



SECTION 40_XX_XX SURGE RELIEF ANGLE VALVE

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Surge Relief Angle Valve

- B. Related Sections:
 - 1. (provided by the engineer)
 - 2. (provided by the engineer)
 - 3. (provided by the engineer)

1.02 REFERENCES

- A. ASME B16.42 Ductile Iron Pipe Flanges and Flanged Fittings
- B. ASME B16.5 Steel Pipe Flanges and Flanged Fittings
- C. ASME B16.1 Gray Iron Pipe Flanges and Flanged Fittings

1.03 SUBMITTALS

- A. (provided by the engineer)

1.04 WARRANTY

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

PART 2 - PRODUCTS

2.01 GENERAL

- A. (provided by the engineer)

2.02 SURGE RELIEF ANGLE VALVE

- A. Manufacturers: APCO SRA or pre-approved equal
- B. Design:
 - 1. Surge Relief Angle Valve has an elbow body with a smooth flow area and minimal obstructions. The valve is set by the factory in a normally closed position with the external spring(s) in compression.
 - 2. General:
 - a. Body shall be a 90 degree elbow design conforming to the center-to-face dimension for long-radius elbows per ASME B16.1 & ASME B16.42
 - b. Disc shall have a replaceable resilient seat ring
 - c. Cover shall provide an air gap between the fluid and the hydraulic oil that will indicate seal wear and prevent contamination of line fluid or hydraulic oil
 - d. External spring(s) shall be protected in a steel enclosure on the valve cover and include a lockable flow control valve for infinite adjustment of the spring compression for field adjustment
 - e. Hydraulic system shall be sealed and self-contained
 - f. Mechanical stroke counter with manual reset shall provide local indication of total valve cycles
 - g. Valve can be mounted in any position without modification or customization of the hydraulic system components



C. Materials:

1. Body: Ductile Iron ASTM A536 Gr.65-45-12
2. Cover: Ductile Iron ASTM A536 Gr.65-45-12
3. Body Seat: Aluminum Bronze C95200 or 316 Stainless Steel ASTM A240
4. Cover & Body Seat Ring: Acrylonitrile-Butadiene (NBR), Terpolymer of Ethylene Propylene and A Diene (EPDM) or Fluoro Rubber (FKM)
5. Compression Spring: Alloy Steel ASTM A125
6. Spring Compression Guide: Carbon Steel ASTM A108 Gr 1018, ASTM A36 or Ductile Iron ASTM A536 Gr.65-45-12
7. Spring Compression Top Flange: Carbon Steel ASTM A108 Gr 1018 or ASTM A36
8. Upper & Lower Shaft: 303 Stainless Steel ASTM A582 Condition A
9. Disc: Carbon Steel ASTM A108 Gr 1018 or 316 Stainless Steel ASTM A240/A276
10. Piston: Carbon Steel ASTM A108 Gr 1018 or ASTM A36

D. Testing:

1. Valve shall be proof-of-design tested to 5,000 cycles.
2. Certified test reports shall be available upon request.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Install valves as specified in section (filled in by the engineer) and the manufacturer's instructions.
- B. (verbiage by engineer instructing how discharge piping should be installed)

3.02 COMMISSIONING

- A. Field testing (verbiage by engineer)