

SECTION 23 5700
HEAT EXCHANGERS FOR HVAC

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Shell and tube type heat exchangers.
- B. Plate type heat exchangers.
- C. Accessories and trim.

1.02 RELATED REQUIREMENTS

- A. Section 23 0913 - Instrumentation and Control Devices for HVAC.
- B. Section 23 2113 - Hydronic Piping.
- C. Section 23 2114 - Hydronic Specialties.
- D. Section 23 2213 - Steam and Condensate Heating Piping.
- E. Section 23 2214 - Steam and Condensate Heating Specialties.

1.03 REFERENCE STANDARDS

- A. ASME BPVC-VIII-1 - Boiler and Pressure Vessel Code, Section VIII, Division 1 - Rules for Construction of Pressure Vessels; 2015.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data with dimensions, locations, and size of tappings and performance data.
- C. Shop Drawings: Indicate dimensions, locations, and size of tappings and performance data.
 - 1. Design Data: Indicate in sufficient detail to verify that heat exchangers meet or exceed specified requirements.
 - 2. Test Reports: Indicate tube bundle pressure tests.
- D. Certificates: Certify that Products meet or exceed specified requirements.
- E. Manufacturer's Instructions: Indicate installation and support requirements.
- F. Operation and Maintenance Data: Include start up and shut down instructions, assembly drawings, and spare parts lists.
- G. Warranty: Submit manufacturer's warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

1.05 REGULATORY REQUIREMENTS

- A. Conform to ASME BPVC-VIII-1 for manufacture of tubular heat exchangers and heat exchanger shells.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Protect internals from entry of foreign material by temporary caps on flanged openings.

1.07 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Provide five year manufacturer warranty for _____.

PART 2 PRODUCTS

2.01 SHELL AND TUBE TYPE HEAT EXCHANGER

- A. Manufacturers:
 - 1. Armstrong Pumps Inc; _____: www.armstrongpumps.com.
 - 2. Baltimore Aircoil Company; _____: www.baltimoreaircoil.com.
 - 3. Bell & Gossett, a xylem brand; _____: www.bellgossett.com.

- 4. Substitutions: See Section 01 6000 - Product Requirements.
- B. Tubes: Straight tube type with enhanced (spiral surface) copper tubes suitable for 150 psi working pressure.
- C. Shell: Steel pipe with threaded or flanged piping connections and necessary tapings, steel saddle and attaching U-bolts, prime coated.
- D. Heads: Cast iron or fabricated steel with steel or bronze tube sheets, threaded or flanged for piping connections.
- E. Water Chamber and Tube Bundle: Removable for inspection and cleaning.
- F. Design: Heating fluid in shell and heated fluid in tubes.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install to permit removal of tube bundle with minimum disturbance to installed equipment and piping.
- C. Pitch shell to completely drain condensate.
- D. Pipe relief valves to nearest floor drain.
- E. Pipe drain valves to nearest floor drain.

3.02 STEAM TO WATER HEAT EXCHANGER TRIM

- A. Shell: Pressure gage tapping with pigtail siphon, vacuum breaker; refer to Section 23 2214.
- B. Water Inlet: Thermometer well, pressure gage tapping, valved drain; refer to Section 23 2114.
- C. Water Outlet: Thermometer well for temperature regulator sensor, ASME rated pressure and temperature relief valve, thermometer well, pressure gage tapping; refer to Section 23 2114.

END OF SECTION 23 5700