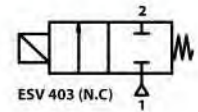


### TECHNICAL SPECIFICATIONS, DESCRIPTIONS and GENERAL FEATURES



- **Fluids:** Valves are suitable fuel oils, over heated water, hydraulic oil, low viscosity oils, etc... non-aggressive liquids but is not suitable for hazardous fluids
- **Switching Function:** Normally Closed (N.C, Closed when de-energised)
- **Principle of Operation:** Direct Operated
- **Way Number:** 2/2 (Ports / Positions)
- **Connection and Port Sizes:** G1/8" and G1/4"
- **Connection Type:** Thread (Female), G (BSPP / ISO 228-1)
- **Pressure Range:** 0-100 Bar
- **Fluid Temperature:** -10°C to max. 160°C
- **Ambient Temperature:** -20°C to max. 70°C
- **Opening Time:** 25 ms
- **Closing Time:** 25 ms
- **Max Viscosity:** 38 cSt or mm<sup>2</sup>/s
- **Maximum Allowable Pressure or Design Pressure:** 150 bar
- Don't require differential pressure
- Compact design
- Valve has sealing o-rings
- Suitable AC and DC voltage, high voltage tolerance
- Coil interchangeable without dismantling the valve (don't matter AC or DC)
- Low flow loss, low power loss
- Various flow rate options, wide range of pressure ratings, wide range of orifice options
- Mounting position, optional any position but preferably solenoid coil vertical on top
- The fluid passing through the valve must be filtered
- Flow rate (Q) can be usually calculated as a function of pressure, density and flow coefficient
- According 97/23/EC Pressure Equipment Directive (PED), 2006/95/EEC Low Voltage Directive (LVD) and 2004/108/EC Electromagnetic Compatibility Directive (EMC)



High Pressure	Don't Require Differential Pressure	Coil Rotatable 360°	Small Body Size
Low Weight	Patented Enclosing Tube Design	Fast Opening and Closing	Low Pressure Loss



03-03  
ESV 403

Model No	Position	Connection and Port Size	Orifice Size	Flow Factor / Coefficient Ky		Operating Pressure Differential				Fluid Temperature		Seal	Approximate Weight	Reference Figure
						Min. (For AC)	Min. (For DC)	Max. (For AC)	Max. (For DC)	Min.	Max.			
ESV		G	mm	L/m	m <sup>3</sup> /h	Bar	Bar	Bar	Bar	°C	°C		kg	
ESV 403.00.010	N.C.	1/8"	1	0.5	0.03	0	0	100	100	-10	160	VITON	0.35	Fig.1
ESV 403.00.018	N.C.	1/8"	1.8	1.7	0.10	0	0	50	50	-10	160	VITON	0.35	Fig.1
ESV 403.00.025	N.C.	1/8"	2.5	3.3	0.19	0	0	20	20	-10	160	VITON	0.35	Fig.1
ESV 403.01.010	N.C.	1/4"	1	0.5	0.03	0	0	100	100	-10	160	VITON	0.33	Fig.1
ESV 403.01.018	N.C.	1/4"	1.8	1.7	0.10	0	0	50	50	-10	160	VITON	0.33	Fig.1
ESV 403.01.025	N.C.	1/4"	2.5	3.3	0.19	0	0	20	20	-10	160	VITON	0.33	Fig.1

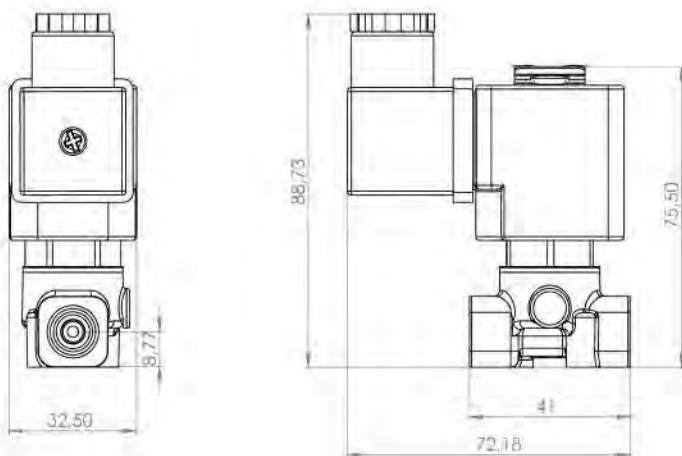
### OPTIONS

- Custom options can be performed for customer's special requests
- On request; NPT (ANSI 1.20.3), R (BSPT / ISO 7-1), W (BSW / Whitworth), M (Metric) etc...
- On request; various body surface coating, nickel plated body, different body materials, manual override, seal can be stainless steel, filter, other pipe connections, 2 mounting sub-base holes at the bottom of the body
- On request; other special supply voltages, frequencies (60 Hz), other power, coil insulation class : F (155°C), coil duty latching model
- On request; with electronic timer , Explosion-Proof coil for use in zones 1/21-2/22 [Eex em II T4/T5], coil encapsulation material can be fiber glass reinforced (V0 or V1)
- On request; connector with LED or without connector, connector with visual indication and peak voltage suppression, connector with cable length of 2m, Spade plug (Cable Ø 8-10 mm), connector non-flammable
- On request other versions

### POWER CONSUMPTION

Power Consumption							
Alternating Current (AC)				Direct Current (DC)			
Model No	Voltage	Inrush (VA)	Holding (VA)	Model No	Voltage	Cold (W)	Hot (W)
ECO 10.AC.012	12V	30	18	ECO 10.DC.012	12V	16	12
ECO 10.AC.024	24V	30	18	ECO 10.DC.024	24V	16	12
ECO 10.AC.048	48V	30	18	ECO 10.DC.048	48V	16	12
ECO 10.AC.110	110V	30	18	ECO 10.DC.110	110V	16	12
ECO 10.AC.230	230V	30	18	ECO 10.DC.230	230V	16	12

### DIMENSIONS (mm)



### ELECTRICAL CHARACTERISTICS

- **Protection Degree:** IP 65 (EN 60529) ( with connector )
- **Plug Connection:** DIN 46340-3 poles connectors (DIN 43650)
- **Connector Specification:** ISO 4400 / EN 175301-803 , Form A, Spade plug (Cable Ø 6-8 mm)
- **Electrical Safety:** IEC 335, EN 60335-1, EN 60204-1
- **Coil Insulation Class:** H (180°C)
- **Coil Impregnation:** Polyester Fiber-Resin Glass
- **Coil Encapsulation Material:** Fiber Glass Reinforced (V2)
- **Supply Voltages:** For AC(-) 12V , 24V , 48V , 110V , 230V  
For DC (=) 12V , 24V , 48V , 110 V , 230 V
- **Voltage Tolerances:** For AC (-) or DC (=) %-10 ; %+10
- **Frequency:** 50 Hz
- **Coil Duty Cycle:** %100 ED, Continuously Rated
- Design according to DIN VDE 0580

### MATERIALS

- **Body:** Brass
- **Plunger Seal:** VITON
- **Enclosing Tube:** Stainless Steel (AISI 430FR and AISI 304)
- **Plunger:** Stainless Steel (AISI 430FR)
- **Springs:** Stainless Steel (AISI 302)
- **Shading Ring:** Copper
- **Seat:** Brass
- **O-rings:** NBR
- **Internal Metal Parts:** Stainless Steel

