A.1 GENERAL INFORMATION

A.1.1 FOREWORD
The purpose of this manual is to provide the necessary information for the correct installation, operation, use and maintenance of the appliance. Read the instructions in the manual carefully before carrying out any operation whatsoever with the appliance, as they give important information about the standards and rules governing the safe use of the appliance. Make sure to periodically inform the user about the safety regulations. It is also important to instruct and update the authorized personnel on appliance operation and maintenance.

Failure to observe the instructions in this manual when carrying out any operations on the appliance will relieve the manufacturer of all liability.

No part of this manual may be reproduced.

A.1.2 INTENDED USE AND LIMITATIONS
This appliance has been designed for the blast chilling and/or blast freezing and preservation of foods (it rapidly lowers the temperature of cooked foods in order to preserve their initial qualities over a period of time and guarantee their durability for several days). Any other use is to be considered improper.

ATTENTION: The appliance is not suitable for installation outdoors and/or in environments subject to atmospheric agents (rain, direct sunlight, etc.).

The manufacturer declines all liability for any improper use of the product.

A.1.3 TESTING
Our appliances have been designed and optimised with laboratory testing to give high performance and efficiency. The product is dispatched ready for use.

The certificates guaranteeing that the tests (visual inspection - electrical test - functional test) have been passed are included in specific enclosures.

A.1.4 GENERAL SAFETY RULES
The appliance is manufactured in compliance with European low-voltage Directives 73/23-93/68/EEC, electrical systems to standards EN 60-335-1, EN 60-335-2-89 and electromagnetic compatibility to standards EN 55014-1; EN 61000-3-2; EN 61000-3-3; (89/336/EEC); EN 55014-2.

Validity according to the latest current regulations.

A.1.5 CUSTOMER’S RESPONSIBILITIES
The customer must provide an earthed electricity socket of suitable capacity for the input specified on the data plate.

A differential thermal magnetic circuit-breaker complying with current standards and a 3-pin (3P+N+E) plug must be installed.

Check that the surface on which the appliance is to be placed is level.

A.1.6 DATA PLATE POSITION
The data plate with all the appliance specifications is located low down on the chilling unit compartment, on the left-hand side. The plate bearing the appliance’s PNC code and serial number is located underneath the logo. At the time of installation, make sure the arrangements for electrical connection comply with that given on the dataplate.

B.1 DESCRIPTION OF CYCLES

B.1.1 POSITIVE BLAST CHILLING
Positive blast chilling brings the food quickly to a temperature of +3°C. Note that positive blast chilling is suitable for foods that are going to be eaten within a few days.

There are two types of blast chilling:

- “SOFT” CHILLING
- “HARD” CHILLING

- “soft” chilling is recommended for foods such as vegetables or pieces of food that are not very large or thick.
- “hard” chilling is recommended for larger sized pieces of food.

B.1.2 NEGATIVE BLAST CHILLING OR FREEZING (freezers only)
Freezing allows foods to be preserved for longer periods (weeks or months).

Quick freezing consists of reaching a negative temperature (-18°C) in the centre of the product in the shortest possible time. This ensures that when the product is thawed, the tissues are not damaged and the food preserves its aspect and nutritional ingredients.

With this cycle, the temperature of the food goes down to between -20°C and -18°C when frozen.

B.1.3 MAINTENANCE OR PRESERVATION
The preservation cycle, i.e. the maintenance of the food at a chosen temperature so that it does not alter over time, is started automatically at the end of the blast chilling or freezing cycle. The preservation is continuous. To interrupt it you have to make changes to the program.

B.1.4 STERILISATION CYCLE (appliances with germicidal light)
The UV lamps have a direct germicidal action and are used to sterilise the surfaces and air in the appliance cell. This function can be used to sterilize kitchen utensils such as knives, carving forks, etc. (to be done in two cycles, turning the utensils around) and can be activated at the end of each working day. Do not use this function if there is food in the cell.

ATTENTION:
The appliance has a safety device that switches off the lamps when the doors are opened. This safety device is provided because exposure to the U. V. rays emitted by the lamps is harmful and can cause damage to eyes.
C.1. ANALYSIS OF USER INTERFACE

C.1.1 ON/OFF SWITCH
This key indicates whether the unit is on or off. To turn it on press 1, LED O•1 and the entire interface will light up.

C.1.2 START/STOP CYCLE
This key is used to start or stop the selected cycle. When the selected cycle is launched, it starts running immediately. Stopping it requires the button to be held down for at least three seconds. When a cycle is started with the door closed the key will light up. It will instead flash if a cycle is in progress and the door is open.

1- In order to improve machine performance and only if required, at the start of the chilling cycle, a preparatory cycle may start. This is indicated on the temperature display by the message “PREP”.

2- Also, if the chiller is not used for an extended period of time, the compressor is started in impulses in order to assure maximum efficiency.

C.1.3 SELECTION OF CYCLES
The machine’s default setting is the SOFT chilling cycle. The keys can be used to select from the following:

From left to right:
• SOFT positive chilling
• HARD positive chilling
• Positive holding (or conservation)
• Negative chilling or freezing
• Negative holding (or conservation)

When selecting the desired cycle, each time the key is pressed, the selection will move on to the next one. This is managed cyclically, so that it is possible to scroll either forward or back.

C.1.3.1 Chilling with “cruise chilling” key
The “cruise chilling” cycle automatically controls the chilling process. It sets up the machine to complete the process within times required by standards while conserving the quality of the foods (without burning the surface of the foods).

When the cycle is launched, it starts running immediately. Stopping it requires the button to be held down for at least three seconds.

When the cycle is started with the door closed the key will light up. It will instead flash if a cycle is in progress and the door is open.

1- In order to improve machine performance and only if required, at the start of the chilling cycle, a preparatory cycle may start. This is indicated on the temperature display by the message “PREP”.

2- Also, if the chiller is not used for an extended period of time, the compressor is started in impulses in order to assure maximum efficiency.

ATTENTION:
The “cruise chilling” cycle works only if the shaft probe is inserted. If it is not, the cycle automatically changes over to timed soft positive chilling.

C.1.4 PROGRAMMES
Pressing the key places the unit in programme mode.

It will therefore go from standard cycle selection to programme selection and vice versa.

From left to right:
- Turbo cooling
- Programme P1
- Programme P2

Each standard cycle is assigned two default programmes (P1 and P2) which can be modified by the user.

What does programme mean? For chilling, the user can change the chamber temperature and the chilling time. These can be stored in memory and loaded later. For holding, the user can select the chamber set point.

C.1.4.1 Chilling with “turbo cooling”
The “turbo cooling” cycle allows the user to operate the unit at temperature between -36°C and +3°C. The unit runs a cycle continuously and defrosting is managed automatically.

To select this type of cycle, refer to paragraph C.1.4.

C.1.4.2 Cycles for ice cream
By enabling the parameter “EICE” (EICE = y), the machine is set up to run two ice cream cycles. Programmes “P1” and “P2” are disconnected from the normal logic and become two specific cycles for ice cream. They are no longer assigned to the selected standard cycle. When this cycle is selected, the LEDs for the standards cycles are off.

• cycle “P1”: time-controlled or shaft probe-controlled chilling.
  After chilling, the machine switches over automatically to conservation at a temperature of -14°C.

• cycle “P2”: “turbo cooling” chilling with a temperature of -16°C.

N.B.: to modify the “EICE” parameter, refer to paragraph C.1.9.5.

C.1.5 TEMPERATURE
The temperature display makes it possible to view the temperature of the cell and of the shaft probe.

If a cycle is active (for positive or negative holding, timed positive chilling or timed freezing), the cell temperature is displayed. If a shaft probe cycle is active, the default display is the shaft probe temperature.

In chilling cycles, pressing the key switches between cell temperature and shaft probe temperature. The LED indicates which of the two temperatures is being displayed at a given time:
- if the shaft probe temperature is currently displayed, the SHAFT PROBE TEMPERATURE LED comes on
- if the cell temperature is currently displayed, the CELL TEMPERATURE LED comes on

Only one of the two is active at a time.
C.1.6 ALARM SIGNAL (refer to positions 32 and 33 in figs. 1 and 2)
These LEDs come on to indicate an alarm status.

HACCP
If an HACCP alarm occurs, the LED will:
1- flash if the alarm is in progress. To check the type of alarm, scroll through the utility section with the keys (§ C.1.9).
2- stay on steady if the alarm has concluded but has not yet been viewed by the user.

If a service alarm occurs, the LED will:
1- flash if the alarm is in progress. To check the type of alarm, scroll through the utility section with the keys (§ C.1.9).
2- stay on steady if the alarm has concluded but has not yet been viewed by the user.

The type of alarm can be viewed using the “utility menu” functions (see paragraph C.1.9 to find out more about the utility menu, and paragraph C.4 for instructions on how to view types of alarms and their descriptions).

C.1.7 STANDARDS
The applicable standards LED is normally on.
In order from left to right there is: NF (French), UK (English), CUSTOM (defined by user).

C.1.8 TIME

• During a chilling cycle: the time display shows the total or remaining chilling time.
• During holding cycle: the display shows the hour.
• During “turbo cooling” cycle: the display shows:

  °°°° = two hours left until start of defrosting
  °°° = 1.5 hours left until start of defrosting
  °° = 1 hour left until start of defrosting
  ° = 0.5 hours left until start of defrosting

The TIMED CYCLE LED comes on only if a timed chilling cycle is in progress.
During the cycle selection phase it indicates the chilling time.

The “estimated remaining time” LED comes on as soon as the electronic card calculates the time remaining until the end of cooking with shaft probe. Once it has been measured, the time is shown on the time display.

C.1.9 UTILITY

When the key is pressed, the key is back-lighted. The keys allow selection of the desired utility with forward-backward scrolling. Press to confirm.

Once you have entered the “Utility” menu, the card will go back to the main menu if no key is pressed for five seconds.

The DESCRIPTIONS OF THE UTILITY FUNCTIONS are listed below.

C.1.9.1 MANUAL DEFROSTING
If unit conditions allow it (LED or or with machine in standby status), manual defrosting is activated. The display will show the label “dEf” for the entire duration of the phase.
If the unit conditions do not allow activation of manual defrosting (during a chilling phase), the display will show the message “UTIL NONE”.
The selection is valid only in conservation/holding conditions and during operating cycle selection.
Upon completion of defrosting, the card will return to the main configuration.

C.1.9.2 DISPLAY OF SHAFT PROBE TEMPERATURES
This function makes it possible to view shaft probe temperatures if there are more than one shaft probes inserted in the product.
If only one shaft probe is used, to view the temperature follow the instructions in paragraph C.1.5.

C.1.9.3 STERILIZATION CYCLE
(Function for units with germicide lamp installed)
The UV lamps have a direct germicide action for the purpose of sterilising the surfaces and the air inside the cell of the machine (see paragraph B.1.4).
No cycle must be active. During this cycle, the “TEMPERATU-RE” display will show the chamber temperature. When the cycle is complete, it returns to the main menu.
If the unit conditions do not allow activation of the sterilization cycle, the display will show the message “UTIL NONE”.

C.1.9.4 APPLICABLE STANDARDS
The machine can be set up according to three different standards:
1. NF (French)
2. UK (English)
3. CUSTOM (defined by user)

IT IS POSSIBLE TO CHANGE THE APPLICABLE STANDARD ONLY IF NO CHILLING CYCLE IS ACTIVE. If a chilling cycle is active, the utility is automatically exited.

The time and temperature limits for correct cycle end established by NF or UK are FIXED and CANNOT BE MODIFIED by the user. CUSTOM applications can instead be configured.

For example, when working with the NF setting, positive chilling with shaft probe concludes correctly if a temperature of 10°C is reached within 110 minutes. Chilling is thus concluded and the machine automatically switches over to positive holding.

<table>
<thead>
<tr>
<th>Standard</th>
<th>BLAST CHILLERS</th>
<th>BLAST FREEZERS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Chilling start temperature</td>
<td>Chilling end temperature</td>
</tr>
<tr>
<td>NF</td>
<td>+63°C</td>
<td>+10°C</td>
</tr>
<tr>
<td>UK</td>
<td>+70°C</td>
<td>+3°C</td>
</tr>
<tr>
<td>CUSTOM</td>
<td>CbSt °C</td>
<td>CCEt °C</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Standard</th>
<th>BLAST CHILLERS</th>
<th>BLAST FREEZERS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Chilling start temperature</td>
<td>Chilling end temperature</td>
</tr>
<tr>
<td>NF</td>
<td>+63°C</td>
<td>-18°C</td>
</tr>
<tr>
<td>UK</td>
<td>+70°C</td>
<td>-18°C</td>
</tr>
<tr>
<td>CUSTOM</td>
<td>CbSt °C</td>
<td>CCFt °C</td>
</tr>
</tbody>
</table>
In sequence, the settings are shown that refer to: NF positive chilling, NF negative chilling, UK positive chilling, UK negative chilling, CUSTOM positive chilling, CUSTOM negative chilling.

The user can change all the parameters of the CUSTOM setting (CbSt, CCet, Cctl, CFEt, Cfli) in USER PARAMETERS mode, paragraph C.1.9.5, or directly by selecting the utility (see paragraph C.2.2.9 for further indications on how to modify CUSTOM standards parameters. See paragraph D.6 for a list of parameters).

Exiting occurs automatically after twelve seconds of inactivity.

C.1.9.5 USER PARAMETERS
This selection makes it possible to view/modify operating parameters:
• the “TEMPERATURE” display shows the parameter label;
• the “TIME” display shows the value assigned to the parameter;
• allow scrolling through the parameters;

Exiting occurs automatically after twelve seconds of inactivity. To modify a parameter, see paragraph C.2.2.10.

C.1.9.6 HACCP
Makes it possible to display alarms for high cell temperature and for incorrect end of chilling cycle (see paragraph C.4. for all information concerning alarms).

C.1.9.7 SERVICE ALARMS
Makes it possible to view all types of SERVICE ALARMS except those for high cell temperature and for incorrect end of chilling cycle (see paragraph C.4.1 for all information concerning alarms).

C.1.9.8 RESETTING TIME
To modify all time setting parameters (MIN, HOUR, DAY, MON, YEAR) refer to paragraph C.1.9.5.

C.2. USE - USER INSTRUCTIONS

Before using the machine, the cell must be cleaned with a detergent solution, because there may be residual condensation left over from final factory testing (for the type of product to use, see paragraph D.1.2).

C.2.1 START-UP
Turn on the protection switch installed upstream from the unit, press the ON key in order to turn the unit on. The ON LED will light up to indicate that the unit is powered.

C.2.2 OPERATION
C.2.2.1 How to select a “cruise chilling” cycle
To select a “cruise chilling” automatic chilling cycle (positive)
press the key .

ATTENTION: the “cruise chilling” cycle is not activated when the unit is in “programme selection” status .

C.2.2.2 How to select a standard cycle
The machine’s default setting is the SOFT chilling cycle. The keys can be used to select from the following:

From left to right:
• SOFT positive chilling
• HARD positive chilling
• Positive holding (or conservation)
• Negative chilling or freezing
• Negative holding (or conservation)

When selecting the desired cycle, each time the key is pressed, the selection will move on to the next one. This is managed cyclically, so that it is possible to scroll either forward or back .

If a different cycle is desired, press the key until the LED of the desired cycle is orange, start the cycle by pressing the key START STOP.

IMPORTANT: the machine automatically recognises whether the shaft probe is inserted in the product. If the shaft probe is not inserted, the timed cycle will start automatically. For automatic recognition, it is necessary to wait about two minutes from the end of the preparation cycle. Therefore, if a timed cycle starts, after about two minutes the TIME LED will come on, and CELL TEMPERATURE will be displayed as default.

C.2.2.3 How to select a “turbo cooling” cycle
To select the “turbo cooling” cycle, press the key ; the LED will turn orange.

To start the cycle press the key START STOP.

C.2.2.4 How to select a programme
First of all, the user needs to decide what type of cycle to launch (SOFT, HARD, etc.). The desired programme must then be selected. Proceed as follows:
• select the type of cycle desired;
• press the programme selection key ; the LED will turn orange;
• press the selection key until the LED of the desired programme turns orange;
• if the type of programme is satisfactory, launch it by pressing the key START STOP;

otherwise
• press the selection key until the LED of the desired programme turns orange;
• to launch the programme press the key START STOP.
The user can modify some cycle parameters and save those modifications:

- for chilling cycle, the user can modify the chilling time/ cell set point and save it in memory so that it can be subsequently recalled (see paragraph C.2.2.5 and C.2.2.6);

- for positive holding, the user can set the cell set point.

C.2.2.5 Modification of chilling time
Chilling time is modifiable in the following cases:

1) during setting of a programme (P1 or P2)
2) during the selection phase of a chilling cycle
3) during actual chilling (can only be decreased).

For modification, proceed as follows:

• press the key for two seconds;
• the display will flash to show that modification phase is active;
• set the desired value using the keys;
• press the key to confirm the value. Confirmation will take place automatically after five seconds of inactivity.

C.2.2.6 Modification of cell temperature
• Chilling cycles: the set point can be modified only during selection of a custom cycle or during “turbo cooling”.
• Holding cycles (all).

In all cases proceed as follows:

• press the key for two seconds;
• the display will flash to show that modification phase is active;
• set the desired value using the keys;
• press the key to confirm the value. Confirmation will take place automatically after five seconds of inactivity.

C.2.2.7 Viewing of temperature set point and chilling end time
When a cycle is running, the user can view the temperature set point and the chilling end time by simultaneously pressing the keys and .

C.2.2.8 Modification of selection of type of standards
To select the type of standards, for example UK standards, press the key, press the key until the standards utility is selected. Press the key to enter . Press the key to select the standard UK. Press the key again to confirm the selection. Confirmation will take place automatically after 12 seconds of inactivity.

C.2.2.9 Modification of parameters of custom standards
To modify the temperatures of the CUSTOM standards, first of all select the standards utility (see paragraph C.2.2.8).

Then press the temperature key for two seconds;
• the temperature value for start chilling will appear flashing;
• use the keys to modify the value, if necessary;
• after 5 seconds of inactivity, the end chilling temperature will appear flashing;
• use the keys to modify the value, if necessary;
• the new value is automatically saved after five seconds of inactivity or by pressing the key again.

To modify the time, use the same procedure as for the modification of chilling time (paragraph C.2.2.5)

Note: The information provided above is applicable to both positive and negative chilling.

C.2.2.10 Modification of USER parameters
To modify a parameter, select the utility:

• press the key ;
• the display will flash to show that modification phase is active;
• press the keys to modify the value within the allowable range;
• the new value is automatically saved after five seconds of inactivity or by pressing the key again .

NOTE: it is possible to modify the parameters ONLY if no cycle is active. If a cycle is active, the utility will display the parameters in read-only status.

For the “List of USER Parameters” refer to paragraph D.6.

C.2.3 CHILLING/CONSERVATION CYCLE
Upon completion of the chilling or freezing cycle, the machine automatically switches over to the conservation phase. It is important for the chilled food to be properly conserved, maintaining a conservation temperature which is suitable for the type of food that is chilled.

C.2.4 DEFROSTING
If unit conditions allow it (LED or or with machine in standby status), manual defrosting is activated. The display will show the label “dEfr” for the entire duration of the phase.

If the unit conditions do not allow activation of manual defrosting (during a chilling phase), the display will show the message “UTIL NONE”.

The selection is valid only in conservation/holding conditions and during operating cycle selection.

Upon completion of defrosting, the card will return to the main configuration. The duration of the cycles and the intervals between defrosting cycles are pre-set at the factory.
- Manual defrost
To start manual defrosting:

• PRESS THE KEY ; THE DEFROST LED WILL TURN ORANGE WHILE THE OTHERS REMAIN GREEN.

• PRESS AGAIN TO CONFIRM ACTIVATION.

Before defrosting, remove the drain plug on the bottom of the cell. When finished, put the plug back in place.

To reduce defrosting time, it is possible to activate the function with the door open, that is, to run a manual defrost cycle with the door open. In this way the chiller runs the internal fans which draw in air from the exterior to the interior of the cell, making the reduction in defrost time possible.

C.2.5 GERMICIDE LAMPS (Function for units with germicide lamp installed)

To activate the lamps, the machine must be on but with no cycle running.

Press the key  
Use the key to select the cycle "germicide", The corresponding LED will turn orange.

Press the key again to confirm the selection. Launch the cycle by pressing key .

It is advisable to run a germicide cycle at the start of the day before using the unit, and again at the end of the day after cleaning the cell.
For further information see paragraph B.1.4 and C.1.9.6.

ATTENTION: The cycle will not be activated if the cell temperature is less than 15°C and the door is open.

PROPER OPERATION OF THE MACHINE DURING CHILLING AND FREEZING CYCLES DEPENDS ON THE FOLLOWING:

C.2.6 PRODUCT LOADING AND UNLOADING

Use kitchen gloves when loading and unloading food products.

For the maximum loads for each shelf, adhere to the following table:

<table>
<thead>
<tr>
<th>MAXIMUM LOAD PER PAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>BC / BCF 20 GN 2/1</td>
</tr>
<tr>
<td>BCF 2 x 20 GN 1/1</td>
</tr>
</tbody>
</table>

It is advisable to keep the food covered during chilling to make chilling easier. Even distribution of the product in the cell is conducive to good air circulation resulting in improved product conservation.

Do not however leave the door open any longer than necessary when removing or placing food in the refrigerator.

When the cycle is complete, open the door and extract the probe. Put it back in its original position (remember that the pans are now cold, use gloves).

- Types of containers to be used. It is advisable to use low containers (with sides not more than 65 mm high) to allow good circulation of air around the product. The greater the surface area of food exposed to the cold air, the less time is required for chilling. To avoid food contamination, it is advisable to clean the containers carefully as well as the surfaces where they rest. It is also advisable to place food into the chiller in the same container in which it was cooked.

C.2.7 INSERTION OF SHAFT PROBE IN THE PRODUCT

Make sure the probe is clean and sterile any time it is inserted into the product. Use caution in handling it as it is a sharp object. The use of the shaft probe during chilling cycles ensures they will be completed successfully. To ensure this, it is important for the probe to be placed correctly. This means in the centre of the largest piece of product. Make sure the tip does not protrude from the product, and it absolutely must not touch the pan.
C.3 EXAMPLES OF ACTIVATION OF OPERATING CYCLES

To make the use of the electronic card of this chiller even easier, we have elected to provide step-by-step instructions of all instructions to be followed in order to activate the different usage functions.

After being turned on, the unit’s default setting is the SOFT chilling cycle.

At this point you can choose the desired cycle by pressing the key or you can press the key for the automatic cycle. Remember that if the shaft probe is not inserted into the food, the cycle automatically switches over to “soft” timed positive chilling.

**- hard chilling -**

PRESS THE SELECTION KEY UNTIL THE LED OF THE DESIRED PROGRAMME TURNS ORANGE;

PRESS THE “START/STOP CYCLE” KEY .

If the shaft probe is not inserted into the product, a timed cycle is carried out.

**- Hard chilling with modification of chilling end time -**

PRESS THE “CYCLE SELECTION” KEY UNTIL THE “HARD CHILLING” LED TURNS ORANGE;

PRESS THE “START/STOP CYCLE” KEY .

If the selected programme is acceptable, press the “START/STOP CYCLE” key .

IF YOU WANT TO MODIFY THE TYPE OF PROGRAMME PRESS THE “CYCLE SELECTION” KEY UNTIL THE LED OF THE DESIRED PROGRAMME TURNS ORANGE;

PRESS THE “START/STOP CYCLE” KEY .

**- Hard chilling with programme selection and modification of chilling end time -**

PRESS THE “CYCLE SELECTION” KEY UNTIL THE “HARD CHILLING” LED TURNS ORANGE;

PRESS THE “PROGRAMME SELECTION” KEY : THE PROGRAMME TYPE SELECTION LED COMES ON .

IF THE SELECTED PROGRAMME IS ACCEPTABLE, PRESS THE “START/STOP CYCLE” KEY .

IF YOU WANT TO MODIFY THE TYPE OF PROGRAMME PRESS THE “TIME” KEY FOR TWO SECONDS;

PRESS THE “CYCLE SELECTION” KEY TO SET THE DESIRED VALUE. THE NEW VALUE IS AUTOMATICALLY SAVED AFTER FIVE SECONDS OF INACTIVITY OR WHEN THE “TIME” KEY IS PRESSED.

PRESS THE “START/STOP CYCLE” KEY .

**- Hard chilling with programme selection -**

PRESS THE SELECTION KEY UNTIL THE LED OF THE DESIRED PROGRAMME TURNS ORANGE;

PRESS THE “PROGRAMME SELECTION” KEY : THE PROGRAMME TYPE SELECTION LED COMES ON .

IF THE SELECTED PROGRAMME IS ACCEPTABLE, PRESS THE “START/STOP CYCLE” KEY .

IF YOU WANT TO MODIFY THE TYPE OF PROGRAMME PRESS THE “TIME” KEY FOR TWO SECONDS;

PRESS THE “CYCLE SELECTION” KEY TO SET THE DESIRED TEMPERATURE VALUE.

PRESS THE “TEMPERATURE” KEY AGAIN TO SAVE THE NEWLY SET VALUE. CONFIRMATION WILL HOWEVER TAKE PLACE AUTOMATICALLY AFTER FIVE SECONDS OF INACTIVITY.

PRESS THE “START/STOP CYCLE” KEY IF YOU WANT TO MODIFY CELL TEMPERATURE.

PRESS THE “TEMPERATURE” KEY FOR TWO SECONDS;

SET THE DESIRED TEMPERATURE VALUE: PRESS THE “TEMPERATURE” KEY AGAIN TO SAVE THE NEWLY SET VALUE. CONFIRMATION WILL HOWEVER TAKE
C.4 ALARMS

C.4.1 ALARMS
The electronic board manages two kinds of alarm system:
- HACCP for monitoring and storing high temperature alarms. HACCP alarm states are signalled by the sounding of the buzzer, the blinking of the red HACCP indicator light and the appearance of an alarm message on the display.
- SERVICE ALARMS for storing and managing all the alarms on the electronic board (except the high temperature and blast chilling cycle end error alarms).

C.4.1.1 HACCP ALARMS
For managing the cell high temperature alarm and the blast chilling cycle end error alarm.

If there is no current alarm: the "TEMPERATURE" display reads 'none', and the "TIME" display is switched off.

If there is a current alarm: the "TEMPERATURE" display shows the alarm number "AL 1", "AL 2", etc., and the "TIME" display gives the description of the alarm (see section C.4.1.1.1).

To display the alarm, enter the utility and use the buttons to scroll until the messages appear: "AL 1", "AL 2" and so on.

To cancel the alarms, press  together for 5 seconds.

ATTENTION: The reset function is disabled if the operator did not see the stored alarms and the message "RES" appears on the TEMPERATURE display.

C.4.1.1.1 DESCRIPTION OF ALARMS

-HIGH TEMPERATURE ALARM
The display shows:
• the "Batch (number) Ht (maximum temperature reached) C Start Date Time End ——", if the alarm is still active

  e.g. Batch 01 Ht 15C Start 25-10-01 15.48 End ——

  • the "Batch (number) Ht (maximum temperature reached) C Start Date Time End OrTime", if the alarm has ended

  e.g. Batch 01 Ht 15C Start 25-10-01 15.48 End 25-10-01 17.48

where:
Start Date Time indicates the start of the alarm, End Date Time indicates the end of the alarm ("Date" format: DD-MM-YY, "Time" format: HH.MM; ).

-CHILLING CYCLE AND ERROR ALARM
This check ensures that a core probe blast chilling/freezing cycle ends correctly.

If a cycle does not end correctly, a "Chilling time out of limits" alarm is generated and the display reads:
Batch (number) Ot (chilling time) MIN Start Date Time End date Time

E.g. BATCH1 Ot 120MIN Start 25-10-01 15.48 End 25-10-01 17.48.

where (number) indicates the current day’s batch number, Start Date Time indicates the cycle start and End Date Time the cycle end.

WHAT IS A BATCH NUMBER? Each blast chilling cycle (SOFT/HARD chilling, freezing) will be identified by a progressive number(1,2, ...), known as the "BATCH NUMBER". This refers to the current day and will be reset to ‘0’ at the start of each new calendar year.

NOTES for timed and "turbo cooling" chilling, there are no end of cycle alarms.

IMPORTANT:
- in the event of a power failure, the display shows the “no power” alarm with red indicator ( ). This alarm can be displayed by scrolling with the utility keys. The appliance will then restart from exactly where it stopped.

C.4.1.2 SERVICE ALARMS
There are two types of service alarm:
- type "b" (user) which do not require service centre assistance (see section C.4.1.2.1) and do not shut down the appliance;
- type "E" (non-user) for which you are advised to call the service centre for assistance (see section C.4.1.2.2), but which do not shut down the appliance;

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>DESCRIPTION</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1</td>
<td>Condenser temperature high</td>
<td>Clean condenser; check air circulation around condenser</td>
</tr>
<tr>
<td>B2</td>
<td>Door open</td>
<td>Close door</td>
</tr>
<tr>
<td>B3</td>
<td>Memory full</td>
<td>Reset HACCP alarms</td>
</tr>
<tr>
<td>B4</td>
<td>Power failure</td>
<td>Check plug properly inserted in power supply socket; Check electrical system</td>
</tr>
<tr>
<td>E1</td>
<td>Minimum cell temperature</td>
<td></td>
</tr>
<tr>
<td>E2</td>
<td>Minimum evaporator temperature</td>
<td></td>
</tr>
<tr>
<td>E3</td>
<td>Cell probe malfunctioning or disconnected</td>
<td></td>
</tr>
<tr>
<td>E4</td>
<td>Evaporator probe malfunctioning or disconnected</td>
<td></td>
</tr>
<tr>
<td>E5</td>
<td>Ambient probe malfunctioning or disconnected</td>
<td></td>
</tr>
<tr>
<td>E6</td>
<td>Condenser probe malfunctioning or disconnected</td>
<td></td>
</tr>
<tr>
<td>E7</td>
<td>Core probe 1 malfunctioning or disconnected</td>
<td></td>
</tr>
<tr>
<td>E8</td>
<td>Core probe 2 malfunctioning or disconnected</td>
<td></td>
</tr>
<tr>
<td>E9</td>
<td>Core probe 3 malfunctioning or disconnected</td>
<td></td>
</tr>
<tr>
<td>E10</td>
<td>Pressure switch tripped</td>
<td></td>
</tr>
<tr>
<td>E13</td>
<td>Internal clock malfunction</td>
<td></td>
</tr>
</tbody>
</table>

In the event of alarm "B2", the time display will show the message “door”. When the alarm ceases (because the door is closed), the message disappears.

CALL SERVICE CENTRE
When alarms “E2” occurs, the machine will stop the cycle in progress and return to stand-by. It will be possible to restart the cycle again when the temperature of the evaporator returns to the proper level resulting in cessation of the alarm.

C.4.1.2.1 Service alarms not requiring service centre assistance

C.4.1.2.2 Service alarms requiring service centre assistance

When the alarms listed below occur, call the service centre for assistance.

All alarms will be stored as follows: the “TEMPERATURE” display shows the alarm number, e.g. “AL 1”, “AL 2”, etc., whereas the “TIME” display shows the ALARM CODE, e.g. “E1”, “b1”, etc.

If no alarm is active: the first alarm, i.e. the last to occur, is displayed.

Use the buttons to scroll the stored alarms.

After displaying the last alarm, the “——” message will appear on the display and after 12 seconds the unit will automatically go back to the main menu. When the next alarm occurs, the current ones will be cancelled (automatic reset).

If an alarm is active, going into the utility will silence the buzzer and simultaneously access the alarm message display.

Use the buttons to scroll the stored alarms.

After displaying the last alarm, the “——” message will appear on the display and after 5 seconds the unit will automatically go back to the main menu. The function for cancelling from the memory is disabled when there are alarms active (i.e. the reset is disabled).

To cancel the alarms, simultaneously press for 5 seconds.

ATTENTION: Reset is disabled if the operator has not seen the memorized alarms and the TEMPERATURE display will show the message “RES”.

C.5. HACCP CONNECTIONS (ACCESSORIES)

Refer to the handbook enclosed with the kit for instructions on installing the accessories.

The board has a serial communication line for interacting with other units, printers or a HACCP control station in a network.

This can be connected in the following ways:
• directly to a device that communicates in TTL (e.g. the FT190ELX printer), by setting the parameter E485="Prn"
• to an RS485 communications network, by setting the parameters E485="PC" and using the conversion card RS485-LK-P and Adr="Network address”.

D.1. ROUTINE MAINTENANCE

D.1.1 PRECAUTIONS FOR MAINTENANCE

Routine maintenance tasks can be performed by non-specialised personnel keeping strictly to the instructions given below. The manufacturer declines any responsibility for operations carried out on the equipment without following these regulations.

ATTENTION:
do not touch the appliance if hands and/or feet are wet, or when barefoot.
Before any cleaning or maintenance job, disconnect the appliance from the electrical source and carefully unplug the appliance. It is forbidden to remove the safety guards for routine maintenance jobs. Wear protective gloves when cleaning the condenser. Do not use scissors, screwdrivers and sharp objects on the cooling circuit.

D.1.2 CLEANING THE CABINET AND ACCESSORIES

It is advisable to clean the chamber every week; increasing this frequency according to appliance use.

Before using the unit, clean all the internal parts and accessories with warm water and either neutral soap or products that are over 90% biodegradable (in order to reduce the emission of pollutants into the environment), then rinse and dry thoroughly. Do not use solvent-based detergents (e.g. trichloroethylene) or abrasive powders for cleaning. Coat the metal panels with protective silicone wax.

D.1.3 CLEANING THE CORE PROBE

Pay particular attention when handling the probe; remember that it is a sharp object, therefore handle it with particular care, even in the cleaning phase.

You are advised to clean the core probe periodically to keep it working efficiently.

The probe must be cleaned by hand, using warm water and either neutral soap or products that are over 90% biodegradable (in order to reduce the emission of pollutants into the environment), then rinse thoroughly with clean water and disinfectant solution. Do not use solvent-based detergents (e.g. trichloroethylene) or abrasive powders for cleaning.

ATTENTION: do not use boiling water to clean the probe.

D.1.4 PRECAUTIONS IN THE EVENT OF LONG PERIODS OF NON-USE

If the appliance is not going to be used for a long period, take the following precautions:
• Unplug the plug from the electricity mains socket;
• Remove all food from the cell and clean the interior and the accessories;
• Rub all the stainless steel surfaces vigorously with a cloth slightly dampened with vaseline oil, so as to cover them with a protective film;
• Leave the door partially open to allow the air to circulate;
• Air the premises regularly.
D.2. NON ROUTINE MAINTENANCE

Non-routine maintenance tasks must be performed by specialist personnel, who can ask the manufacturer to supply a servicing manual.

USE GLOVES AND MASK WHEN CARRYING OUT ANY EXTRAORDINARY MAINTENANCE OPERATION.

ATTENTION: do not touch the equipment with wet hands and/or feet or when barefoot. Before carrying out any cleaning or maintenance operation, disconnect the appliance from the power supply and carefully unplug the machine. Do not remove the safety guards. Use protective equipment (protective gloves) when cleaning the condenser. Do not use scissors, screwdrivers and sharp objects on the cooling circuit.

D.2.1 REPLACING THE POWER SUPPLY CABLE ON MODELS ARRANGED FOR REMOTE UNIT

To replace the power supply cable on 20 GN 2/1 (180 Kg) appliances, 2x20 GN 1/1 disassembled (180/170 Kg) proceed as follows:

• disconnect the power supply;
• remove the lamp protection plexiglas tube;
• replace the lamp with one of the same power (see dataplate on inside of evaporator casing);
• refit the lamp protection plexiglas tube;
• close the evaporator casing;
• reconnect the power supply.

D.2.2 U.V. LAMP REPLACEMENT (for 180/170 Kg models only)

To replace the U.V. lamp, proceed as follows:

• disconnect the power supply;
• open the evaporator casing;
• replace the lamp with one of the same power (see dataplate on inside of evaporator casing);
• close the evaporator casing;
• reconnect the power supply.

D.2.3 REPLACING THE STARTER AND/OR REACTOR FOR U.V. LAMP

To replace the starter and/or reactor for U.V. lamp, proceed as follows:

• disconnect the power supply;
• remove the upper electrical system box protection cover;
• remove the starter and/or reactor and replace it with components having the same characteristics;
• refit the upper electrical system box protection cover;
• reconnect the power supply.

D.2.4 PERIODIC CLEANING OF CONDENSER

The condenser can be cleaned with a brush, provided the bristles are not in steel or a material that can compromise good operation. Take maximum care not to bend the condenser fins, as this would cause a reduction in the heat exchange.

If the appliance is to work efficiently, the chilling unit condenser must be cleaned at least once every 3 months. If the appliance is installed in a dusty or poorly ventilated environment the filter must be cleaned more frequently, i.e. about once a month.

D.2.5 CLEANING THE EVAPORATOR BATTERY

Even in this case cleaning can be done with a brush, provided the bristles are not in steel or a material that can compromise good operation of the evaporator. Take maximum care not to bend the evaporator coil fins, as this would cause a reduction in the heat exchange.

The evaporator battery must be cleaned periodically to ensure the efficient operation of the appliance and its continued high performance over time.

To access the evaporator battery, proceed as follows:

• Disconnect from the power supply;
• Remove any trays from inside the cell;
• Remove the 4 screws (2 in front and 2 behind) that secure the two deflector plates to the evaporator guard;
• Remove the 2 screws that secure the inner inspection guard and open it;
• Clean the evaporator battery with a brush or vacuum cleaner;
• Close the guard, refit the deflector plates and reconnect the power supply.

ATTENTION: Before opening the guard with tools, make sure the the appliance is disconnected from the electrical source.

D.2.6 EMPTYING CONDENSATION

Periodic emptying of the liquid drain bowl can be avoided by connecting the cell drain “C”, located on the evaporator bowl, to a drainage system with the special accessories supplied (bend, union, copper pipe), choosing the most suitable side for draining the condensation. It is advisable to use a floor grate.
The drain diameter is ¾", therefore it is advisable to use a ¾" drain hose.
The drainage course to the open drain must be fitted with a trap, to prevent any backflow from the sewage network reaching the internal pipes in the appliance. Make sure there are no kinks in the hosing or elbows in the metal pipes in the drainage course. Avoid horizontal stretches, where water may collect and stagnate.

D.3. RUNNING PROBLEMS

D.3.1 QUICK TROUBLESHOOTING GUIDE
In some cases faults can be remedied easily and quickly. Below there is a list of possible faults and remedies:

A. The appliance doesn’t switch on:
- check that the mains socket is powered.

B. The appliance does not reach the set internal temperature:
- check that the condenser is clean;
- check that the cycles have been set properly;
- check that the product has been loaded properly into the cell;
- check that the probe is working properly.

C. The appliance is excessively noisy:
- check that the appliance is properly levelled.
  If it is unbalanced this could cause vibrations.
- check that the cabinet is not touching other units, as this may cause resonant vibrations;

If the defect persists after making all these checks, contact the service centre, remembering to give the following details:
• the kind of fault found;
• the appliance’s PNC (production code);
• the Ser. No. (appliance serial number).

Note: the code and serial number (stated on the data plate, see section A.1.6) are essential for identifying the type of appliance and date of manufacture.

E.g: PNC 726479 00 - Ser.No. 61000020
726691 00: chiller 30 Kg 6 GN 1/1
61000020: production year 2006, week 10, 20th piece.

D.4. WASTE DISPOSAL AND DEMOLITION

D.4.1 WASTE STORAGE
At the end of the appliance’s working life, make sure it is disposed of properly. The doors must be removed before disposing of the appliance. Special waste can be stored temporarily whilst awaiting processing for disposal and/or permanent disposal. In any event, the binding environmental protection laws in the country of use must be observed.

D.4.2 PROCEDURE FOR PRELIMINARY DISMANTLING OF THE APPLIANCE
The laws vary from country to country, but the laws and regulations in the country where the demolition takes place are the ones that must be observed.
In general terms, the refrigerator must be taken to specialised collection/demolition centres, after dismantling the components and grouping them together according to their chemical characteristics. Remember that the compressor contains lubricant oil and coolant, and that the refrigerator components are classed as special waste that cannot be assimilated with urban waste.
In general terms, the appliance must be taken to a specialized collection/demolition centre, after dismantling the components and grouping them together according to their chemical characteristics. Dismantle the unit and group the components together according to their chemical characteristics, remembering that the compressor contains lubricant oil and coolant, which can be recycled, and that the refrigerator components are classed as special waste which can be disposed of with urban waste.

ATTENTION:
Make the appliance unusable by removing the power supply cable and any device that closes the internal compartments, to avoid the possibility of somebody getting trapped inside.

THE DISMANTLING MUST BE DONE BY QUALIFIED PERSONNEL.

D.5. ENCLOSED DOCUMENTS

• Set of test documents
• Wiring diagram
## D.6 LIST OF USER PARAMETERS

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>RANGE</th>
<th>DEF.</th>
</tr>
</thead>
<tbody>
<tr>
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<td>HOUR</td>
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<td>1</td>
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<tr>
<td>MON</td>
<td>1..12</td>
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<td>D</td>
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<td>-50..125°C/F</td>
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<td>lbl</td>
</tr>
<tr>
<td>CCSt</td>
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<td>-35..CbSt°C/F</td>
<td>-18</td>
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<tr>
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</tr>
<tr>
<td>CbSt</td>
<td>0..127°C/F</td>
<td>63</td>
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<tr>
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</tr>
<tr>
<td>tPrC</td>
<td>1..255 min</td>
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<tr>
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<td>nF, Uk, CuSt</td>
<td>Uk</td>
</tr>
<tr>
<td>REL</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

N.B. The default parameters (DEF) may vary for different appliance models.