Friginox S.A.S. au capital de 2 091 165 € - 89330 VILLEVALLIER FRANCE
RCS Sens B 778 151 241 - SIRET 778 151 241 000 16 - APE 2825Z
Tel 33 (0)3.86.91.10.58 - Fax 33 (0)3.86.91.10.15
E-mail: export@friginox.com - Internet: www.friginox.com

INSTRUCTION - MAINTENANCE - INSTALLATION MANUAL
Touch Screen 7 blast Chiller / Freezers

Multi-function Blast Chiller / Freezers	MX TS7 SXP TS7
Blast Chilling / Freezing UltraCompact Multi-function Modules	UMX TS7 USXP TS7
Blast Chilling / Freezing Multi-function Refrigeration Systems	EF TS7

EQUIPMENT SERIAL NUMBER

(required for After-Sales Service)

Thank you for choosing **FRIGINOX** Multi-function equipment. We thank you for your confidence and hope that it meets your expectations.

This manual is issued specifically for your equipment. It contains instructions detailed for installation, use and maintenance of this equipment.

To use it in an optimal way, we advise you TO READ CAREFULLY THESE INSTRUCTIONS and to respect them throughout the life of the equipment. Keep this manual to hand so that you can refer to it at any time. Ensure that it is complete and kept close to the equipment. It should be provided to the maintenance engineer whenever called on to work on the equipment.

This manual must not be reproduced in any form whatsoever without the prior written approval of **FRIGINOX**, who cannot be held responsible for any use of the information contained in this manual.

As we want you to take advantage of the most of the latest technology and new equipment, as well as to benefit from our experience, our equipment may undergo technical or design changes. As a result, some of the features and information in this manual may change without prior notice and without any obligation to up-date it.

Pictures of this document are not contractual.

FRIGINOX reserves the right to make any design or technical changes to its equipment or range of equipment at any time.

Any operations or work other than those described in this manual may interfere with the proper operation of the equipment or even result in a risk for your safety and the safety of the consumers.

Should you encounter any problems or have any questions about your equipment, please do not hesitate to contact the **FRIGINOX** after-sales service.

Note the following information of the identification plate before calling us:

- ***model and type,***
- ***serial number,***
- ***date.***

REQUEST FOR ADDITIONAL MANUAL

Instruction - maintenance - installation manual
Touch Screen 7 blast chiller / freezers
Quantity: .....

Equipment technical data sheet
Model: .....

Company: .....

Address: .....

.....

Mr .....

FRIGINOX
LE FROID PROFESSIONNEL

Siège social et usine
89330 VILLEVALLIER
export@friginox.com
Fax: +33.(0)3.86.91.10.15

Guarantee card to be kept by the fitter

INFORMATION ON THE EQUIPMENT

Model: Serial No: Date:

Board No: Compressor No:

USER'S NAME AND ADDRESS

_____

_____

_____

SPECIFIC FEATURES

_____

_____

_____

LIST OF INTERVENTIONS

DATE	REASON	PARTS REPLACED

WARNING

SAFETY WARNING RELATED TO THE REFRIGERANT IN BLAST CHILLER / FREEZERS ON FEET

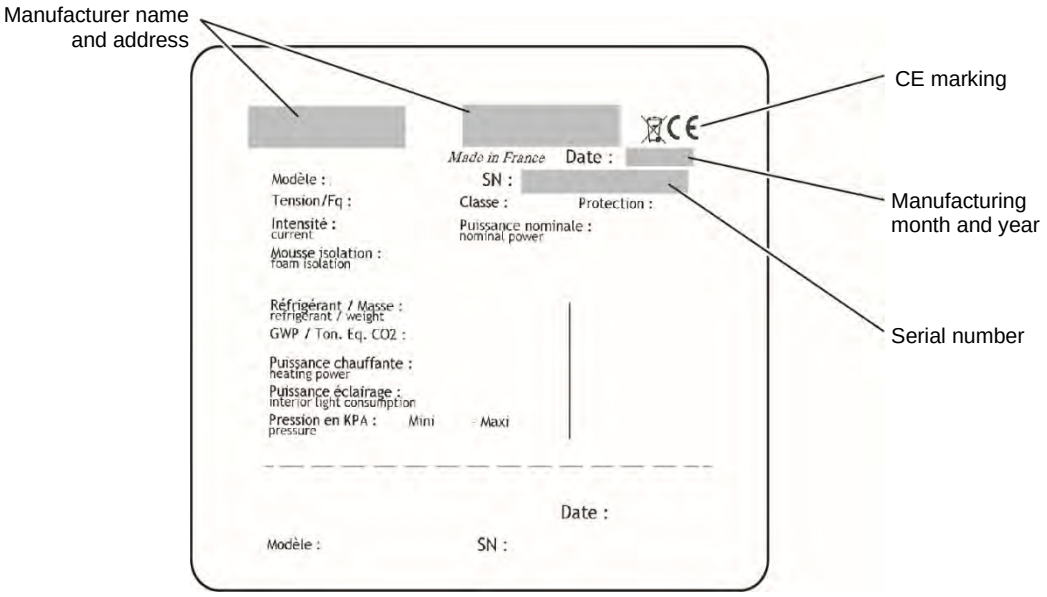
- **The refrigerant loaded in the condensing unit is a flammable fluid.**
- **Make sure that all the operators and users know the equipment is loaded with a flammable fluid and that the procedures are observed in accordance with this manual.**
- **If a leak is suspected or the refrigeration circuit was damaged, switch off the blast chiller / freezer, ventilate and evacuate the area: contact a technician qualified to work with flammable fluids. Do not remove the plug from the socket as this could create a source of ignition by sparks.**
- **Never block the ventilation holes around the condensing unit, at the cover and inside the enclosure.**
- **Do not handle naked flames, ignition sources or electrical appliances inside compartments meant to store food.**
- **Do not use mechanical devices or other means to speed up the defrosting process other than those recommended by the manufacturer.**
- **Do not store explosive materials or sprays containing flammable gas in this equipment.**
- **This equipment may only be repaired by a qualified technician trained in flammable fluids.**

WARNING

- **Our equipment are designed and manufactured in accordance with local safety regulations, and in particular European directives relative to reconciling member states' legislation:**
  - **2004/108/EC "Electromagnetic compatibility",**
  - **2006/95/EC "Electrical equipment low voltage".**
- **A blast chilling / freezing equipment is designed especially for blast chilling and freezing of foodstuffs while meeting the health and safety standards in force. We may not be held responsible in the event of accident or of degradation caused by an equipment we manufacture of which the use was diverted of that for which it is intended.**
- **Equipment is for professional use and must be used and maintained by competent personnel who are regularly trained for this type of equipment. They must only be installed and connected up by a qualified installer, in compliance with the rules and standards in force.**
- **May we however draw your attention to the fact that we can in no way be held responsible:**
  - **if any technical alterations are made to our equipment without our written authorisation,**
  - **for any damage to our equipment if hydrochloric acid or other aggressive products are used in the premises where they are kept, whether during installation or when used thereafter.**
- **The safety instructions given in this manual are merely given for guidance purposes to protect you and all those using and working on our equipment. FRIGINOX cannot foresee all dangerous situations that might arise. This is why the owner and/or the operator is responsible for the operating safety of the equipment.**
- **This equipment is not designed for use by people (including children) whose physical, sensorial or mental capacities are impaired or by people with no experience or knowledge, unless they have been supervised or given training in the use of the equipment beforehand by a person responsible for their safety.**
- **Blast chiller / freezers on feet must be installed in access category b (Supervised access) or c (Reserved access) as defined in table 4 of Standard NF EN 378-1. They must not be installed in access category a (General access).**
- **Equipment containing refrigerant:**
  - **the equipment must only be installed and connected up by a qualified installer, in compliance with the rules and standards in force,**
  - **the sealing of the refrigeration circuit must be checked when switching on the equipment and at least every year,**
  - **the refrigeration circuits and work on these circuits are covered by specific regulations according to the country.**

REGULATION MARKING

The identification plate is located inside the equipment.



RECYCLING AT THE END OF SERVICE LIFE

FRIGINOX equipment is designed to last long. When an equipment is not economical to use/repair any more, you can disassemble it and recycle most of the components.

For the disposal of this professional electrical equipment at the end of its service life, you must comply with local regulations.

READ THE SAFETY WARNING RELATED TO THE REFRIGERANT CAREFULLY

PRESENTATION

The description of your equipment and also its technical specifications (dimensions, consumption, capacity, electrical rating, chilling capacity, etc.) are given in the technical data sheet.

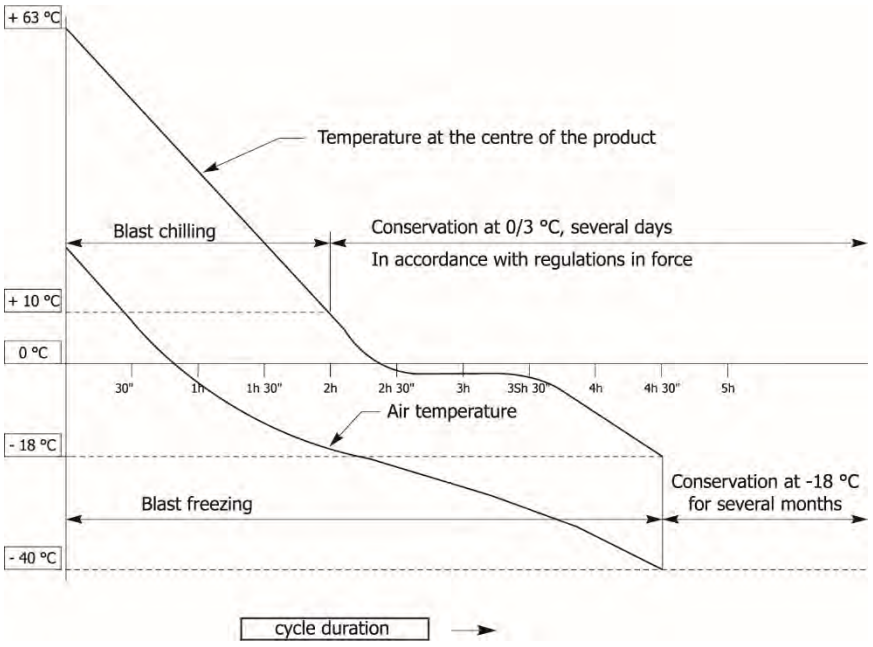
CONTENTS

DEFINITION OF THE SCOPE OF USE OF THE CHILLING AND FREEZING FUNCTIONS

WARNING

- This equipment is not intended for the storage of foodstuffs. It is not a conservation cabinet. Do not use the equipment for regular operation during the night or for product maintaining of temperature for long periods. Using this equipment for the storage of foodstuffs may result in damage to the compressor.
- The combined blast chiller / freezers are designed to freeze products. However, for blast freezing, please do not exceed the maximum recommended capacity for your equipment.
- Monitor the operation of the equipment. When a malfunction develops, turn the equipment off and call the after-sales engineer. Never use equipment which is malfunctioning as this may damage the components.

An abnormally low or high temperature in the premises can affect the equipment performance.



Theoretical temperature drop graph

Cooked dishes can be prepared in advance if their production observes a series of rules and in particular if blast chilling takes place immediately after cooking under the following conditions:

- blast chilling: from +63 °C to +10 °C core temperature of the product in less than 2 hours, then conservation at +3 °C,
- blast freezing: from +63 °C to -18 °C core temperature of the product in less than 4 hours and 30 minutes, then conservation at -18 °C. Conservation might be up to several months.

Temperatures and durations may vary depending on the country's regulations.

Blast chiller / freezers are intended to provide blast chilling or freezing of products. It is an essential link in the refrigeration chain. Blast freezers can also be used for products other than cooked dishes such as Viennese pastries, pastries, meat or raw fish (observing legislation in force).

RECOMMENDATIONS FOR USE IN CHILLING AND FREEZING

Load the equipment in a single go. Loading bit by bit does not allow the temperature to be controlled for all the products and by increasing the temperature of the products already in the equipment, one increases the sanitation risk considerably. Therefore, do not open the equipment door during cycle.

Reach-in blast Chiller / Freezers maximum capacities

	Blast chilling from +65 °C to +10 °C core (1)		Blast freezing from +65 °C to -18 °C core (1)	Blast freezing from +20 °C to -18 °C core (2)	Max. number of levels depending on specified space between levels
	Max. 5 kg per level in max. 2 h (kg/cycle)	Max. 5 kg per level in max. 90 min (kg/cycle)	Max. 5 kg per level in max. 4 h 30 (kg/cycle)	(kg/h)	
Blast Chiller / Freezers (GN 1/1)					
MX 20-10 A V2 R455A TS7	20	12	10		5 (64 mm)
MX 20-10 A ENC V2 R455A TS7	20	12	10		5 (64 mm)
MX 30-15 A V2 R455A TS7	30	20	15		10 (70 mm)
MX 45-20 A V2 R455A TS7	45	27	20		10 (70 mm)
MX 55-20 A V2 R455A TS7	55	30	20		15 (70 mm)
MX 75-35 A V2 R455A TS7	75	50	35		15 (70 mm)
MX 85-40 A V2 R455A TS7	85	50	40		21 (66 mm)
Pastry Blast Freezers (600 x 400)					
SXP 7P A V2 R455A TS7				3	9 (32 mm)
SXP 19 A V2 R455A TS7				4.5	19 (35 mm)
SXP 19P A V2 R455A TS7				6	19 (35 mm)
SXP 30 A V2 R455A TS7				9	30 (35 mm)
SXP 43 A V2 R455A TS7				14	43 (33 mm)

(1) GN 1/1 stainless steel tray, height 40 mm, with 5 kg of mashed potatoes.

Cooling and freezing capacities may vary from the above tables under actual conditions of use depending on the type of product, its thickness, the type of packaging (sealed or unsealed) and the mass of product in the packaging, the quantity of products in the appliance, the type of trolley, etc...

(2) Unproved 55 g Danish pastries.

Blast Chiller / Freezers for combined oven loaders and trolleys maximum capacities

	Blast chilling from +65 °C to +10 °C core (1)		Blast freezing from +65 °C to -18 °C core (1)	Blast freezing from +20 °C to -18 °C core	Number of GN 1/1 trolleys
	Max. 5 kg per level in max. 2 h (kg/cycle)	Max. 5 kg per level in max. 90 min (kg/cycle)	Max. 5 kg per level in max. 4 h 30 (kg/cycle)	(kg/h)	
Blast Chiller / Freezers (GN 1/1)					
MX 65c A V2 R455A TS7	85	50	40 (2)		*

* For 1 trolley, GN1/1, 20 levels (not supplied) of combined ROSINOX Grandes Cuisines Eloma system ovens, Rational (Frima), Küpperbusch, Convotherm, Electrolux, Hounö, Lainox and Metos. Depending on configuration.

(1) GN 1/1 stainless steel tray, height 40 mm, with 5 kg of mashed potatoes.
Cooling and freezing capacities may vary from the above tables under actual conditions of use depending on the type of product, its thickness, the type of packaging (sealed or unsealed) and the mass of product in the packaging, the quantity of products in the appliance, the type of trolley, etc...

(2) With option Combined operation only.

Roll-in Blast Chiller / Freezers maximum capacities

	from +63 °C to +10 °C 110 min	from +63 °C to +10 °C 85 min	from +63 °C to -18 °C 4 h 30 min	Number of GN 1/1 trolleys
Blast Chiller / Freezers (GN 1/1)				
UMX 1A GLS TS7-2	80 kg	70 kg	30 kg (1)	1
UMX 1SX TS7-2	110 kg	80 kg	50 kg (1)	1
MX 1A GLS TS7-2	80 kg	70 kg	30 kg (1)	1
MX 1SX TS7-2	110 kg	80 kg	50 kg (1)	1
MX 1LA TS7-2	80 kg	70 kg	30 kg (1)	1
MX 1LSX TS7-2	110 kg	80 kg	50 kg (1)	1
MX 2S TS7-2 / MX 27S TS7-2 / MX 29S TS7-2	160 kg	130 kg	80 kg (1)	2
MX 2SX TS7-2 / MX 27SX TS7-2 / MX 29SX TS7-2	220 kg	160 kg	100 kg (1)	2
MX 29SX TWIN TS7-2	220 kg	160 kg	100 kg (1)	2
MX 3S TS7-2	240 kg	210 kg	110 kg (1)	3
MX 3SX TS7-2	330 kg	240 kg	140 kg (1)	3
MX 4S TS7-2	320 kg	280 kg	150 kg (1)	4
MX 4SX TS7-2	400 kg	320 kg	180 kg (1)	4
MX 4SX TWIN TS7-2	440 kg	320 kg	180 kg (1)	4
MX 6SX TS7-2	400 kg	320 kg	130 kg (1)	6
MX 6SX TWIN TS7-2	640 kg	480 kg	280 kg (1)	6
Pastry Blast Freezers (600 x 400)				
USXP 1cA GLS TS7-2	/	/	17 kg	1*
USXP 1cS TS7-2	/	/	30 kg	1*
SXP 1cA GLS TS7-2	/	/	17 kg	1**
SXP 1cS TS7-2	/	/	30 kg	1**
SXP 1LcA TS7-2	/	/	17 kg	1**
SXP 1LcS TS7-2	/	/	30 kg	1**
SXP 2cS TS7-2 / SXP 27cS TS7-2 / SXP 29cS TS7-2	/	/	60 kg	2***
SXP 3cS TS7-2	/	/	100 kg	2
SXP 4cS TS7-2	/	/	120 kg	2
SXP 6cS TS7-2	/	/	180 kg	4

* Ladder type trolley, 600 x 400, special UltraCompact.

** Blast freezing of uncooked shaped 250 g French sticks, from +20 °C to -18 °C, 600 x 400 mm trolleys instead of GN 1/1.

*** Ladder type trolley, 600 x 400, without rubber stop in the edges.

(1) With option Combined operation only.

The capacities are stated according to the AFNOR ACD40-003 agreement “INSTITUTIONAL CATERING EQUIPMENT - REFRIGERATION EQUIPMENT - GENERAL DESIGN AND PRODUCTION RULES ...”, with 1.8 kg of mashed potato per sealed GN 1/2 tray, and two GN 1/2 trays per GN 1/1 format.

The chilling and freezing capacities may vary relative to the above-mentioned tables in real life conditions according to the type of product, its thickness, type of packaging (with membrane seal or not) and the weight of the product in the packaging, the quantity of products in the equipment, the type of trolley, etc.

The maximum load for blast chilling and blast freezing is 3.6 kg per level for roll-in blast chiller / freezers in GN 1/1 format (530 x 325 mm), 7.2 kg per level for roll-in blast chiller / freezers in GN 2/1 format (650 x 530 mm) and 1.75 kg per level for roll-in blast chiller / freezers of bakery / pastry products (600 x 400 mm). A level is a stainless steel wire tray.

Roll-in blast chiller / freezers can accept a large number of standard and oven trolleys. Please refer to the technical data sheet of the equipment for further details.

Product thickness

The products are to be distributed in the containers immediately after they are cooked. It is accepted that, on such packaging, the core temperature of the products is higher than 63 °C.

Loose pieces of products should be spread out evenly in the base of the container, in a single layer without overlapping.

Important! The nature and the thickness of the product have an impact on the chilling duration. In order to be able to observe the time imposed by legislation, it is essential that a thickness of 30 mm is not exceeded.

Product coverage

In order to reduce the risks of contamination and the formation of ice on the evaporator, it is recommended that the products are covered whenever this is possible. For this, use stretch film or a lid.

However, certain very thick (example: beef roasts) or voluminous (example: whole chicken) products must be free of any cover in order to observe the chilling time required by the regulations. If necessary, they should be processed on stainless steel grids so as to present a maximum surface in contact with the air.

Whether the products are covered or not has a significant impact on the chilling and freezing times.

Important! Always monitor these times and cover the products or not, according to the results.

Dishes to be used

The best results are obtained by using stainless steel or aluminium dishes. Never use polycarbonate containers.

The use of slatted plastic crates increases the chilling and freezing times. Adjust the loading of the equipment and crates and/or use crates with bigger slats in accordance with the times obtained.

Loading the equipment

In order to ensure optimum chilling or freezing, make sure that the air is properly distributed over the products.

Always load the equipment by grouping the levels used at mid-height (in the middle).

Leave a minimum space of 30 mm for the air to circulate between the product and the upper level.

Trolleys should be placed in the geometric centre of the blast chiller / freezer loading area.

Products can be loaded as soon as cooking has finished, at temperatures greater than 63 °C.

Do not open the door more than 105° for equipment fitted with a door pivot. Exceeding that value may result in damage to the door pivot, which is not covered by the guarantee.

Trolleys to be used

CHECK THAT THE DIMENSIONS OF THE TROLLEY FIT INTO THE BLAST CHILLER / FREEZER.

The minimum space between levels is determined according to the height of the containers used, plus the minimum clearance specified above. Account for the swelling of sealing membranes which increases the height of the recipient.

Food probe: Frigiprobe

Place the Frigiprobe in a typical product with a combination of the following most unfavourable specifications:

- sealed tray,
- big-sized tray,
- thickest product, in pieces and the most hot,
- smallest clearance between 2 levels.

In the event of products with homogeneous specifications, place the Frigiprobe in a tray, container or product located at mid height in the equipment.

The probe is fitted with 3 independent temperature sensors, distributed over the tip of the probe. The first 75 millimetres of the probe should therefore be placed in the centre of the product. The electronic board will detect the warmest sensor as being the core temperature.

Important! Never run in Frigiprobe mode if the probe is not inserted in a product.

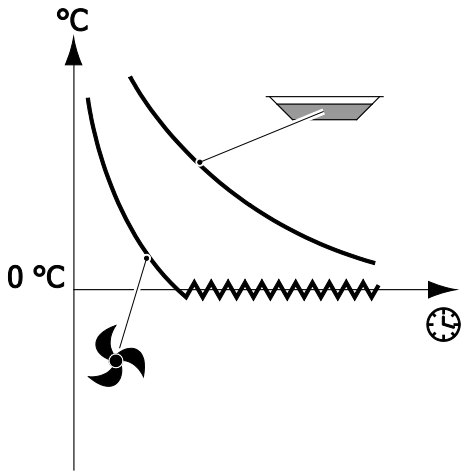
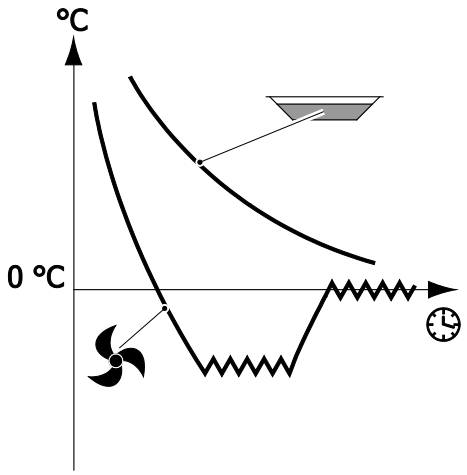
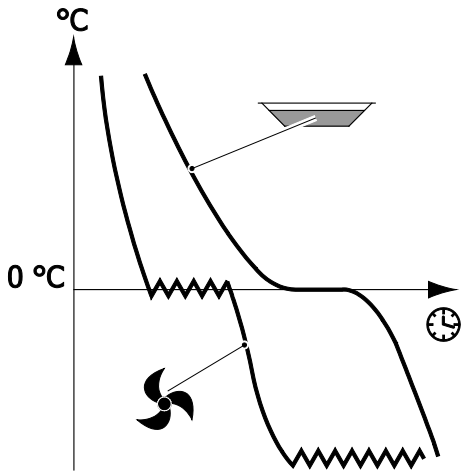
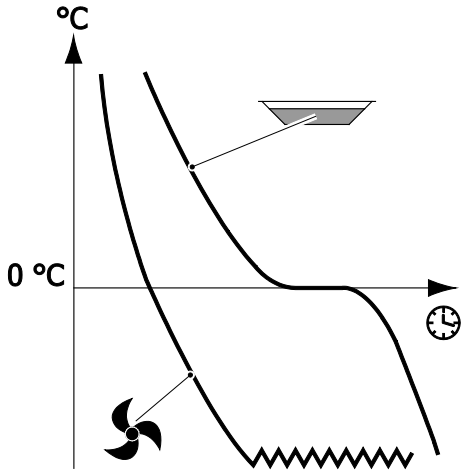
For delicate products or products which are too small to accept the Frigiprobe, use the Timer mode. Firstly carry out a few tests with the Frigiprobe so as to determine the duration setting.

Take care to handle the Frigiprobe by its stainless steel body, never by the wires. There is a risk of damaging the Frigiprobe. The destruction is not covered by the guarantee.

Always place the Frigiprobe on its support. There is a risk of damaging it on closing the door or by the trolleys. The destruction is not covered by the guarantee.

In order to release the Frigiprobe from the frozen product, gently quarter turn the probe or use the food probe heating function (option).

Main cycles available

	SOFT For delicate or thin-cut products Easy to cool down products.	**HARD** For all kind of products, big size, packaged, thick Difficult to cool down products.
CHILLING		
FREEZING		

START-UP

SAFETY

- Use protective gloves for handling the grids, containers or trolleys: hot on loading and cold on unloading.
- Be careful of your hands when loading the trolley in the equipment.
- The Frigiprobe food probe has a sharp end. Handle the Frigiprobe with care and only to measure the temperature of products placed in the equipment. When it is not being used, the Frigiprobe should be placed on its support.
- Clean and disinfect the Frigiprobe before each use.

Do not leave hot products in the equipment without switching it on. Switch the equipment on immediately after loading the products.

Make sure that the total product weight does not exceed the equipment capacity.

Important! For combined models, the capacity of the equipment differs between chilling and freezing modes. The freezing capacity is approximately 50 % less than the chilling capacity, refer to the "Blast chiller / freezers maximum capacities" paragraphs.

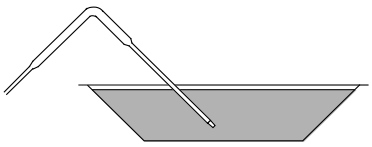
The temperatures are displayed in °C at the factory values. It is possible to change to °F using the parameters.

Loading

Load the products all at the same time. There is no need to pre-cool the blast chiller / freezer.

Insert the Frigiprobe into the product and close the equipment door.

Refer to the "Recommendations for use" chapter.

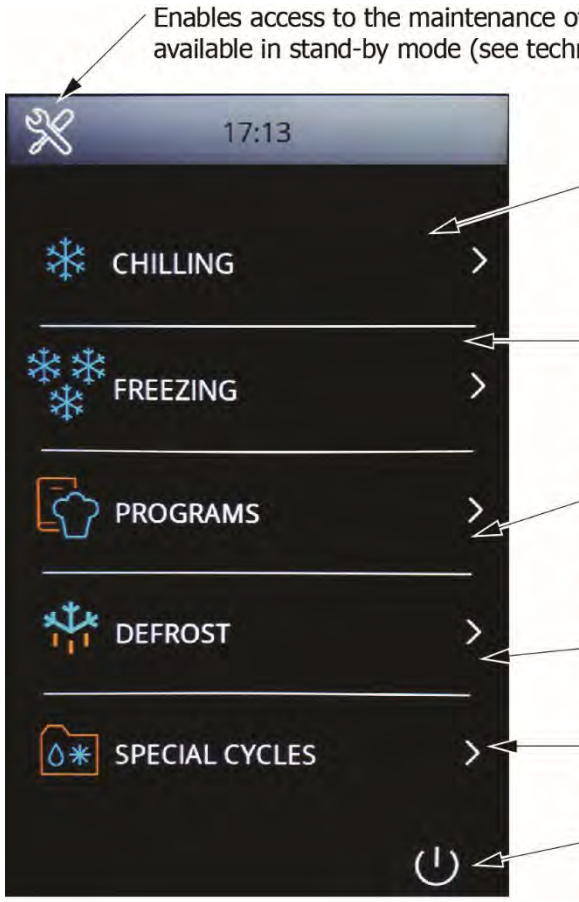


Start-up the equipment

On power up, the equipment will display either:

- the stand-by screen: you must press the logo to switch to the home screen,
- home screen,
- a screen confirming a cycle in progress that was interrupted by the power off without having been stopped beforehand.

HOME SCREEN



Enables access to the maintenance of the equipment. This key is also available in stand-by mode (see technical manual).

CHILLING:
Immediate start of a standard blast chill in Frigiprobe mode, HARD intensity can be changed during the 1st minute of the cycle in progress.

FREEZING:
Immediate start of a standard blast freeze in Timer mode, HARD intensity, can be changed during the 1st minute of the cycle in progress.

PROGRAMS:
Access to the list of up to 40 user-saved programs for direct start of a customized blast Chilling or Freezing cycle.

DEFROST:
Manual start of defrost.

SPECIAL CYCLES:
Access to different special cycles and options.

Enables you to put the equipment in stand-by mode, or to wake up the equipment from stand-by mode.

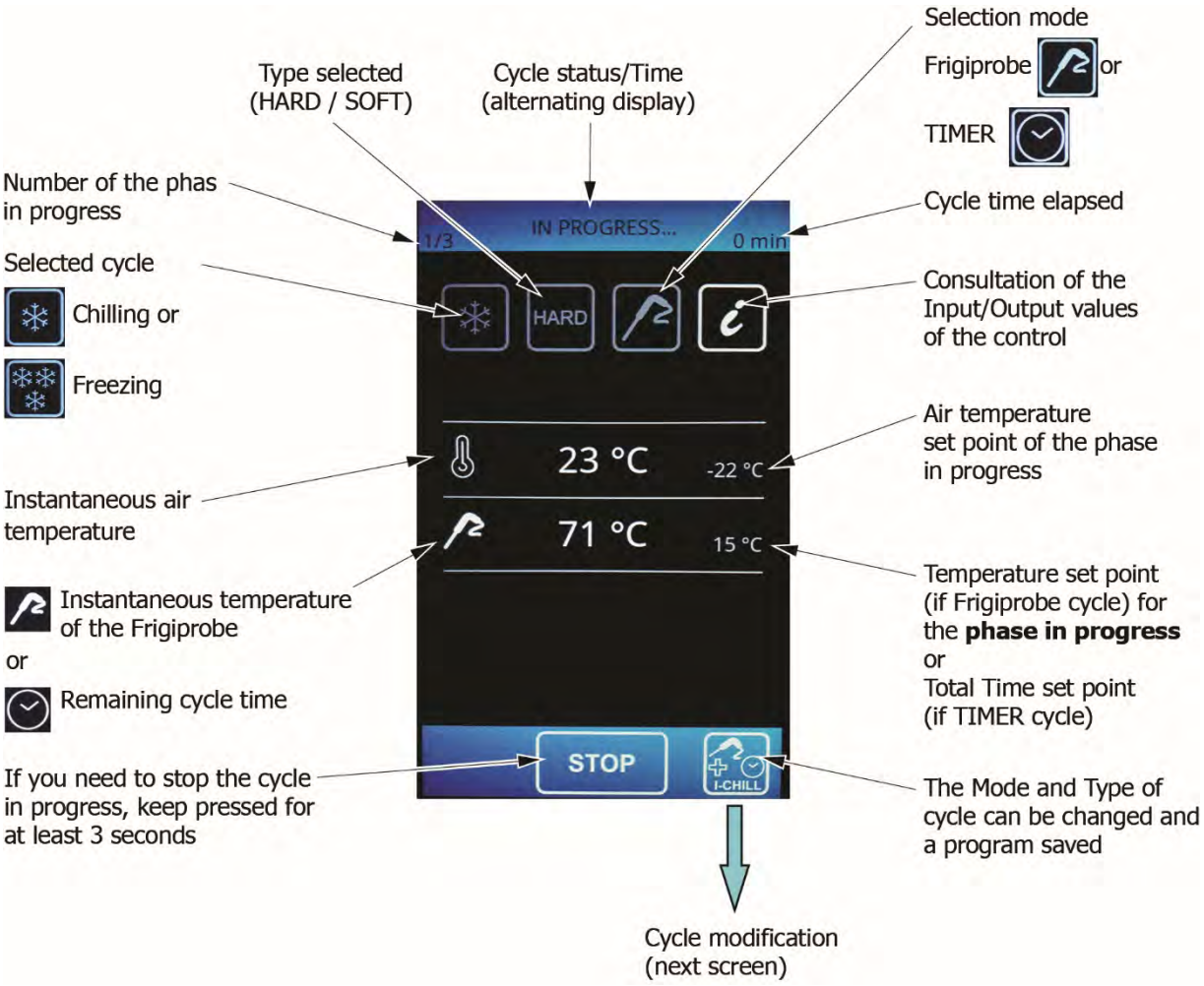
CHILLING OR FREEZING

Here is an example of Chilling.

CYCLE IN PROGRESS

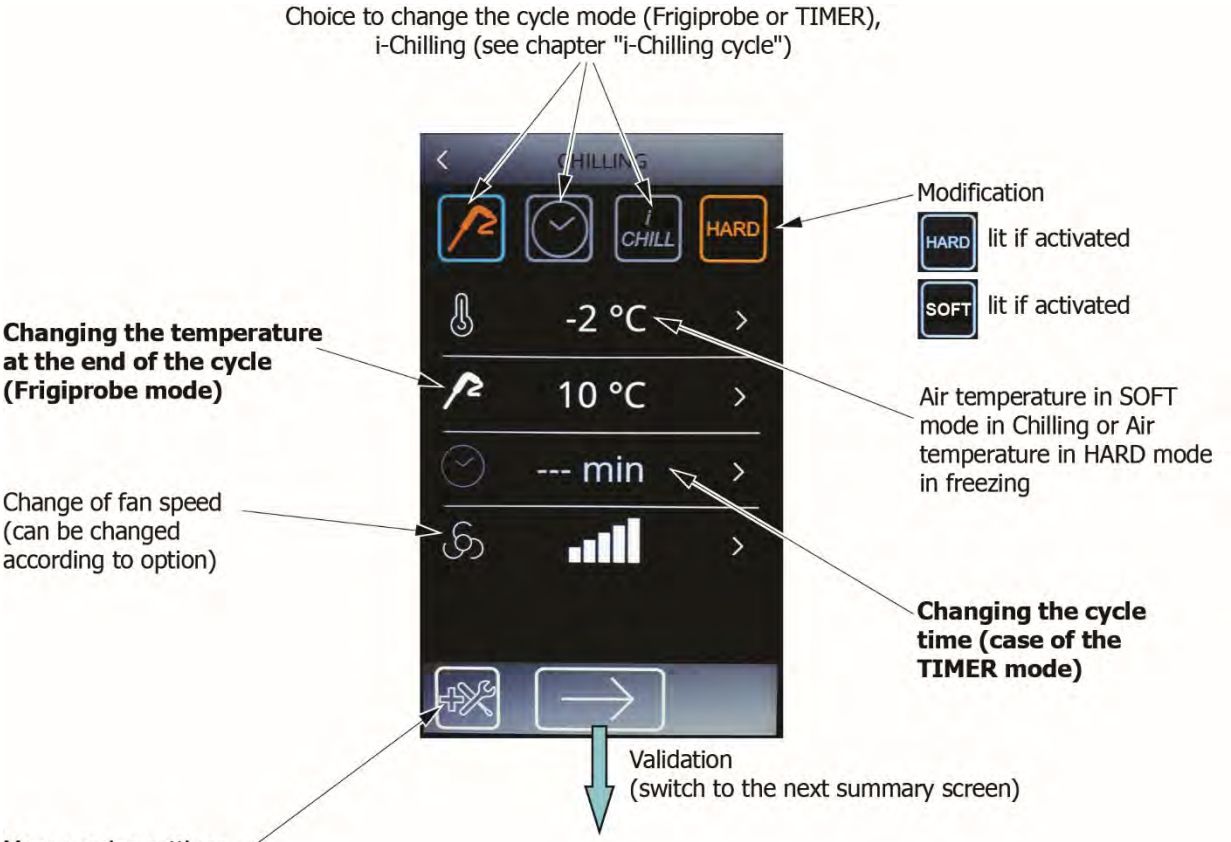
Close the door before starting a cycle.

- In CHILLING, the start cycle is automatically HARD CHILLING in Frigiprobe mode for an end of cycle core temperature at 10°C.
- In FREEZING, the start cycle is automatically HARD FREEZING in TIMER mode for 270 minutes. A value can be changed by pressing it and changing it with the and buttons or by using the cursor located between the 2 buttons, then confirming by pressing the changed value again.



CHANGING A CYCLE

With the  button it is possible to go further for special requirements, see screen below.
This button is only accessible for the first minute of the cycle and then deactivates for the rest of the cycle.



i-Chilling cycle

This equipment has many technical innovations including self-adapting intelligent chilling. In blast chilling cycle with Frigiprobe, this control algorithm developed by **FRIGINOX** automatically determines the least cold air temperature possible so as not to exceed the pre-set maximum duration for the cycle. Thus a modulation in the “cold rating” is made on each chilling cycle with the Frigiprobe with no action from the user, whatever the type of product, its thickness, the packaging and the product weight in the equipment. The air temperature low limitation during the chilling cycle with the Frigiprobe will thus be different on each cycle so as to adapt to each situation.

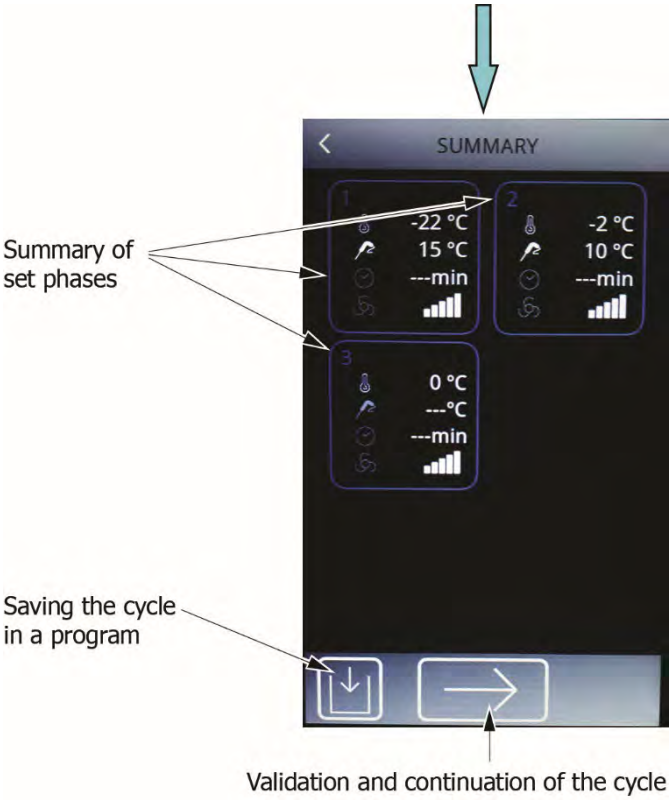
The start and end of cycle core temperature values, together with the maximum duration between the start and the end of cycle are parameters for the electronic control which can be changed. They should be set to the values specified by the regulations in force or in accordance with the user’s organisation requirements. Ask your installer to make these adjustments.

Important! The self-adapting intelligent chilling does not avoid the need to observe scrupulously the recommendations for use. Operation with products which are difficult to cool (very thick products, for example) and a reduced cycle maximum duration will not mean surface freezing of the product is prevented.

Important! Do not open the door during the cycle as this will seriously disrupt the operation of the algorithm.

It is not possible to change set points when cycle in progress.

Summary of the cycle



In the example opposite we have a summary screen of the cycle:

- phase 1: HARD chilling from -22 °C to 15 °C core temperature.
- phase 2: SOFT chilling from -2 °C to 10 °C core temperature.
- phase 3: Maintaining the lowest air temperature at 0 °C.

Creating a program

In order to be able to reuse a customized or modified cycle, it is possible to create a program that saves this cycle.

This is possible in:

- CHILLING,
- FREEZING,
- a PERSONALIZED CYCLE.

To do this, from the SUMMARY screen (see previous paragraph):

- press the button, the program list screen is displayed.
- Choose an empty location (---), a numeric keypad appears. If you choose a location already taken, the new program will overwrite the old one.
- Give your new program a suitable name using the numeric keypad.
- Validate with the button.

END OF CYCLE

A 30 second ringing indicates the end of cycle. To stop the audible signal before its automatic stop, press the screen.

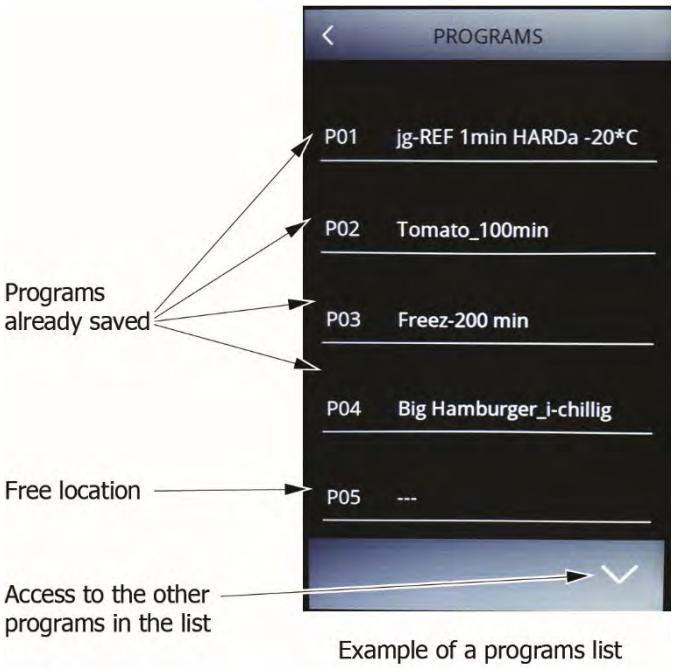
From this moment, the equipment automatically maintains the conservation temperature depending on the type of cycle which has just been carried out (Chilling or Freezing). The display turns green and the maintaining phase is indicated at the top of the display ("CONSERVATION").

During maintaining, the compressor and evaporator fan are automatically switched on and off by the controller, for temperature control and safe run of components.

To stop the maintaining, press the STOP button for at least 3 seconds. The motors will stop and the screen will return to the HOME SCREEN.

PROGRAMS

PROGRAMS SCREEN (Starting a program)



Example of a programs list

The screen displays the list of programs saved as shown in the example screen opposite.

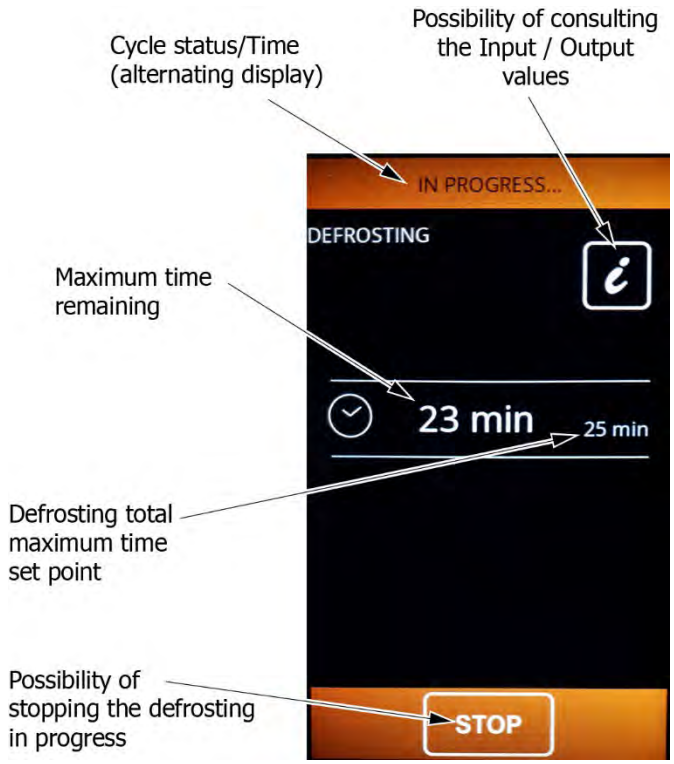
Pressing one of the programs starts the cycle directly.

CREATING A PROGRAMME

To create a program, refer to the chapter **CHILLING OR FREEZING → CHANGING A CYCLE → Creating a program**.

DEFROST

A confirmation screen appears. Press the START button to start defrosting.



A screen like the one shown here will appear and defrosting will begin.

The defrosting cycle will stop automatically and return to the HOME SCREEN.

Defrosting takes at least 10 minutes. It may stop before the maximum time if the evaporator temperature is high enough.

To maintain optimum performance of the equipment regardless of the conditions of use, defrosting should be performed after every cycle. Not defrosting increases the chilling or freezing duration.

Defrosting should be carried out:
- with no products in the equipment,
- with the DOOR OPEN for equipment without electrical defrosting, using the fan and ambient air,
- with the DOOR CLOSED for equipment with electrical defrosting, using the fan and the heating resistances. Refer to the identification plate.

A defrosting must be carried out every evening (before cleaning) or every morning (before first use).

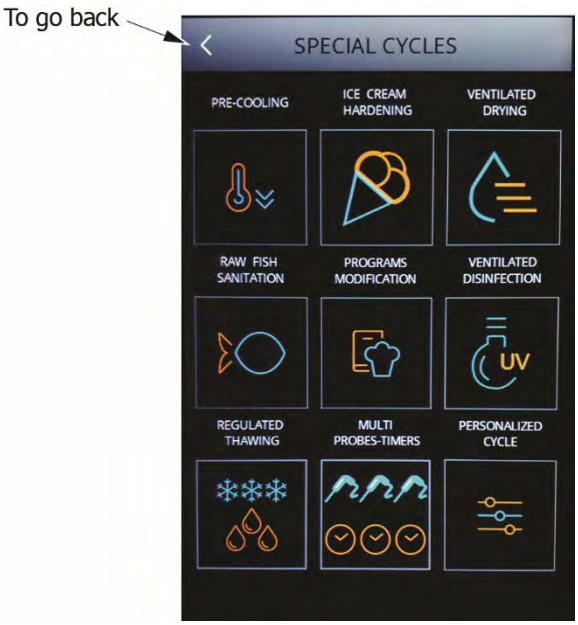
Do not manually stop the defrosting process when in progress.

Once the defrosting is finished, evacuate any water on the floor of the equipment to the floor trap or the duct located nearby.

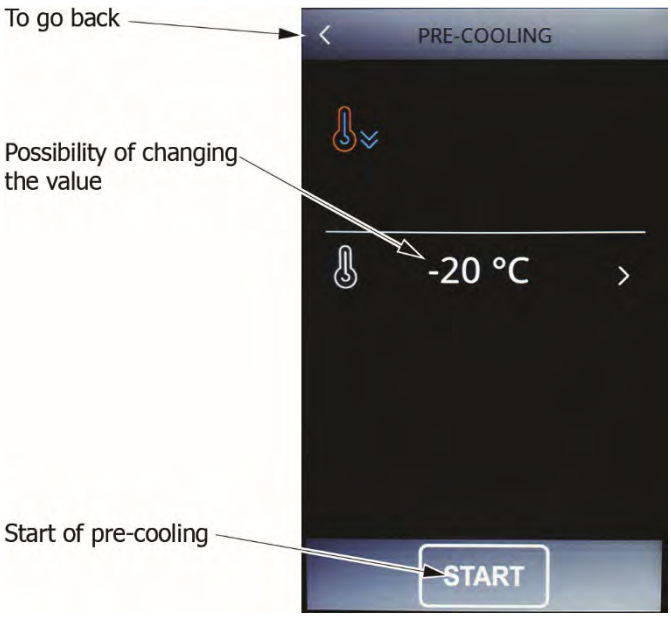
Important! Do not use defrosting cycle for thawing foodstuffs.

SPECIAL CYCLES

Some functions depend on the model or options. Press one of the buttons to access the function.



PRE-COOLING



By pressing the temperature, it is possible to vary the requested set point with the — and + buttons, or by using the cursor located between the 2 buttons, then confirming by pressing the new value.

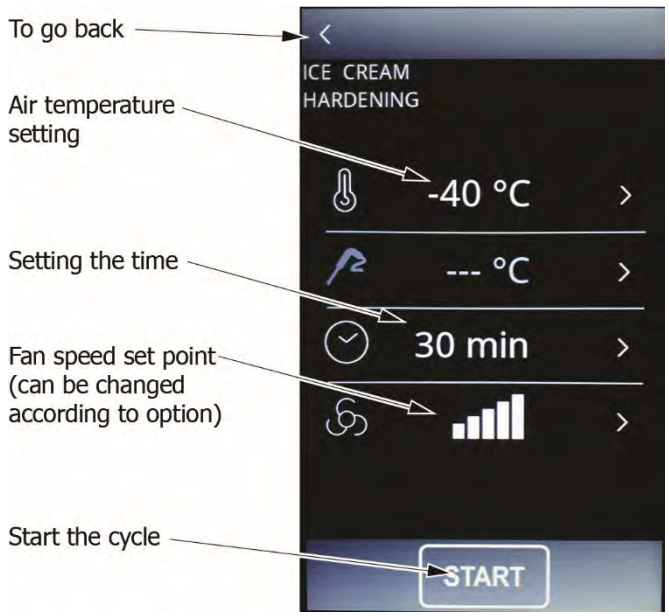
In the case of chilling-only models, no freezing is possible. A set point that is too low may not be achievable.

At any time, once pre-cooling has started, the user can stop the function by pressing the STOP button for at least 3 seconds.
When the inside temperature reaches the set point, the buzzer sounds and the display indicates that the equipment is "ready".

Pre-cooling cools down the equipment before loading if necessary. It does not replace a blast chilling or freezing cycle.

ICE CREAM HARDENING

Function only available on combined modules.



The screen will then appear as in the example opposite.

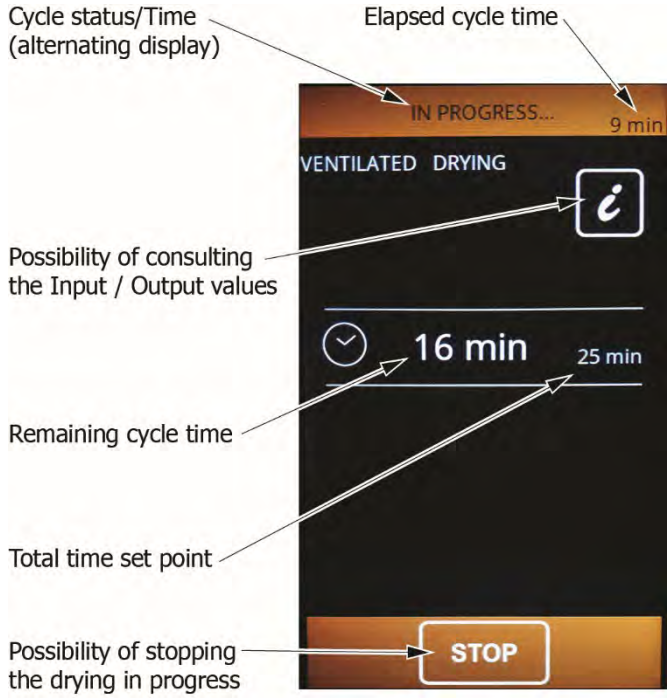
It is then possible to modify the cycle presettings by pressing the value and changing it with the − and + buttons that will appear or by using the cursor located between the 2 buttons, then confirming by pressing the new value.

When the hardening time is over, "**0 min**" lights up green and the buzzer sounds.

The cycle continues. The user can stop the cycle by pressing the STOP button for 3 seconds.

VENTILATED DRYING

A confirmation screen will be displayed. Confirm with the START button.



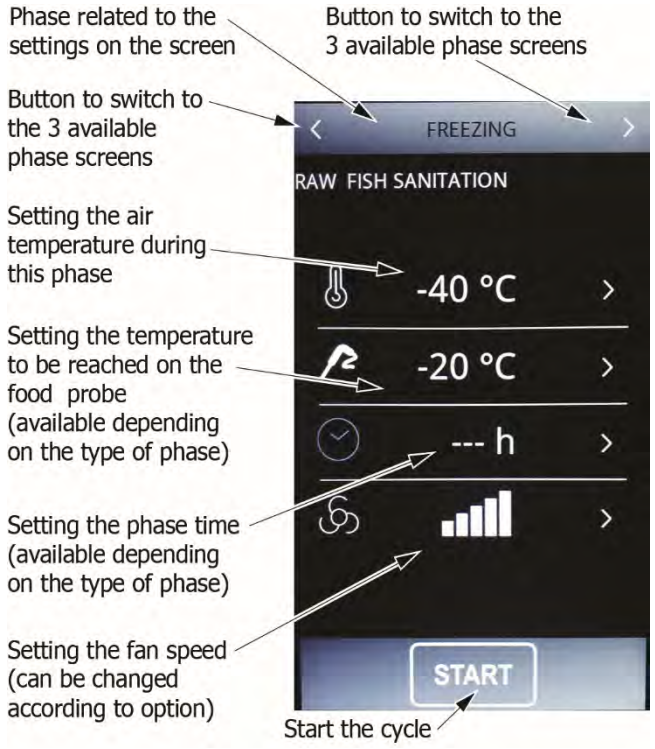
Then the screen will appear as shown in the example opposite.

The cycle will automatically stop at the end of the preset time and the control will return to the home screen.

The cycle cannot be started while the door is open.

RAW FISH SANITATION

Function only available on combined modules.



The screen will then look like the example opposite.

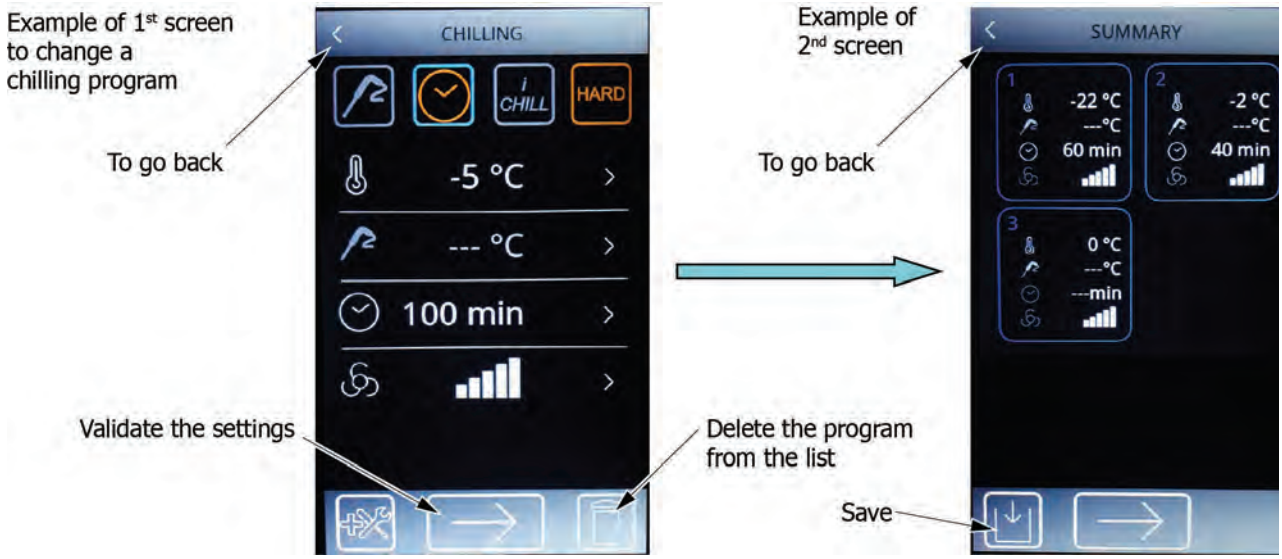
It is possible to change the presettings of each phase by pressing the value and changing it with the and buttons or by using the cursor located between the 2 buttons, then confirming by pressing the new value. There are 3 phases in a raw fish sanitation cycle:

- phase 1/3: Low temperature freezing.
- Phase 2/3: Maintaining (24 hours in standard setting).
- Phase 3/3: Conservation (temperature maintaining).

To set each phase, move to each setting screen using the and arrows at the top of the screen.

PROGRAMS MODIFICATION

Pressing one of the programs in the list does not start the cycle directly but goes through its settings screen (see example in 1st screen below), so that it can be modified or deleted.

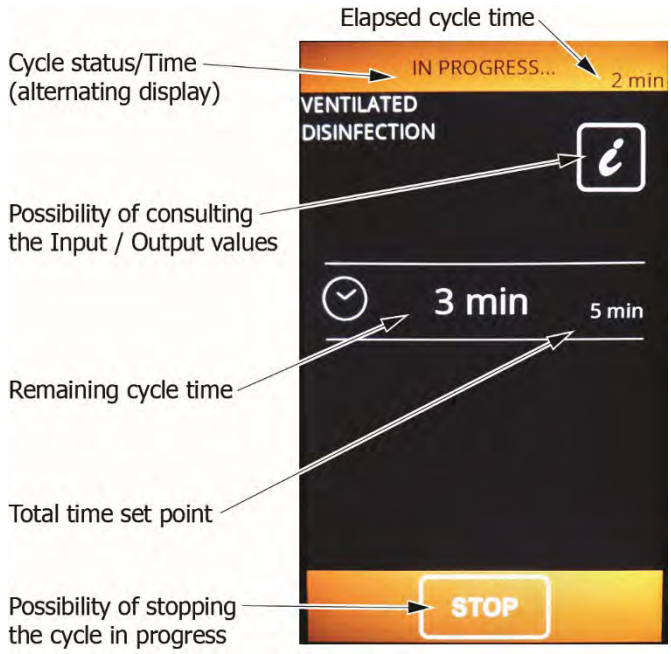


Note: to create a program, refer to the chapter **CHILLING OR FREEZING → CHANGING A CYCLE → Creating a program**.

VENTILATED UV DISINFECTION (option)

An intermediate confirmation screen is then displayed. Confirm with the START button.

The cycle starts if the door is closed properly.



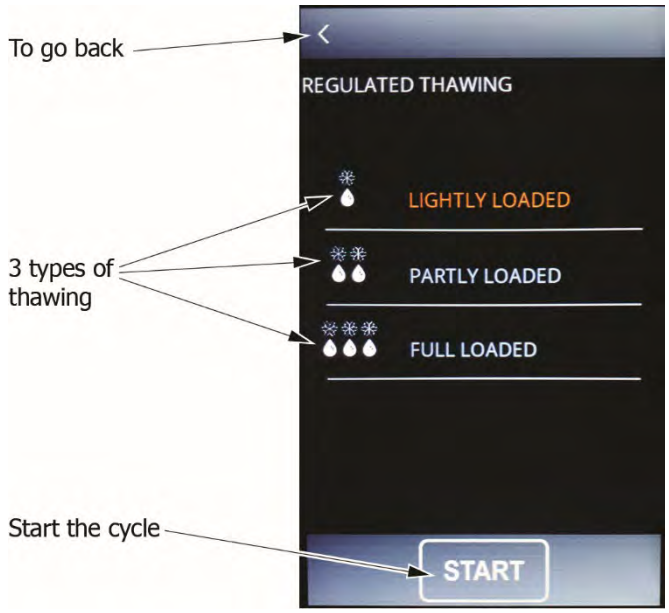
A screen of the cycle in progress is then displayed as shown in the example opposite.

UV disinfection should be carried out:

- *with no products in the equipment.*
- *With the door closed for the whole duration of the cycle.*
- *Opening the door stops the cycle.*
- UV disinfection does not replace cleaning of the equipment

At the end of the cycle, the fan and the UV light are switched off and the display automatically returns to the HOME SCREEN.

REGULATED THAWING (depending on model)



The screen shown opposite will be displayed giving 3 choices of thawing power depending on the load in the blast chiller/freezer.

The blast chiller/freezer controls the air temperature to raise it quickly, then lowers the air temperature in stages to respect the progressive rise in the core temperature of the products, within a predetermined time.

When the time has elapsed, the buzzer sounds and the blast chiller/freezer enters a maintaining temperature phase.

Press the STOP button for at least 3 seconds to stop the maintaining phase and unload the equipment.

It is important to choose the right thawing power level according to the load of the blast chiller/freezer.
Using maximum power (heavy load) on a small load may cause the product to rise to a higher temperature than expected.
In this operating mode, the blast chiller/freezer does not control the core temperature of the product.

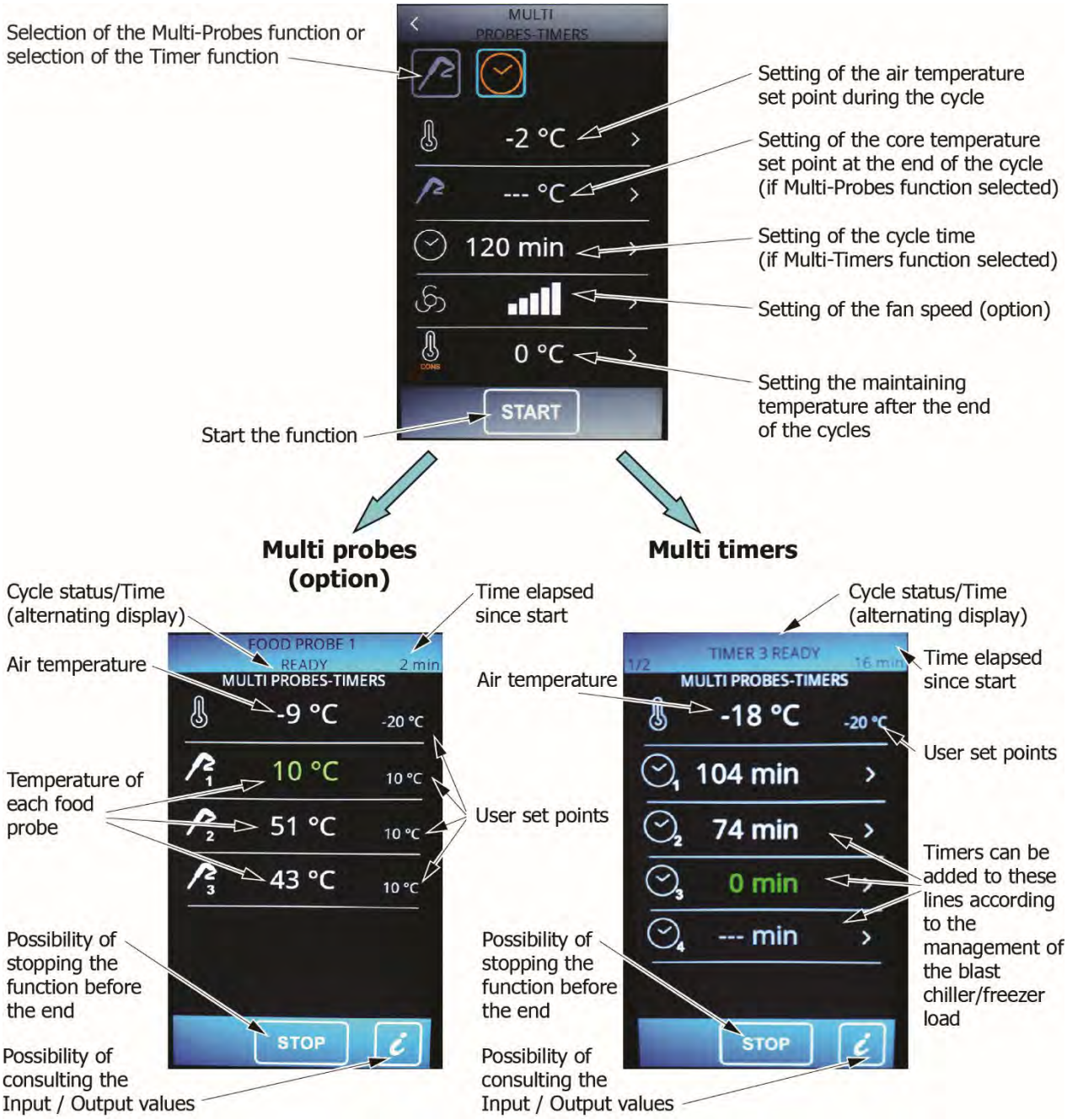
Several factors can influence the effectiveness of the thawing:

- thickness of the products: the thicker the product, the more difficult it will be to thaw,
- covered or wrapped products will take longer to thaw,
- the spacing of the products will facilitate the cycle.

MULTI-PROBES/TIMERS

The Multi-Probes function is optional.

There is only one air set point for this type of cycle. No other phases are involved.



As soon as one of the food probes has reached the set temperature, its temperature is displayed in green and the buzzer sounds.

As soon as one of the 4 timers drops to "0 min", the display of this time turns green and the buzzer sounds.

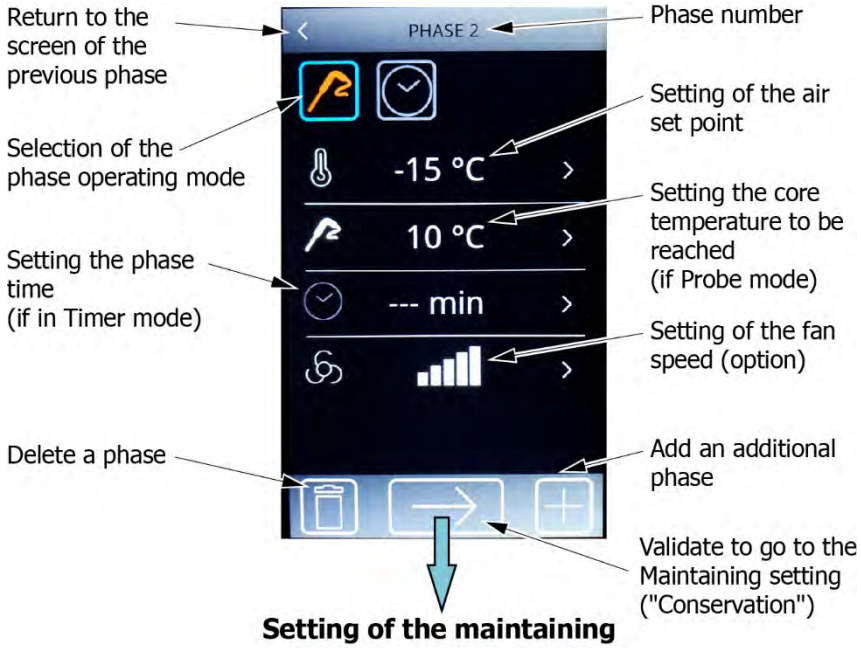
When all the probes have reached their set points or all the timers have reached "0 min", the equipment switches to the maintaining phase until pressing STOP for at least 3 seconds.

The Multi Probes and Multi Timers function does not override the efficiency of a standard blast chilling and freezing cycle.

It is important to refer to the chapter "RECOMMENDATIONS FOR USE IN CHILLING AND FREEZING" to optimise these functions.

These functions should not be used to operate the blast chiller/freezer continuously for too long. Ensure that defrosting is carried out regularly.

PERSONALIZED CYCLE

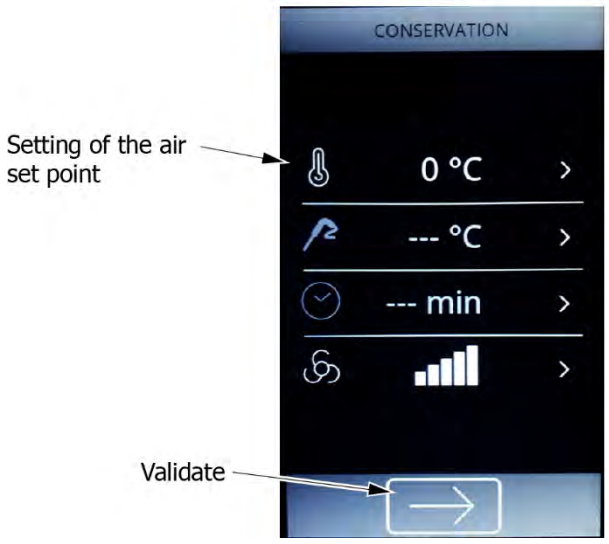


A screen like the one shown opposite will appear.

Each phase can be customized. The cycle consists of 1 to 3 Chilling or Freezing phases followed by a final temperature maintaining phase.

The number of phases depends on the additions by the user and then the validation.

Setting of the maintaining



Once the phases have been validated, the screen opposite appears for setting the maintaining of the temperature after the cycle.

After validation of the Maintaining phase, a SUMMARY SCREEN summarises the phases set, the last one being the Maintaining phase.

The user can then save it with the button (see chapter **CHILLING OR FREEZING → CHANGING A CYCLE → Creating a program**) and/or start the cycle with the or START button depending on the configuration.

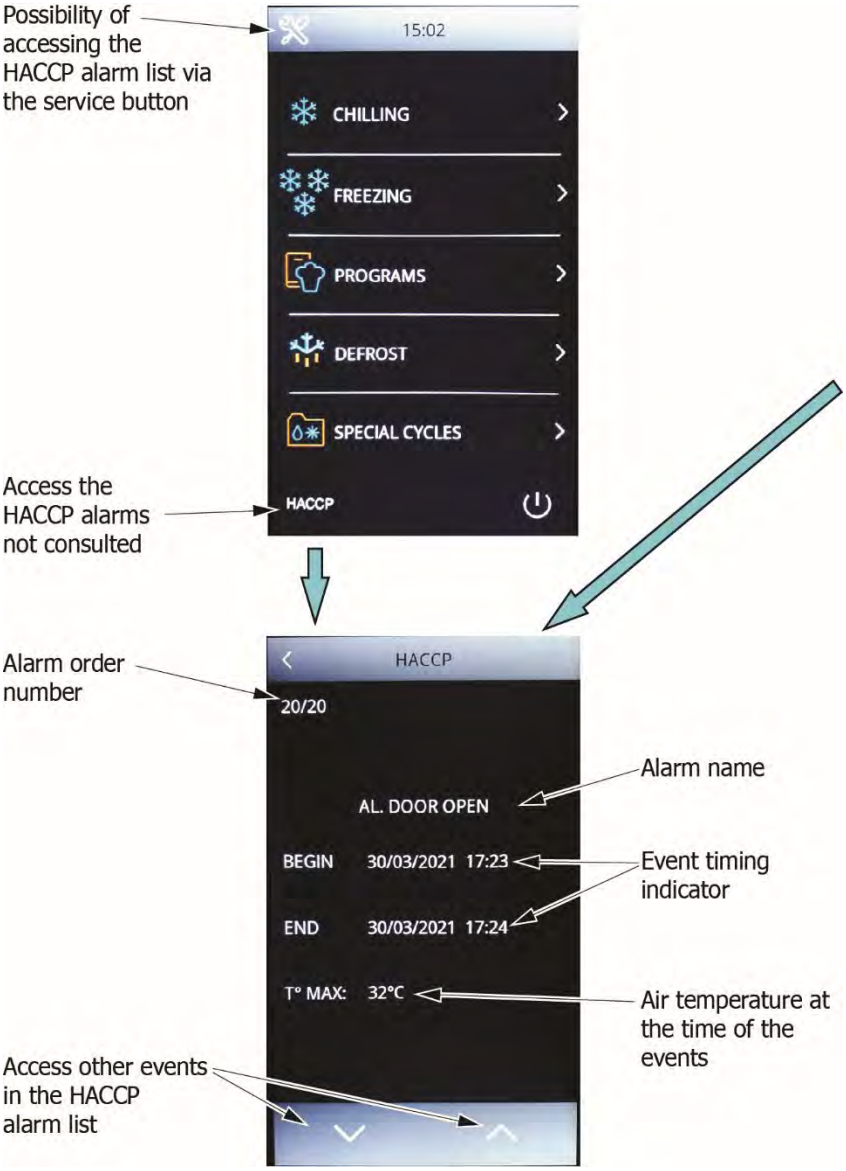
HACCP

HACCP alarms

See the chapter "Alarms and alert messages" for more details on alarms.

Some alarms are memorized and can be read directly on the screen:

- CYCLE TIME, when the Frigiprobe cycle exceeds the maximum time alarm value.
- HIGH TEMPERATURE: when the maximum air temperature is reached during the end of the cycle.
- POWER FAILURE: when there is a power cut during the maintaining after the cycle.
- FISH SANITATION TIME: when the cycle in question exceeds its maximum time alarm value.



Access the Alarm list with the  button:

- Then press INTERNAL DATA then HACCP ALARMS HISTORY, the screen will show the list of alarms.
- Press one of the alarms, a screen like the example below appears.

USB recorder (option)

The USB recorder ensures traceability of the equipment.

If several sets of equipment are being read simultaneously, change the LA parameter which allows each set of equipment to be identified by an address number. This prevents the various files from overwriting the files already on the USB key (see chapter INITIAL PARAMETERS AND CHECK OPERATION).

The USB recorder creates one ".CSV" type file of all operations of the equipment. Recording takes place automatically every minute during operation of the equipment. Data stays stored on the recorder even when copied onto USB key. When the memory is full, the oldest recordings are deleted.

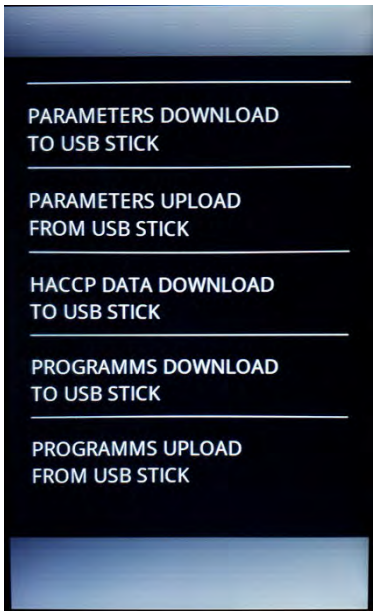
No especially dedicated software is required to read the files generated by the USB recorder. The file retrieved has a format that can be read from a Microsoft Excel® type spreadsheet (version 2003 or greater).

Retrieval of recordings on the equipment

Never clean the equipment when the cover of the USB port is not correctly in place as this could damage the USB connection.

Important! USB recorder memory of approximately 1 month. You are advised to retrieve data every week.

ONLY USE A USB KEY (USB STICK) TO RETRIEVE DATA. NEVER USE HARD DISKS OR CONNECT DIRECTLY TO A COMPUTER.



The equipment must be in stand-by mode, as shown in the first screen opposite.

- Remove the USB cover on the front.
- Insert the USB key and wait a few seconds for the second screen to appear as shown opposite.
- Select **HACCP DATA DOWNLOAD TO USB STICK**: a CLOCK SETTING screen will be displayed.
- Set the day and the time from which the information to copy must begin: to do this, use the — and + keys or the cursor located between the buttons after touching a number. Confirm the new number by pressing it again.
- Validate the CLOCK SETTING with the ✓: button: the download to the key is then carried out.

The writing procedure can take some seconds.

DO NOT REMOVE THE USB KEY DURING DOWNLOADING.

The end of the download is confirmed by an "END" at the bottom of the screen.

Remove the USB key and put back the cover of the USB port.

If the cover is not correctly in place, there is a risk of damaging the USB connection by water spray or an aggressive environment (high humidity level, etc).

USB recorder file

File saved on the USB key should be copied onto a computer.

The file is a CSV (Comma Separated Values) document by name (for example) “log247_haccp.csv”. The name of the CSV document is made (with reference to the example) as follows:

- “log”: + “haccp”: fix field,
- “247”: address value to identify the equipment.

An Excel® Macro file for easy processing of the HACCP data from the CSV file is available on the USB key supplied with the equipment. The instructions for use of this Excel® Macro are also included.

Configuration for the Excel® Macro:

- Windows 7 and 10.
- Excel 2010 and higher.

This Macro is only a tool to facilitate the processing of the data in the CSV file.

The CSV file remains accessible in all cases with or without the Excel® Macro provided.

Example of recordings

Example of a ".csv" type result file opened with an type "Excel®" or the Excel® Macro.

	A	B	C	D	E
1				AIR PROBE	CORE PROBE
2				°C	°C
3	25/03/2021 13:48	START-UP		22	61
4		CYCLE STATUS	IN PROGRESS...		
5		PHASE NUMBER	PHASE 1		
6		CYCLE TYPE	HARD CHILLING		
7		CYCLE MODE	TEMPERATURE		
8		NAME	---		
9		DEFROST CYCLE	NO ACTIVE		
10		ALARM STATUS	NO ACTIVE		
11		AL. RTC (CLOCK SETTING)	NO ACTIVE		
12		AL. AIR PROBE	NO ACTIVE		
13		AL. EVAPORATOR PROBE	NO ACTIVE		
14		AL. CONDENSER PROBE	NO ACTIVE		
15		AL. FOOD PROBE 1	NO ACTIVE		
16		AL. FOOD PROBE 2	NO ACTIVE		
17		AL. FOOD PROBE 3	NO ACTIVE		
18		AL. COMP. THERMAL	NO ACTIVE		
19		AL. REFRI. HIGH PRESSURE	NO ACTIVE		
20		AL. REFRI. LOW PRESSURE	NO ACTIVE		
21		AL. DOOR OPEN	NO ACTIVE		
22		AL. HIGH TEMPERATURE	NO ACTIVE		
23		AL. LOW TEMPERATURE	NO ACTIVE		
24		AL. LONG CYCLE DURATION	NO ACTIVE		
25		AL. BASE BOARD COM.	NO ACTIVE		
26		AL. FOOD PROBE	NO ACTIVE		
27		AL. BLACKOUT	NO ACTIVE		
28		AL. FOOD PROBE SANITATION	NO ACTIVE		
29		AL. SANITATION DURATION	NO ACTIVE		
30		AL. CONDENSER OVERHEAT	NO ACTIVE		
31		AL. COMPRESSOR LOCKED	NO ACTIVE		
32	25/03/2021 13:49	SAMPLE		26	57
33	25/03/2021 13:50	SAMPLE		25	53
34	25/03/2021 13:51	SAMPLE		23	50
35	25/03/2021 13:52	SAMPLE		20	47
36	...	...	...	...	...
37	...	...	...	...	...
38	25/03/2021 14:12	SAMPLE		-20	13
39	25/03/2021 14:13	SAMPLE		-17	12
40	25/03/2021 14:14	SAMPLE		-20	11
41	25/03/2021 14:15	EVENT		-20	10
42		PHASE NUMBER	CONSERVATION		
43		CYCLE MODE	---		
44	25/03/2021 14:15	SAMPLE		-20	10
45	25/03/2021 14:30	SAMPLE		-2	5
46	25/03/2021 14:45	SAMPLE		1	2
47	25/03/2021 15:00	SAMPLE		2	2
48	25/03/2021 15:03	STOP		3	2

Column	**A**	**B**	**C**	**D**	**E**
	Date Time	Information	Status	Air temperature	Frigiprobe temperature

Lines (example above)

- Line 3 - Start of cycle: settings and status of alarms/errors
- Line 32 to 41 - During cycle, one line each minute. Temperatures and alarms/errors events.
- Line 42 - End of cycle.
- Line 44 to 47 - One line each 15 minutes. Temperatures and alarms/errors events.
- Line 48 - Stop of the equipment.

.

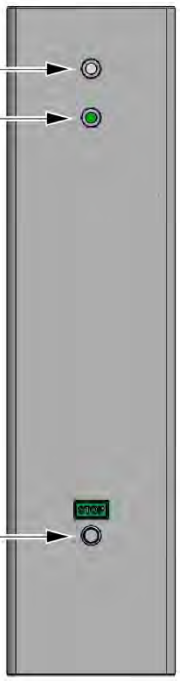
AUXILIARY STOP CONTROL (OPTION)

In the case of pass through roll-in blast chillers/freezers, the Auxiliary Stop Control option is provided for the blast chiller/freezer to be stopped remotely.

The function can be summarised as follows:

White light, indicates a cycle in progress

Green light, indicates that the cycle is finished and that the blast chiller/freezer temperature is being maintained. The STOP button is then functional.



STOP button
Pressing this button for at least 3 seconds switches off the blast chiller/freezer when the green light is on.

*The STOP button does not stop a cycle **in progress**.*

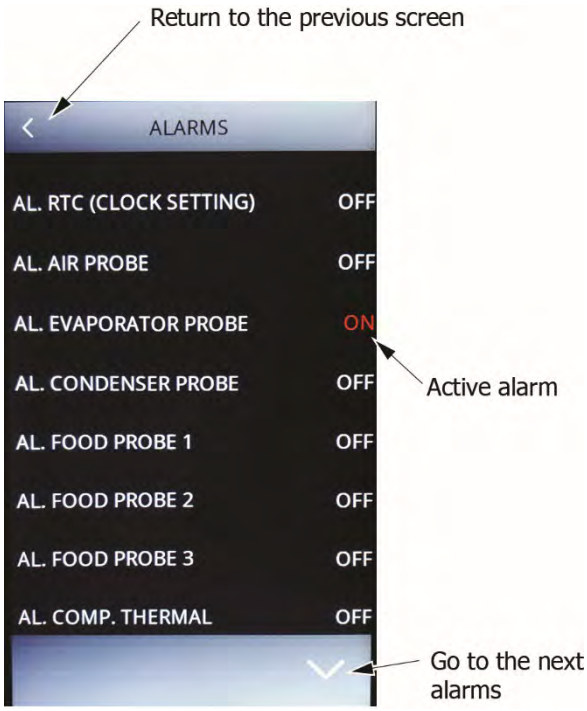
ALARMS AND ALERT MESSAGES ⚠

In the event of a fault on the equipment an alarm condition appears. It is indicated by:

- the display of a window with the name of the alarm. This window is cleared after validation by the user,
- the display of an alarm symbol ⚠ on the screen,
- an audible signal. To stop the audible alarm, press the screen,
- activation of the alarm output.

If the fault disappears on its own, the previous events above cancel each other out.

To read alarms



Press the ⚠ symbol.

An ALARM screen will appear as shown in the example opposite.

To move through the list use the and arrow buttons.

Access to the alarm list is also available at any time by successively pressing:

- located at the top of the screen,
- INTERNAL DATA,
- ALARMS.

Meaning of alarms

ALARM	DESCRIPTION	IMPACT ON THE OPERATION OF THE EQUIPMENT	ACTION TO DO
RTC (CLOCK SETTING)	Real time clock error	The equipment does not memorize the date or time at which the HACCP alarm occurred or its duration.	Set date and time. (1)
AIR PROBE	Air probe fault	During the cycle, the operating cycle continues with the compressor running.	Stop the equipment and unload the products as chilling is not assured.
		During end of cycle status, auto-backup control switches ON/OFF periodically the compressor.	Call your maintenance service to replace the probe.
		During thawing (depending on the model), the cycle will be interrupted.	Stop the equipment and unload the products.
		It is not possible to start a new cycle.	Call your maintenance service to replace the probe.
EVAPORATOR PROBE	Evaporator probe fault	During defrosting cycle, the electrical resistances (depending on models) are not used.	Do defrosting cycle with door opened.
			Call your maintenance service to replace the probe.
CONDENSER PROBE	Condenser probe fault (option)	No impact, information only.	Call your maintenance service to replace the probe.
FOOD PROBE 1	Frigiprobe sensor 1 fault	Operation continues but this sensor is no more used.	Call your maintenance service to replace the probe.
FOOD PROBE 2	Frigiprobe sensor 2 fault	Operation continues but this sensor is no more used.	Call your maintenance service to replace the probe.
FOOD PROBE 3	Frigiprobe sensor 3 fault	Operation continues but this sensor is no more used.	Call your maintenance service to replace the probe.
COMPRESSOR THERMAL SAFETY	Compressor overload relay (option)	Operating cycle is stopped.	Stop the equipment and unload the products as chilling is not assured.
		Cooling does not work.	Call your maintenance service.
HIGH PRESSURE	High pressure (option)	Cooling does not work.	Stop the equipment and unload the products as chilling is not assured.
			Call your maintenance service.
DOOR OPEN	Door opened for a too long time	Cooling does not work properly.	Close the door.
			(2)
HIGH TEMPERATURE	Air temperature to high during end of cycle status (HACCP alarm)	No impact, information only.	(2)
LOW TEMPERATURE	Air temperature too low during end of cycle status (HACCP alarm)	No impact, information only.	(2)

LONG CYCLE DURATION	Frigiprobe mode cycle not concluded within maximum duration alarm (HACCP alarm)	No impact, information only.	Check loading of the equipment. Refer to the “Recommendations for use” chapter. (2)
BASE BOARD COMMUNICATION	User interface-control communication error	Operating cycle is stopped. Cooling does not work.	Cut off power supply and restore power supply. If not solved, stop the equipment and unload the products as chilling is not assured. Call your maintenance service. (1)
CARD COMPATIBILITY	User interface-control module compatibility	The cycle is in advanced stage. Cooling does not work.	Cut off power supply and restore power supply. If not solved, stop the equipment and unload the products as chilling is not assured. Call your maintenance service. (1)
FOOD PROBE	All Frigiprobe sensors are faulty	During the cycle, with the Frigiprobe, the cycle switches to Timer mode. No cycle in Frigiprobe can be performed.	Let the cycle continue until the end. Work in Timer mode. Call your maintenance service to replace the probe.
BLOCKOUT (POWER FAILURE)	Power cut at the end of the cycle (HACCP alarm)	No impact, information only.	(2)
FOOD PROBE SANITATION	The Frigiprobe is not inserted during fish sanitation	The fish sanitation cycle is stopped.	Check the Frigiprobe is inserted. Perform a pre-cooling cycle. Restart the fish sanitation cycle.
SANITATION DURATION	Fish sanitation did not comply with the first phase in Frigiprobe (HACCP alarm)	Operating cycle is stopped.	Check the load of the equipment that could not be sanitised.
CONDENSER TEMPERATURE	Condenser overheated (option)	No impact, information only.	(2)
COMPRESSOR BLOCKED	Blocked compressor (option)	Operating cycle is stopped. Cooling does not work.	Stop the equipment and unload the products as chilling is not assured. Call your maintenance service.
FOOD PROBE INSERTION	Probe not inserted (depending on parameter settings)	During the cycle with the Frigiprobe, the cycle switches to Timer mode after some time.	Ensure that the tip of the probe is well inserted into the food.
PLUG-IN COMPATIBILITY	User interface - plug-in compatibility error	Operating cycle is stopped. It is not possible to start a new cycle.	Switch off the power supply and switch on again. If the problem persists, switch off the equipment and remove the products as cooling is not possible. Call your maintenance service.
EXPENSION COMMUNICATION	User interface - plug-in communication error	Operating cycle is stopped. It is not possible to start a new cycle.	Switch off the power supply and switch on again. If the problem persists, call your maintenance service.

(1) If error is frequent, call your maintenance service.

(2) If alarm is frequent, call your maintenance service to check the equipment operation or change some parameters.

INCORRECT OPERATION

Check to see if there are any alarms. Refer to the “Alarms and alert messages” chapter.

Check the fuse located on (or in) the electrical box of the equipment.

Check the electrical power supply.

Cut off power supply and restore power supply.

If incorrect operation continue, call your maintenance service describing the situation and stating the following information which is located on the identification plate:

- equipment model and type,
- serial number,
- manufacturing date.

CLEANING

SAFETY

- Before cleaning, disconnect the power supply cable or operate the circuit breaker (on the distribution board).
- You should never open an evaporator block, remove the unit cover or clean the condenser while the equipment is on. If not, you run the risk of severe injury.
- The evaporator and condenser fins are sharp-edged; wear gloves to clean them.
- Never remove the protections or safety devices to carry out maintenance.
- Make sure that the element to be cleaned is not too cold or too hot, use protective gloves.
- The Frigiprobe food probe has a pointed end. Handle it with care.

Never wash the equipment with a pressurized spray.

Use only neutral cleaning and disinfecting products, approved for cleaning surfaces in contact with foodstuffs.

Do not use chlorinated products for cleaning.

Frequency of cleaning

FREQUENCY	OPERATION
Each time used	Frigiprobe. Before and after use
Every day, after use	Interior and exterior surfaces of the equipment Door seals
Every week	Interior of the evaporator block(s)
Every month	Air-cooled condenser

Frigiprobe

Use throw away cleaning and disinfecting pads. Pads to be used once only.

Blast chiller / freezer external finishes

Use only special non-abrasive products intended for cleaning stainless steel.

Clean the external surfaces with a soft cloth or a sponge soaked in liquid detergent.

Rinse with a damp cloth.

Wipe carefully to dry the surfaces.

Interior surfaces

Do not handle naked flames or ignition sources inside the cabinet, or electrical appliances inside compartments used for chilling or freezing foodstuffs.

Do not use mechanical devices or other sharp or pointed objects.

Remove the products, trays, plates or baskets.

Remove the removable internal accessories such as:

- trolley guide (weight 3 kg),
- air deflectors (weight 5 kg),
- front and rear trolley stop (weight 1.5 kg each),
- rack uprights (weight 0.5 kg each),
- runners (weight 0.5 kg each).

Use a soft cloth or a sponge soaked in liquid detergent, as above. A bicarbonate of soda solution of one teaspoon per litre of water can also be used.

Rinse and wipe in the same way as for the external finishes.

Clean the fans using a manual spray, without liberal spraying of cleaning products.

In the event of lingering smells inside the equipment, remove any product residues which may be the cause, then where appropriate wipe with a damp sponge soaked in a deodorising solution.

Do not use a pressurised water jet to avoid causing damage not covered by the warranty.

Interior of an evaporator block

Remove the accessories such as the trolley guide, deflectors, rack runners and uprights which could hamper opening of the fan support stainless steel panel. Remove the panel holding screws and open the panel by pivoting on its hinges.

Do not use a water pressure spray, there is a risk of damaging the evaporator fins.

Do not use pointed objects, there is a risk of piercing the evaporator.

Use a soft cloth or a sponge soaked in liquid detergent, as above. A bicarbonate of soda solution of one teaspoon per litre of water can also be used.

Rinse and wipe in the same way as for the interior surfaces.

Seals

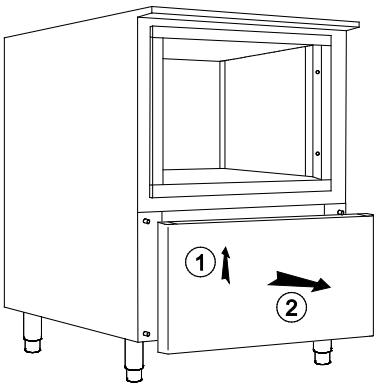
Clean the seals with a damp cloth soaked in soapy water (household soap).

Then wipe to dry them.

Air-cooled condenser

Placed near the compressor, it is essential for the air to be able to flow freely around the compressor and across the condenser. Therefore it is IMPORTANT to examine it at least once a month.

The condenser should be kept clean at all times so as to provide optimal performance of the condensing unit, with no excessive energy consumption.



Remove the front unit cover to gain access to the air-cooled condenser, this is removed without tools.

Remove from the condenser dust or any other obstacle which could hamper or even prevent free air circulation, using a vacuum cleaner, brush or soft-bristle paint brush.

Complete cleaning where appropriate by using a compressed air gun; never use a metal brush.

Water-cooled condenser

The correct operation of the double non-return valve (depending on model) located in the water circuit should be checked every year.

Refrigeration circuit

The refrigerant charged in the refrigeration unit of the blast chiller / freezers on feet is a flammable fluid.

Work on the appliance should only be carried out by a refrigeration engineer trained in handling flammable fluids.

The correct operation of the refrigeration circuit should be checked every year:

- check the evaporation and condensation pressures,
- check for leaks.

The refrigeration circuits and operations on the refrigeration circuits are subject to specific regulations depending on the country. Contact your installer for full information.

Option USB recorder

Never clean the equipment when the cover of the USB port is not correctly in place as this could damage the USB connection.

When cleaning has been completed, connect the equipment on.

PRECAUTIONS FOR USE

Prolonged stoppage

If the equipment is not to be used for a fairly long period, disconnect the power supply cable or operate the circuit breaker (on the distribution board).

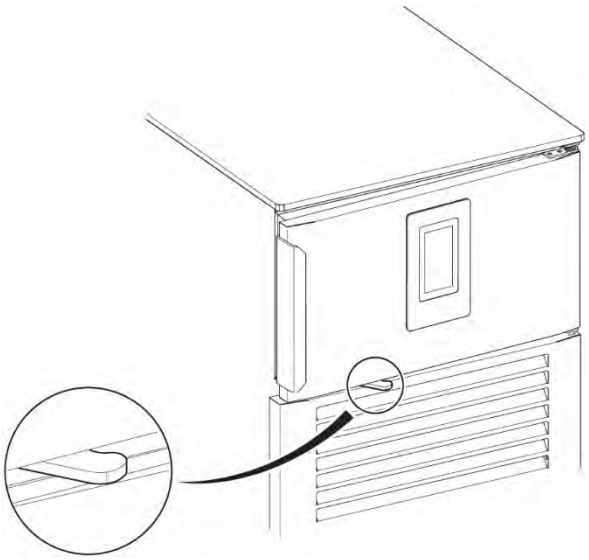
When de-icing has been carried out before stopping the equipment, allow the interior of the blast chiller / freezer to warm up to ambient temperature, then clean the interior as shown above, not forgetting to wipe and dry it.

Leave the equipment door ajar so as to prevent any smells developing.

Some reach-in models have a cleat door guard to avoid door closing. Open the door and rotate the cleat door guard located below the door.

TO USE ONLY WHEN THE EQUIPMENT IS NOT RUNNING.

REMOVE THE CLEAT DOOR GUARD BEFORE STARTING-UP THE EQUIPMENT.



Evaporator

Defrost after each cooling/rapid freezing or pre-cooling cycle.

Do not use mechanical devices (knives, ice picks, etc.), electrical devices (heat gun, hair dryer, etc.) or any other means to speed up the defrosting process.

Water evacuation

Every month, check the water flows out properly by the runoff plug and drain conduit.

Electric reevaporation tank

Where there is a reevaporation tank, make sure that no cable is resting on it when refitting the electrical box.

UNPACKING

This equipment should be tied down during transport.

RECOMMENDATIONS

- If you want responsibility for any damage to be borne by the carrier's insurance and not BY YOU, you must unpack the equipment (even if the packaging is in good condition) in front of the carrier who may not object to it. Check the exterior and INTERIOR condition.

In the event of a problem, you should:

- note down SPECIFIC RESERVES on the transport document,
- confirm these reserves to the carrier IMMEDIATELY (within a maximum of 3 days) by recorded delivery letter.

IF AN EQUIPMENT WITH HOUSED UNIT HAS BEEN TILTED ONTO THE SIDE TO GET THROUGH AN OPENING, WAIT A MINIMUM OF 2 HOURS AFTER STANDING THE EQUIPMENT UPRIGHT BEFORE STARTING IT UP. CHECK THERE IS NO DAMAGE TO THE COMPONENTS AND THAT THE REFRIGERATION CIRCUIT HAS NO LEAKS.

Non-observance of these recommendations may cause damage to the different components and also to the compressor.

RECOMMENDATIONS

- Do not throw the packaging out with household waste. You must observe local regulations in force as regards the elimination of recyclable waste and the protection of the environment.

INSTALLING

FRIGINOX EQUIPMENT INSTALLATION, CONNECTION AND ADJUSTMENT MUST BE CARRIED OUT BY A COMPETENT INSTALLER WHO IS QUALIFIED FOR THIS TYPE OF EQUIPMENT.

SAFETY

- This equipment is designed to operate in a dry and temperate room, you should only install it in a place which meets these criteria.
- The internal accessories, door adjustment, together with all installation operations must be carried out with the power to the equipment turned off, taking all necessary precautions to protect yourself from the risk of injury.
- May we however draw your attention to the fact that we can in no way be held responsible if modifications are made to the electrical connection and wiring of our blast chiller / freezers without our written authorisation.

Blast chiller / freezers on feet must be installed in access category b (Supervised access) or c (Reserved access) as defined in table 4 of Standard NF EN 378-1. They must not be installed in access category a (General access).

Do not install this equipment near a source of heat (oven, etc.) or in the sun.

The place where the equipment is installed should be correctly lighted and sufficiently ventilated. The ambient temperature should be between +15 °C and +32 °C taking into account the heat given off by the equipment. Ventilate the premises if the temperature is greater than +32 °C.

The floor should be flat, horizontal and smooth where the equipment is to be installed. For models with feet, certain irregularities in flatness and horizontality of the floor can be compensated for. Put the equipment level by using the adjustable feet. Make sure the equipment is stable.

Daily operating duration for roll-in blast chiller / freezers according to the equipment's floor type

	Blast chilling	Blast freezing
With 20 mm insulated floor	12 h	8 h
Without insulated floor	6 h	Unauthorized

Like all floor-standing refrigerating equipment, if these maximum durations are exceeded or for over five working days per week, additional thermal insulation under the equipment will be required to prevent freezing on the floor. This must be done according to best working practices applied to negative temperature cold room floors.

Roll-in blast chiller / freezers with no floor: take floor cooling into account.

Minimum distances around the equipment. Built-in and reach-in blast Chiller / Freezers

	Left side (mm)	Right side (mm)	Rear (mm)	Top (mm)
MX 20-10 A ENC V2 R455A TS7	0	0	0	0
MX 20-10 A V2 R455A TS7 / SXP 7P A V2 R455A TS7 MX 30-15 A V2 R455A TS7 / SXP 19 A V2 R455A TS7 MX 45-20 A V2 R455A TS7 / SXP 19P A V2 R455A TS7 MX 55-20 A V2 R455A TS7 / SXP 30 A V2 R455A TS7 MX 75-35 A V2 R455A TS7	70	70	70	400
MX 85-40 A V2 R455A TS7 / SXP 43 A V2 R455A TS7 MX 65c A V2 R455A TS7	70	200	70	400
Reach-in blast chiller / freezers without condensing unit (ESG)	70	70	70	200

Minimum distances around the equipment. Roll-in Blast Chiller / Freezers

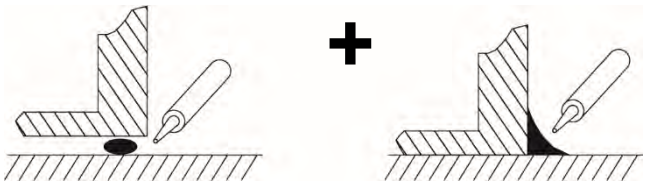
	Left side (mm)	Right side (mm)	Rear (mm)	Height below ceiling (mm)
MX 1A GLS TS7-2 / SXP 1cA GLS TS7-2 MX 1LA TS7-2 / SXP 1LcA TS7-2	70	70	70	2900
UMX A GLS TS7-2 / USXP 1cA GLS TS7-2	70	70	70	3000
Roll-in blast chiller / freezers without condensing unit (ESG)	70	70	70	2400

Allow sufficient space for the door on the front and rear for the pass through version (roll-in blast chiller / freezers) to be opened properly.

If pass through version is used with a cold room, the equipment should slope towards the kitchen and there must be a floor siphon or a duct near the door, from the kitchen side.

Check that the door closes properly on the front so that the gasket provides a full seal.

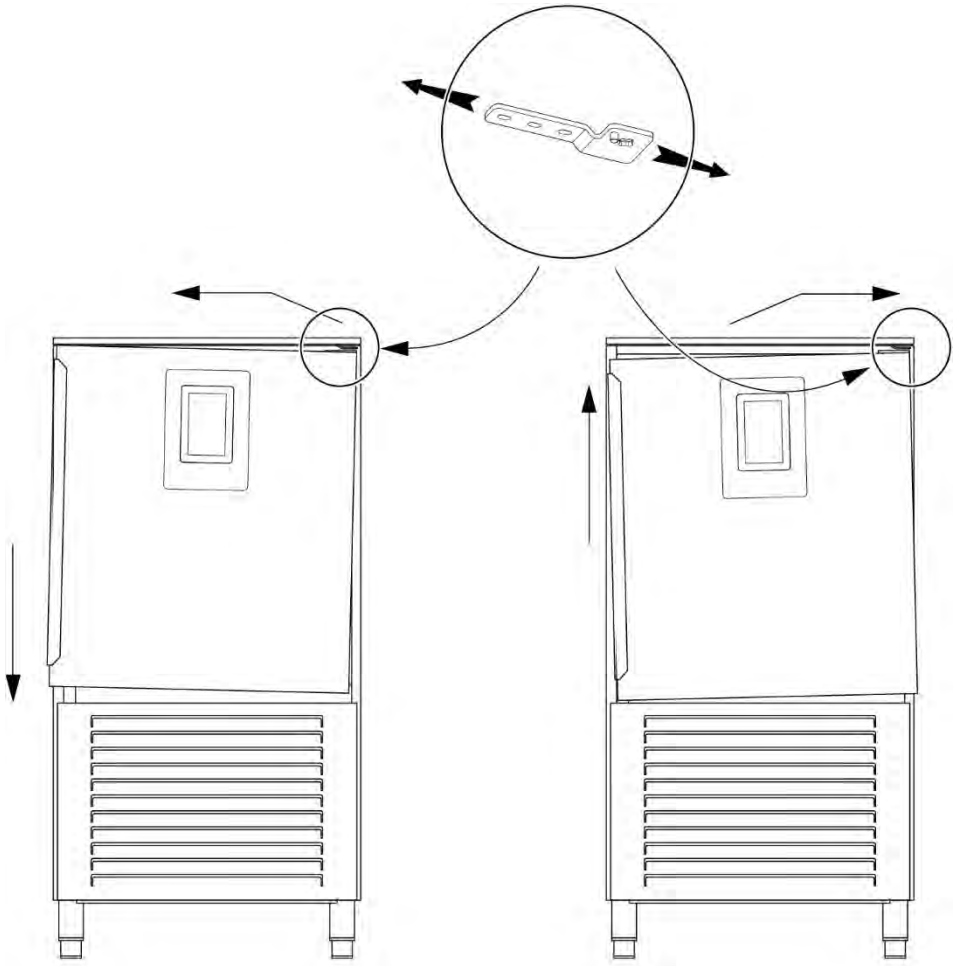
Note: on roll-in blast chiller / freezers, make a full seal between the floor and the ground to prevent any water seeping under the equipment.

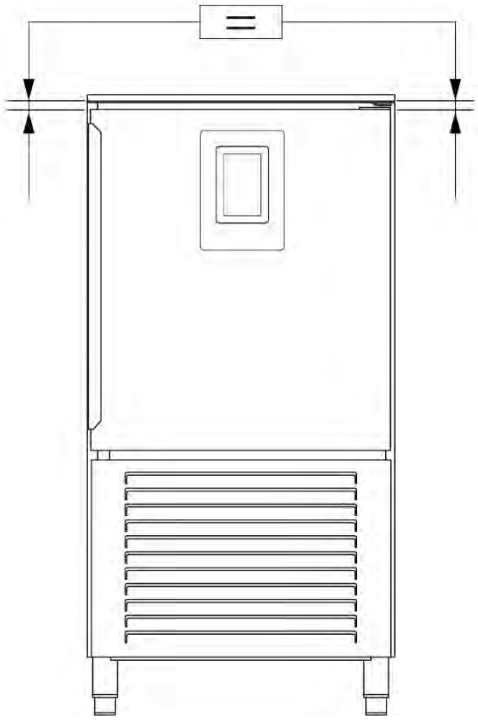


Roll-in blast chiller / freezers delivered un-assembled: see specific assembly / dismantling instructions.

Refrigeration systems: follow the assembly instructions supplied with each refrigeration system.

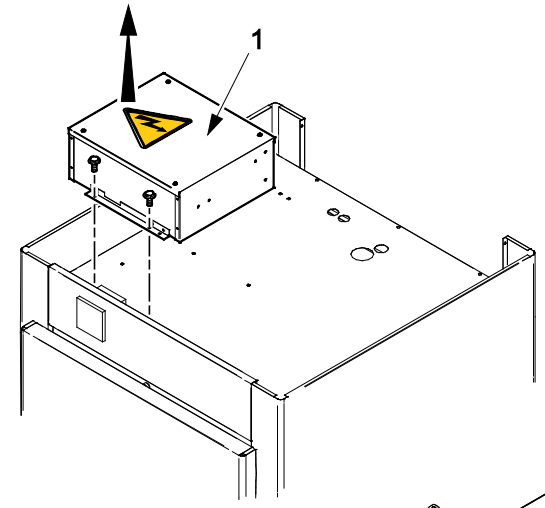
ADJUSTMENT OF THE REACH-IN BLAST CHILLER / FREEZERS DOOR



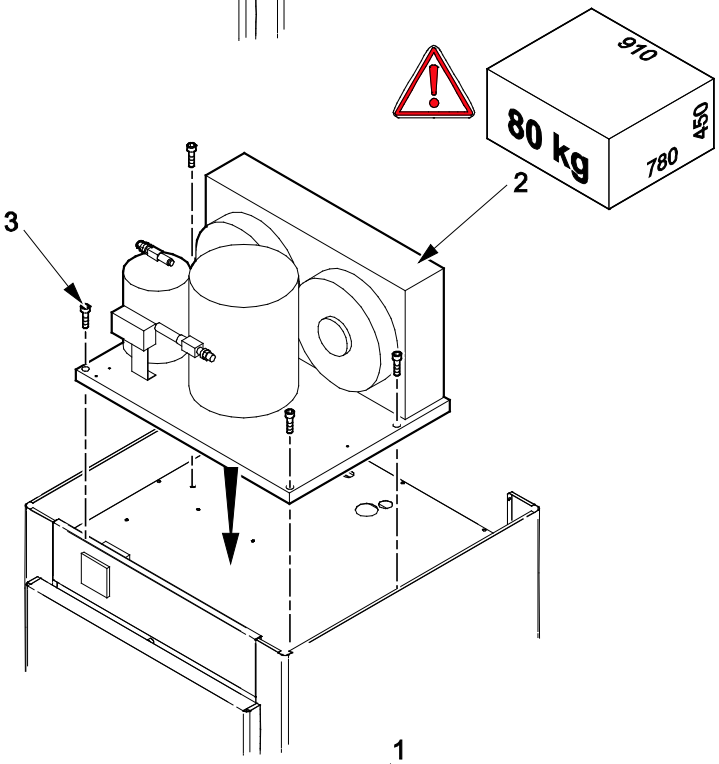


ASSEMBLY OF THE CONDENSING UNIT SUPPLIED SEPARATELY

Roll-in blast chiller / freezers MX 1A GLS TS7-2 / SXP 1 cA GLS TS7-2

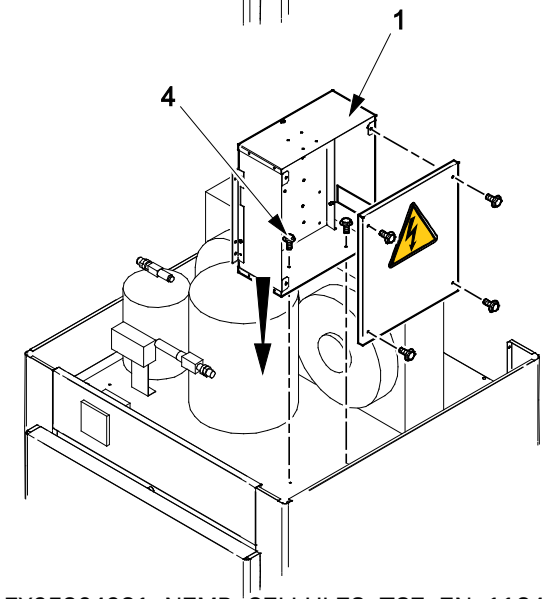


Remove the electrical box (1).



Install the condensing unit (2) with the 4 screws, CHc M8x30 (3).

Fix the electrical box (1) on the condensing unit frame with 2 screws, Tensilock M6x10 (4).

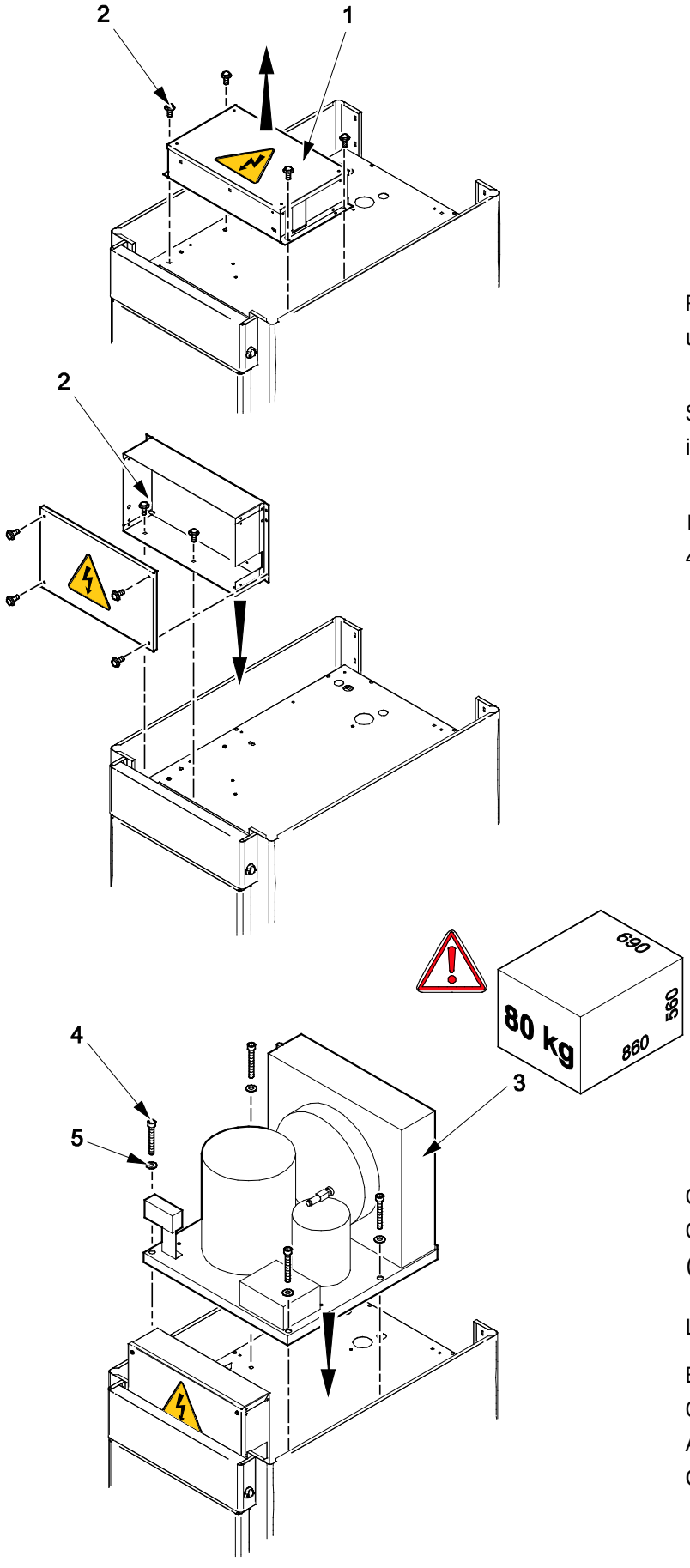


CONNECTION OF THE REFRIGERATING CIRCUIT, VACUUM, REFRIGERANT LOAD (SEE IDENTIFICATION PLATE).

LEAK TEST.

ELECTRIC CONNECTION OF THE CONDENSING UNIT WITH CABLES AVAILABLE AT THE ELECTRICAL BOX OUTPUT.

Roll-in blast chiller / freezers UMX 1A GLS TS7-2 / USXP 1 cA GLS TS7-2



Remove the electrical box (1) by unscrewing the 4 screws (2).

Swivel the electrical box (1) of 90° and fix it with the 2 screws (2).

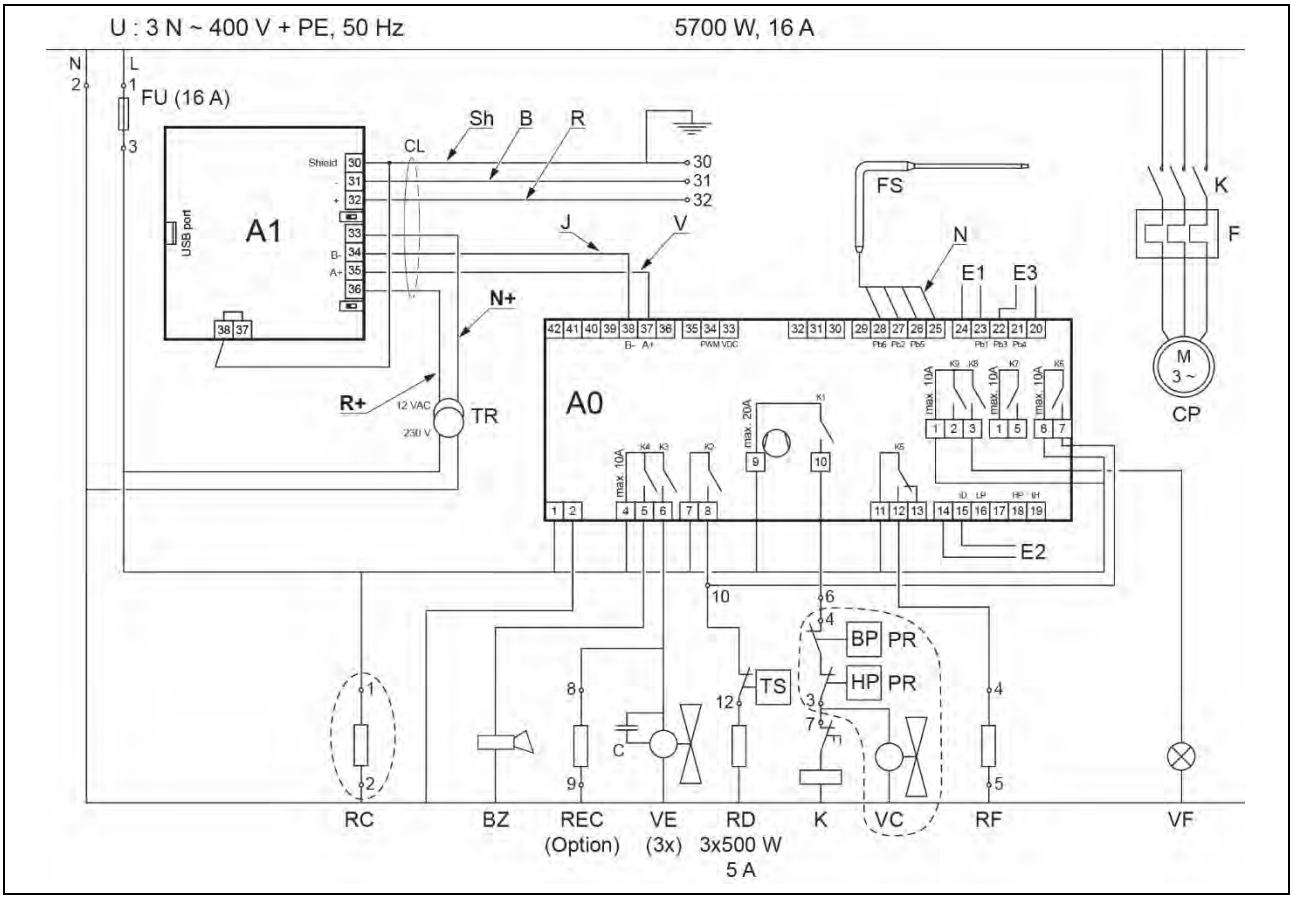
Install the condensing unit (3) with the 4 screws, CHc M8x60 (4) and washers (5).

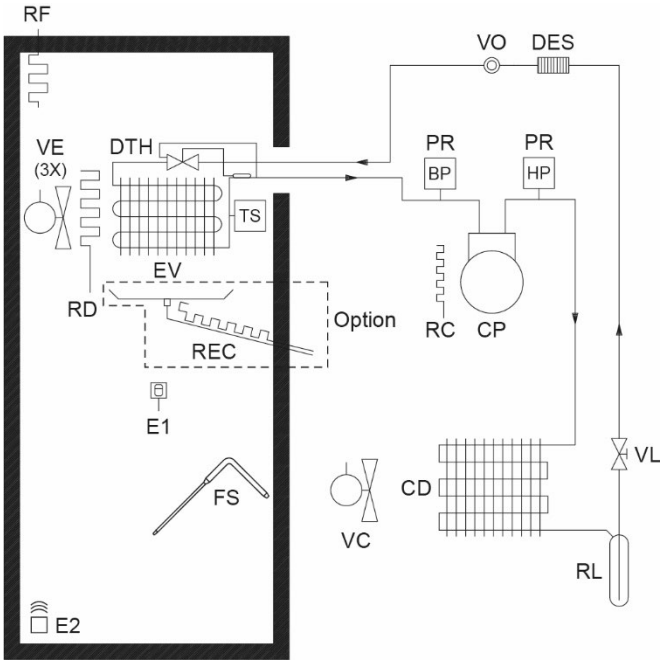
CONNECTION OF THE REFRIGERATING CIRCUIT, VACUUM, REFRIGERANT LOAD (SEE IDENTIFICATION PLATE).

LEAK TEST.

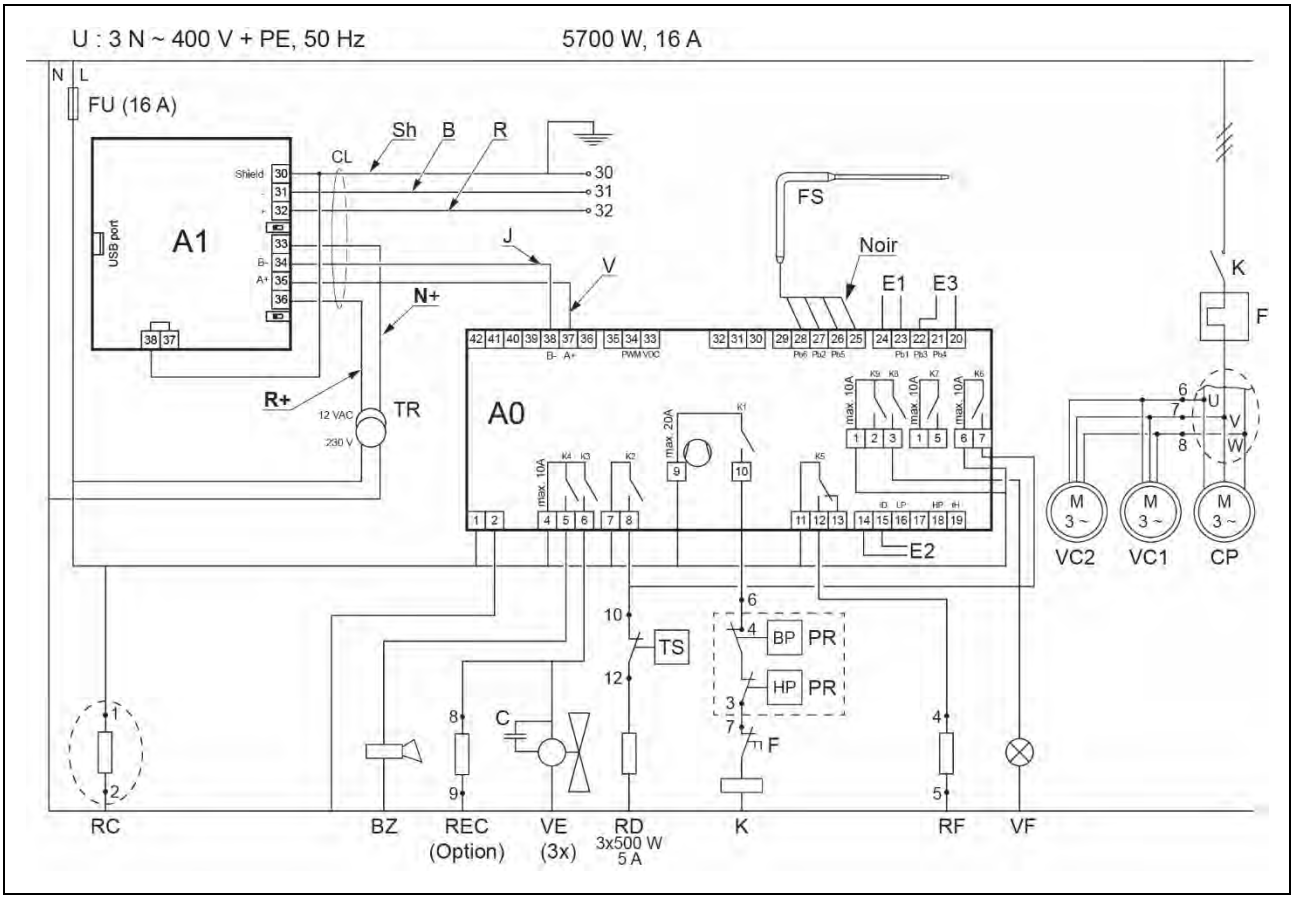
ELECTRIC CONNECTION OF THE CONDENSING UNIT WITH CABLES AVAILABLE AT THE ELECTRICAL BOX OUTPUT.

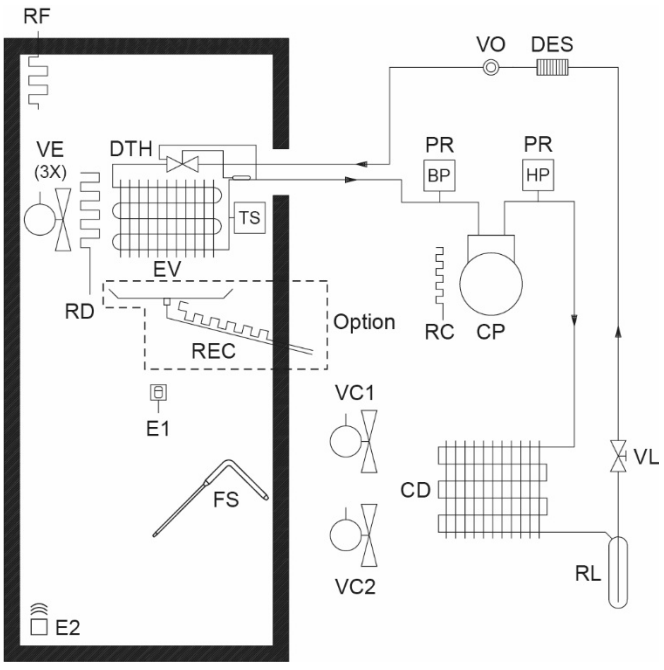
ELECTRICAL DIAGRAM - REFRIGERATION DIAGRAM
UMX 1A GLS TS7-2 / USXP 1cA GLS TS7-2





ELECTRICAL DIAGRAM - REFRIGERATION DIAGRAM
MX 1A GLS TS7-2 / MX 1LA TS7-2 /SXP 1cA GLS TS7-2 / SXP 1LcA TS7-2





CONNECTIONS

Electrical connection

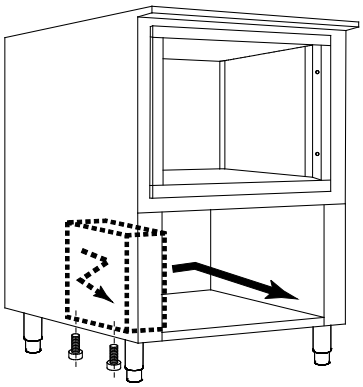
SAFETY

- The equipment should only be wired up by a qualified electrician. The mains connection, earthing and protection must conform to the standards and regulations in force.
- The power supply cable with the male plug is a part which is specific to your equipment. It should only be replaced with a **FRIGINOX** original part.

The equipment is supplied from the factory fully wired (X-type fixing).

Check that the voltage and the main power supplied indeed correspond to the equipment specifications. Refer to the identification plate of the equipment.

Access to the electrical box of the equipment with unit housing in the lower section:



Access to the electrical box of the equipment with unit housing in the upper section: directly from the top of the equipment.

The earth connection should be made and should comply with regulations in force in the destination country (NF C-15 100 for France).

Thermal or magneto-thermal protection appropriate to the rating of your equipment will be required on the power supply line for motor accompaniment. This protection should provide all-pole separation of the equipment and the mains. Wherever possible, the equipment should have its own power supply so as to prevent voltage overload or drops. For satisfactory operation, your mains supply should not suffer from any voltage variation.

SAFETY

- Where the electrical connection is made permanently on a junction box, an ALL-POLE cut-out device should be provided on the line, close to the equipment, having a contact opening distance of less than 3 mm. For connection with an electrical power socket, use 16 A or 32 A plugs, depending on the requirements of the equipment.
- Fixed station equipment: connect the equipotential terminal located in the condensing unit compartment (bottom or top of the equipment). This terminal is identified by a label.

A quick-trip circuit-breaker appropriate to the national regulations of the installer country will be required. 30 mA recommended.

For equipment with three-phase fan motors, check the correct direction of rotation of the motors using arrows positioned near the fan or on the fan blades.

Water supply

Except where otherwise specified, the water-cooled condenser is intended for connection to a clean, non-polluted, non-corrosive, pressurized water circuit.

For the water-cooled condenser to operate correctly, the supply water should be at a temperature of 10 °C ± 5 °C.

A 15/21 diameter water supply, min. pressure 2 bar, max. pressure 5 bar, with stop valve will be required. Minimum water supply rate required: 0.7 m3/h. Equipment supply inlet by 12/17 connector.

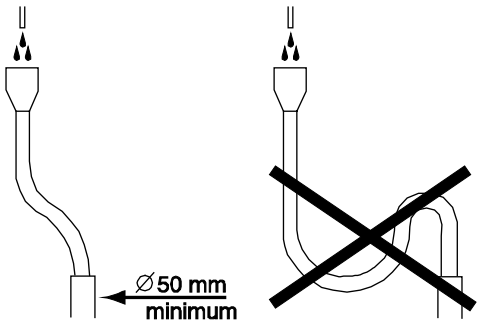
Under no circumstances should the supply carried out by the manufacturer be altered.

Check the correct operation of the water pressure valve. The water should not flow after the compressor stops. Adjust the valve where necessary, checking the condensation pressure.

Water-cooled condenser water evacuation

The pressure break system installed by the manufacturer should never be altered or removed.

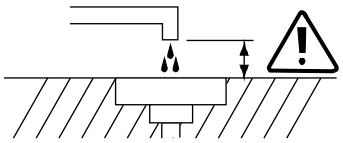
NEVER USE THE FLEXIBLE CONNECTION TUBE TO MAKE THE INSTALLATION TRAP AS THERE IS A RISK OF OVERFLOW.



De-icing and cleaning water evacuation

Certain equipment are fitted with an automatic de-icing water evaporation system. This system cannot evaporate water from cleaning with the liberal use of water.

For the other equipment, an evacuation of a minimum diameter of 50 mm must be provided, with a floor trap nearby.



For roll-in blast chiller / freezers, a floor duct located in front of the door is preferable because of the quantity of water used for cleaning.

Important! Never install the trap in the floor of roll-in blast chiller / freezer as there is a sanitation risk.

Remote condensing units

The refrigeration capacity requirements for equipment specified in the technical data sheets are defined for the installation of an independent condensing unit for each equipment.

Where more than one equipment are connected to a single condensing unit, the simultaneous operation of the blast chiller should be determined to choose the refrigerating capacity for the unit.

Make sure that the lowest evaporation temperature (-30 °C for chilling only versions, -45 °C for combined or freezing versions) is maintained for equipment coming to the end of the cycle when an equipment (or more than one) starts with warm products. An increase in the evaporation temperature during the cycle increases the chilling time.

Never install a single condensing unit for more than one blast freezer equipment if they are to operate simultaneously. In such circumstances, always install a separate condensing unit for each equipment.

In addition to the compressor, condenser and receiver, the unit should be fitted with: low ambient control, high pressure controller, automatic pump down controller, drier, sight glass, line, insulation and refrigerant load. Depending on the ratings, the installation of a separate oil separator, liquid valve, suction trap, etc. is recommended.

An electric power source and protection for the condensing unit which is independent from the equipment will be required.

Note

- Take into account the pressure drops on the refrigeration lines when dimensioning the unit. The refrigeration requirements for the equipment are expressed for delivered power at the location of the equipment, with a maximum line length of 15 m between the condensing unit and the equipment (observing working practices on the dimensioning of the refrigeration line). Beyond this distance, the unit should be more powerful to compensate pressure drops.
- Install “traps” on the rising aspiration lines and provide slopes in the line so that the oil is returned to the compressor.

CARRY OUT A CHECK FOR LEAKS ON THE REFRIGERATION CIRCUIT BEFORE LEAVING THE INSTALLATION.

CHECK THE SETTINGS AND CHECK THE CORRECT OPERATION OF THE SAFETY DEVICES ON THE CONDENSING UNIT.

Recommended connections between the remote condensing unit and the equipment (refer to the technical manual)

As a general rule, no electrical connection is required between the condensing unit and the equipment. The condensing unit should operate in “pump down" control, cut-out and start by the low pressure pressure switch.

- Single pump down operation can be performed (refer to the technical manual). In this case, a 3 x 1.5 mm^2 cable should be used to connect the condensing unit to the equipment.

- Connection of the unit safety line (thermal relay, safety pressure controller, etc.) to the "Compressor thermal relay" input of the electronic control. 2-conductor cable (1.5 mm² - 230 V).
- For condensing unit fitted with an anti-short cycle delay on the compressor, connection of the liquid solenoid valve cut-in electric power supply during the anti-short cycle delay of the compressor. 2-wires cable (1.5 mm² - 230 V).
- For condensing unit fitted with a power reduction device or with several compressors, connection of the power reduction control on the electronic control “End of cycle” signal (depending on config.). 2-wires cable (1.5 mm² - 230 V).

Provide for additional relays for these connections.

Provide for the laying of cables between the blast chiller/freezer and the remote condensing unit.

Installation of the condensing unit on the outside

Use a unit with bodywork designed for exterior installation or place the unit where it is protected from the elements (rain, sun, etc.).

Place the unit in such a way that condenser air flow does not go against the prevailing wind.

Observe the minimum distances between the unit and the walls nearby, especially where the condenser is located and for technical access.

Installation of the condensing unit in the machine room

Install preferably a unit with remote condenser (outside) or water-cooled condenser connected to a cooling tower.

For air-cooled condensing units, make sure the heat given off by the unit is released. It should operate within the range of temperatures laid down by the manufacturer.

External connections for electronic control (see EXTERNAL CONNECTIONS diagram)

To benefit from certain functions, connect the control to external components of the blast chiller / freezer (see also technical manual).

Contact input
- SIG 1: Dry contact remote condensing unit fault

SAFETY

- If the equipment is intended to operate during the night, with no surveillance, the SIG 1 remote condensing unit fault input must imperatively be connected.
- If not connected, a stop of the remote condensing unit may give rise to a significant rise in temperature in the equipment, likely to destroy it.

This input enables the electronic control to see if the condensing unit is in fault state. In order for the control to benefit from this signal, connect inputs 17 and 19 of the A0 board to the remote report of the condensing unit, if present.

No condensing unit fault: open dry contact input.
Condensing unit fault: closed dry contact input.

- **Is**: pulse contact.

  This input is used to stop the equipment after the end of the cycle (during maintaining).
  The contact must remain closed for at least 3 seconds for the stop request to be taken into account.
  Connect the contact to terminals 14 and 16 of the A0 electronic board.

Contact outputs, remote information reports

- **AL**: alarm report contact.

  Terminal blocks 4 and 5 on the upper level of the A0 board must be connected to equipment of 230 V (8 A maximum).

- **FC**: end of cycle contact.

  Possibility of recovering an "End of cycle" signal. This contact closes at the end of the cycle (start of maintaining). It resets after stopping the maintaining.
  Use terminals 1 and 3 of the upper level of the A0 board on equipment of 230 V (8 A maximum).

- **CE**: cycle in progress contact.

  Possibility of retrieving a "cycle in progress" signal. This contact closes for the duration of a cycle and opens when the cycle is completed.
  Use terminals 1 and 5 of the upper level of the A0 board on equipment of 230 VDC (8 A maximum).

- **MODBUS RS485C**
  Connect the Modbus to terminals:
  30: Shielding
  31: -
  32: +
  See the technical manual for information on operating the Modbus RS485C.

FINISHING

Internal accessories

Remove the adhesive used to hold the accessories during transport.

Remove the accessories and install them.

Plastic protection

As the equipment is ready for use, you can therefore remove the protective plastic film covering the external finish.

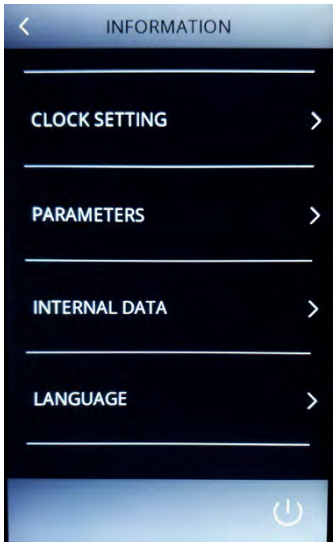
INITIAL PARAMETERS AND CHECK OPERATION

CLOCK SETTING or RTC Error

After a prolonged stoppage, the control may display an RTC error when it is turned on requesting the Date and Time to be set.

Update of the CLOCK SETTING is required for the HACCP alarms.

To update the Date and Time press the key, the screen below will appear.



By pressing CLOCK SETTING, the screen displays a setting page.

Press the value to be changed and set it using the and buttons or the cursor between these two buttons.

Confirm the CLOCK SETTING by pressing the button.

LANGUAGE

To change the interface language, touch the LANGUAGE button.

INITIAL PARAMETERS

(see also the technical manual)

To change the factory configuration of the equipment to the user's requirements:

- Press the button.
- Then PARAMETERS.
- Then PARAMETERS SETUP.
- Enter the password "-19".
- Press the button.
- Select the parametrer with the and buttons.
- Select the parameter by pressing it.
- Change its value with the and buttons.
- Press this new modified value to confirm it.
- Exit the parameters with the back button.

Food probe temperatures		
They are defined by the regulation or a HACCP approach, but also according to the function.		
	r15	Core temperature on cycle start. If the average loading temperature of the products in the equipment is always very different from the factory setting, it is necessary to adjust this parameter to reality (reduction), and to reduce the parameter r40 value Factory: +63 °C or +70 °C.
	r3	Core temperature at the end of the blast chilling cycle Factory: +10 °C ou +3 °C.
	r4	Core temperature at the end of the blast freezing cycle Factory: -18 °C.

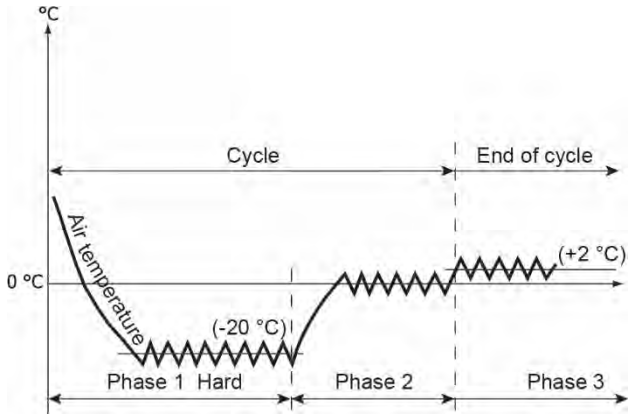
i-Chilling blast chilling cycle (self-adapting chilling, in Frigiprobe mode)		
The maximum duration of the cycle, between the core temperature on the cycle start and the core temperature on the cycle end, must be set according to the regulation or the function.		
	P23	Core temperature at start of i-Chilling cycle Factory: +63 °C or +70 °C.
	P40	Maximum duration of the blast chilling cycle Factory: 110 min or 90 min.
	P22R	Factory Factory: +10 °C or +3 °C.

Temperature unit		
P2	0	°C (factory)
	1	°F

Network identification		
LA	247	Identification number/address of equipment (USB, Modbus, etc.). It also appears on the name of the retrieved USB data CSV file.

CHECK OPERATION

To check and control the correct operation of the equipment during the temperature drop, carry out a test in blast chilling cycle, Hard, Timer mode.



Use a container with a height of 100 mm filled with less than half of hot water. Start-up the equipment.

Phase 1 - The air temperature displayed on the blast chiller / freezer goes down approximately to -20 °C during 60 % of the cycle time. On the control, the temperature varies by approximately 2 °C above and 2 °C below that value.

Phase 2 - The temperature rise at 0 °C during the 40 % of the remaining cycle time with the approximate variation of 2 °C around that value.

Phase 3 - Once the cycle time has run, the equipment switches to end of cycle and the air inside, rises to +2 °C. In the same way as during the cycle, the temperature varies by approximately 2 °C around that value.

The temperatures may be different because of the settings for the electronic control depending on the country of use.

STANDARD ELECTRICAL AND REFRIGERATION CONNECTION DIAGRAMS

Key to the diagrams

ITEM	DESCRIPTION
A0	Base board
A1	Touch screen
AL	Contact and alarm output
ACCC	Compressor anti short cycle
BE	Evaporation tank
BZ	Buzzer
C	Capacitor
CD	Condenser
CE	Cycle in progress contact output
CL...	Connection cable
CP	Compressor
DES	Drier
DTH	Thermostatic expansion valve
E1	Air temperature probe
E2	Door magnetic sensor
E3	Evaporator temperature probe
EV	Evaporator
EVM	Solenoid valve
F	Thermal relay

ITEM	DESCRIPTION
FC	End of cycle contact output
FS...	Frigisonde
FU	Fuse
IS	STOP pulse
K	Contactor
RD	Defrosting/thawing resistance
RE	Evaporation resistance
REC	Runoff resistance
RF	Front frame heater
RL	Liquid receiver
SIG1	Default dry contact input for condensing unit
TS	Safety thermostat
TR	Screen power supply transformer
VC	Condenser fan
VE	Evaporator fan
VF	End of cycle light
VL	Liquid valve
VO	Sight glass

INDICES AND ANNOTATIONS	
noir	Black wire. Important position

Remote condensing unit to be wired in “pump down” control.

The number of evaporator fans can vary according to the model. De-icing resistances depending on model.

COLOURS OF WIRES	
B	White
J	Yellow
M	Brown
N	Black
R	Red

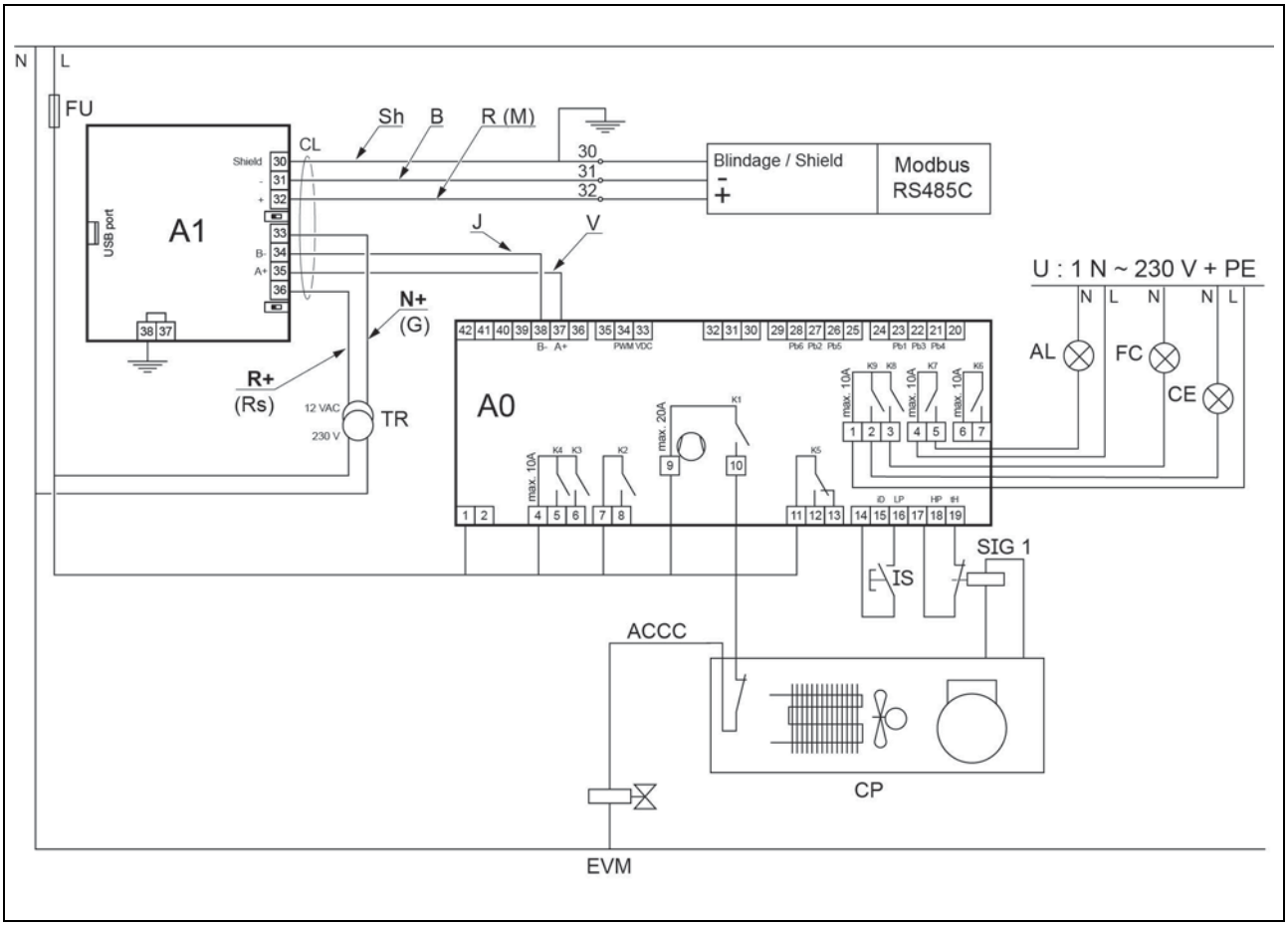
COLOURS OF WIRES	
Rs	Pink
Sh	Shied
V	Green
+	Larger wire section

Voltage identification

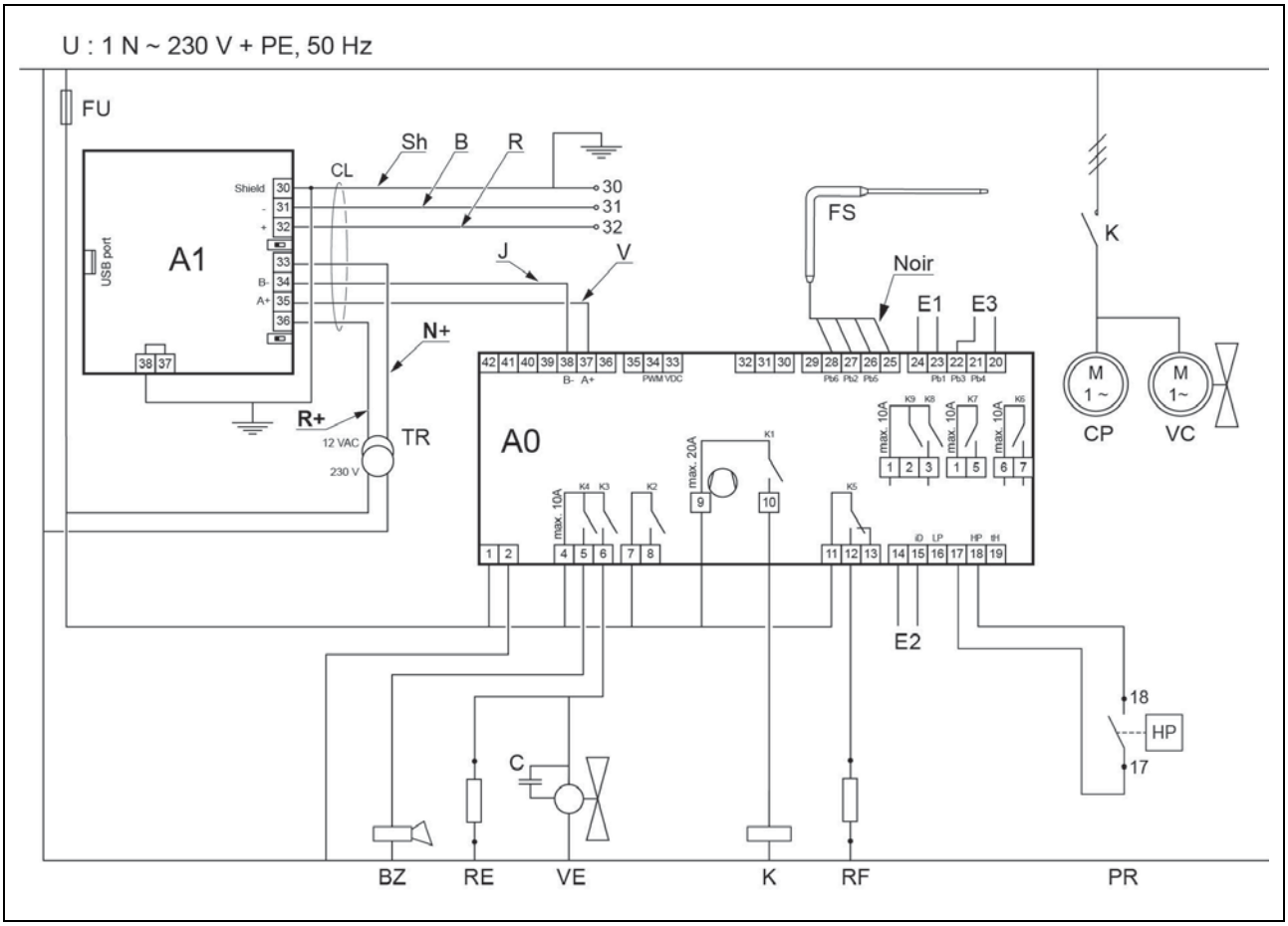
U: 1 N ~ 230 V + PE, 50 Hz → single phase voltage (1 N), 230 V AC + earth (PE), 50 Hz

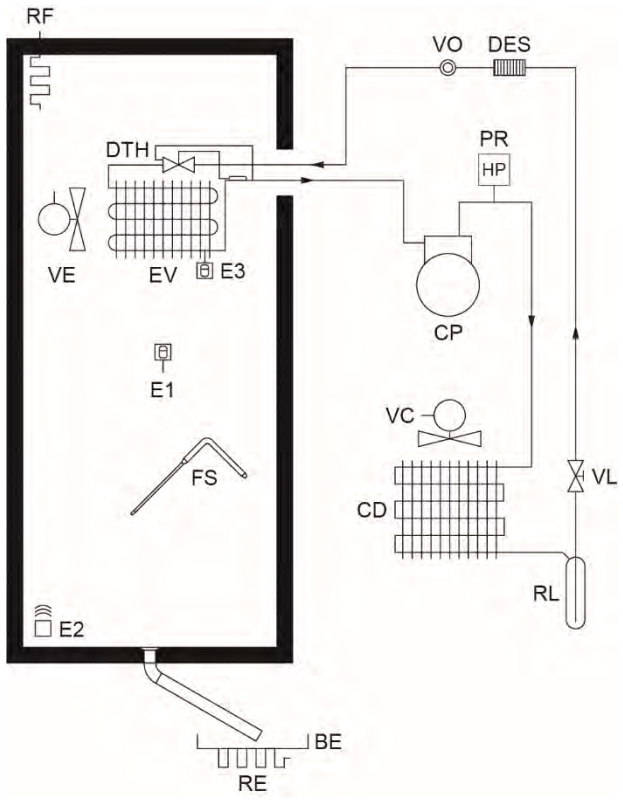
U: 3 N ~ 400 V + PE, 50 Hz → three-phase voltage + neutral (3 N), 400 V AC + earth (PE), 50 Hz

EXTERNAL CONNECTIONS (as required)

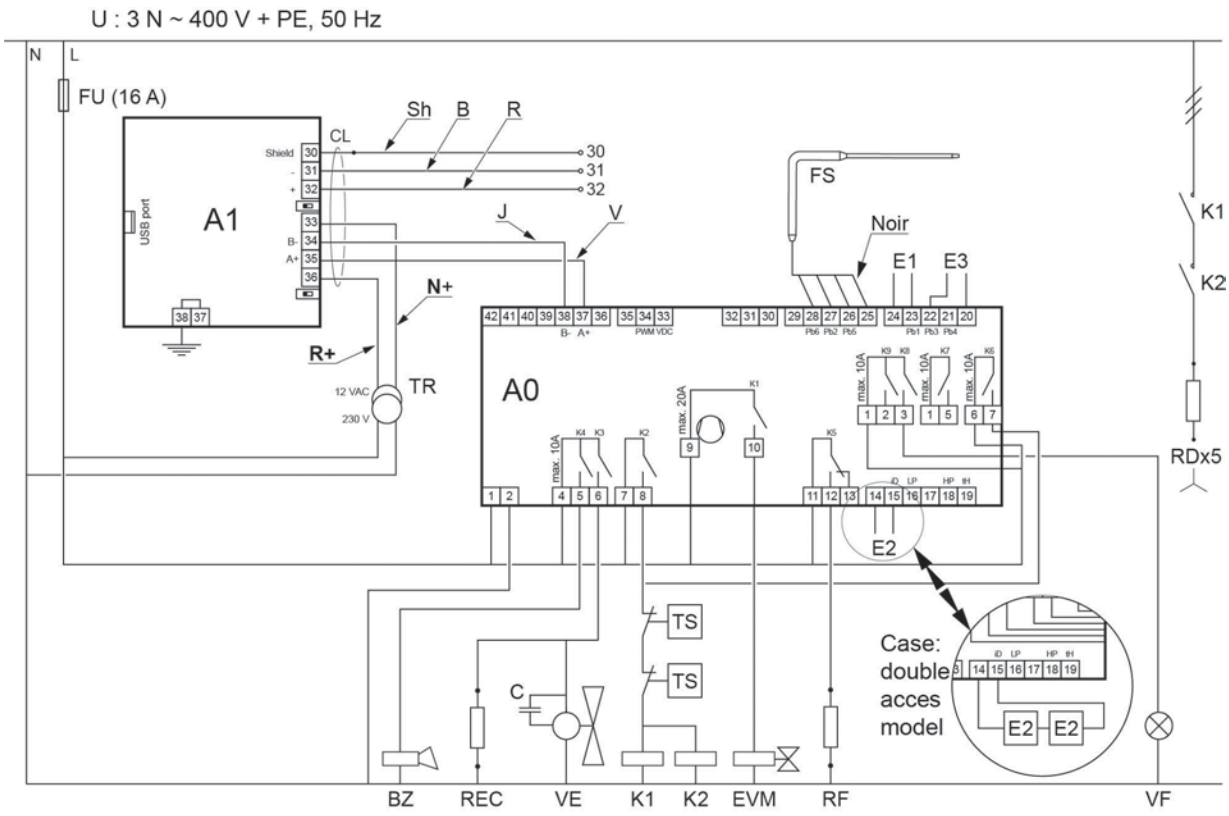


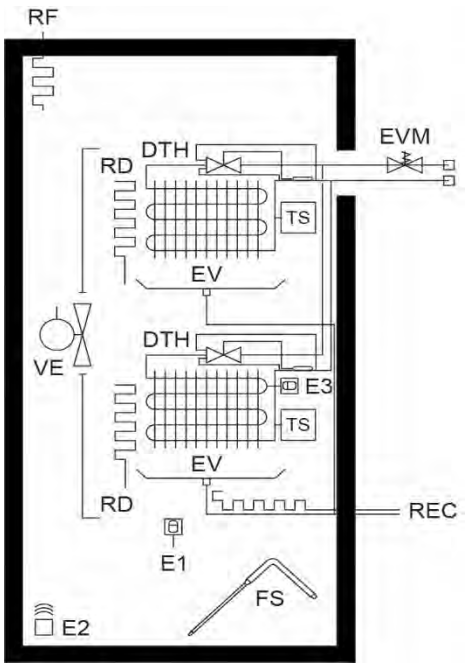
EXAMPLE: REACH-IN MODEL WITH HOUSED CONDENSING UNIT





EXAMPLE: ROLL-IN MODEL WITH REMOTE CONDENSING UNIT





MAXIMUM CAPACITIES AND ELECTRICAL CHARACTERISTICS

	Blast chilling (1)		Blast freezing (1)		Capacity and electrical consumption. Dependent upon ecodesign settings (2)				Electrical power	Installed capacity	Nominal rating	R455A fluid loaded	Max. number of levels depending on specified space between levels
	from +65°C → +10°C core (1)		from +65°C →-18°C core	from +20°C → -18°C core (3)	from +65°C → +10°C in 2 h		from +65°C → -18°C in 4 h 30						
	Max. 5 kg per level in max. 2 hrs	Max. 5 kg per level in max. 90 min	Max. 5 kg per level in max. 4 hrs 30										
	(kg/cycle)	(kg/cycle)	(kg/cycle)	(kg/cycle)	(kg/cycle)	(kWh/kg)	(kg/cycle)	(kWh/kg)		(kW)	(A)	(kg)	N (mm)
Reach-in blast Chiller / Freezers (GN1/1)													
MX 20-10 A V2 R455A TS7	20	12	10	-	20	0,0969	5	0,5986	230V/1/50Hz	1,60	7,2	1,25	5 (64 mm)
MX 20-10 A ENC V2 R455A TS7	20	12	10	-	20	0,0969	5	0,5986	230V/1/50Hz	1,82	8	1,25	5 (64 mm)
MX 30-15 A V2 R455A TS7	30	20	15	-	25	0,1000	5	1,1218	230V/1/50Hz	1,80	8,3	1,25	10 (70 mm)
MX 45-20 A V2 R455A TS7	45	27	20	-	30	0,1073	10	0,6320	230V/1/50Hz	2,28	10,7	1,40	10 (70 mm)
MX 55-20 A V2 R455A TS7	55	30	20	-	50	0,0783	15	0,4935	230V/1/50Hz	2,70	12	1,65	15 (70 mm)
MX 75-35 A V2 R455A TS7	75	50	35	-	65	0,0782	15	0,6899	400V/3/50Hz	4,00	9,2	1,40	15 (70 mm)
MX 85-40 A V2 R455A TS7	85	50	40	-	80	0,0738	15	0,6715	400V/3/50Hz	4,00	9,2	1,65	21 (66 mm)
MX 65c A V2 R455A TS7	85	50	40 (4)	-	45	0,0930	15 (4)	0,6715 (4)	230V/1/50Hz 400V/3/50Hz (4)	3,30 4,00 (4)	15 9,2 (4)	1,75 1,65 (4)	*
Pastry reach-in blast Freezers (600/400)													
SXP 7P A V2 R455A TS7	-	-	-	3	-	-	5	0,5986	230V/1/50Hz	1,60	7,2	1,25	9 (32 mm)
SXP 19 A V2 R455A TS7	-	-	-	4,5	-	-	5	1,1218	230V/1/50Hz	1,80	8,3	1,25	19 (35 mm)
SXP 19P A V2 R455A TS7		-	-	6	-	-	10	0,6320	230V/1/50Hz	2,28	10,7	1,40	19 (35 mm)
SXP 30 A V2 R455A TS7		-	-	9	-	-	15	0,4935	230V/1/50Hz	2,70	12	1,65	30 (35 mm)
SXP 43 A V2 R455A TS7	-	-	-	14	-	-	10	0,8909	400V/3/50Hz	4,00	9,2	1,65	43 (33 mm)

The values for this table relate to the blast chiller/freezer with installed unit.

(1) GN 1/1 stainless steel tray, height 40 mm, with 5 kg of mashed potatoes.

The chilling and freezing capacities may vary relative to the above-mentioned tables in real life conditions according to the type of product, its thickness, type of packaging (with membrane seal or not) and the weight of the product in the packaging, the quantity of products in the equipment, the type of trolley, etc.

(2) In accordance with the EN 17032 standard.

(3) Unproved 55 g Danish pastries.

(4) With the Combined option only.

* For 1 GN 1/1, 20-level trolley (not supplied) with ROSINOX Grandes Cuisines (Eloma system), Rational (Frima), Küpperbusch, Convotherm, Electrolux, Hounö, Lainox and Metos combined ovens. As per their configuration.

	Blast chilling (1) from +64,5°C → +8,5°C core		Blast freezing (1) (2) from +64,5°C → -19,5°C core	Electrical power	Installed capacity	Nominal rating	R452A fluid loaded	Max. number of trolleys GN1/1
	in maximum 2 hrs (kg/cycle)	in maximum 90 min (kg/cycle)	in maximum 4 hrs 30 min (kg/cycle)		(kW)	(A)	(kg)	N (mm)
Roll-in blast Chiller / Freezers (GN1/1)								
UMX 1A GLS TS7-2	80	70	30	400V/3/50Hz	5,7	16	3,6 (3)	1
UMX 1SX TS7-2	110	80	50	230V/1/50Hz	2,7	13	/	1
MX 1A GLS TS7-2	80	70	30	400V/3/50Hz	5,7	16	3,6 (3)	1
MX 1SX TS7-2	110	80	50	230V/1/50Hz	2,7	13	/	1
MX 1LA TS7-2	80	70	30	400V/3/50Hz	5,7	16	3,6 (3)	1
MX 1LSX TS7-2	110	80	50	230V/1/50Hz	2,7	13	/	1
MX 2S / MX 27S / MX 29S-2 TS7-2	160	130	80	400V/3/50Hz	4,4	12	/	2
MX 2SX / MX 27SX / MX 29SX-2 TS7-2	220	160	100	400V/3/50Hz	4,4	12	/	2
MX 29SX TWIN TS7-2	220	160	100	400V/3/50Hz	8,2	22	/	2
MX 3S TS7-2	240	210	110	400V/3/50Hz	6,7	17	/	3
MX 3SX TS7-2	330	240	140	400V/3/50Hz	6,7	17	/	3
MX 4S TS7-2	320	280	150	400V/3/50Hz	7,3	17	/	4
MX 4SX TS7-2	400	320	180	400V/3/50Hz	7,3	17	/	4
MX 4SX TWIN TS7-2	440	320	180	400V/3/50Hz	10,8	20	/	4
MX 6SX TS7-2	400	320	130	400V/3/50Hz	7,3	17	/	6
MX 6SX TWIN TS7-2	640	480	280	400V/3/50Hz	10,8	20	/	6
Pastry roll-in blast Freezers (600/400)								
USXP 1cA GLS TS7-2	/	/	17	400V/3/50Hz	5,7	16	3,6 (3)	1*
USXP 1cS TS7-2	/	/	30	230V/1/50Hz	2,7	13	/	1*
SXP 1cA GLS TS7-2	/	/	17	400V/3/50Hz	5,7	16	3,6 (3)	1**
SXP 1cS TS7-2	/	/	30	230V/1/50Hz	2,7	13	/	1**
SXP 1LcA TS7-2	/	/	17	400V/3/50Hz	5,7	16	3,6 (3)	1**
SXP 1LcS TS7-2	/	/	30	230V/1/50Hz	2,7	13	/	1**
SXP 2cS TS7-2 / SXP 27cS TS7-2 / SXP 29cS-2 TS7-2	/	/	60	400V/3/50Hz	4,4	12	/	2***
SXP 3cS TS7-2	/	/	100	400V/3/50Hz	6,7	17	/	2
SXP 4cS TS7-2	/	/	120	400V/3/50Hz	7,3	17	/	2
SXP 6cS TS7-2	/	/	180	400V/3/50Hz	7,3	17	/	4

Roll-in blast chiller / freezers can accommodate a large number of standard and oven trolleys.

Please refer to the equipment technical data sheet for further details.

(1) The maximum load for blast chilling and blast freezing is 3.6 kg per level for roll-in blast chiller / freezers in GN 1/1 format (530 x 325 mm), 7.2 kg per level for roll-in blast chiller / freezers in GN 2/1 format (650 x 530 mm) and 1.75 kg per level for roll-in blast chiller / freezers of bakery / pastry products (600 x 400 mm). A level is a stainless steel wire tray.

(2) With option Combined operation only.

(3) Unit supplied separately, refrigerant charge required.

* Special UltraCompact 600 x 400 ladder trolley.

** Freezing of 250 g shaped raw baguettes, from +20 °C to -18 °C, 600 x 400 mm trolleys instead of GN 1/1.

*** 600 x 400 ladder-type trolley without rubber buffers at the corners.

GUARANTEE

The contractual guarantee consists of the pure and simple exchange of parts recognised as being defective by us, or their repair, after examination by our technical department, excluding any other indemnity whatever its nature may be.

PERIOD

Our equipment are guaranteed for one year from the date of delivery to the first purchaser.

CONDITIONS OF APPLICATION

You should only use your equipment under the normal conditions of use for which it is intended, in accordance with this manual. If this is not the case, our guarantee cannot apply and our liability cannot be assumed. The guarantee is excluded for incidents which result from acts by the purchaser whatever their nature may be: incorrect installation or acts linked to the use such as control and maintenance not in accordance with the maintenance handbook, unqualified personnel, alterations to the equipment, negligence or lack of surveillance. This guarantee does not apply where third parties or the purchaser have carried out repairs.
It also does not apply to the resistances and the components used in the various electric equipment, in particular bulbs likely to be damaged by over-voltages and other causes independent of the design of the equipment.
In all circumstances, refer without delay to your installer responsible for after-sales service who sold you the equipment, taking this manual with you.
The guarantee does not apply to utensils and accessories which are not an integral part of the equipment.
Under no circumstances can we be held responsible for the direct or indirect consequences of the difficulties whether as regards persons or goods.

LEGAL GUARANTEE

The provisions of this guarantee document do not exclude the enjoyment by the purchaser of the legal guarantee for defects and latent defects which in any case apply under the conditions of articles 1641 et seq. of the French Civil Code.

TO BENEFIT FROM THE GUARANTEE

The different instructions contained in this manual as regards the installation and maintenance are to be strictly observed. Failing that, no guarantee of whatsoever nature will be given.

REPLACEMENT PARTS

In the event of a claim or to order spare parts, give:

- THE EXACT TYPE OF THE EQUIPMENT,
- THE DESCRIPTION OF THE PART,
- THE SERIAL NUMBER (which appears on the identification plate located on the equipment).

1) TO ORDER SPARE PARTS
Refer to your installer.
2) IN THE EVENT OF A CLAIM
Refer to our After-Sales Service.

IT IS RECOMMENDED THAT A MAINTENANCE CONTRACT IS TAKEN OUT WITH YOUR INSTALLER.

.

FRIGINOX

LE FROID PROFESSIONNEL