



# PUMP CONTROL VALVE WITH MECHANICAL CHECK FEATURE

03/06

## 980 Series

—Model— **980-09-16**  
**680-09-16**

### Specifications

The Pump Control Valve shall be a pilot operated diaphragm valve designed to minimize the surges associated with the starting and stopping of pumps. The valve shall be designed to open at an adjustable rate upon pump start-up, and close at an adjustable rate upon pump shut-off. When the valve is near closed the limit switch shall be tripped, turning the pump off. The pump shall start and stop against a closed valve. The valve shall have provisions for manual operation in the event of power outage. Solenoid voltage shall be \_\_\_\_\_ and enclosure shall be NEMA 4 General Purpose.

The main valve shall be a hydraulically operated, single diaphragm actuated, globe or angle pattern valve. Y-pattern valves shall not be permitted. The valve shall contain a disc and diaphragm assembly that forms two separate sealed chambers: 1) between the diaphragm and the valve cover, and 2) between the diaphragm and the power chamber. The diaphragm shall be constructed of nylon reinforced Buna-N, and shall not seal directly against the valve seat and shall be fully supported by the power chamber. Rolling diaphragm construction will not be allowed and there shall be no pistons operating the main valve or any pilot controls.

The main valve body, cover, flanges, and all internal components shall be fabricated 304L Stainless Steel. The main valve trim and throttling components (cover bearing, valve seat and disc guide) shall be Stainless Steel.

The disc and diaphragm assembly shall contain a Buna-N synthetic rubber disc with a rectangular cross-section that is securely retained on 3-1/2 sides by a disc retainer and disc guide. It shall utilize a two-piece telescoping stem design that allows the lower portion of the disc and diaphragm assembly to act independently from the upper portion, regardless of valve position. The lower portion of the disc and diaphragm assembly shall act as a mechanical check feature that closes, preventing reverse flow, the moment flow ceases.

The exposed portion of the seat disc shall contact the valve seat and seal drip-tight. The disc and diaphragm assembly must be guided by two separate bearings, one installed in the valve cover and one concentrically located within the power chamber, to avoid deflection and assure positive disc-to-seat contact. Center guided valves will not be permitted. All necessary repairs shall be made from the top of the valve while the body remains in line.

The pilot control system shall be designed with a “shuttle-supply” to utilize the highest source of available pressure (upstream or downstream) to operate the valve. It shall contain a 4-Way Solenoid Pilot with a lever type Manual Operator, Single Limit Switch, separate Adjustable Opening and Closing Speed Controls, (2) Check Valves, (2) Y-Strainers and Isolation Ball Valves on all body connections. The pilot control system shall utilize copper tubing and brass fittings.

The valve shall be AMES Model 980GS-09-16 / 680GS-09-16 (Globe) or 980AS-09-16 / 680AS-09-16 (Angle) Pump Control Valve.