

POSITIVE COLDROOM



Experimental capabilities

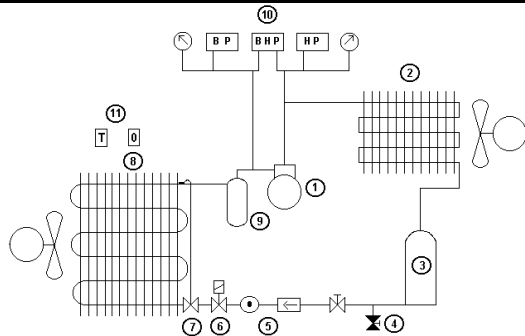
- Identification of components of a positive refrigeration system
- Commissioning and verification of operation
- Study of the basic concept of an R134A refrigeration system.
- Study of the thermodynamic cycle on enthalpy diagram.
- Study of regulation
- The system has an industrial rendering
- The system is delivered assembled, loaded and functional

Operating principle

The positive cold room allows the study of a positive refrigeration system. The system includes all standard components such as compressor, condenser, expansion valve, evaporator, cylinders, pressure switches. It is delivered complete, assembled and functional. Students will be able to work on the identification of components, commissioning, adjustment and verification of proper functioning. They will also be able to proceed with the recovery of the fluid and the load (requires tools not supplied with the bench).

The robust design of this equipment makes it perfectly suited for use in schools. Its anodized aluminum structure on wheels makes it extremely robust as well as great flexibility of integration into your premises. The manufacturing of this equipment meets the European machine directive

Illustrations



The bench is installed on an aluminum profile structure equipped with four directional brake casters. It has an electrical box with general power disconnecter and 30mA differential circuit breaker.

1 - Hermetic compressor

Commercial type
Refrigerant: **R 134 a**
Cooling capacity: approx. 700 W
- Condensation temperature + 43° C
- Evaporation temperature +0° C
Maximum pressure: 16 bar

2 - Air condenser

Forced convection
In copper tube and aluminum fins
Mounted on the same chassis as the compressor

Technical specifications

3 - Liquid tank

Vertical - Steel
1/4" Ø outlet valve
Capacity: 1.5 L

4 - Refrigerant recovery valve

Straight passage Ø 1/4 "
Mounted on the bottle

5 - Dehydration station

1/4" Ø solid cartridge dehydrator
1/4" Ø humidity indicator light

6 - Electromagnetic valve

Normally closed
Straight passage Ø 1/4 "

7 - Thermostatic expansion valve

Internal pressure equalization

8 - Air evaporator

Forced convection
Copper tube and aluminum fins
Electrical power of the
Fridge power: about 585 W at dt 7K

9 - Anti-liquid blow bottle

Steel
Capacity: 1.5L

10 - Control system

High pressure gauge
Low pressure pressure gauge
Temperature controller with room temperature display, operation management (evaporator, compressor), room thermostat

Services required

- Power supply: 230Vac – 50 Hz –
- Dimensions: (LxWxH mm): 2000 x 800 x 1800
- weight (Kg): 155

Note : if the equipment installation is operated by our staff, all supplies and exhaust connections required must stand at less than 2m from the machine

Documentation

- User's manual
- Technical documentation of the components
- Lab exercises
- Wiring diagram
- Fluidic diagram
- Certificate of conformity CE