SECTION 238113 - PACKAGED TERMINAL AIR-CONDITIONERS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes packaged terminal air conditioners and their accessories and controls, in the following configurations:

1. Through-the-wall and freestanding air conditioners.
2. Cooling-only units.
3. Heat-pump units.
4. Cooling units with electric heat.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: For packaged terminal air conditioners. Include plans, elevations, sections, details for wall penetrations and attachments to other work.

1. Detail equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
2. Wiring Diagrams: For power, signal, and control wiring.

C. Color Samples: For unit cabinet, discharge grille, and exterior louver, and for each color and texture specified.

D. Field quality-control reports.

E. Operation and maintenance data.

1.3 QUALITY ASSURANCE

A. Electrical Components Listed and labeled as defined in NFPA 70.

B. ASHRAE Compliance

1.4 WARRANTY

A. Special Warranty: Five years from date of Substantial Completion, including components and labor.
PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: provide products by one of the following:

1. Carrier Corporation; a United Technologies company.
2. ClimateMaster, Inc.
3. Friedrich Air Conditioning Co.
5. McQuay International.

2.2 MANUFACTURED UNITS

A. Description: Factory-assembled, tested, self-contained, packaged terminal air conditioner with room cabinet, electric refrigeration system, and temperature controls; fully charged with refrigerant and filled with oil; with cord-connected [hardwired] chassis.

2.3 CHASSIS

A. Cabinet: 0.052-inch thick steel with removable front panel with concealed latches.

1. Mounting: [Wall with wall sleeve] [Floor with subbase].
2. Access Door: Hinged door in top of cabinet for access to controls.
3. Cabinet Extension: Matching cabinet in construction and finish, allowing diversion of airflow to adjoining room; with grille.
4. Finish of Interior Surfaces: Surfaces in contact with the airstream shall comply with requirements in ASHRAE 62.1.
5. Subbase: Enameled steel with adjustable leveling feet and adjustable end plates, with factory-installed and -wired, fused disconnect switch and receptacle sized for unit.
6. Wall Sleeves: [Galvanized steel with polyester finish] [Molded polymer] [Molded fiberglass-reinforced polyester].

B. Refrigeration System: Direct-expansion indoor coil with capillary restrictor; and hermetically sealed scroll compressor with vibration isolation and overload protection.

1. Indoor and Outdoor Coils: Seamless copper tubes mechanically expanded into aluminum fins.
2. Accumulator.
3. Constant-pressure expansion valve.
4. Reversing valve.
5. Charge: R-407C or R-410A.

C. Indoor Fan: Forward curved, centrifugal; with motor and positive-pressure ventilation damper with electric operator.
D. Filters: Washable polyurethane in molded plastic frame.

E. Condensate Drain: Drain pan [to direct condensate to outdoor coil for re-evaporation] [and piping to direct condensate to building waste and vent piping].

1. Comply with ASHRAE 62.1 for drain pan construction and connections.

F. Outdoor Fan: [Forward curved, centrifugal or propeller] type [with separate] [driven by indoor fan] motor.

1. Indoor and Outdoor Fan Motors: Two speed; comply with NEMA designation, temperature rating, service factor, enclosure type, and efficiency requirements for motors specified in Section 230513 "Common Motor Requirements for HVAC Equipment."


2.4 CONTROLS

A. Control Module: Unit-mounted digital panel with touchpad temperature control and with touchpad for heating, cooling, and fan operation. Include the following features:

1. Low Ambient Lockout Control: Prevents cooling-cycle operation below 40 deg F outdoor air temperature.
2. Heat-Pump Ambient Control: Field-adjustable switch changes to heat-pump heating operation above 40 deg F and to supplemental heating below plus 25 deg F.
3. Temperature-Limit Control: Prevents occupant from exceeding preset setup temperature.
4. Reverse-Cycle Defrost: Solid-state sensor monitors frost buildup on outdoor coil and reverses unit to melt frost.

B. Remote Control: Standard unit-mounted controls with remote-mounted, low-voltage adjustable thermostat with heat anticipator, heat-off-cool-auto switch, and on-auto fan switch.

C. Outdoor Air: Motorized intake damper. Open intake when unit indoor air fan runs.


2.5 SOURCE QUALITY CONTROL

A. Sound-Power Level Ratings: Factory test to comply with ARI 300, "Sound Rating and Sound Transmission Loss of Packaged Terminal Equipment."

B. Unit Performance Ratings: Factory test to comply with ARI 310/380/CSA C744, "Packaged Terminal Air-Conditioners and Heat Pumps."
PART 3 - EXECUTION

3.1 INSTALLATION

A. Install units level and plumb, maintaining manufacturer’s recommended clearances and tolerances.

B. Install wall sleeves in finished wall assembly; seal and weatherproof. Joint-sealant materials and applications are specified in Section 079200 "Joint Sealants."

C. Install and anchor wall sleeves to withstand, without damage to equipment and structure, seismic forces required by building code.

3.2 QUALITY CONTROL

A. Complete the manufacturers installation and startup Inspections and Tests:

B. Provide completed installation and startup checklists/reports.

END OF SECTION