## PART 1 GENERAL

1.1 DESCRIPTION

A. Provide Heating, Cooling, and Ventilating Equipment as specified herein and shown on the Drawings.

B. Equipment capacity and size shall be as indicated on the Drawings.

C. Related Work: The requirements of Section 23 0500, Common HVAC Materials and Methods, also apply to this section.

1.2 QUALITY ASSURANCE

A. Air Handling Equipment: Rated in accordance with AMCA certified rating procedures and AMCA labeled.

B. Air Conditioning and Refrigeration Equipment Rating: Rated in accordance with ARI certified rating procedures and ARI labeled.

C. Gas-fired Equipment: Design certified by American Gas Association.

1.3 SUBMITTALS

A. Submit catalog data, construction details and performance characteristics for each HVAC unit.

B. Submit operating and maintenance data.

## PART 2 PRODUCTS

2.1 terminal heating equipment

A. Wall mounted electric fan forced heaters: UL listed recessed heater with primary and secondary thermal safeties with secondary manual reset, nichrome heating element, recessed wall can, two stage centrifugal blower, and powder coat metal grille. Provide with remote 2-pole thermostat. Cadet C Series, Qmark, Markel, King approved.

2.2 ductless split system terminal HVAC equipment

A. Indoor Section: Compact fan coil unit designed for wall, ceiling, recessed ceiling, or low profile concealed ducted mounting. Quantity, style, and capacity as listed on the Drawings. Multispeed direct drive fan with air filter. Provide with wired thermostat and condensate pump as indicated.

B. Outdoor Section: Capacity matched with indoor section(s), steel cabinet with hermetically sealed inverter driven compressor(s), accumulator, crankcase heater, high and low pressure switches, restart delay relay, condenser coil, and propeller fans. Low ambient operation to 20 degrees. Single or multiple circuit as indicated. Cooling only or heat pump as indicated on the Drawings. Provide preinsulated lineset for each indoor unit.

C. Acceptable Manufacturers: Mitsubishi, Daikin, Carrier, Trane, LG, or approved.

2.3 packaged terminal heat pump:

A. Through-the-wall, air-cooled, packaged terminal heat pump. Controls shall be factory wired and completely enclosed within the unit and be accessible. Fan control shall be a 3-position switch for high, medium, and low fan speeds for cooling and heating. Ventilation control shall be a 2-position control to introduce fresh air to the room or to close the vent. All vent air shall be 100% filtered. Electric heating element with outdoor thermostat lockout.

B. Hermetically sealed compressor shall be rubber shock mounted and internally spring mounted for quiet operation and vibration isolation. Unit shall operate in heat pump mode down to 28 degrees.

C. Evaporator and condenser coil shall have copper tubes and aluminum fins.

D. Evaporator and condenser fans shall be direct driven. Evaporator fan shall be centrifugal type and condenser fan shall be propeller type with a slinger ring for condensate removal.

E. Room panel shall be acoustically insulated and provide for top air discharge.

F. Wall sleeve shall be a one-piece sleeve, U-channel reinforced for added strength, for wall installation, fabricated from 18 gauge zinc clad steel and shall include outside architectural grille. Finish on sleeve shall be baked-on epoxy-resin enamel. Grille and sleeve shall be shipped with closure panel at both the front and rear of sleeve and with installation instructions on inside panel. Outside grille shall be mounted in sleeve from inside room. Finish on outside grille shall be either anodized aluminum or baked-on epoxy-resin enamel. Sleeve shall be no more than 42" wide, 18-1/4" high and 16-9/16" deep.

G. Unit chassis shall be slide-out and shall be shipped separate from sleeve.

H. Provide with remote programmable wireless thermostat, internal condensate drain kit. GE, Amana, LG, or approved.

I. Provide with standard factory louver (42" by 16").

## PART 3 EXECUTION

3.1 INSTALLATION

A. Install and arrange equipment as shown on the Drawings and as recommended by the equipment manufacturer.

3.2 AIR HANDLING INSTALLATION

A. Installation and Arrangement: Air handling equipment shall be instal­led and arranged as shown on the Drawings. Comply with the manufacturer's recommendations for installation connection and start-up.

B. Lubrication: All moving and rotating parts shall be lubricated in accordance with the manufacturer's recommendations prior to start-up.

3.3 Condensate drainage

A. Provide complete condensate drainage system for cooling and heat pump equipment. Route condensate to approved exterior location as shown on the plans. See Division 22 for piping materials and methods.

3.4 CONTROLS

A. Wiring: All wiring shall be in accordance with the National Electrical Code and local electrical codes. All thermostat wire shall be minimum 18 gauge, 6 conductor.

B. Mounting: All controls intended to be operable by the occupant shall be mounted with the operating portion no more than 46" above the floor or as otherwise required by applicable codes.

End of Section