

metos

ICE CREAM MACHINE

161T



User- and installation manual

SL 193-007086 Ed01 – 09-2020

MG4117218

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Your safety is the most important thing; please consider the following before starting:

Children must not play with the machine.

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance. Make sure that no technician will ever carry out operations outside his/her own knowledge and responsibility sphere. The cleaning and maintenance operations to be performed by the user cannot be carried out by children without supervision.

Emergency situations.

Warning: to stop the machine in case of any emergency situation, press the green button located on the front side of the machine and disconnect the power cable.

In case of machine lockout, switch it off and contact the service center or a specialized technician. In case of fire, the area must be immediately evacuated to allow the specialized personnel to intervene with suitable protection devices. Always use approved extinguishers, never use water or substances of an uncertain nature.

Prevent the risk of lethal electrical shock and fire:

- The connection to the power mains must be made in compliance with the prescriptions provided by the safety regulations in force in the country of use.
- **The power outlet used to connect the machine must:**
 - Match the type of plug installed on the machine;
 - Have the size indicated in the data plate;
 - Be connected to an efficient grounding system;
 - Be connected to a system with thermal/magnetic circuit breaker.
- **The power cable must not:**
 - Come into contact with any type of liquid.
 - Be squeezed or come into contact with cutting surfaces;
 - Be used to move the machine;
 - Be used when damaged;
 - Touched with wet or damp hands;
 - Be rolled up during operation
 - Be tampered with.
- **It is forbidden to:**
 - Install the machine in ways different from those shown;
 - Install it in areas where water splashes may occur;
 - Use it near flammable and/or explosive substances;
 - Allow children to play with it and stay within range
 - Use spare parts not recommended by the manufacturer;
 - Make any technical modifications to the machine;
 - Immerse the machine in any type of liquid;
 - Wash the machine with water jets;
 - Use the machine for purposes other than those indicated in the manual;
 - Use the machine when mental and physical conditions are altered by drugs, alcohol, psychoactive drugs, etc.;
 - Install the machine on other appliances;
 - Use it in explosive, corrosive environments or in the presence of a high airborne concentration of dust or oily substances;
 - Use it in environments posing the risk of fire;
 - Use it for the administration of substances which are not suitable for the characteristics of the machine (see the intended use in par. 2.1 Specifications).

Avoid any damage during the machine operation.

The improper use includes:

- Any use other than the intended one and/or involving the implementation of techniques different from those shown in this manual;
- Any intervention performed on the machine which is in contrast with the indications included in this manual;
- Any use following the tampering of components and/or safety devices;
- Any use following repairs performed using components not authorized by the manufacturer;
- Outdoor installation of the machine.

Any improper use will completely void the warranty and exempt the manufacturer from any liability in case of any resulting personal injuries and/or damage to property.

Cleaning.

During the cleaning process, proceed as follows:

- Use protective latex gloves. Once put on, wash your hands with a sanitizing solution.
- Do not use solvents or flammable materials.
- Do not use abrasive or metal brushes.
- Avoid dispersing liquids into the environment.
- Do not wash components in a dishwasher.
- Do not use a oven or a microwave oven to dry the components.
- Do not immerse the machine in water.
- Do not aim water sprays or jets directly at the machine.
- To wash, use only lukewarm water and an appropriate sanitizing product (complying with the current regulations in the country of use) which does not damage components.

HOPPER CAPACITY

5 L / 1.3 GAL

CYLINDER CAPACITY

1.35 L / 0.35 GAL

HOURLY PRODUCTION

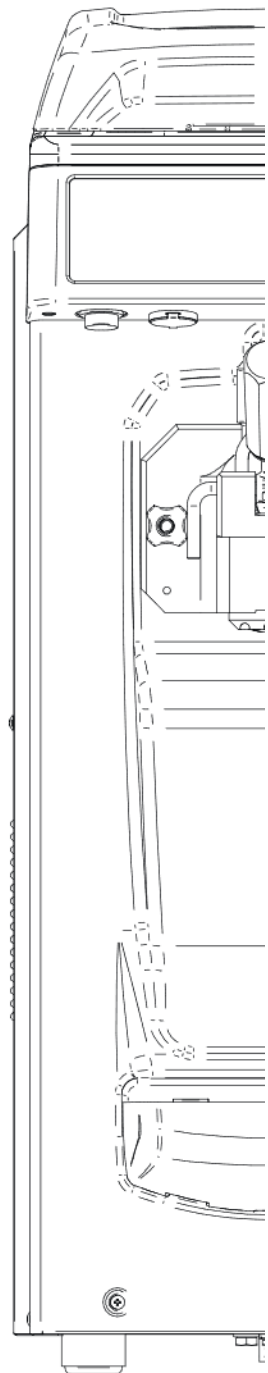
15 Kg / 33 lbs

WHAT CAN I PREPARE?

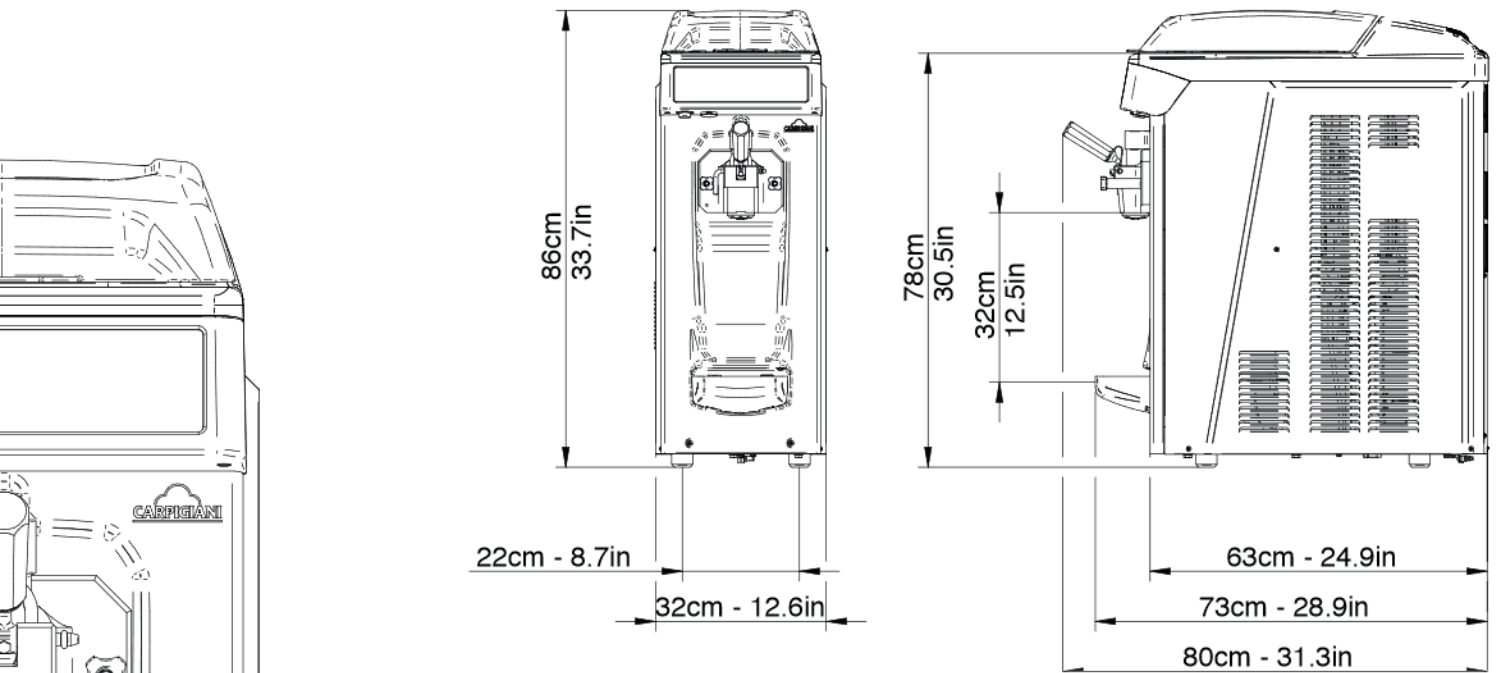
Soft gelato
Frozen Yogurt
Soft sorbet

IT CAN WORK WITH:

Base + Liquid concentrate
Base + Powder concentrate
Filtered fruit-based product



DIMENSIONS

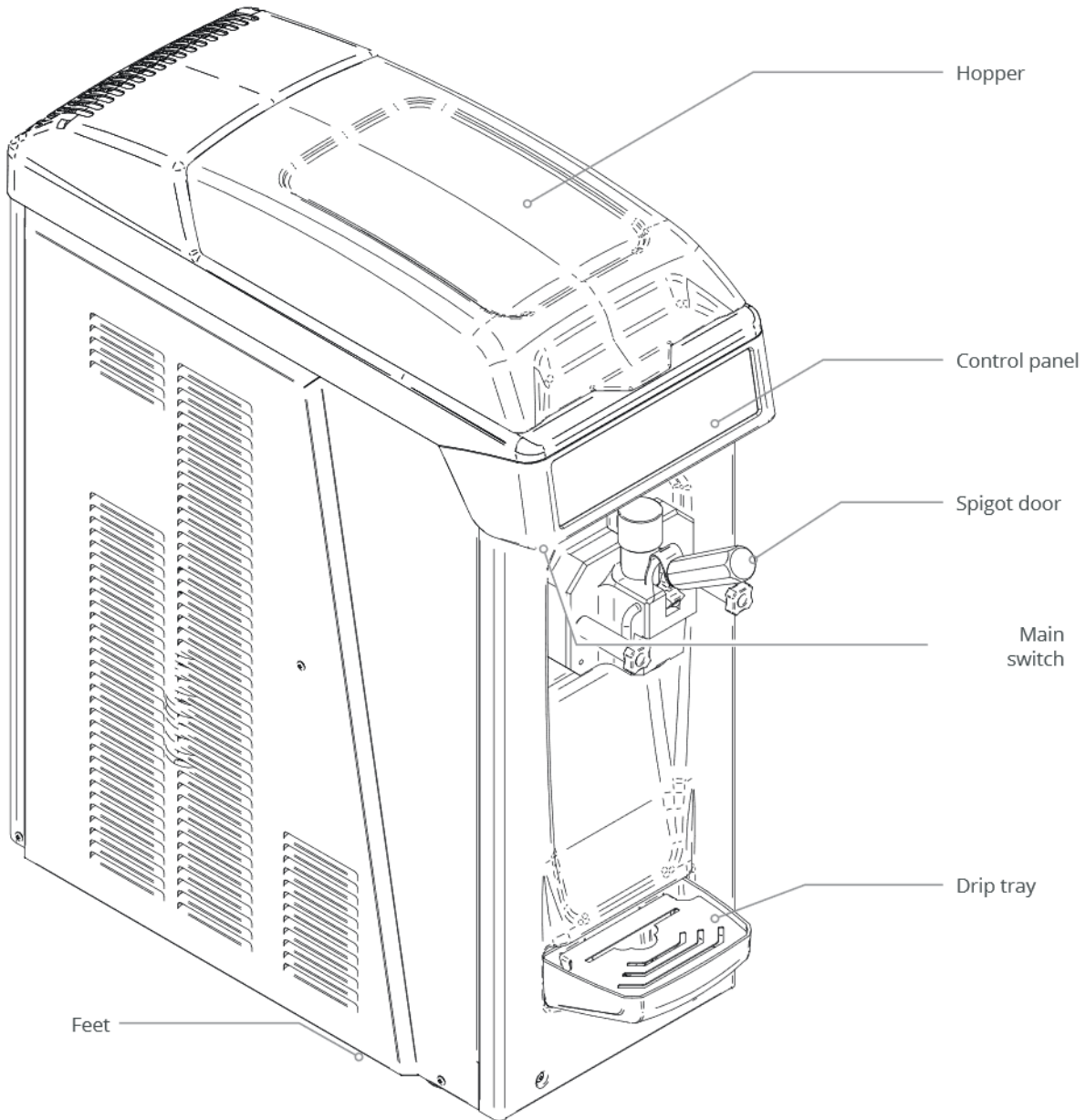


NET WEIGHT	95kg - 209 lb
VOLTAGE	Refer to data plate
WATT	Refer to data plate
PHASE	1
SOUND PRESSURE	< 70 dB(A)
CLASS	T
OPERATION TEMPERATURE	Min.15°C - Max.43°C Min.59°F - Max.109°F

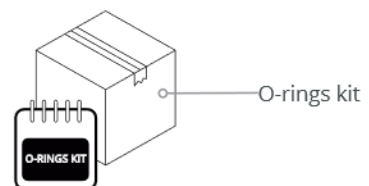
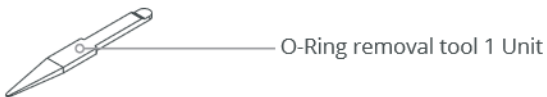
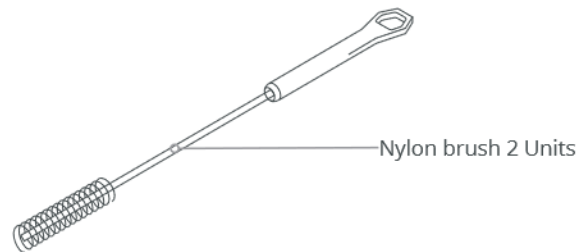
The data plate of every machine includes the following information:

XXXXXXXXXX	XXXXXXXXXX XXXXXXXXXX	Manufacturer's name
CE	XXXXXXXXXX	Machine model
	N° xx/xxxxxxxx	Serial number
VHzW	Electrical characteristics
	R.....gr	Type and quantity of refrigerant gas

2.2 List of components



2.3 Items supplied



CLEAN

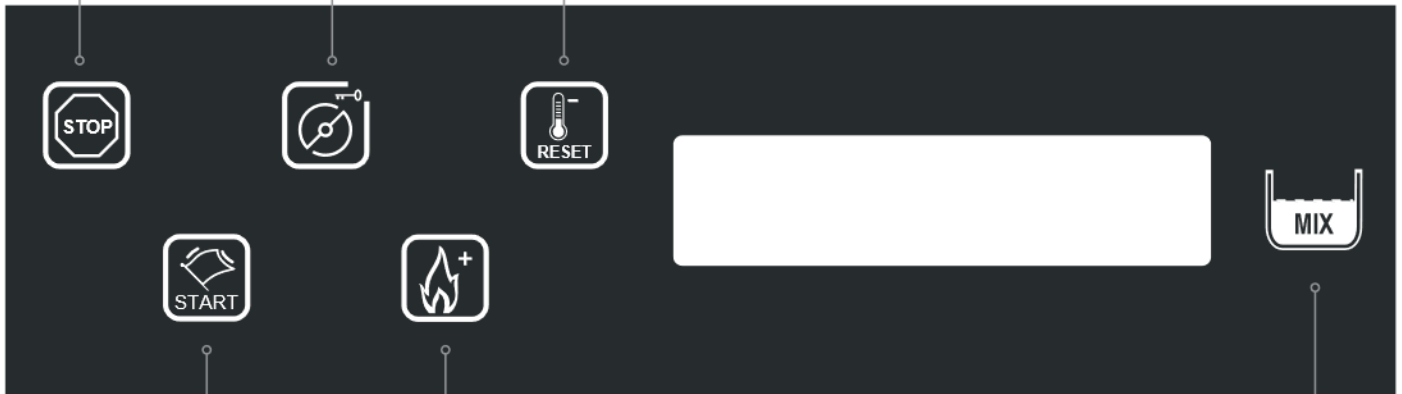
- (Press once) Beater activation. Recommended during cylinder emptying.
- (Press twice) Thermal Cleaning activation.
- Display locking/unlocking: keep it pressed for 5 seconds.

STORAGE

- To keep the product at a proper storage temperature (4 °C) and for power saving; recommended when closing the premises.
- To decrease the value of the parameter by selecting the relevant option from the user menu
- To reset alarm messages.

**STOP**

- Functions are disabled. (You have to disable functions in order to modify a function).
- User menu navigation.

**START****START**

- To cool the product and obtain the ice cream.
- To switch between information screens during ice cream production.

**PASTEURIZATION**

- Keep it pressed for 5 " to start pasteurization.
- To increase the value of the parameter by selecting the relevant option from the user menu.

**FILLING WARNING**

- It lights up when there is no product in the hopper.



All the operations shown in this chapter are to be carried out only by specialized technicians, who will have to plan implementation of the various operational sequences and use suitable means in order to always act in compliance with the relevant regulations in force.

The following requirements must be met before installing the machine:



The mains voltage must correspond to the voltage on the identification label.



Solid, stable and flat surface.



Temperature of the environment where the machine is to operate: 15 °C - 43 °C



Easy access to the power outlet.

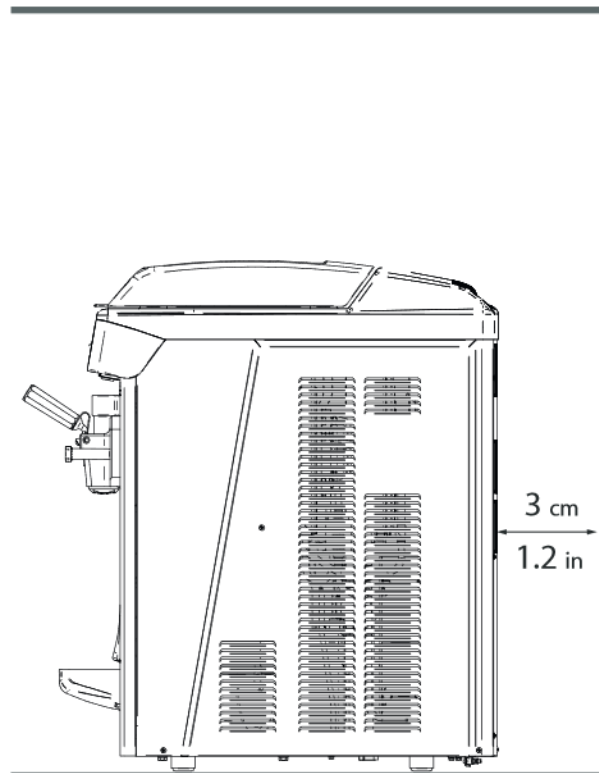
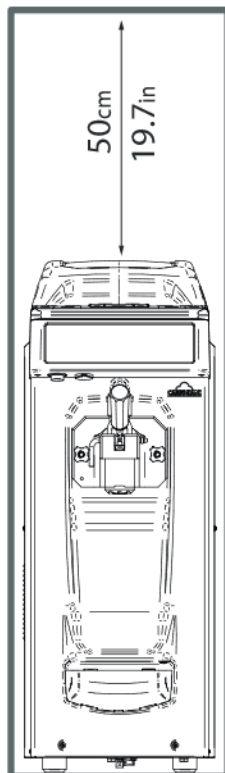


Installation in a place where the machine can be supervised by specialized personnel.









The laws and technical regulations in force at the moment of installation must be complied with.



It is necessary to keep a minimum distance of at least 3 cm from the rear wall.



When the machine is received, it must be moved to the installation area:

- 1  **Before transport**
Check that no one is within the operating radius required for moving and lifting the load and, in case of particular difficulties, ensure that the movements to be performed are checked by the personnel.
- 2  **Lifting and transport**
The machine must be handled while kept in vertical position by at least two operators.
- 3  **Check the path**
Avoid uneven paths, paying attention to dimensions and to any protruding part.
- 4  **Cut nylon straps**
Do not cut any other part of the packaging.
- 5  **Lift the cover**
Avoid damaging the packaging since it might be useful in the future.
- 6  **Position**
Place in the intended installation and connect to the power mains.






Any damage to the machine occurred during transport or handling are not covered by the WARRANTY. Repairs or replacements of any damaged parts must be carried out by the customer at his/her own expense.

-  **Recycling**
The packing materials can be divided based on their type and handled in compliance with the prescriptions provided by the regulations in force in the country of destination.
- Or  **Store for future use**
On the other hand, the packaging can be stored since it might be useful for future machine handling or transport.

Before commissioning the machine:

- 1  **Clean and sanitize**
It is recommended to clean and sanitize the machine thoroughly (refer to chapter 7 Cleaning).
- 2  **Configure parameters**
Configure the parameters required. Refer to the settings chapter.

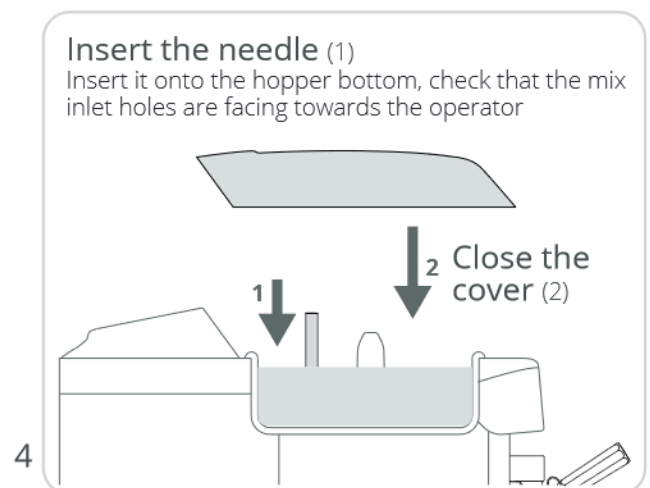
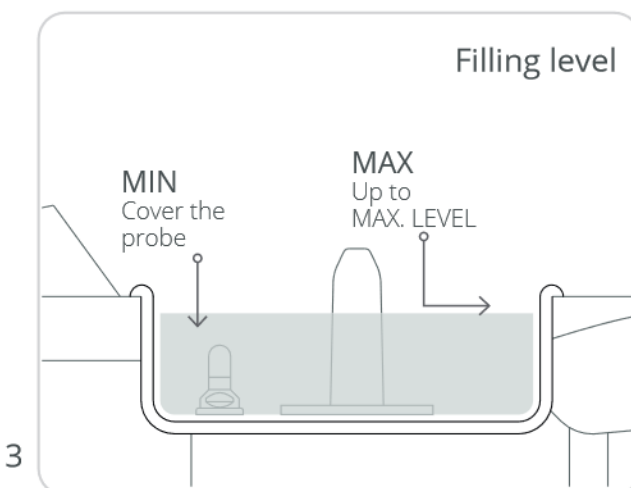
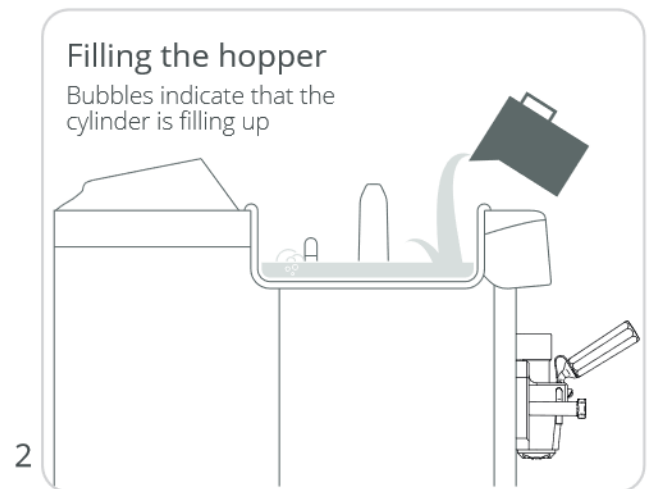
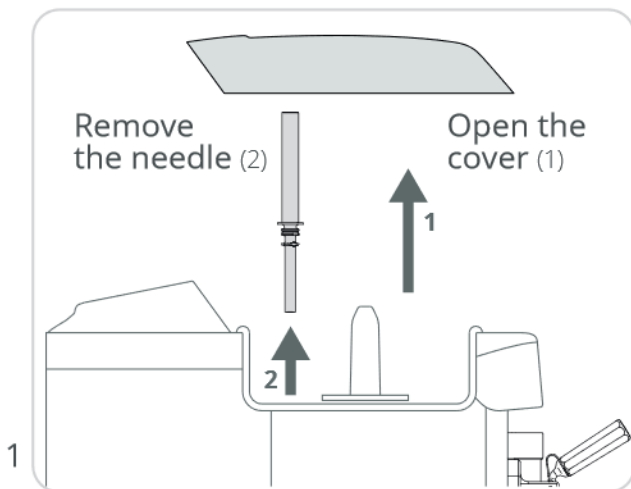
Which product should I use?

-  +  · Base + Liquid concentrate
-  +  · Base + Powder concentrate
-  · Filtered fruit-based products

DO NOT FILL WITH HOT LIQUIDS. FILL WITH LIQUIDS WHOSE TEMPERATURE IS:

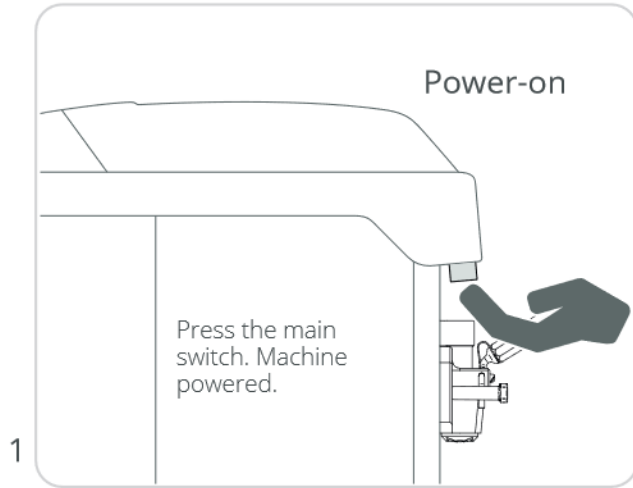
3°C - 4°C

(Prepare the product according to the instructions by the manufacturer)

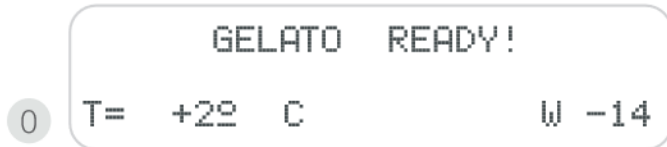


Machine start-up, Press the Production button; and within a few minutes the ice cream will be at the right serving consistency.

4.3 Gelato production

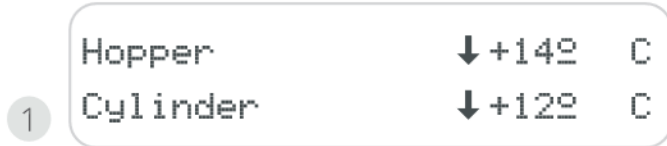


DURING PREPARATION IT IS POSSIBLE TO DISPLAY: (by pressing  it is possible to change the information on the display)



HOME PAGE:

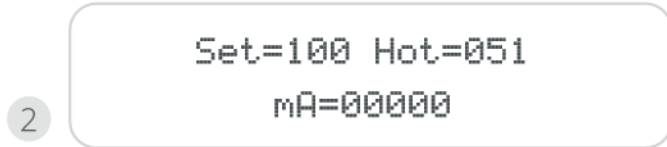
- Ice cream status
- Hopper temperature
- Days left before the next washing



TEMPERATURE:

- Hopper temperature.
- Cylinder temperature.

If a down arrow is displayed, it means that the cylinder or the hopper is cooling.



CONSISTENCY:

- HOT: Current consistency value.
- SET: Target consistency value.
- mA: Beater motor absorption in mA



TEMPERATURE PROBES

- TEV: Thermostat Hopper
- TGV: Hopper ice thermostat
- TEC: Thermostat Cylinder
- TE: Cylinder Evaporator Thermostat



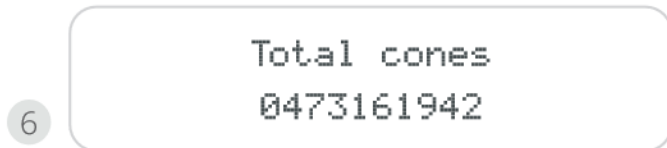
TEMPERATURE PROBES

- TOC: Condenser outlet thermostat
- TIMC: MC inlet thermostat
- TAMB: Environment temperature
- TOMC: MC outlet thermostat



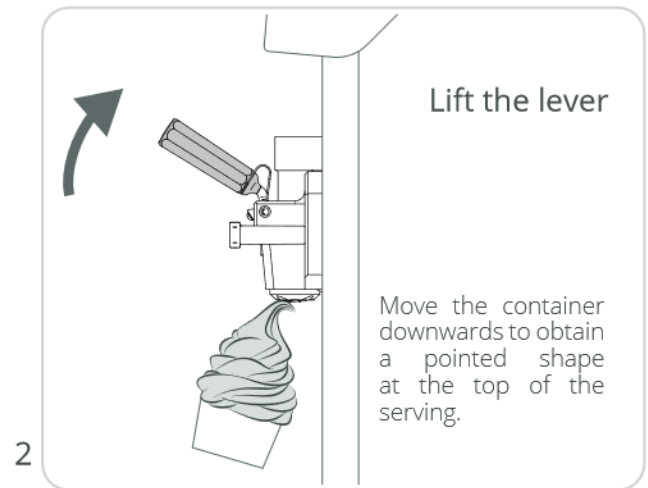
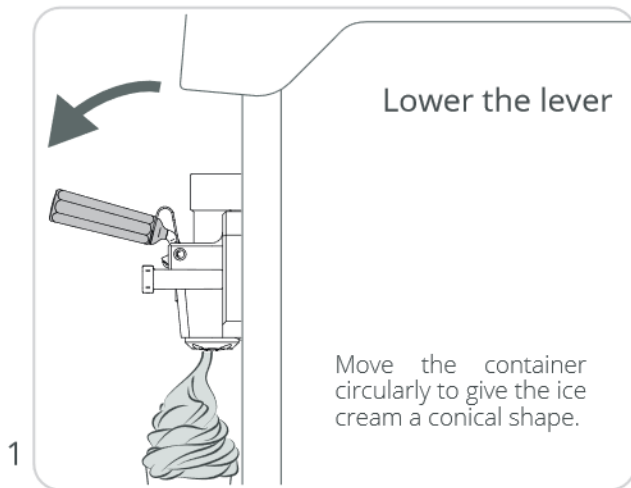
DAY CONES

- It is possible to view the daily cones starting from the time set for automatic production U02 (hour) and U03 (minutes) for the next 24 hours:



TOTAL CONES:

- It is possible to view how many cones have been dispensed by the machine.



Dispense the ice cream without exceeding the machine production speed, as specified in the table of the paragraph Specifications. Complying with the specified speed and feeding the machine with fresh product will allow avoiding sale interruptions even during the peak hours.

4.4 Serving the product

4.5 Pasteurization

24h

Pasteurization must be performed once every 24 hours, otherwise the machine must be cleaned. If pasteurization is not correctly completed, the machine does not allow Production mode. At the end of pasteurization, the machine automatically sets to STORAGE mode.

BEFORE PASTEURIZATION:



Check that the low level alarm is not on, otherwise pasteurization cannot be performed. If the alarm is still active, fill the hopper. Rotate the external slider to the position which allows closing all the holes of the feeding needle

AUTOMATIC PASTEURIZATION:

The machine is configured to perform an automatic pasteurization at 2:00. In the user menu, it is possible to change the time at which the machine will perform the automatic pasteurization or cancel the automatic mode.

For manual pasteurization, press  for 5 seconds.

4.6 Opening procedure

When opening the premises, make sure that the display shows the "PASTO END" message. This message indicates that the pasteurization cycle has been performed correctly. Press STOP.

WARNING

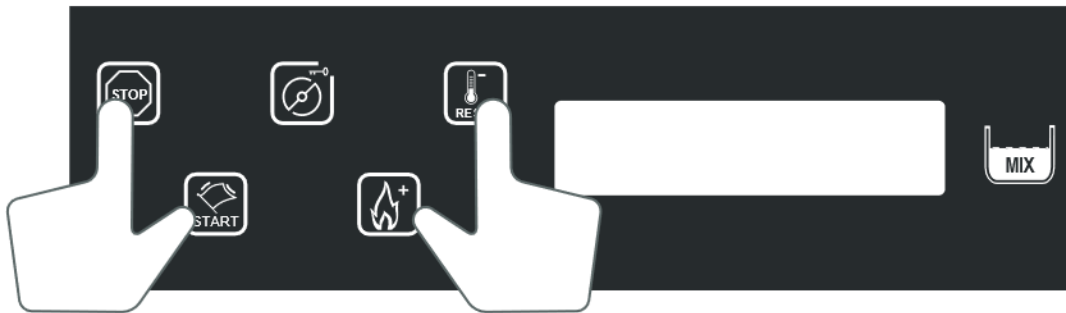
If the pasteurization cycle has not been performed correctly, the display will show a "Pasto failed" alarm. THE MIX WAS NOT PASTEURIZED CORRECTLY. Call for service if necessary. After resetting the alarm, select the Production function to resume the PASTEURIZATION cycle.

4.7 Closing procedure

Spigot door sanitization, Soak a brush in the sanitizing solution and brush ice cream outfeed hole several times. Wash, rinse and sanitize drip tray, drip drawer and hopper cover. Wipe the exterior of the machine with a clean sanitized towel.

Preparing the machine for the night pasteurization cycle. Open the cover, position the feeding needle in such a way that the product inlet hole is closed, rotating the external slider to the position which allows closing all the holes of the feeding needle. Add mix if necessary. The hopper level indicator LED must be off. Make sure that the machine is in PRODUCTION mode (the relevant LED must be ON).

ACCESS TO THE MENU: Press **STOP** and **RESET** at the same time and release them immediately.



USER MENU NAVIGATION:



Editing the parameter



Decreasing the parameter value



Increasing the parameter value



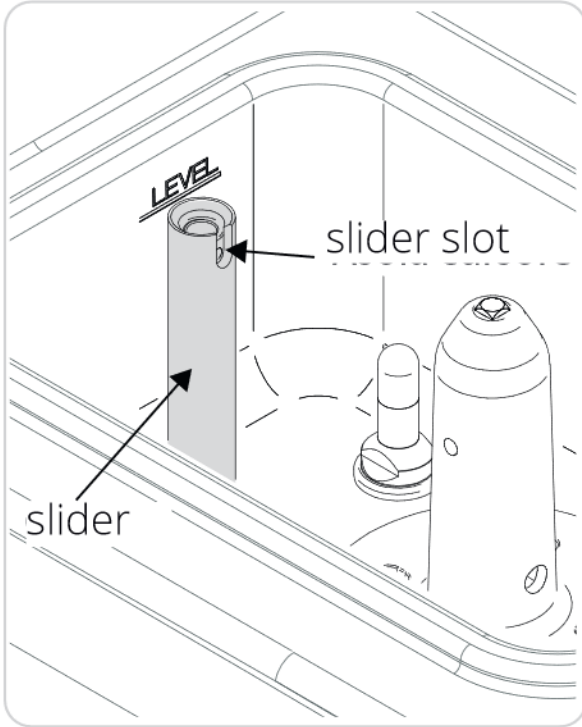
To exit the menu, do not press any button for 60 seconds or press Stop, which is also used to go back to the previous menu (back function) in case of navigation with sub-menus.

EDITABLE PARAMETERS:

Date	Date setting
Time	Time setting.
Time Format	Setting time format (12/24h)
Alarms	Displaying active alarms.
Events	Displaying events.
Information	Displaying machine version.
Language	Language setting.
Autosetup User	Autosetup of user parameters (only U20 - Level Beep Enable and U21 Extra Hopper Beater).
Scale Temperature	Temperature scale setting (°C/°F)
Read Pasto	Displaying of pasteurization data.
Automatic Prod. Hour	Automatic production time setting.
Automatic Storage Hour	Automatic storage time setting.
Automatic Pasteur Hour	Automatic pasteurization time setting.
User Params	Setting of user parameters (only HoT, U20 and U21).

5.2 Overrun setting (Quantity of air in ice cream)

How to change the Overrun level:
Rotate the feeding needle slider.



There are different Overrun levels

- Overrun
(less air in ice cream)

To decrease the overrun, rotate the slider so that the slot on the slider is aligned with the hole having the largest diameter.

+ Overrun
(more air in ice cream)

To increase the overrun, rotate the slider so that the slot on the slider is aligned with the hole having the smallest diameter.

6.1 Alarms



Display

It shows alarm messages to indicate any faults occurred in the machine.

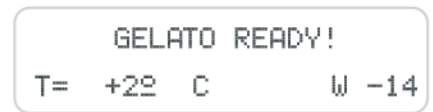
The machine can be used for production in case of a low severity alarm; in case of a serious alarm, the machine will not allow production.



The message flashes on the display until the problem is solved.



When the alarm is reset, the display will show a steady message (no flashing).



To refresh the display when the alarm has already been reset, press the button



ALARM LIST:

ALARMS	
Al. Ice Cylinder	Cylinder Ice Alarm This alarm is memorized only in the event log but is not shown on the display.
Alarm TAMB Probe	"TAMB" temperature probe switched off or short-circuited Contact the technical assistance service.
Alarm TE Probe	"TE" temperature probe switched off or short-circuited Contact the technical assistance service.
Alarm TEC Probe	"TEC" temperature probe switched off or short-circuited Contact the technical assistance service.
Alarm TEV Probe	"TEV" temperature probe switched off or short-circuited Contact the technical assistance service.
Alarm TGV Probe	"TGV" temperature probe switched off or short-circuited Contact the technical assistance service.
Alarm TIMC Probe	"TIMC" temperature probe switched off or short-circuited Contact the technical assistance service.
Alarm TOC Probe	"TOC" temperature probe switched off or short-circuited Contact the technical assistance service.
Alarm TOMC Probe	"TOMC" temperature probe switched off or short-circuited Contact the technical assistance service.
Cyl. Temp. High	High cylinder temperature alarm It is triggered during Production, Storage and Pasteurization if TEC reaches 85°. Contact the technical assistance service.
Hop. Temp. High	High hopper temperature alarm It is triggered during Production, Storage and Pasteurization if TEV reaches 85°. Contact the technical assistance service.
Hot Cold Not Done	Hot Cold Cycle not performed If the machine is in Stop mode at the time set for automatic Hot Cold, this alarm is triggered to remind that the cycle has to be started.
IOE Modbus Alarm	Contact the technical assistance service.
Last Pasteur. 25h	Last Pasteur. 25h More than 25 hours have passed from the start of the last completed Pasteurization, therefore it is necessary to perform pasteurization.
Mix Out!	Mix Out The display indicates Mix Out! when the mix is below the minimum level. When the mix is below the minimum level and, during Production, cones are dispensed in a number equal to or higher than the value set in step Last Cones, not only will Mix Out! be displayed, but the machine will also set to Storage.
No More Cones!	No More Cones When the low level has been reached (mix level on) the machine can dispense the number of cones set at the Last Cones step. After which the machine automatically sets to Storage displaying the message No more Cones (also saved in the events log). The alarm resets by pressing the Storage key.
DD Bridge Overtemp	Direct Drive Bridge Overtemperature The machine Stops. Contact the technical assistance service.
DD Brownout	Direct Drive Brownout The machine Stops. Contact the technical assistance service.
DD Comm. Error	Direct Drive Communication Error The machine Stops. Contact the technical assistance service.
DD Loss of Phase	Direct Drive Loss of Phase The machine Stops. Contact the technical assistance service.
DD Motor Stall	Direct Drive Motor Stall The machine Stops. Contact the technical assistance service.

ALARM LIST:

ALARMS	
DD Other Fault	Direct Drive Other Fault The machine Stops. Contact the technical assistance service.
DD Overcurrent	Direct Drive Overcurrent The machine Stops. Contact the technical assistance service.
DD Overheat	Direct Drive Overheat The machine Stops. Contact the technical assistance service.
Manual Stop	Manual Stop When the Stop button is pressed, an event is saved to notify the user of the action.
MC Absorption	MC Absorption Alarm The machine Stops. Contact the technical assistance service. Note: single-phase machines only.
Params Local Update	Parameters Local Update When the parameters of the programming table are updated on board the machine, an event is saved to notify the user of the action.
Params Remote Update	Parameters Remote Update When the parameters of the programming table are updated via Teorema, an event is saved to notify the technician of the action.
Pasteur. Failed	Pasteurization Failed If the machine takes longer than 90' to reach the heating temperature or more than 2 hours to reach the storage temperature during cooling, it is set to storage mode. Contact the technical assistance service.
Pasteur. Not Done	Pasteurization not performed If the machine is in Stop mode at the time set for automatic Pasteurization, this alarm is triggered to remind that pasteurization is needed.
Pasto needed!	Pasteurization needed
Power OFF	Power OFF The power off is recorded only in the event log.
Power ON	Power On When the power is back on, this event is displayed and saved in the event log.
Pressure Switch	Pressure Switch 1 This alarm stops the compressor. Contact the technical assistance service.
Safety Thermostat	TES safety thermostat Wait for a few minutes to allow the thermostat to reset, then the machine can be used. if the alarm remains active, contact the technical assistance service.
Spigot Open	Spigot Open No matter the function it is in, the machine sets to Stop. When the spigot door is closed, the indication "Spigot Open" is no longer displayed.
TE Limit	Contact the technical assistance service.
TGV Limit	Contact the technical assistance service.
Timeout PRD	Contact the technical assistance service.
Wash today!	Wash today! In Production mode, "TEV +19°C W -n" is displayed, meaning that there are still "n" days remaining until machine cleaning. When the scheduled wash day arrives, Production is inhibited and the machine will not accept that function. The display shows Wash today! A forced washing may be required if the machine is left in Stop mode for 24 hours with mix above the minimum level.
Wg Modbus Alarm	Contact the technical assistance service.
Why in STOP?	Why in STOP? If the machine is left in the Stop position with mix above the minimum level, after 30 seconds the flashing message "Why in STOP?" will be displayed and an intermittent beep will be emitted. This warns the operator to set the machine either to Production, Pasteurization, or Storage mode. The above mentioned message will be deleted by entering in Production, having low mix level, or pressing Reset (Stor.) key

When should I clean the machine?



Cleaning and sanitization are mandatory.

24h

It is recommended to perform the **Surface cleaning** every day after the last ice cream of the day.

The cleaning process consists of 5 steps:

1. Emptying
2. Disassembly
3. Cleaning
4. Assembly
5. Rinse cycle

CLEANING PROCESS: (Before starting the cleaning process, the machine must be set to **STOP**)

1.1 Defrost the Product

Press twice to start the Thermal Cleaning and wait until it is completed

Then the machine will set to STOP.

1.2 Empty the cylinder

Press once, open the lever and empty the cylinder.

1.3 Stop the machine

When there is no more product coming out, lift the lever and press STOP

1.4 Remove the needle (2)

Open the cover (1)

Rinse

Fill the hopper with 5 liters of lukewarm water. Press the Clean button once and wait for 1 minute.

1.5

Empty the cylinder

Repeat the rinse until the jet coming out of the spigot door is free of product residues and press STOP.

1.6

Remove the spigot door

2.1

Remove the spigot door

2.1

Remove the beater

2.1

Remove the beater

2.1

Remove the mixer

2.1

Remove the feeding needle

2.1

3.1 Wash the parts

Wash all the components disassembled until removing any product residues.

3.2 Sanitize the parts

Immerse the parts for the time indicated on the product package.

WATER + CLEANING/SANITIZING SOLUTION

3.3 Air-dry

Place the components on a clean surface to air-dry.

3.4 Wash the machine

Wash the cylinder and the hopper with a cleaning/sanitizing solution for as much time as indicated on the product label and rinse with water.

4.1 Fit the feeding needle

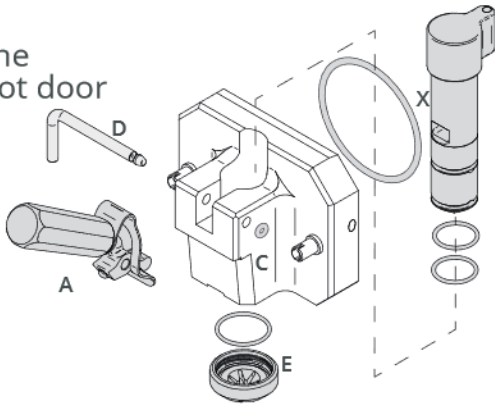
4.2 Position the mixer

4.3 Fit the beater

LUBRICATE

4.4 Position the beater

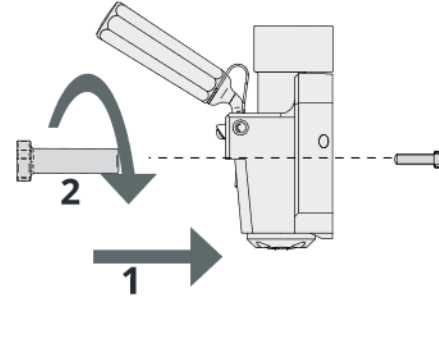
Fit the spigot door



- Lubricate and fit piston O-rings (X)
- Insert piston (X) in the relevant seat.
- Position lever (A) in the spigot door body and insert pin (D) in the hole.
- Position the O-ring (C) of the pin (D).
- Lubricate and position the O-ring of the spigot door body rear side.
- Position the spigot door nozzle (E).

4.5

Fit the spigot door



4.6

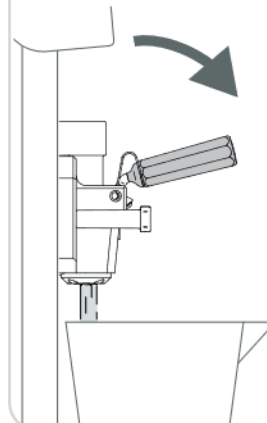
Sanitization of the machine

Fill the hopper with cleaning/ sanitizing solution up to the maximum level. Press the Clean button once and wait for 1 minute. Set the machine back to STOP mode. Wait for the time indicated on the label of the product used and rinse.



5.1

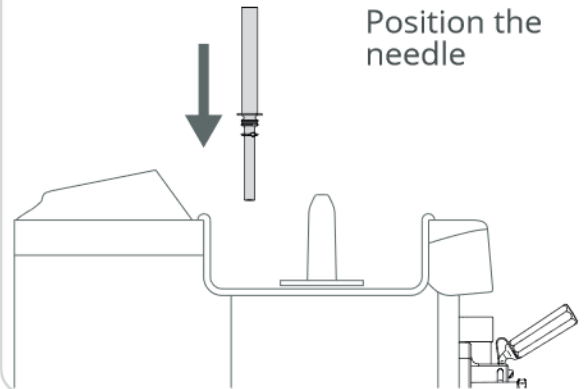
Rinse



Empty the cylinder and repeat the previous process replacing the sanitizing solution with water. Wait for 1 minute. Perform at least 2 rinsing operations.

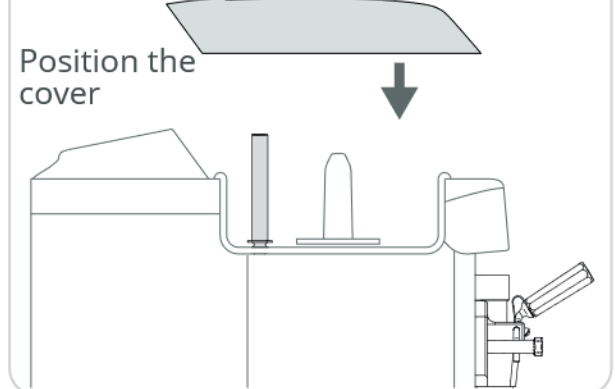
5.2

Position the needle



5.3

Position the cover

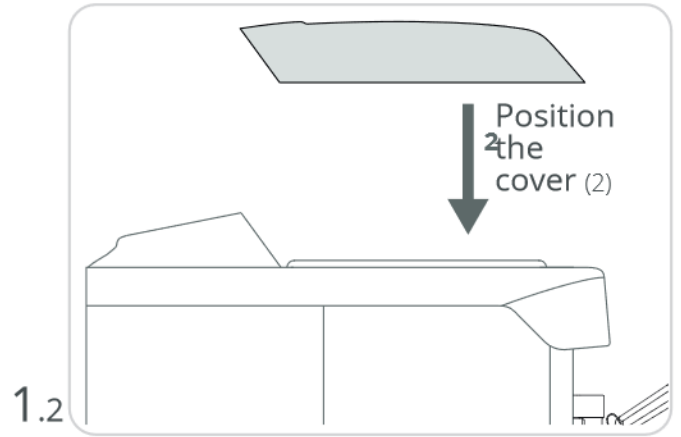
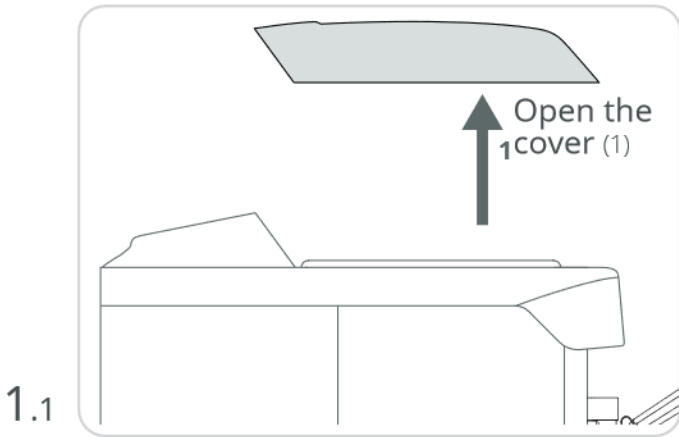


5.4

CLEANING PROCESS: Before starting the cleaning process, the machine must be set to **STOP**.
Make sure your hands are clean and use disposable gloves.

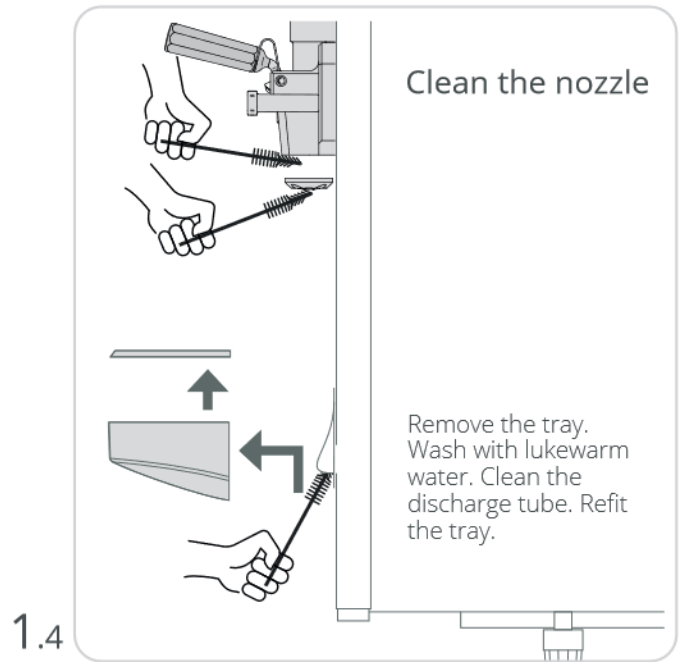
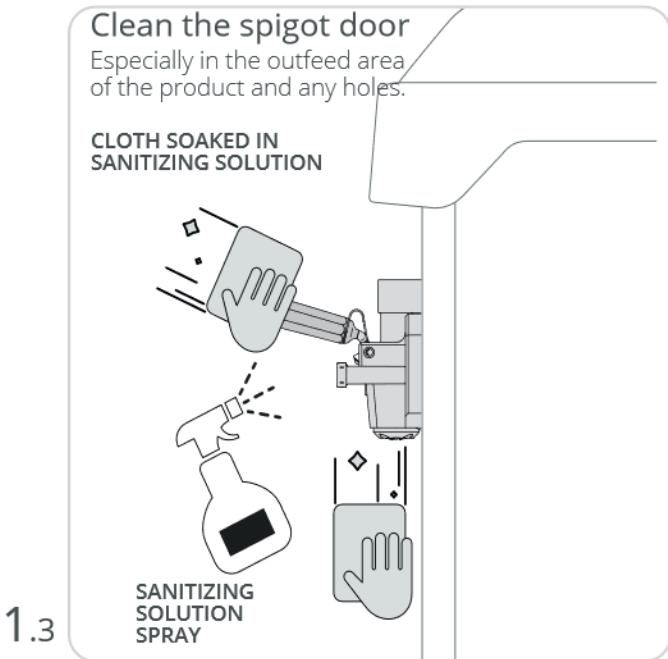
Remove the hopper cover, wash, rinse in a container, clean the external hopper surface with a clean cloth..

Refit the cover on the hopper after cleaning it.

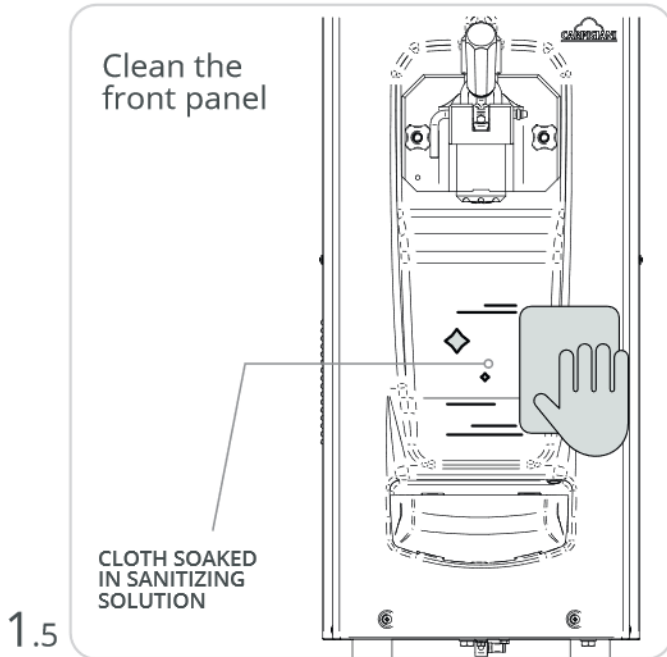


Spray the cleaning/sanitizing solution on the spigot door dispensing area and on the spigot door, especially in the piston area.

Fill a bucket with cleaning/sanitizing solution. Dip the supplied brush in the cleaning/sanitizing solution and clean the spigot door dispenser and the area around the spigot door piston several times



Using a clean and sanitized cloth, clean spigot door area and machine front side, making sure to remove any humidity, product or cleaning/sanitizing solution



The machine must be inspected periodically (at least once a year) by a specialized technician. This periodic check allows maintaining a high level of safety for all the installed components and the machine itself. Any worn-out component must be replaced with a new original spare part.

8.1 Periodic Maintenance

Do not use the machine when one of its components is faulty or worn-out. Periodic maintenance must not be performed by the operator.

Maintenance CARPI CARE KIT 161 T

Electrical and electronic devices must be disposed of in compliance with the European Directive 2012/19/EU. Such appliances CANNOT be disposed of as normal municipal solid waste, but they must be collected separately to optimize the recovery and recycling of manufacturing materials.

9.1 Disposal



Each product bears the crossed out bin symbol to remind that separate waste collection is mandatory. The correct observation of all the provisions concerning the disposal of used products will also help to protect the environment.

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