

SPECIFICATION MODEL 50RWR-A

PILOT OPERATED PRESSURE RELIEF VALVE WITH HYDRAULIC SURGE ANTICIPATION FEATURE

APPLICATION

The pilot operated relief valve shall automatically open to prevent inlet pressure from exceeding a maximum setting. When incoming line pressure exceeds the spring setting of the high pressure pilot, the main valve will open. In parallel, the low pressure pilot shall anticipate a surge wave by monitoring the line pressure, and open the valve when an unusual drop in pressure occurs. Valve operation shall be purely hydraulic, requiring no electrical power.

DESIGN

The relief valve shall be globe (inline) or angle (90 degree) body with flanged end connections, be fully mounted, external pilot operated, with free floating piston (operated without springs, diaphragm or levers). It shall contain a single full-ported seat, with seat bore equal to size of valve. The minimum travel of the piston shall be equal to 25% of the diameter of the seat. For true alignment (to correct lateral thrust and stem binding), the piston shall be guided above and below the seat a distance equal to no less than 75% of the diameter of the seat. The piston shall be cushioned and so designed as to insure positive closure. The main valve shall be packed with leather (or other soft material) to insure tight closure and prevent metal-to-metal friction and seating. The valve shall be furnished with an indicator rod to show position of piston opening, and pet-cocks for attachment to valve body for receiving gauges for testing purposes. The design shall be such that repairs and dismantling internally of main valve may be made without its removal from the line.

The pilot valves, controlling operation of the main valve, shall have a range of adjustment, be easily accessible, and arranged to allow for easy removal from the main valve while the main valve is under pressure. The pilot valves, speed control valve, external strainer with blow-off, isolation valves, and all associated rigid brass piping and fittings (with the exception of a separate static pressure sensing line, if required) shall be factory assembled and furnished with the valve.

PHYSICAL & CHEMICAL PROPERTIES

Valve body and cap(s) shall be constructed of gray iron castings that conform to ASTM Specification A 126 Class B. Internal bronze components shall conform to ASTM Specification B-584. Internal Stainless Steel components shall conform to ASTM Specification A-743 Grade CF-8 or CF-8M. The control piping shall be rigid red brass, no less than 0.5" in diameter.

The flanged assemblies shall conform to ANSI standards for wall thickness of body and caps, and flange thickness and drilling, subject to other specified standards.

PAINT

Ferrous surfaces of the valve shall be coated with NSF Certified Epoxy (Tnemec Series FC20) in accordance with ANSI/NSF Std. 61, and conforming to AWWA D102 Inside System No. 1.

TESTING

A trio of tests shall be performed on the completely assembled valve prior to shipment. These shall include a hydrostatic test of up to two (2) times the working pressure (maximum 500 psi testing pressure), a tight seating test, and a performance test for simulated field conditions. The tests may be witnessed by the customer/engineer or representative.

The valve shall be equal in all respects to the Model 50RWR-A as manufactured by Ross Valve Mfg. Co., Inc, 6 Oakwood Ave, Troy, NY 12180.

Note: The Ross Valve Mfg. Co., Inc. reserves the right to modify valve construction which will result in equal or superior performance to existing designs. These modifications may be made at any time and at the sole discretion of the manufacturer.