

**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)
- **Principle of Operation:** Pilot Operated
- **Way Number:** 2/2 (Ports / Positions)
- **Connection and Port Sizes:** 2 1/2" and 3" (ESV 100 and 183 Series), DN80 up to DN200 (ESV 179 and ESV 181 Series)
- **Connection Type:** Thread (Female), G (BSPP / ISO 228-1), (for ESV 100 and 183 Series) , Flanged (for ESV 179 and 181 Series)
- **Pressure Range:** 1-6 Bar (ESV 100 and ESV 179 Series), 1,5-16 Bar (ESV 183 and ESV 181 Series)
- **Fluid Temperature:** -10°C to max. 80°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 mm<sup>2</sup>/s
- **Maximum Allowable Pressure or Design Pressure:** 10 Bar (ESV 100 and ESV 179 Series), 24 bar (ESV 183 and ESV 181 Series)
- Minimum operating differential pressure : 1 Bar (for ESV 100 and ESV 179 Series) and 1,5 Bar (for ESV 183 and ESV 181 Series)
- 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)



Big Size and Big Flanged	Min. Oper. Differential Pressure 1/1.5 Bar	Coil Rotatable 360°	High Reliability
Full Orifice	Patented Enclosing Tube Design	High Performance	Long Life



Model No	Position	Connection and Port Size	Orifice Size	Flow Factor / Coefficient Kv		Operating Pressure Differential				Fluid Temperature		Seal	Approximate Weight	Reference Figure
						Min. (For AC)	Min. (For DC)	Max. (For AC)	Max. (For DC)	Min. °C	Max. °C			
ESV		G	mm	L/m	m <sup>3</sup> /h	Bar	Bar	Bar	Bar	°C	°C		kg	
ESV 100.09	N.C	2 1/2"	72.8	1266	75.96	1	1	6	6	-10	80	NBR	5.5	Fig.1
ESV 100.10	N.C	3"	85.4	2333	140.00	1	1	6	6	-10	80	NBR	6.3	Fig.1
ESV 183.09	N.C	2 1/2"	72.8	1266	75.96	1.5	1.5	16	16	-10	80	NBR	5.5	Fig.1
ESV 183.10	N.C	3"	85.4	2333	140.00	1.5	1.5	16	16	-10	80	NBR	6.3	Fig.1
ESV 179.10	N.C	DN 80	80	3380	202.80	1	1	6	6	-10	80	NBR	20.2	Fig.2
ESV 179.12	N.C	DN 100	100	3610	216.60	1	1	6	6	-10	80	NBR	21.8	Fig.2
ESV 179.14	N.C	DN 150	150	7450	447.00	1	1	6	6	-10	80	NBR	53.7	Fig.2
ESV 179.15	N.C	DN 200	200	14600	876.00	1	1	6	6	-10	80	NBR	84.4	Fig.2
ESV 181.10	N.C	DN 80	80	3380	202.80	1.5	1.5	16	16	-10	80	NBR	20.2	Fig.2
ESV 181.12	N.C	DN 100	100	3610	216.60	1.5	1.5	16	16	-10	80	NBR	21.8	Fig.2
ESV 181.14	N.C	DN 150	150	7450	447.00	1.5	1.5	16	16	-10	80	NBR	53.7	Fig.2
ESV 181.15	N.C	DN 200	200	14600	876.00	1.5	1.5	16	16	-10	80	NBR	84.4	Fig.2

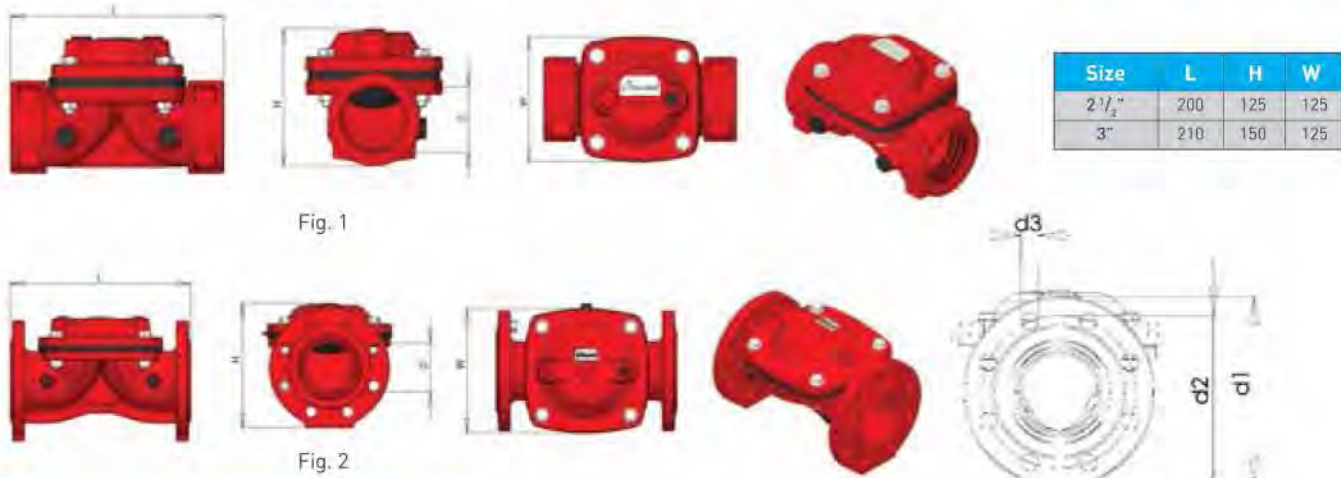
## OPTIONS

- 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 FPM (VITON) (-10°C to 160°C), EPDM (-10°C to 140°C)
- On request; different body materials, seat can be stainless steel, filter, other pipe connections
- 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 [Ex 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)



Size	L	H	W	(d1)	(d2)	(d3)
DN80	300	205	208	200	160	18
DN100	305	230	208	220		18
DN150	390	315	300	285	240	22
DN200	475	415	385	340	295	22

## 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:** Cast Iron
- **Plunger Seal:** NBR
- **Enclosing Tube:** Stainless Steel (AISI 430FR and AISI 304)
- **Plunger:** Stainless Steel (AISI 430FR)
- **Springs:** Stainless Steel (AISI 302)
- **Shading Ring:** Copper
- **Seat:** Cast Iron
- **O-rings:** NBR
- **Internal Metal Parts:** Stainless Steel and Brass
- **Cover:** Cast Iron
- **Diaphragm/Seat Seal:** NBR
- **Cover Screws:** Stainless Steel