

SPECIAL SPECIFICATION

SECTION 15710S

HEAT EXCHANGERS

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Shell and tube type heat exchangers, plate type heat exchangers and accessories and trim.

1.02 RELATED SECTIONS

- A. Section 13085S – Seismic Protection
- B. Section 15060S - Hangers and Supports:
- C. Section 15120S - Piping Specialties: Product requirements for heat exchanger trim for placement by this section.

1.03 REFERENCES

- A. ASME - Boilers and Pressure Vessels Code.

1.04 SUBMITTALS

- A. Shop Drawings: Indicate dimensions, locations, and size of taps, support frame.
- B. Product Data: Submit performance data.
- C. Test Reports: Indicate shop test reports of tube bundle pressure tests.
- D. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- E. Operation and Maintenance Data: Submit start-up and shut down instructions, assembly drawings, and spare parts lists.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum three years [documented] experience.
- B. Installer Qualifications: Company specializing in performing Work of this section with minimum three years [documented] experience [approved by manufacturer].

1.06 PRE-INSTALLATION MEETING

- A. Convene minimum one week prior to commencing Work of this section.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Accept heat exchangers on site in factory protective packaging. Inspect for damage.
- B. Protect entry of foreign material into openings with temporary caps.

1.08 FIELD MEASUREMENTS

- A. Verify field measurements prior to fabrication.

1.09 WARRANTY

- A. Provide five-year manufacturer warranty for heat exchangers.

1.10 EXTRA MATERIALS

- A. Supply two sets of replacement gaskets.
- B. Supply one set of wrenches for disassembly of plate type heat exchangers.

PART 2 - PRODUCTS

2.01 SHELL AND TUBE TYPE HEAT EXCHANGERS

- A. Manufacturers:
 - 1. Baltimore Aircoil Co.
 - 2. ITT Bell & Gossett.
 - 3. Patterson-Kelley Co.

- B. Tubes: U-tube type with 3/4-inch OD minimum seamless copper tubes suitable for 125 pounds per square inch-Gauge Working pressure.
- C. Shell: Steel with threaded or flanged piping connections and necessary taps, steel saddle and attaching U-bolts, prime coated. Thermometer wells, drain taps.
- 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.

2.02 PLATE TYPE HEAT EXCHANGERS

- A. Manufacturers:
 - 1. Baltimore Aircoil Co.
 - 2. ITT Bell & Gossett.
 - 3. Patterson-Kelley Co.
- B. Frames: Carbon steel with baked epoxy enamel paint, [stainless steel] side bolts and shroud.
- C. Plates: Stainless steel Type 316.
- D. Gaskets: Ethylene propylene diene monomer (EPDM).
- E. Nozzles: 150 pounds per square inch-Gauge ASA rubber rated flange type.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Install with clearance to permit removal of tube bundle or plates with minimum disturbance to installed equipment and piping.

- B. Support heat exchangers on welded steel pipe and angle floor stand.
- C. Pitch shell to completely drain condensate.
- D. Pipe relief and drain valves to nearest floor drain.
- E. Provide water to water heat exchanger with trim as follows:
 - 1. Water Inlets and Outlets: Thermometer wells and pressure Gauge taps.
 - 2. Heated Water Outlet: Thermometer well for temperature regulator sensor, ASME rated pressure and temperature relief valve and drain with valve.

3.02 SCHEDULES

HEAT EXCHANGERS – Reference Drawings.

END OF SECTION