Minute Signal Current Type Solenoid Valve

Features
- The capability to switch the valve with a minute signal current (approximately 10 mA) enables direct drive from a programmable sequence controller.

Nomenclature

1 Applicable fluid code
   - No designation: Petroleum-based hydraulic fluid
   - H: Water-glycol hydraulic fluid (G02 accepts water-glycol hydraulic fluid with no designation.)
   - F: Phosphate ester hydraulic fluid

2 Model No.
   - KSOB: K series minute signal current type solenoid valve

3 Connections
   - G: Gasket mount type

4 Nominal diameter
   - 02: ⅛
   - 03: ⅜

5 Spool type (See the model table)

6 Spool operating method (See the model table)
   - C: Spring center type
   - A: Spring offset type (with SOL. a)
   - B: Spring offset type (with SOL. b)
   - N: No-spring type (without detent)
   - D: No-spring type (with detent)

7 Voltage code
   - P: DC 24 V

8 Design No.
   - (The design No. is subject to change)
   - 40: Nominal diameter 03 (⅜)
   - 50: Nominal diameter 02 (⅛)

9 Option code I
   - 8: Mounting bolt M8 *1

10 Option code II
   - N: With surge killer

11 Auxiliary spool type (See the model table)
   - Note: *1 Mounting bolts M8 are only applicable to nominal diameter 03 (⅜).

Specifications

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Nominal diameter</th>
<th>Maximum operating pressure *2 MPa (kgf/cm²)</th>
<th>Maximum flow rate L/min</th>
<th>Permissible back pressure MPa (kgf/cm²)</th>
<th>Maximum switching frequency Times per minute</th>
<th>External coating protection</th>
<th>Signal current (At DC 24 V)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KSOB-G02</td>
<td>⅛</td>
<td>35 (350) (25 (250))</td>
<td>100</td>
<td>17.5 (175)</td>
<td>240</td>
<td>IEC Pub529 IP65</td>
<td>10 mA ±10%</td>
</tr>
<tr>
<td>KSOB-G03</td>
<td>⅜</td>
<td></td>
<td>160</td>
<td>16 (160)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: *2 The maximum operating pressure is 25 MPa (250 kgf/cm²) when 5C, 66C or 51C is designated for the spool type and spool operating method.

Solenoid specifications

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Power supply voltage</th>
<th>Holding current A</th>
<th>Holding power W</th>
<th>Permissible voltage fluctuation %</th>
</tr>
</thead>
<tbody>
<tr>
<td>KSOB-G02</td>
<td>DC 24 V</td>
<td>1.22</td>
<td>29.2</td>
<td>90 to 110 Ripples included</td>
</tr>
<tr>
<td>KSOB-G03</td>
<td></td>
<td>1.6</td>
<td>38</td>
<td></td>
</tr>
</tbody>
</table>

Note: The electric current and power indicated are the values at 20°C.

Electrical circuit diagram

- Signaling method: Internal signal

<table>
<thead>
<tr>
<th>Time rating</th>
<th>Insulation resistance</th>
<th>Withstand voltage</th>
<th>Insulation class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuous</td>
<td>50 MΩ</td>
<td>AC 1500 V, 1 minute</td>
<td>KSOB-G02, KSOB-G03</td>
</tr>
</tbody>
</table>

Class B (Coils: Class F)
Before using the product, please check the guide pages at the front of this catalog.

### Sub-plate model code
- The sub-plate is not provided with the valve. Order it separately if required by specifying the model code given in the table below.

<table>
<thead>
<tr>
<th>Model code</th>
<th>Nominal diameter</th>
<th>Connection port diameter</th>
<th>Mass kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>JS-01M02</td>
<td>¼</td>
<td>Rc¼</td>
<td>0.64</td>
</tr>
<tr>
<td>JS-02M03</td>
<td>⅜</td>
<td>Rc⅜</td>
<td>2.3</td>
</tr>
<tr>
<td>JS-03M</td>
<td>⅜</td>
<td>Rc⅜</td>
<td>2.5</td>
</tr>
<tr>
<td>JS-03M04</td>
<td>⅜</td>
<td>Rc⅜</td>
<td>2.2</td>
</tr>
</tbody>
</table>

Refer to Page S-8 for the dimensions of the sub-plate.

### Solenoid model codes
- The solenoid set comprises a solenoid coil, a solenoid cartridge, a plastic nut, and a push pin.

### Terminal box model code
- The diagram shows the double solenoid type.
- The figure shows the status with the terminal box nameplate removed.
- The single solenoid type has three terminals.
- Always turn off the power supply before starting wiring work.
- Use crimp-style terminals for M3.
- Tighten the terminal screws (M3) at a tightening torque of 0.34 to 0.51 N·m (3.4 to 5.1 kgf·cm)

### Wiring guide