Ag

Installation Operation Maintenance (IOM) Manual 900 Series Quick Relief Valve

Description

The Quick Pressure Relief Valve is a hydraulically operated, diaphragm-actuated control valve that relieves excessive system pressure that rises above the maximum pre-set conditions. Equipped with a 2-way diaphragm actuated spring-loaded pilot, the reaction of the valve is immediate, accurate, and offers high repeatability by fully opening. The Quick Pressure Relief Valve provides smooth drip tight closing once pressure reduces below the pre-set conditions.

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) Line flow direction should match the arrow on the valve.
5) Inspect the valve post installation for any loose or damaged fittings.
6) Install a pressure gauge at upstream or use a pressure checkpoint on the valve to set the desired pressure.
7) Installing isolation valves upstream (and downstream if not released to the atmosphere) is recommended for maintenance. Dismantle and clean. Replace pilot if problem persists.

Initial Startup and Adjustment

1) According to the designed parameters, The Quick Pressure Relief Valve is factory set to the maximum system pressure allowed.
2) At the system's initial startup, ensure the upstream and downstream isolation valves are closed (if installed).
3) Fully open the upstream isolation valve. If the upstream pressure exceeds the set pressure, the valve is partially/fully open.
4) Confirm that the pressure and flow in the system is stable.
5) If the set pressure is either different from the design or the requirements have been changed at the site, follow the below-mentioned steps to readjust the pressure.
    - Confirm that the main line pressure is the designed dynamic operating pressure of the system.
      Note: When setting is below the designed dynamic operating pressure, the valve is partially/fully open.
    - Unlock the pilot locking nut & slowly turn the adjusting screw Clock-Wise until the valve closes completely.
    - Slowly turn the pilot adjusting screw Anti-Clockwise until the valve starts leaking. At this stage, rotate the setting screw clockwise (1/4 or 1/2 turn) until the valve seals again.
    - Tighten the locking nut. The valve is now set at the required pressure.
6) The internal design of the 2-Way Pilot restricts the closing of the valve at equilibrium pressure, thus automatically preventing the valve from sealing completely should the closing process cause system pressure to rise.

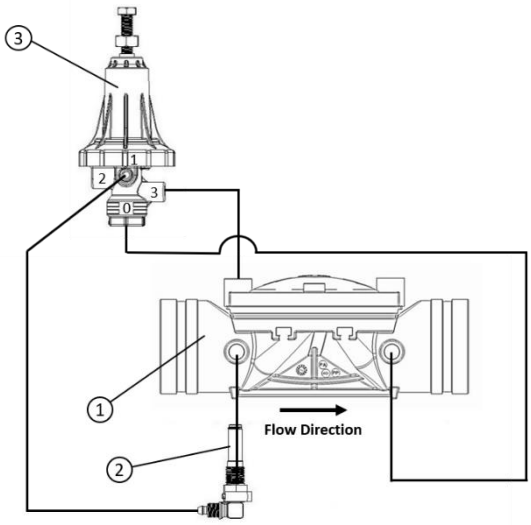
Maintenance

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.

Manual 900 Series Quick Relief Valve

Control Loop

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



Troubleshooting

Problem	Cause	Check	Solution
Valve does not open.	Inlet pressure is too low.	Check the inlet pressure.	Increase inlet pressure.
	Pilot's adjusting screw is completely closed.	Check the screw position.	Rotate anti-clockwise. Continue until the valve begins to open.
	Blocked pilot.	No water is coming out of pilot port #0.	Dismantle and clean pilot ports. Replace pilot if the problem not solved.
Valve does not close.	Blocked inline finger filter (2).	Disconnect the upstream tube. No firm water stream.	Clean or replace the filter.
	Debris on the sealing seat.	Valve is constantly discharging a small amount of water.	Dismantle, clean, and check that the parts are not damaged.
	Damaged diaphragm.	Continuous water discharge.	Replace the diaphragm.
Non-uniform Regulation.	Blocked or damaged pilot	Unstable pressure upstream of the valve	Dismantle and clean. Replace the pilot if the problem persists.

Toro Ag
1588 N. Marshall Avenue,
El Cajón, CA 92020-1523, USA
Tel.: + 1 (877) 373-0087 + 1 (619) 596-2495
Fax: + 1 (800) 892-1822 + 1 (619) 258-9973
toro.com
ALT375
04/24

TORO Count on it.