

# Blast Chillers and Freezers

User Manual and Warranty



## CONTENTS

1 . GENERAL INFORMATION.

2 . SAFETY INSTRUCTIONS.

3 . RATING PLATE.

4 . RECEIPT AND INSPECTION.

5 . INSTALLATION.

5.1 Location

5.2 Unpacking

5.3 Ventilation

5.4 Levelling

5.5 Initial cleaning procedure

6 . WIRING INSTRUCTIONS

7 . START-UP PROCESS

7.1 Product Loading

8 . DIGITAL CONTROLLER

8.1 Modes

9 . USER INTERFACE AND OPERATION

9.1 Language Selection

9.2 Preliminary Signals

9.3 First activation on the device

9.4 Turning the device ON/OFF

9.5 Keyboard lock and unlock

9.6 Mute the ringer

9.7 Open-door icon

9.8 Selecting the operating mode

9.9 Cycle type selection screen

9.9.1 Chilling-freezing and conservation

9.9.2 Soft product freezing (delicate product)

9.9.3 Setting the cycle duration

9.9.4 Starting the cycle.

9.9.5 Unit configuration

9.9.5.1 Setting the chamber temperature

9.9.5.2 Setting the product temperature

9.9.5.3 Setting the cycle duration

9.9.5.4 Starting the cycle

9.9.5.4.1 Historical data log.

9.9.5.4.2 End of cycle

9.9.5.5 Special cycles mode

## User Manual and Warranty

### 9.9.5.6 Cookbook mode

#### 9.9.5.6.1 Saving a recipe

#### 9.9.5.6.2 Overwriting a recipe

### 9.9.5.7 Pre-Chilling mode

## 10 . DOWNLOAD HACCP DATA.

## 11 . ALARM.

## 12 . HACCP ALARM.

## 13 . MAINTENANCE, CLEANING AND CARE.

### 13.1 Cleaning Procedure

### 13.2 Spare parts and technical Support

## 14 . ROUBLESHOOTING

## 15 . WARRANTY

### 15.1 Warranty conditions of the delivered products.

### 15.2 Consumer rights conferred by law in the event lack of conformity with agreement.

### 15.3 Customer report.

## 1. GENERAL INFORMATION

This product has been manufactured under strict quality controls and meets all the requirements established by Infrico. Each unit has been tested and its quality is ensured before being shipped. This equipment has been manufactured with recyclable materials, by means of an environmentally friendly production process.

Please read this manual carefully before installing your new device to become familiar with all of its advantages.



**WARNING! This device must be used only for the purpose described in this manual.**

## 2. SAFETY INSTRUCTIONS

The use of electrical devices implies the implementation of basic safety instructions such as:

- Follow the recommendations in this manual to properly locate and place this device prior to installation.
- Do not allow children to handle the device, as they could damage it, or themselves, seriously.
- Do not touch the cold surfaces of the freezing devices, as such surfaces may adhere to skin.
- Do not store or use flammable products near the device.
- Unplug the device before any cleaning, repair or maintenance operation.



**NOTE: Any handling of the device must be carried out by a qualified technician.**

## 3. RATING PLATE

The rating plate is a label permanently affixed to the inside of the equipment, which contains important electrical information as well as data relating to the refrigeration system of each unit. It also incorporates the model and serial number.

# User Manual and Warranty



## 4. RECEIPT AND INSPECTION

- All Infrico products are factory tested to assess their quality and performance, and are shipped free of defects.
- When you receive your device, it should be carefully examined for any damage that may have incurred during transportation.
- If any damage is detected on the unit, you must retain all packaging material and report such damage on the carrier's bill of lading. A claim must be immediately made to the transport company.
- If the damage is found during or immediately after installation, contact your distributor immediately.



**NOTE: Infrico shall not be held liable for damages incurred during transportation.**

## 5. INSTALLATION

### 5.1 Location

This device is intended for indoor use only.

Ensure that the location chosen for your equipment has adequate air circulation to ensure efficient refrigeration.

Avoid locations near heat sources, such as ovens, deep fryers and heaters, as well as direct solar radiation where temperatures can reach extreme values. In addition, do not

## User Manual and Warranty

choose a location in areas where temperatures drop below 12 °C (53,6 °F) or rise above 32 °C (89,6°F).


Allow for sufficient space between the equipment and the side walls so that the 120° door-opening lock can be used. In order to use the maximum door width available, doors require a minimum angle of 90° to open properly.

The surface of the final location where the device is to be placed must be strong enough to support the total weight of the device considering its full maximum load capacity. In addition, it must be levelled and free of vibrations. Reinforce the flooring if necessary.

### 5.2 Unpacking

The devices are shipped from the factory on a wooden pallet and are packed in sturdy cardboard boxes. The box is attached to the wooden base with staples. The staples must be removed prior to unpacking to avoid damage to the unit.

All packaging materials are environmentally friendly and should be reused or recycled. Actively contribute to the protection of the environment by demanding recyclable packaging and environmentally friendly disposal methods.

 **NOTE: Infrico does not recommend knocking the unit forward, sideways or backwards. However, if this occurs, you must ensure that the unit remains in an upright position for at least 24 hours before connecting it, so that the compressor oil returns to the compressor.**

### 5.3 Ventilation

To ensure maximum performance, the equipment should be placed in a location that has a continuous air supply from both the rear and bottom. For adequate air flow, keep at least 75 mm of space on every side of the unit.

## User Manual and Warranty

Restricting the equipment's air supply would result in an excessive heat load on the condensing unit, which would impair its operating efficiency. The front grid of the device must not be blocked at any time.



Keep at least 685 mm of space in front of the unit

 **NOTE: Blocking the air flow, whether totally or partially, will void the device's warranty.**

### 5.4 Levelling

It is very important that the device is perfectly levelled for proper operation, so that it drains properly, the doors are aligned, and the unit is not subjected to undue stress.


These models are factory-shipped with non-adjustable wheels. In this case, you must ensure that the floor where the unit will be located is levelled. The front wheel brakes must be locked for stable operation.

Optionally, all models can be shipped with adjustable legs. Should you want to install the legs, adjust them until the unit is completely stable and levelled. Detailed information on leg adjustment can be found in the 'Leg Installation' section.

### 5.5 Initial cleaning procedure




Before start-up and loading the product into the device, remove the protective plastic layer wrapped around the unit and clean it completely. In case of adhesive residue, remove it with alcohol. It is recommended to clean all stainless steel surfaces of the device with mild soap and warm water. After cleaning, rinse with plenty of water and dry with a soft cloth.

 **NOTE: Never use harsh or abrasive cleaners, concentrated solutions, solvents or chemical products to clean the equipment.**

### 6. WIRING INSTRUCTIONS


Check the voltage of the installation before connecting the equipment, verifying that it is the appropriate one. To determine the voltage of the unit, check the rating label located inside the unit. Verify that this information matches exactly the electrical characteristics of where it will be installed.

 **NOTE: The device must be connected to an exclusively dedicated circuit. Failure to comply with this requirement shall void the warranty.**

 **NOTE: The device is designed to tackle a voltage fluctuation of around 5% in relation to the rated voltage indicated in the rating plate. Compressor failure due to higher fluctuations shall automatically void the warranty.**

The equipment has a factory-installed hose and plug of the kind shown in the next figure. Install the proper electrical outlet beforehand.

 **WARNING!: If the hose or the plug are altered in any way, they may constitute a serious hazard. Any alteration of these components shall void the warranty.**

 **WARNING!: Devices connected to an extension cord are not covered by Infrico's warranty.**

### 7. START-UP PROCESS

Once the device has been installed, levelled, cleaned and electrically connected in accordance with the instructions contained herein, it is ready for operation. Simply plug it into the mains.

The equipment should operate smoothly and quietly, within generally accepted standards. In the event of any unusual noise, disconnect the unit immediately and check for any possible blockages in the fans.



### 7.1 Product Loading

- Leave enough space between foods items to allow air circulation around them.
- Place the product so that they do not interfere with the doors operation.
- The fan must not be obstructed, and the food must not exceed the established maximum load level.
- If the equipment remains disconnected for long periods of time, it must remain unplugged, empty, clean and with the door ajar.

## 8. DIGITAL CONTROLLER

### 8.1 Modes

The blast chilling cycles are the main functions of the temperature blast chiller, and can be divided into two categories: Cooling cycles and freezing cycles.

A cooling cycle significantly reduces the time the food remains within the critical temperature range (50°F to 149°F) where there is a high probability of bacterial growth.

A freezing cycle, on the other hand, tends to reduce the formation of ice microcrystals within the frozen product; when these microcrystals are formed, they affect the food's organoleptic properties.

The standard values for these cycles are as follows:

	Cooling cycle	Freezing cycle
Initial product temperature	90°C (194°F)	90°C (194°F)
Final product temperature	3°C (37,4°F)	-18°C (-0,4°F)
Duration	90 min	270 min

Cycles can be set by time or temperature. In a time cycle, the duration is set; whereas in a temperature cycle, it ends when the product (internally) reaches the set temperature. In both cases, the control probe found in the blast chiller is a temperature probe, used to control the equipment operation.

## User Manual and Warranty

A cycle can be defined as 'soft' or 'hard'. The meaning of soft and hard varies depending on whether it is a cooling or freezing cycle. With strong cycles a greater temperature differential between the chamber and the product.

For cooling cycles, if it is soft cycle, the blast chiller will operate for the entire duration of the cycle considering the end-of-blast chilling temperature as a setpoint (normally around 32°F). On the other hand, if it is a hard cycle, the blast chiller will operate with two different blast chilling setpoints, a lower one (around -4°F), applied until the product temperature reaches a set value or a pre-established time expires, and a second, higher setpoint (around 32°F), applied until the end of the cycle.

For freezing cycles, if it is soft cycle, the blast chiller will operate with two different setpoints, the first, higher (around 32°F / 0°C) applied until the product (internally) reaches a set temperature value or, until the set time ends; and the second setpoint (lower) applied until the end of the cycle. On the other hand, if it is a hard cycle, the blast chiller always operates taking into account the final setpoint of the cycle (around -31°F / -35°C)

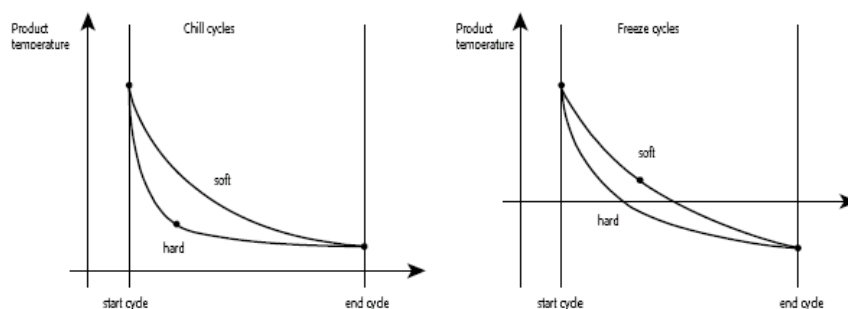


Fig. 4.1 Chill cycles (hard and soft) and freeze cycles (hard and soft).

The device is capable of operating in the following modes:

- temperature-controlled chilling and conservation of the product with the needle probe
- time-controlled chilling and conservation of the product
- Hard operating mode for chilling and freezing in both cases
- temperature-controlled soft freezing and conservation of the product with the needle probe
- time-controlled freezing and conservation of the product
- Soft operating mode for cooling and freezing
- pre-chilling

The following modes are also available:

- Fish sanitation
- Product thawing
- Evaporator defrosting
- Specific cycle for ice cream hardening
- Needle probe heating
- Drying

At the end of the cycle, the blast chiller enters the conservation phase, and will reach and maintain the chamber temperature at the conservation setpoint.

The end of a cycle is indicated by an audible beep.

**Note:** While a cycle is running, you cannot create or record cycles.

## 9 USER INTERFACE AND OPERATION

### 9.1 Language Selection

To select the language, we must press the settings button, then select the language we want.

### 9.2 Preliminary signals

Operating status are as follows:

- 'off' status (the device has not electric current),
- 'stand-by' status (the device is powered and turned off),
- 'on' status (the device is powered, turned on and waiting for the start of an operating cycle),
- 'run' status (the device is powered, turned on and with an operating cycle in process).

Subsequently, 'turning on the device' refers to the transition from 'stand-by' status to 'on' status; and 'turning off the device' refers to the transition from 'on' status to 'stand-by' status.

If the power supply is interrupted during 'stand-by' or 'on' status, the device will return to the same status once the power supply is restored.

## User Manual and Warranty

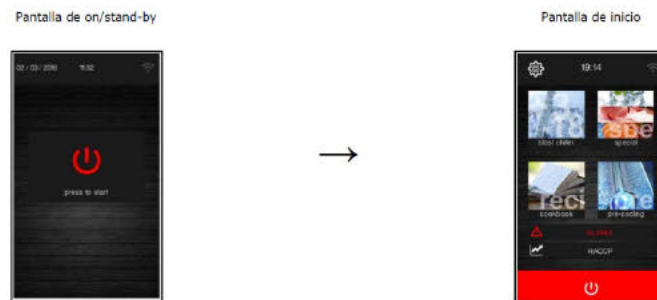
If the power supply is interrupted during 'run' status, once the power supply is restored the device will operate as follows:

- if a temperature blast chilling or deep-freezing is in progress, they will be restarted from the beginning,
- if a time blast chilling or deep-freezing is in progress, they will be restarted from the point the power supply interruption took place,
- if conservation is in progress, it will start again.

### 9.3 First activation of the device

Proceed as follows:

First, connect the power supply. The device will transition to 'stand-by' status (bottom left picture). Pressing the red button will take you to the home screen (bottom right picture). This is the screen where you can programme the type of cycle and parameters the blast chiller should operate with.



- ⚠ If the power supply has been cut off long enough to cause the clock to malfunction ('rtc' code), the date and time will be required. The date and time can be set from the configuration screen, in the service section.

### 9.4 Turning the device ON / OFF

Proceed as follows:

1. The 'on/stand-by' screen and the home screen will open.
2. To turn off the device, press the red area at the bottom of the main screen.
3. To turn on the device, press the middle section, in the button



### 9.5 Keyboard lock and unlock

The keyboard can be locked by setting parameter E7 to 1, locking the keyboard after the period of inactivity set by parameter E8.

If the keyboard is locked, a pop-up window will appear to indicate that it is locked and how to unlock it.

It can be unlocked by dragging a finger to the right.



## 9.6 Mute the ringer

Press any key when the buzzer is ringing.

## 9.7 Open-door icon

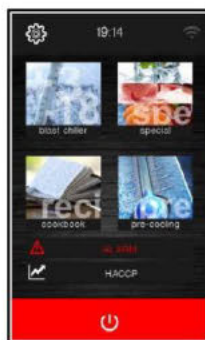
When the door is opened, the signal shown below will appear on the screen.



Press any area of the screen to remove this signal.

## 9.8 Selecting the operating mode

All operating modes can be accessed from the home screen by selecting the desired area.



## User Manual and Warranty

Pressing this button will enable you to select the desired blast chilling cycle type: Cooling at +37,4°F (3°C) freezing at -0,4°F (-18°C continuous cycle or personalised cycle.



Selection of special default cycles.



Allows access to the cookbook that includes default cycles



Allows the selection of a pre-chilling cycle for the blast chiller, with the possibility of regulating temperature



This section is displayed if there is an alarm in progress.

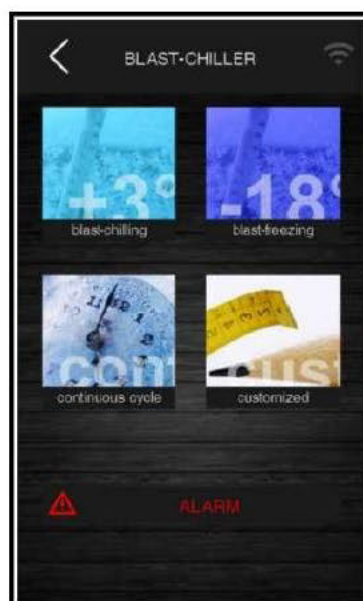


Pressing on this section will display historical data stored during the operation.

### 9.9 Cycle type selection screen



In this screen you can set up the desired cycle type for the blast chiller: Positive or negative temperature, continuous cycle or a customised cycle.



## User Manual and Warranty

Now you can select one of the sections displayed: fast cooling, fast freeze, continuous cycle and customised cycle; details below.



Enables the selection of a blast chilling cycle at +37,4°F (+3°C), applying as well the corresponding preset settings. The blast chilling mode is set to Soft mode by default, but can be changed in the same screen to Hard mode, in which chilling consists of two phases with different setting points. At the end of the chilling cycle, the blast chiller emits an acoustic warning and enters the conservation phase until an operator stops it and removes the product.



Enables the selection of a freezing cycle at -0,4°F (-18°C), applying as well the corresponding preset settings. On the same screen it is possible to select the Soft mode (Hard mode by default). When the freezing process has finished, the blast chiller emits an acoustic warning and enters the conservation phase until an operator stops it and removes the product.



Allows the selection of a continuous positive or negative blast chilling cycle, without time control or probe, only taking into account the chamber temperature.



Press this button to define a customised cycle. This cycle allows up to four operating phases to be configured in the same blast chilling cycle, with the possibility of customising temperatures and time for each of the phases.





This section is displayed if there is an alarm in progress.

Once the phases are established, the blast chilling mode can be started or saved in the cookbook, creating direct access to later run this same cycle.


### **9.9.1.- Chilling-Freezing and Conservation**




## User Manual and Warranty

By pressing one of these sections, you can set a chilling cycle (+37,4° F (+3°C) button) or a freezing cycle (fr -0,4° F (-18°C) button). In this screen you can define whether to control the cycle by using a probe  or setting a time 


When entering any of the two cycles, it displays the default values corresponding to chamber temperature, and probe (probe-controlled) or time temperature (time-controlled), as well as soft or hard mode as appropriate, and the different phases within the same blast chilling cycle.

These values can be modified from this screen according to the preferences of the user carrying out the blast chilling cycle, by pressing 

Pressing the icon  will allow you to customise the different phases.

However, the default values are the generic values, which were set according to the applicable regulations regarding cycle time and final product temperature.




Once all the adjustments have been made, press  to finish the phase. A screen summarising all the cycle configuration data will appear.






## User Manual and Warranty

Pressing  will save the default cycle in the cookbook.

Pressing the button  starts the cycle displayed on the screen.


In a temperature-probe-controlled cycle, the blast chiller will perform a test to verify that the needle probe has been correctly inserted into the core of the food. If the test fails, the initially programmed probe cycle will automatically shift to a time-controlled cycle, the buzzer will ring and an alarm signal will be emitted.

While the cycle is in progress, the screen will show the main setpoints and a chart plotting the temperature. The cycle can be stopped at any time by pressing the key 



Upon completion of the blast chilling cycle, either when the needle probe has reached the correct temperature or when the time has elapsed, the buzzer rings and the conservation phase begins. The chart plotting the temperature will not be available if the cycle has restarted after an outage.



The conservation phase does not display the time and only ends by pressing 

### **9.9.2.- Soft product freezing (delicate product)**

It is possible to select a soft freezing cycle to avoid extreme chamber temperature drops during the first blast chilling phase that could deteriorate the product.

Thus, the chamber temperature will decrease proportionally as the temperature of the probe decreases (while operating with probe)

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

- The first phase maintains non-modifiable chamber temperature parameters.
- The second phase enables the modification of chamber temperature, probe and time.
- The third phase (conservation of the product once the cycle is over) is configurable.

Once each of the phases has been completed, the blast chiller automatically transitions on to the next one. The end of the first two phases is signalled by the buzzer.

It is also possible to select the time-controlled mode for this cycle, in which case the controller transitions to the next phase when the set time has elapsed.

### **9.9.3.- Continuous cycle**



Pressing on this section allows selecting a continuous cycle.

Once the cycle has been selected, a screen, where the chamber temperature values and the fan speed can be adjusted, will open.



Sonda de aguja de ciclo tiempo

Press the key  to start the cycle.



**9.9.4.- Customised cycle**




The customised mode allows to configure a cycle consisting of a maximum of 4 phases (3 chilling phases, and a final conservation phase), and these can be controlled by temperature, time or both.



The customised cycle starts and activates the first phase, which by default is a probe-controlled phase. It is possible to change the probe-controlled phase to a time-controlled phase and set the relative setpoints.

Press  to add more phases, and press  to delete any phase previously entered into the programme.

You can move between the different phases using the arrows in the upper part of the screen.

Once the desired phases have been selected and started, press  to confirm that the settings are complete. An overview screen will then be displayed.




Press  to start the cycle or  to save it in the cookbook.


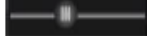


### **9.9.5.- Unit configuration**

#### 9.9.5.1.- Setting the chamber temperature


When a continuous or customised chilling cycle is selected, the chamber temperature, product temperature, and time can be modified by the user as needed within the allowed range.

To make an adjustment, press the key  and this screen will appear:



Define the desired value using the key  or . Once setup is complete, press  to confirm the value and return to the previous screen, or press the button  to reload the default values and return to the previous screen.


#### 9.9.5.2.- Setting the product temperature

Proceed as described in the 'Setting the chamber temperature' section, after pressing  for the product temperature (or the temperature indicated by the probe).

#### 9.9.5.3.- Setting the cycle duration

Proceed as mentioned above, after pressing  for the duration of the cycle.

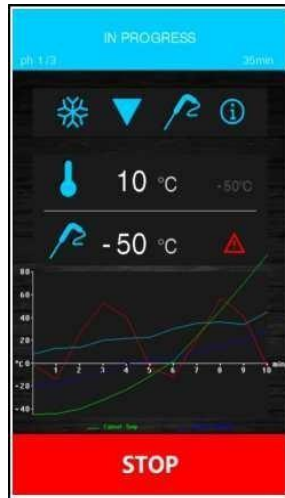
#### 9.9.5.4.- Starting the cycle.

Pressing  will start the cycle according to the set values. If the temperature cycle is controlled by a probe, the chilling phase ends when the probe reaches the preset temperature.



## User Manual and Warranty

If it is a controlled time cycle, the freezing phase ends when the set time period has elapsed.

While the cycle is in progress, the following screen will appear.



The screen shows an overview of the characteristics of the current cycle and a chart with the various values (chamber temperature and product temperature for probe-controlled temperature cycles, and chamber temperature and time period for time-controlled cycles).

By pressing the icon  you will display the values of the probe, the input and output status, and any active alarms. The icon  only appears when an alarm is active, and by pressing it, you can see what kind of alarm is active.

### 9.9.5.4.1.- Historical data log.

While a cycle is in progress, information about inlet, chamber, and product temperature, etc., as well as times, alarms, etc., is stored.

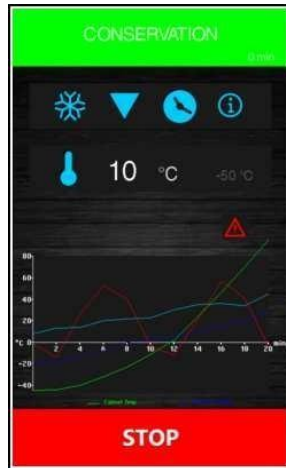
This data can later be downloaded onto a USB device.

Downloading them must be done with a USB 2.0, FAT32 file system and with a maximum capacity of 8GB.


### 9.9.5.4.2.- End of cycle

At the end of the blast chilling or freezing cycle, the blast chiller automatically switches to product conservation mode at the preset temperature. In other words, after carrying out a blast chilling cycle at +3, the chiller goes into conservation mode so that the product remains at this temperature. Likewise, in the case of a freezing cycle, so that it is not essential to remove the product immediately after the end of the blast chilling cycle.

## User Manual and Warranty



If the cycle has not been completed within the preset time, the alarm icon will light up, but the cycle will continue.

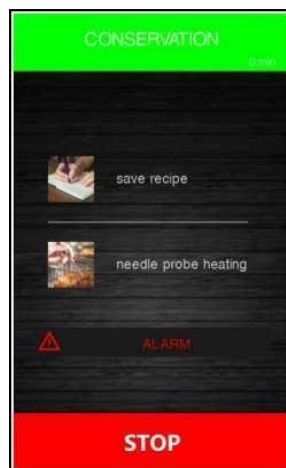
In controlled temperature cycles, pressing the key  will display the screen, allowing access to the following options.



**Heated probe:** The probe has a small resistor inside which, when this option is activated, heats the probe slightly in order to allow its extraction from the product without causing damage to it. This is especially useful in freezing cycles where the probe may get stuck to the product being blast chilled due to low temperatures.



It allows you to save the cycle that has just run in the blast chiller memory.



Once the blast chilling cycle is finished, it returns to the initial screen to start a new process if desired.



## 9.9.5.5.- Special cycles mode



Press this key from the home screen to enter the special cycles submenu



This screen gives you access to other modes, some of which are always present, while others can be activated by setting the parameter. If a mode is not available, the icon corresponding to that mode will not be displayed, and it will not be possible to select it. In this image, some optional modes for the blast chiller are shown.

The following modes are available on all blast chillers.

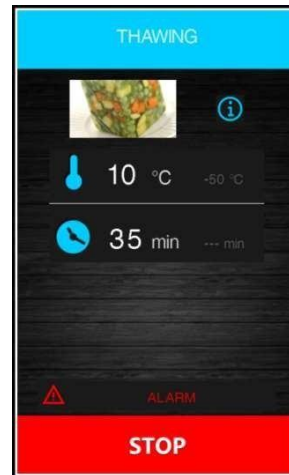
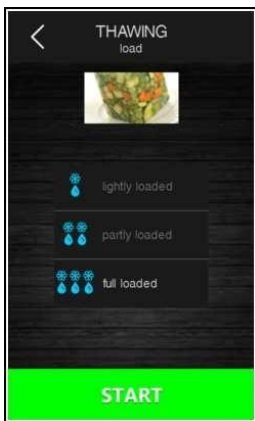


**FISH SANITATION.** Pressing this icon allows the selection of a fish sanitisation cycle, with parameters that are already preset in the blast chiller.

## User Manual and Warranty



**PRODUCT THAWING:** By pressing this icon, a thawing cycle for frozen products, with three load levels, is selected.



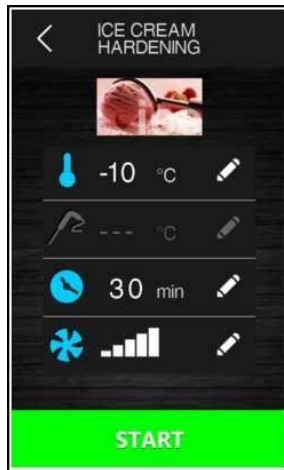
**MANUAL DEFROST.** Manual defrost of the evaporator, for instances where the evaporator is blocked by ice. This can occur after many cycles have been completed in a row with products that have high levels of relative humidity, or when the blast chiller has been left in conservation mode for a long period of time.



# User Manual and Warranty



**SPECIFIC ICE HARDENING CYCLE.** By selecting this icon, you can access a specific ice cream hardening cycle.



**HEATED PROBE:** Probe heating system to facilitate the extraction of the probe.



## User Manual and Warranty



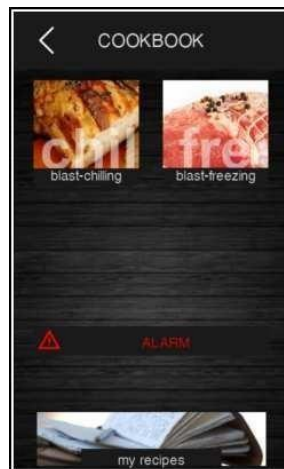
**DRYING CYCLE.** Cycle for the blast chiller dried up when there is high humidity present in the blast chiller.



### 9.9.5.6.- Cookbook mode



When this icon is pressed, the following screen will open on the home page.



This screen allows you to access a cookbook divided into two categories: Chilling and freezing.




Selecting this icon opens a screen containing blast chilling recipes for above zero temperatures.



Selecting this icon opens a screen containing blast chilling recipes for frozen temperatures.

## User Manual and Warranty

The following screen shows an example from the cookbook, displaying the icons of the six preset recipes.

Selecting this icon  allows access to the list of custom recipes saved by the user.

By pressing the corresponding recipe icon, an overview screen is displayed showing the



configuration of the different phases of the recipe.




The recipe can be started from this screen, or the setpoints can be modified by pressing the section related to the phase. Once the settings have been modified, the following options are available:

- Start the cycle without saving the changes.
- Save the changes and overwrite the old programme.
- Save the changes with a different name.

### 9.9.5.6.1.- Saving a recipe

Recipes can be saved in the following ways.

- During conservation after a customised chilling or freezing cycle, pressing  allows the blast chiller to save the recipe used.

## User Manual and Warranty

- Save a recipe from a customised cycle.
- Select an existing recipe, modify it and save it.

Once the recipe to be saved has been selected, the screen request data in order to save the recipe. The displayed screen will request the name you want to save the recipe with, displaying free and occupied slots. If an occupied slot is selected, the device will ask if the recipe should be overwritten by deleting the initially saved recipe.

If declined, a screen will pop up allowing the recipe name to be entered.



### 9.9.5.6.2.- Overwriting a recipe.

It is possible to overwrite a recipe but not delete it. When a recipe is overwriting, the screen below will display the confirmation request to save the new recipe.



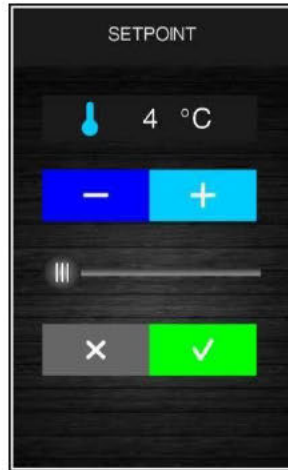
### 9.9.5.7.-Pre-chilling mode



Pressing this key on the home screen enables the selection of a pre-chilling cycle. This cycle is similar to a normal chilling cycle and may precede any operating cycle.

Pressing the corresponding key opens the following screen.

## User Manual and Warranty



Set the desired setting point value, and press the start button to start the pre-chilling blast chiller cycle. The screen below shows the pre-chilling cycle in progress.



This screen allows you to select other cycles. The chilling process is cancelled by pressing the key **STOP**.

Once the programmed temperature has been reached, the blast chiller emits an acoustic warning, and the cycle continues maintaining the preset temperature until pressing **STOP** or until a chilling cycle is started.

If pre-chilling is running, it will stop automatically when another cycle is selected and started.

**11. ALARM**

**11.1 Alarms**

The table below lists the various alarms.

Code	Meaning
RTC	<p>Clock error.</p> <p>To correct</p> <ul style="list-style-type: none"> <li>- Re-set the date and time.</li> </ul> <p>Main consequences</p> <ul style="list-style-type: none"> <li>- The device will not memorise the date and time an HACCP alarm happened.</li> <li>- The alarm output will be activated.</li> </ul>
CABINET PROBE	<p>Cabinet probe error.</p> <p>To correct</p> <ul style="list-style-type: none"> <li>- Check the parameter P0 value.</li> <li>- Check that the probe is undamaged.</li> <li>- Check the device-probe connection.</li> <li>- Check the cabinet temperature.</li> </ul> <p>Main consequences</p> <ul style="list-style-type: none"> <li>- If the error happens during stand-by, it will not be possible to set or start any operating cycle.</li> <li>- If the error happens during blast chilling or blast-freezing, the cycle will continue with the compressor in continuous mode.</li> <li>- If the error happens during conservation, the compressor will operate according to parameters C4 and C5 or C9.</li> <li>- If the error happens during a proofing, slow cooking or a thawing cycle, the cycle will be interrupted.</li> <li>- The minimum temperature alarm will never be activated.</li> <li>- The maximum temperature alarm will never be activated.</li> <li>- The door heaters will never be switched on.</li> <li>- The alarm output will be activated.</li> </ul>
EVAPORATOR PROBE	<p>Evaporator probe error.</p> <p>To correct:</p> <ul style="list-style-type: none"> <li>- The same as for the cabinet probe error but with reference to the evaporator probe.</li> </ul> <p>Main consequences</p> <ul style="list-style-type: none"> <li>- If parameter P4 is set to 1, defrosting will last for the time set by parameter d3.</li> <li>- Parameter F1 will have no effect.</li> <li>- The alarm output will be activated.</li> </ul>

## User Manual and Warranty

CONDENSER PROBE	<p>Condenser probe error. To correct</p> <ul style="list-style-type: none"> <li>- The same as for the cabinet probe error but with reference to the condenser probe.</li> </ul> <p>Main consequences</p> <ul style="list-style-type: none"> <li>- The condenser fan will operate in parallel with the compressor.</li> <li>- The condenser overheat alarm will never be activated.</li> <li>- The compressor locked alarm will never be activated.</li> <li>- The alarm output will be activated.</li> </ul>
NEEDLE PROBE SENSOR 1	<p>Needle probe/sensor 1 error. To correct</p> <ul style="list-style-type: none"> <li>- The same as for the cabinet probe error but with reference to needle probe 1.</li> </ul> <p>Main consequences if parameter P3 is set to 1 (single probe)</p> <ul style="list-style-type: none"> <li>- If the error happens during stand-by, the temperature controlled cycles will be started up as time-controlled.</li> <li>- If the error happens during temperature controlled blast chilling, blast chilling will last for the time set by parameter r1</li> <li>- If the error happens during temperature controlled blast-freezing, blast-freezing will last for the time set by parameter r2</li> <li>- If the error happens during needle probe heating, the heating will be interrupted. - The alarm output will be activated.</li> </ul> <p>Main consequences if parameter P3 is set to 2 or 3 (multineedle or multi-sensor probes)</p> <ul style="list-style-type: none"> <li>- The device will not use the probe/sensor showing the error but the other available probes or sensors will be used.</li> </ul>
NEEDLE PROBE SENSOR 2	<p>Needle probe/sensor 2 error. To correct</p> <ul style="list-style-type: none"> <li>- The same as for the cabinet probe error but with reference to needle probe 2.</li> </ul> <p>Main consequences</p> <ul style="list-style-type: none"> <li>- The device will not use needle probe 2.</li> </ul>
NEEDLE PROBE SENSOR 3	<p>Needle probe/sensor 3 error. To correct</p> <ul style="list-style-type: none"> <li>- The same as for the cabinet probe error but with reference to needle probe 3.</li> </ul> <p>Main consequences</p> <ul style="list-style-type: none"> <li>- The device will not use needle probe 3.</li> </ul>
THERMAL SWITCH	<p>Thermal switch alarm</p> <p>To correct</p> <ul style="list-style-type: none"> <li>- Check the state of the thermal switch input.</li> <li>- Check the value of parameter i11.</li> </ul> <p>Main consequences</p> <ul style="list-style-type: none"> <li>- The cycle in progress will be interrupted</li> <li>- The alarm output will be activated.</li> </ul>

## User Manual and Warranty

HIGH PRESSURE SWITCH	<p>High pressure alarm.</p> <p>To correct</p> <ul style="list-style-type: none"> <li>- Check the state of the high pressure input.</li> <li>- Check the value of parameter i6.</li> </ul> <p>Main consequences</p> <ul style="list-style-type: none"> <li>- If the cycle underway requires use of the compressor, the cycle will be interrupted.</li> <li>- The alarm output will be activated.</li> </ul>
LOW PRESSURE SWITCH	<p>Low pressure alarm.</p> <p>To correct:</p> <ul style="list-style-type: none"> <li>- Check the state of the low pressure input.</li> <li>- Check the value of parameter i9.</li> </ul> <p>Main consequences</p> <ul style="list-style-type: none"> <li>- If the cycle underway requires use of the compressor, the cycle will be interrupted.</li> <li>- The alarm output will be activated.</li> </ul>
DOOR OPEN	<p>Door open alarm.</p> <p>To correct</p> <ul style="list-style-type: none"> <li>- Check the door status.</li> <li>- Check the value of parameters i0 and i1.</li> </ul> <p>Main consequences</p> <ul style="list-style-type: none"> <li>- The effect set by parameter i0.</li> <li>- The alarm output will be activated.</li> </ul>
HIGH TEMPERATURE	<p>Maximum temperature alarm (HACCP alarm).</p> <p>To correct</p> <ul style="list-style-type: none"> <li>- Check the cabinet temperature.</li> <li>- Check the value of parameters A4 and A5.</li> </ul> <p>Main consequences</p> <ul style="list-style-type: none"> <li>- The device will memorise the alarm.</li> <li>- The alarm output will be activated.</li> </ul>
LOW TEMPERATURE	<p>Minimum temperature alarm (HACCP alarm).</p> <p>To correct</p> <ul style="list-style-type: none"> <li>- Check the cabinet temperature.</li> <li>- Check the value of parameters A1 and A2.</li> </ul> <p>Main consequences</p> <ul style="list-style-type: none"> <li>- The device will memorise the alarm.</li> <li>- The alarm output will be activated.</li> </ul>



## User Manual and Warranty

CYCLE DURATION	<p>Alarm indicating that temperature controlled blast chilling or blast-freezing has not been completed within the maximum duration (HACCP alarm). To correct</p> <ul style="list-style-type: none"> <li>- Check the value of parameters r5 and r6.</li> </ul> <p>Main consequences</p> <ul style="list-style-type: none"> <li>- The device will memorise the alarm.</li> <li>- The alarm output will be activated.</li> </ul>
BOARD COMMUNICATIONS	<p>User interface-control module communication error. To correct</p> <ul style="list-style-type: none"> <li>- Check the user interface-control module connection.</li> </ul> <p>Main consequences</p> <ul style="list-style-type: none"> <li>- Any cycle underway will be terminated and it will not be possible to start one up.</li> </ul>
BOARD COMPATIBILITY	<p>User interface-control module compatibility error.</p> <p>To correct</p> <ul style="list-style-type: none"> <li>- Check that the user interface and the control module are compatible.</li> </ul> <p>Main consequences</p> <ul style="list-style-type: none"> <li>- Any cycle underway will be terminated and it will not be possible to start one up.</li> </ul>
NEEDLE PROBE	<p>Needle probe alarm (all the needle probe sensors enabled are in alarm status) To correct</p> <ul style="list-style-type: none"> <li>- The same as for the cabinet probe error but with reference to all the needle probes.</li> </ul> <p>Main consequences</p> <ul style="list-style-type: none"> <li>- Any temperature controlled cycle will be interrupted</li> </ul>
POWER FAILURE	<p>Power failure alarm (HACCP alarm).</p> <p>To correct</p> <ul style="list-style-type: none"> <li>- Check the device-power supply connection.</li> </ul> <p>Main consequences:</p> <ul style="list-style-type: none"> <li>- The device will memorise the alarm.</li> <li>- Any cycle underway will resume when power is restored.</li> <li>- The alarm output will be activated.</li> </ul>
SANITATION PROBE INSERTION	<p>Sanitation alarm.</p> <p>To correct</p> <ul style="list-style-type: none"> <li>- Check that the needle probe has been correctly inserted and check the value of parameters r17 and r18.</li> </ul> <p>Main consequences</p> <ul style="list-style-type: none"> <li>- The sanitation cycle will be interrupted.</li> </ul>

## User Manual and Warranty

<p><b>SANITATION DURATION</b></p>	<p>Alarm indicating that sanitation has not been completed within the maximum duration (HACCP alarm).</p> <p>To correct</p> <ul style="list-style-type: none"> <li>- Check the value of parameter r23</li> </ul> <p>Main consequences</p> <ul style="list-style-type: none"> <li>- The device will memorise the alarm.</li> <li>- The cycle underway will be interrupted.</li> <li>- The alarm output will be activated.</li> </ul> <p>Condenser overheat alarm.</p> <p>To correct</p> <ul style="list-style-type: none"> <li>- Check the condenser temperature.</li> <li>- Check the value of parameter C6.</li> </ul> <p>Main consequences</p> <ul style="list-style-type: none"> <li>- The condenser fan will be switched on.</li> <li>- The alarm output will be activated.</li> </ul>
<p><b>COMPRESSOR LOCKED</b></p>	<p>Compressor locked alarm.</p> <p>To correct</p> <ul style="list-style-type: none"> <li>- Check the condenser temperature</li> <li>- Check the value of parameter C7</li> <li>- Disconnect the device from the power supply and clean the condenser.</li> </ul> <p>Main consequences</p> <ul style="list-style-type: none"> <li>- If the error happens during "stand-by", it will not be possible to select or start up an operating cycle.</li> <li>- If the error happens during an operating cycle, the cycle will be interrupted.</li> <li>- The alarm output will be activated.</li> </ul>
<p><b>NEEDLE PROBE INSERTION</b></p>	<p>Needle probe not inserted alarm.</p> <p>To correct</p> <ul style="list-style-type: none"> <li>- Check that the needle probes have been correctly inserted and check the value of parameters r17 and r18.</li> </ul> <p>Main consequences</p> <ul style="list-style-type: none"> <li>- The temperature controlled cycle in progress will be converted to a time controlled cycle.</li> </ul>
<p><b>EXPANSION COMMUNICATIONS</b></p>	<p>User interface-expansion module communication error.</p> <p>To correct</p> <ul style="list-style-type: none"> <li>- Check the user interface-expansion module connection.</li> </ul> <p>Main consequences</p> <ul style="list-style-type: none"> <li>- Any proofing or slow cooking cycle underway will be terminated and it will not be possible to start one up.</li> </ul>
<p><b>EXPANSION COMPATIBILITY</b></p>	<p>User interface-expansion module compatibility error.</p> <p>To correct</p> <ul style="list-style-type: none"> <li>- Check the user interface and expansion module are compatible.</li> </ul> <p>Main consequences</p> <ul style="list-style-type: none"> <li>- Any cycle underway will be terminated and it will not be possible to start one up.</li> </ul>

### 12. HACCP ALARM

To access the HACCP alarm area, press area  in the Home screen. The screen below will be displayed.



The following HACCP alarms are listed.

- Blast chilling/blast-freezing cycle duration
- Power failure
- Door open
- High temperature alarm
- Low temperature alarm

### 13. MAINTENANCE, CLEANING, AND CARE

#### 13.1 Cleaning Procedure

##### Cleaning the device

To clean the device, follow the instructions below:

- Disconnect the equipment from the mains and remove all products stored in it.
- Open all doors and allow time for the interior to reach room temperature. Remove all interior accessories and clean them with soap and lukewarm water. Dry all accessories completely with a soft cloth.
- Once the chamber has reached room temperature, clean all interior and exterior surfaces with soapy water. Rinse thoroughly and dry with a soft cloth. Failure to dry the

## User Manual and Warranty

device properly may result in water stains. Stainless steel cleaners are also available in the market, that can repair and protect the protective layer of steel surfaces.

- Put the accessories back in place and connect the unit to the mains.
- Pitting corrosion or cracks in steel are signs of material deterioration. In this case, apply stainless steel cleaners capable of repairing the steel passivation.
- Foods with acidic components can attack stainless steel (mustard, mayonnaise, lemon, tomato and other vegetables).

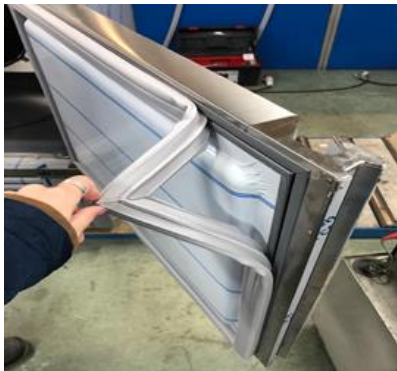


**NOTE: Never use steel scrubbers, wire brushes or spatulas to clean the device.**



**NOTE: Cleaning products used must be alkaline-based or chlorine-free. Any cleaner containing chlorides will damage the protective layer of the stainless steel.**

### Rubber gaskets maintenance

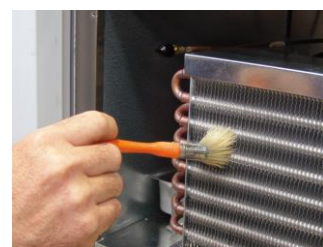


- Rubber gaskets require regular cleaning to protect their elasticity, to ensure proper sealing, and prevent mould growth. Rubber gaskets can be cleaned with soapy water. Avoid using abrasive cleaners or sharp utensils.
- Rubber gaskets can be easily removed in case replacement is needed by pressing them against the door frame.

### Cleaning of the condenser

The condenser, located behind the back grid of the device, should be checked regularly. Cleaning frequency will depend on the working environment. Air must flow freely through the condenser, so its surface must be free of dirt and grease. Dirty condensers cause compressor fault and product loss. If the condenser battery is dirty or blocked, follow the steps below:

- Disconnect the device from the mains.
- Remove the back grid from the unit.
- On some models, it will be necessary to remove the screws that affix the condensing unit to the skirting board, and remove it in order to clean the condenser.



## User Manual and Warranty

- If the condenser has a protective case, it must be unscrewed and removed.
- Once the surface of the condenser is accessible, it should be cleaned using a vacuum cleaner or a soft brush. Do not use metal brushes.
- If the dirt is excessive, compressed air can be used for cleaning.
- After cleaning, reinsert the protective case, return the condensing unit to its original position, and re-attach all screws.
- Finally, replace the rear grid and connect the device to the mains.



**WARNING!: Do not use water to clean the condenser, as it may damage nearby electrical components.**

### Maintenance of doors / hinges

Over time and due to normal wear, door hinges may move off place slightly. If you notice that the door is not properly aligned, tighten the screws that attach the hinge brackets to the cabinet.

## 13.2 Spare Parts and Technical Support



**WARNING!: Make sure the device is disconnected from the mains before carrying out any maintenance or repair work.**

If there is no recommended technical support service provider in your area, please contact us for a list (STD 's) Official Technical Services.

If the problem persists after the appropriate verifications, DO NOT MAKE ANY REPAIRS YOURSELF. Contact our Technical Support Service, and have the model and serial number of the device at hand (located on the rating plate),



**WARNING!: If spare parts are needed, always insist on factory authorised spare parts.**

## 14. ROUBLESHOOTING

Many operational issues derive from causes that can be easily eliminated without the need to contact the Technical Support Service. The following list covers several types of issues and how to solve them.

ISSUE	POSSIBLE SOLUTION
The device does not work	1. The plug is not connected to the power outlet. 2. The plug is not carried with power because the fuse

## User Manual and Warranty

	has blown or the automatic current limiter has tripped.
The device does not cool sufficiently	<ol style="list-style-type: none"> <li>1. Check the setpoint temperature on the controller.</li> <li>2. Door not properly closed or frequent openings.</li> <li>3. Obstruction of the device's ventilation grids.</li> <li>4. Condenser is dirty.</li> <li>5. The device is exposed to direct sunlight or another heat source.</li> </ol>
Noisy operation	<ol style="list-style-type: none"> <li>1. The device has not been correctly levelled.</li> <li>2. Some of the tubes inside the device are rubbing against each other.</li> <li>3. Loose screws on any of the parts.</li> <li>4. Fan in condenser or evaporator causing vibrations.</li> <li>5. Loose parts in the condensing unit.</li> </ol>
The device creates excessive ice in the evaporator	<ol style="list-style-type: none"> <li>1. Doors are not properly closed.</li> <li>2. Excessive door openings.</li> <li>3. Performing many cycles in a row.</li> <li>4. Defrosting has not been carried out.</li> </ol>
Compressor does not start	<ol style="list-style-type: none"> <li>1. Opened switch.</li> <li>2. Blown fuse.</li> <li>3. Faulty wiring.</li> <li>4. Open clixon.</li> <li>5. Open controller contacts (defective controller, or device located in a too cold area).</li> <li>6. Defective relay.</li> <li>7. Low gas load in the system - check for leaks.</li> </ol>
Compressor starts, but it shuts down due to overload	<ol style="list-style-type: none"> <li>1. Low voltage.</li> <li>2. Faulty wiring.</li> <li>3. Defective start condenser.</li> <li>4. Sealed start condenser.</li> <li>5. Defective compressor.</li> <li>6. High condensation pressure.</li> </ol>
High condensation pressure	<ol style="list-style-type: none"> <li>1. Overloaded unit.</li> <li>2. Air or non-condensable gases in the system.</li> <li>3. Condenser is dirty.</li> <li>4. Defective condenser fan.</li> <li>5. Device located in a too hot area.</li> <li>6. Obstruction in expansion valve or filter.</li> </ol>

## User Manual and Warranty

	<p>7. Discharge valve partially closed.</p> <p>8. Obstruction in discharge line.</p>
Reduced condensation pressure	<p>1. Insufficient refrigerant load.</p> <p>2. Leaks in the system.</p> <p>3. Device located in a too cold area.</p>
The compressor performs short cycles	<p>1. Differential control set at too short intervals.</p> <p>2. Low refrigerant load, check the pressure.</p> <p>3. Excessive refrigerant load.</p> <p>4. Leaks in the discharge valve.</p> <p>5. Open high pressure switch.</p> <p>6. Condenser is dirty.</p>
Too long operating cycles, or continuous operation of the unit	<p>1.- Insufficient refrigerant load.</p> <p>2.- Obstructed or dirty condenser.</p> <p>3.- Device located in a too hot area.</p> <p>4.- Stuck controller relay.</p> <p>5.- Air or non-condensable gases in the system.</p> <p>6.- Defective or incorrectly adjusted expansion valve.</p> <p>7.- Doors have remained open for too long.</p> <p>8.- Insufficient or defective insulation, or saturated with water.</p> <p>9.- Excess of oil in the evaporator.</p>

## 15. WARRANTY

### 15.1 Warranty conditions of the delivered products

**1.**The manufacturer warrants that the product will be free from defects and commits to repair, free of charge, any defects arising from faults or defects in the materials or production process.

**2.**The manufacturer is liable to the final consumers who purchase the product, for any lack of conformity with the agreement, during a period of ONE year, according to the conditions established by law.

**3.**You shall receive this fully-completed warranty letter within 20 days of the purchase date. If this is not the case, this warranty shall be effective from the manufacture date. The user must compel the distributor to complete this certificate.

**4.**Modified products and/or components subject to natural wear and tear; as well as defects arising from failure to comply with the instructions for use, installation or operation or from usage not in accordance with the intended use of the product, abnormal

## User Manual and Warranty

environmental factors, odd operating conditions, overloading, improper maintenance or cleaning, or from repairs or manipulations performed by unauthorised Services, or those derived from the use of accessories or spare parts other than those established by the manufacturer, are excluded from the warranty.

**5.**The user must abide with the instructions indicated in the operating manual for start-up and maintenance of the device.

**6.**In case of device malfunction, the user should carry out the verifications as indicated in the manual, and if the problem persists you should contact your distributor. If the intervention of the technical support service is required, this certificate must be presented.

**7.** This warranty covers, exclusively, the replacement of the defective material, and neither device replacement, nor a warranty period extension, may be claimed. The replaced material under warranty shall remain the property of the buyer for inspection; installation or replacement costs shall be at the buyer's expense.

**8.**The return of any device due to manufacturing defects or faults **MUST BE PREVIOUSLY AUTHORISED**. If this is not the case, it shall not be liable, in any case, for the costs and risks that may arise during this process. Any device whose return has been authorised by the company must be sent with the same or similar packaging as the product had at the time of receipt.

**9.** No one is authorised to make other concessions, or accept on behalf of the manufacturer, any commitment that is not in accordance with this warranty.

**10.**In case of loss or misplacement of this warranty certificate, you must have express knowledge of it.

**11.**The warranty does not cover travel, per diems and labour costs of the Technical Support Service that carries out the repairs, even during the warranty period of the device.

**12.**The time required for the repair of the device shall not constitute cause for the buyer to be compensated, under any circumstances, nor shall it constitute an extension of the warranty period.

**13.**This warranty is void in the event of damage caused by force majeure (atmospheric, geological or fire phenomena, etc.) or by incorrect or unregulated installation of the device (connection voltage, fluctuations in the electrical supply, electrical connection not in accordance with the instructions, etc.) or tampering of the rating plate or the data included in this certificate.



### 15.2 Consumer rights conferred by law in the event of lack of conformity with agreement

**1.**The manufacturer is liable to the consumer for any lack of conformity with the sales agreement that exists at the time of delivery of the product. The product conforms to the agreement provided it meets all of the following requirements:

(a) it conforms to the description provided by the manufacturer and possesses the qualities presented by the manufacturer in the form of a sample or model.

(b) it is suitable for the uses for which products of the same type are ordinarily intended.

(c) it is suitable for any special use when required by the consumer for that purpose, and the manufacturer has admitted that the product is suitable for such special use.

(d) it offers the usual quality and performance of a product of the same type which the consumer can reasonably expect.

A lack of conformity resulting from an incorrect installation of the device is equivalent to a lack of conformity of the device when the installation is included in the sales agreement and is carried out by the manufacturer or under their responsibility, or, when carried out by the consumer, the defective installation is due to an error in the installation instructions.

**2.**The manufacturer shall be liable for any lack of conformity manifested in the product during a period of one year from the time of delivery, which is considered to have taken place on the day shown on the invoice, on the purchase receipt or the corresponding delivery note, should this take place later on.

For the first six months, it is assumed that the lack of conformity existed at the time of sale; for the remaining period, the consumer must be able to document such lack of conformity. The consumer shall inform the product distributor of the lack of conformity within two months of becoming aware of it. In case of impossibility, due to the termination of the distributing company or when it constitutes an excessive burden for the consumer to approach the product seller to communicate a lack of conformity in accordance with the sales agreement, the consumer may directly claim the manufacturer to replace or repair the product.

**3.**If the product is not in conformity with the agreement, the consumer may choose to demand the repair or replacement of the product, unless these options may be deemed

## User Manual and Warranty

impossible or disproportionate. Any solution which imposes on the seller unreasonable costs, in comparison with other compensations, shall be regarded as disproportionate. The price shall be reduced or the agreement rescinded, at the consumer's choice, when the consumer cannot demand repair or replacement, or if these have not been carried out within a reasonable period or without major inconvenience to the consumer. Contract resolution is not appropriate when the lack of conformity is of minor importance.

**4.** Repair and replacement shall comply with the following rules:

(a) They must be free of charge (including, in particular, shipping, labour and material costs) and must be carried out within a reasonable time and without inconvenience to the consumer.

b) Repair discontinues the calculation of the legal period for claiming a lack of conformity from the time the product is delivered until it is returned, repaired, to the consumer. Within 6 months of delivery of the repaired product, the manufacturer is liable for the lack of conformity that led to the repair.

(c) Replacement discontinues the calculation of the legal period for claiming a lack of conformity from the time the replacement option was exercised until the delivery of the new product. In any event, the assumption that any lack of conformity which becomes apparent within six months of delivery already existed when the product was delivered applies to the replaced product

**15.3 Customer report**

Please fill in the following report:

User name: \_\_\_\_\_

Address: \_\_\_\_\_ Phone: \_\_\_\_\_

Zip Code / City: \_\_\_\_\_

Distributor: \_\_\_\_\_

\_\_\_\_\_

Date of purchase: \_\_\_\_\_

Model: \_\_\_\_\_ Serial No.: \_\_\_\_\_

Compressor No.: \_\_\_\_\_

Signature Seller Signature Buyer

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User name: \_\_\_\_\_

Address: \_\_\_\_\_ Phone: \_\_\_\_\_

Zip Code / City: \_\_\_\_\_

Distributor: \_\_\_\_\_

Date of purchase: \_\_\_\_\_

Model: \_\_\_\_\_ Serial No.: \_\_\_\_\_

Compressor No.: \_\_\_\_\_

Signature Seller Signature Buyer

RETURN TO MANUFACTURER

FOR THE CUSTOMER

