

BID ADDENDUM #001

SECTION 23 82 00
CONVECTION HEATING AND COOLING UNITS

PART 1 - GENERAL

1.1 DESCRIPTION

Fan-coil units.

1.2 RELATED WORK

- A. Section 23 05 11, COMMON WORK RESULTS FOR HVAC: General mechanical requirements and items, which are common to more than one section of Division 23.
- B. Section 23 21 13, HYDRONIC PIPING: Heating hot water and chilled water piping.
- C. Section 23 31 00, HVAC DUCTS and CASINGS: Ducts and flexible connectors.
- D. Section 23 09 23, DIRECT-DIGITAL CONTROL SYSTEM FOR HVAC: Valve operators.
- E. Section 23 05 93, TESTING, ADJUSTING, and BALANCING FOR HVAC: Flow rates adjusting and balancing.
- F. Section 23 82 16, AIR COILS: Additional coil requirements.

1.3 QUALITY ASSURANCE

Refer to Paragraph, QUALITY ASSURANCE, in Section 23 05 11, COMMON WORK RESULTS FOR HVAC.

1.4 SUBMITTALS

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, and SAMPLES.
- B. Manufacturer's Literature and Data:
 - 1. Fan-Coil units.
- C. Operation and Maintenance Manuals: Submit in accordance with paragraph, INSTRUCTIONS, in Section 01 00 00, GENERAL REQUIREMENTS.

1.5 APPLICABLE PUBLICATIONS

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only.
- B. American National Standards Institute / Air Conditioning, Heating and Refrigeration Institute (ANSI/AHRI):
 - 440-08.....Performance Rating of Room Fan Coils
- National Fire Protection Association (NFPA):

90A-09.....Standard for the Installation of Air
Conditioning and Ventilating Systems

70-11.....National Electrical Code

C. Underwriters Laboratories, Inc. (UL):

181-08.....Standard for Factory-Made Air Ducts and Air
Connectors

1995-05.....Heating and Cooling Equipment

1.6 GUARANTY

In accordance with FAR clause 52.246-21

PART 2 - PRODUCTS

2.1 ROOM FAN-COIL UNITS

- A. Capacity Certification: AHRI 440.
- B. Safety Compliance: NEC compliant and UL listed.
- C. Chassis: Galvanized steel, acoustically and thermally insulated to attenuate noise and prevent condensation.
- D. Cabinet: Minimum 1.3 mm (18 gage) steel reinforced and braced. Arrange components and provide adequate space for installation of piping package and control valves. Finish shall be factory-baked enamel in manufacturer's standard color as selected by the architect on all exposed surfaces.
 - 1. Horizontal Unit: Provide Exposed type, basis of design to be Trane Models FCDB-020-1___D0C_0AB4A000002J00H, FCDB-020-1___D0C_0AB4A000002J00H and FCDB-020-1___D0C_0AB4A000002J00H. Provide supports and vibration isolators for horizontal units as recommended by the manufacturer.
 - a. Exposed Units: Fully enclosed cabinet with hinged bottom access panel with cam-lock fasteners. Provide stamped integral inlet and discharged grilles in front of cabinet.
- E. Fans: Centrifugal, forward curved, double width type wheels, galvanized steel or polyester resin construction, statically and dynamically balanced, direct driven.
 - 1. Motors: Premium efficiency, 3-speed permanent split capacitor type with integral thermal overload protection, for operation at not more than 1200 RPM.
 - 2. Provide a fan speed selector switch, with off, low, medium, and high positions. Switch shall have a set of auxiliary contacts which are open when the switch is in the "off" position and closed when the switch in any of the other positions. On vertical units, mount

switch in a junction box in the cabinet of each unit. On ceiling-suspended horizontal and concealed units, switch shall be wall mounted.

F. Cooling Coils:

1. Hydronic cooling: Copper tubes, 10 mm (three-eighths inch) minimum inside diameter, not less than 4.3 mm (0.017 inch) thick with copper or aluminum fins. Coils shall be pressure tested for bursting and strength in accordance with Underwriters Laboratories, Inc., requirements for pressure tested coils, and shall be designed to provide adequate heat transfer capacity. Provide manual air vent at high point of each coil and drain at each low point.

G. Drain pans: Furnish stainless steel with solderless drain connections and molded polystyrene foam insulating liner:

1. Auxiliary drain pan: Located under control valve and piping within the unit enclosure to prevent dripping.

H. Air Filter: Manufacturer's standard throwaway type, not less than 25 mm (1 inch) thick, MERV 8, supported to be concealed from sight and be tight fitting to prevent air by-pass. Filters shall have slide out frames and be easily replaced without removing enclosure or any part thereof.

I. Control valves and remote wall mounted space temperature sensors are to be field installed. Provide two-way modulating control valves unless shown or specified otherwise.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Work shall be installed as shown and according to the manufacturer's diagrams and recommendations.
- B. Handle and install units in accordance with manufacturer's written instructions.
- C. Support units rigidly so they remain stationary at all times. Cross-bracing or other means of stiffening shall be provided as necessary. Method of support shall be such that distortion and malfunction of units cannot occur.
- D. Install fiberglass blanket insulation with a minimum R value of 8 above hydronic radiant panels.

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