290

COMPACT L4

Natural refrigerant R 290

HT from 2 °C to 20 °C MT from -15 °C to 2 °C LT from -35 °C to -15 °C

Cooling capacity range from 50 kW to 150 kW (*)

(*) External air temperature 35 °C; evaporator inlet/outlet water 12/7 °C

FRIGOPLUS

AIR COOLED CHILLERS

Air cooled chillers are used for indirect cooling for air conditioning of buildings, industrial processes, logistics centers for food retail, precision cooling of data centers. Heat transfer fluid can be water, mixture of water and ethylene/propylene glycol or some other secondary heat transfer fluid.

Air-water chiller is packaged in a single housing and all the components of the refrigerant circuit are built into the unit. Thus, chillers are compact and easy to install on site. Refrigerant is propane (R 290), which due to its excellent thermodynamic properties allows the use of a chiller in the temperature range from -35 to 20 °C. A microprocessor controls the operation of the unit and optimizes parameters in order to achieve as high efficiency as possible.

SAFETY

All chillers are designed in accordance with the highest safety standards and follows EN 378 for refrigerants from group A3.

ECOLOGY

Natural refrigerant: propane - R 290.

It belongs to the group of hydrocarbons with GWP = 3 which is completely exempted from the restrictions prescribed by the EU F-GAS REGULATION.

ENERGY EFFICENCY

Thanks to the ideal thermodynamic characteristics of the R 290 refrigerant and the optimal selection of the key components of the refrigeration circuit, the chillers have high energy efficiency and meet the requirements of ECODESIGN REGULATIONS.

QUALITY PROGRAMME

- Testing units according to HRN EN 14 511
- ISO 9001 : 2015
- Modul A2 Monitoring of Final Assessment, according to Directive 2014/68/EU



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TEMPERATURE RANGE



COOLING CAPACITY RANGE

50 kW - 150 kW (*)

(*) External air temperature 35 °C; evaporator inlet/outlet water 12/7 °C

| COMBINATIONS | COMPRESSORS | INVERTERS | optional buffer and pumps | 1 x pump | 2 x pumps | buffer 300 l + optional 1 × pump | buffer 300 l + optional 2 x pumps | hydraulic switch 300 l + 1 × primary pump | hydraulic switch 300 l + 2 × primary pumps |
|----------------------|-------------|-----------|---|--------------|--------------|--|---|---|--|
| STANDARD | 1 | 0 - 1 | \checkmark | \checkmark | \checkmark | 1 | 1 | 1 | / |
| | 2 | 0 - 1 | | | | ✓ | ✓ | ✓ | ✓ |
| SERIAL HEAT RECOVERY | 1 | 0 1 | | 1 | 1 | v | V | v | |
| or DESUPERHEATER | 1 | 0-1 | Image: A start of the start of | V | v | | | | |

- Natural refrigerant
- Semi-hermetic reciprocating compressors
- Inverter driven compressors
- True dual evaporators
- Microchannel aluminum air condenser
- EC air condenser fans for precise condensing control
- Electronic expansion valve
- Inovative technical cooling solution for high energy efficiency
- Optional equipment:
 - AC/EC Primary pump
 - Buffer tank
 - Serial heat recovery (*)
 - Desuperheater (*)

(*) Only for configurations with one compressor

HOUSING

- Housing made of powder-coated galvanized sheet metal
- Screws, nuts and rivets made of stainless steel
- Guard grille at the outlet from the axial fan
- Panels on compressor and hydraulic space with locks

ELECTRICAL PART

- Emergency stop mushroom pushbutton with CES key
- Phase failure monitoring relay
- Electrical cables labeling in the unit according to the electrical scheme
- Electrical cables for outdoor installation UV resistant
- Time relay for automatic reset of chiller in case of power failure
- Main switch on the electrical cabinet
- Cable clamp rail for power supply cable
- Control transformer 230/230 V and transformer housing earthing

REFRIGERATION CIRCUIT COMPONENTS

- Compressor with 2 rotalock valves, oil crankshaft heater, oil control glass
- Motor windings thermally protection and electronic module
- HP pressure switch is connected to the compressor before the rotalock valve
- Vibraflex for compressors with 2 or 4 cylinders
- Check valve in the discharge pipe
- Service ball valve before filter dryer, filter dryer and sight glass
- Service Schrader valve on LP and HP side
- Economizer for efficiency increase of the refrigeration circuit
- Thermal insulation of the refrigeration circuit LP side
- Safety valve on HP and LP side
- Electronic expansion valve with safety function of too high evaporation pressure

CONTROLLER by

SIEMENS CLOUD MONITORING



CUSTOMER

FRIGOPLUS

- Intuitive and user frendly TOUCH SCREEN
- Innovative algorithm for precise control of outlet water/glycol temperature
- Advanced operation control for 'heat recovery' and precise outlet hot water temperature
- Alarm managment for safe and reliable chiller operation
- Easy connectivity with standard MODBUS and BacNET protocols









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