



Blast Chiller Touch Screen

Operation and Care Manual



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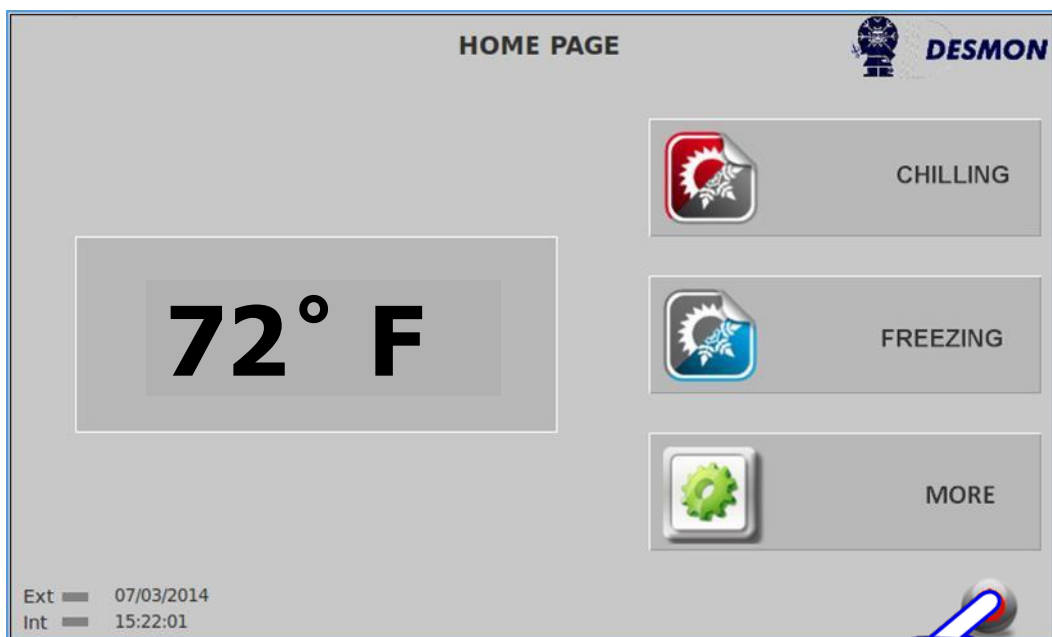
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1. Powering up the Easy Touch Screen Control

This is the **Stand-By** screen or the power off mode. To begin, push and hold the **Power Button** for 5 seconds, until you see the **Status Bar** move to the right and it will say "Please wait".



The control will initialize and load the software, please allow **15 seconds** for it to complete. This is the **Home** screen. From this screen you can **Blast Chill**, **Blast Freeze** or access the **More** menu. You can power down the controller by pressing the **ON/OFF** icon on the lower right hand corner.



2. Setting Up the Control

To ensure that the **Blast Chiller** and its function operate as designed, you will need to set up the control for the first time. This will allow you to accurately provide data for troubleshooting and **HAACP** documentation.

- **Language**
 - ✓ Options 4.0.
- **Date and Time**
 - ✓ Options 4.1.
- **Display**
 - ✓ Options 4.2.

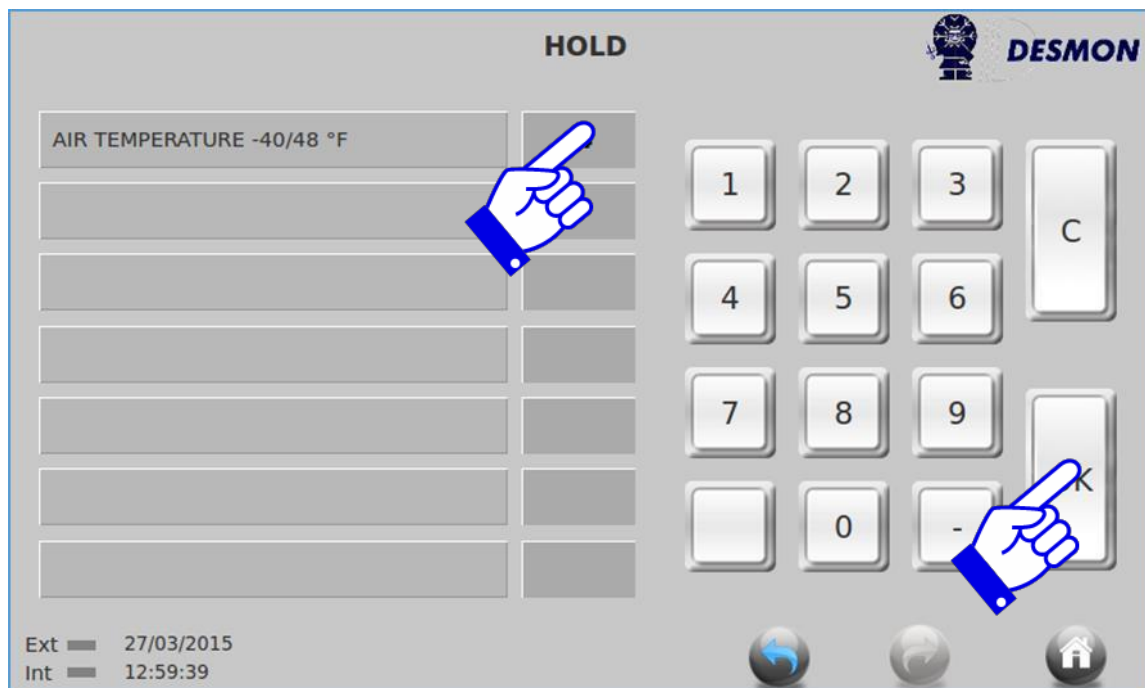
3. The More Screen



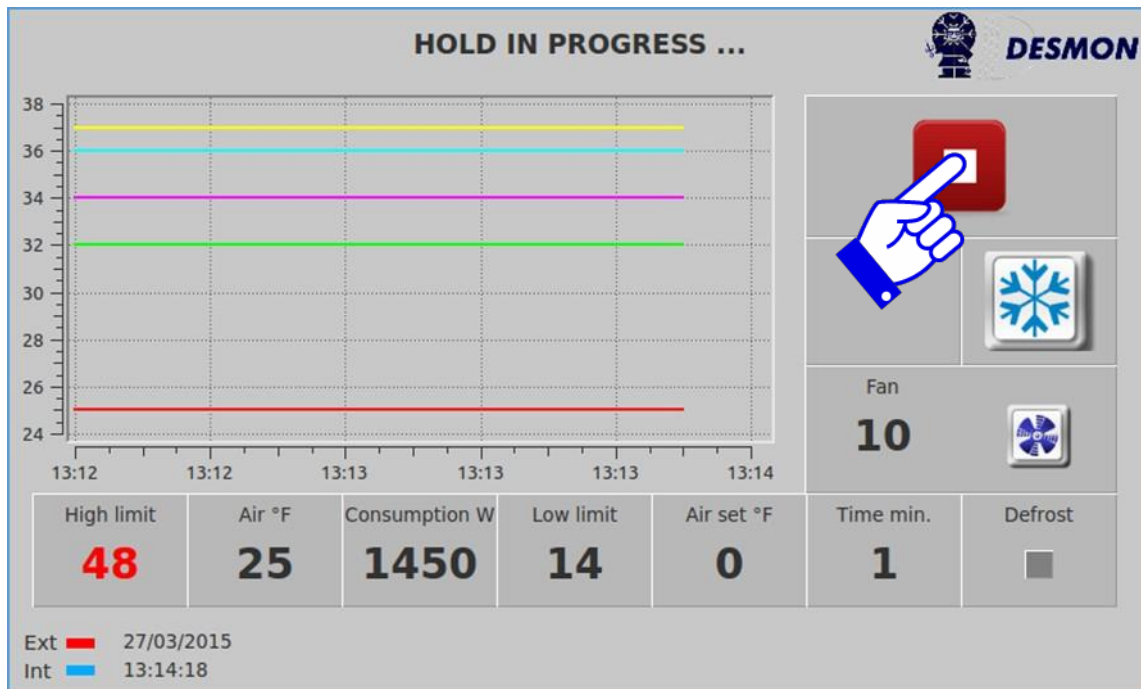
From this screen you can access the **Options** menu, **Service** menu, turn the **Heated Probe** off or on (optional), set the **Hold** temperature, start a **Thawing** cycle, turn on the **UV Sterilization Light** (optional) or start a **Manual** defrost cycle.

3.0. The Hold Mode

To select the **Hold** option, press the **Hold** icon.



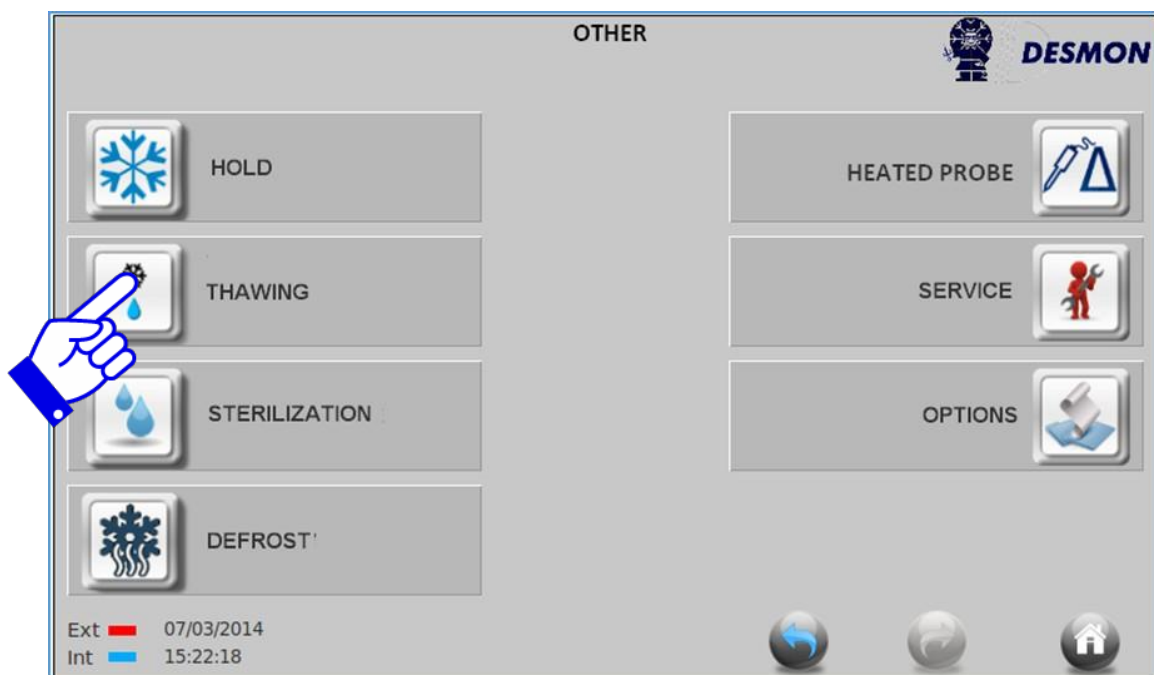
To change the **Hold** temperature, press the **Air Temperature** tab, the tab will turn **Blue** and you can select a temperature from **-40°F(-40°C)** to **48°F(8°C)**. Once you have selected a temperature, press **OK** and the cycle will begin. If no temperature is selected or a temperature is selected outside of the range and start is pushed, the tab will turn **Red** and not allow you to continue until a correct temperature is selected.



This is the graph that will be shown during the **HOLD** cycle. This cycle will run until the **Red Stop** icon is pushed and the cycle is stopped.

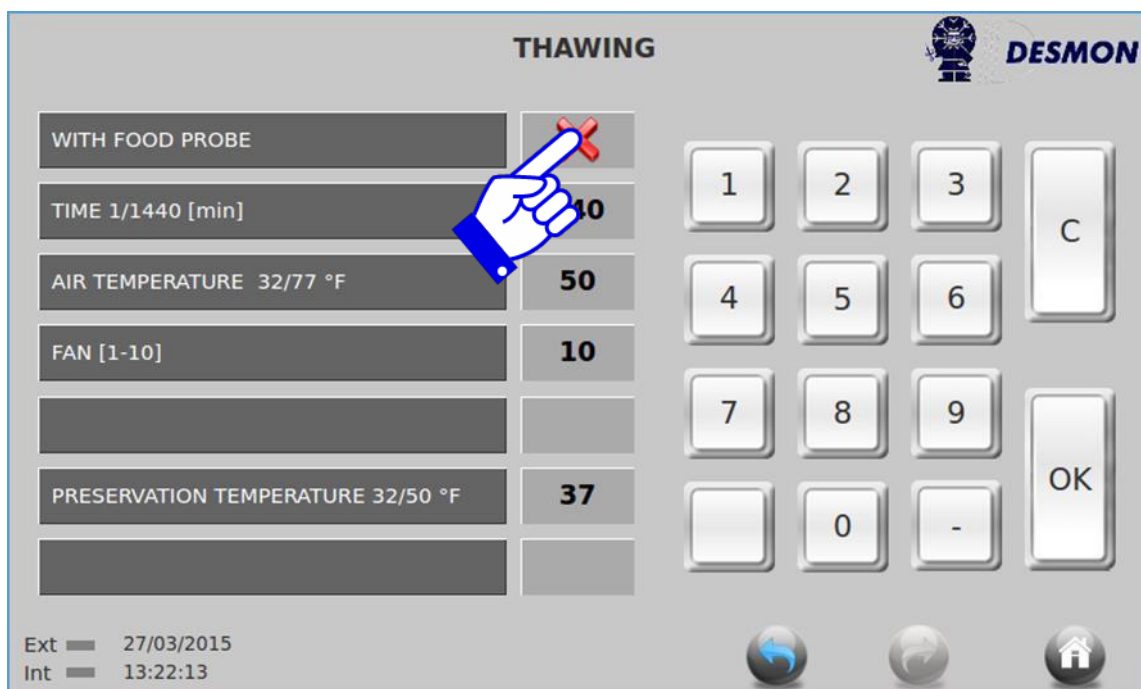
3.1. Thawing Mode

The **Thawing** function, when applicable, will provide a gentle heating of the cabinet with a lower fan speed and a special heating system, to allow quick thawing of a frozen product.

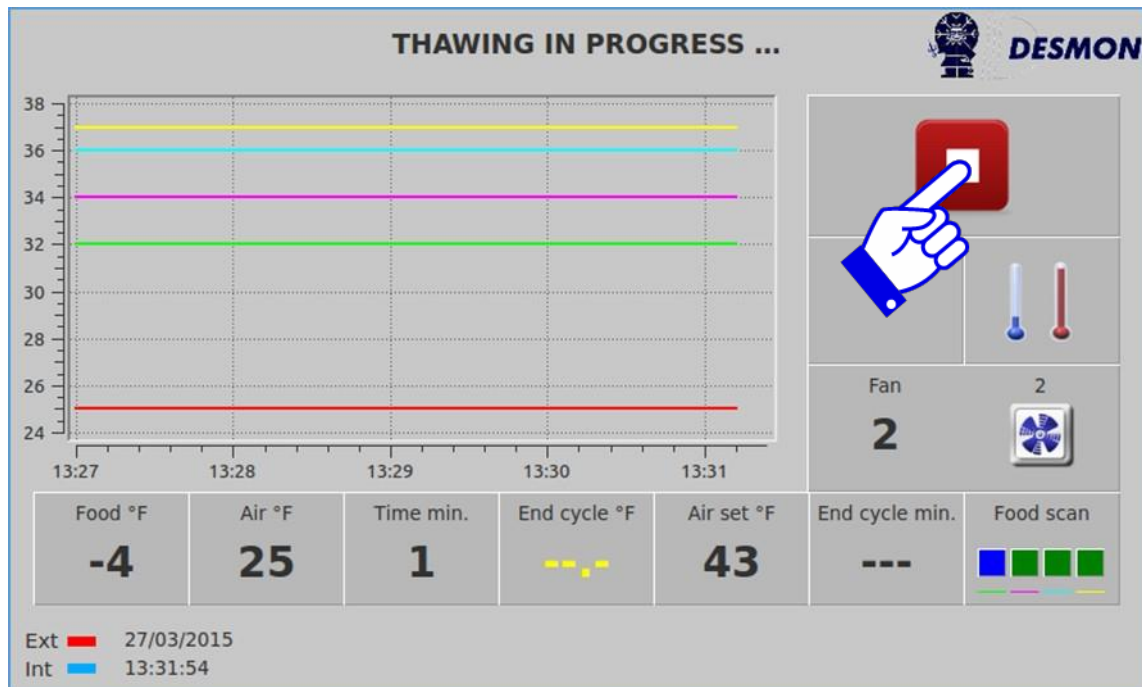




The air temperature can be set within a range of 32°F(0°C) to 77°F(25°C). The **Product Probe** can be also used to run a product temperature based cycle, providing a visual notification from the display when the product is thawed. Or it can be set to run a time based cycle for a predetermined time. Press the **Green Start** icon to start the process.



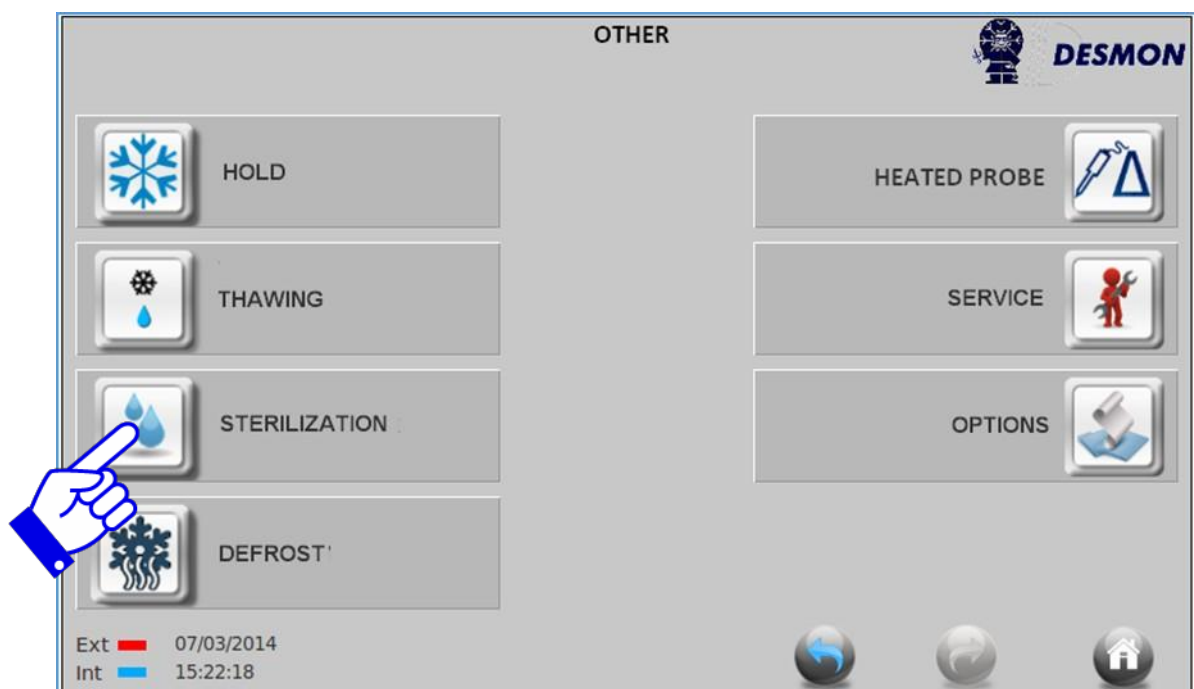
To allow the **Product Probe** to be used, push the tab with the **Red X** and a **Green Checkmark** ✓ will appear. The **Time** option will disappear and you can then set your **Product Probe** temperature.



This is the graph that will appear during the **Thawing** cycle. Once the **Thawing** cycle hits the **Set** temperature for the **Product Probe** or the **Time** has expired, the unit will then switch to the **Hold** mode. This cycle will run until the **Red Stop** icon is pushed and the cycle is stopped.

3.2. Sterilization Mode

The **Sterilization** cycle is an optional feature, using a special **UV-Lamp** process to kill bacteria in the **Blast Chiller** cabinet. This cycle provides an additional boost to the normal cleaning procedure.

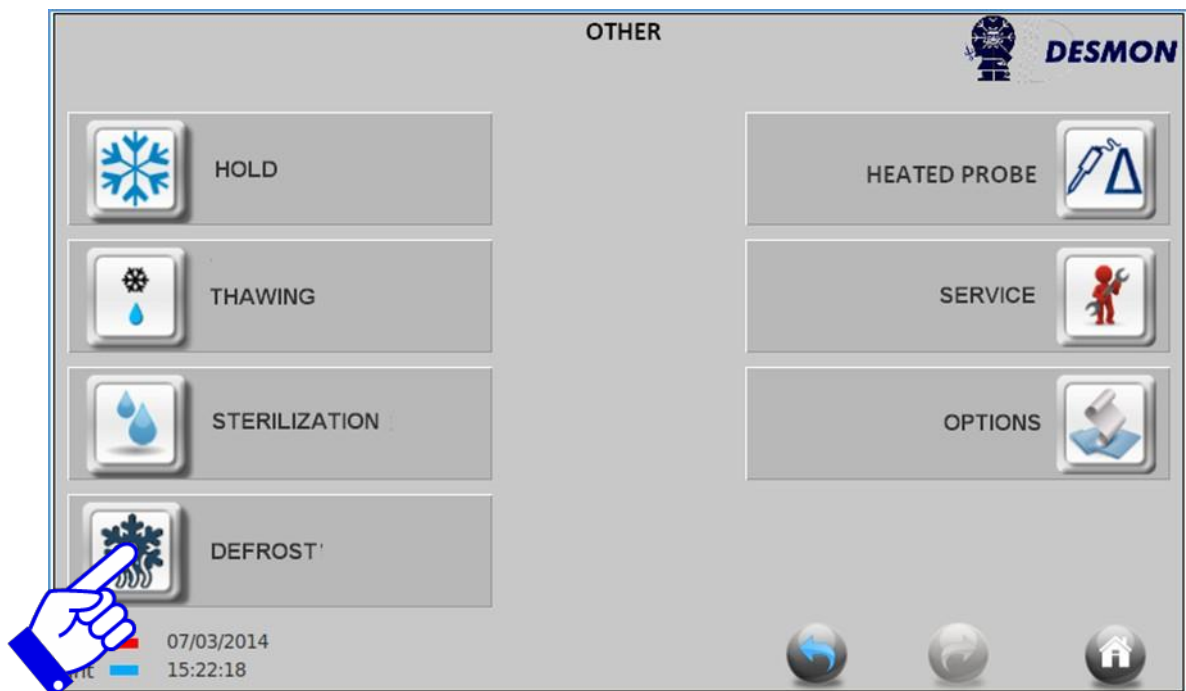




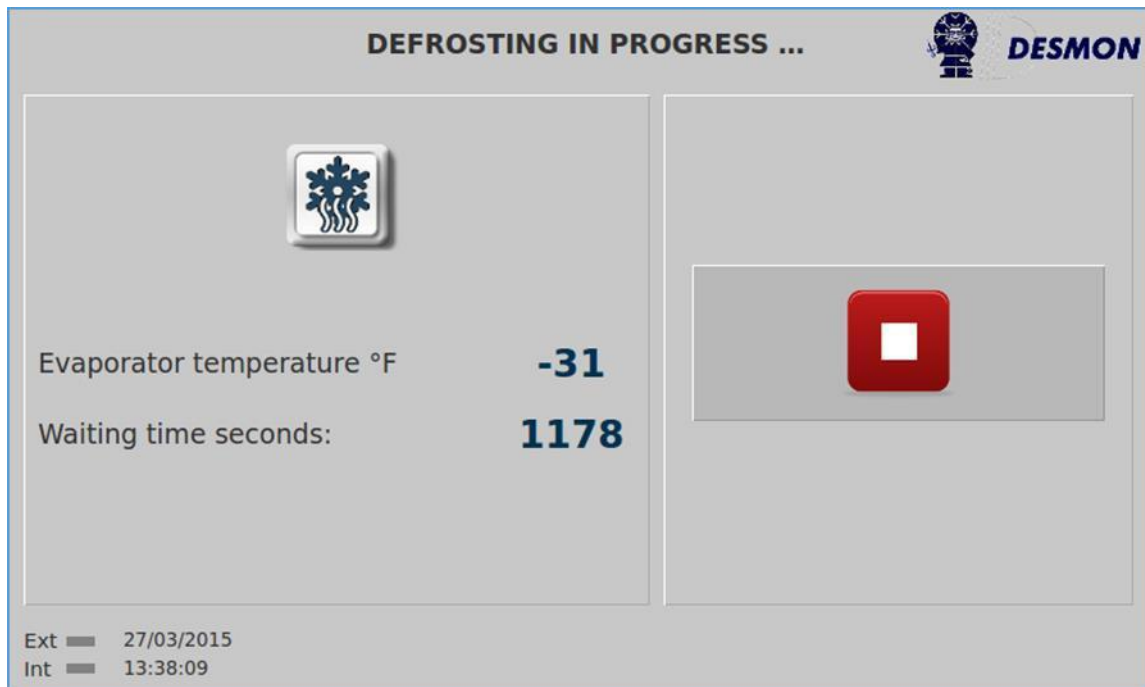
The **Sterilization** cycle will run for **300 seconds (5 minutes)** or until the **Red Stop** icon is pushed.

3.3. Manual Defrost Mode

You can select a **Manual Defrost** from this screen by pressing on the **Manual Defrost** tab.



The **Manual Defrost** cycle is programmed to run for **10 minutes** or until the evaporator temperature reaches **46°F (8°C)**.

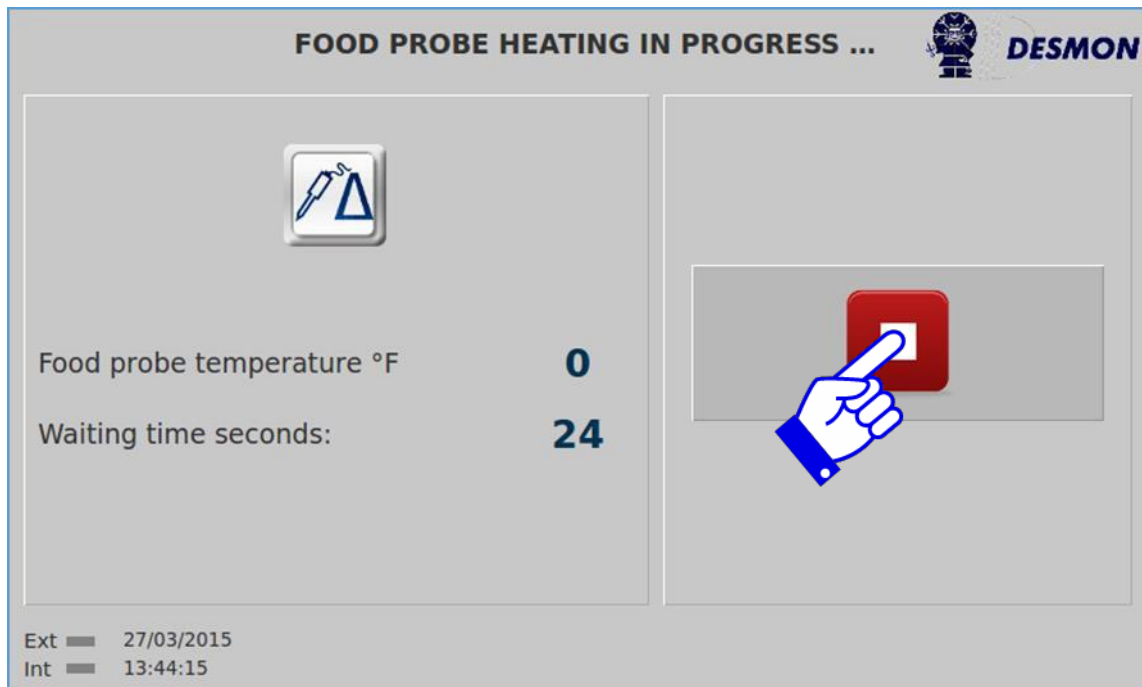


This will be a **Hot Gas Defrost** or a **Air Defrost** cycle depending on the model, so the fans will run at high speed. Once the **Manual Defrost** is complete by either **Time** or **Temperature**, the screen will return automatically to the **Home** screen or it can be terminated at any time by pressing the **Red Stop** button.

3.4. Heated Probe

The **Heated Probe** function is an option and it allows the end user to activate it by pressing the **Heated Probe** icon. Once pressed the **Product Probe** will heat slightly, for **one minute (60 seconds)**, to allow it to be removed from frozen product without damaging the probe.





After it times out, press the **Red Stop** button to return to the **Option** screen or press the **Home** icon to return to the **Home** screen.

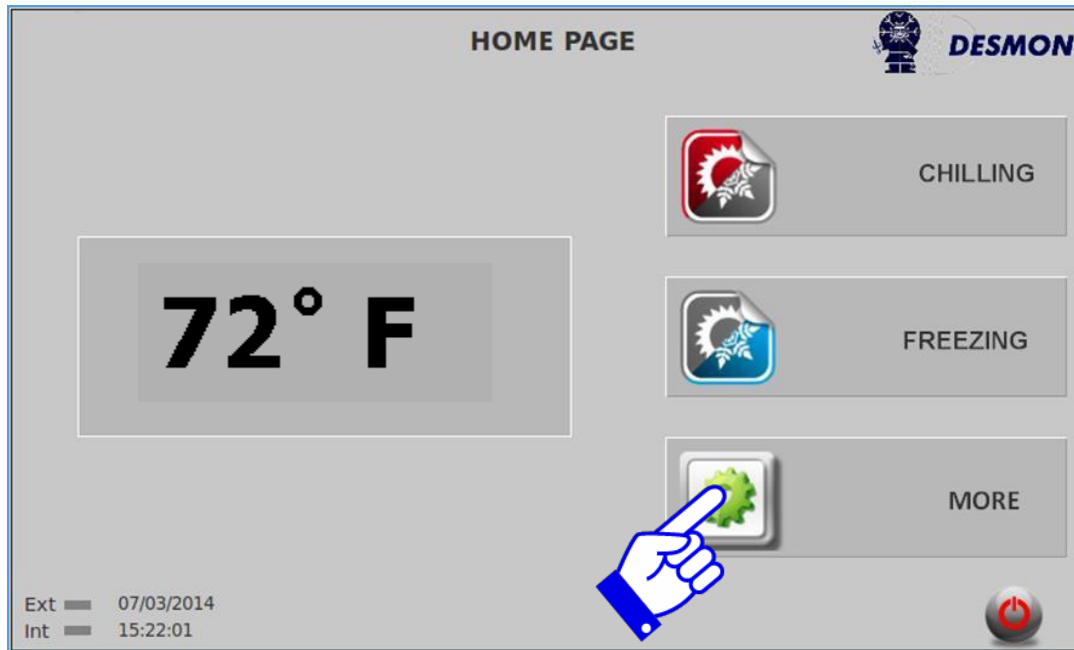
3.5. Service Mode

This menu is mainly dedicated to technicians to aid in troubleshooting. Access to service functions is password protected, to avoid improper changes of crucial settings and prevent damage to the equipment. Even if you know the password, do not access to the **SERVICE MENU** unless you are a qualified authorized technician and only with the assistance of a factory service technician. This will be covered later in the **Service** section (7.0).

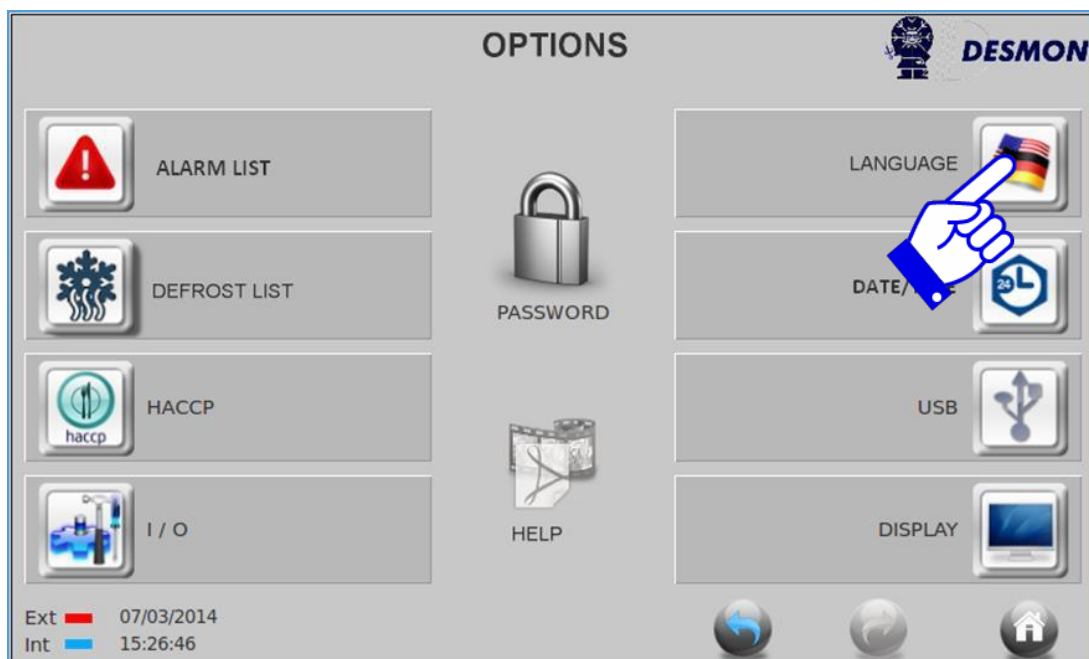
4. The Option Screen

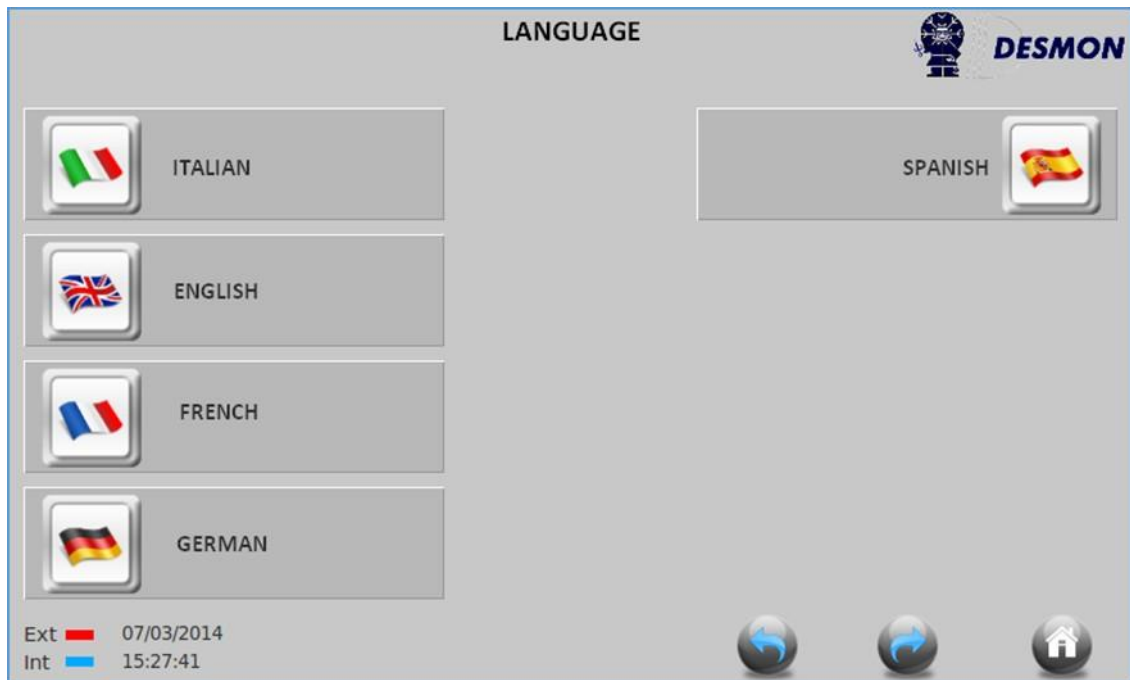
4.0. Language

To set the **Language**, press the **More** icon and the screen will switch to the **Options** menu.



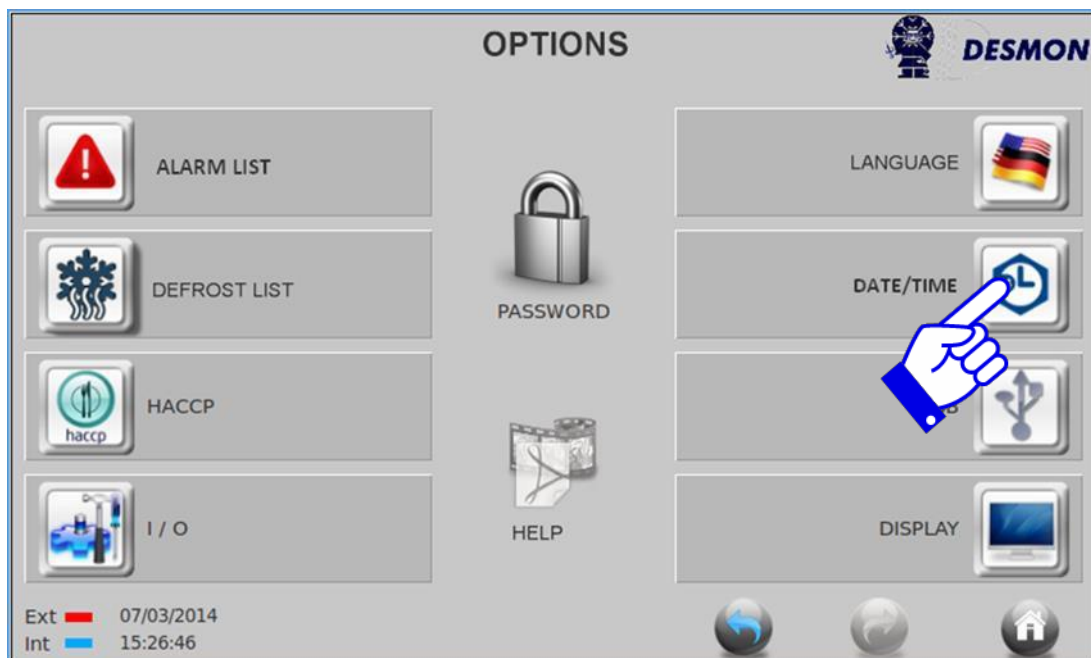
Press the **Language** icon and you will have the ability to change the language. The language can be selected from **Italian, English, French, Spanish** or **German**.



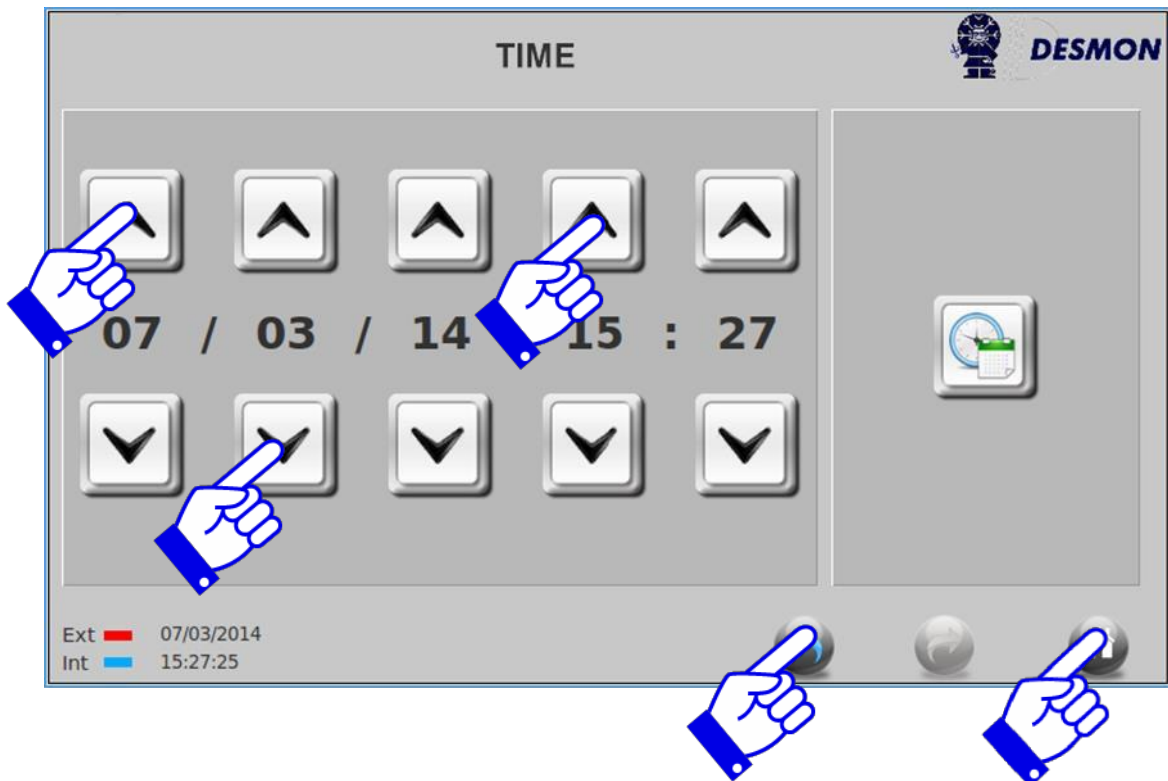


4.1. Setting Time and Date

Time and Date settings are important to track the **HACCP** data correctly. Press the **Date/Time** icon to show the **Time** setting screen.



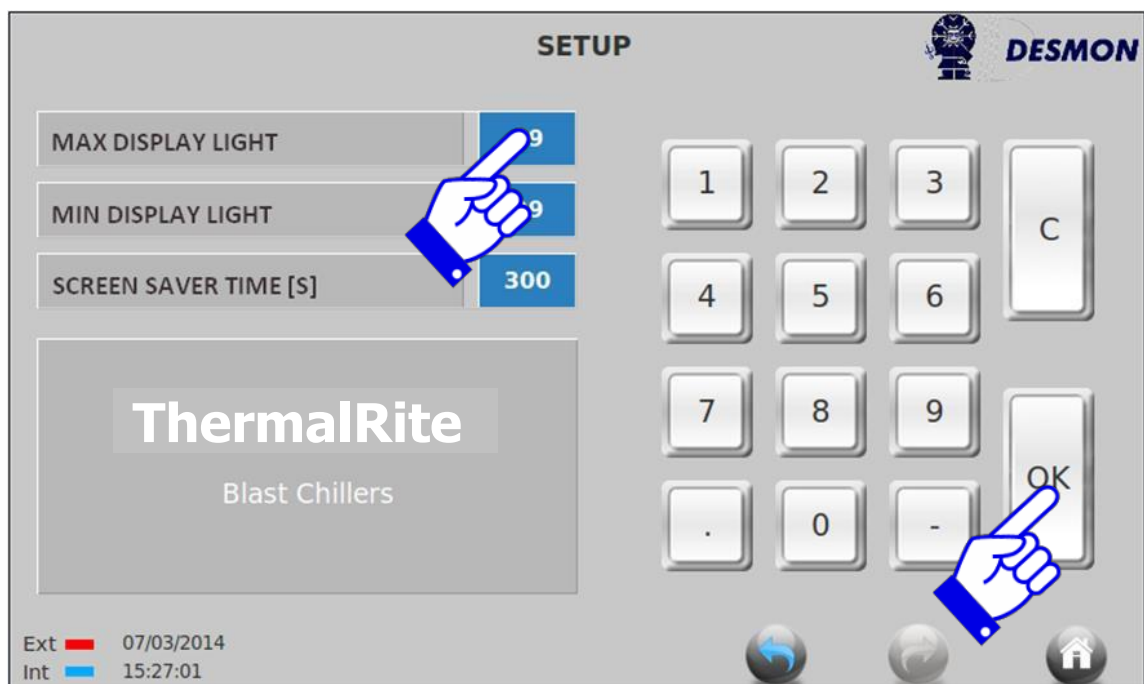
To set the proper date, first set the day, then the month and finally the year. Use the up and down arrows to reach the proper date and time.



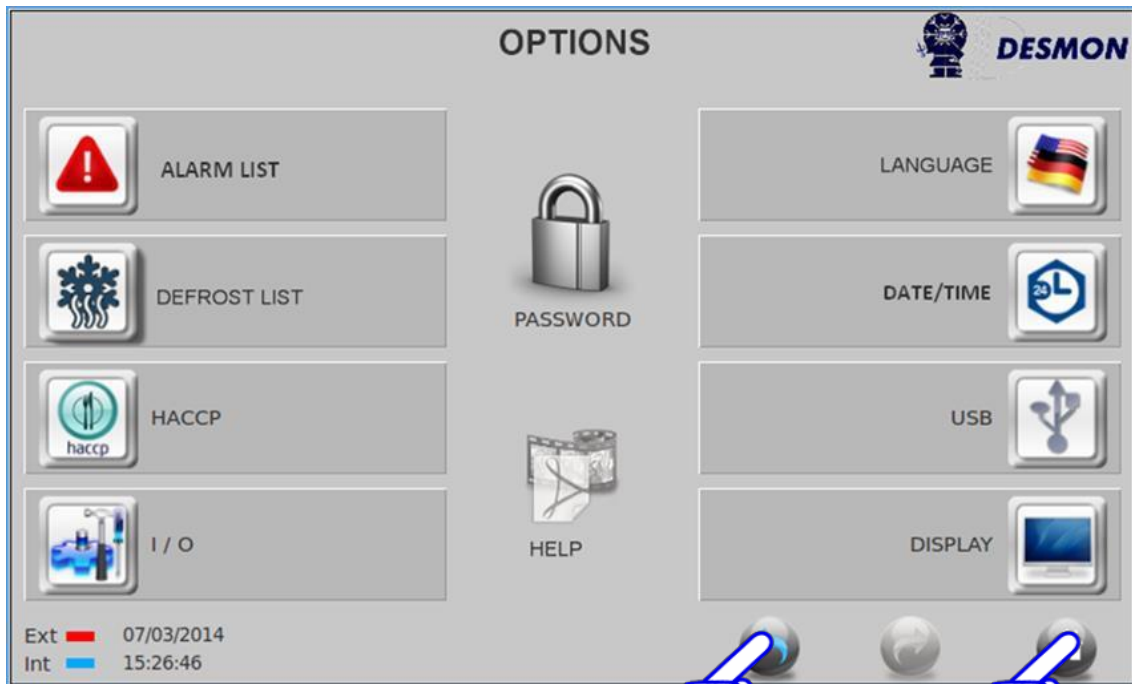
Once the proper date and time is set, press the **Return** arrow to go back to the **Options** screen or press the **Home** icon to return the **Home** screen.

4.2. The Display Menu

Press the **Display** icon to adjust the screen brightness, maximum, minimum and to set the screen saver message.



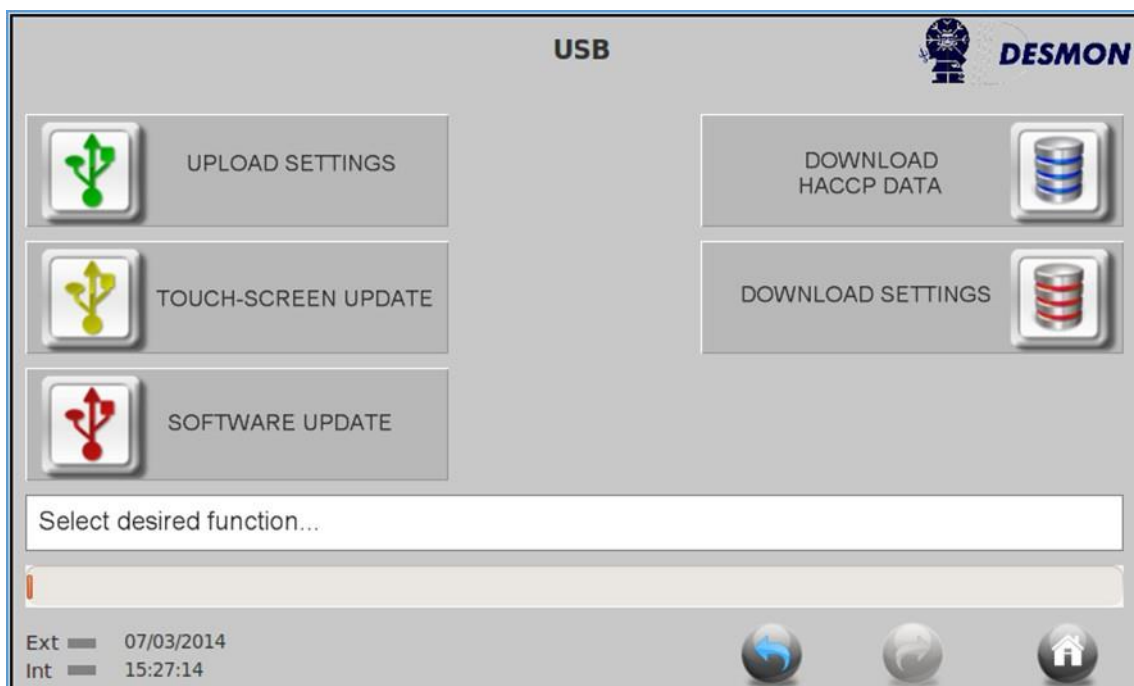
Press the tab you wish to change, enter a new value, press ok and it will store it.
Press the **Return** arrow to return to the **Options** screen or press the **Home** icon to return the Home screen.



4.3. USB Port

Through the **USB** port, located on the right side of the **Touch Screen** frame, it's possible both to import and export data to/from a **USB** drive. There is no special requirement for the type of **USB**, however an empty formatted USB with minimum 2 gigs is recommended.





The main active functions of the **USB** Mode are:

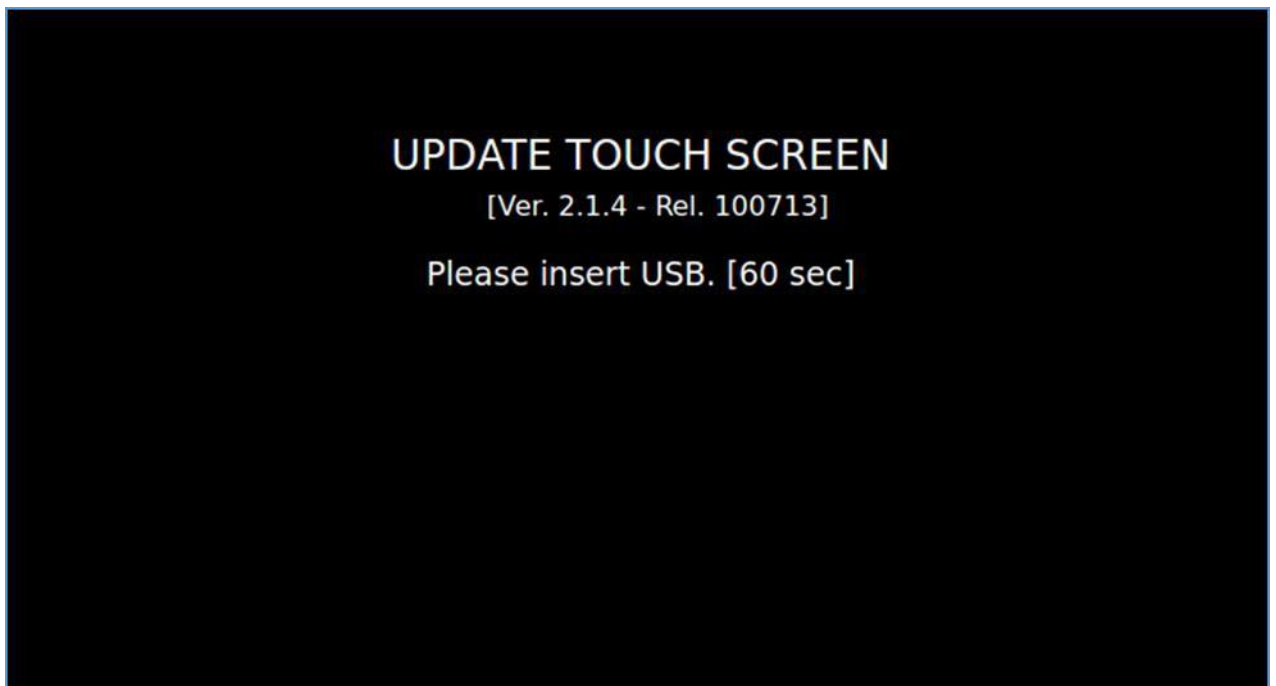
- ✓ Touch Screen Firmware Update.
- ✓ Software Update (software, parameters, both software and parameters).
- ✓ Download HACCP Data.
- ✓ Future functions still under development.

4.3.1 Touch Screen Software Update

This functions allows software enhancement updates related to the Touch Screen Display only. To do a **Touch Screen Update** please contact the manufacturer service support team for the necessary files. These files will come in a zipped folder with a tar.gz extension.

Their names are:

- update_db.tar.gz
 - update_tft.tar.gz
- A. Once the files are downloaded onto a pc.
 - B. Use a PC to copy the above files onto an empty formatted 2GB USB drive.
 - C. Remove the USB drive from the PC and insert it into the **Touch Screen USB** port.
 - D. Select the USB function and press the tab **TOUCH SCREEN UPDATE**.



The **Display** will show the above screen and will restart at the end of the procedure.

4.3.2 Firmware Update

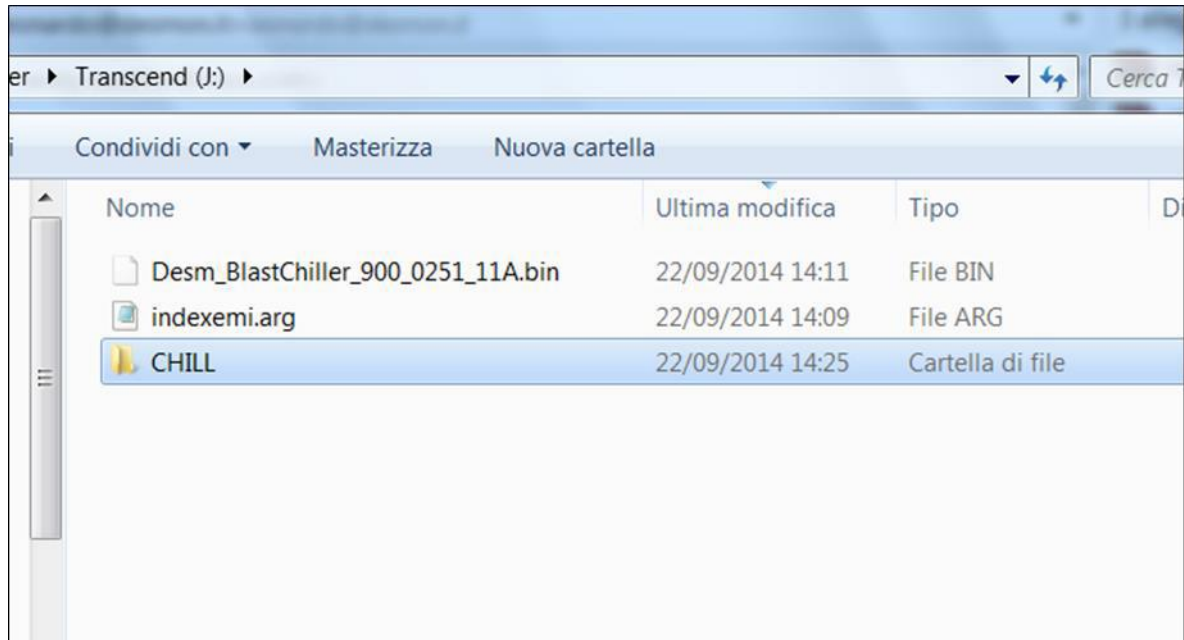
This functions allows a firmware enhancement update related to the Power Relay Board. To do a **Firmware Update** please contact the manufacturer service support team for the necessary files. These files will come in a zipped folder, containing the following files;

- **CHILL.emi**
- **indexemi.arg**

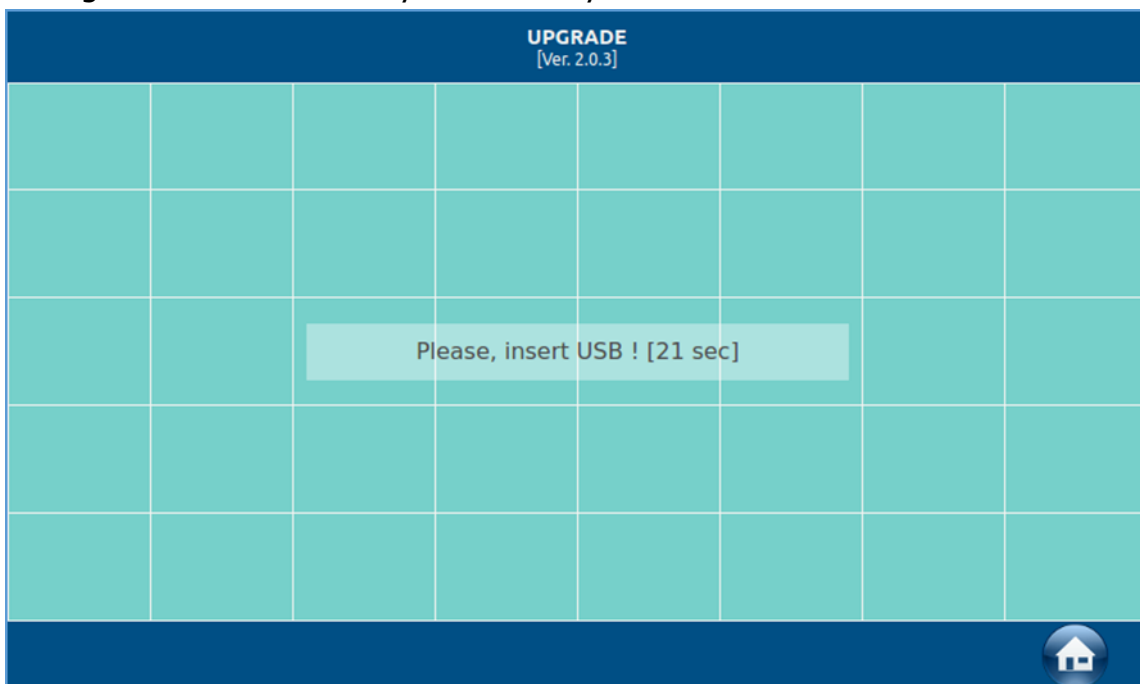
NOTE: the file **index.arg** changes according to the type of **Software Update** (**Software**, **Parameters** or both **Software** and **Parameters**).

➤ **Desm_BlastChiller_900_0251_11A.bin**

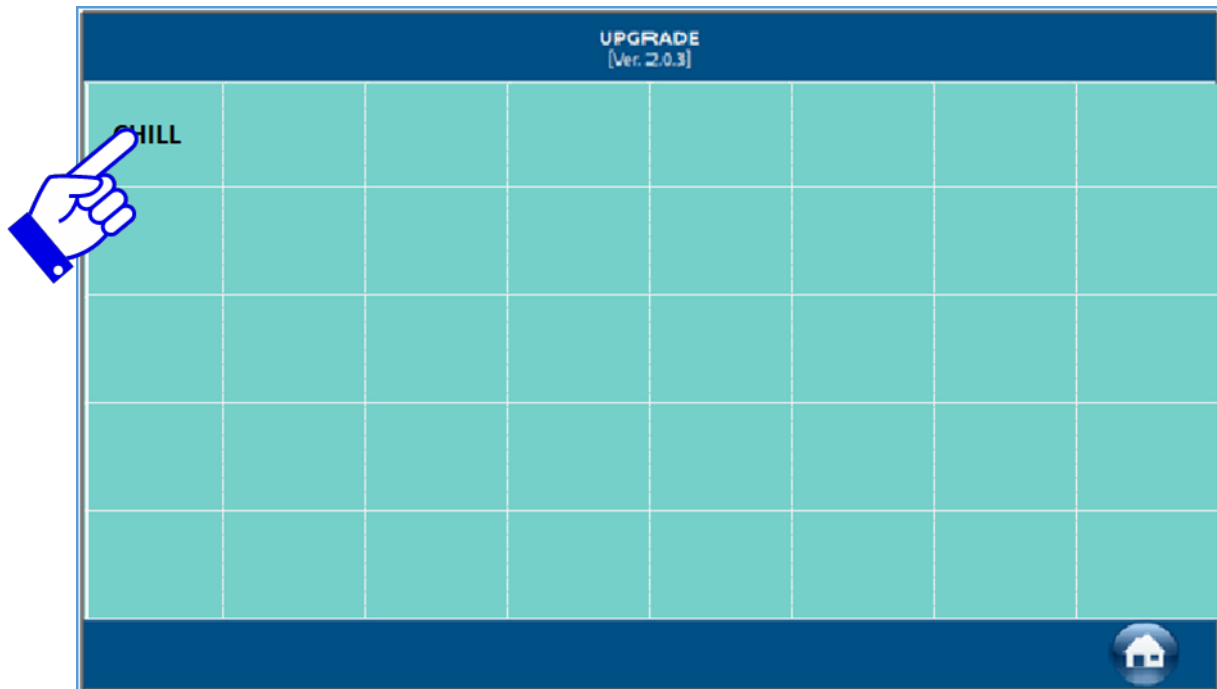
- A. Download the files onto a pc.
- B. Connect an empty, formatted USB drive to it.
- C. On the USB drive, create a folder and name it "**CHILL.**"
- D. Copy the file named **CHILL.emi** in the "**CHILL**" folder.
- E. Close the folder and on the same USB drive, copy the files **indexemi.arg** and **Desm_Blastchiller_900_0251_11A.bin**.
- F. The USB drive will show the following;



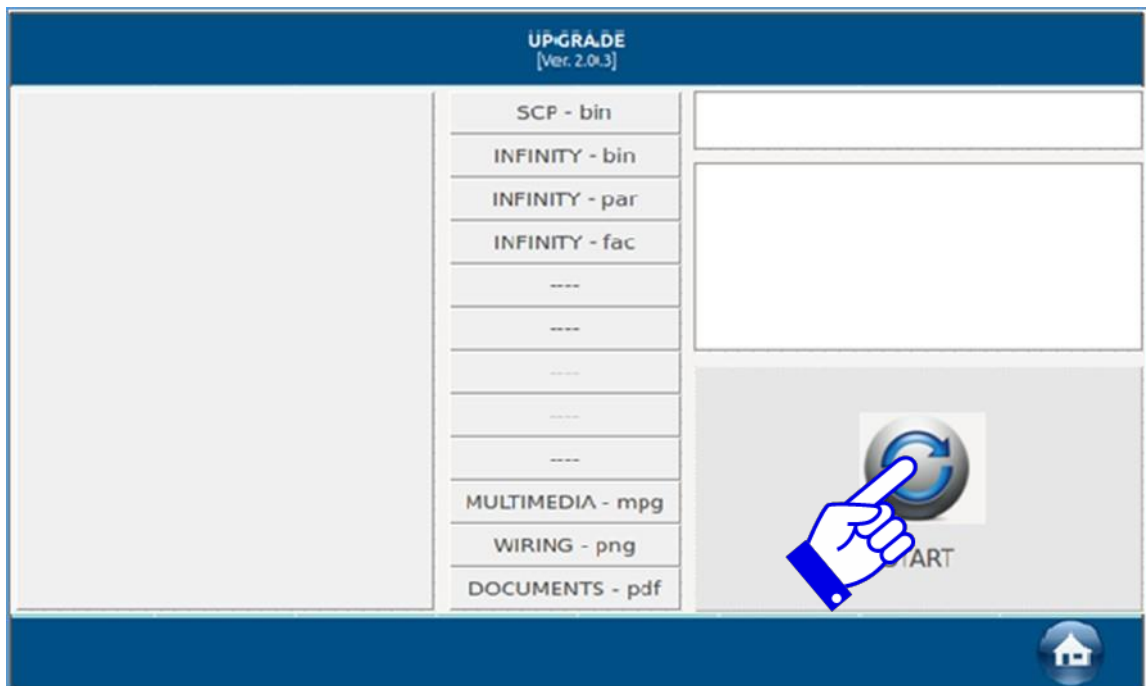
- A. Remove the **USB** from the **PC**, slide the right side of the **Touch Screen** bezel open and connect the **USB** drive to the port.
- B. Go to the **USB** function and select **SOFTWARE UPDATE**. A screen will pop up asking to insert the **USB** key until the key is detected.



Once the **USB** key is detected and the files are read, the screen will show **CHILL** on the upper left hand corner.

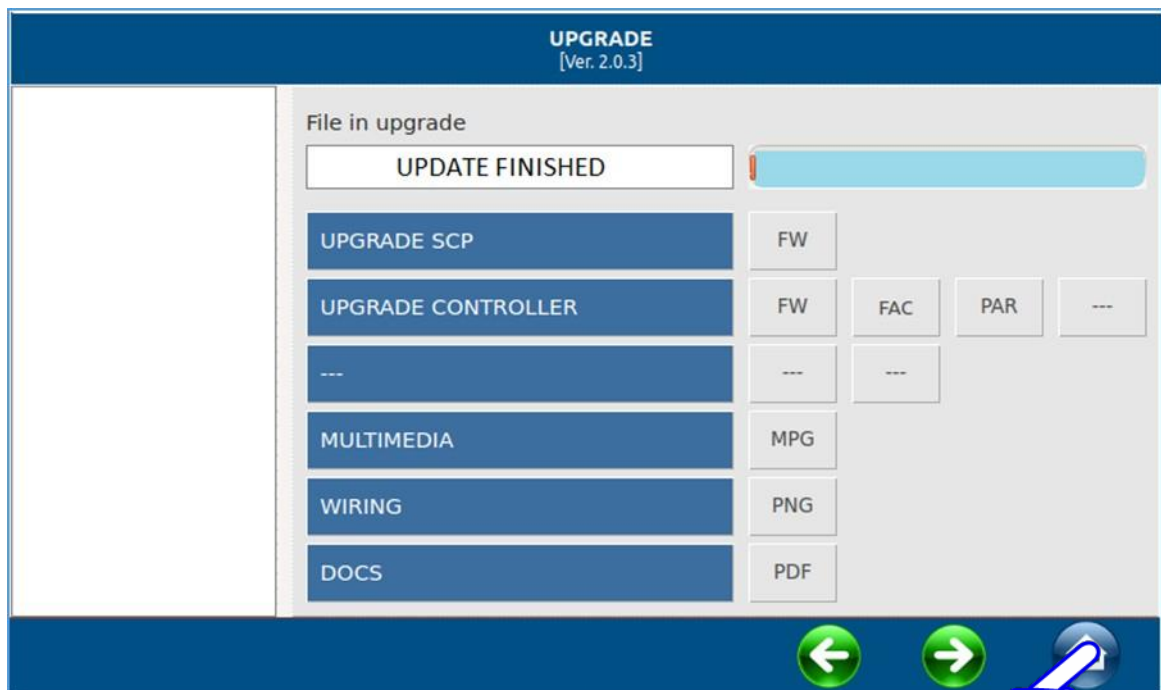


Press on **CHILL** to begin the update.

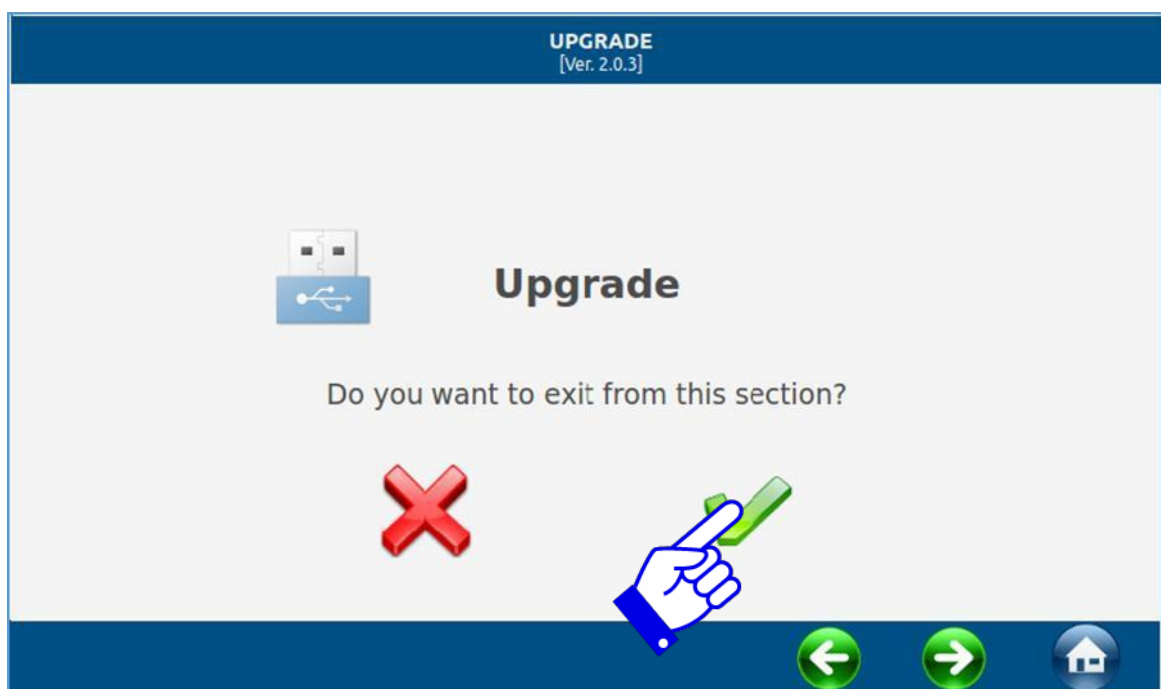


When this screen appears, press the **Start** icon and the update will begin.

The following screen will appear during the updating process.



At the end of the procedure the screen will show **UPDATE FINISHED**. Press the **HOME** icon on the right bottom side to confirm and then press the **HOME** icon again. After pressing the **Home** icon twice, the next screen will appear, press the **Green Checkmark** icon to exit from the update procedure. The control will then reboot and return to the **Home** screen.



4.3.3. Software Update (Parameters Only)

This function will allow only the **Parameter** settings to be loaded from a **USB** drive, but basically requires the same procedure as were used in the **Software Update** above. To perform a **Parameter** update please contact the manufacturer service support team for the necessary files. These files will come in a zipped folder, containing the following files;

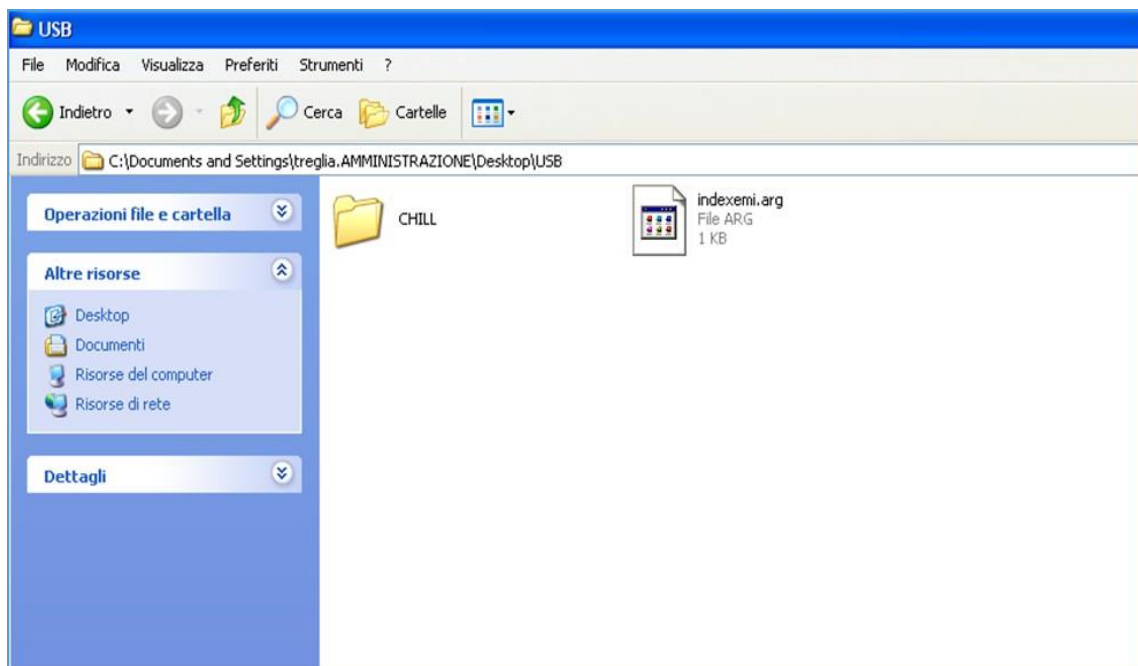
- > **CHILL.emi**
- > **indexemi.arg**

NOTE: the file **index.arg** changes according to the type of **Software Update** (**Software**, **Parameters** or both **Software** and **Parameters**).

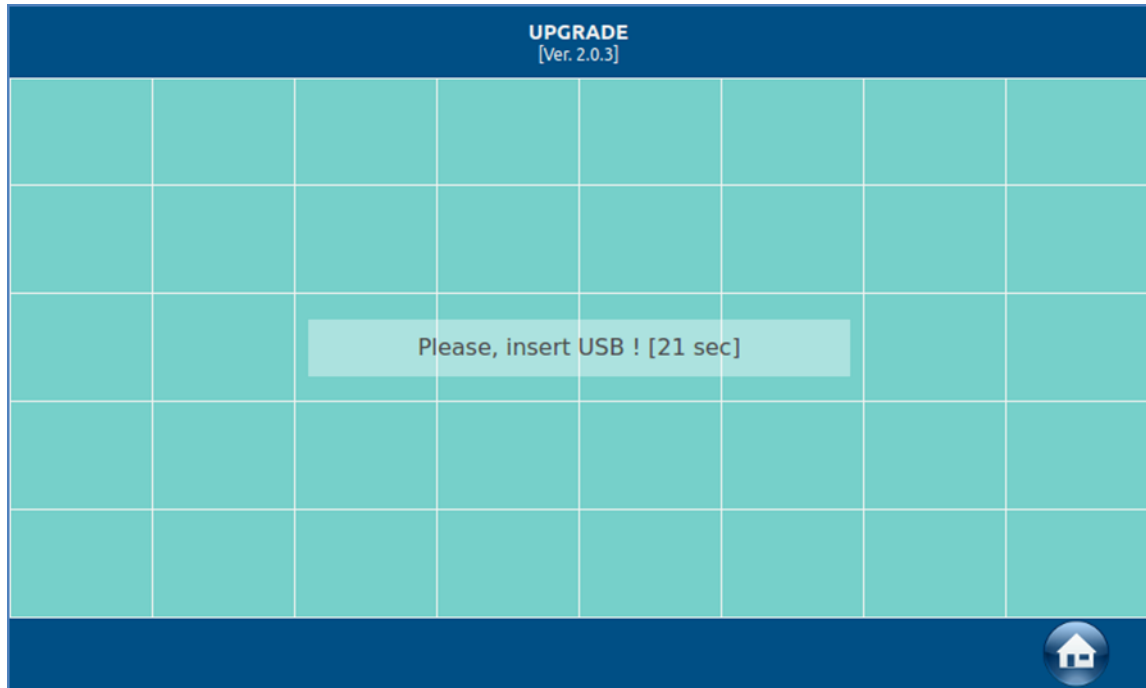
- > **parA.fac**

- A. Download the files onto a **Pc**.
- B. Connect an empty, formatted **USB** drive to it.
- C. On the **USB** drive, create a folder and name it "**CHILL**."
- D. Copy the file **CHILL.emi** and **parA.fac** into the "**CHILL**" folder.
- E. Exit from the "**CHILL**" folder and on the same **USB** drive, copy the files **indexemi.arg**

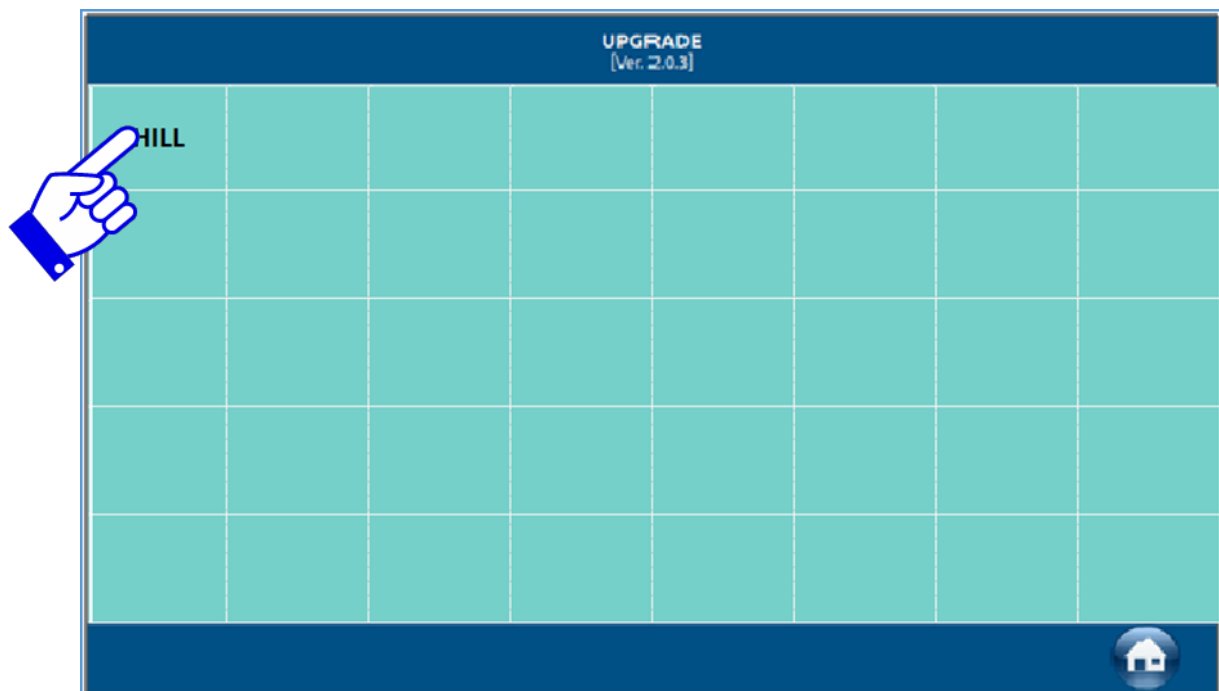
The **USB** content will show as in the below picture:



- A. Remove the **USB** from the **PC**, slide the right side of the **Touch Screen** bezel open and connect the **USB** drive to the port.
- B. Go to the **USB** function and select **SOFTWARE UPDATE**. A screen will pop up asking to insert the **USB** key until the key is detected.

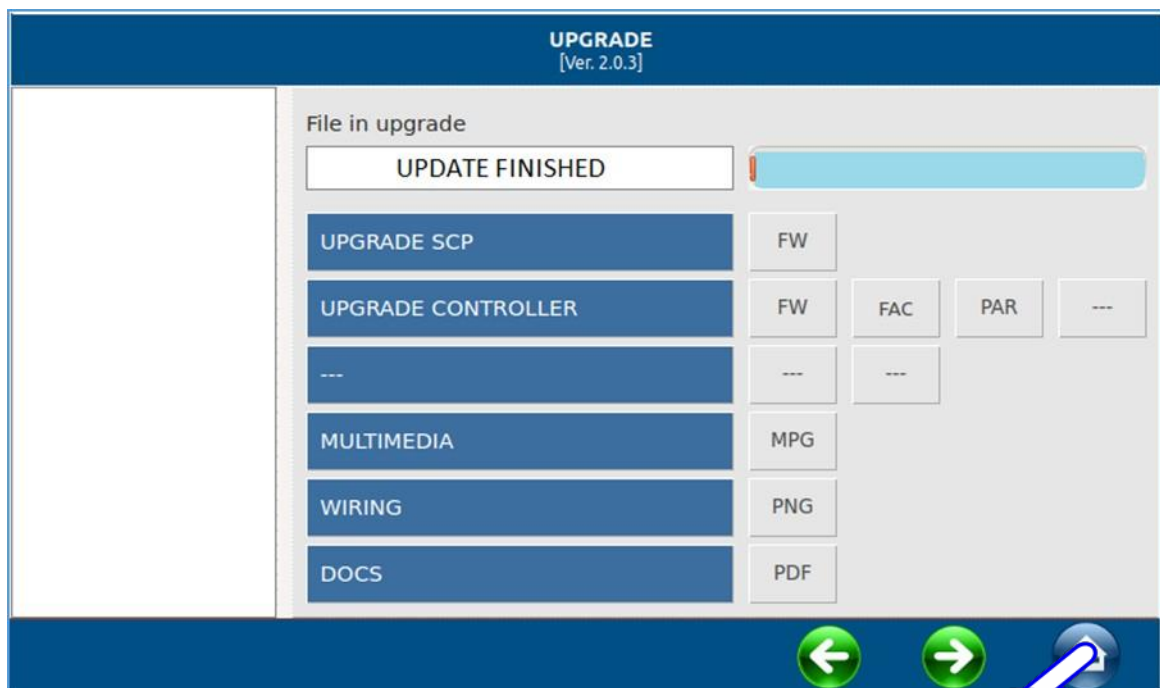
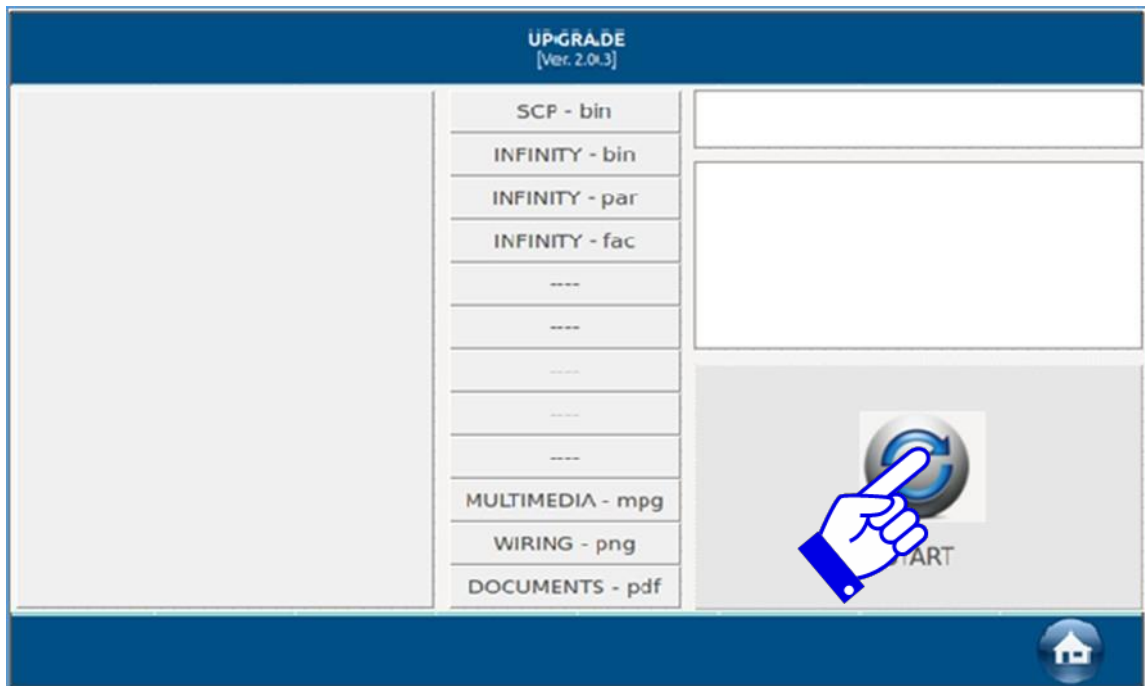


Once the **USB** key is detected the screen will show **CHILL** in the upper left hand corner.



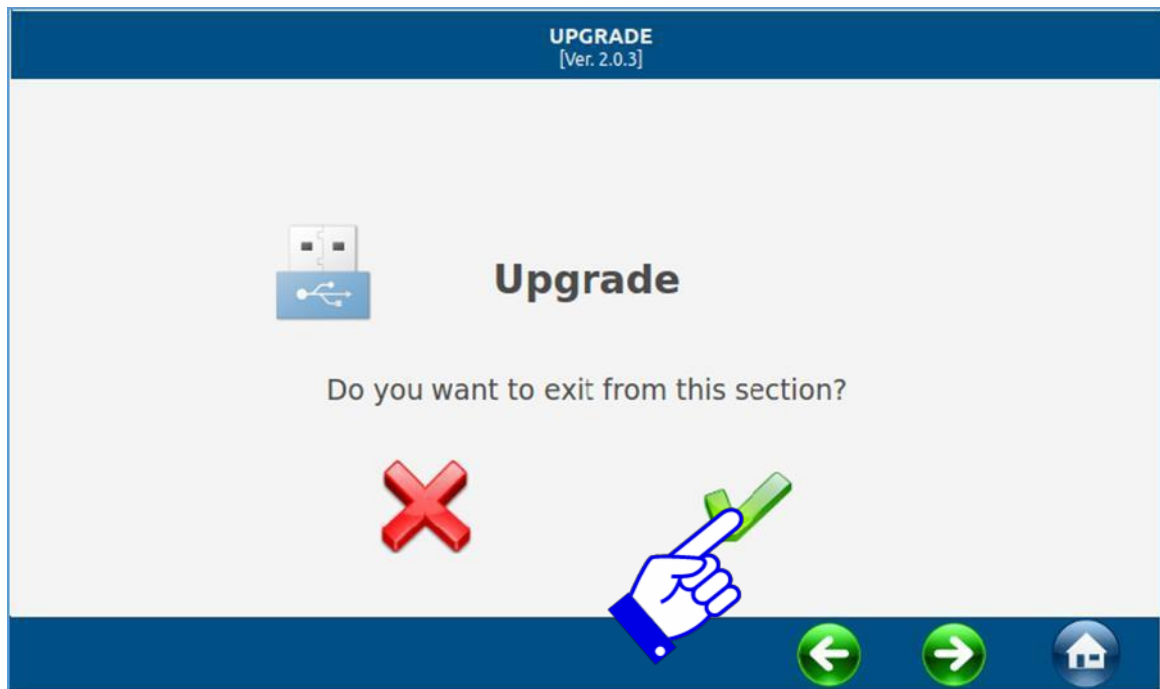
Press on **CHILL** to begin the update.

The following screen will appear during the updating process. Press **START** icon.

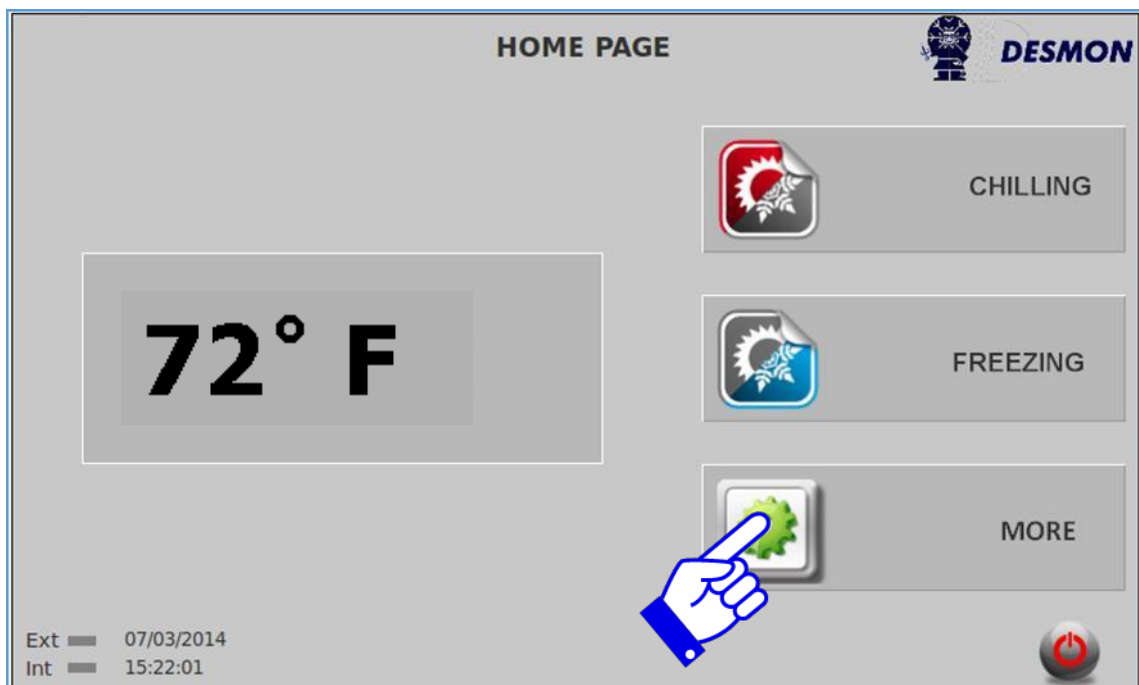


X 2

At the end of the procedure the screen will show **UPDATE FINISHED**. Press the **HOME** icon on the right bottom side to confirm and then press the **HOME** icon again. After pressing the **Home** icon twice, the next screen will appear, press the **Green Checkmark** icon to exit from the update procedure. The control will then reboot and return to the **Home** screen



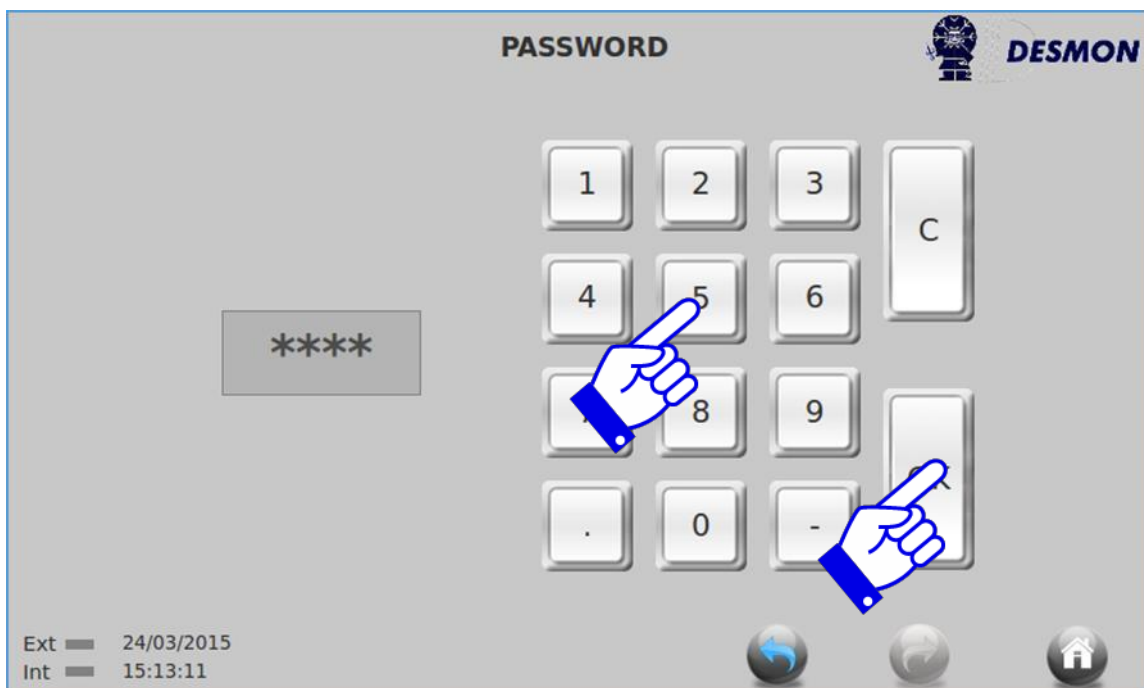
To enable the new updated **Parameter** settings, a **PARAMETER RESTORE** is needed. From the Home screen press the **MORE** icon.



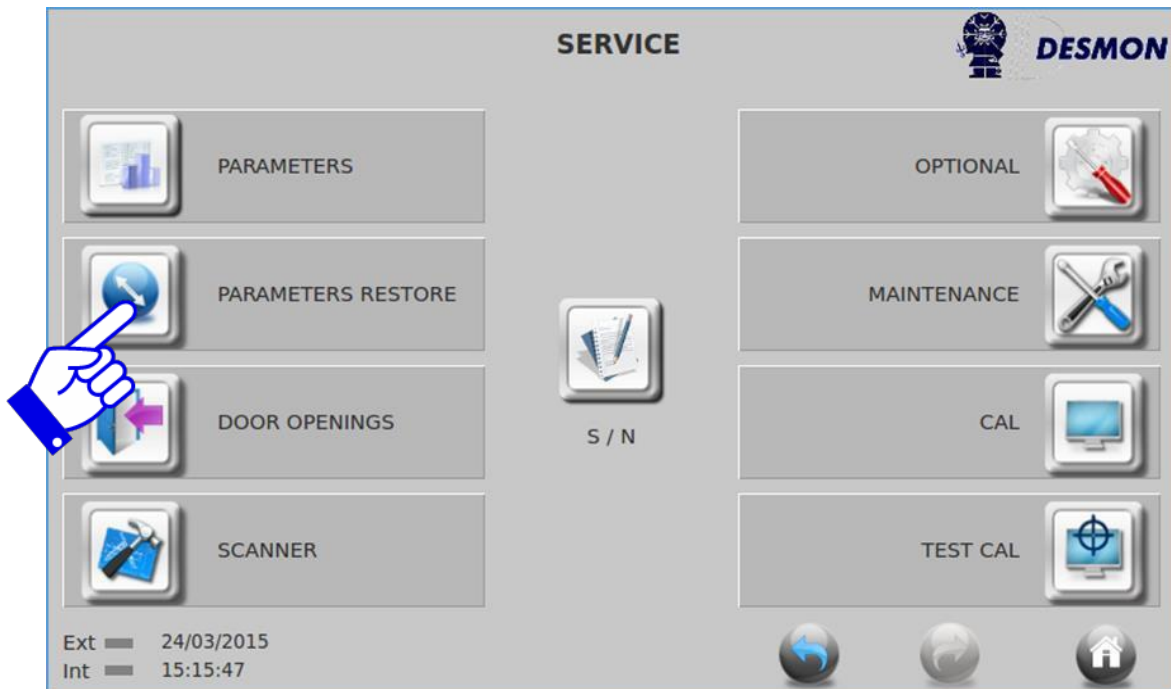
Press **Service** icon.



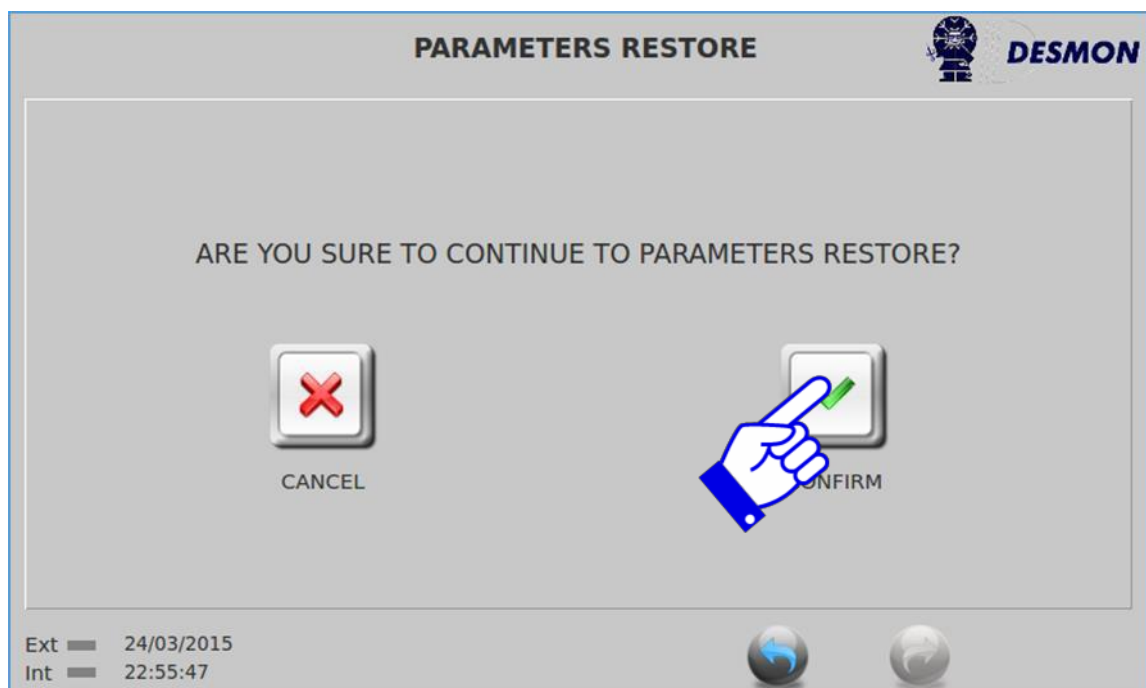
Insert the password provided to you by the manufacturer service team member and press **OK**



Press the **Parameters Restore** icon.



Confirm by pressing the **Green Checkmark**.



Once the **Parameters** have been updated the control will return to the **Home** screen.

4.3.4. Software Update (Both Software and Parameters)

This functions allows a new **Software** and **Parameter** update. To do a **Software** and **Parameter Update** please contact the manufacturer service support team for the necessary files. These files will come in a zipped folder, containing the following files;

> **CHILL.emi**

> **indexemi.arg**

NOTE: the file **index.arg** changes according to the type of **Software Update** (Software, parameters or both **Software** and **Parameters**)

> **Desm_BlastChiller_900_0251_11A.bin**

> **parA.fac**

A. Download the files onto a **Pc**.

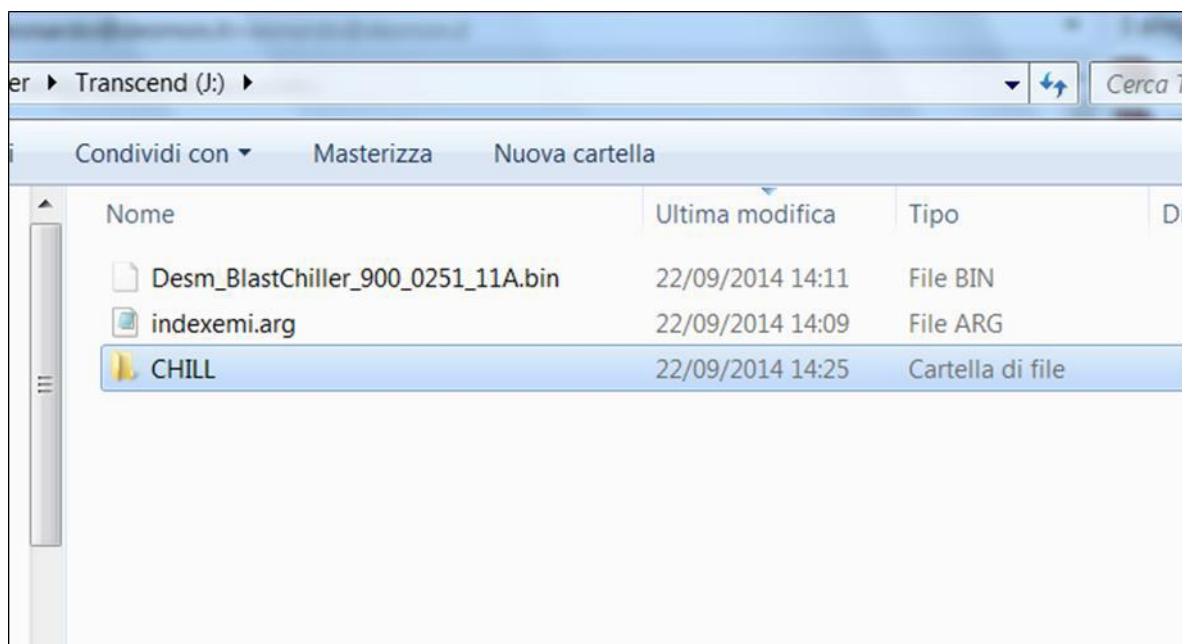
B. Connect an empty, formatted **USB** drive to it.

C. On the **USB** drive, create a folder and name it "**CHILL**"

D. Copy the file **CHILL.emi** and **parA.fac** into the "**CHILL**" folder.

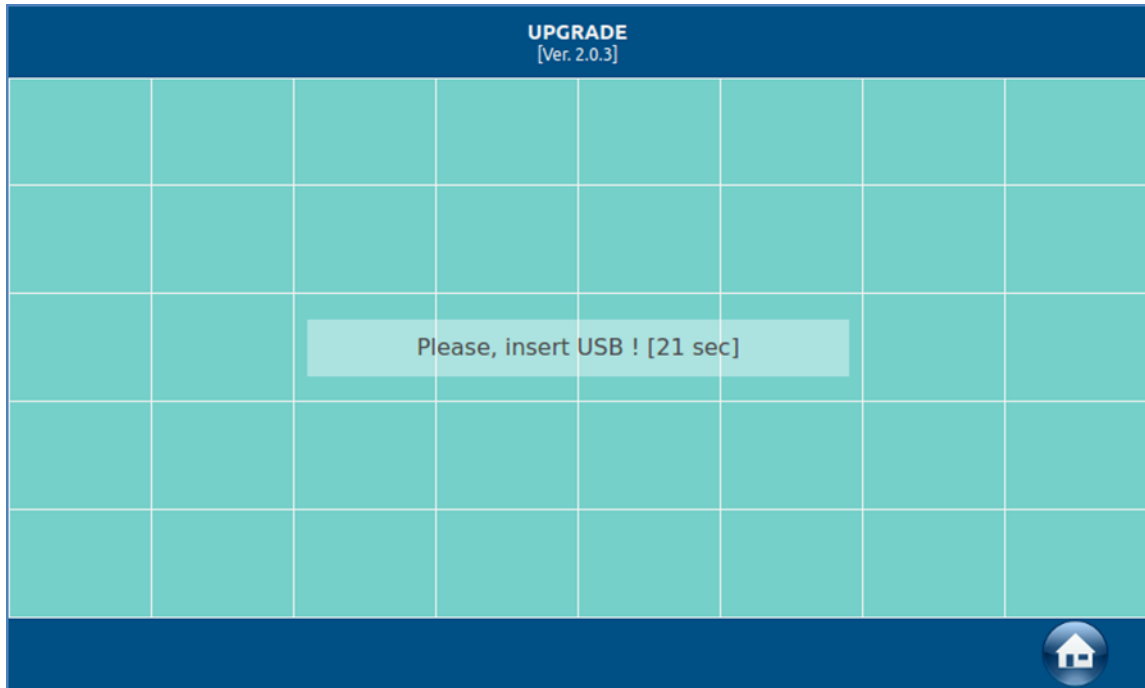
E. Exit from the "**CHILL**" folder and on the same USB drive, copy the files **indexemi.arg** and **Desm_BlastChiller_900_0251_11A.bin**

The **USB** content will show as in the below picture:

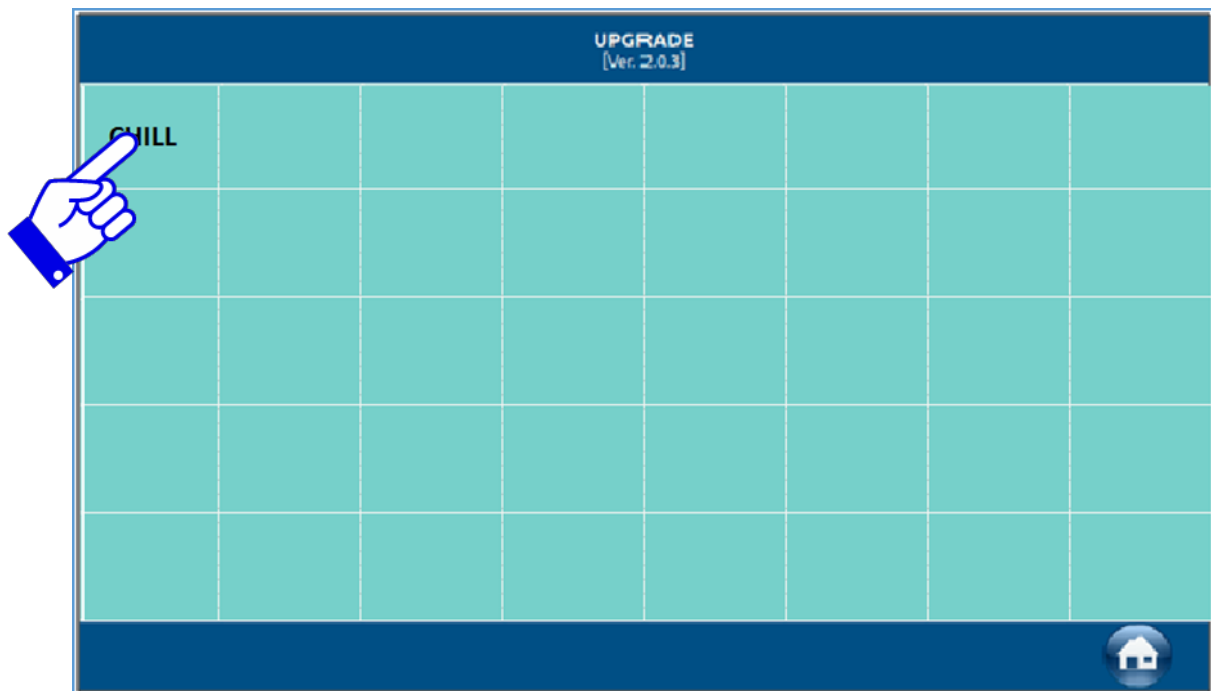


A. Remove the **USB** from the **PC**, slide the right side of the **Touch Screen** bezel open and connect the **USB** drive to the port.

B. Go to the **USB** function and select **SOFTWARE UPDATE**. A screen will pop up asking to insert the **USB** key until the key is detected.

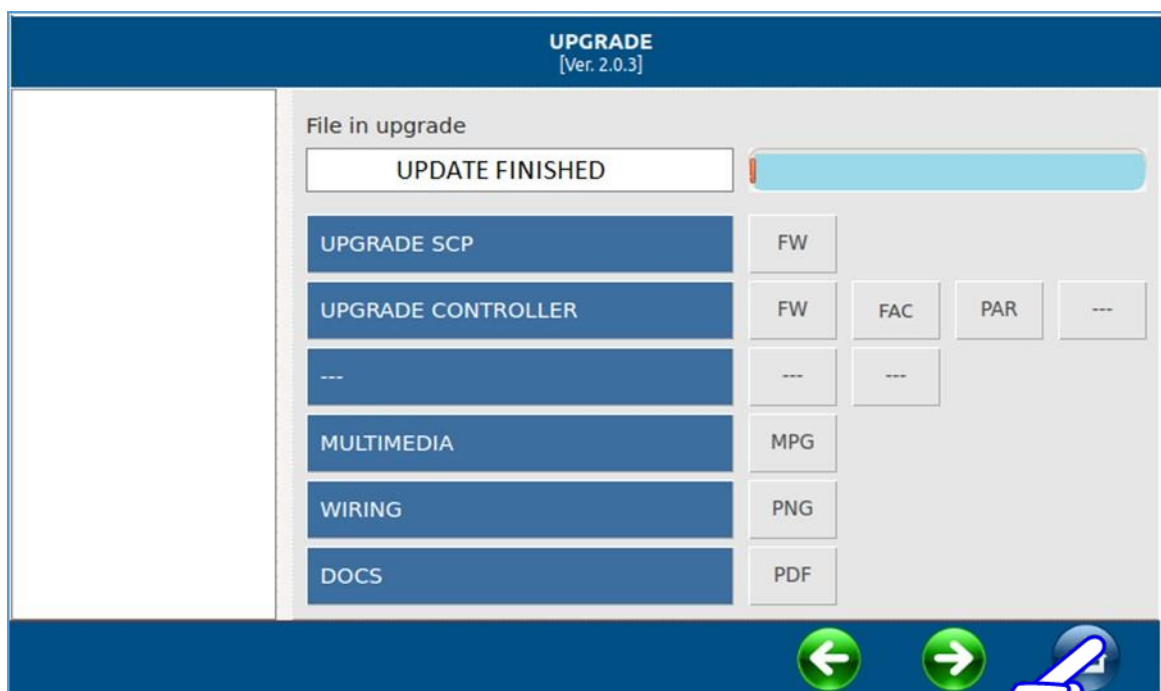
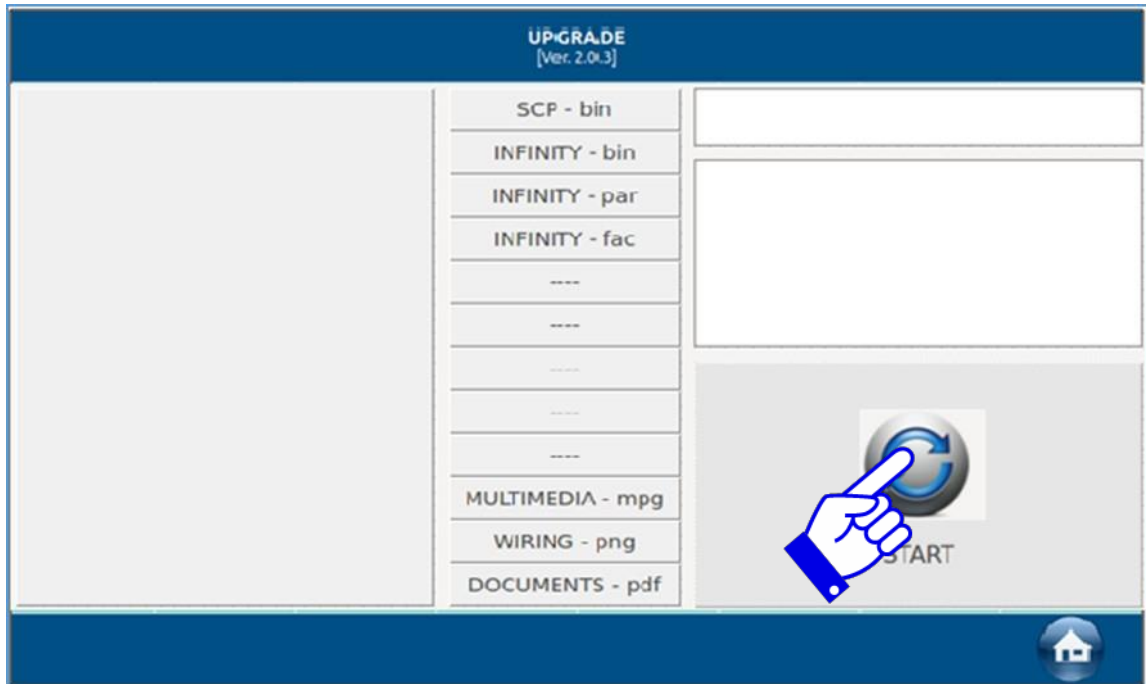


Once the **USB** key is detected the screen will show **CHILL** in the upper left hand corner.

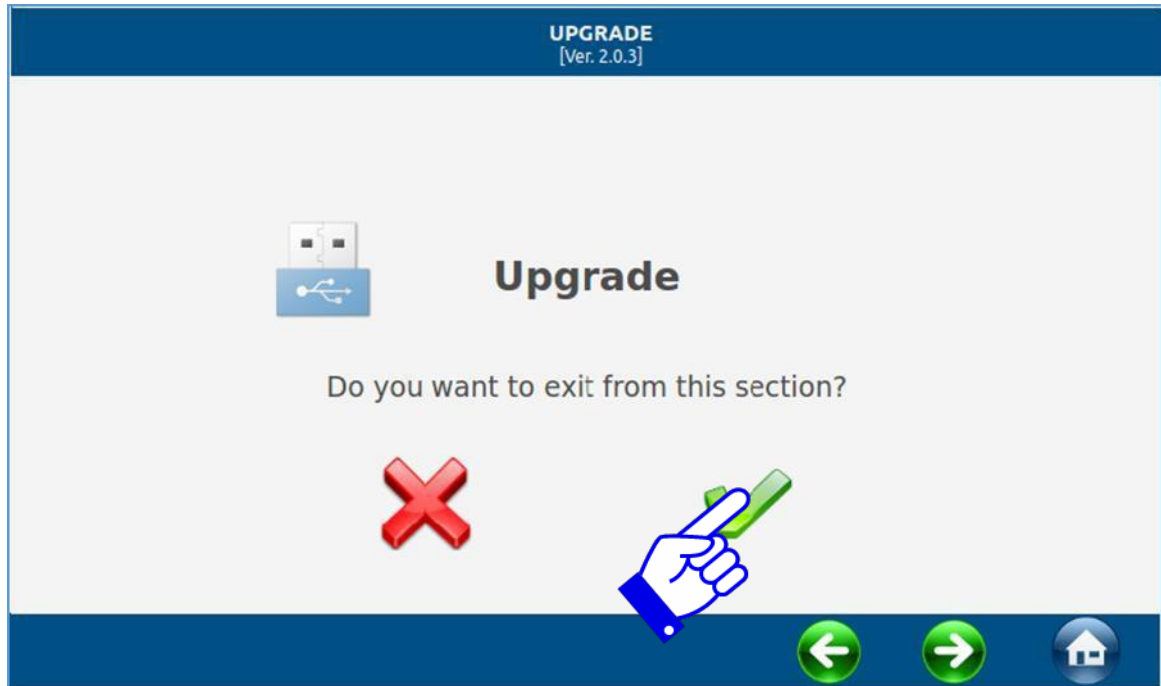


Press on **CHILL** to begin the update.

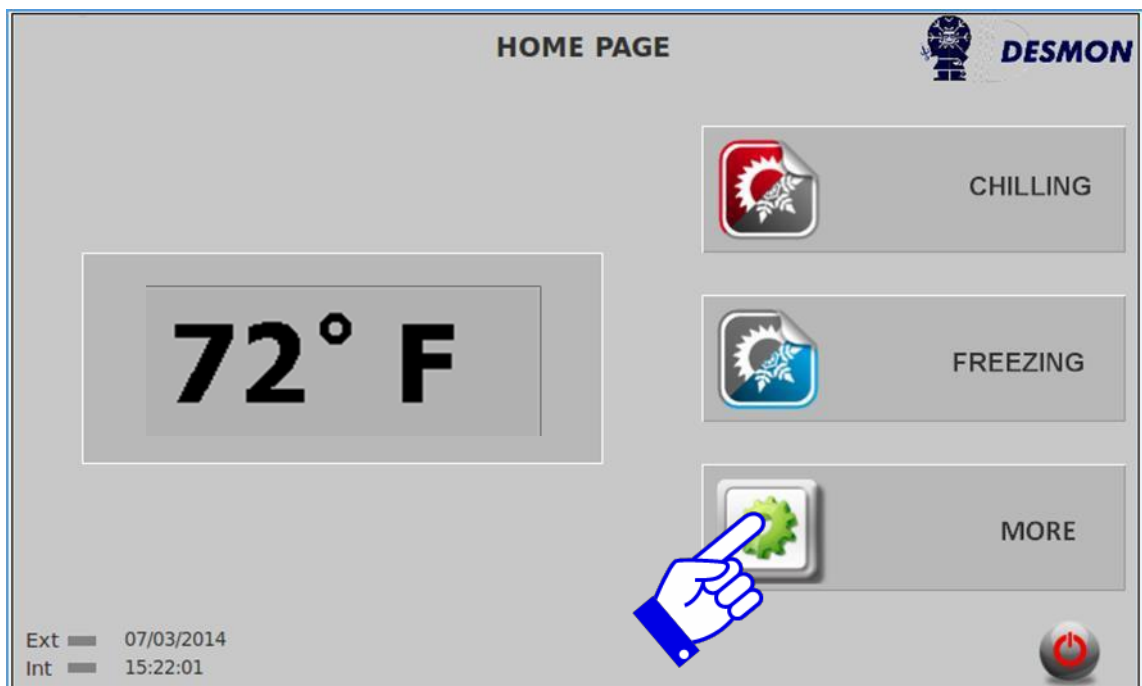
The following screen will appear during the updating process. Press **START** icon.



At the end of the procedure the screen will show **UPDATE FINISHED**. Press the **HOME** icon on the right bottom side to confirm and then press the **HOME** icon again. After pressing the **Home** icon twice, the next screen will appear, press the **Green Checkmark** icon to exit from the update procedure. The control will then reboot and return to the **Home** screen.



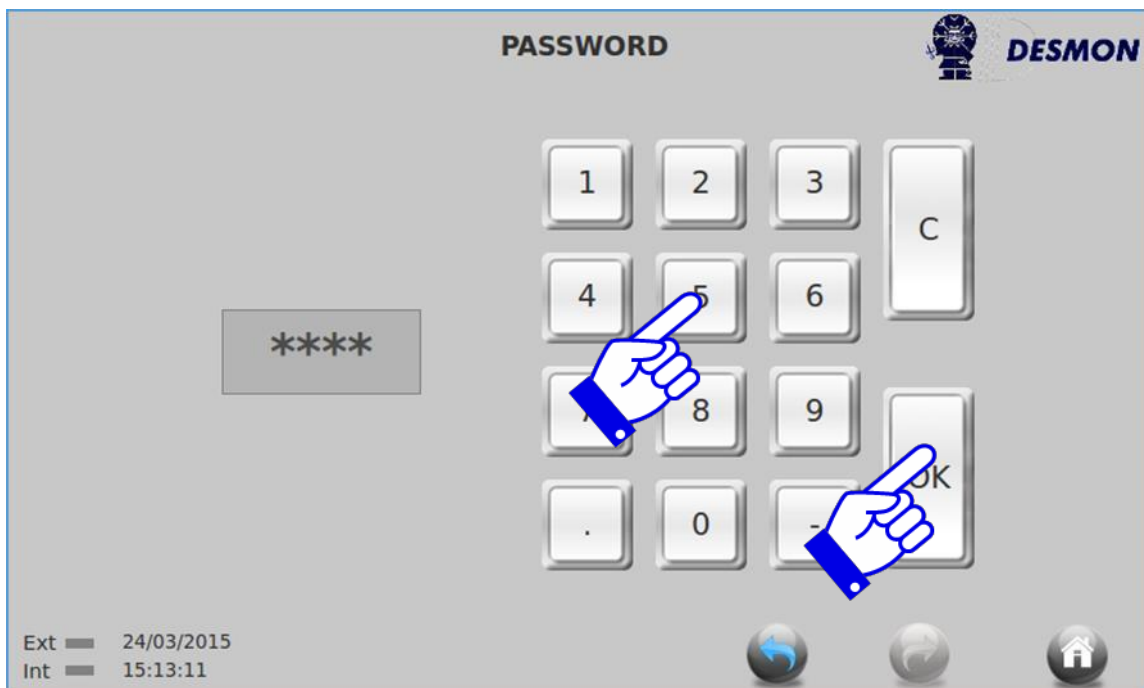
To enable the new updated **Parameter** settings, a **PARAMETER RESTORE** is needed. From the Home screen press the **MORE** icon.



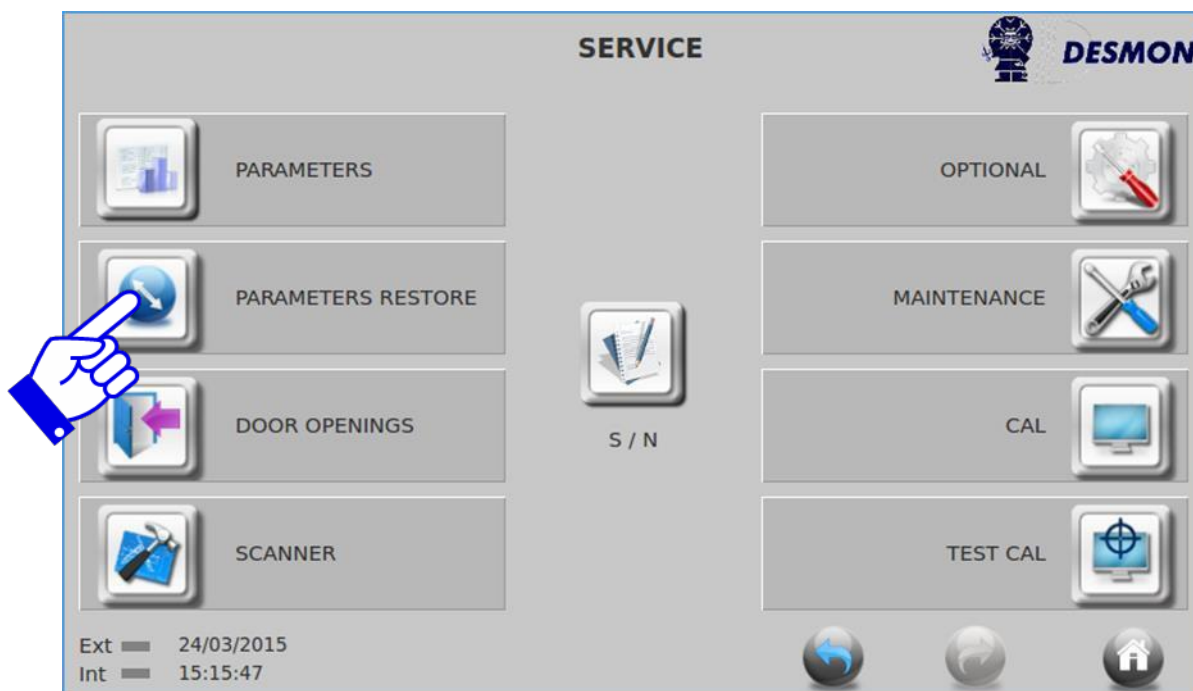
Next press **Service** icon.



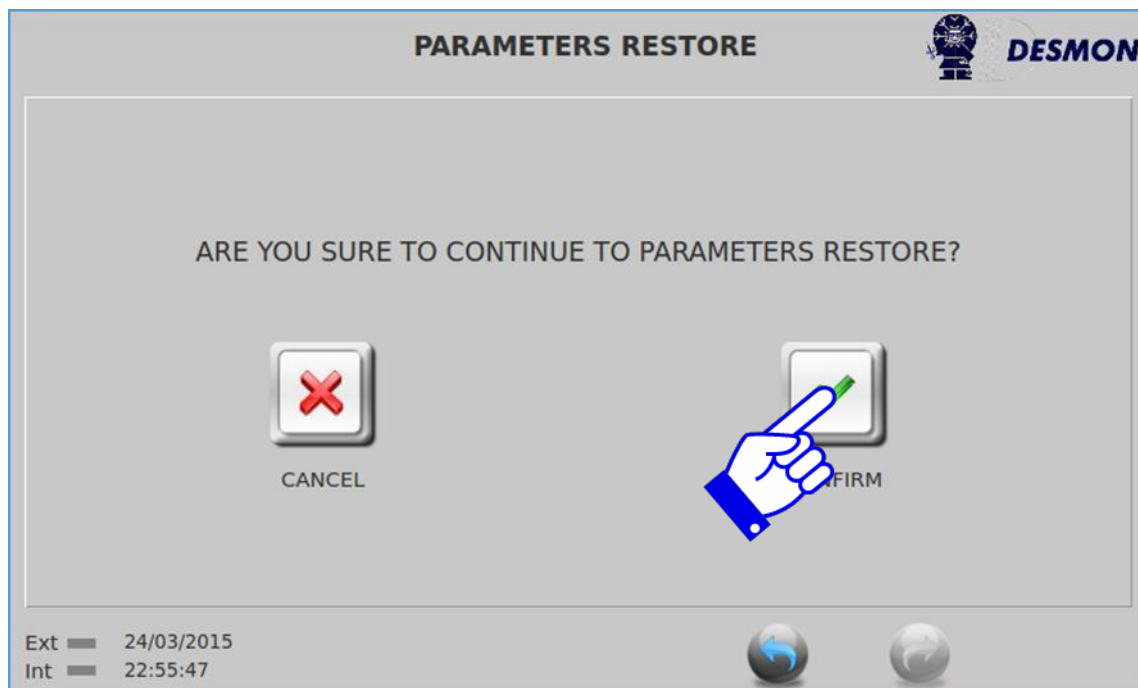
- A. Insert the password provided to you by the manufacturer service team member and press **OK**.



B. Next press the **Parameters Restore** icon.



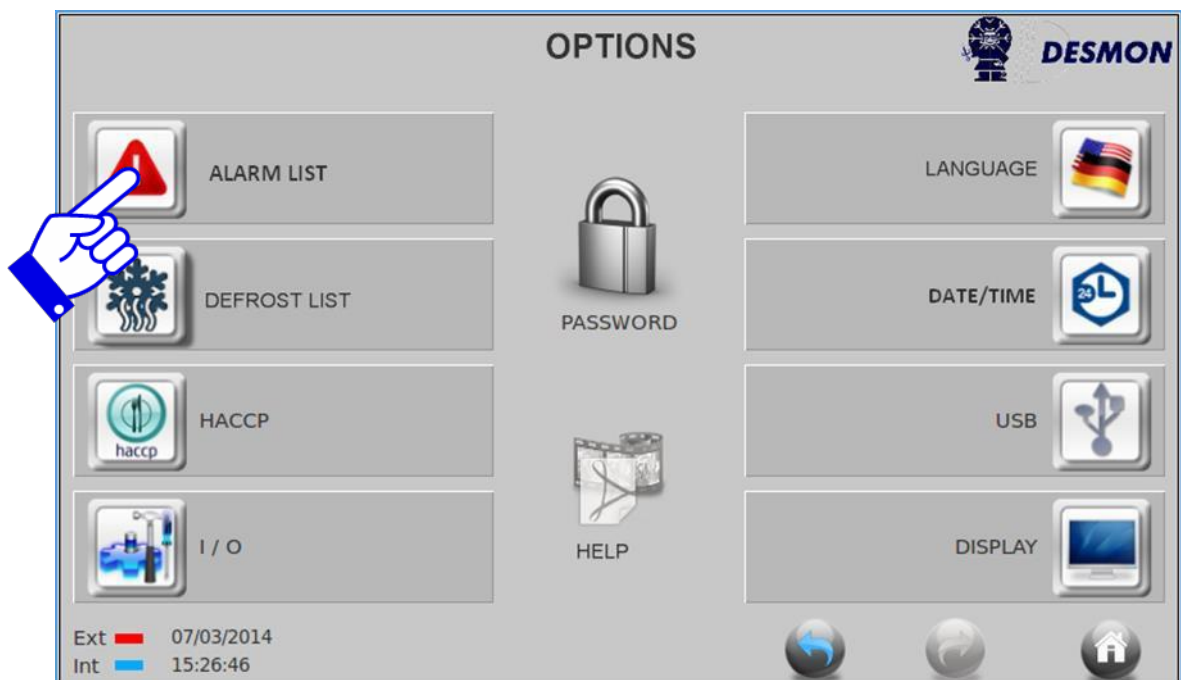
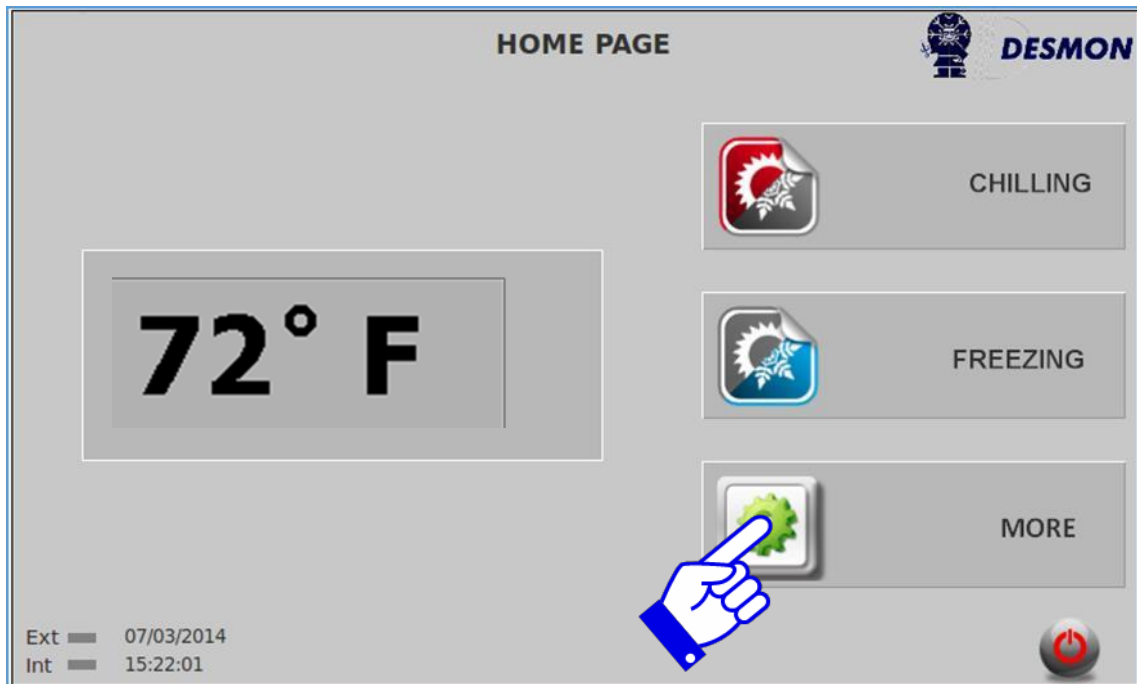
C. Confirm by pressing the **Green Checkmark**.



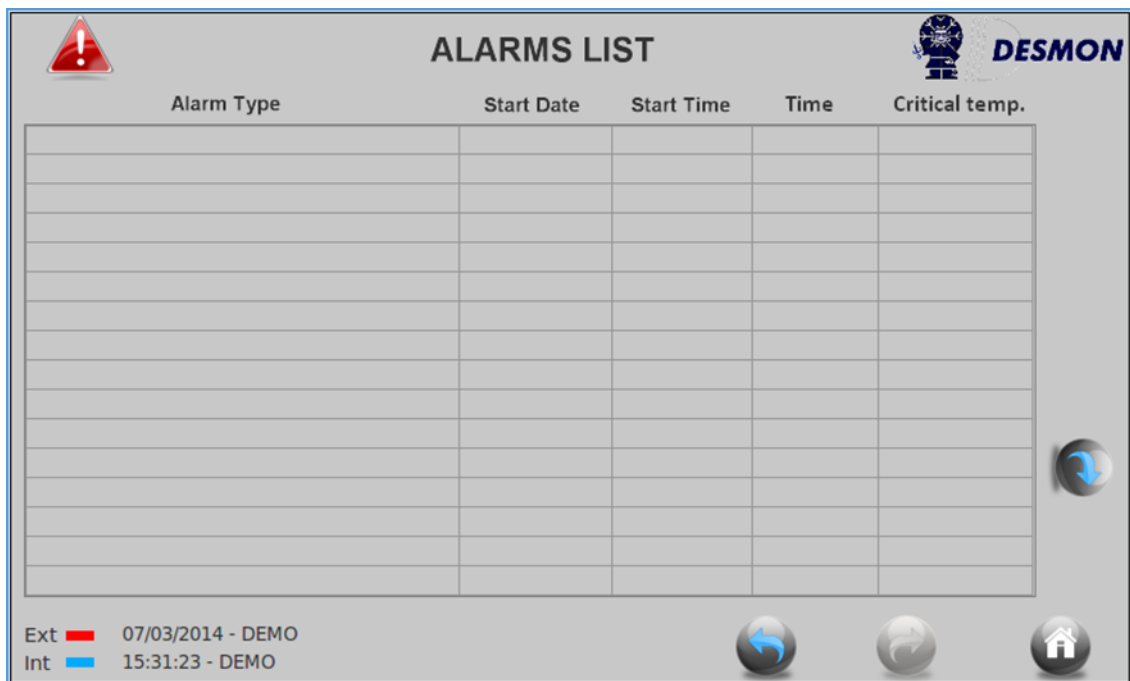
D. Once the **Parameters** have been updated the control will return to the **Home** screen.

4.4. Alarm List

This stores a list of any alarms that may occur during operation and is useful for diagnosing an issue with the equipment. It provides a description of the alarm, date and time they occurred. To access the **Alarm List**, from the **Home** screen, press the **More** icon



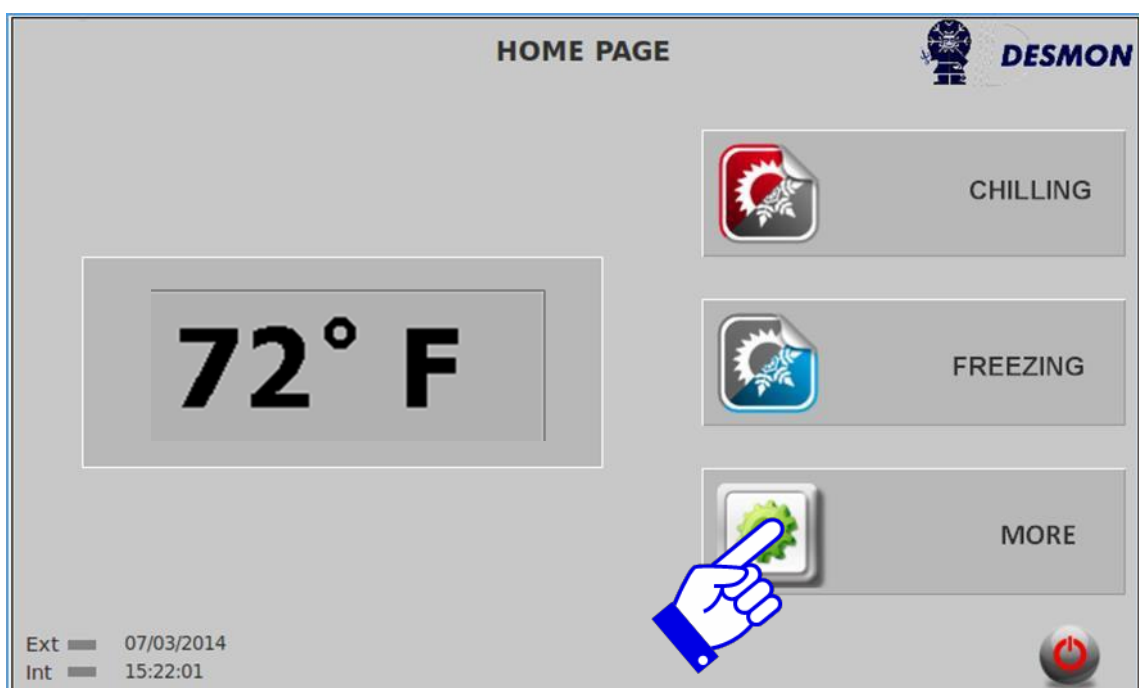
Next press the **Alarm List** icon.



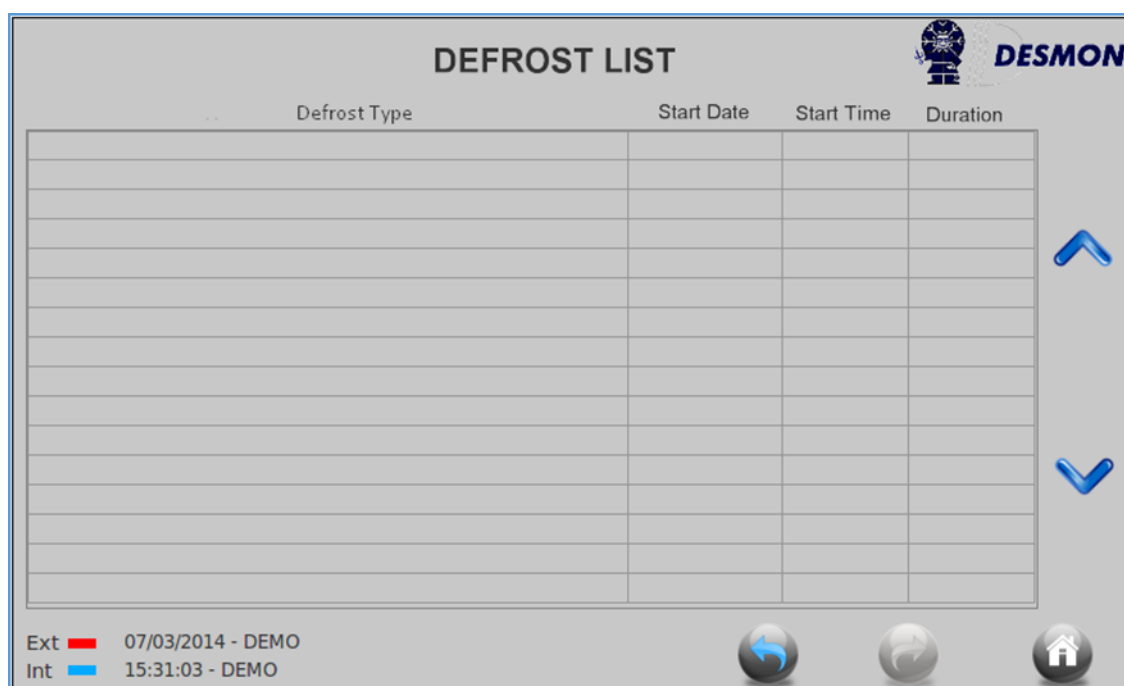
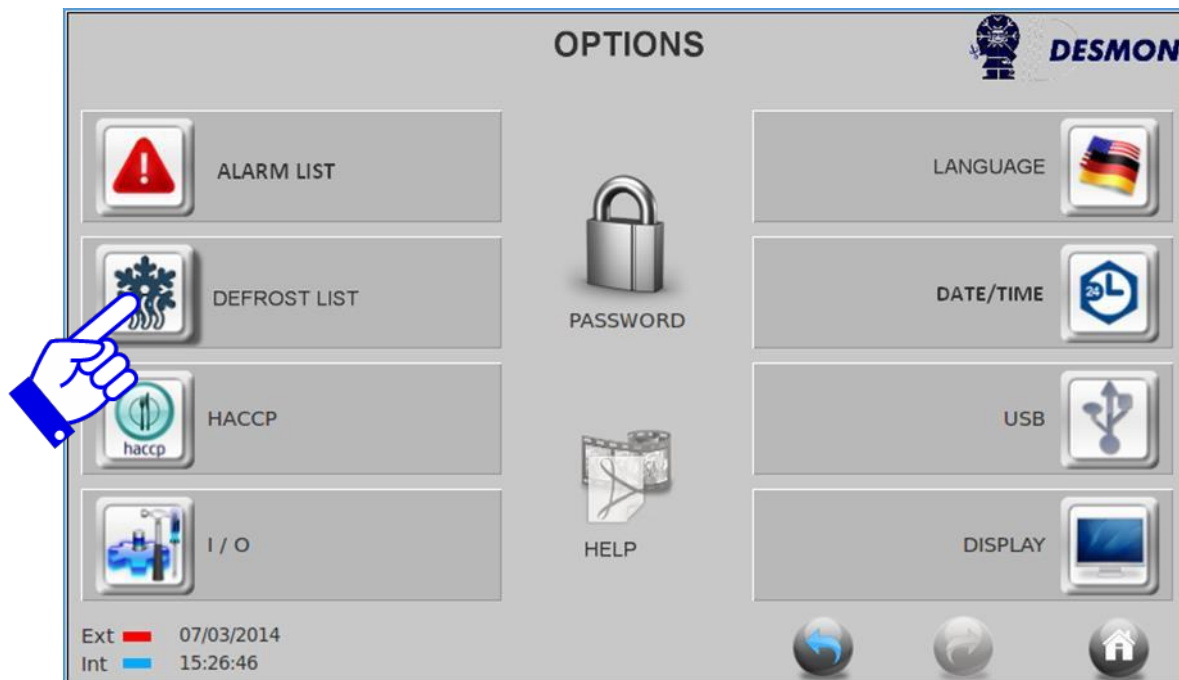
The **Alarm List** will tell you the type of alarm, the date it happened, the time it happened and if it was a critical temperature alarm, and one that may affect food safety.

4.5. Defrost List

This stores the **Defrost List** of any defrost cycles that have occurred during operation. To access this function, from the **Home** screen, press **More** icon.



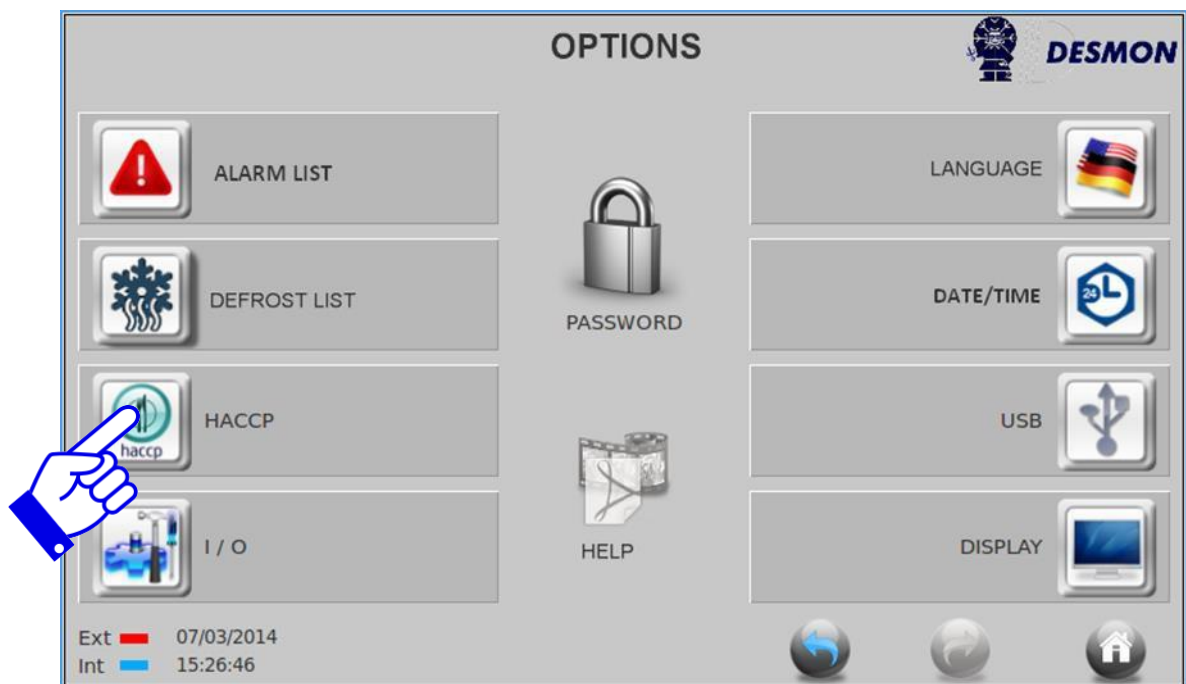
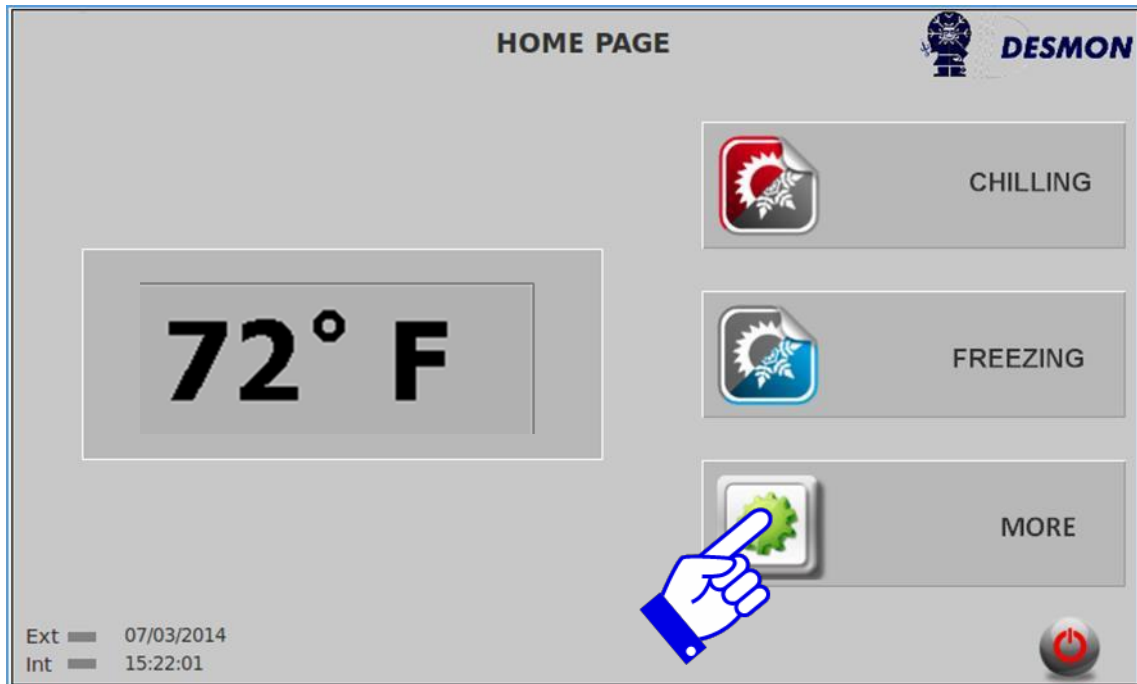
Next press the **Defrost List** icon.



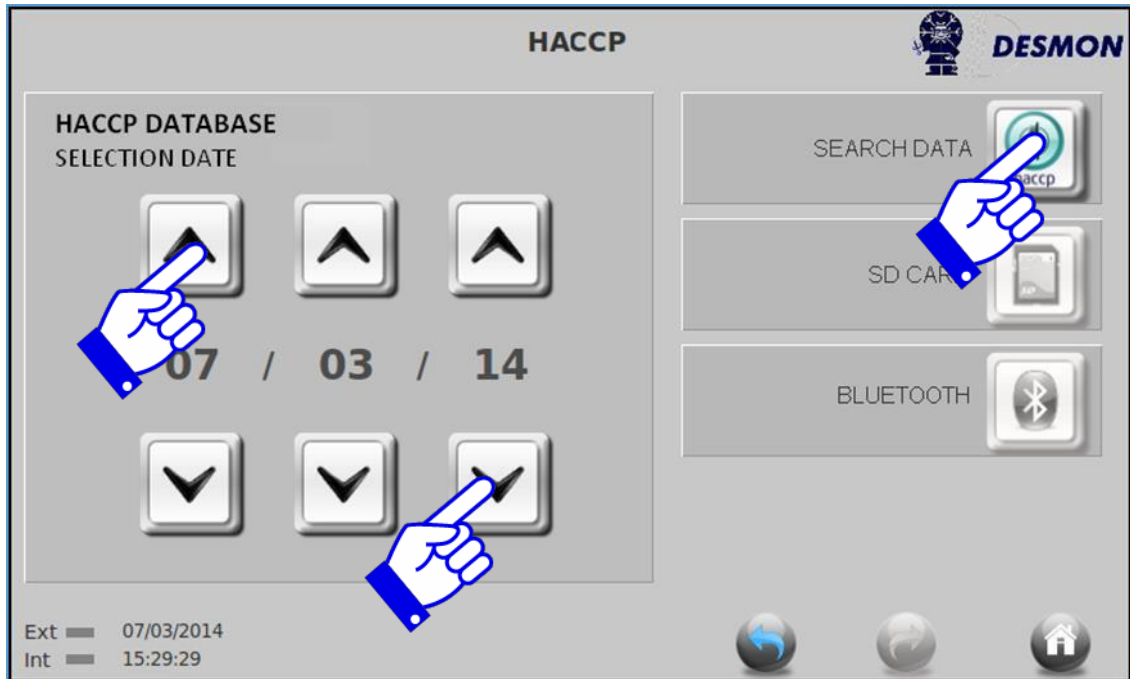
It provides a description of the defrost cycle, date and time they occurred. Use the up and down arrows to scroll through the list.

4.6. HACCP

This screen will provide you with a graph showing the **HACCP** data for the cycles made in the selected date. To access this function, from the **Home** screen, press **More** icon.



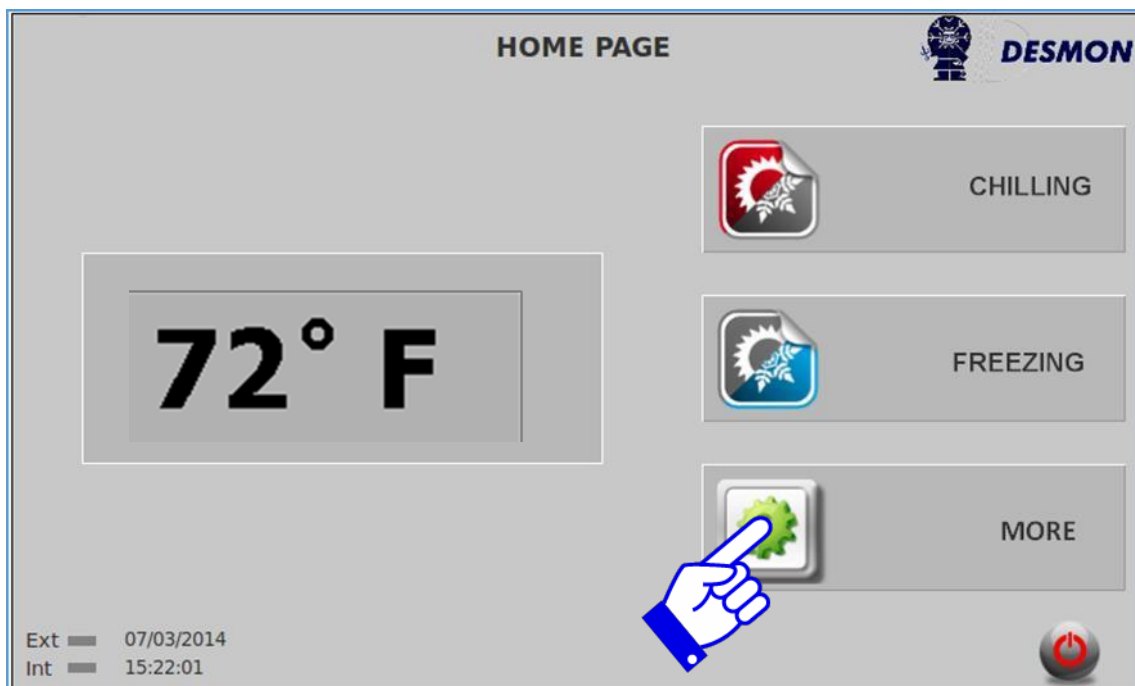
Next press the **HACCP** icon.



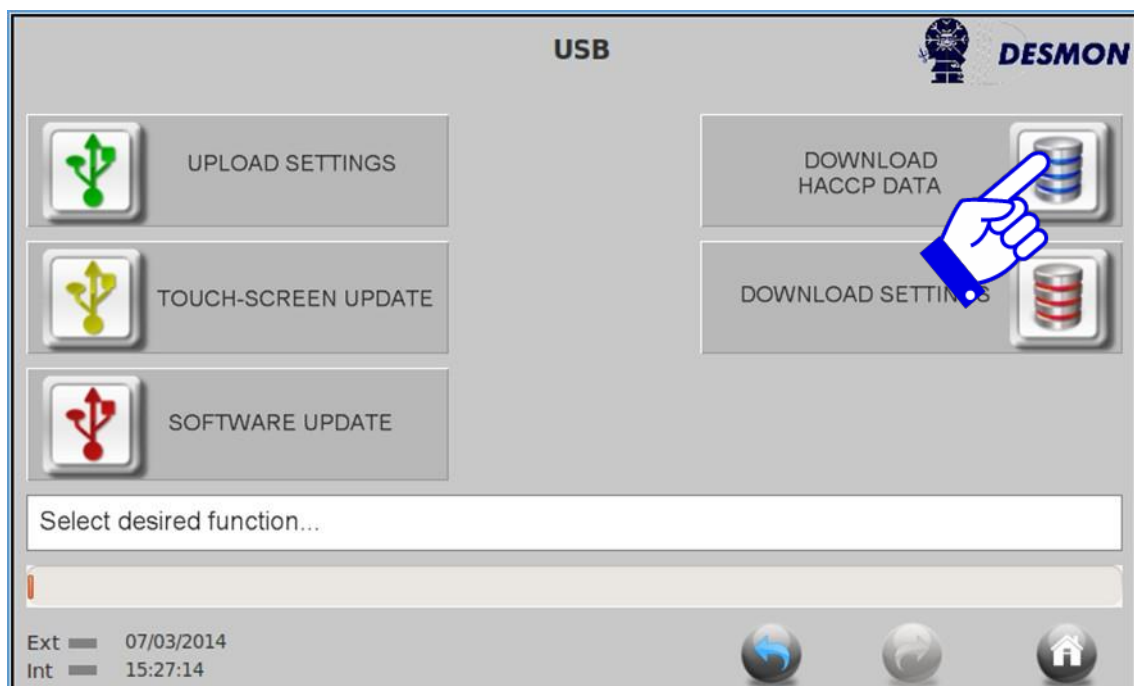
Using the **Up/Down** arrow keys, select the date to view. Once date is selected press **SEARCH DATA** to pop up on the windows cycle graph.

4.6.1. Download HACCP Data

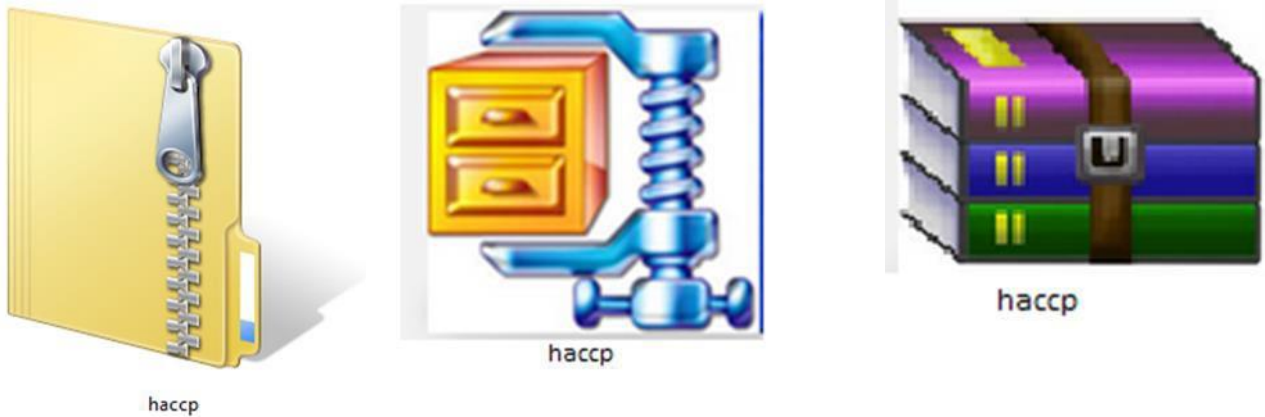
The **ThermalRite Easy Touch Screen Controller** is capable to export **HACCP** information to a **USB** drive. To access this function, from the **Home** screen, press the **More** icon.



Next press the **USB** icon.

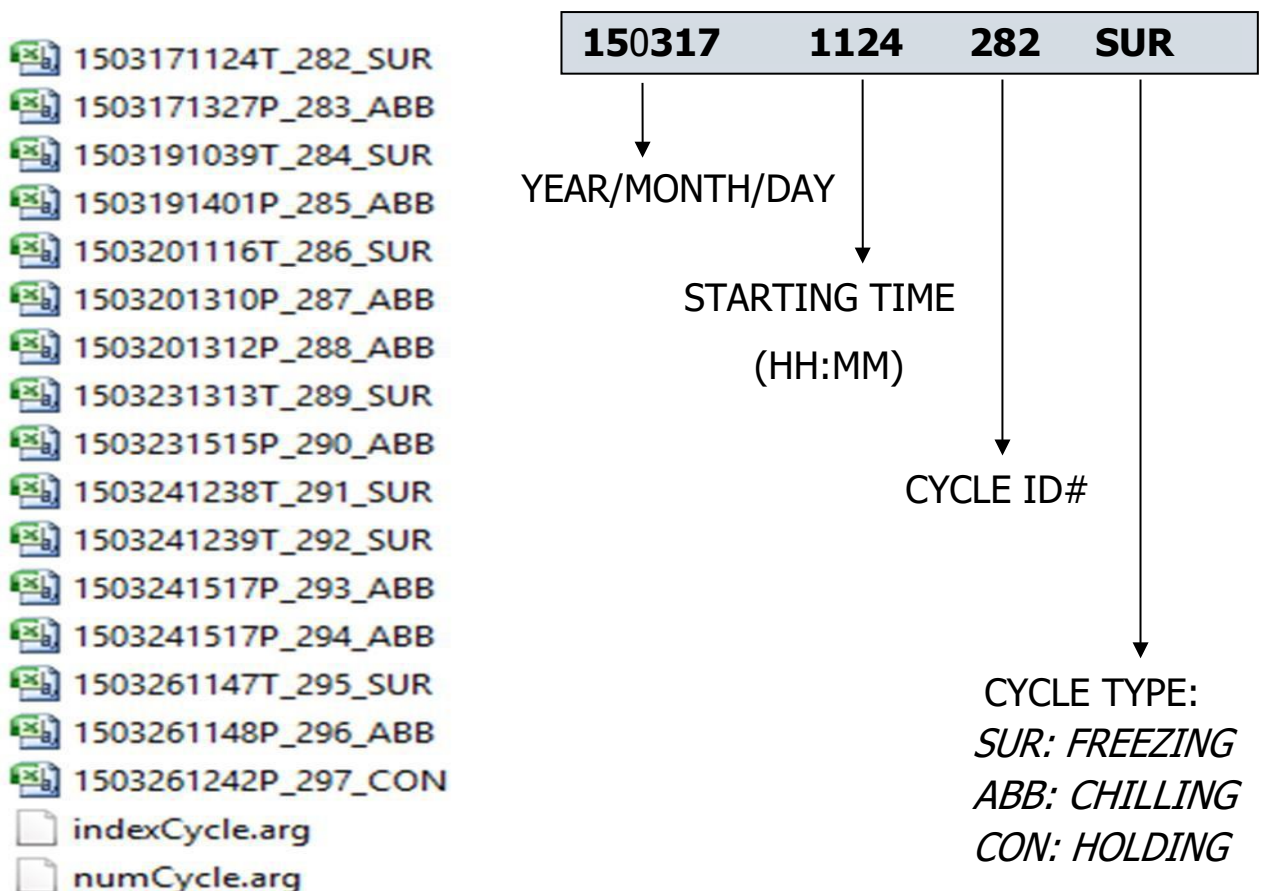


This function will export the **HACCP** data in a zipped file named "**haccp.zip**" on an empty, formatted **USB** drive. Depending on what type of zip software is installed on your **PC**, the file will look like the below examples.



The icon depends on the zip software installed on the PC. Use any zip software (such as **WINZIP, UNZIP, WINRAR, G7** or similar zip applications) to extract the file to a folder. The folder will be named "**haccp**" as well. The cycle data will be stored at the following path **haccp\home\root\haccp** and will be contained in the **.csv** files format (**Comma Separated Values**). They will be normally be loaded into an **Excel** file, like shown in the below example:

Every file represents a single cycle and is encoded as per the below examples::



Note: **indexCycle.arg** and **numCycle.arg** are encrypted files, do not open them unless instructed to do so.

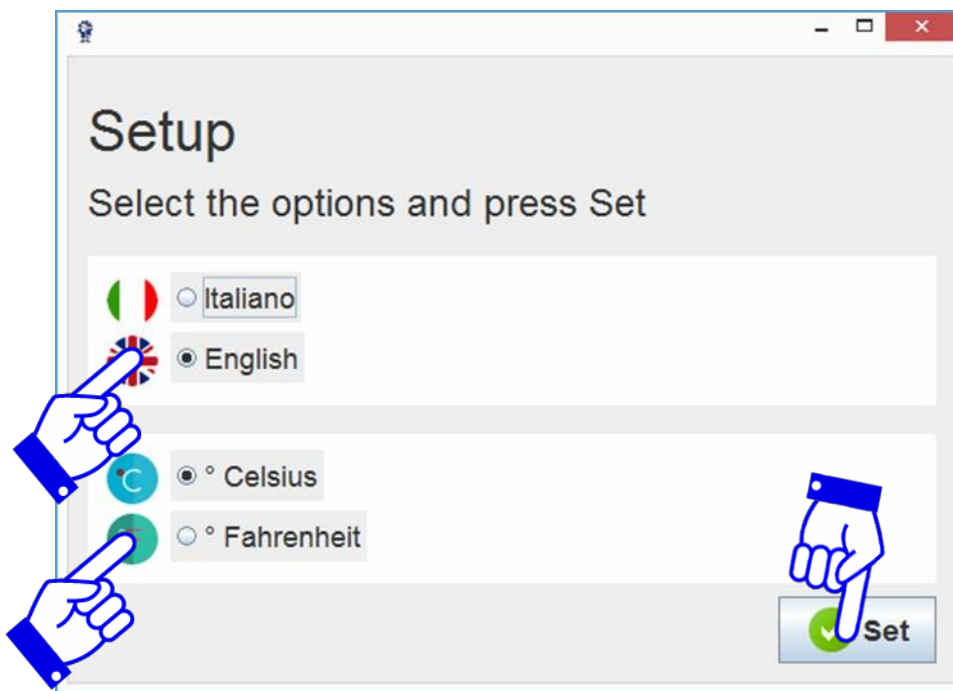
4.6.2. Using a Proprietary Software to Track HACCP Data

The above .csv files can be easily loaded and tracked via a proprietary software called **Blast Chiller Tracer**. Ask for the software files from the manufacturer service team. The necessary files are:

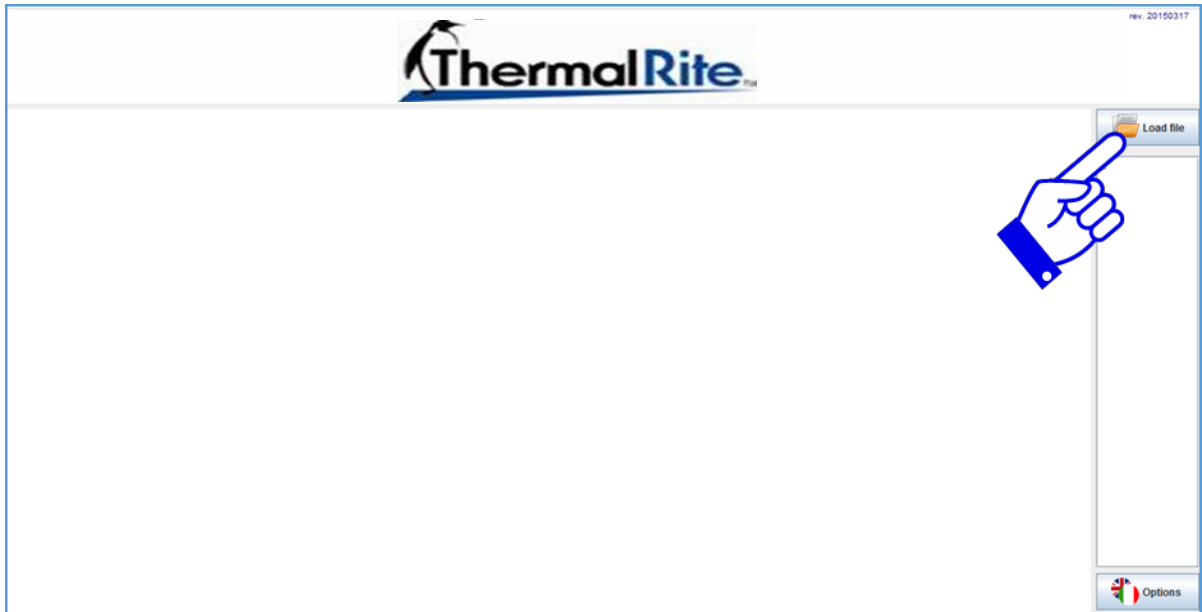
-  db (folder)
-  lib (folder)
-  BlastChillerTracer (Java executable file)

Create a folder on your **PC Desktop** and name it **BlastChiller Tracer**, place all 3 files into the same folder. **NOTE: Do not open *db* and *lib* folders but only run BlastChillerTracer.** The **Tracer** software is a **Java** executable file. **Java Virtual Machine (JVM)** is a very common software and is normally preinstalled into **Windows** based **OS**, in order to run games or other graphical interactive application. If the **PC** that is being used does not have **JVM** installed on it, contact your Administrator or install **JVM** from the following link; www.java.com

The software is safe and free of charge. Once it is installed you can run the executable file **BlastChillerTracer** that has a **.jar** extension. The main window will show as below.

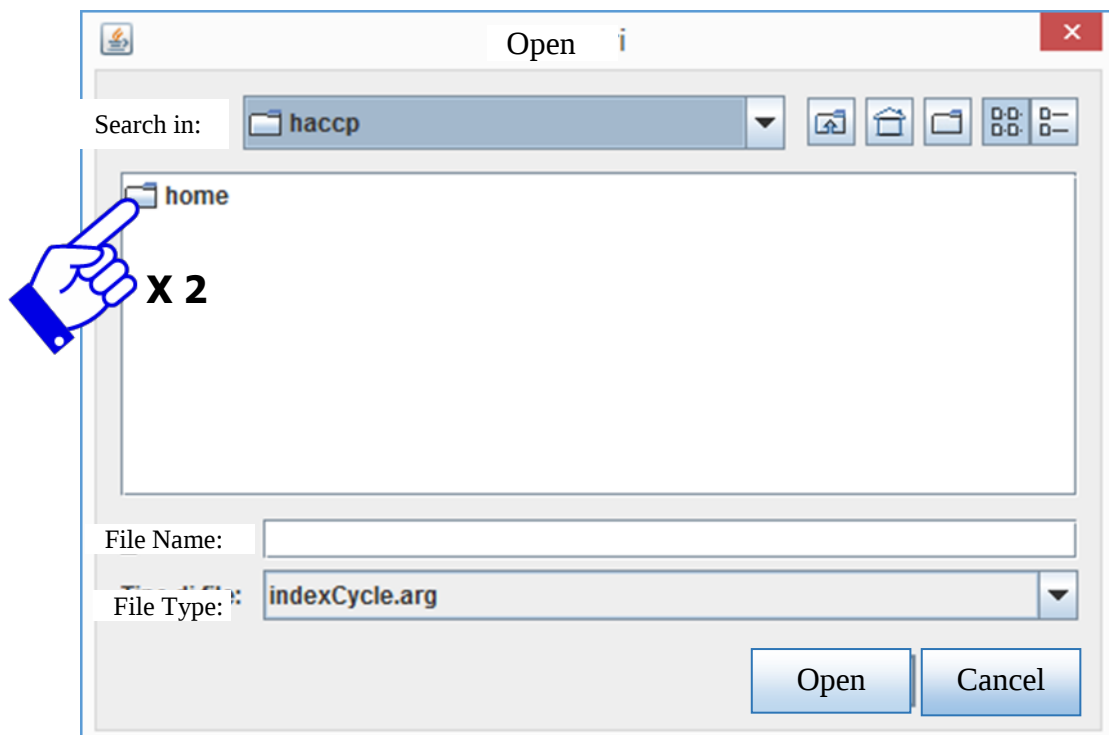


Select the **Language** and then the **Temperature** scale and then press the **Set** icon.

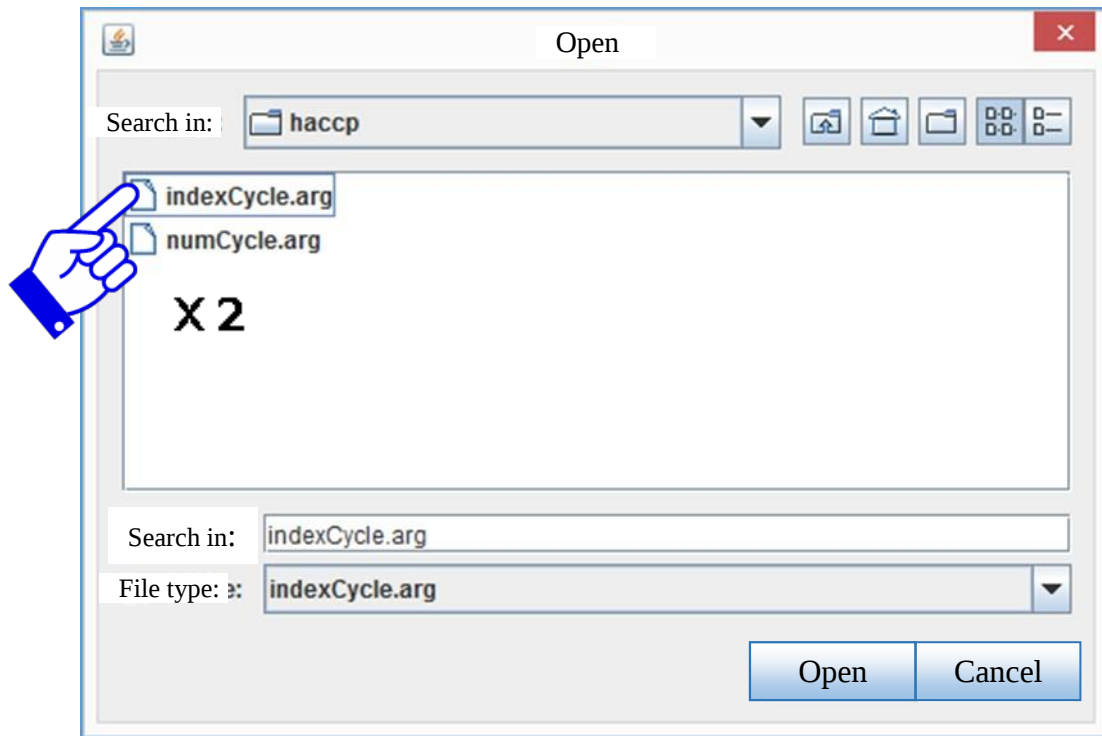


Press the **Load File** icon.

A search file window will open, looking for the file **indexCycle.arg** in the **HACCP** folder. This is the folder extracted from the **haccp.zip** file downloaded from the **USB** download data function. Click on the folder name to go through all the path **haccp\home\root\haccp**.

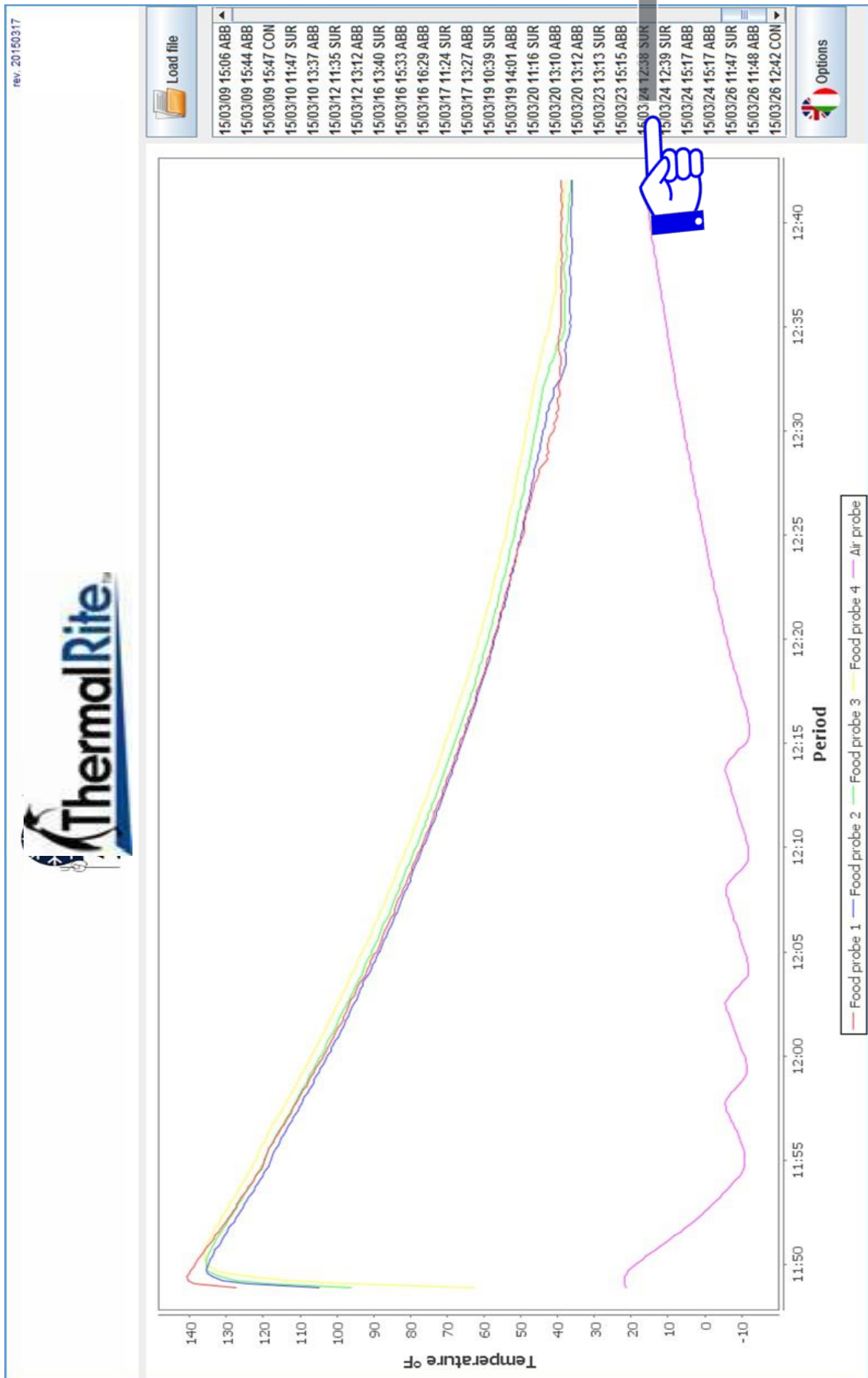


Double-click on the **home** folder.



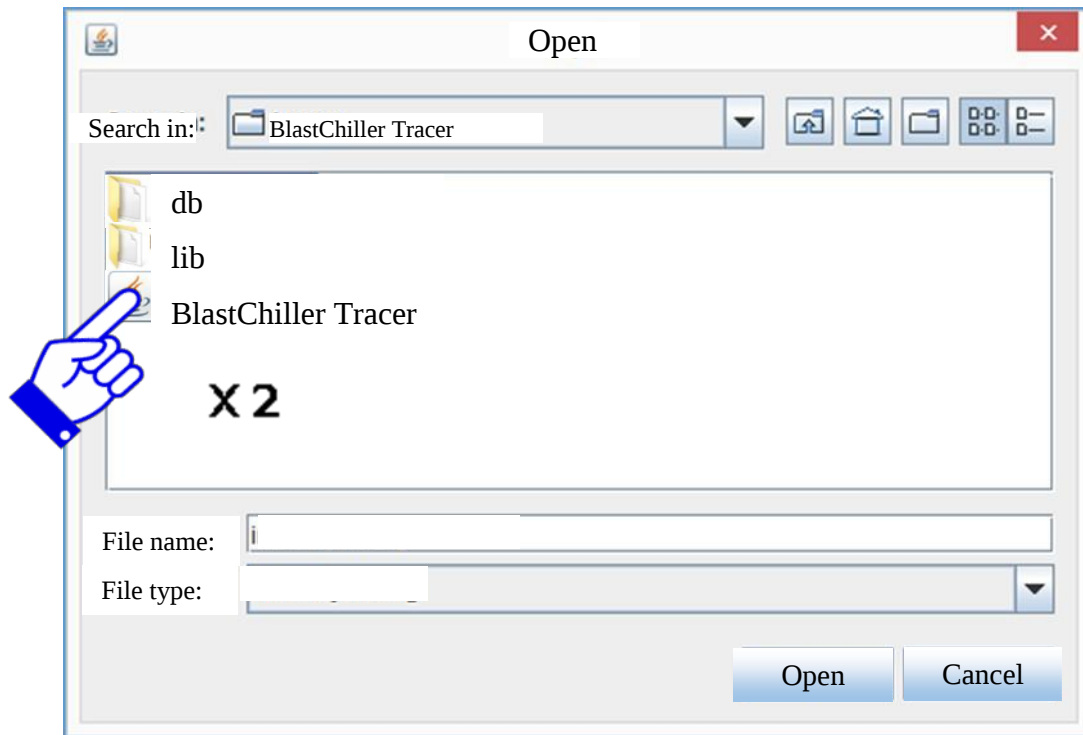
The two **.arg** files will now be shown in the box, double click on the **indexCycle.arg** folder.

Select the cycle to graph from the right column, choosing the date, starting hour and cycle code you wish to see (see encoding scheme above). See example of cycle graph at the following page. Right click on the graph to print or save a **.png** file. Scroll up or down to zoom in and out. To zoom in a specific area of the graph, just select the area with the mouse.



4.6.3. How to Save the HACCP Files as an EXCEL File

The tracer software is a powerful tool to graph up to **30 days** of cycles stored in the **Blast Chiller** memory. Access the **.csv** files directly from the **haccp** extracted folder. Open the selected cycle with **Excel** or an equivalent spreadsheet software. Double-click on the **BlastChiller Tracer** file.



The following screen will appear. Select which file you which to open as a **.csv** file in **Excel**.



Data at column A represent date/hour/minutes/second. Change the cell format to "Number" in order to show the time properly. Reduce decimal places to 0. Next page will show an example of how the rows should appear, and how to read the information.

	A	B	C	D	E	F	G	H	I
1	260315114853	53.1	40.4	35.6	17.0	-5.9	1	0	0
2	260315114903	59.4	51.4	48.0	35.6	-5.6	1	0	0
3	260315114913	60.3	55.1	53.0	45.3	-5.6	1	0	0
4	260315114924	60.5	56.5	55.5	50.9	-5.7	1	0	0
5	260315114933	60.1	57.2	56.6	54.1	-6.0	1	0	0
6	260315114943	59.8	57.4	57.4	55.9	-6.3	1	0	0
7	260315114953	59.4	57.2	57.5	57.0	-7.0	1	0	0



DD/MM/YY HH/MM/SS



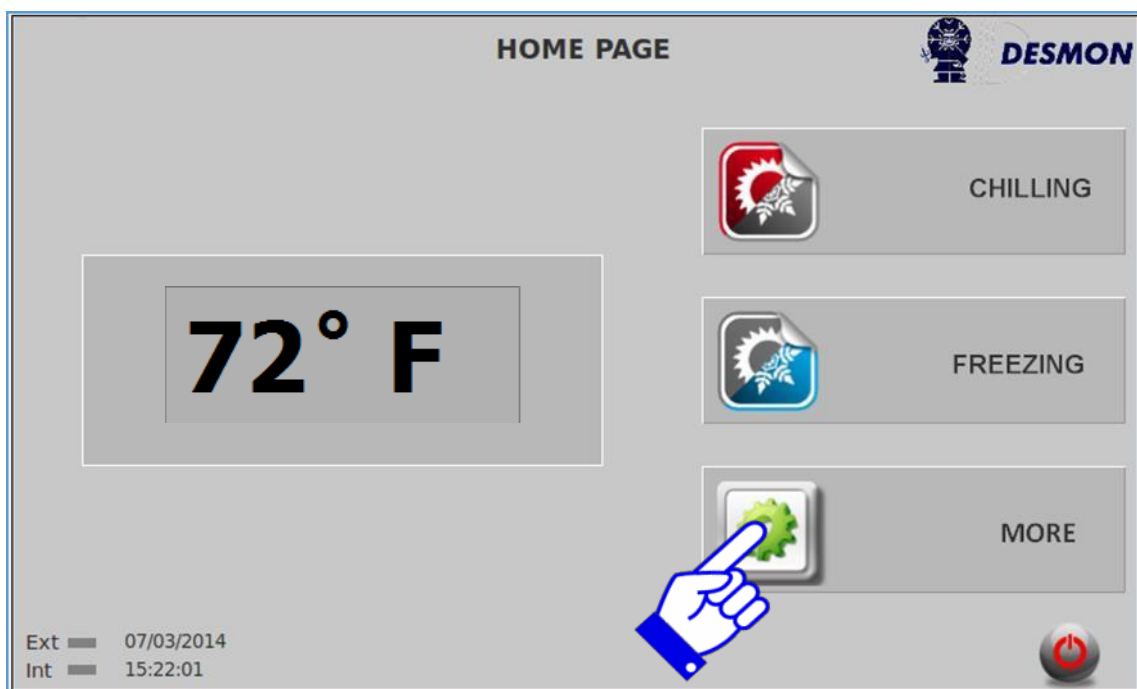
Food Probe 1 Food Probe 2 Food Probe 3 Air Probe 4

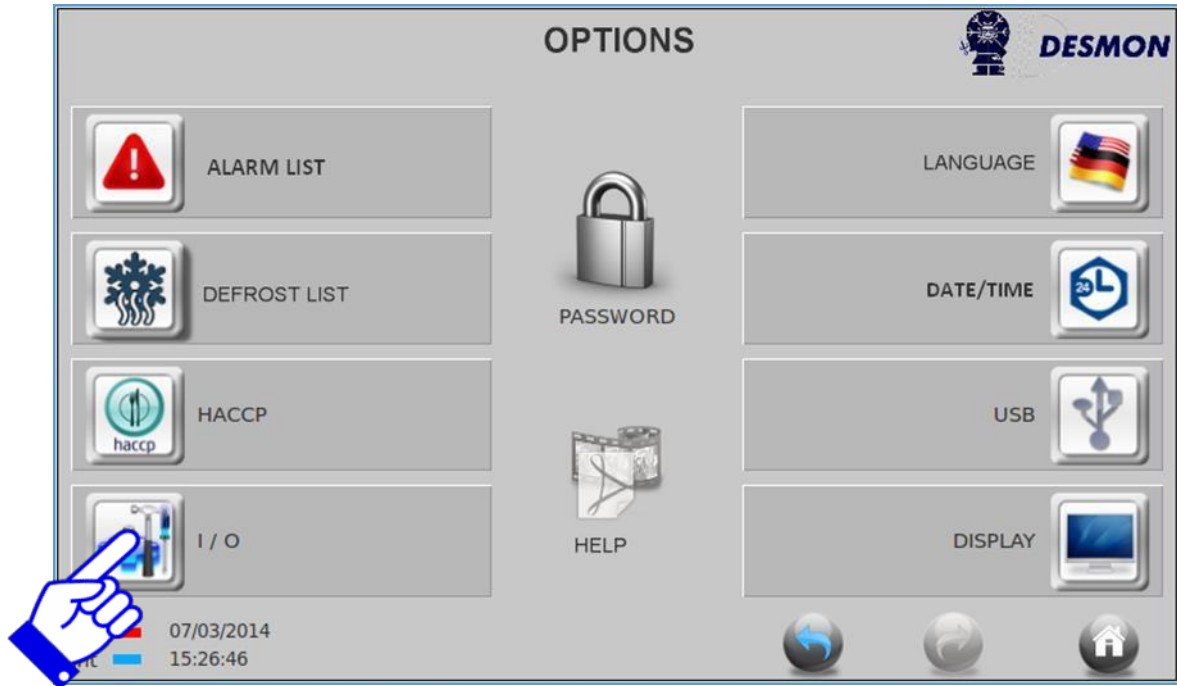


Not Used

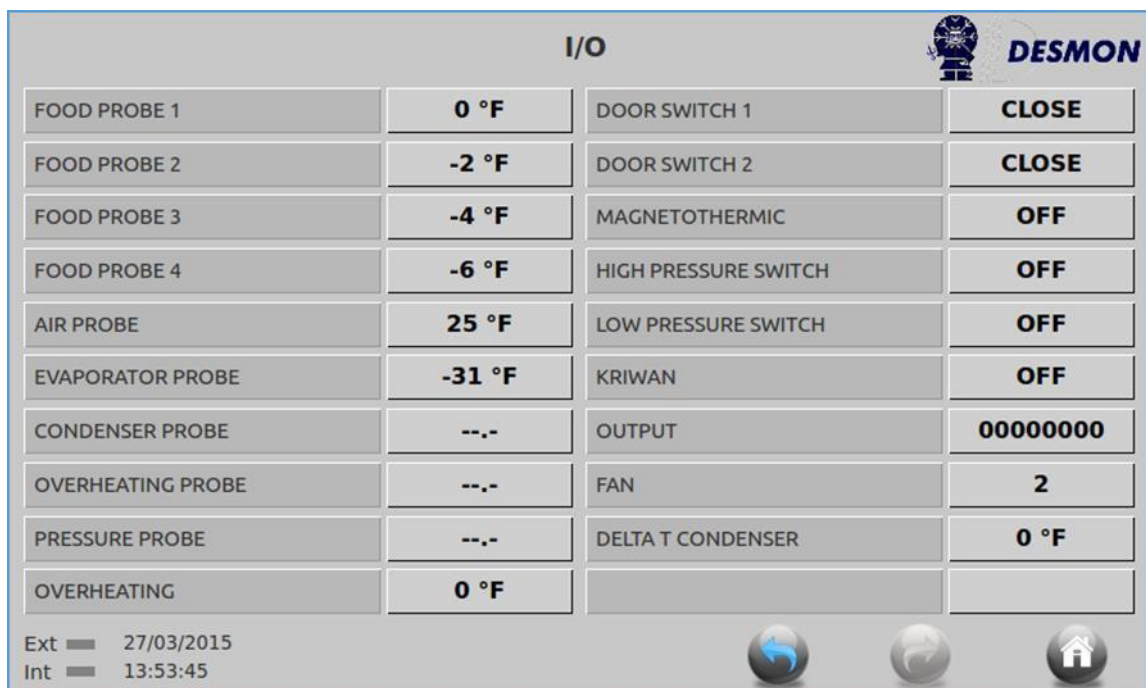
4.7. Input/Outputs

The **Input/Output** menu will allow to check all incoming signals, such as temperature sensors, door switch status and relay status, in real time. To access this function, from the **Home** screen, press the **More** icon.





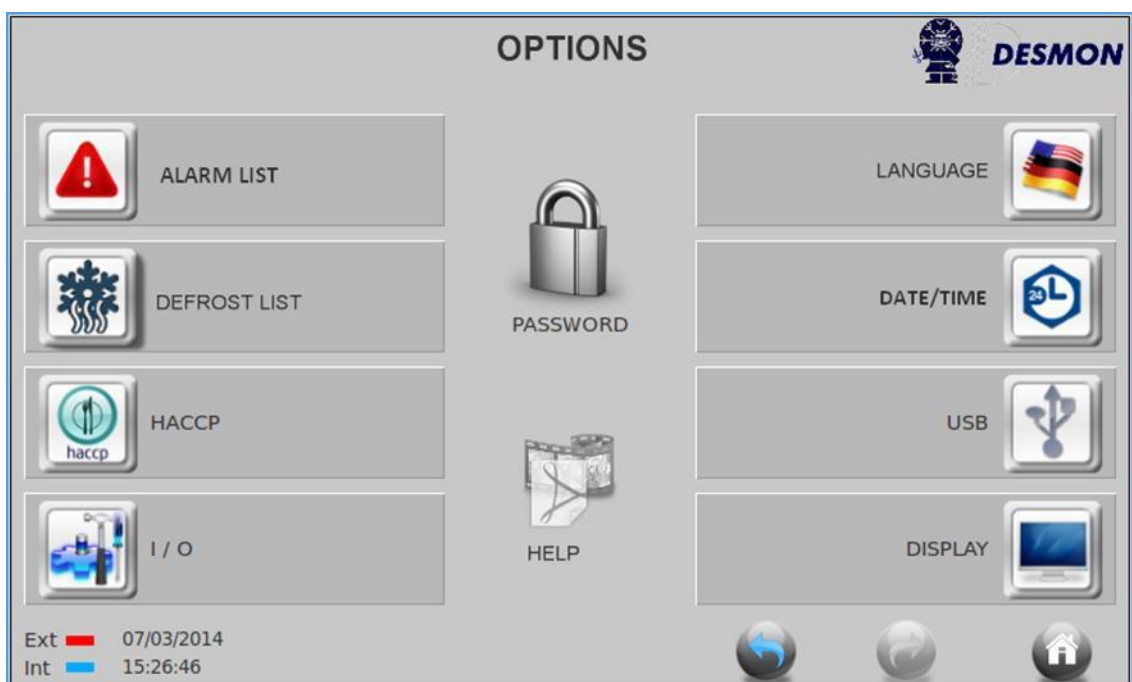
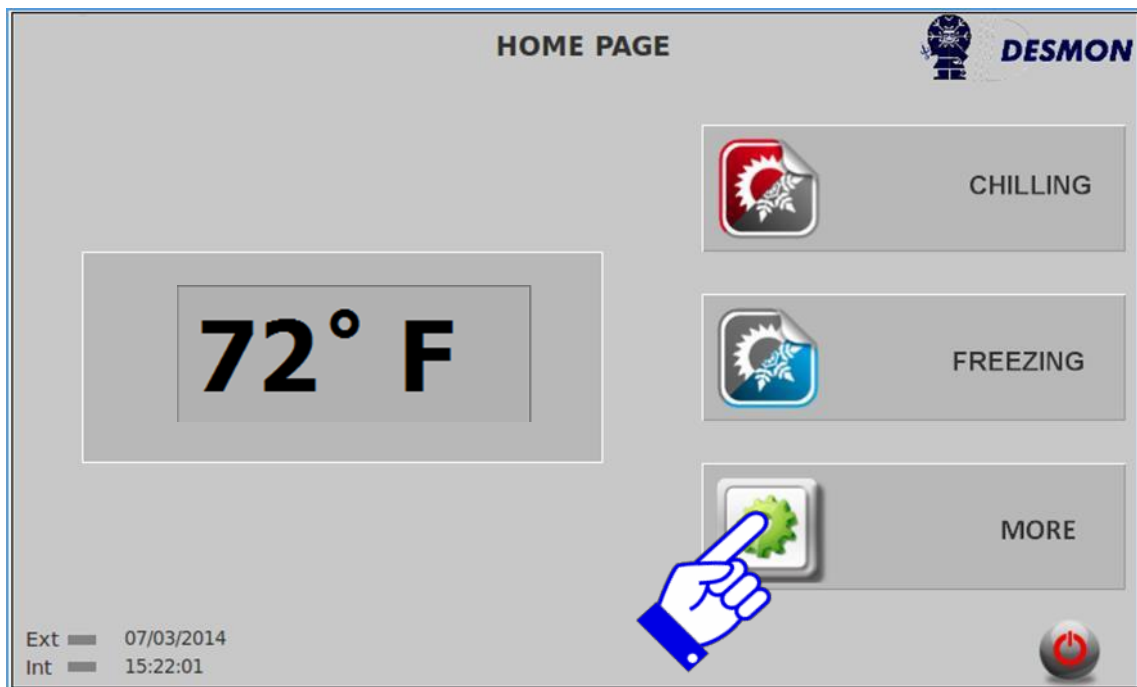
Press the **I/O** icon.



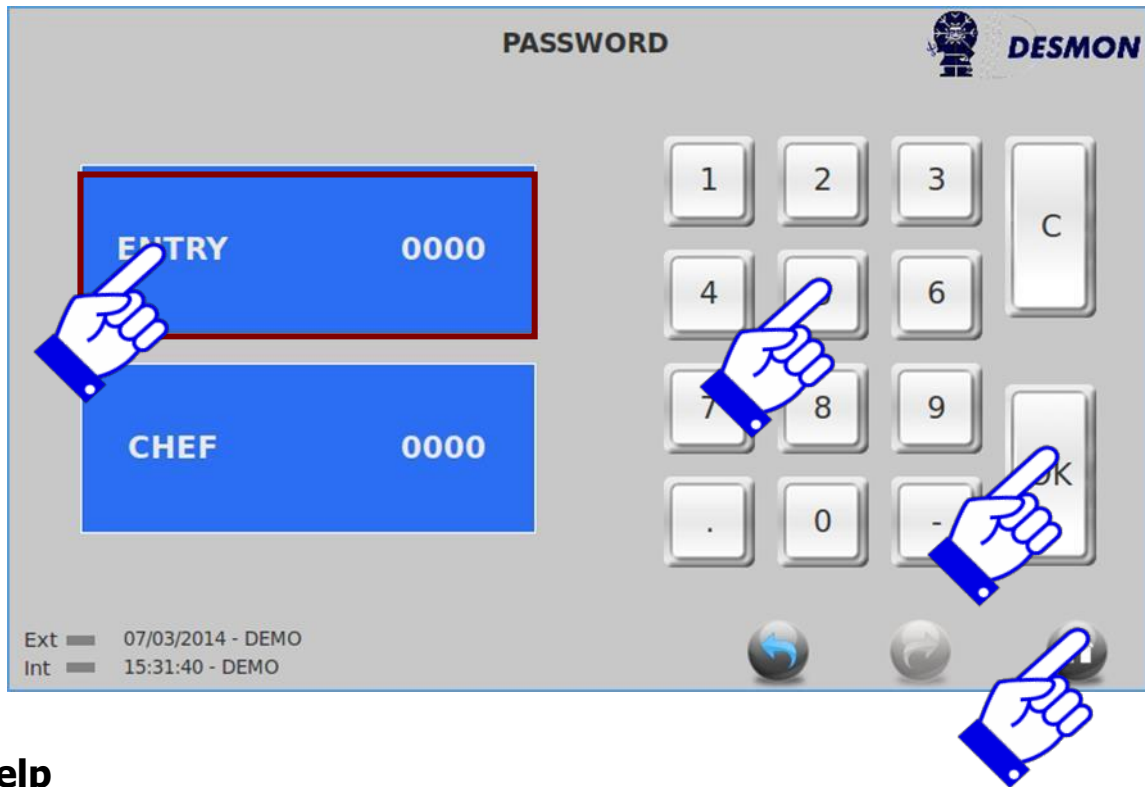
This screen will show real time temperatures, position of door switch(s), relay outputs and fan speed.

4.8. Password

The **Password** can be changed from the factory default (**0000**) or a password can be set by the chef to protect the recipes. The chef can also change the password for recipes from the factory default (**0000**). **WARNING:** If the password is changed or a chef's password is set up, the factory cannot access the new password if diagnostic service is required. You must secure the password in a safe place, otherwise if it is lost, the software must be reloaded and all saved recipes will be lost. To access this function, from the **Home** screen, press the **More** icon.

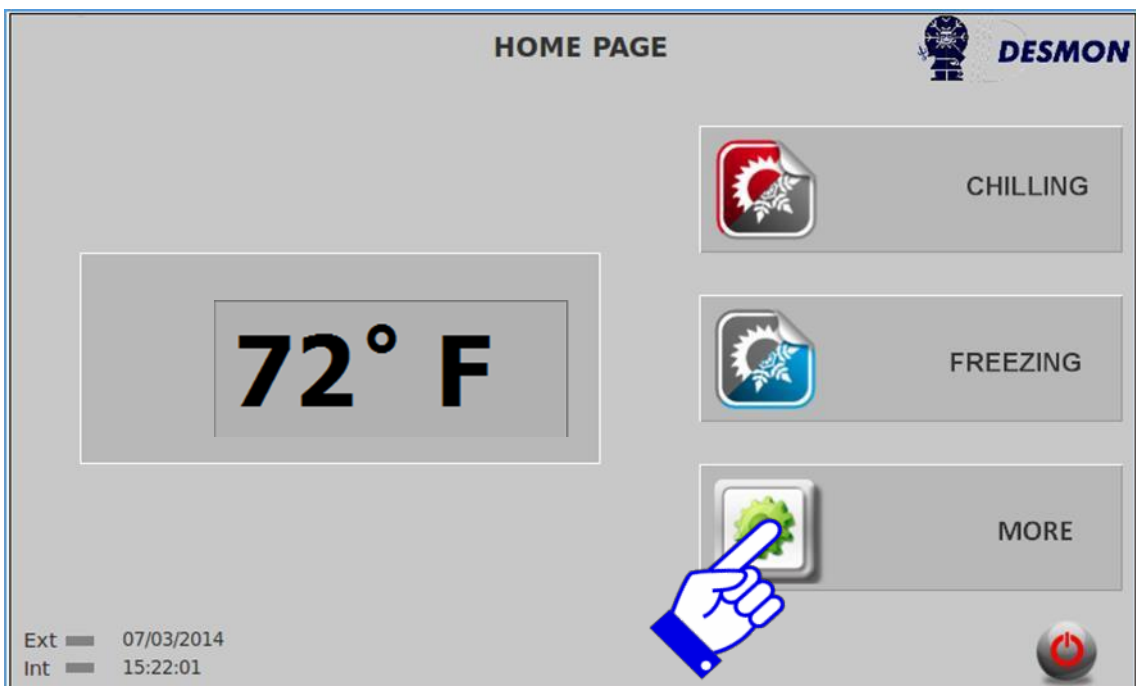


To setup a new **Password**, select which type of password you wish to enter, **ENTRY** or **Chef**, that tab will be highlighted. Enter the new password you wish to setup and press ok. After pressing ok, press the Home icon to exit this screen. Once this action is performed, you will be the only one to access that function.



4.9. Help

The **Help** button will be used for future storage of videos, manuals, parts lists or maintenance information. To access this function, from the **Home** screen, press the **More** icon.



Press the **Help** icon.



To exit this function, press the **Home** icon.

5. The Blast Chilling Mode

The **Blast Chilling** function allows you to quickly chill product down to **38°F (3°C)** degrees in **90 minutes** or less, provided that;

- The total product weight matches with the **Blast Chiller Specification**.
- The initial temperature is lower or equal than **194°F (90°C)**.
- The product thickness is less or equal than **2 inches (5 cm)**.
- The food is evenly distributed inside the cabinet.
- A pre-chill initial step is done to improve the chiller performance in the heaviest conditions.

Product temperature before and after a Chilling Cycle

While the product starting temperature depends on the cooking or finishing process which the product went through, its target temperature at the end of the cycle is a determined value **38°F (3°C)** and must not be changed to a higher temperature, as it must comply with **HACCP** regulation. For example, chicken can be cooked in an oven at a temperature of up to **390°F (200°C)**. The actual core temperature will be lower than **212°F (100°C)** because of the water content. Before putting it in a refrigerator or walk-in cooler, it must be cooled down to **38°F (3°C)**. Pizza dough can have an internal temperature at the end of its finishing process, i.e. **77°F (25°C)**. But at the end of the chilling cycle its core temperature must be **38°F (3°C)** as well.

Air Temperature

The air temperature is the temperature of the cavity where the product is being chilled. The range for a **Blast Chilling** process is from **-13°F (-25°C)** to **48°F (9°C)** degrees and **Hold** from **14°F (-10°C)** to **50°F (10°C)**.

Time or Temperature based Cycles

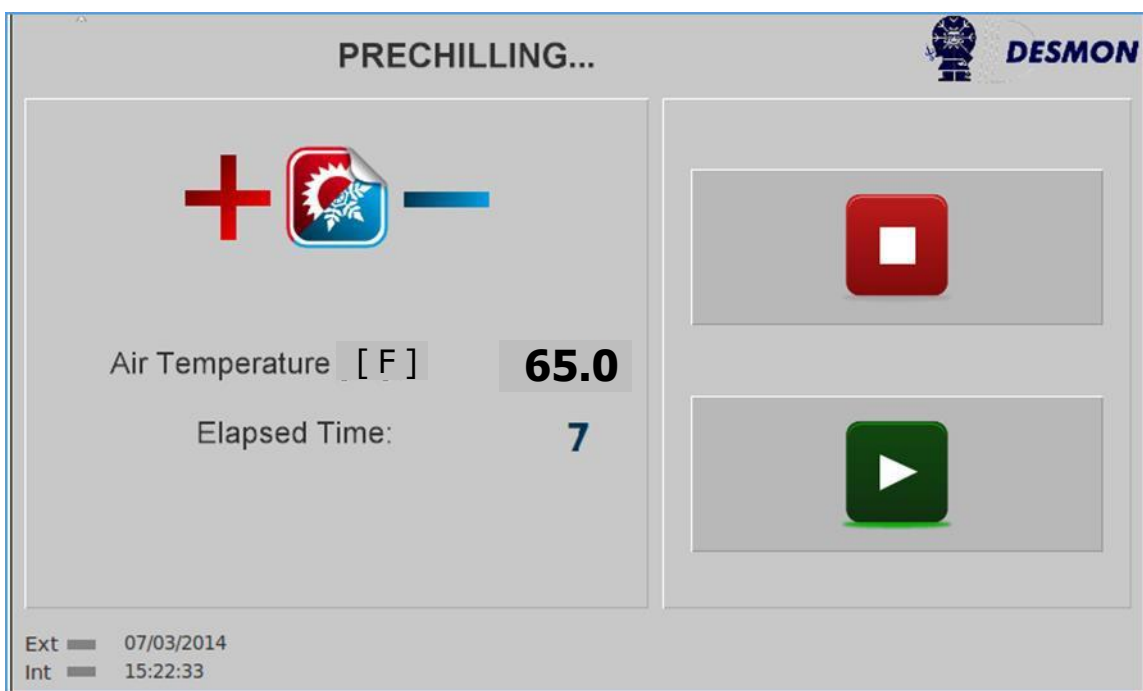
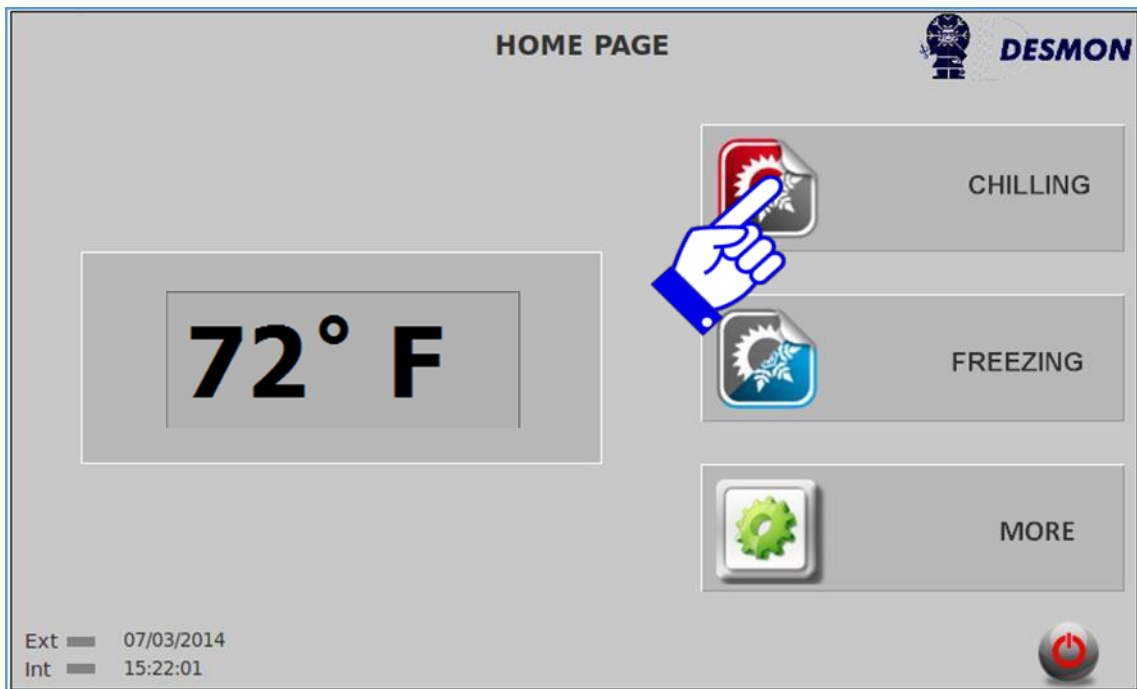
Blast Chilling can be performed by using the **Automatic** mode (selecting the food icons) or by a **Manual** mode. Depending on the type of mode and options selected, which will be explained later in this chapter, you can choose to chill by **Time** and **Temperature**, or by using the **Product Probe** to chill to a set core temperature. If the **Time** and **Temperature** mode is selected, then the **Blast Chilling** cycle will terminate when the time has elapsed. In this case, the product may or may not reach the desired core temperature as required by the **HACCP** regulations. In the **Product Probe** mode, **Blast Chilling** will be controlled by the **Product Probe** and may take more or less time, depending on the product weight, density, thickness, starting temperature and so on to reach the set core temperature. In either mode, once the time has elapsed or the food probe temperature is reached, the equipment will then switch to the **Hold** mode automatically and maintain the product at the storage temperature. Users can chill by **Time** and **Temperature** when the product core temperature is not critical and the pre-selected time will determine the end of the cycle instead. Otherwise they should select the **Product Probe** based cycle when they want to ensure that the product core temperature before going into the **Hold** mode, matches with **HACCP** guidelines of **38°F (3°C)**.

Automatic Defrost

The evaporator will **Defrost** automatically between chilling and hold and will terminate after **10 minutes** or when the evaporator sensor reaches **41°F**.

Blast Chilling Cycle Activation

When the **Blast Chilling** mode is selected, the machine will automatically **Pre-chill** the cabinet to **23°F (-5°C)**. Once it reaches the pre-chill temperature, then either a manual cycle or a programmed recipe can be started. To start a **Blast Chilling** cycle, from the **Home** screen, press the **Chilling** icon.



The **Blast Chiller** is now in the **Pre-Chill** mode and will run until the temperature reaches **23°F**. However, you can push the **Green Start** icon to go directly to the **Recipe** selection screen and skip the **Pre-Chill** cycle.



Select either the **Manual** cycle or select any one of the **Product** categories.

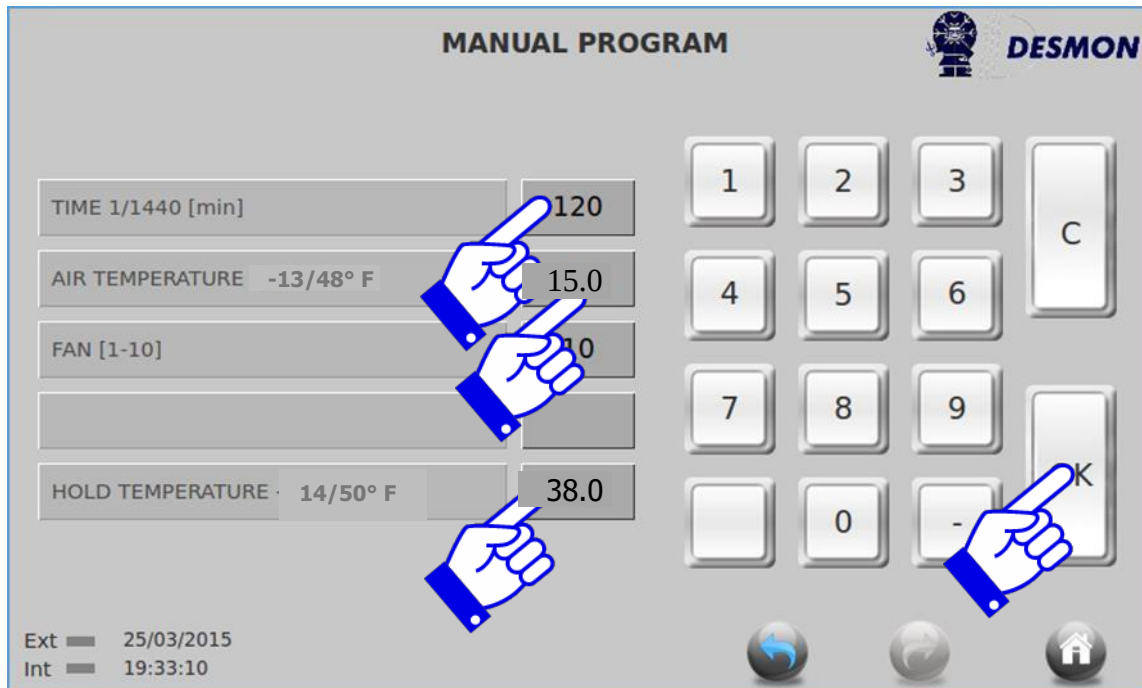
5.1 Blast Chilling Manual Program

To access the **Manual** program, press **Manual** icon in the recipe selection screen.



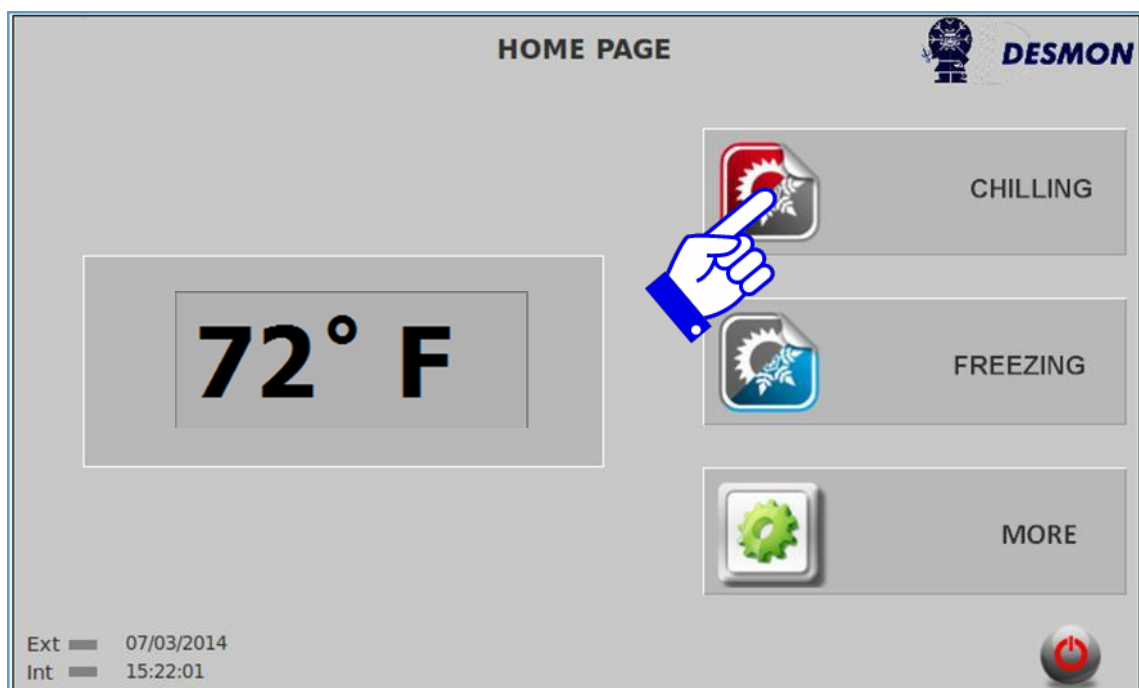
To set the time, push the **TIME** tab and set the time of the cycle. Push the **AIR TEMPERATURE** tab to set the cavity air temperature. Push the **FAN** speed tab to set the

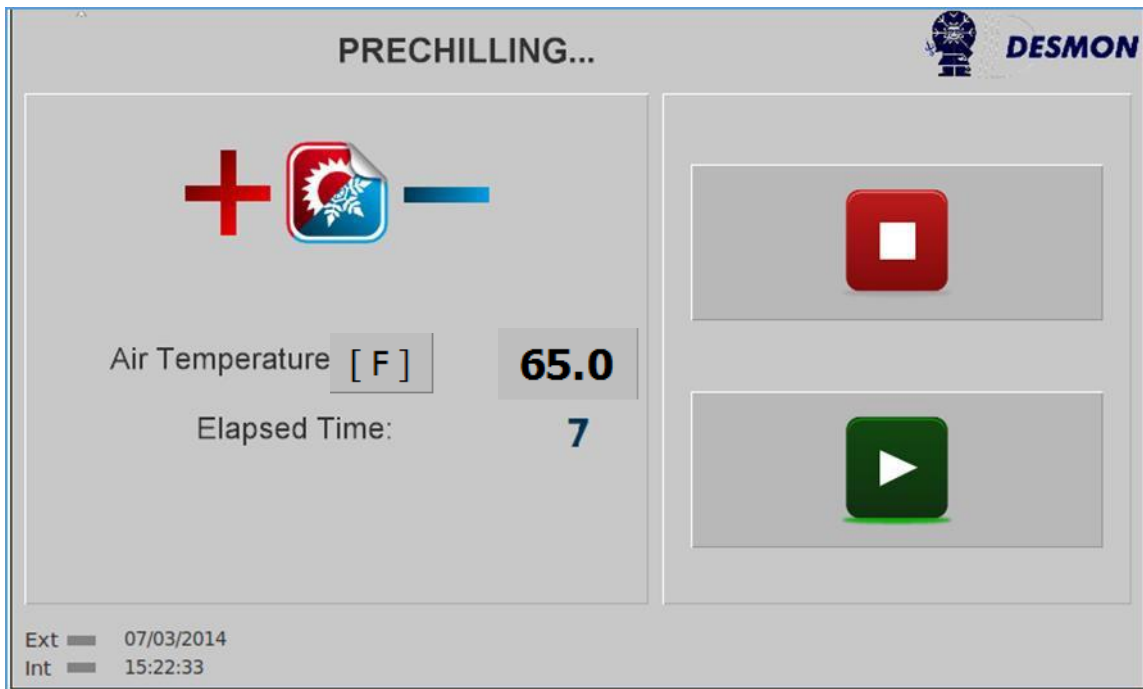
fan speed, default is always high or **10**. Push the **HOLD TEMPERATURE** tab to set the temperature at the end of the cycle. Hit **OK** to start the cycle.



5.2. Blast Chilling Automatic Recipes

The pre-programmed recipe categories do not require the user to enter any cycle setting, as these recipes come with pre-programmed settings that will provide the most efficient chilling process for the selected type of product. Each **Product** category has **4** pre-programmed recipes and **4** programmable recipes. To access this function, from the **Home** screen, press the **Chilling** icon.





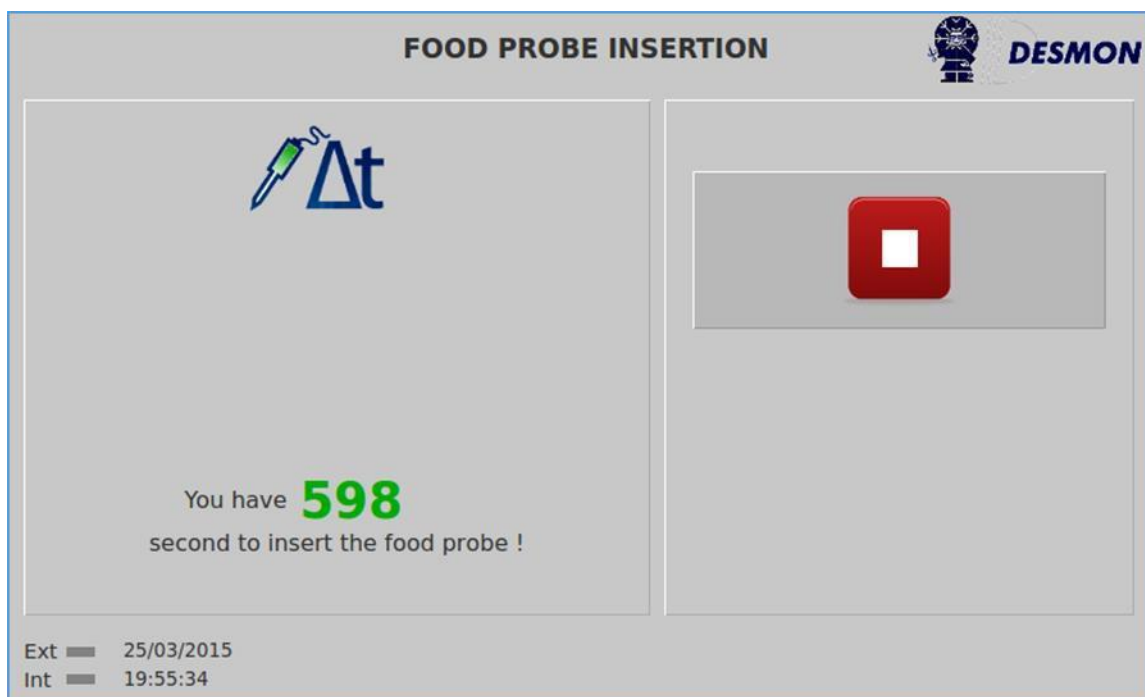
The **Blast Chiller** is now in the **Pre-Chill** mode and will run until the temperature reaches **23°F/-5°C**. However, you can push the **Green Start** icon to go directly to the Recipe selection screen and skip the **Pre-Chill** cycle.



In this example we chose protein, which consists of beef, chicken, pork, lamb and turkey

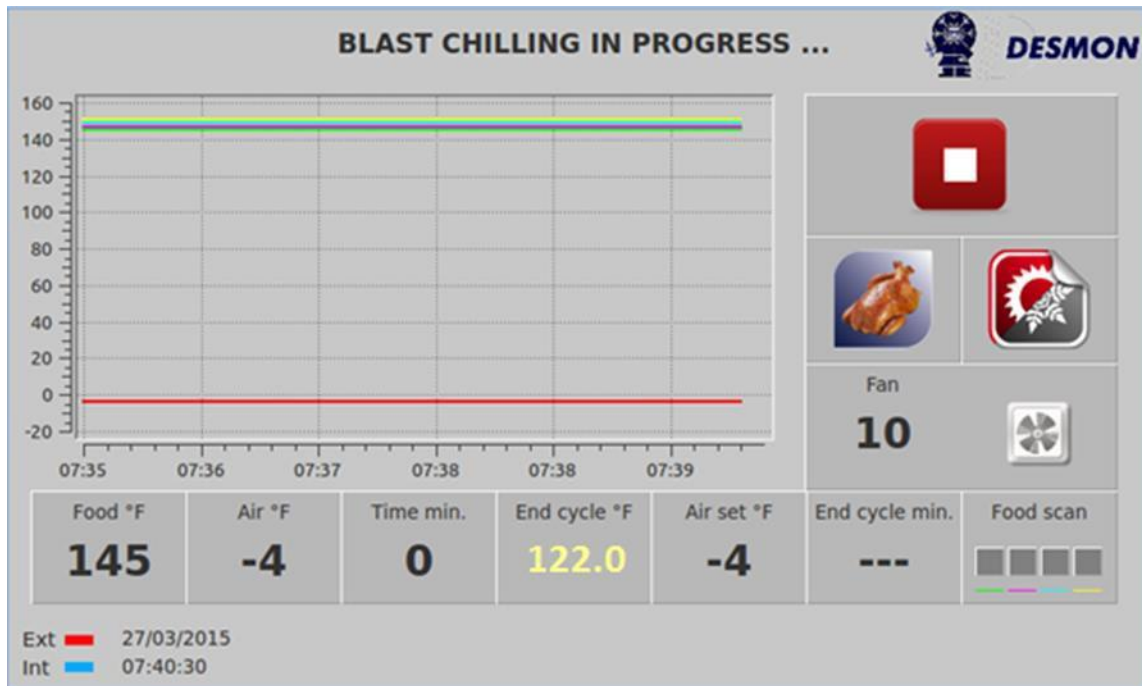


Each recipe has **4** different categories to suit different types of proteins. These pre-programmed categories are set up for different proteins, such as fatty, lean, roast or thin cut. Once a product is selected the cycle will start immediately after pressing the specific category (left side of the screen, one out of the **4** tabs). Once the tab is pressed, the following screen will appear.



NOTE: When selecting an automatic recipe, the use of the **Product Probe** is mandatory. A timer will count down (**600 seconds/10 minutes**) until the **Product Probe** is

inserted into the product. Once the **Product Probe** is inserted into the product, the control will recognize it and start the programmed cycle.



A graph will show in real time the product core temperatures read by the **Product Probe** and the **Air** temperature of the cavity. On the right side it will show the **Stop** icon (**Red Square**), actual product type, the type of cycle (**Chilling** or **Freezing** icon), and the **Fan Speed**. On the bottom the screen will show real time probe values as well as cycle set point values. From left to right:

- **Food** – The real product core temperature.
- **Air** – The real air temperature in the cavity.
- **Time** - Elapsed time in minutes the cycle has been running.
- **End Cycle Temperature** - In an automatic recipe this is the first step of the product core temperature target. Once this temperature is reached in the product core, the cycle will switch to next step.
- **Air set** - The cavity air temperature of the current step.
- **End cycle** - The time to the end of the cycle (shown here three dashes because it's a core temperature based cycle, so it's unable to calculate the cycle length)
- **Food scan** - The status of the multi-point **Product Probe** temperatures, the left square is related to the sensor on the point of the probe, the right square is related to the sensor closest to the handle.

The system will perform a "**food scan**" by monitoring the **4** sensors of the **Product Probe** inserted into the product within the first **5 minutes**. Some of them may be excluded from the algorithm, because they are not in the product. The warmest sensor in the **Product Probe** will determine the end of the total cycle **38°F (3°C)**. Each sensor in

the **Product Probe** will contribute to regulate the internal cycle's steps, varying the **Air Set Temperature** and **Fan Speed**.

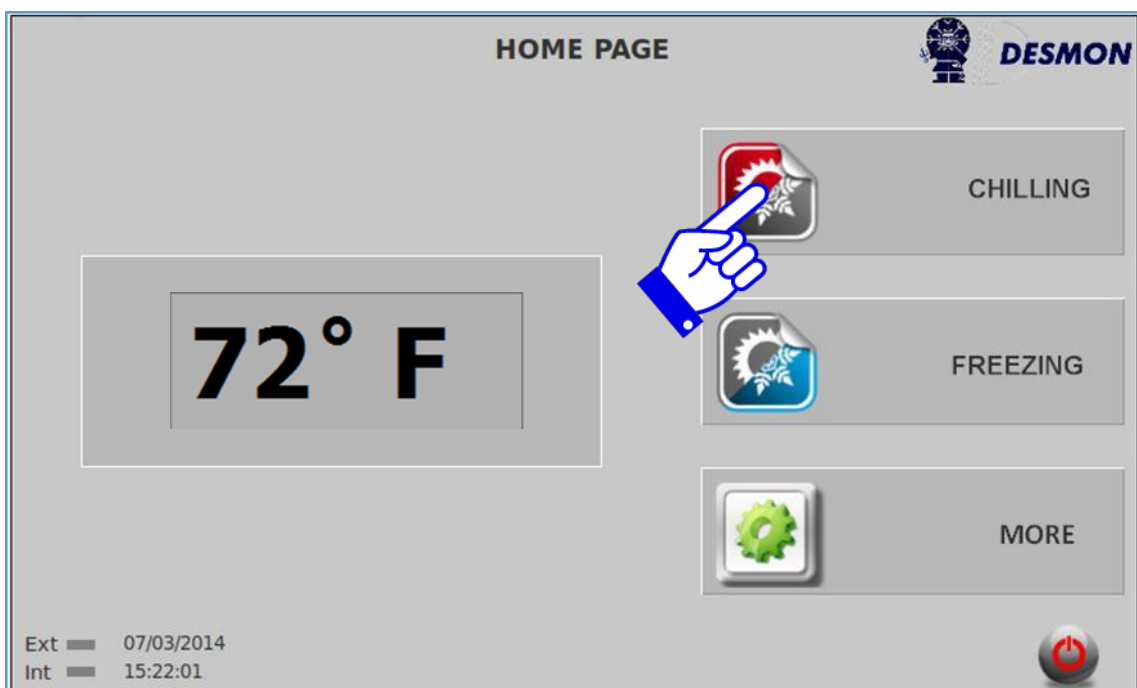
The status of a core can be:

- **Blue** - Indicating the warmest sensor of the **Product Probe**.
- **Green** - Indicating that a **Product Probe** sensor is actually in the product.
- **Grey** - Indicating that a sensor was not placed in the product and was excluded.

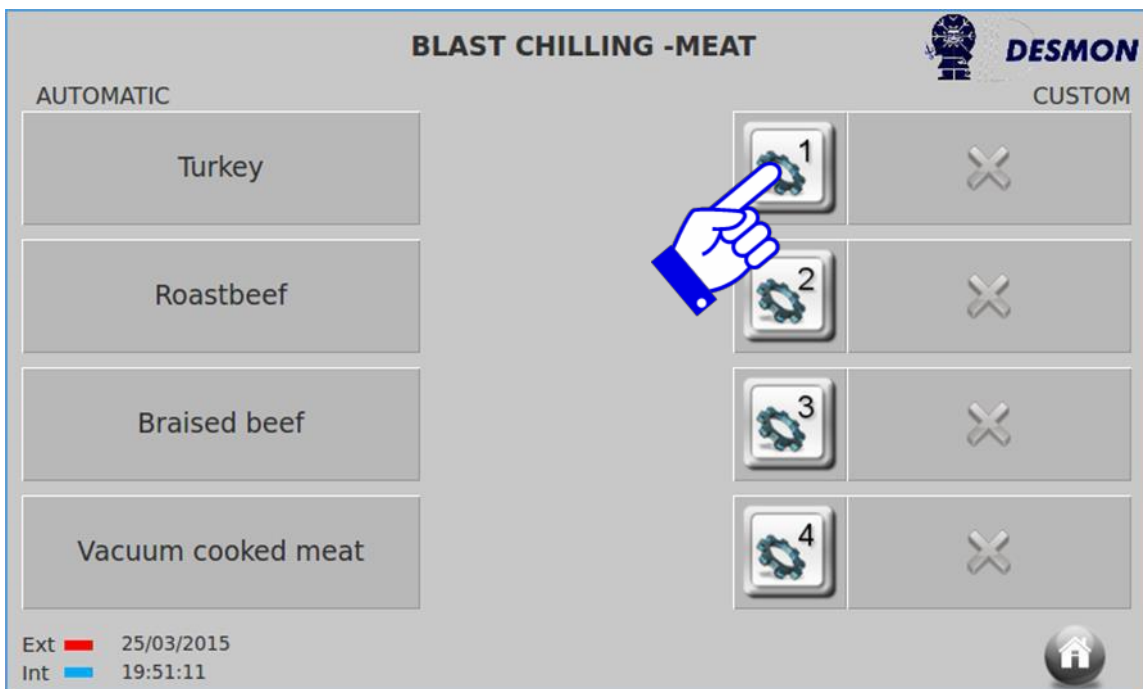
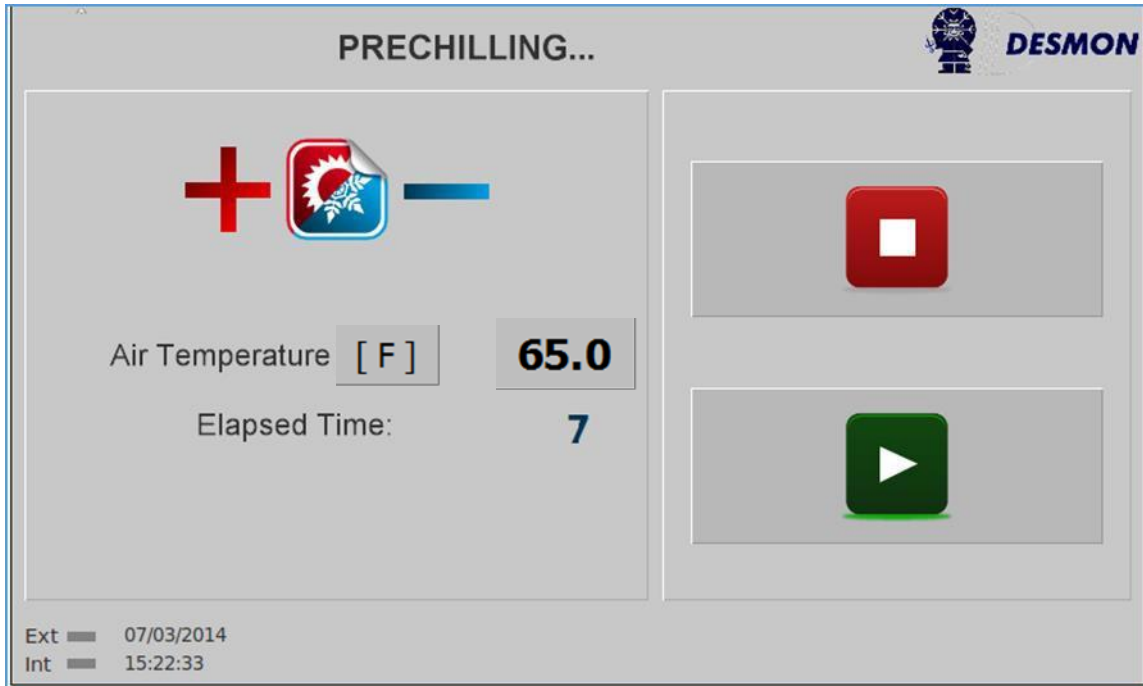
Also in regards to the "**food scan**" the cycle will run through **4** different steps with different settings, with the goal to chill the product in the shortest possible time, while saving the product integrity. For instance, a piece of protein with a temperature of **150°F (66°C)**, will run through an initial step at very low temperature, then gradually changing the set temperature to a higher Air Temperature towards the end of the cycle to prevent freezing of the outer surface. A pastry items will be probably chilled in a higher **Air Temperature** (above **38°F/ 3°C**) from the start, to prevent freezing the product and affecting the product integrity. **NOTE:** The pre-programmed recipes are set up in the factory and will guarantee the best combination of steps for a **Chilling** cycle.

5.3. Blast Chilling Custom Recipes

Every product (icon) allows to create **4** custom recipes (represented by the **Gear** icon on the right side of the screen). The custom configuration requires the user to choose from **Time** and **Temperature**, the **Product Probe** option, the cycle time length (if the **Product Probe** is not selected), the cavity **Air Temperature**, the **Fan Speed** and the **Air Temperature** of the **Hold** cycle. To disable or enable the Product Probe click on the **Green Checkmark** or **Red X**. To access this function, from the **Home** screen, press **Chilling** icon.



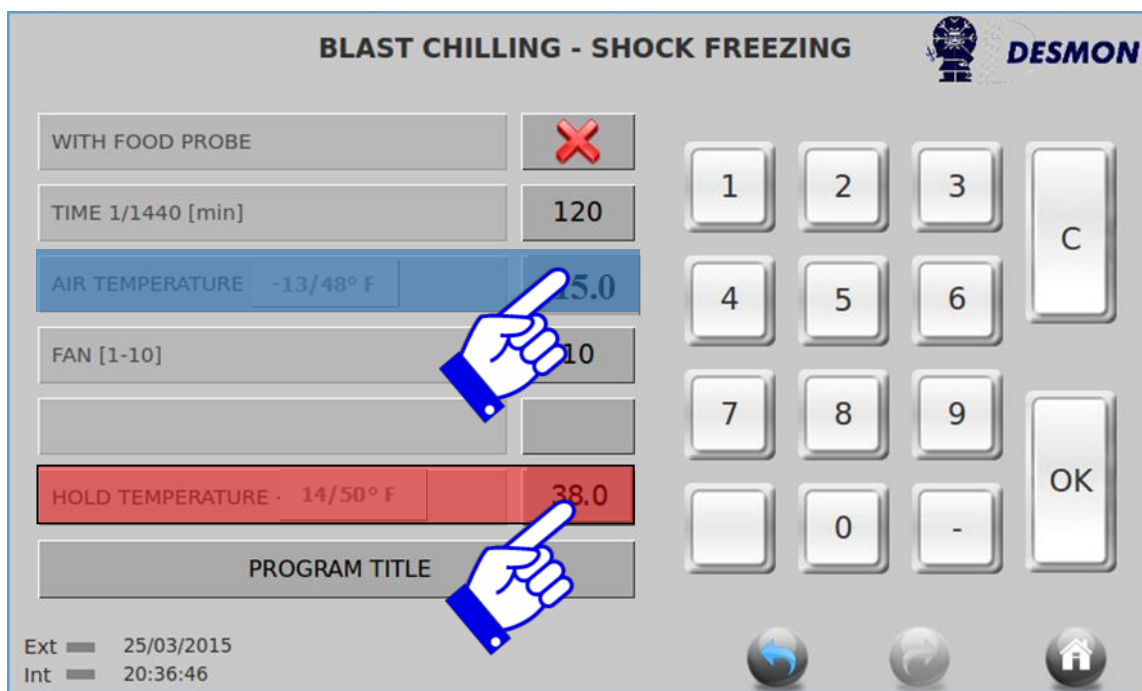
The following screen will appear and the **Blast Chiller** will go into the **Pre-Chill** mode and will continue until the **Air Temperature** reaches **23°F/-5°C**. Pressing the red **Stop** icon will cancel the **Pre-chill** mode and return to the Home screen. Pressing the **Green Start** icon will cancel the **Pre-Chill** mode and take you to the **Product** recipe screen.



Press on the **Gear** icon and the following screen will appear.



This screen shows that the **Product Probe** is not being used, so it is a **Time and Temperature** cycle. To activate the **Product Probe**, press on the **Red X** it will turn to a **Green Checkmark**, indication the **Product Probe** is now being used. The **Time** tab will be faded, indicating that the cycle will run until the **Product Probe** is satisfied. Next set the cavity **Air Temperature** you wish to Chill at. Then set the **Fan Speed**, with **10** being high speed and **1** being the lowest, depending on the type of product. Finally set the **Hold Temperature**, this will be the temperature of the cavity that the product will be held at after the **Chill** cycle is completed.



Once a tab is pressed, it will turn **Blue**, allowing you to make a change in the value. If you enter a value outside of the range, the tab will turn **Red**. The values for each tab are listed and the user must select a value in that range. Once all recipe values are set, **Time**, **Temperature** or **Product Probe**, **Fan Speed**, **Hold Temperature**, then press the **PROGRAM TITLE** tab to name the custom recipe.

BLAST CHILLING - SHOCK FREEZING  **DESMON**

TITLE	DESCRIPTION

1 2 3 4 5 6 7 8 9 0 ← + *

q w e r t y u i o p ' / -

↑ a s d f g h j k l , . @

& % z x c v b n m Space Ok

Ext 25/03/2015
Int 20:45:38

Once the **Title** tab is pressed, it will turn **Green**, allowing you to type in the name of your custom recipe in the title block.

BLAST CHILLING - SHOCK FREEZING  **DESMON**

TITLE	DESCRIPTION
Baked Chicken	

1 2 3 4 5 6 7 8 9 0 ← + *

q w e r t y u i o p ' / -

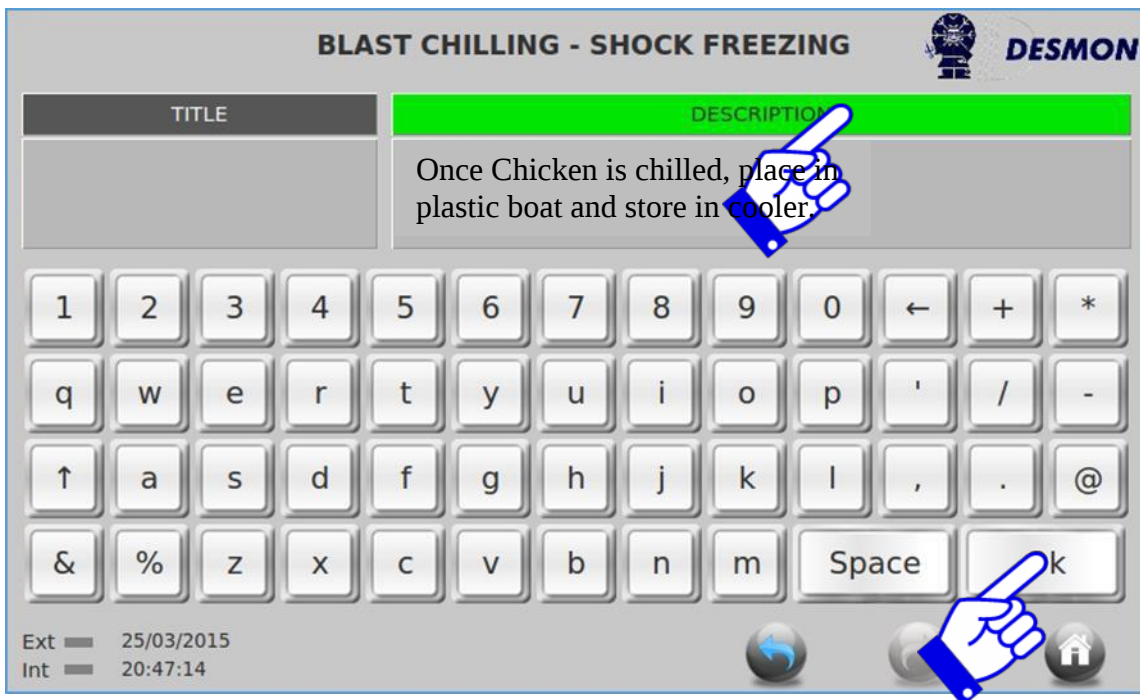
↑ a s d f g h j k l , . @

& % z x c v b n m Space Ok

Ext 25/03/2015
Int 20:45:38

By pressing on the **Description** tab, it will then turn **Green**, allowing you to also enter important information about that recipe as well.



BLAST CHILLING - SHOCK FREEZING  **DESMON**

TITLE	DESCRIPTION
	Once Chicken is chilled, place in plastic boat and store in cooler.

1 2 3 4 5 6 7 8 9 0 ← + *

q w e r t y u i o p ' / -

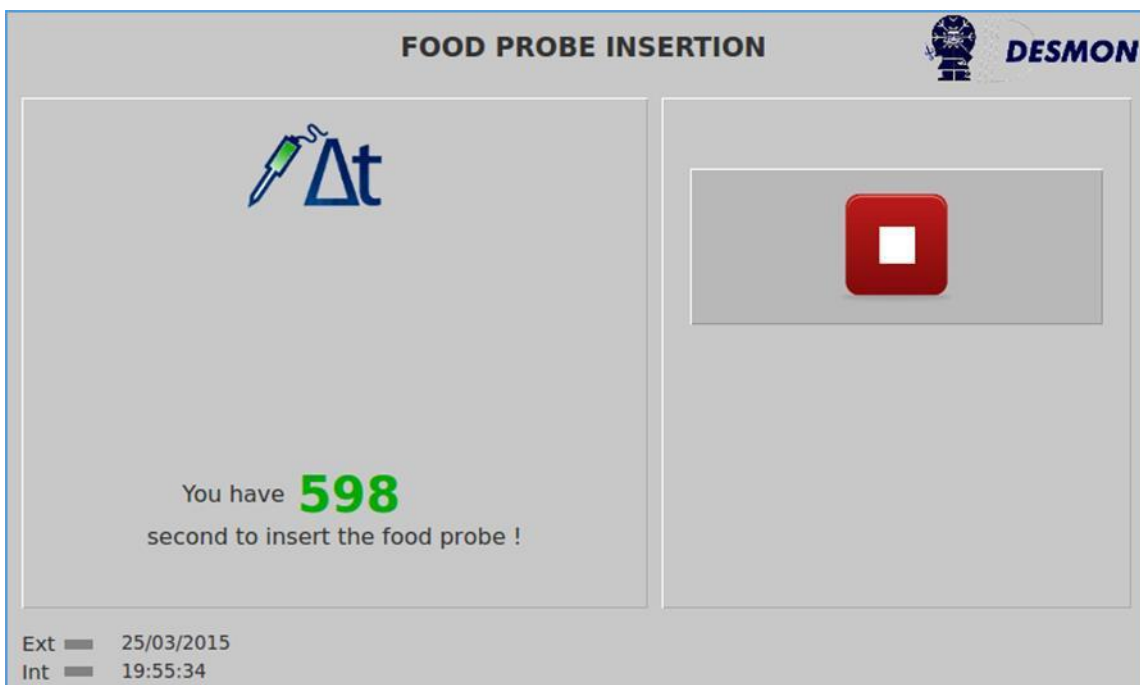
↑ a s d f g h j k l , . @

& % z x c v b n m Space k

Ext 25/03/2015
Int 20:47:14

Press **Ok** to save it and start the cycle.



FOOD PROBE INSERTION  **DESMON**



You have **598** second to insert the food probe !

Ext 25/03/2015
Int 19:55:34

If the **Product Probe** mode was selected, the screen will prompt you to insert the **Product Probe** if you haven't already done so. You have **600** seconds or **10** minutes to do so or if it is already inserted, the control will recognize this and start.

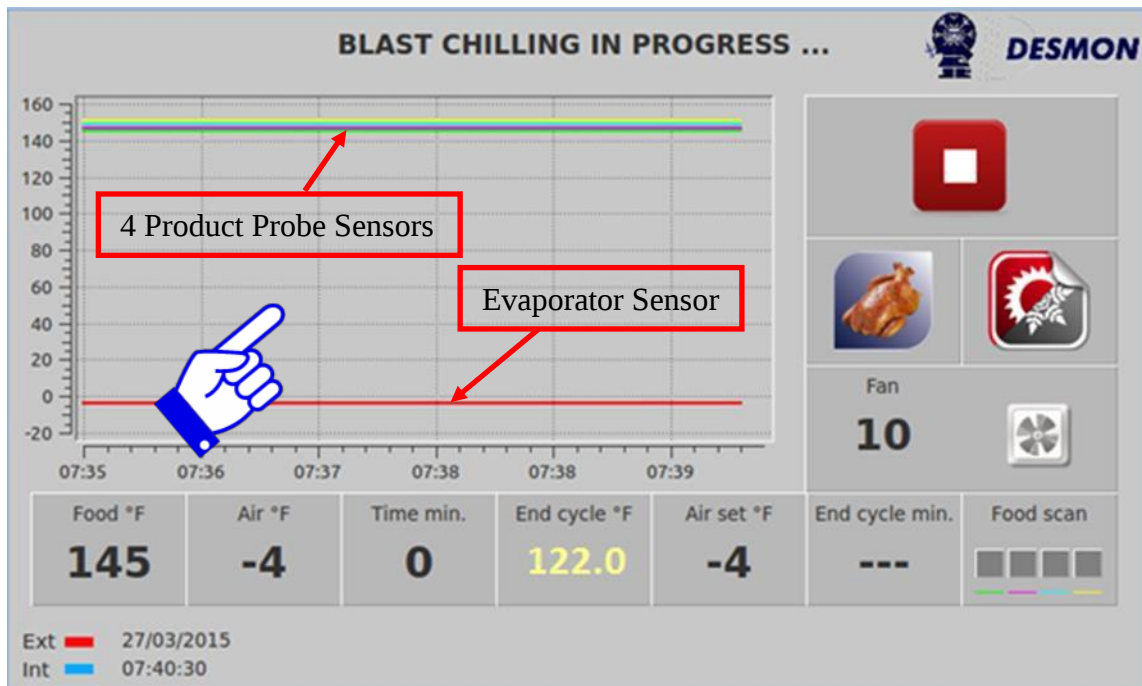
NOTE: The **Manual** programs and the **Custom Recipes** will not provide the same advantages of the **Pre-Programmed Recipes**, as they will run only a single step chilling

process during all the cycle, with **Air Temperature** and **Fan Speed** always being the same value.

5.4. Cycle Graph and other functions

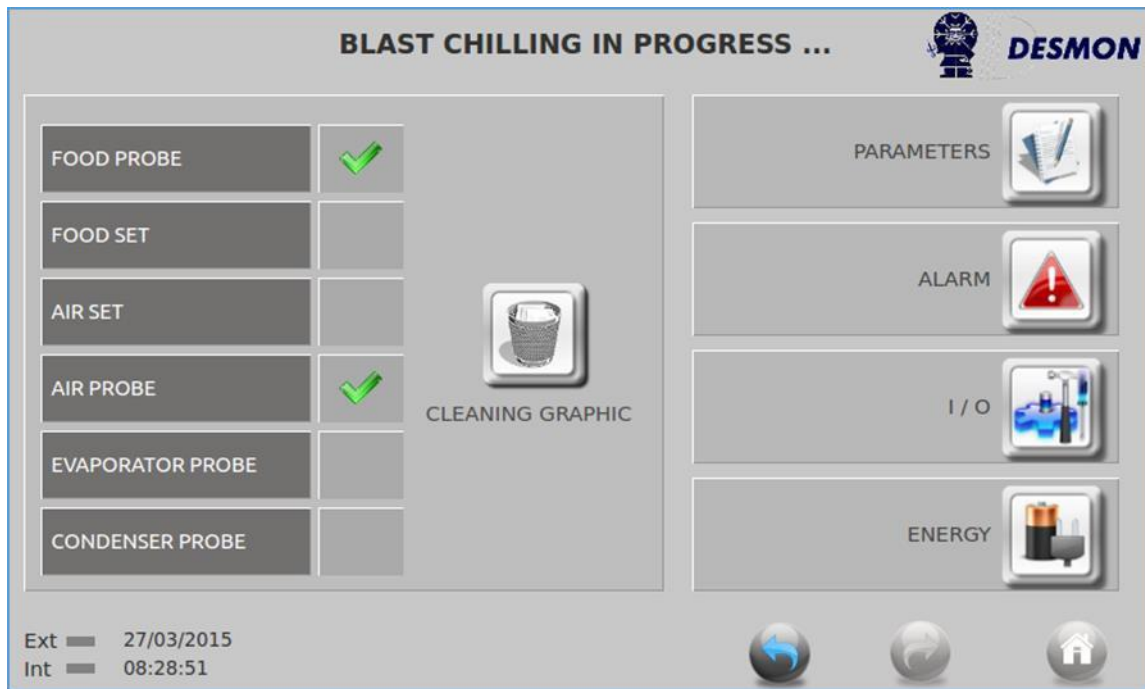
For either a **Pre-programmed**, **Custom** or **Manual** cycle the graph will show the **Air Set Temperature**, the actual cavity **Air Temperature** and the **Product Probe Temperature** during a **Chilling** or **Freezing** cycle. The **Timer** will count down until it reaches the cycle set time or will count up, when using the **Product Probe**, until the food target temperature is reached and will then switch to the **Hold** mode. The cycle can be stopped at any time by pressing the **Stop** button. If the door(s) are opened, the fans and compressor will turn off. The compressor has a **1-minute** delay on start up.

The graph can chart the various probes and can be customized to the user's choice. In the example below, the **4** sensors of the **Product Probe** (yellow, blue, black and green) are on the top of the graph and the evaporator sensor (red) is on the bottom of the graph. Notice there is no **End Cycle Time** indicated, as the **Product Probe** is being used.

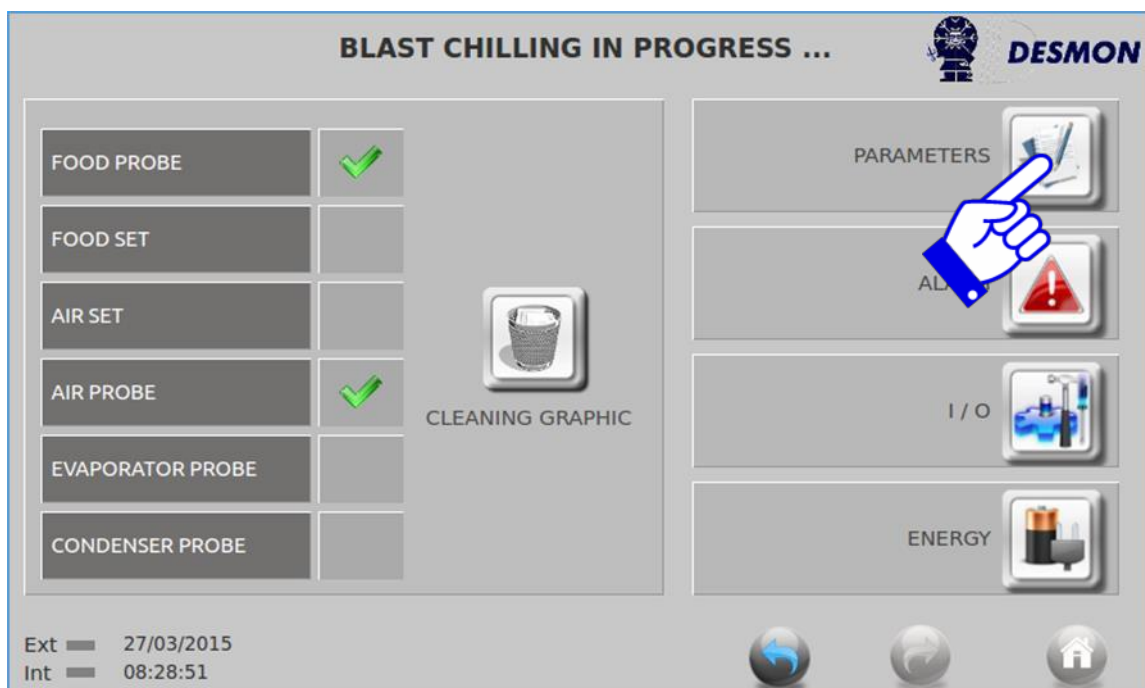


At any time while running a cycle, touch anywhere on the graph and this screen will appear. It allows the user to select which temperature value will be charted in the graph by enabling or disabling the **Green Checkmarks** on the left side tabs. The **Product Probe** and the cavity **Air Temperature Probe** are enabled. Although you can chart

numerous probes on the graph, the more that are enabled, the busier and crowded the graph will become.



By pressing on **PARAMETERS** icon, the **Parameter** screen will appear and it allows the user or service technician to check all the control **Parameter** settings. These parameters cannot be changed in this screen and are for reference only. Push the **Return** icon to return to the previous screen.



PARAMETERS 1/4							 DESMON	
ADR 1	EVO 14	IS1 159	IS2 3	IS3 0	OS1 17	OS2 3		
FOP 197	DOP 5	ALH 18 °F	ALL -18 °F	ALD 60 m	ADS 60 m	ADF 60 m		
HYH 9 °F	HYL 0 °F	MNT 15	DAC 3 s	ADL 60 s	ASS 0 s	CON 5 m		
COF 10 m	CPH 90 %	FAS 50 °F	HFF 9 °F	FAD 120 s	FSD 23 °F	LBT 45 °F		
EDT 27 °F	FEN 25 %	FEX 100 %	DOO 60 s	FCE 77 °F	HYF 9 °F	MCT 131 °F		

Ext 24/03/2015
Int 16:34:49



The user or service technician can page through the **4** pages of parameters, by using the **Forward** or **Back** arrow icons and can return to the previous screen by using the **Return** icon. Pressing the **Home** icon will return the user to the **Home** screen and terminate the program.

Pushing the **ALARM** tab, the screen will show any alarms that may happen during the cycle.

BLAST CHILLING IN PROGRESS ...

DESMON

FOOD PROBE

FOOD SET

AIR SET

AIR PROBE

EVAPORATOR PROBE

CONDENSER PROBE

✓

✓



CLEANING GRAPHIC

PARAMETERS

ALARM

ENERGY

Ext 27/03/2015

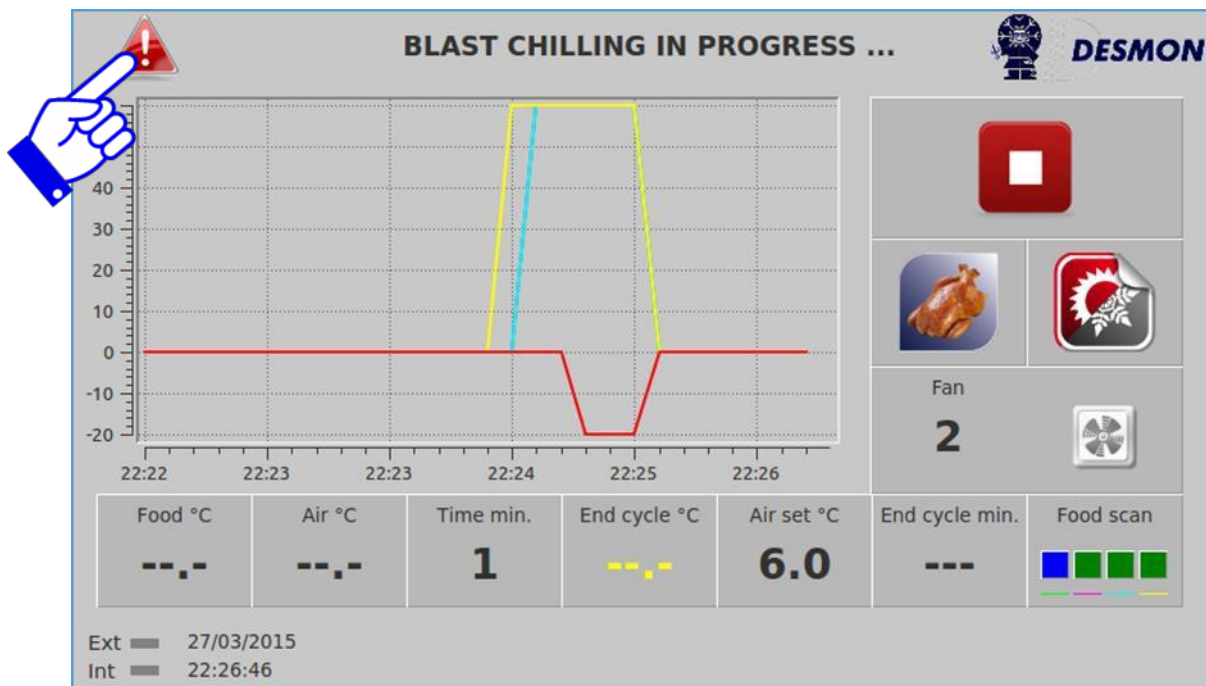
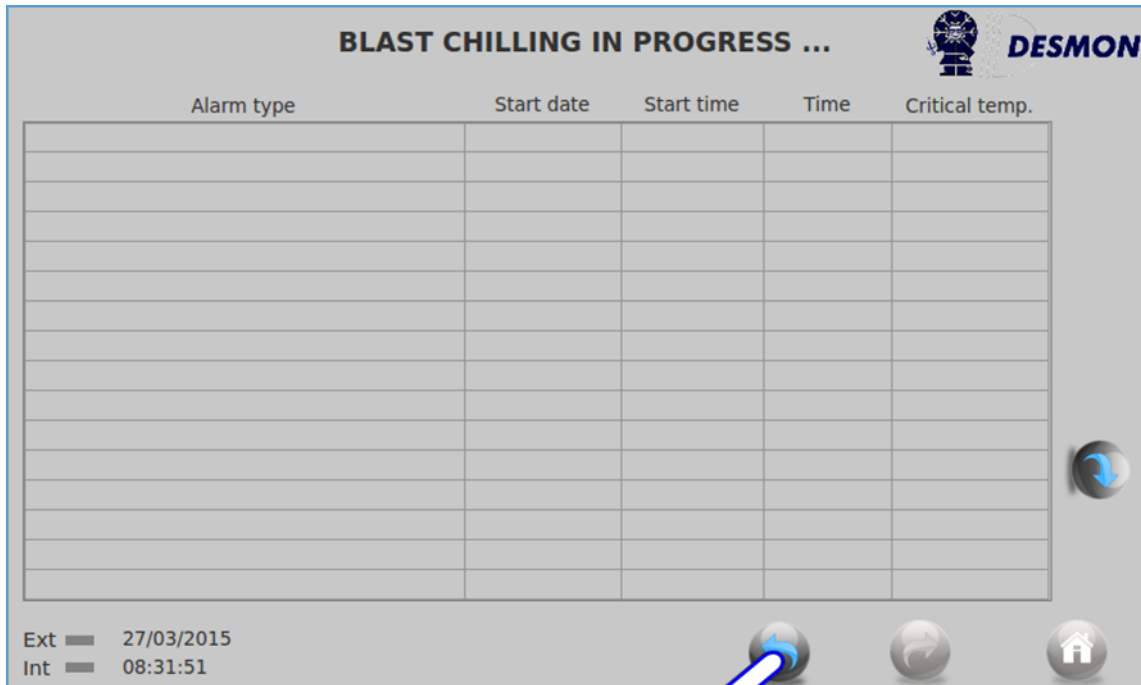
Int 08:28:51



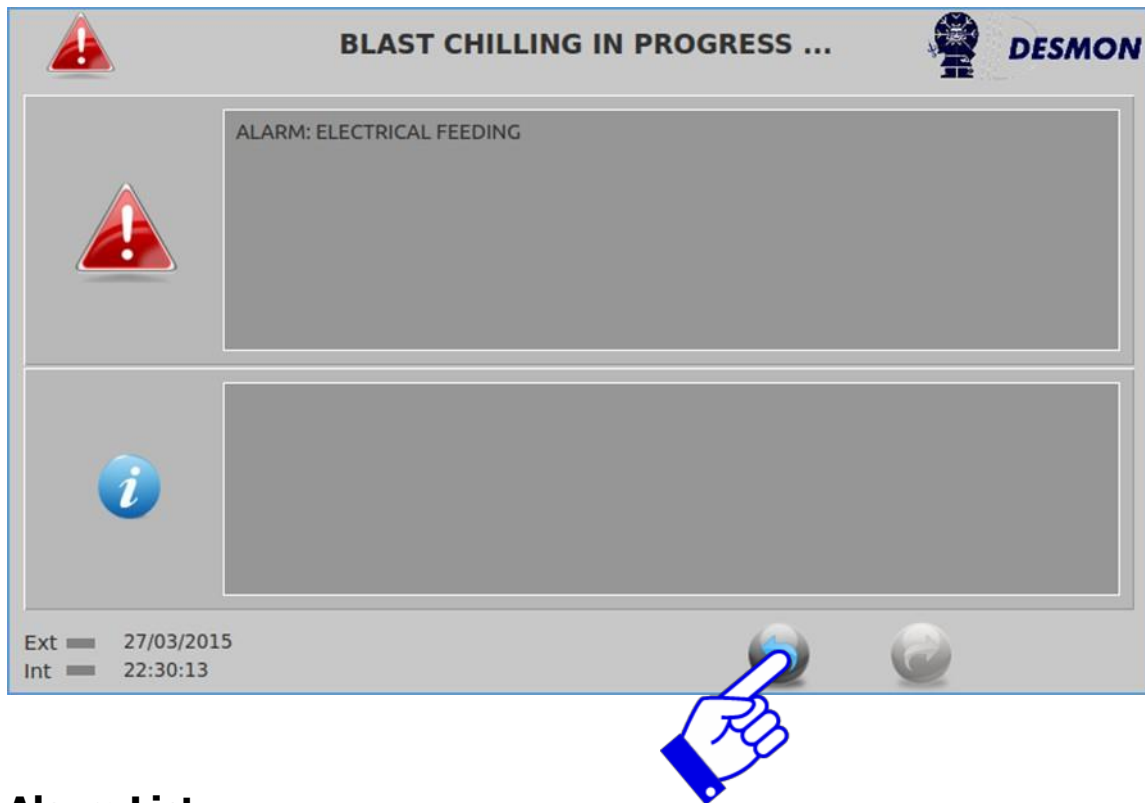




This screen will show any alarms that have occurred, the time and date they started, if they are occurring now and if they were a critical alarm, that will shut down the unit. There will also be an alarm indicator in the upper left corner of the graph screen. Pressing on the **Return** icon will take the user back to the previous screen.



By pressing on the **Alarm** icon, this screen will appear and tell you the type of alarm that occurred. This will also show up on the **Alarm List**.



5.5. Alarm List

This is the list of all alarms event that may occur during operation, along with a recommendation on how to solve them.

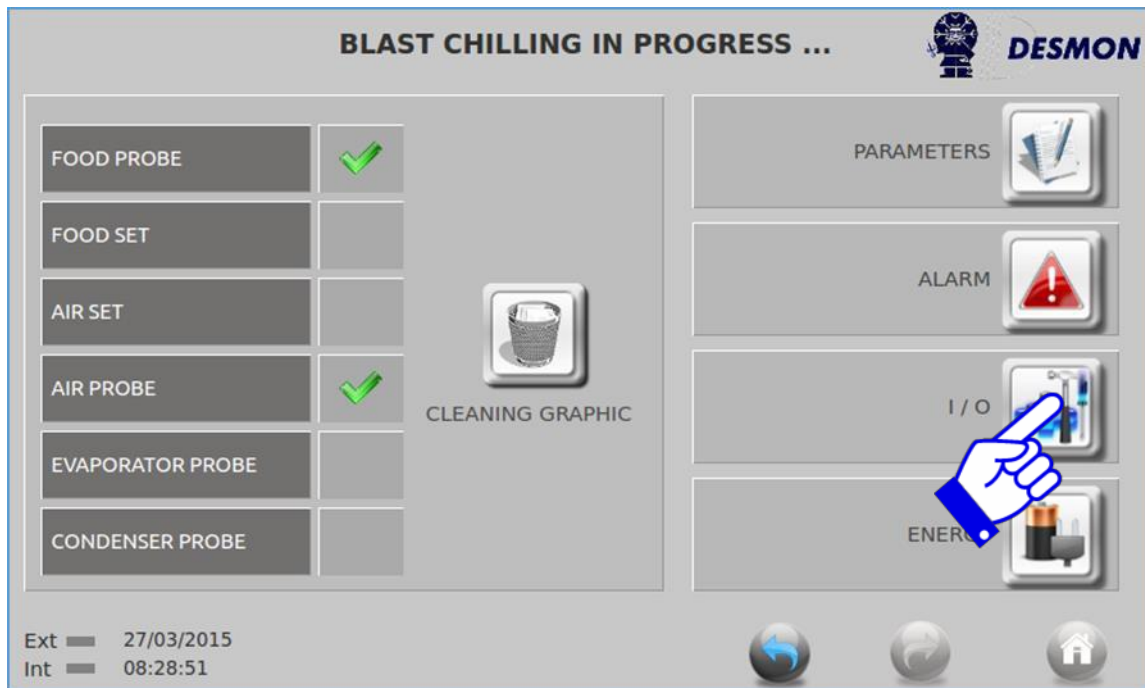
ALARM Name:

- **DOOR** - The door is open for more than the allowed time during a cycle.
- **MAINTENAINCE** – This is a reminder to perform a regular service inspection and preventive maintenance. Contact an authorized service company for service.
- **CONDENSER HIGH TEMPERATURE** - It means that the **Condenser** temperature exceeds **140°F/60°C**, as defined by the **(MCT)** parameter.
- **EVAPORATOR LOW TEMPERATURE** - It means that the **Evaporator** temperature is too low when compared to the current **Set-point** temperature. There is a differential parameter **(LBT)** that states the maximum gap that should exist between **Set-point** temperature and **Evaporator** temperature. This alarm it's not a critical one, however it could be avoided by resetting **(LBT)** parameter to **50°F/10°C**.
- **DEFROSTING TIME** – It means that the **Defrost** process was not terminated within the maximum defrosting time. The **Defrost** normally ends by coil temperature parameter **(DTE)**. If this doesn't happen within defrost parameter **(DTO)** minutes, then the alarm triggers. The amount of ice on the evaporator coil, may require more than one defrost. If the alarm occurs during the **Hold** cycle, there may be a problem with the defrost hot gas valve. Using the **Blast Chiller** as a holding cabinet for a long time may reach to this alarm too.

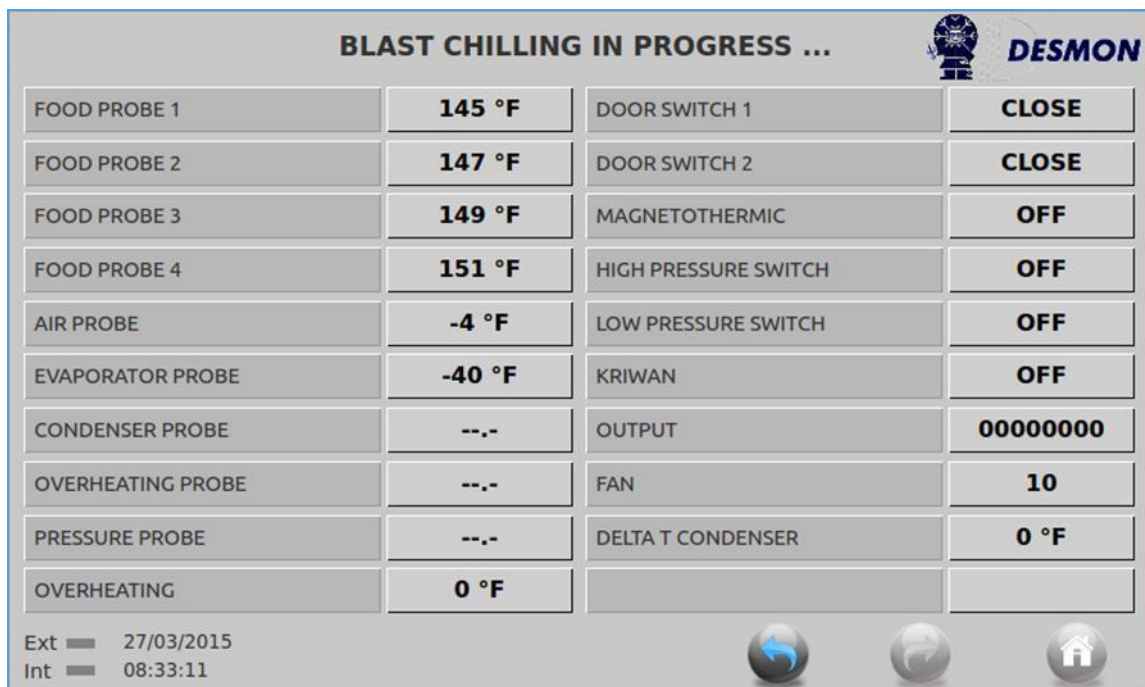
- > **ELECTRICAL FEEDING** - It means that the electrical supply voltage is not within **20%** of the voltage parameter (**MRV**). Check the voltage actual reading from the Energy section during a cycle for more details (**5.4. Cycle Graph** and other functions). Call service if low or high voltage is suspected.
- > **LOW TEMPERATURE** - It occurs if during the **Hold** cycle the cavity **Air** temperature goes below the lower temperature limit, parameter (**ALL**). This parameter is a differential respect to the **Set-point**.
- > **HIGH TEMPERATURE** - It occurs if during the **Hold** cycle the **Air** temperature goes above the higher temperature limit, parameter (**ALH**). This parameter is a differential respect to the **Set-point**. Adding hot product during the Hold cycle will trigger this alarm.
- > **AIR PROBE (S1)** – Cavity **Air** sensor failure. This is a critical alarm and will disable the **Chiller**, call service.
- > **EVAPORATOR PROBE (S2)** - **Evaporator** sensor failure. This is a critical alarm and will disable the **Chiller**, call service.
- > **CONDENSER PROBE (S3)** - **Condenser** sensor failure. Allow the **Chiller** to cool down, check the condenser filter and clean as needed. Check to ensure condenser fan is working, that there is sufficient air circulation and move unit as needed, call service as this will cause compressor failure.
- > **FOOD PROBE (PT1) – Product Probe** sensor 1 failure. This will not allow the user to chill by **Product Probe**, call service.
- > **FOOD PROBE (PT2) – Product Probe** sensor 2 failure. This will not allow the user to chill by **Product Probe**, call service.
- > **FOOD PROBE (PT3) - Product Probe** sensor 3 failure. This will not allow the user to chill by **Product Probe**, call service.
- > **FOOD PROBE (PT4) - Product Probe** sensor 4 failure. This will not allow the user to chill by **Product Probe**, call service.
- > **RELAY 1, 2, 3, 4, 5, 6, 7, 8 BROKEN** - The relay board detected a failure on relay 1, 2, 3, 4, 5, 6, 7, 8. Call service.
- > **TRIAC BROKEN** - The electronic board detected a failure on the (**PWM**) output for evaporator fan variable speed. Call service.
- > **BLACK OUT** - The system recorded a power interruption without switching off the display. Please power off the control before disconnecting the power.

Press the **Return** icon to return to the previous screen.

5.6. I/O Menu



By pressing on the **I/O** icon, it will bring up the next screen.

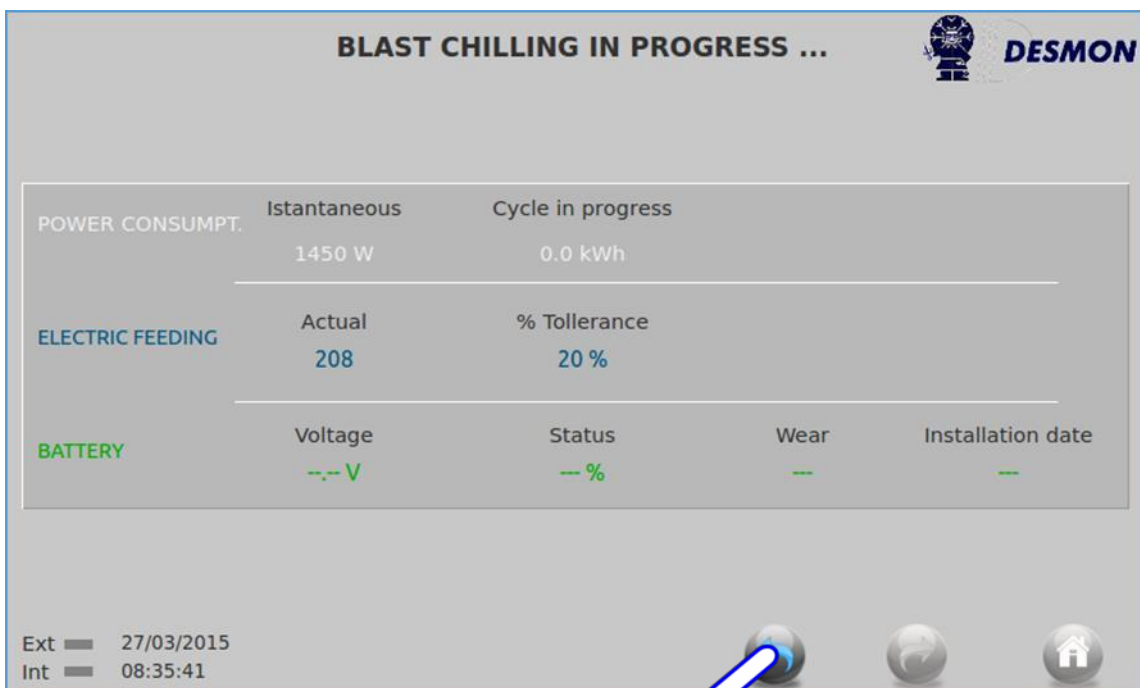
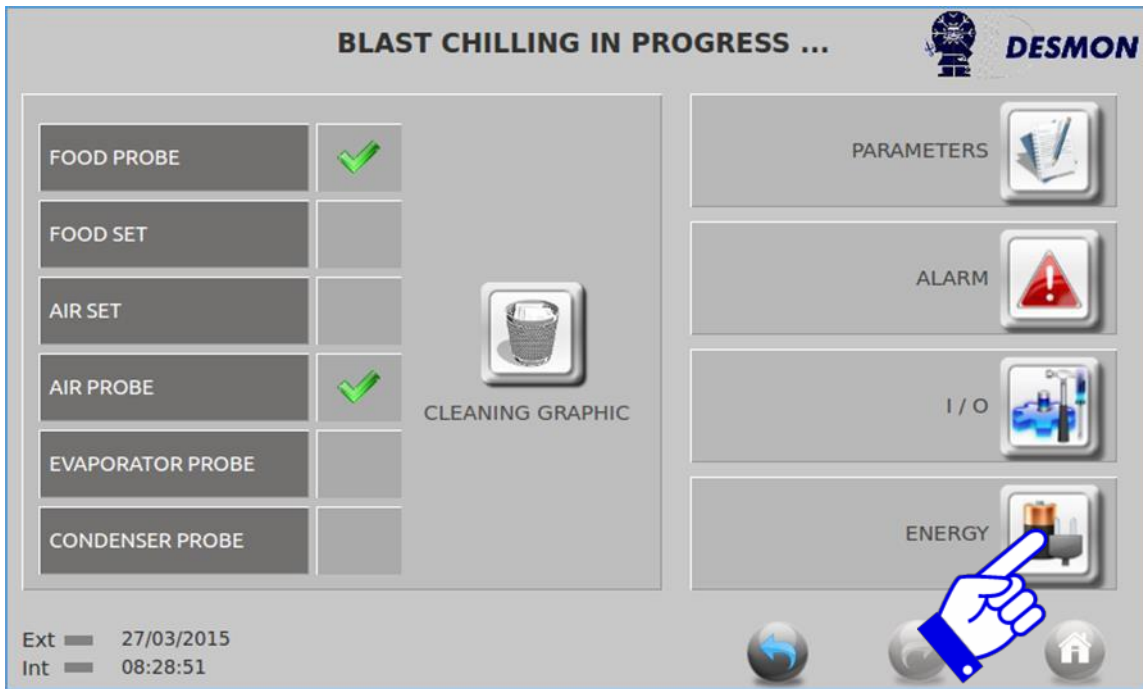


This function allows the user or service technician to monitor in real time the input values of each of the following; multi-point **Product Probe**, **Evaporator** probe, cavity **Air Temperature** probe, **Condenser** probe and the **Door(s)** status. Additionally, the **I/O**

screen shows the components output status and the **Fan Speed**. By pressing the **Return** icon, you will return to the previous screen.

5.7. Energy Menu

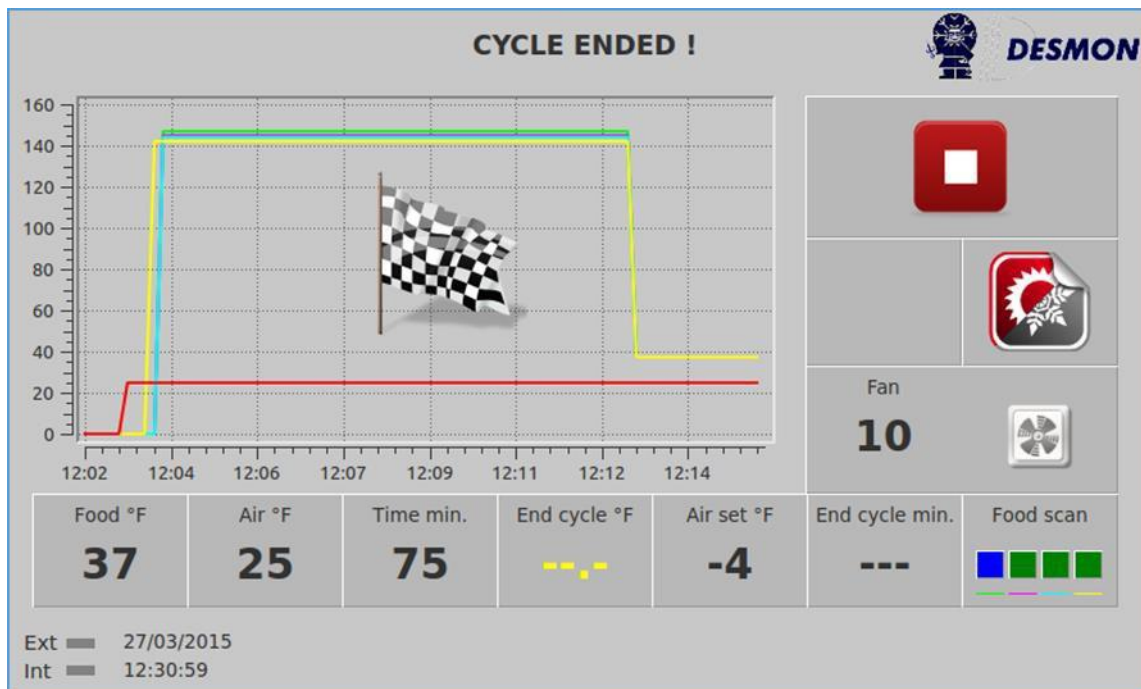
The **ENERGY** tab allows monitoring the actual voltage, power consumption and status of the control battery.



By pressing the **Return** icon, you will return to the previous screen.

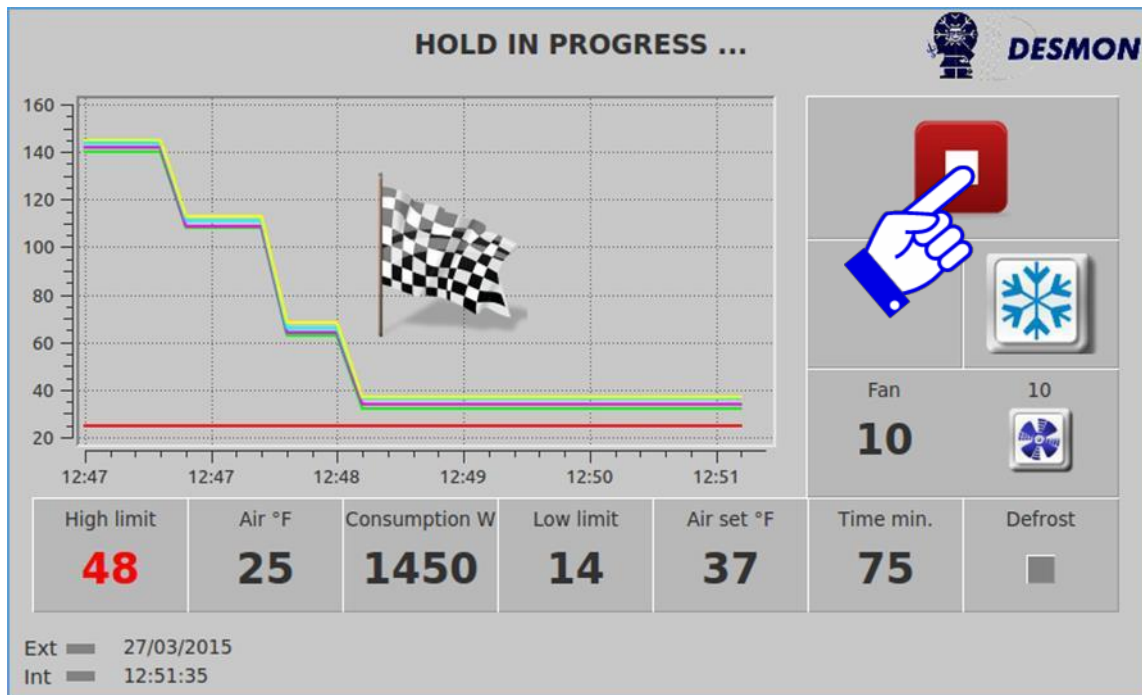
5.8. Cycle End

When the cycle is complete, this is the screen that will appear. The **Flag** icon shows the exact time when the target was reached and after going through a **Defrost**, the **Chiller** will automatically switch to the **Hold** cycle.



5.9. Automatic Holding Cycle

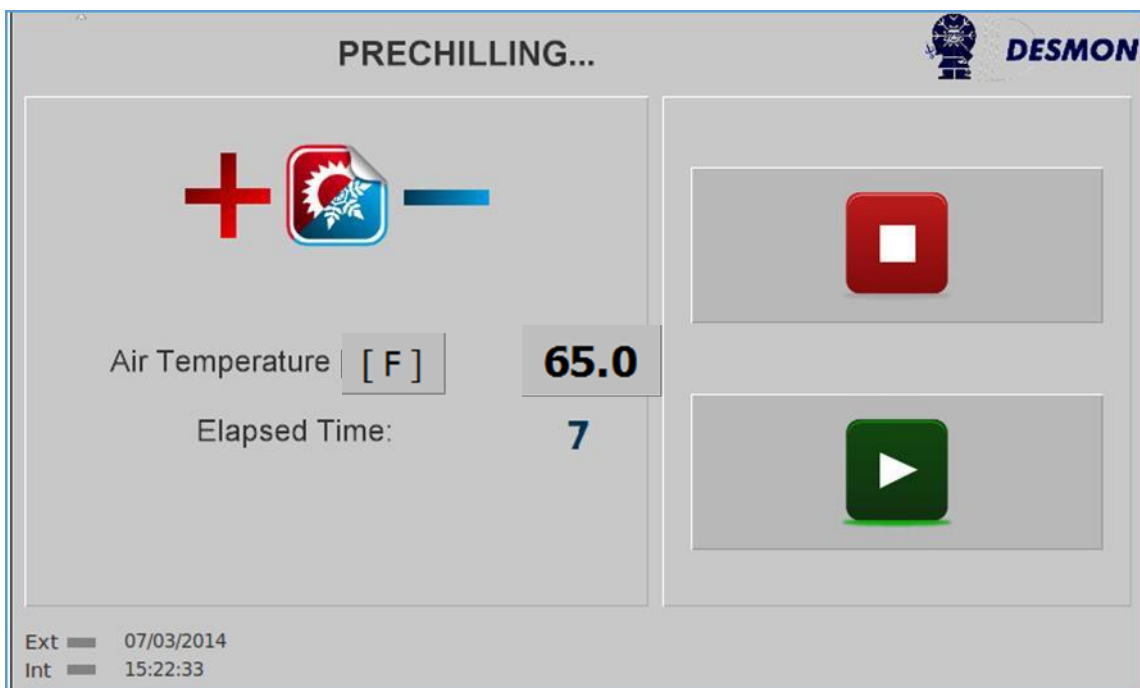
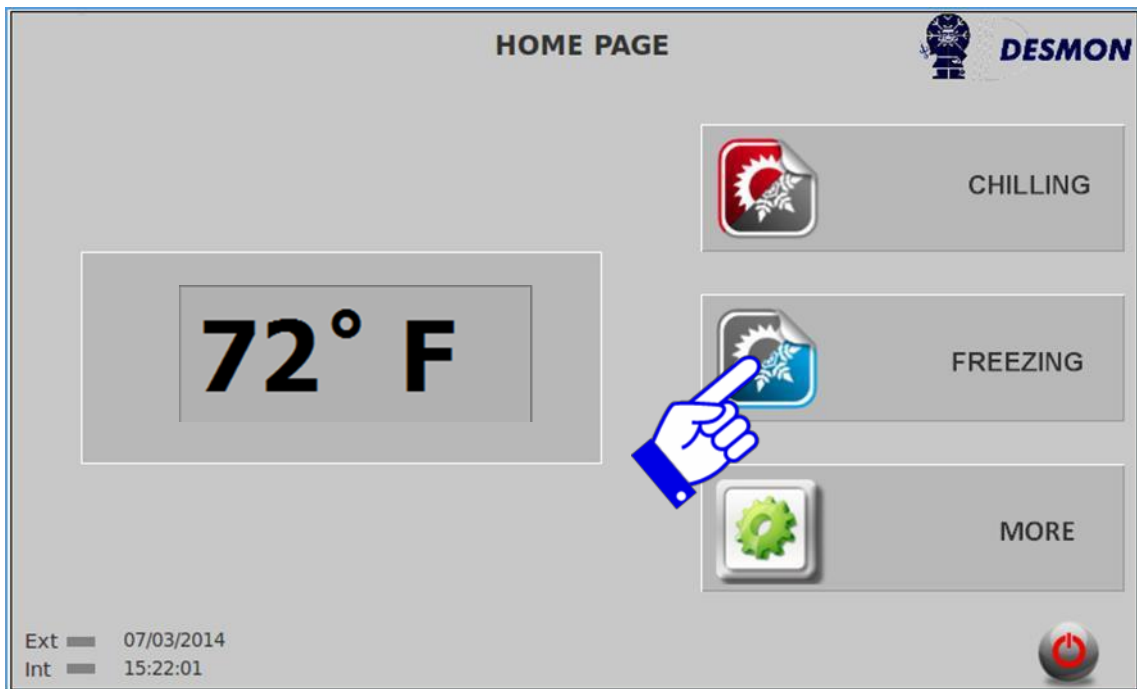
The **Hold** mode will start automatically. From left to right the screen will show you the upper temperature limit to trigger a **High Temperature** alarm, the cavity **Air Temperature** during the **Chilling** mode, the energy usage at this time, the low limit to trigger a **Low Temperature** alarm, the set cavity **Air Temperature** for the **Hold** cycle, the amount time the product has been in the **Hold** cycle and if the unit is in **Defrost**. If the **Chiller** is in **Defrost**, the **Defrost** indicator will turn **Green**.



By pressing the **Red Stop** icon, you will return to the **Home** screen.

6. Blast Freezing Mode

The **Blast Freezing** cycle is identical to the **Blast Chilling** cycle in respect to programming, operation and modes, with the exception that it will run at much lower temperatures and **Hold** at lower temperatures. The product target temperature in a freeze cycle is **0°F(-18°C)** and **HACCP** regulations state this temperature must be reached within **240** minutes. The lowest air temperature that can be set is **-40°F(-40°C)**. Just like in the **Chilling** cycle, it's up to the user to select a **Product Probe** based cycle, with the benefit of having properly frozen food at the end of the cycle, or a **Time** and **Temperature** based cycle, which will switch to the **Hold** mode after the programmed time, regardless of the food temperature. To access the **Blast Freezing** mode, from the Home screen, press the **Freezing** icon.



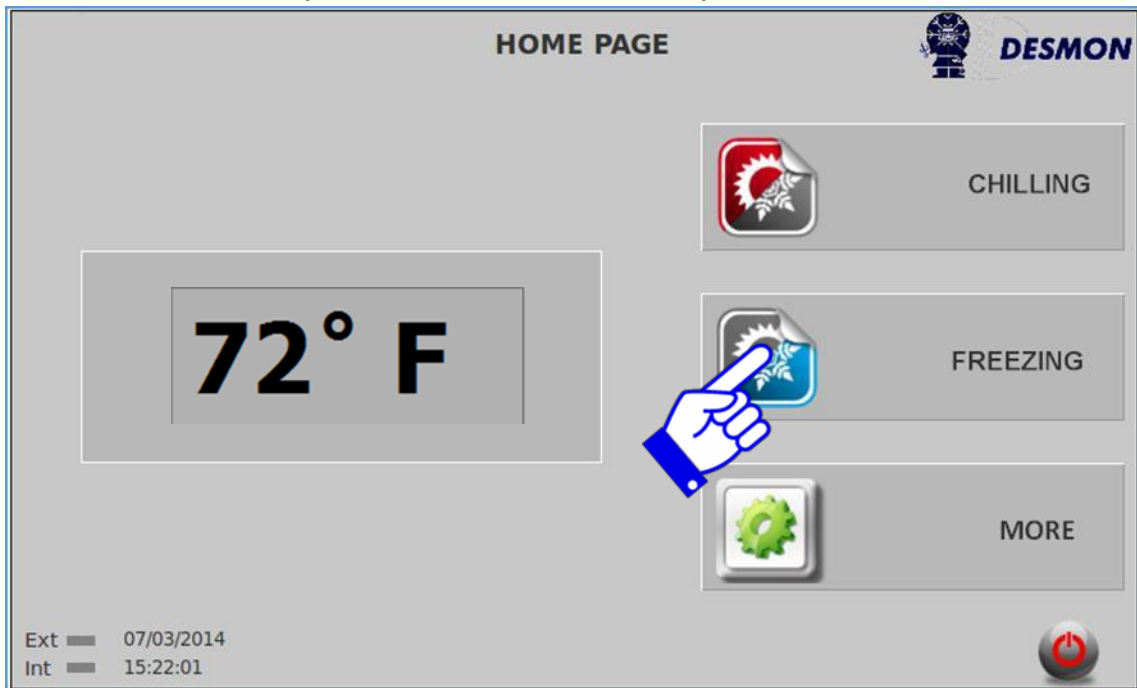
In the **Blast Freezing** cycle, the **Chiller** will **Pre-Chill** the cavity to **-22°F/-30°C**. Once it is **Pre-chilled**, press the **Green** arrow icon to proceed to the **Product** category screen. After this point, all modes, pre-programmed recipes, custom recipes, graphs and options are identical to the **Blast Freezing** mode. Please see the instructions above.

7. Service

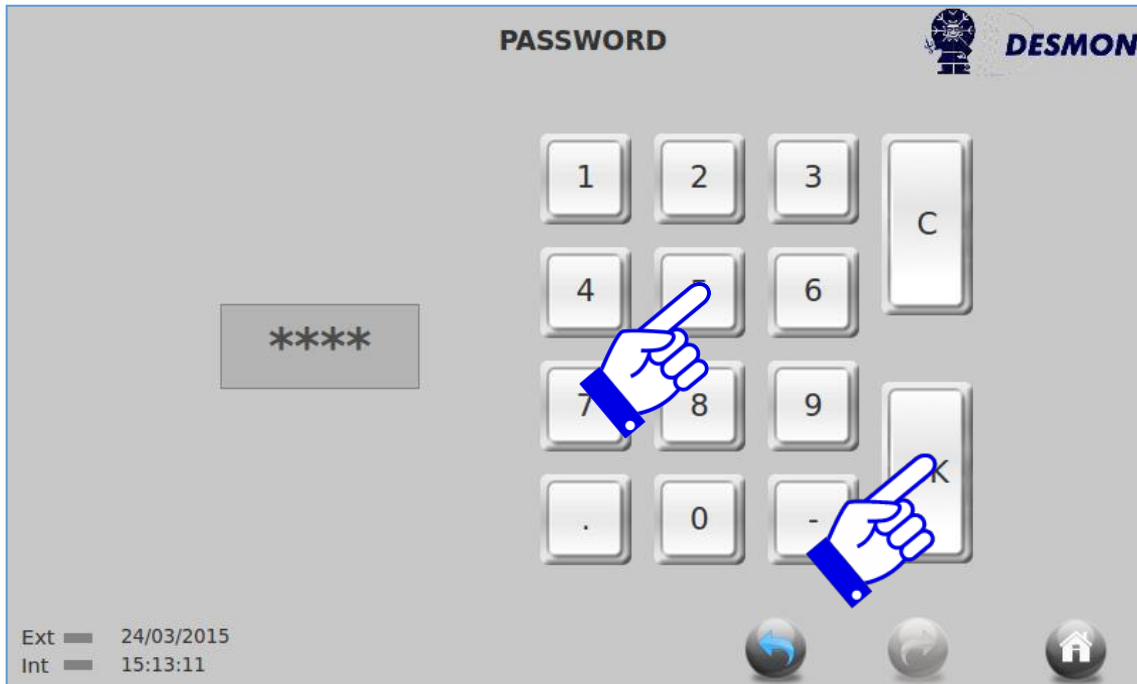
This menu is to be used by service technicians to help in diagnosing issues. Access to service functions is password protected, to avoid changes to the parameter settings and to prevent damage to the **Blast Chiller**. Even when provided the password, do not access the **Service Menu** and make any changes, unless you are directed to do so by a member of the manufacturer's service team.

7.0. Access to the Service Menu

From the **HOME** screen, press the **MORE** icon, then press **SERVICE** icon.



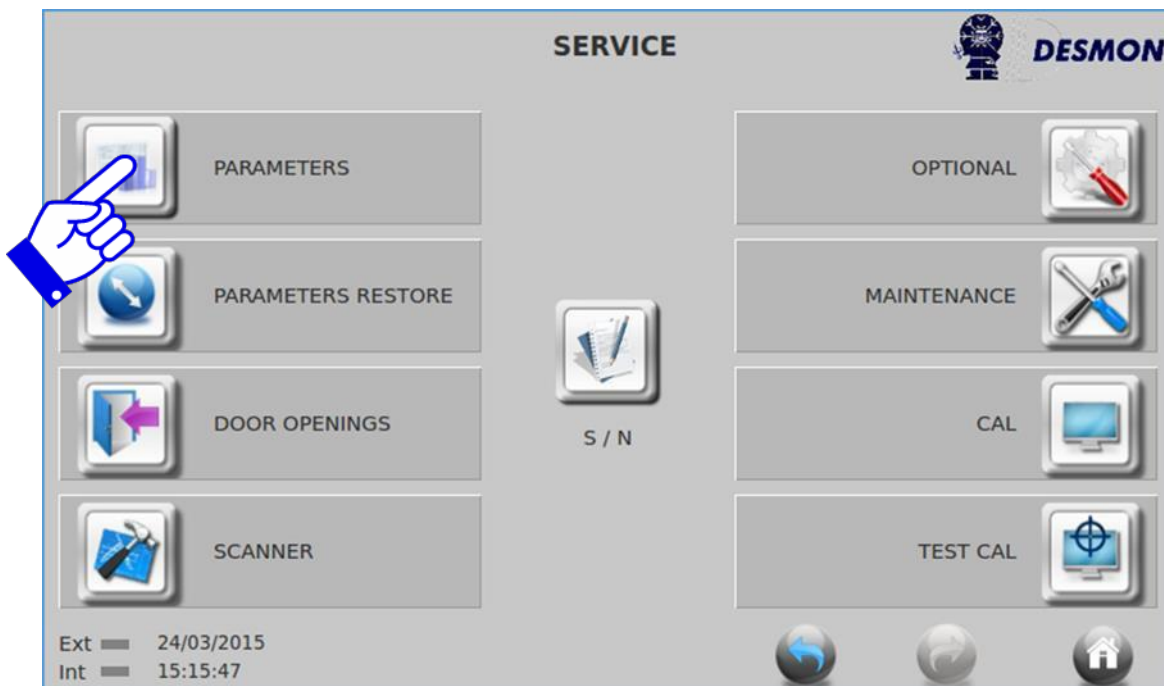
Press the **Service** icon.



Enter the **4-digit Password** provided by the manufacturer service team and hit **OK** to enter the menu.

7.1. How to Change a Parameter

Pressing on **PARAMETERS** it is possible to check or change all the internal parameters of the **Blast Chiller**. There are **134** parameters listed on **4** pages.



Press the **Parameter** icon. The following screen will appear.

PARAMETERS 1/4

 **DESMON**

ADR 1	EVO 14	IS1 159	IS2 3	IS3 0	OS1 17	OS2 3
FOP 197	DOP 5	ALH 18 °F	ALL -18 °F	ALD 60 m	ADS 60 m	ADF 60 m
HYH 9 °F	HYL 0 °F	MNT 15	DAC 3 s	ADL 60 s	ASS 0 s	CON 5 m
COF 10 m	CPH 90 %	FAS 50 °F	HFF 9 °F	FAD 120 s	FSD 23 °F	LBT 45 °F
EDT 27 °F	FEN 25 %	FEX 100 %	DOO 60 s	FCE 77 °F	HYF 9 °F	MCT 131 °F

Ext 24/03/2015
Int 16:34:49





The service technician can use the right or left arrows to advance the screens.

PARAMETERS 2/4

 **DESMON**

DCN 0 °F	GAS 0 °F	DCR 18 °F	RMT 60 s	PMT 1	TPB 30 m	DTE 68 °F
DRP 0 s	DTO 20 m	ITD 8 h	DCD 8 m	SDT 4 °F	SD1 0 h	SD2 0 h
SD3 0 h	SD4 0 h	SPX 37 °F	COS 10	PR1 2392 W	PR2 1200 W	PR3 40 W
PR4 10 W	PR5 10 W	PR6 10 W	PR7 0 W	PR8 0 W	STB 1	CYC 1
WIN 20 m	SUM 20 m	ETT 140 °F	SPU 37 °F	OF1 0 °F	OF2 0 °F	OF3 0 °F

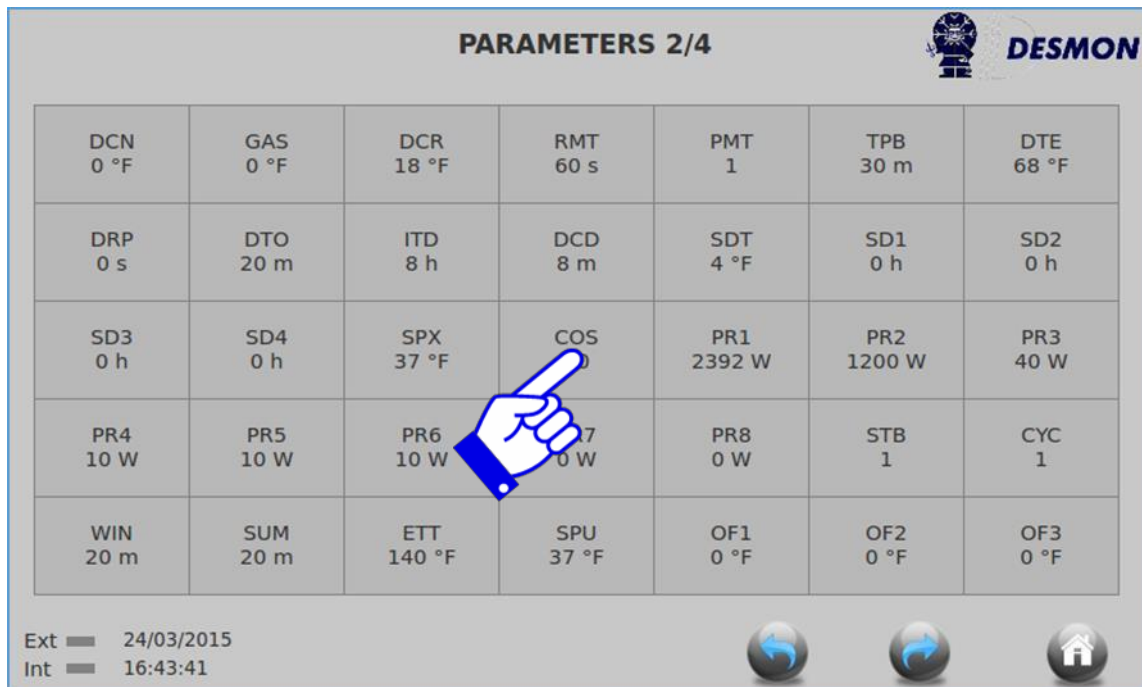
Ext 24/03/2015

Int 16:43:41

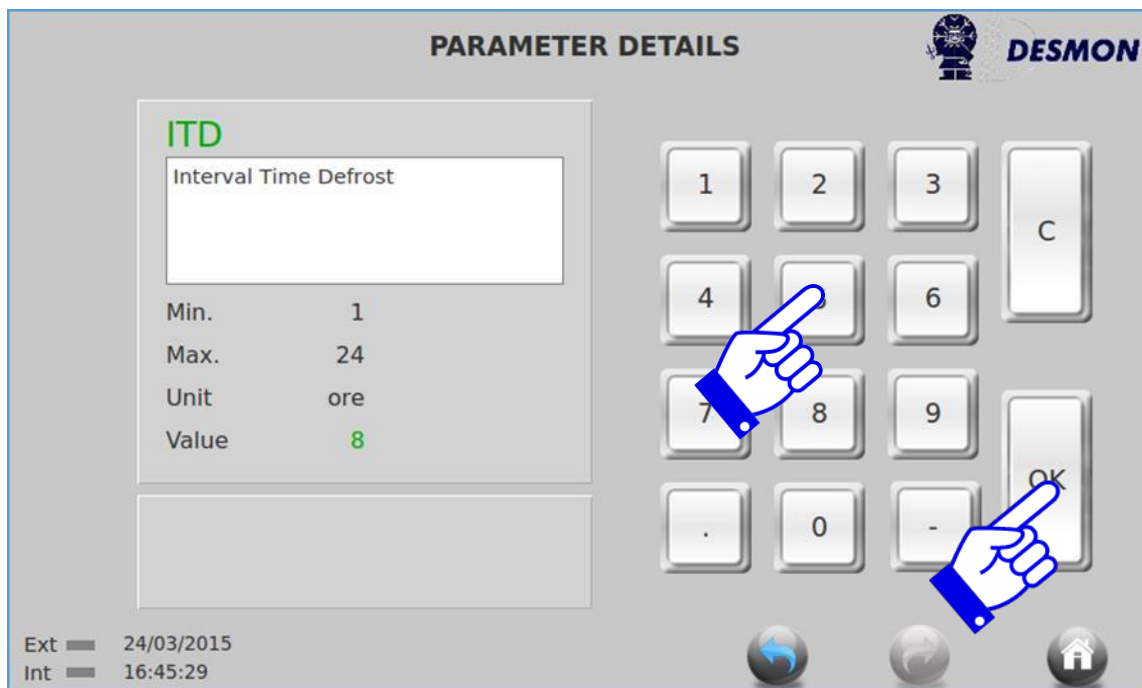




Pressing the left arrow multiple times will return to the service menu.



To change a **Parameter**, press on the parameter that needs to be changed.



Use the keyboard to change the parameter value and press **OK** to confirm the change. Press the **Return** icon to return to the previous screen or press the **Home** icon to return to the **Home** screen.

7.2. Parameter List

The following table of **Parameter** settings is for reference only. **Parameter** values may change in the future without additional release of revised manuals. Please contact the manufacturer's service team member for an updated list of current parameters.

Parameter	Description	Reach In 120V	Reach In 230V	Roll In
ADR	serial address [num]	1	1	1
EVO	alarm intervention super-parameter [num]	0	0	0
IS1	probes and door input configuration super-parameter [num]	155	155	155
IS2	digital input configuration super-parameter [num]	8	8	8
IS3	not used	0	0	0
OS1	additional output super-parameter [num]	0	0	0
OS2	additional output super-parameter [num]	0	0	0
FOP	fans mode super-parameter [num]	131	131	131
DOP	defrost mode super-parameter [num]	7	7	7
ALH	upper temperature alarm limit [°C/°F]	50	50	50
ALL	lower temperature alarm limit [°C/°F]	14	14	14
ALD	temperature alarm delay [min]	60	60	60
ADS	temperature alarm delay after start [min]	180	180	180
ADF	temperature alarm delay after defrost [min]	120	120	120
HYH	upper differential cooling action [°C/°F]	2	2	2
HYL	lower differential cooling action [°C/°F]	0	0	0
MNT	number of trays of blast chiller [num]	15	15	15
DAC	compressor stop delay [sec]	3	3	3
ADL	minimum time of stop compressor [sec]	60	60	60
ASS	start compressor delay at power on [sec]	30	30	30
CON	compressor on time in probe faulty [min]	5	5	5
COF	compressor off time in probe faulty [min]	10	10	10
CPH	not used	90	90	90
FAS	evaporator fan set point [°C/°F]	50	50	50
HFF	differential of fan set point [°C/°F]	9	9	9
FAD	delay of fan start in evaporator probe faulty [sec]	5	5	5
FSD	stop evaporator fan temperature in defrost [°C/°F]	14	14	14
LBT	minimum evaporator temperature related to set point [°C/°F]	50	50	50
EDT	choking evaporator fan temperature range [°C/°F]	59	59	59
FEN	minimum evaporator fan speed % [num]	25	25	25

Parameter	Description	Reach In 120V	Reach In 230V	Roll In
FEX	maximum evaporator fan speed % [num]	100	100	100
DOO	max open door time before door alarm [sec]	60	60	60
FCE	condenser fan set point [°C/°F]	77	77	77
HYF	upper differential condenser fan action [°C/°F]	9	9	9
MCT	max condenser temperature [°C/°F]	131	131	131
DCN	dirty condenser threshold [°C/°F]	0	0	0
GAS	low refrigerant amount alert threshold [°C/°F]	0	0	0
DCR	differential for restarting blast chiller after high condenser temperature [°C/°F]	50	50	50
RMT	stop time during high condenser temperature [sec]	180	180	180
PMT	max high condenser event before high temp. Alarm [num]	3	3	3
TPB	time threshold for high condenser temp. Alarm [min]	30	30	30
DTE	defrost ending temp related to evap. Probe [°C/°F]	41	41	41
DRP	dripping time after defrost [sec]	60	60	60
DTO	defrost timeout [min]	10	10	10
ITD	interval between two consecutive defrosts [hours]	8	8	8
DCD	max on-time drain heater [min]	8	8	8
SDT	ice detecting sensitivity in smart defrost mode [num]	0	0	0
SD1	first daily defrost [hour]	0	0	0
SD2	second daily defrost [hour]	0	0	0
SD3	third daily defrost [hour]	0	0	0
SD4	fourth daily defrost [hour]	0	0	0
SPX	door frame heater set point [°C/°F]	14	14	14
COS	average power factor of equipment [num]	5	5	5
PR1	declared power connected to relay1 [num]	0	0	0
PR2	declared power connected to relay2 [num]	0	0	0
PR3	declared power connected to relay3 [num]	0	0	0
PR4	declared power connected to relay4 [num]	0	0	0
PR5	declared power connected to relay5 [num]	0	0	0
PR6	declared power connected to relay6 [num]	0	0	0
PR7	declared power connected to relay7 [num]	0	0	0

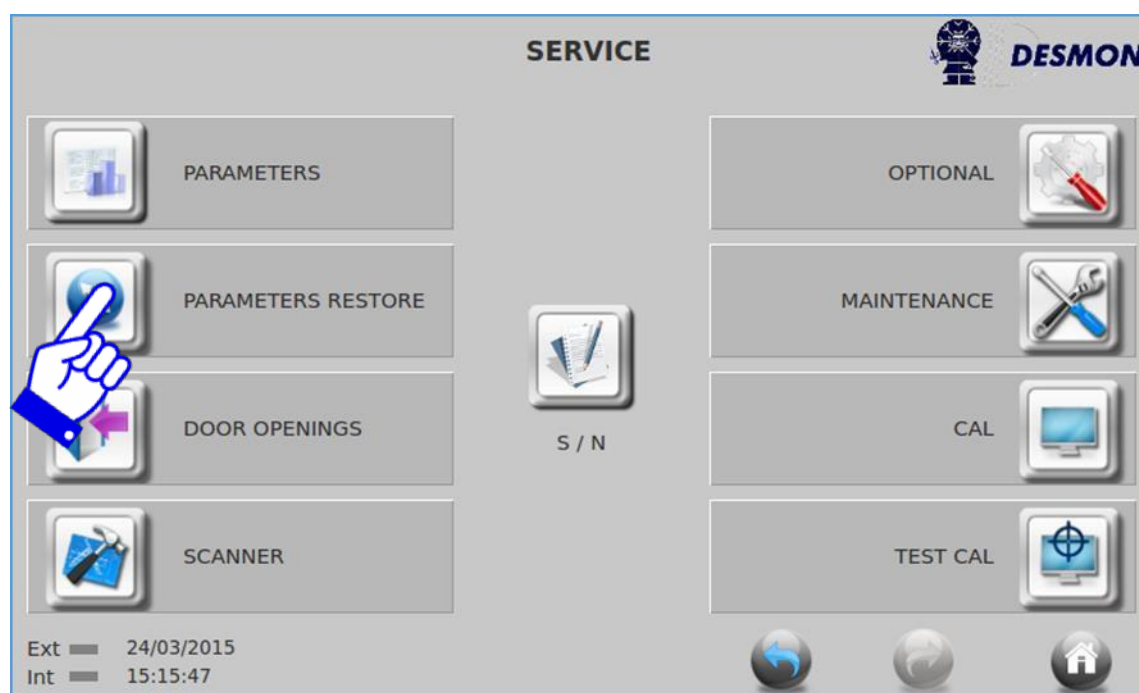
Parameter	Description	Reach In 120V	Reach In 230V	Roll In
PR8	declared power connected to relay8 [num]	0	0	0
STB	number of cycles during D test [num]	5	5	5
CYC	number of on7off cycles during D test [num]	5	5	5
WIN	max pull down time in winter D test [num]	90	90	90
SUM	max pull down time in summer D test [num]	120	120	120
ETT	set point in heating cycle during D test [°C/°F]	59	59	59
SPU	user set point in storage cycle [°C/°F]	37	37	37
OF1	cabinet probe offset [num]	-0.7	-0.7	-0.7
OF2	evaporator probe offset [°C/°F]	0	0	0
OF3	condenser probe offset [°C/°F]	0	0	0
OF4	core probe point 1 offset [°C/°F]	0	0	0
OF5	core probe point 2 offset [°C/°F]	0	0	0
OF6	core probe point 3 offset [°C/°F]	0	0	0
OF7	core probe point 4 offset [°C/°F]	0	0	0
OF8	core probe point 5 offset [°C/°F]	0	0	0
SLL	not used	-40	-40	-40
SLH	not used	3	3	3
RHU	cabinet RH% set point settable [num]	80	80	80
MNS	mains voltage alarm limit [%]	20	20	20
MAL	voltage alarm delay [hours]	10	10	10
MEV	max number of voltage conditions before voltage alarm [num]	5	5	5
MBP	time range in which is performed the mains voltage control [hours]	1	1	1
RL1	relay 1 action type [num]	1	1	1
RL2	relay 2 action type [num]	13	13	13
RL3	relay 3 action type [num]	17	17	17
RL4	relay 4 action type [num]	13	13	13
RL5	relay 5 action type [num]	0	0	0
RL6	relay 6 action type [num]	11	11	11
RL7	relay 7 action type [num]	10	10	10
RL8	relay 8 action type [num]	1	1	1
SRV	remaining time before maintenance [day]	800	800	800
PCA	cabinet set point in pre-chilling [°C/°F]	28	28	28
PCF	evaporator fan speed in pre-chilling [num]	10	10	10
PFA	cabinet set point in pre-freezing [°C/°F]	-22	-22	-22
PFF	evaporator fan speed in pre-freezing [num]	10	10	10

Parameter	Description	Reach In 120V	Reach In 230V	Roll In
DWA	load tolerance on relays [%]	20	20	20
STO	max storage time without hot gas defrost [hours]	48	48	48
DFS	difference between core probe and cabinet probe to detect core probe inserted [°C/°F]	18	18	18
STE	sterilization cycle duration [sec]	300	300	300
PRH	heating core probe cycle duration [sec]	60	60	60
VOF	mains voltage sensor offset [num]	77	77	77
PTE	not used	20	20	20
PTI	not used	12	12	12
MRT	max recharging time of battery [hours]	20	20	20
FCD	max first recharging time of battery [hours]	12	12	12
BTD	max duration of battery test [sec]	3	3	3
TBT	consecutive battery test interval time [min]	5	5	5
NMT	not used	250	250	250
VRS	start battery charging threshold [V/10]	11,1	11,1	11,1
VRE	end battery charging threshold [V/10]	11,3	11,3	11,3
VRT	battery voltage at ending charging for max duration [V/10]	9,8	9,8	9,8
VBR	minimum battery voltage for disabling battery [V/10]	8,6	8,6	8,6
VAD	battery voltage threshold to show "no battery" message [V/10]	3,3	3,3	3,3
VPD	battery voltage threshold to detect presence of battery [V/10]	5	5	5
TBK	delay time before safety turn off of battery circuit [sec]	60	60	60
BOF	battery voltage offset [V/10]	0	0	0
MST	max air temperature during thawing [°C/°F]	50	50	50
OFH	not used	3	3	3
PAT	air temperature in pre-thawing cycle [°C/°F]	43	43	43
PFT	evaporator fan speed in pre-thawing cycle [%]	10	10	10
PAC	air temperature in pre-soft cooking cycle [°C/°F]	43	43	43
PFC	evaporator fan speed in pre-soft cooking cycle [%]	6	6	6
HHL	lower differential heating action [°C/°F]	5	5	5
HHH	upper differential heating action [°C/°F]	5	5	5
MRV	nominal mains voltage [V]	115	230	230
PRF	evaporator fan declared power [W]	100	100	100

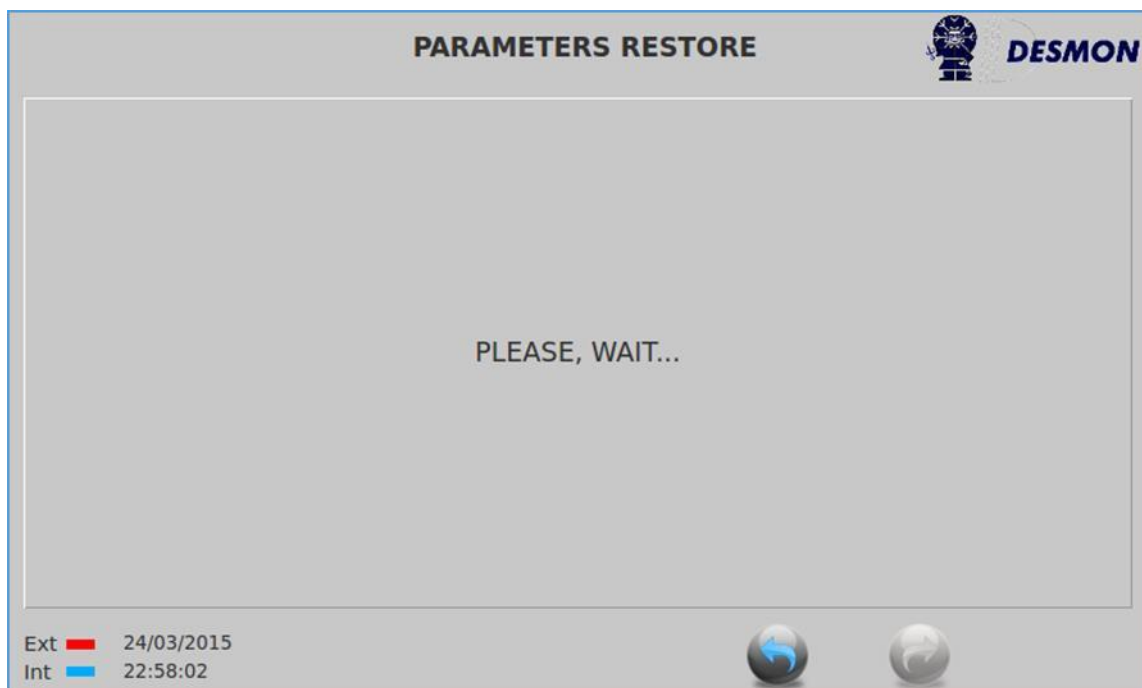
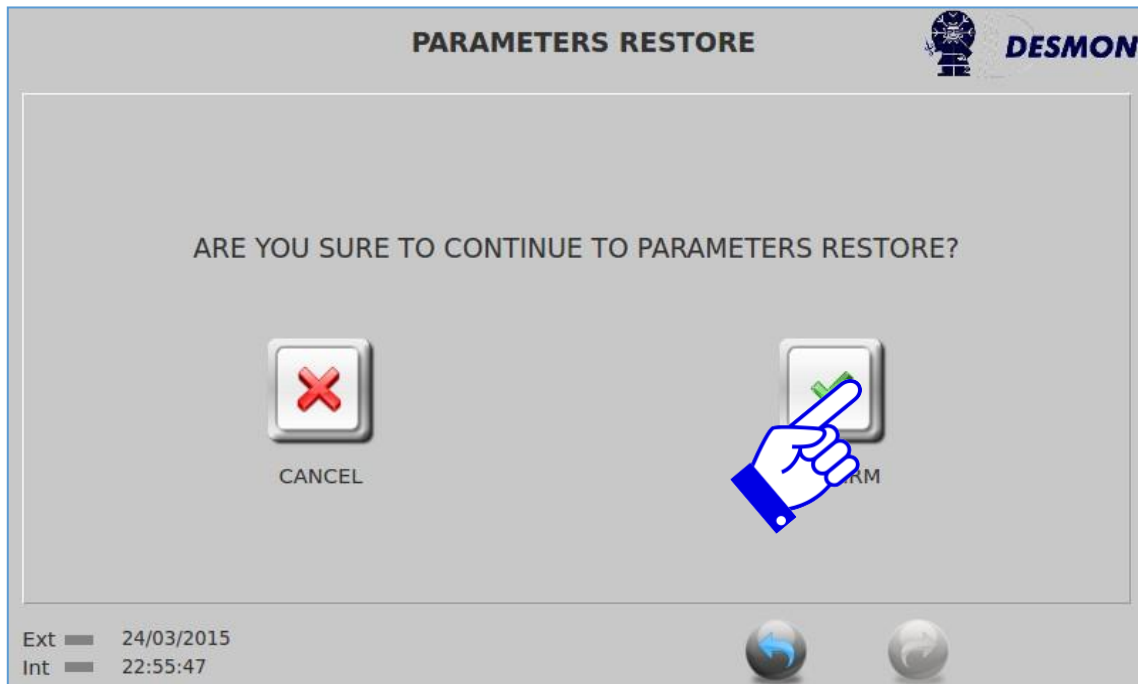
Parameter	Description	Reach In 120V	Reach In 230V	Roll In
CMR	evaporator speed fan index during RH% control [num]	10	10	10
CPR	not used	10	10	10
CIN	not used	0	0	0
SPS	not used	7	7	7
TBC	not used	5	5	5
LPT	not used	0	0	0
POF	not used	0	0	0

7.3. Parameters Restore

At any time is possible to restore the original **Parameter** list that was loaded into the controller via **USB** drive (see chapter **4.3.3. Software Update – Parameter only**). Press the **PARAMETERS RESTORE** icon.



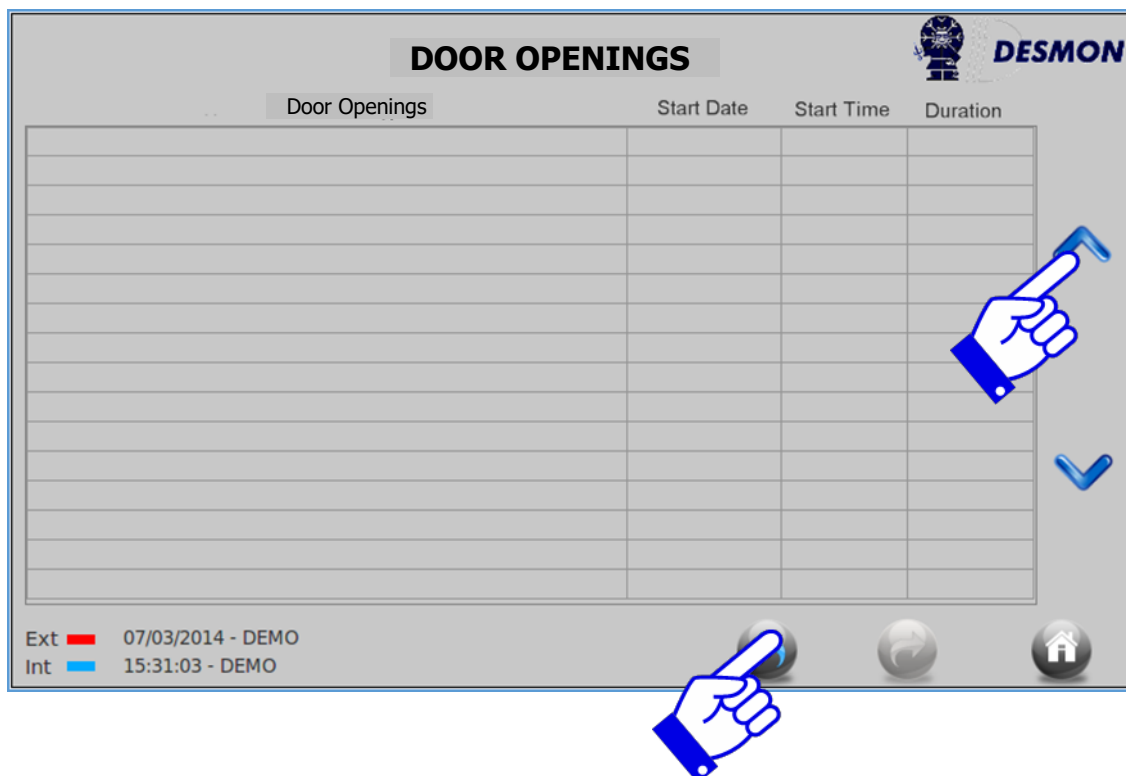
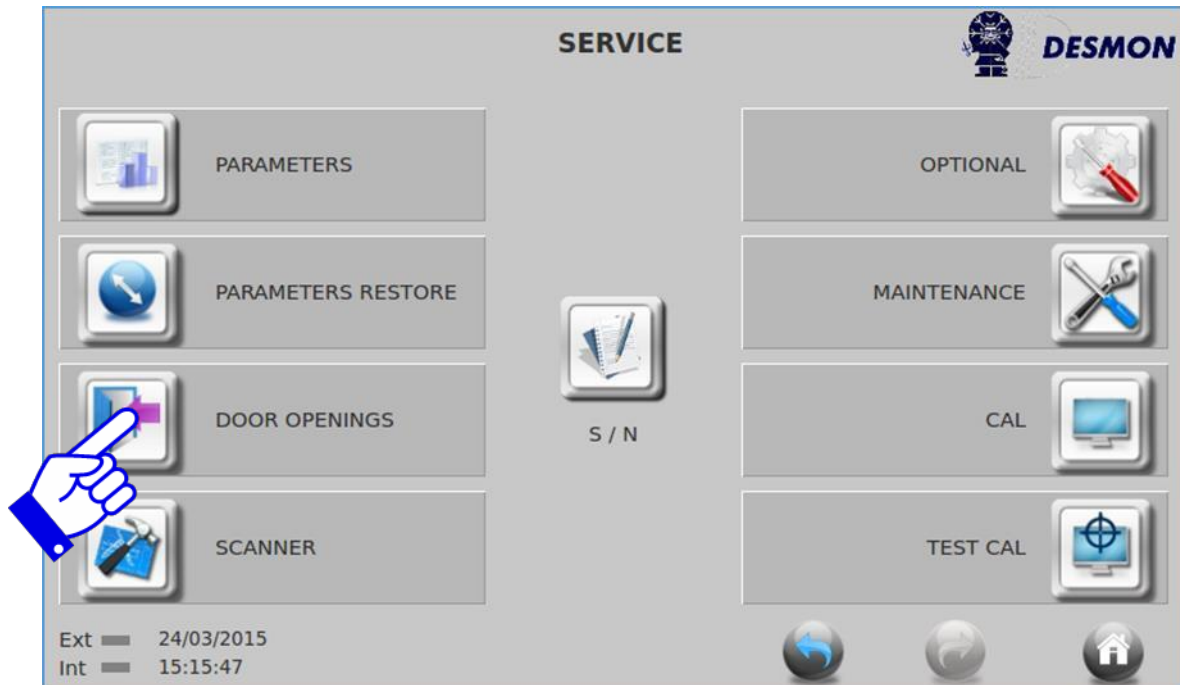
Press the **Green Checkmark** to confirm.



Please wait until the screen returns to the **Service** menu.

7.4. Door Openings

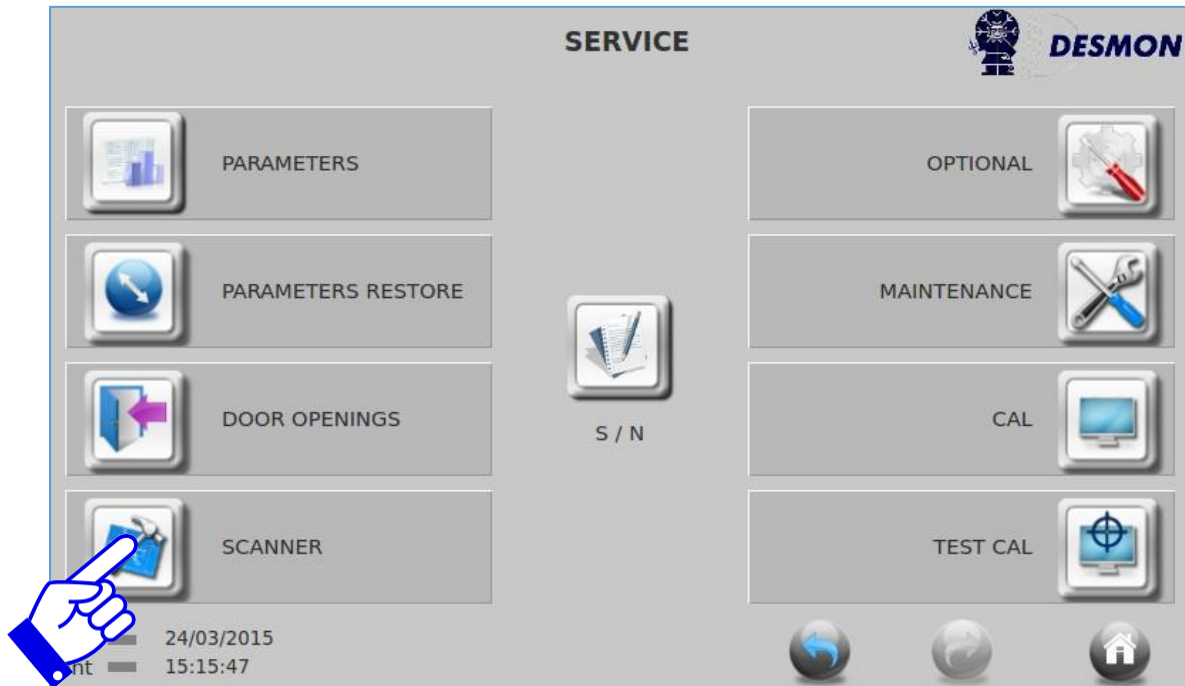
Use this function to check door opening events, date, opening duration and critical events in which air temperature exceeded the threshold value.



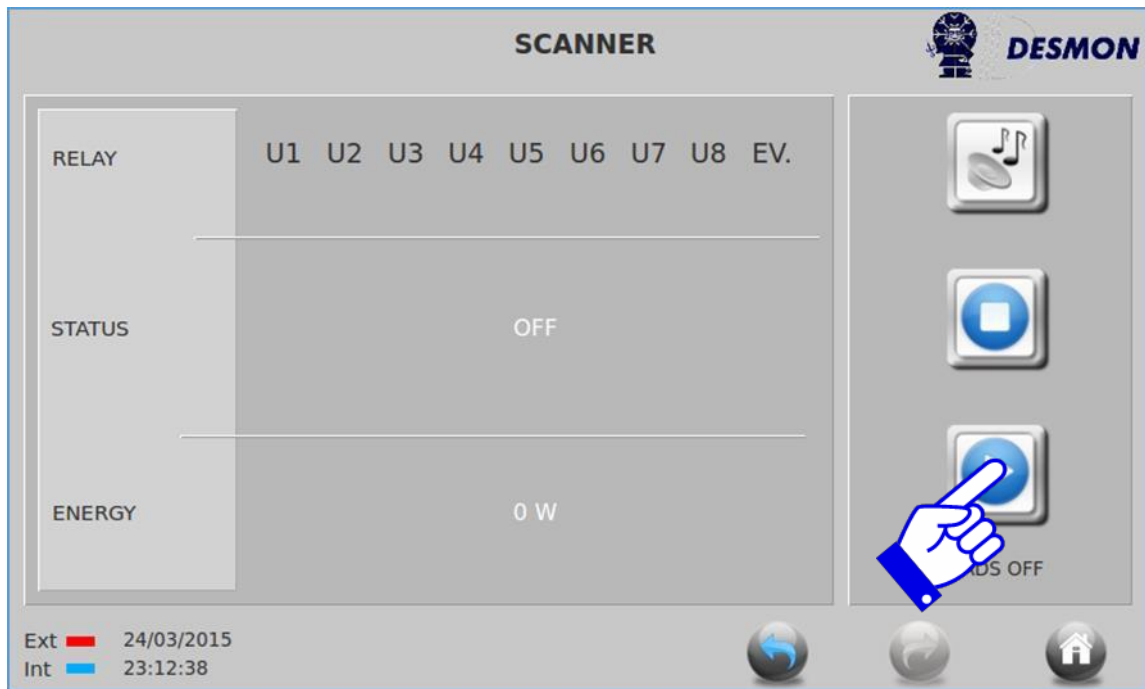
Use the **Up/Down** arrows to scroll and press the **Return** icon to return to the previous screen

7.5. Scanner

This is one of the most advanced service functions, which allows to force each board relay to activate and deactivate.

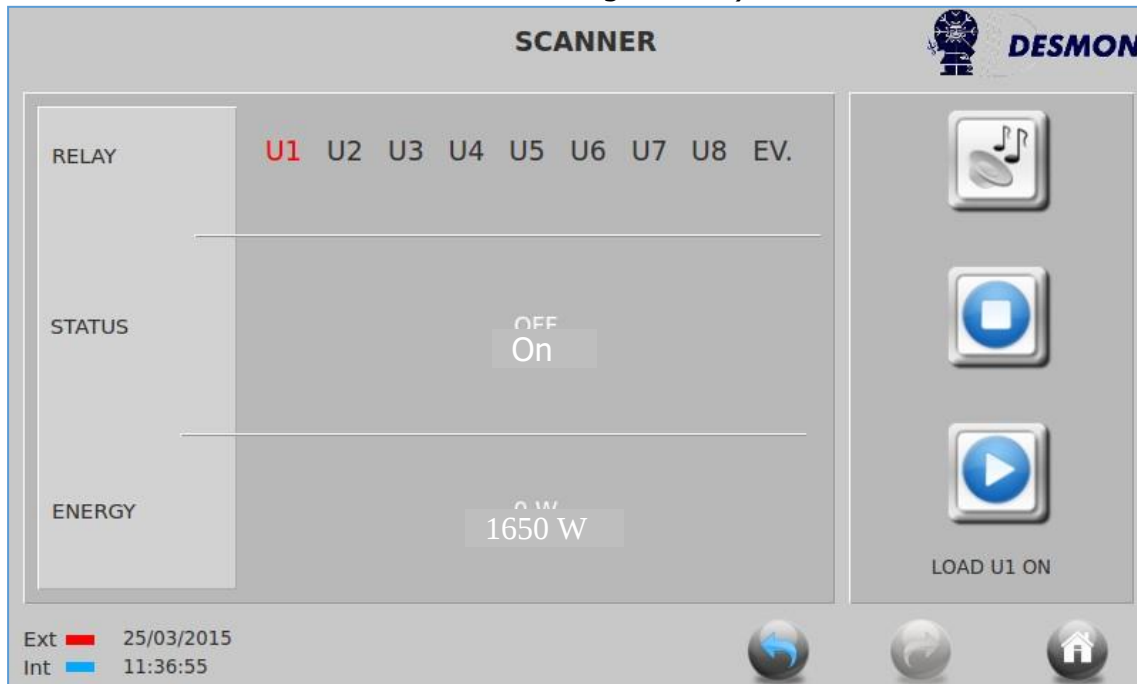


Press the **PLAY** button to activate relay 1 (**U1**).



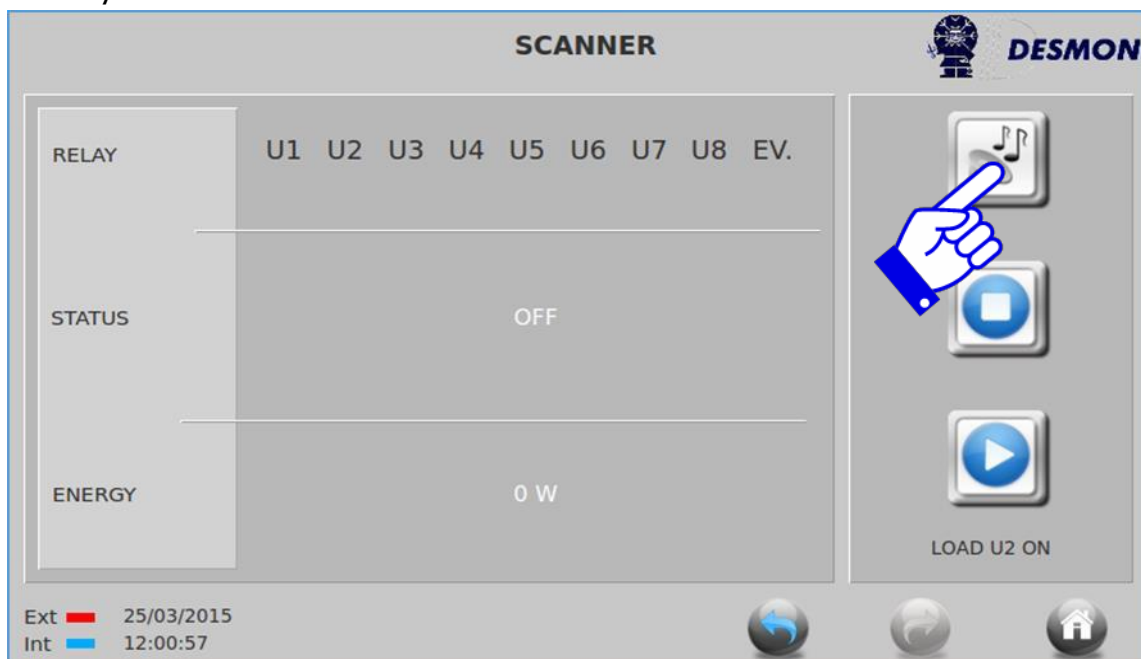
After pressing the **PLAY** button, below "**LOAD U1 ON**" will appear.

The relay 1 (output **N-U1** on the relay board) will be activated. Wait **5** seconds until the power board sends a signal back to the display to prove that the relay is actually closed (**U1** will become **Red** and **STATUS** will change to **ON**).



Meanwhile the watt load on that relay output will appear in the field **ENERGY**, to monitor if there is any load by the component supplied by relay 1 and how much the wattage used is. Press the **Return** icon to return to the **Service** menu or the Home icon to return to the **Home** screen

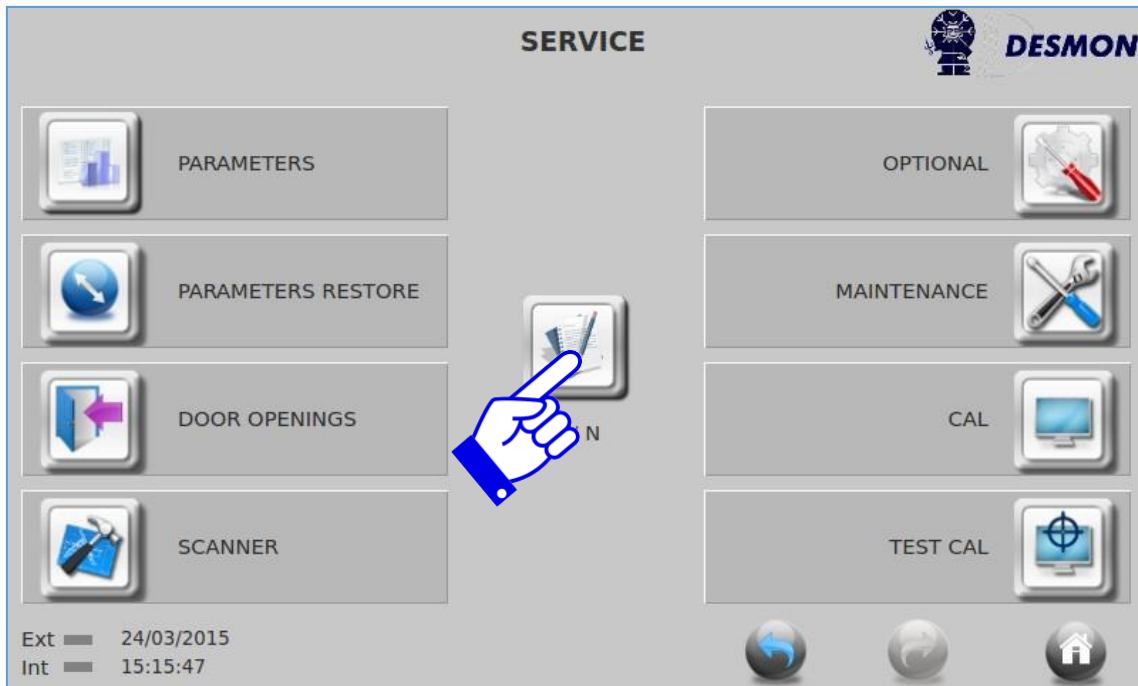
NOTE: When the relay is powering a contactor or power relay, the power consumption will not show the actual power pulled by the electrical load connected to that contactor or power relay.



Press again the **PLAY** button to activate relay 2, or **STOP** to de-activate the relay. Press on the **Music** icon to test the buzzer

7.6. Serial Number

Press on the **Serial Number** icon.



Enter the serial number of the **Blast Chiller**. Press **OK** to confirm.



Press the **Return** icon to return to the **Service** menu or the **Home** icon to return to the **Home** screen.

7.7. Optional Menu

This menu will allow the user to enable or disable some features such as; **Product Probe** heating option, **Sterilizer** option, **Thawing** function, **Blast Freezing** cycle or **Celsius [°C]** or **Fahrenheit [°F]**. To access this screen, press the **Optional** icon.



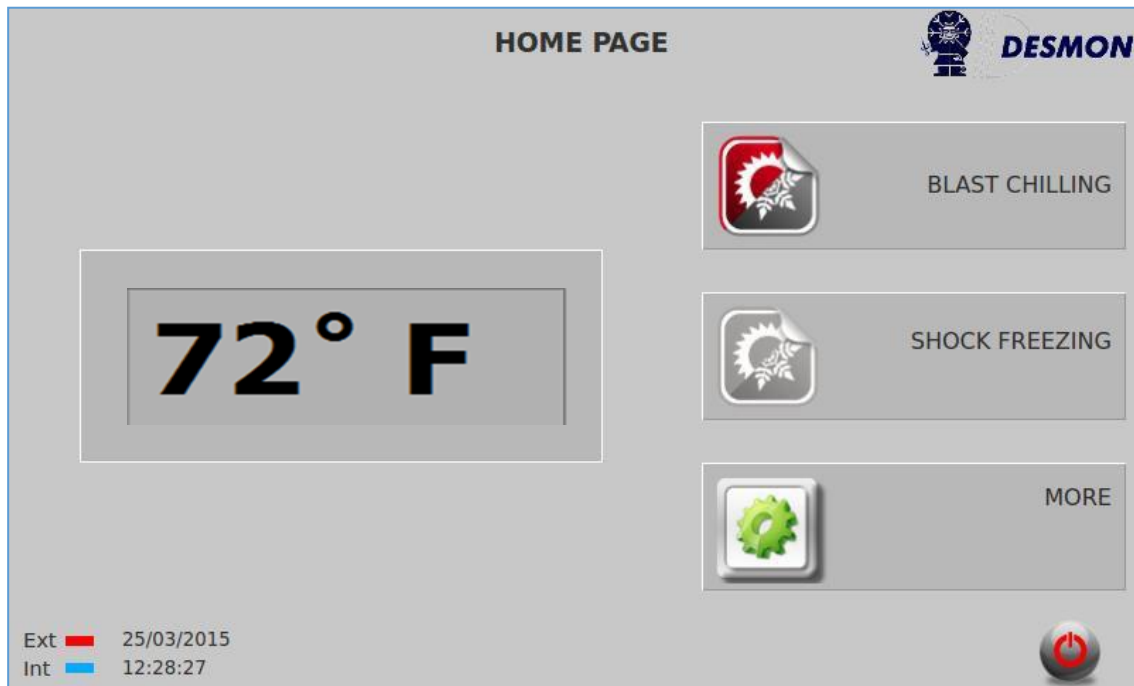
This screen will appear.



Press

the icon next to the function you wish to activate or deactivate. A **Green Checkmark** indicates it is active and a **Red X** indicates it is deactivated.

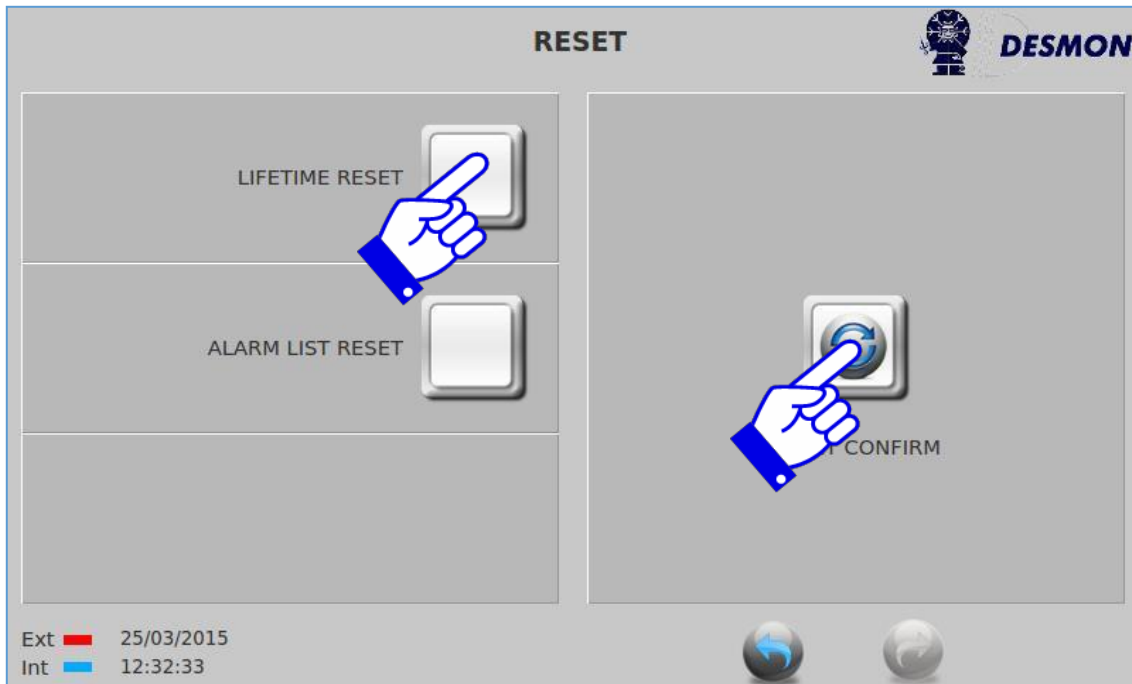
NOTE: Disabling the **Blast Freezing** cycle will only allow the user to select a **Blast Chilling** cycle from the Main selection screen.



7.8. Maintenance

This function will allow the user or service technician to reset either the lifetime counter of the machine or the alarm list. To access the Maintenance menu, press the Maintenance icon.





Press the related icon and confirm the reset.

7.9. Cal (Display Calibration)

The display calibration allows the user to optimize the touch screen performance, ensuring precise reaction to finger commands.



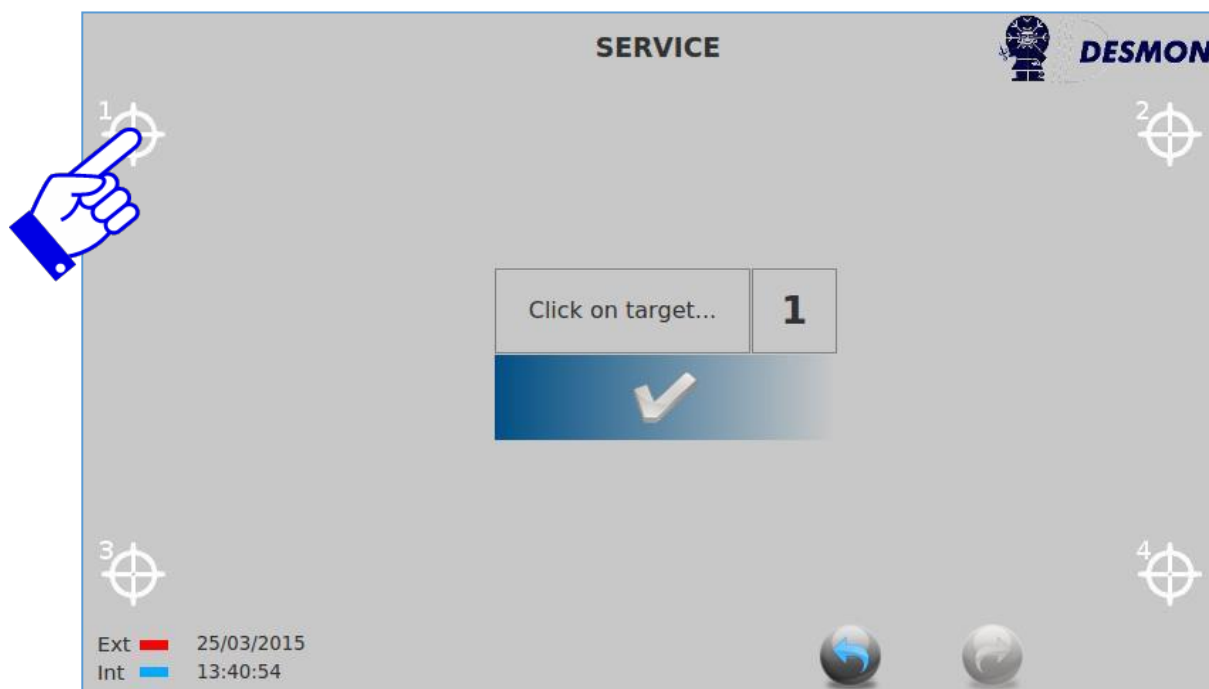
Press on the **CAL** icon, locate the **Red Cross** in the upper left hand corner and press on it, the **Cross** will move to the upper right hand corner, press there, the **Cross** will move to the lower left hand corner, press there and finally the **Cross** will move to the lower right hand corner, press there. Press on the **Green Checkmark**, the calibration is now complete.



7.9.1. Test Cal (Display Calibration Test)

This function allows the user to test the current display calibration, verifying that the touch commands are accurately recognized from the display.





Press on each of the **4** targets and verify that target identification in the center of the screen is consistent with the target pressed.

Press the **Return** icon to return to the **Service** menu, then press the **Home** icon to return to the **Home** screen.

NOTES

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