

**Standard Service**

Valve bodies shall be two or three way globe designed for use in modulating control applications. Body materials (Brass, Cast Iron, Cast Steel, Stainless Steel) shall be selected to match the pressure and temperature requirements of the fluid being controlled. Bodies shall be available in screwed ends through 2" and 125# or 250# flanged ends from 2 ½" and above.

Valve trims shall be constructed of stainless steel. Valve trim for two way valves shall be of the equal percentage type. Valve trim for three way valves shall be linear. Trim sets will be of the single seated type. Double seated valves may be selected to accommodate close off pressures in water applications only. The manufacturer shall certify Class III or Class IV leakage.

Valves shall be sized to meet the flow requirements of the system being controlled. Operators and trim will be sized to meet 110% of the pump head for the pump serving the involved system.

All valves will be hydrostatically tested and certified at the manufacturer.

Operators shall be of the pneumatic diaphragm type. Actuators will be spring loaded to provide fail safe operation upon loss of supply air. Actuators will be selected to meet the temperature and pressure requirements of the fluid being controlled, however, iron yokes must be used for fluid temperatures above 399 deg F or for steam above 39 psi. Pilot positioners shall be supplied on all valves requiring sequencing with other valves or when supply air pressures are greater than 20psi. Hand wheel overrides shall be available for all actuator models.

Operators shall be of the electric type utilizing a 120vac power supply and accepting a 3 point floating or proportional 0-10 vdc control signal.

Valves shall be Warren Controls or approved equal.

**Severe Service**

**Globes**

Valve bodies shall be two or three way globe designed for use in modulating control applications. Body materials (Brass, Cast Steel, Stainless Steel) shall be selected to match the pressure and temperature requirements of the fluid being controlled. Bodies shall be available in screwed or BWE butweld ends through 2" and ANSI Class 150 or class 300 flanged ends from 2 ½" and above.

Valve trims shall be constructed of stainless steel. Trim sets will be of the single seated type. The manufacturer shall certify Class IV or Class VI leakage. All valves will have a minimum turn down ratio of 50:1.

Valves shall be sized to meet the flow requirements of the system being controlled. Operators and trim will be sized to meet 110% of the pump head for the pump serving the involved system.

All valves will be hydrostatically tested and certified at the manufacturer.

Operators shall be of the high pressure pneumatic diaphragm or linear cylinder type. Actuators will be spring loaded to provide fail safe operation upon loss of supply air. Pilot positioners will be supplied on all valves.

Valves shall be Warren Controls series 1800,2800 or 5800 globe valves.

## **Rotary Control Valves**

In applications requiring large flow rates and high close off pressures Rotary Control valves will be considered in lieu of the above.

Body materials (Cast Steel, Stainless Steel) shall be selected to match the pressure and temperature requirements of the fluid being controlled. Bodies shall be ANSI class 300 with ANSI class 150 or class 300 flanged ends.

Valve trims shall be constructed of stainless steel or ceramic. Trim sets will be of the 90 degree eccentric seating type full or V cut.

Valves shall be sized to meet the flow requirements of the system being controlled.

All valves will be hydrostatically tested and certified at the manufacturer.

Pneumatic operators shall be of the high pressure double acting rotary piston type, spring loaded when failsafe is required. Pilot positioners will be supplied on all valves.

Electric operators will be NEMA 4 rated for outdoor use. Operators will be 120 vac accepting 3 point floating or standard electronic analogue inputs. Operators will be equipped a domed position indicator, internal heater and manual declutchable hand wheel override.

Valves shall be Warren Controls series 3800 or 4800 rotary control valves.