

Sample Specifications

General

Furnish and install Model PCCA /PCDA _____ Modular Air Processing System for treatment of up to 100% constant outside air per plans and specifications. Capacity and Energy Efficiency shall not be less than scheduled. Manufacturer must have at least 5 years experience in manufacturing makeup air equipment.

Performance

Performance of systems equipped with dehumidifiers shall be submitted based on ASHRAE 1% dewpoint design criteria. Predictions shall include leaving reheat dry bulb.

Approvals

Furnace shall be CSA design certified to ANSI Z83.9. System shall be tested by ITS and display an ETL label.

Casing

Air Handling Cabinet shall be constructed of galvalume steel with minimum gauge thickness of : Bases - 12 gauge galvanized steel; Corner Posts and Tops - 20 gauge; Access Panels - 20 gauge. Cabinets shall include insulation and be available with double wall construction. All units shall include upflow return, and horizontal or downflow discharge provisions as standard. The unit shall have provisions for crane lifting. Air cooled condenser cabinet support rails shall be a minimum of 12 gauge rolled steel.

Assembly and Test

All units shall be factory assembled, internally wired, fully charged with R-22 and 100% run tested to check cooling/reheat, gas heating operation (if equipped with gas heat), fan and blower rotation and safety control sequence before leaving the factory.

Refrigerant Cooling System

Refrigerant circuits 6.25 tons or less shall include hermetically reciprocating compressors with crankcase heaters, internal temperature or current sensitive compressor motor overloads for maximum protection. External low pressure cutouts shall be standard on all refrigeration systems. Refrigerant circuits 10 tons or greater shall include external high pressure cutouts. The compressor design shall have a minimum of 7 years of proven field and production history. All refrigerant circuits shall include thermal expansion valves, external equalizers and distributors for refrigerant control.

Service gauge ports and refrigerant line filter driers are factory installed as standard.

Evaporator and Condenser

Coils

The refrigerant system shall include a vertical air discharge air cooled condenser. The condenser coil(s) shall be inherently enclosed by the condenser cabinet(s) to preclude the use of condenser hail guards. Condenser coils shall be internally finned 5/16" copper tubes. The evaporator and condenser coils are to be copper tube-aluminum plate fin. All multi-circuit evaporator coils are of the interlaced configuration to reduce the risk of coil freezing at part load. All evaporator coils shall be protected from frosting by a low temperature cutout. All Coils shall be leak tested at the factory to ensure pressure integrity.

Dehumidifier (Model PCDA)

Model PCDA with dehumidifier shall include a dedicated compressor using full condenser reheat or total heat of rejection in the supply air stream. The refrigerant circuit shall have thermal expansion valves with external equalizers. Service gage ports and refrigerant line filter driers are factory installed as standard. Dehumidifier evaporator coils shall not exceed 1 row depth to minimize air pressure drop. Hot gas bypass shall not be applied to any dehumidifier.

Air Side

The outdoor condenser fan shall be direct-drive, statically and dynamically balanced, draw through in the vertical position. The condenser fan motor(s) shall be permanently lubricated and have built-in thermal overload protection.

The centrifugal supply fan(s) shall be available in Class II construction with bearings, drive and motor combinations for high static applications. All supply fan motors shall be thermally protected.

Both the blower and housing are to be painted galvanized steel. Two inch metal mesh cleanable type or disposable pleated filters are to be mounted behind the outside air intake panel (outside air hood with moisture eliminating louvers).

Condensate Drain Pan

The condensate drain pan shall be fabricated from stainless steel. The drain outlets shall be located and installed outside the roof curb perimeter to preclude water leaks from the drains. Drain provisions shall be provided on both sides.

Controls

Controls shall be factory configured for the design application with both the required hardware, operating parameters, and typical default control setpoints. The controller is factory mounted on the unit and is pre-wired to the unit controls.

Furnace Option

Furnace(s) shall be gas fired with minimum 80% thermally efficiency. Equipped for use with natural gas or propane and an integral power vent system with spark ignition. Gas modulation shall be available to 25% of the nominal input. The gas furnace shall contain a heat exchanger and die-formed burners of 409 stainless steel. Each furnace section shall be equipped with a 409 stainless steel drip pan to prevent summer condensate corrosion. Furnaces shall be available with spark ignition lock out options.

Filters

To be two inch cleanable metal mesh or two inch disposable pleated.

Full Perimeter Curb

The unit manufacturer's factory-built curb is to meet the National Roofing Contractors Association August 1985 guidelines for roof mounted installations. The curb is to be 16 inches high of bolted 16 gauge galvanized steel construction with a 2 x 4 wood nailer strip furnished on the outside.

Other Options & Accessories

- Motorized outside air/return air dampers
- Disconnect switch
- Totally enclosed or premium efficient blower motor(s)
- Class II blower(s)
- Convenience outlet
- Through-the-base electrical supply
- Room relative humidity sensor
- 20% - 100% gas modulation
- Evaporative cooling module
- Hot-gas-bypass on lead compressor circuit
- Phase loss monitor
- Zone controls