

Refrigeration kit



DESCRIPTION

- This refrigeration kit consists of all the parts required to design and construct a positive cold chamber operated by a sealed form compressor.
- Designed and manufactured to industrial standards.
- Use of refrigerant R 134 as required by new European standards.

SUGGESTED LESSONS

The student receives a plate on which different components of a positive cold chamber refrigeration unit are mounted.

- ⇒ The student designs a refrigeration unit using the components provided.
- ⇒ The various components are mounted in positions to comply with the design.
- ⇒ The components are connected using copper and brass tubes. This will involve bending, brazing, expanding, ...
- ⇒ Research of escape, air draught
- ⇒ A schematic for wiring the system is designed and then implemented
- ⇒ The unit is filled with refrigerant.
- ⇒ The unit is regulated while it is running.

An enthalpic diagram is constructed for the operating unit.

The refrigeration kit is made up of the following components :

Electric power of the fan engine : 30 W
Refrigerating power : 325 W / Δt 10°C

- A sealed compressor
Commercial type
Electric power 1/8 CV
Refrigerating power 445 W
Condensation temperature : +50°C
Evaporation temperature : +7.2°C
- A air forced ventilation condenser
Copper tube and aluminium blade
Electric power of the fan engine 33 W
- A liquid tank
Vertical type, steel, capacity 0.9 litre
- Thermostatic expansion valve
Pressure internal equalization
- A dehydrator
1/4" solid shape
- A cold chamber with evaporator
Chamber volume : 90 litres
Forced convection evaporator
Copper tube and aluminium blades

- Three state indicators of the fluid with damp indicator
- A low pressure manometer
-1.....+10 relative bar
- A high pressure manometer
-1.....+30 relative bar
- A high and low pressure combined pressure switch
- An electro-valve for the pump down regulation
- A schrader micro valve
- A safety valve
- An atmosphere thermostat
- An electric box with differential protection and buttons
- A block of connections, lengths of copper tubes, capillary
- A perforated plate for the shaping of the elements
- A handled contact probe thermometer

UTILITIES

- Tools of refrigeration engineer
- Tools of bending, expanding of tubes
- Brazing set and silver rod
- Nitrogen bottle + mano expansion valve
- Escape indicator
- Vacuum pump + manifold
- Charge cylinder + R 134 a bottle (0,7 kg)
- Tools of electrician and consumable (wires, nozzles...)

VOLUME

(Mounted unit)

Length : 650 mm
Width : 560 mm
Height : 800 mm
Weight : 40 kg

SHIPPING SPECIFICATIONS

Packing sizes

Length : 650 mm
Width : 850 mm
Height : 700 mm
Weight : 80 kg