SECTION 236200 - REFRIGERANT CONDENSING UNITS

PART 1-GENERAL

1.1 SECTION INCLUDES

A. Air-cooled, refrigerant condensing units with dual compressors.

1.2 SUBMITTALS

A. Submittals are required and shall include product data noting capacities at the specified conditions, materials, sizes, and dimensions.

1.3 QUALITY ASSURANCE

A. ASHRAE Standard 15.

B. Certified performance to ARI 210/270/340.

C. UL construction.

D. Units must meet minimum efficiency requirements of ASHRAE Standard 90.1

1.4 WARRANTY

A. Compressors shall include an extended 5-year parts warranty.

B. Contractor shall warranty entire systems and equipment for a period of one (1) year.

PART 2-PRODUCTS

2.1 MANUFACTURERS

A. Daiken

B. Trane

C. Johnson Controls Inc.

D. Dunham Bush

2.2 COMPONENTS

A. General – Units shall be assembled on heavy gauge steel mounting/lifting rails and shall be weather-proofed. Units shall include a hermetic scroll or reciprocating compressors, plate fin condenser coil, fans and motors, controls and holding charge of nitrogen. Operating range shall be between 115 and 35 degrees F in cooling mode as standard from the factory. Units shall be UL 1995 listed, certified and rated in accordance with ARI Standard 210/240, 340/360 or 365.

B. Casing – unit casing shall be constructed of 18 gauge zinc coated heavy gauge galvanized steel. Exterior surfaces shall be cleaned, phosphatized and finished with a weather – resistant baked enamel finish. Unit
surface shall be tested 500 hours in salt spray test. Units shall have removable end panels, which allow access to all major components and controls.

C. Refrigeration System – Double Compressor – Units shall have two separate and independent refrigeration circuits. Each refrigeration circuit shall have an integral sub cooling circuit. A refrigeration filter drier shall be provided as standard. Units shall have both a liquid line and a suction gas line service valve with a gauge port.

D. Condenser Coil – Coils shall be internally finned or smooth bore 3/8" copper tubes mechanically bonded to configured aluminum plate fin as standard. Factory pressure and leak tested to 420-psig-air pressure. A metal grille with PVC coating for coil protection is optional.

E. Condenser Fan And Motor – Direct-drive, statically and dynamically balanced 26 or 28 inch propeller fan with aluminum blades and electro coated steel hubs shall be used in draw-through vertical discharge position. Either permanently lubricated totally enclosed or open construction motors shall be provided and shall have built in current and thermal overload protection. Motors shall be either ball or sleeve bearing type.

F. Refrigerant: Compressors shall utilize R-410, 407R or R-134 A refrigerant.

G. Provide all required safeties including over current thermal overload and single – phasing motor protection.

PART 3-EXECUTION

3.1 INSTALLATION

A. Install in accordance with manufacturers requirements.

B. Startup and training to be provided by a factory-trained service technician for a total of four (4) hours. These hours of training are to be "bankable hours" used within one full warranty year.

C. All training and start-up shall be videotaped with a professional videographer and present two (2) copies of the training on DVD format to the Construction Manager within one (1) week of the training session. This DVD will be provided to the owner.

END OF SECTION 236200