

**Oakhurst Dairy – New Milk Cooler****SECTION 15767 - ELECTRIC HEATERS****PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

**1.2 SUMMARY**

- A. This Section includes:
  - 1. Electric Baseboard Heaters

**1.3 SUBMITTALS**

- A. Product Data: Include specialties and accessories for each unit type and configuration.
- B. Shop Drawings: Submit the following for each unit type and configuration:
  - 1. Details of anchorages and attachments to structure and to supported equipment.
  - 2. Power, signal, and control wiring diagrams. Differentiate between manufacturer-installed and field-installed wiring.
  - 3. Equipment schedules to include rated capacities; shipping, installed, and operating weights; furnished specialties; and accessories.

**1.4 QUALITY ASSURANCE**

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

**1.5 COORDINATION**

- A. Coordinate layout and installation of propeller unit heaters and suspension system components with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, fire-suppression-system components, and partition assemblies.

**PART 2 - PRODUCTS****2.1 MANUFACTURERS**

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - 1. Qmark, Division of Marley Electric Heating
  - 2. Markel, Electric Heating Products
  - 3. Trane Company (The); North American Commercial Group.

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- A. Heating Elements: Nickel-chromium heating wire element enclosed in metallic sheath mechanically expanded into fins, with high-temperature cutout. Element supports eliminate thermal expansion noise.
- B. Enclosures: One piece, minimum 0.030-inch thick steel, with full-height back, end panel, end caps, to snap together. Front panel shall be easily removable.
  - 1. Enclosure Height: 4 ½ inches.
  - 2. Finish: Factory-applied baked enamel in color selected by Owner from manufacturer's standard colors.
  - 3. Element Brackets: Galvanized steel to support front panel and element glide.
- C. Unit Controls: Integral line-voltage bimetal thermostat.
- D. Capacity: 188 watts per foot. See schedules on drawing for total capacities.

**PART 3 - EXECUTION****3.1 EXAMINATION**

- A. Examine areas to receive propeller unit heaters for compliance with requirements for installation tolerances and other conditions affecting performance.
- B. Examine roughing-in for electrical connections to verify actual locations before propeller unit heater installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

**3.2 INSTALLATION**

- A. Install electric baseboard and finned-tube radiators level and plumb and according to the manufacturer's instructions.
- B. Install wall-mounting thermostats and switch controls in electrical outlet boxes at heights to match lighting controls.

**3.3 CONNECTIONS**

- A. Ground equipment.
- B. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.

**3.4 FIELD QUALITY CONTROL**

- A. Testing: Perform the following field quality-control testing and report results in writing:
  - 1. After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.
  - 2. Operate electric heating elements through each stage to verify proper operation and electrical connections.

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3. Test and adjust controls and safeties.
- B. Repair or replace malfunctioning units. Retest as specified above after repairs or replacements are made.

**3.5 CLEANING**

- A. After installing units, inspect unit cabinet for damage to finish. Remove paint splatters and other spots, dirt, and debris. Repair damaged finish to match original finish.

**3.6 DEMONSTRATION**

1. Train Owner's maintenance personnel on procedures and schedules for starting and stopping, troubleshooting, servicing, and maintaining equipment.
2. Review data in maintenance manuals. Refer to Division 1 Section "Closeout Procedures."

END OF SECTION 15767