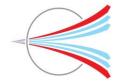


Quality Water Valves

For Home Appliances



General imsubs® Water Solenoid Valves for Appliances

Features

- Pilot operated diaphragm water solenoid valves are available in various models and specifications.
- Available in normally closed, Normally Open and Bistable Latching versions.
- ✓ Water solenoids are available in many standard voltages and option for any specific coil voltage against minimum order.
- ✓ 0.40 mm, removable plastic filter in most models.

Applications

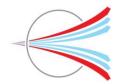
- Washing machines (for water inlet / feed)
- ✓ Domestic and Industrial water purifiers. (Inlet water control)
- ✓ Dish washers (Water feed / inlet)
- ✓ Feed valve for coffee and hot beverages vending machine.
- Automatic water taps and faucets.
- Dental equipments.
- ✓ And other applications where water is need to be controlled by solenoid valve.

We also manufacture custom designed valves against specific order

Ordering Guide

While ordering please use code as under along with Model code:

| Valve type | | | |
|-------------------|-------------------|-------------------|-------------------|
| Prefix Series : G | Prefix Series : D | Prefix Series : N | Prefix Series : L |
| Normally Closed | Normally Closed | Normally Closed | Bi Stable, |
| Pilot Operated | Direct Acting Op. | Pilot Operated | Latching Pilot |
| Op. Pressure | Pressure | Op. Pressure | Operated |
| 0.2 - 8.0 bar | 600 mm WC | 0.2 - 4.0 bar | Op. Pressure |
| | | | 0.2 - 6.0 bar |



VALVES FOR DOMESTIC RO SYSTEMS

Models:

Model Code: R 1/180, 1/4" QC

Direct Acting, zero pressure with ¼" QC connections

Appearance



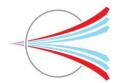
- Inlet / Outlet: 1/4" QC FITTING
- Mounting: Integral
- ✓ Food Contact Standard
- ✓ Flow rate: 2-8 LPM
- ✓ Inlet Filter: Not Provided
- ✓ Available Valve Type : Normally Closed (0)

to 8 bar)

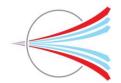
Available Versions and Voltages: 24 V, 36 V and 48 V DC

Mounting Details

N.A.

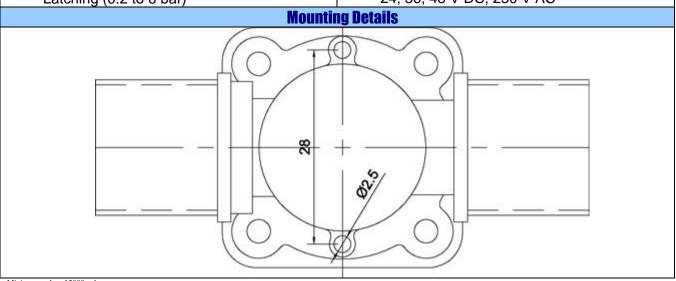


Models: Model Code: 1/180 ¼" X ¼" Tube NO, NC, Low Pressure NC, Bi Stable Latching Operators **Dimensions Appearance** Inlet / Outlet: 1/4" TUBE FOR QC FITTING Available Versions and Voltages: G series: Normally Closed 6 V DC*, 12, 24, **Mounting:** Bottom Mounting 36, 48 V DC, 110 V*, 230 V AC Food Contact On request ✓ Flow rate: 3-8 LPM N Series: Normally Open 12, 24, 36, 48 V Inlet Filter: Not Provided ✓ Available Valve Type : Normally Closed (0.2) L Series: Magnetically Latching: 6 – 12 V to 8 bar), Normally Open (0.2 to 4 bar), Low DC, 60 mS, 9 Ohms. Pressure (600 mm WC), Magnetically D Series: Low pressure direct acting, 12, Latching (0.2 to 6 bar) 24, 36, 48 V DC, 230 V AC **Mounting Details** S



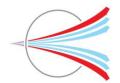
Models: Model Code: 1/180 ¼" X ¼" BSPF NO, NC, Low Pressure NC, Bi Stable Latching Operators **Dimensions Appearance** Inlet / Outlet: 1/4" BSPF Available Versions and Voltages:

- **Mounting:** Bottom Mounting
- ✓ Food Contact On request
- ✓ Flow rate: 6-8 LPM
- ✓ Inlet Filter: Not Provided, Optional
- ✓ Available Valve Type : Normally Closed (0.2) to 8 bar), Normally Open (0.2 to 4 bar), Low Pressure (600 mm WC), Magnetically Latching (0.2 to 6 bar)
- G series: Normally Closed 6 V DC*, 12, 24,
- 36, 48 V DC, 110 V*, 230 V AC
- N Series: Normally Open 12, 24, 36, 48 V
- DC
- L Series : Magnetically Latching: 6 12 V DC, 60 mS, 9 Ohms.
- D Series: Low pressure direct acting, 12,
- 24, 36, 48 V DC, 230 V AC





| Models: | | |
|---|--|--|
| Model Code: 1/180 ¼" X ¼" QC NO, NC, Low Pressure NC, Bi Stable Latching Operators | | |
| Appearance | Dimensions | |
| | | |
| ✓ Inlet / Outlet: ¼" BSPF ✓ Mounting: Bottom Mounting ✓ Food Contact On request ✓ Flow rate: 6-8 LPM ✓ Inlet Filter: Not Provided, Optional ✓ Available Valve Type: Normally Closed (0.2 to 8 bar), Normally Open (0.2 to 4 bar), Low Pressure (600 mm WC), Magnetically Latching (0.2 to 6 bar) | ✓ Available Versions and Voltages: G series: Normally Closed 6 V DC*, 12, 24, 36, 48 V DC, 110 V*, 230 V AC N Series: Normally Open 12, 24, 36, 48 V DC L Series: Magnetically Latching: 6 − 12 V DC, 60 mS, 9 Ohms. D Series: Low pressure direct acting, 12, 24, 36, 48 V DC, 230 V AC | |
| Mounting Details | | |



Models:

Model Code: 1/180 ½"X ½" BSPM NO, NC, Low Pressure NC, Bi Stable Latching Operators

Appearance

- ✓ Inlet / Outlet: ½" BSPM
- ✓ Mounting: Bottom Mounting
- ✓ Food Contact On request
- ✓ Flow rate: 30 LPM
- ✓ Inlet Filter: Encapsulated SS mesh, 0.45 mm
- Available Valve Type: Normally Closed (0.2 to 8 bar), Normally Open (0.2 to 4 bar), Low Pressure (600 mm WC), Magnetically Latching (0.2 to 6 bar)
- ✓ Available Versions and Voltages :

G series: Normally Closed 6 V DC*, 12, 24,

36, 48 V DC, 110 V*, 230 V AC

N Series: Normally Open 12, 24, 36, 48 V

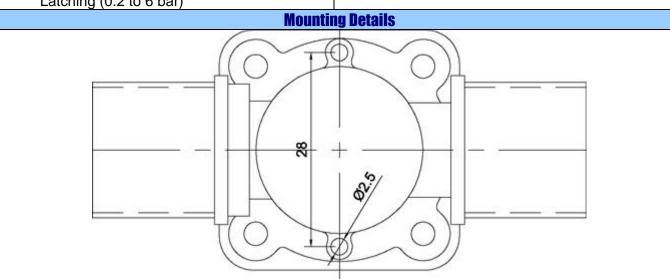
DC

L Series : Magnetically Latching: 6 – 12 V

DC, 60 mS, 9 Ohms.

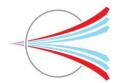
D Series: Low pressure direct acting, 12,

24, 36, 48 V DC, 230 V AC





Models: Model Code: 1/90, 3 different types of outlet NO, NC, Low Pressure NC, Bi Stable Latching Operators **Dimensions Appearance** 62 32 45 Outlet: 10.5 mm, 12.5 mm, 1/4" BSPM Available Versions and Voltages: Inlet: 3/4" BSPM G series: Normally Closed 6 V DC*, 12, 24, 36, 48 V DC, 110 V*, 230 V AC **Mounting:** Mounting Bracket (Optional) ✓ Food Contact : On request N Series: Normally Open 12, 24, 36, 48 V ✓ Flow rate: 1.5 / 2.5 / 5 / 10 / 30 LPM DC L Series: Magnetically Latching: 6 – 12 V ✓ Inlet Filter: Polyacetal, 0.45 mm ✓ Available Valve Type : Normally Closed (0.2) DC, 60 mS, 9 Ohms. to 8 bar), Normally Open (0.2 to 4 bar), Low D Series: Low pressure direct acting, 12, 24, 36, 48 V DC, 230 V AC Pressure (600 mm WC), Magnetically Latching (0.2 to 6 bar) **Mounting Bracket (Optional)** 45.0000 M4X0.75 21.00 **Outlet Options dimension details** ∞ 1/4" BSP Ø11.5 Ø9.6 Major Dia: 13 0145 Minor Dia: 11.4



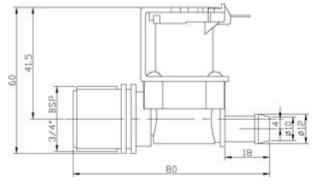
Models:

Model Code: 1/180, 3 different types of outlet NO. NC. Low Pressure NC. Bi Stable Latching Operators

Appearance

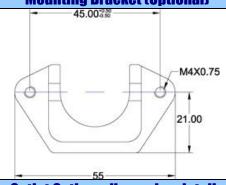
Dimensions



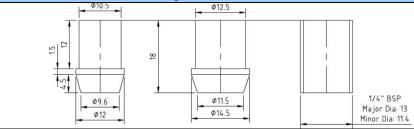


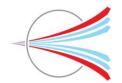
- ✓ Outlet: 10.5 mm, 12.5 mm, ¼" BSPM
- ✓ Inlet: ¾" BSPM
- ✓ Mounting: Mounting Bracket (Optional)
- ✓ Food Contact On request
- ✓ Flow rate: 1.5 / 2.5 / 5 / 10 / 30 LPM
- ✓ Inlet Filter: Polyacetal, 0.45 mm
- Available Valve Type: Normally Closed (0.2 to 8 bar), Normally Open (0.2 to 4 bar), Low Pressure (600 mm WC), Magnetically Latching (0.2 to 6 bar)
- Available Versions and Voltages :
 - G series: Normally Closed 6 V DC*, 12, 24,
 - 36, 48 V DC, 110 V*, 230 V AC
 - N Series: Normally Open 12, 24, 36, 48 V
 - DC
 - L Series :Magnetically Latching: 6 12 V DC, 60 mS, 9 Ohms.
 - D Series: Low pressure direct acting, 12, 24, 36, 48 V DC, 230 V AC

Mounting Bracket (Ontional)



Outlet Options dimension details





Models:

Model Code: 1/90BB NO, NC, Low Pressure NC, Bi Stable Latching Operators

Appearance

Dimensions

27

27

28

- ✓ Outlet: 14 mm Hose Barb
- ✓ Inlet: ¾" BSPM
- ✓ Mounting: Mounting Bracket Built in
- ✓ Food Contact On request
- ✓ Flow rate: 5 / 10 / 30 LPM
- ✓ Inlet Filter: Polyacetal, 0.45 mm
- Available Valve Type: Normally Closed (0.2 to 8 bar), Normally Open (0.2 to 4 bar), Low Pressure (600 mm WC), Magnetically

✓ Available Versions and Voltages:

G series: Normally Closed 6 V DC*, 12, 24,

36, 48 V DC, 110 V*, 230 V AC

N Series : Normally Open 12, 24, 36, 48 V

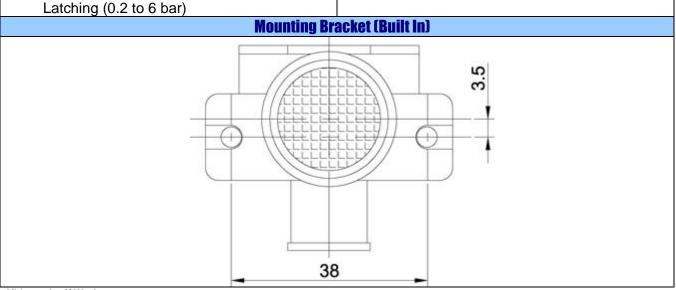
DC

L Series :Magnetically Latching: 6 – 12 V

DC, 60 mS, 9 Ohms.

D Series: Low pressure direct acting, 12,

24, 36, 48 V DC, 230 V AC





VALVES FOR ICE MAKER, DISH WASHER, WASHING MACHINE, DENTAL EQUIPMENTS

Models: Model Code: 1/180.12mm Tube NO. NC. Low Pressure NC. Bi Stable Latching Operators **Appearance Dimensions** Inlet / Outlet: 12 mm Tube, Suitable for QC Available Versions and Voltages: Mounting: 2 bottom mounting studs G series: Normally Closed 6 V DC*, 12, 24, 36, 48 V DC, 110 V*, 230 V AC ✓ Food Contact Yes ✓ Flow rate: 30 LPM for pilot operated / 5 N Series: Normally Open 12, 24, 36, 48 V LPM fir direct acting. DC L Series : Magnetically Latching: 6 – 12 V ✓ Inlet Filter: Not Provided ✓ Available Valve Type : Normally Closed (0.2) DC, 60 mS, 9 Ohms. to 8 bar), Normally Open (0.2 to 4 bar), Low D Series: Low pressure direct acting, 12, Pressure (600 mm WC), Magnetically 24, 36, 48 V DC, 230 V AC Latching (0.2 to 6 bar) **Mounting Bracket (Built In)**

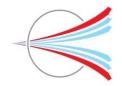


| Models: | | |
|--|--|--|
| Model Code: 1/180 Flanged NO, NC, Low Pressure NC, Bi Stable Latching Operators | | |
| Appearance | Dimensions | |
| | | |
| ✓ Inlet / Outlet : Flanged, customer scope ✓ Mounting : N.A. ✓ Food Contact On request | ✓ Available Versions and Voltages: G series: Normally Closed 6 V DC*, 12, 24, 36, 48 V DC, 110 V*, 230 V AC | |
| ✓ Flow rate: 30 LPM N Series: Normally Open 12, 24, 36, 48 V | | |
| ✓ Inlet Filter: Not Available | DC | |
| ✓ Available Valve Type : Normally Closed (0.2 | L Series :Magnetically Latching: 6 – 12 V | |
| to 8 bar), Normally Open (0.2 to 4 bar), Low | DC, 60 mS, 9 Ohms. | |
| Pressure (600 mm WC), Magnetically Latching (0.2 to 6 bar) | D Series: Low pressure direct acting, 12, 24, 36, 48 V DC, 230 V AC | |
| Mounting Details | | |



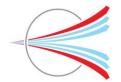
Technical Specifications:

| Sr.No. | PARAMETER | DESCRIPTION |
|--------|---------------------------------|---|
| 1. | Туре | Normally Closed: Pilot operated diaphragm type. Normally Open: Pilot operated diaphragm type. Low Pressure: Direct Acting Latching: Pilot operated diaphragm type |
| 2. | Connector | Normally Closed: Horizontal Spade, 6.3 x 0.8 mm (Faston Tags) Normally Open: Horizontal Spade, 6.3 x 0.8 mm (Faston Tags) Low Pressure: Horizontal Spade, 6.3 x 0.8 mm (Faston Tags) Latching: Flexible Wire 100 mm L |
| 3. | Electric Rating | Normally Closed: 6 V DC*, 1000 mA) / 12 V DC, 500 mA / 24 V DC, 300 mA / 36 V DC, 300 mA / 48 V DC, 300 mA / 110-120 V AC*, 6 VA / 220-240 V AC, 6VA (for AC 50 / 60 Hz.) Normally Open: 12 V DC, 500 mA / 24 V DC, 300 mA / 36 V DC, 300 mA / 48 V DC, 300 mA Low Pressure: 12 V DC, 500 mA / 24 V DC, 300 mA / 36 V DC, 300 mA / 48 V DC, 300 mA Latching: 6 – 12 V DC, 9 ohm coil. |
| 4. | Current | Normally Closed : 6 W Normally Open : 6 W Low Pressure : 8 W Latching : 9 Ohms |
| 5. | Insulation Class | Winding: "F", 155° C. Class-II |
| 6. | Insulation Resistance | Over 500 M Ohms |
| 7. | Insulation Breakdown Voltage | 2.5 kV, 1 Sec. |
| 8. | Solenoid Temperature Rise | Under 95° C. at 25° C. ambient. |
| 9. | Suitable Fluid | Water |
| 10. | Ambient Temp. | 45° C. max. |
| 11. | Fluid Temp. | 60° C max. |
| 12. | Operating Pressure | Please check model and type of valve |
| 13. | Mounting Position | Any (Coil upright preferred) |
| 14. | Life | More than 500,000 cycles. |



Bill of Material:

| Sr. | Part Name | Material | Remark |
|-----|------------------------|----------------------|--|
| 1. | Body | Nylon, Glass filled | Applicable to all model except G 1/90 BB, Food contact compatible |
| 2. | Body | Polypropylene | Applicable to G 1/90 BB, Food contact compatible |
| 3. | Armature Guide | Nylon, Glass Filled | Applicable to all models, Food contact compatible |
| 4. | Armature | SS 410/430 | Food contact compatible |
| 5. | Spring | SS 304 | Food contact compatible |
| 6. | Diaphragm | Rubber, Nitrile | Food contact compatible |
| 7. | Pilot | Poly Acetal | Food contact compatible |
| 8. | Inlet Flow restrictor | Nylon / Polyacetal | Not provided in ½" and ¼" BSP valves., Food contact compatible |
| 9. | Inlet flow rubber | Rubber, Nitrile | Not provided in ½" and ¼" BSP valves., Food contact compatible |
| 10. | Outlet Flow restrictor | Poly Acetal | For valve having flow rate less than 5 LPM. Not provided in ½" and ¼" BSP valves., Food contact compatible |
| 11. | Outlet flow rubber | Rubber, Nitrile | For valve having flow rate less than 5 LPM. Not provided in ½" and ¼" BSP valves, Food contact compatible |
| 12. | Filter | Polyacetal | SS filter in ½" BSP valve. Not provided in ¼" BSP valve, Food contact compatible |
| 13. | Spool | Nylon, Glass Filled | Fire retardant construction available. |
| 14. | Coil Encapsulation | Nylon | |
| 15. | Winding wire | Copper enameled wire | Insulation class "F", 155° C |
| 16. | Coil Holding Assembly | Soft Steel | |
| 17. | Lugs | Tin plated Brass | |
| 18. | Screws | Carbon Steel | |



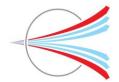
Magnetically Latching Solenoid Valves

Magnetically latching solenoid valves are used in battery operated auto taps, automatic sensor based touchless water dispenser.

Sensor taps use pilot operated version having operating range of pressure from 0.2 to 6 bar

sensor based touchless water dispenser uses direct acting low pressure version, pressure range 0-600 mm Water Column (WC)

| L 1/180 ½" X ½" | L 1/180 ¼" X ¼" |
|---|---|
| | |
| ✓ Inlet / Outlet: ½" BSP Male threaded ✓ Mounting: Bottom mounting studs ✓ Available: In 2 version, 0.2 to 6 bar, pilot operated for auto taps and 0-600 mm WC, direct acting for water dispenser | ✓ Inlet / Outlet: ¼" BSP Female threaded ✓ Mounting: Bottom mounting studs ✓ Available: In 2 version, 0.2 to 6 bar, pilot operated for auto taps and 0-600 mm WC, direct acting for water dispenser |
| L 1/180 6mm X 6mm Tube | L 1/90 ¼" X ¼" 3 different types of outlet |
| | |
| ✓ Inlet / Outlet: ½" BSP Male threaded ✓ Mounting: Bottom mounting studs ✓ Available: In 2 version, 0.2 to 6 bar, pilot operated for auto taps and 0-600 mm WC, direct acting for water dispenser | ✓ Outlet: 10.5 mm, 12.5 mm, ½" BSPM ✓ Inlet: ¾" BSPM ✓ Mounting: Bracket Optional ✓ Available: In 2 version, 0.2 to 6 bar, pilot operated for auto taps and 0-600 mm WC, direct acting for water dispenser |



Cutlet: 10.5 mm, 12.5 mm, ¼" BSPM Inlet: ¾" BSPM Mounting: Bracket Optional

direct acting for water dispenser **Features**

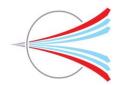
- ✓ Made in India valve. *General imsubs*® is the only manufacturer of latching solenoid valves in India since last 15 years.
- Used where power supply has limitations to supply continuous power to keep valve ON.
- ✓ Also places where heat transfer from coil to water is not desirable.
- Operates from 4.8 V DC to 12 V DC pulse.

Available: In 2 version, 0.2 to 6 bar, pilot operated for auto taps and 0-600 mm WC,

- ✓ Pulse width required is 60 mS @ 6 VDC, 6 bar pressure.
- ✓ Food contact compatible construction available.
- √ 0.40 mm, removable plastic filter.

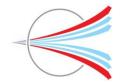
Applications

- Automatic sensor taps and faucets.
- Automatic sensor urine flushing system.
- Battery operated control systems.
- Sensor based touchless water dispenser

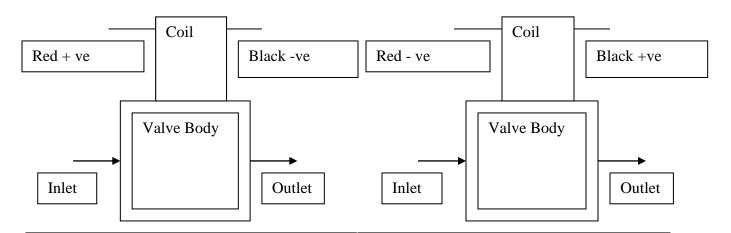


Technical Specifications Magnetically Latching Solenoid:

| Sr.No. | PARAMETER | DESCRIPTION |
|--------|----------------------------|--|
| 1. | Туре | 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 | 9 +/- 1 Ω |
| 5. | Operating Range of voltage | 4.8-12 V DC, Recommended pulse 60 mS at 4.8 to 6 V DC Recommended Pulse 20 mS for voltage 6 to 12 V DC |
| 6. | Insulation Class | Winding: "F", 155° C. Class-II |
| 7. | Fluid Temp. | 60° C max. |
| 8. | Operating Pressure | 0.2 bar to 6 bar |
| 9. | Mounting Position | Any (Coil upright preferred) |
| 10. | Burst Pressure | 16 bar minimum. |
| 11. | Water Leakage | No leakage from 0.2 bar to 6 bar. |
| 12. | Mechanical Life | More than 500,000 cycles. |

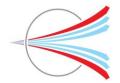


Latching Valve operation schematic diagram



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 200 000 cycles (only valve operations).
- ✓ Latching valve operates upto 5 V DC, 60 mS pulse. Hence circuit should have cut off voltage or battery low / replace battery indication suitably.
- ✓ It is preferred to mount latching valve in coil up right position.
- ✓ As supply voltage goes higher pulse width decreases.
- ✓ 60 mS pulse is optimum pulse width for valve operation from CLOSE to OPEN position for 4.8 6 V DC. For OPEN to CLOSE position, pulse width of 30 mS for 4.8 6 V DC 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 maximize battery life.
- ✓ Test figures mentioned in this document is based on 6 V DC obtained using 1.5 V X 4 Nos. alkaline batteries under ideal conditions.



About Us:

General Imsubs® is pioneer manufacturer of water valves in India since 1992. We have been manufacturing wide range of water valves catering to the need of growing appliances industry.

Valve manufactured by General Imsubs complies to stringent international product standards like UL, CE, EN, VDE and JIS.

All valves supplied by *General Imsubs®* are warranted for performance and we offer warranty to all OE customers. Our sophisticated manufacturing and tracking systems can track valves upto its component and raw material level. All valves are custom labeled with customer name to ease tracking even at customer end.

Our manufacturing facilities are equipped with sophisticated CNC coil winding machines, specially designed test rigs to check performance of valves.

All valves goes through 100% tests, as per applicable international standards.