SECTION 23 2214
STEAM AND CONDENSATE HEATING SPECIALTIES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Steam traps.

B. Control valves.

1.2 RELATED REQUIREMENTS

A. Section 23 2213 - Steam and Condensate Heating Piping.

1.3 REFERENCE STANDARDS

A. ASME B31.9 - Building Services Piping; 2014.

B. ASTM A126 - Standard Specification for Gray Iron Castings for Valves, Flanges, and Pipe Fittings; 2004 (Reapproved 2014).

C. ASTM A276/A276M - Standard Specification for Stainless Steel Bars and Shapes; 2016.

1.4 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data:
   1. Provide for manufactured products and assemblies required for this project.
   2. Include product description, model, dimensions, component sizes, rough-in requirements, service sizes, and finishes.
   3. Submit schedule indicating manufacturer, model number, size, location, rated capacity, load served, and features for each specialty.
   4. Include electrical characteristics and connection requirements.

C. Manufacturer's Installation Instructions: Indicate application, selection, and hookup configuration. Include pipe and accessory elevations.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Accept valves on site in shipping containers with labeling in place. Inspect for damage.

B. Provide temporary end caps and closures on piping and fittings. Maintain in place until installation.

C. Protect piping systems from entry of foreign materials by temporary covers, completing sections of the work, and isolating parts of completed system.

PART 2 PRODUCTS

2.1 STEAM TRAPS

A. Steam Trap Applications:
   1. Use Thermostatic Steam Traps for:
      a. Steam radiation units.
   2. Use Inverted Bucket Steam Traps for:
      a. Branch lines.

B. Steam Trap Performance:
   1. Select to handle minimum of two times maximum condensate load of apparatus served.
   2. Pressure Differentials:
      a. Low Pressure Systems (5 psi (34 kPa) and less): 1/2 psi (3.4 kPa).

C. Inverted Bucket Traps: ASTM A126, cast iron or semi-steel body with bolted cover, brass bucket, stainless steel seats and plungers, and stainless steel lever mechanism with knife edge operating surfaces.

SPECIALTIES

1. Rating: 60 psi (443 kPa) WSP.
2. Features: Access to internal parts without disturbing piping, top test plug, bottom drain plugs.
3. Accessories:
   a. Integral inlet strainer of brass.
   b. Integral inlet check valve.
   c. Integral bimetal air vent.

2.2 AUTO CONTROL VALVES

A. Manufacturers:
   1. Danfoss, LLC.; www.na.heating.danfoss.com.
      a. RA2000 with remote dial and sensor

B. Materials:
   1. Valve Body: Nickel plated brass.
   2. Valve Spindle: Brass, comply with ASTM A276/A276M, Type 431.
   3. Actuator Spring: Silicon chromium spring steel.
   4. Remote dial and sensor

PART 3 EXECUTION

3.1 INSTALLATION

A. Install steam and steam condensate piping and specialties in accordance with ASME B31.9.

B. Install specialties in accordance with manufacturer's instructions.

C. Steam Traps:
   1. Coordiante size with existing piping. Provide minimum 3/4 inch (20 mm) size on steam mains and branches.
   2. Install with union or flanged connections at both ends.
   3. Provide gate valve and strainer at inlet, and gate valve and check valve at discharge.
   4. Provide minimum 10 inch (250 mm) long, line size dirt pocket between apparatus and trap.

D. Remove thermostatic elements from steam traps during temporary and trial usage, and until system has been operated and dirt pockets cleaned of sediment and scale.

END OF SECTION