

SECTION 23 82 33 CONVECTORS

PART 1 - GENERAL

1.1 STIPULATIONS

- A. The specifications sections "General Conditions to the Construction Contract", "Special Conditions" and "Division 01 - General Requirements" form a part of this Section by this reference thereto, and shall have the same force and effect as if printed herewith in full.

1.2 SUMMARY

- A. This Section includes the following types of hydronic heating elements:
 - 1. Fin tube radiation

1.3 ACTION SUBMITTALS

- A. Product data for each type of product specified. Include rated capacities, operating characteristics, furnished specialties, and accessories.
- B. Shop drawings detailing fabrication and installation of products, including manufacturer's standard fabrication drawings and related information.
 - 1. Include plans, elevations, sections, and details.
 - 2. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
 - 3. Indicate location and size of each field connection.
 - 4. Indicate location and arrangement of piping valves and specialties.

1.4 INFORMATIONAL SUBMITTALS

- A. Coordination drawings, including floor plans and sections drawn to accurate scale. Submit with shop drawings. Show unit layout and relationships between components and adjacent structural and mechanical elements. Show support locations, type of support, and weight on each support. Indicate penetrations of fire-rated wall and floor assemblies. Indicate and certify field measurements.
- B. Field quality-control reports.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance data for heating units to include in the operation and maintenance manuals.

1.6 COORDINATION

- A. Coordinate layout and installation of heating units with other installations.
 - 1. Coordinate height of fin tube radiation and convectors.
 - 2. Revise locations and elevations as required to suit field conditions and as approved by Architect.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Fin tube Radiation:
 - a. Sterling Radiator, division of Mestek, Inc.
 - b. Rittling, a Zehnder Group Company.
 - c. Sigma Corp.
 - d. Trane Company.
 - e. Vulcan Radiator, division of Mestek Inc.
 - f. Engineered Air.
 - g. Or equal as approved by the Professional.

2.2 HYDRONIC FIN TUBE RADIATION UNITS

- A. Performance Ratings: Rate baseboard radiation heaters according to Hydronics Institute's "I=B=R Testing and Rating Standard for Baseboard Radiation."
- B. Finned Tubes: Copper, with mechanically bonded aluminum fins.
- C. Backplate: 18-gauge steel, with flat black, heat-resisting enamel finish.
- D. Supports: Provide ball bearing brackets and element cradles for support of heating elements space not over 4'-0" on centers. All brackets must provide for silent, lengthwise movement of elements during expansion and contraction as well as aligning elements to prevent contact with walls or enclosure.
- E. Wall-Mounted Back Panel: Minimum 0.0329-inch-thick steel, full height, with full-length channel support for front panel without exposed fasteners.

2.3 SOURCE QUALITY CONTROL

- A. Test radiators and convectors to no less than 150 psig underwater.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine heating units for compliance with requirements for installation tolerances and other conditions affecting performance of units.
- B. Examine roughing-in for piping connections to verify actual locations before installation of heating units.
- C. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install heating units level and plumb, according to manufacturer's written instructions, rough-in drawings, the original design, and referenced standards.
- B. Connect hydronic heating units and components to hydronic piping according to Division 23 Section "Hydronic Piping."

3.3 FIELD QUALITY CONTROL

- A. Testing: After installing and connecting units, demonstrate product capability and compliance with requirements.
 - 1. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
- B. Units will be considered defective if they do not pass tests and inspections.
- C. Remove and replace malfunctioning units with new units and retest.

3.4 CLEANING

- A. After completing system installation, including outlet fittings and devices, inspect exposed finish. Remove burrs, dirt, and construction debris; repair damaged finishes, including chips, scratches, and abrasions.
 - 1. Touch-up Painting: Apply touchup paint to match factory finish on minor scratches in the cabinet / enclosure finish. Large visible scratches will require cabinet/enclosure replacement, at the direction of the Architect / Engineer.

END OF SECTION