

### 1.06 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum twenty years of documented experience.
- B. Units shall be tested by a nationally recognized testing laboratory and bear the ETL Label.
- C. Units shall be rated in accordance with ARI 210 and bear the ARI Certification Label.
- D. Units shall be manufactured in a factory that is ISO 9001 and ISO 14001 registered.

### 1.07 WARRANTY

- A. See Section 017700 - Closeout Procedures, for additional warranty requirements.
- B. The units shall be covered by the manufacturer's limited warranty for a period of one (1) year from the date of installation. In addition the compressor shall have a limited warranty for a period of six (6) years from the date of installation.

## PART 2 PRODUCTS

### 2.01 MANUFACTURERS

- A. Fujitsu
- B. Substitute equipment may be considered for approval that includes at a minimum:
  - 1. R-410a refrigerant
  - 2. Inverter compressor technology.
  - 3. Ability to meet all other provisions of the specifications herein and as specified on the drawings.

### 2.02 INDOOR UNITS FOR DUCTLESS SYSTEMS

- A. Indoor Units: Self-contained, packaged, factory assembled, pre-wired unit consisting of wall or ceiling mounted cabinet, supply fan, evaporator coil, washable filter, and controls; wired for single power connection with control transformer.
- B. Evaporator Coils: Copper tube aluminum fin assembly, galvanized or polymer drain pan sloped in all directions to drain, drain connection, refrigerant piping connections, restricted distributor or thermostatic expansion valve.
  - 1. Construction and Ratings: In accordance with AHRI 210/240 and UL listed.

### 2.03 OUTDOOR UNITS

- A. Outdoor Units: Self-contained, packaged, factory assembled, pre-wired unit consisting cabinet, with compressor and condenser.
  - 1. Construction and Ratings: In accordance with AHRI 210/240 with testing in accordance with ASHRAE Std 23 and UL listed.
- B. Compressor: DC rotary compressor with variable compressor speed inverter, resiliently mounted integral with condenser, with positive lubrication, crankcase heater, high pressure control, motor overload protection, service valves and drier. Provide time delay control to prevent short cycling.
- C. Air Cooled Condenser: ARI 520; Aluminum fin and copper tube coil, with direct drive axial propeller fan resiliently mounted, ABS plastic fan guard.
- D. Accessories: Filter drier, high pressure switch (manual reset), low pressure switch (automatic reset), service valves and gage ports, thermometer well (in liquid line).
  - 1. Provide thermostatic expansion valves.
  - 2. Provide heat pump reversing valves (where specified)
- E. Operating Controls:
  - 1. Control by room thermostat to maintain room temperature setting.
  - 2. The control system shall consist of two(2) microprocessors, one on each indoor unit and outdoor unit. The microprocessor located in the indoor unit shall have the capability of monitoring return air temperature and indoor coil temperature, receiving and processing

commands from the remote controller and providing emergency operation and controlling the outdoor unit.

**PART 3 EXECUTION**

**3.01 EXAMINATION**

- A. Verify that substrates are ready for installation of units and openings are as indicated on shop drawings.
- B. Verify that proper power supply is available and in correct location.

**3.02 INSTALLATION**

- A. Install in accordance with manufacturer's instructions and requirements of local authorities having jurisdiction.
- B. Install in accordance with NFPA 90A and NFPA 90B.
- C. Install refrigeration systems in accordance with ASHRAE Std 15.
- D. Pipe drain from cooling coils to nearest receptor or to grade.
- E. Contractor shall provide additional refrigerant if system volume exceeds pre-charge capacity of outdoor unit.

**END OF SECTION 23 81 27**