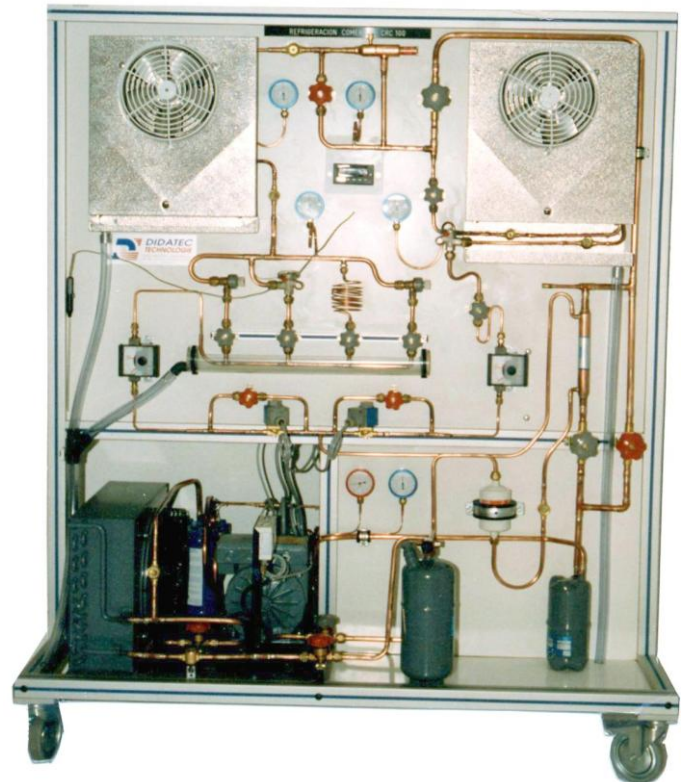


Commercial Refrigeration Unit

DESCRIPTION

- This commercial refrigeration unit comes complete with instrumentation and includes a technical and instruction manual.
- Designed and manufactured to industrial standards.
- This unit is designed for use at different levels and in various fields of study.
- Uses refrigerant R 134 a to comply with new regulations.



SUGGESTED APPLICATIONS

Study of the basic design of a R 134 a refrigeration installation.

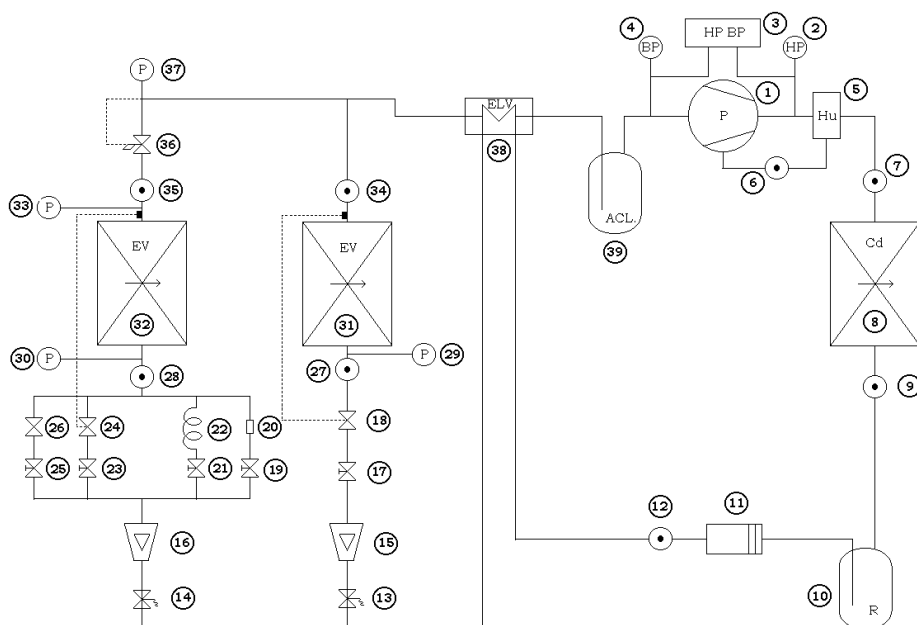
Study of the different modes of expansion.

Study of coupling an evaporator in parallel.

Drawing the freezing cycle in a state diagram.

Calculating heat exchanged and comparing practical results with theoretical predictions.

CRC 100



Semi sealed compressor

Commercial type
Refrigeration fluid : R 134 a ($\text{CH}_2\text{F}/\text{CF}_3$)
Electric power : $\frac{1}{2}$ CV
Refrigerating power : 1200 watts
Condensing temperature : $+32^\circ\text{C}$
Evaporating temperature : -10°C

Air condenser

With forced convection
Copper tubes and aluminum blades
Electric power fan : 80 Watts
Air flow : $0.4 \text{ m}^3/\text{sec}$.

Water tank

Vertical, steel made
Capacity : 3.1 dm^3

Different ways of expansion

Capillary expansion
Thermostatic expansion for internal equalization
Thermostatic expansion for external equalization
Expansion by calibrated orifice only

UTILITIES

Electricity : 380 V Three-phase 50/60 Hz

DIMENSIONS

Length : 1500 mm
Width : 700 mm
Height : 1800 mm
Weight : 200 kg

Evaporators

Forced convection
Copper tubes and aluminum blades
Fan electric power 43 Watts
Refrigeration power 590 Watts
- $T_o = -8^\circ\text{C}$ / $\text{DT} = 8 \text{ K}$

Other refrigeration components

Oil separator
Dehydrator
Electromagnetic valves
Manual operating valves, low pressure regulating valves
Change from liquid to vapor
Shock proof liquid bottle

Instrumentation

Pressure control, manometers HP and BP
Rotameters
Digital thermometer with PTC sensor