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**PART 1        GENERAL**

**1.1            REFERENCE STANDARDS**

- .1        ASME
  - .1            ASME Boiler and Pressure Vessel Code (BPVC), Section VII.
- .2        ASTM International
  - .1            ASTM A 47/A 47M (Latest Edition), Standard Specification for Ferritic Malleable Iron Castings.
  - .2            ASTM A 278/A 278M (Latest Edition), Standard Specification for Grey Iron Castings for Pressure-Containing Parts for Temperatures up to 650°F (350°C).
  - .3            ASTM A 516/A 516M (Latest Edition), Standard Specification for Pressure Vessel Plates, Carbon Steel, for Moderate - and Lower - Temperature Service.
  - .4            ASTM A 536 (Latest Edition), Standard Specification for Ductile Iron Castings.
  - .5            ASTM B 62 (Latest Edition), Standard Specification for Composition Bronze or Ounce Metal Castings.
- .3        CSA Group
  - .1            CSA B51 (Latest Edition), Boiler, Pressure Vessel, and Pressure Piping Code.

**1.2            ACTION AND INFORMATIONAL SUBMITTALS**

- .1        Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2        Product Data:
  - .1            Submit manufacturer's instructions, printed product literature and data sheets for expansion tanks, air vents, separators, valves, and strainers and include product characteristics, performance criteria, physical size, finish and limitations.

**1.3            CLOSEOUT SUBMITTALS**

- .1        Submit in accordance with Section 01 78 00 - Closeout Submittals.
- .2        Operation and Maintenance Data: submit operation and maintenance data for hydronic specialties for incorporation into manual.
- .3        Submit 2 copies of operation and maintenance manual.

**1.4            DELIVERY, STORAGE AND HANDLING**

- .1        Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements and with manufacturer's written instructions.
- .2        Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3        Storage and Handling Requirements:

- .1 Store materials off ground indoors in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
- .2 Store and protect hydronic specialties from nicks, scratches, and blemishes.
- .3 Replace defective or damaged materials with new.

## **PART 2 PRODUCTS**

### **2.1 AUTOMATIC AIR VENT**

- .1 Standard float vent: brass body and NPS 1/8 connection and rated at 690 kPa working pressure.

### **2.2 PIPE LINE STRAINER**

- .1 NPS 1/2 to 2: bronze body to ASTM B 62, solder end screwed connections, Y pattern.
- .2 Blowdown connection: NPS 1.
- .3 Screen: stainless steel or brass with 1.19 mm perforations.
- .4 Working pressure: 860 kPa.

## **PART 3 EXECUTION**

### **3.1 EXAMINATION**

- .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for hydronic specialties installation in accordance with manufacturer's written instructions.
  - .1 Visually inspect substrate in presence of Departmental Representative.
  - .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
  - .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.

### **3.2 APPLICATION**

- .1 Manufacturer's Instructions: comply with manufacturer's written recommendations, including product technical bulletins, handling, storage and installation instructions, and datasheets.

### **3.3 GENERAL**

- .1 Run drain lines and blow off connections to terminate above nearest drain.
- .2 Maintain adequate clearance to permit service and maintenance.

- .3 Should deviations beyond allowable clearances arise, request and follow Departmental Representative's directive.
- .4 Check shop drawings for conformance of tappings for ancillaries and for equipment operating weights.

### **3.4 STRAINERS**

- .1 Install in horizontal or down flow lines.
- .2 Ensure clearance for removal of basket.
- .3 Install ahead of each pump.
- .4 Install ahead of each automatic control valve and radiation and as indicated.

### **3.5 AIR VENTS**

- .1 Install at high points of systems.
- .2 Install gate valve on automatic air vent inlet. Run discharge to nearest drain or service sink.

### **3.6 CLEANING**

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
  - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.

**END OF SECTION**