Maxseal Solenoid Operated Valves

ICO4S 1/2" 2/2 AUTO

Typical Applications
- 1/2" 2/2 ENERGISE TO OPEN - AUTOMATIC
- 1/2" 2/2 ENERGISE TO CLOSE - AUTOMATIC
- Actuator Control
- Direct Acting Shut Off Valve
- Oil & Gas Applications
- Turbine Fuel Control

Description
- Model: ICO4S 1/2" 2/2 EO & EC AUTO
- Direct Acting Solenoid Valve
- Low Pressure, High Flow
- Max Inlet Pressure 20 bar (290 psi)
- Reliable and long life, ideal for a one time installation
- Control of pneumatic or hydraulic operated equipment
Thompson Valves Ltd. - **Maxseal** Solenoid Operated Valves

### Standard Features
- Standard (Viton® & High Nitrile) Y123A030000-SS
- Low Temperature valves See Valve Data Sheet
- Standard 24V DC (15.1 Watts) Y123A0301B0
- Other Variations - Please call for possible delivery dates

### Solenoid Materials of Construction
- Solenoid Pot - Stainless Steel - BFC 316
- Top Cover - Stainless Steel - BFC 316
- Valve Body & Trim Materials - 316 Stainless Steel
- O-Rings Seats & Seals - High Nitrile (NBR)
- Coil Insulation - Class H

### Maximum Inlet Pressure
- 20 Bar (290 PSI)

### Flow Rates
- Cv = 4.2 USgpm for 1 psi Δp
- Kv = 46 l/min for 1 bar Δp

### Temperature Ratings
- Media (Min/Max -20°C/90°C) - Ambient (Min/Max 0°C/60°C)

### Valve Size
- 1/2” Balanced Poppet Valve

### Process Connections
- 1/2” NPT

### Conduit Connection
- M20 x 1.5 Conduit Thread

### Media
- Liquid & Gases

### Weight
- 6.0 Kg

### Recommended Spares Kits
- Standard (Viton® & High Nitrile) Y123A030000-SS
- Low Temperature valves See Valve Data Sheet
- Standard 24V DC (15.1 Watts) Y123A0301B0
- Other Variations - See Valve Data Sheet

### Options
- Valve Body & Trim Materials
  - Aluminium Bronze - Sea Water Applications
  - Titanium - Extreme Service Applications
- Low Temperature Options
  - O-Rings - Low Nitrile/Fluorosilicone (Min Med/Amb -40°C/-40°C)
- High Temperature Options
  - High Temperature Spacer (Max Med/Amb 120°C/60°C)
    - Please Call for Dimensions

### Process Connections
- Thread - 1/2” BSPP

### Conduit Connection
- 1/2” NPT

### Product lead time
- Y121AA3H1BS - 2 WEEKS (SUBJECT TO QUANTITY)
- Y122AA3H1BS - 2 WEEKS (SUBJECT TO QUANTITY)
- Other Variations - Please call for possible delivery dates
**Technical Specification**

**Pressures**
- **Test (Proof) Pressure**
  - 30 bar (435 PSI)
- **Maximum Inlet Pressure**
  - 20 Bar (290 PSI)
- **ATEX Classification**
  - Complies with ATEX Directive 94/9/EC
- **ATEX Certificate**
  - SIRA 00ATEX1147
- **Certification**
  - II 2G
  - EExd IIC T6 (T_a = -60°C to + 48°C) or
  - EExd IIC T4 (T_a = -60°C to + 90°C)

**IECEx**
- EExd IIC T6 (T_a = -40°C to + 60°C)
- EExd IIC T4 (T_a = -40°C to + 90°C)

**GOST ‘K’**
- EExd IIC T6 (T_a = -40°C to + 60°C)

**GOST ‘R’**
- EExd IIC T6 (T_a = -40°C to + 60°C)

**Safety Integrity Level**
- Suitable for SIL 3 Application in Simplex Mode
- Suitable for SIL 4 Application in Duplex Mode

**Ingress Protection**
- IP66/X8, NEMA 4X

**Voltage Surge Protection**
- Surge Suppression Diodes

**Coil Insulation**
- Class H

**Performance**
- **Pull-in Voltage**
  - 87.5% of Nominal
- **Response Times**
  - Pull-In <150ms
  - Drop-Out <80ms

**Electromagnetic Compability (EMC)**
- EN50081-2/82-1

**Valve Symbol**

**Valve Symbol for Energise to Open**
- INLET -‘A’
- OUTLET -‘B’
- DE-ENERGISED

**Valve Symbol for Energise to Close**
- INLET -‘A’
- OUTLET -‘B’
- DE-ENERGISED

**Valve Symbol for Normally Closed**
- 20 BAR MAX WORKING PRESSURE

**Valve Symbol for Normally Open**
- 20 BAR MAX WORKING PRESSURE
Ordering Information

<table>
<thead>
<tr>
<th>Model</th>
<th>Operating Pressure</th>
<th>Port Config.</th>
<th>Operation</th>
<th>Process Connection</th>
<th>Seat/Seal Materials</th>
<th>Conduit Connection</th>
<th>Voltage</th>
<th>Body/Trim Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y1</td>
<td>2-20 Barg (290 psi)</td>
<td>2/2 ENG. TO OPEN</td>
<td>2/2 ENG. TO CLOSE</td>
<td>Automatic</td>
<td>A3</td>
<td>H</td>
<td>1</td>
<td>B</td>
</tr>
<tr>
<td>ICO4S</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>A3</td>
<td>H</td>
<td>1</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>0-20 Barg (290 psi)</td>
<td></td>
<td></td>
<td></td>
<td>1/2&quot; BSPP</td>
<td>E3</td>
<td>V</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>0-20 Barg (290 psi)</td>
<td></td>
<td></td>
<td></td>
<td>High Nitrile</td>
<td>V</td>
<td>2</td>
<td>1/2&quot; BSPP</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Viton®</td>
<td>2</td>
<td>1/2&quot; BSPP</td>
<td></td>
</tr>
</tbody>
</table>

Ordering Example

<table>
<thead>
<tr>
<th>Y1</th>
<th>2</th>
<th>1</th>
<th>A</th>
<th>E3</th>
<th>V</th>
<th>1</th>
<th>J</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICO4S</td>
<td>0-20 Barg (290 psi)</td>
<td>2/2 E/O</td>
<td>Auto</td>
<td>1/2&quot; BSPP</td>
<td>VITON®</td>
<td>M20 x 1.5</td>
<td>110V AC</td>
<td>Alu Brnz / Alu Brnz</td>
</tr>
</tbody>
</table>

Power Consumption (At Nominal)

<table>
<thead>
<tr>
<th>DC Standard</th>
<th>AC Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 / 36V DC (24V DC)</td>
<td>CALL</td>
</tr>
<tr>
<td>24V DC</td>
<td>15.1 W</td>
</tr>
<tr>
<td>50V DC</td>
<td>16.6 W</td>
</tr>
<tr>
<td>110V DC</td>
<td>15.5 W</td>
</tr>
<tr>
<td>125V DC</td>
<td>15.1 W</td>
</tr>
</tbody>
</table>

Profile and Dimensions mm

2/2 ENERGISE TO OPEN

1. Valve is energised
   Valve ‘changes over’
   Flow occurs between ports ‘A’ & ‘B’
2. Valve is de-energised
   Valve resets
   No flow occurs between ports ‘A’ & ‘B’

2/2 ENERGISE TO CLOSE

1. Valve is energised
   Valve ‘changes over’
   No flow occurs between ports ‘A’ & ‘B’
2. Valve is de-energised
   Valve resets
   Flow occurs between ports ‘A’ & ‘B’

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