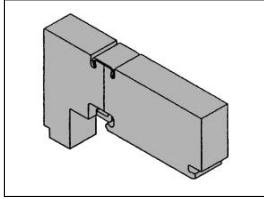
Kit T O Terminal block box 2 to 24 stations (2)

Kit L 0 With cable (0.6 m) 1 to 8 stations
1 With cable (1.5 m)
2 With cable (3 m)

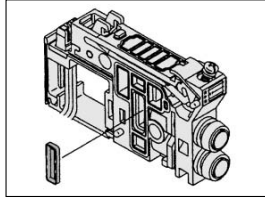
Kit S	Options	Max. stations
0	Without SI unit	
A	With general type SI unit (Series EX300)	
B	Mitsubishi Electric Corp.: MELSECNET/MINI-S3 Data Link System	
C	OMRON Corp.: SYSBUS Wire System	
D	SHARP Corp.: Satellite I/O Link System	
E	Matsushita Electric Works: MEWNET-F System	
F1	NKE Corp.: Uni-wire System (16 output points)	
G	Rockwell Automation: Allen Bradley Remote I/O (RIO) System	
H	NKE Corp.: Uni-wire H System	
J1	SUNX Corp.: S-LINK System (16 output points)	
J2	SUNX Corp.: S-LINK System (8 output points)	Max. 8 stations
K	Fuji Electric Co.: T-LINK Mini System	
Q	DeviceNet, CompoBus/D (OMRON Corp.)	Max. 16 stations
R1	OMRON Corp.: CompoBus/S System (16 output points)	
R2	OMRON Corp.: CompoBus/S System (8 output points)	Max. 8 stations
V	Mitsubishi Electric Corp.: CC-LINK System	Max. 16 stations

Manifold Option

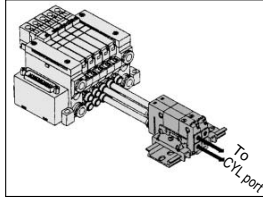
Blanking plate assembly
VVQ1000-10A-1



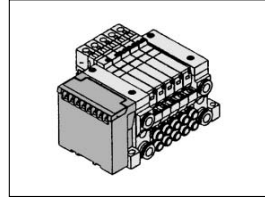
SUP block plate
VVQ1000-16A



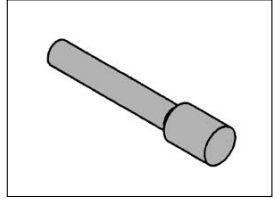
Double check block
VQ1000-FPG-□□



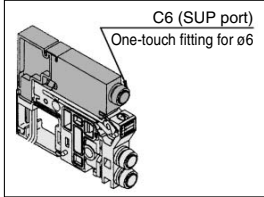
2 stations matching fitting assembly
VVQ1000-52A-C8



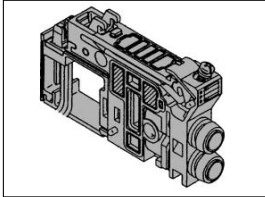
Blanking plug
KQ2P-
□□□□



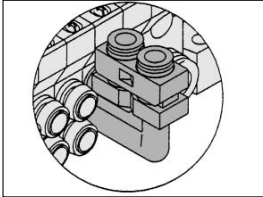
Individual SUP spacer
VVQ1000-P-1-C6



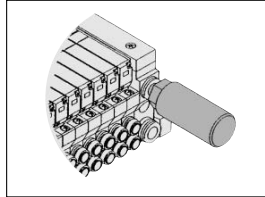
EXH block base assembly
VVQ1000-19A-
□□□□□□



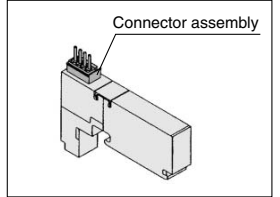
Elbow fitting assembly
VVQ1000-F-L-
□□□□□□



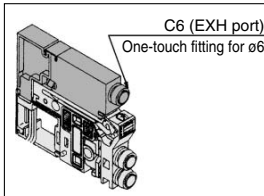
Silencer (For EXH port)
AN200-KM8/AN203-KM8



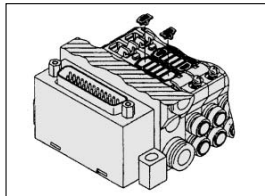
Blanking plate with connector
VVQ1000-1C□-□



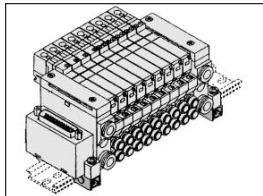
Individual EXH spacer
VVQ1000-R-1-C6



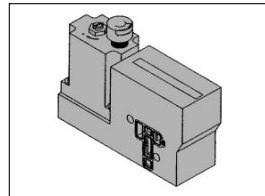
Back pressure check valve assembly [-B]
VVQ1000-18A



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

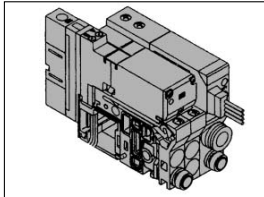


Regulator unit
VVQ1000-AR-1

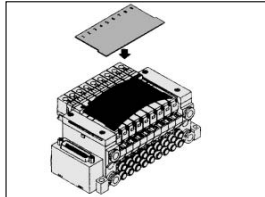


- For cylinder port fittings part no., refer to page 2-4-175.
- For replacement parts, refer to page 2-4-227.

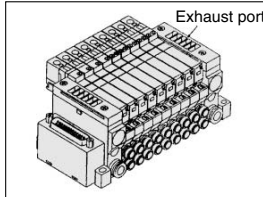
With vacuum ejector unit
[-J□]



Name plate [-N]
VVQ1000-_{NC} Station (1 to Max. stations)



Built-in silencer,
direct exhaust [-S]



Port plug
VVQ0000-58A

