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

B. AMCA 210 - Laboratory Methods of Testing Fans for Rating Purposes.
C. AMCA 300 - Test Code for Sound Rating 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).
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