

SECTION 15870

POWER VENTILATORS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Roof Exhausters.
- B. Cabinet Exhaust Fans.
- C. Cabinet Duct Fan.

1.02 RELATED SECTIONS

- A. Section 15170 - Motors, Drives, and Accessories.
- B. Section 15245 - Vibration Isolation.
- C. Section 15860 - Centrifugal Fans.
- D. Section 15865 - Axial Fans.
- E. Section 15890 - Ductwork.
- F. Section 15910 - Ductwork Accessories: Backdraft dampers.
- G. Division 16 - Electric.

1.03 REFERENCES

- A. Section 01400 - Quality Control.
- B. AMCA 99 - Standards Handbook.
- C. AMCA 210 - Laboratory Methods of Testing Fans for Rating Purposes.
- D. AMCA 261 - Directory of Products Licensed to Bear the AMCA Certified Ratings Seal.
- E. AMCA 300 - Test Code for Sound Rating Air Moving Devices.
- F. AMCA 301 - Method of Publishing Sound Ratings for Air Moving Devices.
- G. NEMA MG1 - Motors and Generators.
- H. NFPA 96 - Installation of Equipment for the Removal of Smoke and Grease Vapors from Commercial cooking Equipment.
- I. UL 705 - Power Ventilators.

1.04 SUBMITTALS

- A. Section 01300: Procedures for submittals.

- B. Product Data: Provide data on fans and accessories including fan curves with specified operating point clearly plotted, power, RPM, sound power levels at rated capacity, and electrical characteristics and connection requirements.

1.05 SUBMITTALS AT PROJECT CLOSEOUT

- A. Section 01700 - Contract Closeout: Procedures for submittals.
- B. Maintenance Data: Include instructions for lubrication, motor and drive replacement, spare parts list, and wiring diagrams.

1.06 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum three years experience.

1.07 REGULATORY REQUIREMENTS

- A. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories Inc., as suitable for the purpose specified and indicated.

PART 2 PRODUCTS

2.01 ROOF EXHAUSTERS

- A. Manufacturers:
 - 1. Greenheck model CUE.
 - 2. Cook.
 - 3. ACME.
- B. Product Requirements:
 - 1. Performance Ratings: Conform to AMCA 210 and bear the AMCA Certified Rating Seal.
 - 2. Sound Ratings: AMCA 301, tested to AMCA 300, and bear AMCA Certified Sound Rating Seal.
 - 3. Fabrication: Conform to AMCA 99.
 - 4. UL Compliance: UL listed and labeled, designed, manufactured, and tested in accordance with UL 705.
- C. Fan Unit: Direct driven as indicated, with upblast spun aluminum housing; resilient mounted motor; 1/2 inch mesh, 0.62 inch thick aluminum wire birdscreen; square base to suit roof curb with continuous curb gaskets.
- D. Roof Curb: 12 inch high of galvanized steel with continuously welded seams, built-in cant strips, one inch insulation and curb bottom, and factory installed nailer strip.
- E. Speed Control Switch: Solid state speed controller. Locate above ceiling adjacent to fan.
- F. Exhaust Damper: Aluminum multiple blade construction, felt edged with offset hinge pin, nylon bearings, blades linked and line voltage motor drive, power open, spring return.
- G. Factory wired, unit mounted NEMA 1 disconnect switch. Provide internal conduit chase.

2.02 CABINET EXHAUST FANS

- A. Manufacturers:
 - 1. Greenheck model SQ.
 - 2. Cook.
 - 3. Acme.
- B. Centrifugal Fan Unit: Direct driven with galvanized steel housing lined with 1/2 inch acoustic insulation, resilient mounted motor, gravity backdraft damper in discharge.
- C. Speed Control Switch: Unit mounted solid state speed controller.
- D. Neoprene hanging isolators and brackets.

2.03 CABINET DUCT FAN

- A. Manufacturers:
 - 1. Greenheck model BDF.
 - 2. Cook.
 - 3. Acme.
- B. Centrifugal Fan Unit: V-belt drive with heavy gauge galvanized steel housing, bolted access panels, lined with minimum 1/2" acoustic insulation. Motor and drive frame isolated on shock mounts.
- C. Ball bearing motors (L10).
- D. Adjustable motor pulley.
- E. The fan wheel shall be of the galvanized steel, forward curved centrifugal type. Wheels shall be dynamically and statically balanced.
- F. External hanging spring isolator.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Section 01400 - Quality Control: Manufacturer's instructions.
- B. Secure roof exhausters with aluminum lag screws to roof curb.
- C. Extend ducts to roof exhausters into roof curb. Counterflash duct to roof opening. Transition ducts to roof curb opening size before penetrating roof.
- D. Hung Cabinet Fans:
 - 1. Install fans with resilient mountings and flexible electrical leads. Refer to Section 15245.
 - 2. Install flexible connections specified in Section 15910 between fan and ductwork. Ensure metal bands of connectors are parallel with minimum one inch (25 mm) flex between ductwork and fan while running.
- E. Provide sheaves required for final air balance.
- F. Do not operate fans until ductwork is clean, filters are in place, and bearings are lubricated.

END OF SECTION