# 1.GENERAL DOCUMENTATION

The present manual is exclusively valid and applicable to the following products series:

**European series**

| MODEL | NUMBER OF TRAYS | MODEL | NUMBER OF TRAYS |
|---|---|---|---|
| GBF-3GN2/3 | 3 | GBC-20GN2/1 | 20 |
| GBC-5G | 5 | GBC-40GN2/1 | 40 |
| GBC-7 | 7 | GBF-20GN2/1 | 20 |
| GBF-10 | 10 | GBF-40GN2/1 | 40 |
| GBF-12GN2/1 | 12 | GBF-20GN2/1 | 20 |
| GBC-15 | 15 | GBF-40GN2/1 | 40 |
| GBC-18 | 18 | GBF-12GN2/1 | 12 |
| GBF-5P | 5 | GBF-23GN1/1 | 23 |
| GBF-5G | 5 | GBF-12GN2/1RCV | 12 |
| GBF-7 | 7 | GBF-20GN1/1T | 20 |
| GBF-15 | 15 | GBF-20GN1/1CV | 20 |
| GBF-18 | 18 | GBF-20GN1/1RT | 20 |
| GBF-5P+ | 5 | GBF-23GN1/1+ | 23 |
| GBF-5G+ | 5 | GBF-12GN2/1RCV+ | 12 |
| GBF-7+ | 7 | GBF-20GN1/1T+ | 20 |
| GBF-10+ | 10 | GBF-20GN1/1CV+ | 20 |
| GBF-15+ | 15 | GBF-20GN1/1RT+ | 20 |
| GBF-18+ | 18 | | |

**United states series**

| MODEL | NUMBER OF TRAYS | MODEL | NUMBER OF TRAYS |
|---|---|---|---|
| GBF-3GN2/3-ETL | 3 | GBC-20GN2/1-ETL | 20 |
| GBC-5G-ETL | 5 | GBC-40GN2/1-ETL | 40 |
| GBC-7-ETL | 7 | GBF-20GN2/1-ETL | 20 |
| GBF-10-ETL | 10 | GBF-40GN2/1-ETL | 40 |
| GBF-12GN2/1-ETL | 12 | GBF-20GN2/1+ETL | 20 |
| GBC-15-ETL | 15 | GBF-40GN2/1+ETL | 40 |
| GBC-18-ETL | 18 | GBF-12GN2/1+ETL | 12 |
| GBF-5P-ETL | 5 | GBF-23GN1/1-ETL | 23 |
| GBF-5G-ETL | 5 | GBF-12GN2/1RCV-ETL | 12 |
| GBF-7-ETL | 7 | GBF-20GN1/1T-ETL | 20 |
| GBF-15-ETL | 15 | GBF-20GN1/1CV-ETL | 20 |
| GBF-18-ETL | 18 | GBF-20GN1/1RT-ETL | 20 |
| GBF-5P+ETL | 5 | GBF-23GN1/1+ETL | 23 |
| GBF-5G+ETL | 5 | GBF-12GN2/1RCV+ETL | 12 |
| GBF-7+ETL | 7 | GBF-20GN1/1T+ETL | 20 |
| GBF-10+ETL | 10 | GBF-20GN1/1CV+ETL | 20 |
| GBF-15+ETL | 15 | GBF-20GN1/1RT+ETL | 20 |
| GBF-18+ETL | 18 | | |

**1.1General information**

• This manual is an integral part of the product, providing all the information required to ensure correct installation, operation and maintenance of the machine.
• Read the manual carefully, making reference to it for machine operation. Keep the manual in a safe place where it can be accessed by all authorised operators (installers, operators and service personnel). The european series machines are been constructed in compliance with the directives 73/23/CEE (low-voltage), 89/336/CEE (electromagnetic compatibility) and 98/37/CE (machines; for certain models only), while, the United states series machines are been constructed in compliance with the standard for Safety Commercial Refrigerators and Freezers, ANSI/UL 471, Issued: 2006/01/27 Ed:9 Rev:2008/10/24; Refrigeration Equipment General Instruction No 1-2 (R2004); CAN/CSA-C22.2 No.120, Issue:1991/01/01 Ed:3; Commercial Refrigerators and Freezers, NSF/ANSI 7, Issue: 2007/06/01.
• The machine has been designed for professional applications only and should only be operated by qualified personnel.
• The machine must only be used for the purposes for which it was designed, i.e. for chilling and freezing food products. The machine must not be used for products requiring constant temperature control and recording, such as:
- heat-sensitive chemicals,
- medicines or
- blood products.
• The manufacturer declines all responsibility for any damage caused by incorrect or unreasonable machine use, such as:
• improper use by untrained persons;
• technical modifications or operations not suited to specific models;
• use of non-original or non-specific spare parts;
• failure to follow the instructions given in this manual.

**1.2 Installation**

The machine must be installed by a specialised technician authorised by and in compliance with the instructions given in this manual. In the event that the machine is fitted with a remote condenser unit, the installation technician is responsible for checking all connections in compliance with the instructions given by for plant and machine installation.

**1.3 Transport and handling**

• To load or unload the machine and/or components from/onto the means of transport, use a lift truck or fork lift equipped with forks that are at least half the length of the machine housing; use a crane if the machine is fitted with eye bolts. Select the lifting equipment suited to the weight and overall dimensions of the packaged machine/components.
• When handling the machine/ components, apply all precautions to prevent damage, in compliance with the information given on the packaging material (fig.1).

Fig.1

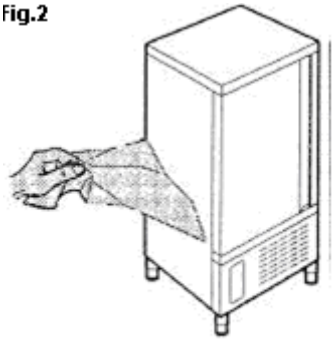
**1.4 Unpacking**

• Remove all cardboard, wood or other materials from the wood base on which the machine is set. Lift the machine/components with suitable means (e.g. lift truck), remove the wood base, then position the machine/components in the allocated site.

• Once all packing material has been removed, check that the machine has not been damaged in any way.

• Remove the protective PVC film on the

Fig.2



stainless steel panels from all internal and external surfaces (fig. 2).

• ***Always wear protective gloves when handling***
***packing material and the wood base.***

• NB Dispose of packing materials in compliance
with disposal regulations applied
in the country where the machine is to be installed. Never dispose of materials in the environment.

### 1.5 General safety regulations

Failure to observe the recommendations made by the present manual will be at the entire responsibility of the machine user. The main safety regulations are as follows:

**- do not touch the machine with moist or wet hands or feet;**
**- never operate the machine while barefoot;**
**- do not insert screwdrivers, cooking utensils or any other object between the guards and moving parts;**
**- before performing cleaning or routine maintenance operations, disconnect the machine from the power supply at the master switch and the main knife switch (if present);**
**- never pull on the power cable to disconnect the machine from the power supply.**

# 2.INSTALLATION

### 2.1 Data plate information

• Check that the data specified on the plate correspond to the characteristics of the power supply (V, kW, Hz, no. phases and power available).


• The dataplate with appliance (fig.3) specifications is located at the rear exterior of the machine and/or on the electrical boards The set-up of individual units and the installation of condensers are subject to the fire-safety regulations of the country in which the machine is installed; seek all necessary advice from the local firefighting authorities. Bear in mind that the intervention of safety valves or plug fuses in the refrigerating circuit will lead to the immediate discharge of refrigerant into the environment.

### 2.2 Positioning

• The machine must be installed and commissioned in complete compliance with safety regulations, procedures and standing laws.
• The installation technician bears the responsibility of ensuring compliance with fire safety requirements; seek all necessary advice from the local firefighting authorities.
• Position the machine in the allocated site.
• Adjust the machine feet until the appliance is perfectly level. In the case of particularly heavy equipment, use appropriate lifting means

• If the appliance is not perfectly level, correct operation and condensate flow-off will not be assured.

**AVOID**

• direct exposure to sunlight;

• closed sites with high temperatures and poor air circulation;

• installing the machine near sources of heat (fig. 4).

Fig.4

**2.3 Ambient temperature and air circulation**

For air-cooled appliances, the maximum ambient temperature for operation is 32°C. Correct operation cannot be guaranteed at higher temperatures. The machine may operate safely to a maximum temperature of 38°C. Remote condensing units must be installed in special rooms or outdoors, protected against direct sunlight by a shelter or roof structure (at the cost of the purchaser)..

Sufficient air circulation must be guaranteed at all times

**2.4 Electrical connections**

A dedicated thermal-magnetic circuit breaker compliant with established regulations must be installed on the appliance power line.
• Connected electrical cables must correspond to the technical data (as specified on electrical drawings provided by the installation technician). Connect the grounding conductor to an efficient grounding system.

**THE MANUFACTURER DECLINES ALL LIABILITY AND GUARANTEE OBLIGATIONS IN THE EVENT OF INJURY TO PERSONS OR DAMAGE TO EQUIPMENT AND OBJECTS DUE TO INCORRECT INSTALLATION AND/OR FAILURE TO COMPLY WITH STANDING INSTALLATION REGULATIONS.**

**2.5 Refrigeration component**

**connections - remote assemblies**
Appliance power lines are sized for installation distances of up to 5 metres. For greater distances, seek advice from .

**2.6 Information for the installation Technician**

Before starting up the machine, check that it has been correctly installed and commissioned (test report).
1. Check that there are no gas leaks from weldings or joints made during installation works.
2. Check that the pipes connecting the condenser to the remote condensing unit have been well insulated.
3. Check all wiring connections.
4. Check electrical input.
5. Check the standard pressure in the refrigerant system.
.

6. check the expansion valve during operation.

7. Perform at least one blast freezing cycle (to the SET temperature) and one manual defrosting cycle

In the event that the appliance or the remote condensing unit have not been transported in a vertical position (e.g. on the back) or have been overturned during installation works, allow at least 4 hours before starting up the equipment.
• Inform the customer of the exact purpose of the appliance, with specific reference to the use and requirements of the customer.

**The appliance must be installed and put into service by a technician authorised.**

**2.7 Safety and control systems**

• Door micro switch: shuts down fan operation in the cell when the door is opened.
• General fuses: protect the power circuit against short circuiting and overloads.
• Compressor heat relay: intervenes in the event of overloads or operating faults.
• Safety pressure switch: intervenes in the event of excessive pressure in the refrigerant circuit.
• Plug fuses: intervene in the event of overpressure or operating fault in the safety pressure switch (see above).
• Chamber temperature control: operated by the electronic board by means of a probe inside the cell.
• Temperature control end defrost cycle: controlled by the electronic board by means of the probe in the evaporator

.
**2.8 Appliance disposal**
Demolish and dispose of the machine in compliance with the regulations applied in the country of installation, particularly in regards to refrigerant gas and compressor lubricant oil.

**WEEE Notice**
The Directive on Waste Electrical and Electronic Equipment (WEEE), which entered into force as European law on 13th February 2003, resulted in a major change in the treatment of electrical equipment at end-of-life. The purpose of this Directive is, as a first priority, the prevention of WEEE, and in addition, to promote the reuse, recycling and other forms of recovery of such wastes so as to reduce disposal.

The WEEE logo on the product or on its box indicates that this product must not be disposed of or dumped with your other household waste. You are liable to dispose of ali your electronic or electrical waste equipment by relocating over to the specified collection point for recycling of such hazardous waste. Isolated collection and proper recovery of your electronic and electrical waste equipment at the time of disposal will allow us to help conserving natural resources. Moreover, proper recycling of the electronic and electrical waste equipment will ensure safety of human health and environment. For more information about electronic and electrical waste equipment disposal, recovery, and collection points, please contact your local city centre, WEEE professional disposal service, shop from where you purchased the equipment, or manufacturer of the equipment.

# 3. ADVICE TO ENSURE EFFICIENT APPLIANCE OPERATION

### 3.1 Shut-down procedures

In the event of emergency, shut down the appliance by switching off power at the main panel, by means of the knife switch or by removing the plug from the power socket.

### 3.2 Operating tips

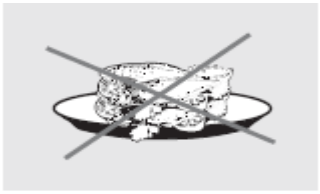
Before starting up the appliance, clean the inside of the cell thoroughly.

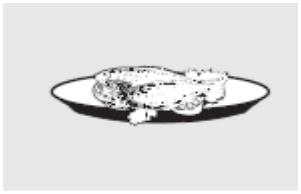
### 3.3 Pre-cooling

Before using the appliance for the first time, or after a prolonged period of disuse, pre-cool the cell by running an empty cycle until the set operating temperature has been reached. To ensure optimal performance without any alteration to food quality: arrange food products in such a way as to favour the circulation of cold air throughout the cell; open the door as little as possible.

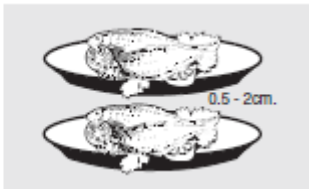
### 3.4 Loading the appliance

**a)** Ensure that foods to be chilled and/or frozen are separate and do not have a thickness greater than 50-80 mm. Do not load the appliance beyond the quantity by the manufacturer.

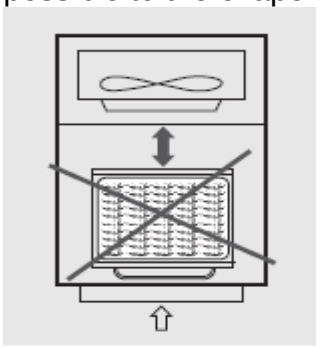


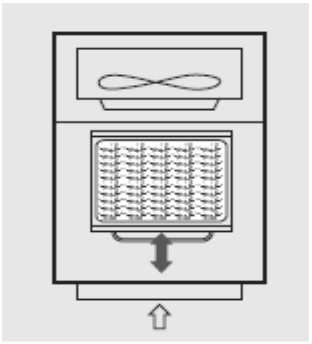


**b)** Ensure that there is sufficient clearance between trays to enable free air circulation. If the appliance is not completely full, distribute the trays and foods evenly throughout the available space.

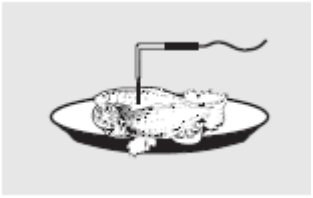



**c)** Position trays inside the tray compartment
as far as they will go, as close as possible to the evaporator.

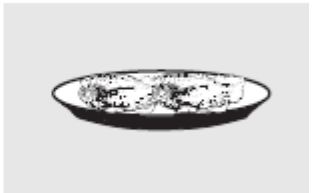




**d)** Position the core probe at the centre of the largest product or food item; make sure that the tip of the probe does not protrude or touch the tray.
The probe must be cleaned and sanitised before each new cycle (operation) to prevent inadvertent contamination.



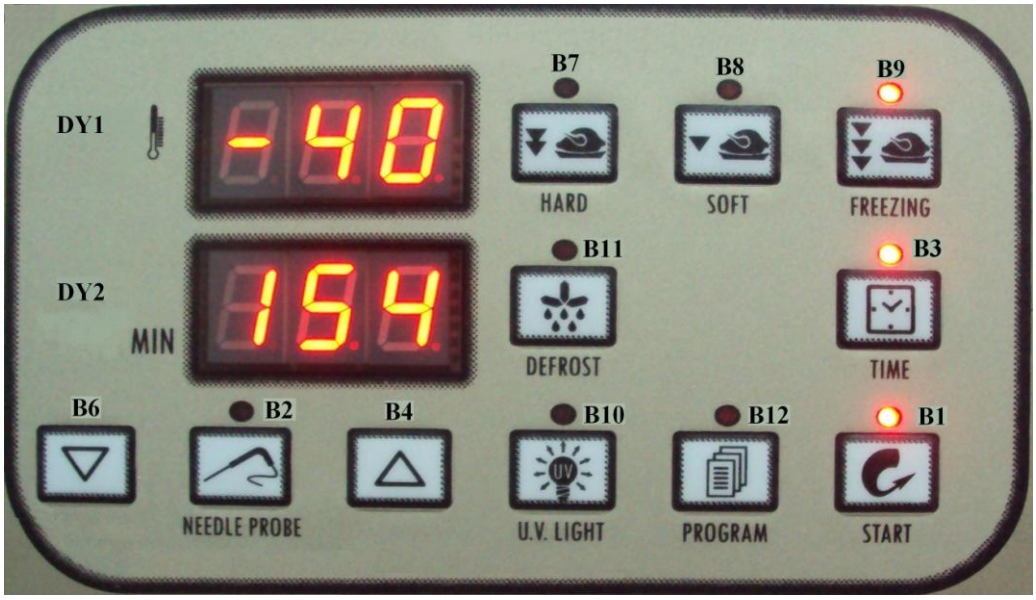
**e)** Avoid covering the trays and/or containers
with insulating covers or film. The more the product is insulated, the more time is required for chilling or freezing. Trays must be packaged when the product has been chilled, before being placed in storage.



# 4.PROGRAMMING AND OPERATING INSTRUCTIONS

Please read these instructions carefully prior to installation and use, and follow all the precautions for installation and electrical connections; keep these instructions with the device for future consultation.

The device must be disposed of in accordance with local regulations pertaining to the collection of electrical and electronic appliances.




### 4.1 Introductory information

The device has the following operational states:

- "on" (the device is switched on and an operating cycle is running)
- "stand-by" (the device is switched on and no operating cycle is running, but it is possible to select one)
- "off" (the device is switched on and no operating cycle is running, and it is not possible to select any).

If power is interrupted while in the "on" mode, when power is restored the device will be in the same state and the operational cycle will be restarted from the point reached when the power interr. occurred .

If power is interrupted while in "stand-by" or "off" mode, when power is restored the device will be in the same state.

### 4.2 Switching the device on/off ("off"/"stand-by")

•ensure no procedures are running

•press **B1**  for 5 s

The regulators are switched off while in "off" mod.

**4.3 Starting/stopping an operational cycle ("on"/ "stand-by**")

•ensure no procedures are running

•press **B1** 

The regulators are switched off while in "stand-by" mode.

**4.4 The display**

In the "on" state, during normal operation, display **DY1** shows:

•the temperature measured by the needle probe if a set-temperature chilling or freezing operation is ongoing

•the temperature of the cabinet if a set-temperature chilling, or timed freezing or a storage operation is ongoing.

Display **DY2** shows:

•the amount of time for a blast chill or freezing operation, if these are ongoing

While in "stand-by" mode, display **DY1** shows the cabinet temperature and display **DY2** shows "- - -".

While in "off" mode, display **DY1** shows "OFF" and display **DY2** is off.

**4.5 Displaying the temperatures detected by the probes**

•ensure the device is in "off" mode and no procedures are running

•press **B2**  + **B4**  for 5 s: display **DY1** will show the message "**Pr1**" and display **DY2** will show the cabinet temperature

•press **B4**  or **B6**  to select one of the labels shown in the table below.

| CODE | MEANING |
|---|---|
| **Pr1** | cabinet probe |
| **Pr2** | needle probe |
| **Pr3** | evaporator probe |
| **Pr4** | condenser probe |

To exit the procedure:

•press **B1** 

If there is no condenser probe (parameter P3 = 0), label "**Pr4**" will not be displayed.

### 4.6 Starting/stopping manual defrosting

To start defrosting in manual mode:

•ensure the device is in "off" mode and no procedures are running

•press **B11**  display **DY1** will show “dEF”.

If the evaporator temperature is above the value set by parameter **P23**, defrosting will not be activated.

To stop defrosting in manual mode:

•press **B11** 

### 4.7 Switching on the UV light (cabinet sterilisation)

•ensure that the device is in "stand-by" mode, that no procedures are running and that the micro port input is not active

•press **B10** 

The UV light is turned on for the period of time established by parameter **P46** or until **B10**  is pressed once more.

### 4.8 Heating the needle probe

•ensure that the device is in "stand-by" mode, that no procedures are running and that the micro port input is not active

•press **B2**  for 5 s: the needle probe will be heated until it reaches the temperature set by parameter **P47** or at most for the period of time set by parameter **P48**.

If the temperature detected by the needle probe is above the value set by parameter **P47**, heating will not be started.
The micro-port input will not be reported during needle probe heating.

### 4.9 Buzzer mute

•ensure no procedures are running

•press **B4** 

After the period of time established by parameter **P56** has elapsed, the buzzer is automatically muted.

# 5. OPERATIONAL CYCLES

### 5.1 Introductory information

The device has the following operational cycles:

•hard set-temperature chilling and storage

•normal set-temperature chilling and storage

•set-temperature freezing and storage

•hard timed chilling and storage

•timed normal chilling and storage

•timed freezing and storage.

Set-temperature cycles are preceded by a test to check correct needle probe insertion (see parameters **P14** and **P15**); if the result of the test is negative, cycles will be started in timed mode.

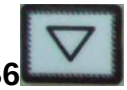
### 5.2 Hard set-temperature chilling and storage cycle

To select the cycle:

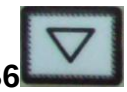
•ensure the device is in "off" mode and no procedures are running

•press **B7**  : display DY1 will show the operational set point and LED B7 will switch on.

To alter the first step operational setpoint:

- •press **B4**  or **B6** 

To alter the second step operational setpoint:

- •press **B7**  for 5 s: LED B7 will flash
- •press **B4**  or **B6** 

These settings remain active until another cycle is selected. Also, it is possible to set the first step operational setpoint by means of parameter **P6** and the second step operational setpoint by means of parameter **P4**; the hard chill process progresses from the first step to the second when the temperature detected by the needle probe reaches the value set by parameter **P12.**

To start the cycle:

- •press **B1** 

When the temperature detected by the needle probe reaches the value set by parameter P10, the buzzer is activated for the length of time set by parameter **P55** and the device switches to storage mode.

To interrupt the cycle:

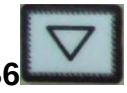
- •press **B1** 

**5.3 Normal set-temperature chilling and storage cycle**

To select the cycle:

- •ensure the device is in "off" mode and no procedures are running
- •press **B8**  : display **DY1** will show the operational setpoint and LED B8 will switch on.

To alter the operational setpoint:

- •press **B4**  or **B6** 

These settings remain active until another cycle is selected. It is also possible to set the operational setpoint by means of parameter **P4**.

To start the cycle:

- press **B1** 

When the temperature detected by the needle probe reaches the value set by parameter P10, the buzzer is activated for the length of time set by parameter **P55** and the device switches to storage mode.

To interrupt the cycle:

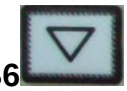
- press **B1** 

**5.4 Set-temperature freezing and storage cycle**

To select the cycle:

- ensure the device is in "off" mode and no procedures are running
- press **B9**  : display **DY1** will show the operational setpoint and LED **B9** will switch on.

To alter the operational set point:

- press **B4**  or **B6** 

These settings remain active until another cycle is selected. It is also possible to set the operational set point by means of parameter **P5**.

To start the cycle:

- press **B1** 

When the temperature detected by the needle probe reaches the value set by parameter **P11**, the buzzer is activated for the length of time set by parameter **P55** and the device switches to storage mode.

To interrupt the cycle:

- press **B1** 

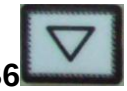
**5.5 Hard timed blast chilling and storage cycle**

To select the cycle:

•ensure the device is in "off" mode and no procedures are running

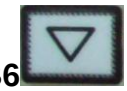
•press **B7**  : display **DY1** will show the operational set point and LED **L7** will switch on.

To alter the first step operational set point:

•press **B4**  or **B6** 

To alter the second step operational set point:

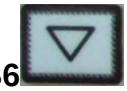
•press **B7**  per 5 s: LED **L7** will flash

•press **B4**  or **B6** 

It is also possible to set the first step operational set point by means of parameter **P6** and the second step operational set point by means of parameter **P4**.

•press **B3**  : display **DY2** will show the duration of the chilling step and LED **L3** will be switched on.

To alter the duration of the chilling step:

•press **B4**  or **B6** 

It is also possible to set the chill duration time by means of parameter **P16**.

These settings remain active until another cycle is selected. The hard chill process switches from the first step to the second step once the period of time established by parameter **P18** has elapsed.

To start the cycle:

•press **B1** 

When the chill duration time has elapsed, the buzzer is activated for the length of time set by parameter **P55** and the device switches to storage mode.

To interrupt the cycle:

•press **B1** 

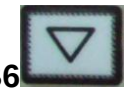
### 5.6 Normal timed chilling and storage cycle

To select the cycle:

ensure the device is in "off" mode and no procedures are running

•press **B8**  : display **DY1** will show the operational setpoint and LED **L8** will switch on.

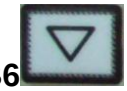
To alter the operational setpoint:

•press **B4**  or **B6** 

It is also possible to set the operational setpoint by means of parameter P4.

•press **B3**  : display **DY2** will show the duration of the chilling step and LED **L3** will be switched on.

To alter the duration of the chilling step:

•press **B4**  or **B6** 

It is also possible to set the chill duration time by means of parameter **P16**.

These settings remain active until another cycle is selected.

To start the cycle:

•press **B1** 

When the chill duration time has elapsed, the buzzer is activated for the length of time set by parameter **P55** and the device switches to storage mode.

To interrupt the cycle:

•press **B1** 

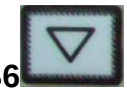
### 5.7 Timed freezing and storage cycle

To select the cycle:

•ensure the device is in "off" mode and no procedures are running

•press **B9**  : display **DY1** will show the operational set point and LED **L9** will switch on.

To alter the operational set point:

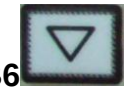
•press **B4**  or **B6** 

It is also possible to set the operational set point by means of parameter **P5**.

•press **B3**  :

display **DY2** will show the duration of the freezing step LED **L3** will be switched on.

To alter the duration of the freezing step:

•press **B4**  or **B6** 

It is also possible to set the freeze duration time by means of parameter **P17**.
These settings remain active until another cycle is selected.

To start the cycle:

•press **B1** 

When the freezing step duration time has elapsed, the buzzer is activated for the length of time set by parameter **P55** and the device switches to storage mode.

To interrupt the cycle:

•press **B1** 

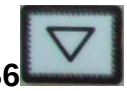
**5.8 Storage, selection and starting a program**

The device allows storage of operation cycle settings in programs; up to 99 programs can be stored.

To store a program:

•proceed as described in paragraphs 3.5, 3.6 or 3.7 without starting the cycle

•press **B12**  for 5 s: display **DY1** will show the label of the first unused program

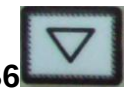
•press **B4**  or **B6**  to select another label

•press **B12**  for 5 s: the device will store the program and exit from the procedure (any programs with the same label will be overwritten).

To select and start a stored program:

•ensure the device is in "stand-by" mode and no procedures are running

•press**B12**  : display **DY1** will show the label of the first program

•press **B4**  or **B6**  to select a program

•press **B1** 

To display the label of the current program:

•press **B12** 

**5.9 Additional functions accessible during operational cycles**

To display the cabinet temperature during a set-temperature chilling step or during a set-temperature freezing step:

•press the key relating to the current cycle: display **DY1** displays the cabinet temperature for 5 s.

To display the temperature detected by the needle probe during a timed chilling step, timed freezing step or during storage:

•press **B2**  : display **DY1** shows the temperature measured by the needle probe for 5s.

To display the time elapsed since starting a chilling or freezing step:

•press **B4**  : display **DY2** shows the elapsed time for 5 s.

If the key is pressed during the storage phase, display **DY2** will show the effective duration of the chilling or freezing process

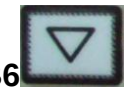
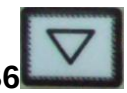
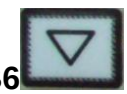
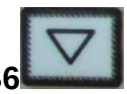
# 6. SETTINGS

### 6.1 Setting the date and time

To access the procedure:

- ensure the device is in "off" mode and no procedures are running

To alter the date and time:

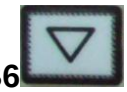
- press **B3**  for 5 s: display **DY1** will show "YY" and display **DY2** will show the last two digits corresponding to the year
- press **B4**  or **B6**  to change the year
- press **B3**  : display **DY1** will show "NN" and display **DY2** will show the digits corresponding to the month (the month is displayed in 12 month format)
- press **B4**  or **B6**  to change the month
- press **B3**  : display **DY1** will show "dd" and display **DY2** will show the digits corresponding to the day (days are displayed in 31 day format)
- press **B4**  or **B6**  to change the day
- press **B3**  : display **DY1** will show "hh" and display **DY2** will show the digits corresponding to the hour (hours are displayed in 24 hour format)
- press **B4**  or **B6**  to change the hour
- press **B3**  : display **DY1** will show "nn" and display **DY2** will show the digits corresponding to the minutes
- press **B4**  or **B6**  to change the minutes

•press **B3**  : the device will exit the procedure.

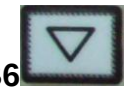
### 6.2 Setting the configuration parameters

To access the procedure:

•ensure the device is in "off" mode and no procedures are running

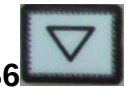
•press **B4**  + **B6**  for 5 s: display **DY1** will show "PA" and display **DY2** will show the corresponding value.

To select a parameter:

•press **B4**  or **B6** 

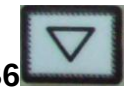
To modify a parameter:

•press **B3**  : LED **L3** will be switched on

•press **B4**  or **B6**  within 60 s

•press **B3** 

To exit the procedure:

•press **B4**  + **B6**  for 5s.

# 7. HACCP

### 7.1 Introductory information

The device is capable of storing up to 10 HACCP alarms, after which the most recent alarm will overwrite the oldest.

The device can furnish the following information:

- •the critical value
- •the date and time at which the alarm occurred
- •the alarm duration (from 1 minute to 999 minutes, " - - -" if the alarm is ongoing).

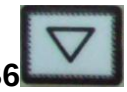
| CODE | ALARM TYPE (AND CRITICAL VALUE) |
|---|---|
| **Er0** | cabinet probe error (the temperature of the cabinet when the alarm condition occurred) |
| **Er1** | evaporator probe alarm (the maximum cabinet temperature during the alarm condition) |
| **Er3** | needle probe alarm (the maximum cabinet temperature during the alarm condition) |
| **Er4** | condenser probe alarm (the maximum cabinet temperature during the alarm condition) |
| **AL** | minimum) cabinet temperature alarm (the minimum cabinet temperature during the alarm condition) |
| **AH** | maximum) cabinet temperature alarm (the maximum cabinet temperature during the alarm condition) |
| **Ht** | condenser temperature alarm (the maximum cabinet temperature during the alarm condition) |
| **d - r** | micro port input alarm (the maximum cabinet temperature during the alarm condition) |
| **HP** | high pressure input alarm (the maximum cabinet temperature during the alarm condition) |
| **LP** | low pressure input alarm (the maximum cabinet temperature during the alarm condition) |
| **HA** | compressor thermal protection input alarm (the maximum cabinet temperature during the alarm condition) |
| **PF** | power failure alarm (the cabinet temperature on restoration of power) |

### 7.2 Viewing HACCP alarm information

Viewing HACCP alarm information:

- ensure the device is in "off" mode and no procedures are running
- press **B12**  for 5 s: display DY1 will show "Prt".

To select an alarm:

- press **B4**  or **B6**  display **DY1** will show the number of the alarm (for example "n03") and display DY2 will show the relevant code (for example "AH", or one of the codes
reported in the table in section 5.1; the lower the number, the older the alarm itself).

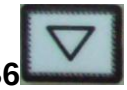
To display the information relating to the alarm:

- press **B3**  repeatedly: the display will show the following information in sequence (for example):

| INFO | MEANING |
|---|---|
| **St**<br>**y07** | on display DY1<br>on display DY2<br>The alarm occurred in 2007 (continued ...) |
| **M03**<br>**d26** | on display DY1<br>on display DY2<br>The alarm occurred on 26 March 2007 |
| **h16**<br>**d30** | on display DY1<br>on display DY2<br>The alarm occurred at 4:30pm |
| **t**<br>**8** | on display DY1<br>on display DY2<br>The critical value is 8 °C/8 °F |
| **dur**<br>**75** | on display DY1<br>on display DY2<br>The alarm has lasted for 75 minutes |
| **DY1**<br>**AH** | on display DY1<br>on display DY2<br>The selected alarm |

LED **L13** provides information relating to the status of the HACCP alarm memory; please refer to section 7.1.

To exit the information series:

•press **B4**  or **B6**  display **DY1** will show the number of another alarm and display **DY2** will show the corresponding code.

To exit the procedure:

•press **B12**  for 5 s.

### 7.3 Deleting the HACCP alarm list

•set parameter **P73** to 1.

# 8. DATA PRINTING

### 8.1 Introductory information

The device has a serial port for communicating with the PM 100AX9S001 print module.

### 8.2 Connecting the PM 100A X9S001 print module

Connecting the PM 100A X9S001 print module:

•ensure that parameter **P71** is set to 1

•ensure that the print module baud rate is set to 9,600 baud

•ensure that the module parity is set to odd.

### 8.3 Printing operational cycle information

Printing operational cycle information:

•operational cycle start date

•operational cycle or program type (or one of the codes listed in the table below)

| CODE | MEANING |
|---|---|
| **T>>>*** | hard set-temperature chilling and storage |
| **T*** | normal set-temperature chilling and storage |
| **T***** | set-temperature freezing and storage |
| **t>>>*** | hard timed chilling and storage |
| **t*** | timed normal chilling and storage |
| **t***** | timed freezing and storage |
| **P01...99** | program 01 ... 99 |

•printing time

•cabinet temperature (**Pr1**)

•temperature measured by the needle probe (**Pr2**, only if the operational cycle is a set-temperature cycle)

•time of switchover to storage mode

•time of any operational cycle interruption.

Printing of the temperature occurs at operational cycle start, and at intervals (see parameter **P72**).

### 8.4 Printing HACCP alarm information

The module prints the information reported in the table in section 5.2.

To print the information relating to the alarms:

•ensure the device is in "off" mode and no procedures are running

•press **B12**  for 5 s: display DY1 will show "Prt"

•press **B12** 

To exit the procedure:

•press **B12**  for 5 s.

# 9. MAINTENANCE AND CLEANING

**WARNING !!!**
***THESE OPERATIONS MUST BE PERFORMED BY A CERTIFIED INSTALLATION TECHNICIAN ONLY.***

The information and instructions given in this section address all persons operating the appliance: the user, the maintenance technician and non-specialised personnel. **Ensure that the electrical power to the system has been disconnected before carrying out any cleaning or maintenance work on the appliance.**

## 9.1 GENERAL SAFETY REGULATIONS

Recall the following regulations to ensure that all cleaning and routine maintenance operations are conducted safely.

- do not touch the machine with moist or wet hands or feet;
- never operate the machine while barefoot;
- do not insert screwdrivers, cooking utensils or any other object between the guards and moving parts.
- before performing cleaning or routine maintenance operations, disconnect the machine from the power supply at the master switch and by pulling out the plug;
- never pull on the power cable to .disconnect the machine from the power .supply.

Removal of guards and safety devices for the purposes of routine maintenance is strictly prohibited. The manufacturer declines all responsibility for accidents causedby failure to observe the above regulation.

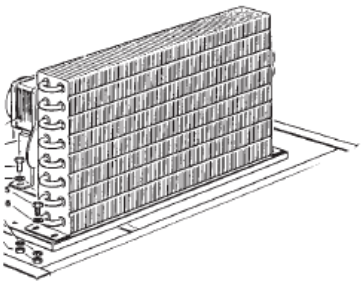
Before starting up the appliance, clean the inside of the cell thoroughly, as described in par. 8.3.

## 9.2 CLEANING THE CONDENSER

To ensure correct and efficient air condenser operation, it must be kept clean to allow free circulation of air. This operation should be performed at least once a month. Use a non-metal brush to remove all dust and debris from the condenser blades.

Use a vacuum cleaner to prevent the dust removed from being dispersed in the surrounding area. To remove greasy deposits, use a brush dipped in alcohol.

NEVER USE POINTED OR ABRASIVE INSTRUMENTS TO SCRAPE APPLIANCE SURFACES.



**PERFORM THIS OPERATION ONLY AFTER THE APPLIANCE HAS BEEN SHUT DOWN**

**IMPORTANT**
The condenser has sharp edges. Always wear protective gloves, goggles and masks when carrying out the above operations

**9.3 CLEANING THE CELL**
To guarantee hygiene and ensure the quality of processed foods, clean the interior of the cell frequently, according to the type of food stored.

Weekly cleaning is recommended.

The cell interior and components can be cleaned with a soft cloth or sponge.

Clean with water and non-abrasive neutral detergents. Rinse with a damp cloth or sponge, or with a gentle jet of water (no stronger than mains pressure). Do not use pointed or abrasive instruments to scrape appliance surfaces. NEVER USE ABRASIVE FLUIDS, SOLVENTS OR THINNERS

NB Always wear protective gloves while cleaning.

**How to access the evaporator for cleaning.**
It is possible to gain access to the inside part of the evaporator, to perform the cleaning of the same, by removing the screws located on the front fan panel (T14-Pict.1, T5-Pict.3) and opening it to the right side for T14 (Pict.2), or removing the panel on model T 5. (Pict.4)

Fig. 1

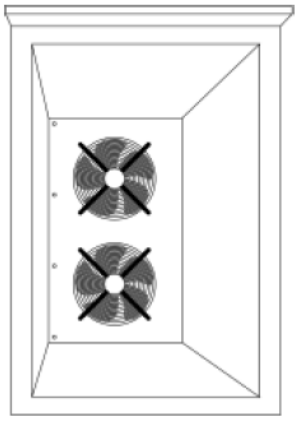


Fig . 2

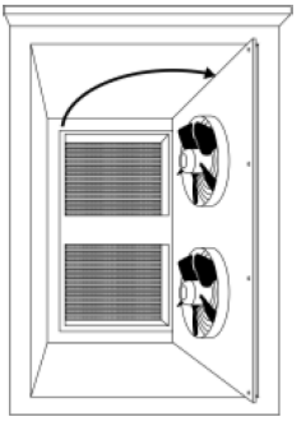


Fig . 3

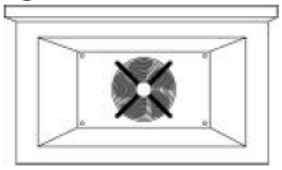
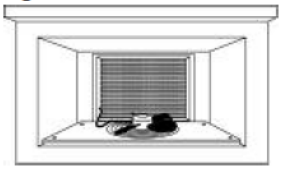


Fig . 4



Periodically, provide to clean the evaporator, using nebulized hot water at low pressure, and addressing the water throw on the evaporator battery

Finished the cleaning, provide to dry the evaporator using air pressure in order to desiccate and remove the residues of presence of water . After that refit the fan panel in proper position.

To carefully clean with a cloth the surfaces adjacent to the evaporator and provide to reassemble the frontal fans panel.

**Important: Before starting the machine pls**
**verify to have removed the equipments used in precedence for the cleaning.**

# 10. MESSAGES AND INDICATIONS

## 10.1 Messages

| | | | |
|---|---|---|---|
| **L1** | “on”/”stand-by” LED<br>if on, a chilling or freezing operation is ongoing<br>if flashing, a storage operation is ongoing | **L2** | needle probe LED<br>if on, the temperature measured by the needle probe is<br>being displayed<br>if flashing, then the result of the test to verify correct needle<br>probe insertion was negative; the cycle will be started in<br>timed mode and the buzzer will emit 5 beeps every 10 s |
| **L3** | timed operation cycle LED<br>if on, a timed operation cycle will have been selected (or<br>is ongoing | **L7** | hard chill LED if on:<br>•a hard chill operation will have been selected<br>•the first step of a hard chill operation is ongoing<br>•modification of the hard chill first step operational setpoint is underway<br>if flashing:<br>•modification of the hard chill second step operational setpoint is underway<br>•the second step of a hard chill operation is in progress |
| **L8** | normal chilling LED<br>if on, a normal chill operation has been selected (or is<br>ongoing | **L9** | freezing LED<br>if on, a freezing operation has been selected (or is ongoing) |
| **L10** | UV light (cabinet sterilisation) LED<br>if on, the UV light is on (a cabinet sterilisation operation is ongoing) | **L11** | defrosting LED<br>if on, defrosting is ongoing |
| **L12** | program LED<br>if on, program storing, selection or execution is ongoing | **L13** | HACCP LED<br>if on, program storing, selection or execution is ongoing |

### 10.2 Indications

| | |
|---|---|
| **dEF** | if on, defrosting is ongoing<br>if flashing, drip-draining is ongoing |

# 11. ALARMS

### 11.1 Alarms

| | | | |
|---|---|---|---|
| **AL** | Minimum cabinet temperature alarm<br>Remedies:<br>•check the cabinet temperature<br>•see parameters P64 and P66<br>Consequences:<br>•the alarm output will be activated | **AH** | Maximum cabinet temperature alarm<br>Remedies:<br>•check the cabinet temperature<br>•see parameters P65 and P67<br>Consequences:<br>•the alarm output will be activated |
| **Ht** | Condenser temperature alarm<br>Remedies:<br>•check the condenser temperature<br>•see parameter P62<br>Consequences:<br>•the operational cycle will be interrupted<br>•it will not be possible to start any operational cycles<br>•the condenser fan will be switched on<br>•the alarm output will be activated | **d - r** | Micro-port input alarm<br>Remedies:<br>•check the causes of the input activation<br>•see parameter P38<br>Consequences if the alarm occurs while in "on" mode:<br>•the compressor will be shut down<br>•if parameter P37 is set to 1, the evaporator fan will be switched off<br>•if parameter P59 is set to 0, the cabinet light will be switched on<br>•the condenser fan will be switched off<br>•if the UV light is on (i.e. if cabinet sterilisation is ongoing), the UV light will be switched off |
| **PH** | High pressure input alarm<br>Remedies:<br>•check the causes of the input activation<br>•see parameter P40<br>Consequences:<br>•the operational cycle will be interrupted<br>•the loads will be switched off<br>•it will not be possible to start any operational cycles<br>•the alarm output will be activated | **LP** | Low pressure input alarm<br>Remedies:<br>•check the causes of the input activation<br>•see parameter P42<br>Consequences:<br>•the operational cycle will be interrupted<br>•the loads will be switched off<br>•it will not be possible to start any operational |

| | |
|---|---|
| | Compressor thermal protection input alarm<br>Remedies:<br>•check the causes of the input activation<br>•see parameter P44 |
| **HA** | Consequences:<br>•the operational cycle will be interrupted<br>•the loads will be switched off<br>•it will not be possible to start any operational cycles<br>•the alarm output will be activated |
| | Power failure during an operational cycle<br>Remedies:<br>•check the causes of the input activation |
| **rES** | Consequences:<br>•the operational cycle will be restored from the point<br>where the power failure occurred |

When the cause that triggered the alarm has been resolved, the device restores normal operation.

# 12 INTERNAL DIAGNOSTICS

## 12.1 Internal diagnostics

| | | | |
|---|---|---|---|
| **Er0** | Cabinet probe error<br>Remedies:<br>•see parameter P60<br>•check probe integrity<br>•check probe-device connection<br>•check the cabinet temperature<br>Consequences:<br>•the operational cycle will be interrupted<br>•the loads will be switched off<br>•it will not be possible to start any operational cycles<br>•the alarm output will be activated | **Er1** | Evaporator probe error<br>Remedies:<br>•the same as for the previous case, but in relation to the evaporator probe<br>Consequences:<br>•defrosting will last for the length of time set by parameter P24<br>•the evaporator fan will be switched off during storage<br>•the alarm output will be activated |
| **Er3** | Needle probe error<br>Remedies:<br>•the same as for the previous case, but in relation to the needle probe<br>Consequences:<br>•if a set-temperature chilling or freezing operation is ongoing, the operational cycle will be interrupted<br>•it will not be possible to start any set-temperature operational cycles<br>•the alarm output will be activated | **Er4** | Condenser probe error<br>Remedies:<br>•the same as for the previous case, but in relation to the condenser probe<br>Consequences:<br>•the condenser fan will operate in parallel with the compressor, except when set by parameter P54<br>•the alarm output will be activated |
| **Err** | User interface-module communication error<br>Remedies:<br>•check the user interface-module connection<br>Consequences:<br>•if an operational cycle is ongoing, the device will continue to function normally<br>•it will not be possible to start any operational cycles | | |

When the cause that triggered the alarm has been resolved, the device restores normal operation.

# 13 CONFIGURATION PARAMETERS

### 13.1 Configuration parameters

| PARAM. | MIN. | MAX. | **U.o.M.** | DEF. | SENSOR INPUTS |
|---|---|---|---|---|---|
| P0 | 0 | 1 | - - - | 1 | unit of temperature measurement (1)<br>0 = °F<br>1 = °C |
| P1 | -10 | 10 | °C/°F(2) | 0 | cabinet probe offset |
| P2 | -10 | 10 | °C/°F(2) | 0 | evaporator probe offset |
| P3 | -10 | 10 | °C/°F(2) | 0 | needle probe offset |
| PARAM. | MIN. | MAX. | U.M. | DEF. | MAIN CONTROLLER |
| P4 | 40 | 99 | °C/°F(2) | -2 | operational setpoint during the second hard chill step; also, operational setpoint during normal chilling (with reference to the cabinet probe) |
| P5 | -40 | 99 | °C/°F(2) | -40 | operational setpoint during freezing (with reference to the cabinet probe) |
| P6 | -40 | P4 | °C/°F (2) | -20 | operational setpoint during the first hard chill step (with reference to the cabinet probe) |
| P7 | -40 | 99 | °C/°F(2) | 3 | operational setpoint during post-chill storage (with reference to the cabinet probe) |
| P8 | -40 | 99 | U.M. | -20 | operational setpoint during post-freeze storage (with reference to the cabinet probe) |
| P9 | 1 | 15 | °C/°F(2) | 2 | P4, P5, P6, P7 and P8 differential |
| P10 | -40 | 99 | °C/°F(2) | 3 | set temperature chill end temperature (with reference to the needle probe) |
| P11 | -40 | 99 | °C/°F(2) | -18 | set temperature freeze end temperature (with reference to the needle probe) |
| P12 | -40 | P10 | °C/°F(2) | 15 | temperature at which the hard chill switches from the first step to the second (with reference to the needle probe) |
| P13 | -40 | 99 | °C/°F(2) | 65 | temperature above which it is not possible to start a set-temperature operational cycle (with reference to the needle probe) |
| P14 | 0 | 99 | °C/°F(2) | 5 | needle probe and the cabinet temperature for verification of correct needle probe insertion (3)<br>0 = the test will not be performed |
| P15 | 1 | 99 | S | 60 | duration of the second test to check correct needle probe insertion; see also P14 (4) |
| P16 | 1 | 400 | MIN | 90 | maximum set temperature chill duration; also timed chill duration |
| P17 | 1 | 400 | MIN | 270 | maximum set temperature freeze duration; also timed freeze duration |
| P18 | 1 | P16 | MIN | 20 | first hard timed chill step duration |
| PARAM. | MIN. | MAX. | U.M. | DEF. | COMPRESSOR PROTECTIONS |
| P19 | 0 | 99 | min | 0 | compressor delay from device power on (from restoration of power) |

| | | | | | |
|---|---|---|---|---|---|
| P20 | 0 | 99 | min | 0 | minimum elapsed time period between two consecutive compressor start-up operations |
| P21 | 0 | 99 | min | 0 | minimum compressor shut-down time |
| PARAM. | MIN. | MAX. | U.M. | DEF. | DEFROSTING |
| P22 | 0 | 99 | - - - | 1(2_GM | defrost type (5)<br>0 = electric (defrost on relay)<br>1 = hot gas (defrost compressor and relay on)<br>2 = air (evaporator fan on) |
| P23 | -40 | 99 | C/°F(2) | 8 | defrost end temperature (with reference to the evaporator probe) |
| P24 | 0 | 99 | min/s(6) | 10 | maximum defrost duration |
| P25 | 0 | 99 | h/min(6) | 6 | defrost interval during storage; see also P26<br>0 = intermittent defrosting will never be activated (only the first will be activated) |
| P26 | 0 | 99 | min/s(6) | 1 | first defrost delay from start of storage; see also P25 |
| P27 | 0 | 1 | - - - | 1 | defrosting at start of chilling and freezing<br>1 = YES |
| P28 | 0 | 99 | min/s(6) | 2 | drip-drain duration |
| P29 | 0 | 1 | - - - | 0 | resetting of compressor protections at start of defrosting (only if P22 = 1)<br>1 = YES |
| P30 | 0 | 400 | S | 30 | elapsed time between the defrost request and switching on the compressor (only if P22 = 1 and providing that the compressor is off when the defrost is requested); see also<br>P31 (7) (8) |
| P31 | 0 | 400 | S | 0 | elapsed time between the defrost request and activation of the solenoid valve (only if P22 = 1 and on condition that the compressor is off when defrosting is requested); see<br>also P30 (7) (8) |
| PARAM. | MIN. | MAX. | U.M. | DEF. | EVAPORATOR FAN |
| P32 | -40 | 99 | °C/°F(2) | 3 | temperature above which the evaporator fan is switched off during storage (with reference to the evaporator probe) |
| P33 | -15 | 15 | °C/°F(2) | 1 | P32 differential |
| P34 | 0 | 1 | - - - | 0 | evaporator fan activity during defrosting (only if P22 = 0 or 1)<br>0 = on<br>1 = off |
| P35 | 0 | 15 | min/s(6) | 3 | evaporator fan activity during defrosting (only if P22 = 0 or 1 |
| P36 | -40 | 99 | °C/°F(2) | 90 | temperature above which the evaporator fan is switched off (with reference to the cabinet probe) |
| P37 | 0 | 1 | - - - | 1 | effect caused by activation of microport input on evaporator fan<br>0 = no effect<br>1 = the evaporator fan will be switched off |

| PARAM. | MIN. | MAX. | U.M. | DEF. | DIGITAL INPUTS |
|---|---|---|---|---|---|
| P38 | 0 | 1 | - - - | 1 | microport input contact type<br>0 = NA (input active with contact closed)<br>1 = NC (input active with contact open) |
| P39 | 0 | 200 | min | 0 | micro port input alarm delay (9) |
| P40 | 0 | 1 | - - - | 1 | high pressure input alarm delay<br>0 = NA (input active with contact closed)<br>1 = NC (input active with contact open) |
| P41 | 0 | 200 | s | 120 | high pressure input alarm delay |
| P42 | 0 | 1 | - - - | 0 | low pressure input contact type<br>0 = NA (input active with contact closed)<br>1 = NC (input active with contact open) |
| P43 | 0 | 200 | s | 0 | low pressure input alarm delay |
| P44 | 0 | 1 | - - - | 0 | compressor thermal protection input contact type<br>0 = NA (input active with contact closed)<br>1 = NC (input active with contact open)<br>compressor thermal protection input alarm |
| P45 | 0 | 200 | s | 0 | compressor thermal protection input alarm delay |
| PARAM. | MIN. | MAX. | U.M. | DEF. | CABINET STERILISATION |
| P46 | 0 | 99 | min | 5 | UV light on duration (duration of cabinet sterilisation) |
| PARAM. | MIN. | MAX. | U.M. | DEF. | NEEDLE PROBE HEATING |
| P47 | -40 | 99 | °C/°F(2 | 45 | needle probe heating end temperature (with reference to the needle probe) |
| P48 | 0 | 99 | s | 15 | maximum duration of needle probe heating |
| PARAM. | MIN. | MAX. | U.M. | DEF. | DOOR ELEMENTS |
| P49 | -20 | 20 | C/°F(2 | 5 | the temperature, below which the door elements are switched on (with reference to the cabinet probe) |
| P50 | -10 | 10 | C/°F(2 | 2 | P49 differential |
| PARAM. | MIN. | MAX. | U.M. | DEF. | CONDENSER FAN |
| P51 | 0 | 1 | - - - | 1 | condenser fan activity in the absence of the condenser probe (P61 = 0)<br>0 = in parallel with compressor<br>1 = on |
| P52 | -45 | 100 | C/°F(2 | 20 | the temperature below which the condenser fan is switched off in the presence of the condenser probe (P61 = 1) and on condition that the compressor is on (with reference to the condenser probe); see also P54 |
| P53 | -10 | 10 | C/°F(2 | 5 | P52 differential |
| P54 | 0 | 300 | s | 30 | condenser fan switch off delay on switching off the compressor in the presence of the condenser probe (P61 = 1); see also P52 |
| PARAM. | MIN. | MAX. | U.M. | DEF. | MISCELLANEOUS |
| P55 | 0 | 99 | S | 3 | chill and freeze cycle completion buzzer duration |
| P56 | 1 | 400 | S | 15 | maximum buzzer duration during an alarm state |

| | | | | | |
|---|---|---|---|---|---|
| P57 | 0 | 999 | S | 10 | elapsed time between switching on the compressor and down pump valve activation (down pump in power up); also elapsed time between deactivation of the down pump valve and switching off the compressor (down pump in power down) |
| P58 | 0 | 1 | - - - | 0 | defrost parameter units of measurement<br>0 = P25 h, P24, P26, P28 and P35 min<br>1 = P25 min, P24, P26, P28 and P35 s |
| P59 | 0 | | - - - | 0 | reserved |
| P60 | 0 | 1 | - - - | 0 | probe type<br>0 = NTC<br>1 = PTC |
| P61 | 0 | 1 | - - - | 0 | condenser probe enabling<br>1 = YES |
| PARAM. | MIN. | MAX. | U.M. | DEF. | CONDENSER TEMPERATURE ALARMS |
| P62 | 0 | 99 | C/°F(2 | 70 | the temperature above which the condenser temperature alarm is activated (with reference to the condenser probe) |
| P63 | 0 | 30 | C/°F(2 | 10 | P62 differential |
| PARAM. | MIN. | MAX. | U.M. | DEF. | CABINET TEMPERATURE ALARMS |
| P64 | -99 | 0 | C/°F(2 | 0 | temperature below which the minimum temperature alarm is activated during post-chill storage, with relation to P7, i.e. "P7 + P64" (with reference to the cabinet probe)<br>0 = no alarm |
| P65 | 0 | 998 | C/°F(2 | 0 | temperature above which the maximum temperature alarm is activated during post-chill storage, with relation to P7, i.e. "P7 + P65" (with reference to the cabinet probe)<br>0 = no alarm |
| P66 | -99 | 0 | C/°F(2 | 0 | temperature below which the minimum temperature alarm is activated during post-freezing storage, with relation to P8, i.e. "P8 + P66" (with reference to the cabinet probe)<br>0 = no alarm |
| P67 | 0 | 99 | C/°F(2 | 0 | temperature above which the maximum temperature alarm is activated during post-freezing storage, with relation to P8, i.e. "P8 + P67" (with reference to the cabinet probe)<br>0 = no alarm |
| P68 | 1 | 15 | C/°F(2 | 2 | P64, P65, P66 and P67 differential |
| P69 | 0 | 255 | min | 0 | storage operation start-up temperature alarm delay |
| P70 | 0 | 255 | min | 0 | temperature alarm delay |
| PARAM. | MIN. | MAX. | U.M. | DEF. | DATA PRINTING |
| P71 | 0 | 1 | - - - | 0 | enable printing<br>1 = YES |
| P72 | 0 | 60 | min | 5 | print interval |
| P73 | 0 | 1 | - - - | 0 | HACCP alarm list deletion<br>1 = YES (10) |

| | | | | | |
|---|---|---|---|---|---|
| P74 | - - - | - - - | - - - | 2 | reserved |
| P75 | - - - | - - - | - - - | 2 | reserved |
| P76 | - - - | - - - | - - - | 1 | reserved |

**(1)** Altering parameter P0 effects all parameters where the unit of measurement is degrees Celsius or degrees Fahrenheit

**(2)** the unit of measurement depends on parameter P0

**(3)** the test result is positive if the difference between the temperature measured by the needle probe and the cabinet temperature is greater than the value set by parameter P14 at least 3 times out of 5 (checking is every 10 s); if the test result is negative a second test is initiated (se parameter P15)

**(4)** the result of the second test is positive if the difference between the temperature measured by the needle probe and the cabinet temperature increases by at least 1_C/1_F with respect to the previous check at least 6 times out of 8 (checking occurs every P15/8 s); if parameter P15 is set to a value of less than 5 s, the second test will not be executed

**(5)** if parameter P22 is set to 2, micro port input activation will not be signalled

**(6**) the unit of measurement depends on parameter P58

**(7)** defrosting will be activated on conclusion of the time which is greatest between those set by parameters P30 and P31

**(8)** If defrosting is requested when the compressor is on and the time set by parameter P30 is less than the value set by parameter P31, the compressor will remain on and the solenoid valve and defrosting will be activated after the time "P31 - P30" has elapsed since the defrost request; vice versa, if defrosting is requested when the compressor is on and the time set by parameter P30 is greater than that set by parameter P31, when defrosting is requested the compressor will be switched off for the greater of the times between those set by parameters P19, P20 and P21 after which the compressor and defrosting will be activated (the solenoid valve will be activated "P30 - P31" s prior to activation of defrosting)

**(9)** parameter P39 has no effect during UV light switch on (cabinet sterilisation)

**(10)** altering parameter P73 is effective on exiting the configuration parameter setting procedure; as soon as you will quit the configuration parameters setting procedure, parameter P73 will automatically get
Value 0.