Quick Pressure Relief Valve

Description

The Model BC-73Q-P Quick Pressure Relief Valve constantly senses upstream pressure, generally the pressure downstream of a PRV system. If upstream pressure rises above the setting of pilot PC-3Q, the pilot opens causing the main valve to open wide in order to allow excess pressure to vent out of the system. If upstream pressure falls below the pilot PC-3Q setting, the pilot closes allowing the main valve to throttle toward the closed position. Once the system pressure has returned to normal, the pilot remains closed, causing the main valve to close drip-tight.

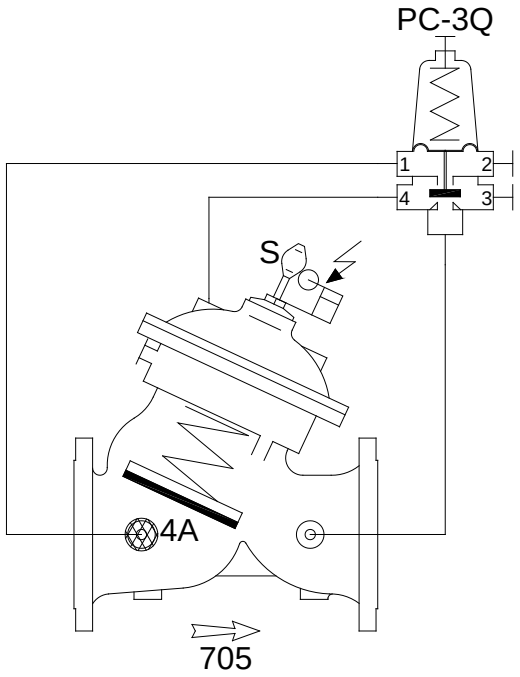
Installation

1. Allow enough room around the valve assembly for making adjustments and for future maintenance and disassembly work.
2. Thoroughly flush the pipeline to remove dirt, scale, and debris. Failure to perform this operation may render the valve inoperable.
3. It is recommended that isolation valves be installed upstream of the BERMAD Pressure Relief Valve to allow for future maintenance operations.
4. Install the valve in the pipeline with the valve flow arrow on the body casting in the proper direction. Install the valve horizontally with the cover up for best performance. Make certain the valve is positioned so the cover assembly can be easily removed for future maintenance requirements.
5. If applicable, run the appropriate conduit and cables to wire a limit switch or position transmitter. See relevant accessories IOM for more information.
6. It is recommended to install a pressure gauge upstream of the pressure relief valve.
7. After installation carefully inspect/correct any damaged accessories, piping, tubing, or fittings.

Commissioning & Calibration

1. Fully open the upstream isolation valve. **When upstream pressure is above the 73Q setting, the valve will open.**
2. Confirm that the supply pressure and the flow through the system are typical.
3. Vent air from the control loop by loosening a tube fitting at a highpoint near the cover of the main valve, allowing all air to bleed. Retighten the tube fitting.
4. The 72S-H should be factory set according to the design pressure request. The relief pressure is marked on the pilot's label. If there are no marking on the pilot labels or a set-point adjustment is needed proceed to step 5.
5. If no set-point is marked on the pilot, or system requirements are different than the current set-point:
   - 5.1. Loosen the pilot PC-3Q locknut, and turn the adjusting screw in, CW, to fully compress the spring. The 73Q should close.
   - 5.2. Slowly turn the pilot PC-3Q adjusting screw out, CCW. Continue slowly turning the adjusting screw until the valve begins to open.
   - 5.3. Slowly turn the adjusting screw back in, CW, until the 73Q re-closes, and then turn the screw an additional ¼ to ½ turn.
   - 5.4. Tighten the pilot PC-3Q locknut.
6. Set the limit switch cam to activate limit switch S when the 73Q begins to open. The signal should trigger an alarm in the Building Management System.

Control Loop Diagram



PART LIST

4A	Control Filter
S	Limit Switch Assembly
PC-3Q	Relief Pilot, Quick Type
705	Main Valve

Troubleshooting

Symptom	Possible Cause	Solution
Valve Fails to Open	• Insufficient inlet pressure. • Pipeline isolation valve(s) closed. • Excessive relief pilot PC-3Q spring compression. • Cover/body tap/plumbing clogged.	• Check/create inlet pressure. • Open isolation valve(s). • Readjust pilot PC-3Q. See step 5 of the commissioning instructions. • Clean cover/body tap/plumbing.
Valve Fails to Close or Regulate	• Filter 4A clogged.	• Remove in-line filter 4A and clean screen/body taps re-installing w/dot mark facing upstream.
	• Insufficient relief pilot PC-3Q spring compression.	• Readjust pilot PC-3Q. See step 5 of the commissioning instructions.
	• Debris trapped in main valve.	• Remove actuator assy. to inspect seat area/verify valve stroke/remove debris.
	• Diaphragm in main valve leaking or diaphragm assembly loose.	• Remove a small cover plug at valve cover. Continuous flow indicates diaphragm leakage. Inspect, tighten, and/or replace Diaphragm.