All valves shall be APCO model SRA-3000A Surge Relief Angle Valves as manufactured by DeZURIK or approved equal.

**Surge Relief Angle Valves** shall be normally closed against the system pressure by external spring(s) in compression and shall open quickly to relieve pressure when the system pressure exceeds the pressure relief setting. The pressure relief setting shall be factory set and field adjustable by adjusting the spring compression. The valve will begin to close when the system pressure subsides below the pressure relief setting. The closing speed shall be adjustable to suit the application by means of infinitely adjustable, lockable flow control valve.

**Body** shall be a 90 degree elbow design conforming to the center-to-face dimension for long-radius elbows per ASME B16.1 and ASME B16.42. Valve shall be a compact design to fit in tight installation spaces.

**Body and cover** shall be constructed of ASTM A536 Grade 65-45-12 ductile iron. Body Seat shall be 316 stainless steel. Flanges shall be flat faced and conform to ASME B16.42 Class 150. Valve shall be proof-of-design tested to 5,000 cycles.

A self-contained, sealed hydraulic system shall provide closing speed control. The valve cover shall provide an air gap between the line fluid and the hydraulic oil that will indicate seal wear and prevent contamination of line fluid or hydraulic oil. The valve shall be capable of being mounted in any position without modification or customization of the hydraulic system components. A mechanical stroke counter with manual reset shall provide local indication of total valve cycles.

**External spring(s)** located on the valve cover in a protective steel enclosure shall provide closing force. Springs shall be sized to optimally match customer-specified relief pressure setting to minimize pressure rise above the set-point in order to fully open valve. A single adjustment screw shall be provided for field adjustment of relief pressure setting.

**Valve Disc** shall have a replaceable seat ring of Acrylonitrile-Butadiene (NBR); Terpolymer of Ethylene, Propylene and A Diene (EPDM) or Fluoro Rubber (FKM) for tight shutoff.

**Warranty** Valves and actuators shall be warranted by the manufacturer for defects in materials and workmanship for a period of two years (24 months) from date of shipment.