

Ice water group



DESCRIPTION

- The ice water group is delivered complete with instrumentation and with technical and instruction manuals.
- The group consists of a refrigeration unit with a compressor and a water circuit at the beginning.
- The instrumentation of the unit allows for the measurement and adjustment of various parameters.
- The unit can be sold either as a multi-purpose unit or with an optional energy supplier network.

SUGGESTED APPLICATIONS

- Functioning of an ice water group
- Identification of the different components and analysis of their function
- Study of the compressing refrigeration fluid unit
- Study of the thermodynamic cycle of the refrigeration fluid
- Evaluation of the coefficient of efficiency – energy balance at the exchangers

TECHNICAL CHARACTERISTICS

Hermetic compressor – SCROLL type

- Nominal power : 10.9 kW – air + 32°C – water 7/12°C
- Thermal protection by klixon
- Protection against the rotation in opposite direction
- Resistance on the case

Air condenser

- Copper tube and aluminium blades
- Axial fan – engine of 0.37 kW/6 poles – 6.5 m³/h

Evaporator

- Coaxial type in an insulated tank
- Water pump and water flowrate sensor
- Measurement of the inlet water flowrate – 3-way valves modulating with a servomotor with manual and linear handling (0-100 %)

Refrigeration circuit

- Dehydrator – fluid estate lamp – thermostatic expansion with internal pressure compensation
- Refrigeration fluid flowmeter in liquid phase
- High and low pressure manometer

Electric switch cupboard

- Handling in 24 V
- Protection with microprocessor for the following functions :
 - Control of the water temperature
 - Ice proof protection
 - Short proof cycle
 - Alarm ring
- Display of the temperatures of the inlet/outlet/set-point water

UTILITIES : Electricity : tri 400 V 16 A

DIMENSIONS :

Length	:	1 500 mm
Width	:	800 mm
Height	:	1 300 mm
Weight	:	250 kg

OPTION : Secondary circuit energy supply

This circuit has to raise the water temperature, which leaves from the iced water group of nominal ΔT , at the nominal flowrate at full power. The heater is an electric type [submerged resistance in an exchanger]. The circuit is equipped with a pressure accumulator. The adjustment of the heater is manual and linear – 0-100%. A numeric controller measures the water temperature and adjusts the servomotor's position. You must provide an increase of 16 A on the triphased feeding of the unit.