

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

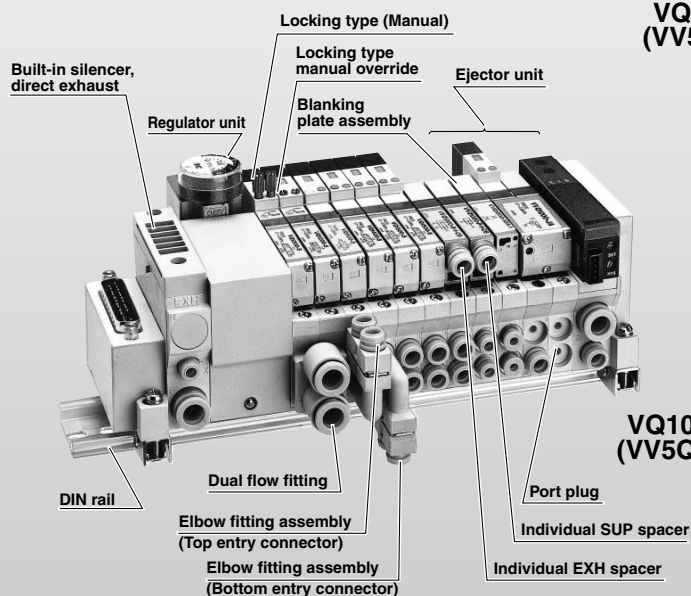
(Metal seal, single, with indicator light/surge voltage suppressor)

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

Thin compact design with large flow capacity

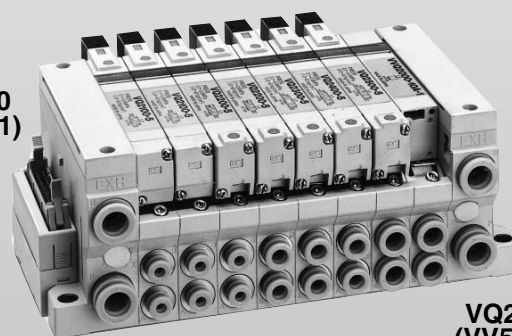
Model	Manifold pitch (mm)	Flow characteristics		Cylinder size
		Metal seal	Rubber seal	
		C [dm ³ /(s·bar)]	C [dm ³ /(s·bar)]	
VQ0000	10.7	0.44	0.53	Up to $\phi 40$
VQ1000	10.5	0.72	1.0	Up to $\phi 50$
VQ2000	16	2.6	3.2	Up to $\phi 80$

* Flow characteristics: 4/2 $\rightarrow$ 5/3 (A/B $\rightarrow$ R1/R2)



* The photo does not show an actual use example.

A variety of options



VQ2000
(VV5Q21)

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.

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

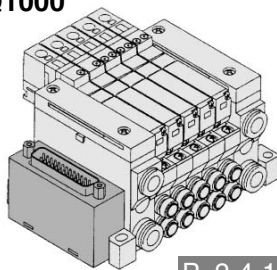
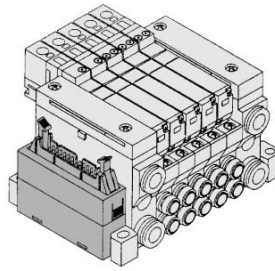
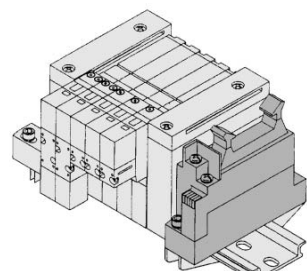
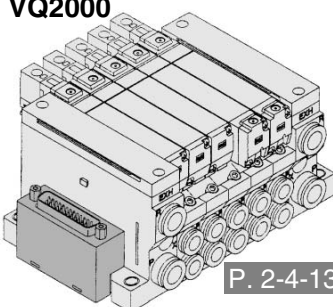
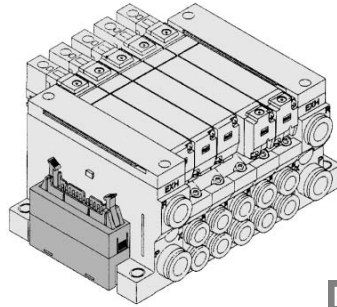
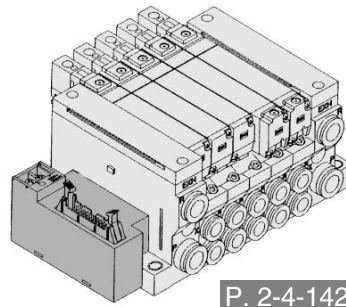
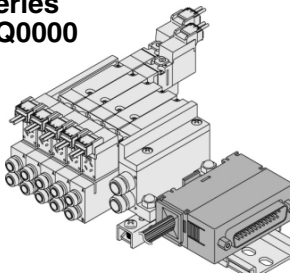
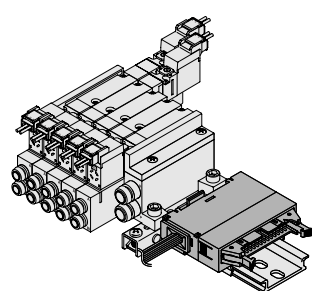
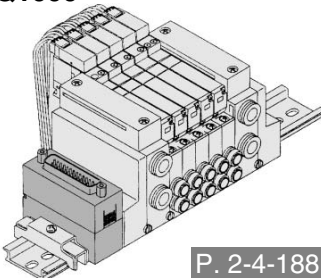
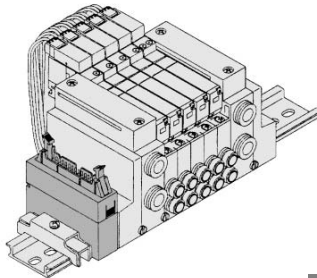
Valve Specifications

Base Mounted																		
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																	

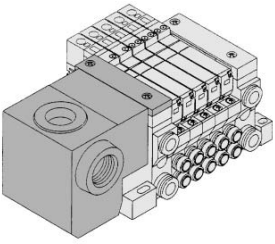
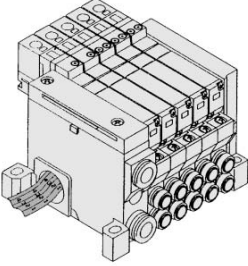
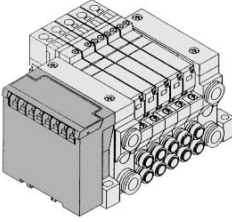
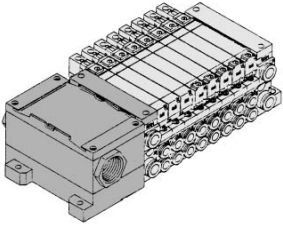
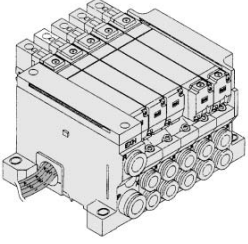
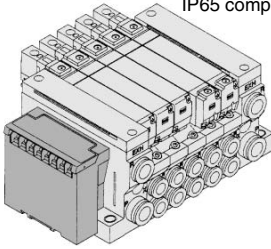
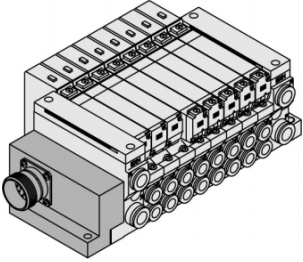
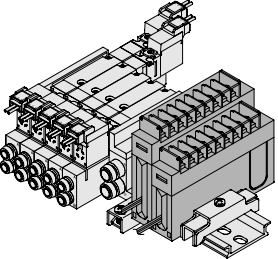
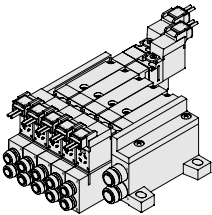
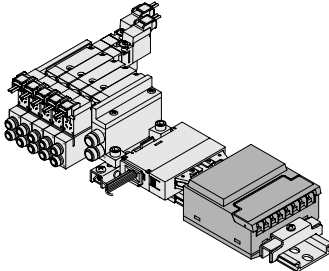
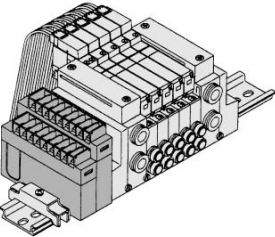
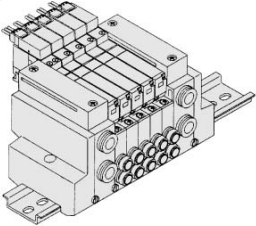
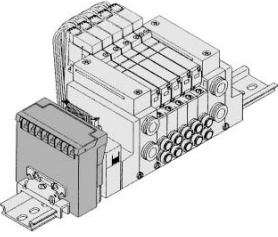
Option					Manifold Option				
P. 2-4-215				External pilot	P. 2-4-210				Blanking plate
				D-sub connector 15P					Individual SUP/EXH
				Flat ribbon cable 10P 16P 20P					SUP/EXH passage spacer
	For S kit, please contact SMC.			Negative common specifications					Name plate
				One-touch fitting Inch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

Series VQ/Base Mounted: Variations

Manifold Variations

	F kit D-sub connector Conforming to MIL D-sub connector	P kit Flat ribbon cable connector (26, 20, 16, 10 pins) Conforming to MIL flat ribbon cable connector	J kit Flat ribbon cable connector (20 pins) Conforming to MIL flat ribbon cable connector PC Wiring System compatible	G kit 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

T kit Terminal block box (Terminal block) Terminal blocks are compactly arranged on one side.	L C kit Lead wire Direct electrical entry type	S kit Serial transmission unit Enables single-wire solenoid valve-PLC operation	M kit Circular connector IP65 (Dusttight/Low jetproof type)
 Terminal block box P. 2-4-146	L kit  P. 2-4-150	 P. 2-4-154	—
 Enclosure IP65 compliant P. 2-4-146	L 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	C kit  P. 2-4-200	 P. 2-4-204	—
 Terminal block P. 2-4-196	C kit  P. 2-4-200	 P. 2-4-204	—

VQC

SQ

VQ0

VQ4

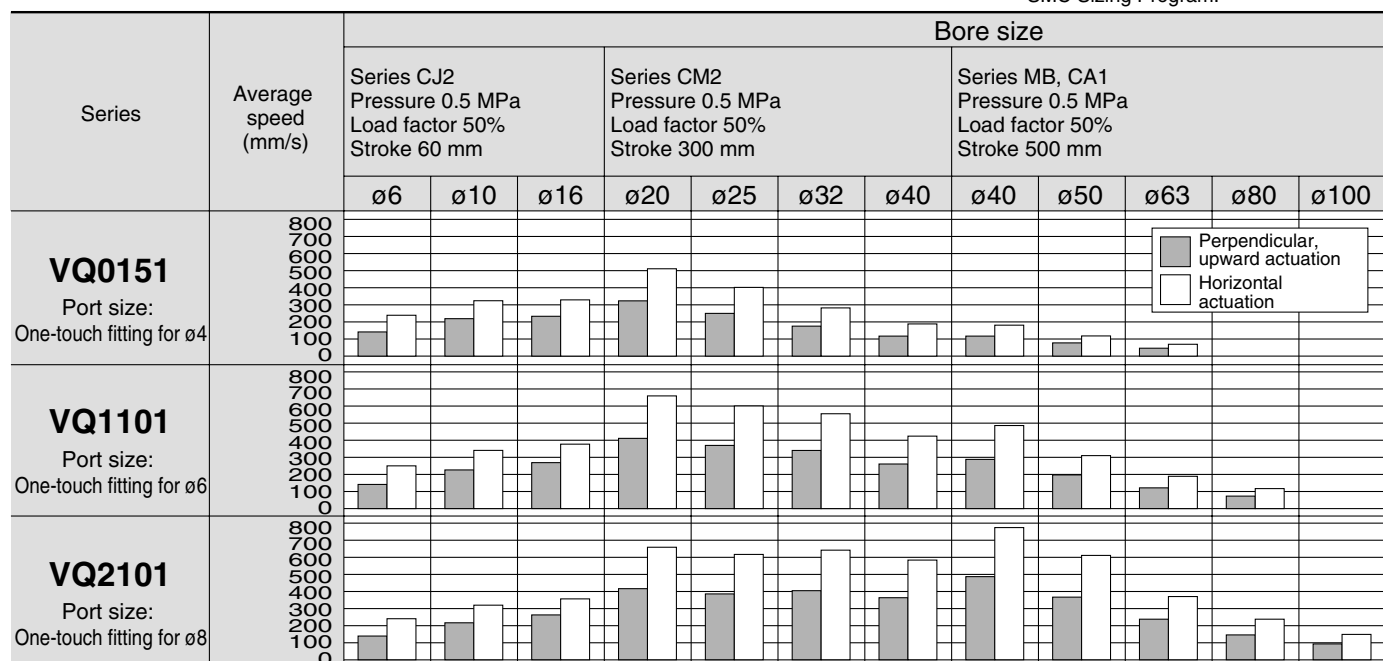
VQ5

VQZ

VQD

Cylinder Speed Chart

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



- * 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

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
3 3 position closed center
4 3 position exhaust center
5 3 position pressure center
A 4 position dual 3 port valve
B 4 position dual 3 port valve
C 4 position dual 3 port valve

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.

Specifications
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.

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

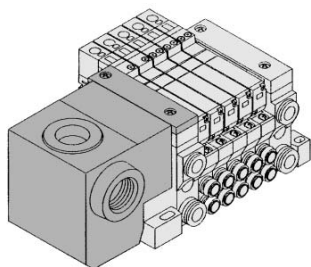
VQ0

VQ4

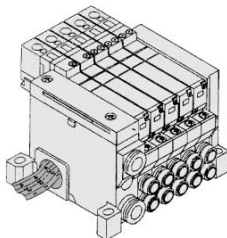
VQ5

VQZ

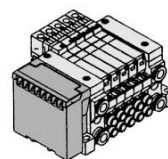
VQD

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

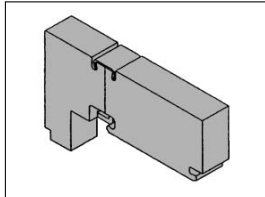
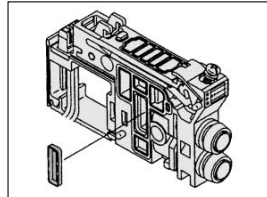
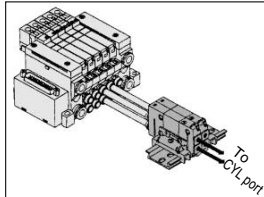
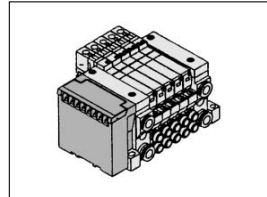
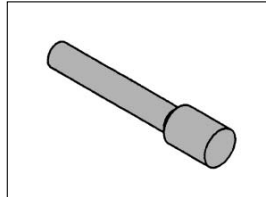
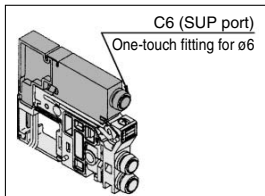
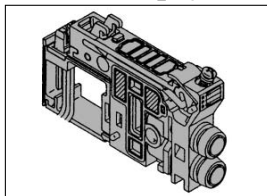
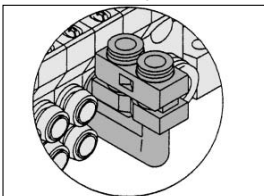
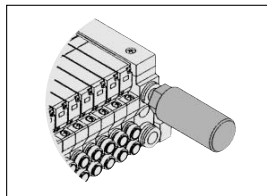
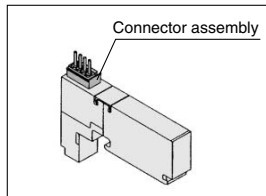
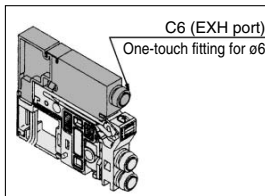
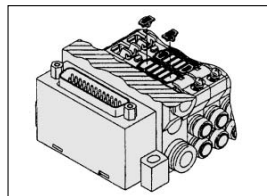
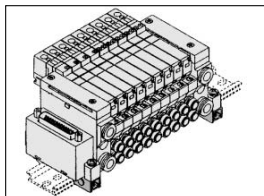
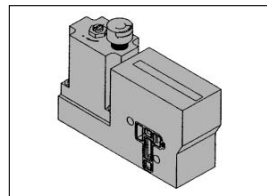
Kit T O Terminal block box 2 to 24 stations⁽²⁾

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

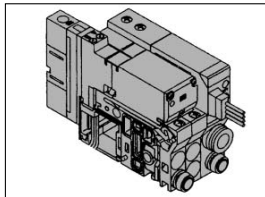
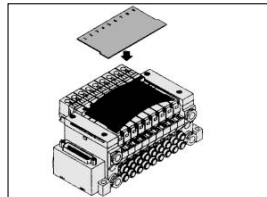
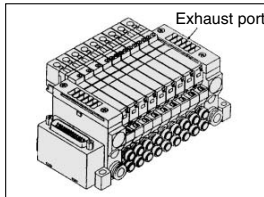
Kit S	0	Without SI unit	Max. 16 ⁽²⁾ stations
	A	With general type SI unit (Series EX300)	
	B	Mitsubishi Electric Corp.: MELSECNET/MINI-S3 Data Link System	
	C	OMRON Corp.: SYSBUS Wire System	
	D	SHARP Corp.: Satellite I/O Link System	
	E	Matsushita Electric Works: MEWNET-F System	
	F1	NKE Corp.: Uni-wire System (16 output points)	Max. 8 stations
	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. 16 stations
	K	Fuji Electric Co.: T-LINK Mini System	
	Q	DeviceNet, CompoBus/D (OMRON Corp.)	
	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

P. 2-4-208

Blanking plate assembly
VVQ1000-10A-1SUP block plate
VVQ1000-16ADouble check block
VVQ1000-FPG-□□2 stations matching fitting assembly
VVQ1000-52A-C8Blanking plug
KQ2P-□□□□Individual SUP spacer
VVQ1000-P-1-C6EXH block base assembly
VVQ1000-19A-□□-□□Elbow fitting assembly
VVQ1000-F-L-□□□□Silencer (For EXH port)
AN200-KM8/AN203-KM8Blanking plate with connector
VVQ1000-1C□-□Individual EXH spacer
VVQ1000-R-1-C6Back pressure check valve assembly [-B]
VVQ1000-18ADIN rail mounting bracket [-D]
VVQ1000-57ARegulator 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-^N_{NC}-Station (1 to Max. stations)Built-in silencer,
direct exhaust [-S]Port plug
VVQ0000-58A