

SECTION 233433 - AIR CURTAINS (Provided by Owner, Installed by Contractor)

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes air curtains with electric heat.

1.2 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Comply with AMCA 220, "Laboratory Methods of Testing Air Curtains for Aerodynamic Performance Ratings," for airflow, outlet velocity, and power consumption.
- C. Comply with ARI 410, "Forced-Circulation Air-Cooling and Air-Heating Coils," for components, construction, and rating.
 - 1. Certify coils according to ARI 410.
- D. Comply with NSF 37, "Air Curtains for Entranceways in Food and Food Service Establishments."

PART 2 - PRODUCTS

2.1 AIR-CURTAIN UNIT (Refer to Air Curtain Schedule)

- A. Equipment provided by Owner, installed by contractor.
- B. Housing:
 - 1. Materials: galvanized steel or extruded aluminum with electrostatically-applied epoxy-enamel finish over powdered mirror.
 - 2. Discharge Nozzle: Integral part of the housing, containing fixed air-directional vanes.
- C. Mounting Brackets: Steel, for wall mounting. Provide brackets and other mounting accessories as required to permit installation and proper functioning of air door to meet project conditions of use.
- D. Air-Intake Grille:
 - 1. Grille: Integral part of and same material as the housing.
- E. Fans:
 - 1. Forward curved.

2. Painted steel or Aluminum.
3. Statically and dynamically balanced.
4. Direct drive.

F. Electric-Resistance Coils:

1. Coil Assembly: Comply with UL 1995.
2. Frame: Galvanized-steel frame.
3. Heating Elements: Coiled resistance wire of 80 percent nickel and 20 percent chromium; surrounded by compacted magnesium-oxide powder in tubular-steel sheath; with spiral-wound, copper-plated, steel fins continuously brazed to sheath.
4. Overtemperature Protection: thermal-cutout serviceable through terminal box without removing heater from duct or unit.
5. Control Panel: Unit mounted with disconnecting means and overcurrent protection. Include the following controls:
 - a. Magnetic contactor.
 - b. Time-delay relay.
 - c. Airflow-proving switch.

G. Controls:

1. Automatic Door Switch: Roller type installed in door area to activate air curtain when door opens and to deactivate air curtain when door closes.
2. Start-Stop, Push-Button Switch: Manually activates and deactivates air curtain.
3. Time-Delay Relay: Factory installed and adjustable to allow air curtain to operate from 0.5 seconds to 10 hours.

H. Capacities and Characteristics: (Refer to Air Curtain Schedule)

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install air curtains with clearance for equipment service and maintenance.
- B. Equipment Installation: Install air curtains. Comply with requirements for seismic-restraint devices specified in Section 230548 "Vibration and Seismic Controls for."
- C. Comply with requirements for hangers and supports specified in Section 230529 "Hangers and Supports for HVAC Piping and Equipment."
- D. Where installing piping adjacent to equipment, allow space for service and maintenance of equipment.

3.2 FIELD QUALITY CONTROL

- A. Perform tests and inspections.

1. After installing air curtains completely, perform visual and mechanical check of individual components.
 2. After electrical circuitry has been energized, start unit to confirm motor rotation and unit operation. Certify compliance with test parameters.
 3. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- B. Air-curtain unit will be considered defective if it does not pass tests and inspections.
- C. Prepare test and inspection reports.

END OF SECTION 233433