CPH LIQUID CHILLERS

These chillers are used for cooling of water and brines such as glycol solutions and other liquids that do not cause corrosion of copper alloys.

Refrigerant: R22, R404A, R507A.
Total amount of chiller variants: 32 with refrigerant R22,
32 with refrigerant R404A/R507A.
Chiller cooling capacity range: from 3 to 140 kW.
Brine temperature range: from -10 to +16 °C.
Refrigerant condensing temperature range: from +30 to +55 °C.

Chiller description

These chillers are completely manufactured at the factory and mounted on a single frame. All components of the refrigerant circuit are connected with piping; the circuit has passed strength and leakage tests. During delivery the chiller's refrigerant circuit is filled with high purity nitrogen up to excess conservation pressure; with all inlets and outlets plugged. The electrical components of each chiller are assembled and tested.
The chiller is certified for compliance with national standards.
Having installed the chiller in its new location, connect the brine piping to evaporator, the refrigerant piping to condenser and then wire the chiller to electrical network.

Basic components

Refrigerant circuit(s) (one or two)

Each refrigerant circuit includes (one or two compressors)**:**
Compressor: the Maneurop hermetic piston compressor has a common housing with an electric motor and is charged with oil; the oil level can be monitored through a sight glass. The compressor crankcase is equipped with an oil heater; the electric motor has a protective relay against winding superheat. The compressor is also equipped with a shut-off valve in the discharge line and suction and discharge pressure switches.
Discharge line: discharge header, check valve in discharge line of each compressor (for chillers with two compressors).
Refrigerant receiver: equipped with shut-off valve at outlet.
Liquid refrigerant line: filter-drier, sight glass, shut-off valve, solenoid valve, thermostatic expansion valve.
Suction line: suction header (for chillers with two compressors), thermal insulation.

Each chiller includes:
Evaporator: copper-brazed plate heat exchanger (for each circuit), thermal insulation.
Frame: The frame is the supporting structure of the chiller. It is made of steel and has sufficient rigidity. The frame is painted with a high quality anti-corrosion composition, resisting environmental climatic factors. It provides a possibility of mounting the chiller on its base and an easy access to its maintenance.

Options

Liquid refrigerant separation in suction line of each circuit
Option ***A1:*** thermal insulated liquid separator.
Air cooled condenser fan control
Option ***B1:*** one pressure switch for condenser fan control;
Option ***B2:*** two pressure switches for condenser fan control.
Discharge line pressure sensors
Option ***B4:*** discharge line pressure sensor for option C3;
Option ***B6:*** discharge line pressure sensor for options C5.
Chiller control
Option ***C3:*** control cabinet with ST 544 controller for chillers with one or two compressors and with ECH 420 controller for chillers with 4 compressors, including temperature sensors at evaporator brine inlet/outlet and power controls switching on/off compressor(s) and condenser fan(s); control cabinet is combined with chiller;
Option ***C5:*** control cabinet with mC2SE controller, including temperature sensors at evaporator brine inlet/outlet and power controls switching on/off compressor(s) and condenser fan(s); control cabinet is combined with chiller.
Condensing pressure regulation
Option ***D1:*** discharge line pressure regulator, regulator or differential pressure valve in refrigerant by-pass line into receiver, check valve in refrigerant drain line into receiver.
Additional crankcase heating of each compressor
Option ***K1:*** additional crankcase heater, thermostat, compressor crankcase thermal insulation.
Oil separation and oil return to compressor of each circuit
Option ***M1:*** oil separator, oil separator heater, sight glass in oil return line to compressor.
Pressure monitoring of each circuit
Option ***V1:*** pressure gauges with glycerin pointer vibration damper for suction and discharge lines.
Brine flow control
Option ***Z1:*** flow switch.

Technical documentation

Operating manual, product passport, receiver passport.

Label structure

CPH-M – 2 x MT125 – H – XX…X R22
1 2 3 4 5 6 7

1 – Product type
CPH – liquid chiller with hermetic piston compressors;
2 – Temperature application
H – High temperature;
M – Medium temperature;
3 – Number of compressors in the chiller (if more than one);
4 – Compressor model (letter Z in the compressor name means that the chiller works with synthetic oil);
5 – Version;
6 – Additional options;
7 – Refrigerant.