

## SECTION 23 3423 - HVAC POWER VENTILATORS

### PART 1 GENERAL

#### 1.1 SECTION INCLUDES

- A. Roof exhausters.
- B. Upblast roof exhausters.

#### 1.2 RELATED REQUIREMENTS

- A. Section 23 0513 - Common Motor Requirements for HVAC Equipment.
- B. Section 23 3100 - HVAC Ducts and Casings.
- C. Section 23 3300 - Air Duct Accessories: Backdraft dampers.

#### 1.3 REFERENCE STANDARDS

- A. AMCA (DIR) - (Directory of) Products Licensed Under AMCA International Certified Ratings Program; <http://www.amca.org/certified/search/company.aspx>.
- B. AMCA 99 - Standards Handbook; 2010.
- C. AMCA 204 - Balance Quality and Vibration Levels for Fans; 2005.
- D. AMCA 210 - Laboratory Methods of Testing Fans for Certified Aerodynamic Performance Rating; 2007.
- E. AMCA (DIR) - [Directory of] Products Licensed Under AMCA International Certified Ratings Program; Air Movement and Control Association International, Inc.; <http://www.amca.org/certified/search/company.aspx>.
- F. AMCA 300 - Reverberant Room Method for Sound Testing of Fans; 2014.
- G. AMCA 301 - Methods for Calculating Fan Sound Ratings from Laboratory Test Data; 2014.
- H. NEMA MG 1 - Motors and Generators; 2014.
- I. UL 705 - Power Ventilators; Current Edition, Including All Revisions.

#### 1.4 ADMINISTRATIVE REQUIREMENTS

- A. Coordination: Coordinate fan roof curbs and service utilities installation according to fan size.
- B. Sequencing: Ensure that utility connections are completed in an orderly and expeditious manner.

#### 1.5 SUBMITTALS

- A. Product Data: Provide data on fans and accessories, including fan curves with specified operating point plotted, power, rpm, sound power levels at rated capacity, and electrical characteristics and connection requirements.
- B. Manufacturer's Instructions: Indicate installation instructions.
- C. Maintenance Data: Include instructions for lubrication, motor and drive replacement, spare parts list, and wiring diagrams.

#### 1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of documented experience.

#### 1.7 FIELD CONDITIONS

- A. Request Owner permission to use permanent ventilator(s) for ventilation during construction.

### PART 2 PRODUCTS

#### 2.1 MANUFACTURERS

- A. Greenheck: [www.greenheck.com/#sle](http://www.greenheck.com/#sle).
- B. Loren Cook Company: [www.lorencook.com/#sle](http://www.lorencook.com/#sle).
- C. PennBarry: [www.pennbarry.com/#sle](http://www.pennbarry.com/#sle).

#### 2.2 POWER VENTILATORS - GENERAL

- A. Static and Dynamically Balanced: Comply with AMCA 204.

- B. Performance Ratings: Comply with AMCA 210, bearing certified rating seal.
- C. Sound Ratings: Comply with AMCA 301, tested to AMCA 300, bearing certified sound ratings seal.
- D. Fabrication: Comply with AMCA 99.
- E. Electrical Components: Listed and classified by Underwriters Laboratories Inc. as suitable for the purpose specified and indicated.

## 2.3 ROOF EXHAUSTERS

- A. Fan Unit: Direct driven as indicated, with spun aluminum housing; resilient mounted motor; 1/2 inch (13 mm) mesh, 0.62 inch (1.6 mm) thick aluminum wire birdscreen; square base to suit roof curb with continuous curb gaskets.
- B. Roof Curb: 12 inch (300 mm) high self-flashing of galvanized steel with continuously welded seams, built-in cant strips.
- C. Disconnect Switch: Factory wired, non-fusible, in housing for thermal overload protected motor.
- D. Backdraft Damper: Gravity actuated, aluminum multiple blade construction, felt edged with offset hinge pin, nylon bearings, blades linked.
- E. Motors: ECM type with variable speed controller mounted at motor unless variable speed room controller is called for.

## PART 3 EXECUTION

### 3.1 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Secure roof exhausters with cadmium plated steel lag screws to roof curb.
- C. Extend ducts to roof exhausters into roof curb. Counterflash duct to roof opening.
- D. Install motorized dampers on inlet to roof exhausters.
- E. Provide backdraft dampers on outlet from cabinet and ceiling exhaust fan and as indicated.

END OF SECTION