

## Condensers

- ✓ Condensers will be shell and cleanable, through-tube type.
- ✓ The unit will have one condensers per circuit.
- ✓ Each condenser shall have a carbon steel and seamless, integrally finned high efficiency copper tubes, roll expanded into heavy carbon steel tube sheets.
- ✓ Water heads shall be removable and include vent and drain plugs.
- ✓ Condensers will come complete with liquid shut-off valve, spring loaded relief valve.

## Refrigerant circuit

Each circuit shall include as standard: electronic expansion device piloted by unit's microprocessor control, compressor discharge shut-off valve, suction line shut-off valve, replaceable core filter-drier, sight glass with moisture indicator and insulated suction line.

## Control panel

- ✓ Field power connection, control interlock terminals, and unit control system should be centrally located in an electric panel (IP 54). Power and starting controls should be separate from safety and operating controls in different compartments of the same panel.
- ✓ Starting shall be Wye-Delta type as standard.
- ✓ Operating and safety controls should include energy saving control; emergency stop switch; overload protection for compressor motor, high and low pressure cut-out switch (for each refrigerant circuit); anti-freeze thermostat; cut-out switch for each compressor.
- ✓ All of the information regarding the unit will be reported on a display and with the internal built-in calendar and clock that will switch the unit ON/OFF during day time all year long.
- ✓ The following features and functions shall be included:
  - Resetting chilled water temperature by controlling the return water temperature or by a remote 4-20 mA DC signal or by controlling the external ambient temperature;
  - Soft load function to prevent the system from operating at full load during the chilled fluid pulldown period;
  - Password protection of critical parameters of control;
  - Start-to-start and stop-to-start timers to provide minimum compressor off-time with maximum motor protection;
  - Communication capability with a PC or remote monitoring;
  - discharge pressure control through intelligent cycling of condenser fans;
  - Lead-lag selection by manual or automatically by circuit run hours;
  - Double set point for brine unit version;
  - Scheduling via internal time clock to allow programming of a yearly start-stop schedule accommodating weekends and holidays.

## Optional High Level Communications Interface

The controller as a minimum shall be capable of providing the data shown in the above list, using the following options:

- RS485 Serial Card
- RS232 Serial Card
- LonWorks interface to FTT10A Transceiver.
- Bacnet Compatible
- Use of Compass Points (manufactured by North Communications) to allow communications with such as Honeywell, Satchwell, Johnson controls, Trend etc.