

INSTRUCTION MANUAL

MR ART US



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PLATE



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We wish to thank you for the preference granted to us by purchasing one of CARPIGIANI machines.

Since 1993 Carpigiani produces following a Quality Management System certified according to UNI-EN-ISO 9001-2008.

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FOREWORD

Instruction manual

The European Community directions on safety standards as well as on free circulation of industrial products within the E.C. were taken into due account when editing this manual.

Purpose

This handbook was conceived taking machine users' needs into due account.

Topics relevant to a correct use of the machine have been analyzed in order to keep unchanged in the long run quality features characterizing Carpigiani machines all over the world.

A significant part of this manual refers to the conditions necessary for the machine use and to the necessary procedures during cleaning as well as routine and special maintenance.

Nevertheless, this manual cannot cover any possible need in detail. In case of doubts or missing information, please contact:



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Structure of the manual

This manual is divided in sections, chapters and sub chapters for an easy reference.

Section

A section is the part of the manual identifying a specific topic related to a machine part.

Chapter

A chapter is that part of a section describing an assembly or concept relevant to a machine part.

Sub chapter

It is that part of a chapter detailing the specific component of a machine part.

It is necessary that each person involved in the machine operation reads and understands those parts of the manual of his/her own concern, and particularly:

- The operator must read the chapters concerning machine start-up, operation of machine components and safety;
- A skilled engineer involved in the installation, maintenance, repair, etc. of the machine must read all parts of this manual.

Additional documentation

Along with an instruction manual, each machine is also supplied with additional documentation:

- Supplied spare parts: a list of spare parts delivered together with the machine for its routine maintenance.
- Wiring diagram: a diagram of wiring connections is provided with the machine.



WARNING



Before using the machine read carefully the instruction manual.

Carefully read safety instructions.

Conventional symbols

 **DANGER FROM ELECTROCUTION** 



The staff involved is warned that the non-observance of safety rules in carrying out the operation described may cause an electric shock.

 **DANGER FROM HIGH TEMPERATURES** 



This warns the staff involved that failure to abide by safety rules in carrying out the operation described involves the risk of burns and scalds.

 **DANGER FROM MOVING PARTS** 



This warns the personnel involved about the presence of moving parts and the hazards of injuries if the safety norms are not complied with.

 **DANGER FROM CRUSHING** 



This warns the staff involved that failure to abide by safety rules in carrying out the operation described involves the risk of suffering crushed fingers or hands or other.

 **GENERAL DANGER** 



The staff involved is warned that the operation described may cause injury if not performed following safety rules.

 **NOTE** 

It points out significant information for the personnel involved.

 **WARNING** 

This warns the personnel involved that the non-observance of warning may cause loss of data and damage to the machine, or cause risks for noncompliance with any applicable law/regulations.

 **PERSONAL PROTECTION EQUIPMENT** 

This symbol on the side means that the operator must use personal protection against an implicit risk of accident.

Qualification of the personnel

The personnel allowed to operate the machine can be differentiated by the level of preparation and responsibility in:

MACHINE OPERATOR



Personnel without any specific technical qualifications, capable of carrying out simple jobs, such as: operating the machine using the commands available on the keyboard, loading and unloading of products used during production, loading of any consumable materials, basic maintenance operations (cleaning, simple blockages, inspections of the instrumentation, etc.).

SKILLED ENGINEER



He/she is a skilled engineer, capable of operating the machine under normal conditions; he/she is able to carry out operations on mechanical parts and all adjustments, as well as maintenance and repairs. He/she is qualified for operations on electrical and refrigeration components.

CARPIGIANI ENGINEER



He/she is a skilled engineer assigned by the manufacturer to carry out operations for complex jobs under particular conditions or in accordance with agreements made with the owner of the machine.

Safety

When using industrial equipment and plants, one must be aware of the fact that moving parts (rotary motion), high voltage components, as well as parts subject to high temperatures may cause serious damage to persons and things.

The persons in charge of safety must ensure that:

- an incorrect use or handling shall be avoided;
- the safety devices are neither removed nor tampered with;
- the machine is regularly serviced;
- only original spare parts are used, especially in the case of safety-related components (ex.: protection microswitches, thermostat);
- suitable personal protective equipment is used;
- high care must be paid during hot product cycling;
- high care must be paid to moving parts.

To achieve the above, the following is necessary:

- the use and maintenance manual relating to the machine is available at the working place;
- such documentation must be carefully read and the instructions must be strictly followed;
- only suitably skilled personnel should be assigned to electrical equipment;

IMPORTANT

Make sure that no technician will ever carry out operations outside his/her own knowledge and responsibility sphere.



NOTE



According to the standard in force, a **SKILLED ENGINEER** is a person who, thanks to:
training, experience and education;
knowledge of rules, prescriptions and operations on accident prevention;
knowledge of machine operating conditions;
is able to recognize and avoid any danger and has also been allowed by the person in charge of plant safety to carry out all kinds of operations.

Warnings

When installing the machine, insert a differential magnetothermal protection switch on all poles of the line, adequately sized to the absorption power shown on machine identification plate and with a contact opening of 3 mm at least.

- Never perform operations on the machine using your hands, both during production and cleaning. Before carrying out any maintenance operation, make sure that the machine is in Stop position and that the main switch has been cut out.
- It is forbidden to wash the machine by means of a jet of pressurized water.
- It is forbidden to remove panels in order to reach the machine internal parts before disconnecting the machine from the power supply.
- Carpigiani is not responsible for any accident that might happen during operation, cleaning and/or servicing of its units, if this warning has not been fully complied with.

1. GENERAL DATA

1.1 General information

1.1.1 Manufacturer identification data

The machine has a data plate carrying manufacturer data, machine type and serial number, assigned when it is manufactured.

Copy of machine data plate to be found on first page of this manual.

Fig. 01

Model No.						
Serial No.		Fac.ID.				
Volts	Phase		Hz			
Max Breaker Fuse Size						
Minimum Circuit Ampacity						
Total Load						
		DESIGN PRE		OPERATING PRE		
HIGH SIDE, PSIG						
LOW SIDE, PSIG						
REFRIGERANT AMOUNT (OZ)						
REFRIGERANT						
	QTY	VOLT	HP	FLA/RLA	LRA	
COMPRESSOR						
BEATER (HIGH)						
BEATER (LOW)						
FAN MOTOR						

1.1.2 Information on maintenance service

All operations of routine maintenance are here described in section “Maintenance”; any additional operation requiring technical operation on the machine must be agreed upon with the manufacturer, who will also examine the possibility of a factory technician field operation.

1.1.3 Information for users



- Carpigiani is at your disposal for any necessary explanation or further information concerning the machine operation or possible improving changes.

- In case of need, please call the local distributor or the manufacturer if no distributor is available.
- The customer service department is available for any information about operation and requests of spare parts and service.

1.2 Information about the machine

1.2.1 General information

Electronic machine to immediately produce and dispense soft ice cream with the following main characteristics:

- refrigerate upper hopper;
- semi-mobile cover, to limit opening while filling the ingredients;
- electronic control of the product consistency through the "Hard-o-tronic" system;
- automatic product pasteurization system inside the hopper and in the cylinder during the periods of stopped production (for instance during the night).

When producing ice-cream and pastry products, Carpigiani recommends using always high-quality ingredients to meet the requirements even of the most demanding customers. Any saving made to the prejudice of quality will surely turn into a loss much bigger than the saving itself.

Bearing in mind the above statements, please consider the following:

- choose high quality natural ingredients and create your own mix or buy it from trustworthy suppliers;
- to prepare the mix, closely follow instructions given by your supplier;
- do not modify the recommended recipes without knowing the ingredient characteristics;
- taste your ice-cream before serving and start selling only if entirely satisfactory;
- make sure your staff always keeps the machine clean.

For any necessary repair, always contact the Carpigiani Technical Service.

1.2.2 Technical features

MODEL	HOURLY PRODUCTION*		CAPACITY OF PASTEURIZER	ELECTRICAL SUPPLY***			CONDENSER	NOMINAL POWER	DIMENSIONS (at the base) mm in			NET WEIGHT
	STICK 85 CC	GELATO 75 Gr	Liters/h Gal/h	V	Phase	Hz		kW/Hp	L	P	H	Kg Lb
MR ART US	320	270	8,5-11,5 2,2-3	208-230	3	60	AIR	2.4/3.2	505 20	755 30	830 33	140 309
							WATER		505 20	675 26	740 29	

* The hourly production and the mix quantity for each ice cream can vary, according to the temperature and the type of mix used and the increase in volume (overrun) desired.

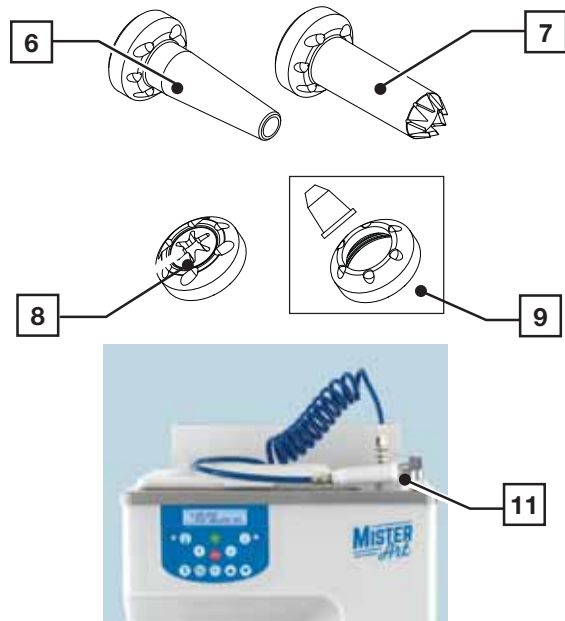
Performance refers to a 25°C (77°F) room temperature and 20°C (68°F) cooling water temperature.

1.2.3 Machine unit location

Fig. 02



- 1 Hopper lid
- 2 Control panel
- 3 Product spigot door
- 4 Drip tray
- 5 Metering nozzle and tube
- 6 Single portion terminal



- 7 Star-shaped single portion terminal
- 8 Star-shaped terminal
- 9 Decorating bag nozzle + ring nut
- 10 Quick-fitting for shower
- 11 Shower with spiral hose (option)

1.3 Intended use

The machine must be used solely for the purpose described in chapter 1.2.1 “General information” within the functional limits described below.

- Voltage: $\pm 10\%$
- Min. air temperature: 10°C (50°F)
- Max. air temperature: 43°C (109°F)
- Min. water temperature: 10°C (50°F)
- Max. water temperature: 30°C (86°F)
- Min. water pressure: 1.5 bar (21.7 PSI)
- Max. water pressure: 8 bar (116 PSI)
- Max. air relative humidity: 85%

This machine has been designed for use in rooms not subject to explosion-proof laws; its use is thus bound to complying rooms and normal atmosphere.

1.4 Noise

The equivalent continuous A-weighted sound pressure level in a workplace for water-cooled as well as air-cooled machines is less than 70 dB(A).

1.5 Machine storage

The machine must be stored in a dry and dust-free place.

Before storing the machine, wrap it in a cloth in order to protect it against dust or other impurities.

1.6 Disposal of packaging materials

When opening the packing crate, divide packing stuff per type and get rid of them according to laws in force in machine installation country.



WARNING



It is forbidden to dispose of the packaging materials in the environment.



**GENERAL
DANGER**



Keep packaging materials out of reach of children as they can pose a choking hazard.

1.7 WEEE (Waste Electrical and Electronic Equipment)



In conformity with the European Directives 2006/66/EC, on batteries and accumulators and waste batteries and accumulators, and 2002/96/EC, also known as WEEE, the presence of the symbol on the side of the product or packaging means that the product must not be disposed of with normal urban waste. Instead, it is the user's responsibility to dispose of this product by returning it to a collection point designated for the recycling/treatment of electrical and electronic equipment waste. Separate collection of this waste helps to optimize the recovery and recycling of any reclaimable materials and also reduces the impact on human health and on the environment.

For more information concerning the correct disposal of this product, please contact your local authority or the retailer where this product was purchased.

1.8 Bacterial contamination detection

A qualified expert shall analyze at regular intervals some product samples to check the presence of bacteria. The detected levels of bacteria must be below the following values:

Standard Plate Count (SPC)..... 50.000 ufc/ml

Coliform bacteria..... 10 ufc/ml



Reference values can change from country to country, it is thus indispensable to always refer to the prevailing regulations.

Should the level of bacteria exceed the values above, this indicates that there is a bacterial contamination source. Such source must be promptly identified and removed. A high level of bacteria indicates that the product is not suitable to be consumed. To avoid product bacterial contamination it is necessary to carefully clean and sanitize the machine.



Soft yogurt usually has a high level of bacteria but this is normal and it is a feature of this product. However, a contamination by coliform bacteria is NEVER ACCEPTABLE. The information below will help you avoiding coliform bacteria contaminations.

The following list shows the possible bacterial contamination sources and how to avoid them.

SOURCE OF CONTAMINATION	PREVENTION
Contact with operator	<ul style="list-style-type: none"> • Thoroughly wash your hands and forearms. • Wear rubber gloves in case of skin cuts or problems. • Wash your hands several times during the day.
Ingredient residues/deposits (milk lumps).	<ul style="list-style-type: none"> • Use suitable brushes. • Rub all parts and components to prevent the formation of milk lumps as they are the perfect place for the growth of bacteria that could contaminate fresh milk.
Worn or damaged parts	<ul style="list-style-type: none"> • Use a food grade lubricant to lubricate all rubber parts that come into contact with the mix. • Check for damaged O-rings and replace them with original spare parts. • Check at regular intervals the drip trays to avoid excessive dripping.

SOURCE OF CONTAMINATION	PREVENTION
<p>Inappropriate cleaning and sanitization procedures.</p>	<ul style="list-style-type: none"> • The container where the parts shall be cleaned must be perfectly clean and contain enough solution (cleaning/sanitizing product) to cover also the biggest parts. Use brushes to clean and sanitize the machine at regular intervals. • Use suitable brushes and lubricants and, if possible, use disposable cloths. • Store and use the detergents as specified on their labels. • Have expert personnel performing the cleaning procedures. Make sure the personnel can complete the cleaning procedures without interruptions and in a correct way. • Leave the sanitizing solution in the cylinder and hopper at least for the time recommended by the product manufacturer. • Clean and sanitize the cleaning tools and the lubricant tube after each use. Place the tube cap back after the use. • The machine components and brushes must be left air-dry. Do not place them back in the machine when they are still wet. • Follow the daily cleaning procedures. Use a sanitized cloth to clean the machine outside and the dispensers at regular intervals.

SOURCE OF CONTAMINATION	PREVENTION
<p>Mix stored in an wrong way</p>	<ul style="list-style-type: none"> • First use the mix with the oldest date. Pay attention to the expiry date. • Store the mix directly in the fridge. Do not leave the mix outside or under the sunlight before storing it in the fridge. • Always leave 2-3 cm (0.8-1.1 in) between the mix and other products in the fridge to allow air circulation. • The mix must not remain at ambient temperature for a long time. • The hopper storage temperature must remain at 4.4°C (40°F). A storage temperature above 4.4°C (40°F) would allow the bacteria growth at dangerous levels in less than one hour. • Once the mix is poured in the hopper, the suitable lid must be used so as to keep it at the correct temperature and to minimize the risk of contamination

2. INSTALLATION

2.1 Room necessary for machine use

Space to access the machine must be left free to allow the operator to operate without constraint and to immediately leave the working area, if need be.

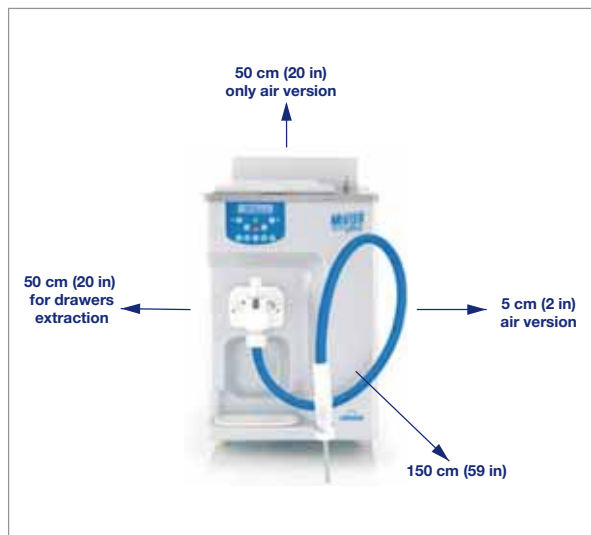
It is also necessary to have some room on the side required for pulling out drip trays.

The minimum room for accessing the working area should be at least 150 cm (59 in) and about 50 cm (20 in) are required on one side of the machine to allow for pulling out drip trays.

NOTE

An insufficient air circulation affects operation and output capacity of the machine.

Fig. 03



WARNING

Machines with an air-cooled condenser must be installed leaving a minimum distance of at least 50 cm (20 in) above the stack and of 5 cm (2 in) on the machine sides in order to allow free air circulation around the condenser.

2.2 Machine with air-cooled condenser



Machines with an air-cooled condenser must be installed leaving a minimum distance of at least 50 cm (20 in) above the stack and of 5 cm (2 in) on the machine sides in order to allow free air circulation around the condenser.

NOTE

An insufficient air circulation affects operation and output capacity of the machine.

2.3 Machine with water-cooled condenser



Machines fitted with a water-cooled condenser need to be connected to running water supply or to a cooling tower.

Water must have a pressure ranging between 0.15 MPa and 0.8 MPa (1.5-8 bar), and a flow rate at least equal to the estimated hourly consumption.

Connect inlet pipe marked by plate "Water Inlet" to water supply installing a shut-off valve, and outlet pipe marked by plate "Water Outlet" to a drain pipe, installing a shut-off valve.

2.3.1 Water valve adjustment

IMPORTANT



If water valve must be reset, this operation shall be carried out by skilled personnel, only.

NOTE

Water consumption increases if temperature of inlet water is above 20°C (68°F).

WARNING

Do not leave the machine in a room with temperature below 0°C (32°F) without draining water from the condenser.

2.4 Electric connection



Before connecting the machine to the mains, check that machine voltage indicated on the identification plate corresponds to that of the mains.

Place between the machine and the mains a differential magnetothermal protection switch, class D, adequately sized to absorption capacity required and with contact opening of 3 mm at least. The machines are delivered with a 5 wire cable: blue wire must be connected to the neutral lead.

IMPORTANT

Yellow/green ground wire must be connected to an adequate ground plate.

2.4.1 Replacing the power cable



If machine main power cable is damaged, it must be replaced with a cable with similar features.

Replacement will have to be carried out by skilled technicians only.

2.5 Top-ups



Motor installed in the machine is of the type with lubrication for life; no action of checking/replacing or topping up is necessary.

Gas filling necessary to the refrigerating circuit operation is carried out at Carpigiani factory during the machine test; top-ups or filling are not required if the machine is new.

If any gas top-up or filling becomes necessary, this must be made solely by qualified engineers in safety conditions, able to determine the reason of such occurrence.

2.6 Machine testing



The machine is tested at the Carpigiani factory at the end of the assembly phase; it involves testing of the machine operating and production functions.

Machine test at the end user's premises must be carried out by authorized technical personnel or by a Carpigiani engineer. Once the machine has been positioned and connected to its supply lines, it is possible to carry out the operations required for machine functional check and operating test.

3. INSTRUCTIONS FOR USE

3.1 Machine safety warnings

When using industrial equipment and plants, one must be aware of the fact that moving parts (rotary motion), high voltage components, as well as parts subject to high temperatures may cause serious damage to persons and things.

The persons in charge of safety must ensure that:

- an incorrect use or handling shall be avoided;
- the safety devices are neither removed nor tampered with;
- the machine is regularly serviced;
- only original spare parts are used, especially in the case of safety-related components (ex.: protection microswitches, thermostat);
- suitable personal protective equipment is used;
- high care must be paid during hot product cycling;

To achieve the above, the following is necessary:

- the use and maintenance manual relating to the machine is available at the working place;
- such documentation must be carefully read and the instructions must be strictly followed;
- only suitably skilled personnel should be assigned to electrical equipment;
- make sure that no technician will ever carry out operations outside his/her own knowledge and responsibility sphere.

3.2 Machine configuration

The machine has a motor to drive the beater, a cooling system with water or air condenser and an electronic system to manage the main functions.

Products are prepared by filling them in the hopper and starting the automatic production cycle.

The machine allows use of a ready mix or preparation of the mix directly in the hopper using the fed ingredients.

The mix enters the cylinder already mixed with air. Ice cream is produced only when it needs to be served.

The ice cream dispensing handle allows a single portion of soft ice cream to be distributed.

At the same time, the same amount of mix moves from the upper refrigerated hopper into the cylinder.

DANGER
FROM HIGH
TEMPERATURES

Pay particular attention during the pasteurization phase as the contact with the mix may cause burns.

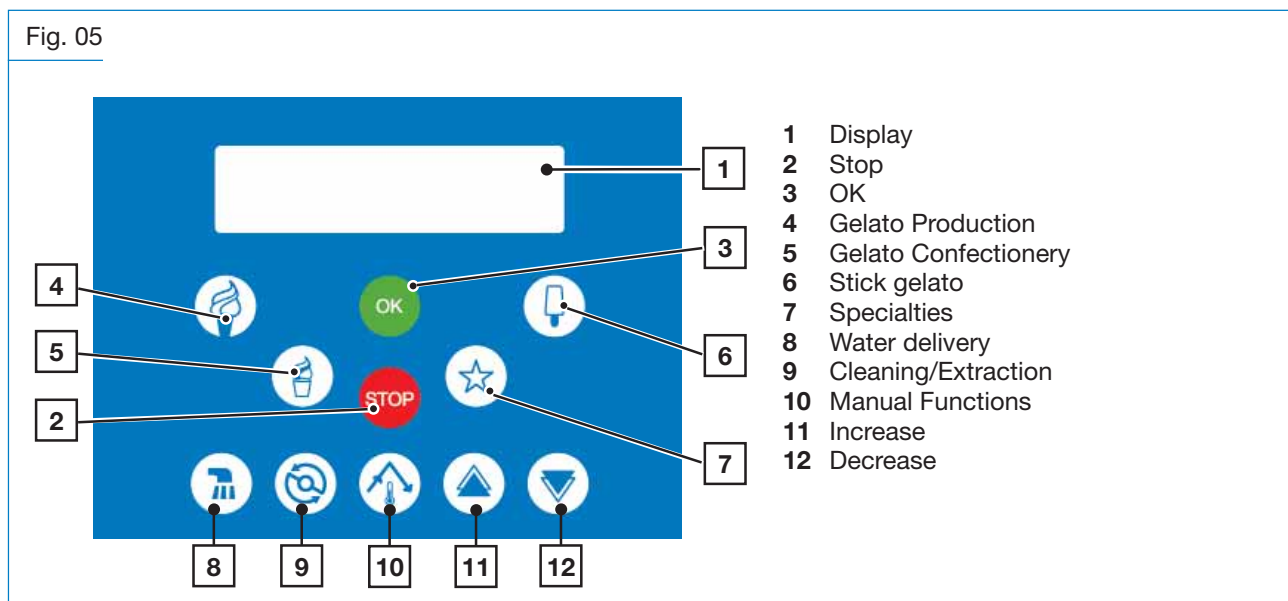
Fig. 04



3.3 Controls

3.3.1 Keyboard

The machine is provided with a keyboard located on the front side.








NOTE
























The keyboard emits an acoustic signal when the pressed button has been acknowledged.


3.3.2 Functions






KEYS	FUNCTION DESCRIPTION				
DISPLAY 	When you switch the machine on, the display indicates the software version. E.g.: <table border="1" data-bbox="488 1393 1321 1473"> <thead> <tr> <th>DISPLAY</th> <th>COMMENTS</th> </tr> </thead> <tbody> <tr> <td>MrArt ver01.00</td> <td>means sw version = 01.00</td> </tr> </tbody> </table>	DISPLAY	COMMENTS	MrArt ver01.00	means sw version = 01.00
DISPLAY	COMMENTS				
MrArt ver01.00	means sw version = 01.00				
STOP 	In this mode the machine is Stopped and the corresponding LED is turned on. From Stop it is possible to access any machine function. For the change, IT IS always NECESSARY to first return to STOP. On the display: <table border="1" data-bbox="488 1659 1321 1740"> <thead> <tr> <th>DISPLAY</th> <th>COMMENTS</th> </tr> </thead> <tbody> <tr> <td>10:33:21 Ven</td> <td></td> </tr> </tbody> </table> If you leave the machine in Stop mode when mix is above the level, after 30" the message "Why in STOP?" will start flashing and an intermittent beep will be emitted, so as to alert the user to set the machine to an automatic or manual cycle.	DISPLAY	COMMENTS	10:33:21 Ven	
DISPLAY	COMMENTS				
10:33:21 Ven					
OK 	Allows starting the cycles or, in Programming, accessing the previous step.				


KEYS	FUNCTION DESCRIPTION																
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Mix Out! Last 10 Cones	When the mix level is low, the first line on the display shows the message Mix Out! The second line displays the number of cones that can be drawn (Last Cones) before the machine automatically sets to Storage.						

KEYS	FUNCTION DESCRIPTION																
<p>SPECIALTIES</p> <div style="text-align: center; border: 1px solid black; width: 60px; height: 60px; margin: 10px auto; border-radius: 50%; background-color: white;"> </div>	<p>The display will read:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="background-color: #0070C0; color: white;">DISPLAY</th> <th style="background-color: #0070C0; color: white;">COMMENTS</th> </tr> </thead> <tbody> <tr> <td>* SEMIFREDDO SEMIFREDDO MIX</td> <td> Press Increase and Decrease keys to select the cycle among: <ul style="list-style-type: none"> - SEMIFREDDO - SEMIFREDDO MIX - MOUSSE - MOUSSE MIX - BAVARESE - BAVARESE MIX </td> </tr> </tbody> </table> <p>Press OK to start the selected cycle (in this case, SEMIFREDDO).</p> <div style="background-color: #008000; color: white; padding: 5px; text-align: center; border: 1px solid black;"> NOTE </div> <p>“MIX” cycles prepare the mix directly inside the hopper, starting from the single ingredients; while the remaining cycles require filling the hopper with ready for use mixes.</p> <p>Once SEMIFREDDO mode is activated, the display shows the following for a few seconds:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="background-color: #0070C0; color: white;">DISPLAY</th> <th style="background-color: #0070C0; color: white;">COMMENTS</th> </tr> </thead> <tbody> <tr> <td>SEMIFREDDO Set=100 Hot=040</td> <td>Press Increase and Decrease keys to modify the consistency set.</td> </tr> </tbody> </table> <p>Or the display shall automatically show message “Do not serve!” in case set consistency is not achieved:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="background-color: #0070C0; color: white;">DISPLAY</th> <th style="background-color: #0070C0; color: white;">COMMENTS</th> </tr> </thead> <tbody> <tr> <td>Do not serve! T= +34°F L - 4</td> <td>On the second line, TEV temperature and days remaining before washing.</td> </tr> </tbody> </table> <p>If set consistency is achieved, display will read:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="background-color: #0070C0; color: white;">DISPLAY</th> <th style="background-color: #0070C0; color: white;">COMMENTS</th> </tr> </thead> <tbody> <tr> <td>Serve! T= +34°F L - 4</td> <td>On the second line, TEV temperature and days remaining before washing.</td> </tr> </tbody> </table> <div style="background-color: #008000; color: white; padding: 5px; text-align: center; border: 1px solid black;"> NOTE </div> <p>Mousse and Bavarese cycles require a preparation phase lasting many minutes, during this phase the display shows “Warm-up”.</p> <p>Production Disabling (Mousse MIX and Bavarese MIX)</p> <p>In mousse/bavarese cycles, during hopper/cylinder cooling phase, when temperature in hopper falls below hopper maintenance set (41°F), an acoustic signal is enabled and at the same time the display shows “Production OK?” to warn the user to start production (pressing OK).</p> <p>If OK is pressed before temperature in hopper reaches 23°F the machine sets to Production.</p> <p>If OK is not pressed before temperature in hopper reaches 23°F the OK key is disabled, hopper and cylinder are brought to storage temperature and Mousse or Bavarese cycle must be enabled passing through Stop.</p>	DISPLAY	COMMENTS	* SEMIFREDDO SEMIFREDDO MIX	Press Increase and Decrease keys to select the cycle among: <ul style="list-style-type: none"> - SEMIFREDDO - SEMIFREDDO MIX - MOUSSE - MOUSSE MIX - BAVARESE - BAVARESE MIX 	DISPLAY	COMMENTS	SEMIFREDDO Set=100 Hot=040	Press Increase and Decrease keys to modify the consistency set.	DISPLAY	COMMENTS	Do not serve! T= +34°F L - 4	On the second line, TEV temperature and days remaining before washing.	DISPLAY	COMMENTS	Serve! T= +34°F L - 4	On the second line, TEV temperature and days remaining before washing.
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KEYS	FUNCTION DESCRIPTION						
<p>SPECIALTIES</p> 	<p>EXTRACTION</p> <p>Specialty extraction can be:</p> <ul style="list-style-type: none"> • standard: identical to the “Gelato” one (see par. 3.6.6). • continuous: as in “Gelato Confectionery” using the Cleaning key. <p>We recommend using Standard extraction.</p> <p>NO MIX</p> <table border="1" data-bbox="459 555 1353 981"> <thead> <tr> <th data-bbox="459 555 730 600">DISPLAY</th> <th data-bbox="735 555 1353 600">COMMENTS</th> </tr> </thead> <tbody> <tr> <td data-bbox="459 600 730 801"> Add Mix! TEV +66°F W -14 </td> <td data-bbox="735 600 1353 801"> When the mix falls below the medium level, the first line on the display flashes the message Add Mix! (with flashing backlighting). When the mix falls below the medium level, an intermittent sound will also be activated (if machine is not in Stop and U10 step is enabled). </td> </tr> <tr> <td data-bbox="459 801 730 981"> Mix Out! Last 5 Cones </td> <td data-bbox="735 801 1353 981"> When the mix level is low, the first line on the display shows the message Mix Out! The second line displays the number of cones that can be drawn (Last Cones) before the machine automatically sets to Storage. </td> </tr> </tbody> </table> <div data-bbox="411 1003 1401 1167" style="background-color: #008000; color: white; padding: 5px;"> <p style="text-align: center;">NOTE</p> <p>With the messages Add Mix! - Add Mix! and Mix Esaurita! - Mix Out! shown on the display, the subsequent Production screens cannot be accessed.</p> </div>	DISPLAY	COMMENTS	Add Mix! TEV +66°F W -14	When the mix falls below the medium level, the first line on the display flashes the message Add Mix! (with flashing backlighting). When the mix falls below the medium level, an intermittent sound will also be activated (if machine is not in Stop and U10 step is enabled).	Mix Out! Last 5 Cones	When the mix level is low, the first line on the display shows the message Mix Out! The second line displays the number of cones that can be drawn (Last Cones) before the machine automatically sets to Storage.
DISPLAY	COMMENTS						
Add Mix! TEV +66°F W -14	When the mix falls below the medium level, the first line on the display flashes the message Add Mix! (with flashing backlighting). When the mix falls below the medium level, an intermittent sound will also be activated (if machine is not in Stop and U10 step is enabled).						
Mix Out! Last 5 Cones	When the mix level is low, the first line on the display shows the message Mix Out! The second line displays the number of cones that can be drawn (Last Cones) before the machine automatically sets to Storage.						

KEYS	FUNCTION DESCRIPTION														
<p>WATER DELIVERY</p> 	<p>Press Water Delivery button to activate the water delivery through the shower (available as option). Shower can be connected to the machine through the quick coupling located on hopper side, and it works only if the machine is connected to water mains.</p> <p>Water delivery stops either by pressing the same button, or after 1 minute, or by pressing the Stop button.</p>														
<p>CLEANING EXTRACTION</p> 	<p>In this function beater and pump are activated for 30", then the machine automatically switches back to Stop, so as to prevent excessive cylinder wear.</p> <p>Once Cleaning mode is activated, the display shows the following:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="background-color: #0070C0; color: white;">DISPLAY</th> <th style="background-color: #0070C0; color: white;">COMMENTS</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">  1 </td> <td> HOT=058 TEC+014 Beat.+Pump ON The first line (top) of this window shows the following: HOT and TEC The second line shows the indication that Beater and Pump are activated for 30". </td> </tr> <tr> <td style="text-align: center;">  2 </td> <td> HOT=058 TEC+014 Pump ON The first line (top) of this window shows the following: HOT and TEC. The second line shows the indication that beater is disabled and only pump remains active for 30". </td> </tr> <tr> <td style="text-align: center;">  3 </td> <td> HOT=058 TEC+014 Beater ON The first line (top) of this window shows the following: HOT and TEC. The second line shows the indication that pump is disabled and only beater remains active for 30". </td> </tr> <tr> <td style="text-align: center;">  4 </td> <td> HOT=058 TEC+014 Beat. + Heat. The first line (top) of this window shows the following: HOT and TEC. The second line shows the indication that beater and heating are activated to help cylinder emptying. </td> </tr> </tbody> </table> <p>Press Cleaning again to return to the initial display.</p> <p>EXTRACTION</p> <p>Within functions PASTICCERIA DI GELATO and GELATI SU STECCO, once the set Hot is reached, press  to activate the Extraction function, led on button  turns on and display shows:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="background-color: #0070C0; color: white;">DISPLAY</th> <th style="background-color: #0070C0; color: white;">COMMENTS</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;"> Extraction ON 085 Timer 15:00 </td> <td style="text-align: center;"> Current Hot at bottom left and Extraction time at bottom right. </td> </tr> </tbody> </table> <p>Time can be modified from 0 to 30 minutes using the Increase and Decrease buttons. Any time entering Extraction, the default value is 15 minutes.</p> <p>If the Cleaning button is depressed before timer times out, Extraction is stopped.</p> <p>When timer times out or upon Extraction forced exit, the Cleaning led turns off and standard Production page is displayed.</p>	DISPLAY	COMMENTS	 1	HOT=058 TEC+014 Beat.+Pump ON The first line (top) of this window shows the following: HOT and TEC The second line shows the indication that Beater and Pump are activated for 30".	 2	HOT=058 TEC+014 Pump ON The first line (top) of this window shows the following: HOT and TEC. The second line shows the indication that beater is disabled and only pump remains active for 30".	 3	HOT=058 TEC+014 Beater ON The first line (top) of this window shows the following: HOT and TEC. The second line shows the indication that pump is disabled and only beater remains active for 30".	 4	HOT=058 TEC+014 Beat. + Heat. The first line (top) of this window shows the following: HOT and TEC. The second line shows the indication that beater and heating are activated to help cylinder emptying.	DISPLAY	COMMENTS	Extraction ON 085 Timer 15:00	Current Hot at bottom left and Extraction time at bottom right.
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DISPLAY	COMMENTS														
Extraction ON 085 Timer 15:00	Current Hot at bottom left and Extraction time at bottom right.														
<p>TOUCHPAD LOCK</p> 	<p>By pressing the Cleaning button from any function mode for 3 seconds all buttons are disabled and the Cleaning led flashes.</p> <p>This allows cleaning the keyboard without triggering accidental function changes.</p> <p>The machine does not quit the current function.</p> <p>To unlock the keypad, press again for 3" the Cleaning button.</p>														

KEYS	FUNCTION DESCRIPTION													
<p>MANUAL FUNCTIONS Storage Pasteurization</p> 	<p>By pressing the Manual Functions button, the display shows:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="background-color: #0070C0; color: white;">DISPLAY</th> <th style="background-color: #0070C0; color: white;">COMMENTS</th> </tr> </thead> <tbody> <tr> <td>* STORAGE PASTEURIZATION</td> <td>Press Increase and Decrease keys to select among: - STORAGE - PASTEURIZATION</td> </tr> </tbody> </table> <p>Press OK to start the selected cycle.</p> <p>In all Production cycles except Mousse and Bavarese, it is possible to press the Manual Functions key to directly access Storage.</p> <p>The display shows “Storage OK?”, pressing OK the machine sets to Storage mode.</p> <p>STORAGE</p> <p>The Storage function serves to bring the product in both the hopper and the cylinder to the temperature of 39°F (programmable in step Storage Temp.).</p> <p>Once Storage mode is activated the display shows the following:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="background-color: #0070C0; color: white;"></th> <th style="background-color: #0070C0; color: white;">DISPLAY</th> <th style="background-color: #0070C0; color: white;">COMMENTS</th> </tr> </thead> <tbody> <tr> <td style="text-align: center; vertical-align: middle;">1</td> <td style="text-align: center;">  Hopper ↓ +059°F Cylinder ↓ +055°3 </td> <td>The first line (top) of this window shows the temperature in the Hopper (TEV) and the second line the temperature of the Cylinder (TEC). ↓ The arrow indicates what is actually cooled.</td> </tr> <tr> <td style="text-align: center; vertical-align: middle;">2</td> <td style="text-align: center;">  TEV+066 TGV+070 TEC+067 TE1+068 </td> <td>This window shows the probe temperatures.</td> </tr> </tbody> </table> <p>PASTEURIZATION</p> <div style="background-color: #FFD700; padding: 5px; text-align: center;">  WARNING  </div> <p>User takes full responsibility for the manual control of pasteurization, complying with prevailing local regulations on mix handling in case they are not pasteurized.</p> <p>Press Manual Functions key and run Pasteurization cycle to activate Manual Pasteurization.</p> <p>After Pasteurization has been running for five seconds the procedure must run completely.</p> <p>If Pasteurization is not completed successfully, the machine will NOT be able to be set to Production until a pasteurization cycle has been completed correctly.</p> <p>The product, both in the hopper and in the cylinder, is heated to 149°F where it remains for 30 minutes, and then cooled until the storage temperature.</p> <p>When the procedure is finished the display shows “- Pasto End -” along with the day and time of completion, thus confirming that Pasteurization has been carried out successfully.</p>	DISPLAY	COMMENTS	* STORAGE PASTEURIZATION	Press Increase and Decrease keys to select among: - STORAGE - PASTEURIZATION		DISPLAY	COMMENTS	1	 Hopper ↓ +059°F Cylinder ↓ +055°3	The first line (top) of this window shows the temperature in the Hopper (TEV) and the second line the temperature of the Cylinder (TEC). ↓ The arrow indicates what is actually cooled.	2	 TEV+066 TGV+070 TEC+067 TE1+068	This window shows the probe temperatures.
DISPLAY	COMMENTS													
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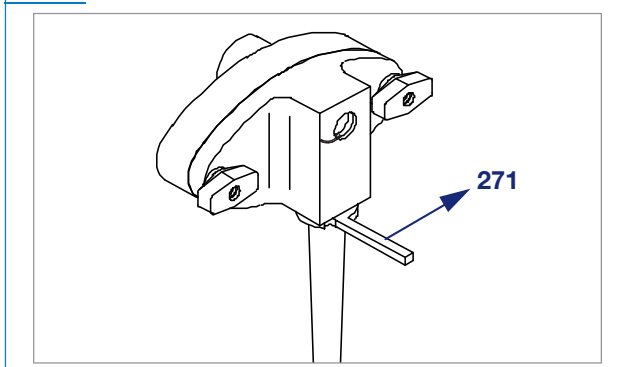
KEYS	FUNCTION DESCRIPTION										
<p>MANUAL FUNCTIONS Storage Pasteurization</p> 	<p>During Pasteurization, the display will read:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="background-color: #0070C0; color: white;">DISPLAY</th> <th style="background-color: #0070C0; color: white;">COMMENTS</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">-Heating- Do not serve!</td> <td style="padding: 5px;">The first line of the display shows: -Heating- i.e. heating step in Pasteurization. The second line will read: Do not serve! that indicates not to serve the product at this stage.</td> </tr> </tbody> </table> <p>Press again Manual Functions key to scroll through the pages described below:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="background-color: #0070C0; color: white;">DISPLAY</th> <th style="background-color: #0070C0; color: white;">COMMENTS</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;"> 1  Hopper ↑ +073°F Cylinder ↑ +055°F </td> <td style="padding: 5px;">The first line (top) of this window shows the temperature in the Hopper (TEV) and the second line the temperature of the Cylinder (TEC). é The arrow indicates which part is heated.</td> </tr> <tr> <td style="padding: 5px;"> 2  TEV+066 TGV+070 TEC+067 TE1+068 </td> <td style="padding: 5px;">This window shows the probe temperatures.</td> </tr> </tbody> </table>	DISPLAY	COMMENTS	-Heating- Do not serve!	The first line of the display shows: -Heating- i.e. heating step in Pasteurization. The second line will read: Do not serve! that indicates not to serve the product at this stage.	DISPLAY	COMMENTS	1  Hopper ↑ +073°F Cylinder ↑ +055°F	The first line (top) of this window shows the temperature in the Hopper (TEV) and the second line the temperature of the Cylinder (TEC). é The arrow indicates which part is heated.	2  TEV+066 TGV+070 TEC+067 TE1+068	This window shows the probe temperatures.
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DISPLAY	COMMENTS										
1  Hopper ↑ +073°F Cylinder ↑ +055°F	The first line (top) of this window shows the temperature in the Hopper (TEV) and the second line the temperature of the Cylinder (TEC). é The arrow indicates which part is heated.										
2  TEV+066 TGV+070 TEC+067 TE1+068	This window shows the probe temperatures.										
<p>INCREASE</p> 	<p>Button Increase is used to select the required process (selected using the asterisk key alongside the cycle) from each menu.</p> <p>It also serves to increase the values that can be edited for those functions where edits are permitted, e.g. to change the temperature of the production process.</p>										
<p>DECREASE</p> 	<p>Button Decrease is used to select the required process (selected using the asterisk key alongside the cycle) from each menu.</p> <p>It also serves to decrease the values that can be edited for those functions where edits are permitted, e.g. to change the temperature of the production process.</p>										

3.4 “R” pump

The pump allows the ratio between air and mix conveyed to the freezing cylinders; so, within certain limits, it allows overrun regulation depending on mix used.

Move the lever (pos. 271) to the central position. If, after dispensing a significant number of cones, ice cream is too heavy and wet, move the lever (pos. 271) by one notch at a time to the right. If, on the other hand, the ice cream dispensed from the spigot door features air bubbles, move the lever (pos. 271) by one notch at a time to the left.

Fig. 6



NOTE



See paragraphs 5.6.2 and 5.6.10 for pump disassembling and refitting.

3.5 Preliminary operations, washing and sanitization

Before starting the machine for the first time, it is necessary to thoroughly clean its parts and sanitize all parts coming into contact with the mix.

To disassemble and clean the machine, proceed as described in "Section 5" of this manual.



NOTE



Cleaning and sanitization must be carried out as a habit and with utmost care in order to guarantee the production quality in the observance of necessary healthy rules.

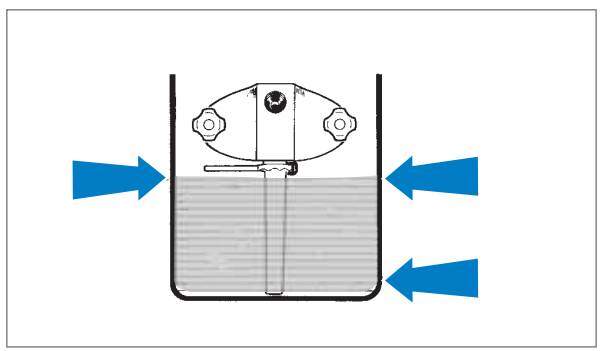
3.6 Gelato production


After installing the machine according to the instructions given in the chapter "Installation", and after carefully cleaning and sanitizing the machine, proceed as follows:

3.6.1 Gelato cycle

- Take a mix package (it is recommended to use mix at a temperature of 39°F).
- With the dispensing lever open, pour mix into the hopper
- Wait for a small quantity of mix (not sanitizer) to be dispensed from the spigot door and move the lever to the original position, i.e. close the spigot door lever allowing it to drain into the cylinder. Mix inside hopper shall never reach the pump (see the picture); furthermore mix shall be added whenever level is 2 cm (0.8 in) from hopper bottom.

Fig. 7




- Keep pouring the mix until the cylinder has been filled (bubbles shall be visible in the hopper while filling); with clean and sanitized hands, remove the pressure pipe from the sanitizing solution, and insert it into the bottom of the hopper.
- Connect the compression pipe to the pump.
- Pour mix in the tank until filling it completely. Mix inside hopper shall never reach the pump (see the picture); furthermore mix shall be added whenever level is 2 cm (0.8 in) from hopper bottom.
- Refit hopper cover.
- Press button Gelato Production  then use buttons Increase and Decrease to select GELATO cycle.
- Ice cream can be dispensed when the display shows "Ice cream ready!".

3.6.2 Gelato Mix65 cycle

NOTE

This cycle allows preparing the mix directly in the hopper, by filling the single ingredients. This type of program provides for mix pasteurization.

- Install pump, compression tube and beater inside the hopper.

- Press button Gelato Production  then use buttons Increase and Decrease to select GELATO MIX65 cycle.
- Now first line on display will show the ingredient to be fed, followed by "OK?"

DISPLAY	
Milk+Cream OK?	
104°F	41°F

- Pressing the OK Button will confirm the ingredient and the message about the ingredient will disappear. The second line shows the set value to be reached and current temperature.
- Once all ingredients are fed and mix preparation stage is over, the machine will automatically load mix in the cylinder, output an acoustic warning and display a timer

DISPLAY
00:00:58

- After loading, the machine brings product to SET temperature and the display reads "PRODUCE OK?"
- Refit hopper cover.
- Press button OK to start production and machine will be ready for serving the ice cream when display reads "Ice cream ready!"

3.6.3 Gelato Mix cycle

NOTE

This cycle allows you to prepare the mix directly in the hopper, starting from single ingredients.

- To run this cycle, proceed as described for "Gelato Mix65" cycle (par. 3.6.2).

3.6.4 Sorbetto cycle

- To run this cycle, proceed as described for "Gelato" cycle (par. 3.6.1).

3.6.5 Sorbetto Mix cycle

NOTE

This cycle allows you to prepare the mix directly in the hopper, starting from single ingredients.

- To run this cycle, proceed as described for "Gelato Mix65" cycle (par. 3.6.2).

3.6.6 Ice-cream dispensing



In order to dispense the product, place a cup or a cone under the dispensing spigot and slowly pull down the dispensing lever.

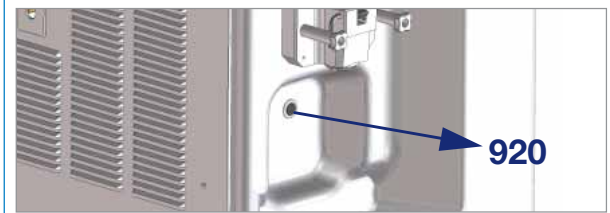
As soon as the product comes out, twist the cup or the cone to form a cone-shaped serving.

When the portion has reached the desired size, close the dispensing lever and quickly pull the cone or the cup down in order to sharpen the tip.

NOTE

Sensor must be kept clean (pos. 920)

Fig. 8



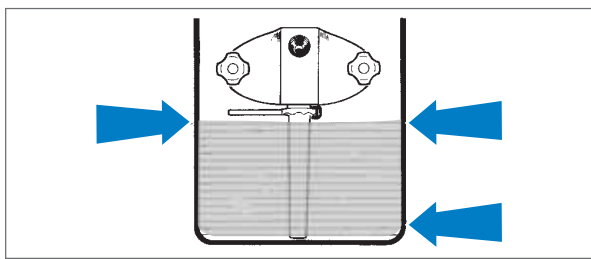
3.7 Gelato confectionery production

After installing the machine according to the instructions given in the chapter "Installation", and after carefully cleaning and sanitizing the machine, proceed as follows:


3.7.1 Pasticc Gelato cycle


- Take a mix package (it is recommended to use mix at a temperature of 39°F).
- With the dispensing lever open, pour mix into the hopper
- Wait for a small quantity of mix (not sanitizer) to be dispensed from the spigot door and move the lever to the original position, i.e. close the spigot door lever, allowing it to drain into the cylinder. Mix inside hopper shall never reach the pump (see the picture); furthermore mix shall be added whenever level is 2 cm (0.8 in) from hopper bottom.

Fig. 9



- Keep pouring the mix until the cylinder has been filled (bubbles shall be visible in the hopper while filling); with clean and sanitized hands, remove the pressure pipe from the sanitizing solution, and insert it into the bottom of the hopper.
- Connect the compression pipe to the pump.
- Pour mix in the tank until filling it completely. Mix inside hopper shall never reach the pump (see the picture); furthermore mix shall be added whenever level is 2 cm (0.8 in) from hopper bottom.
- Refit hopper cover.

- Press button Pasticceria Gelato  then use buttons Increase and Decrease to select PASTICC GELATO cycle.

- When display reads "Ice cream ready!" it will be possible to set to extraction mode by pressing button .



NOTE



Before dispensing the product, install one of the single portion terminals on spigot door (ref. 6 and 7 page 12).


3.7.2 P Gelato Mix65 cycle



NOTE



This cycle allows preparing the mix directly in the hopper, by filling the single ingredients. This type of program provides for mix pasteurization.

- Install pump, compression tube and beater inside the hopper.
- Press button Pasticceria di Gelato  then use buttons Increase and Decrease to select P GELATO MIX65 cycle.
- Now first line on display will show the ingredient to be fed, followed by "OK?"

DISPLAY

Milk+Cream OK?	
104°F	41°F

- Pressing the OK Button will confirm the ingredient and the message about the ingredient will disappear. The second line shows the set value to be reached and current temperature.
- Once all ingredients are fed and mix preparation stage is over, the machine will automatically load mix in the cylinder, output an acoustic warning and display a timer

DISPLAY

00:00:58

- After loading, the machine brings product to SET temperature and the display reads "PRODUCE OK?"
- Refit hopper cover.
- Press button OK to start production and machine will be ready for serving the ice cream when display reads "Ice cream ready!"

3.7.3 P Gelato Mix cycle



NOTE



This cycle allows you to prepare the mix directly in the hopper, starting from single ingredients.

- To run this cycle, proceed as described for "P Gelato Mix65" cycle (par. 3.7.2).

3.7.4 Pasticc Sorbet Cycle

- To run this cycle, proceed as described for "Pasticc Gelato" cycle (par. 3.7.1).

3.7.5 P Sorbetto Mix cycle

NOTE

This cycle allows you to prepare the mix directly in the hopper, starting from single ingredients.

- To run this cycle, proceed as described for “P Gelato Mix65” cycle (par. 3.7.2).

3.7.6 Ice-cream confectionery dispensing

- Install the required single portion terminal (ref. 6 and 7 page 12) on spigot door.
- Press Cleaning button to activate the Extraction function (the Cleaning button led turns on).
- The display will read:

DISPLAY	COMMENTS
Extraction ON 085 Timer 15:00	Current Hot at bottom left and Extraction time at bottom right. Timer can be modified from 0 to 30 minutes using the Increase and Decrease buttons. If the Cleaning button is depressed before timer times out, Extraction is stopped.

- Position the single portion container to fill ('cannolo', small glass, small tart, etc.) under the spigot door and slowly pull down the dispensing handle.
- As soon as dispensed portion is sufficient, close dispensing handle.
- Continue dispensing until using all the product in the machine.

WARNING

At job end or once all product has been dispensed, the used single portion terminal must be removed, and carefully washed and sanitized

3.8 Stick gelato production

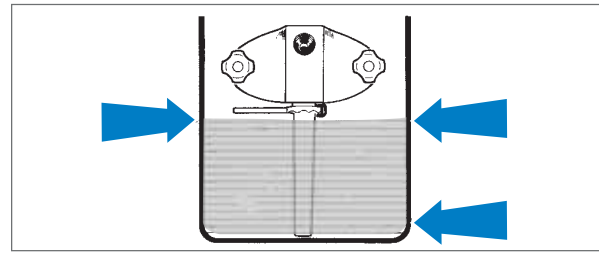


After installing the machine according to the instructions given in the chapter "Installation", and after carefully cleaning and sanitizing the machine, proceed as follows:



3.8.1 Stecco Gelato cycle

- Take a mix package (it is recommended to use mix at a temperature of 39°F).
- With the dispensing lever open, pour mix into the hopper
- Wait for a small quantity of mix (not sanitizer) to be dispensed from the spigot door and move the lever to the original position, i.e. close the spigot door lever, allowing it to drain into the cylinder. Mix inside hopper shall never reach the pump (see the picture); furthermore mix shall be added whenever level is 2 cm (0.8 in) from hopper bottom.

Fig. 10



- Keep pouring the mix until the cylinder has been filled (bubbles shall be visible in the hopper while filling); with clean and sanitized hands, remove the pressure pipe from the sanitizing solution, and insert it into the bottom of the hopper.
- Connect the compression pipe to the pump.
- Pour mix in the tank until filling it completely. Mix inside hopper shall never reach the pump (see the picture); furthermore mix shall be added whenever level is 2 cm (0.8 in) from hopper bottom.
- Refit hopper cover.

- Press button Stick Gelato  then use buttons Increase and Decrease to select STECCO GELATO cycle.
- When display reads “Stick ready!” it will be possible to set machine to extraction mode by pressing button  to fill molds for sticks, cakes, etc.

NOTE


Before dispensing the product, install tube and metering nozzle to spigot door (ref. 5 page 12).

3.8.2 S Gelato Mix65 cycle

NOTE

This cycle allows preparing the mix directly in the hopper, by filling the single ingredients. This type of program provides for mix pasteurization.

- Install pump, compression tube and beater inside the hopper.

- Press button Stick Gelato  then use buttons Increase and Decrease to select S GELATO MIX65 cycle.
- Now first line on display will show the ingredient to be fed, followed by “OK?”

DISPLAY	
Milk+Cream OK?	
104°F	41°F

- Pressing the OK Button will confirm the ingredient and the message about the ingredient will disappear. The second line shows the set value to be reached and current temperature.
- Once all ingredients are fed and mix preparation stage is over, the machine will automatically load mix in the cylinder, output an acoustic warning and display a timer

DISPLAY
00:00:58

- After loading, the machine brings product to SET temperature and the display reads “PRODUCE OK?”
- Refit hopper cover.
- Press button OK to start production and machine will be ready for serving the ice cream when display reads “Stick ready!”.

3.8.3 S Gelato Mix cycle

NOTE

This cycle allows you to prepare the mix directly in the hopper, starting from single ingredients.

- To run this cycle, proceed as described for “S Gelato Mix65” cycle (par. 3.8.2).

3.8.4 Stecco Sorbet Cycle

- To run this cycle, proceed as described for “Stecco Gelato” cycle (par. 3.8.1).

3.8.5 S Sorbet Mix cycle

NOTE

This cycle allows you to prepare the mix directly in the hopper, starting from single ingredients.

- To run this cycle, proceed as described for “S Gelato Mix65” cycle (par. 3.8.2).

3.8.6 Continuous dispensing for stick gelato and cakes

- Install tube and metering nozzle to spigot door (see paragraph 5.6.3);
- Press Cleaning button to activate the Extraction function (the Cleaning button led turns on).
- The display will read:

DISPLAY	COMMENTS
Extraction ON 085 Timer 15:00	Current Hot at bottom left and Extraction time at bottom right. Timer can be modified from 0 to 30 minutes using the Increase and Decrease buttons. If the Cleaning button is depressed before timer times out, Extraction is stopped.

- Pull spigot door dispensing handle down and work trigger on metering nozzle to fill cake or stick molds.
- Press button Cleaning to stop dispensing and quit Extraction mode, or wait for timer to time out. Open the trigger on metering nozzle to depressurize tube, then close the spigot door dispensing handle, making sure it stays in the closed position keep the dispensing handle open on the nozzle until the product stops coming out from the nozzle.

WARNING



At job end or once all product has been dispensed, all parts installed to spigot door (tube, nozzle and fittings, see sec. 5) must be removed, and carefully washed and sanitized.

3.9 Specialty production

After installing the machine according to the instructions given in the chapter "Installation", and after carefully cleaning and sanitizing the machine, proceed as follows:

This function is active only if U11 step of user's programming is set to 0 (Artisan-made).

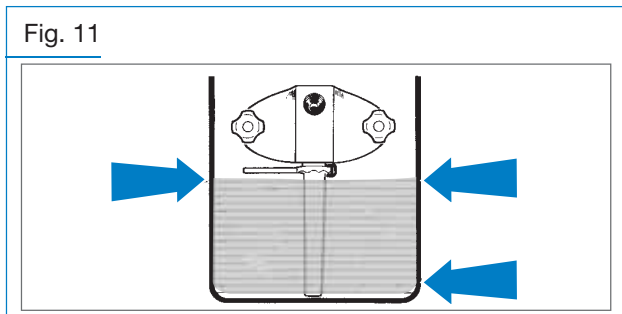
When machine is set to Artisan-made, all functions for washing control and pasteurization are disabled.



WARNING


User takes full responsibility for the manual control of machine washing and pasteurization, complying with prevailing local regulations on mix handling in case mixes are not pasteurized.



3.9.1 Semifreddo cycle

- Take a mix package (it is recommended to use mix at a temperature of 39°F).
- With the dispensing lever open, pour mix into the hopper
- Wait for a small quantity of mix (not sanitizer) to be dispensed from the spigot door and move the lever to the original position, i.e. close the spigot door lever, allowing it to drain into the cylinder. Mix inside hopper shall never reach the pump (see the picture); furthermore mix shall be added whenever level is 2 cm (0.8 in) from hopper bottom.




- Keep pouring the mix until the cylinder has been filled (bubbles shall be visible in the hopper while filling); with clean and sanitized hands, remove the pressure pipe from the sanitizing solution, and insert it into the bottom of the hopper.
- Connect the compression pipe to the pump.
- Pour mix in the tank until filling it completely. Mix inside hopper shall never reach the pump (see the picture); furthermore mix shall be added whenever level is 2 cm (0.8 in) from hopper bottom.
- Refit hopper cover.
- Press button Specialties  then use buttons Increase and Decrease to select SEMIFREDDO cycle.
- Product can be dispensed when the display shows "Serve!".

3.9.2 Semifreddo Mix cycle


NOTE


This cycle allows you to prepare the mix directly in the hopper, starting from single ingredients.

- Install pump, compression tube and beater inside the hopper.
- Press button Specialties  then use buttons Increase and Decrease to select Semifreddo Mix cycle.
- Now first line on display will show the ingredient to be fed, followed by "OK?"

DISPLAY	
Milk+Cream OK?	
104°F	41°F

- Pressing the OK Button will confirm the ingredient and the message about the ingredient will disappear. The second line shows the set value to be reached and current temperature.
- Once all ingredients are fed and mix preparation stage is over, the machine will automatically load mix in the cylinder, output an acoustic warning and display a timer



DISPLAY
00:00:58

- After loading, the machine brings product to SET temperature and the display reads "PRODUCE OK?"
- Refit hopper cover.
- Press button OK to start production and machine will be ready for serving the ice cream when display reads "Serve!".

3.9.3 Mousse cycle

- To run this cycle, proceed as described for "Semifreddo" cycle (par. 3.9.1).

3.9.4 Mousse Mix cycle


NOTE




This cycle allows you to prepare the mix directly in the hopper, starting from single ingredients.

- To run this cycle, proceed as described for "Semifreddo Mix" cycle (par. 3.9.2)
-

3.9.5 Bavarese cycle

- To run this cycle, proceed as described for "Semifreddo" cycle (par. 3.9.1).

3.9.6 Bavarese Mix cycle


NOTE


This cycle allows you to prepare the mix directly in the hopper, starting from single ingredients.

- To run this cycle, proceed as described for “Semifreddo Mix” cycle (par. 3.9.2)



3.9.7 Specialty dispensing

Specialty extraction can be:


- standard: identical to the “Gelato” one (see par. 3.6.6).
- continuous: as in “Gelato Confectionery” using the **Cleaning** key.

We recommend using Standard extraction.

- For continuous dispensing, install the required spigot door terminal (ref. 6, 7, 8 or 9 page 12) on spigot door.


GENERAL DANGER




The ring nut must not be used when supplied nozzle is not in place



- Press Cleaning button to activate the Extraction function (the Cleaning button led turns on).
- The display will read:

DISPLAY	COMMENTS
Extraction ON 085 Timer 15:00	<p>Current Hot at bottom left and Extraction time at bottom right.</p> <p>Timer can be modified from 0 to 30 minutes using the Increase and Decrease buttons.</p> <p>If the Cleaning button is depressed before timer times out, Extraction is stopped.</p>

- Position the container to fill under the spigot door and slowly pull down the dispensing handle.
- As soon as dispensed portion is sufficient, close dispensing handle.
- Continue dispensing until using all the product in the machine.


WARNING


At job end or once all product has been dispensed, the used terminal must be removed, and carefully washed and sanitized

3.10 Automatic pasteurization

This function is active only when using the machine in Soft mode (U11 step set to 1).

The machine is programmed to pasteurize the mix in the hopper and cylinder at a time set by the user.

It is then necessary that the product level in the hopper is at least above half the hopper capacity (medium level covered) with the machine in Storage or Production mode.



The machine performs the heating and cooling cycle automatically and then stores the product at 39°F.

In case of a power blackout during the pasteurization cycle, the machine automatically repeats the cycle. When opening the premises, make sure that the machine has performed the pasteurization cycle properly and that no alarm has been triggered. Press STOP and select the production function; after a few minutes the product will reach the correct consistency to be sold.

If user uses the machine:

- In Artisan-made mode (U11 step set to 0)
- In Soft mode but with pasteurization off (U09 step set to NO)

it will not be possible to activate automatic pasteurization.


WARNING


User takes full responsibility for the manual control of pasteurization, complying with prevailing local regulations on mix handling in case mixes are not pasteurized.

3.11 Daily cleaning - cleaning procedures when starting and finishing using the machine

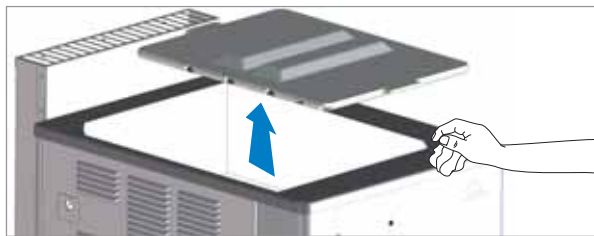
3.11.1 Daily cleaning procedures at the end of the machine use

With clean and sanitized hands (or using disposable gloves), carry out the following procedures.

Component disassembly and cleaning:

- Remove hopper lid, clean it, sanitize it and rinse it in a container.
- Using a clean and sanitized cloth, clean the hopper external side.

Fig. 12



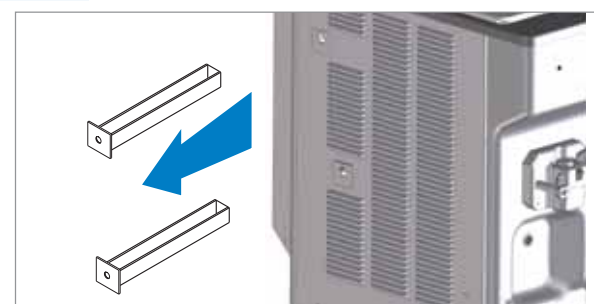
- Refit the hopper lid after sanitization.

Fig. 13



- Remove the drip trays on the machine side, wash and sanitize them, then rinse them.

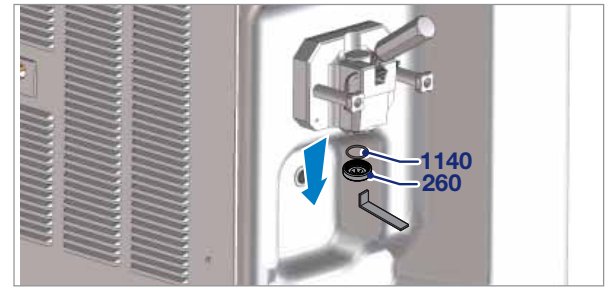
Fig. 14



NOTE
Contact the authorized technician for any mix leak in the drip tray.

- Fit the drip trays back on the machine
- Using the suitable supplied tool, unscrew the spigot door nozzle unit (260), remove it from the spigot door and pull the O-Ring (1140) out.

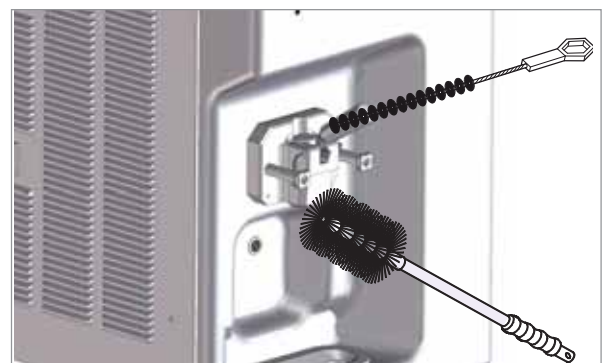
Fig. 15



WARNING
If terminals or dispensing nozzle are installed to spigot door, they must be removed and disassembled, washed and sanitized (see section 5 of the manual).

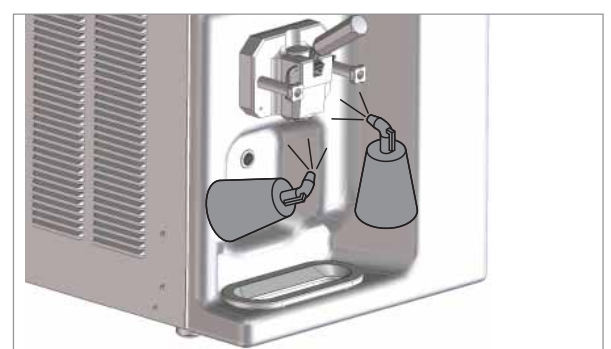
- Fill a bucket with cleaning/sanitizing solution. Dip the supplied brush in the cleaning/sanitizing solution and clean the spigot door dispenser and the area around the spigot door piston several times.

Fig. 16



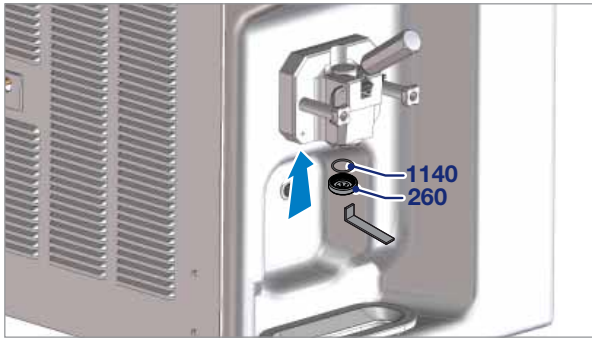
- Spray the cleaning/sanitizing solution on the spigot door dispensing area and on the spigot door, especially in the piston area.

Fig. 17



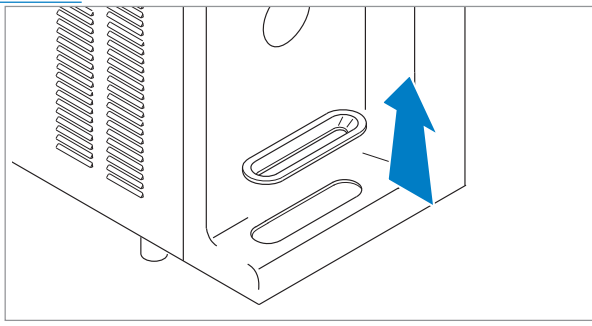
- Fit the O-Ring (1140) in the nozzle unit and, using the suitable supplied tool, screw the nozzle unit back on the spigot door.

Fig. 18



- Using a clean and sanitized cloth, clean spigot door area, the area underneath, machine front side and any other "splash" area, making sure to remove any humidity, product or cleaning/sanitizing solution residues.
- Remove the drip tray, clean and sanitize it and refit it on the machine.

Fig. 22



Prepare the machine for night pasteurization if set to automatic pasteurization

- If necessary, add mix (medium level must be covered, and mix level in hopper must never reach the pump).



WARNING



If the mix inside the hopper is below the medium level, the pasteurization cycle will not start.

- Make sure that the machine is in PRODUCTION or STORAGE mode (the relevant LED must be ON).

The pasteurization cycle is automatic and is performed during the night at a set time.

3.11.2 Daily cleaning procedures before the machine use

If machine is set to automatic pasteurization, every time you open the shop you must make sure that the display reads "End". This message indicates that the pasteurization cycle has been performed correctly.



WARNING



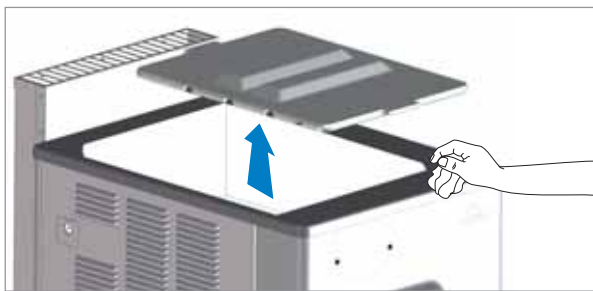
If the pasteurization cycle has not been performed correctly, the display will show an alarm. THE MIX WAS NOT PASTEURIZED CORRECTLY. Call for service if necessary. After resetting the alarm, select the DISTRIBUTION function to resume the PASTEURIZATION cycle.

Make sure to have clean and sanitized hands (or use disposable gloves) before carrying out the following procedures.

Lid disassembly and cleaning:

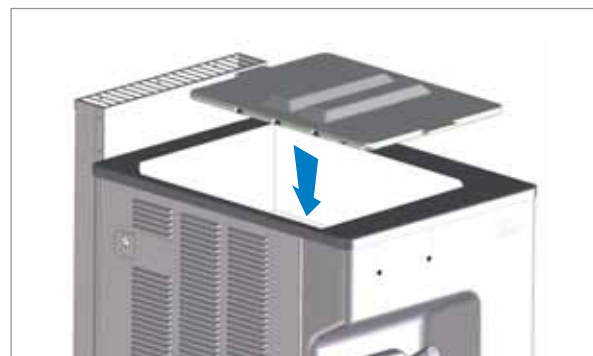
- Remove hopper lid, clean it, sanitize it and rinse it in a container.
- Using a clean and sanitized cloth, clean the hopper external side.

Fig. 19



- Refit the hopper lid after sanitization.

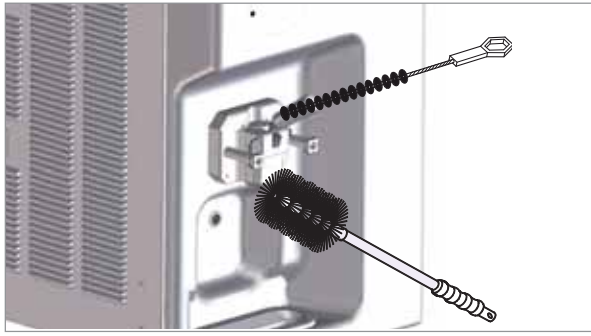
Fig. 20



Sanitization of the spigot door area:

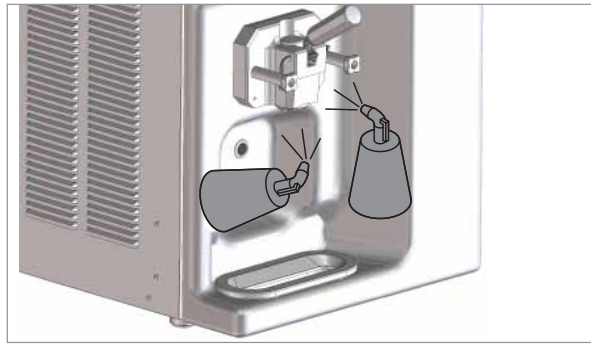
- Fill a bucket with cleaning/sanitizing solution. Dip the supplied brush in the cleaning/sanitizing solution and clean the spigot door dispenser and the area around the spigot door piston several times.

Fig. 21



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

Fig. 22




- Using a clean and sanitized cloth, clean spigot door area and machine front side, making sure to remove any humidity, product or cleaning/sanitizing solution residues.
- The machine is set to storage mode, follow the instructions under paragraphs 3.6, 3.7, 3.8 or 3.9 to start Production.

3.12 User programming

Press **Water Delivery** and **Decrease** buttons simultaneously to access User Programming (sw version and "Manager Menu" are displayed) and release them immediately.

At this point, the display will show the first User programming step.

	DISPLAY	COMMENTS
	Ore Step U01 10	The first line shows the description and the second the number of the step (U=User) and the value.

Press **Increase** or **Decrease** buttons to edit the value.

Press **Stop** button to access next step or **OK** to access previous step.

Hereinafter is a list of the parameters which can be edited from the "user programming":

STEP	DISPLAY	MIN	MX	DEFAULT
U01	Hour	00	23	
U02	Minutes	00	59	
U03	Day of the week	Sun	Sat	
U04	Day of the month	01	31	
U05	Month	Jan	Dec	
U06	Year	2000	2099	
U07	Language	Ita	Esp	Eng
U08	Prod. start Time	00	23+no+auto	no
U09	Pasto Start Time	00	23+no	no
U10	Lev. Beep Enable	No	Yes	Yes
U11	Artis=0/Soft=1	00	01	00
U12	Hopp. Extra Beat.	No	Yes	No
U13	MousseBav.Hopper	000	020	020

U01-U06: Date and time setting

U07 Language: Language setting

U08 Prod. start Time: Set the time at which Production will automatically start. If set to No, automatic Production will not be enabled. If set to auto, automatic Production will start as soon as pasteurization is completed.

U09 Pasto start Time: Set the time at which Pasteurization will automatically start. If set to No, automatic pasteurization will not be enabled.



WARNING



If machine is set with U11 = 0 (Artis), it will NOT pasteurize automatically, step U09 is thus ignored.



WARNING



User takes full responsibility for the manual control of pasteurization, complying with prevailing local regulations on mix handling in case mixes are not pasteurized.

U10 Lev. Beep Enable: If set, the machine will beep intermittently when the mix is below the medium level.

U11 Artis=0/Soft=1:

Set = 0 to activate Artisan-made mode. This mode provides for:

1. Deactivation of day countdown to required washing,
2. Activation of Specialty function
3. Automatic pasto time is not valid if not programmed
4. Deactivation of pasteurization checks, the message “Check Mix” is displayed if:
 - TEV >15 °C (59°F) after 1 hour in Stop mode and with mix above min level
 - after a blackout time/temperature checks have a negative result

Set = 1 to activate Soft mode. This mode provides for:

if U09 is different from “no”,

1. Activation of day countdown to required washing
2. Deactivation of Specialty function
3. Activation of pasteurization checks

if U09 = “no”,

1. Deactivation of day countdown to required washing
2. Deactivation of Specialty function
3. Machine cleaning is forced if:
 - TEV>15 °C (59°F) after 1 hour in Stop mode and with mix above minimum level
 - after a blackout time/temperature checks have a negative result



NOTE



When this value is changed from Artisan-made or Soft mode with U09 = no to Soft mode with U09 different from no, the machine forces cleaning if more than one day has passed since the last spigot door opening.

U12 Hopp.Extra Beat.: If set, it enables hopper rotor periodical activation in Production and Storage functions.

U13 MousseBav.Hopper: Hopper storage temperature in production mode during Mousse and Bavarese cycles.

To quit the programming mode, do not disturb any key for 30 seconds, or just press **Cleaning** button.

The machine will now return to **Stop**.

4. SAFETY DEVICES

4.1 Alarms

The machine signals possible alarms by showing them on the display and flashing the message.

If an alarm was triggered and then reset, the alarm remains visible on the display in a steady way (not flashing).

To reset the warning message, press **Decrease**.

The machine can be used in Production even if there is an alarm, except in the case of critical alarms. In this case, the machine does not allow production; press STOP and do not use the machine until it is repaired.

The table below shows a list of possible alarms:

ALARM	DESCRIPTION
Add Mix	The display indicates Add Mix when the mix is below the MEDIUM level. An intermittent beep will also be emitted (only if the Lev. Beep Enable step in the User program is set to Yes and the machine is not in Stop mode).
Mix Out	The display indicates Mix Out when the mix is below the LOW level. When the mix is below the minimum level and upon Production a number of cones same as/or higher than the value set in step Last Cones are dispensed, not only will Mix Out be displayed, but the machine will also set to Storage.
Cyl.Saf.Therm. (TESC)	Cylinder safety thermostat triggered. Machine sets to Stop mode.
Safety Therm.Hop. (TESV)	Hopper safety thermostat triggered. Machine sets to Stop mode.
Beater thermal breaker (PTMA)	Beater motor (bimetal) thermal protector triggered. Machine sets to Stop mode.
Pressure switch (PR)	Pressure switch triggered. The machine Stops: - if it is triggered for the third time within 1 hour - if the pressure switch contact remains open for two consecutive minutes If the machine was in Pasteurization, the Pasteurization must be repeated. Check the flow of the cooling water.
Compres.thermal breaker (PTMC)	Overload Compressor Motor. Machine sets to Stop mode.
Hopper Probe Alarm (TEV)	Hopper sensor faulty. Since the alarm is critical the machine Stops during Production, Storage, and Pasteurization.
Al. Cylin Probe (TEC)	Cylinder sensor faulty. This is a critical alarm: consequently, the machine sets at Stop, from the Storage and Pasteurization modes; it stays in the same function when in production mode, because consistency is controlled.
Al. IceHop.Probe (TGV)	Hopper evaporator probe fault. This alarm does not cause the machine to stop (it keeps on running in the current function). Pasteurization Heating step is eliminated.
Spigot door open (IMS)	Magnetic Safety Switch.

ALARM	DESCRIPTION
All. Evap. Probe (TE1)	Cylinder evaporator probe alarm. This alarm does not cause the machine to stop (it keeps on running in the current function). Pasteurization Heating step is eliminated.
Power on Power ON	Power supply resumed after power supply failure. Blackout table is checked if the machine was in Pasteurization or Production mode. The event is logged in any function, except for STOP
Blackout Power OFF	Blackout. Blackout table is checked if the machine was in Pasteurization or Production mode. The event is logged in any function, except for STOP.
Ice Cylinder (ICE)	This alarm is the cylinder anti-icer read by the TE1 probe. This alarm may be due to insufficient mix feeding into the cylinder. Check the efficiency of the pump. If the alarm appears when the machine is in Stop mode, check/replace the TE1 sensor since the Full Scale of the “readable” temperature is read by the CPU.
Timeout Prd	During Production the amount of time for which the beater motor runs is closely monitored. If the beater motor stays ON for 6 minutes (Timeout Prd.) and Hot is not reached, the machine switches to "HOT reached" mode and a "Timeout Prd." alarm is saved in the events log. After triggering for 5 times, the alarm does not disappear from the display and the machine sets to Storage mode. Check the quantity of mix in the cylinder, the hopper pump and the refrigeration apparatus.
Al. Therm. Exchange (DELTA TGV-TEV)	In Pasteurization Heating mode, if the TGV temperature becomes > than the TEV value programmed in step DELTA TGV-TEV, "Al. Heat. Exchange" is displayed and the machine stays in Heating condition. Check the drive belt or verify that the agitator is properly positioned. The alarm resets on its own. Warning: this alarm is not active if one of the two TEV or TGV probes is inhibited.
W -n dd (Wash)	In Production mode, "TEV +19°C (66°F) W -n" is displayed, meaning that there are still "n" days remaining until machine cleaning. A forced washing may be required if the machine is left in Stop mode for 24 hours with mix above the minimum level. See WEEKLY CLEANING.
Do not serve!	In Production mode, each time the consistency drops below the value programmed in step Hot Block, the message "Do Not Serve!" is displayed. If, in such a case, you try to dispense cones, all units stop (MA and MC) until the photocell is no longer busy. As soon as it is released, both MA and MC re-start in order to bring ice cream to its proper consistency.
Invert phases	It is necessary to invert the two phases on the three-phase cable so that the beater turns in the correct direction. The alarm is reset by pressing the Reset key (after having inverted the two phases). This condition is tested for only the first minute after the machine is turned on.
Pasteurize!	When the machine is set to Stop with mix low level covered for more than 60', TEV temperature is checked. If it is equal to or higher than 15 °C (59°F) a Pasteurization cycle is required (if machine is in Soft configuration with U09 different from no). When Production is pressed, the machine will automatically start Pasteurization unless the spigot has been opened and closed. In this case, the test $TEV \geq 15^{\circ} C (59^{\circ} F)$ is inhibited for 60 minutes and Production is accepted. In all cases, if $TEV < 15^{\circ} C (59^{\circ} F)$ then all functions are allowed, without time limits.
Why in STOP?	If the machine is left in the Stop position with mix above the minimum level, after 30 seconds the flashing message "Why in STOP?" will be displayed and an intermittent beep will be emitted. This alerts the operator to select either Production, Pasteurization, or Storage mode. The above mentioned message will be deleted by entering in Production, having low mix level, or pressing Reset (Stor.) key. To have the message back on the display, enter again in Production, Storage or Pasteurization.

ALARM	DESCRIPTION
Art.Mod.disab	The Specialty cycles are enabled only with machine set to Artisan-made (U11). If machine is set to Soft (U11) and the Specialty button is pressed, the display reads "Art.Mod.disab" to indicate that cycles are not active.

4.1.1 Blackout

In case of power supply failure, the machine will set to STOP if it was in Cleaning.

If the machine is in Pasteurization Heating phase or Pause during Pasteurization, when power is supplied again, the machine will continue with the function it was performing when the blackout occurred (the display will show the message Power On).

If the machine (set to Soft U11=1 with Pasteurization time other than "no") is in:

Production, Storage or Cooling in Pasteurization,

when the power is supplied again, the machine will check the TEV temperature and the blackout duration. If the time is greater than the one indicated in the table, the machine will completely repeat the pasteurization cycle, memorizing the "Power Restore" or "Power On" alarm in the "event log".

Instead, if the time is less than that indicated in the table below, the machine will return to the function that was in progress at the time of the blackout.

TEV TEMPERATURE	TIME
68 °C (154°F) ÷ 50 °C (122°F)	30 minutes
49°C (120°F) ÷ 15°C (59°F)	10 minutes
14°C (57°F) ÷ 10°C (50°F)	20 minutes
9°C (48°F) ÷ 4°C (39°F)	2 Hour Clock

If the machine is set to Soft U11=1 with Pasteurization time = "no", when the power is supplied again, the machine production will stop with message "Wash Today" displayed.

If the machine is set to Artisan-made U11 = 0, when power is supplied again, the machine will switch on in the function it was performing when the blackout occurred (the display will show the message Power On).



WARNING



User takes full responsibility for checking whether product in the machine is still suitable for consumption.

5. REMOVING, CLEANING AND REFITTING OF PARTS IN CONTACT WITH THE PRODUCT

5.1 General information



Cleaning and sanitization must be carried out at the end of every production as a habit and with utmost care in order to guarantee the production quality in the observance of necessary healthy rules.

If dirt is left enough time to dry out, this increases the risk of stains, marks and damage to surfaces.

Removing dirt is much easier if it is done immediately after use because some elements containing acid and saline substances might corrode the surfaces. A prolonged soaking is not recommended.

5.2 Washing conditions

Avoid using solvents, alcohol or detergents that could damage machine parts or pollute the functional production parts.

Never use powder or abrasive cleaning products, scourers or pointed tools when cleaning by hand; there is a risk of leaving the surfaces opaque or of removing or weakening the protective film on the surface, scratching it.

Never use metal or synthetic scouring pads under any circumstances to prevent any abrasion or removal of ferrous parts leading to problems of surface oxidation or weakening.

Avoid using detergents containing chlorine and its compounds. The use of detergents such as bleach, ammonia, hydrochloric acid and limescale removers can attack the steel composition, marking and oxidizing it irreparably and causing damage to the parts made of "plastic" materials.

Do not use dishwashers and the relevant detergent products.

The use of a cleaning/sanitizing solution optimizes the washing and sanitizing procedures in that it eliminates two phases of the procedure (a rinse and a washing phase). Basically, the use of a cleaning/sanitizing solution saves time by facilitating and simplifying washing/ sanitizing procedures.

5.3 Tips

Use a non-aggressive cleaning solution to wash the parts.

(Manually) wash the parts in water (max 140°F) using a non-aggressive detergent and the cleaning brushes supplied as standard.

Use drinking water (bacteriologically pure) to rinse the parts.

To sanitize, leave the disassembled parts in sanitized lukewarm water for the time specified by the sanitizer manufacturer (**use the sanitizing product following the manufacturer indications**) and rinse them before reassembling.

When the washing procedure has been completed and before reassembly, dry each component thoroughly with a clean and soft cloth that is suitable for coming into contact with foodstuffs, to avoid leaving any humidity rich in mineral salts and chlorine that could attack the metal surfaces and leave opaque traces.

Carpigiani recommends the use of a cleaning/sanitizing solution to wash the machine. The use of a cleaning/sanitizing solution optimizes the washing and sanitizing procedures in that it eliminates two phases of the procedure (a rinse and a washing phase). Basically, the use of a cleaning/sanitizing solution saves time by facilitating and simplifying washing/ sanitizing procedures.

During the cleaning procedures, we recommend using the supplied brushes that must be cleaned and sanitized both before and after their use.



WARNING



Every time the machine is washed and the parts that come into contact with the ice cream mix are disassembled, it is essential to carry out a visual inspection of all the parts made in thermosetting, plastic, elastomer-based and silicon-based materials and metal (such as scraper blades, pump gears, beaters, etc.).

All parts must be integral and not worn, without cracks or splits, or opaque if originally polished/ transparent. Carpigiani declines all responsibility for any damage caused by imperfections and/or undetected breakages and not promptly solved by the replacement with original spare parts. The manufacturer is available for consultation and for any specific requests made by the customer.

5.4 How to use cleaning/sanitizing solution



To prepare the cleaning/sanitizing solution follow the instructions on the label of the product being used.

Component cleaning/sanitizing by soaking

- Remove larger residues by hand or using the supplied brushes.
- Remove finer residues with a jet of water.
- Immerse the parts to be cleaned into the solution.
- Let the solution to work for the time indicated by the sanitizer manufacturer.
- Rinse the parts with care, using plenty of clean drinking water.

5.5 Daily cleaning

Cleaning and sanitation must be carried out every day when opening and closing the premises, with utmost care in order to guarantee the production quality in the full compliance with the healthy rules specified in sect. 3.11.

5.6 Scheduled cleaning

The machine is provided with an automatic system which calls for washing of the parts in contact with the product when the set time is out.

This system, called "WASH", inhibits the distribution function at the end of the set time.



WARNING



Cleaning and sanitization must be carried out at the programmed date indicated on the display, as a habit and with utmost care, in order to guarantee quality of production in the observance of healthy rules.

If user uses the machine:

- In Artisan-made mode (U11 step set to 0)
- In Soft mode but with pasteurization off (U09 step set to NO)

machine washing and pasteurization functions are disabled.



WARNING



User takes full responsibility for the manual control of machine washing and pasteurization, complying with prevailing local regulations on mix handling in case mixes are not pasteurized.

5.6.1 Machine drainage



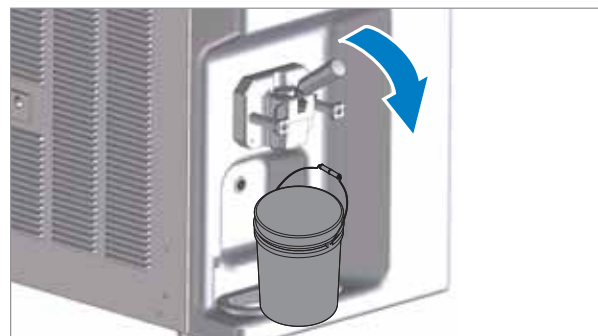
NOTE



If there is some ice cream inside the cylinder, it is recommended to use the "Heated cleaning" function to help full draining of the mix. From Stop, press Cleaning button until display reads "Beat.+Heat."

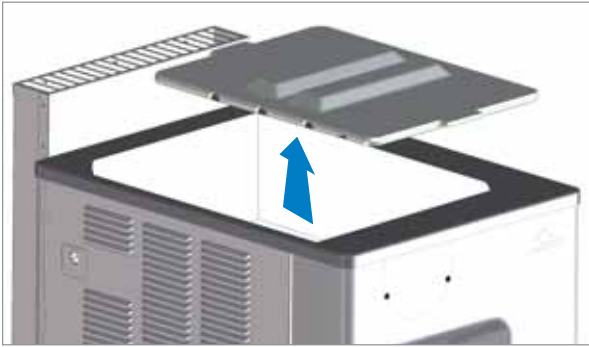
- Place an empty pail under the dispensing spigot.
- Press the STOP button.
- Lower dispensing handle to depressurize the cylinder

Fig. 23



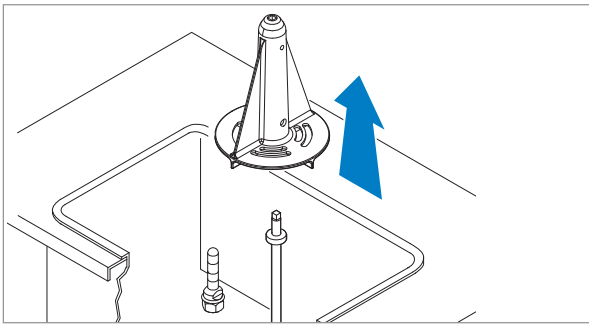
- Remove hopper cover.

Fig. 24



- Disconnect the pressure pipe (32) from the pump.
- Remove pressure pipe (32) by sliding it out from its seat inside hopper. Continue draining the remaining mix by keeping the dispensing handle open.
- After draining all mix from cylinder, press CLEANING button to start beating only for a few seconds and help complete emptying of the cylinder.
- Close ice-cream dispensing handle.
- Remove the hopper beater

Fig. 25



- Remove the pump by turning it 45° counterclockwise and slide it forwards.
- Remove pump shaft (96) and seal (243), sliding them out from machine front side.
- Pour clean warm water inside the hopper.



WARNING

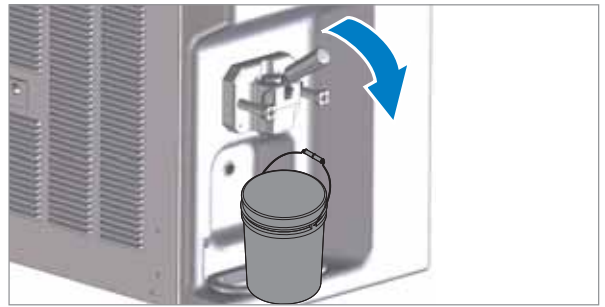


Never exceed the maximum level indicated on the hopper walls.

- Use the supplied brushes to clean the hopper walls, the level sensor, the beater shaft and gap and the hopper. Using a smaller brush, clean the compression pipe seat at the hopper bottom. Drain the water from the hopper by working on the ice cream dispensing handle and repeat this operation several times until having clean water.

- Place an empty pail under spigot door, lower dispensing handle and let water flow out.

Fig. 26



- Rinse with hot water until clean water flows out.
- Press CLEANING and let the machine run about 10 seconds.
- Press STOP and drain all water out of machine.
- Disassemble all parts.



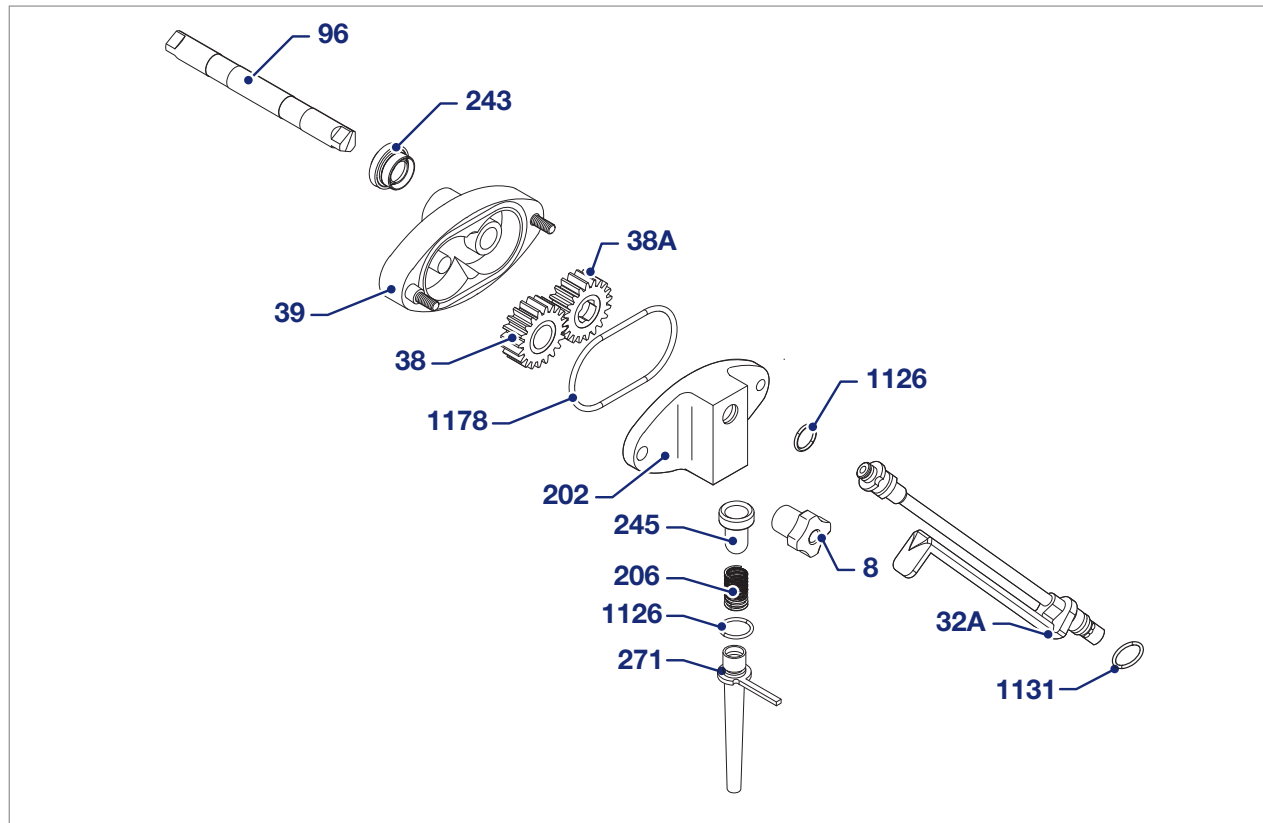
WARNING



Do not let the beater operate for more than needed to complete the cleaning and sanitizing process. Without the lubrication of the fat contained in the mix, the beater scrapers get worn early.

5.6.2 Pump removal

Fig. 27



8	Pump knob	206	Spring
32A	Compression pipe	243	Pump body seal
38	Driven gear	245	Pump valve
38A	Driving gear	271	Priming pipe
39	Pump body	1126	O-ring
96	Pump shaft	1131	O-ring
202	Pump cover	1178	O-ring

- Keep the priming pipe (271) in vertical position, rotate it until aligning the notch with the pin on the pump.
- Use an O-ring puller to remove O-ring (1131) from the priming pipe (271).
- Remove spring (206) and the pump valve (245).

- Loosen the two knobs (8) and separate the pump cover (202) from the pump body (39).
- Use an O-ring puller to remove the O-ring (1178).
- Remove the gears (38-38a).

Fig. 28

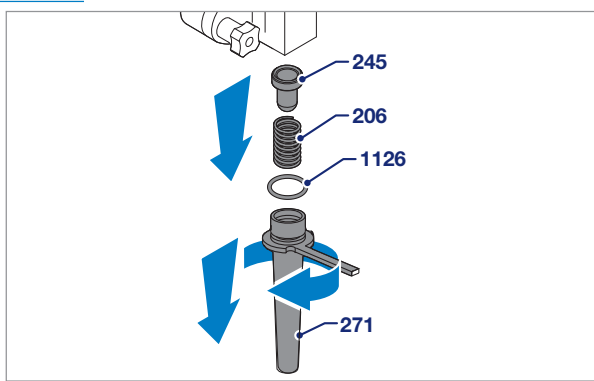
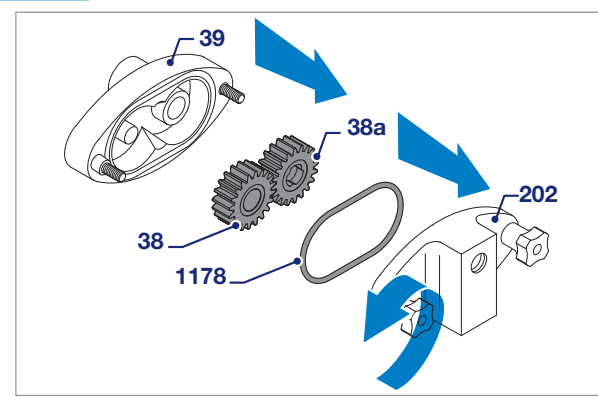
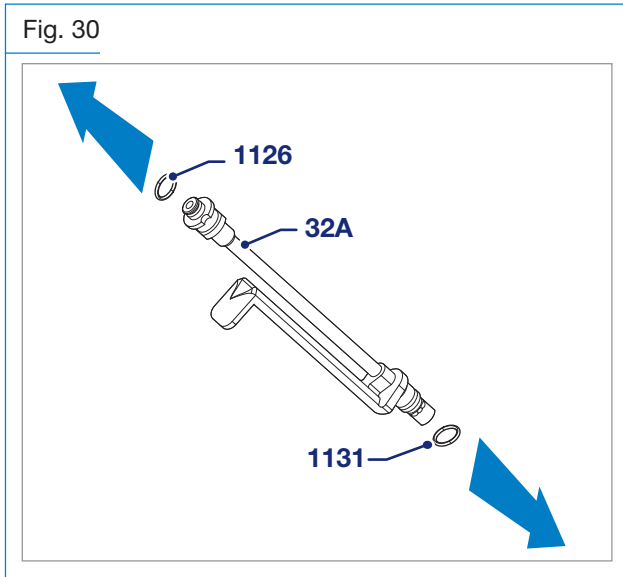


Fig. 29



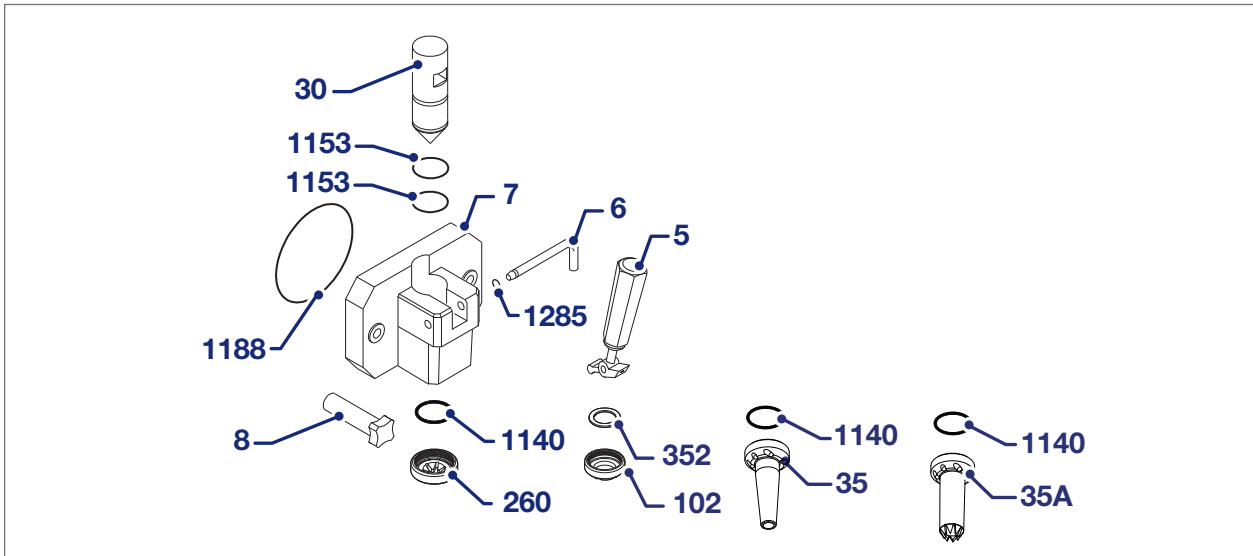
- Remove the O-rings (1126 and 1131) from the pressure pipe (32A).

Fig. 30

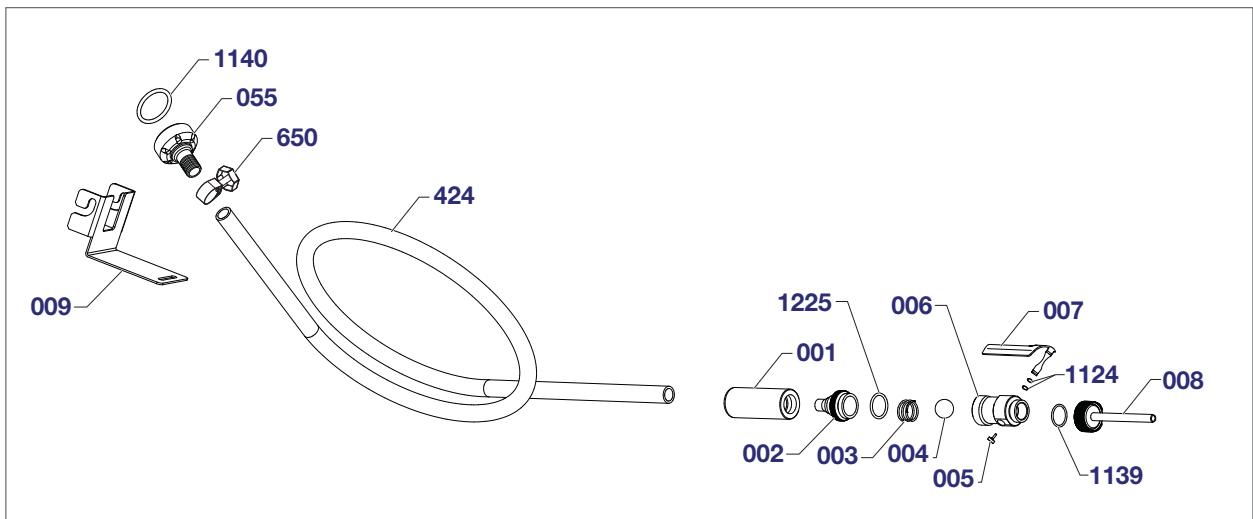


5.6.3 Spigot door removal

Fig. 31



- | | | | |
|------------|-------------------------------------|-------------|-------------------------------------|
| 5 | Ice cream dispensing handle | 102 | Ring nut for decorating bag nozzles |
| 6 | Pin | 260 | Nozzle unit |
| 7 | Spigot door | 352 | Seal |
| 8 | Knob | 1140 | O-ring |
| 30 | Piston | 1153 | O-ring |
| 35 | Single portion terminal | 1188 | O-ring |
| 35A | Star-shaped single portion terminal | 1285 | O-ring |



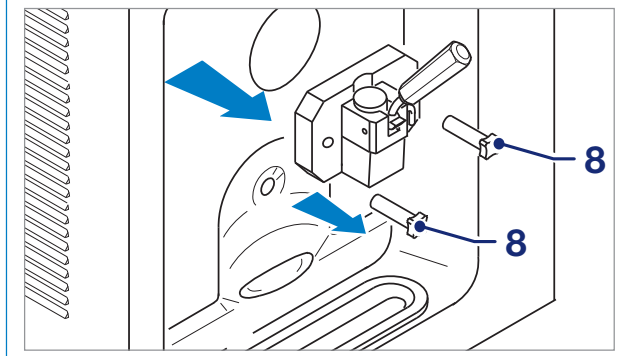
- | | | | |
|----------|-------------------------|-------------|---------------------|
| 1 | Tube ring nut on nozzle | 9 | Dispenser support |
| 2 | Tube to nozzle fitting | 55 | Rubber hose fitting |
| 3 | Spring for self-closing | 424 | Rubber hose |
| 4 | Ball | 650 | Clamp |
| 5 | Handle screw | 1124 | O-ring |
| 6 | Nozzle body | 1139 | O-ring |
| 7 | Nozzle handle | 1140 | O-ring |
| 8 | Nozzle tube | 1225 | O-ring |

WARNING

Before removing the dispensing spigot door, make sure that the hopper and the cylinder are empty and that the machine is in STOP mode.

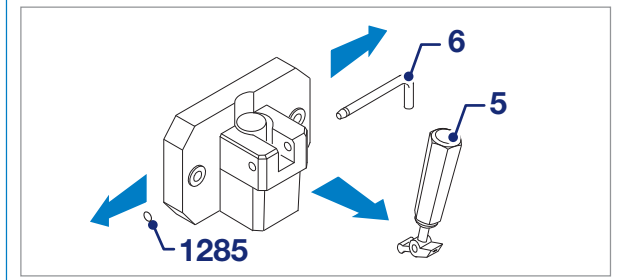
- Loosen the two knobs (8) and remove dispensing spigot door.

Fig. 32



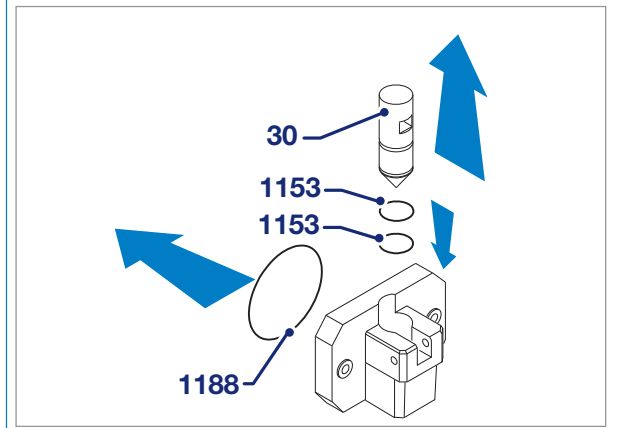
- Use an O-ring puller to remove O-ring (1285) from the pin (6).
- Remove pin (6) from its seat to release handle (5).

Fig. 33



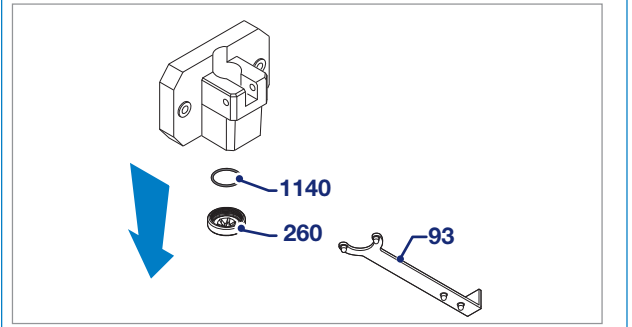
- Remove piston (30), if necessary use the dispensing handle.
- Use an O-ring puller to remove:
 - O-rings (1153) of the piston.
 - The O-ring of the spigot door (1188).

Fig. 34



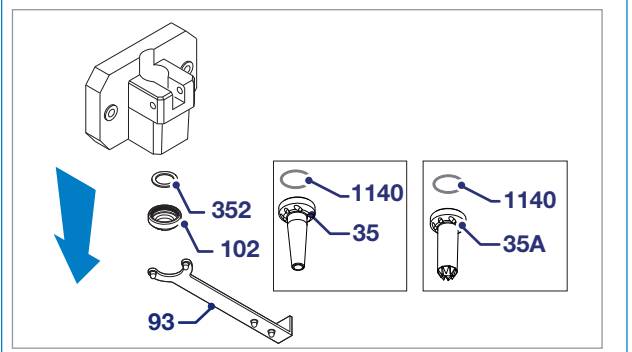
- Using the suitable supplied tool (93), remove nozzle unit (260) and O-ring (1140).

Fig. 35



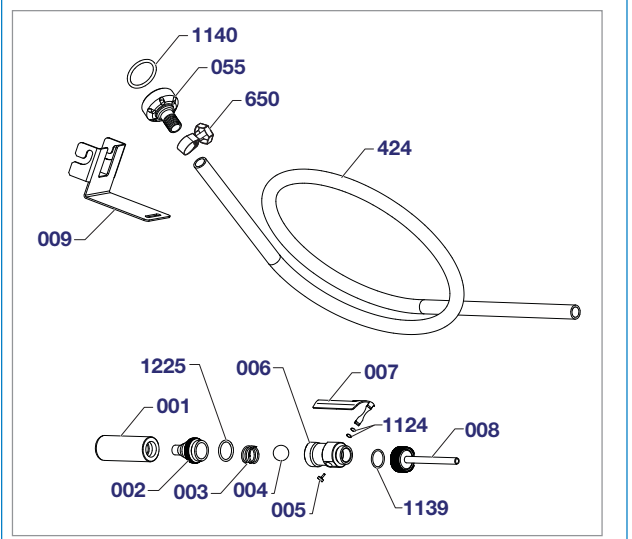
- For "single portion" versions, use the suitable supplied tool (93) to refit ring nut (102), seal (352) and extension (35).

Fig. 36



- Remove all parts of the tube and metering nozzle (see figure below).

Fig. 37



- Loosen clamp (650) and remove tube (424) from rubber hose fitting (55) still installed to spigot door.
- Loosen tube ring nut from nozzle (1) and slide out tube.
- Loosen nozzle tube fitting (2), nozzle body (6) and nozzle tube (6). Remove seals (1225, 1139) using the suitable supplied extractor.

- Partially remove the handle screw (5), leaving it in its seat.
- Slightly pressing onto screw, remove nozzle handle (7) from nozzle body (6) and remove the two O-rings (1124).
- Using the supplied wrench, remove rubber hose fitting (5) from spigot door.



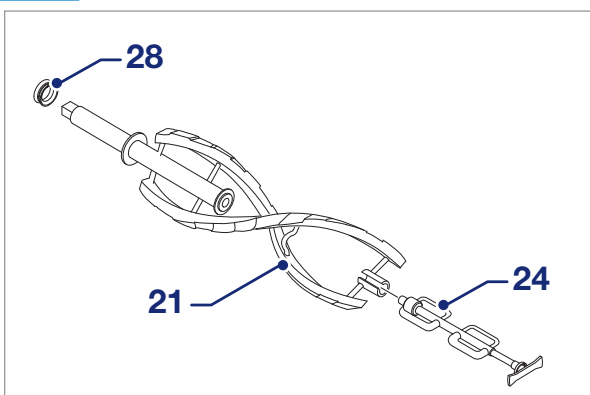
WARNING



Wash tube using the long brush supplied and paying attention not to damage the tube.

5.6.4 Beater removal

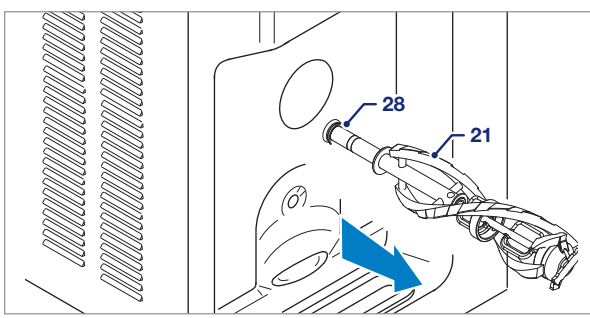
Fig. 38



- 21 Beater
- 24 Idler
- 28 Seal

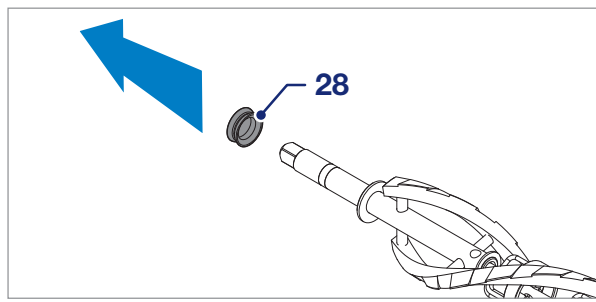
- Remove beater (21) from the cylinder, having care not to hit the cylinder walls.

Fig. 39



- Slide seal (28) along beater axis and remove it.

Fig. 40



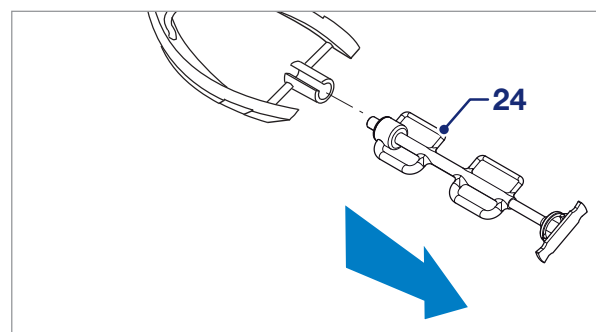
WARNING



The seal is very important to prevent cylinder leakages. The wear status must be checked at regular intervals according to the maintenance plan (see paragraph 6.1) and must always be lubricated correctly during the cleaning operations.

- Slide idler (24) out of the shaft.

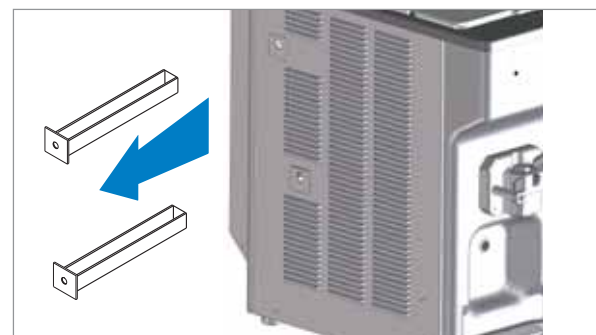
Fig. 41



5.6.5 Removing the drip drawers and tray

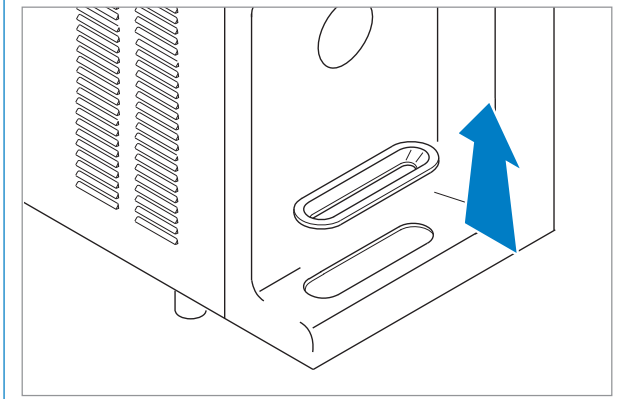
- Remove drip drawers from their seats on machine side.

Fig. 42



- Remove the drip tray and the relevant cover.

Fig. 43



5.6.6 Washing and sanitizing the components

WARNING

For the use of cleaning/sanitizing solutions, instructions on product label are to be followed.

WARNING

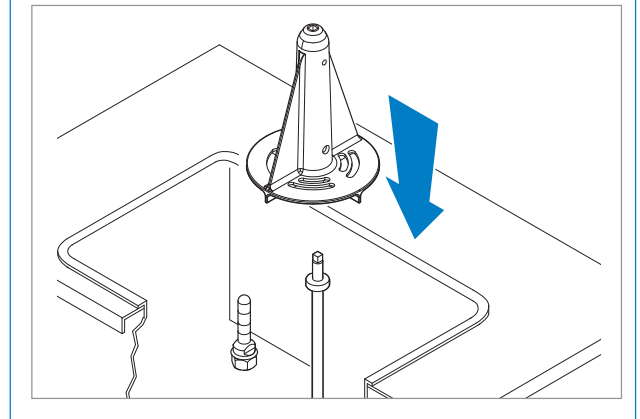
To perform the following operations it is necessary to have clean and sanitized hands or wear disposable gloves.

- Fill the sink with cleaning/sanitizing solution prepared following the producer instructions.
- Use the supplied brushes to strongly brush all components and relevant holes (all holes of pump, priming pipe, check valves, pump seal and gap etc.).
- Dip the parts in the cleaning/sanitizing solution and leave them there for the time specified by the manufacturer.
- Rinse the parts with care, using plenty of clean drinking water.
- Place the components on a clean and sanitized tray to air-dry.
- Soak the big brush in the cleaning/sanitizing solution and clean the cylinder.
- Dip a brush in the cleaning/sanitizing solution and clean the seat hole of pump, feeding needle, the compression pipe at the hopper bottom and the hopper walls.
- Spray cylinder bottom and hopper walls with the cleaning/sanitizing solution.
- Repeat the last three operations a few times.

5.6.7 Refitting the beater hopper

- Reposition the beater (pos. 162) in its seat ensuring it is properly in place.

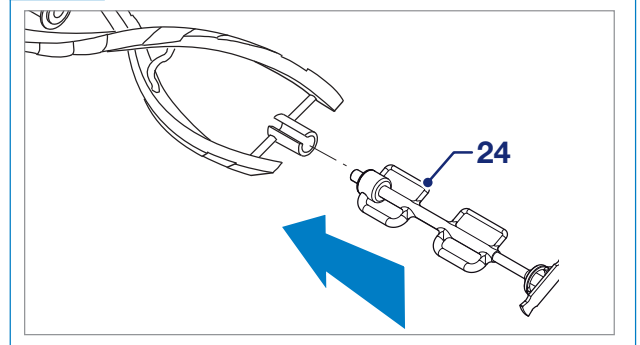
Fig. 44



5.6.8 Reassembling the beater

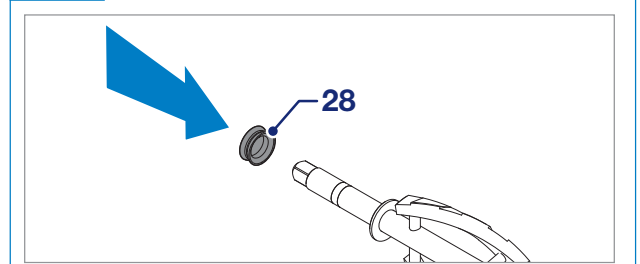
- Insert the idler (24) inside the beater.

Fig. 45



- Lubricate the internal side of seal (28) and its seat on the beater shaft. Install the seal on the shaft.

Fig. 46

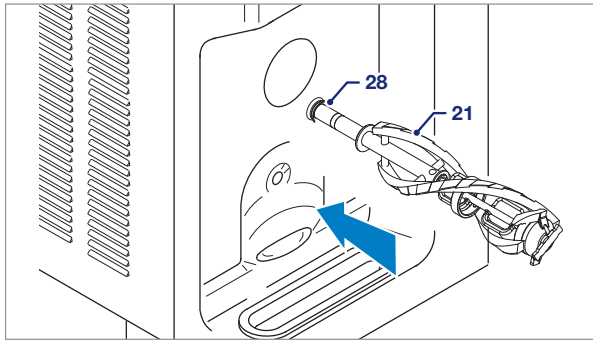


NOTE

Check the seal status. Replace it if it is worn or damaged.
Replace it according to the maintenance schedule.

- Insert beater and cylinder, rotate and push until they engage in the rear hub.

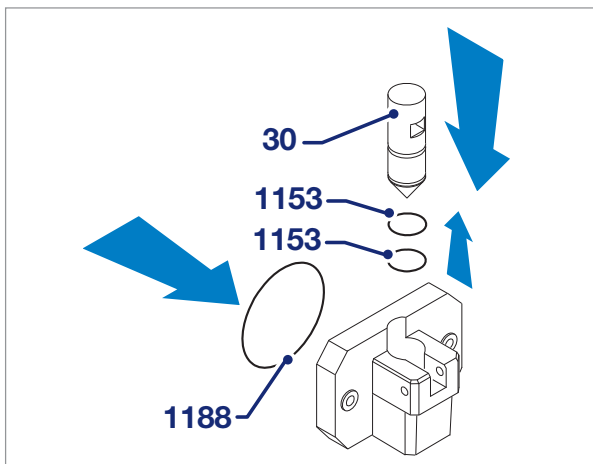
Fig. 47



5.6.9 Reassembling the spigot door

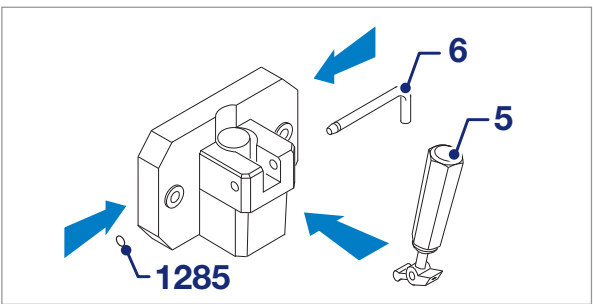
- Lubricate and fit piston O-rings (1153) .
- Lubricate piston (30) and insert it inside its seat on spigot door, making sure that piston square notch matches with spigot door front rectangular opening.
- Lubricate and fit O-ring (1188) onto spigot door.

Fig. 48



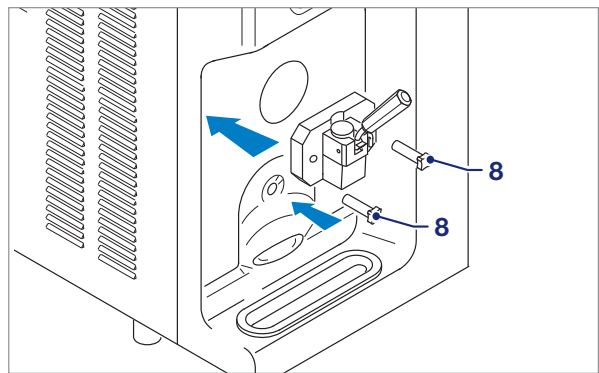
- Insert handle (5) and pin (6) in their seats.
- Fit O-ring (1285) on pin (6).

Fig. 49



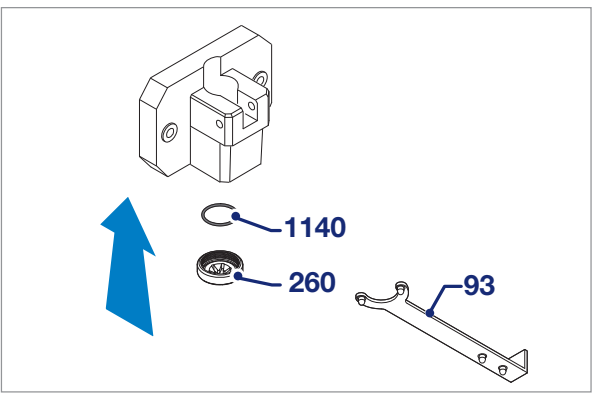
- Fit the spigot door on the machine and tighten it well with knobs (8a).

Fig. 50



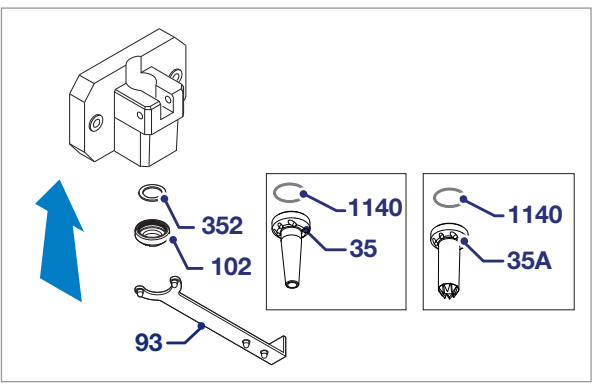
- Using the suitable supplied tool (93), refit nozzle unit (260) and O-ring (1140).

Fig. 51



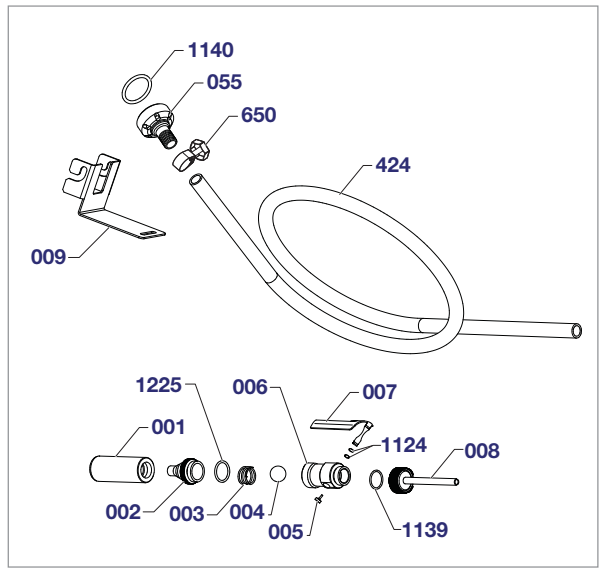
- For "single portion" versions, use the suitable supplied tool (93) to refit seal (352), ring nut (102) and extension (35).

Fig. 52



- Reassemble all parts to rebuild the tube and metering nozzle, in the reverse sequence to removal.

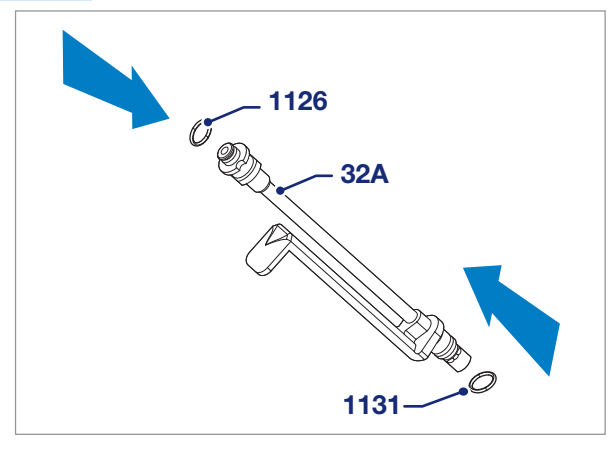
Fig. 53



5.6.10 Reassembling the pump

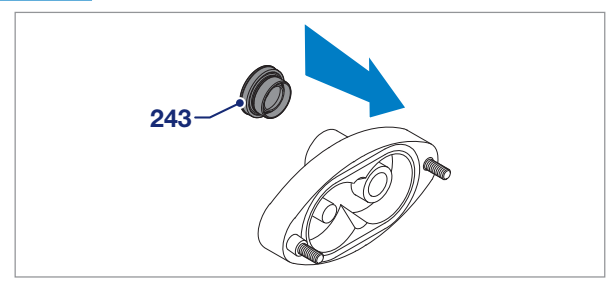
- Lubricate and fit O-rings (1126) and (1131) on compression pipe (32A).

Fig. 54



- Leave the sanitized compression pipe on a clean tray. It will be sanitized and fitted during the "Mix preparation procedure".
- Lubricate and fit seal (243) on the pump body.

Fig. 55

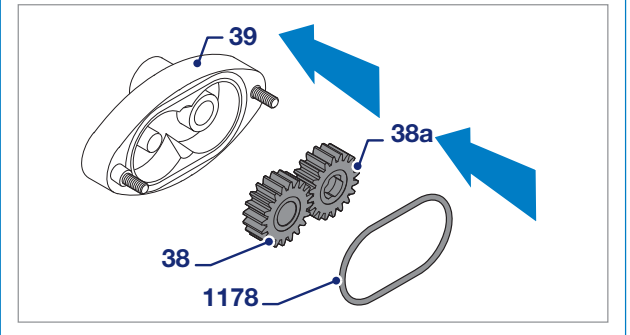


- Lubricate and fit O-ring (1178) in the pump body.
- Lubricate the pump gear surface (38-38A) and their seat on the pump body. Fit the gears.

WARNING

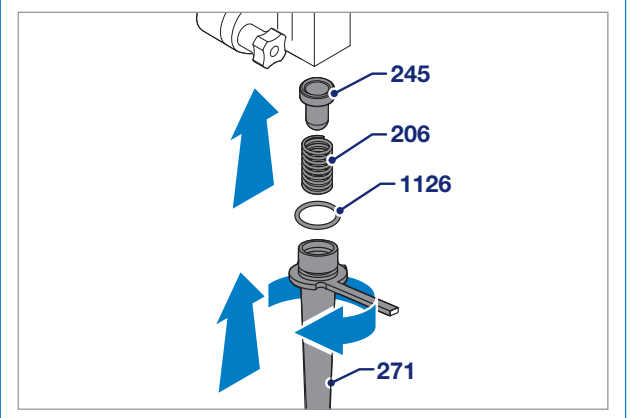
Do not lubricate the gear teeth and perform wear checks as specified in par. 6.1.

Fig. 56



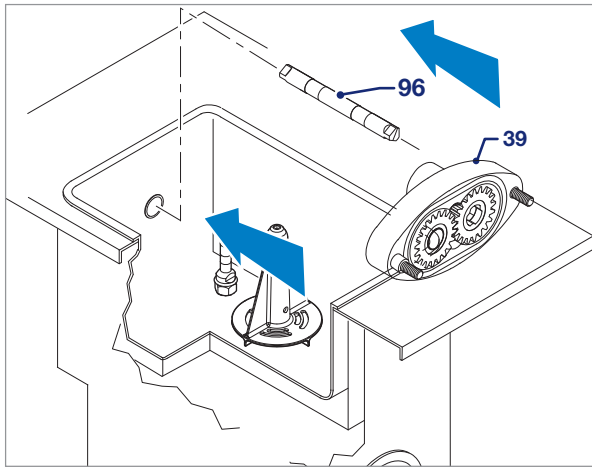
- Lubricate and fit O-ring (1126) on priming pipe (271).
- Fit pump valve (245) and spring (206).
- Keep the pump cover (202) in your hand and insert the priming pipe (271): press and rotate it counterclockwise.

Fig. 57



- Make sure that machine is in Stop mode, and lubricate pump shaft (96). Fit shaft inside mix hopper rear hole, push it and slightly turn it so that it engages with driving hub. Hold pump body with locking pin hook on the right side and keep pump gears in their positions with your thumbs, then push and turn pump clockwise to align shaft with gears. Then turn pump counter-clockwise so as to lock it onto pin.

Fig. 58

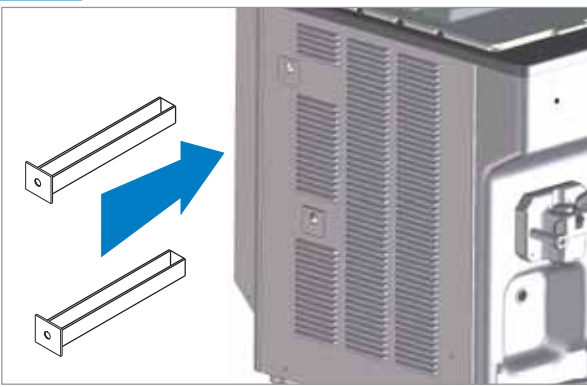


- Assemble the pump cover (202) with the priming pipe at the bottom of the pump body and tighten well with two knobs (8).

5.6.11 Drip drawer, drip tray and hopper cover reassembly

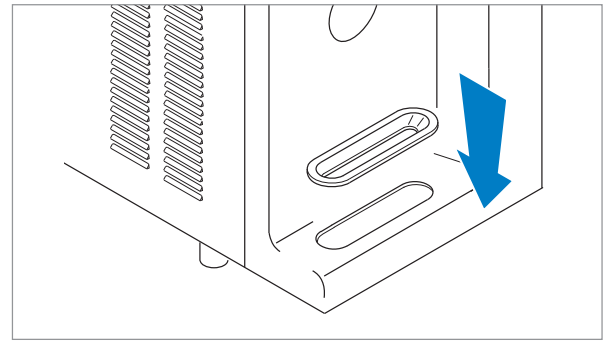
- Install drip drawers into their seats on machine side.

Fig. 59



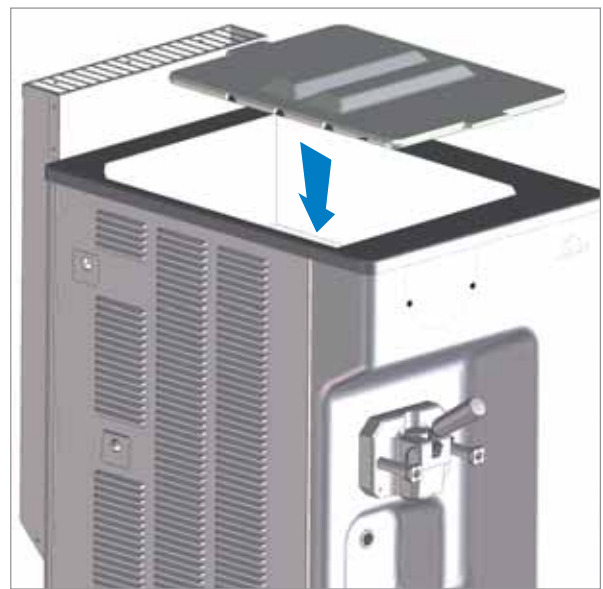
- Refit drip tray and cover.

Fig. 60



- Refit hopper cover.

Fig. 61



5.6.12 Machine complete sanitization

Sanitize the machine before pouring the mix in the hopper.

- With the machine in Stop mode, pour the cleaning/sanitizing solution in the hopper until reaching the maximum level and leave it flow also into the cylinder.
- Use a brush to clean the mix level probe, the mix hopper surface, the mix pump surface or the feeding needle and the hopper beater external side.
- Press Cleaning and let the beater run about 5 seconds. Press Stop to stop the beating.
- Pour a bit of cleaning/sanitizing solution in a bucket.
- Dip the supplied brush in the cleaning/sanitizing solution and clean the spigot door delivery point. Repeat the operation twice.

- Wipe the exterior of machine with a clean sanitized cloth. Repeat the operation twice.
- Leave the cleaning/sanitizing solution in the hopper for the time indicated by the producer.

Let the cleaning/sanitizing solution drain.

- Place an empty pail under the spigot door and pull the ice cream dispensing handle.

Fig. 62



- Drain all cleaning/sanitizing solution, then press Clean to let also the last solution residues flow out of the machine. Do not leave beater enabled for more than 5 seconds, then press Stop.
- Fill hopper with drinkable water to thoroughly rinse it, then repeat the above-described drainage operation.



WARNING



Do not let the beater operate for more than needed to complete the cleaning and sanitizing process. Without the lubrication of the fat contained in the mix, the beater scrapers get worn early.

- To fill the hopper and start the production cycle, refer to paragraph 3.6 of this manual.

6. MAINTENANCE



WARNING



Never perform operations on the machine using your hands, both during production and cleaning. Before carrying out any maintenance operation, make sure that the machine is in "STOP" position and main switch has been cut out.

6.1 Service type



WARNING



Any maintenance operation requiring opening of machine panels must be carried out with machine at standstill and disconnected from the power supply. It is forbidden to clean and lubricate moving parts! "Repairs to the wiring, mechanical, air supply or cooling systems, or to parts of same must be carried out by qualified and authorized personnel and if necessary, according to the routine and extraordinary maintenance schedules as envisaged by the customer with reference to specific operation methods, according to the use for which the machine is destined".



Operations necessary for correct machine operation are such that most of routine maintenance operations are integrated into the production cycle.

Maintenance operations, such as cleaning of parts in contact with the product are usually to be carried out at the dates shown on the machine display, so as to speed up maintenance operations required.

Below is a list of ordinary maintenance operations:

- Seal cleaning and replacement
Seal must be cleaned at the date shown on the machine display and replaced after a visual inspection and when product is found to be leaking inside drip drawer.
- Beater unit cleaning
To be performed at the set date shown on the display.
- Spigot assembly cleaning
To be performed at the set date shown on the display.
- Pump unit cleaning
To be performed at the set date shown on the display.

How to check the gear conditions:

This check must be performed during the machine periodic cleaning.

Detach the compression pipe after having released the cylinder pressure. If the pump parts are fitted correctly and the gears are in good condition, the pump features a good mix delivery; if the pump parts are fitted correctly but the gears are worn out, the mix delivery will be slow.

How to avoid gear wearing:

- Do not let the pump run idle (i.e. without mix inside of the hopper) or just with water for more than a few seconds: the mix fats act as lubricant for the gears (e.g. with car's oil). Without mix, the gears will wear down earlier.
- No foreign body must reach the internal side of the pump. Even a small plastic part, tomatoes peel or a straw yearn that has accidentally reached the hopper may block the supply and damage the gears.
- During the cleaning operations, handle the gears with the utmost care. Should they fall down, this may compromise their operation.
- Sheet, drip drawer and tray shelf cleaning.

To be carried out daily with neutral soap, seeing to it that cleansing solution never reaches beater unit at its inside.

- Cleaning and sanitization.

To be carried out at the set date shown on the machine display, according to procedures described in section 5 of this manual.



WARNING



Never use abrasive sponges to clean machine and its parts, as you might scratch their surfaces.

6.2 Water cooling



On machines with water-cooled condenser, water must be drained from condenser at the end of selling season in order to avoid troubles in the event that the machine is stored in rooms where temperature may fall under 0°C (32°F).

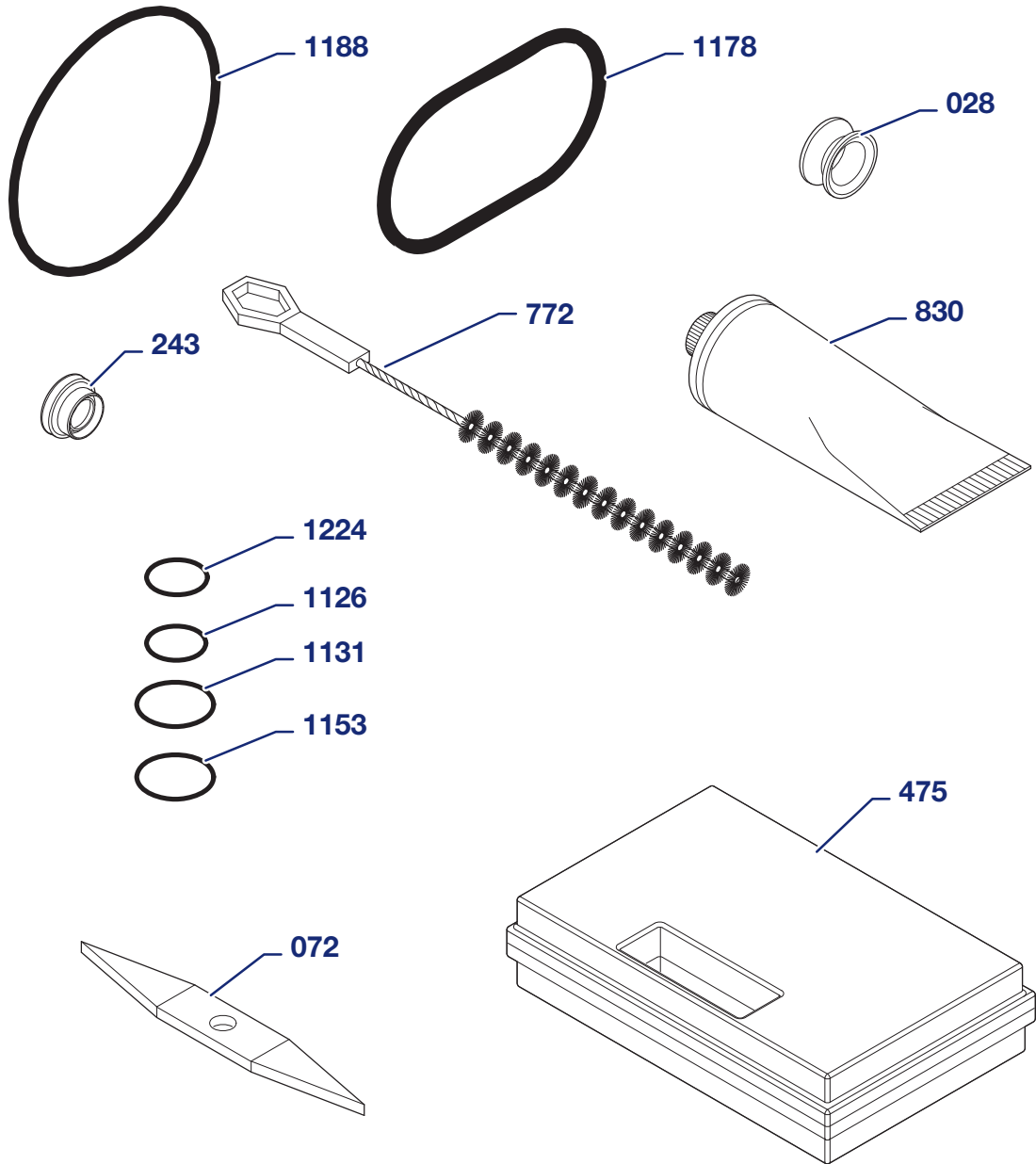
After closing water inlet pipe, disconnect the drain pipe from its seat and let the water flow out from the circuit.

6.3 Ordering spare parts

If one or several parts are worn or broken, refer to your dealer to order all necessary spare parts.

6.4 Supplied accessories

Fig. 63



Legend:

28 Beater seal
 72 Puller
 243 Pump body seal
 475 Supplied box
 772 Brushes
 830 Carpilube tube

1126 O-ring
 1131 O-ring
 1153 O-ring
 1178 O-ring
 1188 O-ring
 1224 O-ring

7. TROUBLESHOOTING

IRREGULARITY	CAUSE	PROCEDURE TO FOLLOW
Compressor starts and then stops after a few seconds.	<ul style="list-style-type: none"> In case of water-cooled machine: water does not circulate. 	<ul style="list-style-type: none"> Open water inlet cock and check that pipe is not squashed nor bent.
	<ul style="list-style-type: none"> In case of air-cooled machine: air does not circulate. 	<ul style="list-style-type: none"> Check that the machine is positioned in such a way to allow air to circulate from the bottom to the top (at least 50 cm (20 in) space above the stack).
		<ul style="list-style-type: none"> Check that the condenser is not clogged by dust or other elements and if necessary call a technician to have it cleaned.
		<ul style="list-style-type: none"> Call for service if necessary.
Mix or ice cream come out above or below piston even though the spigot door is closed.	<ul style="list-style-type: none"> Piston without O-ring or O-ring is worn-out. 	<ul style="list-style-type: none"> Stop the machine and insert or replace it with a new one if worn-out.
Mix coming out of drip tray.	<ul style="list-style-type: none"> Stuffing box missing or worn-out. 	<ul style="list-style-type: none"> Stop the machine and install it if missing. If worn-out, replace it with a new one.
The ice cream dispensing handle is hard to move.	<ul style="list-style-type: none"> Dry sugar on piston. 	<ul style="list-style-type: none"> Stop the machine and wash thoroughly and grease piston and O-rings with edible fat.
Ice cream comes out from spigot door.	<ul style="list-style-type: none"> O-ring missing or not properly fit. 	<ul style="list-style-type: none"> Stop the machine and check and put remedy.
	<ul style="list-style-type: none"> Front lid knobs not tightened evenly. 	<ul style="list-style-type: none"> Stop machine. loosen and tighten them again.
Low ice cream overrun.	<ul style="list-style-type: none"> Pump not properly adjusted. 	<ul style="list-style-type: none"> Change the position of the pump central knob.



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