SECTION 233814 - FANS: KITCHEN HOOD SUPPLY/EXHAUST ASSEMBLY

PART 1 - GENERAL

1.1 SCOPE

A. Provide pre-packaged supply/exhaust fan assemblies specifically designed for kitchen ventilation system.

B. Provide in size, capacity and with characteristics indicated.

1.2 RELATION TO OTHER WORK

A. Refer to the section "General Mechanical Provisions" for related requirements. Refer to other sections of Division 23 and to all other applicable portions of the drawings and specifications.

B. This section directly relates in particular to sections (which may or may not be included in this division).

1. Ductwork.
2. Hood assembly(s)
3. Controls.

1.3 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Special Conditions and Division-01 Specification sections, apply to work of this section.

1.4 SHOP DRAWINGS

A. Refer to Section entitled "General Mechanical Provisions". Include complete performance data at the scheduled operating conditions; dimensions; weights; fan performance curves, airside pressure losses; roof curb; attachment of other supports to roof structure; electrical characteristics.

1.5 CERTIFIED PERFORMANCE

A. Fans shall be AMCA certified as to both sound and performance ratings.

1.6 DESIGN BASIS

A. Basis of design is similar to Greenheck Modular Fan Package Model MFP.

1.7 MANUFACTURERS

A. Acceptable: Greenheck, Acme, Penn, Loren Cook, Accurex, or equal.

PART 2 - PRODUCTS

2.1 GENERAL

A. Be a pre-engineered fan package assembly containing both exhaust and supply fan components.

B. Be matched and coordinated to operate in conjunction with the kitchen hood systems to which the fan assembly is connected.

2.2 EXHAUST FAN

A. Fan Hood, Housing and Base: Fan hood, housing and base shall be weatherproof and constructed of heavy gauge aluminum. Motor and drive shall be supported by a structural frame independent of hood, housings, and curb base. Be up-blast type. Have built-in grease drain.

B. Fan Wheel: Shall be backward curved non-overloading, aluminum, airfoil blade type, statically and dynamically balanced. Wheels shall be keyed and locked to shaft.

C. Drive Assembly: Motor and drive assembly shall be located out of the exhaust air stream, cushion mounted on multi-directional neoprene vibration isolators and positively ventilated. Drive shall be direct or belt drive type as indicated on drawings and shall conform with the requirements of Section entitled "General Mechanical Provisions".

D. Disconnect Switch: Fans shall include factory mounted disconnect switches wired to motor.

E. Bird Screen: Provide 1/2" mesh aluminum bird screens on all fans.

F. Additional Requirements:

1. Provide thermal barrier to insulate the wheel compartment from the drive compartment.
2. Be U.L. listed for grease removal.

2.3 SUPPLY FAN ASSEMBLY

A. General: Belt-driven, double-width, double inlet, forward curved centrifugal blower type.

B. Exterior Housing: Minimum 16 gage galvanized steel. Provide with adjustable angle iron support legs.

C. Provide unit inlet with birdscreen and bank of filters.

D. Filters: One inch aluminum mesh type, U.L. classified.

2.4 VIBRATION ISOLATION

A. Provide internal fan vibration isolation.

2.5 ROOF CURB

A. Provide pre-fabricated roof curb of minimum 18 gage galvanized steel with integral wood nailer, run-off cant and 1-inch rigid internal insulation.

B. Insulation shall comply with NFPA 90A as regards flame spread and smoke developed ratings.

C. Curb shall be a minimum of twelve inches (12") high or higher as required to place the fan discharge forty inches (40") above the roof at the lowest point with a foam rubber gasket around the top. Curb caps shall incorporate drainable grease troughs except where such troughs are an integral part of the fan itself.

PART 3 - EXECUTION

3.1 PLACEMENT AND MOUNTING

A. Fan location shall be essentially as shown on drawings; however, actual placement of the roof curb shall be verified using field measurements and data relating to the fans and hoods approved for actual installation on this project. Mount fan and grease trough in strict accordance with the manufacturer's instructions.

B. Coordinate location of supply air intake and exhaust fan outlet to maintain not less than 10-feet separation. Provide housing extension between supply fan and air intake to accommodate this requirement.

END OF SECTION 233814