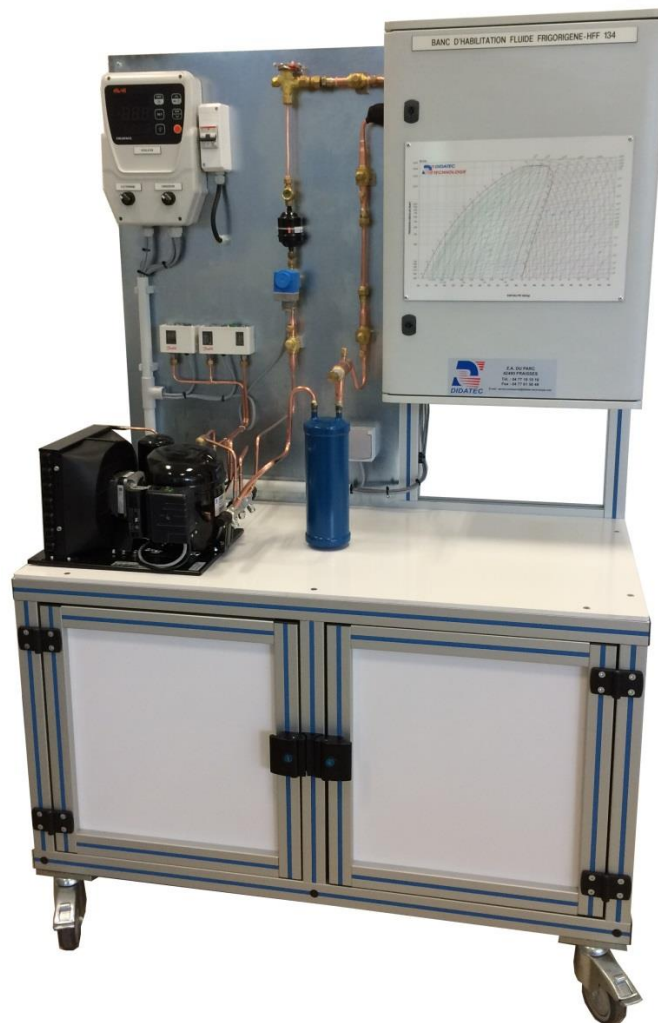


STUDY OF THE SERVICING OF A R290 REFRIGERATION UNIT



Experimental capabilities

- Identification of the components of an installation operating with R290
- Commissioning and settings of a refrigerating installation
- Standard operation procedure to recover and load the refrigerant (requires additional tools)
- Setting of the control components (pressure control valve)
- Maintenance operations on a refrigeration installation
- Draw of the refrigeration cycle on enthalpy diagram to check the operation of the installation

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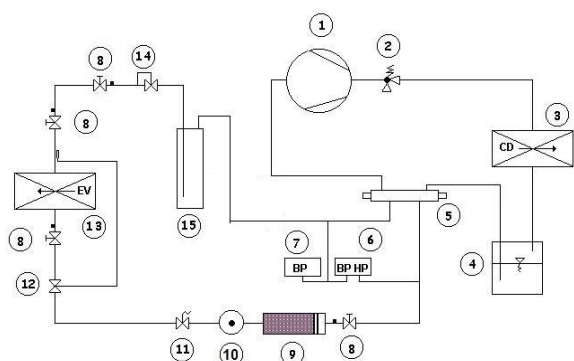
Operating principle

The bench HFF 290 is designed to train the learners in the handling of refrigerants R290. The installation is based on a refrigerating cycle operating with R290. It comprises the main components of a positive installation, a compressor, a condenser, a receiver, a solenoid control valve, an expansion valve, an evaporator and a suction line accumulator. Service valves and fittings Schrader type allow the learners to connect a manifold for the load operations, recovery operation and verification operation.

The cold chamber is simulated by a cabinet. The cabinet door is equipped with an enthalpy diagram R290 with erasable surface (format A3). A thermostatic control box will control the operation of the solenoid valve (pump down control). Two switches located on the box are used to stop the operation of the solenoid valve and of the condenser (this facilitates adjustment of the pressure switches).

The robust design of this equipment makes it perfectly suited for use in schools. Its anodized aluminium structure on wheels makes it extremely robust as well as a great flexibility of integration into your premises. In the lower part, the bench comprises a storage area equipped with two doors with key locking (storage of tooling).

Technical details



1. Hermetic compressor power 567W (0°C evaporation / condensation 40°C)
2. Safety valve
3. Forced ventilation air condenser with fan speed controller
4. receiver made of steel
5. Service valves
6. Safety pressure switch HLP
7. LP control pressure switch
8. Ball valve with connector Schrader
9. Filter + dryer 1/4"
10. sight glass
11. solenoid control valve

12. expansion valve with internal equalization
13. Evaporator with forced convection power 495W at dt 7K
14. Pressure regulating valve of evaporation KVP type
15. Suction line accumulator volume 1.5L

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 solenoid valve (control pump down). Two switches are used to stop the operation of the condenser and the solenoid valve (adjusting pressure switches).
- 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.

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"

HFF290



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

- Specific tools kit for R290
- Ref : OUT 290