

R290 FLUID HANDLING BENCH



Experimental capabilities

- Identification of the components of a refrigeration system with a hermetic compressor operating with R290
- Commissioning and adjustments of a refrigeration system
- Procedure for recovering and charging a type A3 refrigerant
- Component adjustment (pressure switch)
- Maintenance operations on a refrigeration system
- Plot the refrigeration cycle on an enthalpy diagram to check the operation of the installation

The machine is compatible with buildings open to the public (load less than 150grs)

HFF290



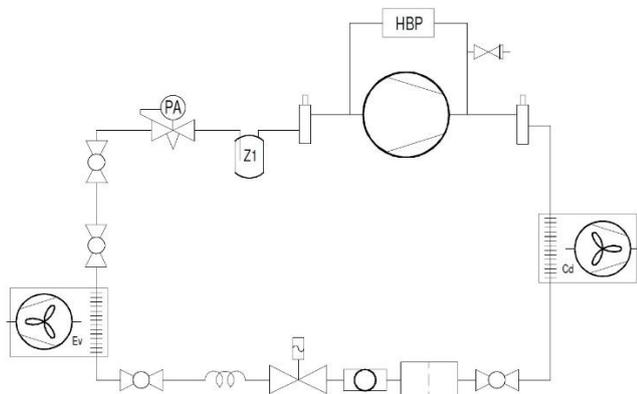
Operating principle

The HFF290 bench is designed to train learners in the handling of R290 fluid. The installation is based on a refrigeration cycle running on R290. It includes the main components of a positive refrigeration unit, a compressor, a condenser, a (capillary) expansion valve, an evaporator. Schrader fittings allow learners to connect a manifold for loading, recovering and functional verification operations.

The cold room part is simulated by a cabinet. The cabinet door is equipped with an R290 enthalpy diagram with erasable surface (A3 format). A control thermostat will control the operation of the compressor (thermostatic regulation). A switch placed on the box is used to stop the operation of the condenser (this facilitates the adjustment of the pressure switches) and another to stop the solenoid valve (facilitates the removal of the manifold).

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. In the lower part, the bench has a storage area equipped with two doors with key locking (tool storage).

Technical details



The bench is installed on an aluminum profile structure equipped with four braked-directional castors. It has an electrical box with a 30mA RCD.

1. Hermetic compressor average power 500W
2. Safety valve
3. Forced-Vent Air Condenser with Timer for Air Circulation
4. Service valves
5. Safety pressure switch HLP
6. Ball valve with connector Schrader
7. Filter + dryer 1/4"
8. sight glass
9. solenoid valve

10. expansion valve with internal equalization
11. Evaporator with forced convection power 495W at dt 7K
12. Pressure regulating valve of evaporation KVP type
13. Suction line accumulator

The bench also includes:

-a power supply module with a differential circuit breaker and a 2P+ T socket for connecting the accessories (pump, recovering station ...)

-a digital thermostatic control box with probe in the chamber. The controller controls the compressor. Two switches are used to stop the operation of the condenser and the solenoid valve (adjusting pressure switch).

-a cold chamber simulated by a cabinet. The cabinet door is equipped with an enthalpy diagram R290 with erasable surface (format A3).

-a storage area in the lower part of the frame with two access doors. A key lock is used to secure the storage.

HFF290



Basic tool kit included

- Wrench large format
- Wrench small format
- Flat screwdriver
- Phillips screwdriver
- Tom thumb flat screwdriver
- Phillips screwdriver tom thumb
- Flat key 10
- Flat key 11
- Measuring tape
- Refrigeration ratchet wrench

Kit of spare parts supplied

- Dehydrator
- Sight glass
- Magnetic solenoid valve coil
- Cleaning tissu
- Cleaning products
- Leak detector (liquid soap)
- 5 nuts 1/4"
- 2 nuts 3/8"
- 1 double nut 1/4"
- 1 nut reduced 3/8"- 1/4"
- 1 nut reduced 3/8"- 1/2"
- 2 capillary tubes of different sizes

Services required

- Power supply: 230 Vac – 50 Hz – 10 A
- Power supply type: 1 phase(s) + Neutre + Terre
- Dimensions : (LxlxH mm): 1160 x 640 x 1790
- Weight (Kg) : 150

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
- Certificate of conformity CE

Options

- Refrigeration tool kit for R290 fluid
- PPE kit for handling refrigerants
- Electrical tool kit for lockout
- Ref : OUT 290
- Ref: OUT EPI
- Ref: OUT ELE