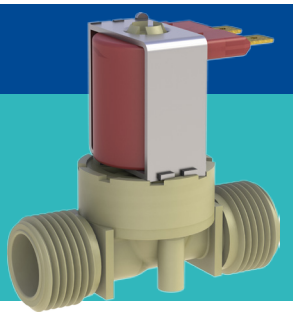
eki ELECTRO MECHANICAL COMPONENTS

Eki d.o.o
Majer 27
SI-8340 Črnomelj
Slovenija

Tel: +386 (0)7 30 53 162
eki@eki.si

TECHNICAL DATA SHEET

BI-STABLE (LATCHING) VALVE



DESCRIPTION

The Pilot operated Bi-stable (latching) valve is designed for battery applications or low power DC supplies. The valves are operated using a polarised DC pulse to switch “on” and an opposite polarity pulse to switch “off”. The key attributes are:

- **Low power**
- **Intrinsically safe**
- **WRAS (UK) approved for potable water supplies**
- **Robust construction and long service life**
- **Customer specific options available for OEM clients**

APPLICATIONS

The Bi-stable valve is available for use in a wide variety of applications, these include:

- **Automatic tap systems**
- **Urinal flush systems**
- **Sprinkler systems**

GENERAL PERFORMANCE DATA

VOLTAGE:	6VDC (9VDC on request)
POWER DRAW:	280mA at 6VDC
MIN PULSE:	25mS
MIN VOLTAGE:	3.5VDC
MAX VOLTAGE:	8.0VDC
COIL INSULATION:	Class F (140°C Operating Temperature)
INSULATION:	Class II. Fully double insulated. No Earth required
AMBIENT TEMPERATURE:	60 °C maximum
LIQUID TEMPERATURE:	85°C maximum
OPERATING PRESSURE:	0.2 to 10bar
FLOW REGULATOR:	5 - 17 L/min
EMC:	Fully compliant
TERMINALS:	Two 6.35 x 0.8 mm male tab terminals
WATER HAMMER AT 6BAR:	2bar max

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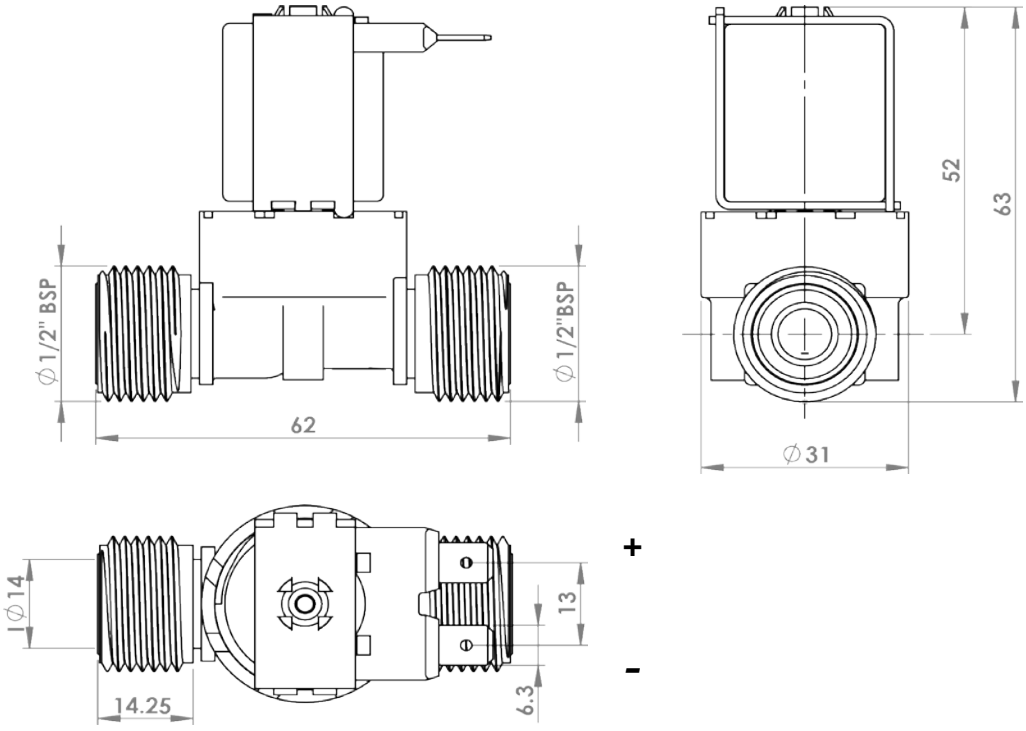
SCHEMATIC DRAWING 1/2BSP MODEL:



GENERAL MATERIAL DATA

COMPONENT	MATERIAL
BODY	NYLON PA 6.6 30% Glass Filled
GUIDE TUBE	NYLON PA 6.6 30% Glass Filled
SPRINGS	AISI 316 stainless steel
ARMATURE	Stainless Steel Z6CDF18.2 (ASTM XM 34)
DIAPHRAGM, FLOW REGULATOR AND ARMATURE TIP	Ethylene Propylene Diene Monomer (EPDM) Elastomer or Silicon
FILTER	Polyacetal
FLOW REGULATOR HOUSING	Polyacetal
COIL BOBBIN	Nylon PA 6.6 heat stabilised
COIL ENCAPSULATION	Nylon PA 6 heat stabilised
MAGNETIC CIRCUIT	Mild Steel 1.2 Galvanised bichromated
MOUNTING BRACKET	Mild Steel 1.2 Galvanised bichromated

CHEMICAL RESISTANCE

Please verify valve material if using strong or aggressive chemicals in its application. Chemical resistance information is available on the Hydralectric website **http://www.hydralectric.com/chemical-resistance**.

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GENERAL INSTALLATION REQUIREMENTS

MINIMUM OPERATING PRESSURE:	0.2bar, for effective closure of diaphragm to valve seat
MINIMUM DIFFERENTIAL PRESSURE:	0.2bar, min pressure differential between inlet and outlet of valve
INLET MATING CONNECTION:	Maximum torque setting 4.0 Nm
WATER QUALITY:	Solenoid valves are designed for use on potable clean water systems, excessive particulates can cause failure. Avoid direct connection to hot water boilers which may cause excess build up of calcium deposits
INLET FILTER:	0.2mesh fitted as standard, failure to use a filter upstream of diaphragm can cause failure.
SERVICE LIFE:	25,000 operations under cold water conditions Service life will vary according to local water conditions and temperature.

STANDARDS

The Solenoid Valve range is subjected to compliance testing and meets the following standards:

- **WRAS: Water Research Advisory Scheme (Hot & Cold Water 85°C)**
- **RoHS: Hydralectric certifies all solenoid valves are and will continue to remain compliant to European Directive 2002/95/EC**

TECHNICAL ASSISTANCE

Please contact out Sales or Technical Support team on **+386 (0) 7 30 53 162**, or visit our website **www.**eki.si

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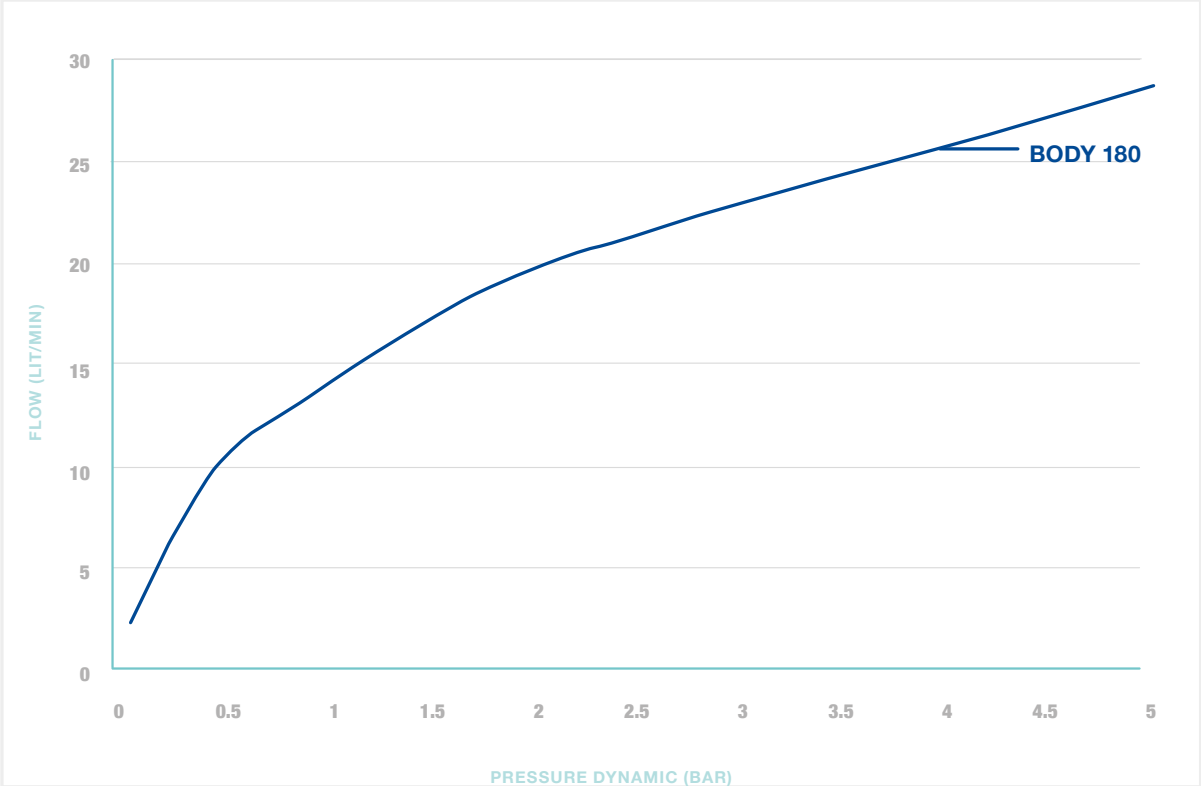
FLOW

The graph represents typical flow characteristics for solenoid valve without restriction on the outlet and dynamic inlet pressure between 0 and 5.0bar.

Note: *Maximum flow rate is 15 lit/min, above this value the valve may fail to close after the coil is de-energised*



FLOW REGULATION

A flow regulator can be fitted to the inlet/outlet ports to provide constant flow with an inlet pressure range of 1 to 10bar.

The flow regulator is composed of a plastic housing with studs onto which a rubber seal is located. Flow is controlled by pressure acting on the washer thus restricting the gap between the stud and water passage.

OUTLET FLOW REGULATORS			
COLOUR	FLOW L/MIN	FLOW US GAL/MIN	TOLERANCE (%)
YELLOW	0.5	0.13	30
BLUE	1.2	0.32	25
PALE GREEN	2	0.53	25
BROWN	2.5	0.66	25
VIOLET	3.3	0.87	25
ORANGE	3.8	1	25