

# HFF100



## REFRIGERANT FLUID HANDLING BENCH - BASE



### Experimental capabilities

- Identification of the components of a system operating at R1234YF with a hermetic compressor
- Commissioning and adjustments (regulator-regulator) of a refrigeration system
- Refrigerant recovery and charging procedure (requires OUT100 add-on tooling)
- Adjustment of control components (evaporative pressure control valve, low-pressure pressure switch, high- and low-pressure safety pressure switch)
- Maintenance operations on a refrigeration installation, replacement of a dehydrator, replacement of a low-pressure line (requires the OUT100 additional tool)
- Plot the refrigeration cycle on an enthalpy diagram to check the operation of the installation

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As part of the continuous improvement of our products, this technical specification may be modified without previous notifying

Illustrations non contractuelles / Illustrations not contractual

version : FT-HFF100-STD-

# HFF100



## Operating principle

The HFF100 trainer is designed to train the learners in the transfer of refrigerants. The installation is based on a refrigerating cycle operating with R1234YF. 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.

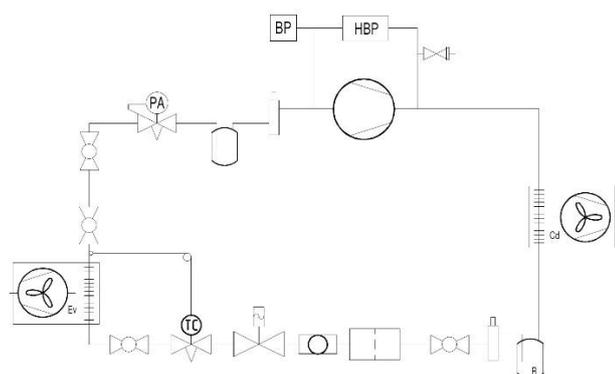
The cold chamber is simulated by a cabinet. The cabinet door is equipped with an enthalpy diagram R1234YF with erasable surface (format A3). A thermostatic control box will control the operation of the solenoid valve (pump down control). Two switches located on the box are used to stop the operation 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 aluminum 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).

The manufacturing of this equipment meets European machine directive

This equipment can be used alone or with other compatible equipment in our range (see last section of this document).

## Illustrations



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 power approx. 500W
2. Safety valve
3. Forced ventilation air condenser
4. receiver made of steel volume 0.75L
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

## Technical details

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 R1234YF 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.

# HFF100



## 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
- Thermostatic expansion valve with internal pressure equalization and orifice
- 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"

## Services required

- Electrical supply : 230 Vac – 50 Hz – 10 A
- Electrical network : 1 phase(s) + Neutral + Earth.
- Dimensions: (LxWxH 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
- Enthalpic diagram R1234YF
- Certificate of conformity CE

## Options

- Refrigeration tool kit for HFO/HFC fluids
- PPE kit for handling refrigerants
- Electrical tool kit for lockout
- Ref : OUT100
- Ref : OUT EPI
- Ref: OUT ELE