ENGLISH

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1 INTRODUCTION

Techfrost would like to thank you for having chosen its products and we are sure that you will be more than satisfied with their performance.
To help maintain efficiency and performance in time, TECHFROST have prepared this manual that-describes the correct use and maintenance of the Blast Chiller Freezer.

1.1 Type of use and limitations

This Blast Chiller Freezer has been designed for chilling and preserving food (it rapidly lowers the temperature of cooked food in this way preserving quality and guaranteeing freshness for several-days). Any other use is considered improper and incorrect. This Chiller cannot be installed outside and or in environments subject to weather conditions.
The manufacturer declines all responsibility for uses other than those given in this manual.

CAUTION: THE BLAST CHILLER IS NOT A CONSERVER.
After the work cycles, the blast chiller goes in conservation, but must be considered as temperature of transaction.

1.2 Characteristics of the machine

The machine to which this handbook refers, it is a blast chiller/freezer of temperature completely constructed in stainless steel AISI 304 that it works until -40°C of temperature. It is an appropriate equipment with technical constructive characteristic in a position to carrying in short times the temperature to the heart of the cooked products from +70°C to +3°C in blast chilling and from +70°C to -18°C in blast freezing block with one THERMAL SHOCK the bacterial proliferation without with this:

- **Altering organoleptic conditions**
- **Modifying product's quality**

It assures at the same time:

- **Hygienicity, security, product's quality.**

The blast chiller has well-defined features such as:

- Indirect system of air circulation
- The same temperature on all shelves
- Cooling system conceived for a quick cold penetration to the product's core.

Moreover it performs peculiar features such as:

- Non-stop temperature measurement in the product's core through a piercing probe, when carrying out programs by means of core probe
- Maintenance of a high humidity rate in the chilled product (80/85%) thus avoiding drying or dehydration processes and almost totally canceling the risk of weight losses
- Excellent thermic conditions during transfer to the conservation cell.

Any product, as soon as you take it out from the oven, is at its quality peak. You can keep this high quality level unchanged only starting the chilling process soon after the cooking. This is why, using the blast chiller , which lowers temperature rapidly, you prevent your products from:

- External drying
- Early deterioration

We may therefore have a quality line including the following:

- OVEN for the reaching of high temperatures destroying microorganisms without altering product's quality
- BLAST CHILLER for the reaching of lower temperatures blocking bacterial proliferation and keeping product's quality unchanged.

The blast chiller is therefore a professional instrument which guarantees, according to the regulations in force, any thermal treatments of fore- and aftercooking for GASTRONOMY, PASTRY and ICE-CREAM SHOP food products and facilitates as well application of the HACCP System (Hazard Analysis Critical Control Point) and compliance with ISO9000 norms.
The passage to CONSERVATION at the pre-defined temperature follows **automatically** the CHILLING or DEEP-FREEZING cycle thanks to the probe located in the product's core.

1.3 Testing

The Chiller is dispatched only after it has been tested (visual inspection – electric test – functional test). Final testing is certified, for the relevant documentation please refer to the enclosed appendixes.

1.4 General safety standards

The Chiller in question is manufactured conforming with the European Directives relevant to low tension 2014/35/UE, and electromagnetic compatibility 2014/30/UE; EN60335- 1, EN60335-2-24, EN55014-2, EN61000-3-2, EN61000-3-3, EN62233.

1.5 What the customer must provide on site location

It is necessary that there is an earthed power socket suitable for the electrical input indicated on the metal plate, a thermomagnetic switch with at least a 3 mm break contact.

The chiller should be used by adults only. Do not allow children to play with it or with its control board.

Installation and any other operation, including a possible extension of the power cable have to be carried out by authorized personnel only. If executed by people who do not possess the necessary technical knowledge, the operation might cause a worsening in the unit performance and cause damages to persons and things.

Maintenance and service have to be carried out by qualified technicians belonging to our selling net. The same is to be said for spare parts, which should be original.

Do not attempt to modify the chiller yourself: the operation might be dangerous.

It is crucial to allow sufficient air circulation around the machine, so that the compressor does not risk superheating and consequent arrest.

The chiller should be placed so that there remains sufficient space for air circulation in the back (at least 10 cm).

While installing or transporting the unit make sure the cable is not squashed. Before any cleaning or installing operation remember to switch the machine off and disconnect the plug - make sure you do not pull the cable.
The deep-freezing system, placed on the back and inside the machine, contains a refrigerant solution. Do not use sharpened objects either in the vicinity of the evapor tor or cooling plate, as well as near the pipe coils located on the back and inside the chiller. The accidental perforation of the system might cause damages to the unit and to the products it contains.
After the first installation you should wait about 30 minutes before connecting the plug to the power point; if the chiller has been transported in horizontal position, you should keep it in vertical position for at least eight hours – this is because the oil contained in the compressor must be given the time

to go back to its original location.

The chiller is very heavy. When a transfer is needed, the use of gloves is highly recommended, since you may find protruding parts on its back, sides and bottom.

When the " DEEP-FREEZING " process is over, you should pull food containers out by using dry gloves or cloths.

Do not open the machine door while executing its working cycle because you may prevent the proper accomplishment of the cycle itself.

The constructor is not liable for damages arising from improper use or installation, connection to non-authorized equipments, use of non-original fittings as well as tampering by non-authorized personnel.

1.6 Technical assistance

Post-sale technical assistance can be carried out by any licensed refrigeration technician. The company is available to provide indications on how to intervene technically through the AFTER SALES service by writing to the e-mail address info@techfrost.com.

2 REGULAR MAINTENANCE

2.1 Warnings

Regular maintenance work can be carried out by non-specialised personnel who, however, must always adhere to the instructions given in this manual. Before cleaning or servicing the chiller lockoff the power supply. When carrying out regular maintenance work do not remove any of the safety guards.

2.2 Cleaning the chiller and accessories

Before using this Chiller clean on the inside and all the accessories. Use warm water and neutral soap. Rinse and dry well. Do not use solvent or powder based detergents and use a silicon wax to protect the steel.

2.3 Periodically cleaning the condenser

The condenser should be cleaned periodically. Cleaning intervals will depend on how frequently it is used.

CAUTION: To access the condenser it is necessary to remove the safety guards. Always use qualified and specialised personnel.

To guarantee efficiency and performance in time, it is necessary to clean the condenser periodically. It is highly recommended if located in dusty environments to clean the louvers on the refrigerating unit once a month and once every three months if located in closed and clean environments. To remove dust and dirt from the louvers use a brush or vacuum cleaner. Do not use sharp objects or tools that could damage the condenser. Do not clean using water jets.

2.4 Measures to take when out of service for a period of time

When the Chiller is out of service for a long period of time take the following measures:
- Remove the plug from the power socket
- Remove all food and clean the inside of the Chiller and all accessories
- Buff all the stainless steel surfaces with a cloth moistened with vaseline oil to give a protective coating;
- **Leave the door ajar for air circulation to prevent bad odours**
- Periodically air the room or kitchen where the Chiller is installed.

3 EXTRAORDINARY MAINTENANCE


CAUTION: Extraordinary maintenance and servicing work must be carried out be qualified personnel!

3.1 Understanding simple malfunctions

At times malfunctions are due to simple and trivial causes and nearly always there is no need to call in a specialised technician, therefore before informing the company check for the following:
The Chiller is not powered:

a. Check that it is plugged in
b. Check that there is power.

The Chiller does not reach the correct internal temperature:
a. Check the temperature settings
b. Check the probe.
c. Check the functioning of the fans.

The Chiller is excessively noisy:
a. Check that the Chiller is level. If unbalanced this could cause vibrations creating excessive noise.
b. Check that the Chiller is not positioned up against other machines or objects causing vibrations.

After having proceeded with the foregoing checks and if the problem persists, contact the company giving:
- A description of the type of malfunction
- Chiller code and serial number which are indicated on the metal plate.

4 WASTE DISPOSAL AND SCRAPPING

Storing waste:
It is possible to temporarily store special waste products that are to be scrapped. However, the user must observe and adhere to the local governing laws regarding waste management.

Macro – dismantling the Chiller:
Each country has its own waste management laws, therefore the user must observe and adhere to the local governing laws where the Chiller is to be scrapped.

As a general guideline the Chiller should be handed over to a special waste treatment plant. Dismant-

le it and divide the various components into groups according to their chemical properties. Remember that there is oil and refrigerating solutions in the condenser that can be recuperated and reused and the various components are considered special waste products and as such are treated as urban waste.

CAUTION: All dismantling operations must be carried out by specialised personnel!

4.1 Information for a correct waste

Directive on the electrical appliances waste (WEEE) (RoHS)

In the optical of the respect of the ambient of the health and based on the sanctioned despositions from the Directive 2002/95/CE of the European Union in matter of limitation to the use of dangerous substances (RoHS), regarding:

- Lead (Pb)
- Mercury (Hg)
- Hexavalent chromium (Cr VI)
- Cadmium (Cd)
- Polybrominated biphenyl (PBB)
- Polybrominated diphenyl ether (PBDE)

and according to of art. the 13, D.Lgs. 25 July 2005, n. 151 "Performance of the Directives 2002/95/CE, 2002/96/CE and 2003/108/CE, relative to the reduction of the use of dangerous substances in the equipment electronic electrical workers and, to the waste disposition, TECHFROST declares that its products respect such norms.

The following symbol on the side of the equipment indicates that the product must not be disposed of as urban waste.
Disposing of a household appliance separately avoids possible negative consequences for the environment and healt deriving from inappropriate disposal and enables the constituent materials to be recovered to obtain significant savings in energy and resources. As a reminder of the need to dispose of household appliances separately, the products is marked with a crossed-out wheeled dustbin.

5 INSTRUCTION FOR THE INSTALLATION

This manual aims at providing the user with all the necessary information to correctly use and maintain the Chiller.
Before use carefully read all the instructions given in this manual.
The manufacturer shall decline all responsibility for operations and use which disregard the instructions herein.

5.1 Materials and chilling solutions

Le zone a contatto con il prodotto sono realizzate in acciaio inox.
Nei gruppi refrigerati viene impiegato fluido refrigerante consentito dalle attuali legislazioni, del tipo HFC. Il tipo e la qualità di gas utilizzato sono indicati sulla targhetta.

5.2 Elementary safety standards – risks

The Chiller has no dangerous corners, sharp and cutting surfaces or protruding parts. All safety

guards on moving parts or electrics are screwed to the cabinet. These guards avoid any form of accidental contact with parts that present a risk to the user. Always respect safety standards:

- Do not touch the Chiller with wet hands or feet
- Not use the Chiller barefooted
- Do not poke screwdrivers, cutlery or other objects between the safety guards mounted on moving parts
- Before cleaning or servicing the Chiller lock-off the power supply.

Carefully follow and adhere to the instructions given in this chapter to guarantee working efficiency and safety when the Chiller is in use.

⚠ CAUTION: When transporting or moving the Chiller to the installation site do not push or drag it, lift it and position it on a trolley to avoid overturning.

5.3 Location

Locate the Chiller in a ventilated area distant from heat sources such as radiators, air conditioning units, deep-fryers and ovens. Make sure the Chiller is located at a distance not less than 10 cm from the back wall to permit a good cooling effect for the various components.
To maintain the correct internal temperature, the ambient temperature must not exceed +32°C Adjust height and levelling using the support feet and also check the door closes.

If the Chiller is not perfectly level working efficiency and condensation flow may be affected. Remove the PVC protective film on both sides of the Chiller.
The machine should be situated allowing adequate space around it so that proper air circulation is assured.

5.4 Connecting to the power supply

Connect the unit only to energy sources properly earthed.
Do not damage the power cord (danger of electric accident). If it is damaged, it has to be replaced immediately by a qualified electrician from the assistance centre.Install a safety switch in case of fault currents with a specific protection for persons (30mA) on the power supply control panel.

⚠ CAUTION: the manufacturer shall not be held responsible for damage or accidents caused by negligence due to the non-observance of the recommendations and regulations given or of the local governing standards and laws regarding electrical safety.

6 ADVICES FOR A CORRECT USE OF THE EQUIPMENT

6.1 Optimization of the cycles

PRE-COOLING
Pre-cooling is highly recommended before carrying out a chilling or rapid deep-freezing cycle to pre-cool the cell in order to reduce working times.

CORE PROBE (optional)
The core probe, if it is present (optional), shall be properly positioned in the core of the thicker portion of product. Its point shall neither come out nor touch the pan. The probe shall be cleaned before starting any cycle, in order to prevent contaminations.

LIDS AND CONTAINERS
Do not cover pans and/or other containers with lids or insulating films. The more the product's surface gets in contact with the air circulating in the cell, the less it will take to chill and deep-freeze it.
Do not use cups or pans deeper than 40 mm.

POSITIONING OF THE PRODUCT
Do not superimpose layers of product one upon another and make sure that they are never thicker than 50 mm.
Do not overload the unit beyond the quantity recommended by the manufacturer.
Allow a sufficient space between the pans in order to permit the proper air circulation. Do not put too many pans on one side of the unit, but distribute them equally.

CONSERVATION
The chilled and/or frozen product shall be covered and protected (film, airtight, hermetic sealing).
The probe must be cleaned before each cycle to avoid contamination.

6.2 Preparation of the machine

It is necessary to clean the chilling chamber optimally before starting to work.

The blast chilling/blast freezing rate depends on the following factors:
- shape, type and material of the containers used
- use of lids on containers
- food characteristics (density, water content, fat content)
- initial temperature
- thermal food conduction

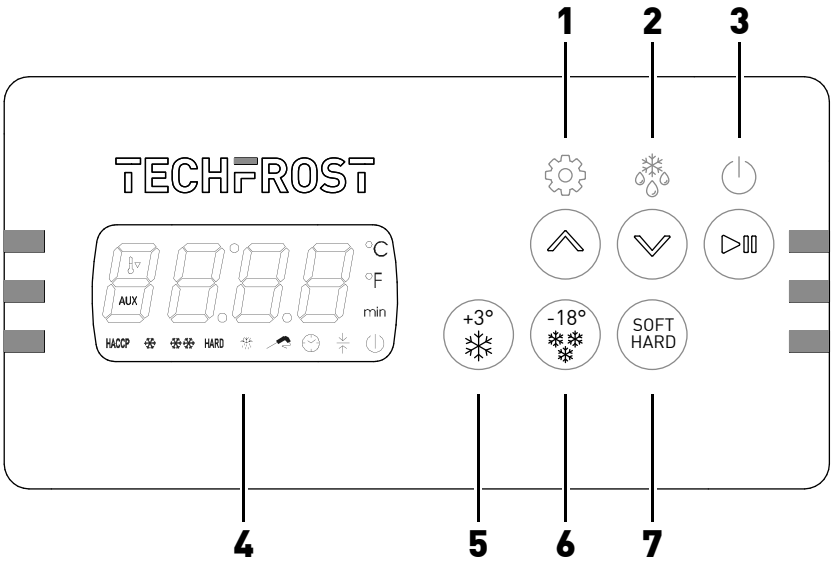
Blast chilling time and rapid blast freezer are based on the type of product being treated.
It is recommended to use the full speed cycle for all dense or large dough foods and in any case never exceed 3.6 kg (for GN1 / 1, EN1 / 1 or 60x40) or 7.2 [kg] for loads (for GN2 / 1, EN2 / 1 or 60x80) and the thickness of 50 [mm] during negative killing and 80 [mm] during positive killing.
The low speed cycle is suitable for delicate products such as vegetables, creams, spoon desserts, or reduced-thickness products.
In any case, check that the positive cutoff cycle up to +3 [° C] to the product core does not use a time of more than 90 minutes and that the negative cutoff cycle, up to -18 [° C] , do not exceed 4 hours.
It is necessary to pre-cool the working chamber before starting the positive cut and / or negative knockout cycle and it is advisable not to cover the food during the cycle in order not to increase the time needed.
When the thickness of the product allows, always use the heart probe to know the exact temperature reached at the heart of the product and not to interrupt the cycle before the positive +3 [deg.] C temperature is reached and -18 [° C] in case of negative chilling.

6.3 Switch off the machine

It is always advisable to perform a defrost cycle at the end of the use of the blast chiller, both to dry the chamber and to prevent any condensation water from stopping on the fan/s and damaging it.

7 CONTROL PANEL

7.1 Buttons description



N°	Description
1	Decrease key, then also named "DOWN key"
2	Increase key, then also named "UP key"
3	On/off/start/stop key, then also named "START/STOP key"
4	Display
5	Blast chilling key
6	Blast freezing key
7	Hard blast chilling or soft blast freezing key, then also named "HARD/SOFT key"

7.2 Preliminary instructions

There are the following state of working:
- the state "off" (the device is not fed)
- the state "stand-by" (the device is fed and it is out)
- the state "on" (the device is fed, you/he/she has turned on and it is waiting for the start of a cycle of operation)
- the state "run" (the device is fed, you/he/she has turned on and a cycle of operation is in progress).

Then, with "lighting of the device" he intends the transition from the state "stand-by" to the state "on" and with "turning off of the device" it is named the transition from the state "on" to the state "stand-by."
If an interruption of the feeding occurs during the state "stand-by" or during the state "on", at the restoration of the feeding the device will propose the same state.
If an interruption of the feeding occurs during the state "run", at the restoration of the feeding the device will work in the following way:
- if a temperature blast chilling cycle or a temperature blast freezing cycle was in progress, then with a heart probe, it will be restarted from the beginning
- if a time blast chilling cycle or a time blast freezing cycle was in progress:
- it will be restarted by the instant in which the interruption of the feeding will be manifested with a maximum error of 10 min
- if a conservation cycle was in progress, the conservation cycle will be proposed again.

7.3 Blast chiller switching on/off

Please operate in the following way:
- Please make sure that the keyboard is not jammed and that some procedure is not in progress.
- Please keep pressed the key START / Stop for 1 s: the LED ⏻ will ignite / extinguish.

7.4 Manual defrosting starting

Please operate in the following way:
- Please make sure that a maintenance is in progress.
- Please make sure the keyboard is not jammed and that some procedure is not in progress.
- Please keep the UP key pressed for 4 s: the LED ❄ will switch on.
- The defrost will last for 20 minutes. Leave the door open during the defrost phase.

7.5 Keyboard Block/unblock

To stop the keyboard please operate in the following way:
- Please make sure some procedure is not in progress.
- Please keep the DOWN and the START / STOP key pressed for 1 s: the display will visualize "**Loc**" for 1 s.

To unlock the keyboard please operate in the following way:
- Please make sure that some procedure is not in progress.
- Please keep the DOWN key and the START / STOP key pressed for 1 s: the display will visualize "**UnL**" for 1 s.

7.6 Real day and hour setting (RTC)

If the writing RTC appears when the machine is turned on, it is necessary to set the day and the time.
Please operate in the following way:

- Please make sure that the keyboard is not jammed and that some procedure is not in progress.
- Please keep the DOWN key pressed for 1 s: the display will visualize the first available label.

Please press and release the UP key or the DOWN key to select "**rtc**"

To set the **year** please operate in the following way:
Please press and release the BLAST CHILLING key : the display will visualize "yy" followed by the last two numbers of the year and the LED will flash. Please press and release the UP key or the DOWN key within 15 s to modify the value.

To set the **month** please operate in the following way:
Please press and release the BLAST CHILLING key during the formulation of the year: the display will visualize "**nn**" followed by the two numbers of the month. Please press and release the UP key or the DOWN key within 15 s to modify the value.

To set the **day** of the month please operate in the following way:
Please press and release the BLAST CHILLING key during the formulation of the month: the display will visualize "dd" followed by the two numbers of the month. Please press and release the UP key or the DOWN key within 15 s to modify the value.

To set the **time** please operate in the following way:
Please press and release the BLAST CHILLING key during the formulation of the day of the month: the display will visualize "hh" followed by the two numbers of the time.
Please press and release the UP key or the DOWN key within 15 s to modify the value. The time is visualized in the format 24 h.

To plan the **minutes** please operate in the following way:
Please press and release the BLAST CHILLING key during the formulation of the time: the display will visualize "**nn**" followed by the two numbers of the minutes. Please press and release the UP key or the DOWN key within 15 s to modify the value.
Please press and release the BLAST CHILLING key or do not to operate for 15 s: the display will again visualize "**rtc**" and the LED will turn off.

To go out of the procedure please operate in the following way:
Please press and release the UP key or the DOWN key until when the display visualizes the suitable size "the display" or do not operate for 60 s.

8 FUNCTIONING OF THE BLAST CHILLER/FREEZER

8.1 Preliminary instructions

You can select the following types of functioning:
- Blast chilling and conservation (default)
- Hard blast chilling and conservation
- Blast freezing and conservation
- Soft blast freezing and conservation (default).

For more information, see the following paragraphs.
Every cycle of functioning can be preceded by a pre-cooling.
The cycles by temperature are preceded by a test for the verification of the correct insertion of the core probe.
If the core probe is not enable the temperature cycles will be started by time automatically.

8.2 Blast chilling and conservation

Please make sure the device is in "ON."
Press the key BLAST CHILLING: the LED will flash.
I can modify the temperature set at 0°C by default, pressing the key UP to increase the temperature, the key DOWN to decrease the temperature. This option is active only before starting the program.
Press the key START / STOP to start the BLAST CHILLING.
The phase of BLAST CHILLING will last 90 minutes.
During the blast chilling cycle **the display visualizes the residual time of the duration of the blast chilling cycle and the LED has turned on.**
I can modify the time of the phase of BLAST CHILLING pressing the key UP to increase the time, the key DOWN to decrease the time .
This option is active only after having started the program. Once completed the cycle of 90 minutes, the device will pass in conservation (setpoint 2°C).

During the demolition the display visualizes the temperature noticed by the core probe and the LED has turned on.
To visualize the temperature of the cell to press and to release the BLAST CHILLING key, the BLAST FREEZING key or the HARD / SOFT key; to restore the normal visualization please press again and release the same key or do not operate for 15 s. If the temperature noticed by the core probe reaches the temperature of end blast chilling cycle within the maximum duration of the blast chilling cycle, the cycle will be completed with success, the device will automatically pass to consevration and the buzzer will be activated.
During the conservation the display visualizes the temperature noticed by the cell probe and the LED has turned on.
If the temperature noticed by the core probe doesn't reach the temperature of end blast chilling within the maximum duration of the blast chilling, it won't be completed with success but it will continue, the LED will flash and the buzzer will be activated. To restore the normal visualization and stop the buzzer please press and release a key. To visualize the cell temperature please press and to release the BLAST CHILLING key; to restore the normal visualization please press again and release the key BLAST CHILLING or do not to operate for 15 s.
When the temperature noticed by the core probe reaches the temperature of end blast chilling cycle, the device automatically passes to the conservation phase with the same formalities mentioned before.

8.3 Hard blast chilling and conservation

Please make sure the device is in "ON".
Press the key BLAST CHILLING: the LED will flash.
Press the key HARD/SOFT: the LED **HARD** will flash.
Press the key START / STOP to start the BLAST CHILLING hard.
The phase of BLAST CHILLING will last 90 minutes.
I can modify the time of the phase of BLAST CHILLING pressing the key UP to increase the time, the key DOWN to decrease the time. This option is active only after having started the program. Once completed the cycle of 90 minutes, the device will pass in conservation (setpoint 2°C).

During the demolition the display visualizes the temperature noticed by the core probe and the LED has turned on.
To visualize the temperature of the cell to press and to release the BLAST CHILLING key, the BLAST FREEZING key or the HARD / SOFT key; to restore the normal visualization please press again and release the same key or do not operate for 15 s. If the temperature noticed by the core probe reaches the temperature of end blast chilling cycle within the maximum duration of the blast chilling cycle, the cycle will be completed with success, the device will automatically pass to consevration and the buzzer will be activated.

During the conservation the display visualizes the temperature noticed by the cell probe and the LED has turned on.
If the temperature noticed by the core probe doesn't reach the temperature of end blast chilling within the maximum duration of the blast chilling, it won't be completed with success but it will continue, the LED will flash and the buzzer will be activated. To restore the normal visualization and stop the buzzer please press and release a key. To visualize the cell temperature please press and to release the BLAST CHILLING key; to restore the normal visualization please press again and release the key BLAST CHILLING or do not to operate for 15 s.
When the temperature noticed by the core probe reaches the temperature of end blast chilling cycle, the device automatically passes to the conservation phase with the same formalities mentioned before.

8.4 Blast Freezing and conservation

Please make sure the device is in "ON."
Please press and release the BLAST FREEZING key : the LED , the LED and the LED **HARD** will flash.
I can modify the temperature set at -40°C by default, pressing the key UP to increase the temperature, the key DOWN to decrease the temperature. This option is active only before starting the program.
Press the key START / STOP to start the BLAST FREEZEING.
The phase of BLAST FREEZEING will last 240 minutes.
I can modify the time of the phase of BLAST CHILLING pressing the key UP to increase the time, the key DOWN to decrease the time. This option is active only after having started the program. Once the cycle of 240 minutes is over, the device will pass in conservation (setpoint -20°C)

During the demolition the display visualizes the temperature noticed by the core probe and the LED has turned on.
To visualize the temperature of the cell to press and to release the BLAST CHILLING key, the BLAST FREEZING key or the HARD / SOFT key; to restore the normal visualization please press again and release the same key or do not operate for 15 s. If the temperature noticed by the core probe reaches the temperature of end blast chilling cycle within the maximum duration of the blast chilling cycle, the cycle will be completed with success, the device will automatically pass to consevration and the buzzer will be activated.
During the conservation the display visualizes the temperature noticed by the cell probe and the LED has turned on.
If the temperature noticed by the core probe doesn't reach the temperature of end blast chilling within the maximum duration of the blast chilling, it won't be completed with success but it will continue, the LED will flash and the buzzer will be activated. To restore the normal visualization and stop the buzzer please press and release a key. To visualize the cell temperature please press and to release the BLAST CHILLING key; to restore the normal visualization please press again and release the key BLAST CHILLING or do not to operate for 15 s.
When the temperature noticed by the core probe reaches the temperature of end blast chilling cycle, the device automatically passes to the conservation phase with the same formalities mentioned before.

8.5 Soft blast freezing and conservation

Please make sure the device is in "ON."
Please press and release the BLAST FREEZING key : the LED , the LED and the LED **HARD** will flash. Please press and release the HARD / SOFT key: the LED **HARD** will turn off.
I can modify the temperature set at -40°C by default, pressing the key UP to increase the temperature, the key DOWN to decrease the temperature. This option is active only before starting the

program.
Press the key START / STOP to start the BLAST FREEZEING.
The phase of BLAST FREEZEING will last 240 minutes.
I can modify the time of the phase of BLAST CHILLING pressing the key UP to increase the time, the key DOWN to decrease the time. This option is active only after having started the program. Once the cycle of 240 minutes is over, the device will pass in conservation (setpoint -20°C)

During the demolition the display visualizes the temperature noticed by the core probe and the LED has turned on.

To visualize the temperature of the cell to press and to release the BLAST CHILLING key, the BLAST FREEZING key or the HARD / SOFT key; to restore the normal visualization please press again and release the same key or do not operate for 15 s. If the temperature noticed by the core probe reaches the temperature of end blast chilling cycle within the maximum duration of the blast chilling cycle, the cycle will be completed with success, the device will automatically pass to consevration and the buzzer will be activated.
During the conservation the display visualizes the temperature noticed by the cell probe and the LED has turned on.
If the temperature noticed by the core probe doesn't reach the temperature of end blast chilling within the maximum duration of the blast chilling, it won't be completed with success but it will continue, the LED will flash and the buzzer will be activated. To restore the normal visualization and stop the buzzer please press and release a key. To visualize the cell temperature please press and to release the BLAST CHILLING key; to restore the normal visualization please press again and release the key BLAST CHILLING or do not to operate for 15 s.
When the temperature noticed by the core probe reaches the temperature of end blast chilling cycle, the device automatically passes to the conservation phase with the same formalities mentioned before.

8.6 Pre-cooling start

Every cycle of operation can be preceded by a pre-cooling phase.
To start the pre-cooling phase please operate in the suitable way:

- Please make sure that the device is in the state "on."
- Please make sure that some procedure is not in progress.

Please keep the BLAST CHILLING key pressed for 1 s: the LED will flash.
To stop the pre-cooling phase please operate in the suitable way:

- Please keep the BLAST CHILLING key pressed for 1 s or to start a cycle of operation.

When the cell temperature reaches the one established the pre-cooling phase continues, the LED remains permanently turned on and the buzzer is activated for 1 s.

8.7 Core probe correct insertion checking test

If the core probe is trained the temperature cycles are preceded by a test on two phases for the verification of the correct insertion of the core probe.
The second phase is performed only if the first one is not completed with success.
The first phase is completed with success if the difference "temperature noticed by the core probe - cell temperature " is higher than the one established at least in 3 controls on 5 (controls are performed to intervals of 10 s; to consider the difference without sign).
The second phase is completed with success if the difference "temperature noticed by the core probe - cell temperature " is higher than 1 °C / 1 °F, in comparison to the control performed before, at least in 6 controls on 8 (controls are performed to intervals of 1 / 8 of the time; to consider the difference without sign).
If the test is completed with success, the cycle will be started; if the test is not completed with success, the LED will flash and the buzzer will be activated for 5 s every 15 s.
To start the temperature cycle to press the BLAST CHILLING key or the BLAST FREEZING key howe-

ver; departed 1 min from the signaling that the test has not been completed with success without having operated the cycle you/he/she is started to time.
If the probe is not inserted, the test won't be performed (neither the first neither the second phase).

9 "HACCP" FUNCTION

9.1 Preliminary instructions

Through the function "HACCP" it is possible to memorize up to 9 events for each of the 3 alarms HACCP, then the most recent event is written on the older one.
The following chart illustrates the information related to the alarms HACCP that the device is able to memorize.

Alarm	**Code**	**Critical value**	**Date and hour of event**	**Duration**
alarm temperature blast chilling or temperature blast freezing not concluded within the maximum duration	tiME	the maximum temperature noticed by the core probe after the temperature blast chilling or the temperature blast freezing not concluded within the maximum duration	yes	from 1 min to 99 h and 59 min, partial if the alarm is in progress
maximum temperature alarm during the maintenance	AH	cell maximum temperature during the alarm	yes	from 1 min to 99 h and 59 min, partial if the alarm is in progress
alarm stop feeding during the conservation phase	PF	cell temperature during the feeding restore	yes	from 1 min a 99 h e 59 min from 1 min to 99h and 59 min

Per evitare di memorizzare ripetutamente allarmi interruzione dell'alimentazione (codice "**PF**") assicurarsi che il dispositivo sia nello stato "stand-by"
o nello stato "on" prima di scollegarne l'alimentazione.
Se la durata dell'allarme interruzione dell'alimentazione (codice "**PF**") è tale da provocare l'errore orologio (codice "**rtc**"), il dispositivo non memorizzerà né la data e l'ora in cui l'allarme si è manifestato né la sua durata.
Il LED **HACCP** fornisce informazioni relative allo stato della memoria degli allarmi HACCP del dispositivo.

9.2 Alarms HACCP informations display

Please operate in the following way:
- Please make sure that keyboard is not jammed and that some procedure is not in progress.
- Please keep the DOWN key pressed for 1 s: the display will visualize the first available label.
- Please press and release the UP key or the DOWN key to select "**LS**."
- Please press and release the BLAST CHILLING key: the display will visualize the code of the most recent alarm.

To visualize the information related to an alarm HACCP please operate in the following way:
- Please press and release the UP key or the DOWN key to select an alarm code, for example "**AH3**."
- Please press and release the BLAST CHILLING key: the LED HACCP will stop flashing to remain permanently turned on and the display will visualize, for example, the following informations in sequence:

Informaz.	**Significato**
8.0	il valore critico è di 8.0 °C / 8 °F
StA	il display sta per visualizzare la data e l'ora in cui l'allarme si è manifestato
y11	l'allarme si è manifestato nel 2011 (continua...)
no3	l'allarme si è manifestato nel mese di marzo (continua...)
d26	l'allarme si è manifestato il 26 marzo 2011
h16	l'allarme si è manifestato alle 16 (continua...)
n30	l'allarme si è manifestato alle 16 e 30
dur	il display sta per visualizzare la durata dell'allarme
ho1	l'allarme è durato 1 h (continua...)
n15	l'allarme è durato 1 h e 15 min
AH3	il codice di allarme selezionato

The display visualizes every information for 1 s. To abandon the succession of information please operate in the following way:
- Please press and release the START/STOP key: the display will again visualize the code of selected alarm.

To go out of the procedure please operate in the following way:
- Please abandon the succession of information.
- Please press and to release the UP key or the DOWN key until the display visualizes the suitable greatness "the display" or do not operate for 60 s.

9.3 Cancellation of HACCP alarms informations

Please operate in the following way:
- Please make sure that the keyboard is not jammed and that some procedure is not in progress.
- Please keep the DOWN key pressed for 1 s: the display will visualize the first available label.
- Press and release the UP key or the DOWN key to select "**rLS**".
- Press and release the BLAST CHILLING key: the display will visualize "**o**".

- Press and release the UP key or the DOWN key within 15 s to plan "**149**".
- Press and release the BLAST CHILLING key or do not operate for 15 s: the display will visualize "- - - - " flashing for 4 s and the LED **HACCP** will turn off, then the device will automatically go out of the procedure and the display will visualize the suitable size in the paragraph "the display."

If the device has not memorized any information about the HACCP alarms, the label "**rLS**" won't be visualized.

9.4 Parameters and configuration of the blast chiller

The machine is sold with the settings of the manufacturer Techfrost. If it is necessary to change the parameters or the factory settings, ask the dealer for the parameter configuration manual and the corresponding access password.

10 ADVICES AND INSTRUCTIONS

10.1 Advices

The following chart illustrates the meaning of the LED signs.

LED	Meaning
	Blast chilling LED If it's on: -a blast chilling cycle is running If it's flashing: -a blast chilling and conservation cycle is running
	Blast freezing LED If it's on: -a soft blast freezing cycle is running If it's flashing: -a soft blast freezing and conservation cycle is running
HARD	Hard blast chilling/freezing LED If it's on: -an hard blast chilling or freezing cycle is running If it's flashing: -a hard blast chilling and conservation cycle or a blast freezing and conservation cycle is running
	Temperature Blast chilling/temperature blast freezing LED If it's on: -a temperature blast chilling and conservation cycle or a temperature blast freezing and conservation cycle is running -a temperature blast chilling or a temperature blast freezing is running If it's flashing: -the correct core probe insertion test has not been completed correctly -the core probe warm up is running

	Time blast chilling/blast freezing LED. If it's on: -a time blast chilling and conservation cycle or a time blast freezing cycle is running -a time blast chilling cycle or a time blast freezing cycle is running If it's flashing: -day and time setting is running
	Conservation LED If it's on: -a conservation cycle is running
	Defrosting LED. If it's on: -a defrosting cycle is running
	Pre-cooling LED. If it's on: -a pre-cooling cycle is running and the cell temperature reaches the temperature set by the parameter r12. If it's flashing: -a pre-cooling cycle is running and the cell temperature doesn't reach the temperature set by the parameter r12
HACCP	HACCP LED. If it's on: -all the informations about the HACCP alarm won't be shown If it's flashing: -the device will memorize at least one new HACCP alarm
°C	Celsius Degree LED. If it's on: -the temperature unit of measurement will be Celsius Degree
°F	Fahrenheit Degree LED. If it's on: -the temperature unit of measurement will be Fahrenheit Degree
min	Minutes LED If it's on: -the time unit of measurement will be minute.
	On/Stand by LED. If it's on: -the device will be in the state "stand-by"

10.2 Instructions

The following chart illustrates the instructions code meaning

Code	Meaning
Loc	The keyboard is blocked; please consult paragraph 7.5 "Keyboard Block/ Unblocking".
UnL	The keyboard is unblocked; please consult paragraph 7.5 "Keyboard Block/ Unblocking".

11 ALARMS

11.1 Alarms

The following chart illustrates the alarm codes meaning.

Code	Meaning
tiME	Temperature blast chilling alarm or temperature blast freezing alarm not completed within the maximum duration (HACCP alarm). Remedy: -please check the parameter r5,r6 e AA values. Main consequences: -the device will memorize the alarm
AL	Minimum temperature alarm. Remedy: -please check the cell temperature -please check the parameters A1 e A2 parameters Main consequences: -the device will run normally
AH	Maximum temperature alarm (HACCP alarm). Remedy: -please check the cell temperature -please check the parameters A4 and A5 parameters Main Consequences: -the device will memorize the alarm.
id	Open door alarm. Remedy: -please check the door conditions -please check the parameters io e i1 values Main consequences: -the effect set by the parameter io

HP	Interruption feeding alarm (HACCP alarm). Remedy: -please check the device-feeding connection -please check the parameter A10 value. Main consequences: -the device will memorize the alarm
PF	Interruption feeding alarm (HACCP alarm). Remedy: -please check the device-feeding connection -please check the parameter A10 value. Main consequences: -the device will memorize the alarm
COH	Condenser overheated alarm. Remedy: -please check the condenser temperature -please check the parameter C6 value Main consequences: -the condenser fan will be activated
CSd	Compressor blocked alarm. Remedy: -please check the condenser temperature -please check the parameter C7 value -please disconnect the device feeding and clean the condenser Main consequences: -if the error occurs during the state "stand-by", it won't be possible to select or start any cycle -if the error occurs during the fonctionning cycle, the cycle will be stopped.
ESt	Download configuration parameters alarm not completed correctly. Remedy: -please press and release a key to restore the normal visualization -please make the configuration parameters download again Main consequences: -the device will work normally
CEr	Download configuration parameters alarm not completed correctly. Remedy: -please press and release a key to restore the normal visualization -please make the configuration parameters download again Main consequences: -the device will work normally
Erd	Configuration parameters upload alarm not completed Remedy: -please restore the factory setting -please make the configuration parameter upload again. Main consequences: -the digital exit will be switched off.

12 ERRORS

12.1 Errors

The following chart illustrates the error code meaning.

Code	Meaning
Pr1	Cell probe error. Remedy: -please check the parameter Po value -please check the cell probe intact state -please check the device-probe connection -please check the cell temperature Main consequences: -if the error occurs during the state "stand-by", it won't be possible to select or start any cycle -if the error occurs during the blast chilling or the blast freezing, the cycle will be stopped -if the error occurs during the conservation, the compressor activity will depend on the parameters C4 and C5 or C9 -the defrosting won't never be started -the door restors won't never be switched on -the minimum temperature alarm (code "**AL**") won't never be activated -the maximum temperature alarm (code "**AH**") won't never be activated
Pr2	Core probe error. Remedy: -the same errors of the cell probe (code "**Pr1**") but relating to the core probe. Main consequences: -if the error occurs during the state "stand-by", the temperature fonctionning cycle will be activated by time -if the error occurs during the temperature blast chilling, the cycle will stop within the time set by the parameter r1 -if the error occurs during the temperature blast freezing , the cycle will stop within the time set by the parameter r2 -if the error occurs during the core probe warm up, the cycle will be stopped.
Pr3	Evaporator probe error. Remedy: -the same cell probe errors (code "**Pr1**") but referred to the evaporator probe. Main consequences: -if the parameter P4 is set to 1, the defrosting cycle will be completed within the time set by the parameter d3 -if the parameter Fo is set to 1, the parameter F16 won't have any effect -if the parameter F4 is set to 1, the device will work as the parameter would be set to 2

Pr4	Condenser probe error. Remedy: -the same cell probe errors (code "**Pr1**") but referred to the condenser probe Main consequences: -the condenser fan will work parallel to the compressor. -the condenser overheated alarm (code "**COH**") won't never be activated -the compressor blocked alarm (code "**CSd**") won't never be activated
rtc	Clock error. Remedy: -set the day and the real time again Main consequences: -the device won't memorize neither the date and time in which the HACCP alarm occurred nor its duration

13 WARRANTY

TECHFROST warrants for the good functioning of the goods object of this sale for a period of twelve months starting from purchase date to the original purchaser.

The warranty hereto provides for the replacement of defected parts returned ex-factory, workmanship excluded. The replacement of the parts within warranty period does not prolong the same warranty. The purchaser has no compensation rights as far as damages due to non-use of the machine are concerned.

The warranty is not applicable in the following cases:

- If the purchaser does not comply with the terms of payment;
- If damages are due to unskillfulness, unconventional use, overloading, poor care, tampering or modifications which were not authorized by the manufacturer, lacks of or unstable power supply;
- If damages are due to force majeure;
- If the defects are not made known to TECHFROST in writing within eight days from their discovery, upon pain of ineffectiveness;
- If the statement does not include the detailed description of the claimed defect as well as its possible causes;

This warranty is not applicable to ordinary wearing of the machine.

TECHFROST does not shoulder responsibility for the quality of the products obtained from the machine since the latter depends on different factors such as: skillfulness and technique of the operator, quality and quantities of the ingredients or materials employed.

In the event that the statement is accepted, TECHFROST will replace those parts of the unit that are found damaged or defected, on condition that the malfunctioning is due to production defects.

In the event that the statement is not accepted TECHFROST reserves the right to hold this warranty valid, thus making known this intention in writing (fax is admitted) or by phone, within five days from statement receipt, on pain of ineffectiveness.

To the benefit of the validity of the warranty here to, the existence of a production defect shall be stated by TECHFROST through its personnel and technical staff.

The warranty of good functioning does not cover defects due to improper use of the product by the purchaser.

The warranty hereto does not include (and therefore the corresponding expenses are covered by the purchaser):

- cleaning actions;
- repair works carried out to repair the unit when the unit could be repaired by the purchaser according to the instruction manual;

- any ordinary maintenance works needed for the normal use of the unit;
- any repair work carried out on the unit to remove damages due to power circuit failure or due to causes related to the professional, commercial and industrial activity performed by the purchaser;
- any action performed to repair functioning defects due to bad maintenance of the unit by the purchaser or third parties appointed by the purchaser or in case that the maintenance was not performed according to the provisions given by TECHFROST;
- any action performed to remove functioning defects due to abuses of the unit by the purchaser or third parties;
- actions performed to repair damages of the unit due to transport of the good from the seat of TECHFROST to its delivery place.The warranty hereto does not cover damages suffered by the purchaser due to non-use of the unit.