CHA/MC/TTH 1701-1 PU EC

Aircooled liquid chiller with axial fans

TURBOLINE

HFO R1234ze

MICROCHANNEL

ErP SEER

General description

Aircooled liquid chiller units, with axial fans for outdoor installation.

Frame

Self-supporting galvanized steel frame further protected with polyester powder painting. Easy to remove panels allow access to the inside of the unit for maintenance and other necessary operations.

Compressors

Semi-hermetic dual Turbocor turbine centrifugal, oil free, magnetic rising rotor, thermal protection, flow and delivery tap, continuous capacity adjustment system thanks to built-in inverter, automatic anti-cavitation system. The power circuit of the compressor is fitted with a set of electrolytic condensers to control the rising in the event of a power failure, reactor for the power factor correction, EMI filter for electromagnetic compatibility.

Fans

Axial fans directly coupled to a three-phase electric motor with external rotor. A safety fan guard is fitted on the air flow discharge.

Condenser

Consists of two finned coils with copper pipes and aluminum fins or, in the MC version, of two all aluminum Microchannel coils.

Evaporator

Flooded shell and tube type with casing with high efficiency tube nest designed for R1234ze, with one or two independent circuits on the cooling side and one on the water side.

Electrical panel

Includes: main on-off switch with door lock; fuses; electronic/digital overload device to protect the compressors and thermal contacts for the fans; interface relay and terminals for external connections.

Microprocessor

For the automatic running of the unit. Allows the Viewing and control of all the variables of the compressor and unit, in particular: operating pressures, saturation temperatures, current, shaft speed, IGV position, evaporator liquid level, active alarms and alarms/events history. The microprocessor is supplied with Modbus RTU protocol through RS 485 serial interface and a device for remote monitoring via GPRS/EDGE/3G/TCP-network. Authorized users have access to a dashboard display that provides critical system information from which the user can measure, manage and report as necessary.

Electronic proportional device

To cut down the noise level, obtained by continuously adjusting the speed of rotation of the fans; this device also allows the unit to operate at external air temperatures of -20 °C.

Refrigerant circuit

Made with copper pipes, including for all models the following components: electronic thermostatic expansion valve; economizer; shut off valve on the liquid line; dehydrator filter; liquid and humidity indicator; motor cooling line; high pressure switches and high and low pressure transducers (fixed calibration); ambient temperature probe; probe on the compressor flow/delivery; safety valve and digital high and low pressure gauges.

Hydraulic circuit with additional pump.

Includes: evaporator; inlet sensor; antifreeze/operating sensor; differential water pressure switch; water inlet/outlet pressure transducers to monitor the water flow; circulating pump; flow switch; water manometers in suction and supply lines; expansion vessel; manual air vent; water drain; safety valve and thermal relay.

Microchannel

The units are equipped with microchannel condensing coils, which is a technology that provides many advantages in comparison to traditional copper/aluminum coils, including: reduction in overall dimensions, reduction in weight, reduction in coolant and, thanks to improved heat exchange, reduction in fan power. Furthermore, thanks to the all aluminum coil, galvanic corrosion is impossible with a resulting reduction in maintenance.