

POSITIVE COLDROOM



Experimental capabilities

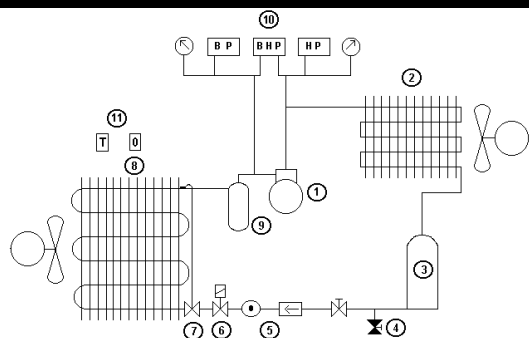
- Identifying the components of a positive refrigeration system
- Commissioning and functional verification
- Study of the basic concept of a refrigeration system.
- Study of the thermodynamic cycle on enthalpy diagram.
- Study of regulation
- The system has an industrial rendering
- The system is delivered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

Operating principle

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

The rugged design of this equipment makes it perfectly suited for use in a school setting. Its anodized aluminum structure on wheels gives it a very high robustness as well as great flexibility of integration into your premises. The manufacture of this equipment complies with the European Machinery Directive

Illustrations



The bench is installed on an aluminium profile structure equipped with four braked-directional castors.

1 Hermetic compressor

Type commercial
Cooling capacity: approx. 900 W
Evaporation temperature +0° C

2 Air Condenser

Forced convection
Mounted on the same chassis as the compressor

3 Liquid Tank

Vertical - Steel
1/4" Ø Outlet Valve
Capacity: 1.5 L

4 Refrigerant Recovery Valve

1/4" Ø straight passage
Mounted on the bottle

5 Dehydration Station

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

Technical details

6 Solenoid Valve

Normally closed
1/4" Ø straight passage

7 Thermostatic expansion valve

Internal pressure equalization

8 Air Evaporator

Forced convection
Electrical power of the
Fridge power: 650 W approx.

9 Anti-Liquid Surge Bottle

Steel
Capacity: 1.5L

10 Regulation and safety system

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

The electrical part is composed of:

- a steel power supply box
- the standard safety elements (master disconnect switch, emergency stop button, RCD, ground connection, white light)
- a thermal magneto circuit breaker for each element
- the relay of the main elements of the installation (evaporator, solenoid valve, compressor, condenser, defrost resistor)
- Indicator lights for each element
- a refrigeration temperature controller with two temperature sensors for the management of all the elements. (Defrosting, evaporator ventilation, etc.)

Services required

- Electrical supply : 230 Vac – 50 Hz – 10 A
- Electrical network : 1 phase(s) + Neutral + Earth.
- 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
- Pedagogical manual
- Technical documentation of the components
- Lab exercises
- Wiring diagram
- Fluidic diagram
- Enthalpic diagram RXXX
- Certificate of conformity CE