SECTION 23 6213
AIR-COOLED REFRIGERANT CONDENSERS

PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
   1. Furnish and install condensing units as described in Contract Documents.

B. Related Sections:
   1. Section 03 3053: Concrete equipment slab.
   2. Section 23 0501: Common HVAC Requirements.

1.2 SYSTEM DESCRIPTION

A. Performance Requirements: SEER rating as defined by ARI shall be:
   1. Units 6 Tons and Larger: 10.0 or greater.
   2. Units Less Than 6 Tons: 13.0 of greater

1.3 SUBMITTALS

A. Quality Assurance / Control:
   1. Equipment check-out sheets.
   2. Technician certificate for use of CFC, HFC, and HCFC refrigerants.

1.4 QUALITY ASSURANCE

A. Qualifications: Refrigerant piping shall be installed by refrigeration contractor licensed by State and by technicians certified in use of CFC and HCFC refrigerants.

B. Requirements of Regulatory Agencies: Each unit shall be UL / ULC labeled.

1.5 WARRANTY

A. Five-year warranty on compressors from date of 'start-up.' Record 'start-up' date on warranty certificate for each unit.

PART 2 - PRODUCTS

2.1 MANUFACTURED UNITS

A. Condensing Units, 2 Through 5 Tons:
   1. General:
      a. Units shall be operable down to 0 deg F minus 18 deg C outdoor temperature when outside winter design temperature is below 35 deg F 2 deg C.
      b. Use R-410a refrigerant.
      c. Only one liquid line, one suction line, and one power connection shall be made to each compressor. Provide charging valves.
   2. Condenser Coils:
a. Aluminum plate fins mechanically bonded to seamless copper tubes or 'Spine Fin' trade mark system which has aluminum fins epoxy bonded to aluminum tubes.

b. Provide coil guard for unit.

3. Fans:
   a. Direct driven propeller upflow type.
   b. Fan motor shall be single or two speed, thermostatically controlled, permanently lubricated, and designed with permanent protection.
   c. Motors shall be resiliently mounted.
   d. Each fan shall have a safety guard.

4. Compressor:
   a. Each condenser unit shall have only one compressor.
   b. Hermetic design with following features:
      1) Externally mounted brass service valves with charging connections.
      2) Crankcase heater.
      3) Resilient rubber mounts.
      4) Compressor motor-overload protection.
      5) Single speed.

5. Controls:
   a. Factory wired and located in separate enclosure.
   b. Factory installed safety devices:
      1) High and low pressure cutout.
      2) Condenser fan motor-overload devices.
   c. Factory-installed anti-cycle timers to prevent units from starting up again for five minutes after any power interruption.
   d. Low ambient kit.

6. Casing:
   a. Fully weatherproof for outdoor installation. Finish shall be weather resistant.
   b. Openings shall be provided for power and refrigerant connections.
   c. Panels shall be removable for servicing.

7. Category Four Approved Products. See Section 01 6000 for definitions of Categories.
   a. Furnace Systems:
      1) Carrier 24ACA3 / Bryant 123ANA.
      2) Lennox 13ACX
      3) Trane 4TTR
      4) York CZB.

2.2 MANUFACTURERS

A. Contact Information:
   2. Lennox, Dallas, TX  www.lennox.com.

2.3 ACCESSORIES

A. Vibration Isolators: 4 inches 100 mm square by 3/4 inch 19 mm thick minimum neoprene type vibration isolation pads.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Set condensing units level on concrete slab on vibration isolation pads located at each corner of unit.
B. Do not use capillary tube and piston type refrigerant metering devices.

3.2 FIELD QUALITY CONTROL

A. Manufacturer's Field Service:
   1. Condensing units shall be started up, checked out, and adjusted by Condensing Unit Manufacturer's authorized factory trained service mechanic.
   2. Use equipment checkout sheet provided by Manufacturer. Complete and sign all items on sheet.

END OF SECTION