

COLD THAT CARES  
**evermed**

## **Instruction and maintenance manual**

**LABORATORY  
CHEST FREEZER  
MINI**

VERS. 0124



## Content

<b>1 STANDARDS AND GENERAL WARNINGS .....</b>	<b>3</b>	<b>8 USER INSTRUCTIONS.....</b>	<b>9</b>
1.1 Testing and warranty.....	3	8.1 Controls.....	9
1.2 Introduction.....	3	8.2 MINI Control panel.....	9
1.3 Product description.....	3	8.2.1 Description of controls and pushbuttons of the MINI Control panel.....	9
1.3.1 Standard features.....	3	8.3 Operation of the MINI Control panel.....	10
1.3.2 Optional features on request.....	3	8.3.1 Start-up.....	10
1.3.3 Product compliance.....	3	8.3.2 Stopping the unit.....	10
1.4 User's responsibilities.....	4	8.3.3 Keyboard safety locking protection.....	10
1.5 User service requests.....	4	8.3.4 Set-up and temperature setting.....	10
1.6 Ordering spare parts.....	4	8.4 Alarm Signalling.....	10
<b>2 APPLICATIONS AND TECHNICAL DATA .....</b>	<b>4</b>	8.5 Defrost Operation.....	11
2.1 Applications and destination of use.....	4	8.5.1 Manual defrosting.....	11
2.1.1 Destination of use, intended and permitted use.....	4	8.5.2 Freezer defrosting.....	11
2.1.2 Improper and unauthorized use.....	4	8.6 Description of the temperature chart recorder (optional).....	11
2.2 Product configuration.....	4	8.6.1 Description of the temperature chart recorder.....	11
2.3 Power output and absorbed power.....	5	8.6.1.1 Paper chart replacement.....	11
2.4 Noise level.....	5	8.6.1.2 Ink-tip replacement.....	11
2.5 Materials and refrigerants.....	5	8.6.1.3 Battery replacement.....	12
<b>3 HANDLING, INSTALLATION AND DISPOSAL.....</b>	<b>5</b>		
3.1 Transport and handling.....	5		
3.2 Positioning.....	5		
3.3 Wiring and electrical connection.....	6		
3.4 Set-up operations.....	6		
3.5 Disposal.....	6		
3.5.1 Disposal of packaging material.....	6		
3.5.2 Disposal of the appliance.....	7		
<b>4 OPERATION .....</b>	<b>7</b>		
4.1 Safety and accident prevention.....	7		
4.2 Safety devices adopted.....	7		
<b>5 ROUTINE AND PROGRAMMED MAINTENANCE .....</b>	<b>7</b>		
5.1 General safety regulations.....	7		
5.1.1 Prohibition on removing protections and safety devices.....	8		
5.1.2 Indications on emergency measures in case of fire.....	8		
5.2 Cleaning the appliance.....	8		
5.2.1 Internal and external cleaning.....	8		
5.2.2 Cleaning the condenser.....	8		
5.3 Periodic checks.....	8		
5.4 Precautionary measures for prolonged disuse.....	8		
5.4.1 Restart after long inactivity.....	8		
<b>6 SPECIAL MAINTENANCE AND REPAIRS .....</b>	<b>8</b>		
<b>7 DIAGNOSTICS.....</b>	<b>9</b>		

## 1 STANDARDS AND GENERAL WARNINGS

### 1.1 TESTING AND WARRANTY

The appliance is tested in our premises in compliance with current regulations and then shipped ready for use.

The warranty is valid for a full 12 months from the date of delivery of the appliance and it covers the repair or replacement of any defective parts, excluding of electrical and electronic components. Any extensions of the warranty period exceeding 12 months must be agreed in advance with the manufacturer.

Apparent defects or differences to the client's order must be communicated to the manufacturer within five days from the receipt of the goods or they will not be covered by the warranty terms.

The warranty recognizes the right to request the repair or replacement of defective components, with the absolute exclusion of compensation for direct or indirect damages of any nature. In any event, the entitlement to repair or replacement of the materials must be exercised within the maximum term of the warranty.

The repair or replacement of the defective materials will be carried out at the manufacturer's factory, where the defective material must be shipped with delivery "Ex-works", and returned back with delivery DAP/CIF/CIP.

Under no circumstances will the devices be replaced unless previously agreed with the manufacturer.

### 1.2 INTRODUCTION

Read the manual carefully and follow the instructions contained therein as they provide important information regarding safe use and maintenance. The user is directly responsible for the operations carried out on the appliance by neglecting the instructions given in this manual.

This manual has been drawn up with the aim of providing all the necessary instructions for the correct use of the appliance, for maintaining it in perfect condition and is aimed at the safety of the user.

It is appropriate to define the following professional figures in order to identify their tasks and responsibilities.

**Installer:** a qualified technician who positions the appliance and places it in service in accordance with the instructions in this manual.

**User:** the person who, after reading this manual carefully, uses the appliance in accordance with the intended use specified in this manual. Users' responsibilities:

- to ensure that the products are stored at suitable temperatures and not exceeding the permitted period of time
- to be aware of the regulations about the storage of products and to observe any whatsoever hygiene indications that may be applicable.

The user is obliged to read the manual attentively and refer to the information in the manual at all times.

Particular attention must be paid to the contents of heading 5.1 GENERAL SAFETY WARNINGS.

**Routine Maintenance Technician:** qualified technician able to perform routine maintenance of the appliance by following the instructions in this manual (see section 5).

**Special Maintenance Technician:** qualified technician, authorized by the manufacturer to perform extraordinary maintenance of the appliance (see section 6).

The symbol  appears at certain points in the manual to draw the reader's attention to important safety information.

The manufacturer declines any whatsoever responsibility in the case of improper use of the appliance deviating from the intended use, and for all operations carried out that are not in compliance with the instructions laid down in the manual.

This manual must be conserved in a place that is accessible and known to all operators (installer, user, routine maintenance technician, special maintenance technician).

This manual must not be reproduced or divulged, in whole or in part, using any whatsoever means or in any whatsoever form.

### 1.3 PRODUCT DESCRIPTION

#### 1.3.1 Standard features

The appliance consists of a modular single structure with panelling in various materials and insulated with high density polyurethane foam mounted on height-adjustable feet for leveling or rollers (depending on the model).

The appliance instruments are located on the control panel which closes the front part of the cooling unit, inside which the electrical wiring can be housed.

The condenser, depending on the model, could be mounted in the back of the structure, foamed into the insulation or a combination of both.

The appliance interior, in the top part, it is provided with a special profile where the optional wire basket can be laid.

The lid is provided with counterbalanced hinges to avoid unexpected closing and rubber gasket. Any formation of condensation and/or fogging does not directly depend on the appliance itself but can be traced back to the environmental conditions in which the appliance is installed, for example high humidity and ambient temperature and poor air circulation.

Some series of freezers are equipped with a compensation valve which balances the internal pressure of the freezer itself following a lid closure, allowing reopening in a short time (variable depending on various factors).

During the design and construction process all measures have been adopted to implement total safety, deep drawing with drain to convey condensate to exterior, no rough surfaces, fixed guards protecting moving or potentially dangerous parts.

#### 1.3.2 Optional features on request

The appliances may be equipped with the following optional accessories:

- Rollers for moving the appliance (for models BLCF, LCDF, LCSDF only)
- Wire baskets (for models BLCF, LCDF, LCSDF only)
- Temperature chart recorder (for models LCDF, LCSDF only)
- GSM/GPRS telephone dialer (for models LCDF only)
- Gloves (for models ULCF only)

#### 1.3.3 Product compliance

The appliance complies with the relevant European directives as detailed in the CE Declaration of Conformity which can be requested from the manufacturer by referring to the serial number.

#### 1.4 USER'S RESPONSABILITIES

All the following arrangements are the responsibility of the user:

- the electrical connection of the appliance
- the preparation of the installation site
- consumables for cleaning
- routine maintenance

In the case of power failures or malfunctions do not open the lid in order to maintain the temperature uniformity inside the unit. If the problem persists for more than a few hours, move the stored material to a more suitable place.

#### 1.5 USER SERVICE REQUESTS

For any request for intervention, technical support and spare parts, you must always refer to the SERIAL NUMBER on the CE label and on the front page of the manual.

#### 1.6 ORDERING SPARE PARTS

The request for spare parts must be made by consulting the specific spare parts manual which identifies the correct description of the part to be replaced, the reference code and the serial number that distinguishes the appliance. The manual is available, upon request, from the manufacturer.

## 2 APPLICATIONS AND TECHNICAL DATA

### 2.1 APPLICATIONS AND DESTINATION OF USE

The products must be stored in observance of the load limits allowed by the shelves, drawers or baskets in order to ensure efficient air circulation inside the appliance.

DESTINATION OF USE	
<b>BLCF</b>	-15°C / -25°C
<b>LCDF</b>	-20°C / -45°C
<b>LCSDF</b>	-40°C / -60°C
<b>ULCF</b>	-50°C / -86°C

**Laboratory freezers**

#### 2.1.1 Destination of use, intended and permitted use

The appliance was designed and built for the treatment of medical products, such as conservation and storage in the medical/scientific field.

The device is not suitable for storing blood or blood products that must be reinfused or transfused into the human body as it is not certified according to MDD 93/42/EC or MDR 2017/745/EC.

#### 2.1.2 Improper and unauthorized use

The appliance is not suitable for:

1) treatment of products that require constant monitoring and may endure alteration of its characteristics in the case of temperature changes or interruption of refrigeration. For example:

- general foodstuff
- blood or hemoderivates to be reinfused or transfused in the human body

2) use in places subject to explosive atmosphere

All uses except authorized uses of the appliance shall be construed as "improper use" for which the manufacturer declines all responsibility.

### 2.2 PRODUCT CONFIGURATION

The appliance is designed and built to work under the following environmental conditions:

SERIE	CLIMATIC CLASS	AMBIENT HUMIDITY
<b>BLCF</b>	<b>ST</b>	70%
<b>LCDF</b>	<b>ST</b>	
<b>LCSDF</b>	<b>N</b>	
<b>ULCF</b>	<b>+16°C / +28°C</b>	

Climatic classes:

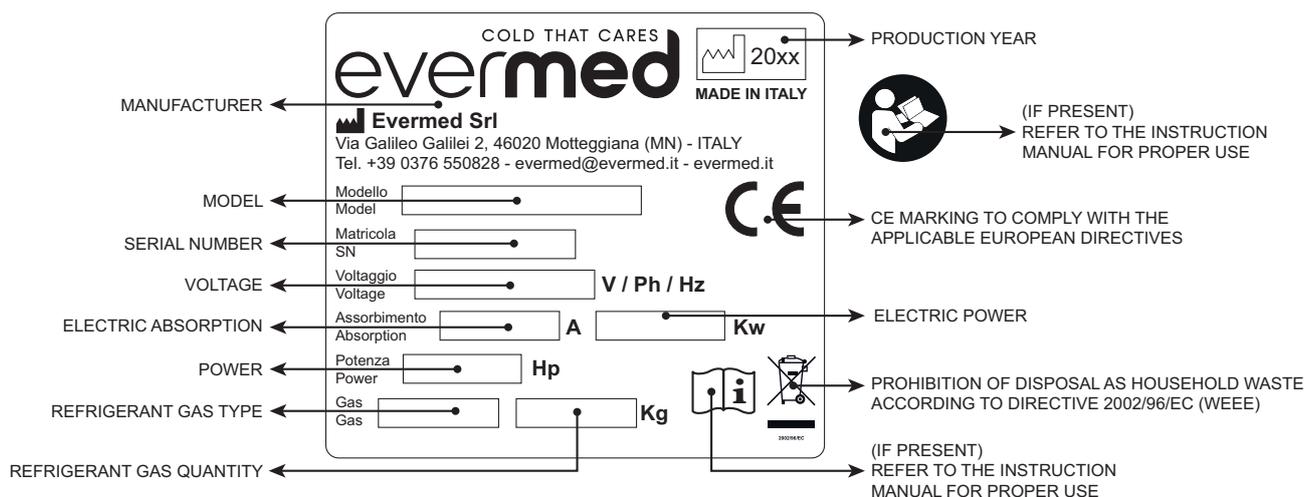
- **N** or **temperate class** (ambient temperature from +16°C to +32°C);
- **ST** or **subtropical class** (ambient temperature from +16°C to +38°C);
- **T** or **tropical class** (ambient temperature from +16°C to +43°C).

In places with characteristics different from those expected, it is not possible to guarantee the declared performances.

The power supply voltage must be 230V +/- 10% 50Hz as standard or that indicated on the CE label (any 60Hz and 115V optional on request)

### 2.3 POWER OUTPUT AND ABSORBED POWER

The technical data relating to the power delivered and absorbed are represented on the CE device identification label as illustrated below.



It is necessary to always keep in mind the operating limit characteristics as indicated in par. 2.2.

### 2.4 NOISE LEVEL

The noise level of the appliance is below 60 dB (A). It changes model-by-model and according to the ambient and working conditions. The data for each device is available in the relevant technical data sheet.

### 2.5 MATERIALS AND REFRIGERANTS

Materials in contact or potentially in contact with the stored products are in compliance with the relevant directives. The appliance is designed and built so that the parts in contact with the stored material can be cleaned before each use. The refrigerant fluids used are of the latest generation with low environmental impact, HC (hydrocarbon) refrigerants classified as A3, i.e. flammable, compliant with EU regulation 517/2014 F-GAS.

Appliances with flammable refrigerant gases are identified with the appropriate label applied to the appliance (Fig. 5a).

For more information check the appliance's technical identification label.

**⚠ IMPORTANT SAFETY INSTRUCTIONS AND CAUTIONS:** The gas is present in the appliance according to a minimum quantity prescribed by the regulations on flammable gases, but it necessarily involves greater precautions in managing the appliance, especially in the case of interventions on the refrigeration system:

- The refrigerant circuit must not be damaged to avoid leaks into the environment as contact with the gas itself involves the risk of fire in the presence of an adequate trigger such as an open flame or sparks caused by electrical equipment. If replacement of components is necessary, request only original components approved for the specific use.
- In the event of intervention due to faults or malfunctions, contact exclusively qualified personnel who will carry it out according to the safety regulations envisaged for this type of gas. The equipment required for the interventions must follow the same requirements required for the system components, thus avoiding electrical appliances and flames in the presence of flammable gases.
- For specific vacuum and charging operations on the system, equipment suitable for the type of gas must be used, avoiding the presence of flammables in the environment and in particular contact with flames or sparks.

## 3 HANDLING, INSTALLATION AND DISPOSAL

### 3.1 TRANSPORT AND HANDLING

⚠ The appliance must be transported and handled exclusively in a vertical position, in observance of the instructions printed on the packing. This precaution is necessary to avoid contamination of the refrigerant circuit with compressor lube oil with resulting valve and heat exchanger coil failure and problems starting the electric motor.

The manufacturer accepts no responsibility for problems due to transport executed in conditions other than those specified above.

The accessories supplied with the appliance (baskets) are supplied in separate packs shipped inside or separately from the unit.

The appliance is fixed to a wooden pallet using plastic straps and packaged in polyethylene, cardboard, cage or crate packaging.

Refer to heading 3.5.1 for information on correct disposal of packing material.

⚠ The appliance must be handled using a fork lift truck or a pallet truck with suitable forks (fork length at least equal to 2/3 length of unit).

### 3.2 POSITIONING

Incorrect positioning can cause damage to the appliance and generate hazardous conditions for personnel. The installer must therefore observe the following general regulations:

- remove packing material (polyethylene, cardboard box, crate, cage)

- removal of the wooden pallet: cut the fixing plastic ties located under the appliance, lift the appliance from the rear to allow the feet (or optional rollers/castors) to exit from the relevant wooden retaining stops

Drag the appliance from the rear keeping it slightly tilted backwards and remove the pallet from the front

Use gloves when handling wooden packing materials and the wooden pallet to protect the hands from splinters

- remove accessories from inside the unit

- position the appliance maintaining a minimum distance of 5 cm from any wall present
- if the appliance is provided with adjustable feet (depending on the model), position the appliance and level it using a spirit level and adjusting the feet
- the room must be well ventilated
- keep well away from sources of heat
- avoid direct sunlight
- remove the protective PVC film from the external surfaces of the unit (if present)

### 3.3 WIRING AND ELECTRICAL CONNECTION

The electrical circuit and electrical connection operations must be performed by a qualified electrician.

For safety reasons it is necessary to comply to the following indications:

- check that the electrical plant is suitably sized for the absorbed power of the unit and includes a differential switch
  - if the electrical socket and the plug on the appliance power cord are incompatible, change the plug with a suitable component, ensuring the replacement part is of the approved type
  - do not use reductions or multi-way adapters (Fig. 4)
  - check the impedance value of the power supply; the impedance value of the power supply should not exceed 0,075 ohm
- It is important to connect the appliance correctly to an efficient earth system executed in compliance with the relevant legislation.

### 3.4 SET-UP OPERATION

To avoid errors and accidents, perform a series of checks for possible damages sustained during transport, installation and hook-up operations before starting up the unit.

#### Preliminary checks

- check the condition of the power cord (no cuts or chaffing)
- check that the feet or rollers/castors, lid hinges and are stable
- check the condition of internal and external components (pipelines, heat exchanger elements, fans, electrical components, etc.), check also that all parts are firmly fixed into position
- check that the lid seals are not damaged (broken or scratched) and that the lid close and are sealed properly

The user must also observe the following instructions to obtain the best operation from the appliance:

#### Indications for optimal functioning

- do not block the motor compartment air vents
- do not store warm products
- arrange the products on suitable baskets. Do not place products directly on the base or against the walls, lid or fixed guards of the unit
- make sure lid is kept closed
- keep the defrost water drain outlet clear
- limit the frequency and duration of lid opening; each time the lid is opened the internal temperature changes
- load new material at ambient temperature gradually to allow correct refrigeration
- perform routine maintenance regularly (see section 5).
- in the event of an interruption in the electrical power supply circuit or a fault, avoid opening the lid in order to maintain a uniform temperature inside the refrigerated cabinet; if the problem lasts for several hours, we recommend moving the material to a suitable place

#### Instructions for the first start-up

- after connecting the appliance plug to a suitable electrical socket, proceed with switching it on following the specific instructions indicated in paragraph 8.2.1
- wait for the appliance to reach the set temperature and stabilize
- turn off the appliance
- start arranging the products on the appropriate baskets gradually, until the loading is completed
- close the lid carefully
- restart the appliance following the specific instructions in paragraph 8.2.1

### 3.5 DISPOSAL

#### 3.5.1 Disposal of packaging material

To dispose of the packaging material, refer to the instructions on the label attached to the external packaging (if present) and/or follow the instructions below:

ENVIRONMENTAL INFORMATION ON PACKAGING		
TYPE OF PACKAGING	CODING BY DECISION 129/97/EC	SEPARATE WASTE COLLECTION
CARDBOARD BOX	PAP 20	PAPER
PLASTIC STRAP	PP 5	PLASTIC
STRETCH FILM	LDPE 4	PLASTIC

POLYSTYRENE PROTECTION	PS 6	PLASTIC
SCOTCH TAPE	PP 5	PLASTIC
PROTECTIVE BAG	LDPE 4	PLASTIC
PLURIBALL	LDPE 4	PLASTIC
BAGS FOR EQUIPMENT	LDPE 4	PLASTIC
WOODEN PALLET AND CAGE	FOR 50	WOOD

The product packaging may also partially contain the types of packaging listed above. Differentiate according to the type of material and the indications of the Municipality.



### 3.5.2 Disposal of the appliance

Demolition and disposal must be carried out in compliance with the regulations in force in your country.

The symbol at the side means that this product should not be treated as a household waste.

To prevent potential negative consequences for the environment and health, be sure this product is correctly disposed of and recycled.

For further information on the disposal and recycling of this product, please contact your Distributor, after Sales Service or the waste Treatment Service.

2002/96/EC

## 4 OPERATION

### 4.1 SAFETY AND ACCIDENT PREVENTION

The appliance embodies various features designed to assure the safety and protect the health of the user. The following list describes the protections adopted against mechanical risks:

- **stability:** the appliance is designed and built so that even with the lid open it will remain stable so that it can be used with no risk of tilting, falling or sudden movement
- **surfaces, edges, corners:** accessible parts of the appliance have no sharp corners, sharp edges or rough surfaces that could cause injury
- **moving parts:** moving parts of the unit are designed, built and configured to avoid risk. Moving parts are protected by fixed guards to prevent accidental contact that could result in injury

Measures adopted for protection against additional risks:

- **electrical power:** the appliance is designed, built and fitted out with the aim of preventing the risk of electric shock in compliance with established safety legislation
- **noise:** the appliance is designed and built to reduce risks related to the emission of airborne noise to a minimum

### 4.2 SAFETY DEVICES ADOPTED

It is absolutely forbidden:

- tamper with or remove the grid of the motor compartment which protects the user from the risk of cutting, burning and injuries due to moving parts
- remove the CE labels identifying the appliance indicating the technical characteristics and warnings for earthing connection
- remove the plate (present on some models) applied to the back of the appliance which warns you to turn off the power before working on it
- remove the sticker applied to the compressor indicating the charge with flammable refrigerant gases (Fig. 5a)
- remove the stickers applied inside the engine compartment, indicating the presence of voltage (Fig. 5b), the presence and power of the fuse (Fig. 5c), the earthing (Fig. 5d)
- to remove the data tag fixed to the power cord showing the type of power supply (Fig. 5e) (if present)

The manufacturer declines any responsibility for the safety of the appliance if this were to happen.

## 5 ROUTINE AND PROGRAMMED MAINTENANCE

The information in this section regards the user, or other non-specialized personnel, and the routine maintenance technician.

### 5.1 GENERAL SAFETY REGULATIONS

The user, ordinary and extraordinary maintenance technician can carry out ordinary maintenance operations in conditions of absolute safety by respecting the following instructions:

- do not touch the unit with wet hands and/or feet
- do not use the appliance with bare feet
- do not insert screwdrivers or other pointed objects between guards or moving parts of the appliance
- do not allow the appliance to be used by minors or non-professional users
- do not pull the power cord to disconnect the appliance from the mains supply
- before performing any cleaning or maintenance on the appliance disconnect it from the mains supply by switching of the main switch and extracting the plug
- in the event of a fault and/or malfunction of the appliance, turn it off and refrain from any attempt at repair or direct intervention but it is advisable to contact qualified personnel only

**5.1.1 Prohibition on removing protections and safety devices**

It is strictly forbidden to remove guards or safety devices when performing routine maintenance work. The manufacturer disclaims all liability that may arise if this regulation is not observed.

**5.1.2 Indications on emergency measures in case of fire**

- disconnect the appliance from the electrical power socket or switch off the master switch on the electrical mains line
- do not use water to douse fires
- use powder or foam extinguishers

**5.2 CLEANING THE APPLIANCE**

In view of the usage destination of the appliance, it is important to keep it clean for reasons of hygiene and health. The appliance is thoroughly cleaned in our factory before delivery. We recommend, however, to clean the interior of the appliance before use. Before cleaning the appliance make sure the power cord is disconnected.

**5.2.1 Internal and external cleaning**

For this purpose the following are indicated:

- cleaning products: water and non-abrasive neutral detergent. **DO NOT USE SOLVENT OR THINNERS**
- cleaning method: use a cloth or sponge soaked in a suitable cleaning product to clean the interior and exterior parts of the cabinet
- sanitation: do not use substances that could alter the stored products
- rinsing: use a cloth or sponge soaked in clean water. **DO NOT USE WATER JETS**
- frequency: once a week or at different intervals in accordance with the type of product conserved

**IMPORTANT:** Clean the lid seals frequently. Some stored products may release vapors or substances that attack the seal, deteriorating it very quickly. For cleaning, use specific products available on request also from our sales network.

**5.2.2 Cleaning the condenser**

The condenser (if present in the back-side) will work less efficiently if it is obstructed with foreign material so it must be cleaned once every 6 months. Before cleaning the condenser switch off the appliance.

Having access to the condenser, with the aid of a jet of air, a vacuum cleaner or a dry brush, eliminate the dust and fluff deposited on the fins on the front part of the condenser itself. During this operation, use the following personal protective equipment: glasses, respiratory protection mask, protective gloves.

**5.3 PERIODIC CHECKS**

The following components of the appliance require periodic checking:

- condition and efficiency of the lid sealing elements
- condition of baskets in contact with the products
- condition of hinges and correct fixing of the lid
- condition of electrical cables and electrical parts

It is advisable for the checks listed above to be carried out at least once a year.

**5.4 PRECAUTIONARY MEASURES FOR PROLONGED DISUSE**

If the appliance is to remain unused for more than 15 days proceed as follows:

- switch off the appliance and disconnect it from the electrical supply
- clean the interior of the cabinet and baskets paying special attention to critical areas such as contact point and magnetic sealing strips in accordance with the indications in heading 5.2.
- leave lid slightly open to prevent accumulation of residual humidity

**5.4.1 Restart after long inactivity**

Restarting after a long period of inactivity is an event that requires routine checks and maintenance.

It is necessary to carry out careful cleaning as described in par. 5.2.

Check the correct running of the controls. We recommend you to take out a service or maintenance contract with your dealer covering:

- cleaning of the condenser
- checking of the general functioning
- electrical safety

**6 SPECIAL MAINTENANCE AND REPAIRS**

All maintenance work not described in the previous sections must be considered "Special Maintenance".

Special maintenance interventions and repairs are to be performed exclusively by specialized technicians authorized by the manufacturer. The manufacturer declines all liability in the case of work performed by the user or unauthorized persons, or if non-original spare parts are fitted to the appliance.

## 7 DIAGNOSTICS

The following problems may occur as indicated in the table below:

FAULT	POSSIBLE CAUSE	ACTION
appliance does not switch on	appliance turned off	press the button ON/OFF
	power failure	check plug, socket, fuses of the electrical line and those of the appliance
	other	contact service department
cooling unit does not start	set temperature has been reached	set new temperature
	control panel fault	contact service department
	probe failure	contact service department
	other	contact service department
cooling unit runs constantly but does not reach set temperature	room temperature too high	provide better ventilation of room
	condenser dirty	clean the condenser
	refrigerant needs recharging	contact service department
	condenser fan not running	contact service department
	lid seals are not efficient	check seals / make sure appliance contents are not obstructing lid
	inner walls are coated with ice	defrost manually
	other	contact service department
cooling unit does not cut out at set temperature	control panel fault	contact service department
	probe failure	contact service department
build up of ice on inner walls	improper use	see par. 3.4
	control panel fault	contact service department
	probe failure	contact service department

## 8 USER INSTRUCTIONS

The information in this section of the manual regards the user or other non-specialized personnel (see par. 1.2). After the appliance has been installed in accordance with the instructions of section 3 of this manual, it is ready for use.

### 8.1 CONTROLS

According to the models, the appliance is equipped of different types of controls:

- MINI Control panel **Fig.1** (see par. 8.2)
- Temperature chart recorder **Fig.40** (see par. 8.6)

### 8.2 MINI CONTROL PANEL Fig. 1

#### 8.2.1 Description of controls and pushbuttons of the MINI control panel

The internal temperature is automatically displayed and controlled through a digital control thermo-regulator and the lighting icons give indication of the functioning status.

The temperature controller is provided with 6 keys with the following specific functions:

- **SET** To enter in Setpoint, in programming Menus and to confirm the controls.
- ❄️ Inactive key on this application
- ▲ To increase values, (lower temperature).
- ▼ To decrease values, (higher temperature).
- ⏻ To switch the instrument off
- ☀️ Inactive key on this application



Fig.1

Then the temperature regulator incorporate a display that provide the temperature indication and through enlightened icons, indications of the following operation status:

- ❄️ Lighted when the compressor is running flashing for departure delay.
- 🔔 Lighted for an alarm in progress
- °C Indicates whether the thermostat reads the temperature in Centigrade or in Fahrenheit degrees.

The internal temperature of the freezer is shown/adjusted through the related display/buttons and then automatically maintained at the programmed value by the appliance (with a sensible variation of  $\pm 3^{\circ}\text{C}$ ).

### 8.3 OPERATION OF THE MINI CONTROL PANEL Fig.1

#### 8.3.1 Start-up

Before starting up the unit check that the electrical connections have been made correctly as indicated in headings 3.3 and 3.4 "Instruction and Maintenance Manual".

Perform preliminary cleaning of the unit as described in sub-heading 5.2.1. "Instruction and Maintenance Manual".

Starting sequence Fig.1

- insert the appliance plug in a suitable electrical socket
- press the  button

#### 8.3.2 Stopping the unit

- press the  button
- disconnect the appliance plug from the electrical socket

In case the appliance is not to be used for a long period of time, it is suggestible to clear carefully the inner chambers and leave the lid slightly open.

#### 8.3.3 Keyboard safety locking protection

The control panel keyboard is provided with a keys locking protection to avoid tampering from unauthorized personnel. The key locking protection can be activated keeping pressed for 4 seconds the buttons UP  e DOWN  simultaneously and the display will show the indication "POF". To unlock the key locking protection, keep pressed for 4 seconds the buttons UP  e DOWN  simultaneously and the display will show the indication "Pon".

#### 8.3.4 Set-up and temperature setting

The appliance is factory set for operation at the following temperature:

SERIES	TEMPERATURE RANGE
BLCF	-15°C / -25°C
LCDF	-20°C / -45°C
LCSDf	-40°C / -60°C

The temperature can be adjusted in steps of 0,1°C.

In order to adjust the freezer temperature to the desired value, proceed as follow :

- Unlock the keyboard if locked (see par. 8.3.3)
- Press the **SET** button for 2 seconds, the display shows the actual set temperature
- To increase the Setpoint temperature value, push the UP  button until the desired value is displayed. Once reached the desired value, push the **SET** button or do not operate on the controller for 15 seconds and the new Setpoint temperature will be automatically memorized
- To lower the Setpoint temperature value, push the DOWN  button until the desired value is displayed. Once reached the desired value, push the **SET** button or do not operate on the controller for 15 seconds and the new Setpoint temperature will be automatically memorized

### 8.4 ALARM SIGNALLING

At protection of the material stored into the freezer, the appliance is fitted with a visual and acoustic alarm for temperature variations. The display signals, through specific indications, the exact alarm condition according to the following codes:

ALARM CODE	DESCRIPTION
P1	Room Sensor failure.
HA	Maximum temperature alarm. The temperature has exceeded the maximum set value.
LA	Minimum temperature alarm. The temperature has exceeded the minimum set value.
CA	Serious external alarm.

The alarm signalling for high temperature may even be activated in one of the following situations, without immediate risk for the stored material:

- At the appliance starting
- Storing big quantities of non-frozen material at once
- In case the lid is open for a prolonged period

At the end of the critical condition, the warning lamps goes off automatically.

Once the alarm signal is detected the buzzer, if present, can be disabled by pressing any key.

## 8.5 DEFROST OPERATIONS

### 8.5.1 Manual defrosting

The freezer has to be defrosted manually. The defrosting frequency depends on the appliance usage conditions.

### 8.5.2 Freezer defrosting

Large accumulation of frost or ice on the freezer inner walls has an adverse effect on the appliance efficiency and the correct maintaining of the programmed temperature.

When the frost is approx. 1/2 cm thick, the freezer should be defrosted and in any case, it is suggested to defrost it at least once or twice a year.

To proceed with the defrost, switch off the appliance removing the appliance plug from the electrical socket, remove the stored material, then leave the lid open and dry the eventual thaw water that may accumulate in the bottom part of the storage chamber.

Under no circumstances try to speed up the defrosting and avoid absolutely the below listed operations as they may cause injuries to persons, appliance damage and be hazardous for the material stored after the defrosting:

- do not heat the interior with electric heaters or using defrosting sprays as these may contain solvents or propellants which can damage the plastic fittings inside the appliance.

- never scrape off ice or frost with any sharp metal objects, metal brushes or abrasives as the cooling pipes may be foamed into the inner walls, if damaged may rust. If any cooling pipework is pierced, the refrigerant gas will spurt out from the hermetic cooling circuit and the appliance is seriously damaged.

Once completed the frost or ice thawing, clean the storage chamber with a cloth and luke-warm water and dry carefully.

At the end of the cleaning operations, switch on the appliance inserting the appliance plug in a suitable electrical socket then, once the appliance has reached the desired temperature, load the material to be stored into the baskets. It is suggested to load the material gradually.

The basket load should be done having them out of the chamber and then re-inserting into it only once completed the loading operations as a prolonged lid opening would alter the internal temperature and speed up the formation of frost or ice in the storage chamber.

## 8.6 DESCRIPTION OF THE TEMPERATURE CHART RECORDER (OPTIONAL)

### 8.6.1 Description of the temperature chart recorder Fig.40

The appliance may be fitted (present if ordered in some series), with the temperature chart recorder, recording on paper charts the appliance internal temperature. The temperature recorder is available in different temperature ranges according to the model on which it is installed:

- Range: -50°C / +50°C

- Range: -100°C / +50°C

The detection of the chamber temperature is done with a sensor independent from the control panel sensor, while the recording, with weekly operation, is on paper charts with an ink-tip. The temperature recording is granted even during power failure periods thanks to the battery powering the recording device. The battery is 1,5V, AA type. A perspex cover allows checking the diagrams but at the same time it protects them against tampering of unauthorized personnel thanks to the key locks safety or closing knot.

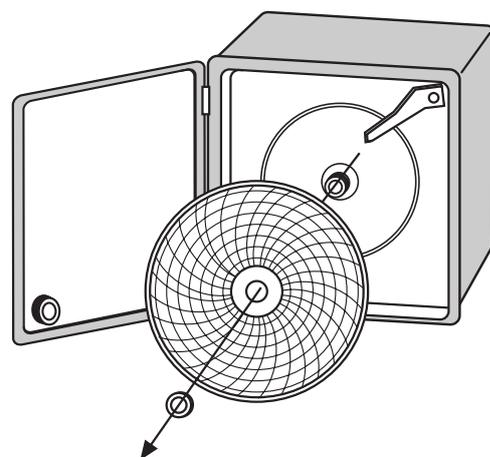
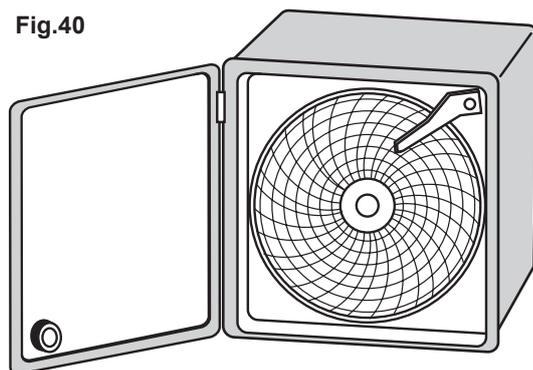
#### 8.6.1.1 Paper chart replacement

- Open the perspex cover
- Unscrew the fixing nut
- Lift gently the metal arm on which is fitted the ink-tip
- Remove the installed paper chart, paying attention at the 2 metal edges surrounding the chart that keep it in position
- Insert the new paper chart, paying attention to insert it into the central hinge and into the 2 metal edges surrounding the chart
- Lower gently the metal arm on which is fitted the ink-tip in order to return it in the original position
- Drive the paper chart in order to position the ink-tip writing point in the exact point from which it has to start to record the temperature, paying attention not to write on the diagram. In order to choose the exact recording start point, refer to the days and times printed on the chart itself
- Screw the fixing nut
- Close the perspex cover

#### 8.6.1.2 Ink-tip replacement

- Open the perspex cover
- Lift gently the metal arm on which is fitted the ink-tip
- Remove, pulling, the ink-tip from the metal arm
- Insert the new ink-tip on the metal arm paying attention to the guideways on the ink-tip itself. Push until reach the limit-stop
- Lower gently the metal arm on which is fitted the ink-tip in order to return it in the original position
- Close the perspex cover

Fig.40



### 8.6.1.3 Battery replacement

- Open the perspex cover
- Unscrew the fixing nut
- Lift gently the metal arm on which is fitted the ink-tip
- Remove the installed paper chart, paying attention at the 2 metal edges surrounding the chart that keep it in position
- Pull the central hinge on which was screwed the nut and, at the same time, moving slightly up and down to make easier the extraction of the clockwise mechanism
- Replace the battery in the rear side of the clockwise mechanism paying attention to the battery polarity
- Insert the clockwise mechanism in the hole left on the chart recorder, simply making pressure on the mechanism
- Insert the paper chart, paying attention to insert it into the central hinge and into the 2 metal edges surrounding the chart
- Lower gently the metal arm on which is fitted the ink-tip in order to return it in the original position
- Drive the paper chart in order to position the ink-tip writing point in the exact point from which it has to start to record the temperature, paying attention not to write on the diagram. In order to choose the exact recording start point, refer to the days and times printed on the chart itself
- Screw the fixing nut
- Close the perspex cover

