SPECIFICATION
MODEL 70SWR-E
ELECTRICALLY ACTUATED SURGE CONTROL VALVE FOR WASTEWATER

APPLICATION

The wastewater surge control valve is a combination direct acting and hydraulically operated control valve that opens quickly when the inlet pressure exceeds the spring setting, then closes slowly via an adjustable dampening device. In addition, the valve incorporates an electrical control circuit which uses a low pressure signal to open the valve in anticipation of the surges associated with water hammer. After the valve relieves the necessary pressure, it slowly resumes a fully closed position.

DESIGN

The surge control valve shall be globe (inline) or angle (90 degree) body with flanged end connections. 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 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 a resilient seat packing and Buna o-ring seals to insure tight closure and prevent metal to metal friction and seating. The design shall be such that repairs and dismantling internally of main valve may be made without its removal from the line.

The springs shall be enclosed in a protective chamber and shall be concentric to the valve piston to insure proper alignment. For surge anticipation, a solenoid pilot valve, pressure transducer, control panel, and auxiliary pressure supply must be included with the valve. A mechanical scraper ring shall be utilized to protect the internal seals. The valve shall be furnished with an inlet side gauge-cock for receiving gauges and testing purposes. The external controls and all associated rigid brass piping and fittings necessary for proper operation (except the oil for the hydraulic chamber) 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 seat ring shall be grade 300 series stainless steel and shall be held in place via grade 300 series stainless steel fasteners. The seat support assembly shall be grade 300 series stainless steel.

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 70SWR-E 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.