Maxseal Solenoid Operated Valves

ICO4S
1/4" 3/2
JSMO

Thompson Valves Ltd

Typical Applications

- 1/4" 3/2 JACK SCREW MANUAL OVERRIDE
- 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
- 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

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Standard Features	ICO4S 1/4" 3/2 JSMO	
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 (290PSI)	
Flow Rates	C_V = 0.8 USgpm for 1 psi Δp	
	K_V = 11.5 l/min for 1 bar Δp	
Temperature Ratings	Media (Min/Max -20°C/90°C) - Ambient (Min/Max 0°C/60°C)	
Valve Size	1/4" Balanced Poppet Valve	
Process Connections	1/4" NPT	
Conduit Connection	M20 x 1.5 Conduit Thread	
Media	Liquid & Gases	
Weight	6.0 Kg	

Recommended Spares Kits		
Soft Spares (O-rings, Springs etc)	Standard & Extreme Service	Y123A010000-SS
	Low Temperature valves	See Valve Data Sheet
Spare Coil Assembly	Standard 24V DC (4.5 Watts)	Y123A0101B0
	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 - 1/4" BSPP	
Conduit Connection	1/2" NPT	
Extreme Service	Increased Power Consumption	
Product lead time	Y123SA1H1BS - 1 WEEK (SUBJECT TO QUANTITIES)	
	Other Variations - Please call for possible delivery dates	

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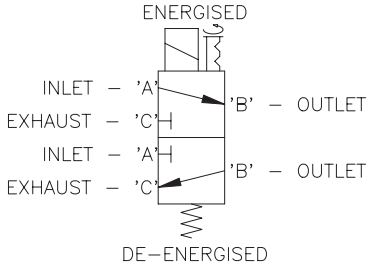
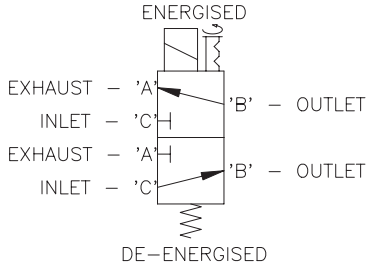
Technical Specification

Pressures	
Test (Proof) Pressure	30 bar (435 PSI)
Maximum Inlet Pressure	20 Bar (290PSI)
Maximum inlet pressure when used in 'Universal Operation'	15 bar (218 PSI)
ATEX Clasification	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	IECEx BAS 04.0019
	EExd IIC T6 (T_a = -40ºC to + 60ºC) or
	EExd IIC T4 (T_a = -40ºC to + 90ºC)
GOST 'K'	EExd IIC T6 (T_a = -40ºC to + 60ºC)
GOST 'R'	EExd IIC T6 (T_a = -40ºC to + 60ºC)
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
(DE–ENERGISED TO CLOSE)
(NORMALLY CLOSED)
20 BAR MAX WORKING PRESSURE
STANDARD OPERATION



VALVE SYMBOL FOR
ENERGISE TO CLOSE
(DE–ENERGISED TO OPEN)
(NORMALLY OPEN)
15 BAR MAX WORKING PRESSURE
UNIVERSAL OPERATION

Extreme Service valves can be offered with 20 Bar (290 psi) for use in the Universal Operation

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Ordering Information

Model	Operating Pressure	Port Config.	Operation	Process Connection	Seat/Seal Materials	Conduit Connection	Voltage	Body/Trim Materials
Y1	2	3	S	A1	H	1	B	S
ICO4S	0-20 Barg (290 psi)	3/2 UNIVERSAL	JACK SCREW MANUAL OVERRIDE	A1 1/4" NPT E1 1/4" BSPP	H High Nitrile V Viton®	1 M20x1.5 2 1/2" NPT	A 18/33V DC B 24V DC C 50V DC G 25V AC J 110V AC M 240V AC R 115V DC	S 316 SS / 316 SS M Alu Brnz / Alu Brnz 3 Titanium / Titanium

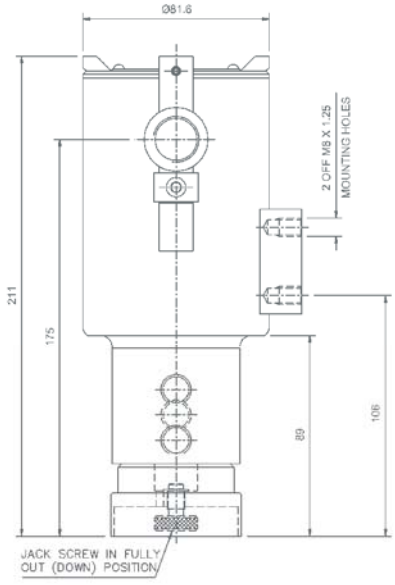
Ordering Example

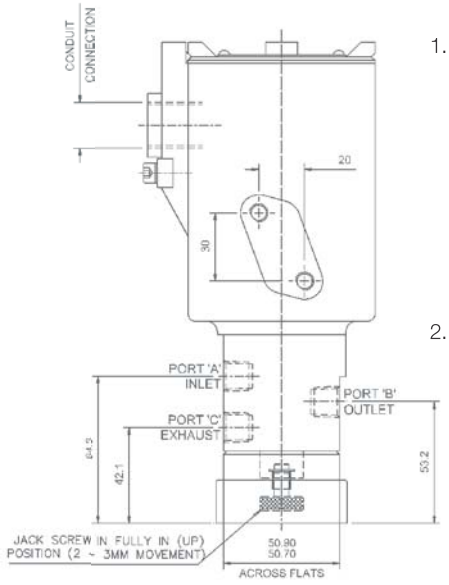
Y1	2	3	S	E1	H	1	B	M
ICO4S	0-20 Barg (290 psi)	3/2 UNI	JSMO	1/4" BSPP	High Nitrile	M20 x 1.5	24V DC	Alu Brnz / Alu Brnz

Power Consumption (At Nominal)

DC Standard		AC Standard		Extreme Service	
18 / 33V DC (24V DC)	7.7 W	25V AC	6.5 W	24V DC	9.6 W
24V DC	4.5 W	110V AC	6.5 W	Others Available	
50V DC	5.5 W	240V AC	6.2 W		
115V DC (110V DC)	8.0 W				
115V DC (125V DC)	10.4 W				

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 remain until the Jack screw is returned to the fully out position

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