

SECTION 15763 - FAN-COIL UNITS

PART 1 - GENERAL

SUMMARY

This Section includes fan-coil units and accessories.

SUBMITTALS

Product Data: Include specialties and accessories for each unit type and configuration indicated.

Shop Drawings: Submit the following for each fan-coil unit type and configuration:

Plans, elevations, sections, and details.

Details of anchorages and attachments to structure and to supported equipment.

Wiring Diagrams: Power, signal, and control wiring.

Equipment schedules to include rated capacities, furnished specialties, and accessories.

Field quality-control test reports.

Operation and maintenance data.

QUALITY ASSURANCE

Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

PART 2 - PRODUCTS

MANUFACTURERS

Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

Airtherm Manufacturing Company.

Carrier Corp.

Dunham-Bush, Inc.

Engineered Air.

International Environmental Corp.

Lennox Industries Inc.

Marlo Coil.

McQuay International.

Trane Company (The); North American Commercial Group.

U S A Coil & Air Inc.

York International Corp.

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CONFIGURATION

Horizontal Units: An assembly including cabinet, chassis, coil, fan, and motor in blow-through configuration with hydronic heating coil.

MATERIALS

Chassis: Galvanized steel, with flanged edges.

Coil Section Insulation: 1-inch (25-mm) duct liner complying with ASTM C 1071 and attached with adhesive complying with ASTM C 916.

Fire-Hazard Classification: Duct liner and adhesive shall have a maximum flame-spread index of 25 and smoke-developed index of 50 when tested according to ASTM E 84.

Cabinet: Galvanized steel, with removable panels.

Cabinet Finish: Bonderize, phosphatize, and flow-coat with baked-on primer.

WATER COILS

Heating Coil: One row, copper tube, with mechanically bonded aluminum fins spaced no closer than 0.1 inch (2.5 mm) and with manual air vent. Coils shall be rated for a minimum working pressure of 200 psig (1378 kPa) and a maximum entering water temperature of 220 deg F (104 deg C).

FAN

Centrifugal, with forward-curved, double-width wheels and fan scrolls made of galvanized steel or thermoplastic material; directly connected to or V-belt driven from motor.

FAN MOTORS

Motors for Direct-Drive Units: Multispeed motor with integral thermal-overload protection and resilient mounts.

Wiring Terminations: Match conductor materials and sizes of connecting power circuit. Connect motor to chassis wiring with plug connection.

ACCESSORIES

Filters: 1-inch- (25-mm-) thick, throwaway filters in fiberboard frames.

CONTROL SYSTEMS

Two-Pipe, Valve Cycle: Wall-mounted thermostat, with manual fan-speed switch, cycles normally closed electroc valve.

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SOURCE QUALITY CONTROL

Test and rate units according to ARI 440.

Test unit coils according to ASHRAE 33.

PART 3 - EXECUTION

INSTALLATION

Install fan-coil units to comply with NFPA 90A.

Install wall-mounting thermostats and switch controls in electrical outlet boxes at heights to match lighting controls.

Install new filters in each fan-coil unit within two weeks after Substantial Completion.

CONNECTIONS

Install shutoff valve and union or flange at each connection.

Install piping adjacent to machine to allow service and maintenance.

FIELD QUALITY CONTROL

Testing: Perform the following field quality-control testing and report results in writing:

After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.

Test and adjust controls and safeties.

Repair or replace malfunctioning units. Retest as specified above after repairs or replacements are made.

END OF SECTION 15763