

## SECTION 238550 - AIR HANDLERS

### PART 1 - GENERAL

#### 1.1 SECTION INCLUDES

- A. Air handlers

#### 1.2 SUBMITTALS

- A. Shop Drawings: Indicate assembly, unit dimensions, weight loading, required clearances, construction details, field connection details, and electrical characteristics and connection requirements.
- B. Product Data:
  - 1. Provide literature which indicates dimensions, weights, capacities, ratings, fan performance, gauges and finishes of materials, and electrical characteristics and connection requirements.
  - 2. Provide data of filter media, filter performance data, filter assembly, and filter frames.
  - 3. Provide fan curves with specified operating point clearly plotted.
  - 4. Submit sound power level data for both fan outlet and casing radiation at rated capacity.
  - 5. Submit electrical requirements for power supply wiring including wiring diagrams for interlock and control wiring, clearly indicating factory-installed and field-installed wiring.
- C. Manufacturer's Installation Instructions.
- D. Manufacturer's Operation and Maintenance Data - Include instructions for lubrication, filter replacement, motor and drive replacement, spare parts list, and wiring diagrams.

#### 1.3 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience, who issues complete catalog data on total product.

#### 1.4 DELIVERY, STORAGE, AND HANDLING

- A. Accept products on site in factory-fabricated protective containers, with factory-installed shipping skids and lifting lugs. Inspect for damage.
- B. Store in clean dry place and protect from weather and construction traffic. Handle carefully to avoid damage to components, enclosures, and finish.

## 1.5 ENVIRONMENTAL REQUIREMENTS

- A. Do not operate units for any purpose, temporary or permanent, until ductwork is clean, filters are in place, bearings lubricated, and fan has been test run under observation.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Subject to compliance with requirements, manufacturers offering similar products that may be incorporated into the Work include, but are not limited to, the following:
  - 1. First Company
  - 2. Goodman
  - 3. Carrier
  - 4. Trane
  - 5. Desert-Aire

### 2.2 AIR HANDLER GENERAL DESCRIPTION

- A. Air handlers (AH) shall be direct-expansion fan coil(s) equipped with electric heater (if scheduled) and factory-matched with outdoor unit. Unit enclosures shall be insulated and constructed of cold-rolled steel, finished in baked enamel.
  - 1. Apartment air handlers shall be flush mounted in the wall with a louvered front panel for return air and maintenance access. Bottom return panels shall be provided with outdoor air duct connection.
  - 2. Clubhouse units shall be vertically-mounted on floor stands to allow for bottom duct connections.
  - 3. Refer to drawings for additional air handlers and their requirements.
- B. Apartment units shall be equipped with disposable type filter that is accessed through the louvered face front panel. Clubhouse units shall be equipped with disposable type filters.
- C. Fan shall be dynamically and statically balanced.
- D. The multi-speed fan motor shall be factory lubricated, have internal overload protection, be resiliently mounted. Fan motor assembly shall be removable for service.
- E. Cooling coil shall be constructed with aluminum plate fins mechanically bonded to nonferrous tubing with all joints brazed. Coil shall have factory installed refrigerant metering device; refrigerant line fittings which permit mechanical connections.
- F. Condensate drain pans shall be equipped with primary connections routed to the drainage system. An overflow switch that will disable the unit shall be located in the auxiliary drain connection.

- G. Electric heater shall be factory-installed (if scheduled). Heater models over 10 KW shall have heating elements sequenced on and off in 5 KW increments and shall be wired for 2 stage operation. All heaters shall be equipped with thermal overload device, current overload for heater above 10 KW and the required heating and cooling system controls including control circuit 24 V transformers.

### PART 3 - EXECUTION

#### 3.1 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install in conformance with ARI 435.
- C. Comply with requirements for piping specified in other Division 23 Sections. Drawings indicate general arrangement of piping, fittings, and specialties.
- D. Install piping adjacent to air handler to allow service and maintenance.
- E. Connect condensate drain piping to drain pan with p-trap and extend to condensate riser or drywell. Install p-trap per the detail on the Construction Drawings (one-piece, running p-traps will not be allowed).
- F. Refrigerant Piping: Comply with applicable requirements in Division 23 Section "Refrigeration Piping and Specialties."

END OF SECTION 238550