Froilabo

Precision for life

# CRP100E

**User Manual**

Ref: UM_CRP100E_EN_rev1.0

Read this manual before use!

Froilabo
Precision for life

This manual has been designed to describe the features of the CRP100E and to help you use it in optimal conditions with the greatest safety for you and your components.

Please pay attention to the advice given below. They will allow you to prevent malfunctions — find possible remedies — and above all to help you use this temperature forcing system with maximum efficiency.

**We hope you appreciate this manual and wish you success in using the CRP.**

Froilabo SAS – 5 avenue Lionel Terray – 69330 Meyzieu - FRANCE
☎ +33 (0)4 4 78 04 75 75 ✉ froilabo@froilabo.com

# Table des matières

# How to Use This Manual

It is important to follow the instructions for use provided in this manual to ensure the proper functioning of the device or to exercise a possible claim under the warranty. Read all the instructions herein before starting the device and contact the manufacturer or supplier if you have any doubts about its proper use.

To use this manual:

- Read the manual carefully before using the device for the first time.
- Follow the instructions in the manual.
- This manual is an integral part of the product. Please keep it.
- If you need to transfer this device, be sure to include the user manual.
- In case of loss, on request, we will provide you with a new user manual.

When using this device, certain risks must be taken into consideration, as indicated by the following symbols:

This symbol is intended to draw your attention to information of great importance, indicating potential danger or a risk of bodily injury.

This symbol indicates the safety measures to be followed by the operator or technician to ensure the physical safety of people near the device. These measures should be followed carefully.

This symbol indicates risk of electrical shock.

This symbol indicates risk of burns due to the presence of extreme cold.

Throughout the manual, tips are also provided; these should be taken into account to ensure successful use:

☞ *A tip or trick to help get full use or performance out of the device.*

# General Warnings

## Operator Training

Ensure that all persons who install, use, and repair the device are aware of the risks associated with their work and the safety measures to be observed. All operators must read and understand the instructions included in this user manual before handling or using the CRP.

If hazardous or potentially hazardous products will be used, only persons familiar with the equipment should handle these products. These people must be able to carry out an overall risk assessment. Please contact Froilabo if you have any questions regarding the use of the equipment or the instructions.

## Protecting the Product

The equipment you have purchased is designed for professional use. Nevertheless, shocks to the chassis and vibrations must be avoided. Ensure that the equipment is inspected at regular intervals, depending on how often it is used. Also check (at least once every two years) that the safety and unauthorized use labels are still in place.

This device is equipped with basic protection against water and power cuts during operation, but any sudden stop will damage the refrigeration system. Take reasonable precautions to ensure continuity of chilled water and electrical supply.

## This Product Contains Refrigerants

Companies that install, service, maintain, repair or commission equipment containing refrigerants must have a certificate referred to in article R543-76 of the French Environmental Code or an equivalent certificate issued in the one of the member states of the European Union. Refer to local regulations outside the EU.

This device may contain fluorinated greenhouse gases under the Kyoto Protocol. For more details on disposal of the device, see the section Disposal in this manual.



Froilabo SAS — 5 avenue Lionel Terray — 69330 Meyzieu — FRANCE
☎ +33 (0)4 78 04 75 75 ✉ froilabo@froilabo.com

# Warranty

Optimal performance will be obtained by following the correct installation and operating instructions provided in this manual. Froilabo SAS guarantees that the equipment will function optimally in accordance with the conditions of installation and use set out in this manual.

**The warranty period is 24 months.**

It should be clear that the problem or failure must be related to a defect in material or workmanship. **Any further claims for damages are excluded.**

The lifespan of the product is approximately 10 years minimum under the proper conditions of use and respecting the correct inspection and maintenance procedures. Proper use includes following the instructions in this user manual and performing inspection and maintenance work as required.

The photos used in this document are not contractual.



Froilabo SAS — 5 avenue Lionel Terray — 69330 Meyzieu — FRANCE
☎ +33 (0)4 78 04 75 75 ✉ froilabo@froilabo.com

# Introduction

The CRP (Congélateur Rapide de Plasma) is designed to enable the rapid freezing of blood plasma from room temperature; the system is designed to freeze 100 250-mL or 30 600-mL pouches of blood plasma from 22°C to -30°C in a maximum of 90 minutes, but it can be used to freeze other products as well.

The CRP100E benefits from a very high rate of heat removal due to a high-capacity refrigeration system and a powerful fan that continually convects the air in the tank, ensuring efficient heat transfer with the finned evaporator.

The CRP is designed to freeze its contents quickly. Always respect internal tank surfaces, which can be very cold, and use protective thermal gloves to load and unload any product, shelving, or equipment used to load and unload the product.

## Technical Specifications

| Specifications | Blast Freezer CRP100E | |
|---|---|---|
| Construction | | |
| Type | Galvanised steel | |
| Paint | Epoxy | |
| Dimensions (mm) | 1990 x 900 x 1440 (H*W*D) | |
| Weight (kg) | 450 kg | |
| Electrical Supply | | |
| Voltage | 400 V Tri + N + T<br>50 Hz | |
| Current | Up to 40 A | |
| Temperature | | |
| Ambient temperature | 18 to 25°C<br>Do not exceed 30°C or 60% humidity | |
| Achievable temperature* | -50°C in the tank | |
| Chilled water supply | 6-12°C at point of entry<br>2-4 bar<br>4 $m^3$/hr (70 L/min) | |
| Refrigerants | | |
| Refrigerant | R452A (1st stage) | R23 (2nd stage) |

** Subject to conditions of use and product load.*



Froilabo SAS — 5 avenue Lionel Terray — 69330 Meyzieu — FRANCE
☎ +33 (0)4 78 04 75 75 ✉ froilabo@froilabo.com

## Environment

The CRP100E should be installed in a ventilated area, with a minimum clearance of 400 mm behind the system and 200 mm on both sides. Locate the freezer away from heat sources.

### Ambient Conditions

| | |
|---|---|
| Temperature required*: | **18 to 25°C**<br>Do not exceed 30°C |
| Relative humidity*: | **<60%** |
| Altitude: | **Below 2000 m** |

* When using the CRP in extreme conditions (above 25°C and 50% RH), performance could be reduced (affecting the minimum achievable temperature and causing high pressure on the refrigeration circuit).

Avoid exposing the CRP to direct or indirect sunlight.

If the area where the CRP is located is not well ventilated, performance could be impaired. While the refrigeration circuit uses a water-cooled condenser, the refrigeration components generate heat during use.

### Electrical Supply

| | |
|---|---|
| Voltage: | **400 V Tri + N + T** |
| Frequency: | **50 Hz** |
| Maximum current: | **40 A** |

The CRP is shipped with an unterminated 5-wire cable. A certified electrician should perform the installation to ensure a safe connection is made with the building 3-phase supply.

The electrical supply in your building should be fitted with a 32 A curve D anti-short circuit magnetothermal protection circuit breaker (motor support) with a 30-mA differential as an added safeguard.

### Chilled Water Supply

| | |
|---|---|
| Temperature (inlet): | **6-12°C** |
| Pressure (inlet): | **3-5 bar** |
| Throughput: | **4 $m^3$/hr** (70 L/min) |

The chilled water supply cools the refrigeration circuit and is required for the CRP to function.

The flow must be continuous during operation and remain within the stated temperature and pressure limits. While the freezer is equipped with a strainer, the supplied water should be clean and free of impurities.

The CRP is supplied with two steel-braid reinforced hoses 3 metres long to facilitate connection to the building water supply. The hoses are equipped with 3/4” female BSPP (gas) fittings. Otherwise, a connection can be made directly to the fittings on the rear of the CRP using 3/4” female BSPP (gas) fittings.

For environmental reasons and to maintain consistency of supply, Froilabo recommend a closed loop be used.



Froilabo SAS — 5 avenue Lionel Terray — 69330 Meyzieu — FRANCE
☎ +33 (0)4 78 04 75 75 ✉ froilabo@froilabo.com

# Before Switching On

Before switching on the CRP for the first time, there are several points to consider. It is necessary to familiarise yourself with the system and its basic functionality.

## Main Components

**Front**

A. Main power switch

B. Touchscreen

C. Door handle

D. Pivoting casters


**Rear**

F. Main power cable (unterminated)

G. Chilled water supply inlet

H. Chilled water supply outlet

I. Remote alarm




Froilabo SAS — 5 avenue Lionel Terray — 69330 Meyzieu — FRANCE
☎ +33 (0)4 78 04 75 75 ✉ froilabo@froilabo.com

The CRP is intended to freeze product from ambient temperature as quickly as possible. It operates in two modes: freezing and preservation.

During a freezing cycle, the CRP refrigeration circuit operates at full power. The intention is to cool the contents of the freezer tank as quickly as possible. The freezing cycle continues for a fixed amount of time and then checks whether the desired end sample temperature was reached or not. It is possible to tweak the cycle duration and final temperature.

When not running a freezing cycle, the CRP is in “preservation” mode: A pre-set temperature is maintained while waiting for the user to unload frozen product or launch a new freezing cycle. To derive maximum benefit from the CRP, the user should minimise preservation time where possible.

☞ *The CRP is not intended for use as a storage device. It is designed to freeze product quickly so that the product can be transferred to another location for long-term storage. If kept running for extended periods, an automated defrost cycle will kick in to remove frost build-up from the evaporator fins. For this reason, it is not recommended to leave the CRP running overnight. Refer to* DEFROST *section for more details.*

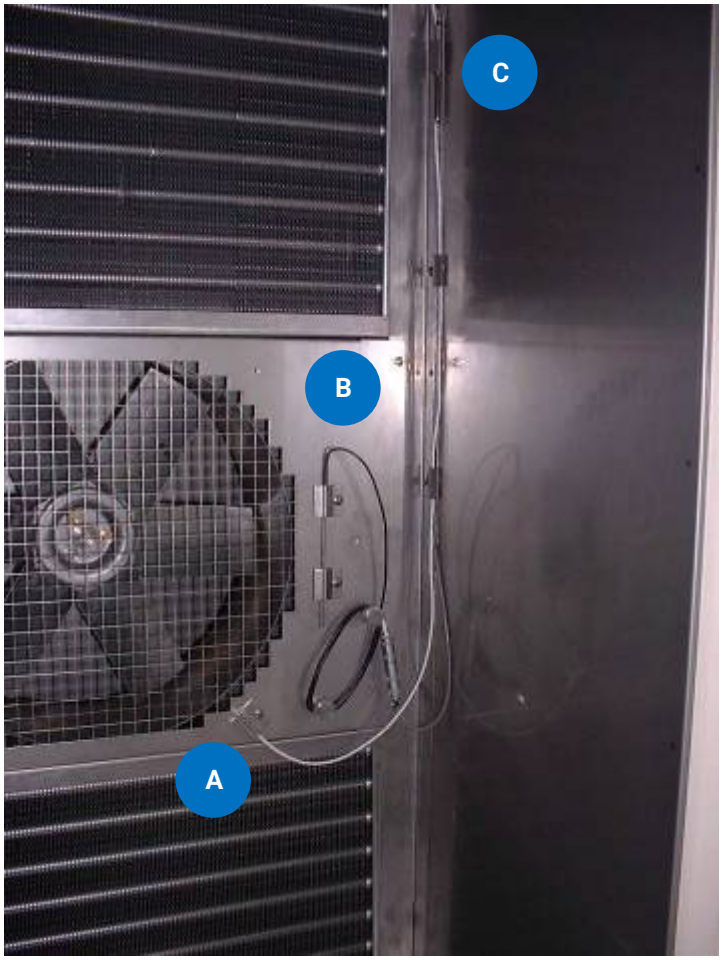
## Temperature Monitoring

Two temperature sensors are provided inside the freezer: one to monitor the air temperature in the tank and another to monitor the product temperature. There is also a thermostat to ensure the freezer cannot be operated if the temperature in the tank is too high.

A. Freezer temperature sensor

B. Sample temperature sensor

C. Thermostat bulb




The sample temperature sensor can be moved to place it directly on the product being frozen. When not in use, it is hung on the provided clips on the fan guard.

☞ *Temperature monitoring is based on the sample temperature sensor. Consider the best placement of the probe before running the freezer to ensure it reflects the product’s actual temperature as accurately as possible.*



Froilabo SAS — 5 avenue Lionel Terray — 69330 Meyzieu — FRANCE
☎ +33 (0)4 78 04 75 75 ✉ froilabo@froilabo.com

## Commissioning Procedure

The CRP must be installed in a ventilated area, with a minimum clearance of 400 mm behind the system and 200 mm on both sides. Locate the CRP away from heat sources.

1. Ensure the CRP is wired to the building electrical supply and powered off.
2. Connect the CRP to the chilled water supply.

☞ *It is recommended to install manual cut-off valves on the incoming and outgoing water lines to facilitate isolating the CRP from the building water supply.*

3. Locate the flexible plastic drain tube where you want to drain any meltwater or spills from the CRP tank.

☞ *Consider the release of possible contaminants due to the nature of the product being frozen when deciding whether to drain the tank into an open drain or a closed receptacle. It is recommended to incorporate the waste from the CRP tank into your site waste management plan with any appropriate disinfection or cleaning steps.*

4. Turn the CRP on using the rotating power switch.
5. Ensure the touchscreen does not display any faults or system alarms.

The CRP is now ready to use.



Froilabo SAS — 5 avenue Lionel Terray — 69330 Meyzieu — FRANCE
☎ +33 (0)4 78 04 75 75 ✉ froilabo@froilabo.com

# Touchscreen and Usage Guide

The touchscreen on the front of the device allows you to control all the functionality of the CRP.


It is always on when the CRP is on.

## Start Screen

From the start screen, it is possible to do two things:

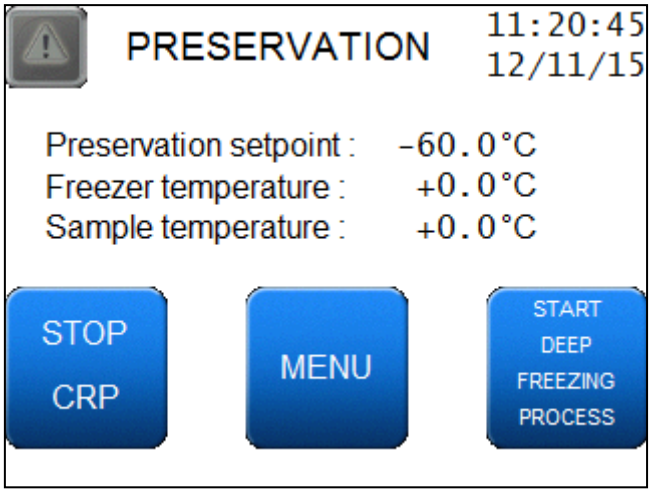
- Mute alarm buzzer by pressing on the warning triangle in the top left corner. (If no alarms are active, the button will be greyed out.)
- Start the CRP by pressing on the snowflake button.


On pressing the snowflake button, a dialogue will ask whether the user wishes to start the CRP. Note that pressing the green tick mark will start the refrigeration circuit, putting the CRP into Preservation mode. Pressing the red tick mark will return to the Start screen.



Froilabo SAS — 5 avenue Lionel Terray — 69330 Meyzieu — FRANCE
☎ +33 (0)4 78 04 75 75 ✉ froilabo@froilabo.com

When not running a freezing cycle, the CRP will default to the Preservation screen:




The Preservation temperature setpoint is displayed, as well as current measured freezer and sample temperature.

From this screen it is possible to:

**Stop CRP** — This will shut down the refrigeration circuit and return to the Start screen. It will not be possible to launch a freezing cycle until the CRP is started again.

☞ *To avoid premature wear on the refrigeration system's components, avoid starting and stopping the CRP more than once every 20 minutes.*

**Menu** — Allows access to additional features, system settings, and diagnostics. Note access is password-controlled.

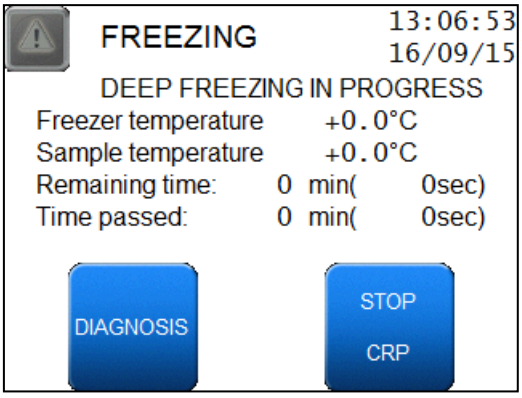
**Start Deep Freezing Process** — Launches a Freezing Cycle.



Froilabo SAS — 5 avenue Lionel Terray — 69330 Meyzieu — FRANCE
☎ +33 (0)4 78 04 75 75 ✉ froilabo@froilabo.com

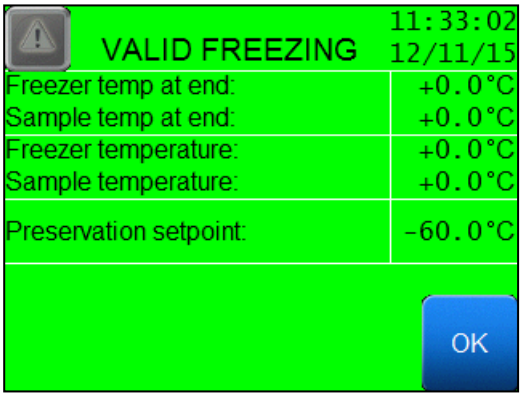
## Freezing Cycle

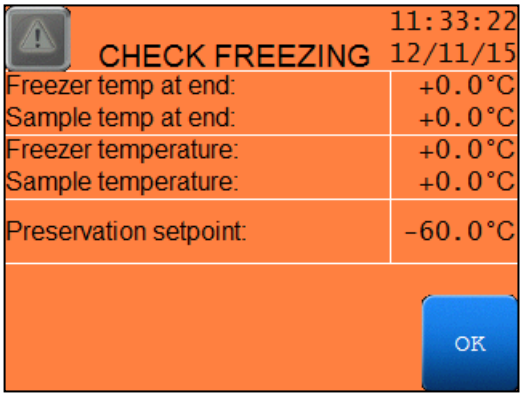
When a freezing cycle is launched, the screen displays the current temperature of the freezer and sample, as well as the time elapsed and remaining on the freezing cycle.




It is possible to stop the freezing cycle by pressing the STOP CRP button, or view freezer diagnostics by pressing the DIAGNOSIS button.

During the freezing cycle, the CRP refrigeration circuit works at full power to cool the contents of the freezer as much as possible. Once the pre-set freezing time has elapsed (see SETTINGS section), the CRP reverts to preservation mode and checks whether the set sample temperature has been reached before alerting the user:




☞ *Product temperature monitoring and alarms are based on the sample temperature sensor. Consider the best placement of the probe before running the freezer to ensure it reflects the product's actual temperature as accurately as possible. Cooling performance is typically best nearest the centre of the tank – it may be advisable to place the sample temperature probe on product loaded near the freezer floor or ceiling.*

This screen persists until the user acknowledges the result by pressing OK.



Froilabo SAS — 5 avenue Lionel Terray — 69330 Meyzieu — FRANCE
☎ +33 (0)4 78 04 75 75 ✉ froilabo@froilabo.com

## Optimising the Freezing Cycle

Based on the product load and desired end temperature, the CRP may be able to freeze product faster or slower than the 90 minutes pre-set in the factory.

The freezing cycle can be tweaked in the freezer SETTINGS to optimise cycle time in line with your requirements.

☞ *If the freezer is failing to reach the desired product temperature during the freezing cycle, consider increasing the cycle time, reducing the product load, or both.*

☞ *Decreasing the desired end temperature below -30°C can significantly increase the required freezing time, as the cooling efficiency decreases at lower and lower temperatures.*

☞ *Maintaining consistency between product loads is key to ensuring consistency of freezing performance. Avoid dramatic changes to the quantity or type of product loaded in the CRP, or ensure an appropriate freezing cycle is defined and set for each product mix loaded into the CRP.*

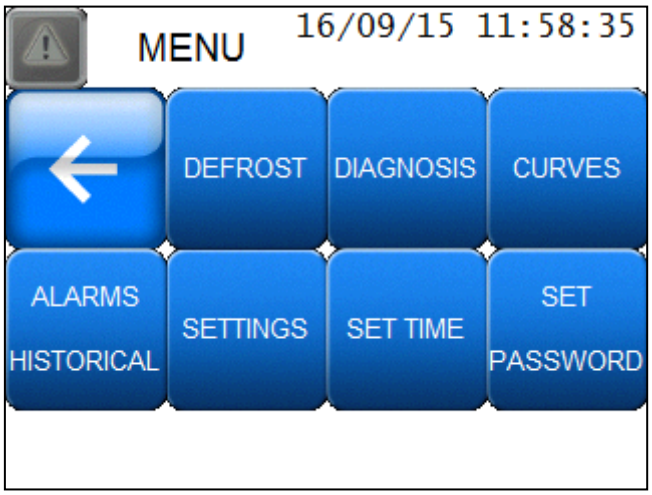


Froilabo SAS — 5 avenue Lionel Terray — 69330 Meyzieu — FRANCE
☎ +33 (0)4 78 04 75 75 ✉ froilabo@froilabo.com

## Menu

The Menu screen allows access to advanced features, diagnostics, and system settings.

☞ *The default password for Menu access is* 0000.




The Menu allows access to several functions:

| | |
|---|---|
| **Defrost** | Launch a system defrost cycle. |
| **Diagnosis** | Access the system diagnostics. |
| **Curves** | View the freezer temperature history for the preceding 30 minutes of operation. |
| **Alarms Historical** | View system alarm history. |
| **Settings** | Change system settings and setpoints. |
| **Set Time** | Change system date and time. |
| **Set Password** | Change Menu access password. |



Froilabo SAS — 5 avenue Lionel Terray — 69330 Meyzieu — FRANCE
☎ +33 (0)4 78 04 75 75 ✉ froilabo@froilabo.com

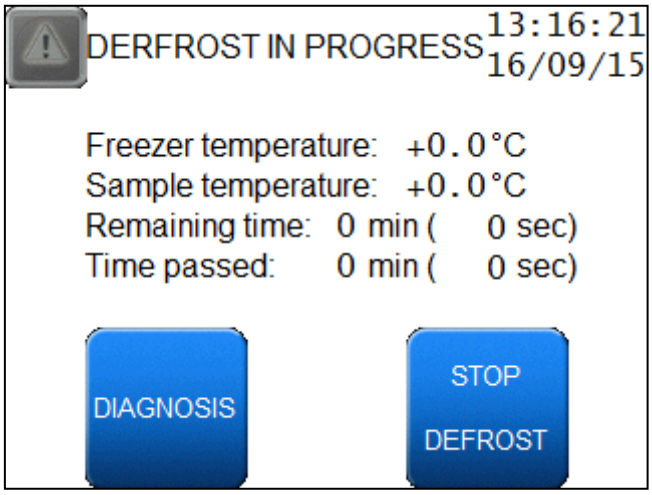
## Defrost

Due to the low temperatures in the CRP tank, any moisture present in the air will freeze to the tank's inner surfaces, including the evaporator fins. As a result, the cooling performance of the CRP will degrade if it is allowed to operate continuously.

The defrost cycle heats the CRP's tank for 12 minutes to melt any frost on the evaporator fins and ensure that cooling performance is not compromised.

☞ *By heating the evaporator, the defrost cycle may heat any product left in the tank above the intended storage temperature. For this reason, it is not recommended to leave the freezer running with product inside overnight and the freezer should never be run over the weekend.*

An automated defrost cycle will launch every 16 hours of operation if no freezing cycle is in progress (CRP is in preservation mode). It is also possible to launch a defrost cycle manually using the button on the system Menu:




During defrost it is possible to view system diagnostics or stop the defrost cycle early if needed.

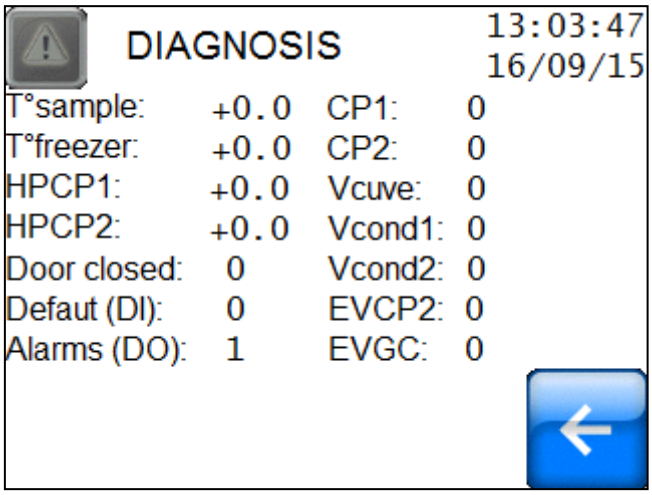


Froilabo SAS — 5 avenue Lionel Terray — 69330 Meyzieu — FRANCE
☎ +33 (0)4 78 04 75 75 ✉ froilabo@froilabo.com

## Diagnostics

The Diagnostics page gives real-time information about the operation of the freezer.

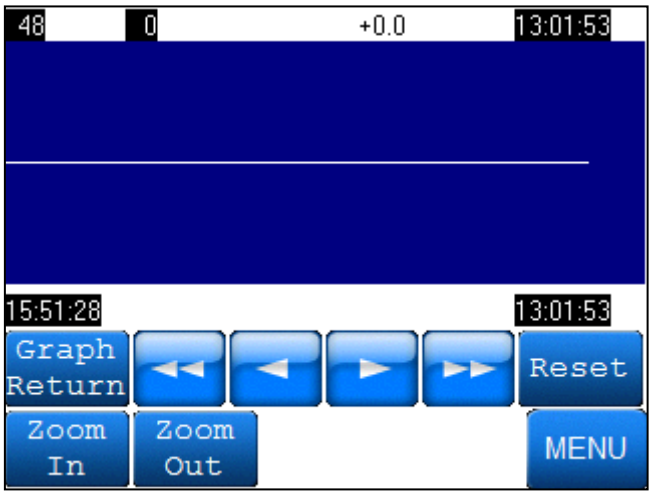
The Froilabo service team may request information from this page is there is an issue with the CRP's operation.




## Temperature Curves

The Temperature Curves function displays the last 30 minutes of temperature readings from the freezer tank.

Use the buttons to scan backwards and forwards and zoom in or out on a particular section.



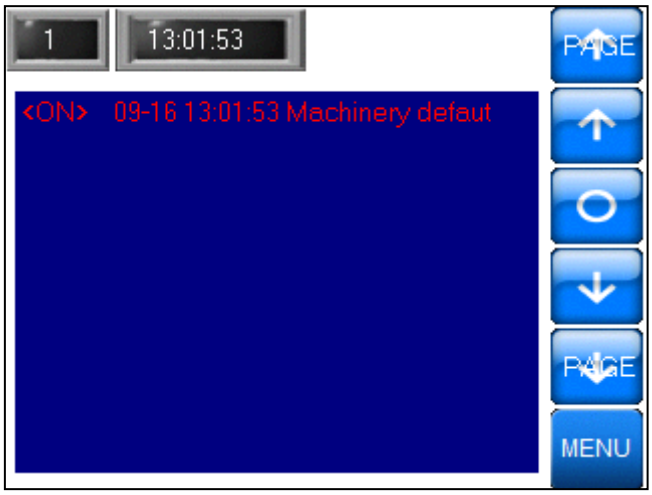



Froilabo SAS — 5 avenue Lionel Terray — 69330 Meyzieu — FRANCE
☎ +33 (0)4 78 04 75 75 ✉ froilabo@froilabo.com

## Alarm History

The Alarm History screen shows the chronological history of system alarms.

The arrows allow the user to scroll backwards and forwards through the alarm history.




☞ *An alarm is listed as <ON> when it becomes active and <OFF> when it is resolved.*

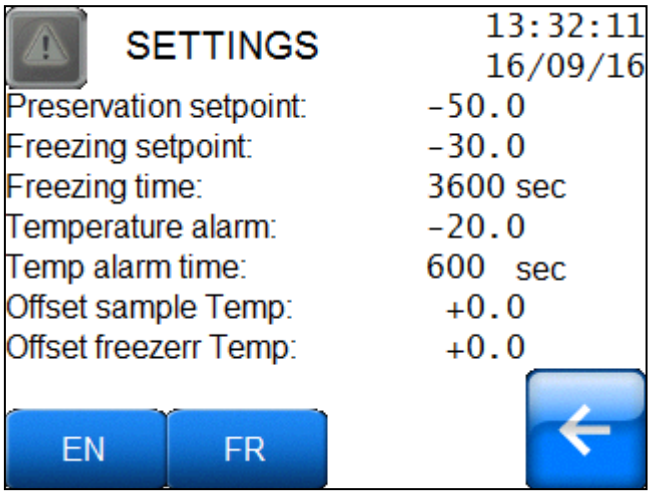


Froilabo SAS — 5 avenue Lionel Terray — 69330 Meyzieu — FRANCE
☎ +33 (0)4 78 04 75 75 ✉ froilabo@froilabo.com

## Settings

The Settings screen allows the user to view and change the various freezer setpoints.

Press on any setpoint to change it.




**Preservation setpoint** Temperature setpoint in °C to be maintained when the CRP is in preservation mode.
Default is -50°C

**Freezing setpoint** Temperature in °C product should reach by conclusion of freezing cycle.
Default is -30°C

**Freezing time** Duration of a freezing cycle in seconds.
Default is 5400 seconds (90 minutes)

**Temperature alarm** Temperature alarm limit in °C.
If the temperature in the tank remains above the set temperature for longer than the time specified while in preservation mode, an alarm will alert the user.
Default is -20°C

**Temp alarm** Temperature alarm timer in seconds.
If the temperature in the tank remains above the set temperature for longer than the time specified while in preservation mode, an alarm will alert the user.
Default is 600 seconds (10 minutes)

**Offset sample temp** Offset in °C to sample probe temperature reading.
Applied globally, used to correct reading if found to deviate on comparison with calibrated temperature probe.
Default is +0.0°C

**Offset freezer temp** Offset in °C to freezer probe temperature reading.
Applied globally, used to correct reading if found to deviate on comparison with calibrated temperature probe.
Default is +0.0°C

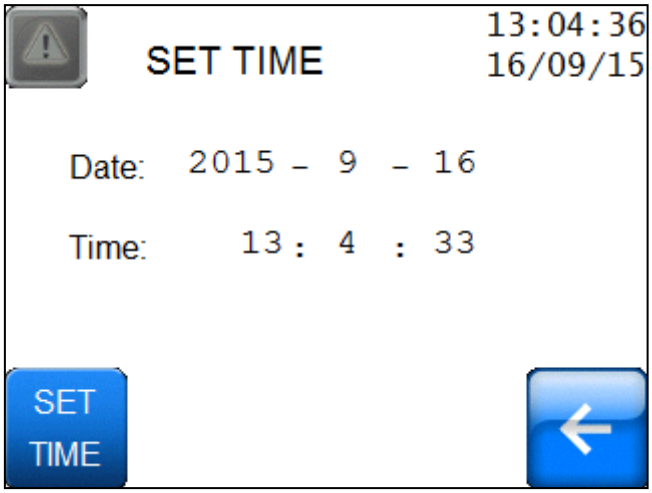
**EN/FR** Toggle touchscreen interface language between French and English.
Default is French



Froilabo SAS — 5 avenue Lionel Terray — 69330 Meyzieu — FRANCE
☎ +33 (0)4 78 04 75 75 ✉ froilabo@froilabo.com

## Set Time

This page allows the user to update the system date and time.




## Set Password

This page allows the user to change the system password.

The password is used to prevent unauthorised changes to system settings.

☞ *The default password is* 0000.



Froilabo SAS — 5 avenue Lionel Terray — 69330 Meyzieu — FRANCE
☎ +33 (0)4 78 04 75 75 ✉ froilabo@froilabo.com

# Faults and Alarms

Alarms indicate the presence of a problem and should be taken seriously. This section describes the various faults and the procedures to follow when an alarm is triggered.

The alarm resolution and prevention advice given in this section is not exhaustive; contact Froilabo for serious defects or if the cause of a defect cannot be identified and resolved.

## HP1 Fault

| | |
|---|---|
| Meaning: | The pressure in the refrigeration circuit has exceeded the safety limit. |
| Impact: | The refrigeration circuit stops and cannot be restarted until the fault is cleared. |
| | The buzzer sounds. |
| Resolution: | Confirm chilled water supply is flowing and temperature is between 6 and 12°C at CRP inlet. |
| | Confirm no excessive temperature or humidity in room. |
| | Confirm no obstructions to airflow through perforations on CRP rear panel. |
| | Acknowledge alarm. |
| | Contact Froilabo, describe the mode of use when the fault occurred. |
| Prevention: | Ensure environmental conditions (ambient temperature and humidity) and chilled water supply are always within system limits. |

## Machinery Fault

| | |
|---|---|
| Meaning: | An issue with the thermostat, refrigeration circuit safety pressure switch, or one of the thermal circuit breakers. |
| Impact: | The refrigeration circuit stops and cannot be restarted until the fault is cleared. |
| | The buzzer sounds. |
| Resolution: | Confirm temperature inside the tank does not exceed 35°C (thermostat setpoint). |
| | Check touchscreen diagnostics: Does the CP1 pressure reading exceed 27 bar? |
| | Acknowledge alarm. |
| | Contact Froilabo, describe the mode of use when the fault occurred. |
| Prevention: | Ensure air temperature inside tank never exceeds 30°C by maintaining appropriate ambient temperature and humidity or avoiding the placement of hot items in the tank. |



Froilabo SAS — 5 avenue Lionel Terray — 69330 Meyzieu — FRANCE
☎ +33 (0)4 78 04 75 75 ✉ froilabo@froilabo.com

## Temperature Alarm

| | |
|---|---|
| Meaning: | The temperature inside the tank has exceeded the setpoint for longer than the set time during operation (default: temperature above -20°C for longer than 10 minutes) while CRP is in “preservation” mode. |
| Impact: | The buzzer sounds. |
| Resolution: | Check whether warm product was loaded into CRP without launching a freezing cycle.<br><br>Check whether freezer door was left open.<br><br>Acknowledge the alarm.<br><br>Contact Froilabo, describe the mode of use when the fault occurred. |
| Prevention: | Ensure freezing cycle launched promptly each time product is loaded into freezer.<br><br>Ensure door closed fully when freezer is not being loaded or unloaded.<br><br>Review temperature and timer setpoints. Ensure temperature setpoint is higher than freezing cycle or storage temperature setpoints. |

## Check Freezing Alarm

| | |
|---|---|
| Meaning: | On completion of a freezing cycle, the temperature registered by the sample temperature probe exceeds the setpoint on the freezer. |
| Impact: | The buzzer sounds, but the freezer continues cooling and remains in preservation mode even after the user acknowledges the alarm. |
| Resolution: | Acknowledge alarm and check temperature of product. |
| Prevention: | Confirm freezing cycle duration is long enough to cool product load.<br><br>Confirm final temperature setpoint is correct.<br><br>Confirm product mass and temperature of product being loaded into freezer is not excessive.<br><br>Ensure door is not opened during freezing cycle.<br><br>Contact Froilabo, describe the mode of use when the fault occurred. |



Froilabo SAS — 5 avenue Lionel Terray — 69330 Meyzieu — FRANCE
☎ +33 (0)4 78 04 75 75 ✉ froilabo@froilabo.com

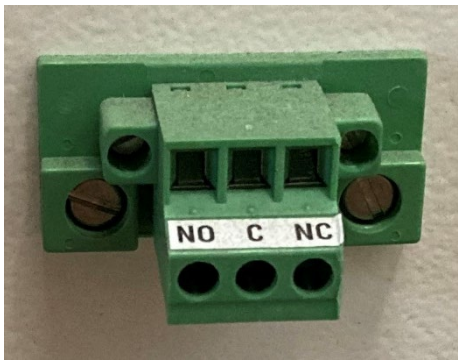
# External Monitoring

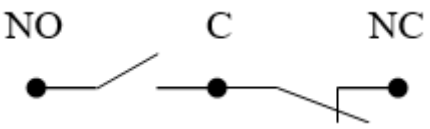
Basic remote monitoring capabilities are available on the CRP.

## Remote Alarm

A dry contact is provided on the rear of the CRP to monitor the freezer remotely for alarms.

The dry contact can be wired for Normally Open (NO) or Normally Closed (NC) monitoring. The central pin is common to both. The contact switches when an alarm is present.




AC or DC voltage can be wired to the remote alarm.

- For NO, do not allow current to exceed 6A.
- For NC, do not allow current to exceed 3A.

☞ *Froilabo recommends using the NC option, as improper wiring will open the connection.*

## RJ45

The user can access the touchscreen's temperature curves remotely. To do this, it is necessary to connect an external computer to the RJ45 port using an Ethernet cable and employ the Fuji Electric POD Viewer software.

☞ *The CRP's IP address is configured to* 192.0.0.180 *by default.*



Froilabo SAS — 5 avenue Lionel Terray — 69330 Meyzieu — FRANCE
☎ +33 (0)4 78 04 75 75 ✉ froilabo@froilabo.com

# Optional Trolley

An optional product-loading trolley is available. This trolley accommodates up to 25 shelves for simple loading and unloading of product from the CRP.

## Loading/Unloading the Freezer

Ensure both shelving unit locking pins (left and right) are secured to the shelving unit before moving the trolley.

Use caution when manipulating the shelving unit as the unit and product may be very cold!

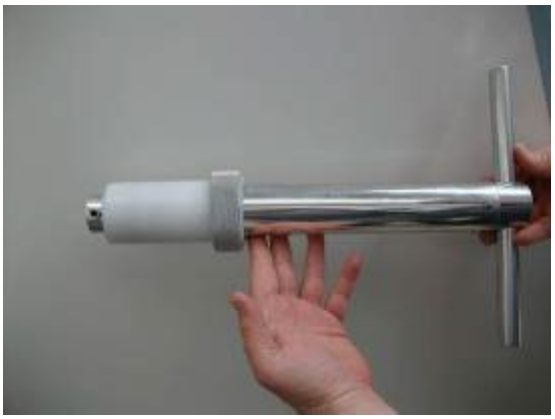
1. Ensure the CRP is started and in preservation mode.
2. Open the freezer door.
3. Push the trolley into alignment with the freezer; ensure the plastic skids in the freezer tank and on the trolley are aligned.

4. Lock the trolley wheels.



Froilabo SAS — 5 avenue Lionel Terray — 69330 Meyzieu — FRANCE
☎ +33 (0)4 78 04 75 75 ✉ froilabo@froilabo.com

5. Use the included handle to push or pull the shelves between trolley and freezer.
    a. Insert the handle into the keyhole on the shelves.




    b. Rotate the handle a quarter-turn.


    c. Rotate the plastic barrel to lock the handle to the shelving unit.



Froilabo SAS — 5 avenue Lionel Terray — 69330 Meyzieu — FRANCE
☎ +33 (0)4 78 04 75 75 ✉ froilabo@froilabo.com

d. Use the handle to slide the shelving unit into or out of the freezer.

   If loading product, it will be necessary to disengage the two locking pins, left and right, before pushing the shelving unit into the freezer.

   If unloading product, ensure the two locking pins, left and right, are engaged in the holes on the shelving unit before moving the trolley.

e. Disengage the handle from the shelving unit.

6. Unblock the wheels, remove the trolley, and close the CRP freezer door.

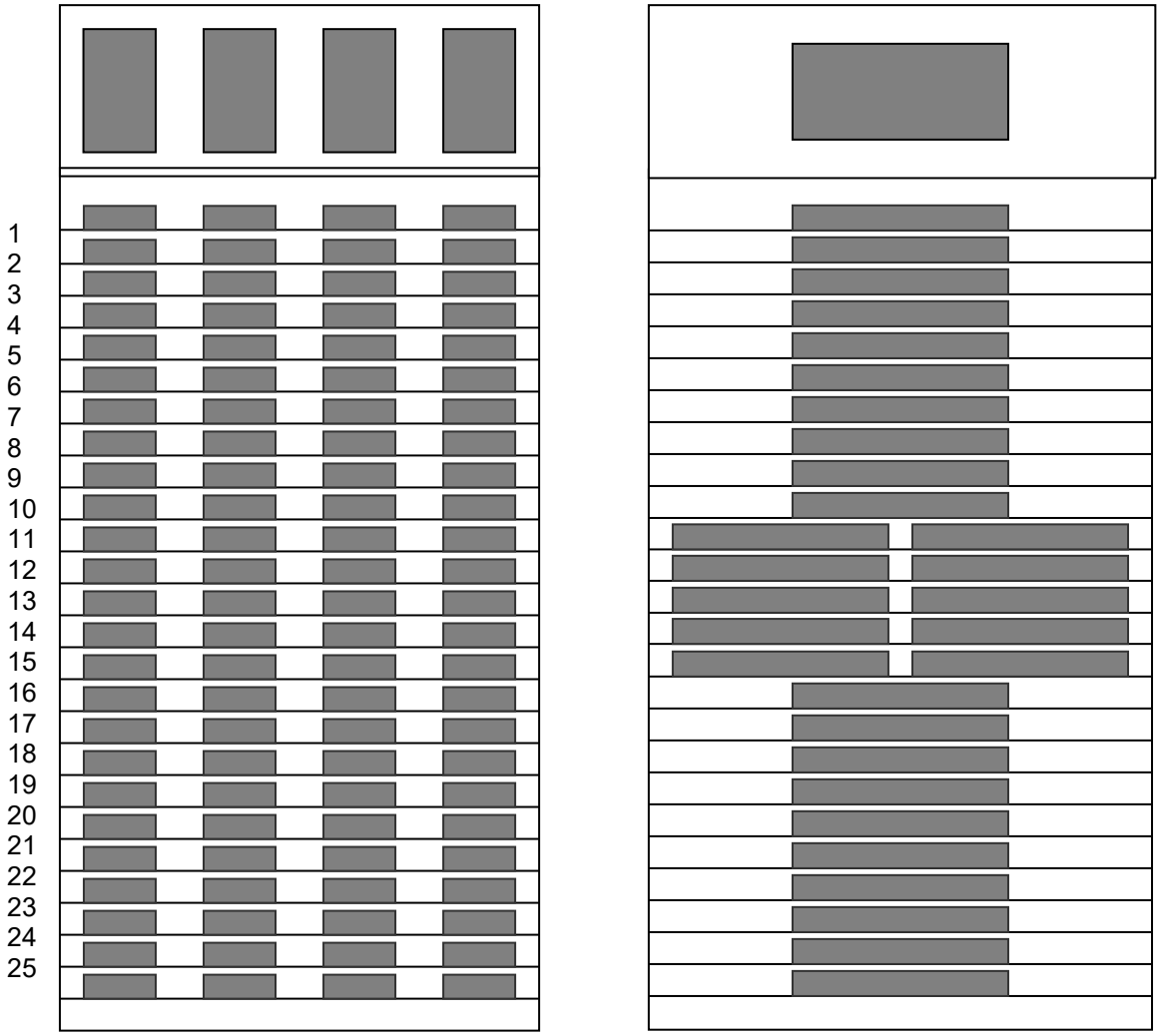


Froilabo SAS — 5 avenue Lionel Terray — 69330 Meyzieu — FRANCE
☎ +33 (0)4 78 04 75 75 ✉ froilabo@froilabo.com

## Loading Product on the Rack

Distribute the product evenly throughout the shelves and the shelving unit to ensure the best freezing performance.

The following examples show how to distribute 100 250-mL pouches or 30 600-mL pouches:




☞ *For optimal performance, do not stack product and ensure there are gaps between units. This allows the air to circulate freely, maximising heat transfer from the product and speeding up the freezing process.*

☞ *Note that cooling performance is marginally better near the centre of the tank; take this into consideration when distributing product on the shelves.*



Froilabo SAS — 5 avenue Lionel Terray — 69330 Meyzieu — FRANCE
☎ +33 (0)4 78 04 75 75 ✉ froilabo@froilabo.com

# Maintenance

The CRP's preventive maintenance requirements are minimal but necessary. This maintenance mainly concerns the tank.

Remember that the life expectancy of the device varies according to its service conditions.

## Daily Maintenance

While in use, monitor the CRP for large amounts of ice build-up on the evaporator fins. Launch a manual defrost cycle between freezing cycles if ice build-up is sufficient to impede airflow between the fins.

At the end of the day, defrost the CRP before stopping the refrigeration circuit and clean out the CRP tank and the inside of the door.

- Ensure any condensed water or spills are cleaned or drained out the flexible drain tube provided in the tank.
- Ensure appropriate precautions are taken after freezing hazardous materials to handle possible spills or contamination.
- Use non-corrosive cleaners compatible with the stainless steel, aluminium, and PVC.
- To avoid damaging the aluminium evaporator fins, do not attempt to clean them directly. Spray fins with an evaporating non-corrosive cleaner like 70% isopropyl alcohol and allow to air-dry before restarting the freezer.
- Scrape excess ice build-up from under the door gasket sealing fins if necessary.

Remember to give the tank time to return to a safe temperature before cleaning. Wear thermal gloves if cleaning the freezer while the inner surfaces are still below freezing.

Never attempt to dismantle the tank fan or evaporator guards. Contact Froilabo if a thorough tank cleaning is necessary.

Remember that the CRP is a freezing device, not a storage device. Stop the CRP overnight when possible and do not leave the CRP refrigeration circuit running over the weekend to avoid premature wear on the refrigeration circuit.

☞ *The CRP does not have to be powered off, simply stopped using the touchscreen.*

## Environment

Check your chilled water supply system frequently and keep it in good working order. Ensure the temperature remains stable and the water supply is constant within appropriate limits.

Check that the temperature and relative humidity of the room where the CRP is located are maintained within the limits indicated. Ensure the HVAC system in the room is working properly.

Ensure the CRP is kept a safe distance from other heat generating devices.



Froilabo SAS — 5 avenue Lionel Terray — 69330 Meyzieu — FRANCE
☎ +33 (0)4 78 04 75 75 ✉ froilabo@froilabo.com

## Routine Service Visits

In addition to these simple basic tips for taking care of the CRP, some internal checks may be required once or twice a year depending on the duty cycle to check the operation of the freezer (performance, security, alarms) and avoid unplanned outages. These inspections should be conducted by a specialist. Contact Froilabo to arrange a service visit and inspection:

### Twice Yearly

- Check the refrigerant charge
- Check motor current draws
- Safety check of alarms, thermostat
- Check mechanical parts for wear (handle, tank, trolleys)
- Comparison of the measured temperatures in the tank with an independent probe

### At Least Once Yearly

- Leak-check the system (legal requirement)
- Check the compressor oil for acidity
- Check the fan motor bearings



Froilabo SAS — 5 avenue Lionel Terray — 69330 Meyzieu — FRANCE
☎ +33 (0)4 78 04 75 75 ✉ froilabo@froilabo.com

# Transport and Disposal

## Transportation

Do not tilt the device. Keep the device as free from vibration as possible. At least two people are required to move the unit. Always wear protective gloves.

Contact Froilabo for help with decommissioning, packaging, and recommissioning if the device must be moved between buildings.

## Disposal

Decontaminate the unit before disposing of it in any way. Contact Froilabo for guidance and observe the applicable legal provisions when disposing of the product.

Information on disposal of electrical and electronic equipment in the European Community: Within the European Union, electrical equipment is subject to national regulations based on Directive 2002/96/EC on waste electrical and electronic equipment (WEEE). According to this directive, it is now prohibited to dispose of industrial appliances (of which this product is a part) delivered after 13.08.2005 with municipal or household waste. For ease of identification, these devices will be marked with the following WEEE symbol:



Froilabo SAS — 5 avenue Lionel Terray — 69330 Meyzieu — FRANCE
☎ +33 (0)4 78 04 75 75 ✉ froilabo@froilabo.com

## Service Contacts

*Siège social FRANCE*
Mail: froilabo@froilabo.com
Téléphone: +33 (0)4 78 04 75 75

*Service Export*
Mail: export@froilabo.com
Téléphone: +33 (0)4 78 04 75 75

*SAV*
Mail Monde: service.ex@froilabo.com
Mail France: service.fr@froilabo.com
Téléphone: +33 (0)4 78 04 75 75

Froilabo
Precision for life