**Series VQ5000**

**Base Mounted**

**Plug-in/Plug Lead: Single Unit**

---

### Model

<table>
<thead>
<tr>
<th>Series</th>
<th>Number of solenoids</th>
<th>Model</th>
<th>Port size</th>
<th>Flow Characteristics</th>
<th>Response time (ms)</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 position Single</td>
<td>Metal seal</td>
<td>VQ510</td>
<td>12</td>
<td>2.9</td>
<td>14</td>
<td>0.18</td>
</tr>
<tr>
<td>2 position Single</td>
<td>Rubber seal</td>
<td>VQ511</td>
<td>16</td>
<td>4.4</td>
<td>17</td>
<td>0.31</td>
</tr>
<tr>
<td>2 position Double</td>
<td>Metal seal</td>
<td>VQ520</td>
<td>12</td>
<td>2.9</td>
<td>14</td>
<td>0.18</td>
</tr>
<tr>
<td>2 position Double</td>
<td>Rubber seal</td>
<td>VQ521</td>
<td>16</td>
<td>4.4</td>
<td>17</td>
<td>0.31</td>
</tr>
<tr>
<td>3 position Pressure Center</td>
<td>Metal seal</td>
<td>VQ530</td>
<td>11</td>
<td>2.6</td>
<td>11</td>
<td>0.23</td>
</tr>
<tr>
<td>3 position Pressure Center</td>
<td>Rubber seal</td>
<td>VQ531</td>
<td>12</td>
<td>3.4</td>
<td>13</td>
<td>0.37</td>
</tr>
<tr>
<td>3 position Double Check</td>
<td>Metal seal</td>
<td>VQ550</td>
<td>12</td>
<td>2.9</td>
<td>14</td>
<td>0.18</td>
</tr>
<tr>
<td>3 position Double Check</td>
<td>Rubber seal</td>
<td>VQ551</td>
<td>14</td>
<td>3.9</td>
<td>16</td>
<td>0.35</td>
</tr>
<tr>
<td>3 position Double Check</td>
<td>Metal seal</td>
<td>VQ560</td>
<td>12</td>
<td>2.9</td>
<td>13</td>
<td>0.24</td>
</tr>
<tr>
<td>3 position Double Check</td>
<td>Rubber seal</td>
<td>VQ561</td>
<td>13</td>
<td>3.4</td>
<td>14</td>
<td>0.40</td>
</tr>
</tbody>
</table>

---

### Standard Specifications

- **Valve construction**: Metal seal, Rubber seal

- **Fluid**: Air/IInert gas

- **Maximum operating pressure**: 1.0 MPa

- **Min. operating pressure**
  - Single: 0.10 MPa
  - Double: 0.10 MPa
  - 3 position: 0.15 MPa

- **Proof pressure**: 1.5 MPa

- **Ambient and fluid temperature**: –5 to 50°C

- **Lubrication**: Not required

- **Manual override**: Push type/Locking type (Tool required) Option

- **Shock/Vibration resistance**: 150/30 ms²

- **Protection structure**: Dust tight (IP65 compatible)

- **Coil rated voltage**: 12, 24 VDC, 100, 110, 200, 220 VAC (50/60 Hz)

- **Allowable voltage fluctuation**: ±10% of rated voltage

- **Coil insulation type**: Class B or equivalent

- **Power consumption (Current)**
  - 24 VDC: 1 W DC (42 mA), 0.5 W DC (21 mA)
  - 12 VDC: 1 W DC (63 mA), 0.5 W DC (24 mA)
  - 100 VAC: Inrush 1.2 VA (12 mA), Holding 1.2 VA (12 mA)
  - 110 VAC: Inrush 1.3 VA (11.7 mA), Holding 1.3 VA (11.7 mA)
  - 200 VAC: Inrush 2.4 VA (12 mA), Holding 2.4 VA (12 mA)
  - 220 VAC: Inrush 2.6 VA (11.7 mA), Holding 2.6 VA (11.7 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 with a drop tester 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)** Values inside ( ) denote the low wattage (0.5 W) specifications.
How to Order Valves

**Body**

0: Plug-in sub-plate

1: Plug-in

2: Plug lead

**Type of actuation**

1: 2 position single

2: 2 position double

3: 3 position closed center

4: 3 position exhaust center

5: 3 position pressure center

6: 3 position double check

**Porting specifications**

- Nil: Side ported
- B: Bottom ported

**Port size**

- Nil: Without sub-plate
- 04: Rc 1/2

**Enclosure**

- Nil: Dust-protected
- W: Dusttight/Low jetproof type (IP65)

**Manual override**

- Nil: Non-locking push type
- B: Slotted locking type

**Light/Surge voltage suppressor**

- Nil: Yes
- E: Without light, With surge voltage suppressor

**Electrical entry**

- G: Lead wire length 0.6 m
- H: Lead wire length 1.5 m

**Coil voltage**

1: 100 VAC (50/60 Hz)
2: 200 VAC (50/60 Hz)
3: 110 VAC (50/60 Hz)
4: 220 VAC (50/60 Hz)
5: 24 VDC
6: 12 VDC

**Function**

- Nil: Standard type (1 W)
- Y: Low wattage type (0.5 W)

**Series VQ5000 Plug-in/Plug Lead: Single Unit**

**Replacement of pilot valve assembly**

- Voltage: Refer to pages 2-6-40 to 2-6-41 for pilot valve assembly part numbers.
- Method: Refer to page 2-6-3 for replacement method.

**How to Order Sub-plates**

**Body**

5: Plug lead sub-plate

**Type of actuation**

1: 2 position single

2: 2 position double

3: 3 position closed center

4: 3 position exhaust center

5: 3 position pressure center

6: 3 position double check

**Porting specifications**

- Nil: Side ported
- B: Bottom ported

**Port size**

- Nil: Without sub-plate
- 04: Rc 1/2

**Enclosure**

- Nil: Dust-protected
- W: Dusttight/Low jetproof type (IP65)

**Electrical entry**

- G: Lead wire length 0.6 m
- H: Lead wire length 1.5 m

**Coil voltage**

1: 100 VAC (50/60 Hz)
2: 200 VAC (50/60 Hz)
3: 110 VAC (50/60 Hz)
4: 220 VAC (50/60 Hz)
5: 24 VDC
6: 12 VDC

**Function**

- Nil: Standard type (1 W)
- Y: Low wattage type (0.5 W)

**Note**

- 1) Applicable to DC specifications.
- 2) For details about external pilot specifications, refer to page 2-6-39.
- 3) When two or more symbols are specified, indicate them alphabetically.

**Replacement of pilot valve assembly**

- Voltage: Refer to pages 2-6-40 to 2-6-41 for pilot valve assembly part numbers.
- Method: Refer to page 2-6-3 for replacement method.
Plug-in/Plug Lead: Single Unit  Series VQ5000

Plug Lead Type

Grommet

2 position single: VQ5150

3 position double check: VQ5650

3 position closed center: VQ5350

3 position exhaust center: VQ5450

3 position pressure center: VQ5550

Numbers inside ( ) are for metal seal 3 position type

Bottom ported drawing

2 position double: VQ5250

3 position closed center: VQ5350

3 position exhaust center: VQ5450

3 position pressure center: VQ5550

Numbers inside ( ) are for metal seal 3 position type
**Series VQ5000**

**Base Mounted Plug Lead Unit: C Kit (Connector Kit)**

### How to Order Manifold

**Prefix the asterisk to the part nos. of the solenoid valve, etc.**

**Enter in order starting from the first station on the D side.**

When entry of part numbers becomes complicated, indicate in the manifold specification sheet.

### How to Order Valves

**Specify the part numbers for valves and options together beneath the manifold base part number.**

Refer to page 2-6-2 (Grommet style) for wiring specifications.

### How to Order Manifold Assembly

**Specify the part numbers for valves and options together beneath the manifold base part number.**

**Enter in order starting from the first station on the D side.**

When entry of part numbers becomes complicated, indicate in the manifold specification sheet.
Manifold Specifications

<table>
<thead>
<tr>
<th>Series</th>
<th>Base model</th>
<th>Type of connection</th>
<th>Porting specifications</th>
<th>Maximum applicable stations</th>
<th>Applicable solenoid valve</th>
<th>5 station weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VQ5000</td>
<td>VV5Q5-55-□□</td>
<td>■ C kit–Grommet</td>
<td>4(A), 2(B) port location</td>
<td>Port size (Note)</td>
<td>1(P), 5(R1), 3(R2)</td>
<td>4(A), 2(B)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Side</td>
<td>Rc 3/4</td>
<td>Option</td>
<td>Direct exhaust with silencer box</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Bottom</td>
<td>Rc 1/2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note) For details about international standard threads other than Rc threads, refer to "Option" on page 2-6-39.

Flow Characteristics at the Number of Manifold Stations (Operated individually)

<table>
<thead>
<tr>
<th>Model</th>
<th>Passage/Stations</th>
<th>Station 1</th>
<th>Station 5</th>
<th>Station 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 position metal seal VQ5000</td>
<td>1 → 4/2 (P → A/B)</td>
<td>C ( [dm^3/(s·bar)] ) b</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cv</td>
<td>2.7</td>
<td>2.7</td>
</tr>
<tr>
<td></td>
<td>4/2 → 5/3 (A/B → EA/EB)</td>
<td>C ( [dm^3/(s·bar)] ) b</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cv</td>
<td>0.14</td>
<td>0.14</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2.9</td>
<td>2.9</td>
</tr>
<tr>
<td>2 position rubber seal VQ5000</td>
<td>1 → 4/2 (RA/B)</td>
<td>C ( [dm^3/(s·bar)] ) b</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cv</td>
<td>0.33</td>
<td>0.33</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3.4</td>
<td>3.4</td>
</tr>
<tr>
<td></td>
<td>4/2 → 5/3 (A/B → EA/EB)</td>
<td>C ( [dm^3/(s·bar)] ) b</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cv</td>
<td>0.33</td>
<td>0.33</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4.4</td>
<td>4.4</td>
</tr>
</tbody>
</table>

Note) For port size Rc 1/2

Manifold Option

<table>
<thead>
<tr>
<th>Blanking plate assembly VVQ5000-10A-5</th>
<th>Individual SUP spacer VVQ5000-P-5-04</th>
<th>Individual EXH spacer VVQ5000-R-5-04</th>
<th>EXH block plate VVQ5000-16A-2</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Blanking plate assembly" /></td>
<td><img src="image" alt="Individual SUP spacer" /></td>
<td><img src="image" alt="Individual EXH spacer" /></td>
<td><img src="image" alt="EXH block plate" /></td>
</tr>
<tr>
<td><img src="image" alt="Throttle valve spacer" /></td>
<td><img src="image" alt="SUP stop valve spacer" /></td>
<td><img src="image" alt="SUP block plate" /></td>
<td><img src="image" alt="Double check spacer" /></td>
</tr>
<tr>
<td>Release valve spacer VVQ5000-24A-5D</td>
<td>Direct exhaust with silencerbox [-S]</td>
<td>For exhaust cleaner mounting [-C]</td>
<td>Interface regulator ARBQ5000-00-6-5</td>
</tr>
<tr>
<td><img src="image" alt="Release valve spacer" /></td>
<td><img src="image" alt="Direct exhaust with silencerbox" /></td>
<td><img src="image" alt="For exhaust cleaner mounting" /></td>
<td><img src="image" alt="Interface regulator" /></td>
</tr>
</tbody>
</table>

* Refer to pages 2-6-34 to 2-6-39 for detailed dimensions of each option. For replacement parts, refer to page 2-6-43.
Base Mounted
Plug Lead Unit Series VQ5000

Bottom ported drawing

Dimensions

Formula: \( L1 = 41n + 76, L2 = 41n + 96 \)

n: Stations (Maximum 12 stations)

<table>
<thead>
<tr>
<th>n</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>117</td>
<td>158</td>
<td>199</td>
<td>240</td>
<td>281</td>
<td>322</td>
<td>363</td>
<td>404</td>
<td>445</td>
<td>486</td>
<td>527</td>
<td>568</td>
</tr>
<tr>
<td>L2</td>
<td>137</td>
<td>178</td>
<td>219</td>
<td>260</td>
<td>301</td>
<td>342</td>
<td>383</td>
<td>424</td>
<td>465</td>
<td>506</td>
<td>547</td>
<td>588</td>
</tr>
</tbody>
</table>
**Manifold Option Parts**

### Blanking plate assembly

**VVQ5000-10A-1** (Plug-in type)  
**VVQ5000-10A-5** (Plug lead type)

It is used by attaching on the manifold block for being prepared for removing a valve for maintenance reasons or planning to mount a spare valve, etc.

![Blanking plate assembly](image)

### Individual SUP spacer

**VVQ5000-P-1-03** (Plug-in type)  
**VVQ5000-P-5-03** (Plug lead type)

By mounting individual SUP spacers on a manifold block, it is possible to provide individual supply ports for each valve.

![Individual SUP spacer](image)

### Individual EXH spacer

**VVQ5000-R-1-03** (Plug-in type)  
**VVQ5000-R-5-03** (Plug lead type)

By mounting individual EXH spacers on a manifold block, exhaust ports can be provided individually for each valve. (Common EXH type)

![Individual EXH spacer](image)
Throttle valve spacer

**VVQ5000-20A-1 (Plug-in type)**  
**VVQ5000-20A-5 (Plug lead type)**

A throttle valve spacer is mounted on a manifold block to control cylinder speed by throttling exhaust air flow.

SUP blocking plate  
EXH blocking plate

**SUP stop valve spacer**

**VVQ5000-37A-1 (Plug-in type)**  
**VVQ5000-37A-5 (Plug lead type)**

A SUP stop valve spacer is mounted on a manifold block, making it possible to individually shut off supply air to each valve.

**Release valve spacer: For D side mounting**

**VVQ5000-24A-1D (Plug-in type)**  
**VVQ5000-24A-5D (Plug lead type)**

A VQ51 (single) valve can be used as an air release valve by combining it with a release valve spacer. Note) 2 position double and 3 position cannot be mounted.

**SUP block plate**  
**EXH block plate**

**VVQ5000-16A-1**  
**VVQ5000-16A-2**

When different pressures, high and low, are supplied to manifold, a SUP block plate is inserted between the stations under different pressures.

SUP passage blocked  
EXH passage blocked  
SUP/EXH passage blocked
Manifold Option Parts

Double check spacer with residual pressure release valve

VVQ5000-25A-1 (Plug-in type)
VVQ5000-25A-5 (Plug lead type)

Can hold an intermediate cylinder position for an extended time. When combined with a double check spacer with built-in double check valve, it is unaffected by air leakage between the spool valves, making it possible to hold a cylinder at an intermediate stopping position for an extended time. Further, a combination of a 2 position type (VQ5) and a double check spacer can be used for drop prevention.

<table>
<thead>
<tr>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double check spacer part no.</td>
</tr>
<tr>
<td>Applicable solenoid valve</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Leakage N cm³/min</th>
<th>One solenoid energized</th>
<th>Both solenoids energized</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1(P) 5 (R1) 3 (R2) 320 or less</td>
<td>1(P) 5 (R1) 3 (R2) 320 or less</td>
</tr>
<tr>
<td></td>
<td>4(A) 5 (R1) 2(B) 0</td>
<td></td>
</tr>
</tbody>
</table>

Note: Supply pressure: 0.5 MPa

Caution

- In the case of 3 position double check (VZS650), check the leakage from piping and fittings in between valve and cylinder by means of synthetic detergent solutions, and ensure that there is no such leakage found there. Also check the leakage from cylinder seal and piston seal. If there is any leakage, sometimes the cylinder, when valve is de-energized, can move without stopping at intermediate position.
- Use caution, as excessive throttling of the double check spacer exhaust can cause a loss of intermediate stopping accuracy and malfunction.
- Combination with a 3 position VQS is not possible.
- Set the cylinder load so that the cylinder pressure will be within two times that of the supply pressure.

Direct exhaust with silencer box

VQ5Q51-□□□□-SD (D side exhaust)
VQ5Q51-□□□□-SU (U side exhaust)
VQ5Q51-□□□□-SB (Double side exhaust)

The EXH outlet is placed on the top side of the manifold end plate. The built-in silencer provides highly effective noise reduction. (Noise reduction of 35 dB or more)

Note: Note that when excessive drainage occurs in the air supply, the drainage will be released along with the exhaust.

<table>
<thead>
<tr>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double check spacer part no.</td>
</tr>
<tr>
<td>Applicable solenoid valve</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Leakage N cm³/min</th>
<th>One solenoid energized</th>
<th>Both solenoids energized</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1(P) 5 (R1) 3 (R2) 320 or less</td>
<td>1(P) 5 (R1) 3 (R2) 320 or less</td>
</tr>
<tr>
<td></td>
<td>4(A) 5 (R1) 2(B) 0</td>
<td></td>
</tr>
</tbody>
</table>

Note: The drawing shows a VVQ5OS1-□□□□-SD.
Manifold mounted exhaust cleaner

**VV5Q5-L50132/L50132/L50132-CD (D side mounting)**

An adapter plate for exhaust cleaner mounting is provided on the top of the manifold end plate. The exhaust cleaner collects drainage and oil mist (99.9% or more) and is highly effective for noise reduction. (Noise reduction of 35 dB or more)

**VV5Q5-L50132/L50132/L50132-CU (U side mounting)**

**Applicable exhaust cleaners**

- AMC610-10 (Port size Rc 1)
- AMC810-14 (Port size Rc 1½)

**Dimensions**

Formula: \( L_1 = 41n + 76, L_2 = 41n + 96 \)

- \( n \): Stations (Maximum 12 stations)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>( L_1 )</td>
<td>158</td>
<td>199</td>
<td>240</td>
<td>281</td>
<td>322</td>
<td>363</td>
<td>404</td>
<td>445</td>
<td>486</td>
<td>527</td>
<td>568</td>
<td>608</td>
</tr>
<tr>
<td>( L_2 )</td>
<td>178</td>
<td>219</td>
<td>260</td>
<td>301</td>
<td>342</td>
<td>383</td>
<td>424</td>
<td>465</td>
<td>506</td>
<td>547</td>
<td>588</td>
<td>628</td>
</tr>
</tbody>
</table>

**Note**

1) Exhaust cleaner: AMC610-10 and AMC810-14 are not included. (Order separately)
2) Mount so that the exhaust cleaner is at the lower side.
3) For details about the exhaust cleaner, refer to Best Pneumatics vol.5.

---

**Plug-in type**

**Plug lead type**
Manifold Option Parts

Interface regulator (P, A, B port regulation)

**ARBQ5000-00-□-1 (Plug-in type)**
**ARBQ5000-00-□-5 (Plug lead type)**

By mounting a spacer regulator on the manifold block, it enables to regulate pressure per every valve.

### Specifications

<table>
<thead>
<tr>
<th>Interface regulator</th>
<th>ARBQ5000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulating port</td>
<td>A</td>
</tr>
<tr>
<td>B</td>
<td></td>
</tr>
<tr>
<td>P</td>
<td></td>
</tr>
<tr>
<td>Applicable solenoid valve</td>
<td>Plug-in</td>
</tr>
<tr>
<td>Plug lead</td>
<td></td>
</tr>
<tr>
<td>Plug-in</td>
<td></td>
</tr>
<tr>
<td>Plug lead</td>
<td></td>
</tr>
<tr>
<td>Maximum operating pressure</td>
<td>1.0 MPa</td>
</tr>
<tr>
<td>Set pressure range</td>
<td>0.05 to 0.85 MPa</td>
</tr>
<tr>
<td>Fluid</td>
<td>Air</td>
</tr>
<tr>
<td>Ambient and fluid temperature</td>
<td>−5 to 60°C (No freezing)</td>
</tr>
<tr>
<td>Port size for connection of pressure gauge</td>
<td>M5 x 0.8</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>0.79 0.74 0.78 0.73 0.79 0.74</td>
</tr>
<tr>
<td>Effective area at supply side (mm²)</td>
<td>P → A 33 75 29</td>
</tr>
<tr>
<td>S at P1 = 0.7 MPa/ P2 = 0.5 MPa</td>
<td>P → B 64 33 28</td>
</tr>
<tr>
<td>Effective area at exhaust side (mm²)</td>
<td>A → EA 36 75 78</td>
</tr>
<tr>
<td>S at P2 = 0.5 MPa</td>
<td>B → EB 68 38 69</td>
</tr>
</tbody>
</table>

**Note 1)** Set the pressure within the operating pressure range of the solenoid valve.  
**Note 2)** Use a spacer regulator by pressurizing from the P port on the base except the case of being used as a dual pressure valve. Besides, P port regulation is not allowed to use.  
**Note 3)** When using a perfect spacer, assemble a valve, a spacer regulator and a perfect spacer in this order to use.  
**Note 4)** When using in A port regulation, B port regulation by closed center, since there is a problem in its operation, please contact SMC.  
**Note 5)** Dusttight/splash proof enclosure (IP65) is not available with interface regulator.

### How to Order

<table>
<thead>
<tr>
<th>Solenoid valve</th>
<th>Interface regulator</th>
<th>Regulating port</th>
</tr>
</thead>
<tbody>
<tr>
<td>VQ5□□□ (Plug-in type)</td>
<td>ARBQ5000-00-A-1</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>ARBQ5000-00-B-1</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>ARBQ5000-00-P-1</td>
<td>P</td>
</tr>
<tr>
<td>VQ5□□□ (Plug lead type)</td>
<td>ARBQ5000-00-A-5</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>ARBQ5000-00-B-5</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>ARBQ5000-00-P-5</td>
<td>P</td>
</tr>
</tbody>
</table>

### Dimensions

**Flow Characteristics**

**Conditions**  
Inlet pressure: 0.7 MPa  
Outlet pressure: 0.2 MPa  
Flow rate: 20 l/min(ANR)

**Pressure Characteristics**

**Conditions**  
Inlet pressure: 0.7 MPa  
Outlet pressure: 0.2 MPa  
Flow rate: 20 l/min(ANR)
Option

External Pilot Specifications
When the supply pressure is
• lower than the minimum solenoid valve operating pressure of 0.1 to 0.2 MPa, or when it drops below this level,
• used for reverse pressure (P port pressure) or cylinder pressure (A, B port pressure),
• used for vacuum specifications (please contact SMC), it can be used for
external pilot specifications.
Order a valve by adding the external pilot specification [R] to the part number.
External pilot is available as standard for manifolds and options.

How to Order Manifold
VQ5100[R]—5—04

<Sub-plate>     <Manifold>

External pilot port
Rc 1/8

External pilot port
2-Rc 1/8

<Note) Mixed mounting of internal and external pilots is possible

Pressure Specifications

<table>
<thead>
<tr>
<th>Valve construction</th>
<th>Metal seal</th>
<th>Rubber seal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating pressure range</td>
<td>Vacuum to 1.0 MPa</td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>0.1 to 1.0 MPa (0.1 to 0.7 MPa)</td>
<td>0.2 to 1.0 MPa (0.2 to 0.7 MPa)</td>
</tr>
<tr>
<td>Double</td>
<td>0.15 to 1.0 MPa (0.15 to 0.7 MPa)</td>
<td>0.15 to 1.0 MPa (0.15 to 0.7 MPa)</td>
</tr>
<tr>
<td>3 position</td>
<td>0.15 to 1.0 MPa (0.15 to 0.7 MPa)</td>
<td>0.2 to 1.0 MPa (0.2 to 0.7 MPa)</td>
</tr>
</tbody>
</table>

<Note) Values inside ( ) denote the low wattage (0.5 W) specifications.

International Thread Standards Other than Rc
Rc specifications are standard for all ports, however, NPT, NPTF and G
are available for international markets.
Add the appropriate symbol following the port size in the standard part
number.

How to Order Single Valves (Example)
VQ5100 — 5 — 04

Cylinder port
Port size
1(P), 5(R1), 3(R2) and 4(A), 2(B) port

Nil          Rc
N            NPT
T            NPTF
F            G

How to Order Manifold
VV5Q51 — 08 — 03 — FU1

Cylinder port
Port size
1(P), 5(R1), 3(R2) and 4(A), 2(B) port

Nil          Rc
N            NPT
T            NPTF
F            G

How to Order Sub-plates and Options (Example)
VQ5000 — P — B 04

(Sub-plate)

VVQ5000 — P — 1 — 04

(Option)

Port size
Thread type
Nil          Rc
N            NPT
T            NPTF
F            G
**Plug Lead Unit**

### Metal seal

**Component Parts**

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
<th>Material</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Body</td>
<td>Aluminum die-casted</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Spool/Sleeve</td>
<td>Stainless steel</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Piston</td>
<td>Resin</td>
<td></td>
</tr>
</tbody>
</table>

**Replacement Parts**

- 4 Pilot valve assembly VQZ111P-□ *Coil rated voltage Example* 24 VDC: 5

### Rubber seal type

**Component Parts**

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
<th>Material</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Body</td>
<td>Aluminum die-casted</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Spool valve</td>
<td>Aluminum, NBR</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Piston</td>
<td>Resin</td>
<td></td>
</tr>
</tbody>
</table>

**Replacement Parts**

- 4 Pilot valve assembly VQZ111P-□ *Coil rated voltage Example* 24 VDC: 5

---

**Series VQ5000**

**Construction**

---