

SPECIAL SECTION

SECTION 15857S

FAN COIL UNITS

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. This section includes factory furnished horizontal or vertical constant volume fan coil units as indicated on the drawings.

1.02 RELATED SECTIONS:

- A. Section 13085S – Seismic Protection
- B. Section 15051S – **Piping Systems**

1.03 SUBMITTALS

- A. Submit the following in accordance with the requirements of Section 01300:
 - 1. Submit unit performance data including: capacity, fan performance curves, fan sound data, nominal and operating performance.
 - 2. Submit Mechanical Specifications for unit and accessories describing construction, components and options.
 - 3. Submit shop drawings indicating overall dimensions as well as installation, operation and service clearances. Indicate lift and support points and recommendations and center of gravity. Indicate unit shipping, installation and operating weights including dimensions.
 - 4. Submit data on electrical requirements and connection points. Include recommended wire and fuse sizes or MCA, sequence of operation, safety and start-up instructions.

- 1.04 The contactor shall furnish and install units as herein specified. The system shall be installed in accordance with this specification and unit manufacturer's printed recommendations. Products provided under this section include horizontal and vertical belt or direct driven hydronic fan coil units at capacities of 10 tons or less.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Trane or Equivalent

2.02 BELT-DRIVEN UNITS: 1 to 10 Tons

- A. Manufacturer shall provide unit arranged for draw through application. Blow through is not acceptable due to condensate carryover.
- B. Hydronic Coils: Copper tubes mechanically expanded into evenly spaced aluminum fins rated for 200 psig and 200 degrees F. Coils shall be capable of being rotated in the field for left hand or right hand connection.
- C. Drain Pan: The IAQ drain pan(s) shall be constructed of smooth, corrosion resistant material. Acceptable materials include polymer or 304 stainless steel. The bottom of the drain pan shall be sloped in two planes that pitch the condensate to the drain connection. Units without 2-way sloped drain pans shall coat drain pans with anti-microbial treatment. To eliminate bottom sweating under drain pan manufacturer shall either insulate bottom of drain pan with closed cell foam or double wall internally insulated construction. The drain pan shall be capable of being field rotated so that the drain connections can be made on either side of the unit.
- D. Cabinet: Casing shall be manufactured of heavy gauge galvanized steel. All removable panels shall be gasketed to minimize air leakage.
- E. INSULATION – Matte: Interior surface of unit casing acoustically and thermally lined with a minimum of 1 inch, R-Value 4.2, 1.9 lb./cu. ft. density glass fiber with high density facing. Insulation shall be UL listed and meet NFPA-90A and UL 181 requirements.
- F. Fans: The fan shall consist of a centrifugal forward curved wheel, dynamically balanced and belt driven. Two fan wheels are not acceptable due to center bearing being inaccessible for repair or replacement. Fan shaft bearings shall be permanently sealed ball bearing with a minimum L50 design life of 200,000 hours. All drive components shall be dynamically balanced and sized for a 1.2 service factor.
- G. Motors: The motor shall be open drip-proof with permanently sealed ball bearings, internal thermal and current overloads and a minimum 1.15 service factor. Motors shall be factory run-tested and mounted on a resilient base frame for motor isolation.

1. All motors shall be factory-installed and wired. Field installation of motors shall not be acceptable.
- H. Filter – High Capacity: Easily removable two inch thick one inch throwaway filter for both room air and outside air. Separate filters for outside air and room air are not acceptable. All units shall use standard filter sizes.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Install per the drawings and manufacturers recommendations.

END OF SECTION