

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 Less Than 6 Tons: 13.0 or 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 outdoor temperature when outside winter design temperature is below 35 deg F.
 - 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:
 1. Carrier Corp, Syracuse, NY www.commercial.carrier.com.
 2. Lennox, Dallas, TX www.lennox.com.
 3. Trane, La Crosse, MI www.trane.com.
 4. York International Corp, York, PA www.york.com.

2.3 ACCESSORIES

- A. Vibration Isolators: 4 inches square by 3/4 inch 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