DIMENSIONS

Unit dimensions shall not exceed following indications:

- ✓ unit length ..... mm,
- ✓ unit width ..... mm,
- ✓ unit height ..... mm.

CONDENSING UNIT COMPONENTS

Compressors

From size ERAD120E-SS to size ERAD250E-SS and from size ERAD120E-SL to size ERAD240E-SL

- ✓ Semi-hermetic, single-screw type with one main helical rotor meshing with gaterotor. The gaterotor will be constructed of a carbon impregnated engineered composite material. The gaterotor supports will be constructed of cast iron.

From size ERAD310E-SS to size ERAD 490E-SS and from size ERAD300E-SL to size ERAD460E-SL

- ✓ Semi-hermetic, single-screw asymmetric type with one main helical rotor meshing with two diametrical opposed gaterotors. The gaterotors' contact elements shall be constructed of composite material designed for extended life. Electrical motor shall be 2-pole, semi-hermetic, squirrel-cage induction type and cooled by suction gas.
- ✓ The oil injection shall be used in order to get high EER (Energy Efficiency Ratio) also at high condensing pressure and low sound pressure levels in each load condition.
- ✓ The compressor shall be provided with a built in, high efficiency, mesh type oil separator and oil filter.
- ✓ Refrigerant system differential pressure shall provide oil injection on all moving compressor parts to correctly lubricate them. Electrical oil pump lubricating system is not acceptable.
- ✓ Compressor cooling must be done by refrigerant liquid injection. External dedicated heat exchanger and additional piping to carry the oil from the compressor to heat exchanger and viceversa will be not accepted.
- ✓ The compressor shall be direct electrical driven, without gear transmission between the screw and the electrical motor.
- ✓ The compressor casing shall be provided with ports to realize economized refrigerant cycles.
- ✓ Compressor must be protected by temperature sensor for high discharge temperature and electrical motor thermistor for high winding temperature.
- ✓ The compressor shall be equipped with an electric oil heater.
- ✓ Compressor shall be fully field serviceable. Compressor that must be removed and returned to the factory for service shall be unacceptable.

Cooling capacity control system

- ✓ Each condensing unit will have a microprocessor for the control of compressor slide valve position.
- ✓ The unit capacity control shall be infinitely modulating, from 100% down to 25%. The condensing unit shall be capable of stable operation to a minimum of 25% of full load without hot gas bypass.
- ✓ The system shall control the unit based on the leaving evaporator liquid or air temperature that shall be controlled by a PID (Proportional Integral Derivative) logic.
- ✓ Unit control logic shall manage the compressor slides to exactly match plant load request in order to keep constant the set point for delivered chilled liquid or air temperature.
- ✓ The microprocessor unit control shall detect conditions that approach protective limits and take self-corrective action prior to an alarm occurring. The system shall automatically reduce condensing unit capacity when any of the following parameters are outside their normal operating range:
    - o High condenser pressure
    - o Low evaporation refrigerant temperature