

Reversible heat pump

DESCRIPTION

- The reversible heat pump is delivered complete with instrumentation and includes a technical and instruction manual
- This unit is designed and manufactured to industrial standards.
- Use of the refrigerant R 134 a complies with new regulations regarding refrigerants
- This unit can be used at different levels and for different courses.



SUGGESTED LESSONS

Study of the basic concepts of a R134a refrigeration installation
Calculation of the coefficients of exchange
Calculation of heat balance
Calculation of the efficiencies
Constructing enthalpic diagrams.

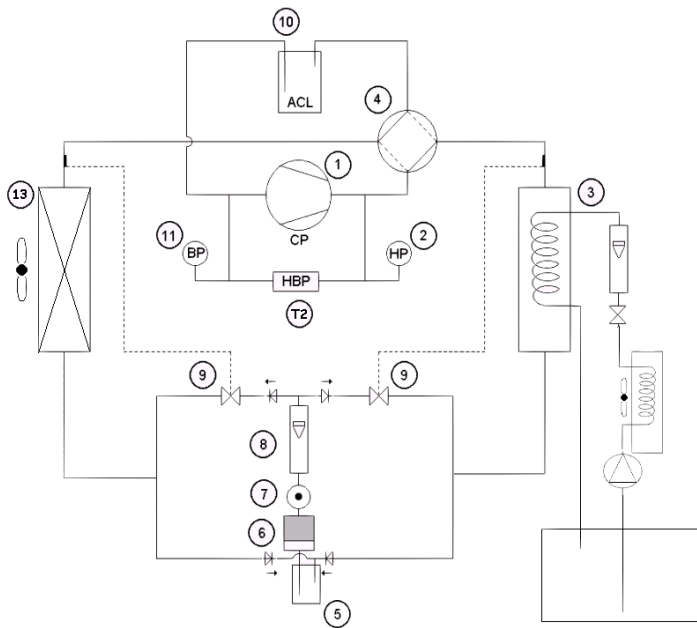
Study of the thermodynamic cycle of compression refrigeration equipment.

Determining

- efficiency
- energy balance

Study of the cycle reversibility concept

REFRIGERATING CIRCUIT



- 1. Hermetic refrigeration compression**
 - Commercial type
 - Electric power: 1/8CV
 - Refrigerating power: 402 W
 - Condensing temperature: + 55°C
 - Evaporating temperature: + 5°C
- 2. HP manometer at compressor outlet**
- 3. Water exchanger**
 - Glass calander
 - Copper coil
 - Network water inlet and exhaust
 - Water flow rate measurement
 - Temperature measurement at inlet and outlet
- 4. Reversing cycle valve**
- 5. Liquid tank**
- 6. Dehydrator**
- 7. Liquid state indicator**
- 8. R134a flow meter**
 - Magnetic transmission
 - Pointer display
 - Stainless steel
- 9. Thermostatic expansion valve**
 - Pressure internal equalisation
 - Flow rate calibration orifice
- 10. Liquid shock-proof bottle**
- 11. LP manometer**
- 12. Safety instrument**
- 13. Air exchanger**
 - Forced convection
 - Copper tube and aluminium blade
 - Blade Pas: 4,2 mm
 - Refrigerating power: 325 W/ ΔT 10°C
 - Exchange area: 1,4 m²

INSTRUMENTS

Temperature sampling at each transformation point

Voltmeter

Ammeter

Interfaces and connections for P.C (optional)

UTILITIES

Electricity : 230 VAC single phase – 50/60 Hz – 3 A

INSTALLATION VOLUME

Length : 1050 mm

Width : 800 mm

Height : 1500 mm

Weight : 70 kg

WATER EXCHANGER CIRCUIT

- Cold water tank
- Exchange circuit
- Recirculation pump
- Flow rate adjusting valve
- Flow meter
- Air convector