* 1. PRESSURE RELIEF VALVE - SEWAGE

A. Supply a *insert size* Singer Model A106 –DL Dynamic Lifter – Sewage Pressure Relief Valve.

* 1. The valve shall be equipped with the following available options:
     1. *specify*
     2. *specify*
     3. *specify*.
  2. Singer Valve schematic *specify*.

1. Function: The valve shall be a piston operated spring loaded direct acting pressure relief valve for use with sewage or waste water. The angle body relief valve shall open quickly and fully when the inlet pressure meets or exceeds a predetermined pressure setting, to relieve damaging overpressure and close smoothly at an adjustable speed. The valve shall close drip tight when pressure is below the relief setpoint.
2. Operation: The Dynamic Lifter shall be a normally closed angle body relief valve that remains closed when the upstream pressure is below the adjustable spring setting. A piston operated valve opening shall be operated using mineral oil with inlet pressure transmitted to and isolated from the sewage using a Diaphragm Isolator. When inlet supply pressure, applying pressure to the inner valve area, exceeds the adjustable direct acting spring load, the valve shall open fully due to the diaphragm isolator pressure increase into the valve piston chamber. An adjustable closing speed control shall allow the valve to close slowly by controlling the flow rate of the mineral oil from the piston and back into the Diaphragm Isolator chamber. The valve shall have a provision to connect an external pressure to cycle the relief valve for clean out and test purposes and to field set the relief pressure. The maintenance test shall be clean and sanitary to the operator. The Dynamic Lifter shall be provided with valve body ports of adequate size to provide inspection and clean out.
   1. Quality Assurance
3. The control valve shall be tested prior to shipment. The standard test shall include a functional stroke test and pressure and leak test of valve body, seat, fitted pilots and accessories.
4. The control valve shall be covered by a minimum three (3) year warranty against defects in materials and workmanship. The 316 stainless steel seat ring shall be covered by a lifetime guarantee.
5. All control valve maintenance and repairs shall be possible without removing the main valve body from the line, when installed in accordance with manufacturer’s recommendations.
   1. Main Valve
6. The main valve shall be a *insert size* Singer model A106-DL single chamber, piston operated spring loaded direct acting control valve.
7. The main valve with removable adapter shall be constructed of ASTM A536 (Grade 65/45/12) ductile iron.
8. The main valve trim, consisting of seat ring and stem shall be constructed of AISI 316 stainless steel. The valve stem shall have anti-scaling oxy-nitrite coating to reduce mineral or debris build-up.
9. The main valve shall provide a drip-tight seal using a mechanically retained resilient disc, having a rectangular cross section, against the stationary AISI 316 stainless steel seat ring.
10. The stationary AISI 316 stainless steel seat ring shall be held in place using Spiralock® self-locking screws and seat ring retainers.
11. All internal and external ferrous components, including all mating surfaces, shall be coated with an NSF-61 approved fusion bonded epoxy to a minimum of 10 mils DFT-Dry Film Thickness.
12. The main valve and diaphragm isolator elastomer seals shall be of EPDM or Buna-N.
13. All main valve fasteners (bolts, nuts, studs, cap screws) shall be supplied as AISI 18-8 or 304 stainless steel.
14. Valve shall have flanged end connections. Flanged connections shall be *specify ANSI/ASME B16.42 Class 150# or ISO 7005-2 PN10/16* flange drilled, faced and rated.
    1. Pilot Controls
15. The Diaphragm Isolator shall be constructed of ASTM A536 (Grade 65/45/12) ductile iron with fusion bonded epoxy coating to a minimum of 10 mils DFT-Dry Film Thickness.
16. An adjustable needle valve closing speed control shall be supplied as *specify material ASTM B16 brass or AISI 316 stainless steel*.
17. A 2.5” (65mm) glycerine filled pressure gauge with gauge isolation shall be provided.
18. The pilot fittings shall be supplied as *specify material ASTM B16 brass or AISI 316 stainless steel*.
19. The pilot tubing shall be supplied as PTFE lined flexible braided stainless steel.
20. Pilot isolation and test ball valves shall be constructed of *specify material B16 brass or 316 stainless steel* with stainless steel handle operator.
    1. Control Valve Components – Available Options

A. *specify.*