

SECTION 15870
POWER VENTILATORS

PART 1 GENERAL

1.1 SECTION INCLUDES:

- A. Roof exhausters.
- B. Wall exhausters.
- C. Cabinet exhaust fans.
- D. Ceiling exhaust fans.
- E. In-line exhaust or supply fans.

1.2 REFERENCES

- A. AMCA 99 - Standards Handbook.
- B. AMCA 210 - Laboratory Methods of Testing Fans for Rating Purposes.
- C. AMCA 300 - Test Code for Sound Rating Air Moving Devices.
- D. AMCA 301 - Method of Publishing Sound Ratings for Air Moving Devices.
- E. SMACNA - Low Pressure Duct Construction Standard.

1.3 QUALITY ASSURANCE

- A. Performance Ratings: Conform to AMCA 210 and bear the AMCA Certified Rating Seal.
- B. Sound Ratings: tested to AMCA 300 and 301, and bear AMCA Certified Sound Rating Seal.
- C. Fabrication: Conform to AMCA 99.

1.4 SUBMITTALS

- A. Submit shop drawings and product data under provisions of Section 01300.
- B. Provide product data on wall and roof exhausters, and ceiling and cabinet fans.
- C. Provide fan curves with specified operating point clearly plotted.
- D. Submit sound power levels for both fan inlet and outlet at rated capacity.
- E. Submit manufacturer's installation instructions under provisions of Section 01300.

PART 2 PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. Greenheck
- B. Penn Ventilators
- C. Jenn Aire
- D. Broan
- E. Loren Cook
- F. ACME
- G. Twin City Fans
- H. Engineer and Owner approved equal; refer to Section 01600.

2.2 ROOF EXHAUSTERS

- A. Centrifugal or Axial Fan Unit: V-belt or direct driven, with spun aluminum housing; resilient mounted motor; ½“ mesh, 16 gage aluminum bird screen; square base to suit roof curb with continuous curb gaskets; secured with corrosion resistant bolts and screws as needed to meet with load requirements.
- B. Roof Curb: minimum 12” high on any side measured from finished roof, self-flashing with continuously welded seams, built-in cant strip, insulation and curb bottom, interior baffle with acoustic insulation, curb bottom, and factory installed door-nailer strip. Curbs to meet current wind loads for location and equipment requirements.
- C. Disconnect Switch: Factory wired, non-fusible, in housing for thermal overload protected motor, wall-mounted type.
- D. Backdraft Damper: Gravity activated, aluminum multiple blade construction, felt edged with nylon bearings.
- E. Sheaves: Cast iron or steel, dynamically balanced, bored to fit shafts and keyed; variable and adjustable pitch motor sheave selected so required rpm is obtained with sheaves set at mid-position; fan shaft with self-aligning pre-lubricated ball bearings.

2.3 WALL EXHAUSTERS

- A. Centrifugal or Axial Fan Unit: V-belt or direct driven, with spun aluminum housing; resiliently mounted motor; ½“ mesh, 16 gage aluminum bird screen; secured with stainless steel bolts and screws.
- B. Disconnect Switch: Factory wired, non-fusible, in housing for thermal overload protected motor, wall-mounted type.
- C. Backdraft Damper: Gravity activated, aluminum multiple blade construction, felt edged with nylon bearings.
- D. Sheaves: For V-belt drives, provide cast iron or steel, dynamically balanced, bored to fit, keyed shafts, with self-aligning pre-lubricated ball bearings; variable and adjustable pitch motor sheaves selected so that required RPM is obtained with sheaves set at mid-position.

2.4 CABINET AND CEILING EXHAUST FANS

- A. Centrifugal Fan Unit: V-belt or direct driven, with galvanized steel housing lined with ½” inch acoustic insulation, resilient mounted motor, gravity backdraft damper in discharge.
- B. Disconnect Switch: Factory wired, non-fusible, in housing for thermal overload protected motor.
- C. Grille: Molded white plastic or aluminum with baked white enamel finish.
- D. Sheaves: Cast iron or steel, dynamically balanced, bored to fit shafts and keyed; variable and adjustable pitch motor sheaves selected so required rpm is obtained with sheaves set at mid-position; fan shaft with self-aligning pre-lubricated ball bearings.

2.5 IN-LINE EXHAUST OR SUPPLY FANS

- A. Fan shall be complete factory assembled unit and shall include: housing, centrifugal fan wheel, adjustable V-belt drive, motor, disconnect switch and vibration isolation.
- B. Housing shall be heavy gauge, galvanized steel, with square duct mounting collars; 90° intake to discharge configuration is allowed.
- C. Wheel shall be centrifugal backward inclined constructed of aluminum, with matched wheel and inlet cones.
- D. Motors shall be high efficiency, heavy duty ball bearing type, mounted out of the air stream.
- E. Fan shaft shall be mounted in permanently sealed and lubricated pillow block ball bearings.
- F. Each unit shall be equipped with the following accessories:

1. Self-acting adjustable back-draft damper.
2. Hanging neoprene vibration isolators.
3. Insulated housing and motor cover (only for outdoor ventilation air fans).
4. Motor cover/belt drive OSHA guard.
5. Disconnect device.
6. Fans shall be AMCA Certified and for both sound and air performance.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Secure roof exhausters with lag screws to roof curb or as required to meet area wind loads.

3.2 SCHEDULE

- A. Provide equipment schedule on drawings to include the following data:
 - Manufacturer
 - Model
 - Fan Type
 - Hood/Housing
 - Capacity
 - SP inch WG
 - Drive
 - Motor hp
 - Sound (Sones)
 - Sound Power
 - 1st Octave
 - 2nd Octave
 - 3rd Octave
 - 4th Octave
 - 5th Octave
 - 6th Octave
 - 7th Octave
 - 8th Octave
 - Accessories

END OF SECTION