Maxseal Solenoid Operated Valves

ICO4S
1/4" 3/2
414B AUTO

Thompson Valves Ltd

- Typical Applications
- 1/4" 3/2 AUTOMATIC
- Actuator Control
- Direct Acting Shut Off Valve
- Oil & Gas Applications
- Turbine Fuel Control

Description
- Model ICO4S 1/4" 3/2 UNi
- Direct Acting Solenoid Valve
- High Flow
- Max Inlet Pressure 414 bar (6000 psi)
- A direct acting solenoid operated valve for the control of pneumatic or hydraulic operated equipment
- Reliable and long life, ideal for a one time installation
## Standard Features

**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 & Seals - High Nitrile (NBR)
- Seats - Nylon 66
- Coil Insulation - Epoxy Resin to Class H

**Maximum Inlet Pressure**
- 414 bar Hydraulic Only / 300 bar - Gases & Hydraulic

**Flow Rates**
- \( CV = 0.28 \) USgpm for 1 psi \( \Delta p \)
- \( KV = 4.03 \) l/min for 1 bar \( \Delta p \)

**Temperature Ratings**
- Media (Min/Max -20°C/90°C) - Ambient (Min/Max -50°C/60°C)

**Valve Size**
- 1/4” Poppet Valve

**Process Connections**
- 1/4” NPT

**Conduit Connection**
- M20 x 1.5 Conduit Thread

**Media**
- Liquid & Gases

**Weight**
- 5.5 kg

## Recommended Spares Kits

**Soft Spares (O-rings, Springs, etc.)**
- Standard & Extreme Service Y193A010000-SS
- Low Temperature valves See Valve Data Sheet

**Spare Coil Assembly**
- Standard 24V DC (15.1W) Y193A0101B0
- Other Variations See Valve Data Sheet

## Options

**High Temperature Options**
- High Temperature Spacer (Max Med/Amb -120°C/60°C)
  - Please call for dimensions

**Process Connections**
- Thread 1/4” BSPP

**Conduit Connection**
- 1/2” NPT

**Extreme Service**
- Please call

**Product Lead Time**
- Y193AA1J1BS - 1 week
  - Other variations - 4 to 6 weeks
  - Please call for possible delivery dates
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Technical Specification

Pressures

Test (Proof) Pressure

621 bar (9000 psi)

Maximum Inlet Pressure

414 bar (6000 psi)

ATEX Classification

Complies with ATEX Directive 94/9/EC

ATEX Certificate

SIRA 00ATEX1147

Certification

Ex d IIC T6 (T_A = -60°C to + 48°C) or
Ex d IIC T4 (T_A = -60°C to + 90°C)

IECEx

Ex d IIC T6 (T_A = -60°C to + 48°C) or
Ex d IIC T4 (T_A = -60°C to + 90°C)

GOST ‘K’

Ex d IIC T6 (T_A = -40°C to + 60°C) or
Ex d IIB T6 (T_A = -40°C to + 60°C) or

GOST ‘R’

Suitable for SIL 3 Application in Simplex Mode
Suitable for SIL 4 Application in Duplex Mode

Safety Integrity Level

Ingress Protection

IP66/X8 to BS EN 6052:1992, NEMA 4X

Voltage Surge Protection

Surge Suppression Diodes

Coil Insulation

Class H

Performance

Pull-In Voltage

87.5% of Nominal

Response Times

Pull-In <150 ms
Drop-Out <80 ms

Electromagnetic Compatibility (EMC)

EN50081-1 EN50082-1 EN61000-4 parts 2,4,5

Valve Symbol

ENERGISED

INLET - 'A'
EXHAUST - 'C'

'B' - OUTLET

' ' - OUTLET

DE-ENERGISED

VALVE SYMBOL FOR
ENERGISE TO OPEN
(DE-ENERGISED TO CLOSE)
(NORMALLY CLOSED)

414 BAR MAX HYD
300 BAR MAX GAS
STANDARD OPERATION

ENERGISED

EXHAUST - 'A'
INLET - 'C'

'B' - OUTLET

' ' - OUTLET

DE-ENERGISED

VALVE SYMBOL FOR
ENERGISE TO CLOSE
(DE-ENERGISED TO OPEN)
(NORMALLY OPEN)

300 BAR MAX HYD
150 BAR MAX GAS
UNIVERSAL OPERATION
Thompson Valves Ltd - Maxseal Solenoid Operated Valves

Ordering Information

<table>
<thead>
<tr>
<th>Model</th>
<th>Operating Pressure</th>
<th>Port Config.</th>
<th>Operation</th>
<th>Process Conn.</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>9</td>
<td>3</td>
<td>A</td>
<td>A1</td>
<td>J</td>
<td>1 M20 x 1.5</td>
<td>B</td>
<td>S</td>
</tr>
<tr>
<td>ICO4S</td>
<td>0-414 barg (6000 psi)</td>
<td>3/2 UNIVERSAL</td>
<td>Automatic</td>
<td>A1 1/4&quot; NPT</td>
<td>J Nylon / High Nitrile</td>
<td>2 1/2&quot; NPT</td>
<td>B</td>
<td>S 316 SS / 316 SS</td>
</tr>
</tbody>
</table>

Ordering Example

<table>
<thead>
<tr>
<th>Y1</th>
<th>9</th>
<th>3</th>
<th>A</th>
<th>A1</th>
<th>J</th>
<th>1 M20 x 1.5</th>
<th>B</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICO4S</td>
<td>0-414 barg (6000 psi)</td>
<td>3/2 UNI</td>
<td>Auto</td>
<td>1/4&quot; NPT</td>
<td>Nylon / High Nitrile</td>
<td>M20 x 1.5</td>
<td>24V DC</td>
<td>316 SS / 316 SS</td>
</tr>
</tbody>
</table>

Power Consumption (At Nominal)

<table>
<thead>
<tr>
<th>DC Standard</th>
<th>18 / 33V DC (24V DC)</th>
<th>CALL</th>
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<tbody>
<tr>
<td>24V DC</td>
<td>13.3W</td>
<td></td>
</tr>
<tr>
<td>50V DC</td>
<td>16.6W</td>
<td></td>
</tr>
<tr>
<td>110V DC</td>
<td>15.5W</td>
<td></td>
</tr>
<tr>
<td>125V DC</td>
<td>15.1W</td>
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<table>
<thead>
<tr>
<th>AC Standard</th>
<th>25V AC</th>
<th>13.3W</th>
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</thead>
<tbody>
<tr>
<td>115V AC</td>
<td>14.2W</td>
<td></td>
</tr>
<tr>
<td>240V AC</td>
<td>17.9W</td>
<td></td>
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</table>

Profile and Dimensions mm

1. Valve is Energised
   Valve “changes over”
   Flow occurs between ports ‘A’ & ‘B’

2. Valve is De-Energised
   Valve resets
   Flow occurs between ports ‘B’ & ‘C’

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