1 Safety Instructions (continued)

2 Specifications (continued)

Note 1) Impact resistance: No malfunction occurred when it was tested with a drop tester in the axial direction and at right angles to the main valve & armature, in both energized & de-energized states for every time in each condition (Values at the initial period.)

Vibration resistance: No malfunction occurred in a one-sweep test between 45 and 2000 Hz. Tests are performed at both energized and de-energized states in the axial direction and at right angles to the main valve & armature. (Values at the initial period.)

Note 2) Manifold type : IP67 available on 5,TL and M kits type.

Note 3) IP65 is available on T, L and S kits type of VQ2000.

2 Specifications

2.1 General Specifications

<table>
<thead>
<tr>
<th>Valve Configuration</th>
<th>Metal seal</th>
<th>Rubber seal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluid</td>
<td>Air / start gas</td>
<td></td>
</tr>
<tr>
<td>Min. operating pressure MPa</td>
<td>Single 0.1</td>
<td>Double 0.15</td>
</tr>
<tr>
<td>Lubrication</td>
<td>Not required</td>
<td></td>
</tr>
<tr>
<td>Manual override</td>
<td>Push type / Locking type</td>
<td></td>
</tr>
<tr>
<td>Impact resistance/ Vibration resistance m/s²</td>
<td>150 / 30 °C</td>
<td></td>
</tr>
<tr>
<td>Rated coil voltage</td>
<td>24VDC</td>
<td></td>
</tr>
<tr>
<td>Power consumption</td>
<td>0.4W (34mA), 0.95W (80mA)</td>
<td></td>
</tr>
</tbody>
</table>

Table 1

2.2 Symbol

| 2 position single |
| Double solenoid, 3 position type |

2.3 Light/Surge Voltage Suppressor For VQ(C) series

3 Precautions on Design

3.1 Environment

WARNING

1. Do not use in an environment where the product is directly exposed to corrosive gases, chemicals, salt water, water or steam.

2. Products with IP66 and IP67 enclosures (based on IEC60529) are protected against dust and water, however, these products cannot be used in water.

3. Incorrect mount of the product violates the IP66 or IP67 rating. Be sure to read the Precautions for each product.

4. Do not use in an explosive atmosphere.

5. The product should not be exposed to prolonged sunlight. Use a protective cover.

6. Do not mount the product in a location where it is subject to strong vibrations and/or shock. Check the product specifications.

7. Do not mount the product in a location exposed to radiant heat.

3.2 Piping

1. Preparation before piping

WARNING

Before piping is connected, it should be thoroughly blown out with air (flushing) or washed to remove chips, cutting oil and other debris from inside the pipe.

Install piping so that it does not apply pulling, pressing, bending or other forces the valve body.

2. Closed center valves.

When using closed center type valves, check carefully to be sure there are no air leaks from the piping between the valves and cylinders.

3. Screwling in

When using SMC fittings, follow the guidelines below.

After tightening by hand, tighten an additional 1/6(M5) turn with a tightening tool.

4. Incorrect mounting of the product violates the IP65 or IP67 rating. Be sure to check the product specifications.

3.3 Incorrect mounting of the product violates the IP65 or IP67 rating. Be sure to check the product specifications.
3 Installation (Continued)

3.6 Lubrication

CAUTION

*SMC products have been lubricated for life at manufacturer, and do not require lubrication in service.

* If a lubricant is used in the system, use turbine of Class 1 (No additives), ISO VG32. Please be aware, however, that once additional lubrication is applied, it must be continued to avoid malfunctions, as the new lubricant will completely cancel out the original lubrication.

3.7 Mounting

1. Stop operation if air leakage increases and the equipment does not operate properly.
   Check mounting conditions after air and power supplies are connected. Initial function and leakage tests should be performed after installation.

2. Instruction manual (this document)
   Install only after reading and understanding the safety instructions. Keep on file so that it can be referred to when necessary.

3. Coating
   Warnings or specifications indicated on the product should not be erased, removed, or covered up.

3.8 Wiring

1. Applied voltage.
   When electric power is connected to the solenoid valve, be careful to apply the proper voltage. Improper voltage may cause malfunction or damage.

2. Confirm the connections.
   After completing the wiring, confirm that the connections are made correctly.

3. Confirm the specifications.
   Do not operate at pressures or temperatures, etc. beyond the range of specifications, as this can cause damage or malfunction. (Refer to specifications in catalog.)

4 Setting

4.1 Manual override

CAUTION

Since connected equipment will operate when the manual override is activated, confirm that conditions are safe prior to activation. The non-locking push type (tool required) is standard, and the slotted locking type (tool required) is optional.

4.2 Manual override

Slide locking type (Manual) <option>

Slide the manual override button with a small flat head screwdriver or with your finger until it stops at the pilot valve side (ON side) to lock it.

Slide it to the fitting side (OFF side) to release it. It can also be used as a push type manual override by using a screwdriver 1.7mm or less wide for the VQC1000, and 2mm or less in the case of VQC2000.

4.3 Solenoid Valve Removal and Mounting (VQC1000/VQC2000)

Removal steps
1. Loosen the clamp screws until they turn freely.
   (The screws do not come out.)

2. Remove the solenoid valve from clamp B by lifting the col side of the valve while pushing on the screw top. If pushing down on the screw is difficult, you can alternately press down on the valve gently in the area near the manual override.

4.4 Replacing One-touch fittings Mounting steps
1. Push the clamp screws. Clamp A opens. Insert the end plate hook of the valve into clamp B and the angle.

2. Push the valve down into place. (When you release the screws, the valve will be locked into clamp A.)

3. Tighten the clamp screws with a tightening torque of 0.25 to 0.35 Nm for VQC1000 and 0.5 to 0.7 Nm for VQC2000.

5 Maintenance

1. Perform maintenance procedures as shown in the instruction manual. (This document).
   If handled improperly malfunction or damage of machinery/equipment may occur.

2. Removing the product
   To avoid the risk of being burned, ensure that the valve has had sufficient time to cool before performing work. Shut off the fluid supply and release the fluid pressure in the system.

3. Low frequency operation.
   Valves should be operated at least once every 30 days to prevent malfunction. (Use caution regarding the air supply).

   For optimum usage, conduct regular inspections every 6 months.

4. Manual override
   When the manual override is operated, connected equipment will be actuated.

5. Do not disassemble the product. Products that have been disassembled cannot be guaranteed.

5. Maintenance (Continued)

1. Filters and strainers
   1. Be careful regarding clogging of filters and strainers.
   2. Replace filter elements after one year of use, or earlier if the pressure drop reaches 0.1 MPa.
   3. Clean strainers when the pressure drop reaches 0.1 MPa.

2. Storage
   In case of long-term storage after use with heated water, thoroughly remove all moisture to prevent rust and deterioration of rubber materials, etc.

3. Drain flushing
   Remove drainage from air filters regularly. (Refer to the specifications.)

5.1 Replacing One-touch fittings

CAUTION

Port cylinder pin fittings are available with cassette type manifolds and are easily replaced. Fittings are secured with a retaining clip that is inserted vertically from either the top or bottom of the manifold (depending on valve type – see below). After removing the valve, remove the clip with a flat head screwdriver to replace the fittings. To mount a fitting, insert the fitting assembly until it stops and reinsert the retaining clip to its designated position.