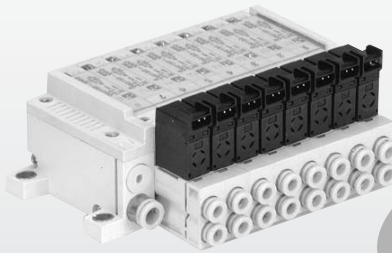


# Base Mounted Metal Seal/Rubber Seal Series VQ

## 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

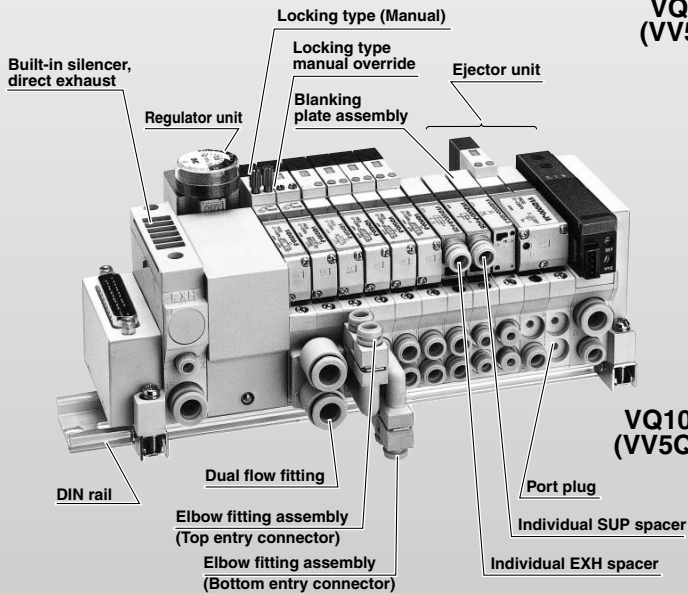
(Metal seal, single, with indicator light/surge voltage suppressor)

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

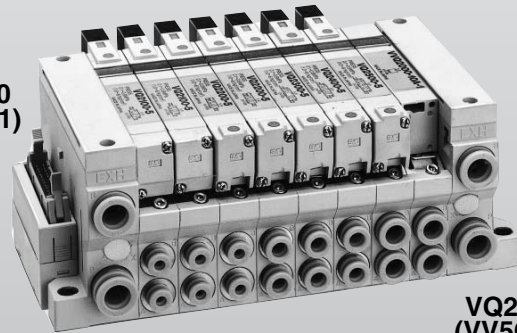
## Thin compact design with large flow capacity

| Model  | Manifold pitch (mm) | Flow characteristics                       |   | Cylinder size |
|--------|---------------------|--|---|---------------|
|        |                     | Metal seal<br>C [dm <sup>3</sup> /(s-bar)] | Rubber seal<br>C [dm <sup>3</sup> /(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.

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

VQC

SQ

VQ0

VQ4

VQ5

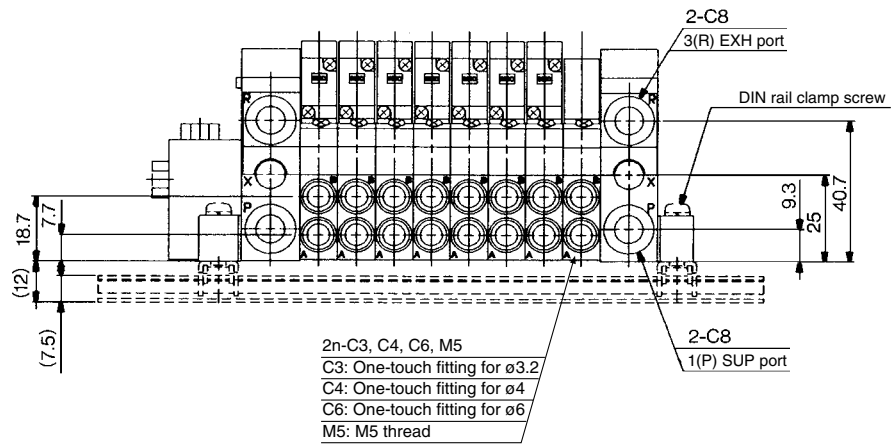
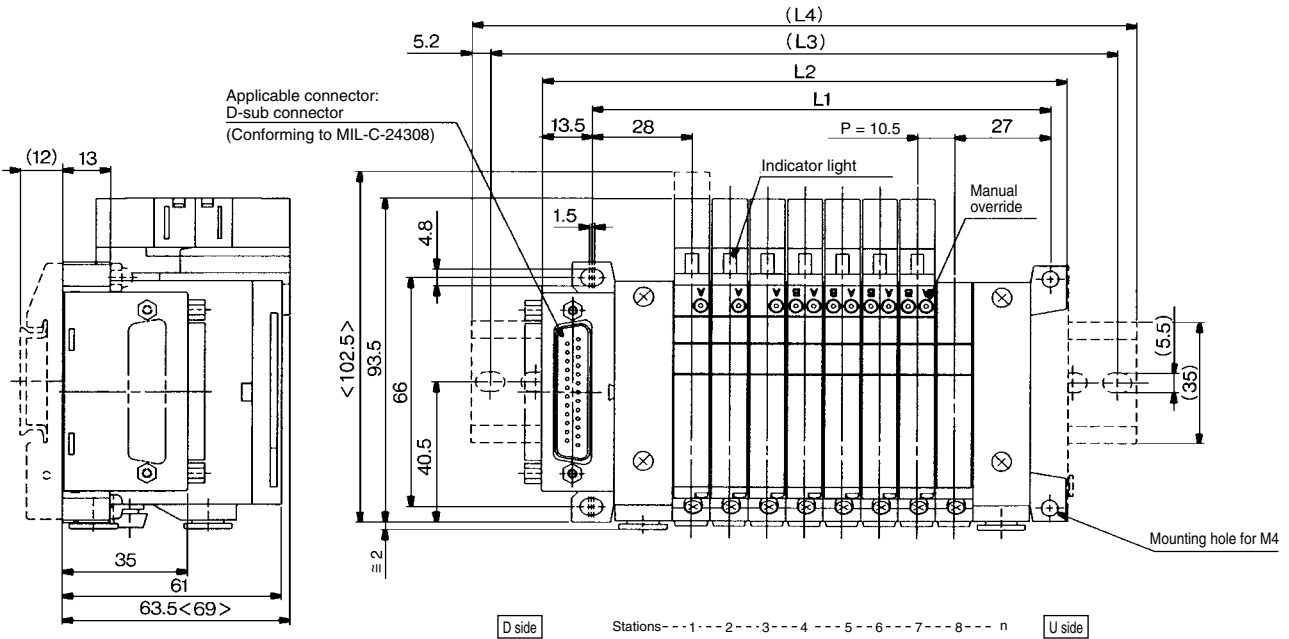
VQZ

VQD

# F VQ1000/2000 Kit (D-sub connector)

## VQ1000

The broken lines indicate the DIN rail mounting style [-D] and the side entry connection [-FS].



< >: AC

### Dimensions

Formula L1 = 10.5n + 44.5, L2 = 10.5n + 62.5 n: Station (Maximum 24 stations)

| L \ n | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    | 21    | 22    | 23    | 24    |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1    | 65.5  | 76    | 86.5  | 97    | 107.5 | 118   | 128.5 | 139   | 149.5 | 160   | 170.5 | 181   | 191.5 | 202   | 212.5 | 223   | 233.5 | 244   | 254.5 | 265   | 275.5 | 286   | 296.5 |
| L2    | 83.5  | 94    | 104.5 | 115   | 125.5 | 136   | 146.5 | 157   | 167.5 | 178   | 188.5 | 199   | 209.5 | 220   | 230.5 | 241   | 251.5 | 262   | 272.5 | 283   | 293.5 | 304   | 314.5 |
| (L3)  | 112.5 | 125   | 125   | 137.5 | 150   | 162.5 | 175   | 187.5 | 187.5 | 200   | 212.5 | 225   | 237.5 | 250   | 250   | 262.5 | 275   | 287.5 | 300   | 312.5 | 325   | 325   | 337.5 |
| (L4)  | 123   | 135.5 | 135.5 | 148   | 160.5 | 173   | 185.5 | 198   | 198   | 210.5 | 223   | 235.5 | 248   | 260.5 | 260.5 | 273   | 285.5 | 298   | 310.5 | 323   | 335.5 | 335.5 | 348   |

Vacuum ejector unit style: Formula L1 = 10.5n + 28.7 + (Number of ejector units x 26.7)

L2 = 10.5n + 46.3 + (Number of ejector units x 26.7)

L4 is L2 plus about 30.

**Double check block (Separated type): For VQ1000**  
**VQ1000-FPG-□□**

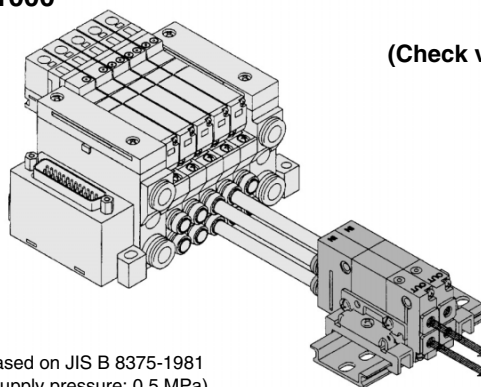
It is used on the outlet side piping to keep the cylinder in the intermediate position for a long time. Combining the double check block with a built-in pilot type double check valve and a 3 position exhaust center solenoid valve will enable the cylinder to stop in the middle or maintain its position for a long time.

The combination with a 2 position single/double solenoid valve will permit this block to be used for preventing the dropping at the cylinder stroke end when the SUP residual pressure is released.

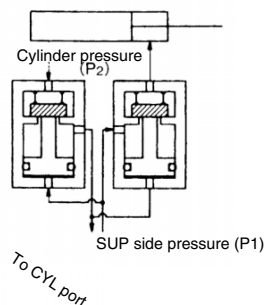
**Specifications**

|                          |                               |
|--------------------------|-------------------------------|
| Max. operating pressure  | 0.8 MPa                       |
| Min. operating pressure  | 0.15 MPa                      |
| Ambient and fluid temp.  | -5 to 50°C                    |
| Flow characteristics: C  | 0.60 dm <sup>3</sup> /(s·bar) |
| Max. operating frequency | 180 CPM                       |

Note) Based on JIS B 8375-1981  
 (Supply pressure: 0.5 MPa)



(Check valve operation principle)



VVQ1000-FPG-02 1 set  
 \* VQ1000-FPG-C6M5-D 2 pcs.

VQC

SQ

VQ0

VQ4

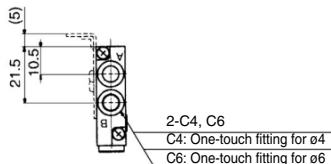
VQ5

QZ

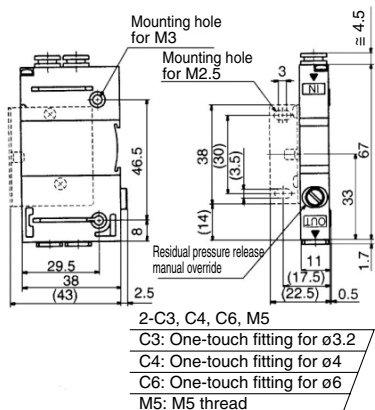
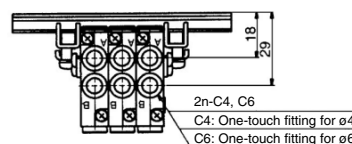
QD

**Dimensions**

**Single unit**



**Manifold**

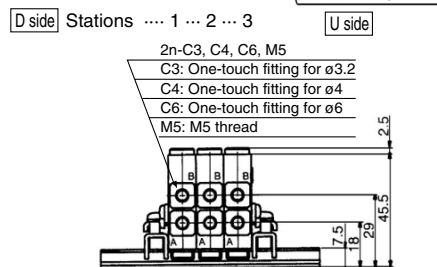


**Dimensions** Formula L1 = 11n + 20 n: Station (Maximum 24)

| L <sub>n</sub> | 1    | 2    | 3    | 4    | 5     | 6     | 7     | 8     | 9     | 10    | 11    | 12  |
|----------------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-----|
| L1             | 31   | 42   | 53   | 64   | 75    | 86    | 97    | 108   | 119   | 130   | 141   | 152 |
| L2             | 50   | 62.5 | 75   | 87.5 | 100   | 112.5 | 125   | 137.5 | 150   | 162.5 | 175   |     |
| L3             | 60.5 | 73   | 85.5 | 98   | 110.5 | 123   | 135.5 | 148   | 160.5 | 173   | 185.5 |     |

| L <sub>n</sub> | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    | 21    | 22    | 23    | 24    |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1             | 163   | 174   | 185   | 196   | 207   | 218   | 229   | 240   | 251   | 262   | 273   | 284   |
| L2             | 187.5 | 187.5 | 200   | 212.5 | 225   | 237.5 | 250   | 250   | 262.5 | 275   | 287.5 | 300   |
| L3             | 198   | 198   | 210.5 | 223   | 235.5 | 248   | 260.5 | 260.5 | 273   | 285.5 | 298   | 310.5 |



**How to Order**

**Double check block**

VQ1000-FPG-**C4** **M5** **F**

**IN side port size**

|    |                               |
|----|-------------------------------|
| C4 | With One-touch fitting for ø4 |
| C6 | With One-touch fitting for ø6 |

**OUT side port size**

|    |                            |
|----|----------------------------|
| M5 | M5 thread                  |
| C3 | One-touch fitting for ø3.2 |
| C4 | One-touch fitting for ø4   |
| C6 | One-touch fitting for ø6   |

**Option**

|     |  |
|-----|--|
| Nil | None                                   |
| F   | With bracket                           |
| D   | DIN rail mounting style (For manifold) |
| N   | Name plate                             |

Note) When two or more symbols are specified, indicate them alphabetically. Example) -DN

**Manifold**

VVQ1000-FPG-**06**

**Stations**

|    |             |
|----|-------------|
| 01 | 1 station   |
| ⋮  | ⋮           |
| 16 | 16 stations |

**<Example>**

VVQ1000-FPG-06-6 types of manifold  
 \*VQ1000-FPG-C4M5-D, 3 sets } Double Check block  
 \*VQ1000-FPG-C6M5-D, 3 sets }

**Bracket Assembly**

| Part no.      | Tightening torque |
|---------------|-------------------|
| VQ1000-FPG-FB | 0.22 to 0.25 N·m  |

**Caution**

- Air leakage from the pipe between the valve and cylinder or from the fittings will prevent the cylinder from stopping for a long time. Check the leakage using neutral household detergent, such as dish washing soap. Also check the cylinder's tube gasket, piston packing and rod packing for air leakage.
- Since One-touch fittings allow slight air leakage, screw piping (with M5 thread) is recommended when stopping the cylinder in the middle for a long time.
- Combining double check block with 3 position closed center or pressure center solenoid valve will not work.
- M5 fitting assembly is attached, not incorporated into the double check block. After screwing in the M5 fittings, mount the assembly on the double check block. {Tightening torque: 0.8 to 1.2 N·m}
- If the exhaust of the double check block is throttled too much, the cylinder may not operate properly and may not stop intermediately.
- Set the cylinder load so that the cylinder pressure will be within two times that of the supply pressure.

