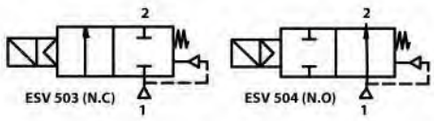
TECHNICAL SPECIFICATIONS, DESCRIPTIONS and GENERAL FEATURES



- **Fluids:** Valves are suitable for water, low viscosity oils etc... non-aggressive liquids and Air, Inert
Gas etc... gaseous but is not suitable for hazardous fluids
- **Switching Function:** Normally Closed (N.C, Closed when de-energised) (ESV 503 Series) and Normally Open (N.O, Open when de-energised) (ESV 504 Series)
- **Principle of Operation:** Pilot Operated
- **Way Number:** 2/2 (Ports / Positions)
- **Connection and Port Sizes:** G1/8" up to G1"
- **Connection Type:** Thread (Female), G (BSPP / ISO 228-1)
- **Pressure Range:** 0,5 -40 Bar
- **Fluid Temperature:** -10°C to max. 160°C
- **Ambient Temperature:** -20°C to max. 70°C
- **Opening Time:** 200ms up to 1500ms
- **Closing Time:** 500ms up to 2000ms
- **Max Viscosity:** 38 cSt or mm2/s
- **Maximum Allowable Pressure or Design Pressure:** 60 bar
- Minimum operating differential pressure : 0,5 Bar
- 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)
- High flow rate, high reliability,high mechanical strength
- Various flow rate options, 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 | Min.Ope. Differential Pressure 0,5 Bar | Coil Rotatable 360° | High Reliability
Full Orifice | Patented Enclosing Tube Design | High Performance | Low Power Loss

GUARANTEE CERTIFICATE

Model No	Position	Connection and Port Size	Orifice Size	Flow Factor / Coefficient Kv		Operating Pressure Differential				Fluid Temperature		Seal	Approxi-mate Weight	Reference Figure
						Min. (For AC)	Min. (For DC)	Max. (For AC)	Max. (For DC)	Min.	Max.			
ESV		G	mm	L/m	m³/h	Bar	Bar	Bar	Bar	°C	°C		kg	
ESV 503.02	N.C	3/8"	12	40	2.40	0.5	0.5	40	40	-10	160	VITON+PTFE	0.62	Fig.1
ESV 503.03	N.C	1/2"	15	70	4.20	0.5	0.5	40	40	-10	160	VITON+PTFE	0.58	Fig.1
ESV 503.04	N.C	3/4"	20	130	7.80	0.5	0.5	40	40	-10	160	VITON+PTFE	0.74	Fig.1
ESV 503.05	N.C	1"	25	180	10.80	0.5	0.5	40	40	-10	160	VITON+PTFE	1	Fig.1
ESV 504.02	N.O	3/8"	12	40	2.40	0.5	0.5	40	40	-10	160	VITON+PTFE	0.65	Fig.1
ESV 504.03	N.O	1/2"	15	70	4.20	0.5	0.5	40	40	-10	160	VITON+PTFE	0.61	Fig.1
ESV 504.04	N.O	3/4"	20	130	7.80	0.5	0.5	40	40	-10	160	VITON+PTFE	0.75	Fig.1
ESV 504.05	N.O	1"	25	180	10.80	0.5	0.5	40	40	-10	160	VITON+PTFE	1.03	Fig.1
ESV 503.00.120	N.C	1/8"	12	20	1.20	0.5	0.5	40	40	-10	160	VITON+PTFE	0.67	Fig.1
ESV 503.01.120	N.C	1/4"	12	25	1.50	0.5	0.5	40	40	-10	160	VITON+PTFE	0.65	Fig.1
ESV 504.00.120	N.O	1/8"	12	20	1.20	0.5	0.5	40	40	-10	160	VITON+PTFE	0.7	Fig.1
ESV 504.01.120	N.O	1/4"	12	25	1.50	0.5	0.5	40	40	-10	160	VITON+PTFE	0.68	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; diaphragm or sealing or o-rings can be NBR + PTFE (-10°C to 80°C)
- On request; various body surface coating, nickel plated body, different body materials, seat can be stainless steel, filter, other pipe connections, flanged connection
- 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

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, Continously Rated
- Design according to DIN VDE 0580

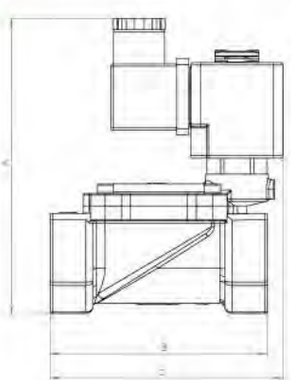
POWER CONSUMPTION

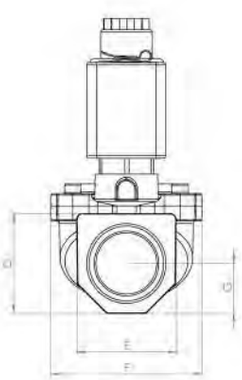
Power Consumption							
Alternating Current (AC)				Direct Current (DC)			
Model No	Voltage	Inrush (VA)	Holding (VA)	Model No	Voltage	Cold (W)	Hot (W)
ECO 10.AC.012	12V	30	18	ECO 10.DC.012	12V	16	12
ECO 10.AC.024	24V	30	18	ECO 10.DC.024	24V	16	12
ECO 10.AC.048	48V	30	18	ECO 10.DC.048	48V	16	12
ECO 10.AC.110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

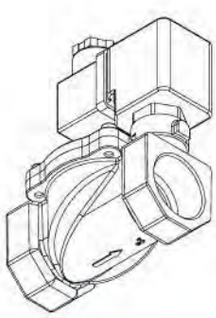
MATERIALS

- **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 and Brass
- **Cover:** Brass
- **Diaphragm/Seat Seal:** VITON +PTFE
- **Cover Screws:** Stainless Steel

DIMENSIONS (mm)







Size	A	B	C	D	E	F	G
1/8"	105.3	69	76.5	26.8	26.9	44	13.4
1/4"	105.3	69	76.5	26.8	26.9	44	13.4
3/8"	105.3	69	76.5	26.8	26.9	44	13.4
1/2"	105.3	69	76.5	26.8	26.9	44	13.4
3/4"	109.8	80	86.8	31.8	31.9	53.8	15.3
1"	120.3	89	95.5	40.9	40.7	62	20.5