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File Name: 900 Series Valve IOM

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Pressure Reducing Valve

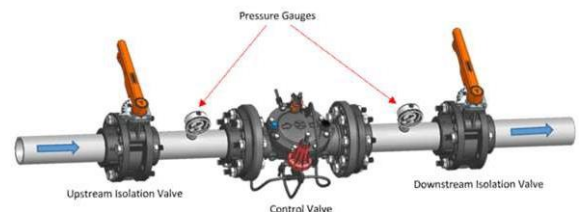
Description

The pressure reducing valve maintains a pre-set downstream pressure regardless of upstream pressure or flow fluctuations, controlled by a 3-way pilot valve. The spring-loaded membrane of the pilot is sensitive to downstream pressure and maintains desired downstream pressure by gradually opening and closing the hydraulic valve. When no flow exists in the system, the valve closes itself automatically.



Installation

- 1) The valve can be installed both horizontally or vertically.
- 2) Ensure enough space nearby for installation and adjustment.
- 3) Flush the pipeline before installing the valve to ensure clean water flow.
- 4) The line flow direction should match the arrow marking on the valve.
- 5) Inspect the valve post installation for any loose or damaged fittings.
- 6) Install a pressure gauge downstream or use a pressure check point on the valve to set the desired pressure.
- 7) Installing isolation valves upstream and downstream is recommended for maintenance.



Initial Startup and Adjustment

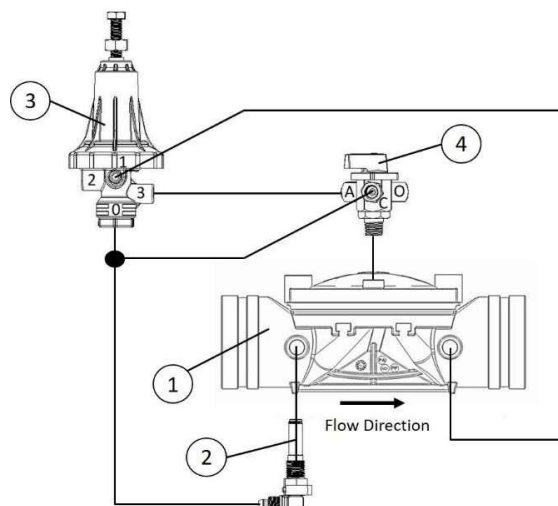
- 1) At the initial start of the system, make sure the upstream and downstream isolation valves are fully closed (if installed).
- 2) Turn the 3-way manual selector to "CLOSE".
- 3) Slowly open the upstream isolation valve or start the pump and check for any leakage through valve connections and fittings.
- 4) Turn the 3-way manual selector to the "AUTO" position.
- 5) Now, slowly open the downstream isolation valve, making sure there is sufficient flow demand after the valve.
- 6) The pilot has a pre-set factory pressure. For desired downstream pressure, unscrew the lock nut on the pilot and rotate the pressure-adjusting screw:
 - a) Clockwise: To increase pressure.
 - b) Anti-Clockwise: To decrease pressure.
- 7) Now tighten the lock nut again to prevent any changes in set pressure.
- 8) For manual operation, turn the 3-way manual selector to:
 - a) "CLOSE" for closing the valve shut.
 - b) "OPEN" for opening the valve fully open.
 - c) "AUTO" for regulating mode.

Maintenance

- 1) A periodic valve inspection should be done to check for any damage, loose fittings, or leakage.
- 2) Inspect and clean the in-line finger filter as water quality dictates. This should be done once every few months.
- 3) Keep an eye on valve function by checking the downstream pressure gauge periodically adjust if required.

Control Loop

Number	Description
1	Main Valve
2	Inline Finger Filter
3	3 Way Multi-Purpose Pilot
4	3 Way Manual Selector



Troubleshooting

Problem	Cause	Check	Solution
Valve does not open.	The 3-way selector ("4") is set to close.	Verify knob position.	Turn selector to "Auto".
	Inlet pressure is too low.	Check the inlet pressure.	Increase inlet pressure.
	Pilot's adjusting screw is completely open.	Check screw position.	Rotate clockwise, allow valve to respond. Continue until required pressure is reached.
	Blocked pilot.	No water coming out of pilot port #2.	Dismantle and clean pilot ports. Replace pilot if problem not solved.
Valve does not close.	3-way selector is in the "Open" position.	Verify knob position.	Turn selector to "Auto" or "Close" position.
	Blocked inline finger filter (2).	Disconnect upstream tube. No firm water stream.	Clean or replace the filter.
	Debris on the sealing seat.	Valve is constantly discharging small amount of water.	Turn the 3-way selector (4) to "Open" for a few minutes and then to "Close". If the problem persists, dismantle, clean and check that parts are not damaged.
	Damaged diaphragm.	Continuous water discharge.	Replace the diaphragm.
Unstable downstream	Blocked or damaged pilot.	Unstable pressure downstream of the valve.	Dismantle and clean. Replace pilot if problem persists.
Incorrect but stable downstream	Wrong set pressure.		Readjust the downstream pressure as described.

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