2 Specifications - continued

2.2 Solenoids specifications

<table>
<thead>
<tr>
<th>Current (V)</th>
<th>Voltage (V)</th>
<th>DC overhead voltage fluctuation (V)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 VDC</td>
<td>12 - 24</td>
<td>10% to 15%</td>
</tr>
<tr>
<td>10 VAC</td>
<td>120-200</td>
<td>15% to 20%</td>
</tr>
<tr>
<td>24 VDC</td>
<td>100-200</td>
<td>10% to 15%</td>
</tr>
</tbody>
</table>

2.3 Manifold specifications

<table>
<thead>
<tr>
<th>ISO size 1</th>
<th>ISO size 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>VS7-6</td>
<td>VS7-8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Valve size</th>
<th>VS7-6</th>
<th>VS7-8</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/8&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/2&quot;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2.4 Pneumatic symbol

Indicator light

2.5 Indicator light

Lighting indicator light

3 Installation

3.1 Installation

Caution

3.2 Environment

Caution

3.3 Piping

Caution

3.4 Lubrication

Caution

3.5 Air supply

Caution

4.1 Creepage and clearances

4.2 Maximum operating pressure

4.3 Fluids for specified pressure ranges

4.4 Oil in the system

5.1 Wiring

5.2 Power supply

6.1 Material compatibility

6.2 Mounting

6.4 Epoxy-impregnated coil

6.5 Vibration

6.6 Maximum operating pressure

6.7 Maximum operating temperature

6.8 Overpressure protection

6.9 Overvoltage protection

6.10 Surge suppression

6.11 Non-locking push type

6.12 Push-locking slotted type

7.1 Mating and demating

7.2 Stacking

7.3 Connection group

8.1 Switching

8.2 Electronic circuit

9.1 Protection against overvoltage

9.2 Earth connection

9.3 Certification

9.4 Declaration of conformity

9.5 Product marking

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24.0 Product data

25.0 Introduction

26.0 Specifications

27.0 Installation

28.0 Piping

29.0 Lubrication

30.0 Air supply

31.0 Manual override

32.0 Electrical circuit

33.0 Modification}

---

2 Specifications

2.1 Valve specifications

<table>
<thead>
<tr>
<th>Fluid</th>
<th>VS7-6</th>
<th>VS7-8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2.2 Specifications - continued

<table>
<thead>
<tr>
<th>Applicable sub-plat</th>
<th>VS7-6</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Weight (kg)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td></td>
<td></td>
</tr>
<tr>
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<td></td>
<td></td>
</tr>
<tr>
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<td></td>
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</tr>
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<td></td>
</tr>
<tr>
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Caution: Do not use in an environment where corrosive gases, chemicals, salt water or steam are present.

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Caution: Before connecting piping make sure to clean up chips, cutting oil, dust etc.

3.4 Lubrication

Caution: SMc products have been lubricated for life at manufacture, and do not require lubrication service.

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29.0 Lubrication

30.0 Air supply

31.0 Manual override

32.0 Electrical circuit

33.0 Modification
3.10 Residual voltage

Caution
- The suppressor arrests the back EMF voltage from the coil to a level in proportion to the rated voltage.
- Ensure the transient voltage is within the specification of the host controller.
- Contact SMC for the varistor residual voltage.
- Voltage response time is dependent on surge suppression method selected.

3.11 Countermeasure for surge voltage

Caution
- At times of sudden interruption of the power supply, the energy stored in a large inductive device may cause non-polar type valves in a de-energized state to switch.
- When installing a breaker circuit to isolate the power, consider a valve with polarity (with polarity protection diodes), or install a surge absorption diode across the output of the breaker.

3.12 Extended period of continuous energization

Caution
- If a valve will be continuously energized for an extended period of time, the temperature of the valve will increase due to the heat generated by the coil assembly. This will likely adversely affect the performance of the valve and any nearby peripheral equipment. Therefore, if the valve is to be energized for periods of longer than 30 minutes at a time or if during the hours of operation the energized period per day is longer than the de-energized period, we advise using a valve with specification of 0.4 W or lower valve, such as the SY series, or a valve with a power-saving circuit.

3.13 Effect of back pressure when using a manifold

Warning
- Use caution when valves are used on a manifold, because an actuator may malfunction due to back-pressure.
- Special caution must be taken when using 3 position exhaust centre valve or when driving a single acting cylinder. To prevent a malfunction, implement counter measures such as using a single EAH spacer assembly or an individual exhaust manifold.

4 How to Order
Refer to catalogue for ‘How to Order’.

5 Outline Dimensions
Refer to catalogue for outline dimensions.

6 Maintenance

6.1 General maintenance

Caution
- Not following proper maintenance procedures could cause the product to malfunction and lead to equipment damage.
- If handled improperly, compressed air can be dangerous.

6.2 Replacement parts
Refer to catalogue for details regarding replacement parts such as blanking plate assembly, double pilot check spacer, individual SUP spacer, individual EHM spacer, blanking plate, silencer, gasket and screw assembly, sub-plate and bracket assembly, and DIN connector.

7 Limitations of Use

7.1 Limited warranty and disclaimer/compliance requirements
Refer to Handling Precautions for SMC Products.

7.2 Effect of energy loss on valve switching

<table>
<thead>
<tr>
<th>Energy source status</th>
<th>Spool position</th>
<th>Single solenoid</th>
<th>Double solenoid</th>
<th>3 position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air supply present, electrical supply cut</td>
<td>Spool at the end position</td>
<td>Spool returns to the OFF position by air and spring force</td>
<td>Spool holds position</td>
<td>Spool returns to the OFF position by spring force</td>
</tr>
<tr>
<td>Air supply absent, electrical supply cut</td>
<td>Spool at the intermediate position</td>
<td>Spool returns to the OFF position by air and spring force</td>
<td>Spool holds position</td>
<td>Spool returns to the OFF position by spring force</td>
</tr>
</tbody>
</table>

Table 6.

7.3 Cannot be used as an emergency shut-off valve
This product is not designed for safety applications such as an emergency shut-off valve. If the valves are used in this type of system, other reliable safety assurance measures should be adopted.

7.4 Holding of pressure (including vacuum)
Since valves are subject to air leak, they cannot be used for applications such as holding pressure (including vacuum) in a system.

7.5 Intermediate stopping
Refer to Handling Precautions for 3/4/5 port Solenoid Valves.

7.6 Leakage voltage
Ensure that any leakage voltage caused by the leakage current when the switching element is OFF causes ≤ 3% (for DC coils) or ≤ 20% (for AC coils) of the rated voltage across the valve.

7.7 Low temperature operation
Unless otherwise indicated in the specifications for each valve, operation is possible to -18°C, but appropriate measures should be taken to avoid solidification or freezing of drainage and moisture, etc.

7.8 Momentary energization
If a double solenoid valve is operated with momentary energization, it should be energized for a 0.1 second. However, depending on the secondary load conditions, it should be energized until the cylinder reaches the stroke end position, as there is a possibility of malfunction otherwise.

8 Product Disposal
This product shall not be disposed of as municipal waste. Check your local regulations and guidelines to dispose this product correctly, in order to reduce the impact on human health and the environment.

9 Contacts
Refer to www.smcworld.com or www.smc.eu for your local distributor/importer.