

INSTALLATION DESCRIPTION

Installation : CGS-2011016-17-18

Description : R290-Chiller

- Air-cooled chiller with design conditions:
 - o Cooling capacity [kW] : 180 kW
 - o Refrigerant : R290
 - o Evaporating temperature [°C] : -10
 - o Condensing temperature [°C] : +30 (piek +35)
 - o Refrigerant : Thermerá -15
 - o Refrigerant temp. in out [°C] : -3 / -7
 - o Ambient temperature [°C] : +20 (piek +35)
- Unit suitable for outdoor installation
- Weatherproof enclosure all around
- There is no noise requirement
- Air-cooled condenser
- Capacity control 50-100% stepless
- 2 separate propane circuits with a max. filling of 25 kg propane
- Unit that meets the requirements of the Energy List 2010, code 220212

Description chiller unit:

Air-cooled chiller operating on the natural refrigerant R290.

The unit consists of a robust steel frame on which all components such as compressors, condenser, heat exchangers and accessories are assembled.

Compressors, heat exchangers and fittings are of high quality and are approved for use with propane and the applicable danger zones. Pipework is made of copper where possible. Other pipe sections are carried out in St35.2.

The suction pipes and heat exchangers are insulated with Armaflex.
Pipe brackets are supplied as standard with Stauf and/or Isolperfect brackets.

The unit is supplied in a partially open housing with grid plate.

All switching elements present within the housing are made of ATEX category 3G equipment.

The condenser, which is designed in a V arrangement, is supplied with energy-efficient EC fans, class C.

One refrigeration compressor is fitted with a frequency regulator for stepless capacity regulation.

The main switch panel is mounted outside the housing and is made of plastic with a protection class IP66. The CGS control system is used for the control system, which can be operated via the user-friendly touch panel.

Specification R290 Chiller 180 kW:

Refrigeration compressor:

Manufacturer		: Bitzer
Type		: 6F-50.2P
Number		: 2 pieces
Refrigerant		: R290
Evaporating temperature	[°C]	: -10
Condensing temperature	[°C]	: +30
Cooling capacity	[kW]	: 89.8
Power consumption	[kW]	: 23.5
Capacity control		: 50-100% stepless

Condenser:

Type		: Air-cooled V-condenser
Number of cooling circuits		: 2
Material version		: Cu/Al
Condenser capacity	[kW]	: 241,2
Condensing temperature	[°C]	: +30
Air inlet temperature	[°C]	: +25
Air flow rate (nominal)	[m ³ /h]	: 100360
Number of fans	[stk]	: 4
Power consumption per vent.	[W]	: 1,9

Evaporator:

Type		: Brazed Plate Heat Exchanger
Material version		: 316L
Number of cooling circuits		: 2
Cooling capacity	[kW]	: 180
Evaporating temperature	[°C]	: -10
Secondary medium		: Thermera -15
Sec. medium-inlet temperature	[°C]	: -3
Sec. medium-leaving temperature	[°C]	: -7
Sec. flow rate (nominal)	[m ³ /h]	: 56
Sec. resistance	[kPa]	: 35

Unit:

Length	[mm]	: 4190
Width	[mm]	: 2300
Height	[mm]	: 3000
Weight	[kg]	: +/- 4500
Casing material version		: Painted galvanized steel sheet
Secondary connections		: Flange DN80
Main power supply		: 400/3+N/50
Safety value main power supply	[A]	: 160

Switch panel:

- Plastic panel IP66
- Cabinet lighting + door switch
- Main switch 160A remote controllable for emergency stop
- Blade fuse groups compressors
- Circuit breakers for other motor groups and control current
- Emergency stop relay
- Touchscreen PLC
- Potential-free fault contacts (urgent, non-urgent)
- 1 pc. Frequency inverter 30 kW
- 1 pc. motor circuit for dc pump

