

## **1 General**

### **1.1 RELATED REQUIREMENTS**

- .1 Specification 21 05 01 – Common Work Results – Mechanical.

### **1.2 REFERENCES**

- .1 American Society of Mechanical Engineers (ASME):
  - .1 ASME-04 (2007), Boiler and Pressure Vessel Code.
- .2 ASTM International Inc.
  - .1 ASTM A47/A47M-99 (2004), Standard Specification for Ferritic Malleable Iron Castings.
  - .2 ASTM A278/A278M-01 (2006), Standard Specification for Gray Iron Castings for Pressure-Containing Parts for Temperatures up to 650 degrees F (350 degrees C).
  - .3 ASTM A516/A516M-06, Standard Specification for Pressure Vessel Plates, Carbon Steel, for Moderate - and Lower - Temperature Service.
  - .4 ASTM A536-84 (2004), Standard Specification for Ductile Iron Castings.
  - .5 ASTM B62-02, Standard Specification for Composition Bronze or Ounce Metal Castings.
- .3 Canadian Standards Association (CSA International)
  - .1 CSA B51, Boiler, Pressure Vessel, and Pressure Piping Code.

### **1.3 SUBMITTALS**

- .1 Provide Shop Drawing and Maintenance Manual submittals in accordance with Section 01 33 00 - Submittal Procedures and section 21 05 01 – Common Work Results - Mechanical.

## **2 Products**

### **2.1 PIPE LINE STRAINERS**

- .1 NPS 1/2 to 2: bronze body to ASTM B62, solder end piping connections, Y pattern.
- .2 Screen: stainless steel or brass with 1.19 mm perforations.
- .3 Working pressure: 860 kPa.
- .4 Acceptable Materials: Mueller, Parker Kaefler Inc., Spriax/Sarco, Victaulic; Style 732.

### **2.2 CIRCUIT BALANCING VALVES**

- .1 Calibrated circuit balancing Valves: up to and including 50 mm diam. shall be Y-pattern style design; 860 kPa max. working pressure. All metal parts of non-ferrous pressure die cast, non-porous copper alloy. IPS connections unless

otherwise noted. The valve shall have four 360 degrees adjustment turns of hand wheel for maximum setting. Concealed memory feature c/w locking tamper-proof setting.

- .2 Provide polyurethane insulated enclosure/kit.
- .3 Operating Range: -20 deg. C to +120 deg. C.
- .4 Ametal construction; EPDM seals.
- .5 Acceptable Materials: Victaulic Tour & Andersson Style 787.

### **2.3 DRAIN VALVES**

- .1 Bronze construction complete with backflow preventer, 19 mm diam. hose thread spout c/w cap and chain, replaceable composition disc, and chrome plated in finished areas.
- .2 Acceptable Material: Crane.

### **2.4 PIPE PENETRATION SEALS**

- .1 Modular, thru-the-wall and thru-the-floor, core-drilled, pipe penetration seals:
  - .1 Rubber links to make water-tight/continuously fill the annular space between the pipe and the core-drilled wall opening.
  - .2 Size: NPS 6 (nominal 150 mm diam., Schedule 40 ductile iron piping).
  - .3 Rated at 14.1 m head (20 psig).
  - .4 Carbon steel nuts and bolts per ASTM B633 with 2 part zinc plated dichromate hardware c/w corrosion resistant organic coating.
  - .5 Black EPDM seal element.
  - .6 Temperature range: -40 to 121 deg.C.
  - .7 Tensile strength: 413.4 MPa (60,000 psig).
  - .8 Composite pressure plates molded of glass reinforced nylon.
  - .9 Tested in accordance with ASTM B-117 to pass a 1,500-hour salt spray test.
  - .10 Manufactured with materials conforming to ASTM D-256, ASTM D-297,
  - .11 ASTM S-395, ASTM D-412, ASTM D-638, ASTM D-790, ASTM D-792 and ASTM D-2240.
  - .12 Penetration/hole size: 254 mm. 10 links per seal.
  - .13 Acceptable Materials: PSI-Thunderline/ Link-Seal® Modular Seal, Series "C", Model "LS-410-C", as manufactured by Pipeline Seal & Insulator, Inc, Houston, TX, or approved equivalent.

## **3 Execution**

### **3.1 GENERAL**

- .1 Comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheets.
- .2 Run drain lines and blow off connections to terminate above nearest drain.

- .3 Maintain adequate clearance to permit service and maintenance.
- .4 Should deviations beyond allowable clearances arise, request and follow Departmental Representative's directive.
- .5 Check shop drawings for conformance of tappings for ancillaries and for equipment operating weights.

### **3.2 STRAINERS**

- .1 Install in horizontal or down flow lines.
- .2 Ensure clearance for removal of basket.
- .3 Ensure factory installed strainer mesh is removed and replaced with final operating mesh prior to turnover.

### **3.3 CIRCUIT BALANCING VALVES**

- .1 Permanently mark setting on each valve.
- .2 Secure insulation kit in place.

### **3.4 PIPE PENETRATION SEALS**

- .1 Install as per the manufacturer's instructions.

**END OF SECTION**