Typical Applications

1/2" 3/2 JACK SCREW MANUAL OVERRIDE
Actuator Control
Direct Acting Shut Off Valve
Oil & Gas Applications
Turbine Fuel Control

Model: ICO4S 1/2" 3/2 JSMO 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
## Standard Features
- **Type:** 1/2" Balanced Poppet Valve
- **Thread:** 1/2" NPT
- **Conduit Connection:** M20 x 1.5 Conduit Thread
- **Material:** Liquid & Gases
- **Weight:** 7.5 Kg

## 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

## Temperature Ratings
- **Media:** Media (Min/Max -20°C/90°C) - Ambient (Min/Max 0°C/60°C)
- **Process Connections:** 1/2" NPT

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

## Temperature Ratings
- **Valve Size:** 1/2" Balanced Poppet Valve
- **Process Connections:** 1/2" NPT
- **Conduit Connection:** M20 x 1.5 Conduit Thread
- **Media:** Liquid & Gases
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## Recommended Spares Kits
- **Soft Spares (O-rings, Springs etc):** Standard (Viton® & High Nitrile) Y123A030000-SS
- **Low Temperature valves:** See Valve Data Sheet
- **Spare Coil Assembly:** 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)
- **Process Connections:** Thread - 1/2" BSPP
- **Conduit Connection:** 1/2" NPT
- **Product lead time:** Y123SA3H1BS - 2 WEEKS (SUBJECT TO QUANTITY)
- **Other Variations - Please call for possible delivery dates**

## Temperature Ratings
- **Maximum Inlet Pressure:** 20 Bar (290 PSI)
- **Valve Size:** 1/2" Balanced Poppet Valve
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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

- **Certification**
  - IECEx
    - EExd IIC T6 (Ta = -60°C to + 48°C) or
    - EExd IIC T4 (Ta = -60°C to + 90°C)
  - GOST ‘K’
    - EExd IIC T6 (Ta = -40°C to + 60°C)
  - GOST ‘R’
    - EExd IIC T6 (Ta = -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 Compatibility (EMC)**
  - EN50081-2/82-1

- **Valve Symbol**

  **ENERGISED**
  - INLET – ‘A’
  - EXHAUST – ‘C’
  - ‘B’ – OUTLET

  **DE-ENERGISED**
  - INLET – ‘A’
  - EXHAUST – ‘C’
  - ‘B’ – OUTLET

**Valve Symbol for**
- ENERGISE TO OPEN
  - (DE-ENERGISED TO CLOSE)
  - (NORMALLY CLOSED)

- ENERGISE TO CLOSE
  - (DE-ENERGISED TO OPEN)
  - (NORMALLY OPEN)
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 Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y1</td>
<td>2</td>
<td>3</td>
<td>S</td>
<td>A3</td>
<td>H</td>
<td>1</td>
<td>B</td>
<td>S</td>
</tr>
<tr>
<td>ICO4S</td>
<td>0-20 Barg (290 psi)</td>
<td>3/2 UNIVERSAL</td>
<td>JSMO</td>
<td>1/2&quot; NPT</td>
<td>High Nitrile</td>
<td>M20x1.5</td>
<td>240V AC</td>
<td>Titanium / Titanium</td>
</tr>
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Ordering Example

<table>
<thead>
<tr>
<th>Y1</th>
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Power Consumption (At Nominal)

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Power (W)</th>
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<tbody>
<tr>
<td>25V AC</td>
<td>13.3 W</td>
</tr>
<tr>
<td>110V AC</td>
<td>14.2 W</td>
</tr>
<tr>
<td>240V AC</td>
<td>17.9 W</td>
</tr>
</tbody>
</table>

Profile and Dimensions mm

1. Jack screw in fully out (down) position
   Valve operates as an automatic
   Valve is energised
   Flow occurs between ports 'A' & 'B'
   Valve is de-energised
   Flow occurs between ports 'B' & 'C'

2. Jack screw in fully in (up) position
   Flow occurs between ports 'A' & 'B'
   When the valve is energised
   or de-energised, the valve will 'change over' until the jack screw is returned to the fully out position