

**PUMP CHECK VALVES
SUGGESTED SPECIFICATION**



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Page 1
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Scope - This section covers 4"-36" Eccentric Plug Valves described herein. Plug valves shall be furnished complete with operating mechanisms, controls and accessories as specified.

Manufactures Experience - Plug valves and actuators shall be the product of a manufacturer regularly engaged in the production of equipment of the type specified and shall have been in successful operation for not less than 5 years.

Pump check valves shall be eccentric plug valves unless otherwise specified.

Valves shall be of the non-lubricated eccentric type with resilient faced plugs and shall be furnished with end connections as shown on the plans. Flanged valves shall be faced and drilled to the ANSI 125/150 lb. standard.

Bodies shall be of ASTM A126 Class B cast iron. Seats shall be a 1/8" welded overlay of not less than 90% pure nickel. Seat area shall be raised, with raised surface completely covered with weld to insure that the plug face contacts only nickel.

Plugs shall be of ASTM A126 Class B cast iron. The plug shall have a cylindrical seating surface eccentrically offset from the center of the plug shaft. The interference between the plug face and body seat, with the plug in the closed position, shall be externally adjustable in the field with the valve in the line under pressure. Plug shall be Chloroprene (CR) or resilient facing suitable for application.

Bearings shall have sleeve type metal bearings and shall be of sintered, oil impregnated permanently lubricated type 316 ASTM A743 Grade CF8M. Non-metallic bearings shall not be acceptable.

Shaft seals shall be of the multiple V-ring type and shall be externally adjustable and repackable without removing the actuator or bonnet from the valve under pressure. Valves utilizing O-ring seals or non-adjustable packing shall not be acceptable.

Pressure ratings shall be 175 psi on sizes 1/2"-12" (15-300mm) and 150 psi for 14" - 72" (350-1800mm). Every valve shall be given a hydrostatic and seat test with test results being certified when required by the specifications.

Cylinder operators shall be of the rack and gear type, and shall be enclosed in a cast iron housing and be suitable for running in a lubricant with seals provided on all shafts to prevent entry of dirt and water into the actuator. The actuator shaft and the pinion quadrant shall be supported on permanently lubricated bronze bearings.

Cylinder tubes shall be fiberglass with molybdenum disulphide lining. Interior shall be glass smooth. Piston, cylinder heads and caps shall be cast iron.

Actuators shall clearly indicate valve position and an adjustable stop shall be provided to set closing torque and to provide adjustment to compensate for change in pressure differential or flow direction change. All exposed nuts, bolts and washers shall be zinc plated or stainless steel

Cylinder actuators shall be sized to operate with ____ psi cylinder pressure at a maximum valve shutoff pressure of ____ psi.

Pump Check controls shall include the following:

- *Pneumatic* - 4-way 120VAC solenoid valve used in automatic open/close operation, and shall be of sufficient size to allow fast operation of pump check valve.
- *Water-hydraulic* - 4-way 120VAC solenoid valve used in automatic open/close operation for piloting main 4-way switch valve. Switch valve shall be of sufficient size to allow fast operation of pump check valve.
- Adjustable open and close speed controls, capable of matching the pump check valve operation speeds to the requirements of the pump system.
- 4 SPDT limit switches for open, closed, and intermediate position indication. The intermediate position can be adjusted, and can interface with the pump motor controls, allowing coordination between the pump shut down sequence and valve closure.
- Manual/Auto selector to allow choosing between local manual operation and automatic operation via the 4-way solenoid valve.
- If required, optional 2-way 120VAC solenoid, fail open, for rapid closure in the event of pumping system failure.

Pump Check valves shall be manufactured by DeZURIK, Inc.