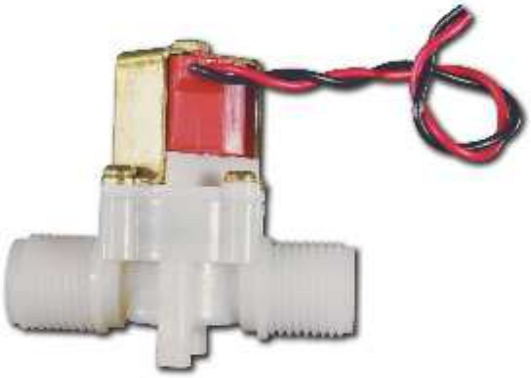
Magnetically Latching Solenoid Valves

Models:

All valves model shown in G series is available in latching version. Image shown below is just a representation of difference between normal valve and latching solenoid valve.

See the difference in coil type. In normal valve, coil terminals are spade type tags, where as in latching valve it is wired leads.

Latching valve models are prefixed with L instead of G.

L 1/180 ½" X ½"	Available Models
	✓ L 1/90 (3 types of outlets) ✓ L 1/180 (3 types of outlets) ✓ L 1/90 BB ✓ L 1/180 ½" X ½" ✓ L 1/180 ¼" X ¼" ✓ L 1/90 ¾" GHT ✓ L 1/180 ¾" GHT For dimensions see equivalent G series valve
✓ Inlet / Outlet : ½" BSPM threaded ✓ Mounting: Bottom mounting studs ✓ Food Contact Standard option	

Features

- ✓ Pilot operated diaphragm type solenoid valves are available in all models of G series valves,
- ✓ Used where power supply has limitations to supply continuous power to keep valve ON.
- ✓ Also places where heat transfer from coil to water is not desirable.
- ✓ Operates from 4.8 V DC to 12 V DC pulse.
- ✓ Maximum pulse width required is 60 mS @ 6 VDC, 6 bar pressure.
- ✓ Food contact compatible construction available.
- ✓ 0.40 mm, removable plastic filter.

Applications

- ✓ Automatic sensor taps and faucets.
- ✓ Automatic sensor urine flushing system.
- ✓ Battery operated control systems.

3711/A, GIDC, Phase-IV, Vatva, Ahmedabad-382 445, Gujarat, India
Ph.: 91-79-25840845, 40085985 E mail: info@giplindia.com Web Site: http://www.giplindia.com

Technical Specifications Magnetically Latching Solenoid:

Sr.No.	PARAMETER	DESCRIPTION
1.	**Type**	Pilot operated diaphragm type.
2.	**Configuration Type**	2/2 magnetically latching, Bi stable
3.	**Connector**	Wired leads, 100 mm L, Red and Black color.
4.	**Resistance of Coil**	10 +/- 1 Ω
5.	**Operating Range of voltage**	4.8-12 V DC
6.	**Pulse width @ 6 bar**	**ON** 20 ± 2 mS @ 4.5 ± 5% V DC 27 ± 2 mS @ 4 ± 5% V DC **OFF** Less than 12 mS @ 4 ± 5% V DC
7.	**Insulation Class**	Winding: “F”, 155°C. Class-II
8.	**Fluid Temp.**	60°C max.
9.	**Operating Pressure**	0.2 bar to 6 bar
10.	**Mounting Position**	Any (Coil upright preferred)
11.	**Burst Pressure**	16 bar minimum.
12.	**Water Leakage**	No leakage from 0.2 bar to 6 bar.
13.	**Mechanical Life**	More than 500,000 cycles.

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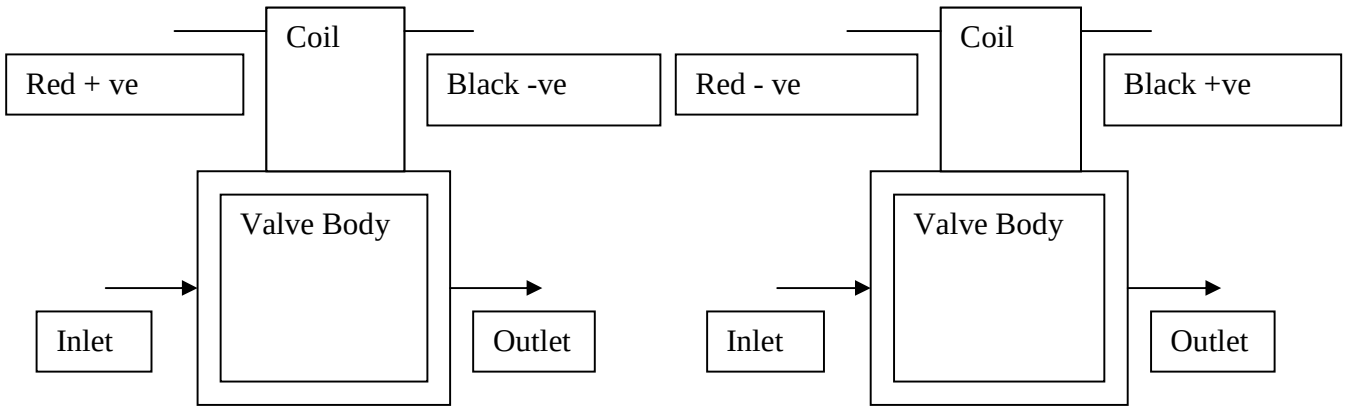
Latching Valve operation schematic diagram



Position 1, if valve is in closed condition and coil is supplied voltage pulsed current having pulse width of 60 mS, than valve comes in open position and remains open till supplied current as shown in position 2	**Position 2**, when valve is opened by supplying current as mention in position 1, it can be closed only by supplying current as mentioned above. Valve remain in off position till power is supplied as mentioned in position 1.

Brief Design Guide:

- ✓ Life of battery (1.5 V DC X 4 Nos. alkaline) is about 250 000 cycles (only valve operations).
- ✓ Latching valve operates upto 5 V DC, 60 mS pulse. Hence cicuit should have cut off voltage or battery low / replace battery indication sutabley.
- ✓ It is prefered to mount latching valve in coil up right position.
- ✓ As supply voltage goes higher pulse width decreases.
- ✓ 40 mS pulse is optimum pulse width for valve operation from CLOSE to OPEN position. For OPEN to CLOSE pisition, pulse width of 20 mS may be kept. This will maximize battery life.
- ✓ Circuit employed in operation of valve should be of high quality and should have minimum current consumption in stand by mode to maximise battery life.
- ✓ Test figures mentioned in this document is based on 6 V DC obtained using 1.5 V X 4 Nos. alkaline batteries.

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