

Industrial Air Conditioning Unit

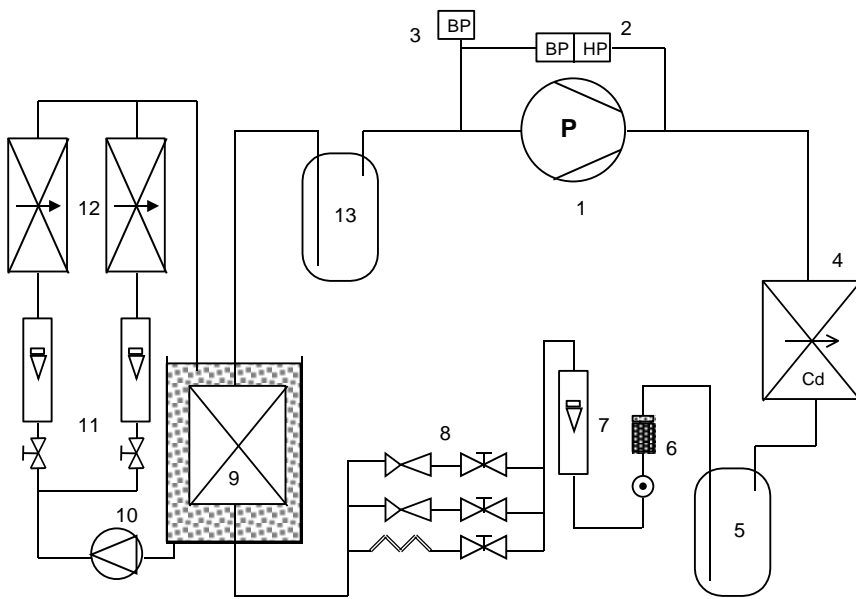
DESCRIPTION

- The industrial air conditioning unit is delivered complete with instrumentation and with technical documentation and instructions.
- Designed and manufactured to industrial standards.
- This unit is designed for various levels and different fields of study.
- Uses refrigerant R 134 a, to conform with current standards.



SUGGESTED APPLICATIONS

Study of the basic concepts involved in a refrigeration installation utilizing R134a.
Study of the various modes of expansion.
Study of torquing evaporators in parallel.
Construction of the refrigeration cycle in a state diagram.
Calculating heat exchanged and comparing actual results with theoretical predictions.



1. Semi-hermetic refrigerating compressor

- Commercial type
- Refrigerant: **R 134 a** ($\text{CH}_2\text{F}/\text{CF}_3$)
- Rated power: 1/2 CV
- Refrigerating power: 1230 watts
 - Condensing temperature: + 32°C
 - Evaporating temperature: - 10°C

2. HPLP safety pressure controller

3. LP regulating pressure controller

4. Air condenser

- Forced convection
- Copper tube and aluminium blades
- Electric power of the fan: 80 watt
- Air flow rate: 0,4 m³/sec.

Pressure speed variator

UTILITIES

Electricity : 380 V three-phased 50/60 Hz

5. Tank liquid

Vertical – stainless steel
Tank volume 3L

6. Dehydrator

7. R134a flow meter

0 to 50 kg/h
316 L stainless steel
floater with magnetic transmission
dial display

8. Three expansion valves

- thermostatic – internal equalization
- thermostatic – external equalization
- with capillary

9. Water/R134a exchanger

stainless steel coil immersed into water

10. Circulation pump – water circuit

centrifugal pump – magnetic drive
10 l/min – 6mCE

11. Rotameter + valves

fluid: water
maximal flow rate: 4.4 L/min

12. Evaporators

Forced convection
Copper tube and aluminium blades
Electric power of the fan 43 Watts
Refrigerating power: 590 Watts
-To = -8°C / DT = 8 k

13. Shock-proof liquid bottle

Measurement of temperature

11 thermocouples – T- type dispatched on
the circuit and connected to a digital display

WEIGHT AND DIMENSIONS

Length : 1 500 mm

Width : 700 mm

Height : 1 800 mm

Weight : 200 kg