MOD : PCT/10-35AT

Production code : PASTOGEL T 3-6 AIR

05/2025

Diamond

Operating and maintenance manual
PCT 10-35 T - PCT 20-60 T

Translation of the original instructions

Thank you for choosing this machine. Please read this manual which will allow you to use the machine in a way that is safe for you and for others. While reading the manual, take the time to familiarise yourself with the new machine and you will be able to appreciate all of its advantages. You will see that it is user-friendly and how it can easily change your working process, optimising it and making it more profitable. You will understand how the technology used will be of great help to your business. DIAMOND machines are the product of years of experience manufacturing machines for processing foodstuffs. The quality of our machines makes them competitive, reliable, user-friendly, low maintenance, quiet, safe and ergonomic.
To keep your machine in proper working order, you must carry out the routine maintenance indicated in the manual. Daily cleaning is fundamental and ensures that machines remain reliable.
To allow us to make sure that the manuals we issue are complete and cover all possible subjects, please send us any comments based on your direct experience of using the machine.
For operator safety and machine integrity, the machine must only be used for the purpose for which it was built. Therefore, any modifications to the machine, any part of its design, safety device or system is strictly forbidden. Such changes will void any guarantees. The manufacturer declines all responsibility in the event of substitution of components with non-original parts, improper use, tampering, lack of maintenance, removal of safety devices and, more generally, any change made to the original design.
Our qualified technical assistance service is always available to you if you have any questions.
Please contact your dealer to solve any technical issues. Do not attempt to solve them yourself, since this may result in serious danger.

All of the staff at DIAMOND and its dealers hope that you will enjoy working with our machines!

This operating and maintenance manual is part of the machine and must always be kept with it, even if the machine is sold to a new buyer.

CONTENTS

1 GENERAL INFORMATION

1.1 General safety instructions

Before using the machine, carefully read this manual, which is an integral part of the machine.

Knowing the information and instructions in this manual is essential for operators to use the machine correctly and safely.

The manufacturer declines all responsibility in the event of modifications, tampering or any operations that may put the health and safety of people and/or objects at risk, carried out in a way that does not coincide with what is specified in this manual. The manufacturer reserves the right to take legal action against anyone who modifies its machines without written permission.

The person in charge of machine use and/or the employer must make sure that operators are trained and aware of all information and instructions in the documentation supplied.

Operators are only permitted to carry out work on the machine which is within their area of responsibility and for which they have been trained.

The operator shall be held fully responsible for any modifications he makes to the machine.

Only operators with the appropriate professional technical qualifications may carry out checks or repairs on the machine. Reliable operation and optimised machine performance are only guaranteed by the use of original spare parts. The manufacturer reserves the right to make any changes considered appropriate to the machine described without prior notice.

The operator is responsible for all operations needed to keep the machine efficient during its use.

1.2 Information about precautions, specific warnings and symbols

Where necessary, this manual includes information alongside machine operating and maintenance instructions or procedures.

There are also indications marked with the “Caution/Danger” symbols, shown in bold type and upper case letters to make them clearly visible.

The “GENERIC CAUTION/DANGER” symbol is used to indicate that failure to comply with the safety regulations described in this manual could result in “Damage to the machine and/or objects and injury to machine users”.

The “BURN HAZARD” symbol is used to indicate that failure to comply with the safety regulations described in this manual could result in “Injury to machine users in the event of contact with hot surfaces”.

1.3 Testing, guarantee and liability

Testing

Before being sent to the dealer/buyer, the machine must successfully pass testing by the manufacturer.

Guarantee

DIAMOND guarantees the machines put on the market for 12 months from the date of delivery. During the guarantee period the manufacturer undertakes to substitute, free of charge ex works, any parts which may develop a fault due to obvious manufacturing defects or poor quality materials. Parts substituted remain the property of DIAMOND and must be returned to its premises, free of all charges. If the substitution of defective machine parts requires work by technical personnel, labour costs and any travel and accommodation expenses will be charged to the buyer. Top ups of refrigerant gas are not covered by the guarantee. The guarantee shall be void if the machine is used in a way that does not conform to what is indicated in the manufacturer's "operating and maintenance manual". The guarantee shall be void if the operator, deliberately or inadvertently, damages, modifies, disassembles and/or repairs (even only partly), the machine, without written permission from the manufacturer. The guarantee shall also be void if the electric and water connections used to supply the machine, (which are the buyer's responsibility), are made in a way that does not conform to what is indicated in the machine "operating and maintenance manual". Interruption of the payment agreed in the sales proposal and accepted by the manufacturer will result in suspension of the guarantee.

Liability

DIAMOND declines any responsibility and obligation for any incident involving persons and objects resulting from use of the machine in any way that does not conform to what is indicated in the "operating and maintenance manual" and/or due to manufacturing defects of the components/materials present in the machine. It shall also be considered expressly excluded from any other claim for reimbursement for lost earnings attributable to any failure to operate.

1.4 Purpose of the manual

This manual was drawn up with the aim of providing all machine operators, in the most complete and clearest way possible, with all information necessary for machine installation, use and routine maintenance, from the time the machine reaches the market until the moment it is decommissioned and/or scrapped.

It also lists all procedures useful for dealing with emergencies which may arise during use of the machine as described by the manufacturer and those which are reasonably foreseeable.

Important note: the manual does not substitute technical training for personnel who will use the machine. It should be considered a guide to the use of machine functions.

1.4.1 Structure of the manual

The manual consists of a single document drawn up in descriptive language and with all figures necessary for correct interpretation and implementation of the activities required for machine operation and maintenance.

This manual includes all instructions with which the operator must be familiar and information which the operator may consult in order to achieve the aims of the manual.

1.4.2 Modifications and additions

This manual reflects the state of the machine at the time it reached the market and is considered an integral part of the machine.

Any modifications, improvements or adjustments applied to machines subsequently marketed do not oblige the manufacturer to apply such changes to a machine previously supplied, nor to consider it and the related manual lacking and inadequate.

DIAMOND reserves the right, should it deem it appropriate and for valid reasons, to update the manuals already on the market, sending its customers sheets of technical and/or operating updates which must be considered and kept in the manual.

1.5 Manufacturer identification

Information for identifying the manufacturer:

DIAMOND EUROPE S.A.

92 Chaussée de Vilvorde - 1120 Brussels - Belgium

1.5.1 Requesting help – Technical assistance service

Any request for action by the Technical Assistance Service must be sent by fax or e-mail to the dealer from which the machine was purchased. The manufacturer's sales/support network can be found at /https://www.diamond-eu.com/.

When requesting help or technical assistance, always specify:

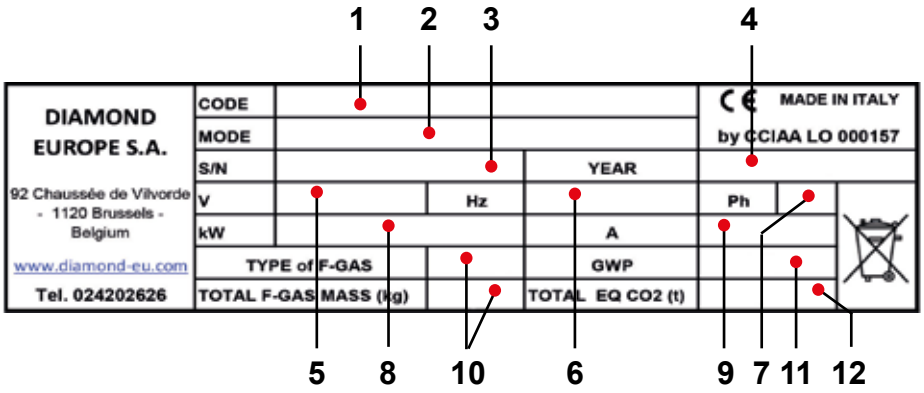
1. type of machine, model, product code, serial number and year of construction;
2. faults found;
3. dealer through which the machine was purchased;
4. tax document indicating the date of machine purchase by the user.

1.5.2 Ordering spare parts

When requesting spare parts, contact your dealer or consult the up-to-date list of authorised service centres on the official DIAMOND S.A. : https://www.diamond-eu.com/

1.6 Machine identification data - CE marking

The data plate with CE marking is located at the top of the machine rear panel and shows all of the data needed for machine identification.



1. Machine code;
2. Model – type of machine;
3. Machine serial number;
4. Date of production (Year);
5. Electric power supply voltage;
6. Electric power supply frequency;
7. Number of phases;
8. Max. power;
9. Max. current drawn;
10. Type and quantity of refrigerant gas ;
11. Global Warming Potential for type of refrigerant gas ;
12. Équivalent CO_2 total ;

This data must be indicated in all information documents, for example for every request for technical assistance or when requesting spare parts.

REMOVAL OF OR TAMPERING WITH THE IDENTIFICATION PLATE IS STRICTLY PROHIBITED.

1.7 Intended uses

The **PCT T** range of machines are designed for:

1. Mixing and heating/cooking ingredients or pre-packaged foods placed inside the machine cylinder.

2. Chilling, churning and freezing the ingredients processed for making gelato, creams, jams, sauces, granita and sorbet.

This processing takes place in a vertical cylinder using a mixer and retaining paddle supplied with the machine.

"**PCT T**" models can process products which require hot/cold thermal treatment. Pasteurising and churning are carried out in a single cylinder, avoiding any transfer or handling and guaranteeing maximum hygiene for the processed product.

THE MACHINE CANNOT BE USED FOR OTHER PURPOSES WITHOUT TELME S.P.A.'S AUTHORISATION. TELME S.P.A. WILL NOT BE RESPONSIBLE FOR DIRECT OR INDIRECT DAMAGES DUE TO IMPROPER USE OF THE MACHINE.

1.7.1 Reasonably foreseeable improper use

1. Do not insert in the cylinder a quantity of product that is less than that recommended, as during cooling it could lead to ice forming on the cylinder wall. That would make the machine noisy, cause wear and damage to the mixer scrapers. **The suitable quantity of product which can be processed is indicated in sec. 2.4 "Machine technical data" of this manual.**
2. Do not insert in the cylinder a quantity of product that is more than that recommended, as it could prevent correct machine operation, and the product can leak out of the cylinder. That would stress the mixer's motor-driven shaft. **The suitable quantity of product which can be processed is indicated in sec. 2.4 "Machine technical data" of this manual.**

A. For hot processing:

- During "heating" of the ingredients placed in the cylinder, do not lift the cover on the top of it unless you are wearing suitable gloves which protect against heat.
- During extraction of a "hot" product ("liquid" products, creams, jams, etc.) do not completely lift the extraction door lever, to avoid a sudden outflow of product which could cause the machine operator to suffer scalding and/or burns. During extraction, do not exceed 200 rpm for doughy products, 80 rpm for creamy products and do not activate extraction for liquid products. Do not accidentally open the extraction door lever with improper movements and/or positions. Use heat-resistant gloves and/or suitable protective clothing.
- When cooking and/or heating with "liquid" products, maintain the mixer speed of rotation indicated in the programs, to prevent any "hot" product from suddenly being flung out, since this could cause injury and/or damage. Use suitable personal protective equipment for high temperatures (heat-resistant gloves and protective clothing).
- When cooking and/or heating with "liquid" products, be extremely careful not to "accidentally" start other programs than the program suitable for processing the product. The various programs involve different mixer speeds of rotation, which could result in "hot" product being flung out, which could cause injury and/or damage.
- At the end of a recipe which involves heating, do not lift the cover for cooking and do not remove the mixer fitted in the cylinder while the temperature of the remaining product and/or of the surface of the cylinder is such that it risks causing scalding and/or burns by contact with or proximity to parts of the machine or materials at a very high temperature. Use heat-resistant gloves and/or suitable protective clothing.

B. For cold processing:

- At the end of a recipe which involves cooling, do not lift the cover and do not remove the mixer fitted in the cylinder while the temperature of the remaining product and/or of the surface of the cylinder is such that it risks causing injuries by contact with or proximity to parts of the machine or materials at a very low temperature. Use heat/cold-resistant gloves and/or suitable protective clothing.

1.8 Information for personnel authorised to use the machine

This manual contains the information needed by authorised personnel to correctly use the machine.

A knowledge of and compliance with the general safety instructions and danger warnings contained in this manual are the conditions for proceeding, in minimal risk conditions, with installation, putting into service, operating and routine maintenance of the machine.

Personnel authorised to use the machine:

OPERATOR: person trained in the ordinary operation of the machine and who performs the following operations:

1. Preparation of ingredients and loading in the machine
2. Preparation and/or programming of recipes
3. Machine cleaning and routine maintenance.

QUALIFIED TECHNICIAN: a person whose training and professional education gives him a knowledge of machine service conditions, and who is able to work on the machine and recognise and avoid any dangerous conditions.

1.9 Packaging, transportation and storage

The machine is packaged in a wooden or cardboard crate on a pallet having dimensions and features suitable for the type and weight of the machine. The machine will be delivered packaged, ensuring that it is protected from the elements.

Each package is marked with the following information:

- Type of machine, model and serial number
- Net and gross weight
- Machine destination

Labels are applied on the package to indicate the following:

- Handle with care
- This way up
- Protect from rain
- Do not stack
- Protect from heat sources
- Fragile

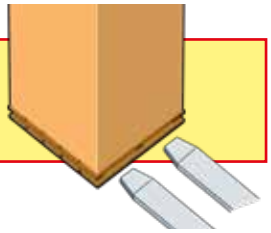
1.9.1 Transportation, lifting and handling

THE PACKAGE MUST ONLY BE HANDLED BY QUALIFIED TECHNICAL PERSONNEL.

When the machine is delivered, check that during transportation in addition to visible damage no other damage was caused which could compromise correct operation. On the delivery note, write “Subject to approval” to show that acceptance of the machine is subject to checks. If any damage is found, within 48 of receiving the machine, report the damage to the haulier and the dealer.

Use a pallet truck or a fork-lift truck to move the machine, inserting the forks in the holes in the pallet. Use equipment with suitable load-bearing capacity.

MOVE THE MACHINE USING LIFTING EQUIPMENT WITH A SUITABLE LOAD-BEARING CAPACITY. DO NOT ATTEMPT TO LIFT THE MACHINE BY HAND.



1.9.2 Machine storage

The package must not be subjected to impacts, vibrations and other loads.

The machine must be stored indoors, in an area free of aggressive agents, at a temperature not lower than +2 °C, not higher than +55 °C and with a humidity level of between 10% and 95% (without condensation).

2 TECHNICAL SPECIFICATIONS

2.1 General description of the machine

The machines in the **PCT T** range covered by this manual are multi-function combined machines for mixing, pasteurising, churning and freezing various ingredients such as: milk, cream, flour, fruit, sugar, eggs, etc. necessary for making gelato and ice cream, creams, jams, sauces, granita and sorbet. The mixes or pre-packaged foods are processed in a single vertical cylinder which is: "easy to fill, the product is always visible and the ingredients can be added at any time".

The **PCT T T** range includes the following models:

- **PCT/ 10-35 T**
- **PCT/ 20-60 T**

PCT T models can carry out types of processing that require a hot/cold thermal treatment. They can amalgamate, cook, pasteurise, churn, chill and freeze the ingredients processed. Pasteurising and churning are carried out in a single cylinder, avoiding any transfer or handling and guaranteeing maximum hygiene for the processed product.

The following preset programs are saved in the machine:
- 9 Gelato and ice cream making programs
- 7 Bakery and pastry product programs
- 2 Gastronomy programs
- series of free programs

PCT T range models have a resistive 5 inch colour touch-screen with an intuitive, user-friendly interface.

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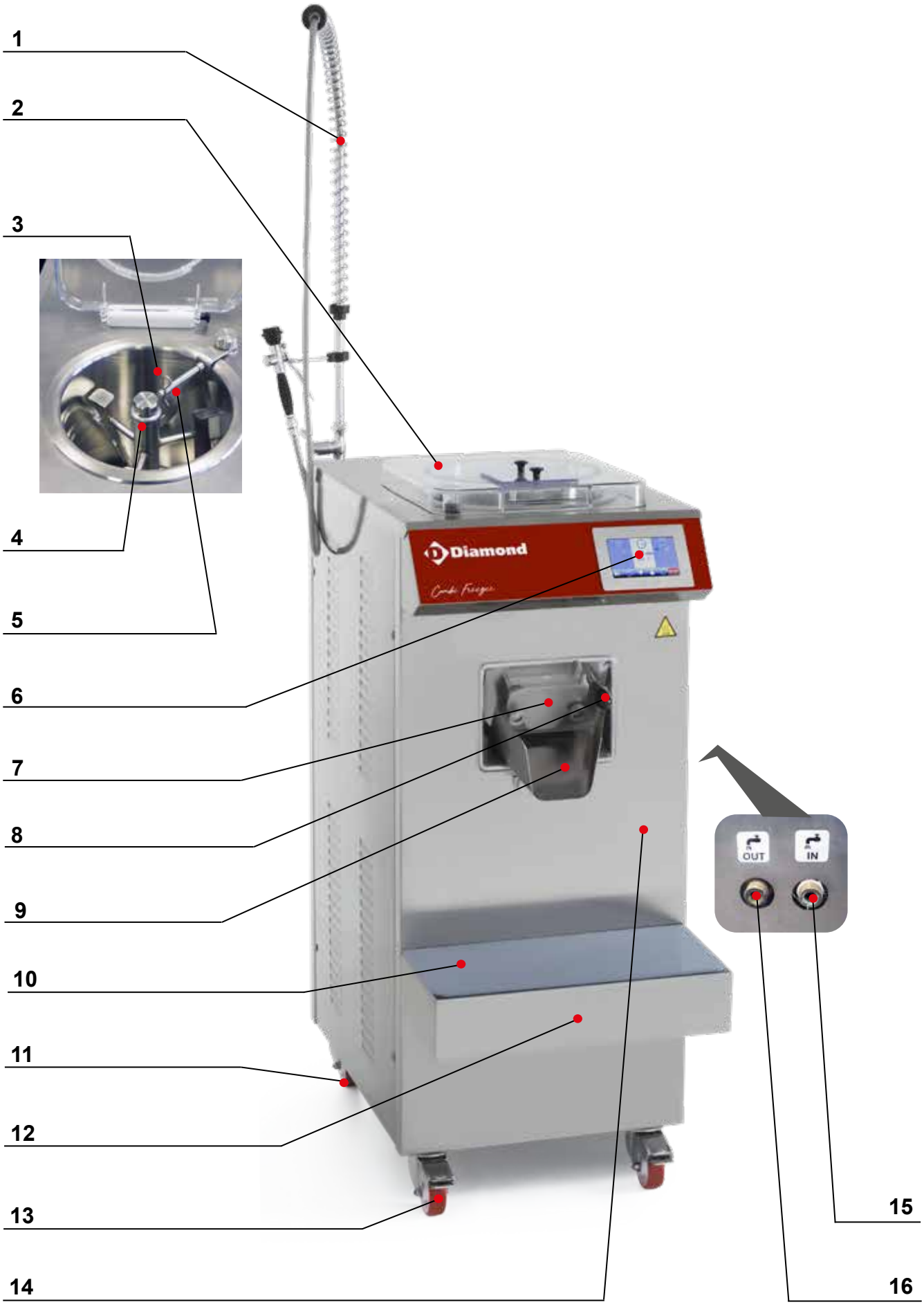
2.2 Illustration of the machine as a whole and its components

1 Shower unit for washing the cylinder (optional)
2 Cover
3 Cylinder
4 Mixer
5 Retaining paddle
6 Touch-screen
7 Extraction door
8 Extraction door lever
9 Extraction door chute
10 Mat
11 Rear wheels
12 Basin support
13 Front wheels with brake
14 Outer panels
15 Connector for inflow of condensation water (water version machines)
16 Connector for outflow of condensation water (water version machines)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Diamond
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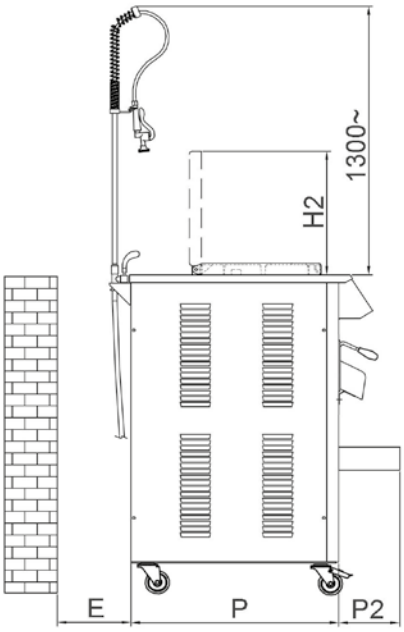
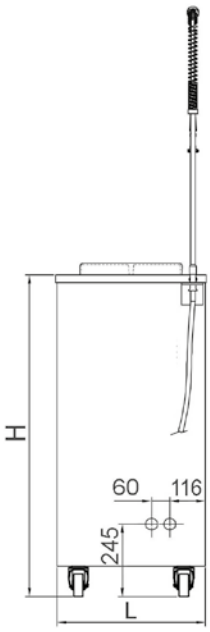
2.3 Working and control position

The operator must stand in front of the machine and load the ingredients, programme the recipe, start the processing and unload the processed product at the end of the recipe.

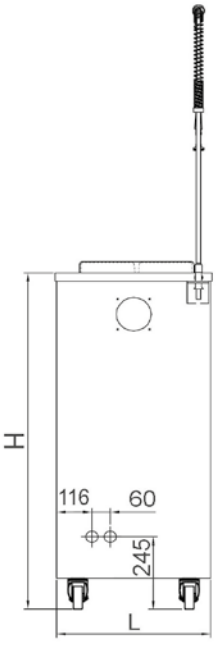
2.4 Machine technical data

Model			**PCT 10-35 T**	**PCT 20-60 T**
Net weight		kg (air version)	184 (190)	262 (275)
Coolant gas	(type)		R452A	
	For water version (quantity)	kg	1,3	1,6
	For air version (quantity)	kg	1,65	3
Heat transfer fluid (heat carrier fluid) (type)			TEMPER -55°C	
	(quantity)	L	3	4
Quantity of product processable (min. to max) for				
	GELATO	L	3 to 6	4 to 8
	CREAM	L	4 to 8	6 to 12
	GRANITA	L	4 to 8	6 to 12
Motor driven shaft rotation speed range		rpm	0 to 250	
Product temperature range		°C	-16 to +115	
Max. ambient temperature		°C	+30	
WATER version machine: (coolant gas pressure)		bar	14	
“CONDENSATION"	(coolant gas temperature)	°C	+32	
WATER version machine: (coolant gas pressure)		bar	1 to 0.4	0.7 to 0.2
“EVAPORATION"	(coolant gas temperature)	°C	-30 to -39	-34 to -42
Mains water temperature		°C	+18 to +25	
Infeed water pressure		bar	1 to 7	
Water consumption		L/min	4 to 6	
AIR version machine:	(coolant gas pressure)	bar	17.2 to 22	
"CONDENSATION"	(refrigerant gas temperature)	°C	+40 to +50	
AIR version machine:	(coolant gas pressure)	bar	1.0 to 0.6	
"EVAPORATION"	(coolant gas temperature)	°C	-30 to -36	





PCT/10-35 T



PCT/20-60 T

Model		**PCT 10-35 T**	**PCT 20-60 T**
Dimensions	L (mm)	490	510
	D (mm)	600	900
	H (mm)	1100	1150
	H2 (mm)	390	440
	D2 (mm)	300	
	For air version E (mm)	500	
	For water version E (mm)	300	

RATED POWER / RATED CURRENT

Power supply voltage (Volts)	Frequency (Hz)	Phases	**PCT 10-35 T**	**PCT 20-60 T**
230	50	3	5 kW - 15 Amp.	6.7 kW - 21 Amp.
200/220	50/60	3	5 kW - 15 Amp.	6.7 kW - 21 Amp.
208/230	60	3	5 kW - 15 Amp.	6.7 kW - 21 Amp.
380	60	3	5 kW - 8 Amp.	6.7 kW - 13 Amp.
400	50	3	5 kW - 8 Amp.	6.7 kW - 13 Amp.
380 air version	60	3	5 kW - 9 Amp.	7 kW - 14 Amp.
400 air version	50	3	5 kW - 9 Amp.	7 kW - 14 Amp.

2.5 Noise

The machine is designed and built to conform to the requirements of the regulations in force.

The A-weighted sound pressure level at the working positions does not exceed 70 dB (A).

The C-weighted instantaneous peak sound pressure level at the working positions does not exceed 63 Pa (130 dB re 20 µPa).

Test documents and certificates for the instruments used for the measurements are filed at te manufacturer and are available to monitoring authorities.

TEST DOCUMENTS AND CERTIFICATES FOR THE INSTRUMENTS USED FOR THE MEASUREMENTS ARE FILED AT THE MANUFACTURER AND ARE AVAILABLE FOR THE MONITORING AUTHORITIES.

2.6 Items supplied with the machine

The machine is supplied together with the following items:

1. Operating and maintenance manual.
2. Kit of gaskets and packet of food-safe lubricating grease
3. Spatula for gelato.
4. Tube brush for cleaning.
5. Basin for washing
6. Machine components: mixer and retaining paddle.

3 GENERAL SAFETY REGULATIONS

3.1 General instructions

THE INSTRUCTIONS LISTED BELOW MUST BE CAREFULLY READ SO THAT USERS ACT APPROPRIATELY ON A DAILY BASIS WHEN OPERATING THE MACHINE AND CARRYING OUT MAINTENANCE. THIS PREVENTS ANY KIND OF ACCIDENT LINKED TO SITUATIONS INVOLVING POTENTIAL RISK FOR PEOPLE AND/OR OBJECTS.

For the safety of machine users, the following safety instructions must be complied with:

1. Do not attempt to start the machine until you have acquired a suitable understanding of how it operates, by reading this manual.
2. In case of doubts, even after carefully reading this manual, contact the technical assistance service.
3. Make sure that all personnel involved in using the machine are aware of the safety instructions.
4. Before starting the machine, the operator must check for any faults and/or defects visible on the safety devices and on the machine. If any faults are found, immediately report them to the manufacturer or to the nearest authorised service centre.
5. The machine must only be used for the purposes for which it was intended and in accordance with the manufacturer's instructions.

6. Every day, check that all safety devices on the machine are operating correctly (see sections 3.2 and 8.5 of this manual).
7. Safety devices must not be removed or bypassed for any reason.
8. Any tampering with or modification of the machine not authorised in advance by the manufacturer shall release the manufacturer from any responsibility for injury/damage to people and/or objects.
9. The identification plate and safety symbols/stickers applied to the machine must be kept in perfect condition. If they are damaged, they must be promptly substituted.
10. Work on electrical connections must only be carried out by qualified technical personnel.
11. The operator must be familiar with the machine controls as described in section 5.1 “Controls”.
12. The operator must not carry out any operations which are not described in this manual.
13. Only purchase and use original spare parts, which are guaranteed by the manufacturer. Contact the dealer or the nearest service centre to replace faulty or damaged components.
14. Do not wear clothing, jewellery and accessories which may become tangled in machine moving parts.
15. Keep the area around the machine clear and free of obstructions.
16. Do not put fingers and/or objects in the machine slots or holes.
17. Do not use the machine with damp or wet hands.
18. Always wear suitable gloves and a hair cover for hygiene.
19. Pay maximum attention to all caution and danger signs on the machine.
20. The machine must be installed in a location protected from rain and sun.
21. Do not allow water and/or liquids to penetrate the machine.
22. Do not open the machine panels, since the machine contains components/parts which cannot be maintained by the user.
23. Do not lean or sit on the machine while it is operating.
24. Do not apply to the machine other devices which are not part of the kit supplied by the manufacturer.
25. Clean the machine outer panels with soft cloths moistened with detergent for food-safe machines. Do not use water jets, as they may damage components/parts inside the machine.
26. Do not use any kind of solvent, such as spirit, benzene or thinner to clean any of the machine surfaces.
27. Do not operate the machine while under the effects of alcohol, mental health medications or medications in general.
28. This machine must not be used by persons under the age of 18.
29. Improper use of the machine may cause hazards for operators and/or may damage the machine.
30. If the machine develops any problems not covered in this manual, contact the Technical Assistance Service.
31. Use of the machine is not permitted in places with a potentially explosive atmosphere and in places with ambient conditions not envisaged in point 4.2 of this manual.
32. The machine is not designed to be used by people with reduced physical, sensory or mental capacity.

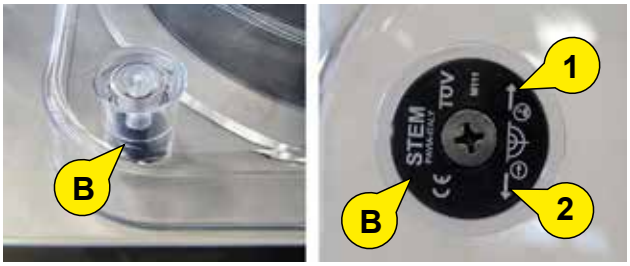
3.2 Safety devices present on the machine

The term safety device refers to: “a component specially designed by the manufacturer and also sold separately from the machine in order to be able to perform safety functions. Therefore, a safety component will be considered a device whose failure to function compromises the safety of exposed persons.

3.2.1 Safety device installed on the cover

The inside of the machine is fitted with a magnetic safety sensor (A, not visible in the photographs), designed to detect the magnet (B) fitted on the cover.

! **Incorrect positioning of the magnet activates a machine alarm, preventing it from starting. The magnet (B) must be positioned with the arrows (1-2) VERTICAL.**



Note: If the cover is opened during an operating cycle (e.g.: to add ingredients), the cycle will be “PAUSED”, then will continue from where it left off only after the cover has been closed.

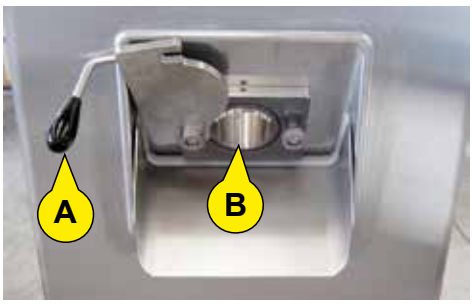
THE MAGNETIC SAFETY SENSOR IN THE COVER MUST NOT BE USED AS A MACHINE STOP CONTROL.

THE MACHINE MUST ONLY BE STOPPED BY PRESSING THE RELATIVE "STOP" ICON, NOT BY OPENING THE COVER (SEE SECTION 5.7 "STARTING THE PROGRAM" IN THIS MANUAL).

3.2.2 Safety device of the extraction door

The machine has an extraction door which allows the processing cylinder to be sealed. Use the lever (A) to open the door for extracting the processed foods.

The cylinder extraction door, used to extract the product, is fitted with a fixed grille (B) designed to prevent fingers from being inserted accidentally.



DO NOT INSERT TOOLS (E.G.: TUBE BRUSH FOR CLEANING, ETC.) IN THE GRILLE OF THE EXTRACTION DOOR WHEN THE MACHINE IS OPERATING.

TAMPERING WITH THE SAFETY DEVICE AND USE OF THE MACHINE IF IT IS DAMAGED OR MALFUNCTIONING ARE STRICTLY PROHIBITED.

THE MANUFACTURER DECLINES ALL RESPONSIBILITY IN THE EVENT OF TAMPERING WITH SAFETY DEVICES OR OPERATIONS CARRIED OUT IN A WAY THAT DOES NOT COINCIDE WITH WHAT IS SPECIFIED IN THIS MANUAL, SINCE THEY MAY PUT THE HEALTH AND SAFETY OF PERSONNEL AND/OR OBJECTS AT RISK.

TAMPERING WITH THE SAFETY DEVICE AND USE OF THE MACHINE IF IT IS DAMAGED OR MALFUNCTIONING ARE STRICTLY PROHIBITED.

3.2.3 Safety symbols and stickers

On the machine there are symbols/stickers for highlighting: what you must not do, important information and warnings:

This symbol indicates the presence of an electric shock hazard.

It indicates to the relevant personnel that they risk an electric shock if they do not work in compliance with safety regulations.

This symbol indicates the presence of a burn hazard.

It indicates to the relevant personnel the risk of contact with hot surfaces if they do not work in compliance with safety regulations.

Wear suitable gloves to protect against heat.

3.3 Personal Protective Equipment (PPE)

The employer must inform personnel about the following safety-related issues:

1 Accident risks.

2 Operator safety equipment.

3 General accident-prevention rules envisaged by the regulations in place in the country for which the machine is intended.

The operator must always:

1. Pay maximum attention to all caution or danger symbols/stickers on the machine.
2. Not wear clothing, jewellery or accessories which may become tangled in machine parts.

Personal protective equipment to be used by personnel authorised to use the machine:

3.3.1 Clothing

Operators must wear clothing made of material resistant to the type of product to be processed. The clothing must allow perfect movement for the operations that the operator must perform.

3.3.2 Gloves (hand protection)

Gloves must be suitable for the machine operating conditions and the operator's hands. They must guarantee a secure, rapid grip as well as high performance in resisting the product to be handled. They must guarantee adequate comfort, absorb sweat and protect against heat and cold.

3.3.3 Hair cover

Hair covers must be the correct size and must hold the hair inside. They must be breathable to allow for scalp sweating.

PPE MUST COMPLY WITH THE SAFETY REQUIREMENTS OF THE REGULATIONS IN FORCE IN THE COUNTRY WHERE THE MACHINE IS USED.

4 INSTALLATION INSTRUCTIONS

4.1 General requirements

INSTALLATION MUST ONLY BE PERFORMED BY QUALIFIED TECHNICAL PERSONNEL.

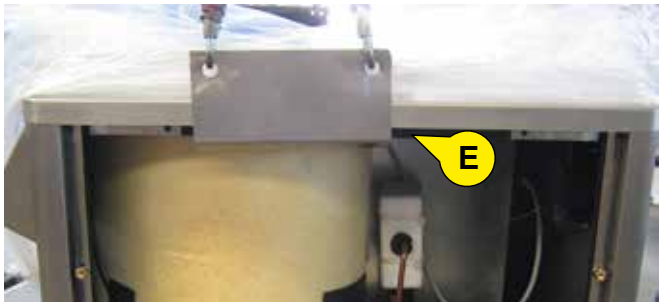
Once the package is near to the machine installation location, cut the straps (A) and remove the cardboard (B) by pushing it upwards.

Remove the documents and accessories located on the outside of the machine.

TAKE CARE WHEN REMOVING THE STRAPS, AS THEY MAY ACCIDENTALLY HIT THE OPERATOR WHEN CUT.

Remove both of the machine side panels by unscrewing the fixing screws (C) then unscrew the bolts (D) which fix the machine frame to the base of the packaging.

Lift the machine off the pallet by acting on the load-bearing parts (E) of the frame, using lifting equipment suitable for the weight of the machine. During lifting pay special attention to the power cable, taking care not to damage it.



DO NOT ATTEMPT TO LIFT THE MACHINE BY HAND.

After positioning the machine in the selected area, put the side panels back on using the screws and dispose of the packaging materials in accordance with the rules in force in the country where the machine will be used.

4.2 Ambient conditions

Ambient conditions required for machine operation:

- Temperature: +15°C to +30°C (59°F to 86°F)
- Humidity: 10% - 95% (with no condensation)

THE MACHINE MUST BE POSITIONED IN A LOCATION PROTECTED FROM RAIN AND SUN.

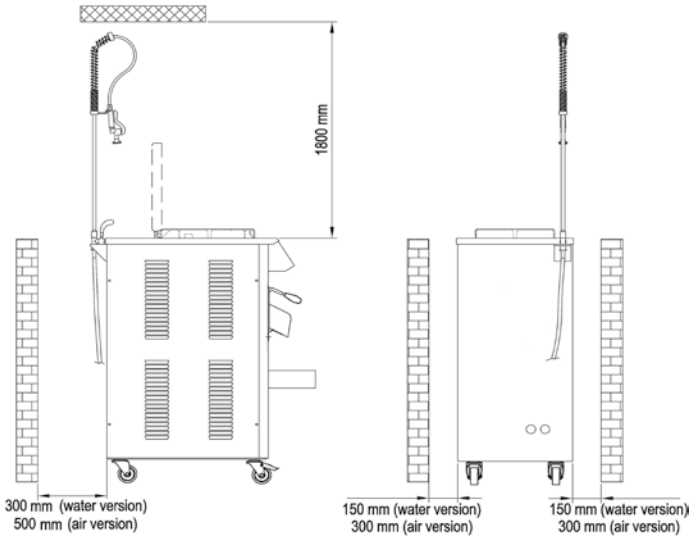
Ambient conditions other than those specified may cause serious damage to the machine and in particular to the electrical equipment and the refrigerating system.

OPERATING THE MACHINE IN AMBIENT CONDITIONS THAT DO NOT CONFORM TO THE INDICATIONS IN THIS MANUAL WILL VOID THE GUARANTEE.
USE OF THE MACHINE IN POTENTIALLY EXPLOSIVE ATMOSPHERES IS STRICTLY PROHIBITED.

4.3 Spaces needed for use of the machine

The machine must be positioned on a solid, level and even floor. It must not be directly exposed to sunlight or near to heat sources.

Keep the machine air inlets clear to allow adequate air circulation around it.



4.4 Installation and assembly sequences of machine components

For safety reasons and to avoid damage during transportation, some machine components are removed from it. Therefore, the machine user must follow these assembly instructions for machine components:

1 Extraction door lever

- Install the opening lever (A) on the extraction door. Place it in the seat (A1) and use the Allen key (B) supplied to tighten the fixing screw while holding the lever in the operating position.

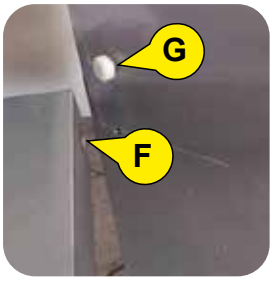
2 Extraction door chute

- Install the extraction door chute below the extraction door using the fixing holes (C) on the front panel.
- Position the chute and tighten the 2 clamp screws (D) below it.

TIGHTEN THE CLAMP SCREWS, CHECKING THAT THERE IS NO PLAY IN THE CHUTE.

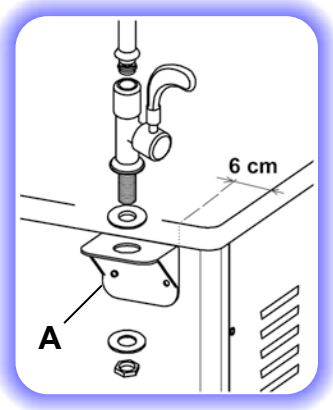
3. Basin support and mat

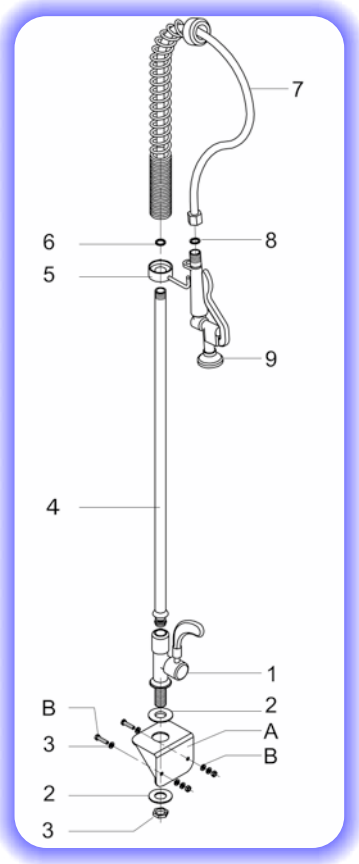
- There are two slots (F) in the back of the basin support. Fit them over the clamp screws (G) partly tightened on the front panel. When the basin support is in place, tighten the screws.
- Place the mat (H) supplied on top of the basin support.



4.4.1 Assembling the shower unit

Water version machine





– Place the bracket (A) on the back of the machine approx. 6 cm from the outer edge and secure it with the screws supplied (B).

– Insert the tap (1) in the hole in the bracket (A), making sure that the upper and lower washers (2) adhere to the bracket. Then secure the shower unit with the nut (3).

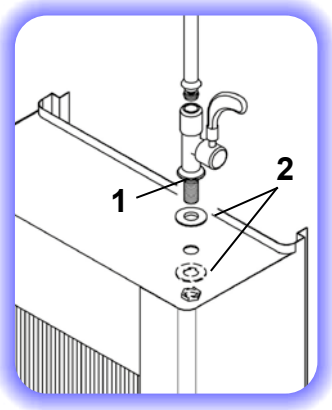
– Screw the chrome-plated tube (4) onto the tap (1).

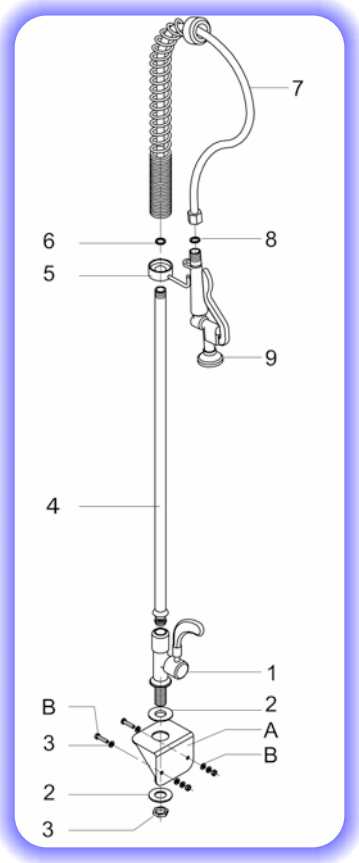
– Fit the shower support (5) on the chrome-plated tube (4), locking it with the screw supplied. Screw the flexible hose (7) onto the chrome-plated tube (4), making sure that the gasket (6) is correctly inserted in its seat.

– Fit the shower (9) on the flexible hose (7), making sure that the gasket (8) is correctly inserted in its seat.

– Use a flexible hose to connect the shower unit tap to the water supply.

Air version machine





– Insert the tap (1) in the hole in the rear panel, ensuring that the upper and lower washers (2) adhere to the panel structure. Then secure the shower unit with the nut (3).

– Screw the chrome-plated tube (4) onto the tap (1).

– Fit the shower support (5) on the chrome-plated tube (4), locking it with the screw supplied. Screw the flexible hose (7) onto the chrome-plated tube (4), making sure that the gasket (6) is correctly inserted in its seat.

– Fit the shower (9) on the flexible hose (7), making sure that the gasket (8) is correctly inserted in its seat.

– Use a flexible hose to connect the shower unit tap to the water supply.

4.5 Electricity supply

WORK ON ELECTRICAL CONNECTIONS MUST ONLY BE CARRIED OUT BY QUALIFIED TECHNICAL PERSONNEL.

The machine must be powered at the voltage shown on the data plate at the top of the rear panel.

The machine is supplied with a power cable to which **a qualified technician** must connect a plug suitable for the technical data (voltage, current) on the data plate.

Connect the machine to a power socket using a suitable earth connection.

THE ELECTRIC SYSTEM THAT WILL POWER THE MACHINE MUST BE DESIGNED IN ACCORDANCE WITH THE REGULATIONS IN FORCE AND INSTALLED BY QUALIFIED, CERTIFIED TECHNICAL PERSONNEL.

THE SOCKET MUST BE CONTROLLED BY A RESIDUAL CURRENT OPERATED CIRCUIT BREAKER, AND MUST HAVE AN EFFECTIVE EARTH CONNECTION.

THE MANUFACTURER DECLINES ALL RESPONSIBILITY FOR ANY DAMAGE CAUSED BY AN UNSUITABLE ELECTRICITY SUPPLY SYSTEM OR EARTHING.

AT THE END OF MACHINE INSTALLATION, QUALIFIED TECHNICAL PERSONNEL MUST CHECK THAT THE MIXER ROTATES IN THE CORRECT DIRECTION, "CLOCKWISE".

THE USE OF EXTENSION LEADS WHICH HAVE A CROSS-SECTION DIFFERENT TO THAT OF THE MACHINE POWER CABLE MAY RESULT IN THE FOLLOWING FAULTS:
1. SLOW MOTOR START WITH TRIPPING OF OVERLOAD SWITCHES
2. MOTOR OVERHEATING WITH A DROP IN POWER
3. FAILURE OF MACHINE SWITCH ON - SWITCH OFF DEVICE

THE MANUFACTURER RECOMMENDS INSTALLATION OF THREE-PHASE MAGNETO-THERMAL OVERLOAD SWITCHES WHICH ALLOW POWER TO BE CUT OFF TO ALL PHASES EVEN IN THE EVENT OF AN OVERLOAD ON ONLY ONE OF THEM. OTHER TYPES OF MAGNETO-THERMAL SWITCHES OR FUSES ONLY CUT THE PHASE WHICH WAS SUBJECT TO OVERLOADING. IF THE VOLTAGE WERE TO FAIL IN ONE OF THE THREE PHASES, THE MACHINE WOULD NOT STOP OPERATING, BUT THE MOTORS WOULD QUICKLY SUFFER IRREPARABLE DAMAGE.

4.6 Water-cooled machine

For machines with a water-cooled condenser, a water supply tube and a water drainage tube have to be fitted. Connect a valve or tap (1) before the delivery tube.

The threaded connectors are on the back of the machine, in the lower area. Each connector is marked with a label indicating its purpose, as below:

A. IN - Machine water infeed (pressure between 1 and 7 bar)
B. OUT - Machine water outfeed

For the water connections, use rubberised fabric tubes suitable for a pressure of up to 15 bar. To connect the tubes to the machine's threaded connectors, use ¾" fittings with gaskets and a suitable tube tightening clip, with clamp screws. Connect a valve or tap before the delivery tube, so as to regulate the inflow of water.

DO NOT INVERT CONNECTION OF THE TUBES AND MAKE SURE THE TUBES ARE NOT PINCHED OR BENT AT TIGHT ANGLES.

WATER FED IN WHICH IS AT A TEMPERATURE THAT IS TOO HIGH (ABOVE 28°C) WOULD PREVENT CORRECT OPERATION OF THE HEAT EXCHANGER FITTED ON THE MACHINE.

UNSUITABLE TUBES OR CONNECTORS MAY CAUSE LEAKS, WITH CONSEQUENT PROBLEMS IN THE WORKING ENVIRONMENT. WATER LEAKS MAY SERIOUSLY DAMAGE THE MACHINE.

IF THE MAINS WATER USED TO SUPPLY THE MACHINE IS HARD WATER OR CONTAINS A LOT OF IMPURITIES, INSTALL A SUITABLE DECALCIFICATION OR FILTERING DEVICE UPSTREAM OF THE DELIVERY TUBE.

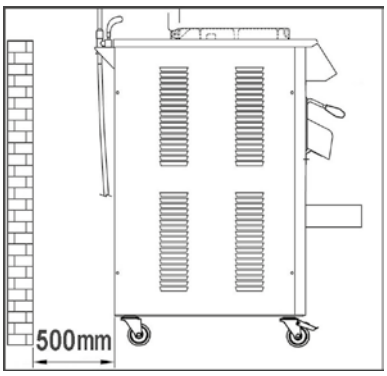
MACHINE WATER INFEED (IN) PRESSURE MUST BE BETWEEN 1 AND 7 BAR. IF NOT THE MACHINE WILL DEVELOP OPERATING FAULTS.

IF THE MACHINE WATER INFEED (IN) PRESSURE IS ABOVE THE LIMITS ALLOWED, INSTALL A SUITABLY REGULATED PRESSURE LIMITER UPSTREAM OF THE DELIVERY TUBE. IF NOT THE MACHINE COULD BE DAMAGED AND STOP OPERATING.

IN TEMPERATURES BELOW 0°C IT IS ESSENTIAL TO EMPTY THE WATER FROM THE MACHINE COOLING SYSTEM. OTHERWISE IT COULD FREEZE IN IT, CAUSING SERIOUS DAMAGE.

4.7 Air-cooled machine

Air-cooled machines must be installed with a minimum distance from the rear wall of at least **500 mm** to allow free circulation of condensation air.



Every day, clean the area around the machine to prevent foreign bodies (for example: build-up of dust, bits of paper, etc.) from blocking the regular inflow of air. Monthly, thoroughly clean the condenser grille, removing any dust residues, bits of paper, etc., to allow the machine to operate correctly.

Remove dust from the condenser grilles “dry” with a vacuum cleaner and, if necessary, a brush, so that the dust is removed outwards.

DO NOT USE LIQUIDS BECAUSE THEY WOULD FIX THE DUST ON THE CONDENSER.

REMOVE DUST FROM THE CONDENSER GRILLES OUTWARDS TO AVOID COMPROMISING THE PERFORMANCE OF THE REFRIGERATING SYSTEM.

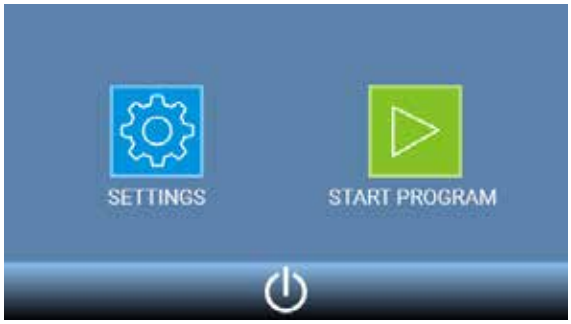
INADEQUATE MACHINE VENTILATION COULD COMPROMISE CORRECT OPERATION AND ITS PRODUCTION CAPACITY.

5 STARTING THE MACHINE AND USING THE PROGRAMS SET

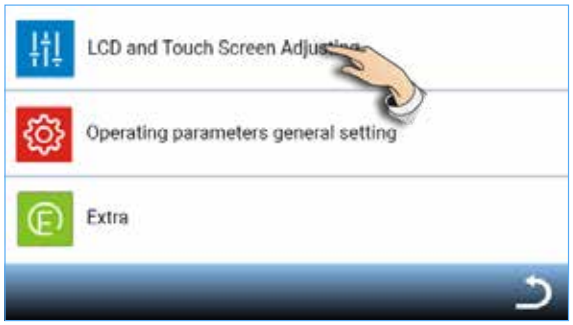
5.1 Setting the language and temperature unit of measurement

Home page, press the screen to continue.

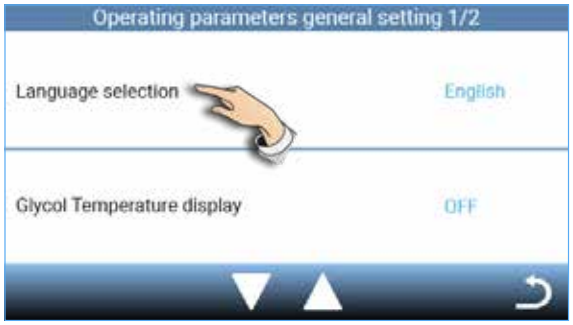
Select "SETTINGS".



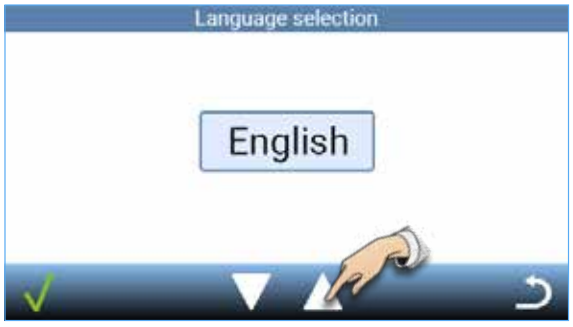
Select "General operating parameters settings".



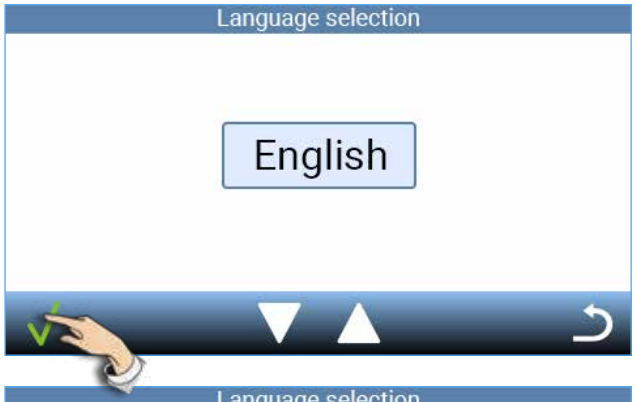
Press "Language selection".



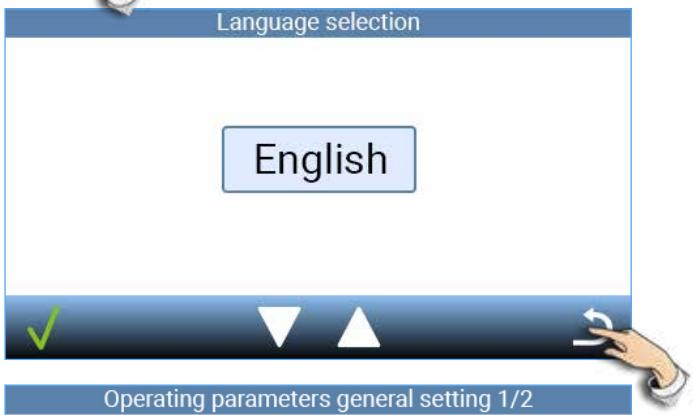
Use the arrows to select the desired language.



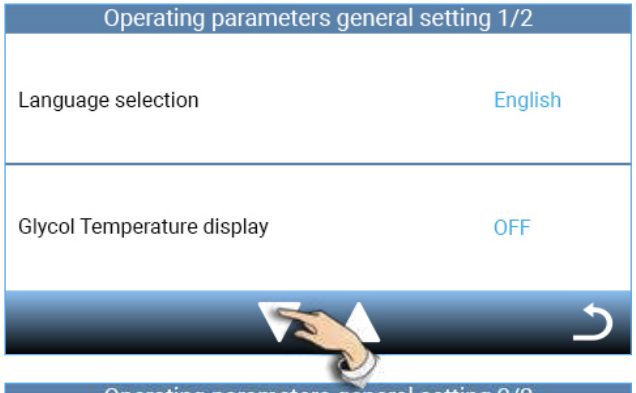
Press the icon to confirm the desired language.



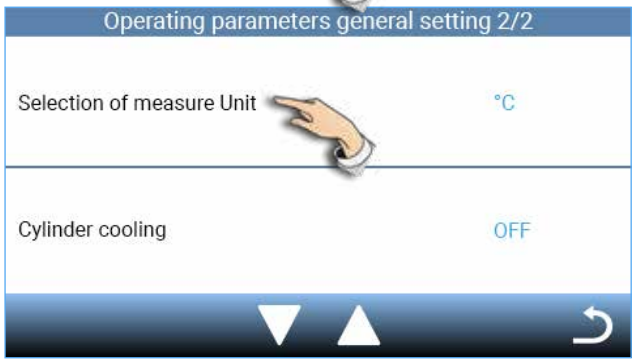
Press the icon to return to the previous screen page.



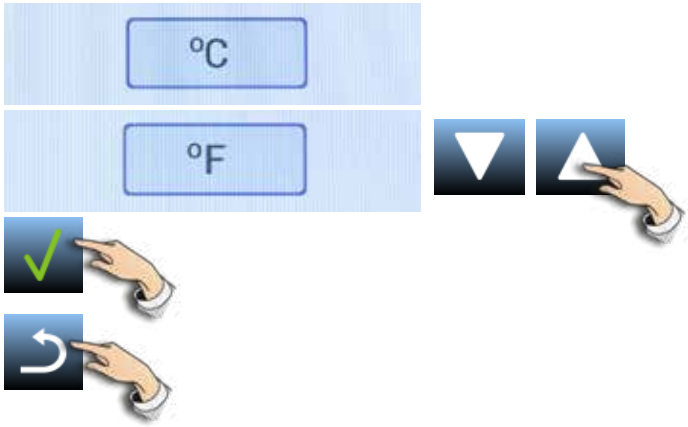
Use the arrows to display the "Unit of measurement selection" parameter.



Press "Unit of measurement selection".

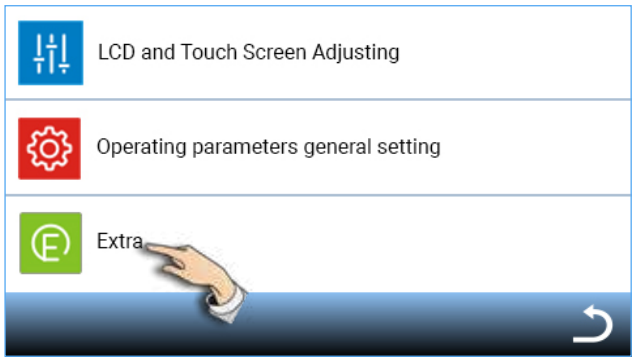


Select the desired Unit of measurement.
Press the confirm icon.
To return to the previous screen pages press the "Back" icon.

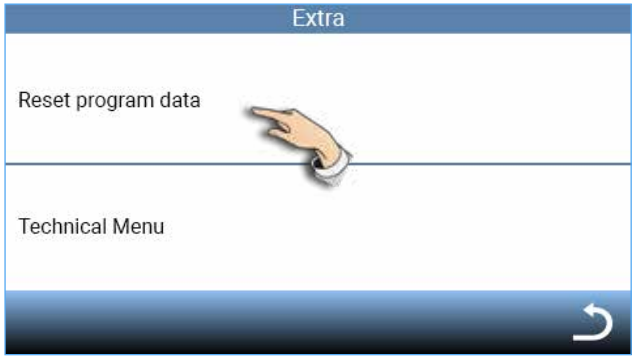


5.2 Machine programs reset

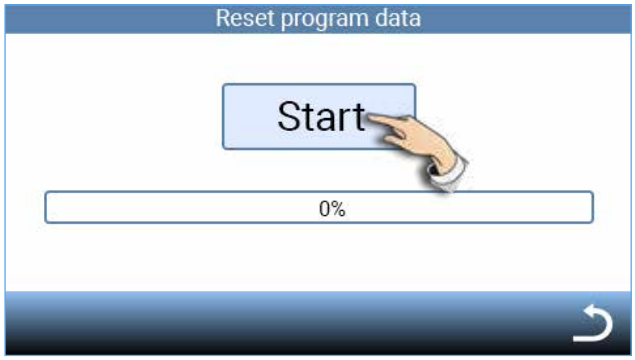
Select "Extra".



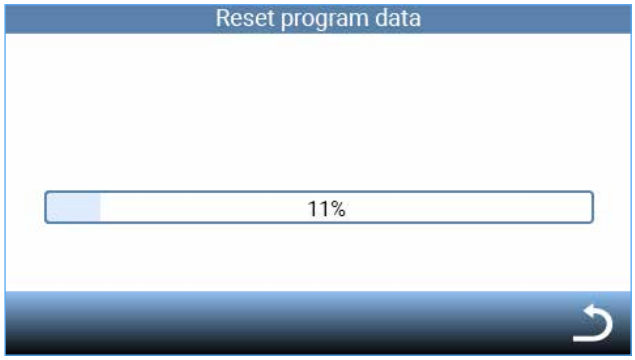
Press "Program data reset".



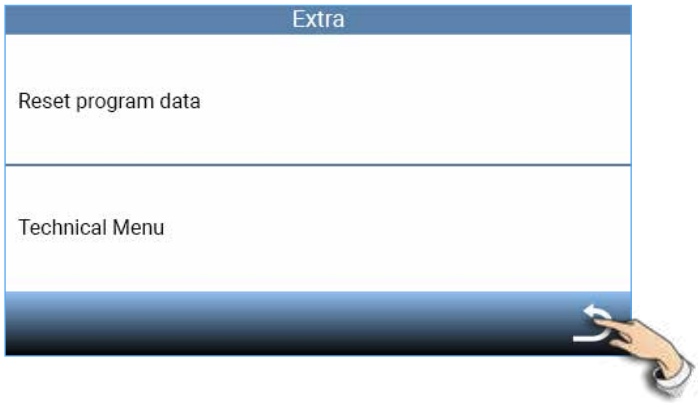
Press "Start" to restore the factory data in the programs.



Wait until the Reset is complete.

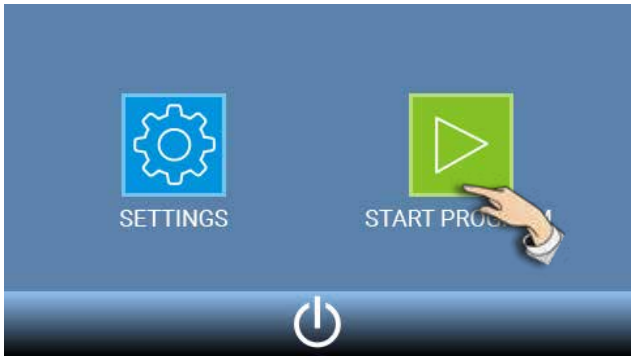


To return to the previous screen pages press the "Back" icon.

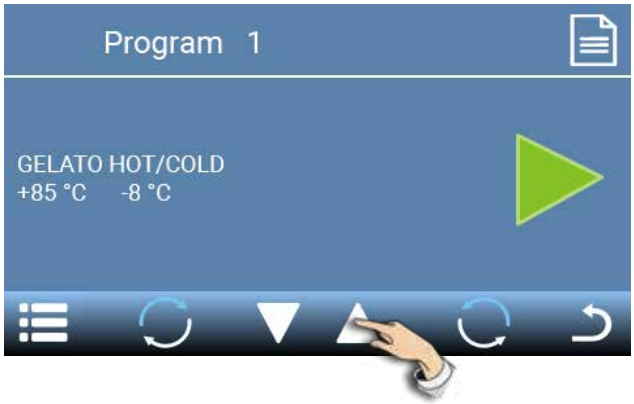


5.3 Starting the machine

Press "START PROGRAM" to select the programs.



Use the arrows to select the desired program.



Icons legend:

Program Start

Buzzer

Configuration menu, for modifying parameters and phases set in the program

STOP, program stop control

Mixer clockwise rotation in manual mode

Machine switch ON / OFF

Mixer anti-clockwise rotation in manual mode

Selection arrows

Back, for returning to the previous screen page

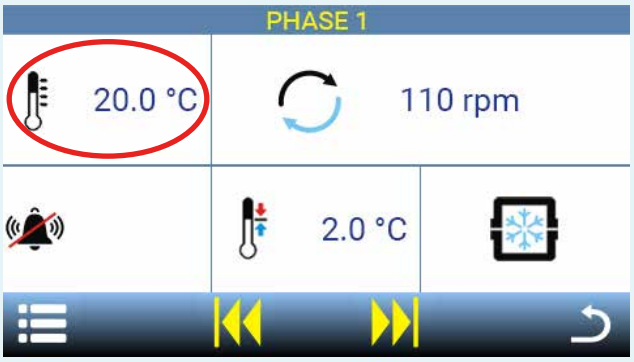
5.4 List of programs set

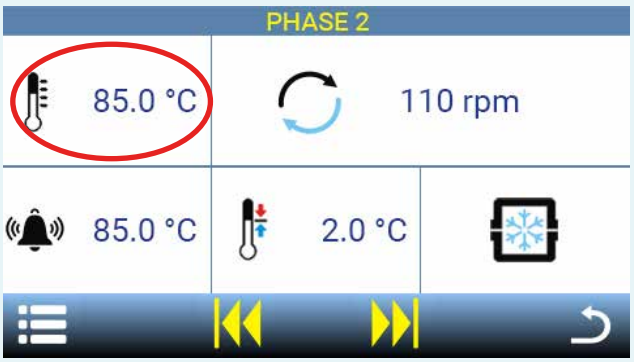
The following programs are saved in the machine:

1	GELATO HOT COLD +85°C -8°C
2	GELATO HOT COLD +65°C -8°C
3	GELATO HOT COLD +92°C -8°C
4	GELATO -8°C
5	GELATO -9°C
6	GELATO -10°C
7	SORBET -7°C
8	GELATO MIX PASTEURIZATION +85°C +4°C
9	FRUIT SYRUP +65°C +5°C
10	CRÈME PÂTISSIÈRE
11	CRÈME ANGLAISE
12	BUTTER CREAM
13	BAVARIAN CREAM
14	CREAM PUFF PASTRY
15	GANACHE
16	FRUIT PUREE
17	BÉCHAMEL SAUCE
18	POLENTA
19	FREE PROGRAM

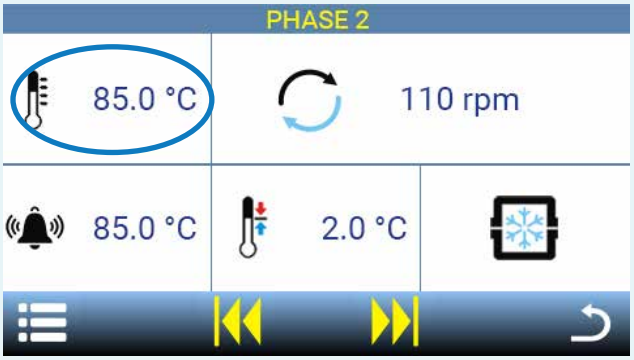
5.5 Managing the heating and cooling system

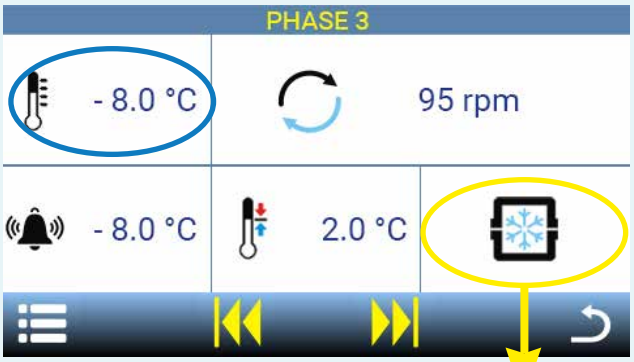
The machine manages the heating and cooling system independently, based on the operating temperature set.
The heating is started automatically when the operating temperature set in the first phase is higher than the product temperature measured in the cylinder, or when the operating temperature set in one phase is higher than the product temperature in the previous phase.





The cooling is started automatically when the operating temperature set in the first phase is lower than the product temperature measured in the cylinder, or when the operating temperature set in one phase is lower than the product temperature in the previous phase.
The operator can manage the cooling mode with the "Compressor configuration".
See section 5.8 "Compressor configuration".

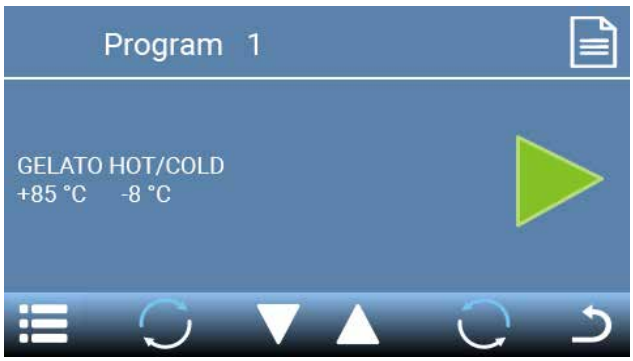




Continuous compressor	
Intermittent compressor	
No compressor	

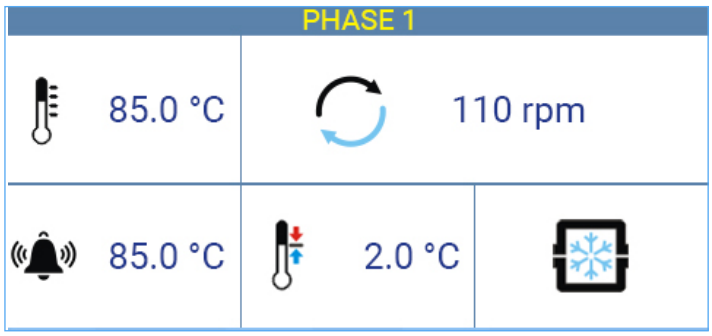
5.6 Example of program set

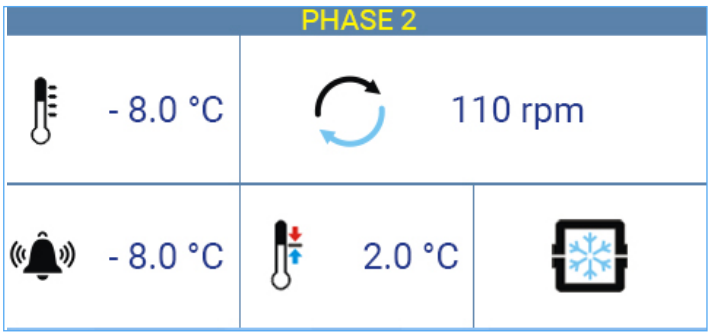
In "Program 1" there are 4 phases configured.



PHASE 1: Heating the mix to +85 °C.

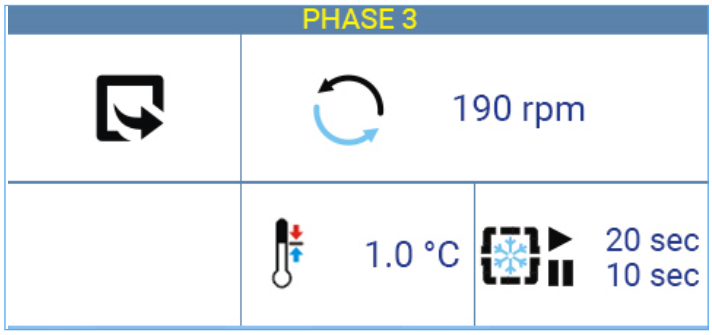
PHASE 2: Cooling to -8 °C.

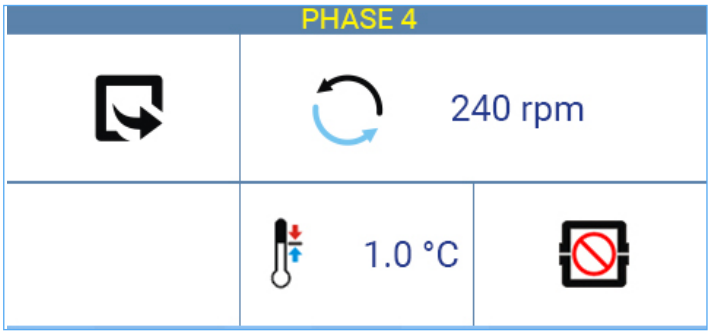




PHASE 3: Extraction at 190 rpm.

PHASE 4: Second extraction at 240 rpm.





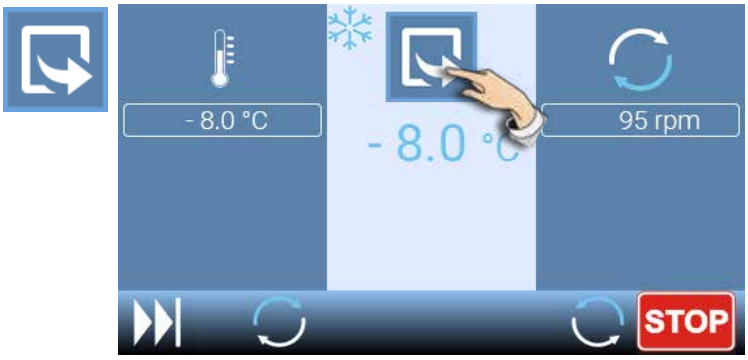
5.7 Starting the program

Press the icon to start the program.

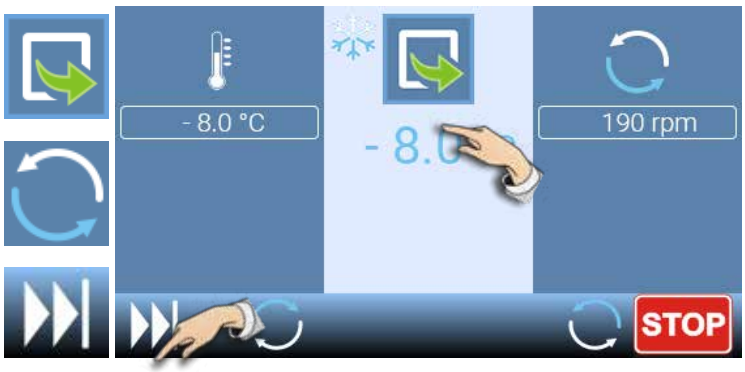
Heating the mix to +85 °C (PHASE 1).

Cooling the mix to -8 ° C (PHASE 2).

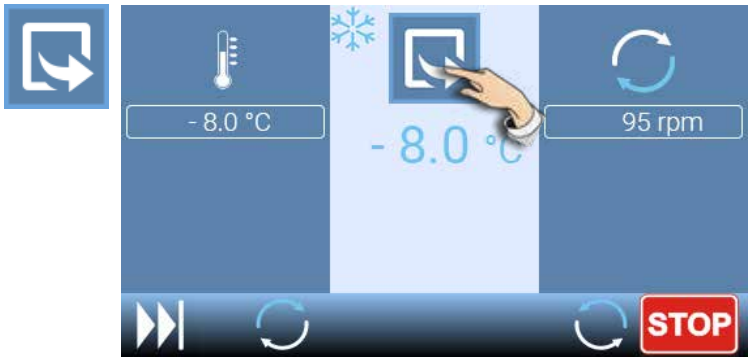
At the end of the cooling cycle, press the flashing extraction icon to unload the product.



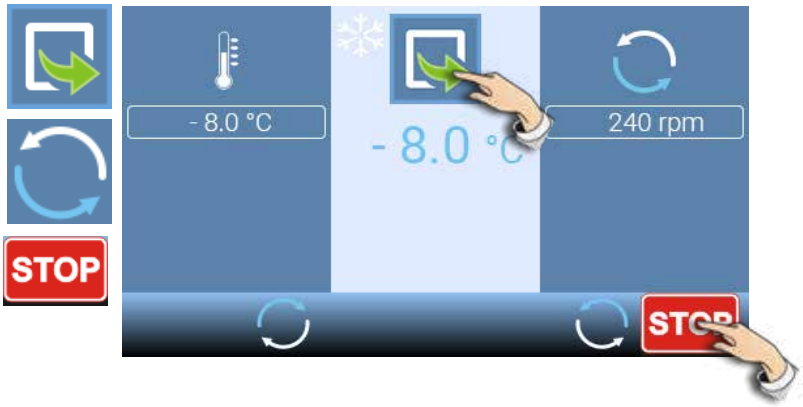
The extraction icon turns green and the direction of rotation of the mixer is inverted, with a speed of rotation of 190 rpm (PHASE 3). You can press the icon to turn extraction on or off. Press the forward arrow to go to the second extraction phase.



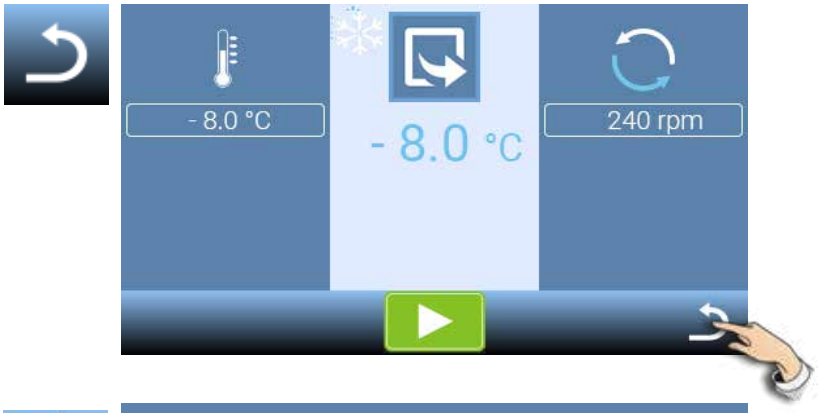
Press the flashing extraction icon to start the second extraction for unloading remaining product.



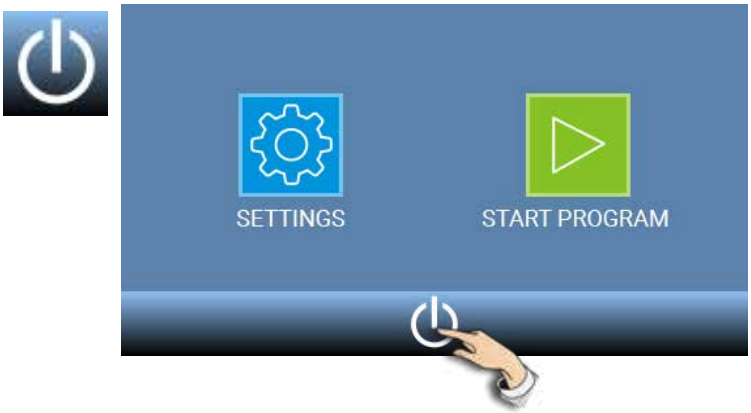
The extraction icon turns green and the direction of rotation of the mixer is inverted, with a speed of rotation of 240 rpm (PHASE 4). You can press the icon to turn extraction on or off.
Press **STOP** to stop the extraction.



Press the icon to return to the previous screen pages.



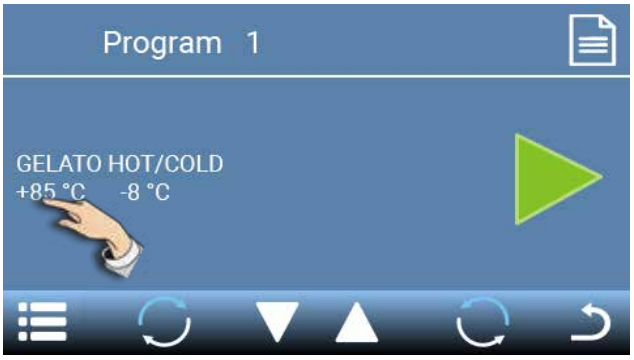
Press the Power icon to switch off the machine.



5.8 Modifying parameters and phases of the programs set

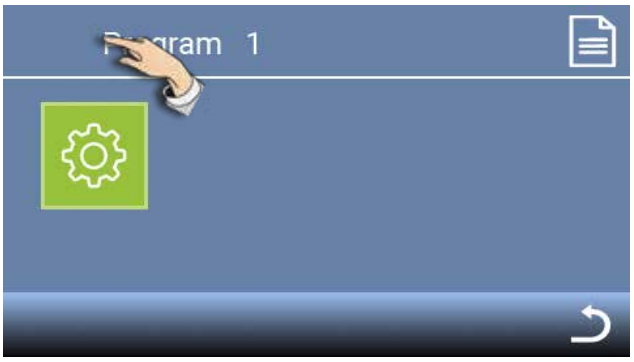
Premere il "Menu di configurazione".

Press the "Configuration menu".



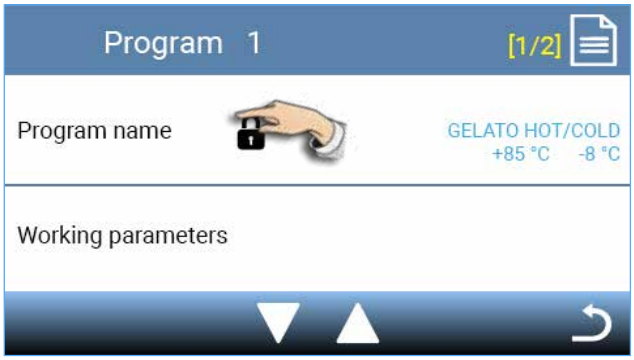
Selezionare "IMPOSTAZIONI".

Select "SETTINGS".



Selezionare "Parametri di lavoro".

Select "Operating parameters".



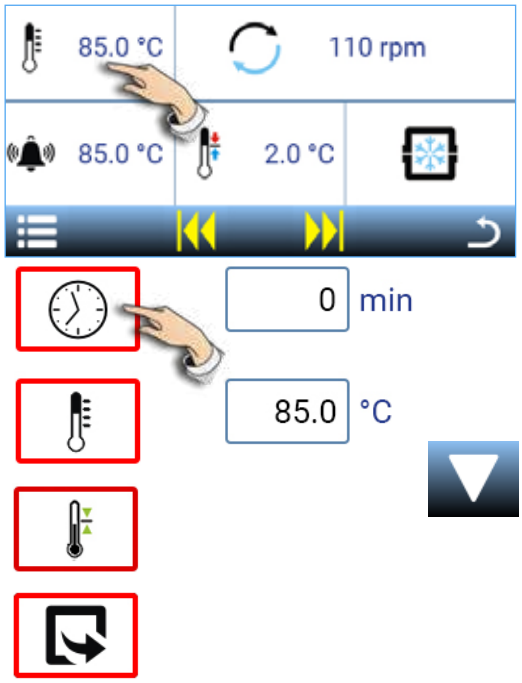
Each Program is made up of "Phases". In each "Phase" it is possible to set parameters such as:

- TYPE OF PHASE OPERATION
- TYPE OF MIXER OPERATION
- BUZZER
- PRODUCT MAINTAINING TEMPERATURE DELTA IN THE PHASE
- COMPRESSOR CONFIGURATION

It is also possible to MODIFY, ADD or DELETE a Phase.

5.8.1 Type of operation of the phase

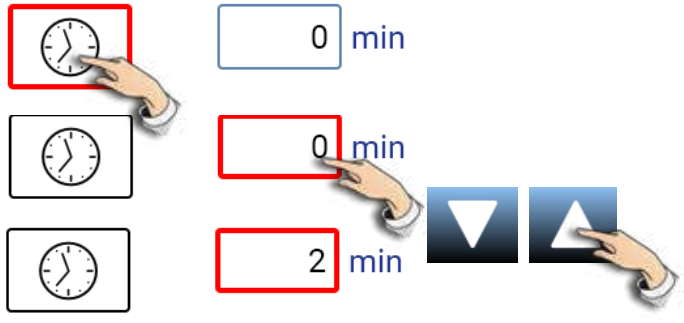
Select the "Operating temperature" parameter.



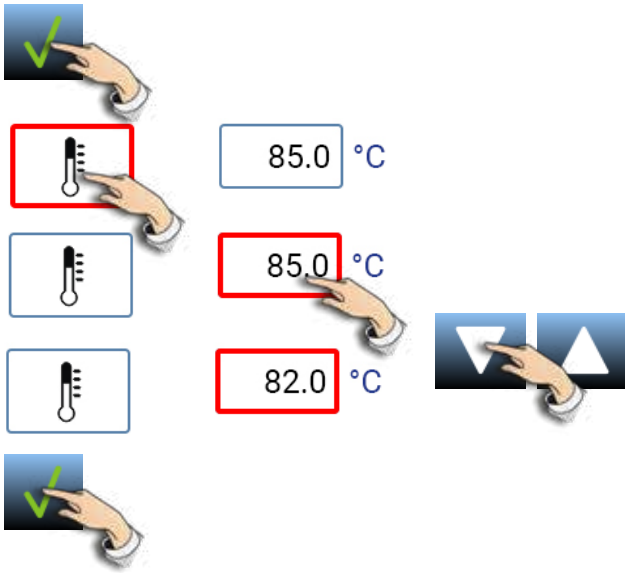
Use the arrows to select the type of operation of the Phase:
- "Operating time"
- "Operating temperature"
- "Preservation" (*)
- "Product extraction" (*)

(*) The preservation and the extraction can be set only in the phases at the end of the working cycle.

If you select **"Operating time"** you can use the arrows to modify the duration value. The adjustment range is 0 to 999 minutes.
Press the confirm icon for the desired value.

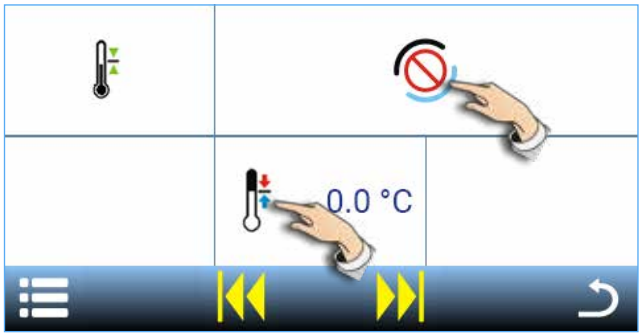


If you select **"Operating temperature"** you can use the arrows to modify the temperature value. Adjustment range is -16 to 115 °C.
Press the Confirm icon for the desired value.



If you select **"Preservation"**, you can only set the "type of mixer operation" and the "product maintaining temperature delta".
Press the confirm icon.

Set the relative parameters by selecting the boxes for the type of mixer operation and the product maintaining temperature delta.



Product preservation.

The preservation temperature is the product cooling temperature.
During the "Preservation" phase you can set the product maintaining temperature delta and the type of mixing:

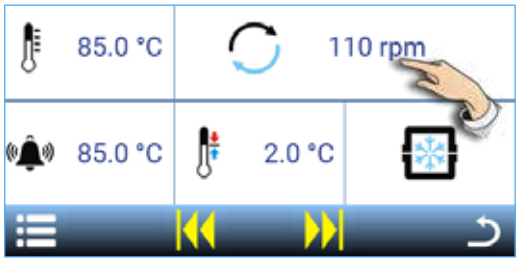
Continuous clockwise mixing		Intermittent clockwise mixing*	
No mixing		* Agitation and pause time setting in minutes. Range between 0 and 250 minutes.	

The compressor is inactive.
The Delta is the temperature range within which the compressor will be switched on or off.
Based on the delta set, if the preservation temperature rises, the compressor will be activated again to return the mixture to the final cooling temperature.

Or it is possible to select **"Product extraction"**.
Press the confirm icon.

5.8.2 Type of mixer operation

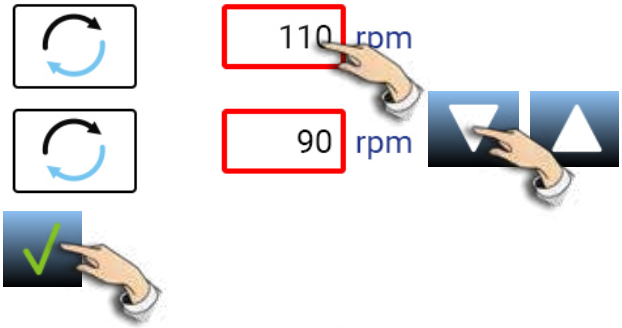
Select the "Type of Mixer operation" parameter.



Possible choices:

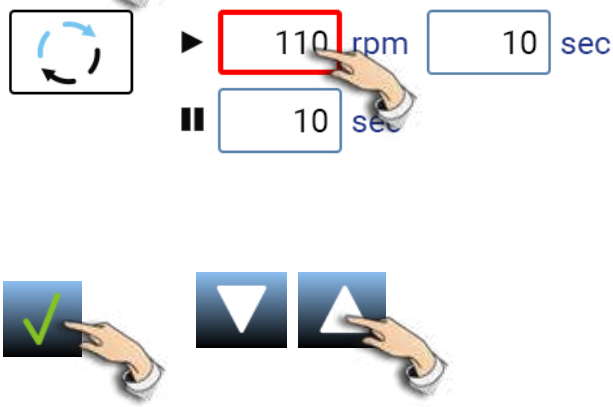
Continuous clockwise mixing		Continuous anti-clockwise mixing	
Intermittent clockwise mixing		Intermittent anti-clockwise mixing	
Alternate mixing		Alternate mixing with pause	
No mixing			

Continuous clockwise mixing
Select the speed of rotation box and use the arrows to set the desired value. The adjustment range is 0 to 250 rpm.
Press the confirm icon.



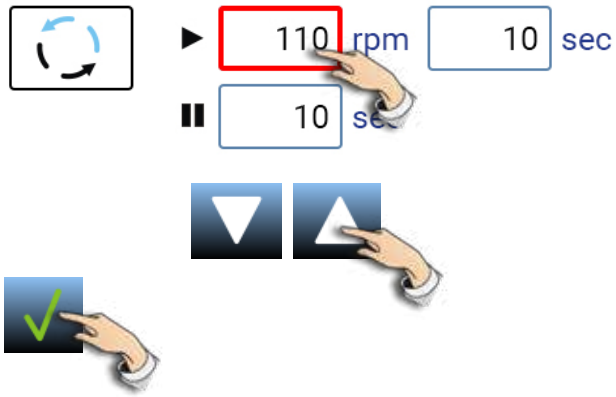
Continuous anti-clockwise mixing
Select the speed of rotation box and use the arrows to set the desired value. The adjustment range is 0 to 250 rpm.
Press the confirm icon.

Intermittent clockwise mixing
Select the boxes and use the arrows to set the desired values. The speed of rotation adjustment range is 0 to 250 rpm. The mixing time and pause time adjustment range is between 0 and 1250 seconds.
Press the confirm icon.



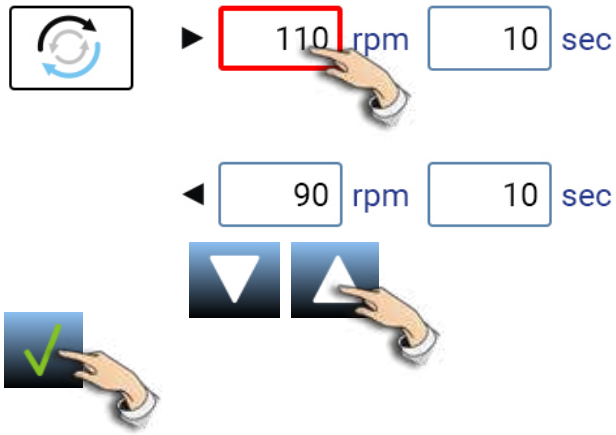
Intermittent anti-clockwise mixing

Select the boxes and use the arrows to set the desired values. The speed of rotation adjustment range is 0 to 250 rpm. The mixing time and pause time adjustment range is between 0 and 1250 seconds.
Press the confirm icon.



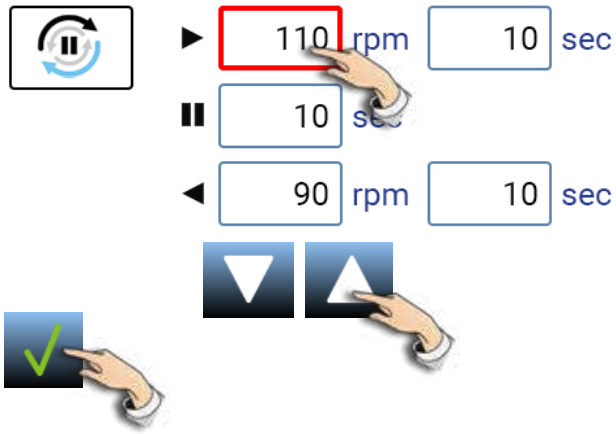
Alternate mixing

Select the speed of rotation boxes and use the arrows to set the desired values. The adjustment range is 0 to 250 rpm.
The mixing time adjustment range is 0 to 1250 seconds.
Press the confirm icon.



Alternate mixing with pause

Select the speed of rotation boxes and use the arrows to set the desired values. The adjustment range is 0 to 250 rpm.
The mixing times and pause times adjustment range is between 0 and 1250 seconds.
Press the confirm icon.

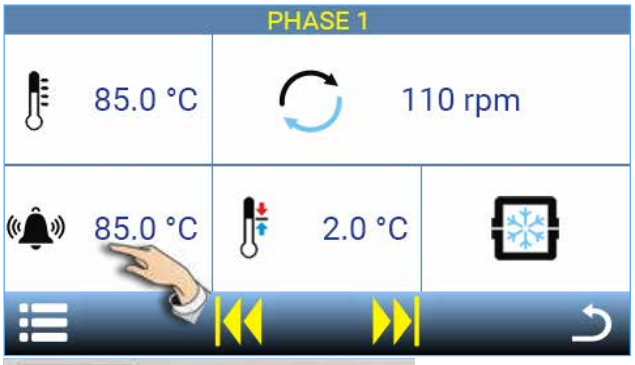


No mixing

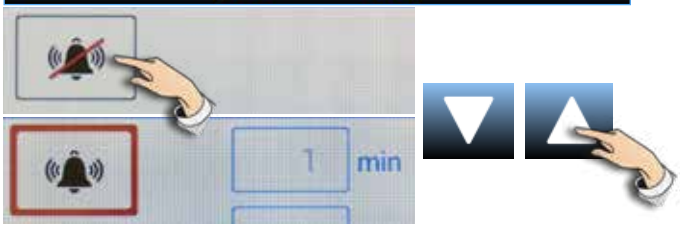
Mixer stopped. Press the confirm icon.

5.8.3 Buzzer

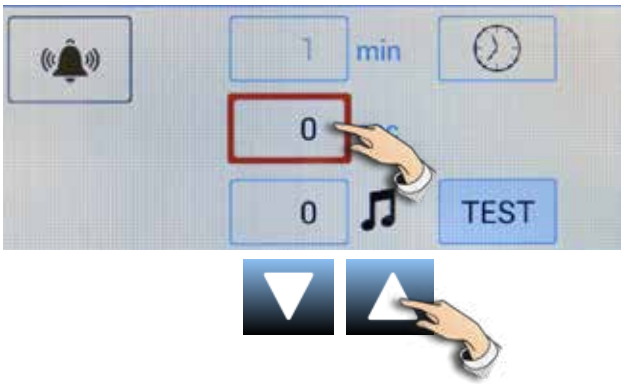
Select "Buzzer".
The buzzer can be set for both of these phases: **"Operating time"** and **"Operating temperature"**.



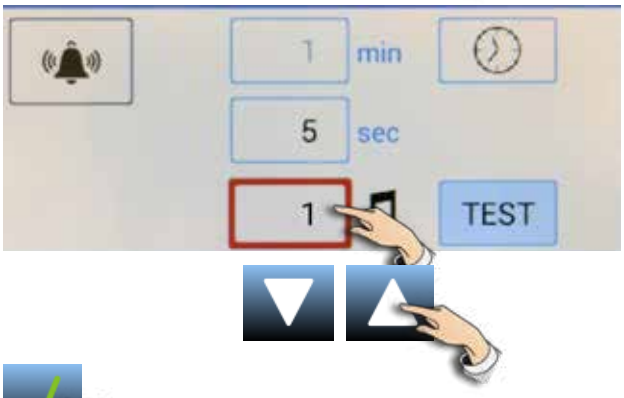
Press the "Buzzer" icon, then use the arrows to select Buzzer On.



Press the buzzer duration box to set the value. Use the arrows to set the desired value.



Press the sound box to select the type of buzzer (2 types available). Press TEST to listen to the sound.

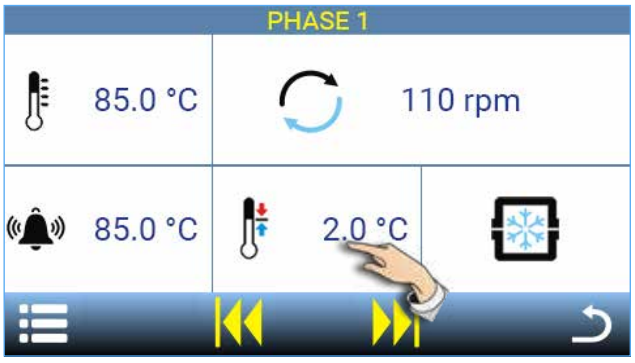


Press the confirm icon.

5.8.4 Product maintaining temperature delta in the phase

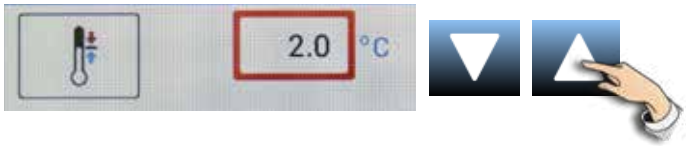
Select "Product maintaining temperature delta in the phase".

The Delta is the temperature range within which the compressor will be switched on or off to return the temperature to the value set.



Press the temperature value box.

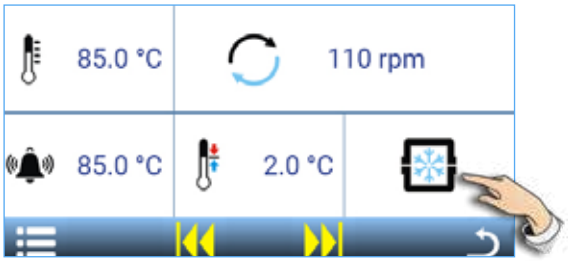
Use the arrows to set the desired value.
The adjustment range is 1 to 4 °C.



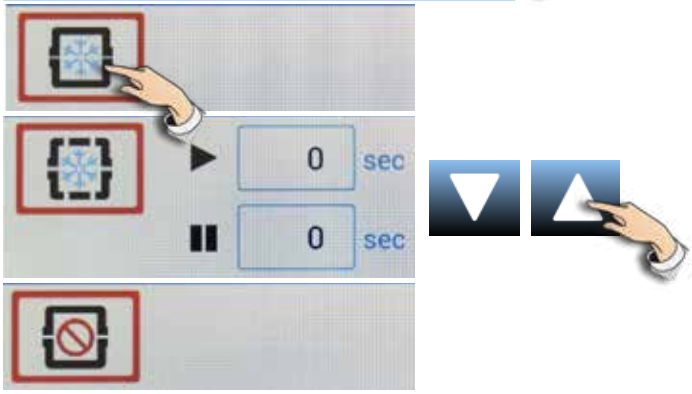
Press the confirm icon.

5.8.5 Compressor configuration

Select "Compressor configuration".

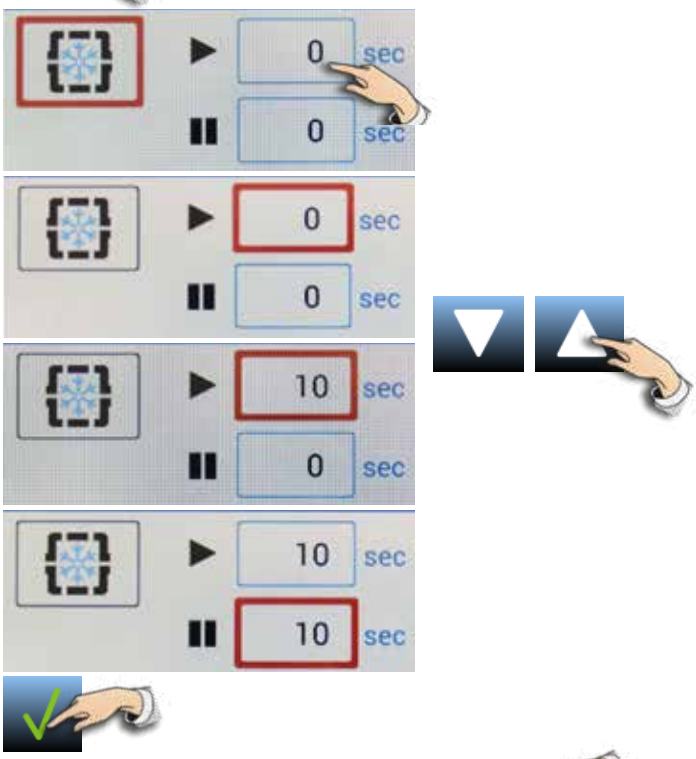


Use the arrows to select the type of cooling:
- **Continuous compressor**
- **Intermittent compressor**, with settable operating and pause times
- **No compressor**



If you select **"Continuous compressor"**, the machine compressor is activated in continuous mode.
Press the confirm icon.

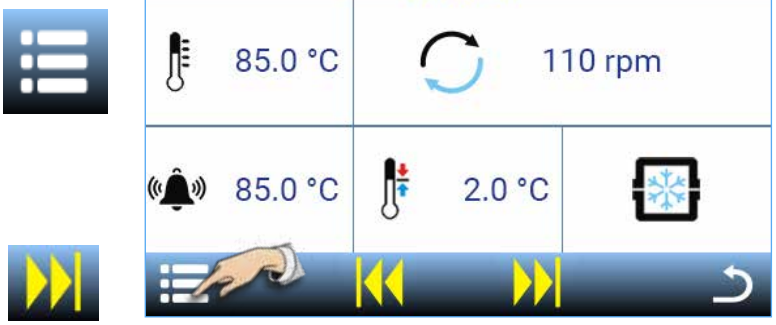
If you select **"Intermittent compressor"**, you can set its operating and pause times. Select the relative boxes and modify the values using the arrows.
The adjustment ranges are 0 to 1250 seconds.
Press the confirm icon.



If you select **"No compressor"**, the machine will not turn on any of the compressors.
Press the confirm icon.

5.8.6 Add or delete a phase

Select the "Configuration menu".



NOTE:: Use the "yellow navigation arrows" to move to the various phases set in the program.

From the "Configuration menu", for every phase set, you can:

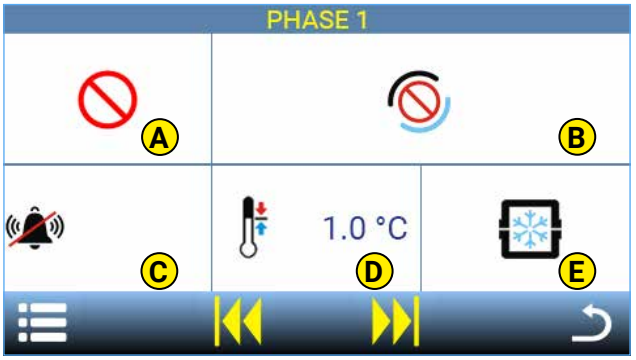
- Add a phase BEFORE
- Add a phase AFTER
- Delete a phase

Select the desired option and press the confirm icon.

For example, if you want to add a preceding phase, select "Add Phase BEFORE".
Press the confirm icon.

The screen page for the new phase added is displayed, with the operating parameters to be set:

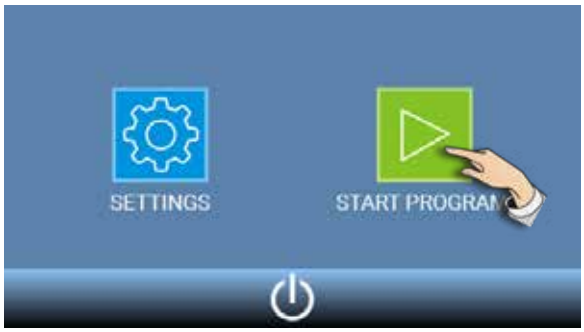
A: Type of operation of the phase
B: Type of mixer operation
C: Buzzer
D: Product maintaining temperature delta in the phase
E: Compressor configuration



Set the desired parameters by following the instructions in the preceding pages.

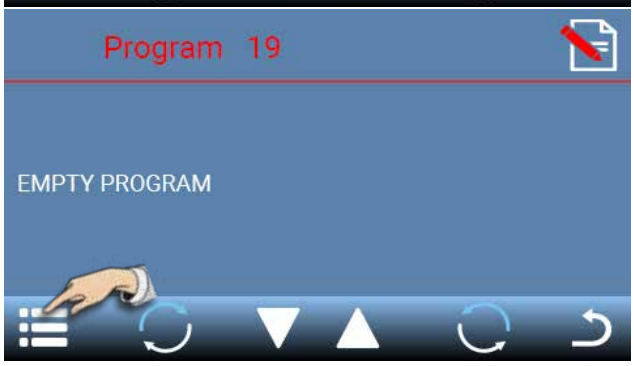
5.9 Configuring a free program

Press "START PROGRAM" to select the programs.



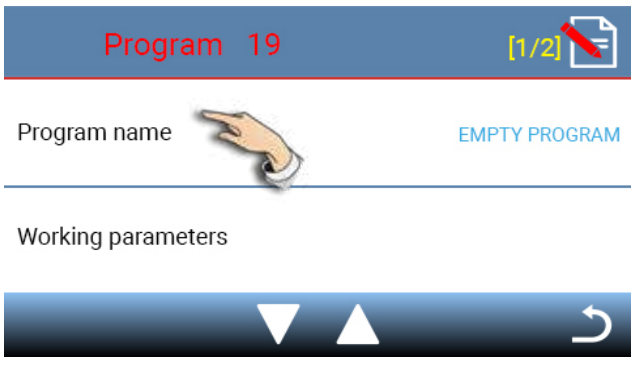
Use the arrows to display the "FREE PROGRAM" (Position 19).

Press the "Configuration menu".



Select "SETTINGS".

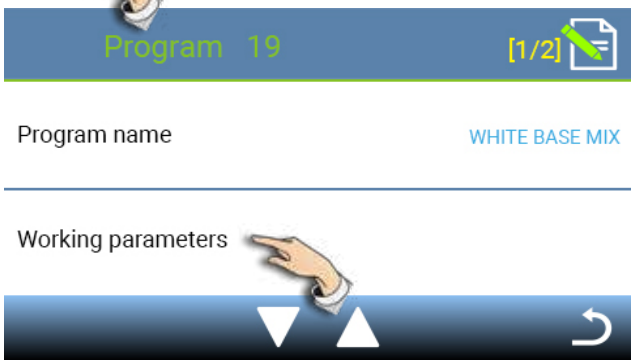
Select "Name".



Select the "FREE PROGRAM" text box and change the Name.

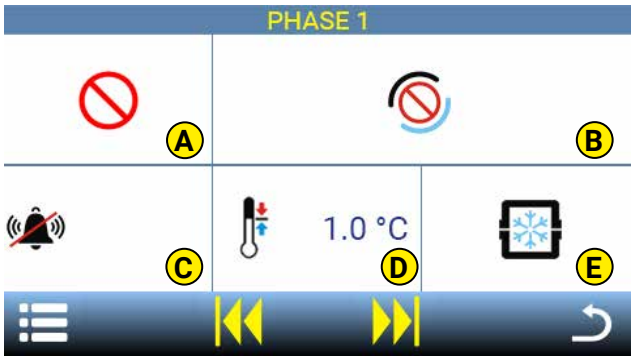
Enter the desired Name using the keyboard (e.g.: "WHITE BASE MIX").
Press the confirm icon.

Select "Operating parameters".



The screen page for the new phase added is displayed, with the operating parameters to be set:

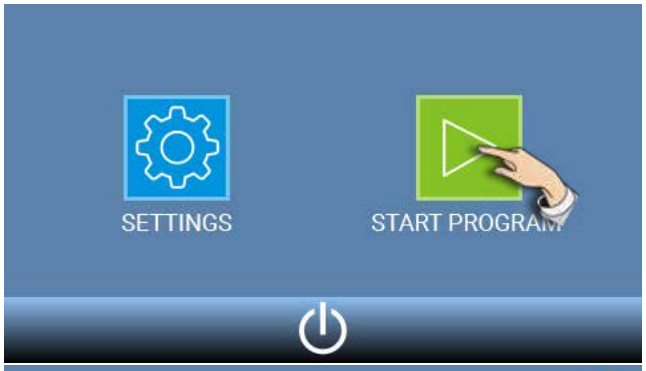
A: Type of operation of the phase
B: Type of mixer operation
C: Buzzer
D: Product maintaining temperature delta in the phase
E: Compressor configuration



Set the desired parameters and phases by following the instructions in sec. 5.8.

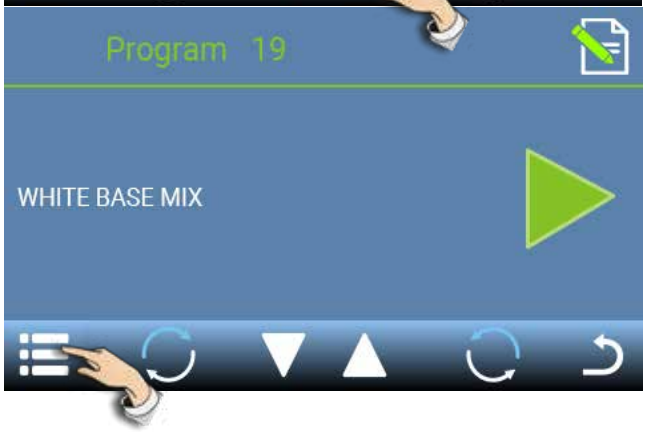
5.10 Adding a new program

Press "START PROGRAM" to select the programs.



Use the arrows to display the "FREE PROGRAM" (Position 19).

Press the "Configuration menu".



In addition to the "SETTINGS" icon, you will see these
icons:

Add Program BEFORE
(Adds a new Program, preceding the existing one)

- Add Program AFTER
(Adds a new Program, following the existing one)

For example, press "Add Program AFTER".

Press the confirm icon to confirm the addition of a new program.

Use the arrows to display the new FREE PROGRAM added.
(Position 22).

Press the "Configuration menu".

The screen page with these icons appears:

- SETTINGS for entering the name and operating parameters of the new FREE PROGRAM

- Add Program BEFORE

- Add Program AFTER

- Delete Program

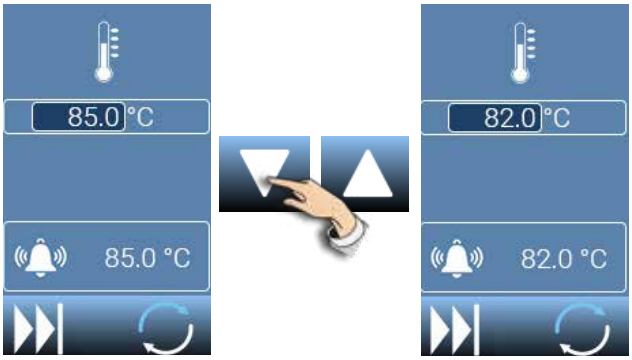
To Delete a Free Program added, select the "Delete Program" icon.
Press the confirm icon.

5.11 Modifying parameters with program started

Changes made to parameter values, once the program has started, are temporary and will not be saved. When the program restarts, the parameters will return to the original setting.

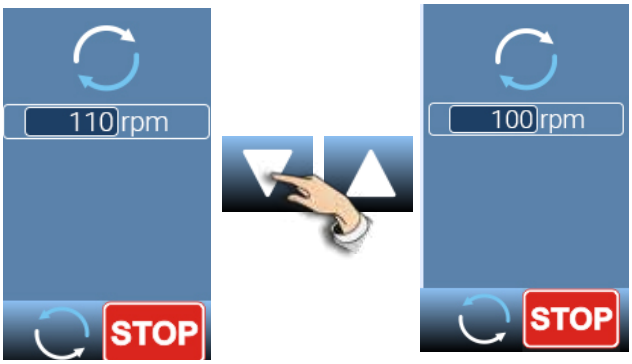
For example, "Program 1"
PHASE 1
Select the "Operating temperature" value box.

Use the arrows to modify the value.



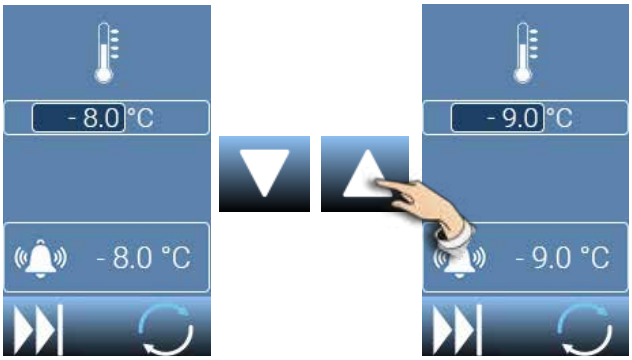
Select the "Mixer speed of rotation" box.

Use the arrows to modify the value.

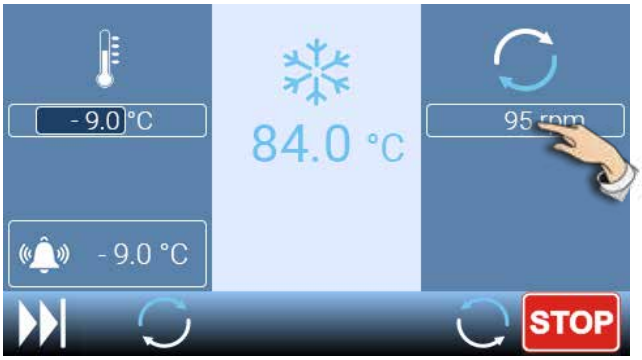


PHASE 2
Select the "Operating temperature" value box.

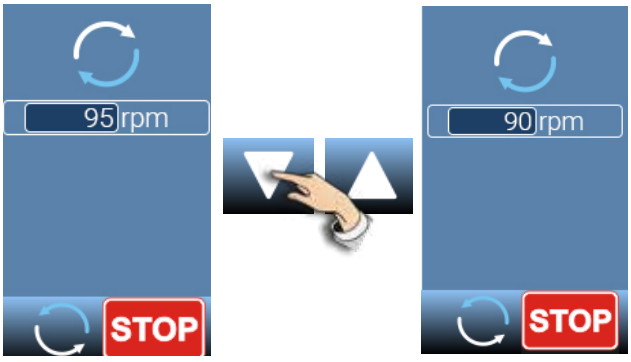
Use the arrows to modify the value.



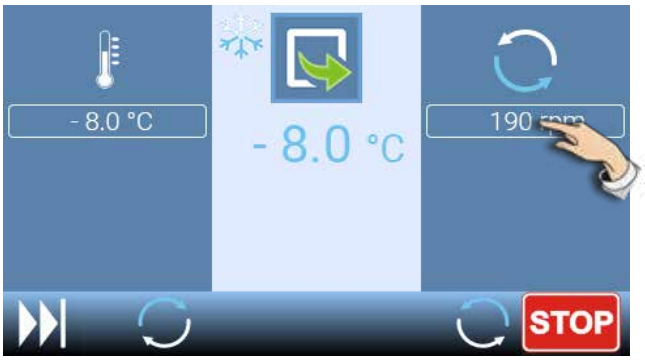
Select the "Mixer speed of rotation" box.



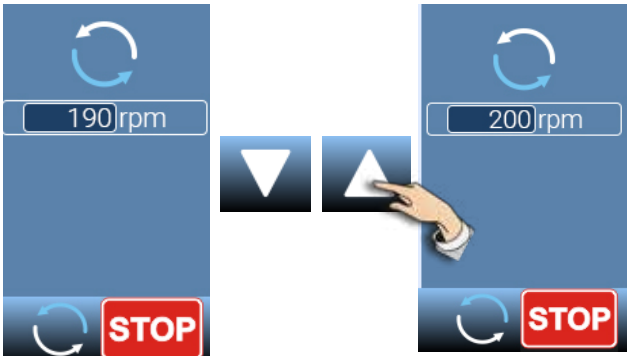
Use the arrows to modify the value.



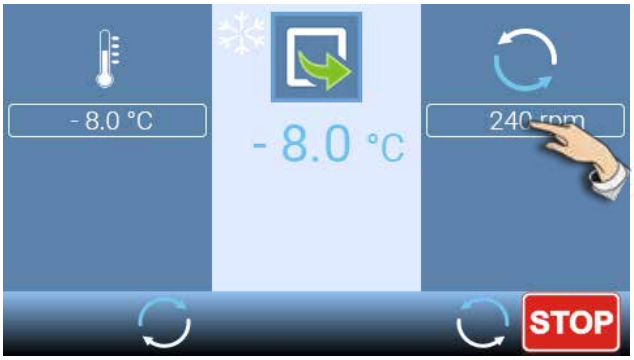
PHASE 3
Select the box for "Mixer speed of rotation" in the product extraction phase.



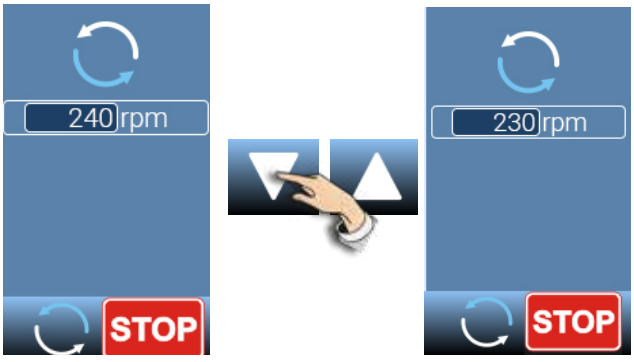
Use the arrows to modify the value.



PHASE 4
Select the box for "Mixer speed of rotation" in the second product extraction phase.



Use the arrows to modify the value.



5.12 Production

EVERY DAY, WHEN YOU SWITCH ON THE MACHINE, CHECK THAT THE SAFETY DEVICES ARE OPERATING CORRECTLY AS DESCRIBED IN DETAIL IN SECTION 7.5 OF THIS MANUAL.

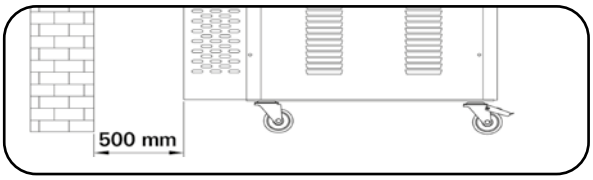
Connect the machine power cable to a socket and check that the screen is on. Press the machine screen to prepare it for operation.

Before starting production, remember to run the machine wash phases as described in section 6, "Washing", of this manual.

You should also carefully check the following:

- *For water-cooled machines, check that the water inlet tap is open.*

- *For air-cooled machines, check that the machine is positioned with the required space behind the rear wall and that there are no foreign bodies obstructing the condenser air flow.*



- *Check that the extraction door is closed*

- *Do not start the machine operating cycle before putting the mix in the cylinder. The mixer must not operate with no product inside it as it will be damaged.*

- *Before starting production open the cover and check that the tightening knobs on the mixer and the retaining paddle are tightened correctly.*

- *Check that the cover is closed, otherwise the machine will not work. The screen will show an alarm message: "Door open".*

– Touch "START PROGRAM" to proceed with selection of the program to be used.

– By pressing the arrow symbols you can select one of the programs already in the memory, or use the free programs to customise a recipe of your own.

– When you have selected the desired program and added the ingredients in the cylinder simply touch the “START" symbol to start the program and start production.

Before starting the production check that the extraction door is closed and pour the pasteurised mix or the ready-packaged foods into the cylinder. The suitable quantity of product which can be processed is indicated in sec. 2.4, “Machine technical data" of this manual.

Model		PCT/10-35 T	PCT/20-60 T
Quantity of product processable (min. to max.) for:	GELATO/ICE CREAM l	3 to 6	4 to 8
	CREAM l	4 to 8	6 to 12
	GRANITA l	4 to 8	6 to 12

If several consecutive production cycles are required, the cylinder and mixer do not have to be washed between one cycle and the next, but you should be careful to start production with the light coloured mixtures and finish with the dark ones.

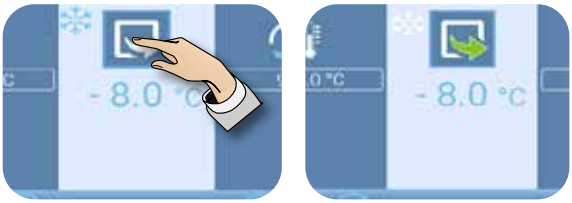
WHEN EXTRACTING A “HOT” PRODUCT FROM THE CYLINDER, BE EXTREMELY CAREFUL NOT TO COME INTO CONTACT WITH IT, SINCE IT COULD CAUSE SERIOUS BURNS. USE HEAT PROTECTION GLOVES AND CLOTHING.

– At the end of the processing the "EXTRACTION" icon starts flashing.

– Position a suitable container on the machine basin support below the chute.

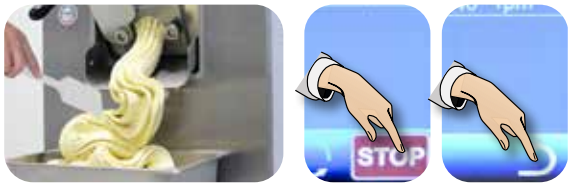
– Open the extraction door using the related lever.

– Touch the flashing "EXTRACTION" icon. The extraction icon turns green and the direction of rotation of the mixer is inverted, with a speed of rotation of 190 rpm. You can press the icon to turn extraction on or off.



– Use the spatula supplied to help the gelato flow into the tub.

– When product extraction is complete, touch “STOP” to stop the extraction and close the extraction door again.



– Press the ⮌ icon to go back to the previous screen pages.

6 WASHING

6.1 Rinse or complete wash

When switching from one production cycle to another, a simple rinse or a “complete” wash may be needed, depending on the ingredients or the types of mixes used. The washing methods can be summarised as follows:

*1) **No washing:** for recipes using products that are compatible with each other, with no fats and strong flavours **THERE IS NO NEED FOR WASHING** between one processing cycle and the next.*

NOTE: THE OPERATOR MUST START THE PRODUCTION WITH THE LIGHT COLOURED MIXES AND FINISH WITH THE DARK ONES.

*2) **Rinsing: recipes using products that are compatible with each other, but which have different colours and/or flavours** (e.g.: when changing between recipes for sorbets with different flavours and colours), a **SIMPLE RINSE** of the cylinder and the mixer is needed, for example using a water container or the shower installed on the machine (optional component).*

I F

PRODUCTS CONTAIN ONE OR MORE INGREDIENTS WHICH MAY TRIGGER ALLERGIES, CARRY OUT A COMPLETE WASH TO ELIMINATE ANY RESIDUES. IF THE CLEANING IS NOT SATISFACTORY, REPEAT THE WASHING PROCESS.

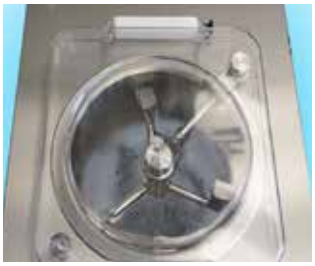
*3) **Washing: recipes using products that are incompatible with each other**, with fats and strong flavours and colours, etc. (e.g.: ice cream recipes containing eggs etc.), **REQUIRE WASHING** with water and detergent.*

In the condition in point 3), **COMPLETE WASH**, a wash with water and detergent must be performed, as is precisely described below:

– Check that the extraction door is closed, open the machine cover (A) and pour in a solution of hot water at 50° C and detergent until the cylinder is ½ full.

Use a highly effective, neutral detergent. It should be a professional grade detergent specifically for the food sector. Do not use products which cause oxidation or corrosion, or which are too alkaline or acidic. The doses used and contact times must comply with the instructions on the detergent label.

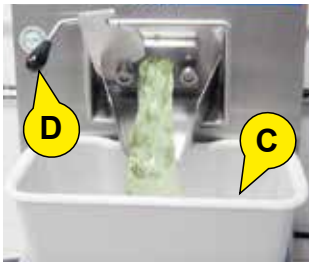
– Close the cover again and touch the “clockwise mixing” icon (B), allowing the mixer to operate for several dozen seconds.



OPERATING THE MIXER FOR LONGER IS NOT HELPFUL AND IS HARMFUL. THE LACK OF LUBRICATION (PROVIDED BY THE INGREDIENTS DURING PRODUCTION) COULD CAUSE WEAR ON THE SCRAPERS FITTED TO THE MIXER, AND ON THE CYLINDER.

– Touch the “clockwise mixing” icon again to stop the mixer and place the supplied water collecting basin (C) on the machine basin support, under the chute.

– Gradually open the extraction door with the lever (D) and let the detergent solution flow out.



DO NOT USE A MIXING SPEED HIGHER THAN 50 RPM, BECAUSE THE HIGH SPEED OF THE MIXER WOULD MAKE THE DETERGENT SOLUTION SPLASH OUT.

– With a water container or shower (optional), rinse the cylinder and mixer and let the water flow out into the collection container.

6.2 End of day washing and sanitising

Sanitising includes all of those activities intended to make the inner surface of the cylinder and the removable components that come into contact with foods hygienic.

Aims of sanitising:

- **To remove all traces of product residues**
- **To reduce the microbial load without leaving chemical residues of the products used on the surface treated.**
- **To eliminate pathogenic micro-organisms.**

1. *Rinsing with drinking water*
2. *Washing with detergent*
3. *Thorough rinsing to remove detergent residues*
4. *Disinfection*
5. *Final rinse to remove disinfectant residues*

IF THE CLEANING IS NOT SATISFACTORY, REPEAT THE WASHING AND SANITIZATION PROCESS.

6.2.1 Sanitising phases at the end of daily work

INTERVAL: at the end of daily processing operations

AUTHORISED OPERATOR: 1 Operator

TIME NEEDED: -

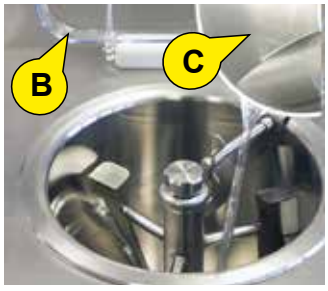
ALWAYS WEAR SUITABLE PROTECTIVE GLOVES

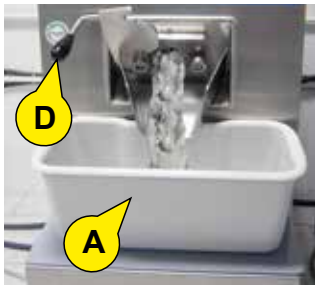
1. Rinse phase:

At the end of each processing cycle the processing cylinder must be thoroughly rinsed with cold water to completely remove product residues.

- *Position the water collection container (A) under the extraction door chute, open the cover (B) and with a container of water (C) or the shower (optional) thoroughly rinse the cylinder and the mixer.*

- *Gradually open the extraction door (D) using the lever to allow the rinsing water to flow out.*





2. Washing with detergent phase:

Before thoroughly washing with detergent, remove all components installed on the machine as follows:

a)Removing components:

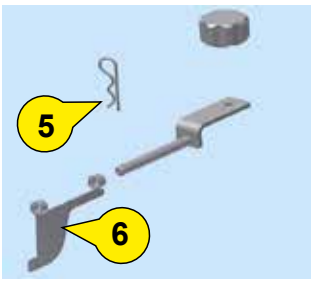
• Removing the cover

– Pull the fixing pin (1) out of the block horizontally and remove the cover (2).

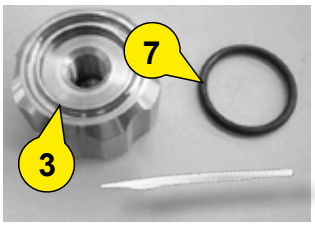
• Removing the retaining paddle

– Unscrew the fixing knob (3) and remove the retaining paddle (4).

– Take out the safety stop (5) and remove the movable part (6) of the retaining paddle.



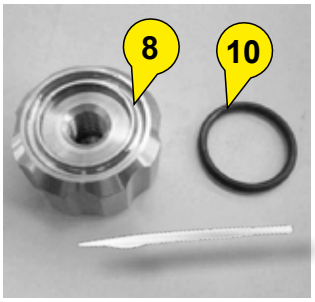
– Remove the gasket (7) from the fixing knob (3) using a non-metallic pointed tool, taking care not to damage the knob seat.



• Removing the mixer

– Unscrew the fixing knob (8), grip the mixer component drive and pull the mixer (9) out vertically.

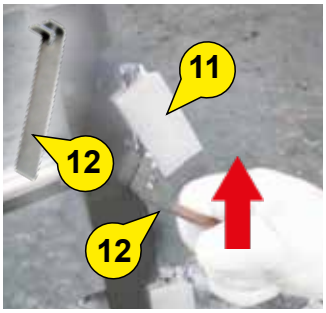
– Remove the gasket (10) from the fixing knob (8) using a non-metallic pointed tool, taking care not to damage the knob seat.



• Removing the mixer scrapers

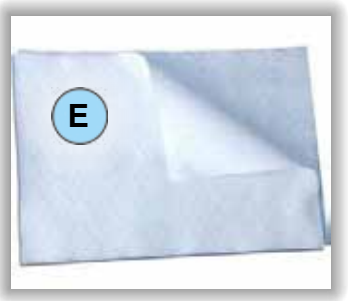
– Remove the side scrapers (11) using the tool supplied (12). Insert the tool under the scraper and prise off by pushing the tool down until the side scraper can be removed from its seat.

– Pull the mixer's lower scraper (13) from its seat.



b) Washing with detergent:

For the washing use a highly effective, neutral detergent. It should be a professional grade detergent specifically for the food sector. Do not use products which cause oxidation or corrosion, or which are too alkaline or acidic. The doses used and contact times must comply with the instructions on the detergent label.

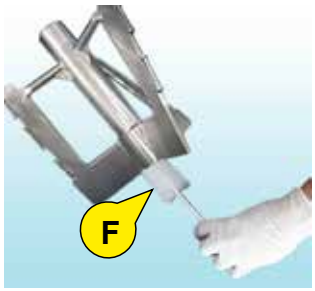


- *Wash all of the components removed with a disposable cloth (E) in a suitable container using a detergent solution at 50°C.*

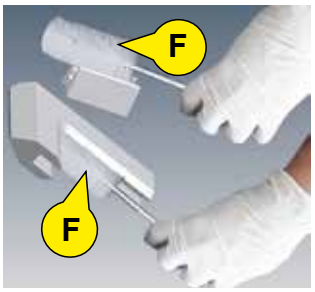
- *Carry out the same washing operation, with a disposable cloth (E), on the inner surface of the cylinder and thoroughly clean the cylinder outlet using the tube brush supplied (F).*

DANGER OF INJURY CAUSED BY MOVING ROTATING PARTS. ALWAYS CLEAN THE CYLINDER OUTLET USING THE TUBE BRUSH SUPPLIED WITH THE MACHINE.

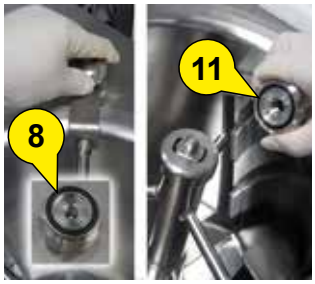
You must also:



- *Thoroughly clean the inside of the mixer component drive using the tube brush supplied (F).*



- *Remove product residues from the grooves of the mixer's plastic scrapers using the tube brush supplied (F) or a suitable brush.*



- *Thoroughly wash and degrease with a disposable cloth (E) soaked in detergent the gaskets (8 and 11) of the fixing knobs for the mixer and the retaining paddle.*

Notes: Do not remove the extraction door chute before rinsing the cylinder, since the chute allows the outflow of rinsing water to be guided.

Do not remove the machine basin support, since it supports the rinsing water collecting basin.

3. Rinsing phase to remove detergent:

After washing with detergent, a thorough rinse of the processing cylinder with cold water is needed to completely remove any detergent residues still present in it.

- *Position the special water collecting basin (A) under the product extraction door chute and use a container of water (C) or the shower (optional) to rinse the cylinder.*

- *Gradually open the extraction door (D) using the lever to allow the rinsing water to flow out.*

- *Use cold water to rinse all components previously removed and washed separately.*

You can now remove the chute from the extraction door and the basin support so that they can be washed with detergent, as follows:

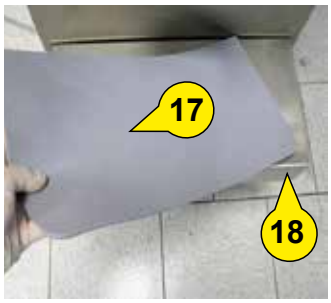
• Removing the extraction door chute

- *Unscrew the clamp screws (14) under the chute (15) and remove it.*

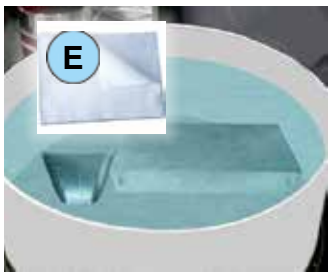
- *Remove the extraction door chute gasket (16) by pulling it out of its seat.*

• Removing the mat and basin support

- *Remove the mat (17) located on top of the basin support (19), then remove the basin support (18) by undoing the 2 fixing screws (19) underneath it.*



- *Wash all of the aforementioned components with a disposable cloth (E) in a suitable container using a detergent solution at 50°C, then rinse them in cold water. Always wear suitable protective gloves.*



c) Refitting the components:

After washing, re-fit all of the machine components as described below:

• Re-fitting the mixer scrapers

- *Re-fit the side scrapers (11) by fitting them onto the pins (20) on the mixer.*

- *Fit the mixer's lower scraper (13) in its seat.*

• Re-fitting the mixer in the cylinder

- *Fit the mixer (9) on the motor-driven shaft at the centre of the cylinder.*

- *Slowly turn the mixer component drive so that the pin (21), which is part of the shaft structure, engages in the slot (22) made in the mixer component drive.*

- *Before screwing the fixing knob (8) onto the shaft, check that the gasket (10) is correctly inserted in its seat. If it is broken, worn or swollen, substitute it. Tighten the mixer knob (8).*

• Re-fitting the retaining paddle

- *Fit the movable part (6) on the support of the retaining paddle and position the safety stop (5).*

- *Position the retaining paddle (4) in the seat and use the knob (3) to secure it to the machine work surface.*

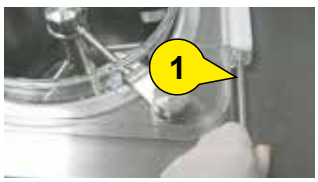
- *Before tightening the fixing knob (3), check that the gasket (7) is correctly inserted in its seat. If it is broken, worn or swollen, substitute it.*

• Re-fitting the cover

- *Place the cover (2) over the machine cylinder and line up the holes in the cover with the through hole in the block.*

- *Insert the fixing pin (1) to secure the cover to the machine.*

- *Check that the fixing pin is completely inserted in the holes in the cover and the block.*



INCORRECT INSTALLATION OR CONTACT FAILURE OF THE MAGNET ON THE COVER ACTIVATES A MACHINE ALARM, PREVENTING IT FROM STARTING (SEE SEC. 3.2.1).

• Re-fitting the extraction door chute

- *Insert the extraction door chute gasket (16) in its seat.*

- *Position the chute (15) below the extraction door and secure it by tightening the clamp screws (14) to the front panel.*

TIGHTEN THE FIXING SCREWS, CHECKING THAT THERE IS NO PLAY IN THE CHUTE.

• Re-fitting the basin support and mat

- *Fit the two slots in the basin support over the clamp screws (19) partly tightened on the front panel. When the basin support (18) is in place, tighten the screws.*

- *Place the mat (17) on the basin support (18).*

4. Disinfection phase:

After re-fitting all of the components in the machine, carry out the disinfection phase.

For the disinfection phase, use a professional grade disinfectant specifically for the food sector (for example, a quaternary ammonium salt). Do not use products which cause oxidation and corrosion. The doses used and contact times must comply with the instructions on the disinfectant label.

- *Check that the extraction door is closed, open the machine cover and pour in a solution of hot water at 50° C and disinfectant until the cylinder is ¾ full.*

- *Close the cover again and touch the "clockwise mixing" icon (B), allowing the mixer to operate for several dozen seconds.*

- *Touch the "clockwise mixing" icon again to stop the mixer and position the water collection container supplied (C) on the machine basin support.*

- *Gradually open the extraction door (D) with the lever and let the disinfectant solution flow out.*

DO NOT USE A MIXING SPEED HIGHER THAN 50 RPM, BECAUSE THE HIGH SPEED OF THE MIXER WOULD MAKE THE DISINFECTANT SOLUTION SPLASH OUT.

Note: After the disinfection step do not touch the disinfected parts and do not dry them with cloths or paper.

5. Rinse to remove disinfectant phase:

Follow the instructions on the disinfectant packaging and if necessary thoroughly rinse the machine to completely remove disinfectant residues.

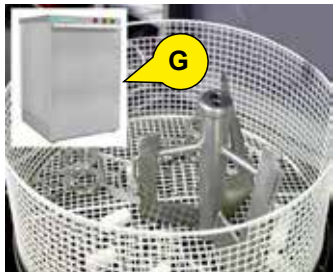
- *Position the special water collecting basin (A) under the product extraction door chute, open the cover (B) and use a container of water (C) or the shower (optional) to rinse the cylinder.*

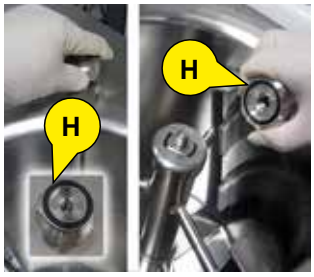
- *Gradually open the extraction door (D) using the lever to allow the rinsing water to flow out.*

IF THE CLEANING IS NOT SATISFACTORY, REPEAT THE WASHING AND SANITIZATION PROCESS.

Alternatively, all components removed from the machine may be washed and disinfected using an industrial dishwasher.

- *Place all removable components and parts in the dishwasher (G), removing any gaskets (H), then wash them.*



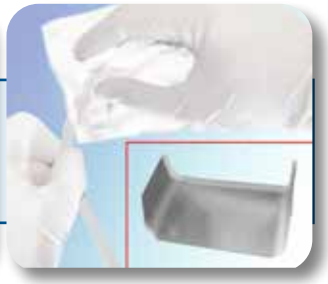


DO NOT PUT GASKETS IN THE INDUSTRIAL DISHWASHER, AS THE HIGH TEMPERATURES COULD DEFORM THEM, MAKING THEM UNUSABLE.

DO NOT USE WATER JETS, AS THEY MAY DAMAGE COMPONENTS INSIDE THE MACHINE.

DO NOT USE ANY KIND OF SOLVENT, SUCH AS SPIRIT, BENZINE OR THINNER TO CLEAN ANY OF THE MACHINE SURFACES.

FOR CORRECT GASKET CLEANING, USE A DISPOSABLE CLOTH AND A DETERGENT FOR ITEMS AND MACHINES USED FOR FOOD PREPARATION.



CLEAN THE MACHINE OUTER PANELS WITH SOFT CLOTHS MOISTENED WITH DETERGENT FOR FOOD-SAFE MACHINES.

7 ROUTINE MAINTENANCE

ONLY PURCHASE AND USE ORIGINAL SPARE PARTS, WHICH ARE GUARANTEED BY THE MANUFACTURER. CONTACT THE DEALER OR THE NEAREST SERVICE CENTRE TO REPLACE FAULTY OR DAMAGED COMPONENTS.

7.1 Type of checks and interval between them

Regular checks of the operation of the parts of the machine most subject to stresses and wear can prevent faults and help to maintain maximum productivity levels, guaranteeing lasting constant operation.

7.2 Maintenance work

Maintenance is the set of organised operations which must be carried out on machine parts in a regular, systematic way.

Routine adjustment and maintenance operations carried out by the operator must be performed with the machine disconnected from the mains power supply.

To protect operator health and safety, only buy and use original spare parts, which come with a manufacturer's guarantee. Contact the manufacturer, your dealer or your nearest service centre.

Routine maintenance:

1) checking the integrity of wear parts, such as scrapers and gaskets.

2) checking that the machine reaches and maintains the programmed temperatures without difficulty.

3) checking that the machine does not make any unusual noises.

4) keeping outer panels and the area near to and under the machine clean. Dust, scraps of paper or other small objects may get into the equipment through the air inlets and/or block the regular inflow of air to the condenser, quickly compromising correct machine operation.

7.3 Maintenance intervals and time needed

The interval calculated for each piece of maintenance work and the time needed to do the work are approximate and allow the creation of a maintenance programme.

Correct machine operation can only be guaranteed by methodical, regular maintenance.

The table below shows the type of work involved in routine maintenance and the intervals between jobs:

When?	Where?	How?
Every 500 hours or quarterly	Scrapers on the mixer	Replace
Every 500 hours or quarterly	Gaskets on the fixing knobs and on the extraction door chute	Replace
Daily (at machine switch on)	Safety devices installed	Check that they work with the procedures described in section 7.5
Yearly	All internal machine parts	They must be checked and tested by a qualified technician

7.4 Maintenance sheets

Substitution of scrapers installed on mixer — S01

CHECKING INTERVAL: 500 hours or quarterly

AUTHORISED OPERATOR: 1 Operator

TIME NEEDED: 15 minutes

TOOL: Tool supplied

Optimum scraping of the cylinder allows good machine performance and product quality.

Substitute the mixer scrapers when they show signs of wear which are obvious when looking at their scraping profiles and also indicated by the formation of streaks of product residue on the surface of the cylinder.

The multi-purpose standard mixer (A) has several parts made of food-safe plastic, which can be split into two types:

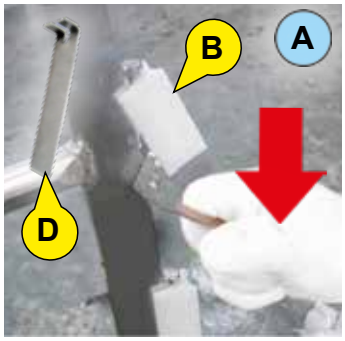
- side scrapers (B), snap-on.

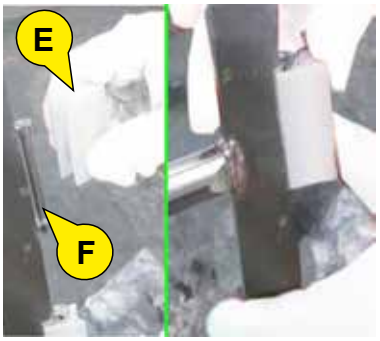
- lower scraper (C), slide-on.

– ***Substitute as follows:***

Side scrapers

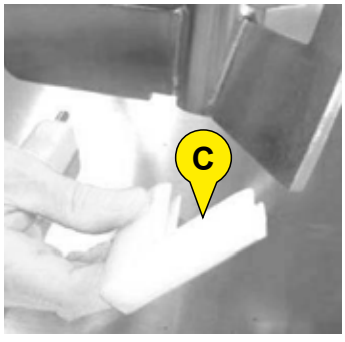
- Use the tool supplied (D). Insert it under the scraper to be replaced (B) and prise the scraper off by pushing the tool down. You can now remove the scraper from its seat and replace it with a new one (E).
- Position the new scraper (E) on the pin (F) then apply a slight pressure to fit it.

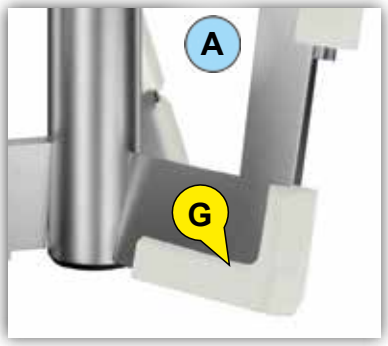




Lower scraper

- Pull the slide-on lower scraper (C) off the mixer structure then fit a new one (G).





Replacing the gaskets S02

CHECKING INTERVAL: 500 hours or quarterly

AUTHORISED OPERATOR: 1 Operator

TIME NEEDED: 5 minutes

TOOL: Non-metallic pointed tool

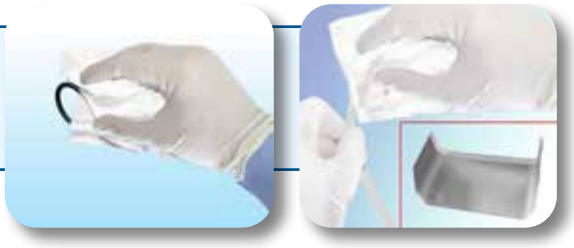
! - Regularly check the integrity of the gaskets and substitute them if they are broken, worn or swollen.

! - Only use original gaskets, made of food-safe rubber.

! - The machine is supplied with a full set of spare gaskets.

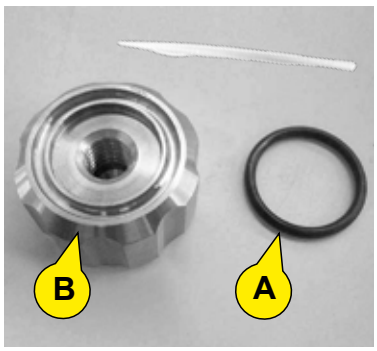
DO NOT PUT GASKETS IN THE INDUSTRIAL DISHWASHER, AS THE HIGH TEMPERATURES COULD DEFORM THEM, MAKING THEM UNUSABLE.

FOR CORRECT GASKET CLEANING, USE A DISPOSABLE CLOTH AND A DETERGENT FOR ITEMS AND MACHINES USED FOR FOOD PREPARATION.



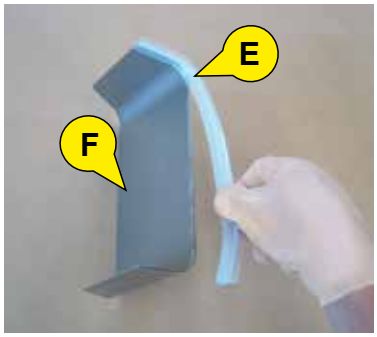
Fixing knob gasket

- Remove the worn gasket (A) from the fixing knob (B) using a non-metallic pointed tool, taking care not to scratch the knob seat.
- Remove all product residues from the seat and fit the new gasket (C) **without lubricating it**.



Extraction door chute gasket

- Remove the worn gasket (E) from the extraction door chute (F) by pulling it from the metal seat.
- Replace it with a new one (G)



Replacing the mixer guide bushing

S03

CHECKING INTERVAL: 500 hours or quarterly

AUTHORISED OPERATOR: 1 Operator

TIME NEEDED: 5 minutes

TOOL: -

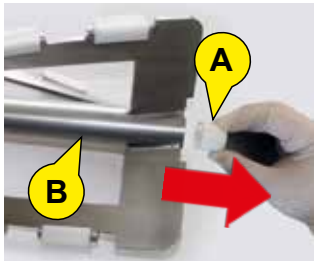
- Periodically check that the mixer guide bushing is intact and replace it if damaged or worn.

- Only use original spare parts.

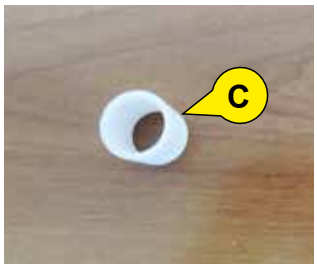
Replace the bushing for the mixer component drive when there are signs of wear.

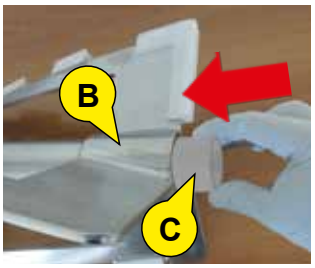
Mixer guide bushing

- Remove the bushing to be replaced (A) from the mixer component drive (B).



- Insert the new bushing (C) into the mixer component drive (B).





TO AVOID VIBRATIONS AND/OR DAMAGING PARTS, THE MIXER COMPONENT DRIVE MUST BE COMPLETE WITH ITS BUSHING BEFORE INSERTING IT ON THE MOTOR SHAFT SUPPORT.

7.5 Checks on safety devices

Safety devices

CHECKING INTERVAL: DAILY (AT MACHINE SWITCH ON)

AUTHORISED OPERATOR: 1 Operator

TIME NEEDED: 5 minutes

TOOL: -

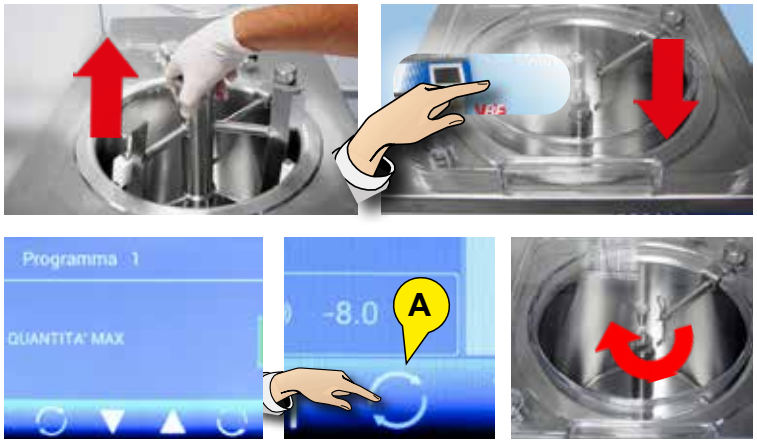
DO NOT USE THE MACHINE IF ONE OR MORE SAFETY DEVICES MALFUNCTION OR ARE DAMAGED!

7.5.1 Checking the safety device installed on the cover

Checking procedure:

Phase 1

With the machine empty remove the mixer from the cylinder, close the cover again and start the machine by pressing the “homepage”. Then touch start program and in "Program 1" touch the “**clockwise mixing**” icon (A). Check that the motor-driven shaft starts up.

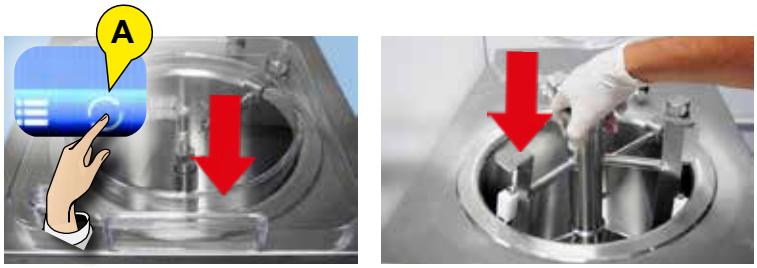


Phase 2

Open the cover. If the safety device is operating correctly, the shaft will stop moving and the screen will show an alarm message: “Door open”.

Phase 3

Close the cover again and touch the "clockwise mixing" icon (A) again to stop the motor-driven shaft. Open the cover again and install the mixer in the cylinder, so that the machine is ready for use.



8 TROUBLESHOOTING

Most faults and problems during machine operation are promptly automatically indicated by the machine.

ALARMS STOP THE MACHINE, WITH AN EMERGENCY STOP MESSAGE DISPLAYED ON THE CONTROL PANEL. TO RESTART THE MACHINE, YOU MUST ELIMINATE THE CAUSE OF THE EMERGENCY.

People involved in troubleshooting:

- **Operator: person trained in the ordinary operation of the machine who performs initial fault-finding and if possible, by following the instructions in Chapter 8 (Routine maintenance), removes the causes of the fault and restores correct machine operation.**

- **Technical assistance service: qualified technician, called to work on the machine after a request for help, as specified in sec. 1.5.1 of this manual.**

8.1 Alarm indications displayed on the control panel – causes and solutions

This section shows the machine alarms, which can be viewed on the digital display, together with possible causes and solutions.

FAULT/ PROBLEM	INSTRUCTIONS FOR THE OPERATOR	POSSIBLE CAUSES	SOLUTIONS
! DOOR OPEN 		• The cylinder cover is not closed correctly or the extraction door protection device is raised. • The magnet of the cover or the protection device is not correctly aligned with the magnetic sensor.	♦ *Close the cover.* ♦ *Contact the Technical Assistance Service which will correctly re-fit or substitute the magnet or the magnetic contact in the cover.*
! 24V FUSE 		• A fuse designed to protect the auxiliary electrical system has blown.	♦ *Switch off the machine and contact the Technical Assistance Service which will identify and eliminate the cause of the overload and will substitute the blown fuse with another having the same specifications and level of protection.*
! COMPRESSOR OVERLOAD SWITCH TRIPPED 		• Current overload in the compressor electrical circuit of the refrigeration system. The electric protection device for the refrigeration system compressor tripped. • No voltage in a phase of the power circuit. In these conditions the compressor generates an electric overload on the other phases, tripping its electric protection device.	♦ *Switch off the machine, wait a few minutes, then switch it on again. If the fault persists or is repeated, contact the Technical Assistance Service.* ♦ *Switch off the machine and contact the Technical Assistance Service.* **THE OTHER PHASES COULD BE LIVE. THE MACHINE MOTORS WILL BE DAMAGED IF THEY OPERATE WITH ONE OF THE PHASES NOT POWERED.**

FAULT/ PROBLEM	INSTRUCTIONS FOR THE OPERATOR	POSSIBLE CAUSES	SOLUTIONS
! MOTOR OVERLOAD SWITCH TRIPPED 		• Mixer motor overheating. The electric protection device for the machine motor tripped.	♦ *Switch off the machine, wait at least 30 minutes, then switch it on again. If the fault persists or is repeated, contact the Technical Assistance Service.*
! GAS PRESSURE SWITCH TRIPPED 		• Pressure increase in the machine refrigeration system. The refrigeration system safety pressure switch tripped because the maximum pressure allowed was exceeded.	***A)*** For water-cooled machines: ♦ *Check that the water tap is open and water flows in correctly, as indicated in sec. 2.4 "Machine technical data".* ♦ *Check that the mains water flow rate, temperature and pressure conform to the indications in sec. 2.4 "Machine technical data".* ♦ *Check that there are no narrowing points in the water in/out pipes. Remove any narrowing points found.* ***B)*** For air-cooled machines: ♦ *Check for obstructions in front of the air condenser grilles. If there are obstructions present, they must be removed. Check that the machine is positioned at the correct distance from the walls, as indicated in the manual. If it is not, reposition it in compliance with the distances indicated in sec. 4.3 "Spaces needed for use of the machine".* ♦ *Check that the motor-driven fan is operating.* **If the problem cannot be solved, contact the Technical Assistance Service.**
! GLYCOL PRESSURE SWITCH TRIPPED 		• Increase in the pressure of the heat transfer fluid in the machine heating system. • Fault in the heat transfer fluid pump in the machine heating system.	♦ *Switch off the machine and contact the Technical Assistance Service.*

FAULT/ PROBLEM	INSTRUCTIONS FOR THE OPERATOR	POSSIBLE CAUSES	SOLUTIONS
! PROBE SHORT CIRCUIT 		• Faulty product temperature probe (short circuit) and/or related wiring damaged.	♦ *Switch off the machine and contact the Technical Assistance Service.*
! PROBE OPEN 		• With the heating phase active the machine operates without product or with an insufficient quantity. • Faulty product temperature probe (cut off or out of tolerance).	♦ *Add product up to the quantity required in the program in progress.* ♦ *Switch off the machine and contact the Technical Assistance Service.*
! GLYCOL PROBE SHORT CIRCUIT 		• Faulty heat transfer fluid temperature probe (short circuit) and/or related wiring damaged.	♦ *Switch off the machine and contact the Technical Assistance Service.*

FAULT/ PROBLEM	INSTRUCTIONS FOR THE OPERATOR	POSSIBLE CAUSES	SOLUTIONS
! GLYCOL PROBE OPEN 		• Due to a leak, or because the machine was laid horizontally or overturned during transportation (SITUATIONS WHICH MUST ALWAYS BE AVOIDED), air bubbles may have formed in the heat transfer fluid system, therefore the pump cannot make the fluid circulate correctly. • Fault in the heat transfer fluid pump in the machine heating system. • Faulty heat transfer fluid temperature probe (cut off or out of tolerance).	♦ *Switch off the machine and contact the Technical Assistance Service.*
! INVERTER COMMUNICATION 		• The inverter cannot communicate or communication with the control board is disturbed.	♦ *Switch off the machine, wait a few minutes, then switch it on again. If the fault persists or is repeated, contact the Technical Assistance Service.*
! INVERTER OVERVOLTAGE 		• A voltage higher than that required for inverter operation results in an overvoltage with consequent inverter protection tripping.	♦ *Switch off the machine, wait a few minutes, then switch it on again. If the fault persists or is repeated, contact the Technical Assistance Service.*

FAULT/ PROBLEM	INSTRUCTIONS FOR THE OPERATOR	POSSIBLE CAUSES	SOLUTIONS
! INVERTER UNDERVOLTAGE 		• Voltage below that required for inverter operation results in an undervoltage with consequent inverter protection tripping.	♦ *Switch off the machine, wait a few minutes, then switch it on again. If the fault persists or is repeated, contact the Technical Assistance Service.*
! INVERTER OVERTEMPERATURE 		• Inverter overheating.	♦ *Switch off the machine, wait a few minutes, then switch it on again. If the fault persists or is repeated, contact the Technical Assistance Service.*
! INVERTER OVERLOAD 		• A current intensity higher than the inverter use range causes overloading with consequent tripping of the inverter protection device.	♦ *Switch off the machine, wait a few minutes, then switch it on again. If the fault persists or is repeated, contact the Technical Assistance Service.*
! INVERTER GENERIC ERROR 		• Inverter generic problem.	♦ *Switch off the machine, wait a few minutes, then switch it on again. If the fault persists or is repeated, contact the Technical Assistance Service.*

8.2 Troubleshooting – flowchart

In abnormal conditions the machine may malfunction, as specified below:

**MACHINE DOES NOT OPERATE OR OPERATION IS INTERRUPTED
THE TOUCH-SCREEN DOES NOT COME ON OR
IT SUDDENLY SWITCHES OFF.**

The plug is not inserted in the socket correctly. — YES → Insert it correctly.

NO

The socket is faulty. — YES → *Have it substituted by a qualified technician.*

NO

No electric power in the network or in the socket. — YES → *Check that the disconnecting switches, all-pole (phase & neutral) isolating switches and residual current operated circuit breakers (cut-outs) on the electrical system, upstream of the socket, are closed.*

If not, before closing them, make sure that no one is carrying out electrical repairs.

NO

A fuse designed to protect the electrical system has blown. — YES → *Identify and eliminate the cause of the overload and substitute the blown fuse with another having the same specifications and level of protection.*

Contact the technical assistance service.

NO

The power cable is damaged. — YES → *Cut off the electricity supply to the socket by opening the disconnecting switch upstream of it, then disconnect the plug and contact the Technical assistance services.*

DO NOT TOUCH DAMAGED ELECTRIC CABLES BEFORE CUTTING OFF THE ELECTRICITY SUPPLY!

NO

Contact the technical assistance service

MACHINE REPEATEDLY TRIPS THE ELECTRIC OVERLOAD SWITCHES OR BLOWS THE MAINS FUSES.

The capacity of the electrical system is not sufficient to power the machine.
- YES → *Contact the Technical assistance service.*
- NO ↓

The electrical specifications of the overload switches or fuses are not suitable.
- YES → *Contact the Technical assistance service.*
- NO ↓

Internal machine fault.
- YES → *Contact the Technical assistance service.*

UNUSUAL NOISE

During the cooling phase, a layer of ice formed between the mixer and the cylinder due to an insufficient quantity of product.
- YES → *Insert a suitable quantity of product in the cylinder, as indicated in sec. 2.4 “Machine technical data".*
- NO ↓

The mixer scrapers could be damaged or excessively worn.
- YES → *Check that the scraping profiles are not damaged, and also that the side scrapers do not show obvious signs of wear. If they are worn, substitute them.*
- NO ↓

The mixer and/or the cylinder are damaged or excessively worn.
- YES → *Contact the Technical assistance service.*

UNUSUAL NOISE

NO

The fixing knob for the movable paddle (if present) has worked loose.

YES → *Check the condition of the gasket (substitute it if necessary) and tighten the knob again.*

NO

The mixer and/or the cylinder have been subjected to a jump in temperature, which caused mechanical strain between the parts.

YES → *Stop the machine and wait a few minutes until normal operating conditions are restored.*

NO

Contact the technical assistance service

COOLING IS INSUFFICIENT OR SWITCHES OFF IN A FAULTY WAY

AIR-cooled machine

There are obstructions in front of the air condenser grilles, or the distance is less than required in sec. 2.4 “Machine technical data”.

YES → *Restore the minimum distance required.*

NO

The temperature in the working environment is too high and there is insufficient condensation.

YES → *Restore the operating temperature, as indicated in the manual in sec. 2.4 “Machine technical data”.*

NO

The air condenser is blocked.

YES → *Ask the Technical assistance service for cleaning.*

COOLING IS INSUFFICIENT OR SWITCHES OFF IN A FAULTY WAY
AIR-cooled machine

NO

The air condenser fan is faulty. → YES → *Contact the Technical assistance service.*

NO

Fault in the refrigerating system or control electronics → YES → *Contact the Technical assistance service.*

NO

Contact the technical assistance service

COOLING IS INSUFFICIENT OR SWITCHES OFF IN A FAULTY WAY
WATER-cooled machine

The condenser water tap(s) are partly or completely closed. → YES → *Open the tap(s).*

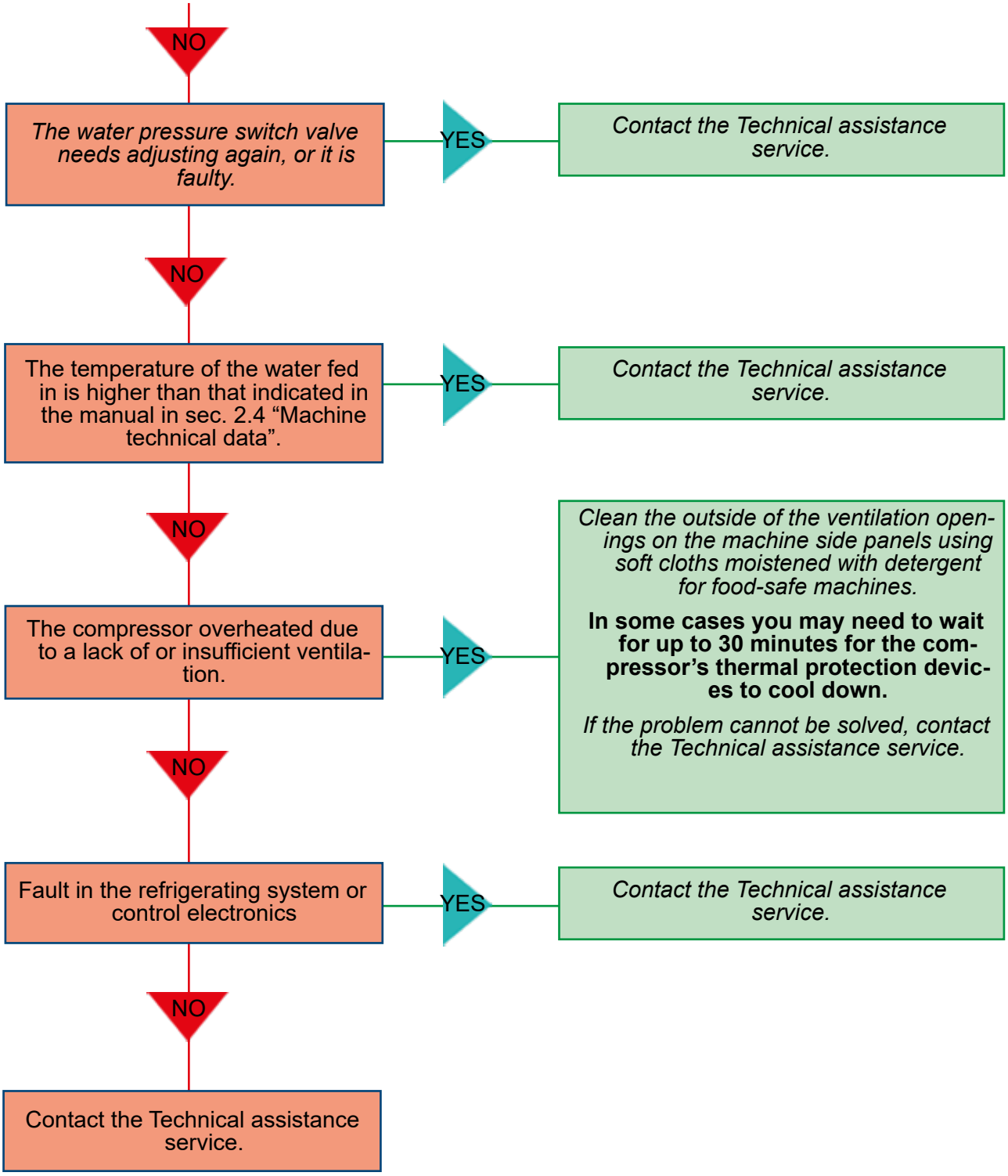
NO

There are narrowings in the water connecting pipes. → YES → *Remove any flattening and avoid tight bends in the water connecting pipes.*

NO

The flow of condenser water is interrupted or insufficient. → YES → *Check and restore correct water consumption, as indicated in the manual in sec. 2.4 “Machine technical data”.*

COOLING IS INSUFFICIENT OR SWITCHES OFF IN A FAULTY WAY
WATER-cooled machine



9 INACTIVITY

9.1 Keeping the machine efficient if it remains inactive

If the machine will not be used for a lengthy period, follow these instructions:

- **Sanitise the machine as described in sec. 6.1.**
- **Switch off the machine using the I/O - ON/OFF icon, power down at the mains master switch and take the plug out of the socket.**

If the machine that will be inactive has a water-cooled condenser, close the Water In tap and discharge the water pressure in the delivery tube by unscrewing the end connector. Remove both the delivery tube and the drainage tube and empty the water from them. Before using again after a long period of inactivity, check the connector gaskets for damage, substituting them if necessary.

BEFORE STORING A MACHINE THAT HAS A WATER-COOLED CONDENSER IN ENVIRONMENTS WITH TEMPERATURES BELOW 0°C, COMPLETELY EMPTY THE WATER FROM THE MACHINE COOLING SYSTEM, AS IT COULD FREEZE INSIDE IT, CAUSING VERY SERIOUS DAMAGE.

If a machine with an air-cooled condenser has been inactive, before switching it on remove dust from the condenser grilles “dry” with a vacuum cleaner and, if necessary, a brush, so that the dust is removed outwards.

DO NOT USE LIQUIDS BECAUSE THEY WOULD FIX THE DUST ON THE CONDENSER.

REMOVE DUST FROM THE CONDENSER GRILLES OUTWARDS TO AVOID COMPROMISING THE PERFORMANCE OF THE REFRIGERATING SYSTEM.

10 DECOMMISSIONING THE MACHINE

10.1 Description of method of disposal

The lifetime of the machine estimated by the manufacturer is 20,000 hours (10 years) of operation under normal operating conditions, described in this operating manual. At the end of its lifetime the machine must be disposed of in accordance with the regulations in force in the country where it was used, concerning the disposal of waste electrical and electronic equipment.

WHEN DISPOSING OF THE MACHINE ALWAYS COMPLY WITH THE REGULATIONS IN FORCE IN THE COUNTRY WHERE IT WAS USED.

INFORMATION FOR USERS

In accordance with Directives 2011/65/EU and 2012/19/EU and subsequent amendments and additions, on the restriction of the use of certain hazardous substances in electrical and electronic equipment (EEE) and waste electrical and electronic equipment (WEEE), we hereby inform you that:

"the crossed bin symbol on the device or on its packaging indicates that, at the end of its life, the product must be disposed of separately from other waste".

Separate collection of this equipment when it has reached the end of its life is organised and managed by the manufacturer.
Users who want to dispose of this equipment should contact the manufacturer and follow the instructions for separate collection of the device at the end of its life.

To dispose of the machine, users must comply with the regulations on waste electrical and electronic equipment (WEEE) in force in the country of use.

Adequate separate collection for the future use of the equipment assigned for recycling, treatment and environmentally compatible disposal helps to prevent possible negative effects on the environment and on human health, and promotes recycling and/or reuse of the materials of which the equipment is composed.
Illegal disposal of the product by the owner shall be subject to the administrative sanctions provided for under the regulations in force.

Notes:

Notes:

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