

# Laboratory Freezer

# LF 440 PRO



## TECHNICAL CHARACTERISTICS:

- **Structure** : upright type, realized in sheet steel epoxy coated white colour both in- and outside or in stainless steel 18/10 AISI 304 both in- and outside. All the internal corners are rounded to make easy any cleaning operations and the internal bottom is tray type to contain spills
- **Insulation** : high density (40 Kg/m<sup>3</sup>) foamed-in-place polyurethane, with a thickness of 50 mm. CFC-free
- **Feet** : Nr 4 made in stainless steel 18/10 AISI 304, adjustable in height for levelling
- **Insulated door** : Nr 1, hinged, made with the same material and insulation as the rest of the structure (sheet steel epoxy coated white colour or stainless steel 18/10 AISI 304 always both in- and outside). The door is provided with a removable magnetic rubber gasket in order to grant a perfect hermetic closing, the closing profile is heated to avoid the gasket frosting and reversibility facilities, to change the door hanging. The handle is flush-fitting type so does not increase the size of the refrigerator. The door is also fitted with a spring loaded automatic closing device for openings inferior 90° and special door switch that stops the internal ventilation at the door opening (to limit the air cold loss) and light the internal lighting at every opening
- **Internal equipment** : Nr 3, storage open wire shelves realized in sheet steel with a strong plastic coating (rust-proof material). The shelves are mounted on special anti-tilt stainless steel slides that allows the shelf extraction and they can be easily removed and adjusted in height without the use of any tool. The special internal racking-system allows a great flexibility of the internal fitting with the possibility of interchange and combine both shelves and drawers (drawers optionally available)
  - Shelf dimensions (W x D cm) : 46 x 57
  - Shelf loading capability (Kg) : 30 (with uniformly stored material)
- **Internal lighting** : Nr 1 bulb, mounted in the bottom part of the control panel, with automatic activation at every door opening through a special switch
- **Control panel "PRO"** : located in the top part of the structure (above the door), it is microprocessor operating with soft-touchpads and LCD display, allowing the control of all the functions and working status of the freezer (including alarms). The control panel is battery operating in order to grant the functioning of the alarms even in case of power failure. The main functions of the control panel are :
  - Large (2 lines writings) LCD display, retro-illuminated white colour with black characters, indicating the appliance working status (compressor functioning, defrosting, alarm running, actual temperature, etc.)
  - Digital temperature adjusting and displaying with an accuracy of 0,5°C
  - Keyboard password protected with automatic locking, to avoid tampering from unauthorized persons
  - Back-up battery, with automatic recharging, granting till 48 hours autonomy for the control panel functioning in case of power failure
  - Visual and acoustic alarm signalling (with automatic resetting) for:
    - high and low temperature with limits programmable from the user
    - door ajar, delayed of 3 minutes to allow the standard operations
    - power failure
    - battery discharged
    - condenser dirty
    - anti-freezing evaporator
    - sensors failure
  - Muting facilities for the acoustic alarms, with continuous warning indication on the display and automatic ring-back after 3 minutes if the alarm situation persists
  - Test facilities for both battery charging status and alarm limits
  - Alarms memory (not deletable) for the last 30 alarm conditions, with the possibility of checking from the display, the alarm condition, when the alarm is started, when it is ended and which is the highest or lowest peak reached from the temperature (if applicable)
  - Events memory with the possibility of checking from the display, defrostings, door openings, relays status, etc.
  - Pt1000 sensors for a better accuracy of the temperature control
  - Internal ventilation setting
  - NO/NC contact to remote the alarm signals
  - RS 485

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- **Cooling unit** : top mounted, with the condensing unit compounded by Nr 1 hermetic compressors and Nr 1 finned condenser, air cooled through a fan. Also, in the ceiling of the storage chamber, is mounted the finned evaporator with copper pipes, that is housed into a stainless steel cover that incorporate the fan. All the mounted components are industrial grade to grant the maximum reliability
- **Refrigerant** : R404a CFC-free
- **Refrigeration** : forced-air, through a fan, granting the maximum temperature uniformity and stability inside of the cabinet
- **Defrosting** : completely automatic, thermostat controlled. The condensate water is automatically channelled into an heated tray, located under cabinet, for the automatic evaporation of the condensate water
- **Temperature range** : infinitely adjustable between -5°C / -20°C
- **Voltage (V/ph/Hz)** : 220-230/1/50
- **Plug** : Schuko type
- **Breakers** : Nr 2 glass cartridge fuses with a rating of 10A, at protection of the appliance
- **Noise level (dB(A))** : ≤ 52
- **Gross capacity (litres)** : 470
- **Net capacity (litres)** : 440
- **Dimensions (W x D x H cm)** : 60 x 70 x 192
- **Net weight (Kg)** : 110
- **Packed dimensions (W x D x H cm)** : 70 x 80 x 212 (1,19 m³)
- **Gross weight (Kg)** : 130



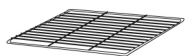
\* The declared performances are referred at +32°C ambient temperature, relative humidity of 70% and without any internal thermal mass (empty cabinet).

\* Should it be necessary or useful without undermining any model essential features, technical and stylistic characteristics are subject to be changed without manufacturer's previous notice.

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## ACCESSORIES AVAILABLE



Extra wire shelf



Plastic partitions for drawers



Kit of castors



Temperature chart recorder

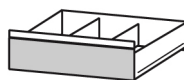


Data logger function with USB port

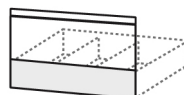


**240V / 60 Hz**

Different voltage



Stainless steel drawer



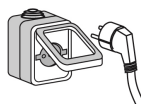
Front top for drawers



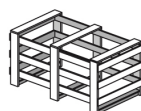
Safety door lock with key



Electronic temperature printer



Internal electrical socket



Wooden crate packing

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# NEWS 2011! NEWS 2011! NEWS 2011!



## **New stainless steel evaporator cover**

- heavy-duty stainless steel cover
- optimize the airflows
- incorporates fan with increased diameter to grant a better air-circulation and increase the temperature uniformity all over the storage chamber



## **Standard fitted heated tray for the automatic evaporation of the condensate water**

- higher comfort of use
- fully automatic functioning



## **Datalogger-function through USB port (optionally available)**

- easy to use
- easy accessibility as the USB port is directly placed in the front panel of the cabinet
- record on a supplied USB flash drive all the most important information of the cabinet such as temperature trends, alarms and door openings
- functioning with whatever PC Windows operating, with Excel installed. The downloaded datas can be checked anytime, without the need of having a dedicated software installed
- no training required for its use as Excel is a commonly available software widely used
- no cost of installation, as the system do not require any network cabling
- maximum freedom in the use, as the cabinet can freely moved without the need to re-create any network
- adjustable recording intervals
- the USB flash drive can contain the recordings till up 5 years operations (with recording intervals every 10 minutes)