

## General characteristics

### Cabinet and structure

The cabinet is made of galvanized steel sheet and painted to provide a high resistance to corrosion. Colour Ivory White (Munsell code 5Y7.5/1) ( $\pm$ RAL7044). The base frame has eye-hook for lifting the unit with ropes for an easy installation. The weight is uniformly distributed along the profiles of the base and this facilitates the arrangement of the unit.

### Screw compressors

The compressor is semi-hermetic, single-screw type with gate-rotors made of carbon impregnated engineered composite material. The compressor has one slide managed by the unit microprocessor for infinitely modulating the capacity between 100% to 25%. An integrated high efficiency oil separator maximizes the oil separation and standard start is Wye-delta (Y- $\Delta$ ) type.

### Ecological HFC 134a refrigerant

The compressors have been designed to operate with R-134a, ecological refrigerant with zero ODP (Ozone Depletion Potential) and very low GWP (Global Warming Potential) that means low TEWI (Total Equivalent Warming Impact).

### Evaporator

The units are equipped with direct expansion plate to plate type evaporator, one per circuit. This heat exchanger is made of stainless steel brazed plates and is covered with a 10mm closed cell insulation material. The evaporator is manufactured in accordance to PED approval. The evaporator water outlet connections are provided with Victaulic Kit (as standard).

### Condenser

The units are equipped with Direct Expansion shell & tube condenser, with copper tubes rolled into steel tube sheets. The unit has independent condensers, one per circuit. The condenser is manufactured in accordance to PED approval.

Condensers are provided with liquid shut-off valve and spring loaded relief valve.

The condenser water outlet connections are provided with Victaulic Kit (as standard).

### Electronic expansion valve

The unit is equipped with the most advanced electronic expansion valves to achieve precise control of refrigerant mass flow. As today's system requires improved energy efficiency, tighter temperature control, wider range of operating conditions and incorporate features like remote monitoring and diagnostics, the application of electronic expansion valves becomes mandatory.

Electronic expansion valve proposes features that makes it unique: short opening and closing time, high resolution, positive shut-off function to eliminate use of additional solenoid valve, highly linear flow capacity, continuous modulation of mass flow without stress in the refrigerant circuit and corrosion resistance stainless steel body.

EEV strength point is the capacity to work with lower  $\Delta P$  between high and low pressure side, than a thermostatic expansion valve. The electronic expansion valve allows the system to work with low condenser pressure (winter time) without any refrigerant flow problems and with a perfect chilled water leaving temperature control.

### Refrigerant circuit

Each unit has independent refrigerant circuits and each one includes:

- Single screw compressor with integrated oil separator
- Brazed plate evaporator
- Shell & tube condenser
- Oil pressure transducer
- High pressure switches
- High pressure transducer
- Low pressure transducer
- Moisture liquid indicator
- Replaceable core filter-drier
- Electronic expansion valve