metos

BLAST CHILLER / SHOCK FREEZER

ZETA-LINE

Installation- and user manual

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1. STANDARDS AND GENERAL INSTRUCTIONS

1.1. TESTING

The product is dispatched after visual, electrical and operating tests have been passed.

1.2. WARRANTY

The warranty on the machine and related parts we manufacture is valid for a period of 1 year from the date of invoice and consists of the free supply of spare parts which, according to our final judgement, are deemed to be faulty.
It is the responsibility of the manufacturer to eliminate any faults and defects on condition that the machine has been correctly used in accordance with the instructions provided in the manual.
During the warranty period the customer will be responsible for costs related to labour, travel or transfers, transport of the parts and any equipment to be replaced. The items replaced under warranty remain our property and must be returned by the customer at the his own expense.

1.3. INTRODUCTION

This manual is intended to provide all the necessary information for correct installation, operation and maintenance of the machine by qualified personnel.
Read the instructions provided carefully prior to any operation, as these contain essential safety indications concerning the machine.
THE MANUFACTURER DECLINES LIABILITY FOR NON-DECLARED USE OF THE PRODUCT.
THE REPRODUCTION OF THIS MANUAL OR PARTS THEREOF, IS PROHIBITED.

GENERAL SAFETY INSTRUCTIONS

The manufacturer declines all liability for any operation performed on the machine in disregard of the instructions provided in this manual.

⚠ Before connecting the machine to the power supply, ensure that the voltage and frequency correspond to those indicated on the specifications plate.

⚠ **Always connect the machine to an appropriate high sensitivity differential magnet circuit breaker switch (30 mA).**

⚠ Before performing any cleaning or maintenance operation disconnect the machine from the power supply by:
1) Positioning the master switch on OFF;
2) Removing the plug.

⚠ Wear gloves to perform maintenance on the motor compartment or on the evaporating unit positioned inside the machine.

⚠ Do not insert screwdrivers or other devices between the guards (fan evaporator protections etc.).

⚠ Do not handle electrical parts with wet hands or without shoes.

⚠ Ensure good functioning of the compressor unit and evaporator by never obstructing the air inlets.

⚠ In the case of machines fitted with wheels, check that the rest surface is flat and perfectly horizontal.

⚠ In the case of machines fitted with locks and keys, it is recommended to keep the keys out of the reach of children.

⚠ Use is only reserved for suitable, trained personnel. Installation, routine and extra-ordinary maintenance (for example, cleaning and maintenance of the refrigerating system), must be performed by specialised and authorised technical personnel with a sound knowledge of the refrigeration and electrical systems.

1.4. PREREQUISITES SUPPLIED BY THE CUSTOMER

Provide a high sensitivity differential magnet circuit breaker switch (30 mA).
Provide a wall socket with earth of the type used in the country in which the machine is operated.
Verify that the surface on which the machine rests is level.
In the case of water-cooled machines or with equipment with direct humidity control, provide connection to a water system.

1.5. INSTRUCTIONS REGARDING REQUESTS FOR INTERVENTION

Often operating difficulties are a result of ordinary causes which are almost always remediable inhouse, therefore, before requesting assistance from a technician, perform the following simple checks:

IF THE MACHINE STOPS OPERATING:
- Check that the plug is inserted correctly into the electrical socket.

IF THE CABINET TEMPERATURE IS INSUFFICIENT:
- Check that this is not being affected by a heat source;
- Check that the doors close perfectly;
- Check that the condenser filter is not blocked;
- Check that the ventilation grills of the control panel are not obstructed;
- Check that the items inside the cabinet are not obstructing ventilation.

IF THE MACHINE IS NOISY:
- Check that there is no loose contact between the machine and another object;
- Check that the machine is perfectly level;
- Check that the screws (at least those visible) are tightened;

If the problem persists after the above checks request technical assistance, indicating:
- The nature of the defect;
- The code and serial number of the machine appearing on the specifications plate.

1.6. INSTRUCTIONS FOR SPARE PARTS

ORIGINAL SPARE PARTS are recommended.
The manufacturer does not accept any responsibility for the use of non-original parts.

2. TECHNICAL DATA

The technical data plate is located outside on the side or at the rear and inside the motor compartment.

2.1. NOISE LEVEL

Leq at the noisiest point at 1 m in operating conditions	< 70 dB (A)
Lpc at 1 m in operating conditions	< 130 dB (C)

TESTING ENVIRONMENT
Testing was performed in a rectangular showroom with no sound absorption.
Significant obstacles were absent in the area surrounding the machine.

REFERENCE REGULATIONS
Noise testing was performed in compliance with Legislative Decree 277 and in accordance with methods described in ISO 230-5, in order to obtain the data required by EEC Directive 89/392.

OPERATING CONDITIONS OF THE MACHINE
Testing was performed under the most severe condition which corresponds to the start-up phase called "PULL DOWN".

2.2. MATERIALS AND FLUIDS USED

The materials used comply with the Legislative Decree dated 25 July 2005, No. 151 in implementation of Directives 2002/95/EC, 2002/96/EC and 2003/108/EC, relating to the reduction in the use of hazardous substances in electrical and electronic equipment, as well as to waste disposal

3. OPERATION

3.1. APPLICATIONS, PURPOSE, DECLARED AND NON-DECLARED USE, AUTHORISED USE

Our refrigerators are agri-food machines (EC regulation No. 1935/2004), intended for foodstuffs.
The machines are designed with the appropriate equipment to guarantee the health and safety of the user.

APPLICATION OF THE BLAST CHILLER-SHOCK FREEZER:
The blast chiller-shock freezer is a machine which rapidly lowers the temperature of cooked or raw foods, in order to maintain the organoleptic properties (chemical-physical and nutritional) of these foods unaltered.
Cooling or freezing time is a parameter that is difficult to establish with any precision, since this depends on the type of food or foods in a cooked dish. The declared performance levels were obtained by using potato purée in off the shelf aluminium trays GN1/1 H=40. The thickness of the mashed potatoes into the containers is 25mm.

BLAST CHILLING TEMPERATURE CYCLE:
This cycle enables rapid lowering of the temperature of the cooked food (from +90 to +3°C in 90 minutes) to avoid it remaining within the critical temperature range of +10°C to +65°C.
The cooked and blast chilled food can be stored in the refrigerator for up to 5 days.

SHOCK FREEZING TEMPERATURE CYCLE:
Shock freezing (from +90°C to -18°C) prevents the formation of macrocrystals of ice in the food, which would result in a loss of liquids and vitamins. This cycle is suitable for cooked and raw food and conserves these foodstuffs for up to 2 months and 12 months respectively.

CONSERVATION CYCLE:
At the end of every blast chilling or shock freezing cycle the machine envisions a conservation cycle during which the equipment functions as a normal refrigerator and the duration of which is at the user's discretion.

FOODSTUFFS STORAGE
For the best performance of the appliance, the following indications should be observed:

Conservation cycle:
- Do not introduce hot foods or uncovered liquids inside the machine;
- Wrap or protect foodstuffs, particularly if they contain aromas;
- Arrange the foodstuffs inside so as not to limit air circulation, avoiding placing papers, cartons, boards, etc. on the racks, which may obstruct the passage of air;
- As far as possible, avoid opening the door frequently or for lengthy periods of time.

Blast chilling/shock freezing cycle
- Do not open the door once the cycle has commenced and until the cycle has terminated;
- Avoid wrapping, protecting or closing containers with lids or insulating films;
- Do not use trays or containers taller than 65mm;
- Do not stack foodstuffs;
- Use aluminium or stainless steel containers.

3.2. DANGEROUS AREAS

The refrigerator equipment has been designed and manufactured with the appropriate devices to guarantee the health and safety of the user and does not contain dangerous edges, sharp surfaces or protruding elements.
The stability of the machine is guaranteed even when the doors are open; however, do not pull on the doors.
In the case of refrigerators with drawers, do not open more than one drawer at a time and do not lean or sit on an open drawer, so as to avoid overturning or damaging the refrigerator.
N.B.: In refrigerators with glass doors do not extract more than one basket or rack at a time so as not to compromise the stability of the refrigerator. Gradually arrange the foodstuff starting from the bottom upwards; similarly, remove foodstuff starting from the top downwards.

THE MACHINE HAS NOT BEEN DESIGNED TO BE INSTALLED IN AN EXPLOSIVE ATMOSPHERE.

Maximum load (uniformly distributed) per basket, drawer or rack = 40 kg

APPLIANCE WITH WHEELS
When moving, take care not to forcefully push the refrigerator so as avoid overturning and damage. Also note any unevenness of the surface on which the refrigerator is being pushed. Appliances fitted with wheels cannot be levelled, therefore, ensure that the surface on which they rest is perfectly horizontal and level.

⚠ ALWAYS BLOCK THE WHEELS WITH THE STOPS PROVIDED.

RISKS CAUSED BY MOVING PARTS
The only moving part is the fan, which presents no risk as it is isolated by a protection grill secured with screws (before removing this protection, disconnect the machine from the power supply).

RISKS CAUSED BY LOW/HIGH TEMPERATURES
Adhesive labels indicating "TEMPERATURE WARNING" are located in the proximity of areas which constitute low/high temperature dangers.

RISKS CAUSED BY ELECRICAL POWER
Electrical risks have been eliminated by designing the electrical system in accordance with IEC EN 60204-1 and IEC EN 60335-1.
Adhesive labels indicate "high voltage" areas which may present electrical risks.

RISKS CAUSED BY NOISE

Leq at the noisiest point at 1 m in operating conditions	< 70dB (A)
Lpc at 1 m in operating conditions	< 130 dB(C)

RESIDUAL RISKS
Any liquids emanating from foodstuffs or washing products are prevented from leaking outside by a drain positioned at the bottom.
During cleaning operations, remove the plug and place a collection tray under the machine (hmax=100mm).

IT IS OF UTMOST IMPORTANCE THAT THE PLUG IS REFITTED IN THE HOLE.
IN THE CASE OF MACHINES WITH NO DRAIN, PREVENT THE STAGNATION OF LIQUIDS BY CLEANING THOROUGHLY ON A DAILY BASIS

3.3. SAFETY DEVICES

⚠ **IT IS PROHIBITED TO TAMPER WITH OR REMOVE THE SAFETY DEVICES PROVIDED (PROTECTION GRILLS, DANGER LABELS, ETC.). THE MANUFACTURER DECLINES ALL LIABILITY SHOULD THE SAID INSTRUCTIONS NOT BE RESPECTED.**

Tampering with or removing the safety devices provided (protection grills, danger labels, etc.) is prohibited. The manufacturer declines all liability should the said instructions not be complied with.

4. ROUTINE AND PROGRAMMED MAINTENANCE
The information contained in this chapter addresses suitable, trained personnel in the case of routine maintenance; while specialised and authorised personnel is addressed for extraordinary and/or programmed maintenance.

4.1. ELEMENTARY SAFETY STANDARDS
Before performing any intervention, disconnect the machine plug from the electrical mains power supply.

REMOVAL OF PROTECTIONS OR SAFETY DEVICES IS PROHIBITED.

In routine maintenace operations, the removal of protections/saftey devices (grills, adhesive labels, etc.) is prohibited.

4.2. INSTRUCTIONS REGARDING EMERGENCY OPERATIONS IN THE CASE OF FIRE

⚠ DO NOT USE WATER IN THE CASE OF FIRE.
USE CO_2 FIRE EXTINGUISHER (CARBON DIOXIDE) AND COOL THE MOTOR COMPARTMENT AREA AS QUICKLY AS POSSIBLE.

4.3. CLEANING THE MACHINE
Before any cleaning operation, disconnect the machine from the electrical power supply.

INITIAL INSTALLATION
Before operating, wash the interior and accessories with a little water and neutral soap in order to remove the characteristic "new" odour. Arrange the accessories inside the cabinet in positions most appropriate for use.

DAILY CLEANING
Carefully clean the external surfaces of the machine using a damp cloth and following the direction of the finish.
Use neutral detergents and not substances with a chlorine base and/or that are abrasive.
Do not use utensils which may cause scratches and consequently the formation of rust. Rinse with clean water and dry carefully.
Clean the interior of the cabinet with neutral detergents which do not contain chlorine or abrasives, to avoid the formation of dirt residues. In the case of hardened residues, use soap and water or neutral detergents, using a wooden or plastic spatula if necessary.
After cleaning, rinse with a little water and dry carefully.
Do not wash the machine with direct water jets, as any water leakage into electrical components may affect their correct functioning.
Lower and adjoining areas of the machine must also be cleaned on a daily basis with soap and water and not with toxic or chlorine-based detergents.

WARNINGS FOR BLAST CHILLERS WITH WASHING KIT:
Always use the neutral detergent supplied by the manufacturer so to guarantee maximum cleanliness without damaging the interior surface and the relative functional parts of the blast chiller (evaporator, fans, heating plant, etc)
Before starting nay washing program check, using the visual indicator positioned in the lower left side of the appliance, that the level of detergent is above the minimum accepted.

PERIODIC CLEANING AND GENERAL MAINTENANCE
Cleaning and general maintenance operations must be carried out to ensure the consistent performance of the machine.
The refrigerator unit (condenser) must be cleaned by specialised personnel.
Regularly clean the drain to avoid that the hole becomes blocked.
IT IS OF UTMOST IMPORTANCE THAT THE HOLE IS CLOSED ONCE AGAIN WITH THE APPROPRIATE PLUG.

4.4. PERIODIC CHECKS
- Check that the plug is correctly inserted in the power supply socket.
- Check that the appliances are not affected by heat sources.
- Check that the machine is perfectly level.
- Check that the door gasket seals perfectly.
- Check that the drain is not blocked.
- Check that the condenser battery is not covered with dust; should this be the case, request after-sales technical assistance.

4.5. PRECAUTIONS IN THE CASE OF EXTENDED PERIODS OF INACTIVITY
If an extended period of inactivity of the machine is foreseen:
- switch the machine off by pressing the OFF button on the control panel;
- remove the plug from the power supply socket;
- empty the refrigerator and carefully clean it (see cleaning section);
- leave doors ajar to ensure air circulation.

4.6. EXTRAORDINARY MAINTENANCE (only by specialised personnel)

- Periodically clean condenser.
- Check door gaskets to ensure perfect sealing.
- Check that the electrical system is in order.

IN THE CASE OF REPAIRS OR REPLACEMENT OF PARTS, ALWAYS PROVIDE THE CODE AND SERIAL NUMBER OF THE MACHINE, VISIBLE ON THE SPECIFICATIONS PLATE.

5. WASTE DISPOSAL AND DEMOLITION

5.1. WASTE STORAGE

A provisional storage of special waste is permitted, with a view to disposal by waste treatment and/or final storage.
In all cases, environmental laws applicable in the country of the user must be observed.

5.2. PROCEDURES RELATING TO THE MACRO DISMANTLING OPERATIONS OF THE MACHINE

Although legislation differs in various countries, prescriptions established by law and responsible bodies in the countries in which the dismantling takes place, must be complied with.
Generally, the refrigerator must be returned to the dealer or to specialised collecting/dismantling centres.
Dismantle the refrigerator, grouping the components according to their chemical nature and remembering that the compressor contains lubricating oil and liquid refrigerant which can be recovered and re-used and that refrigerator components are special wastes comparable to urban waste.
DISMANTLING OPERATIONS MUST BE PERFORMED BY QUALIFIED PERSONNEL.

6. INSTALLATION (only by specialised technical personnel)

6.1. TRANSPORT AND HANDLING OF THE PRODUCT

The machine must be transported using suitable handling equipment and never manually.
If lifting systems are used, such as a forklift or transpallet, take particular care that the load is balanced.
Normally the packaging is in expandable polystyrene on wood pallets, secured to the bottom of the equipment for greater safety during transport and handling.
Warnings are printed on the packaging, representing the instructions to be complied with to ensure that no damage is caused during loading and unloading operations, transport or handling.

WARNINGS PRINTED ON OUR PACKAGING:

TALL LOAD

FRAGILE

KEEP DRY

The user must dispose of the packaging in accordance with the laws in force in the applicable country.

STACKING LIMITS

When storing or transporting the machine, the maximum stacking limit is two machines, unless otherwise indicated with an appropriate adhesive label.
SINCE THE CENTRE OF GRAVITY OF THE MACHINE DOES NOT CORRESPOND TO ITS GEOMETRIC CENTRE, BE AWARE OF INCLINATIONS DURING HANDLING.

6.2. DESCRIPTION OF COMMISSIONING OPERATIONS

After removing the packaging from the machine, it is advisable to verify the integrity of the machine and the absence of damage due to transport. Any damage must be communicated to the carrier immediately. Damaged machines cannot be returned to the manufacturer under any circumstances without prior notice and written authorisation is received.

DURING HANDLING DO NOT PUSH OR DRAG THE MACHINE TO PREVENT OVERTURNING OR DAMAGE TO PARTS (E.G. FEET).

NEVER LEAN THE MACHINE ON THE DOOR SIDE.

6.3. POSITIONING

Position the machine in a well-aerated place and far from heat sources. Observe minimum gaps for operating functions, aeration and maintenance.

MACHINE WITH WHEELS

A machine with wheels cannot be levelled, therefore, ensure that the surface on which it rests is perfectly horizontal and level.

AFTER HAVING POSITIONED THE MACHINE, ALWAYS BLOCK THE WHEELS.

DURING HANDLING DO NOT PUSH FORCEFULLY OR DRAG THE MACHINE TO PREVENT OVERTURNING OR DAMAGE. PAY PARTICULAR ATTENTION TO UNEVENNESS OF SURFACES. NEVER LEAN THE MACHINE FROM THE DOOR SIDE.

THE MACHINE HAS NOT BEEN DESIGNED TO BE INSTALLED IN EXPLOSIVE ENVIRONMENTS.

6.4. CONNECTION

Before connecting the machine to the power supply, ensure that the voltage and frequency correspond with those indicated on the specifications plate.
A variation of +/-10% of the normal voltage is permitted.
It is of utmost importance that the machine is connected to an efficient earth connection.

WARNINGS FOR BLAST CHILLERS WITH WASHING KITS:

The appliance must be connected to the water supply network using the supplied flexible pipe, suitable for high temperatures and pressure and with ¾" GAS attachment.
To prevent the excessive deposit of lime scale and therefore decrease plant maintenance the use of a water softener is recommended.
To increase efficiency the recommended water temperature must be between 40-60°C. The optimum network pressure must be between 2-5 bar for the rotor to rotate regularly. If the water pressure should fall below 0.5 bar a safety pressure switch will intervene that will immediately block the function, with signal on the alarm display.

FOR BLAST CHILLERS WITH WASHING KIT:

It is fundamental not to change the direction of the rotor spraying nozzles so as not to completely alter the system functioning features.

DO NOT USE PLUGS WITHOUT EARTH. THE MAINS SOCKET MUST COMPLY WITH REGULATIONS VALID IN THE APPLICABLE COUNTRY.

EARTHING THE MACHINE IS A MANDITORY SAFETY MEASURE BY LAW

In order to protect the machine from any electrical overload or short-circuits, the connection to the power supply is through a high sensitivity differential magnet circuit breaker switch (30 mA) with manual re-set and with sufficient power.
For dimensioning the protection device, consider the following:
Imax = 2.3 In (nominal current)
Icc (short-circuit current) = 4500 A with 230v/1~/50Hz power supply.
Icc (short-circuit current) = 6000 A with 400v/3~/50Hz power supply

6.5. RE-INSTALLATION

If a re-installation is necessary, proceed as follows:
1) Position the power supply switch on OFF;
2) Disconnect the plug from the power supply and wind up the cable;
3) Remove all foodstuff from the interior of the cabinet and clean the cabinet and accessories thoroughly;
4) Re-pack the machine, taking care to re-position the protective polystyrene and secure the wooden base, in order to prevent damage during transport;
5) Proceed as described previously for the new positioning and connection.

7. USER INSTRUCTIONS

7.1. CONTROL PANEL

Description of control panel keys

ON /OFF
On/off control board

START/STOP
Start/stop blast chilling/shock freezing cycles

+3°C SOFT BLAST CHILLING
Selection of +3 soft blast chilling cycle

+3°C HARD BLAST CHILLING
Selection of +3 hard blast chilling cycle

–18°C SOFT SHOCK FREEZING
Selection of -18 soft shock freezing cycle

–18°C HARD SHOCK FREEZING
Selection of -18 hard shock freezing cycle

DEFROST
Start/stop defrost. By pressing the key for extended time, the temperature of the evaporator probe is displayed

HEATING PROBE
Heating for needle probe extraction

UVC STERILISATION
UVC light activation for cabinet sterilisation

WASHING CYCLE
Selection of washing program

MULTI-POINT/MULTIPROBE PIN PROBE
Visualizes the temperature of the needle probe
Extended pressing displays the 4 temperatures

PRECOOL
Start/stop precool cycle

FANS SPEED
Set fans speed during cycle

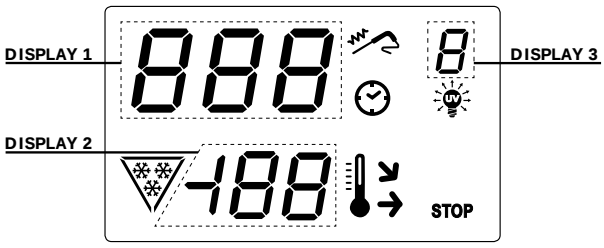
PROGRAM
Memory or recalls a blast chilling/shock freezing cycle on memory
Selects infinate time cycle

HACCP ALARMS RECALL
Enter/exit HACCP menu

UP
Increases. During blast chilling/shock freezing it displays the time elapsed from start of cycle for a few seconds

DOWN
Decreases. During blast chilling/shock freezing it displays the time elapsed from start of cycle for a few seconds

Description of the display and symbols



DISPLAY 1
Displays needle probe temperature or time and selected washing cycle
DISPLAY 2
Displays temperature of the cabinet
DISPLAY 3
Displays the operational phase in progress (1-3)
Number of needle probe inserted in core

Cabinet temperature

Needle probe heating active

Blast chilling/shock freezing cycle with needle probe (flashing in needle probe insertion test)

Multipoint probe automatic freez./chill. cycle (flashing during pin insertion test)

Blast chilling/shock freezing cycle with timer

Sterilisation in progress

Washing cycles

Blast chilling cycle function selected (+3ºC)

Shock freezing cycle function selected (-18ºC)

Hard phase selected

Blast chilling in progress
(flashing active compressor delay)

Conservation phase in progress

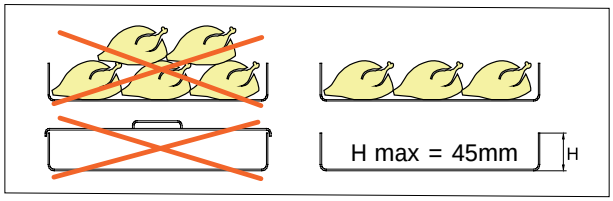
STOP — Machine in Stop mode

HACCP — HACCP alarm

PRECOOL phase

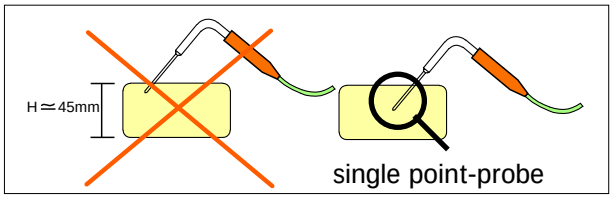
GENERAL RECOMMENDATIONS

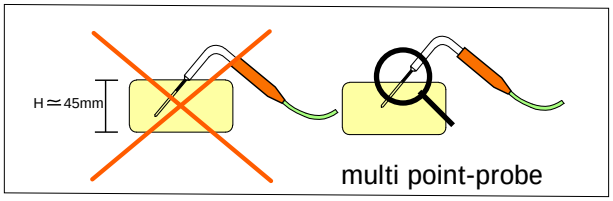
For correct use of the needle probe:
- Avoid violent blows, they can jeopardise the correct functioning of the probe.
- Sterilise the needle before use.
- The maximum recommended thickness of the product is 45mm.
- Cleanliness of the needle determines good performance.



TO INSERT THE PROBE

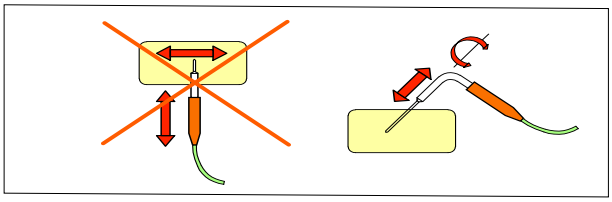
- insert the probe with the point as near as possible to the heart of the product.
- only insert the shiny part.





TO EXTRACT THE PROBE

- Heat the probe or see 7.3.8
- Turn it.
- Extract it without tilting the needle.



7.2 CLOCK PROGRAMMING ACCORDING TO HACCP

When machine is off, press buttons ▽ (+3°C) and START STOP simulataneously for an extended time, clock modification can be accessed.
DISPLAY1 indicates the last figure of the year
DISPLAY2 indicates the letters “yy”
Press △ or ▽ to respectively modify:

year	month	day	hour	minutes
6 yy	5 nn	28 dd	16 hh	15 nn

Press the key to confirm the value entered and pass on to the next value.

Exit from the clock menu occurs automatically after 60 seconds or by pressing the +3°C ▽ key.

7.3 OPERATIONAL CYCLES

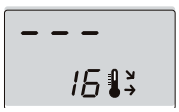
7.3.0. SWITCH ON

(Fig.1)

By pressing the ⏻ key the board switches on.
No selection is visible in DISPLAY 1 (Fig.1).
DISPLAY 2 indicates the cabinet temperature.

7.3.1. PRE-COOLING

Select the desired blast chilling cycle ❄ / ❄❄ / ▽ (+3) / ▽ (-18).



(Fig.2)

The pre-cooling cycle is started by pressing the PRECOOL key (Fig.2).
On reaching the temperature, the buzzer is activated; the chamber is ready to perform a blast chilling cycle. By opening the door or pressing the PRECOOL key, the pre-cooling cycle is interrupted, the machine re-proposes the last cycle selected. Introduce the product and start up the cycle by pressing the START STOP key.

7.3.2. + 3°C SOFT OR HARD BLAST CHILL CYCLE AND -18°C SOFT OR HARD SHOCK FREEZING USING NEEDLE PROBE A

BLAST CHILLING/SHOCK FREEZING PHASE

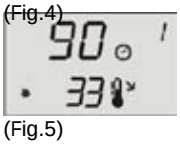
Press the , button to select the +3ºC soft blast chilling cycle and the button for the +3ºC hard cycle.

(Fig.3)

Press the , button to select the -18ºC soft shock freezing cycle and the button for the -18ºC hard cycle.
DISPLAY 1 shows the needle probe temperature.
DISPLAY 2 shows the cabinet temperature.
DISPLAY 3 shows A for Automatic (Fig.3).
The following symbols light up: needle probe , type of blast chilling or or or , temperature and **STOP**. When button is pressed, the A for Automatic will disappear.

(Fig.4)

To start the selected cycle press the key and the blast chilling symbol lights up (Fig.4).
Within the first 3 minutes, the electronic control performs a needle probe insertion test to verify the effective application of the probe in the product to blast chill (flashing needle probe symbol).
If the needle probe is inserted badly or left in the holder provided, the cycle is automatically converted to timed.

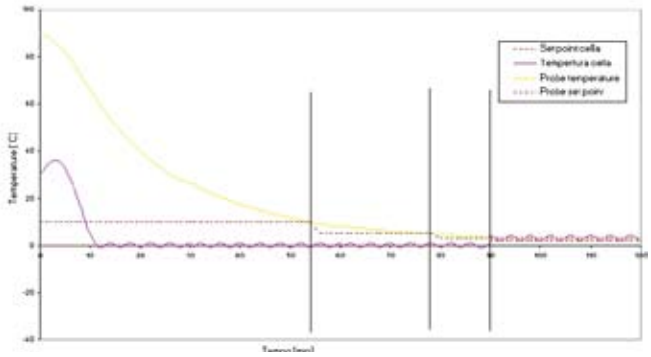

(Fig.5)

During a timed blast chilling cycle (Fig.5):
DISPLAY 1 indicates the time to the end of the cycle itself;
DISPLAY 2 indicates the cabinet temperature;
DISPLAY 3 indicates the blast chilling phase in progress.
If the core temperature has not been reached within the time determined, the time out alarm is acti vated.

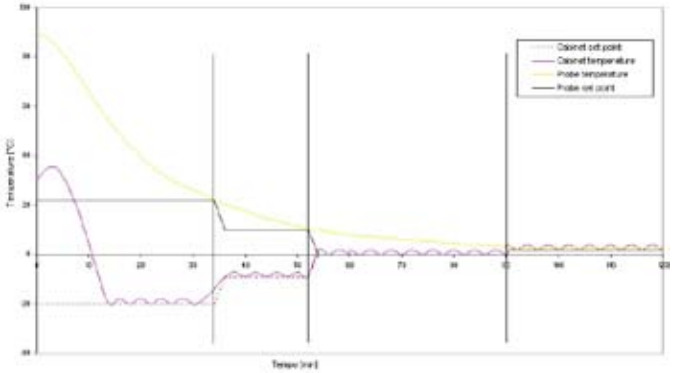
(Fig.6)

The blast chill phase continues but the and HACCP symbols flash and the alarm is memorised HACCP archives. The code AL5 flashes on DISPLAY 1 (Fig.6).
The alarm is automatically cancelled when passing to the conservation phase and the **HACCP** symbol remains on.
By pressing at any time during the cycle in progress, the time from the start of blast chilling is indicated. Press the multi-point button for extened time to display the temperature of the 4 sensors in succession on DISPLAY 2 and the corresponding number of the sensor on DISPLAY
The undetected inserted sensor is displayed in DISPLAY 3 with the – symbol.
Upon termination of the blast chilling cycle the machine automatically continues on to the conservation phase, see 7.3.8.
By pressing the it is possible to visualize the elapsed time from the beginning of the cycle.
To modify fan speed see 7.3.6.

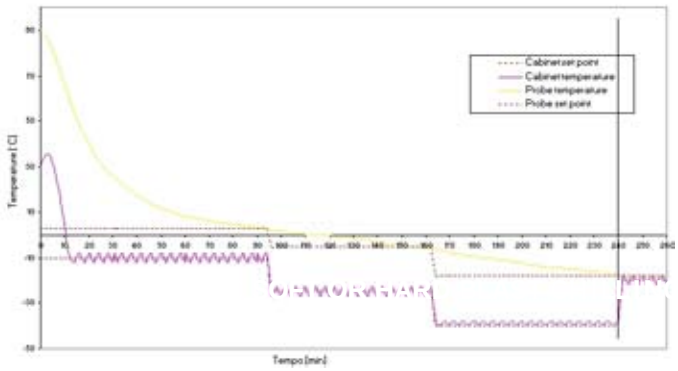
+3 SOFT



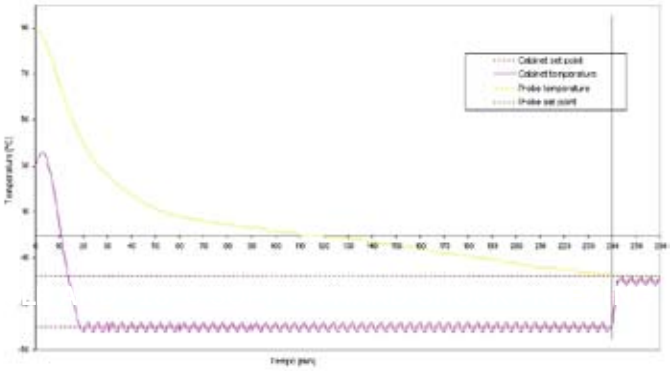
+3 HARD



-18 SOFT



-18 HARD



7.3.3. +3°C SOFT OR HARD BLAST CHILLING CYCLE AND -18°C SOFT OR HARD SHOCK FREEZING WITH TIMING

BLAST CHILLING/SHOCK FREEZING PHASE

Press the key twice to select the +3ºC soft blast chilling cycle and the key twice for the +3ºC hard cycle.

Press the key twice to select the -18ºC soft shock freezing cycle and the key twice for the -18ºC hard cycle.

(Fig.7)

DISPLAY 1: indicates the total time foreseen for blast chilling/shock freezing (Fig.7).
DISPLAY 2: indicates the cabinet temperature.

The following symbols light up , time , type of blast chilling soft or hard or shock freezing soft or hard temperature and **STOP** .

Press or to change the cycle duration.
N.B.: It is possible to set duration either shorter or longer that 90 min. for blast chilling cycles or 240 min. for shock freezing cycles.
Maximum limit: 120 min. for the +3°C cycle.
Maximum limit: 300 min. for the -18°C cycle.

Press the key to start the cycle.

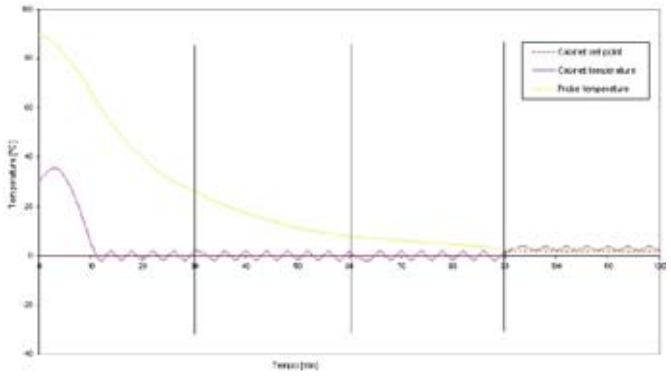
(Fig.8)

By pressing key (Fig.8) the temperature read by the needle probe is temporarily displayed (if inserted into the product, it will show the temperature of this product). On termination of the blast chilling/shock freeing cycle the machine automatically progresses to the conservation phase, see 7.3.8.

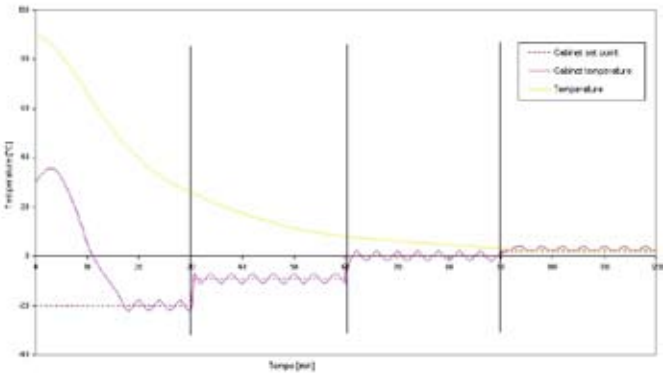
By pressing the key it is possible to visualize the elapsed time from the beginning of the cycle.

To modify fan speed see 7.3.6

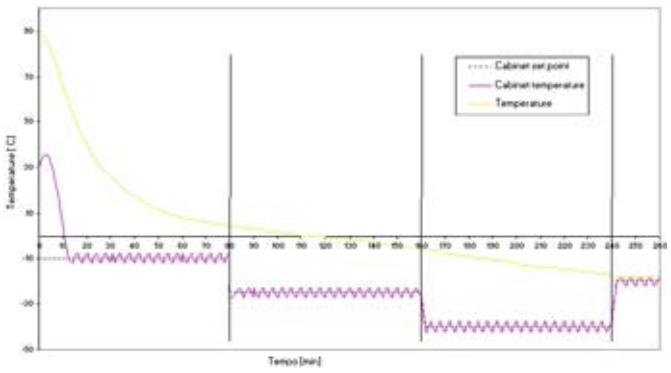
+3 SOFT



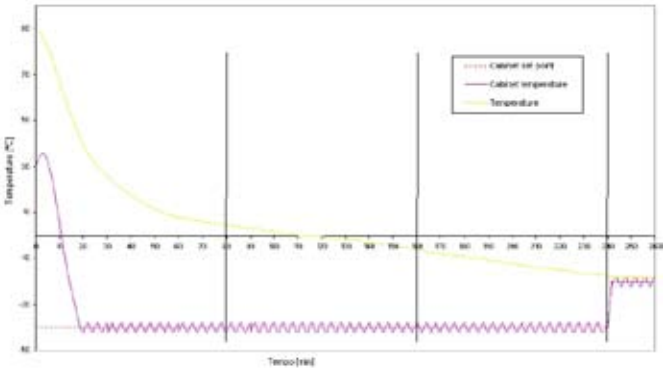
+3 HARD



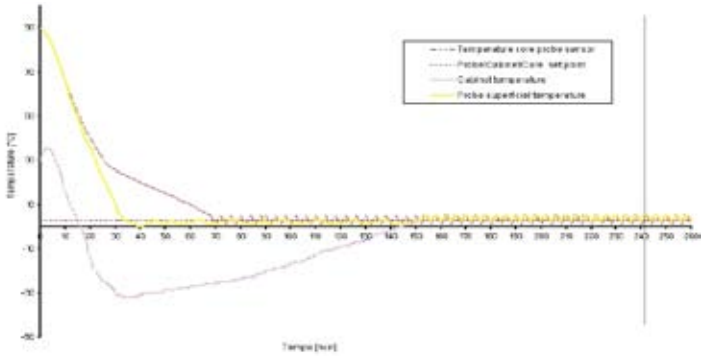
-18 SOFT

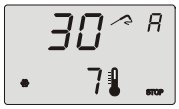


-18 HARD



7.3.4. AUTOMATIC BLAST CHILL/SHOCK FREEZE CYCLE WITH MULTI-POINT PIN PROBE SUITABLE FOR PRODUCTS WITH THICKNESS OVER 90 MM. A





(Fig.9)

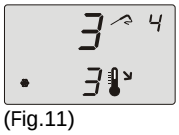
Insert the needle probe with the first sensor as far as possible into the core of the product.
Select the desired cycle +3ºC soft or hard or -18ºC hard by using the appropriate keys
DISPLAY 3 indicates A for Automatic.
When button START STOP is pressed, the blast chilling symbol ↘ , lights up. DISPLAY 3 indicates the number of the hottest sensor selected by the control, while DISPLAY 1 indicates the temperature of this sensor.
Within the first 3 minutes, the electronic control performs a needle probe insertion test to verify the effective application of the probe in the product to blast chill (flashing needle probe symbol).
If the needle probe is inserted badly or left in the holder provided, the cycle is automatically converted to timer.
Through functions controlled by the circuit board, the cycle terminates when the temperature of the probe at the core reaches the value set (+3ºC for blast chilling, -18ºC for shock freezing).
Upon termination of the blast chilling cycle the machine automatically continues to the conservation phase, see 7.3.8.
By pressing the △ key it is possible to display the duration of the blast chilling/shock freezing cycle just concluded.
To modify fan speed see 7.3.6.

7.3.5. BLAST CHILL / SHOCK FREEZING CYCLE WITH 2 – 3 – 4 STANDARD NEDLE PROBES

This cycle can be run with several standard single-point needle probes.
Select the cycle desired, e.g.: ❄ or ▽ (+3°C) or ❄❄ or ▽ (-18°C) then press the START STOP key to start the cycle

(Fig.10)

When the temperature of a probe reaches the value set for the blast chilling/shock freezing cycle selected, this is signalled by buzzer. DISPLAY 3 flashes the number of the relevant needle probe (Fig.10).
If in the meantime the other probes reach core temperature, the signal is placed in a queue.
The signals terminate and the buzzer switches off only when the door is opened.
Once the door is closed and the other probes reach core temperature, a new signal appears on DISPLAY 3 (Fig.11), which indicates the number of the probe with the blast chilled/shock frozen product.



(Fig.11)

If blast chilling is not complete within the determined time, the buzzer activates for one minute and can be switched off by pressing any key.
The blast chilling phase continues but the clock and HACCP symbols flash and the alarm is memorised in the HACCP records. The AL5 code flashes on DISPLAY 1. (Fig.12).

(Fig.12)

The alarm cancels automatically when passing to the conservation phase and the HACCP symbol remains on.
Upon termination of the cycle the machine automatically proceeds to the conservation phase. see 7.3.8.
By pressing the △ key it is possible to display the duration of the blast chilling/shock freezing cycle just concluded.
To modify fan speed, see 7.3.6.

7.3.6. EVAPORATOR FAN SPEED SETTING

With the cycle started it is possible to modify fan speed by pressing the % PRECOOL key. The display will show the speed value as a percentage. Use △ or ▽ to set the new value (min 30% - max 100%) and then confirm using the % PRECOOL key.

7.3.7. CUSTOMISED BLAST CHILLING OR SHOCK FREEZING CYCLES "A" ,

It is possible to modify the blast chilling/shock freezing cycle:

- automatic "A",
- timed
- probe ,

customising them as required.
The blast chilling/shock freezing cycle is divided into three phases, each characterised by four sets, Of which the following values can be modified:

IN ORDER TO MODIFY THE DATA IN A NON-PERMANENT WAY

Press the relevant key / / (+3) / (-18) for extended time.
a- set cabinet temperature phase 1/2/3/4
The control displays (Fig.13):

(Fig.13)

SCREEN 1- modifiable cabinet temperature
SCREEN 2 - no signal (off)
SCREEN 3 – the phase number

The cabinet temperature symbol flashes. By pressing or the value of the set temperature is increased or decreased.

b- set % fan/cabinet rotation speed phase 1/2/3/4

By pressing or again, the number 100 appears. By pressing the or key the value of the set % value of the rotation speed of the cabinet fan/s increases or decreases.

c- set needle temperature phase 1/2/3

By pressing again, the needle symbol , By pressing the or key the value of the set needle temperature increases or decreases.

d- set duration phase 1/2/3

By pressing again, the clock symbol flashes. By pressing or the set time value increases or decreases.
Repeat the same procedure described for the successive phases 2 and 3.
Phase 4 of conservation only envisions setting the set temperature, % fan speed.

To confirm the settings of all the phases described, press the relevant key / / (+3) / (-18) for extended time.

Press the key to start the cycle.
At the end of the cycle the machine moves into conservation phase automatically, see 7.3.8.

By pressing the display shows the duration of the cycle just finished, and it can be memorised as described in ch. 7.3.9.

The new settings of the customised cycle will be lost when the machine is stopped using the .

See tecincal manual S _ _ = setpoint	BLAST CHILLING OR SHOCK FREEZING			CONSERVATION
	PHASE 1	PHASE 2	PHASE 3	PHASE 4
SET CABINET	S01	S04	S07	S10
SET FAN SPEED	S50	S51	S52	S53
SET CORE	S02	S05	S08	- -
SET TIME	S03	S06	S09	- -

IN ORDER TO MODIFY THE DATA IN PERMANENT WAY (see technical manual)

7.3.8. INDEFINITE TIME CYCLE WITH CABINET SET POINT SETTING

(Fig.14)

Press the key to exit any program. Press the key once again and DISPLAY 1 will show P0 and the clock symbol (Fig.14).

Select a blast chilling or shock freezing program using the appropriate keys +3°C soft or –18°C –18°C soft. DISPLAY 1 shows the infinity symbol 888 with the clock symbol , the type of blast chilling or shock freezing , the temperature symbol and **STOP** next to it.

(Fig.15)

DISPLAY 2 shows the default temperature of the selected cycle (Fig.15).

By pressing or it is possible to increase or decrease the cabinet set temperature value shown in. DISPLAY 2. To start or stop the machine press the key.

7.3.9. CONSERVATION PHASE

The machine proceeds to conservation phase when at the end of every blast chilling/shock freezing cycle.

DISPLAY 1 is off

DISPLAY 2 indicates the cabinet temperature (Fig.16).

(Fig.16)

The conservation symbol is on.

By pressing the key, the duration of the blast chilling/shock freezing cycle is displayed.

This phase is terminated by pressing the , key.

The machine sets itself on Stand-by and the user is asked whether the program is to be memorised or the key must be pressed again. Press the needle probe heating key to facilitate extraction of the probe from the product (after shock freezing).

The symbol lights up on the display

Heating takes place only if the temperature of the needle is less than -5ºC.

7.3.10. MEMORISING A BLAST CHILL/SHOCK FREEZE PROGRAMME.

(Fig.17)

Press the key when the machine is in conservation mode. DISPLAY 1 shows the number of the first free program. When the , key is pressed, the cycle is memorised and the control positions itself to re-start with a new cycle (Fig.17).

It is possible to cancel a memorised program by overwriting it with a new blast chilling/shock freezing cycle as follows: at the end of the cycle instead of memorising it on the first free program automatically selected by the system, use the or key and go to the number of the program to cancel and press the program key .

(Fig.18)

If the – – – symbols appear on DISPLAY 2 (Fig.18) next to the number, it means that there is no program memorized.

7.3.11. RECALL OF MEMORISED BLAST CHILLING/SHOCK FREEZING PROGRAM

(Fig.19)

To select a memorised blast chilling/shock freezing program, press the , key. By pressing the or key the memorised programmes are displayed in sequence. Press the ,key, to start the selected blast chilling/shock freezing program. If DISPLAY 2 (Fig.19) indicates the – – – symbols, it means that there are no programs memorised.

7.4. DEFROSTING

Defrosting takes place if the cabinet temperature is below parameter P57 (see technical manual).

(Fig.20)

To start a defrosting cycle press the key for extended time with the machine in **STOP** door open mode. DISPLAY 1 shows dEF and DISPLAY 2 the cabinet temperature (Fig.20).

7.5.a STERILISATION (optional)

Sterilisation can commence only if the temperature is above parameter P26 (see technical manual).

(Fig.21)

The cycle is activated with the machine in Stand-by by pressing the , key. The cycle ends when the key is pressed again. The symbol lit on the display, indicates that the sterilisation phase is in DISPLAY 1 shows the time to the end of the process. If the door is opened or a blackout occurs, process. sterilisation is interrupted (Fig.21).

7.5.b. WASHING (modelli specifici)

Press the key once to recall 'normal washing', twice for 'intermediate washing, three times for 'energetic washing'.

(Fig.22)

The codes UU1, UU2, UU3 will appear respectively on the display indicating the type of selected program (Fig.22). If the cabinet temperature is below P26 (see technical manual), the cycle cannot be started.

Press the key to start the washing cycle.

Every program selected will end with the drying phase; successively the appliance will go to blast chilling mode.

The door must never be opened during washing; if this should happen the cycle will only re-start when it has been closed.

If the water pressure in the supply network is below 0.5 bar the alarm message 'AL8' will appear. This will not allow any washing cycle to be started.

The cycle will interrupt if there is a power cut. After the black-out the washing cycle will start from the start of the phase where it was at the time of the interruption.

7.5.b.1 WASHING EMERGENCY STOP

To stop the washing cycle, simultaneously press keys during appliance functioning.

7.5.b.2 DETERGENT INSERTION TIME FOR WASHING

Parameter S67 (see technical manual) is fixed depending on an average water pressure of 0.3 bar: for higher pressures, the parameter will have to be decreased, increased in case of lower pressures.

7.6. PRINTER (optional)

If the printer is present, the following is recorded for every blast chill cycle: date, time, type of cycle, time elapsed from start of cycle and cabinet and core temperature sampled every 10 minutes.
For recording lower or higher than 10 minutes, change the parameter P44 (see tecincal manual).
Using parameter P86 (see technical manual) the language of the printer can be changed.

```
****HELLO****

03/03/2007                10:15
+3°C HARD

Time Ti  SP1 SP2 SP3 SP4

00:00 25   54  52  51  49
00:10  8   45  44  42  40
```

Time = time elapsed
Ti = **CABINET** temperature

SP1= MULTIPOINT NEEDLE PROBE SENSOR 1 ETC
SP2 = MULTIPOINT NEEDLE PROBE SENSOR 2 ETC
SP3 = MULTIPOINT NEEDLE PROBE SENSOR 3 ETC
SP4 = MULTIPOINT NEEDLE PROBE SENSOR 4 ETC

7.7. ALARMS/ERRORS

7.7.0. ALARM ABSENCE COMUNICATION BETWEEN BASE AND KEYBOARD

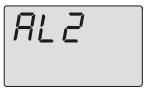
===> CONTACT ATER-SALES TECHNICAL ASSISTANCE

Verify connections, switch the machine on and off disconnecting the power supply

7.7.1. HIGH TEMPERATURE ALARM

During the positive (negative) conservation phase, the alarm intervenes when the cabinet temperature exceeds the set values.
Alarm code AL1 will flash on DISPLAY 1.
The buzzer sounds but can be stopped by pressing a key. When the temperature falls below the alarm threshold, the alarm is automatically cancelled.

7.7.2. LOW TEMPERATURE ALARM

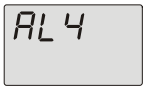


During the positive (negative) conservation phase, the alarm intervenes when the cabinet temperature exceeds the values set.
Alarm code AL2 will flash on DISPLAY 1.
The buzzer sounds, but can be stopped by pressing a key. When the temperature rises above the alarm threshold, the alarm is automatically cancelled.

7.7.3. DOOR OPEN ALARM

If the door is open for more than two minutes after the start of the blast chilling/shock freezing cycle, the compressor stops and the code AL3 will flash on DISPLAY 1.

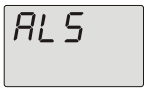
7.7.4. PRESSURE SWITCH/ELECTRIC ALARM



===> CONTACT AFTER-SALES TECHNICAL ASSISTANCE

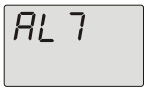
When the alarm AL4 is activated, the blast chilling cycles in progress will be immediately terminated.

7.7.5. TIME-OUT ALARM



If the blast chilling or shock freezing phase in progress do not terminate within the set time, alarm AL5 will flash on DISPLAY 1.

7.7.6. BLACKOUT ALARM



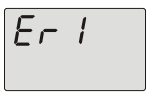
If a blackout occurs during a blast chill cycle, the machine remembers the cycle and phase it was performing when it switched off.
In cycles with needle probes, the machine also remembers which probes were inserted.
Blast chill time tolerance is 10 minutes.
Alarm AL7 will flash on DISPLAY 1.
The buzzer sounds but can be stopped by pressing a key. If the key is pressed again, the display disappears.

7.7.7. LOW PRESSURE WATER ALARM

If the water pressure in the supply network is below 0.5 bar the alarm message 'AL8' appears which will not allow any washing program to be sent.

7.7.8. CABINET PROBE ALARM

===> CONTACT TECHNICAL ASSISTANCE

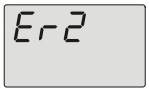


The cabinet probe measures the temperature of the cabinet, which is indicated on DISPLAY 2.
If the probe fault causes an alarm, the buzzer is and error code ER1 flashes on the DISPLAY 1.
The buzzer sounds, but can be stopped by pressing a key.
Once the fault is remedied, the alarm cancels automatically.

- If the cabinet probe is broken, it is nevertheless possible to start or continue a timed blast chilling program.
- A temperature blast chilling program not yet started, will switch-over the start to timed.
- A blast chilling program in progress if the needle probe is not inserted, switches-over with time. The compressor control is determined by the needle probe instead of by the cabinet probe.
- A blast chilling program in progress with the needle probe inserted switches the compressor on and off on the basis of previously memorized times in blast chilling or conservation modes.

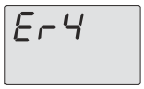
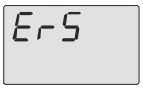
7.7.9. NEEDLE PROBE ALARM

===> CONTACT AFTER-SALES TECHNICAL ASSISTANCE



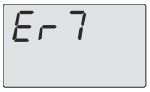
The needle probe is used for needle blast chilling cycles.
A fault in the needle probe causes an alarm only if a blast chilling cycle is in progress with core temperature control.
In this case the cycle automatically switches-over to time and the buzzer is activated.
Alarm code ER2 will flash on DISPLAY 1.
The buzzer sounds, but can be stopped by pressing a key.
The alarm code display disappears by pressing a key.

NEEDLE PROBE ALLARM:

1	2	3	4
			

7.7.10. EVAPORATOR PROBE ALARM

===> CONTACT TECHNICAL ASSISTANCE



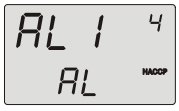
The probe allows termination of defrosting based on temperature.

Press and release the key, to see the temperature of the evaporator, which is shown on DISPLAY 2.
A faulty probe causes a probe alarm of the evaporator probe and the buzzer is activated. The error code ER7 flashes on the display.

7.8. HACCP

When the HACCP symbol flashes, it means that a new HACCP alarm has occurred.

In order to view the alarm, access HACCP alarm display by pressing the HACCP key .

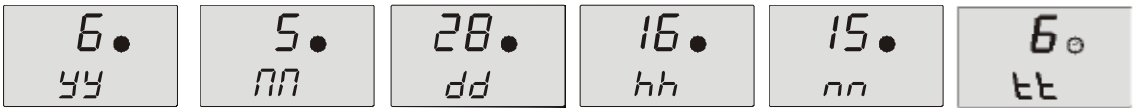


Display 1 indicates the alarm type 'AL1'
Display 2 indicates 'A L'
Display 3 indicates the position of alarm '4'
The HACCP symbol is on.
If the alarm is for High/Low temperature, the thermometer symbol is on.

If the alarm is for Time-Out or Blackout, the clock symbol is on.
The illustration indicates that the last alarm was due to high temperature and 4 is the position in the alarm memory. 10 HACCP alarms can be memorised and allocated to positions from 0 to 9.
The UP and DOWN buttons can be used to scroll through the memorised alarms.

By pressing the HACCP key, access the display of the alarm start date:
Display 1 indicates the day on which alarm '15' started
Display 2 indicates 'dd'
Display 3 indicates the alarm number '4'

By pressing the or key the day and time can be seen:



"tt" max=999

If the alarm is for low or high temperature, the display after the date is the minimum or maximum temperature reached:
Display1 indicates maximum temperature '-10'
Display2 indicates 'H t' or 'L t"

Press the key to exit from the alarm start date display and return to alarms display.

The memorised HACCP alarms are:
- High temperature alarm in conservation phase
- Blast chilling cycle time-out alarm
- Low temperature alarm in conservation phase
- Blackout alarms

Press the key to exit the HACCP menu.

Once the HACCP alarm has been displayed, the **HACCP** symbol no longer flashes and remains off until a new HACCP alarm occurs.

7.8.1 HACCP ALARM RE-SET

It is possible to cancel HACCP alarms memory:

- Switch control board off using the key.
- Press simultaneously the and keys simultaneously for extended time.
- 'RES HACCP' appears on the display.
- Press the and keys simultaneously for extended time.