

SECTION 238216.14 - ELECTRIC-RESISTANCE AIR COILS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes electric resistance air coils.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each air coil.
 - 2. Include rated capacities, operating characteristics, and pressure drops for each air coil.
- B. Shop Drawings: Include diagrams for power, signal, and control wiring.

1.4 COORDINATION

- A. Coordinate size, location and installation of coils with air-handling units to suit conditions and to ensure proper operation.

PART 2 - PRODUCTS

2.1 DESCRIPTION

- A. ASHRAE Compliance: Comply with applicable requirements in ASHRAE 62.1, Section 5 - "Systems and Equipment" and Section 7 - "Construction and Startup."

2.2 COILS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Brasch Manufacturing Co., Inc.
 - 2. Chromalox, Inc.
 - 3. Dunham-Bush, Inc.
 - 4. INDEECO

5. Trane

- B. Testing Agency Listing and Labeling: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- C. Coil Assembly: Comply with UL 1995.
- D. Heating Elements: Open-coil resistance wire of 80 percent nickel and 20 percent chromium, supported and insulated by floating ceramic bushings recessed into casing openings, and fastened to supporting brackets.
- E. High-Temperature Coil Protection: Disk-type, automatically reset, thermal-cutout, safety device; serviceable through terminal box without removing heater from duct or casing.
 - 1. Secondary Protection: Load-carrying, manually reset or manually replaceable, thermal cutouts; factory wired in series with each heater stage.
- F. Frames: Galvanized-steel channel frame, minimum 0.052 inch thick.
- G. Control Panel:
 - 1. Unit mounted with disconnecting means and overcurrent protection.
 - 2. Indoor control panels shall be NEMA 1 construction. Outdoor control panels shall be NEMA 3R construction with water-tight hubs for incoming power and control connection
 - 3. Include the following controls:
 - a. Magnetic contactor.
 - b. Mercury contactor.
 - c. SCR controller:
 - d. Time-delay relay.
 - e. Pilot lights; operate on load ratio.
 - f. Airflow proving switch.
 - g. Heating proving switch.
- H. Heater shall be capable of being installed in negative or positive pressure.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine air-handling unit casings to receive air coils for compliance with requirements for installation tolerances and other conditions affecting coil performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install coils level and plumb.

- B. Clean coils using materials and methods recommended in writing by manufacturers, and clean inside of casings and enclosures to remove dust and debris.

3.3 CONNECTIONS

- A. Ground equipment according to Section 260526 "Grounding and Bonding for Electrical Systems."
- B. Connect wiring according to Section 260519 "Low-Voltage Electrical Power Conductors and Cables."

3.4 FIELD QUALITY CONTROL

- A. Perform the following tests and inspections with the assistance of a factory-authorized service representative:
 - 1. Operational Test: After electrical circuitry has been energized, operate electric coils to confirm proper unit operation.
 - 2. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- B. Prepare test and inspection reports.

END OF SECTION 238216.14