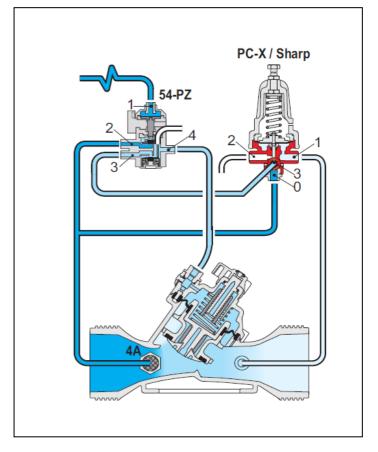
# Pressure Reducing Valve N.C with hydraulic control

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

#### **Description:**

The BERMAD Normally Closed, Pressure Reducing Valve with Hydraulic Control, is a hydraulically operated, diaphragm actuated control valve that reduces higher upstream pressure to lower constant downstream pressure regardless of fluctuating demand, and opens fully upon line pressure Drop. It is a Normally Closed valve, which opens in response to a remote pressure command and shuts in the absence that



### 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. Connect the hydraulic relay to the controller.

### **Commissioning & Calibration:**

- 1. Confirm that the In-line filter arrow [4A] direction is in the valve flow direction.
- 2. Allow the valve to start regulation by using the hydraulic relay (54-PZ) manual override, or by hydraulic pressure command.
- 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. Vent air from the valve's control loop by loosening cover tube fitting at the highest point, allowing all air to bleed. Then Retighten the tube fitting.
- 5. The IR-120-54-X is factory set according to the design. The set pressure is marked on the pilot label
- 6. If the set pressure is either different from the design or the requirements have been changed, change settings according to the following: unlock the pilot locking nut and slowly turn the pilot adjusting screw Clock-Wise to increase set pressure and Counter Clock-Wise to decrease it. Allow the 120-54-X to react the pressure to stabilize.
- 7. After the pressure is stabilized, lock the pilot locking nut and open fully the downstream isolating valve.



# **BERMAD** Irrigation

## **Trouble-Shooting:**

Symptoms	Cause	Remedy
	Hydraulic control command	Check existence of hydraulic command in the relay (54-PZ).
Valve fails to open	2. Not sufficient inlet pressure.	Check for sufficient inlet pressure.
	3. Not sufficient flow.	3. Create demand/flow, confirm pilot setting-
	4. Adjusting screws.	4. Check that the Pilot adjusting screw is not loose.
	Hydraulic control command.	Check no existence of hydraulic command in the relay(54-PZ).
	2. Control circuit is clogged.	Check for any debris trapped in the valve control circuit.
Valve fails to close	3. Debris-	3. Check for any debris trapped in the valve body.
	4. Diaphragm <del>.</del>	4. Check diaphragm is not leaking.
	Not sufficient inlet pressure	Check for sufficient inlet pressure.
Valve fails to regulate	2. Not sufficient flow	Create demand/flow, confirm pilot setting.
	3. Pilot setting-	3. Check Pilot setting-
	4. Air trapped in the control-chamber-	Release air trapped in the control chamber by loosening cover tube fitting at the highest point.
		tube fitting at the highest point.

### **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
  - $2.2. \ \ \text{Functional inspection including: closing, opening and regulation.}$
  - 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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