KITCHENPLUS

BLAST CHILLER AND FREEZER

USER MANUAL

INDEX

1 INTRODUCTION

The Manufacture 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, the company 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.
The law limits the possibility to deep freeze or to freeze alimony "in just" being subordinated to the release of a qualified permission from the ASL of competence.

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 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 +70ºC to +3ºC in blast chilling and from +70ºC to -18ºC 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 Normal safety standard

The Chiller in question is manufactured conforming with the European Directives relevant to low tension 73/23-93/68/EEC, and electromagnetic compatibility 89/336/EEC; EN60335- 1, EN60335- 2-24, EN55014, EN61000-3-2, EN61000-3-3, EN55104.

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 evaporator 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 four 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.

⚠ WARNING! Do not keep explosive gases and liquids in the machine. They might explode and cause damages to persons and things. Do not keep glass bottles either, since they risk to break in pieces.

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 Techical assistance

The after-sales technical assistance can be carried out by any qualified frigorant technician. The company is available to provide directions on how to work 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 lock- off 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.

The Chiller is excessively noisy:
a. Check that the Chiller is level. If unbalanced this could cause vibratios 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. Dismantle 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, Le costructeur 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 signifi-cant 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

The areas in contact with the product are made of stainless steel.
Refrigerated refrigerants are permitted under the current legislation, HFC type. The type and quality of the gas used are indicated on the nameplate.

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

Before using the Chiller remove all traces of glue using a detergent as there might be traces of condensate due to final testing in the factory.

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
The core probe 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).

6.2 Preparation of the machine

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

Use an appropriate detergent solution or a mixed solution of hot water and sodium bicarbonate to remove condensation due to the final test carried out at the manufacturer. Speed reduction speed 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

Positive abatement time and rapid negative abatement 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.

7 USER INTERFACE

7.1 Initial information

The interface has the following operating modes:
- "off" (no power to the device)
- "stand-by" (the device is powered but switched off)
- "on" (the device is powered, switched on and awaiting start-up of an operating cycle)
- "run" (the device is powered, switched on and running an operating cycle)

Terminology: "switch on the device" means moving from "stand-by" to "on" mode and "switch off the device" means moving from "on" to "stand-by" mode.

If the power supply fails during "stand-by" or "on" mode, when power is restored the device will return to the mode set before the failure.

If the power supply fails during "run" mode, when power is restored the device will operate as follows:
- if blast chilling or blast-freezing was in progress, the cycle will resume, taking into account the duration
- of the power loss
- if a conservation cycle was running, this will continue using the same settings
- if a proofing or slow cooking cycle was running, the cycle will continue where it left off

8 INITIAL SWITCH-ON

⚠ Once loading is complete, the device will display the mode it was in before being powered down:nella schermata On/stand-by,
- On/Stand-by screen, press the central area to move to the Home screen
- directly the Home screen

If the power supply has been cut off long enough to cause a clock error (RTC code), it will be necessary to reset the date and time. The date and time can be set from the settings screen, service section.

9 FUNCTION MODES

9.1 Selecting the operating mode

All the operating functions can be accessed from the Home screen by selecting the desired area.

Enables the blast chilling mode in which it is possible to select/set a standard blast chilling/blast-freezing cycle, a multineedle probe or multi-timer cycle, see chapter 10.

Enables special cycles in which it is possible to select one of the special cycles available according to the configuration of the machine, see chapter 11.

Enables recipe mode to be selected, with recipes saved in the memory, see chapter 12.
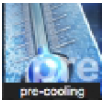
Makes it possible to select a cabinet pre-cooling cycle, see chapter 13.

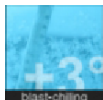This area is displayed if an alarm is in progress.

Pressing this area enables the historical data stored during operation to be seen.

10 BLAST-CHILLING MODE

Press on this area to open the screen shown below.
Now one of the areas shown can be selected: blast chilling, blast-freezing, continuous cycle and customized cycle, details below.

Enables selection of a standard blast chilling cycle, uploading the relevant pre-settings. On the same screen it is possible to select hard mode when blast chilling consists of two phases with different set points. When blast chilling is complete the corresponding conservation phase is run, with the set points established by the blast chilling mode selected.

Enables selection of a standard blast-freezing cycle, uploading the relevant pre-settings. On the same screen it is possible to select soft mode when blast-freezing consists of two phases with different set points. When blast-freezing is complete the corresponding conservation phase is run, with the set points established for the blast-freezing mode selected.

Enables selection of a continuous blast chilling/blast-freezing cycle, where it is possible to set multiple operating timers.
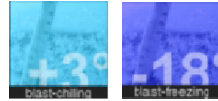
Press on this area to start up the procedure for setting a customized cycle. This cycle makes it possible to set up to four phases. Once the phases are set they can be started up or the program set can be saved in the recipe book.

This area is displayed if an alarm is in progress.

10.1 Blast chilling/blast-freezing and conservation

Pressing on one of these areas enables a blast chilling or blast-freezing cycle to be set. The following screen opens and the ✐ key lights up blue. If the needle probe is being used and there is no error, the cycle always defaults to temperature control. To move to a time controlled cycle, press area 🕐 which will switch off the needle probe area and the time controlled area will light up blue.

The cycle selected will use the preloaded settings for that cycle, but pressing area ✐ makes it possible to change the main settings, within the permitted range, which are shown on the display. To change all the various set points for the phases of the selected cycle, expert mode can be enabled by pressing area EXPERT. Once all the settings have beendone, press area ⇨ to terminate the phase. The screen summarising all the setting data for the cycle will appear.

Press area **SAVE** to save the program just set, or press area **START** to start up the cycle. If it is a temperature controlled cycle, a test will be performed to check that the needle probe has been correctly inserted in the food item to be blast chilled. If the test fails, the cycle automatically switches to time control, the buzzer sounds and the alarm in progress signal appears on the display. While the cycle is in progress, the display will show the main set points and a graphic charting the temperature. The cycle can be stopped at any time by pressing the **STOP** key.

⚠ On completion of the blast chilling/blast-freezing cycle, when the needle probe has reached the right temperature or the time period is finished, the buzzer sounds and the conservation phase begins. The graphic charting the temperature will not be available if the cycle has restarted following a power failure. The conservation phase is not timed and is only terminated when the **STOP** key is pressed.

10.2 Hard blast chilling/soft blast-freezing and conservation

It is possible to select a hard blast chilling/soft blast-freezing cycle on the blast chilling/blast-freezing settings screen by pressing area ▽▽▽ HARD or ▽ SOFT. Before selecting this mode, make sure the type of cycle (temperature or time controlled) has been set.

This cycle consists of two blast chilling phases at different set points, followed by a conservation phase.

- The first phase, known as hard for blast chilling and soft for blast-freezing, has set points established by the relevant parameters and these cannot be modified
- The set points for the second blast chilling/blast-freezing phase can be modified
- The set points for the third conservation phase can be modified.

Once the phase is complete, the controller moves on automatically to the next one. The end of the first two phases is signalled by the buzzer sounding. It is also possible to select the time controlled mode for this cycle, in which case the controller moves on to the next phase when the set time has elapsed.

10.3 Continuous cycle

Pressing on this area enables selection of a continuous cycle and it can be run in multineedle probe mode if a temperature controlled cycle has been selected, or in multi-timer mode if a time controlled cycle has been selected. If only a single needle probe has been selected, only the multi-timer mode can be used. Once the cycle has been selected, a screen opens up on which the cabinet temperature values and fan speed can be set, as well as the product temperature values (in the multineedle probe cycle). Press the ⇥ key to start up the cycle and this will only finish when all the needle probes have reached the set temperature or all the timers have elapsed, after which the controller moves on automatically to the conservation phase.

10.3.1 Multineedle probe mode

The continuous cycle using multineedle probes can be run provided the parameter for the type of needle probe has been correctly set. The controller can manage up to three needle probes. While the cycle is in progress, each time the door is opened and closed the controller checks that the various needle probes have been properly inserted and the cycle is only terminated when all the probes inserted have reached the desired temperature. When each needle probe has reached the set temperature, the buzzer sounds and the display indicates this, showing the temperature of the probe inquestion in green.

10.3.2 Multi-timer mode

The time controlled cycle makes it possible to set up to four timers.

The cycle starts up activating only the first timer with its pre-set values. The other timers and their pre-set values can be enabled by pressing the pencil icon and setting a time once the cycle is underway. When the time period is set and the timer setting confirmed, the timer count starts up immediately. Each timer operates independently and on completion of the period it can be reset, starting the timer count up again. The cycle only terminates when all the set timers have elapsed. When the timer count is complete the buzzer sounds and the display shows in green the value "o min" for the relevant timer.

10.4 Customized cycle

The customized mode makes it possible to set up a cycle consisting of a maximum of 4 phases (3 blast chilling and 1 conservation) and these can be temperature or time controlled or a mixture of both.

The customized cycle starts up and activates the first phase, which by default is a needle probe phase. It is possible to change the probe phase to a time controlled phase and to set the relative set points. To add any more phases press area ⊞ , while to eliminate any phase previously set in the program, press area 🗑 . It is possible to move between the various phases using the arrows at the top of the screen. Once the desired phases have been selected and set up, press area ⇥ to confirm that the settings are complete and a summary screen will be displayed.
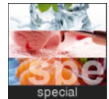
11 SPECIAL CYCLES MODE

This screen, on the Home page, grants access to further functions, some always present, others that can be activated by setting the parameter. If the function is not available, the area relating to that function and enabling it to be selected will not be shown.

⚠ **Caution**: . If both the sterilisation and the needle probe heating cycles are enabled, two alternatives will appear on the special cycles page, according to the temperature indicated by the needle probe: if this temperature is below -1°C, an icon will appear to select the needle probe heating option, if it is above 0°C, the sterilisation icon will appear.

The functions available are listed below:

- *FISH SANITATION*
- *THAWING*
- *DEFROSTING*
- *ICE CREAM HARDENING*
- *DRYING*
- *HEATING THE NEEDLE PROBE*
- *PROOFING*
- *SLOW COOKING*

11.1 Fish sanitation

Pressing this area enables selection of a fish sanitation cycle.
This special cycle consists of the following phases:
- blast chilling
- holding
- conservation

The arrows at the top make it possible to move between the various sanitation phases to see/modify the set points. After the function is selected, the screen with the pre-settings will be shown, that can be modified. Pressing the **START** key starts up the sanitation. While a sanitation cycle is in progress the device will show the temperature to end blast chilling, the working set point during blast chilling and the duration of the holding phase.

The sanitation cycle starts with the blast chilling phase. When the temperature recorded by the needle probe reaches the temperature to end blast chilling, the device will move on automatically to holding. The temperature to end blast chilling is also the working set point during holding.

When the holding period has elapsed, the device will move on automatically to conservation.

The probe insertion test is always carried out at the beginning of the cycle: if the test is not completed, the buzzer sounds and the cycle is interrupted. During blast chilling the device shows the temperature recorded by the needle probe, the cabinet temperature and the time elapsed since the start of the blast chilling process.

The cycle may be interrupted early by pressing the **STOP** key.

11.2 Thawing

Pressing this area enables selection of a thawing cycle, managed according to the load of product to be thawed, in compliance with the maximum quantity stated by the manufacturer. To make it easy, the quantity of product to be selected is divided into three load bands for each of which the controller will load three different sets of parameters. At the end of the thawing cycle the buzzer sounds, after which the machine moves on to a conservation phase, its set point for an indefinite period.
It is not possible to run defrosting cycles during thawing, while during the conservation phase an automatic defrost can be run at intervals set by parameter. If the door is opened, the heater will be stopped no matter what the parameter value is. The screen shot below shows a thawing cycle in progress.

11.3 Defrosting

Pressing this area enables selection of a manual defrosting cycle, which is started up by pressing area **START** .

11.4 Ice cream hardening

Pressing this area enables selection of an ice cream hardening cycle.
This is a time controlled blast-freezing cycle. At the end of the time, there is no move to a conservation phase, the hardening cycle continues until the **STOP** key is pressed.
If the door is opened the time count stops and restarts when the door is closed.

11.5 Drying

Pressing this area enables selection of a drying cycle.
This is a cycle of forced-air ventilation that can be activated with the door closed. If the door is opened during drying this does not affect the cycle.
The cycle stops when the prescribed time has elapsed or when the **STOP** key is pressed.

11.6 Heating the needle probe

Pressing this area enables selection of a needle probe, or probes, heating cycle.
This cycle can also be run automatically if the **STOP** key is pressed during conservation, following a blast chilling/defrosting cycle.
At the end of heating, the buzzer sounds.
Heating can be stopped by pressing the **STOP** key.

11.7 Proofing

Pressing this area enables selection of a proofing cycle.

11.7.1 Description of proofing

1. Blast chilling phase : the purpose of this is to block the leavening agents in freshly prepared dough placed in the machine to retard proofing.
2. Re-awakening phase: this "wakes up" the leavening agents in the dough by raising the temperature in the cabinet, thus producing a pre-proofing state.
3. Proofing phase: this completes the dough proofing process making it oven-ready.
4. Conservation phase: this keeps the risen dough in a waiting state before it is removed and placed in the oven for cooking.

It lasts for an indefinite period and stops when the **STOP** key is pressed.

11.7.2 Setting up a proofing cycle

Having selected a proofing cycle, use the screen that appears to set the required values from within the prescribed range.
By default the controller always loads the pre-set values for the various phases as shown in the table below (these can be personalised via the manufacturer's parameters). The settings for the cycle can be modified before it is started up using the special menus and once the **START** key has been pressed, the proofing cycle starts up. It is not possible to modify the set points while the cycle is in progress. If a phase is set at 0, it will not be run. The conservation phase may be omitted by setting the time to "---".

11.8 Slow cooking

Pressing this area enables selection of a slow cooking cycle.
After selection of the slow cooking function, a screen will appear on which it is possible to view and modify the relevant set points and to decide whether to set up a temperature or time controlled process. It is not possible to modify the set points while the cycle is in progress.
Two areas at the bottom of the screen make it possible to add a subsequent blast chilling/blast-freezing + ❄ phase and a product holding/conservation phase + HOLD.
If a holding phase has been enabled following a slow cooking cycle, this will be activated at the set temperature and humidity and it will have an indefinite duration. If blast chilling or blast-freezing has been enabled, this will be performed according to the procedures for the cycle in question (blast chilling/blast-freezing and moving on automatically to conservation).

12 RECIPE BOOK MODE

This screen grants access to a recipe book divided into four categories: blast chilling, blast-freezing, proofing and slow cooking. The icons representing the last two categories are only displayed if the functions have been enabled.
Pressing area **MY RECIPES** enables selection of a further list of personalised recipes saved by the user,in addition to the 7 recipes pre-defined by the manufacturer. Pressing the relevant recipe area opens a summary screen showing the settings for the various phases of the recipe.
The recipe can be started up from this screen, or the set points can be modified by pressing the area relating to the phase. After the settings have been modified, the following options are available:
• start up the cycle without saving the changes
• save the changes and over-write the program
• save the changes under a different name

12.1 Pre-set blast chilling recipes

- Red meat

Phase 1	Cabinet setting	-25°C
	Needle probe setting	20°C
	Ventilation setting	5
Phase 2	Cabinet setting	-5°C
	Needle probe setting	3°C
	Ventilation setting	5
Conservation	Cabinet setting	5°C
	Needle probe setting	2°C
	Ventilation setting	5

- White meat

Phase 1	Cabinet setting	-25°C
	Duration setting	27 min
	Ventilation setting	5
Phase 2	Cabinet setting	-5°C
	Duration setting	63 min
	Ventilation setting	5
Conservation	Cabinet setting	2°C
	Ventilation setting	5

- Seafood product

Phase 1	Cabinet setting	-25°C
	Duration setting	27 min
	Ventilation setting	5
Phase 2	Cabinet setting	-5°C
	Duration setting	63 min
	Ventilation setting	5
Conservation	Cabinet setting	2°C
	Ventilation setting	5

- Puddings

Phase 1	Cabinet setting	-5°C
	Duration setting	90 min
	Ventilation setting	2
Conservation	Cabinet setting	2°C
	Ventilation setting	2

- Lasagne

Phase 1	Cabinet setting	-5°C
	Duration setting	90 min
	Ventilation setting	5
Conservation	Cabinet setting	2°C
	Ventilation setting	5

- Vegetables

Phase 1	Cabinet setting	-5°C
	Duration setting	90 min
	Ventilation setting	5
Conservation	Cabinet setting	2°C
	Ventilation setting	5

12.2 Pre-set blast-freezing recipes

- Blast freezing

Phase 1	Cabinet setting	0°C
	Needle probe setting	3°C
	Ventilation setting	5
Phase 2	Cabinet setting	-12°C
	Needle probe setting	-3°C
	Ventilation setting	5
Phase 3	Cabinet setting	-30°C
	Needle probe setting	-18°C
	Ventilation setting	5
Conservation	Cabinet setting	5°C
	Needle probe setting	-20°C
	Ventilation setting	5

12.3 Saving a recipe

It is possible to save both time and temperature controlled cycles. In the latter case the time required to reach the core temperature is saved.
Recipes can be saved in the following ways:
- During conservation after a customized blast chilling/blast-freezing cycle. When the **STOP** key is pressed the device will offer to save the recipe used
- Save a recipe starting from a customized cycle
- Select a recipe already present, modify it and save it

While saving is in progress the screen displayed will ask for the recipe category, and then show the positions free and occupied. If an occupied position is selected, the device will ask if the recipe is to be over-written, otherwise the screen shown below will open allowing the name of the recipe to be entered.

12.4 Over-writing a recipe

It is possible to over-write a recipe but not to delete it. When a recipe is being over-written the screen below will be displayed requesting confirmation of the choice.

13 PRE-COOLING MODE

Pressing this area on the Home page enables selection of a pre-cooling cycle. This cycle is similar to a normal blast chilling cycle and it may precede all operating cycles.

Set the required set point value and press area $\checkmark$ to start the cabinet pre-cooling cycle. The screen below will be displayed showing the pre-cooling cycle in process.

This screen makes it possible to select further cycles or the **STOP** key can be pressed to stop pre-cooling.

Once the required cabinet set point has been reached, the buzzer sounds and the cycle continues maintaining the cabinet temperature achieved until the **STOP** key is pressed or until a blast chilling/blast-freezing cycle starts up. If pre-cooling is underway, it will be automatically stopped when another cycle is selected and started.

14 SETTINGS

The SETTINGS are accessed by pressing area {O} on the Home page. The page displays the following menu:
• service
• setup
• select language

14.1 Service

The SERVICE area displays the list of available functions, as follows.
• alarms
• input and output status
• compressor operating hours
• set date/time
• select HACCP data
• reset compressor operating hours
• reset HACCP alarms.

To access "reset compressor operating hours" and "reset HACCP data" it is necessary to enter the password 149.

14.2 Setup

The SETUP area can only be accessed after the password -19 has been entered. This area grants access to the following functions:
- configure parameters
- restore default values

14.3 Select language

The following languages can be selected: Italian, English, French, Dutch, Spanish, Portuguese, Chinese (simplified), Chinese (Traditional).

15 USING THE USB PORT

15.1 Initial information

The USB port makes possible the following operations.
- download and upload recipes
- download and upload configuration parameters
- download historical HACCP information

Uploading operations are only possible if the firmware of the device from which it originates and the firmware of the destination device(s) are the same.
To access these functions, switch the card to "off" and connect a USB device to the port.
The following options will appear:
- recipes download
- recipes upload
- parameters download
- parameters upload
- haccp data download

15.2 Download/upload recipes

After connecting the USB device and selecting "download recipes" or "upload recipes", the programs will be automatically written/read in the form of a text document entitled "program.bin"; the write/read operation may take some minutes. When the operation is complete, remove the USB device from the USB serial port.

15.3 Download/upload parameters

After connecting the USB device and selecting "download parameters" or "upload parameters", the configuration parameters will be automatically written/read in the form of a text document entitled "param.bin"; the write/read operation may take some minutes.
When the operation is complete, remove the USB from the USB serial port.

15.4 Download HACCP data

After connecting the USB device and selecting "download HACCP data", a page will appear allowing you to select the time you want the historical log to be started from (keep the day/month/year/hour area pressed until it will become green, then edit by pressing the + and - keys to set the desired value). Once you confirm, a CSV (comma separated values) document will be automatically written in the device; For example, the file named "storico.csv". The write operation may take some minutes; when the operation is complete, remove the USB from the USB serial port. In Chinese the data in the storico.csv file will be archived in English.

16 ALARMS

16.1 Alarms

The table below lists the various alarms.

Code	Meaning
RTC	Clock error. To correct - Re-set the date and time. Main consequences - The device will not memorise the date and time an HACCP alarm happened. - The alarm output will be activated.

CABINET PROBE	Cabinet probe error. To correct - Check the parameter Po value. - Check that the probe is undamaged. - Check the device-probe connection. - Check the cabinet temperature. Main consequences - If the error happens during stand-by, it will not be possible to set or start any operating cycle. - If the error happens during blast chilling or blast-freezing, the cycle will continue with the compressor in continuous mode. - If the error happens during conservation, the compressor will operate according to parameters C_4 and C_5 or C_9. - If the error happens during a proofing, slow cooking or a thawing cycle, the cycle will be interrupted. - The minimum temperature alarm will never be activated. - The maximum temperature alarm will never be activated. - The door heaters will never be switched on. - The alarm output will be activated.
EVAPORATOR PROBE	Evaporator probe error. To correct: - The same as for the cabinet probe error but with reference to the evaporator probe. Main consequences - If parameter P_4 is set to 1, defrosting will last for the time set by parameter d_3. - Parameter F_1 will have no effect. - The alarm output will be activated.

CONDENSER PROBE	Condenser probe error. To correct - The same as for the cabinet probe error but with reference to the condenser probe. Main consequences - The condenser fan will operate in parallel with the compressor. - The condenser overheat alarm will never be activated. - The compressor locked alarm will never be activated. - The alarm output will be activated.
NEEDLE PROBE SENSOR 1	Needle probe/sensor 1 error. To correct - The same as for the cabinet probe error but with reference to needle probe 1. Main consequences if parameter P3 is set to 1 (single probe) - If the error happens during stand-by, the temperature controlled cycles will be started up as time-controlled. - If the error happens during temperature controlled blast chilling, blast chilling will last for the time set by parameter r1 - If the error happens during temperature controlled blast-freezing, blast-freezing will last for the time set by parameter r2 - If the error happens during needle probe heating, the heating will be interrupted. - The alarm output will be activated. Main consequences if parameter P3 is set to 2 or 3 (multineedle or multi-sensor probes) - The device will not use the probe/sensor showing the error but the other available probes or sensors will be used.
NEEDLE PROBE SENSOR 2	Needle probe/sensor 2 error. To correct - The same as for the cabinet probe error but with reference to needle probe 2. Main consequences - The device will not use needle probe 2.

NEEDLE PROBE SENSOR 3	Needle probe/sensor 3 error. To correct - The same as for the cabinet probe error but with reference to needle probe 3. Main consequences - The device will not use needle probe 3.
THERMAL SWITCH	Thermal switch alarm To correct - Check the state of the thermal switch input. - Check the value of parameter i11. Main consequences - The cycle in progress will be interrupted - The alarm output will be activated.
HIGH PRESSURE SWITCH	High pressure alarm. To correct - Check the state of the high pressure input. - Check the value of parameter i6. Main consequences - If the cycle underway requires use of the compressor, the cycle will be interrupted. - The alarm output will be activated.
LOW PRESSURE SWITCH	Low pressure alarm. To correct: - Check the state of the low pressure input. - Check the value of parameter i9. Main consequences - If the cycle underway requires use of the compressor, the cycle will be interrupted. - The alarm output will be activated.
DOOR OPEN	Door open alarm. To correct - Check the door status. - Check the value of parameters i0 and i1. Main consequences - The effect set by parameter i0. - The alarm output will be activated.

HIGH TEMPERATURE	Maximum temperature alarm (HACCP alarm). To correct - Check the cabinet temperature. - Check the value of parameters A4 and A5. Main consequences - The device will memorise the alarm. - The alarm output will be activated.
LOW TEMPERATURE	Minimum temperature alarm (HACCP alarm). To correct - Check the cabinet temperature. - Check the value of parameters A1 and A2. Main consequences - The device will memorise the alarm. - The alarm output will be activated.
CYCLE DURATION	Alarm indicating that temperature controlled blast chilling or blast-freezing has not been completed within the maximum duration (HACCP alarm). To correct - Check the value of parameters r5 and r6. Main consequences - The device will memorise the alarm. - The alarm output will be activated.
BOARD COMMUNICA-TIONS	User interface-control module communication error. To correct - Check the user interface-control module con-nection. Main consequences - Any cycle underway will be terminated and it will not be possible to start one up.
BOARD COMPATIBILITY	User interface-control module compatibility error. To correct - Check that the user interface and the control modu-le are compatible. Main consequences - Any cycle underway will be terminated and it will not be possible to start one up.

NEEDLE PROBE	Needle probe alarm (all the needle probe sensors enabled are in alarm status) To correct - The same as for the cabinet probe error but with reference to all the needle probes. Main consequences - Any temperature controlled cycle will be interrupted
POWER FAILURE	Power failure alarm (HACCP alarm). To correct - Check the device-power supply connection. Main consequences: - The device will memorise the alarm. - Any cycle underway will resume when power is restored. - The alarm output will be activated.
SANITATION PROBE INSERTION	Sanitation alarm. To correct - Check that the needle probe has been correctly inserted and check the value of parameters r17 and r18. Main consequences - The sanitation cycle will be interrupted.
SANITATION DURATION	Alarm indicating that sanitation has not been completed within the maximum duration (HACCP alarm). To correct - Check the value of parameter r23 Main consequences - The device will memorise the alarm. - The cycle underway will be interrupted. - The alarm output will be activated.
CONDENSER OVERHEAT	Condenser overheat alarm. To correct - Check the condenser temperature. - Check the value of parameter C6. Main consequences - The condenser fan will be switched on. - The alarm output will be activated.

COMPRESSOR LOCKED	Compressor locked alarm. To correct - Check the condenser temperature - Check the value of parameter C7 - Disconnect the device from the power supply and clean the condenser. Main consequences - If the error happens during "stand-by", it will not be possible to select or start up an operating cycle. - If the error happens during an operating cycle, the cycle will be interrupted. - The alarm output will be activated.
NEEDLE PROBE INSERTION	Needle probe not inserted alarm. To correct - Check that the needle probes have been correctly inserted and check the value of parameters r17 and r18. Main consequences - The temperature controlled cycle in progress will be converted to a time controlled cycle.
EXPANSION COMMUNICA- TIONS	User interface-expansion module communication error. To correct - Check the user interface-expansion module con- nection. Main consequences - Any proofing or slow cooking cycle underway will be terminated and it will not be possible to start one up.
EXPANSION COMPATIBILITY	User interface–expansion module compatibility error. To correct - Check the user interface and expansion module are compatible. Main consequences - Any cycle underway will be terminated and it will not be possible to start one up.

16.2 HACCP alarms

To access the HACCP alarm area, press area in the Home screen.
The following HACCP alarms are listed.
- Blast chilling/blast-freezing cycle duration
- Power failure
- Door open
- High temperature alarm
- Low temperature alarm