

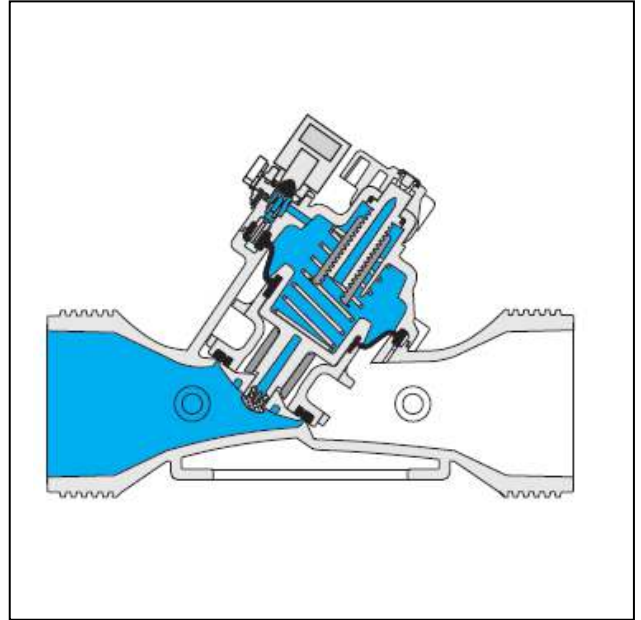
## Solenoid Control Valve with 2 Way Internal Control

(Sizes 1.5"- 4"; DN40-100)

### Description:

The BERMAD 2-Way Solenoid Controlled Valve is a Hydraulically operated, diaphragm actuated control valve with internal hydraulic Feed & Bleed control loop.

The BERMAD Model IR-110-N1-2W opens and closes Drip-tight in response to an electric signal, which causes the solenoid to open or close the valve's internal hydraulic loop.



### Installation:

1. Ensure enough space around the valve assembly for future maintenance and adjustments.
2. Prior to valve installation, flush the pipeline to insure flow of clean fluid through the valve.
3. For future maintenance, install Isolation gate valves upstream and downstream from Bermad control valve.
4. Install the valve in the pipeline with the valve flow direction arrow in the actual flow direction.
5. For best performance, it is recommended to install the valve horizontally and upright.
6. After installation carefully inspect/correct any damaged accessories, piping, tubing, or fittings.
7. Cross-Check solenoid specifications with design requirements and solenoid/coil label.
8. Ensure approved cable protection. Confirm that the wires data meet solenoid specifications.

**Note:** Energizing the solenoid coil when it is not fixed in its place, is dangerous and might burn the coil.

### Commissioning & Calibration:

1. Confirm that the valve installed in the flow direction.
2. Allow the valve to open by using the solenoid manual override or by: Operating the solenoid.
3. Open fully the upstream isolating valve and slowly open the downstream isolating valve, to fill-up, carefully, the consumers' line downstream from the Valve.
4. Check valve solenoid control feature by De-Energizing & Energizing the solenoid to close & open the valve.

## Trouble-Shooting:

Symptoms	Cause	Remedy
<b>Valve fails to open</b>	<ol style="list-style-type: none"> <li>1. Not sufficient inlet pressure.</li> <li>2. Not sufficient flow.</li> <li>3. Solenoid functioning</li> </ol>	<ol style="list-style-type: none"> <li>1. Check for sufficient inlet pressure-</li> <li>2. Create demand/flow.</li> <li>3. Check solenoid power supply, coil &amp; Manual Override Handle position</li> </ol>
<b>Valve fails to close</b>	<ol style="list-style-type: none"> <li>1. Control circuit is clogged.</li> <li>2. Debris-</li> <li>3. Diaphragm-</li> <li>4. Solenoid functioning</li> </ol>	<ol style="list-style-type: none"> <li>1. Check for any debris trapped in the valve control circuit.</li> <li>2. Check for any debris trapped in the valve body.</li> <li>3. Check diaphragm is not leaking-</li> <li>4. Check solenoid power supply, coil &amp; Manual Override Handle position.</li> </ol>

## Preventive Maintenance:

1. System operating conditions that effect on the valve should be checked periodically to determent the required preventative maintenance schedule.
2. Maintenance instructions:
  - 2.1. Tools required:
    - 2.1.1. Metric and imperial wrenches
    - 2.1.2. Anti-seize grease
    - 2.1.3. Visual inspection to locate leaks and external damages
  - 2.2. Functional inspection including: closing, opening and regulation.
  - 2.3. Close upstream and downstream isolating valves (and external operating pressure when used)
  - 2.4. Once the valve is fully isolated vent pressure by loosening a plug or a fitting.
  - 2.5. Open the screw nuts and remove the cover unit from the valve body. Disassemble necessary control tubs.
  - 2.6. It is highly recommended to stock a reserve parts assembly for each size. This allows minimum system field work. And system down time.
  - 2.7. Disassemble the cover and examine the inside parts carefully for signs of wear, corrosion, or any other abnormal conditions.
  - 2.8. Replace worn parts and all the Elastomers. Lubricate the bolts and screws threads with Anti seize grease.
  - 2.9. Winterizing /freezing prevention: drain the valve & the valve accessories (pilot, solenoid) on time.

## Spare Parts

Bermad has a convenient and easy to use ordering guide for valve spare-parts and control system components.  
 For solenoid valves refer to model and S/N on solenoid tags.

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