

2.2. MACHINE ROOM

2.2.1. Twin compressor unit

Containing:

Two screw compressors

-Brand • Bitzer

-Type: OSNA 7471K

-Coolant: NH3

Delivered cooling capacity averaged over the year 2 x 75 kw

-Vaporization temperature: -300C

-Condensation temperature: +400 C

Power consumption 45.6 kW

Installed engine power: 2 x 50 kW

Motor: Leroy Somer

Type: PLS 200M

Speed: 3600 rpm

Voltage: 400VD - 50Hz

Construction: IP23-B35

2.2.2. Electrical switch panel

We have assumed that the available voltage is 380 Volts between the phases, at a frequency of 50 Hz and that a neutral conductor is present.

Moreover, we have assumed that all electric motors, except the motors of the compressors, can be switched on immediately. The motors of the compressors are frequency controlled.

Advantage: speed control + soft start and peak power equal to nominal current.

2.2.3. Liquid separator

The liquid separator is spaciouly dimensioned (0900 x 3000), has a horizontal design and is equipped with.

- the suction and pressure connections; the liquid inlet and outlet connections; a standpipe to indicate the liquid level in the separator; an oil drain with valve and hose connection; the necessary support; a high-level switch to protect the compressors against liquid chipping; a low-level switch to protect the refrigerant pumps against dry operation;

- a spring-loaded safety valve.

The liquid separator is painted with anticorrosive paint and is extruded at high pressure in the factory and delivered with inspection certificate.

2.2.4. Two NI-13 pumps

provided with :

Brand: WITT Type: HRP 3232 suction and discharge valve pressure gauge check valves
pump pressure control

2.2.5. An air-cooled condenser

This condenser is composed of.

- a pipe battery, constructed from galvanized pipes with pressed aluminum slats;
- a casing with supports in galvanized design;
- the number of fans mentioned below, which ensures the air circulation over the pipe battery.

The technical data of this condenser are

Brand GOEDHART

Type FEAL 100L / 4-8P

Capacity kW 503.7

Incoming air temperature EC 25

Condensing temperature EC 40

Air quantity m³ / h 115,400

Number of fan motors 4

Power of the fan motor kW

Dimensions length 9690

width 1000

height 1780

2.3. STORAGE FREEZER

2.3.1. Three plate air coolers

The technical data of these air coolers are

Brand GOEDHART

Type ZFB-126310

Capacity kW 59

Room temperature EC - 20

Evaporation temperature EC - 28

Pipe distance 60

Fin spacing 10

Surface m² 290

Air volume 23.160

Number of fans 2

Motor power fans Watt 910

Defrost system hot gas

The lamella cooler consists of:

- a metal casing, provided with a suitable finishing layer; a double-walled insulated drip tray to prevent condensation at the bottom of the drip tray; an air cooler made of steel pipes with steel slats, the whole in hot-dip galvanized version; a number of fans as indicated above; the cooler is equipped for compressed gas defrost; To this end, the double-walled drip tray is provided with a heating coil;

The aforementioned elements are built together as a whole.

Each slat air cooler is equipped with blowout socks that keep the heat in during defrost.

Furthermore, each cooler is equipped with the following peripherals:

A. NH₃ liquid stop valve

NI - 13 liquid filter of high power NH₃ electromagnet valve

NH₃ check valve NI-13 control valve

B. NH₃ automatic suction valve pressurized gas - controlled with one very small pressure loss

NI - 13 valve matching over aforementioned NI-13 wet suction stop valve