

SECTION 233813 - HOOD ASSEMBLY: KITCHEN EXHAUST, DOUBLE WALL

PART 1 - GENERAL

1.1 SCOPE

- A. Provide factory pre-engineered kitchen supply/exhaust hood assembly(s) of the types, sizes and capacities indicated on the Drawings.

1.2 RELATION TO OTHER WORK

- A. Refer to the section entitled "General Mechanical Provisions" for related requirements. Refer to other sections of Division 23 and to all other applicable portions of the Drawings and Specifications.

1.3 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary 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; airside pressure losses; description of all components; wiring diagrams for all systems including internal power, control, and fire suppression/alarm systems.

1.5 CERTIFICATION AND COMPLIANCE

- A. Entire hood system shall comply with applicable portions of NFPA Bulletin #96 and National Sanitation Foundation.
- B. Wiring systems and light systems shall comply with the current National Electrical Code.
- C. Filter system shall be U.L. listed.

1.6 DESIGN BASIS

- A. Basis of design is similar to Greenheck "CircuVent" Series.

1.7 MANUFACTURERS

- A. Acceptable manufacturers are: Greenheck, Greasemaster, Duo-Aire, Captive-Aire, Econovent, Gaylord, Accurex or equal.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Each hood assembly shall be:
 - 1. Coordinated to be of proper size and dimensions to accommodate the exhaust requirements of the actual kitchen equipment which is provided.
 - 2. Engineered to provide integral supply air flow.
- B. Standard construction shall comply with National Fire Protection Association; U. S. Department of Agriculture; U. S. Department of Health, Education and Welfare; and National Sanitation Foundation.
- C. Have capability to replace 90% of the exhausted air quantity with make-up supply air brought in through the hood's integral supply air system.
- D. Continuously welded joints. All joints polished to match adjacent surfaces.

2.2 HOOD ASSEMBLY

- A. All exposed surfaces of not less than 18 gage Type 304 stainless steel.
- B. Unexposed surfaces of not less than 18 gage galvanized steel.
- C. U. L. classified standard construction.
- D. Hanger rod brackets welded to canopy as required for proper support.
- E. Exhaust and supply duct connections located as necessary to allow proper air flow to and from canopy area being exhausted.
- F. Joints and seams shall be liquid tight.
- G. Exposed external welds shall be ground, smoothed and polished. No. 3 polish grade.
- H. Internal construction: Galvanized steel framing members provided in quantities, types and sizes to prevent flexing, fatigue, vibration or other objectionable movement of the entire assembly.
- I. Duct collars: 3-inch minimum height. Exhaust collar minimum of 16 gage steel welded to canopy. Supply duct collar minimum of 18 gage steel pop riveted to canopy.

2.3 SUPPLY AIR SYSTEM

- A. Supply air (make-up air) shall be introduced to the immediate area around the hood by registers located on both the face of the hood and the lower front perimeter.
- B. Integral supply air registers shall have:
 - 1. Balancing dampers, opposed blade type, adjustable from face of register.
 - 2. Capability of both volume adjustment and air direction to allow supply air to be spread evenly to ensure proper hood operation.

2.4 CONTROL PANEL

- A. Mounted on front face of hood. Flush mount unless otherwise indicated.
- B. Incorporate the following controls as applicable to the hood system:
 - 1. Toggle switches for hood lights.
 - 2. Fan switches.
 - 3. Status indicator light for each fan switch.

2.5 LIGHTS

- A. Fixtures: Vapor proof, incandescent, U. L. listed, 100 watts each. Water proof, heatproof and greaseproof construction. Shock resistant globes with wire guards.
- B. Prewired to junction box suitable for field connection to power.
- C. Mounted to provide one fixture for each 3-foot (or portion thereof) of canopy length.

2.6 ENCLOSURE PANELS AND FILLERS

- A. Provide enclosure panels and fillers as necessary to provide a neat finished appearance when hood assemblies are to be jointed together.

2.7 SIDE SKIRTS

- A. Provide where necessary to reduce hood size, to reduce exhaust air quantity or to eliminate cross drafts.

2.8 FILTER ASSEMBLY

- A. Filter housing:
 - 1. Constructed of same material as interior hood liner.
 - 2. Terminate into an internally pitched full length grease trough which drains to a removable grease drawer.
 - 3. Constructed and arranged to allow easy access and removal of filters and other apparatus which requires cleaning and maintenance.
 - 4. Provided with all necessary spring clips.
- B. Filters:
 - 1. Low velocity type designed for extended servicing interval. All metal stainless steel construction of crimped stainless steel wire mesh. Lifting handles.
 - 2. Cleanable type.

2.9 INSULATION

- A. Insulate supply air plenum with 1-1/2-inch thick 3-pcf rigid foil-backed fiberglass board insulation to prevent condensation formation on exterior of hood assembly.

2.10 FIRE SUPPRESSION SYSTEM

A. General:

1. Dry chemical type.
2. Pre-engineered, prepiped, fixed nozzle type.
3. U. L. listed for the hazard and in accord with NFPA No. 96.
4. Conform to all governing codes and standards.
5. Piped, constructed and arranged to provide protection for duct systems, grease removal devices and other necessary components of the kitchen hood system.
6. Provide protection of cooking equipment such as fryers, griddles and broilers which may be a source of ignition of grease in the hood or duct.

B. Operation:

1. Be automatically activated by heat sensitive detectors and also capable of manual activation by a strike button.

C. Auxiliary Equipment: Provide all components, wiring, piping, switches, valves, connection and accessories to provide manual activation, electrical equipment shutdown, gas equipment shutdown, and alarm.

D. Design basis: Ansul R-101 Restaurant Fire Suppression System.

PART 3 - EXECUTION

3.1 GENERAL

- A. Install in accord with manufacturer's recommendations.
- B. Hang and support entire assemble to be level and plumb.
- C. Make all necessary connections related to the electrical and fire suppression systems provided as part of the hood assembly.

3.2 SUPPORT

- A. Provide all necessary supporting steel, threaded rods and other material to secure and support the assembly in place so that no vibration, flutter or other such condition is created.

3.3 PLACEMENT AND COORDINATION

- A. Locate and erect the assembly in coordination with approved kitchen equipment scaled plan layouts.
- B. Coordinate location with related supply air and exhaust air duct systems. Locate so that connecting ductwork can be as vertical as possible and that any horizontal duct runs are minimized. Install with proper clearances from combustibles and from any required fire rated enclosures in which ductwork may be enclosed.
- C. Coordinate location with ceiling system. Provide proper interface.

3.4 SYSTEMS COORDINATION

- A. Install in coordination with all related fire alarm and suppression systems and in coordination with all related fan and air handling systems which require interlock with the hood systems.

END OF SECTION 233813