

GENERAL:

1. To provide minimum standards for design and installation of packaged refrigerant cooling systems.

DESIGN GUIDELINES:

A. General

1. All mechanical room installations will comply with ASHRAE 15.
2. Waste water cooled units are not acceptable.
3. All roof mounted condensing units will be designed to 115°F outside air temperature

B. Materials

1. All piping and fittings will be copper except in an evaporative condenser, where steel piping is acceptable. Use Long radius fittings.
2. All solder will be 15% silver solder except on connections to expansion valves, sight glasses, and driers where Starbrite solder is acceptable.
3. All valves will be full port. Provide isolation valves on each side of driers. Provide check valves on the discharge of compressors. Discharge from all relief valves will be piped to exterior of the building.
4. Insulate suction and hot gas bypass in all locations and discharge lines if exposed in occupied areas. For units above 5 tons, use 1" fiberglass insulation. For smaller units, use 1/2" closed cell foam insulation, minimum. All insulation on exterior piping will be protected by an aluminum jacket.

C. Equipment

1. Compressors
 - 1.1. All compressors will be supplied with a five (5) year warranty.
 - 1.2. Multiple units are preferred over larger single units.
 - 1.3. All compressors will be single speed.
 - 1.4. All three (3) phase units will have adjustable voltage monitors for each phase, with manual reset.
 - 1.5. Provide recycle timers and crankcase heaters with all compressors.
 - 1.6. Provide high and low pressure switches.
2. All solenoid valves will have a manual lift stem.
3. Provide driers on all liquid lines with isolation valves on each side of the drier.
4. Condensing units, if designed to operate at less than 55°F, will be provided with hot gas bypass and with condenser fan cycle control operated from the head pressure.
5. All coils will have copper tubes and aluminum fins.