

INSTRUCTION MANUAL

XVL 3 USA

APPLICARE
TARGA
CARATTERISTICHE



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🌐 carpigiani.com

We wish to thank you for purchasing one of Carpigiani's machines.

Since 1993, Carpigiani manufactures utilising the Quality Control Management System that is today certified according to UNI-EN-ISO 9001-2008.

Carpigiani's machines conform to the requirements of the following European Directives:

- "Machinery" Directive 2006/42/EC;
- "Low Voltage" Directive 2006/95/EC;
- "EMC" Directive 2004/108/EC;
- "PED" Directive 97/23/EC;
- Regulation 2004/1935/EC relating to "Materials and articles in contact with foodstuffs".

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GENERAL INDEX

FOREWORD	6
Instruction manual	6
Purpose	6
Manual structure	6
Additional documentation	6
Standard symbols.....	7
Qualification of the personnel.....	7
Safety	8
Warning	8
1. GENERAL INFORMATION	9
1.1 General information.....	9
1.1.1 Manufacturer's identification data.....	9
1.1.2 Maintenance information.....	9
1.1.3 Information for the user.....	10
1.2 Information about the machine.....	10
1.2.1 General information.....	10
1.2.2 Technical features	10
1.2.3 Location of machine groups.....	11
1.3 Intended use.....	11
1.4 Noise	11
1.5 Machine storage	12
1.6 Disposal of packing materials	12
1.7 WEEE (Waste Electrical and Electronic Equipment).....	12
1.8 Bacterial contamination detection.....	12
2. INSTALLATION.....	14
2.1 Space necessary to use the machine	14
2.2 Water supply connection	14
2.3 Machine with air-cooled condenser.....	14
2.4 Machines with water-cooled condenser	14
2.4.1 Water pressure valve adjustment	14
2.5 Electrical connection.....	15
2.5.1 Replacing the power cable.....	15

2.6	Location	15
2.7	Refilling	15
2.8	Machine testing.....	15
3.	INSTRUCTIONS FOR USE	16
3.1	Machine safety warnings	16
3.2	Machine configuration	16
3.3	Commands	17
3.3.1	Touchpad.....	17
3.4	Dispenser levers	30
3.4.1	Modifying the quantity of product dispensed	30
3.4.2	Self closing.....	30
3.5	Machines fed by pump and semi-submersible pump.....	30
3.6	Gravity-fed machines – feed needle.....	31
3.7	Preliminary operations, washing and sanitising	31
3.8	Commissioning the machine	31
3.8.1	Starting the machine that has a pump.....	31
3.8.2	Starting a gravity-fed machine.....	32
3.8.3	Dry filling (if present)	32
3.9	Production	33
3.10	Pasteurisation (for the “SP” machines)	34
3.11	Daily cleaning – Opening and closing procedures.....	34
3.11.1	Daily closing procedures	34
3.11.2	Daily opening procedure.....	36
4.	SAFETY DEVICES.....	38
4.1	Alarms	38
4.1.1	Blackout	40
5.	DISASSEMBLY, CLEANING AND REASSEMBLY OF THE PARTS IN CONTACT WITH THE PRODUCT	41
5.1	General information	41
5.2	Washing conditions	41
5.3	Suggestions.....	41
5.4	How to use cleaning/sanitising solution	41
5.5	Daily cleaning	42

5.6	Scheduled cleaning	42
5.6.1	Mix emptying.....	42
5.6.2	Pump-fed machines - Removing the pumps from the hoppers.....	42
5.6.3	Gravity-fed machines	43
5.6.4	Remove hopper beaters	43
5.6.5	Hopper cleaning	43
5.6.6	Machine with pump – pump removal.....	45
5.6.7	Gravity-fed machines – removal of the feed needle	47
5.6.8	Disassembly of the spigot door	48
5.6.9	Disassembly of beaters	50
5.6.10	Disassembly of the drip drawer, the drip tray and the hopper lid.....	51
5.6.11	Cleaning and sanitising of the components	51
5.6.12	Reassembly of the hopper beater.....	51
5.6.13	Reassembly of the beater	52
5.6.14	Reassembly of the dispensing spigot door.....	52
5.6.15	Machine with pump – reassembling the pump.....	53
5.6.16	Gravity-fed machines – reassembly of the feed needle.....	55
5.6.17	Reassembling drip trays, drip drawer and hopper lid.....	55
5.6.18	Complete sanitisation of the machine.....	56
	Draining the cleaning/sanitising solution.....	56
6.	MAINTENANCE	57
6.1	Type of intervention	57
6.2	Water-cooling.....	58
6.3	Ordering spare parts	58
6.4	Supplied accessories	59
7.	TROUBLESHOOTING GUIDE	60

FOREWORD

Instruction manual

In writing this manual, the European Community directives on safety standards as well as on free circulation of industrial products within the E.C. were taken into due account.

Purpose

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

Issues regarding the correct use of the machine have been analysed in order to keep the longstanding quality features characterising CARPIGIANI's machines all over the world unchanged.

A significant part of this manual refers to the conditions required for using the machine and, above all, to the necessary procedures to follow while cleaning and during routine and special maintenance.

Nevertheless, this manual cannot meet all demands in detail. In case of doubts or missing information, please apply to:



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Manual structure

This manual is divided in sections, chapters and sub-chapters in order to be consulted more easily.

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.

Subchapter

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

Any person in charge of using the machine must have first read and fully understood the parts of the manual that refer to his/her competence and in particular:

- the Operator must have read the chapters regarding machine start-up, the functioning of the machine units and the prescribed safety precautions;
- a skilled technician 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:

- Spare parts list: a list of spare parts provided with the machine for its routine maintenance.
- Wiring diagram: a diagram of wiring connections placed in the machine.





WARNING



**Before using the machine read the instruction manual carefully.
Pay attention to the safety instructions.**



Standard symbols

 **ELECTRIC SHOCK** 
DANGER



This warns personnel concerned that the operation described could cause electric shock if not carried out while respecting safety norms.

 **DANGER FROM HIGH** 
TEMPERATURES



This warns personnel concerned that the operation described could cause burns and scalds if not carried out while respecting safety norms.

 **DANGER** 
MOVING PARTS

This warns personnel concerned about the presence of moving organs and the risk of physical injury if safety norms are not respected.

 **CRUSHING** 
HAZARD



This warns personnel concerned about the risk of having a finger, hand or other body part crushed if the described operation is not carried out while respecting safety norms.

 **GENERAL** 
HAZARD



This warns personnel concerned that the operation described may cause injury if not carried out respecting safety norms.

 **NOTE** 

This points out significant information for the personnel concerned.

 **WARNING** 

This warns personnel concerned that the non-observance of warning may cause loss of data and damage to the machine.


 **PROTECTION** 

This symbol located next to description means that the operator must use personal protection against an implicit risk of accident.


Qualification of the personnel

Personnel using/working on the machine can be differentiated according to training and responsibility as follows:


OPERATOR

 This term identifies unqualified personnel who have no specific technical qualifications and who can carry out only simple tasks such as operating the machine using the controls on the keyboard, loading and unloading product used during production, loading of any consumable materials, basic maintenance operations (cleaning, removing simple obstruction, controlling instrumentation, etc.).

MAINTENANCE ENGINEER

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

CARPIGIANI ENGINEER

 He/she is a skilled engineer that the manufacturer has assigned to field interventions for complex operations under particular conditions or in accordance with agreements made with the machine's owner.

Safety

When using the machine be aware that drive mechanisms (rotary motion), high voltage components and parts subject to high temperatures may cause serious injury/damage to persons and things.

The person in charge of plant safety must check that:

- any incorrect use or handling is avoided;
- safety devices are not removed or tampered with;
- the machine undergoes regular maintenance;
- only original spare parts are used especially with regards to those components with safety functions (e.g., protection microswitches, thermostats, etc.);
- suitable personal protective equipment is worn;
- great care is taken during hot product cycles;
- particular attention is paid to moving parts.

To achieve the above, the following is necessary:

- at the work station an instruction manual relevant to the machine must be available;
- the documentation must be carefully read and requirements must consequently be met;
- only adequately skilled personnel should be assigned to electrical equipment and machinery.

IMPORTANT

Ensure that technical personnel does not carry out operations that are not within their capabilities, knowledge and responsibility.



NOTE



According to the norms in force, a SKILLED ENGINEER is a person who, thanks to his/her:

- **training, experience and education;**
- **knowledge of rules, prescriptions and interventions on accident prevention;**
- **knowledge of machine operating conditions**

is able to recognize and avoid any danger and has also been authorised by the person in charge of plant safety to carry out all types of interventions.

Warning

When installing the machine, insert a differential thermomagnetic circuit breaker on all poles of the line, adequately sized to the absorption power shown on machine data plate and with contact opening of 3 mm at least.

- Never put your hand into the machine during production and cleaning operations. Before carrying out any maintenance operation, make sure that the machine is in the Stop position and the main switch has been switched OFF.
- Using a jet of pressurized water to wash the machine is forbidden.
- Removing panels in order to reach the machine inside before the machine has been disconnected from the power supply is forbidden.
- Carpigiani will not respond to accidents that might happen during use, cleaning and/or maintenance of its machines if the specified safety norms have not been complied with.

1. GENERAL INFORMATION

1.1 General information

1.1.1 Manufacturer's identification data

The machine has a data plate that was assigned to the machine when it was manufactured, showing the manufacturer's data, machine type and serial number.

A copy of the machine data plate can be found on the first page of this manual.

Fig. 01

MODEL NO. _____				
SERIAL NO. _____ DATE _____				
UNITS _____ PHASE _____ HZ _____				
MAX. BREAKER/FUSE SIZE _____ AMP				
MINIMUM CIRCUIT CAPACITY _____				
		DESIGN PRES.	OPERATING PRES.	
HIGH SIDE PSIG				
LOW SIDE PSIG				
REFRIGERANT _____ AND 47 _____ OZ				
	BEATER	COMPRESSOR	FAN	
QTY				
HP				
FLA				
LRA				

1.1.2 Maintenance information

All operations of routine maintenance are hereby described in the "Maintenance" section. Any additional operation requiring a radical intervention on the machine must be cleared with the manufacturer who will also examine the possibility of a factory technician field intervention.

1.1.3 Information for the user



- Carpigiani is at the disposal of the user for any clarification or necessary/integrative information regarding the functioning of the machine or any improvement modifications to the machine.

- Contact the area distributor in the event of any problems or the manufacturer if a distributor is not available.
- Customer Service is available at any time to respond to customer requirements regarding the functioning of the machine, requests for spare parts or technical assistance that may eventually be necessary.

1.2 Information about the machine

1.2.1 General information

It is an electronic machine for the production and instant distribution of soft ice cream that has the following main characteristics:

- refrigerated upper hopper;
- electronic control of product consistency via the “Hard-o-tronic” system;
- automatic pasteurisation system of the product contained in the hopper and cylinder during non-production periods (e.g., at night) (only for “SP” machines);
- Dry Filling (only for “DF” machines);
- Mixer (only for “M” machines).

1.2.2 Technical features

MODEL *	75g CONES / HOUR **	HOPPER CAPACITY	FLAVOURS	ELECTRICAL POWER SUPPLY ***			CONDENSER ***	INSTALLED POWER OUTPUT	NET WEIGHT
		l		V	Ph	Hz		kW	Kg
XVL 3 USA	666	13 + 13	2+1	208230	3	60	Air	5,2	310

* Available in the following models:

- XVL 3 SP (with an automatic pasteurising system);
- XVL 3 DF (with a Dry Filling system).
- XVL 3 M (with mixer)

** The hourly production and mix quantity for each ice cream can vary depending on the temperature and type of mix used and on the increase in volume (overrun) required.

*** Also available with a water-cooled condenser and other types of electrical power supply.

Performances refer to room temperature of 25°C at a water temperature of 20°C in the condenser.

Carpigiani recommends always using top quality raw materials in the production of ice cream and confectionery products to satisfy the most demanding requirements of customers. Any cost saving of the mix used affects the quality and much greater losses will occur with respect to the economic savings.

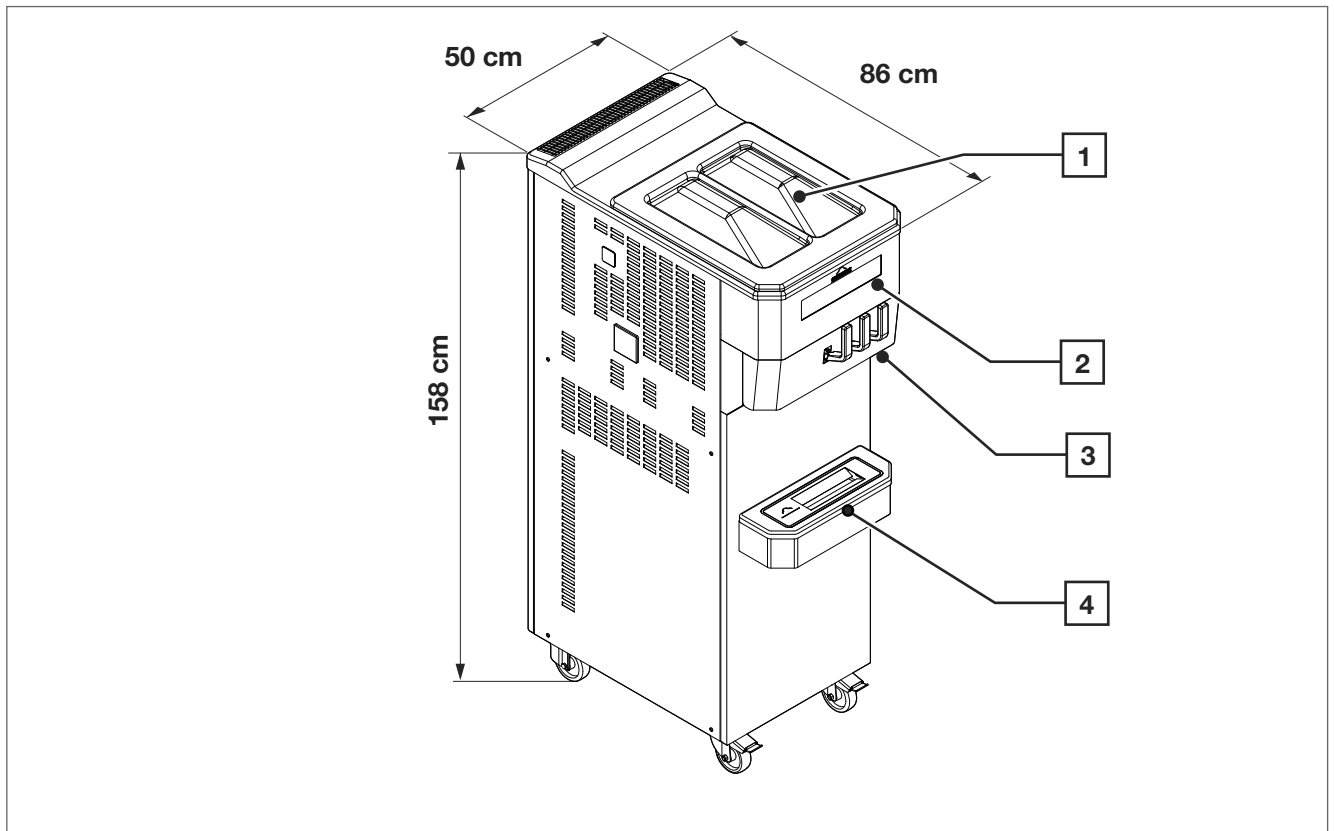
Taking into account everything mentioned above, the following recommendations should be taken into account:

- only you produce the mix using top quality natural products, or receive supplies from serious and trustworthy companies;
- make sure the used mix is appropriate for the machines in terms of composition and viscosity. If in doubt, please check with your authorized Carpigiani dealer;
- carefully follow the mix preparation instructions that are supplied by the supplier;
- do not modify suggested recipes without knowing the characteristics of the ingredients;
- taste the final product and place it on sale only if you are completely satisfied;
- request that your personnel always keeps the machine clean.

Contact only the Carpigiani Technical Assistance Service for any repairs to the machine.

1.2.3 Location of machine groups

Fig. 02



- 1 Hopper lid
- 2 Control panel

- 3 Dispensing spigot door
- 4 Drip tray

1.3 Intended use

The machine must only be used for the production of ice cream and patisserie products, in compliance with what has been stated in paragraph 1.2.1 "General information", and within the operating limits indicated here below.

- Supply voltage: $\pm 10\%$
- Min. air temperature: 10°C
- Max. air temperature: 43°C
- Min. water temperature: 10°C
- Max. water temperature: 30°C
- Min. water pressure: $0.15\text{ MPa (1.5 bar)}$
- Max. water pressure: 0.8 MPa (8 bar)
- Max. relative humidity: 85%

This machine has been designed for use in rooms not subject to explosion-proof laws and therefore it can only be used in rooms that conform to a normal atmosphere.

1.4 Noise

Equivalent continuous A-weighted sound pressure in the working place is less than 70 dB(A) for both water-cooled and air-cooled machines.

1.5 Machine storage

The machine must be stored in a dry and damp-free environment.

Before storing the machine, cover it with a sheet to protect it against dust and dirt.

1.6 Disposal of packing materials

When removing the machine from its packaging, subdivide the packing materials into the various types and dispose of them in accordance with the norms in force in the destination country.

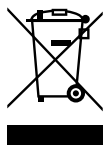
WARNING

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

GENERAL HAZARD

Do not leave packaging materials within reach of children because they could cause suffocation.

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 this symbol on the side of the product or packaging means that the product must not be disposed of with solid 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.

Differentiated collection of this waste material helps to optimise the recovery and recycling of any reclaimable materials and also reduces the impact on human health and 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 bacteriologist must periodically analyse product samples to check for the presence of bacteria. The bacteria count in the samples should be below the following figures:

Standard Plate Count (SPC).....	50.000
Coliforms	10

If the bacteria count exceeds the above-mentioned figures, there is a source of bacterial contamination. This source must be immediately identified and eliminated. A high bacteria count means that the product is not fit for consumption and a correct cleaning and sanitization of the machine must be carried out to eliminate the continued bacterial contamination of the product.

NOTE

Soft yogurt normally has a high bacteria count. In any case, coliform bacteria contamination IS NOT ACCEPTABLE in any type of product. The following information will help you prevent coliform bacteria contamination problems.

The following list indicates the possible sources of bacterial contamination and the methods to prevent it.

SOURCES OF CONTAMINATION	HOW TO PREVENT CONTAMINATION
Operator contact.	<ul style="list-style-type: none"> Wash hands and forearms thoroughly. Wear rubber gloves in case of skin cuts or other skin conditions. Wash hands several times a day.
Residues / deposits of material (milk clots).	<ul style="list-style-type: none"> Use the appropriate brushes. To clean thoroughly, scrub parts and components to prevent the formation of milk clots because milk clots are fertile material for the proliferation of bacteria that could contaminate the fresh milk.

SOURCES OF CONTAMINATION	HOW TO PREVENT CONTAMINATION
Worn or damaged parts.	<ul style="list-style-type: none"> • Lubricate all rubber parts that come into contact with the mix using a food-grade lubricant. • Replace damaged O-rings only with original spare parts. • Systematically check the drip drawers to avoid excessive dripping.
Cleaning and wrong hygienic procedures.	<ul style="list-style-type: none"> • The container in which the parts are washed must be perfectly clean and contain enough detergent/sanitising solution to completely cover even the largest components. Use the brushes to clean and sanitise the machine regularly. • Use the appropriate brushes, lubricants and disposable cloths. • Store and use the detergents as per the manufacturer's instructions. • Have expert personnel clean the machine. Ensure the personnel can complete cleaning procedures coherently, correctly and without interruption. • Leave the sanitising solution in the cylinder and hopper at least for the time suggested by the manufacturer of the sanitising solution. • Each time after use, wash and sanitise the utensils used for cleaning and the tube containing the lubricant. Always replace the cap on the tube. • Machine components and brushes must be left to air-dry. Do not put them back into the machine whilst they are wet or damp. • Always carry out the daily cleaning procedure. Regularly clean the outside of the machine and the dispenser with a sanitized cloth.

SOURCES OF CONTAMINATION	HOW TO PREVENT CONTAMINATION
Wrong method of storing the mix.	<ul style="list-style-type: none"> • Use leftovers of mixes with the oldest date first. Be careful of the expiry date. • Put the mix directly in the fridge. Do not accumulate mix outside in direct sunlight before putting it in the fridge. • In the fridge, leave at least 2-3 cm of space between the mix and other products to allow air to circulate. • The mix must not be left at ambient temperature for long periods of time. • The storage temperature of the hopper must be maintained at 4.4°C (40°F). Storage temperatures above 4.4°C would permit the multiplication of bacteria to dangerous levels within less than one hour. • Once the mix has been placed inside the hopper, place the lid on the hopper to store the mix at the correct temperature and minimise the possibility of contamination.

2. INSTALLATION



2.1 Space necessary to use the machine

The machine must be positioned so that there is enough space for air to freely circulate. Also make sure that the air vent on the top of the machine remains free of any objects.

Space for access to the machine must be left free in order to enable the operator to act without constraint and also to immediately leave the working area if necessary.

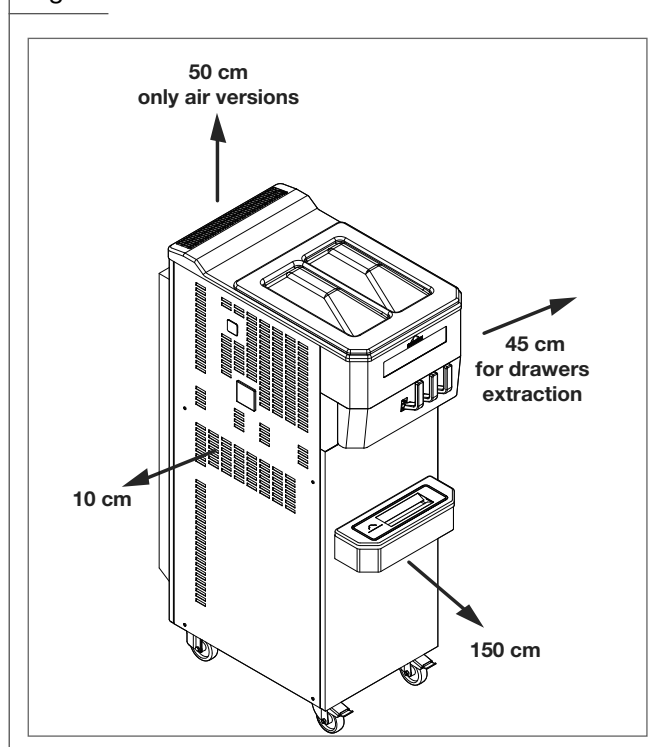
The machine also requires free space on the side to extract the drip trays.



It is also advisable to have a minimum access to the operating area of the machine of at least 150 cm, and about 45 cm. of space on the side of the machine to allow for extracting drip trays.


NOTE


Insufficient air circulation affects operation and the output capacity of the machine.

Fig. 03




WARNING


Machines with water-cooled condenser must have 10 cm. of free space along the sides. Machines with an air-cooled condenser must be installed leaving a minimum distance (at least 50 cms) above the chimney for the free circulation of the condensate air.

2.2 Water supply connection





Connect the machine to a drinking water supply that has a pressure of no more than 0.8 MPa (8 bar).

2.3 Machine with air-cooled condenser



Machines with an air-cooled condenser must be installed leaving a minimum distance (at least 50 cms) above the chimney for the free circulation of the condensate air.


NOTE


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

2.4 Machines with water-cooled condenser



A water-cooled machine must be connected to a mains water supply or to a cooling tower to operate it.

The water must have a pressure of 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 the inlet pipe marked by the "Water Inlet" plate to the water supply by installing a shut-off valve and the outlet pipe marked by the "Water Outlet" plate to a drainage pipe by installing a shut-off valve.

2.4.1 Water pressure valve adjustment



IMPORTANT



If the water pressure valve needs to be reset, this operation must be carried out only by skilled personnel.


NOTE


Water consumption increases if the temperature of the inlet water is above 20°C.


WARNING


Do not leave the machine in a room with a temperature below 0°C without first draining the water from the condenser system.

2.5 Electrical connection



Before connecting the machine to the mains supply, check that the machine voltage indicated on the data plate corresponds with the mains supply voltage.

Position a class D section thermomagnetic circuit breaker switch correctly rated to the absorption power required and with a contact opening of at least 3 mm. The machines are delivered with a 5 wire cable: the blue wire must be connected to the neutral lead.

IMPORTANT

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

2.5.1 Replacing the power cable



Should the machine's power cable become damaged, it must be replaced immediately with one with similar characteristics.

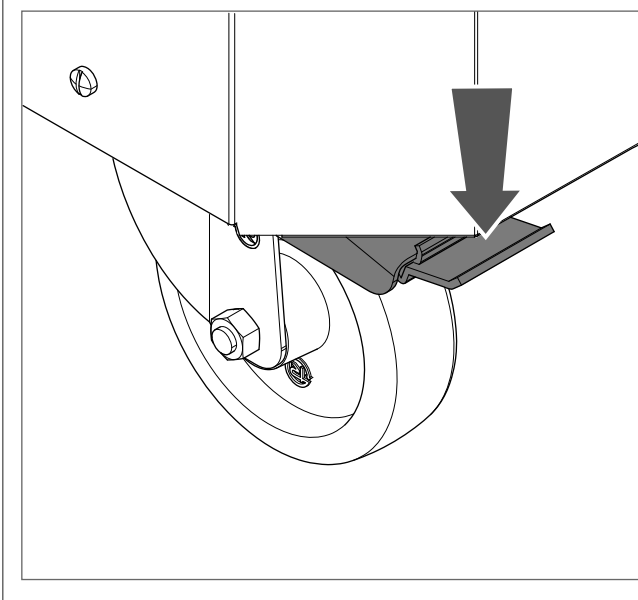
The replacement must be carried out only by a skilled technician.

2.6 Location



The machine is equipped with wheels to facilitate its positioning. There are mechanical brakes that once engaged stop the machine from being moved about and ensure that it is maintained in a safe position.

Fig. 04



2.7 Refilling



The type of motor installed in the machine is a lubricated-for-life motor. No checking/replacing or topping up is necessary.

The correct quantity of gas for the refrigeration circuit is put in by Carpigiani when testing the machine. A new machine does not need any topping up or refilling.

If it becomes necessary to top up or fill the system with gas, the procedure must be carried out in conditions of safety and by a qualified technician capable of establishing the cause of the anomaly prior to topping up.

2.8 Machine testing



The machine is tested by Carpigiani at the end of the assembly procedure. The foreseen operational and production functions are checked.

Machine testing on the end user's premises must be carried out by skilled technicians or by one of Carpigiani's engineers.

After positioning the machine and making the correct connections, carry out all operations necessary for functionality check and operational testing of the machine.

3. INSTRUCTIONS FOR USE

3.1 Machine safety warnings

When using industrial equipment and plant, be aware that drive mechanisms (rotary motion), high voltage components, as well as parts subject to high temperatures may cause serious injury/damage to persons and things.

The person/s in charge of plant safety must check that:

- any incorrect use or handling is avoided;
- safety devices are not removed or tampered with;
- the machine undergoes regular maintenance;
- only original spare parts are used especially with regards to those components with safety functions (e.g., protection microswitches, thermostats, etc.);
- suitable personal protective equipment is worn;
- great care is taken during hot product cycles.

To achieve the above, the following is necessary:

- at the work station an instruction manual relevant to the machine must be available;
- the documentation must be carefully read and requirements must consequently be met;
- only adequately skilled personnel should be assigned to electrical equipment and machinery;
- ensure that technical personnel do not carry out operations that are not within their capabilities, knowledge and responsibilities.

3.2 Machine configuration

The machine is composed of a motor for operating the beater unit, a cooling system with a water-cooled or air-cooled condenser and electronic management of the main functions.

The preparation of soft ice cream occurs by placing the cold mix (+4°C) inside the hoppers and starting an automatic production cycle until the set programmed optimum consistency of the ice cream is reached.

The mix enters into the whipping cylinders already mixed with air. The ice cream is produced only at the moment in which it is served.

By using the ice cream dispenser levers positioned on the front of the machine, a portion of soft ice cream requested will be dispensed.

Simultaneously, an equal quantity of mix passes from the upper refrigerated hoppers to the whipping cylinder.

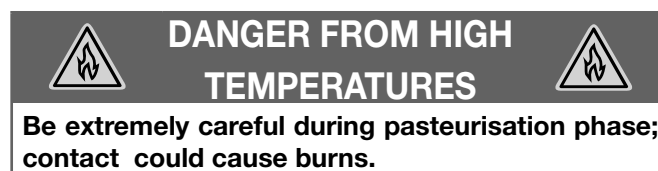
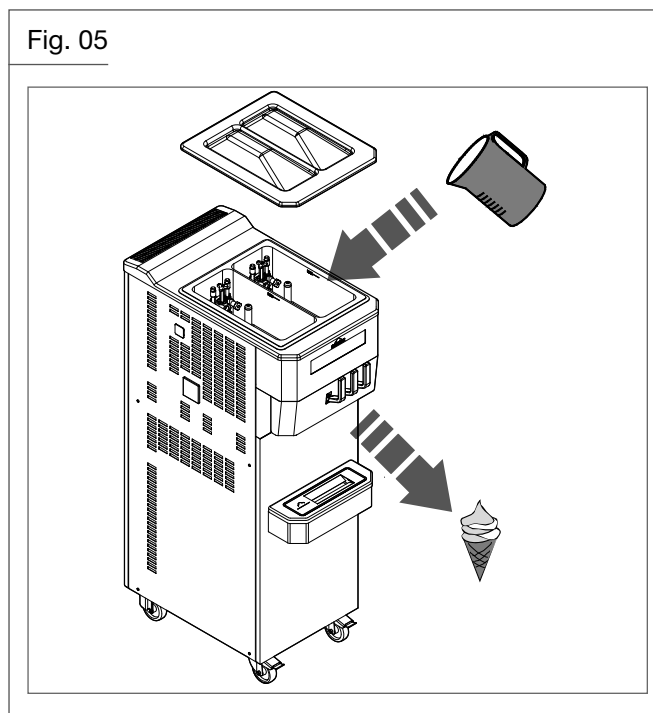


Fig. 05

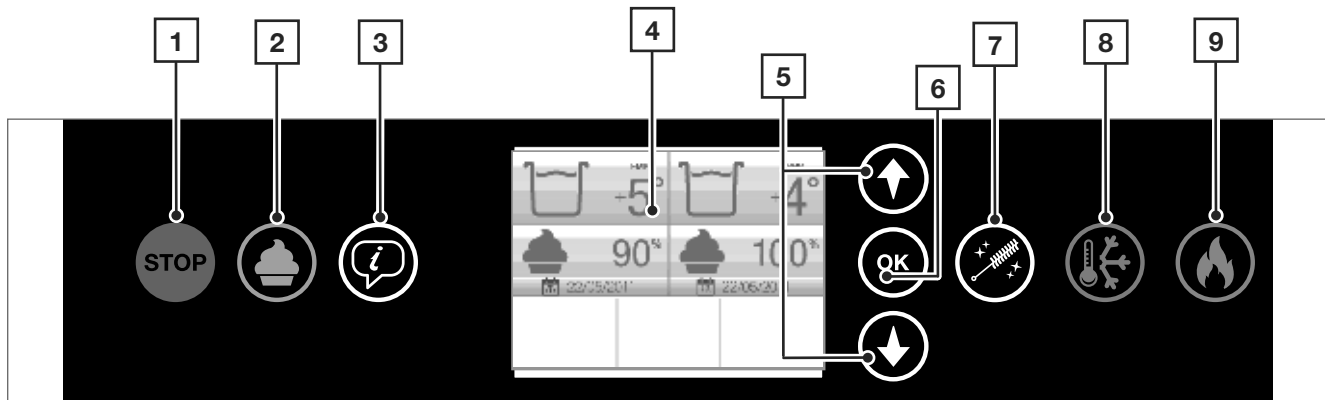


3.3 Commands

3.3.1 Touchpad

The machine is equipped with a keypad fitted on the front panel; each button is marked by an explanatory symbol of the assigned function.

Fig. 06



- 1 Stop the machine from functioning
- 2 Production
- 3 Information
- 4 Touch screen display
- 5 Increment/Decrement
- 6 Confirm

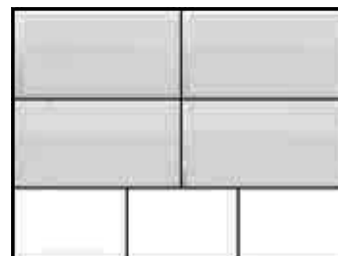
- 7 Cleaning
- 8 Storage/Alarm Reset
- 9 Pasteurisation (if applicable)



NOTE



The display is touch screen with 7 sensitive zones:


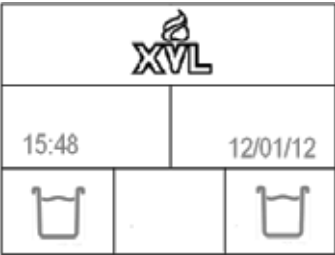


























NOTE









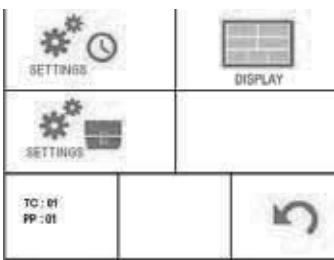





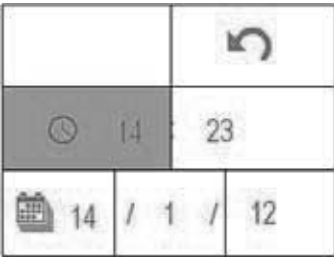





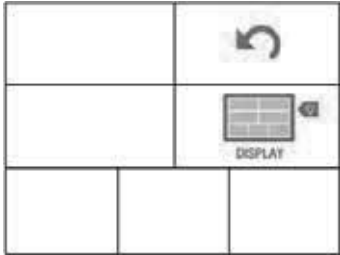


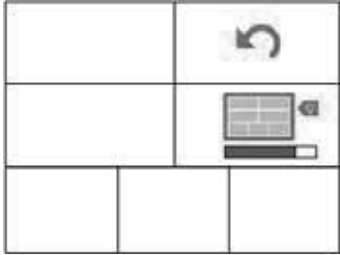

When the touchpad accepts a command it will produce a beeping sound.




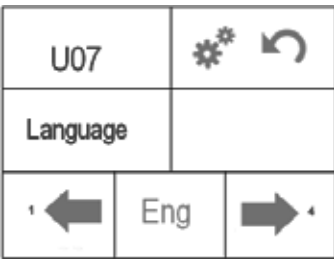




3.3.2 Functions







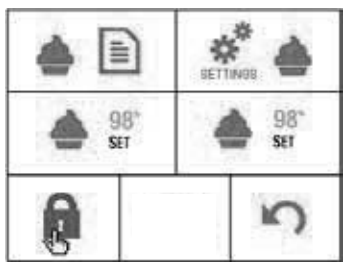



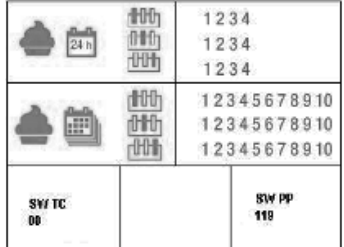




BUTTONS	DESCRIPTION OF FUNCTIONS
<p>STOP</p> 	<p>In this mode the machine is Stopped and the corresponding LED is turned on. From Stop it is possible to access any machine function. To change function, it is ALWAYS NECESSARY to first Stop the machine.</p> <p>The display shows date and time, and the indication of the hopper mix level.</p> 
<p>WHY IN STOP ??</p>  <p>With the machine in Stop mode for more than 30 seconds.</p>	<p>If the machine is Stopped with mix in the hopper, after 30 seconds the display will show the message "Why in STOP??" to alert the operator to activate Production, Pasteurisation, or Storage mode.</p>  <p>To reset the alarm press . See alarms.</p>
<p>WASH TODAY!</p>  <p>With the machine in Stop mode for more than 24 hours.</p>	<p>A time starts running if Stop is activated with mix in the hopper. If the timer runs for more than 24 hours the display will show the message "Wash Today!".</p>  <p>The user must carry out machine washing procedure before restarting Production.</p> <p>Press the  key to cancel the alarm message from the display. See alarms.</p>









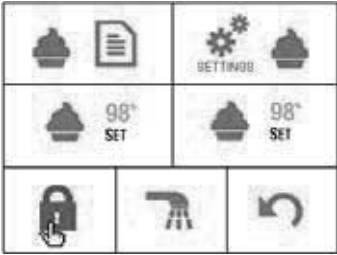





BUTTONS	DESCRIPTION OF FUNCTIONS
<p>INFO whilst in Stop mode</p>  <p>Functions that can be selected from INFO whilst the machine is in Stop mode:</p> <ul style="list-style-type: none"> • Pasteurisation history (only past. version) • Event history • Key locking • Settings 	<p>Pressing the Info  key whilst in Stop mode, the display visualises the following functions that can be selected directly on the touch screen:</p> <ul style="list-style-type: none"> • Pasteurisation history  (only past. version) • Events history  • Key locking  • Settings   <p>Press the  key to go back to the previous page.</p>
<p>INFO – PASTEURISATION HISTORY</p>  <p>With the machine in Stop mode press:</p> <ul style="list-style-type: none"> • INFO • PASTEURISATION HISTORY 	<p>Pressing Pasteurisation Log  the display shows the list of succesful Pasteurisations.</p>  <p>To browse through the events use the Up  and Down  keys.</p>
<p>INFO – EVENT HISTORY</p>  <p>With the machine in Stop mode press:</p> <ul style="list-style-type: none"> • INFO • EVENT HISTORY 	<p>Pressing Event Log  the display shows a list of events, including function changes, alarms and Pasteurisation phases.</p>  <p>To browse through the events use the Up  and Down  keys.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p style="text-align: center;">NOTE</p> <p>The maximum number of logged events is 1000.</p> </div> <p>Once this number is reached, every new event causes the cancellation of the oldest. occurs the oldest event is removed.</p>





















BUTTONS	DESCRIPTION OF FUNCTIONS
<p>INFO – KEY LOCKING</p>  <p>With the machine in Stop mode press:</p> <ul style="list-style-type: none"> • INFO • KEY LOCKING 	<p>The key locking button is present in all functions of the machine. Pressing and holding the Lock icon  for about 10 seconds (wait for the visualisation of the display to return to the current function) will lock the touchpad, except for those inside the display, so that it can be cleaned without accidentally activating a different function.</p>  <p>To unlock the touchpad, press any key. The Lock icon will reappear. Press and hold it for 10 seconds to reactivate the touchpad.</p>
<p>INFO - SETTINGS</p>  <p>With the machine in Stop mode press:</p> <ul style="list-style-type: none"> • INFO • SETTINGS <p>Functions that can be selected from SETTINGS mode:</p> <ul style="list-style-type: none"> • Setting the time • Display • Setting the machine 	<p>Pressing the Settings  key, the display visualises the following functions that can be selected directly on the touch screen:</p> <ul style="list-style-type: none"> • Setting the time  • Display  • Setting the machine  
<p>INFO – SETTING THE TIME</p>  <p>With the machine in Stop mode press:</p> <ul style="list-style-type: none"> • INFO • SETTINGS • SETTING THE TIME 	<p>Pressing the Setting the time  key, the display visualises:</p>  <p>Pressing the hour the key background turns grey and the Up  and Down  keys activate so that the hour can be changed. To confirm press the button on the display to deselect it.</p>  <p>Follow the same procedure to update the minutes and the date.</p>








BUTTONS	DESCRIPTION OF FUNCTIONS
<p>INFO - DISPLAY</p>   <p>With the machine in Stop mode press:</p> <ul style="list-style-type: none"> • INFO • SETTINGS • DISPLAY 	<p>Pressing the Display  key, the display visualises:</p>  <p>Pressing the display key activates the display brightness bar (intensity of the backlighting) and the Up  and Down  keys activate to change the current value.</p>  <p>Confirm with .</p>



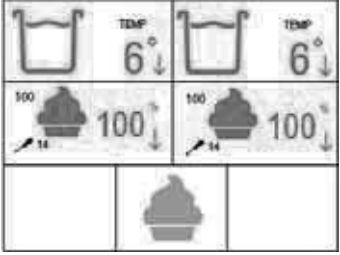










































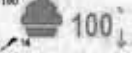

BUTTONS	DESCRIPTION OF FUNCTIONS																																																								
<p>INFO – MACHINE SETTING</p>   <p>With the machine in Stop mode press:</p> <ul style="list-style-type: none"> • INFO • SETTINGS • MACHINE SETTING (Programming) 	<p>Press Settings  to access the first step in operator programming.</p>  <p>To browse through the steps, use the Up  and Down  keys. The display shows the first operator programming step, i.e., U07 - Language: Eng. The value can be changed using the left and right arrows on the screen. See programming table.</p> <table border="1" data-bbox="391 683 1428 1019"> <thead> <tr> <th>Step</th> <th>Display ITA</th> <th>Display ENG</th> <th>Min</th> <th>Max</th> <th>De-fault</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>U07</td> <td>Linguaggio</td> <td>Language</td> <td>Ita</td> <td>Esp</td> <td>Ita</td> <td></td> </tr> <tr> <td>U08</td> <td>Ora Avvio Prod.</td> <td>Start Prod. Time</td> <td>00</td> <td>23+no+auto</td> <td>08</td> <td></td> </tr> <tr> <td>U09</td> <td>Ora Avv.Pas-Con</td> <td>Start Past. Stor.</td> <td>00</td> <td>23+no</td> <td>02</td> <td></td> </tr> <tr> <td>U10</td> <td>Abilita Beep Liv</td> <td>Lev. Beep Enable</td> <td>No</td> <td>Yes</td> <td>Yes</td> <td></td> </tr> <tr> <td>U13</td> <td>Extra Agitaz.Vas</td> <td>Extra Hop.Agit.</td> <td>0</td> <td>3</td> <td>3</td> <td></td> </tr> <tr> <td>U14</td> <td>Tempo Mixer</td> <td>Mixer Time</td> <td>0</td> <td>20</td> <td>0</td> <td></td> </tr> <tr> <td>U15</td> <td>Lato Attivo</td> <td>Active Side</td> <td>1</td> <td>3</td> <td>3</td> <td></td> </tr> </tbody> </table> <p>U07 - Language: Setting the language in Italian, English, German or Spanish.</p> <p>U08 - Start Prod. Time: Setting of the start hour of automatic Production. If set at “No” automatic Production will not start. If set at “auto” automatic Production starts as soon as the Pasteurisation cycle has been completed.</p> <p>U09 - Start Past. Stor.: <u>For pasteurising machines:</u> Setting of the start hour of automatic Pasteurisation. If set at “No” automatic Pasteurisation will not start. <u>For non-pasteurising machines:</u> Setting of the start hour of automatic Storage. If set at “No” automatic Storage will not start.</p> <p>U10 - Lev. Beep Enable: If set at “Yes” an intermittent acoustic beep sounds when the medium level is uncovered, except when the machine is in Stop mode.</p> <p>U13 - Hopper Extra Beat.: Enable/disable hopper rotor periodical activation in Production and Storage functions (0 = not enabled, 1 = enabled only for left side, 2 = enabled only for right side, 3 = enables both sides).</p> <p>U14 - Mixer Time: The length of time the mixer will run in seconds when its button has been pressed.</p> <p>U15 - Active Side: There are three settings (1, 2 or 3). Set the side on which to operate. 1= Left side 2= Right side 3= Both sides</p> <p>To exit programming, simply do not press any key for about 1 minute or press   on the display. The machine will return to the previous menu. If any changes have been made, when leaving the programming section the display will show the message “Table Updated M.”.</p>	Step	Display ITA	Display ENG	Min	Max	De-fault	Notes	U07	Linguaggio	Language	Ita	Esp	Ita		U08	Ora Avvio Prod.	Start Prod. Time	00	23+no+auto	08		U09	Ora Avv.Pas-Con	Start Past. Stor.	00	23+no	02		U10	Abilita Beep Liv	Lev. Beep Enable	No	Yes	Yes		U13	Extra Agitaz.Vas	Extra Hop.Agit.	0	3	3		U14	Tempo Mixer	Mixer Time	0	20	0		U15	Lato Attivo	Active Side	1	3	3	
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U14	Tempo Mixer	Mixer Time	0	20	0																																																				
U15	Lato Attivo	Active Side	1	3	3																																																				





































BUTTONS	DESCRIPTION OF FUNCTIONS
<p>INFO from Production mode</p>  <p>Functions that can be selected from INFO whilst the machine is in Production mode:</p> <ul style="list-style-type: none"> • Cones and Software Versions • Setting • Modify Set Hot • Key locking 	<p>Pressing the  key whilst in Production mode, the display visualises the following functions that can be selected directly on the touch screen:</p> <ul style="list-style-type: none"> • Cones and Software Versions  • Setting (if present)  • Modify Set Hot  • Key locking   <p>Use the  key to return to the previous page.</p>
<p>INFO – CONES AND SOFTWARE VERSIONS</p>  <p>With the machine in production mode press:</p> <ul style="list-style-type: none"> • INFO • CONES AND SOFTWARE VERSIONS 	<p>Pressing the Cones and software versions  key, the display visualises the read-only page that reports the following data:</p> <ul style="list-style-type: none"> • Daily cones • Total cones • SW versions  <p>To return to the previous function press the  key.</p>
<p>INFO - SETTING (if present)</p>  <p>With the machine in production mode press:</p> <ul style="list-style-type: none"> • INFO • SETTING 	<p>Press  to access the freezing cycle menu (if present).</p> <p>To return to the previous function press the  key or wait 15 seconds.</p>



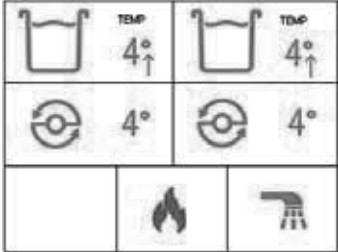

















BUTTONS	DESCRIPTION OF FUNCTIONS
<p>INFO – MODIFY SET HOT</p>  <p>With the machine in production mode press:</p> <ul style="list-style-type: none"> • INFO • MODIFY SET HOT 	<p>When  is pressed its background turns grey and the Up  and Down  keys activate so that the HOT setting can be changed.</p>  <p>After setting the desired value, to confirm press the button on the display to deselect it..</p> <p>If  is pressed again, the new value will not be saved.</p>
<p>INFO - KEY LOCKING</p>  <p>With the machine in production mode press:</p> <ul style="list-style-type: none"> • INFO • KEY LOCKING 	<p>Pressing and holding the Lock icon  for about 10 seconds will lock the touchpad, except for the keys inside the display. To permit the front panel to be cleaned without accidentally activating functions, the machine returns to the previous function.</p>  <p>To unlock the touchpad, press any key. The Lock icon will reappear. Press and hold it for 10 seconds to reactivate the touchpad.</p>
<p>INFO whilst in Cleaning mode</p>  <p>Functions that can be selected whilst in INFO mode with the machine in Cleaning mode:</p> <ul style="list-style-type: none"> • Key locking 	<p>Pressing the  key whilst in Cleaning mode, the display visualises the following functions that can be selected directly on the touch screen:</p> <ul style="list-style-type: none"> • Key locking  <p>Pressing and holding the Lock icon  for about 10 seconds will lock the touchpad, except for the keys inside the display. To permit the front panel to be cleaned without accidentally activating functions, the machine returns to the previous function.</p> <p>To re-enable the keys, press any key and the window with the lock appears. Pressing the Key locking key for 10 seconds, all keys are re-enabled.</p> <p>Use the Back key  to return to the previous menu.</p>

BUTTONS	DESCRIPTION OF FUNCTIONS
<p>INFO whilst in Pasteurisation mode</p>  <p>Functions that can be selected whilst in INFO mode with the machine in Pasteurisation mode:</p> <ul style="list-style-type: none"> • Key locking 	<p>Pressing the  key whilst in Pasteurisation mode, the display visualises the following functions that can be selected directly on the touch screen:</p> <ul style="list-style-type: none"> • Key locking  <p>Pressing and holding the Lock icon  for about 10 seconds will lock the touchpad, except for the keys inside the display. To permit the front panel to be cleaned without accidentally activating functions, the machine returns to the previous function.</p> <p>To unlock the touchpad, press any key. The Lock icon will reappear. Press and hold it for 10 seconds to reactivate the touchpad.</p> <p>Use the Back key  to return to the previous menu.</p>
<p>INFO whilst in Storage mode</p>  <p>Functions that can be selected whilst in INFO mode with the machine in Storage mode:</p> <ul style="list-style-type: none"> • Key locking 	<p>Pressing the  key whilst in Storage mode, the display visualises the following functions that can be selected directly on the touch screen:</p> <ul style="list-style-type: none"> • Key locking  <p>Pressing and holding the Lock icon  for about 10 seconds will lock the touchpad, except for the keys inside the display. To permit the front panel to be cleaned without accidentally activating functions, the machine returns to the previous function.</p> <p>To unlock the touchpad, press any key. The Lock icon will reappear. Press and hold it for 10 seconds to reactivate the touchpad.</p> <p>Use the Back key  to return to the previous menu.</p>
<p>CLEANING</p>  <p>Functions that can be selected whilst in Cleaning mode:</p> <ul style="list-style-type: none"> • Beating • Heated beating • Pump 	<p>Pressing the Cleaning  key the display visualises the following functions that can be selected directly on the touch screen:</p> <ul style="list-style-type: none"> • Beating  • Heated beating  • Pump   <p>The last line visualises the temperature of the cylinder and the consistency of the product .</p> <p>The keys that can be activated have a coloured icon (blue or red) and once pressed the background becomes grey.</p> <p>The keys that cannot be activated have a grey icon. Refer to the key  on the above display.</p> <p>The two functions  and  can run at the same time.</p>

BUTTONS	DESCRIPTION OF FUNCTIONS
<p>CLEANING – BEATING</p>  <p>Press:</p> <ul style="list-style-type: none"> • CLEANING • BEATING 	<p>Press Beating  to start/stop the beater motor.</p> <p>When the motor is functioning, the background of the relative function becomes grey.</p>  <p>After 3 minutes the symbol returns to a white background and the motor switches off.</p> <p>The Beating function is used to wash the cylinder and facilitate the emptying of the product from the cylinder.</p>
<p>CLEANING – PUMP</p>  <p>Press:</p> <ul style="list-style-type: none"> • CLEANING • PUMP 	<p>Pressing the Pump  key (only machines with a pump), the pump motor is activated/deactivated.</p> <p>When the motor is functioning, the background of the relative function becomes grey.</p> <p>After 30 seconds the symbol returns to a white background and the pump switches off.</p> <p>The function is used to load the mix from the hopper to the cylinder and to pressurize the cylinder to facilitate the dispensing of the product.</p>
<p>CLEANING - HEATED BEATING</p>  <p>Press:</p> <ul style="list-style-type: none"> • CLEANING • HEATED BEATING 	<p>Pressing Heated Beating  the beater motor with heating is activated/deactivated.</p> <p>When Heated Beating is activated the background of the function becomes grey.</p> <p>The cylinder is heated until a set temperature is reached.</p> <p>On reaching this temperature the symbol changes back to the white background and Heated Beating is deactivated.</p>

BUTTONS	DESCRIPTION OF FUNCTIONS																		
<p>PRODUCTION</p> 	<p>Production can be accessed only if there is a minimum level of mix in the hopper.</p> <p>Press  key, to access the followin menu:</p>  <p>Where:</p> <table border="1" data-bbox="466 649 1519 1473"> <tr> <td data-bbox="466 649 614 801"></td> <td data-bbox="614 649 1519 801">The hopper level.  : more than half full,  : less than half full,  : less than minimum.</td> </tr> <tr> <td data-bbox="466 801 614 884"></td> <td data-bbox="614 801 1519 884">Number of cones that can be dispensed with less than minimum mix. It appears only when mix falls below minimum level required.</td> </tr> <tr> <td data-bbox="466 884 614 967"></td> <td data-bbox="614 884 1519 967">Hopper temperature. If <40°C the temperature color is blue. If >=40°C the temperature color is red.</td> </tr> <tr> <td data-bbox="466 967 614 1050"></td> <td data-bbox="614 967 1519 1050">Arrow visible if the hopper is cooling.</td> </tr> <tr> <td data-bbox="466 1050 614 1133"></td> <td data-bbox="614 1050 1519 1133">Set consistency to be reached.</td> </tr> <tr> <td data-bbox="466 1133 614 1243"></td> <td data-bbox="614 1133 1519 1243">Mix not ready for dispensing. When consistency is reached the icon will change to .</td> </tr> <tr> <td data-bbox="466 1243 614 1326"></td> <td data-bbox="614 1243 1519 1326">Current consistency.</td> </tr> <tr> <td data-bbox="466 1326 614 1408"></td> <td data-bbox="614 1326 1519 1408">Arrow visible if the cylinder is cooling.</td> </tr> <tr> <td data-bbox="466 1408 614 1473"></td> <td data-bbox="614 1408 1519 1473">Days left until washing is required</td> </tr> </table> <p>The machine brings the <u>ice cream</u> in the cylinder to the right consistency every 10 minutes. Press the  key to force this time. The consistency will conform to the set value.</p>		The hopper level.  : more than half full,  : less than half full,  : less than minimum.		Number of cones that can be dispensed with less than minimum mix. It appears only when mix falls below minimum level required.		Hopper temperature. If <40°C the temperature color is blue. If >=40°C the temperature color is red.		Arrow visible if the hopper is cooling.		Set consistency to be reached.		Mix not ready for dispensing. When consistency is reached the icon will change to  .		Current consistency.		Arrow visible if the cylinder is cooling.		Days left until washing is required
	The hopper level.  : more than half full,  : less than half full,  : less than minimum.																		
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	Current consistency.																		
	Arrow visible if the cylinder is cooling.																		
	Days left until washing is required																		
<p>PRODUCTION – CHANGE OF FLAVOUR</p> 	<p>FLAVOR CHANGE PROCEDURE</p> <p>Pressing the  key for 10 seconds the icon will turn grey and cooling on the corresponding side will be stopped. Beating is activated and the pump operates for one minute to empty the cylinder and the hopper. If after one minute the hopper and cylinder are not empty, press the cone button  again to reactivate the function for a further minute</p> <p>At this point it is possible to fill the empty hopper with a different flavour.</p> <p>To exit the emptying procedure, press the  key for 10 seconds. The icon will turn blue again.</p>																		

BUTTONS	DESCRIPTION OF FUNCTIONS												
<p>PRODUCTION VERSIONS WITH MIXER</p> 	<p>VERSIONS WITH MIXER AND WATER DISPENSING</p> <p>The third line of the display shows the information indicated as follows on the third line of the display:</p> <table border="1" data-bbox="391 331 1369 1131"> <tr> <td data-bbox="391 331 877 474"> <p>Standard machine.</p> <p>The cone indicates machine in Production mode. Key not active.</p> </td> <td data-bbox="877 331 1369 474">  </td> </tr> <tr> <td data-bbox="391 474 877 636"> <p>Machine with water dispensing</p> <p>The cone indicates machine in Production mode. Key not active. The sprayer key is a non active key (grey).</p> </td> <td data-bbox="877 474 1369 636">  </td> </tr> <tr> <td data-bbox="391 636 877 806"> <p>Machine with a mixer.</p> <p>The cone indicates machine in Production mode. Grey key not active. The mixer key is active (blue).</p> </td> <td data-bbox="877 636 1369 806">  </td> </tr> <tr> <td data-bbox="391 806 877 1131"> <p>Machine with mixer and water dispensing</p> <p>The cone indicates machine in Production mode. Key not active. The mixer key is active (blue), acting as a toggle. The mixer stops automatically after a programmed timer expires or by pressing the mixer key. The sprayer key is a non active key (grey).</p> </td> <td data-bbox="877 806 1369 1131">  </td> </tr> </table>	<p>Standard machine.</p> <p>The cone indicates machine in Production mode. Key not active.</p>		<p>Machine with water dispensing</p> <p>The cone indicates machine in Production mode. Key not active. The sprayer key is a non active key (grey).</p>		<p>Machine with a mixer.</p> <p>The cone indicates machine in Production mode. Grey key not active. The mixer key is active (blue).</p>		<p>Machine with mixer and water dispensing</p> <p>The cone indicates machine in Production mode. Key not active. The mixer key is active (blue), acting as a toggle. The mixer stops automatically after a programmed timer expires or by pressing the mixer key. The sprayer key is a non active key (grey).</p>					
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<p>STORAGE/ALARM RESET</p> 	<p>Storage mode starts automatically every day at an established time.</p> <p>Storage has the function of bringing the mix in the hopper and cylinder to 4°C.</p> <p>Once Storage mode is activated the display shows the following:</p> <table border="1" data-bbox="742 1355 1077 1608"> <tr> <td data-bbox="742 1355 853 1444">  </td> <td data-bbox="853 1355 909 1444"> <p>TEMP 4°</p> </td> <td data-bbox="909 1355 1021 1444">  </td> <td data-bbox="1021 1355 1077 1444"> <p>TEMP 4°</p> </td> </tr> <tr> <td data-bbox="742 1444 853 1523">  </td> <td data-bbox="853 1444 909 1523"> <p>4°</p> </td> <td data-bbox="909 1444 1021 1523">  </td> <td data-bbox="1021 1444 1077 1523"> <p>4°</p> </td> </tr> <tr> <td data-bbox="742 1523 853 1608">  </td> <td data-bbox="853 1523 965 1608">  </td> <td data-bbox="965 1523 1077 1608">  </td> <td></td> </tr> </table> <p>To start manually Storage press the  key.</p> <p>The button also allows to reset the alarms that might be shown on the display.</p>		<p>TEMP 4°</p>		<p>TEMP 4°</p>		<p>4°</p>		<p>4°</p>				
	<p>TEMP 4°</p>		<p>TEMP 4°</p>										
	<p>4°</p>		<p>4°</p>										
													

BUTTONS	DESCRIPTION OF FUNCTIONS										
<p>PASTEURISATION</p> 	<p>Pasteurisation can only be done if the hopper is more than half full.</p> <p>Press and hold Pasteurisation  for 5 seconds, the display will show the following:</p>  <p>Where:</p> <table border="1" data-bbox="464 689 1398 1216"> <tr> <td data-bbox="464 689 616 846">  </td> <td data-bbox="616 689 1398 846"> <p>Hopper mix level.</p> <p> : more than half full,  : less than half full  : less than minimum.</p> </td> </tr> <tr> <td data-bbox="464 846 616 981"> <p>TEMP 4°</p> </td> <td data-bbox="616 846 1398 981"> <p>Hopper temperature. If <40°C then the temperature is blue. If >=40°C then the is red.</p> </td> </tr> <tr> <td data-bbox="464 981 616 1048"> <p>↑ ↓</p> </td> <td data-bbox="616 981 1398 1048"> <p>Arrows next to the temperature: Up if heating and Down if cooling.</p> </td> </tr> <tr> <td data-bbox="464 1048 616 1137"> <p>4°</p> </td> <td data-bbox="616 1048 1398 1137"> <p>Cylinder temperature. If <40°C then the temperature is blue. If >=40°C then the temperature is red.</p> </td> </tr> <tr> <td data-bbox="464 1137 616 1216">  </td> <td data-bbox="616 1137 1398 1216"> <p>Active function: heating. Do not dispense product.</p> </td> </tr> </table> <p>If the machine pasteurises, the Pasteurisation cycle occurs automatically every day at a predetermined time (if set in User Programming).</p> <p>When the machine is in Production or Storage mode at the time set for pasteurisation, it automatically goes into Pasteurisation mode.</p> <p>To start Pasteurisation manually, press and hold Pasteurisation  for 5 seconds.</p> <p>If Pasteurisation is not completed successfully, the machine will NOT be able to be set to Production until a Pasteurisation cycle has been completed correctly.</p> <p>During the Pasteurisation cycle, the product in the hopper or in the cylinder is heated to 65°C, maintained at this temperature for 30 minutes (fixed) and then cooled until the storage temperature is reached.</p> <p>When the procedure is finished the display shows  along with the hour and the day of the week, confirming that Pasteurisation cycle has been completed correctly.</p>		<p>Hopper mix level.</p> <p> : more than half full,  : less than half full  : less than minimum.</p>	<p>TEMP 4°</p>	<p>Hopper temperature. If <40°C then the temperature is blue. If >=40°C then the is red.</p>	<p>↑ ↓</p>	<p>Arrows next to the temperature: Up if heating and Down if cooling.</p>	<p>4°</p>	<p>Cylinder temperature. If <40°C then the temperature is blue. If >=40°C then the temperature is red.</p>		<p>Active function: heating. Do not dispense product.</p>
	<p>Hopper mix level.</p> <p> : more than half full,  : less than half full  : less than minimum.</p>										
<p>TEMP 4°</p>	<p>Hopper temperature. If <40°C then the temperature is blue. If >=40°C then the is red.</p>										
<p>↑ ↓</p>	<p>Arrows next to the temperature: Up if heating and Down if cooling.</p>										
<p>4°</p>	<p>Cylinder temperature. If <40°C then the temperature is blue. If >=40°C then the temperature is red.</p>										
	<p>Active function: heating. Do not dispense product.</p>										

3.4 Dispenser levers



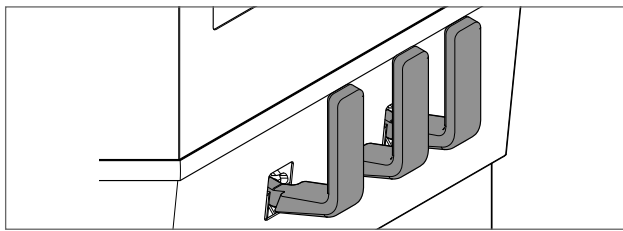
To dispense the product, place a cup or a cone underneath the spigot door and, with the machine in production mode, slowly lower the dispenser lever.

As soon as the product starts to come out, move the cup or cone with a circular motion to give the ice cream a conical shape.

Once a sufficient amount of product has been dispensed, close the dispenser lever and move the cup or cone quickly downwards to give the portion a pointed tip. The product dispenser lever can also be easily removed by lifting it upwards.

In this way it can also be used as a key to stop the machine from being used.

Fig. 07

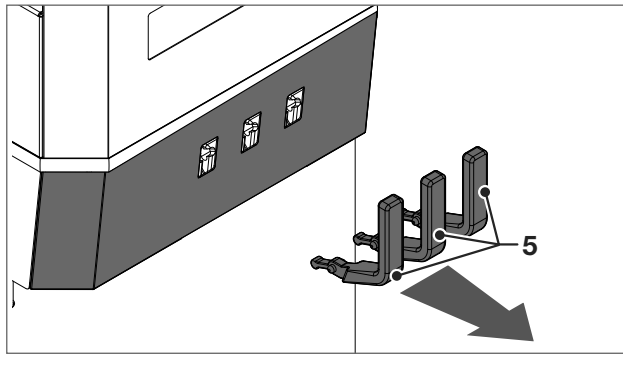


3.4.1 Modifying the quantity of product dispensed

To modify the quantity of product dispensed by the various levers, carry out the following procedure:

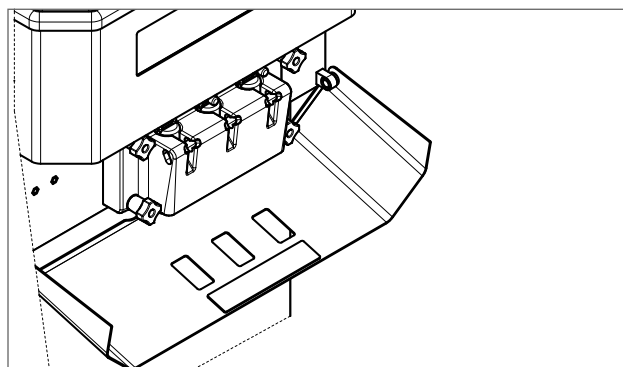
- Remove the ice cream dispenser levers (5).

Fig. 08



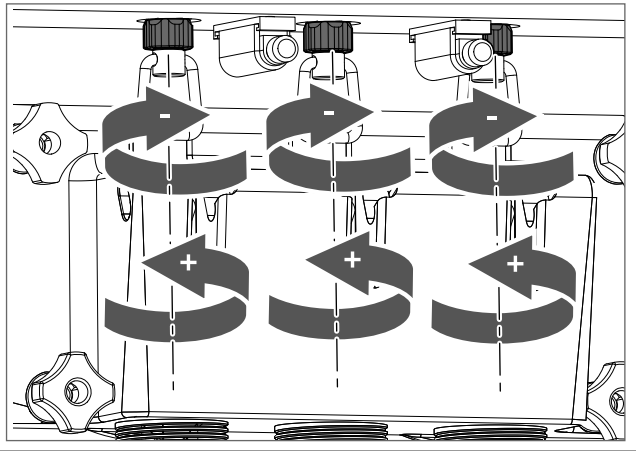
- Open the spigot door cover panel

Fig. 09



- Adjust the three knobs. Rotating them in a counter-clockwise direction the quantity of product dispensed is reduced. Rotating them in a clockwise direction increases the quantity.

Fig. 10



3.4.2 Self closing


The machine is equipped with an automatic return system that brings the ice cream dispenser lever to rest automatically.

This occurs via a spring system connected to the dispensing piston.



NOTE

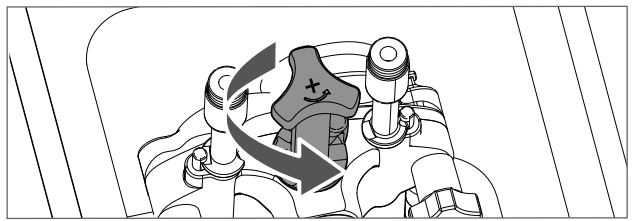


When the  symbol is visualised in Production mode, remove a cone by lowering the dispenser lever until it stops. Re-position the lever in the closed position.

3.5 Machines fed by pump and semi-submersible pump

The pump allows a variation in the proportion of air/mix sent to the cooling cylinders. Therefore, within certain limits, it allows to adjust the volume increase (overrun) suitable to the type of mix used. By turning the middle lever counter-clockwise the overrun is increased.

Fig. 11

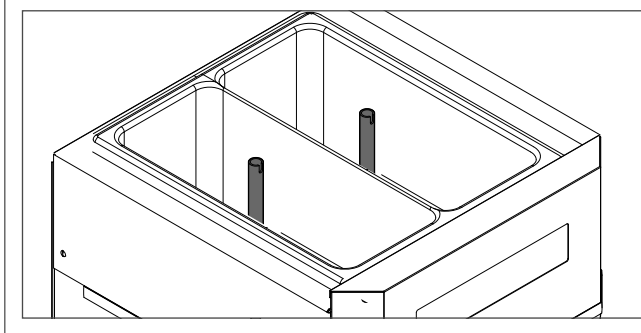


3.6 Gravity-fed machines – feed needle

Instructions for achieving and maintaining the good functioning of the machine.

- Always keep the level of the mix in the hopper high (at least more than half). The mix in the hopper is stored at 4°C whether in Production mode or Storage mode.
- During the day periodically stir the mix in the hopper using a spatula to avoid the separation of the mix, especially after the machine has been stopped for long periods in Storage mode.
- Always use a fluid mix free of large lumps. A very dense mix with large lumps could block the slot of the feed needle thereby stopping the loading of the whipping cylinder.
- Keep the cursor of the feed needle (pos. 52) in a position that permits the mix to fall correctly from the hopper into the whipping cylinder. Rotating the slot of the cursor so that it is aligned with the lower diameter hole, the quantity of mix that drops into the hopper is reduced. Rotating the slot of the cursor in correspondence to the upper hole diameter, the quantity of mix is increased that drops into the cylinder.
- Position the feed needle in such a way that the entry hole of the product is turned towards the centre of the hopper.
- Do not exceed the production parameters indicated in paragraph 1.2.2 and maintain regularity in the distribution of cones and tubs. Exceeding the limits of production capacity indicated could block the machine. In this case the alarm message “ICE” could appear on the display. If this occurs, reset the functionality of the machine as follows:
 - Place the machine in Stop mode.
 - Remove the feed needle to allow a free fall of mix into the cylinder.
 - Place the machine in Cleaning mode for a few minutes.
 - Ensure that a liquid product pours out from dispensing tap.
 - Replace the feed needle checking that the cursor is sufficiently open.
 - Switch on the machine again and put it into Production mode. Wait for it to stop and then commence distribution again.

Fig. 12



3.7 Preliminary operations, washing and sanitising

Before using the machine for the first time, thoroughly clean all components as well as sanitising the parts that come into contact with the ice cream.

Refer to section 5 of this manual for machine disassembly and cleaning procedures.



NOTE



Cleaning and sanitisation are operations that must be carried out with maximum care to ensure production quality and compliance with required hygienic norms.

3.8 Commissioning the machine

After installing the machine in compliance with the instructions contained in the “Installation” chapter of this manual and after thoroughly washing and sanitising the machine, proceed as follows:

3.8.1 Starting the machine that has a pump

Take the compression hose from the tray and plunge it into the cleaning/sanitising solution for the amount of time indicated by the manufacturer of the product used.

Loading the hopper:

- Take a tub of mix from the refrigerator.
 - NOTE: Load a mix that has a temperature of 4-5°C.**
- Place a bucket under the spigot door and pour a small quantity of mix (approximately 100 ml) into the hoppers, lower the ice cream dispenser levers and let the mix flow completely out so as to eliminate any residues of water and detergent/sanitising solution. Bring the ice cream dispenser levers back to the original position and continue to pour the mix so that it fills the cylinder by gravity.
- When the cylinder is full and the hopper almost empty,




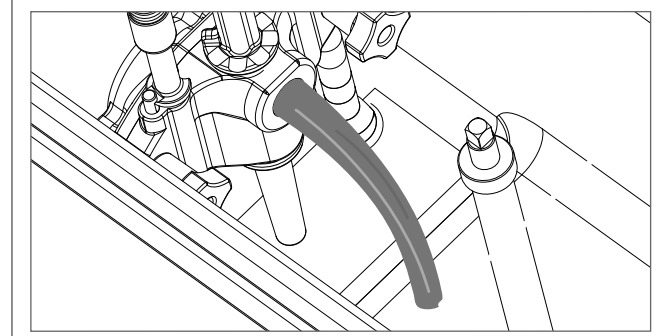
press the  key and then press the  key to verify the correct operation of the pump (the flow of the mix must be a good jet). In the event of fault, refer to paragraph 6.1. To deactivate the function press the  key again.

Fig. 13



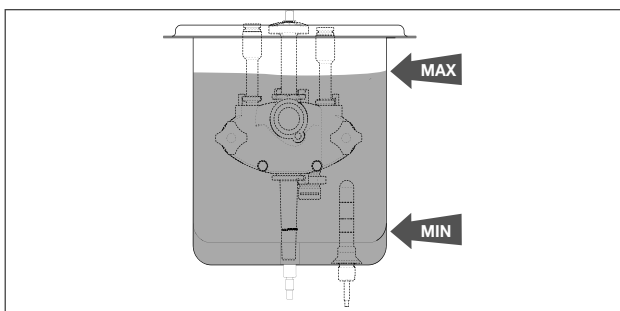
Assembling the compression hose:

- With clean, sanitised hands (or wearing disposable gloves) take the compression hose from the detergent/sanitising solution, ensure that the solution does not remain into the tube and place it onto the bottom of the hopper.
- Rotate the compression hose counter-clockwise in order to align it with the pump. Insert the connecting pipe into the pump and rotate it until it is fastened.
- Pour the mixture into the hoppers until they are full.

NOTE

The level of mix in the hoppers must not exceed the maximum level indicated on the hopper walls.

Fig. 14



- Cover the hopper with the lid.
- Place the machine in Production mode by pressing the key.
- After few minutes the product can be dispensed..

3.8.2 Starting a gravity-fed machine

Take the feed needle from the tray and immerse it in the detergent/sanitising solution for the amount of time indicated by the manufacturer of the product used.

Loading the hopper:

- Take a tub of mix from the refrigerator. **NOTE: Use a mix that has a temperature of 4°C/5°C.**
- Place a bucket under the spigot door and pour a small quantity of mix (approximately 100 ml) into the hoppers, lower the ice cream dispenser levers and let the mix flow completely out so as to eliminate any residues of water and detergent/sanitising solution. Bring the ice cream dispenser levers back to their original positions and continue to pour the mix so that it fills the cylinder by gravity.
- During this phase only the cylinders are filled. The hopper remains almost empty to carry out the following operations.

Assembly of the feed needle:

- With clean and sanitised hands (or wearing disposable gloves), remove the feed needle from the sanitising solution ensure that the solution does not remain into the tube, and insert it into the bottom of the hopper.
- Pour the mixture into the hoppers until they are full.

NOTE

The level of mix in the hoppers must never exceed the height of the feed needle.

- Cover the hopper with the lid.
- Place the machine in Production mode by pressing the key.
- After few minutes the product can be dispensed.

3.8.3 Dry filling (if present)

WARNING

All machines preset for the dry filling function must be connected to the drinking water mains system. If the microbiological characteristics of the water are not periodically checked and/or the powder food preparations used are not sterile, CARRYING OUT PASTEURISATION HEAT TREATMENT IS HIGHLY RECOMMENDED each time they are loaded and topped up.

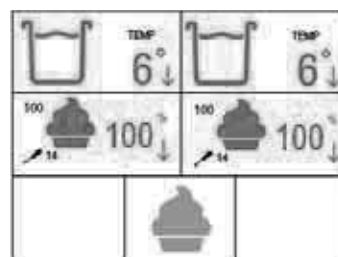
LOADING THE MIX - How to carry out a Dry Filling after cleaning and sanitising machine

Carrying out a DF procedure must take place only once the machine has been cleaned. The DF procedure is enabled if the Medium level or the Minimum level is uncovered (and consequently the Medium level).

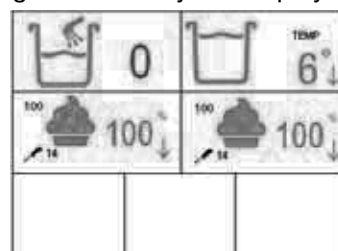
With clean, sanitised hands (or wearing disposable gloves) proceed as described below.

- Turn the tap on the top of the machine and point it towards the inside of hopper.
- The machine is in Stop mode. Press the key.

The display visualises:

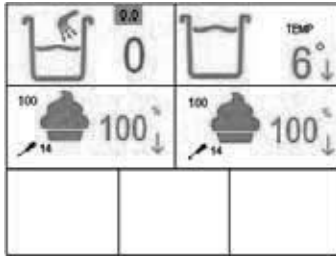


- By pressing the key the display shows:

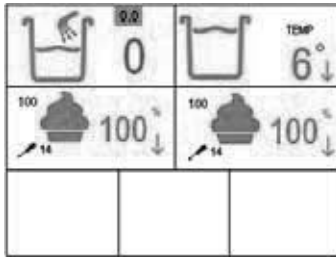


If no key is pressed within ten seconds the display returns to the standard view.


By pressing the  key the display shows:

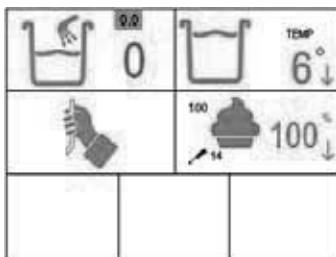


- The Up and Down keys are activated so that the operator can change the liter quantity.



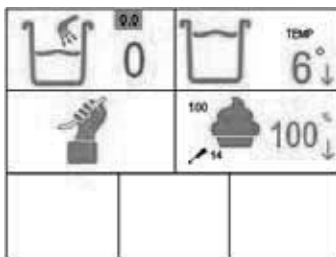
- The quantity can be modified by using the arrow keys in steps of 0.1 l. If no key is pressed for ten seconds the visualisation returns to the standard display.

- To start the DF procedure, press the  key.
- At this point add the powder mix. In the meantime, clean the upper part of the machine with a sanitised cloth and close the lid of the hopper (Refer to paragraph 3.7).
- If the DF procedure is carried out with the minimum level uncovered (and the previous function was Stop), after completing the DF procedure, the mixing and the loading for 30" with pump, the display visualised as follows:



to indicate to de-pressurise the cylinder by pulling the relevant lever.

- After pulling the lever, on the display is shown:



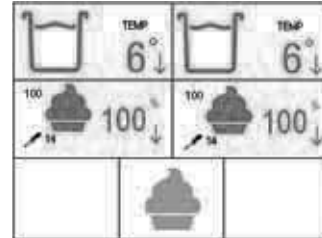
to indicate to de-pressurise the cylinder by pulling the relevant lever.

- After a few minutes the beating stops and the machine is ready for production.














3.9 Production

Production can be accessed only if there is a minimum level of mix in the hopper.

Pressing the key  the display visualises:



Where:

	Hopper mix level.  : more than half full,  : less than half full,  : less than minimum.
	Number of cones that can be dispensed with less than minimum mix. It appears only when mix falls below minimum level required.
	Hopper temperature. If <40°C the temperature color is blue. If >=40°C the temperature color is red.
	Arrow visible if the hopper is cooling.
	Set consistency to be reached.
	Mix not ready for dispensing. When consistency is reached the icon will change to  .
	Actual consistency (HOT).
	Arrow visible if the cylinder is cooling.
 14	Days left until washing is required.

Versions with mixer and water dispensing

The three keys are visualised as follows:

<p>Standard machine. The cone indicates machine in Production mode. Key not active.</p>	
<p>Machine with water dispensing The cone indicates machine in Production mode. Key not active. The sprayer key is a non active key (grey).</p>	
<p>Machine with mixer. The cone indicates machine in Production mode. Grey key not active. The mixer is an active (blue) key.</p>	
<p>Machine with mixer and water dispensing The cone indicates machine in Production mode. Key not active. The mixer key is active (blue), acting as a toggle. The mixer stops automatically after a programmed timer expires or by pressing the mixer key. The sprayer key is a non active key (grey).</p>	

NOTE

During the production phase it is recommended to activate the “Key locking” function described in paragraph 3.3.2 of this manual.

NOTE

When the level indicator lights up, only a pre-set number of portions can be dispensed after which the dispensing keys are locked until the hopper is filled with mix.

NOTE

When the symbol is visualised in Production mode, remove a cone by lowering the dispenser lever until it stops. Re-position the lever in the closed position.

3.10 Pasteurisation (for the “SP” machines)

The machine is equipped with a function that allows to carry out Pasteurisation automatically every day at an established time.

Pasteurisation can also be activated manually by pressing the pasteurisation key.

The product, whether in the hopper or the cylinder, is heated to 65°C and maintained at this temperature for 30 minutes. Then it is cooled until the storage temperature has been reached.

At the end of the cycle the display visualises “Pasto End” which means that the pasteurisation process has been carried out correctly.

Pasteurisation cannot be started if the hopper is less than half full.

3.11 Daily cleaning – Opening and closing procedures

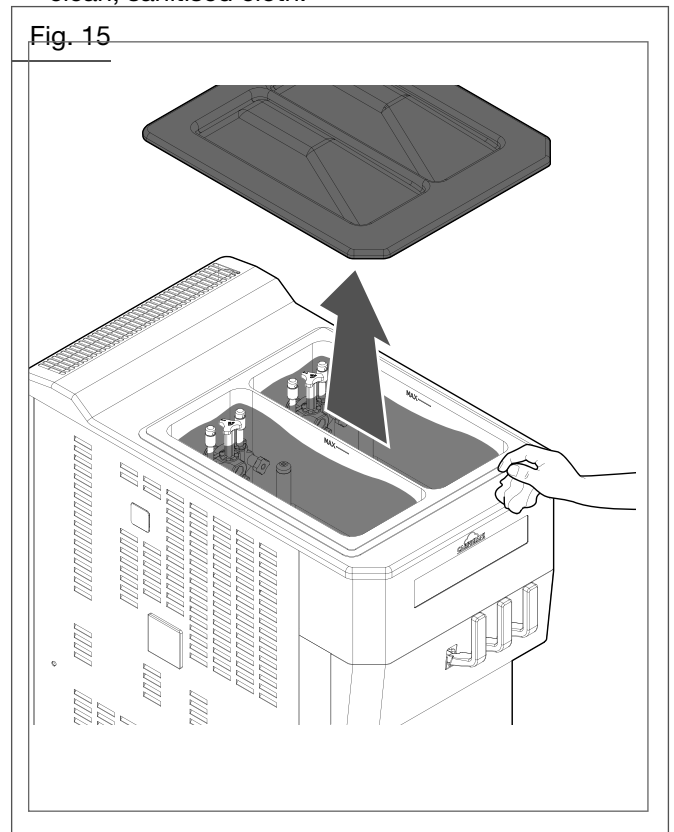
3.11.1 Daily closing procedures

With clean, sanitised hands (or wearing disposable gloves) carry out the following procedures:

- Keep the machine in Production mode.

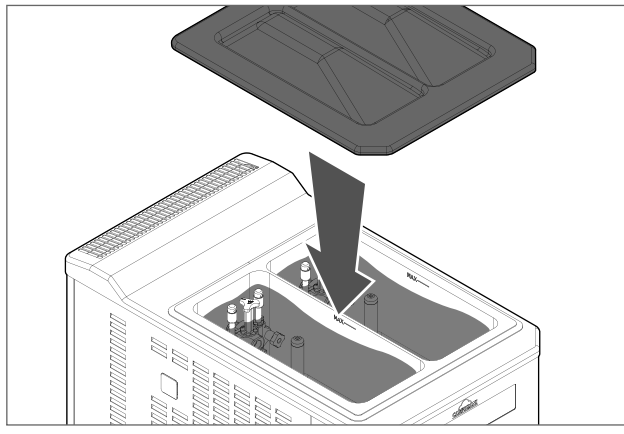
Disassembly and cleaning of the components:

- Remove the hopper cover, wash, sanitise and rinse it in a container.
- Clean the outside part of the hoppers by using a clean, sanitised cloth.



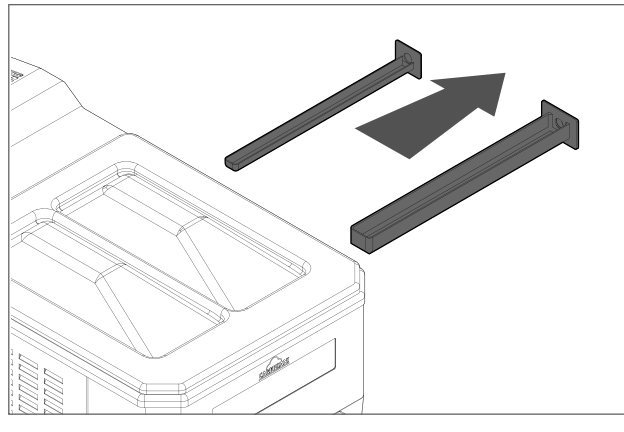
- Reposition the lid onto the hopper after sanitization.

Fig. 16



- Remove the drip drawers on the side of the machine, wash, sanitise and rinse them.

Fig. 17



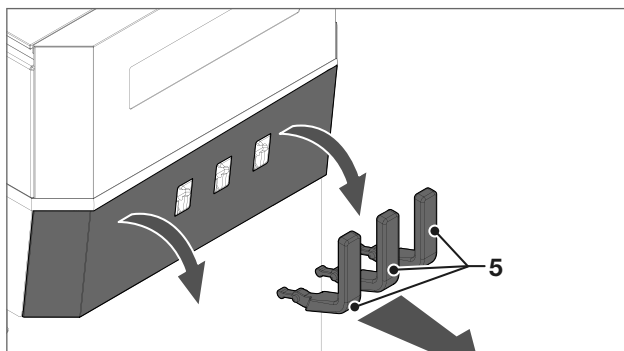
NOTE



Notify an authorised technician if any mix leaks in the drip drawers.

- Reposition the drip drawers onto the machine.
- Remove the dispenser levers (5).
- Using both hands, grip the upper part of the spigot door cover panel and pull forward.

Fig. 18



- Grab the panel with your hands at the pins a pull outwards, so as to have the slots stick out and remove the panel completely.

Fig. 19

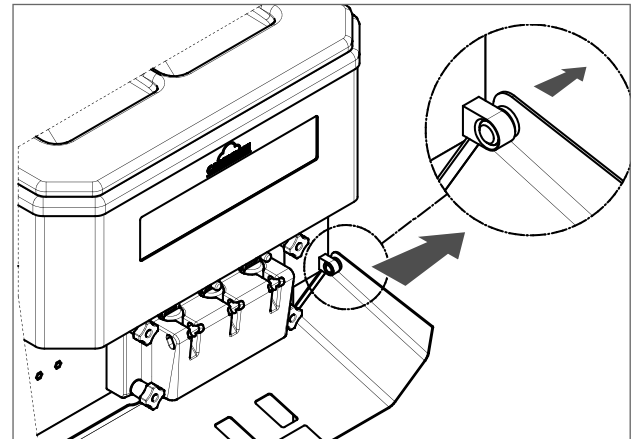
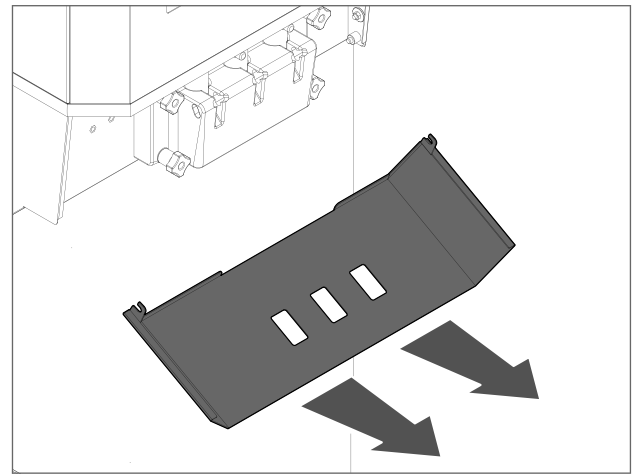
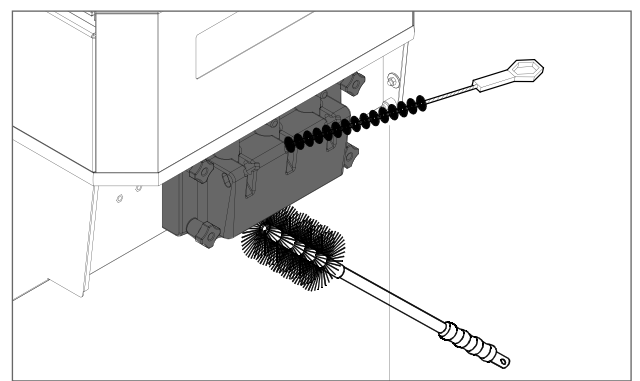


Fig. 20



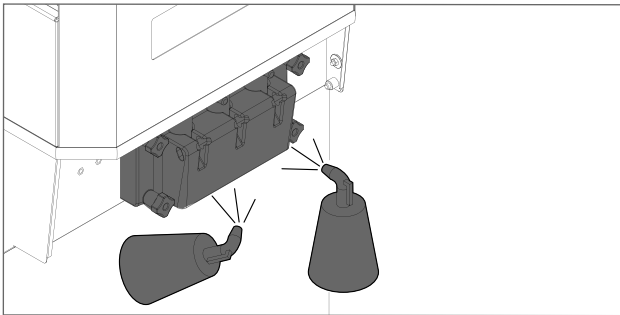
- Wash and sanitise the spigot door cover panel and the ice cream dispenser levers.
- Fill a bucket with cleaning/sanitising solution. Dip the provided brush into the cleaning/sanitising solution and clean the spigot door dispenser and the spigot door itself (especially the piston area) several times.

Fig. 21



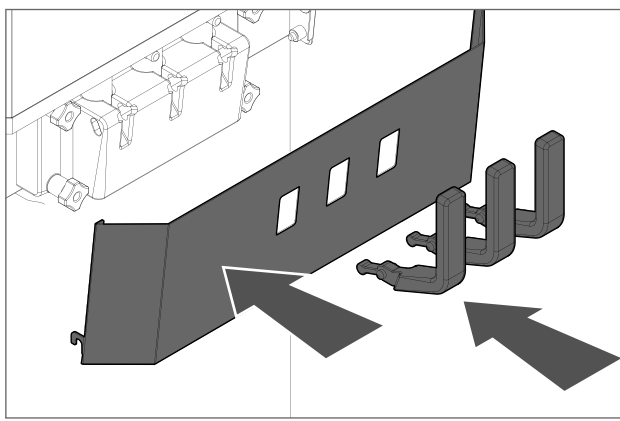
- Spray the sanitising solution on the spigot door's dispensing point and on the spigot door, particularly in the area of the piston.

Fig. 22



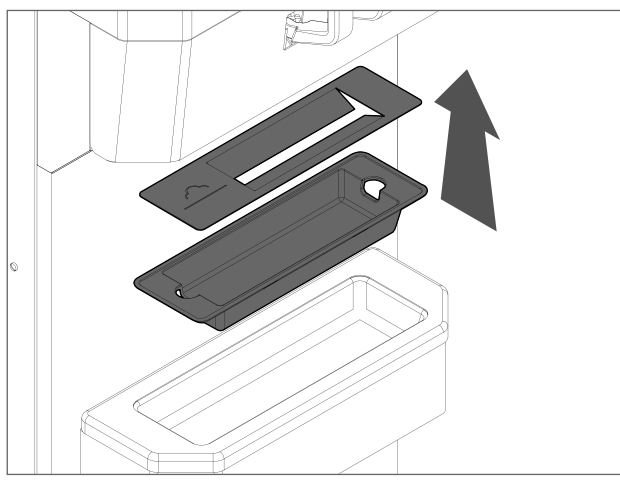
- Clean the spigot door area, the steel part underneath it, the machine front and all "splash" areas with a clean, sanitised cloth, carefully removing any kind of dampness and product or cleaning/sanitising solution residues.
- Re-assemble the spigot door cover panel and the ice cream dispenser levers.

Fig. 23



- Remove the drip tray and its cover; wash, sanitise, rinse it and then reassemble on the machine.

Fig. 24



Prepare the machine for the pasteurisation night cycle (for "SP" machines)

- Open the lid of the hoppers to check the level of the mix.
- Fill the hoppers with mix at least up to the medium level.
- Keep the machine in Production mode.



WARNING



If the mix in the hopper is below the medium level the Pasteurisation cycle will not start.

The Pasteurisation cycle is automatic and occurs overnight at the set time.

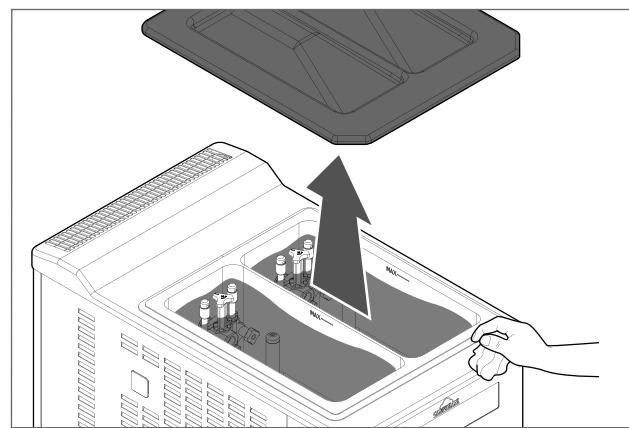
3.11.2 Daily opening procedure

With clean, sanitised hands (or wearing disposable gloves) carry out the following procedures.

Disassembly and cleaning of the lid:

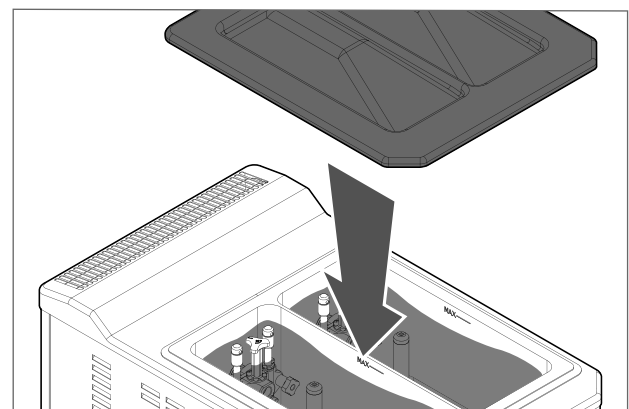
- Remove the hopper lid, wash, sanitise and rinse it in a container.
- Clean the outside part of the hopper by using a clean, sanitised cloth.

Fig. 25



- Reposition the lid onto the hopper after sanitization.

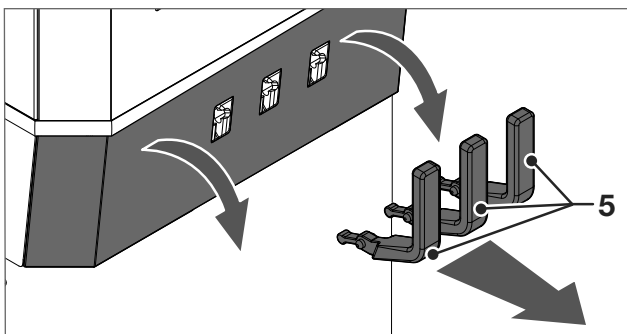
Fig. 26



Spigot door area sanitising:

- Extract the dispenser levers (5).
- Using both hands, grip the upper part of the spigot door cover panel and pull forward.

Fig. 27



- Grab the panel with your hands at the pins and pull outwards, so as to have the slots stick out and remove the panel completely.

Fig. 19

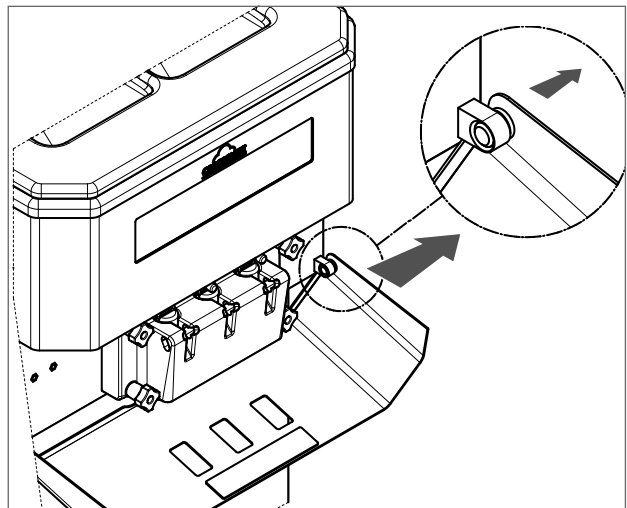
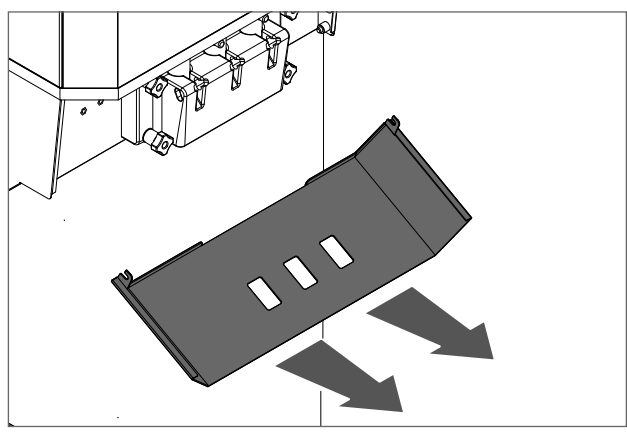


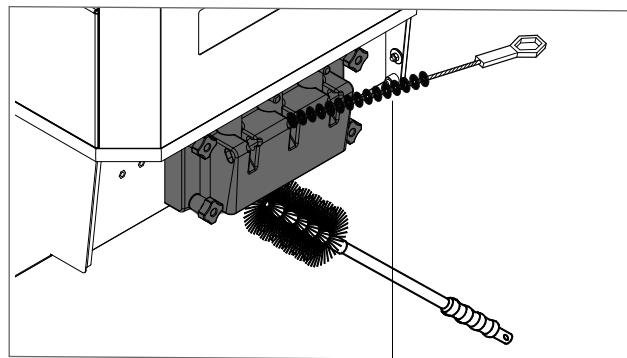
Fig. 29



- Wash and sanitise the spigot door cover panel and the ice cream dispenser levers.
- Fill a bucket with cleaning/sanitising solution. Immerse the supplied brush into the cleaning/sanitising

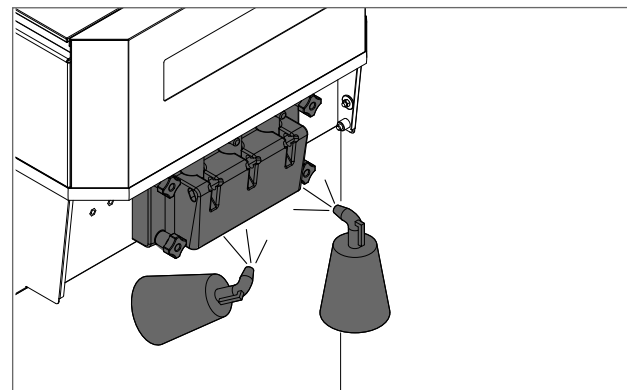
solution and clean the spigot door dispenser and the area of the spigot door piston several times.

Fig. 30



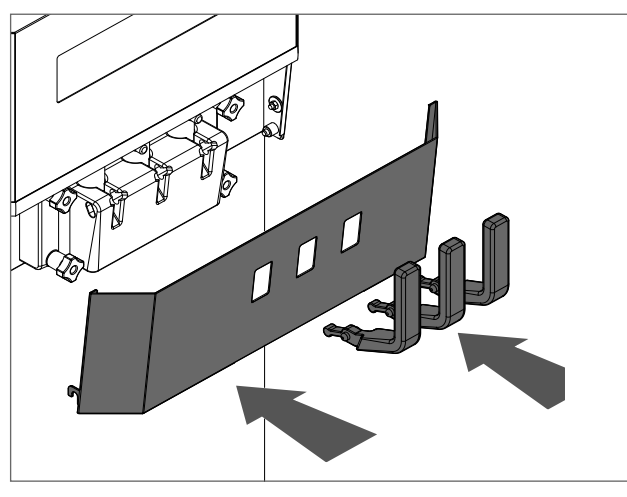
- Spray the cleaning/sanitising solution on the spigot door dispenser and the spigot door itself, particularly in the piston area.

Fig. 31



- Clean the spigot door area, and the machine front with a clean, sanitised cloth, carefully removing any kind of dampness and product or cleaning/sanitising solution residues.
- Re-assemble the spigot door cover panel and the ice cream dispenser levers.

Fig. 32



- Make sure the machine is in Production mode and ready to serve.

4. SAFETY DEVICES

4.1 Alarms

The machine communicates possible alarms by showing messages on the display and flashing the warning triangle.






If an alarm is triggered but then correct functioning is restored, the alarm remains visible on the display without flashing.










To reset the warning message press Storage/Reset .

The machine can be used in Production even if there is an alarm, except in the case of critical alarms. In this latter case, press Stop and do not use the machine until the machine is repaired.

Below is a list of possible alarms:

 ALARM	DESCRIPTION
 Mix Out	The display shows  when the mix falls below the minimum level.
 Add Mix	When the hopper mid-level sensor is uncovered the display shows the corresponding symbol  .
Safety Therm.C.1 (TESC1)	Left cylinder safety thermostat triggered. The machine Stops.
Safety Therm.C.2 (TESC2)	Right cylinder safety thermostat triggered. The machine Stops.
Safety Therm. Hop (TESV)	Hopper safety thermostat triggered. The machine Stops.
Overload Beat.1 (PTMA1)	Left beater motor bimetal thermal protector triggered. The machine Stops.
Overload Beat.2 (PTMA2)	Right beater motor bimetal thermal protector triggered. The machine Stops.
Pressure Switch (PR)	Pressure switch triggered. The machine Stops: <ul style="list-style-type: none"> • after the number of occurrences programmed; • if the pressure switch remains open for 3 consecutive minutes. If the machine was Pasteurizing, the Pasteurisation must be repeated.
Overload Compres (RTC)	Compressor motor thermal relay. The machine Stops.
Overload MP1/MP2 (ptmp1/2)	Pump motors 1 and 2 thermal protector. The machine Stops.
Al. Hopper Probe1 (TEV1)	Left hopper probe malfunction. Since the alarm is critical, the machine Stops during Production, Storage and Pasteurisation.

 ALARM	DESCRIPTION
Al. Hopper Probe2 (TEV2)	Right hopper probe malfunction. Since the alarm is critical the machine Stops during Production, Storage, and Pasteurisation..
Al. Cyl.1 Probe (TEC1)	Cylinder 1 probe malfunction. Since the alarm is critical the machine Stops in Storage and Pasteurisation. Since consistency can be controlled during Production the machine does not Stop if in Production mode..
Al. Cyl.2 Probe (TEC2)	Cylinder 2 probe malfunction. Since the alarm is critical the machine Stops in Storage and Pasteurisation. Since consistency can be controlled during Production the machine does not Stop if in Production mode.
Al. IceHop. Probe (TGV)	Hopper evaporator probe malfunction. The alarm Stops the machine.
Spigot Opened (IMS)	Magnetic Safety Switch (IMS)
Al. Evap. Probe (TE1)	Left cylinder evaporator probe alarm. The alarm Stops the machine.
Al. Evap. Probe (TE2)	Right cylinder evaporator probe alarm. The alarm Stops the machine.
Power On	Power supply returns after power loss. Blackout table is checked if the machine was in Pasteurisation or Production mode. The event is logged in any function.
IceCylinder (ICE)	Cylinder anti-ice. This alarm may be due to insufficient mix feeding into the cylinder.
Timeout Prd.	Refrigeration problems; the product does not harden. Check the quantity of mix in the cylinder, the hopper pump, and the refrigeration apparatus.
Belt alarm (DELTA TGV-TEV)	The hopper beater does not rotate. Check the insertion of beater in its seat.
 Wash in n days (Wash)	During Production, the display shows “  14 ”, meaning that there are N days (14 in the example) before the machine must be washed. A forced washing may be required if the machine is left in Stop mode for 24 hours with mix in the hopper. See WEEKLY CLEANING. In the case of a “Wash today!” alarm, the alarm must be first reset by pressing the Storage key, to open the piston for cleaning the machine.
 Do Not Serve !	In Production, each time the consistency drops below the programmed value, the  icon appears on the display
Switch Phases	It is necessary to invert the two phases on the three-phase cable so that the beater turns in the correct direction.
Pasto Needed!	When the machine is Stopped with mix in the hopper for more than 60 minutes, the TEV temperature is checked to see if it is equal or greater than 15°C. If this is the case, Pasteurisation is required. In this situation, when Production is pressed the machine will automatically start Pasteurisation.

 ALLARME	DESCRIZIONE
Why in STOP ??	If the machine is left in Stop with mix in the hopper, after 30 seconds the flashing message “Why in STOP ??” will appear on the display, accompanied by a periodic beeping sound. This alerts the operator to select either Production, Pasteurization, or Storage mode. The message disappears when Storage is pressed.
Table Updated M.	Message shown every time the programming table is changed.
Table Updated R.	Message shown every time the programming table is changed remotely.
Communic.Error P	Communication errors with the touchpad.
	When this symbol is visualised in Production mode, extract a cone and lower the dispenser lever until it stops. Re-position the lever in the closed position.

4.1.1 Blackout

In the case of a power loss, if the machine was in Cleaning mode, when power returns the machine shifts to Stop.

If the machine was in Pasteurisation heating phase or pause, when power returns the machine will continue with the function it was performing when power was lost. The display will show the message Power On.

If the machine was in Pasteurisation cooling phase, when the power returns the machine will check the TEV temperature and the duration of the blackout. If the length of time is greater than the duration indicated in the table, the machine will completely repeat the Pasteurisation cycle, memorizing the alarm “Mancata Tensione” or “Power On” in the event log.

If the duration is less than the table values, the machine will continue from the point it was at when the power loss occurred.

TEV TEMPERATURE	TIME
68°C ÷ 50°C	30 minutes
49°C ÷ 15°C	10 minutes
14°C ÷ 10°C	20 minutes
9°C ÷ 4°C	2 hours

If the machine was in Production or Storage, when power returns the machine will check the TEV temperature. If it is below a level set by the manufacturer then the machine will continue with the same function as before, showing the Power On alarm on the display. If TEV is greater than this value and the time exceeds the values in the table above, the Pasteurisation cycle will be repeated.

5. DISASSEMBLY, CLEANING AND REASSEMBLY OF THE PARTS IN CONTACT WITH THE PRODUCT

5.1 General information



Cleaning and sanitisation are operations that must be carried out with utmost care on a regular basis and at the end of each production run to guarantee production quality and compliance with required hygienic norms.

Letting dirt dry out can greatly increase the risk of ring marks, spots and damage to surfaces.

Removing dirt is much easier if it is done immediately after use as some elements containing acid and saline substances could corrode the surfaces. Prolonged soaking is not recommended.

5.2 Washing conditions

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

When manually washing never use powder or abrasive products, abrasive sponges or pointed utensils which can dull surfaces, remove or deteriorate the protective film that is present on the surface thus scoring the surface.

Never ever use metal scouring pads or synthetic abrasives whose scouring action could remove ferrous parts and risk causing oxidisation or making the surfaces vulnerable.

Avoid using detergents that contain chlorine and its components. The use of these detergents such as bleach, ammoniac, hydrochloric acid and decalcifiers can attack the composition of the steel, marking it and oxidising it irreparably and damaging the "plastic" parts.

Do not use dishwashers and their detergent products.

The use of a cleaning/sanitising solution allows to optimise the washing and sanitising process since it avoids two procedure phases (i.e. a rinse and a washing phase); basically the use of a cleaning/sanitising solution allows saving time by facilitating and simplifying washing/sanitising procedures.

5.3 Suggestions

Use a mild detergent solution to wash parts.

Manually wash parts in water (max 60°C) using a mild detergent and the supplied cleaning brushes.

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

To sanitise leave the disassembled parts in sanitised lukewarm water for the time recommended by the manufacturer (**use the sanitising product following the instructions of the manufacturer**) and rinse them before reassembling.

When the washing procedure has been completed and before reassembling components, dry each one thoroughly with a clean, soft cloth suitable for use with foodstuffs, in order to remove any traces of humidity rich in mineral salts and chlorine that could attack the metal surfaces and leave opaque traces.

Carpigiani recommends the use of a cleaning/sanitising solution to wash the machine.

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

During the cleaning procedures, Carpigiani recommends to use the supplied brushes that must be washed and sanitized before and after 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 control of all its parts made of thermosetting materials; plastics, elastomers, silicone and metal (for example, scrapers, pump gears, beaters, etc...). All parts must be whole, not worn, without cracks or splits, or opaque if originally polished/ transparent. Carpigiani declines all responsibility for any damage caused by imperfection and/or undetected breakages and not promptly solved by the replacement with genuine spare parts and is available for consultation and for any specific request made by the customer.

5.4 How to use cleaning/sanitising solution



Follow the instructions on the label of the product used to prepare the cleaning/sanitising solution.

Washing/sanitisation by immersion of components

- Manually remove the bulk residues using the supplied brushes.
- Remove finer residues with a jet of water.

- Dip the parts to be cleaned into the cleaning/sanitising solution.
- Allow to soak in the solution for the time indicated by the manufacturer.
- Rinse the parts with care, using plenty of clean drinking water.

5.5 Daily cleaning

Cleaning and sanitisation operations must be carried out daily with the utmost care and attention every time the machine is switched on and switched off to guarantee the quality of the product. Respect hygienic standards by scrupulously following the instructions provided in paragraph 3.11.

5.6 Scheduled cleaning

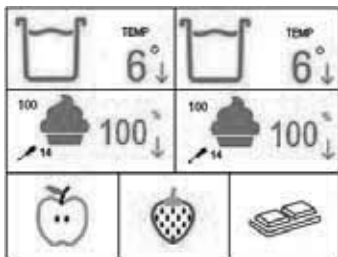
The machine is equipped with an automatic system which activates cleaning of the parts in contact with the product at scheduled times.

Such system, called “WASH”, inhibits the dispensing function when the scheduled time comes.

WARNING

Cleaning and sanitising procedures have to be carried out with the utmost care on a regular basis according to the scheduled date shown on the machine display to ensure production quality and the compliance with the necessary hygienic rules.

During Production th display shows the number of days until the next required washing:



When the schedules wash day arrives, Production is inhibited and the machine will not accept that function. The display shows:

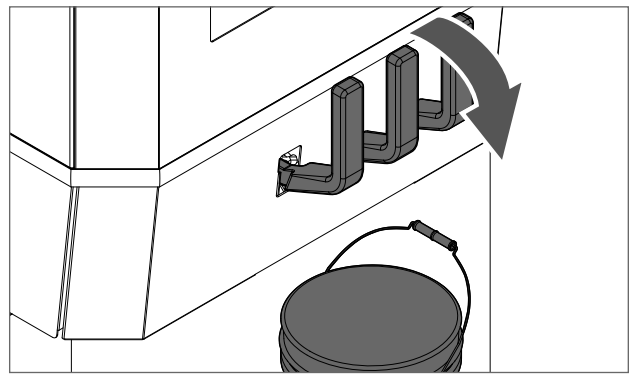


To reset the machine to the number of days programmed in Wash Days, the machine must first be washed.

5.6.1 Mix emptying

- Place a bucket under the dispenser spigot door.
- Press the button .
- Lower the dispenser lever and drain out all the product from the cylinder.

Fig. 33



- Select the function and then select .

NOTE

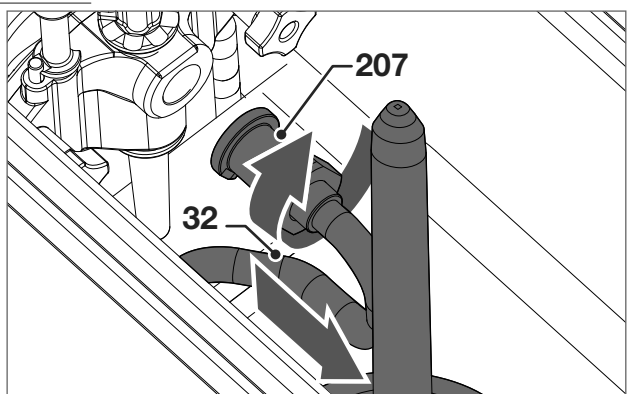
It is recommended to select the Heated Beating to make emptying the cylinder easier if ice cream is still inside.

- When the mix becomes liquid, press the key and continues to drain out the mix.
- Remove the hopper lid.

5.6.2 Pump-fed machines - Removing the pumps from the hoppers

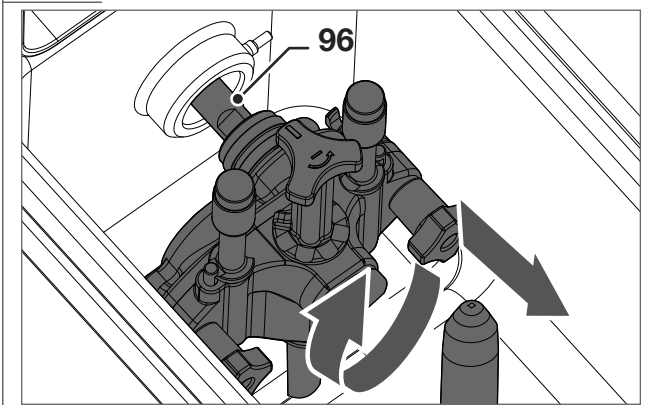
- Rotate the connection hose (207) until its notch is aligned with the pin on the pump, pull it forward so as to disconnect it from the pump.
- Remove the compression hose (32) by rotating it 90° and removing it from its seat in the hopper. At this point open the dispenser lever and continue to drain out the mix.

Fig. 34



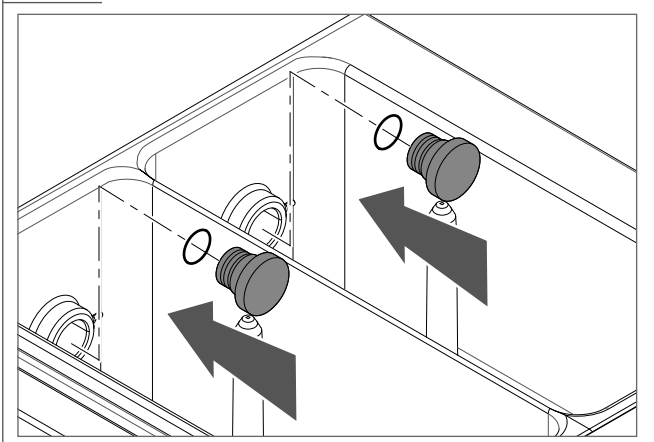
- Disassemble the pump by rotating it 45° clockwise and by taking it out frontally.
- Remove the pump shaft (96) and the seal by taking it out frontally.

Fig. 35



- Repeat the previous operations on the second hopper.
- Insert the O-ring in the supplied plug and insert it into the pump housing hole so as to close the hopper.

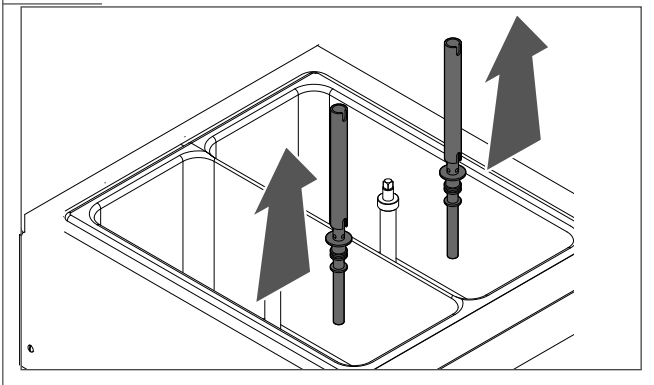
Fig. 36



5.6.3 Gravity-fed machines - Removing the feed needles.

- Remove the feed needles from the bottom of the hopper.

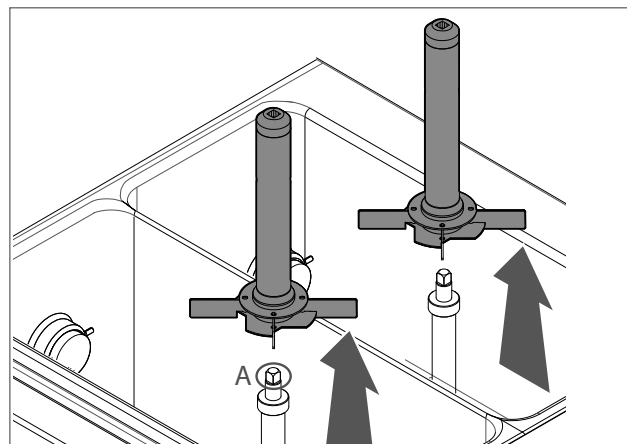
Fig. 38



5.6.4 Remove hopper beaters

- Remove the beaters in the hopper by pulling them upwards.

Fig. 37



5.6.5 Hopper cleaning

- Pour clean warm water into the hopper.



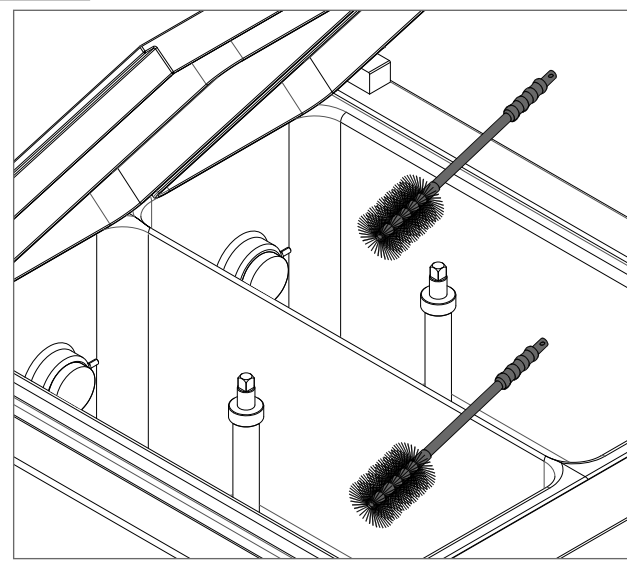
WARNING



Never exceed the maximum level indicated on the hopper walls.

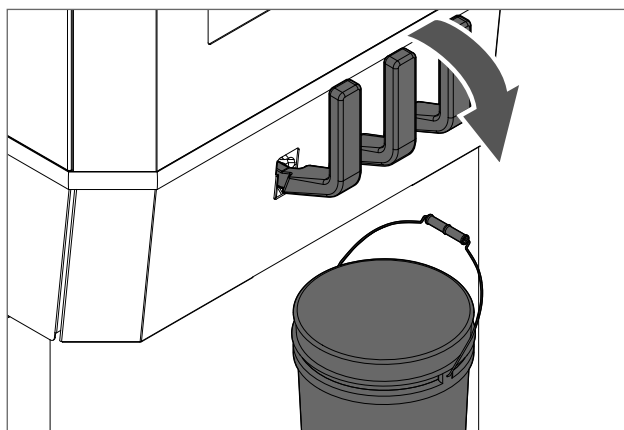
- Use the supplied brushes to clean the sides of the hopper, the level sensors, the beater shafts and interstice (A) and the hopper. Using the smallest brush, clean the seat of the compression hose or the feed needle on the bottom of the hopper. Discharge water from the hoppers using the dispenser levers and repeat many times the operation until clean water is obtained.
- Repeat the two previous procedures by using a cleaning/sanitising solution.

Fig. 39



- Position a bucket underneath the spigot door, lower the dispenser levers and allow the solution to flow.

Fig. 40






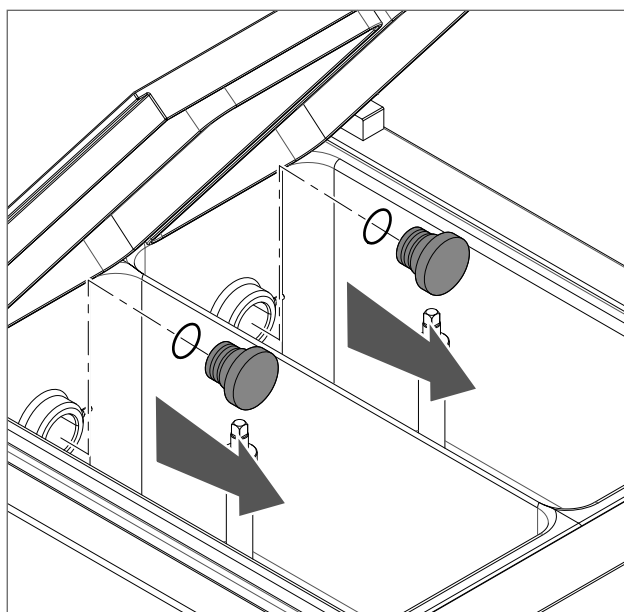
- Select the function  and then select . Let the machine operate for 10 seconds.
- Press the button  and discharge the water completely.
- Rinse with warm water until clean water comes out.
- Remove the plug from the pump housing hole.

Fig. 41



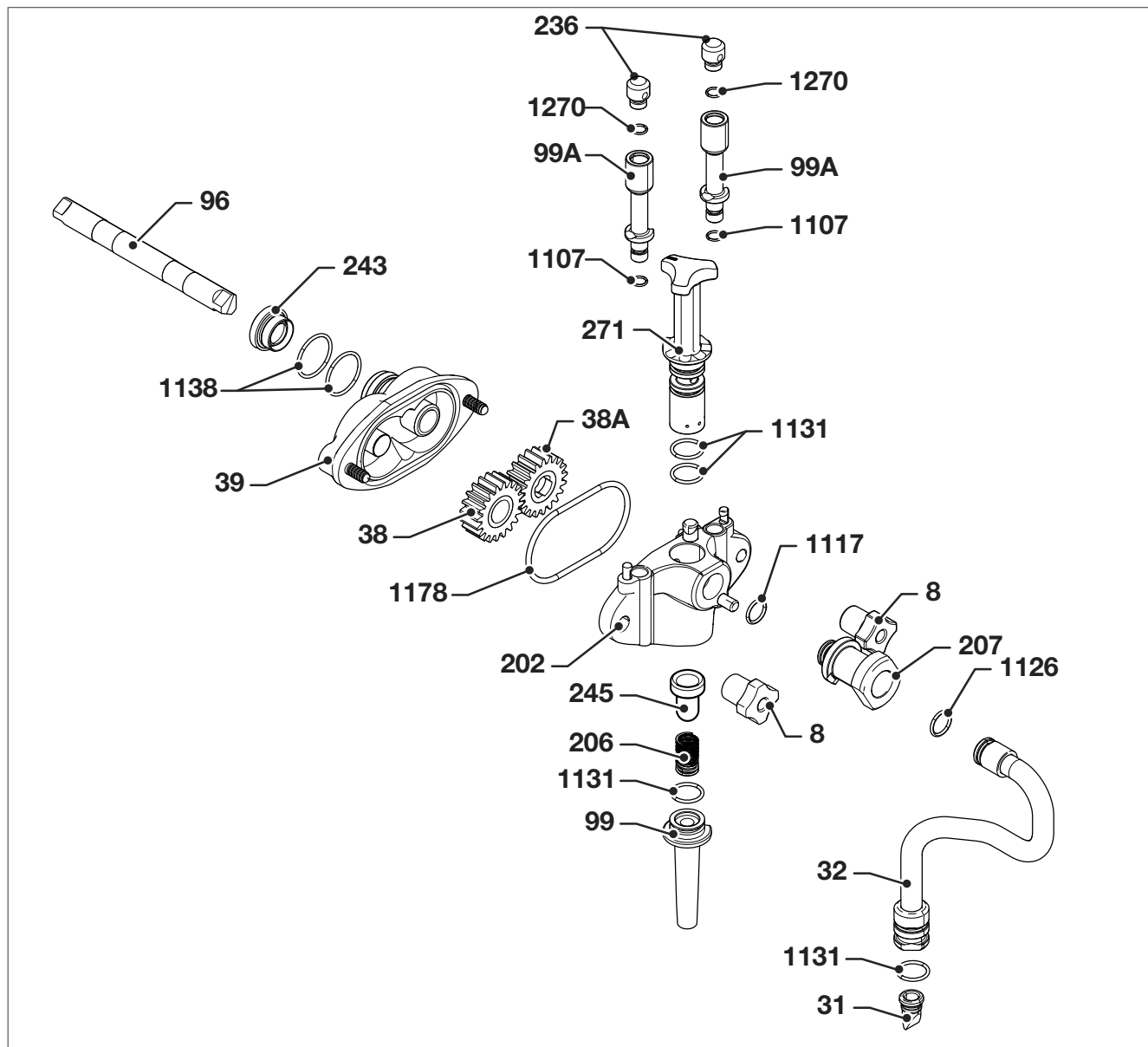
- Spray the cleaning/sanitising solution around the pump housing hole. Immerse a fine brush in the cleaning/sanitising solution and clean the pump housing hole several times.

**NOTE**

The plug and its O-ring must be washed and sanitised.

5.6.6 Machine with pump – Pump disassembling

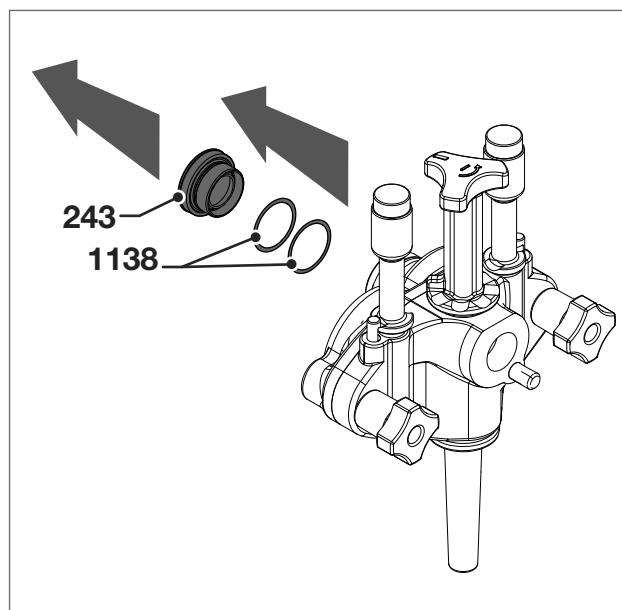
Fig. 42



- | | | | |
|------------|------------------|-------------|----------------|
| 8 | Pump knob | 236 | Plug |
| 31 | Membrane valve | 243 | Pump body seal |
| 32 | Compression hose | 245 | Pump valve |
| 38 | Driven gear | 271 | Pump regulator |
| 38A | Driving gear | 1107 | O-ring |
| 39 | Pump body | 1117 | O-ring |
| 96 | Pump shaft | 1126 | O-ring |
| 99 | Suction pipe | 1131 | O-ring |
| 99A | Air inlet pipe | 1138 | O-ring |
| 202 | Pump cover | 1178 | O-ring |
| 206 | Spring | 1270 | O-ring |
| 207 | Connection pipe | | |

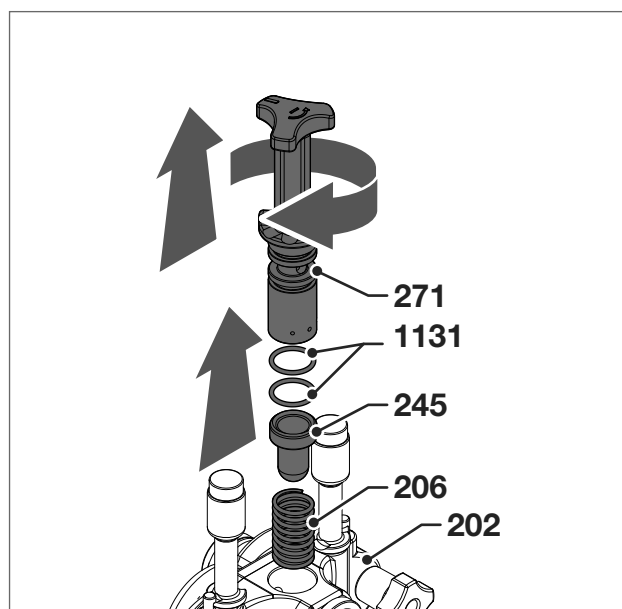
- Remove the seal (243) and the two O-rings (1138).

Fig. 43



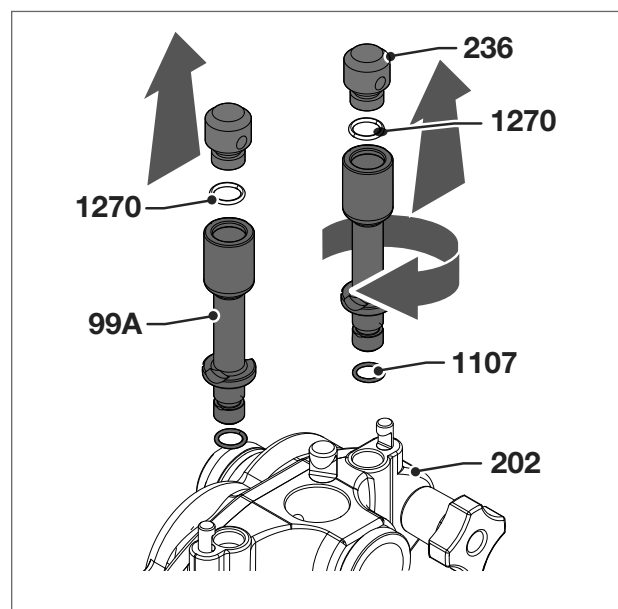
- Remove the pump regulator (271) from the pump cover (202) by rotating it clockwise until the notch located on the regulator is aligned with the pin on the pump cover and pull it out. Use the O-ring extractor (1131) to remove the two O-rings located on the pump regulator.
- Remove the spring (206) and the pump valve (245).

Fig. 44



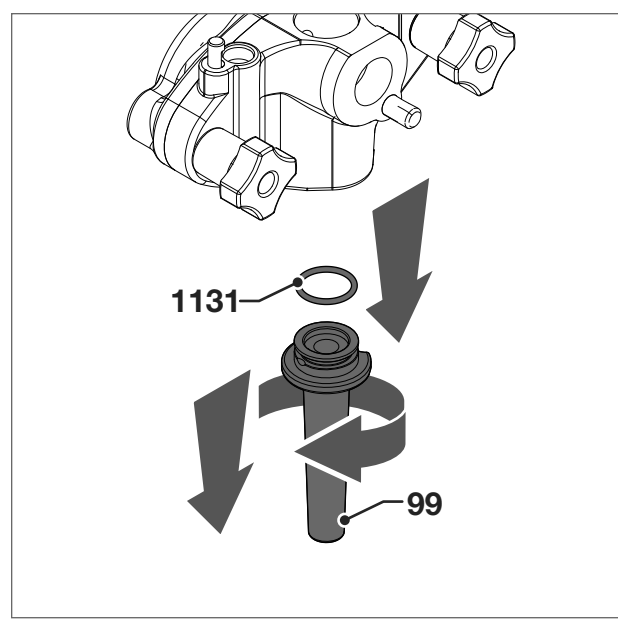
- Remove the two air inlet pipes (99A) from the pump cover (202), pushing and rotating them until the notches positioned on the pipes are aligned with the pins situated on the pump cover.
- Remove the plugs (236) and the O-ring (1270) from the air inlet pipes (99A).
- Remove the O-rings (1107) from the air inlet pipes (99A).

Fig. 45



- Keep the suction pipe (99) vertical, rotate it until the notch is aligned with the pin situated on the pump.
- Use an O-ring extractor to take the O-ring (1131) out from the suction pipe (99).

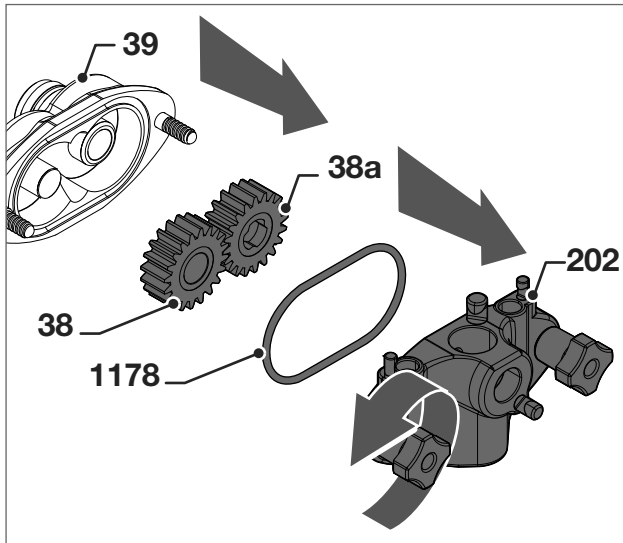
Fig. 46



- Unscrew the two knobs and separate the pump cover (202) from the pump body (39).

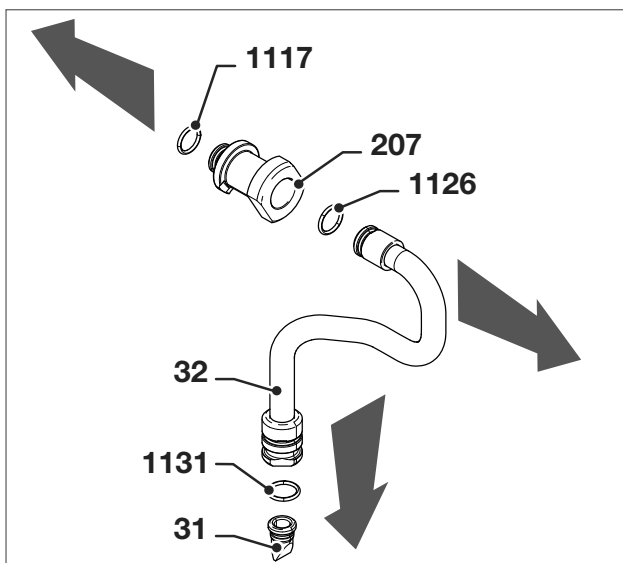
- Use an O-ring extractor to remove the O-ring (1178).
- Remove the gears (38-38A).

Fig. 47



- Remove the connection pipe (207) from the compression hose (32).
- Remove the O-rings (1117), (1126), (1131) and the valve (31).

Fig. 48

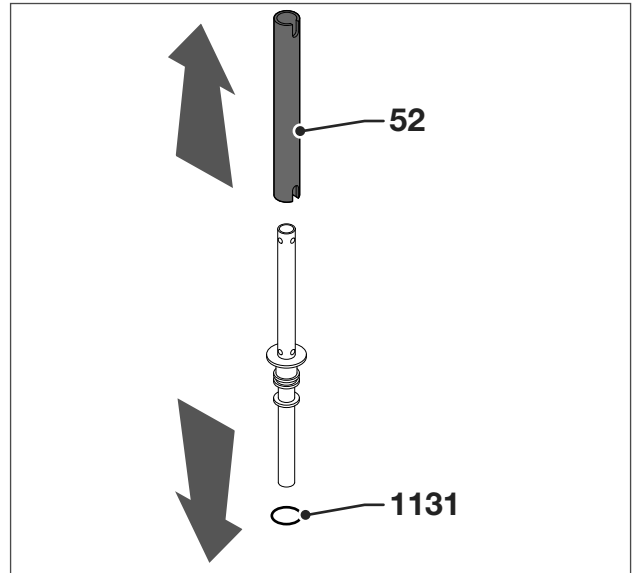


5.6.7 Gravity-fed machines – removal of the feed needle

Proceed as follows to remove the feed needle:

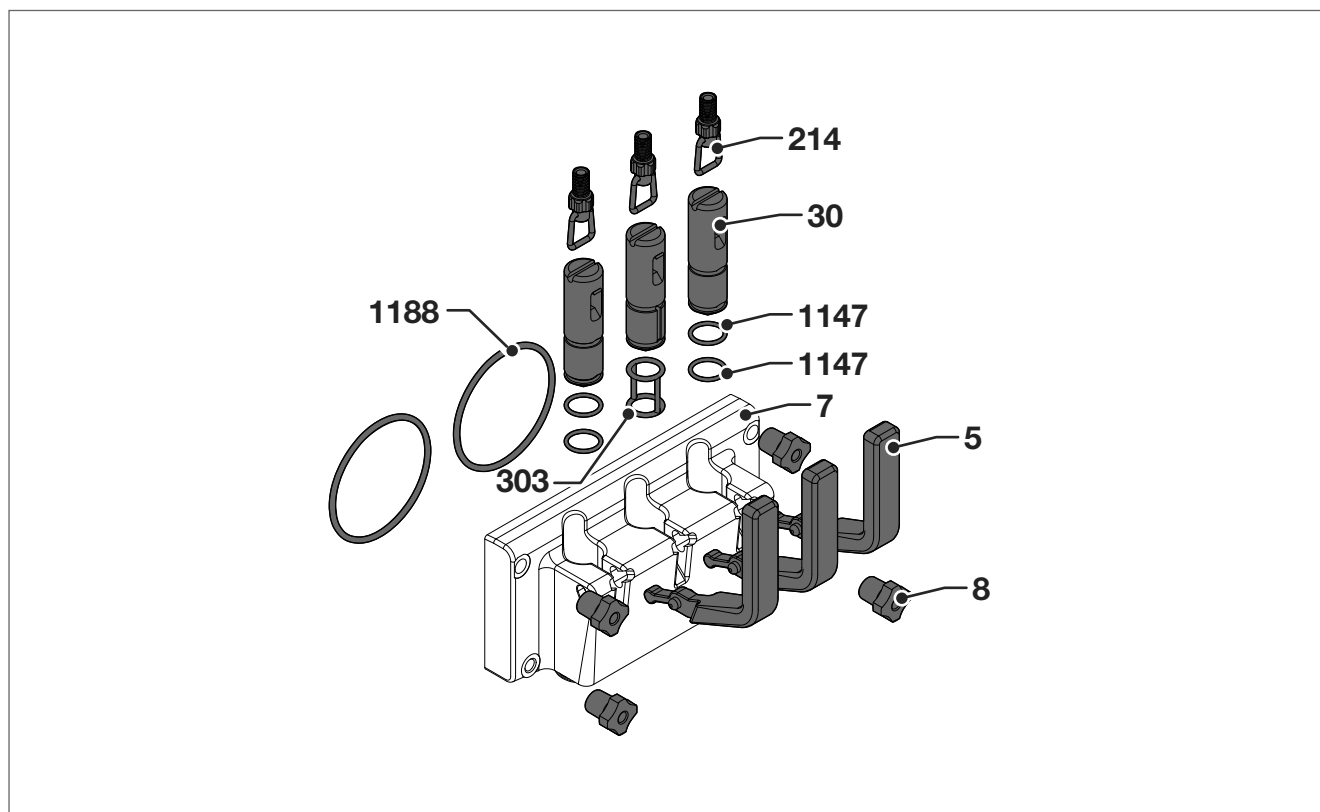
- Remove the cursor of the feed needle (52).
- Remove the needle O-ring (1131).

Fig. 49



5.6.8 Disassembly of the spigot door

Fig. 50



- | | | | |
|-----|------------------|------|-----------------|
| 7 | Dispensing door | 214 | Adjusting screw |
| 8 | Knob | 303 | O-ring |
| 5 | Dispenser levers | 1147 | O-ring |
| 30A | Piston | 1188 | O-ring |

WARNING

Before disassembling the dispensing spigot door, make sure the hoppers and the cylinders are empty, and the machine is in stop mode.

- Grab the panel with your hands at the pins a pull outwards, so as to have the slots stick out and remove the panel completely.

Fig. 51

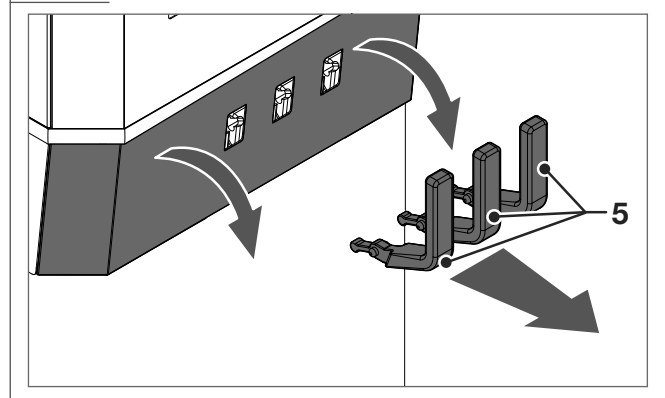


Fig. 19

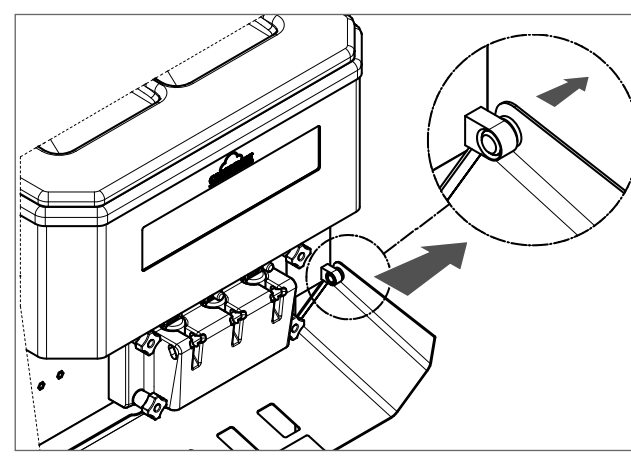
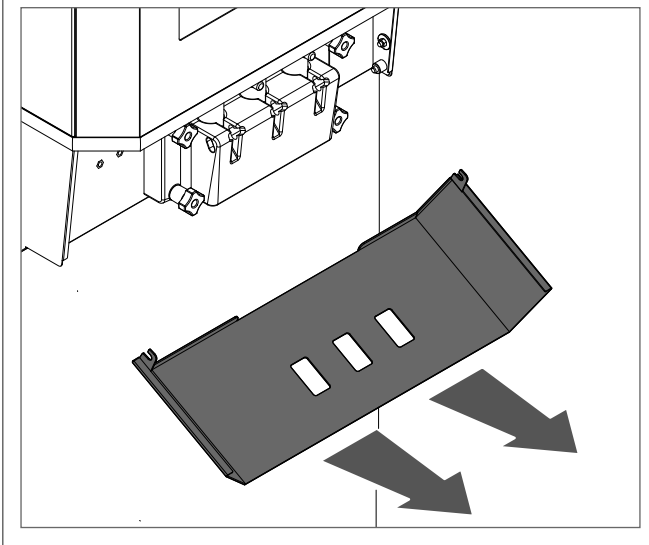
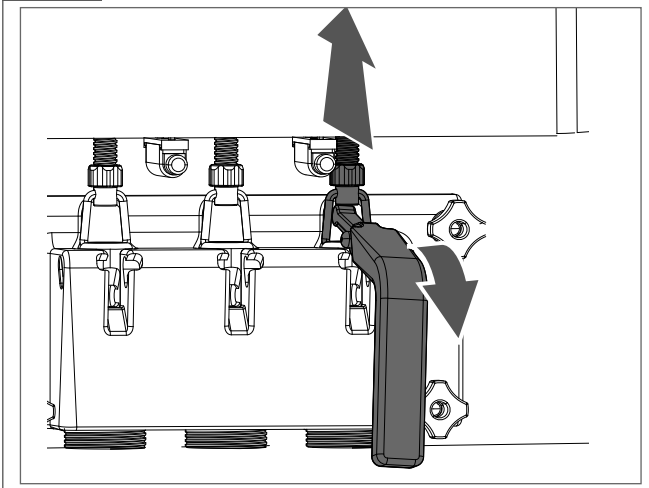


Fig. 53



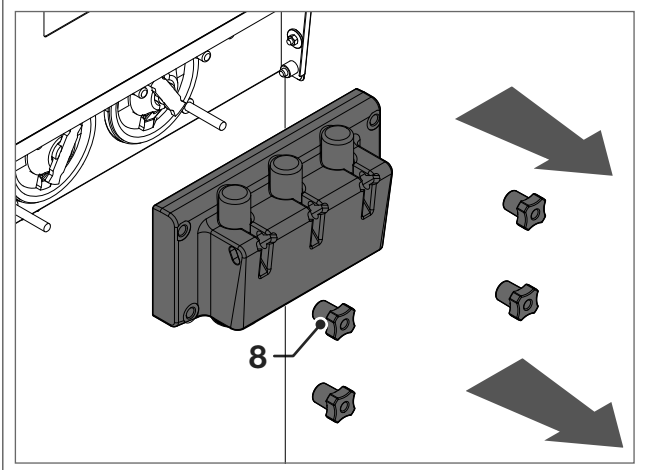
- With the help of a dispenser lever (5), push the adjusting screw (214) upwards to free the ring from its position on the piston (302) and to completely remove the screw.

Fig. 54



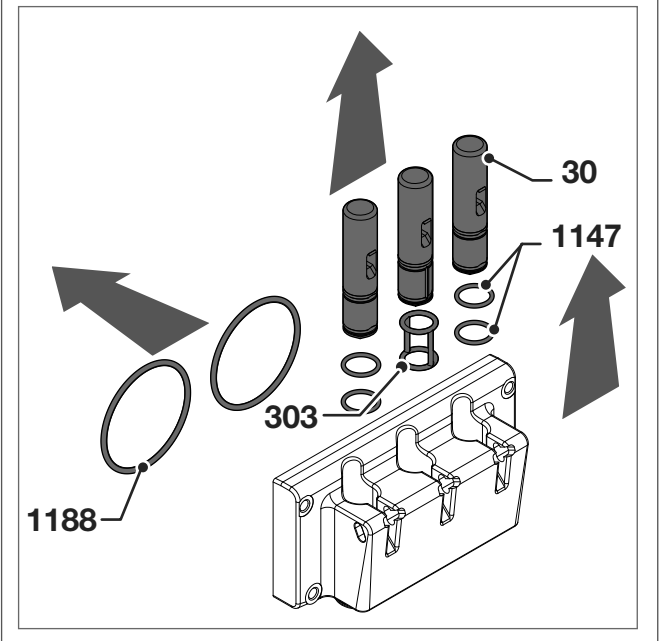
- Unscrew the knobs (8) and remove the dispensing spigot door.

Fig. 55



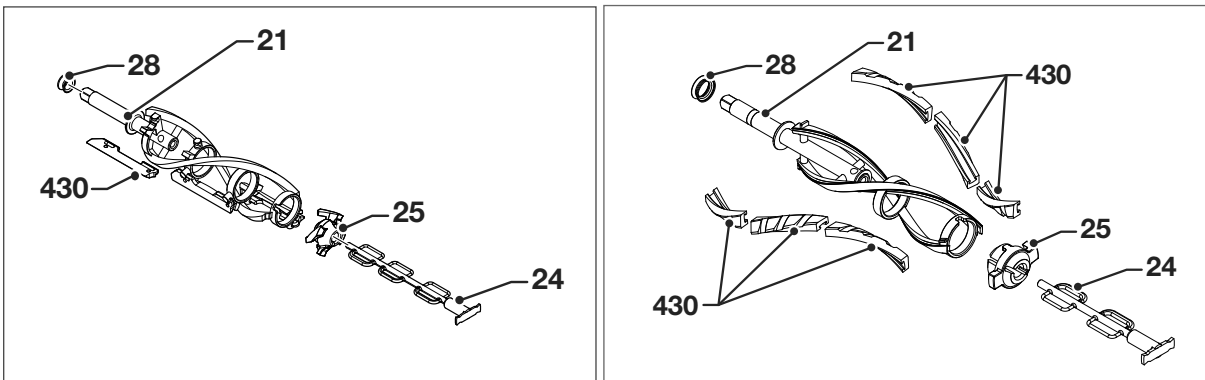
- Take the piston out (if necessary, use a dispenser lever (5) to do this operation).
- Use an O-ring extractor to take out:
 - The O-rings (1147, 303) of the piston.
 - The O-rings of the dispensing spigot door (1188).

Fig. 56

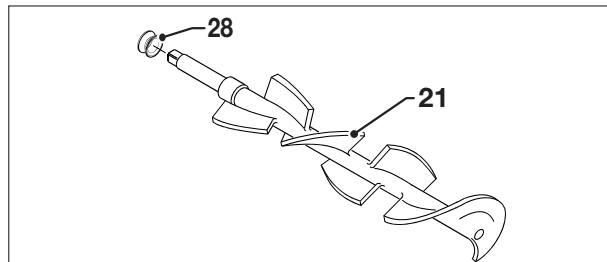


5.6.9 Disassembly of beaters

Fig. 57



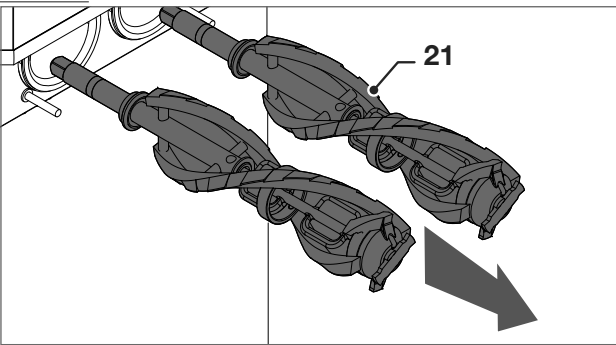
- 21 Beater
- 24 Idler
- 25 End Pusher
- 28 Seal
- 430 Scraper blades



- Remove the beaters (21) from its seat in the cylinder, being careful not to knock the walls of the cylinder.

- Remove the idler (24) the scraper blades (430) and the end pusher (25) from the shaft.

Fig. 58



- Let the seal (28) slide on the beater axle and remove it.

Fig. 59

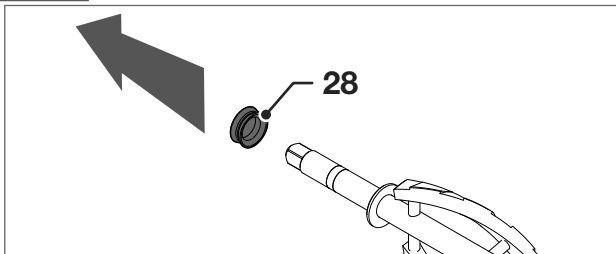
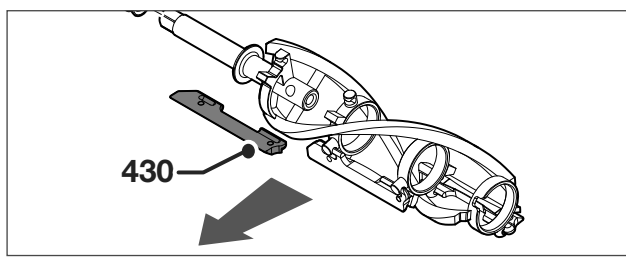
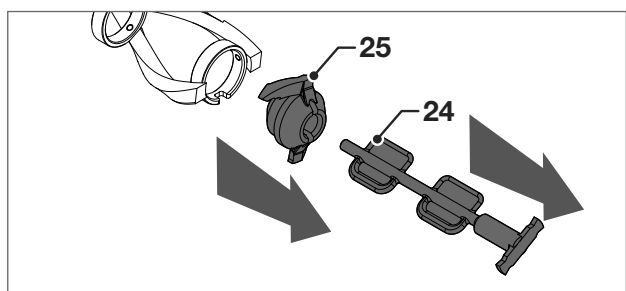
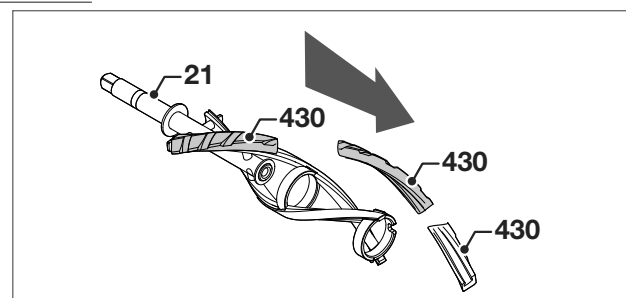


Fig. 60



- For sliding scraper blades beater, remove the scraper blades (430) from the shaft, by sliding along the agitator guide.

Fig. 61



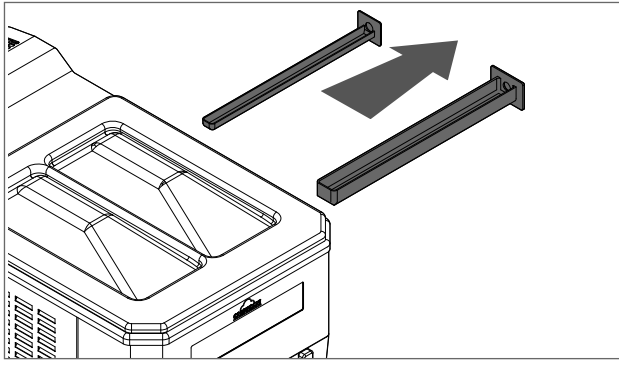
WARNING

The seal is very important for cylinder tightness. Check its wear on a regular basis according to the maintenance plan (Refer to paragraph 6.1). Furthermore always lubricate the seal properly during washing operations.

5.6.10 Disassembly of the drip drawer, the drip tray and the hopper lid

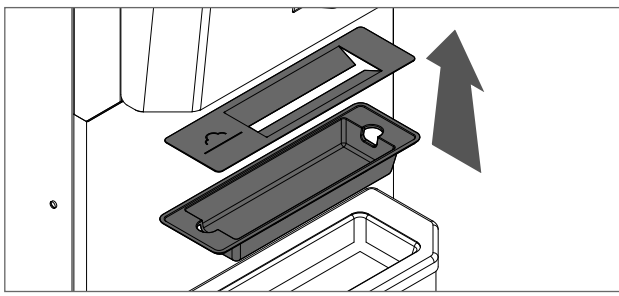
- Take the drip drawers out from their seats on the side of the machine.

Fig. 62



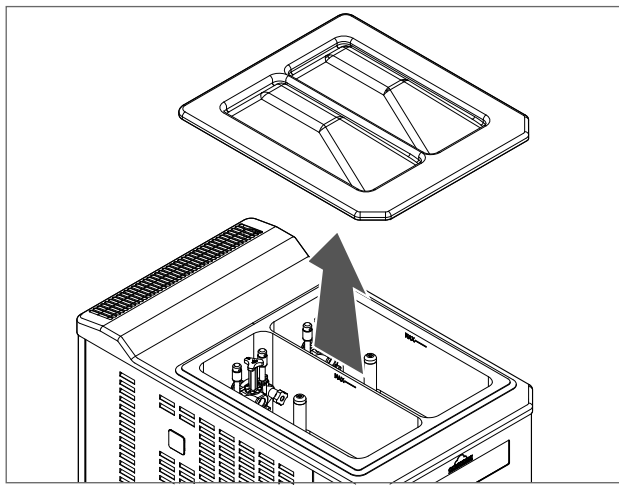
- Remove the drip tray and relevant cover.

Fig. 63



- Disassemble the hopper lid.

Fig. 64



5.6.11 Cleaning and sanitising of the components



WARNING



For the use of cleaning/sanitising solution, refer to the manufacturer's instructions on the label of the product used.



WARNING



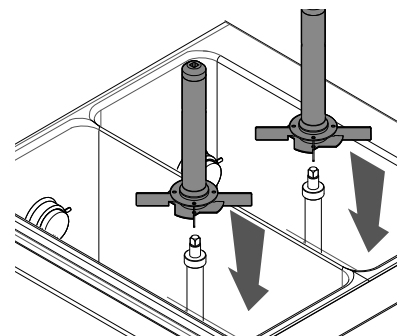
To carry out the following operations, your hands must be clean and sanitized, or you must wear disposable gloves.

- Fill a sink with cleaning/sanitising solution prepared according to the manufacturer's indications.
- Use the provided brushes and vigorously brush all components and holes found on the same components (the holes on the pump, suction pipes, non-return valves, pump seal and its interstice, beater scraper blade, etc...).
- Dip the components into the cleaning/sanitising solution and let it work for the time indicated by the manufacturer.
- Rinse the parts with care by using plenty of drinking water.
- Place the components onto a clean, sanitised tray and let them air-dry.
- Dip a big brush into the cleaning/sanitising solution and clean the cylinder.
- Dip a brush in the cleaning/sanitising solution and clean the pump housing holes, the compression hoses on the hopper bottom and the sides of the hoppers.
- Spray the cleaning/sanitising solution on the bottom of the cylinder and on the hopper walls.
- Repeat the last three steps a few times.

5.6.12 Reassembly of the hopper beater

- Replace the beater in its seat, ensuring that it is engaged correctly

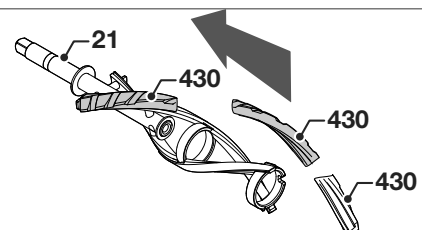
Fig. 65



5.6.13 Reassembly of the beater

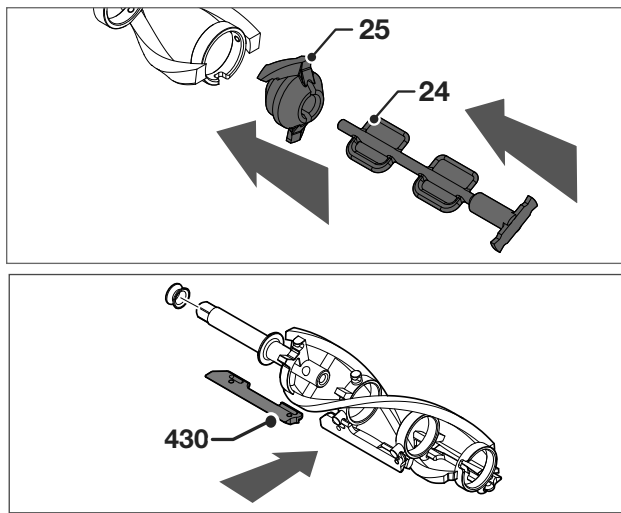
- For sliding scraper blades beater, replace the six scraper blades (430) on the shaft.

Fig. 66



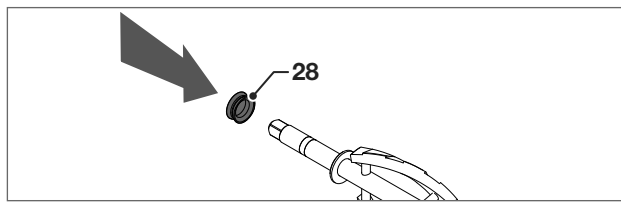
- Replace the end pusher (25) - see picture - so that it engages correctly in the seat of the beater
- Insert the idler (24) into the beater through the end pusher. Insert the scraper blades (430).

Fig. 67



- Lubricate the inner sides of the seal (28) and its seat on the beater shaft. Let the seal slide onto the beater shaft.

Fig. 68



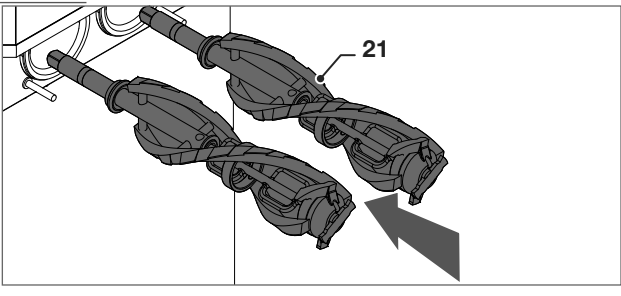
NOTE



Check the beater seal for integrity. Replace if worn or damaged. Refer to the maintenance plan to carry out the replacement.

- Insert the beater assemblies into the cylinders, turning and pushing them until they engage in rear hub.

Fig. 69



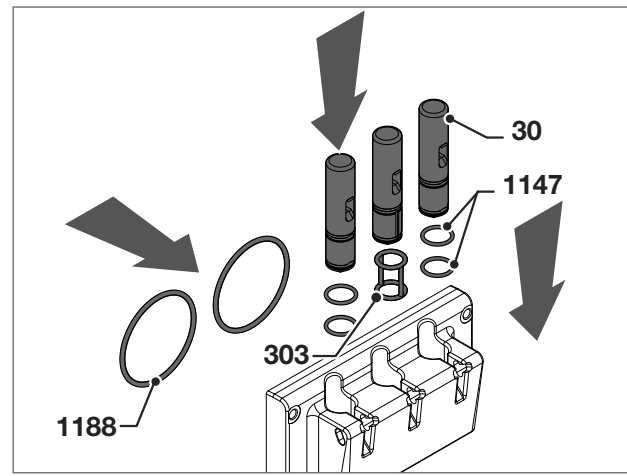
5.6.14 Reassembly of the dispensing spigot door

- Lubricate and replace the piston O-rings (1147, 303).
- Lubricate the pistons (30) and insert them into their seat in the dispensing spigot door, making sure the

piston square notch is aligned with the rectangular opening on the front of the spigot door.

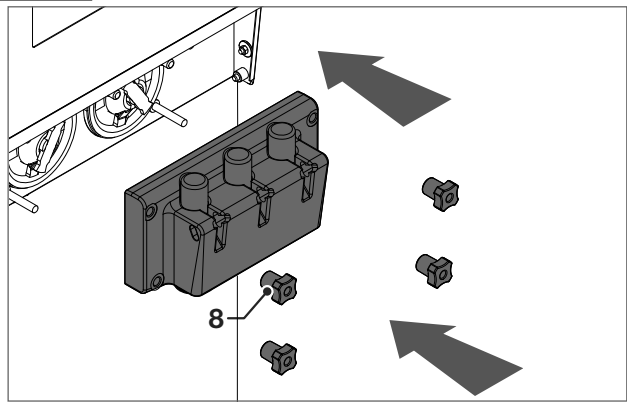
- Lubricate and replace the two O-rings (1188).

Fig. 70



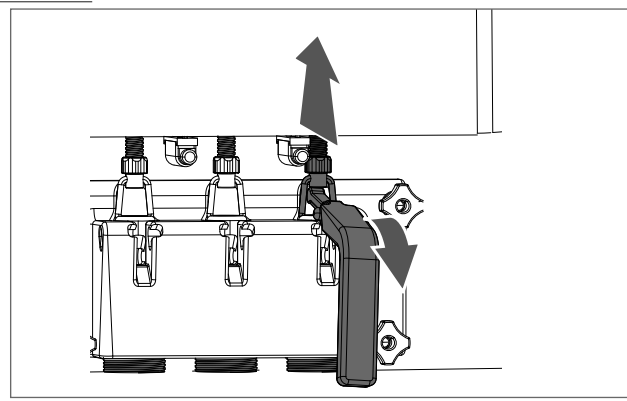
- Insert the dispensing spigot door on the front panel and tighten it using the knobs (8) properly.

Fig. 71



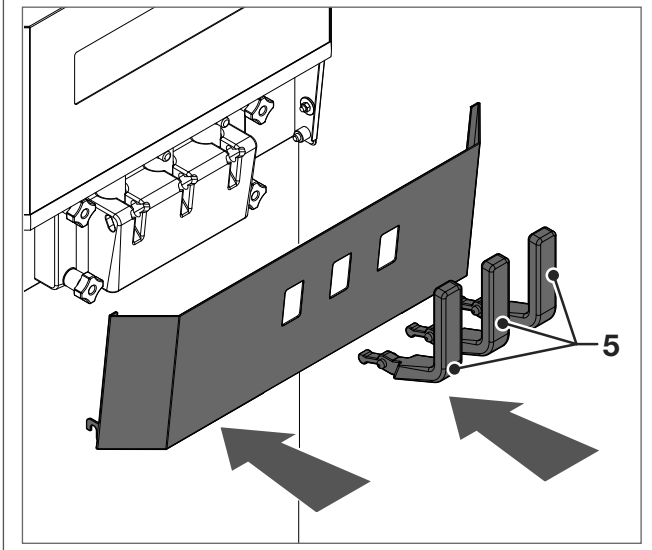
- With the help of a dispenser lever (5), reassemble the adjusting screw (214), to reposition the ring in its seat on the piston.

Fig. 72



- Replace the spigot door cover panel.
- Reassemble the dispenser levers (5) onto the spigot door.

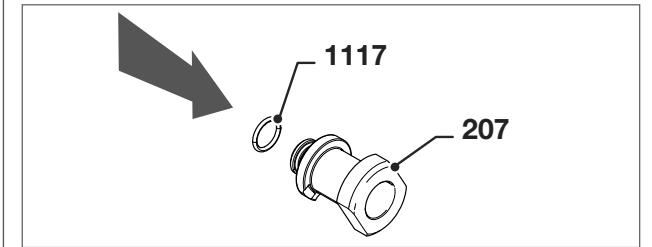
Fig. 72



5.6.15 Reassembling the pump

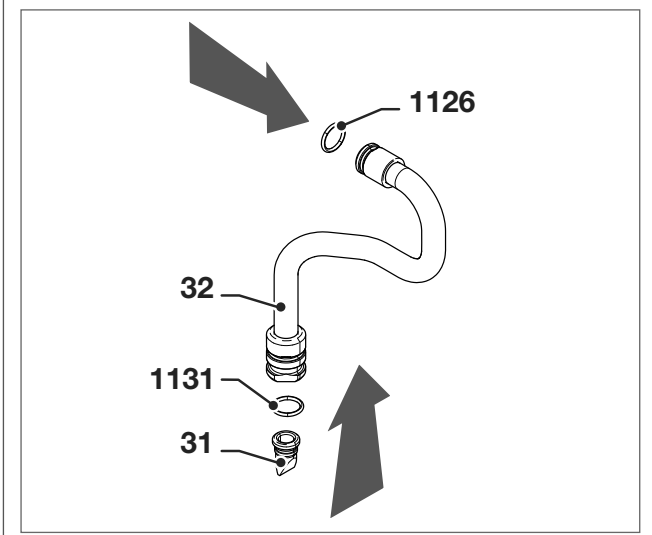
- Lubricate and insert the O-ring (1117) on the connection pipe (207).

Fig. 73



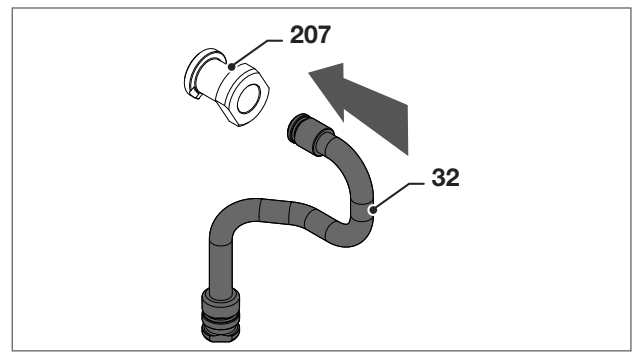
- Lubricate and insert the O-rings (1126), (1131) and the valve (31) on the compression hose (32).

Fig. 74



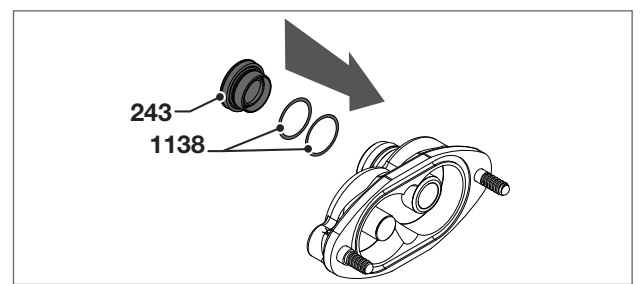
- Insert the connection pipe (207) assembly in the compression hose (32).

Fig. 75



- Leave the sanitized compression hoses on the tray. They will be mounted during the “mix preparation procedure”.
- Lubricate and insert the O-rings (1138) onto the pump body.
- Lubricate and insert the seals (243) in the pump body.

Fig. 76

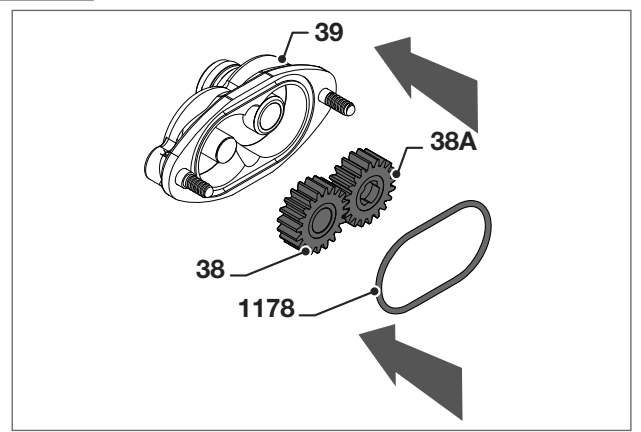


- Lubricate and insert the O-ring (1178) on the pump body.
- Lubricate the surface of the pump gears (38-38A) and their seat in the pump body and insert them into the pump body (39).

WARNING

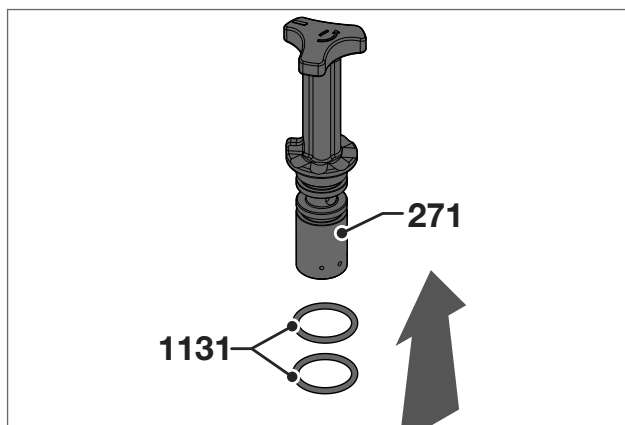
Do not lubricate the teeth of the gears. Carry out checks on wear as instructed in paragraph 6.1.

Fig. 77



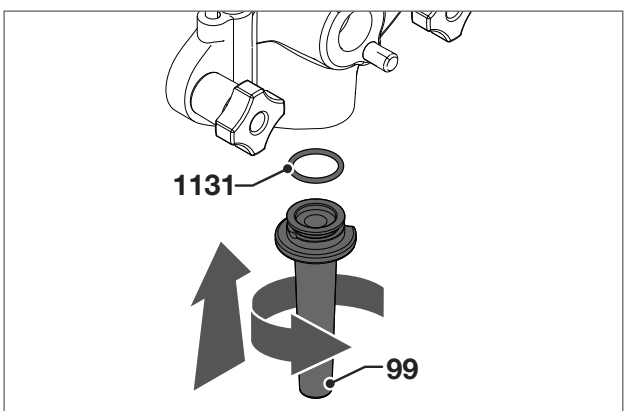
- Lubricate and insert the two O-rings (1131) on the pump regulator (271).

Fig. 78



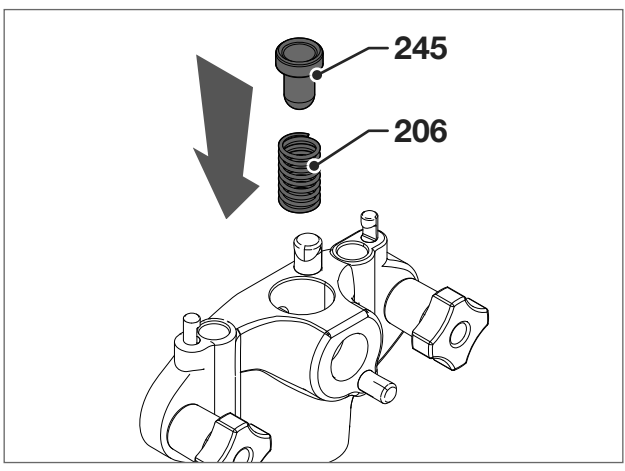
- Lubricate and insert the O-ring (1131) on the suction pipe (99).
- Holding the pump cover insert the suction pipe (99) by pushing and turning it counterclockwise.

Fig. 79



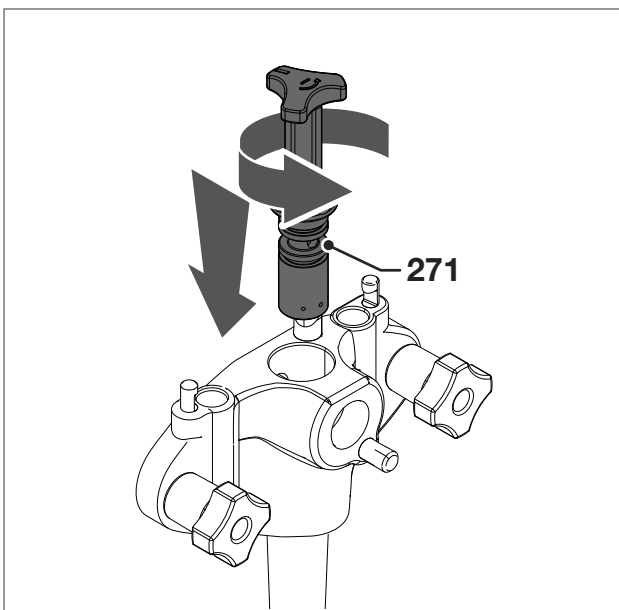
- Insert the spring (206) and the valve (245) into the pump cover.

Fig. 80



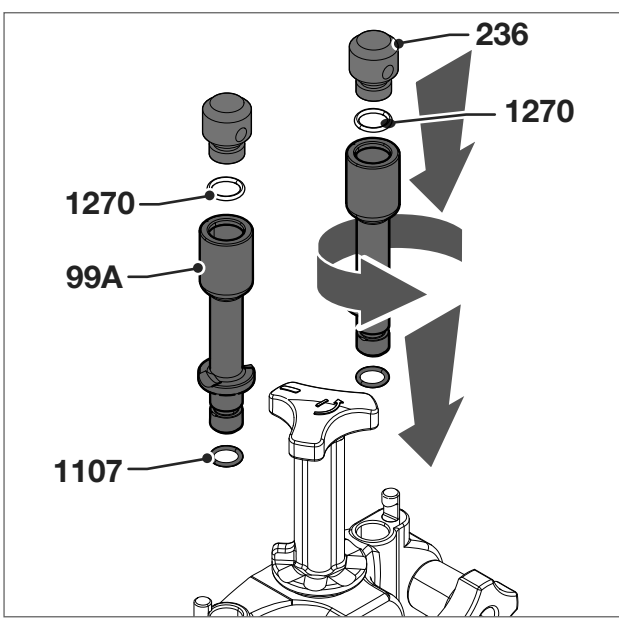
- Insert the pump regulator (271) on the pump cover aligning the pump regulator notch to the pin on the pump cover and turning to lock it.

Fig. 81



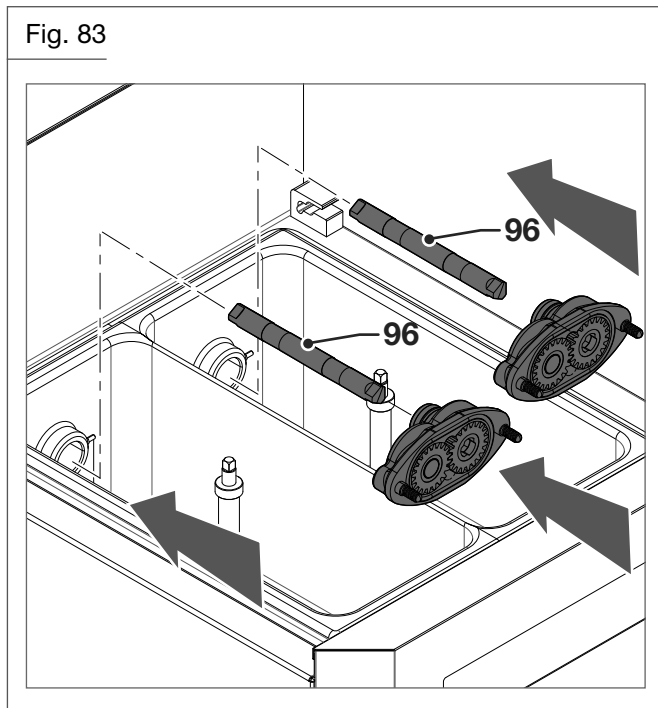
- Lubricate and insert the O-rings (1107) onto the air inlet pipes (99A).
- Insert the O-rings (1270) into the two plugs (236) on the air inlet pipes (99A).
- Insert the two air inlet pipes (99A) on the pump cover aligning the pipe notch with the pin on the pump cover and turning the pipes until they are locked.

Fig. 82



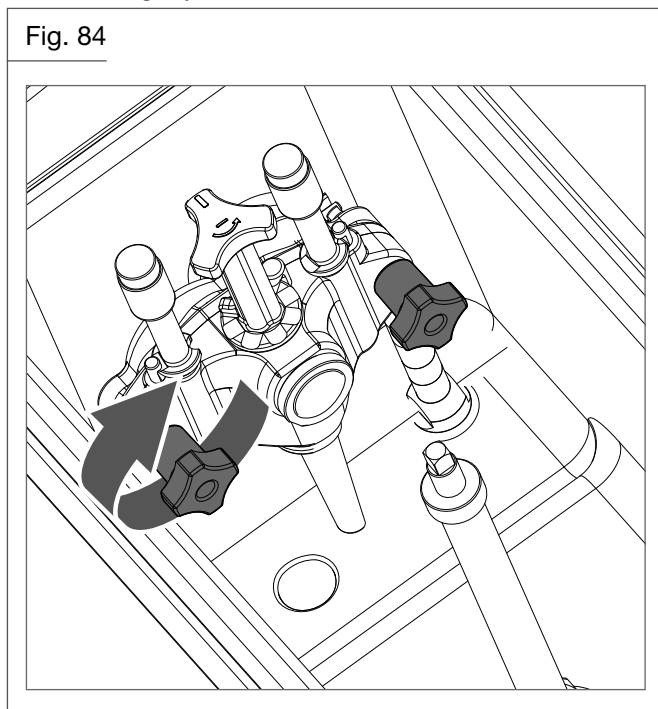
- Make sure the machine is in Stop mode and lubricate the pump shaft (96). Position it in the rear hole of mix hopper, pushing it and rotating it slightly until it engages the drive hub. Hold the pump body assembly, with the blocking pin hook on the right. Keeping your thumbs over the pump gears so that they remain in place, push and turn the pump clockwise until the shaft is aligned with the driving gear. Now turn the pump counterclockwise until it locks into the blocking pin.

Fig. 83



- Assemble the pump cover with the feeding pipe downwards onto the pump body and turn the two knobs tightly.

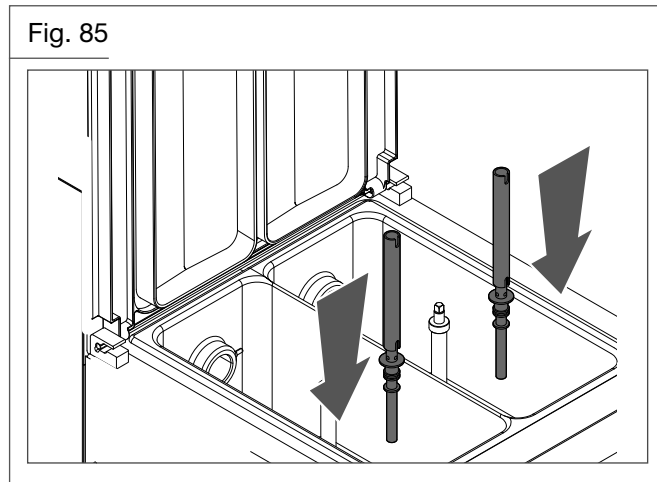
Fig. 84



5.6.16 Gravity-fed machines – reassembly of the feed needle

- Lubricate the O-ring (1131).
- Reassemble the feed needle.

Fig. 85

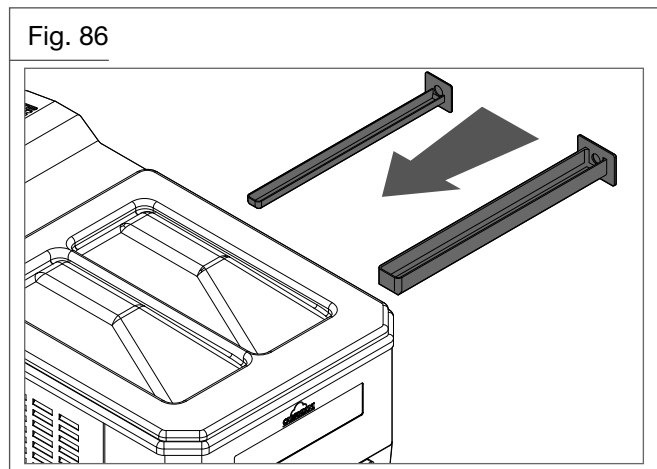


- Leave the sanitized feed needle on the tray. They will be mounted during the “mix preparation procedure”.

5.6.17 Reassembling drip trays, drip drawer and hopper lid

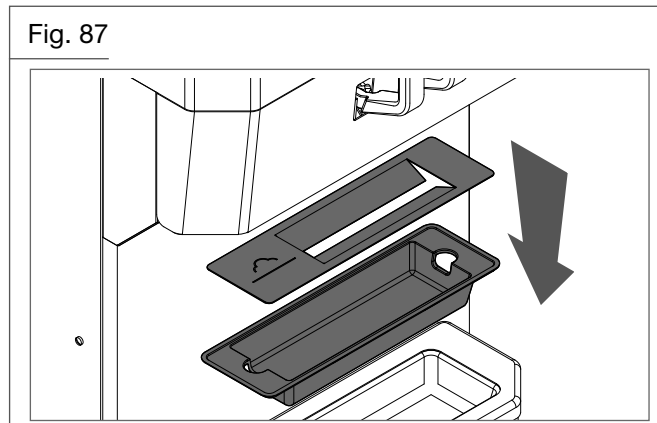
- Insert the drip trays into their slots in the side of the machine.

Fig. 86



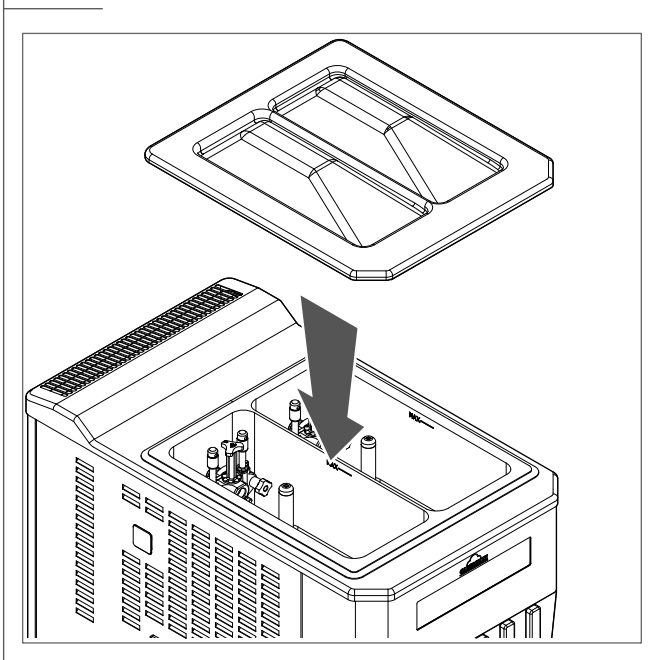
- Position the front drip drawer and its cover.

Fig. 87



- Cover the hopper with lid.

Fig. 88



5.6.18 Complete sanitisation of the machine


The machine must be sanitised before the mix is poured into the hopper.




NOTE






After cleaning and sanitised the machine and, more precisely, after closing the front spigot door of the machine, operate the machine in Produc-

tion mode (by pressing the  key) within 60 minutes. After 60 minutes, the machine no longer

accepts the  key and automatically passes to the pasteurisation function. In other words, carry out the "Complete sanitisation of the machine" and "Mix Preparation" within 60 minutes,

then push the  key.

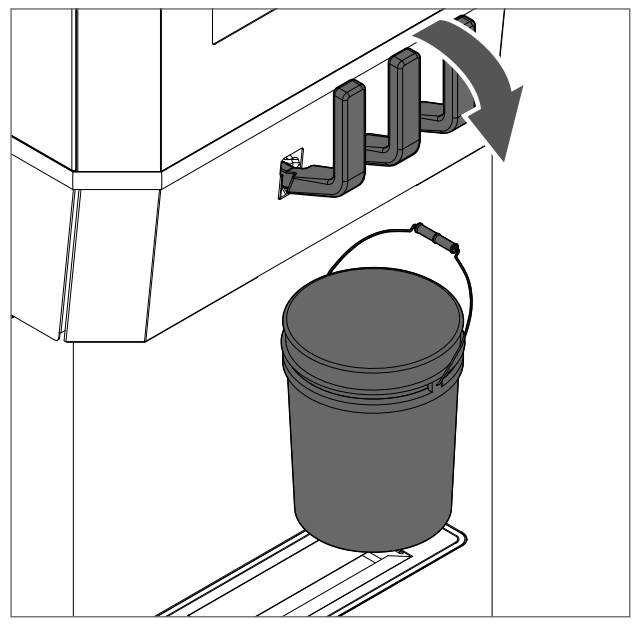
- With the machine in Stop mode, pour the detergent/sanitising solution into the hopper up to the maximum level and leave it to drain into the cylinder.
- Using the brush, clean the mix level sensor, the whole surface of the mix hopper, the surface of the mix pump and the outside of the hopper beater.
- Press the  key and then press  and let the beater operate for approximately 5 seconds. Press the  key.
- Pour a little cleaning/sanitising solution into a bucket.




- Open the spigot door cover panel, immerse the supplied brush in the detergent/sanitising solution and brush the dispensing point of the spigot door. Repeat the operation twice
- Wipe the exterior of machine with a sanitised cloth. Repeat the operation twice and close the spigot door cover panel.
- Leave the cleaning/sanitising solution in the hopper for the time indicated by the manufacturer.

Draining the cleaning/sanitising solution

- Place an empty bucket underneath the door and lower the dispensing handles.

Fig. 89



- Drain all of the cleaning/sanitising solution, press the  key then press  to remove the last residues of solution. The beater must not work for more than 5 seconds, then press .
- Fill the tank with drinking water to rinse it out thoroughly and repeat the previous operation.



WARNING



Do not keep the beater running for more than the time strictly needed to complete washing and sanitisation. Mix butterfat lubricates beater blades; without this lubrication the beater blades wear out quickly.

- Refer to the paragraph 3.8 of this manual for filling the tank and starting production.

6. MAINTENANCE



WARNING



Never put your hands into the machine while it is in Production or Cleaning mode. Before performing any maintenance, make sure the machine has been placed in Stop mode and the main switch has been switched OFF.

6.1 Type of intervention



WARNING



Any maintenance operation requiring that the machine protective panels be opened, must be performed with the machine in Stop mode and with machine disconnected from the electrical power supply. The cleaning or lubricating of moving parts is forbidden. Repairs on the machine or its electrical, mechanical, pneumatic or refrigeration system must be performed by authorised, qualified personnel and in accordance with routine and extraordinary maintenance as agreed with the customer with regards to specific service methods on the basis of destination of use of the machine.



Procedures necessary for the good operation of the machine are such that most maintenance is completed during the Production cycle.

Maintenance operations, such as the cleaning of parts coming into contact with the product and disassembling the beater, are to be normally carried out at the end of each work shift, thereby keeping maintenance effort at a minimum.

Below is a list of normal maintenance operations:

- Cleaning and replacement of beater seal
Cleaning must be carried out on the set date indicated on the display. The part should be replaced if it is noticeably worn and mix is leaking into drip drawer.
- Cleaning of the beater assembly
Cleaning must be carried out on the set date indicated on the display.
- Cleaning of the dispensing head
Cleaning must be carried out on the set date indicated on the display.
- Cleaning of the pump unit
Cleaning must be carried out on the set date indicated on the display.

How to check condition of gears:

This check must be carried out during the periodical cleaning of the machine.

Disconnect the compression hose after depressurising the cylinder. If all parts of the pump are correctly assembled and the gears are OK the pump produces a strong stream of mix (fig. 90), If all parts of the pump are correctly assembled but the gears are worn the stream of mix is very weak (fig. 91).

Fig. 90

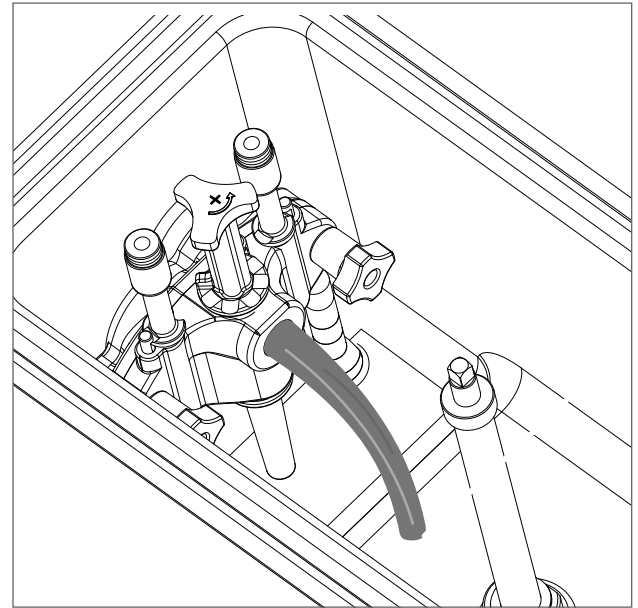
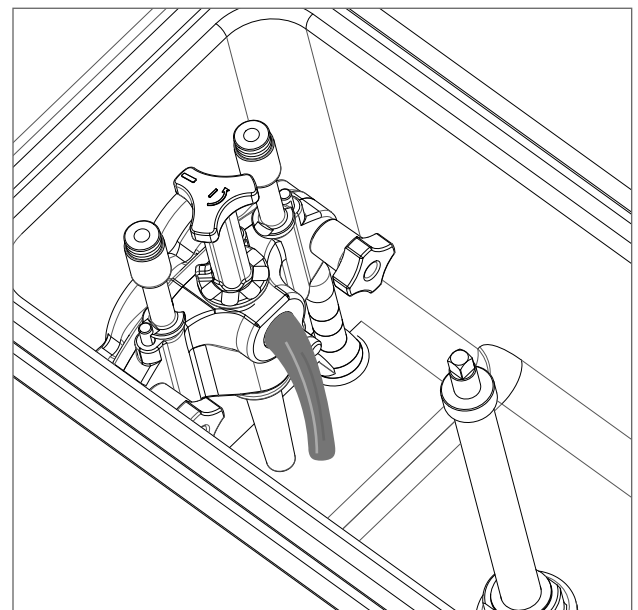


Fig. 91



How to avoid wear of the gears:

- Do not operate the pump without mix inside the hopper or only with water for more than a few seconds: the fat/grease content of the mix acts as a lubricant for the gears (like the oil of a car). Without the mix the gears would wear much more quickly.

- No foreign object must enter the pump, not even a little piece of plastic, a tomato skin, a piece of straw that may have accidentally fallen into the hopper; they could block the feed and damage the gears.
- During cleaning operations handle the gears with care. Their correct operation could be jeopardised if they are accidentally dropped.
- Cleaning of blades, drip drawer and tray support shelf.

It must be performed daily with neutral soaps and ensuring that detergents are never used inside the beater unit.

- Cleaning and sanitisation:

It must be carried out on the set date indicated on the display according to the procedures indicated in section 5 of the manual.



WARNING



To clean the machine and its parts never use abrasive sponges which could scratch the surfaces.

6.2 Water-cooling



For those machines equipped with a water-cooled condenser, all water must be drained out of the condenser at the end of selling season to avoid any trouble should the machine be stored in an environment where the temperature may drop below 0°C.

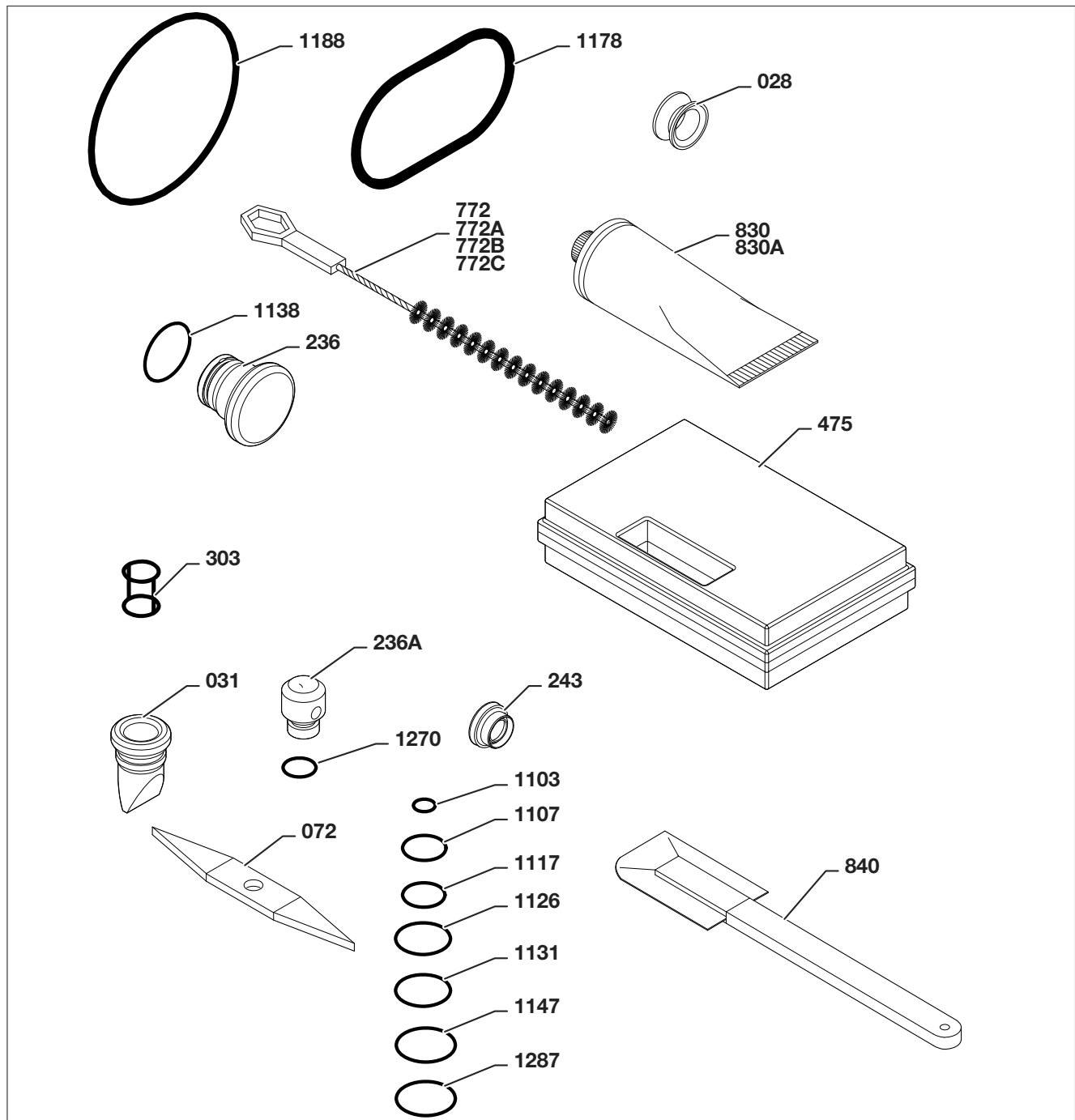
After closing the water inlet pipe, withdraw drain pipe from its seat and let water flow out from circuit.

6.3 Ordering spare parts

When one or more parts are worn out or broken, place the order through your local distributor.

6.4 Supplied accessories

Fig. 92



Key:

- 28** Beater shaft seal
- 31** Membrane valve
- 72** O-ring extractor
- 236** Blanking plug for pump hole
- 236A** Plug
- 243** Body pump seal
- 303** O-ring
- 475** Kit case
- 772** Brushes
- 830** Carpilube tube
- 830A** Lubrifilm tube
- 840** Cleaning spatula

- 1103** O-ring
- 1107** O-ring
- 1117** O-ring
- 1126** O-ring
- 1131** O-ring
- 1138** O-ring
- 1147** O-ring
- 1178** O-ring
- 1188** O-ring
- 1270** O-ring
- 1287** O-ring

7. TROUBLESHOOTING GUIDE

IRREGULARITY	CAUSE	PROCEDURE TO FOLLOW
Compressor starts and then stops after a few seconds.	<ul style="list-style-type: none"> If it's a water-cooled machine: the water is not circulating. 	<ul style="list-style-type: none"> Open water inlet cock and check that pipe is not squashed or bent.
	<ul style="list-style-type: none"> If it's an air-cooled machine: the air is not circulating. 	<ul style="list-style-type: none"> Check that the machine is positioned so that there is enough space for air to circulate freely from the bottom upwards (leave at least 50 cm clearance above the chimney).
		<ul style="list-style-type: none"> Check the condenser is not blocked by dust or other things and eventually call the customer service for cleaning.
		<ul style="list-style-type: none"> Call customer service if necessary.
Mix or ice cream leaks out from above and below the piston even though the spigot door is closed.	<ul style="list-style-type: none"> Piston without O-ring or the O-ring is worn out. 	<ul style="list-style-type: none"> Stop the machine and install or replace it with a new one if worn out.
Mix leaks out of the drip drawer.	<ul style="list-style-type: none"> Seal 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 dispenser lever is hard to operate.	<ul style="list-style-type: none"> Dry sugar on piston. 	<ul style="list-style-type: none"> Stop the machine and wash thoroughly and grease the pistons and the O-ring with edible fat.
Ice cream comes out from front lid.	<ul style="list-style-type: none"> O-ring missing or not properly fitted. 	<ul style="list-style-type: none"> Stop the machine and check then act accordingly.
	<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 adjusted correctly. 	<ul style="list-style-type: none"> Adjust the position of the central knob of the pump.



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