



INSTRUCTION MANUAL

UF 820 E TRONIC

**AFFIX
PLATE WITH
SPECIFICATIONS**

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

*To the best guarantee, since 1993 **Carpigiani** has submitted its own Quality System to the certification according to the international Standard ISO 9001.*

Nowadays its production has got UNI-EN-ISO 9001 Certified Quality System.

CARPIGIANI

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Rev.: 00	Date: 2021/09	Modifications:
Editor: AM	Verified: AS	Approved: RL

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FOREWORD

INSTRUCTION HANDBOOK

Editing this handbook, it was taken into due account European Community directions on safety standards as well as on free circulation of industrial products within E.C.

PURPOSE

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

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

A significant part of this handbook refers to the conditions necessary to the machine use and to the necessary procedure during cleanout as well as routine and special maintenance.

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

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HANDBOOK STRUCTURE

This handbook is divided in sections, chapters and subchapters in order to be consulted more easily.

Section

A section is the part of the handbook 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.

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

- The Operator must read the chapters concerning the machine start-up and the operation of machine components.
- A skilled technician involved in the installation, maintenance, repair, etc., of the machine must read all parts of this handbook.

ADDITIONAL DOCUMENTATION

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

- **Part list:** a list of spare parts which is delivered together with the machine for its maintenance.
- **Wiring diagram:** a diagram of wiring connections is placed in the machine.
- **Installation sheet:** To be completed by the installer. Return a copy to the customer, the dealer and the manufacturer in order to activate the machine warranty

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



CONVENTIONAL SYMBOLS



CAUTION: ELECTRIC SHOCK HAZARD

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



CAUTION: DANGER FROM HIGH TEMPERATURES

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



CAUTION: MOVING PARTS

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



CAUTION CRUSHING HAZARD

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



CAUTION: GENERAL HAZARD

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



NOTE

It points out significant information for the personnel involved.



WARNINGS

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



PERSONAL PROTECTION DEVICES

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

QUALIFICATION OF THE PERSONNEL SYMBOLS

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



MACHINE OPERATOR

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



SKILLED ENGINEER

He/she is a skilled engineer, capable of operating the machine under normal conditions; he/she is able to carry out 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 the manufacturer assigned to field interventions for complex jobs under particular conditions or in accordance with agreements made with the machine's owner.



SAFETY

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

The persons in charge of safety must ensure that:

- any incorrect use or handling is avoided;
- the safety devices are neither removed nor tampered with;
- the machine is regularly serviced;
- only original spare parts are used, especially in the case of safety-related components (e.g.: protection microswitches, thermostats).
- suitable personal protective equipment is worn;
- high care is taken during hot product cycling.

To achieve the above, the following is necessary:

- at the work station an instruction manual relevant to the machine should be available;
- such documentation must be carefully read and requirements must consequently be met;
- only adequately skilled personnel should be assigned to electrical equipment and machineries; this appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety;
- Make sure that no technician will ever carry out interventions outside his own knowledge and responsibility sphere;
- Children should be supervised to ensure that they do not play with the appliance.

IMPORTANT!

Make sure that the personnel do not perform operations out of their range of knowledge and responsibility (refer to “Qualification of the personnel symbols”).

NOTE:

*According to the standard in force, a **QUALIFIED ENGINEER** is a person who, thanks to:*

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

It is able to realize and avoid any danger and has also been allowed by the person in charge of plant safety to carry out all kinds of interventions.

WARNINGS

The machine must be installed in compliance with current installation regulations.

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

- Never perform operations on the machine using your hands, during both production and cleaning. Before carrying out any maintenance operation, make sure that the machine is in “STOP” position and that the main switch has been cut out.
- It is forbidden to wash the machine by means of a jet of pressurized water.
- It is forbidden to remove panels in order to reach the machine internal parts before disconnecting the machine from the power supply.
- The place of installation must not be exposed to water sprays, high moisture, heat or steam sources.
- Do not store explosive substances or spray cans inside the machine, nor aerosol cans containing flammable propellant.
- **CARPIGIANI** is not responsible for any accident that might happen during operation, cleaning and/or servicing of its machines if this warning has not been fully complied with.



1. GENERAL INFORMATION

1.1 GENERAL INFORMATION

1.1.1 Manufacturer identification data

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

A copy of the machine identification plate is found on first page of this handbook.

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

1.1.2 Information on maintenance service

All ordinary maintenance operations are described in section "Maintenance" of this manual; any additional operation requiring technical intervention on the machine must be agreed upon with the manufacturer, who will also examine the possibility of sending one of its own engineers for the intervention.

1.1.3 Information for users

- The machine manufacturer can be contacted for any explanation and information about the machine operation or any modifications aimed at improving the machine's efficiency.
- In case of need, please call the local distributor, or the manufacturer if no distributor is available.
- The manufacturer's service department is available for any information about operation, and requests of spare parts and service.



1.2 INFORMATION ABOUT THE MACHINE

1.2.1 General information

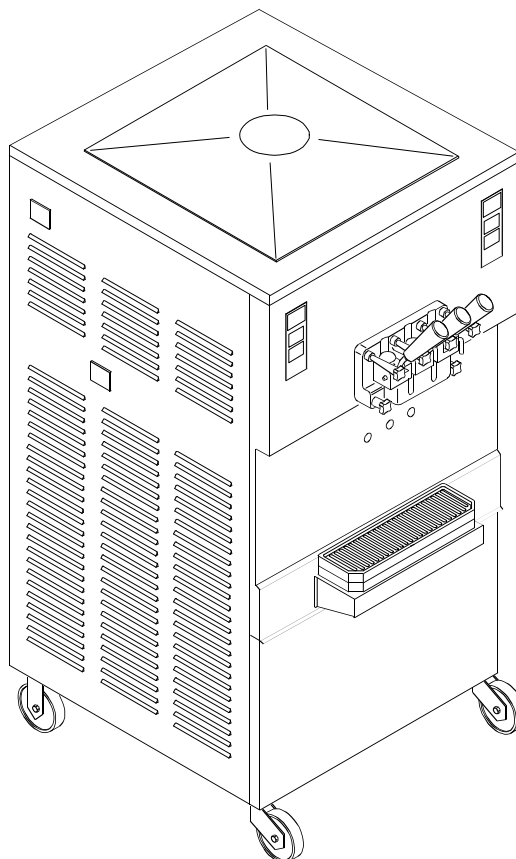
Machines installed on the floor intended for indoor use only and for commercial purposes such as ice cream and pastry workshops.

Machine to immediately produce and distribute soft express ice cream in two flavours + mixed. **CARPIGIANI** recommends to always use high quality mix for ice cream production in order to please even the most demanding customers. Any saving made to the detriment of quality will surely turn into a much bigger loss than the saving itself.

Bearing in mind the above statements, please take into consideration the following suggestions:

- Make your mixes yourselves from high quality natural ingredients or buy them from reliable companies.
- Follow closely instructions given by your mix supplier for the preparation of the mixes.
- Do not alter your supplier's recipes, by adding, for instance, more water or sugar than recommended.
- Taste ice cream before serving it and start selling only if entirely satisfactory.
- Make sure your staff always keeps the machine clean.
- Have your machine serviced always by companies authorised by **CARPIGANI**.

1.2.2 Machine layout



1.2.3 Technical features

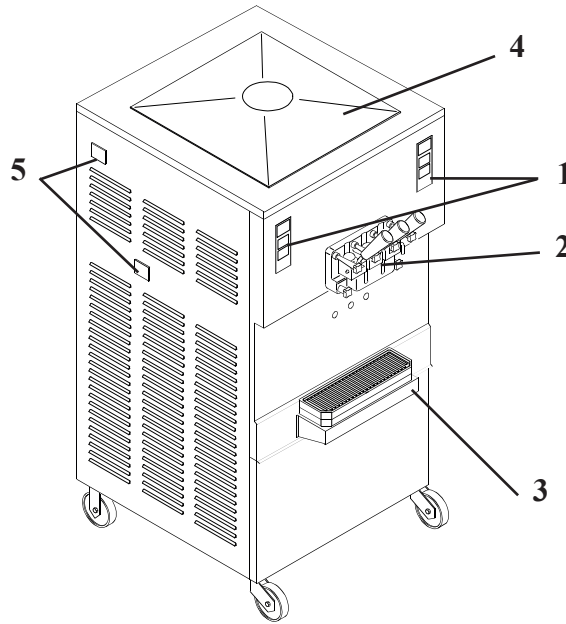
MODEL	Hopper capacity Qts	Flavors	Electrical supply *			Condenser	Max Fuse	Net Wight kg/lbs
			Volt	Ph.	Cycles		A	
UF 820 E TRONIC	31.8 + 31.8	2 + mixed	220	3	60	Air	30	456/1005

* Other power supplies are available.
All specifications mentioned must be considered approximate; Carpigiani reserves the right to modify, without notice, all parts deemed necessary

1.2.4 Machine unit location

Key:

1. Control panel
2. Freezing cylinder front lid
3. Shelf
4. Mix hopper cover
5. Drip drawers



1.3 INTENDED USE

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

- Voltage:±10%
- Air min. temperature °C:10°C / 50°F
- Air max. temperature °C:43°C / 109.F
- Water min. temperature10°C / 50°F
- Water max. temperature30°C / 86°F
- Water min. pressure0,1 MPa (1 bar) - 14 PSI
- Water max. pressure0,5 MPa (5 bar) - 72 PSI
- Max air relative humidity:85%

The machine must not be used for any purpose other than the one it has been originally designed for.

1.4 NOISE

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

1.5 MACHINE STORAGE

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

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

1.6 DISPOSAL OF PACKAGE MATERIALS

When opening the crate, divide packaging materials by type and dispose of them according to laws in force in machine installation country.



1.7 WEEE (Waste Electrical and Electronic Equipment)

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



2. INSTALLATION

2.1 ROOM NECESSARY FOR MACHINE USE

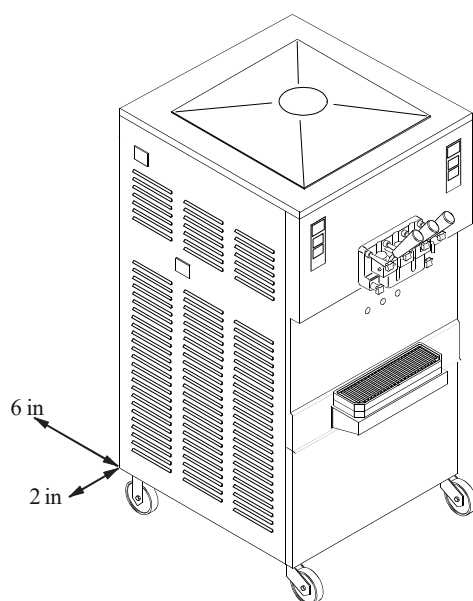
The machine must be installed in such a way that air can freely circulate all around. Enough room must be left free around the machine, in order to enable the operator to act without constraint and also to immediately leave working area, if necessary. There must be a lateral space of nearly 16 in to remove the drip drawers.

WARNING

MACHINES WITH AIR-COOLED CONDENSER must be installed at least 2 in away from both side panels and 6 in away from rear panel in order to allow free air circulation around the condenser.

NOTE

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



2.2 MACHINES WITH AIR-COOLED CONDENSER

Machines with air-cooled condenser must be installed at least 2 in away from both side panels and 6 in away from rear panel in order to allow free air circulation around the condenser..

NOTE

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

2.3 MACHINES WITH WATER-COOLED CONDENSER

The machine must be connected to the water supply respecting the applicable national requirements; moreover the water mains pressure must not exceed 0.5 MPa (5 bar - 72 psi). The connection pipes are provided by the installer and must comply with IEC61770. Used pipes cannot be reused. Machines fitted with a water-cooled condenser need to be connected to running water supply or to a cooling tower. Water must have a pressure ranging between 0.1 MPa and 0.5 MPa (1-5 bar 14-72 PSI), and a flow rate at least equal to the estimated hourly consumption.

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





2.3.1 Water valve adjustment

WARNING

If water valve needs to be reset, this operation will have to be carried out by skilled personnel, only. Valve adjustment must be carried out in such a way that no water flows when machine is off and lukewarm water flows when machine is on.



NOTE:

Water consumption increases if temperature of entering water is above 68°F.



WARNING:

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

2.4 ELECTRIC CONNECTION



The power supply system must comply with the national regulations in force in the place of installation and provided with an efficient ground connection.

The manufacturer is not responsible for any malfunction or for injury to persons and/or damage to property resulting from connection to a non-compliant electrical system.

The appliance must be installed according to the current regulations for electrical installation, by competent and qualified technical personnel meeting the technical and professional requirements provided for by the legislation in force in the country of installation.

Before connecting the machine to the mains, check that the mains characteristics meet those of the machine specified in the identification plate applied to the machine itself.

Check that the power supply network is provided with a disconnection device, in compliance with the installation rules, ensuring complete disconnection from the mains for each pole (differential circuit breaker), in the conditions of overvoltage category III. The opening distance of contacts must be at least 3 mm.

Check that the trip level of the differential circuit breaker is $\leq 30\text{mA}$.

The machine is supplied with power cable; in case of three-phase machine with neutral, the blue conductor of the power supply cable must be connected to the system neutral.



WARNING

The machine is fitted with an electric supply cable including a yellow/green cable, which MUST be connected to an appropriate grounding of the electric system.



2.4.1 Replacing the power cable

If the machine power cable is damaged, replace it immediately with a cable with the same features. Replacement must be carried out by qualified personnel only.

2.5 TOP-UPS



The motor on the machine features life lubrication; therefore, it is not necessary to replace or top up its lubricant. The amount of gas necessary to the freezing system is filled by **CARPIGIANI** during post-production testing of the machine. A new machine should not require any top-ups or replacement. If gas top-up or replacement is necessary, the operation must be carried out exclusively by qualified technical personnel able to establish the cause leading to such need.

2.6 MACHINE TESTING



The machine is tested after production at **CARPIGIANI**'s premises; the requested operational and production functions are inspected and verified. Machine test at the end user's premises must be carried out by authorised technical personnel or by a **CARPIGIANI** engineer. Once the machine has been positioned and connected to its supply lines, it is possible to carry out the operations required for machine functional check and operating test.

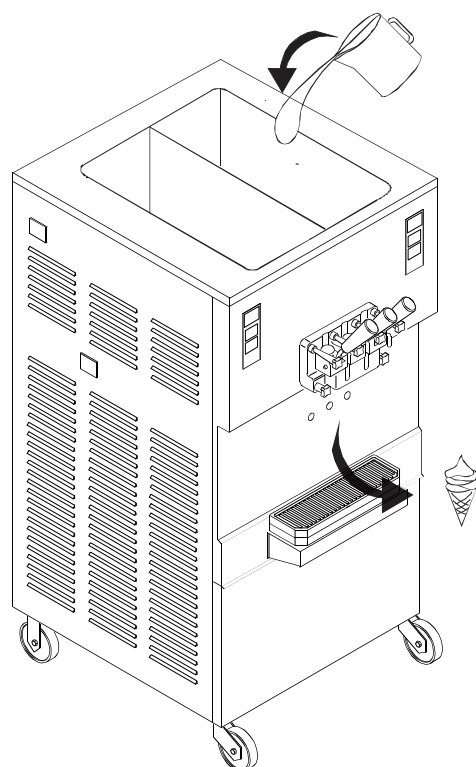
3. INSTRUCTIONS FOR USE

3.1 MACHINE CONFIGURATION

The machine consists of a motor to drive the beater, and a water or air cooling system with condenser.

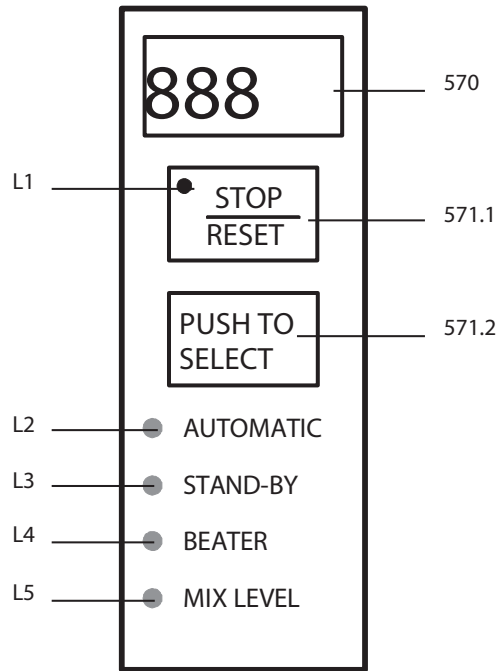
Soft ice cream is prepared by filling the hopper with cold mix (39°F) and starting the automatic production cycle, until the ideal ice cream consistency set by CARPIGIANI is reached.

The mix enters the freezing cylinder already mixed with air; ice cream is produced only when it needs to be served. The spigot handle allows a single portion of soft ice cream to be distributed. At the same time, the same amount of mix moves from the top hopper into the freezing cylinder.



3.2 ELECTRONIC TOUCH PAD

Details of the panel are shown in the picture below.



This machine is equipped with two independent electronic touch control pads. Each electronic touch pad operates one side of the freezer.

Indicator Lights – L1 through L4

These indicators illuminate to show the selected machine function. When illuminated, the machine is in that respective mode.

Indicator Light – L5

This light will illuminate when the mix tank is low or out of mix.

Monitor – Position 570

This numerical monitor will display the cylinder product consistency while the machine is freezing product in the automatic mode.

Stop / Reset – Position 571.1

When in this mode, the indicator light L1 will be lit and the machine functions off. From this mode you can access the programming mode or switch to operating modes.

Push to Select – Position 571.2

By pressing this button you can select any of the following machine modes:

- Automatic
- Stand-by
- Beater

The indicator light will illuminate corresponding to the mode selected with the touch pad.

Automatic Mode

When this function is on, pilot light pos. L2 lit, the mix is cooled down until it reaches the proper consistency (pre-set HOT setting)

During this function, the Monitor displays a number indicating the consistency of the product in the cylinder until it reaches the set value, then it indicates the temperature of the mix in the hopper tank.

Stand-By Mode

This position is used during prolonged idle periods.

The temperature of the product in both the mix hoppers and freezer cylinder is held at a safe

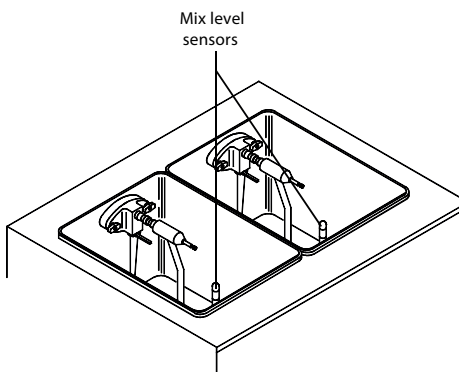
temperature and controlled automatically by the temperature probes.
 Product should never be served when in this position, as the “storage” temperature is higher than normal serving temperatures.
 When this function is on, pilot light pos. L3 lit.
 When pushing this button, the beater motor and the cooling motor are ON until the product temperature reaches the programmed temperature.
 If the machine runs in stand-by mode for a prolonged period, the product temperature is kept constant automatically.
 In such condition, the cooling motor is ON whereas the beater motor is OFF.

Beater Mode

With this function on, pilot light pos. L4 on, only the beater turns.
 This function is timed and ends automatically when the set time is over (about 15 minutes).

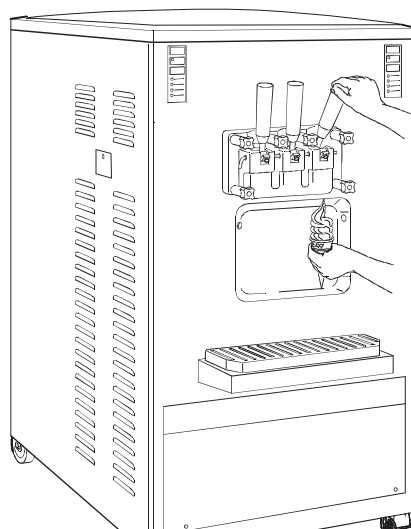
Hopper Mix level indicator

This pilot light pos. L5 indicates that the level of the mix in the hopper has reached the minimum allowed, and that more mix must be added.
 A buzzer will be on when light is on.
 When illuminated, dispensing of product should be stopped and the tank refilled with mix.
 Each tank has a total capacity of 32 qts each when full.
 The MIXLEVELSENSOR is located in the hopper of each mix tank (see picture.).



3.3 DISPENSING HANDLE

The Dispense Handles control the flow, or extraction rate of finished, soft serve product.
 The left handle serves a flavour of product, the right one serves a different flavour whereas the middle one dispenses a mix of the two.
 Pulling one of the handle in a downward direction will open the corresponding dispense orifice.
 When the unit is in the “AUTOMATIC” mode, this will allow finished product to be extracted and served.

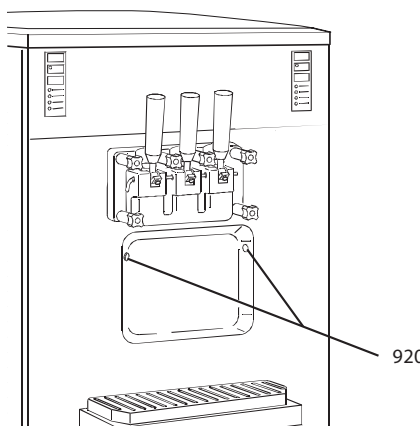


3.4 PROXIMITY SWITCHES

In AUTOMATIC function, the proximity switches pos. 152 start the beater motors when the hand, handling cup or cone, is in the range of the sensitivity preset by Carpigiani.
 Note: Keep the sensors always clear and clean.

ADJUSTING PROXIMITY SWITCHES

The proximity switches pos. 920 (Fig.9) have been preset at the factory and their range is 9-14 inches approx.
 If modification is required, contact authorized service agency as this operation must be carried out by specialized technicians.



3.5 PRELIMINARY OPERATIONS, WASHING AND SANITISING

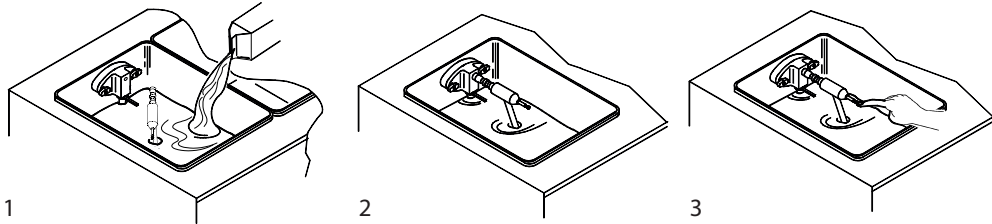


Before starting the machine for the first time, it is necessary to thoroughly clean its parts and sanitise all parts coming into contact with the mix. See section 5.

3.6 MACHINE START-UP



Insert the compression pipe into its housing on the bottom of the tank.
 Install pump shaft and pump: do not install connecting tube.
 Fill the tank with mix. Total capacity is 32 qts each. Temperature of mix should be not more than 44°F.
 Push selector button 571.2 to select the “BEATER” position.
 Check pump efficiency: the mix will flow out the cover outlet
 Push the button STOP/RESET
 Insert the connection pipe into the pump and leave in this position about 30".
 Push the button STOP/RESET
 Bleed the excess air pushing in the bleed plunger.



Adjust the sleeve position to obtain a flow of mix in the cylinder, according to the thickness of the mix.

Push selector button pos. 571.2 to select the “AUTOMATIC” position.
 The machine will automatically perform the setting as programmed by the manufacturer. When setting is over the display will show hopper temperature, for instance: 40° F., now you can dispense the soft serve product.

SUGGESTION:

When initially pouring mix into the tank, it is recommended the dispense handle be opened to allow any residual sanitizer to be “chased” out by the mix entering the cylinder. Place a cup under the dispense head to catch any residual sanitizer, 2-3 oz. is sufficient to purge the sanitizer out.

When this function is on, pilot light L2 lit, the product is cooled down until it reaches the proper consistency according to the HOM calibration.

During this function the monitor displays a number indicating the consistency of the product in the cylinder until it reaches the set value, then indicates the temperature of mix in the hopper. Initial freeze-down will take 7-10 minutes depending on the type of mix used.



Note: in spite of the fact that the machine is equipped with two hoppers and two corresponding cylinders, each hopper and cylinder can work independently.

HOM ADJUSTMENT (AUTOMATIC)

Push the button STOP/RESET pos. 571.1 and SELECTOR button pos. 571.2 simultaneously; the display will show “St1” and then the programmed value of the HOM.

Normally the HOM is set to 100.

The regulation can vary from 50 to 120 by pushing on SELECTOR button pos. 571.2.

Once the HOM is set to the desired value, do not push the button again, the display will flash 3 times and then returns to the normal functioning mode.

3.7 STAND-BY MODE



During long pauses in ice servings, press button pos. 572.2 “PUSH TO SELECT” to select “STAND BY”. You will save significantly on energy consumption, as the compressor runs only for the amount of time strictly necessary in order to keep the mix at the proper temperature.

When you want to begin serving, press button pos. 572.2

“PUSH TO SELECT” to select “AUTOMATIC” again.

After only a few minutes the ice cream will be at the correct hardness for sale.

IMPORTANT:

Remember to lift the outer tube to the appropriate opening before switching to the AUTO mode.

4. SAFETY DEVICES

4.1 DISPENSING HEAD SAFETY SWITCH

This machine is equipped with a dispensing head safety switch. With the dispensing head removed, the machine will not operate and Alarm 9 (AL9) will appear on the front touch pad monitor.



4.2 ALARMS

Control push-buttons are completely independent.

The alarm appearing on a display refers to that control push-button.

The machine is equipped with a self-checking device which signals faults in the machine.

The right figure point on the display is the "Check Led".

"Check Led" flashes in case of alarm and keeps on flashing to catch operator's attention.

After resetting the alarm, the led stops flashing.

Push STOP button to read the last alarm.

When "Check Led" is ON (or flashes), check the fault in the table and if necessary, call the technician.

In case the intervention of a technician is necessary, push STOP button only once so as to read the last alarm shown, and inform the technician. The machine can run in PRODUCTION mode even if an alarm is ON; however if the alarm is a dangerous one, the machine does not enter the PRODUCTION mode. In such condition, press STOP button and do not switch on the machine until its repair.

When more than one alarm is activated simultaneously, the alarm shown is the last one activated.

When more than one alarm are active, see the following

Alarm	Description	Call Technician
AL1 (rta)	Overload beater motor tripped	YES
AL2 (te2)	Alarm for right cylinder cooler outlet sensor (bi-cylindrical only)	YES
AL3 (te1)	Probe TE1 out of order	YES
AL5 (tev)	Probe TEV (hopper) out of order	YES
AL6 (tec)	Probe TEC (cylinder) out of order	YES
AL7 (tgv)	Probe TGV out of order	YES
AL8 (Ice)	Cylinder ice sensor alarm = -27°C (+5°F) TE1 or TEC low temperature mix in the cylinder	YES
AL9 (Ims)	Safety magnetic switch (spigot head opened)	NO.

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

5.1 GENERAL INFORMATION

Cleaning and sanitisation are operations that must be carried out habitually and with maximum care at the end of each production run to guarantee the production quality and respect the necessary hygienic norms.

Giving dirt the time to dry out can greatly increase the risk of rings, marks and damage to surfaces. Removing dirt is much easier if it is done immediately after use because there is the risk that some elements containing acid and saline substances can corrode the surfaces. A prolonged soaking is not recommended.

5.2 WASHING CONDITIONS

- **Avoid using solvents, alcohol or detergents that could damage the component parts, the machine or pollute the functional production parts.**
- When manually washing never utilise powder or abrasive products, abrasive sponges or pointed tools. There is a risk of dulling the surfaces, removing or deteriorating the protective film that is present on the surface and scoring the surface.
- Never use metal scouring pads or synthetic abrasives that could cause oxidation or make the surfaces vulnerable to attack.
- Avoid using detergents that contain chlorine and its composites. The use of these detergents such as bleach, ammonia, hydrochloric acid and decalcifiers can attack the composition of the steel, marking and oxidising it irreparably and causing damage to the parts made from plastic materials.
- Do not use dishwashers and their detergent products.

5.3 TIPS

- Perform all washing and refitting operations using the disposable gloves and replacing them when required.
- To wash the parts use a non-aggressive cleaning solution and the brushes supplied, previously sanitized.
- Wash (manually) the parts in water (max 140°F), using a non-aggressive detergent and the supplied cleaning brushes.
- To rinse them use drinkable water (bacteriologically pure).
- For the disinfection, keep the disassembled parts in lukewarm sanitized water for the time indicated on the label of the product used, use the supplied cleaning brushes to forcefully brush all components and the holes present on the components, then rinse them using drinkable water (bacteriologically pure).
- At the end of the washing, and before repositioning each component, dry everything with a soft and clean cloth, suitable for food contact, to avoid any type of humidity rich in mineral salts and chlorine from building up on the metal surfaces and leaving opaque traces.
- Place the components on a clean and sanitized tray to air-dry.

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.

WARNING

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

All parts must be integral and not worn, without cracks or splits, or opaque if originally polished/transparent.

Carpigiani declines all responsibility for any damage caused by imperfections and/or undetected breakages and not promptly solved by the replacement with original spare parts. The manufacturer is available for consultation and for any specific requests made by the customer.



5.4 HOW TO USE CLEANING/SANITISING SOLUTION



Prepare a solution of water and sanitizing detergent following the instructions shown on the label of the product being utilized.

Washing/sanitizing by soaking

- Remove larger residues by hand
- Remove finer residues with a jet of water
- Immerse the assembled parts to be cleaned into the solution
- Use the supplied brushes to forcefully brush all the components and relevant holes.
- Let the solution react for the time indicated on the label of the product being utilized
- Rinse the parts with care, using plenty of clean drinking water

5.5 PERIODIC CLEANING



Cleaning and sanitizing schedules are governed by your State or local regulatory agencies and must be followed accordingly. A well planned cleaning schedule will eliminate excessive waste of time and product within your organization.

On a designated day(s) of the week, allow the mix in the mix tank to run as low as feasible.

5.6 DRAINING AND CLEANING



Press SELECTOR button pos. 571.2 so as to enter Cleaning mode.

Locate a bucket under the spigot head. Pull down the handle and slowly empty the cylinder until pressure is completely released. The product will be softened and will run out completely fluid. Now press STOP and remove tank cover.

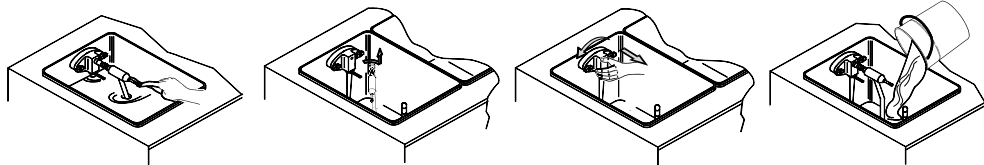
Bleed the excess air pushing in the bleed plunger.

Extract the tube and place it into a container filled with warm water.

Remove pump and place it into a container pail and rinse all parts.

Pull up the handle.

Pour luke warm in the tank and with a sponge clean additional residues.



Enter CLEANING mode.

Pull down the handle and let water completely drain until both tanks are empty.

Cleaning may be performed also on one single hopper, however, during cleaning, do not remove the spigot head.

5.7 DISASSEMBLING PUMP

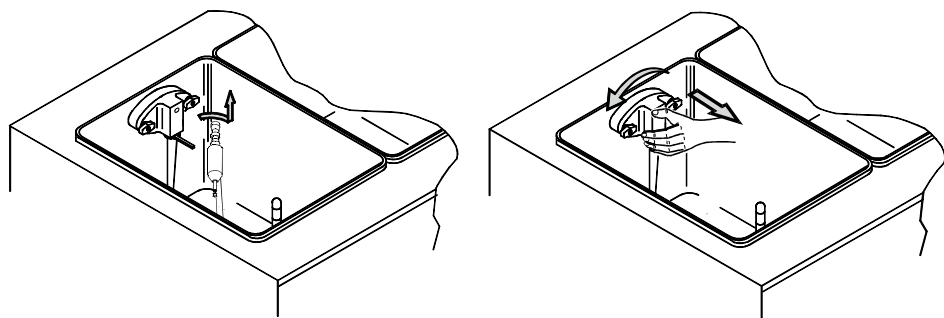


Proceed with the disassembly process by extracting connection pipe from the pump (Fig.10).

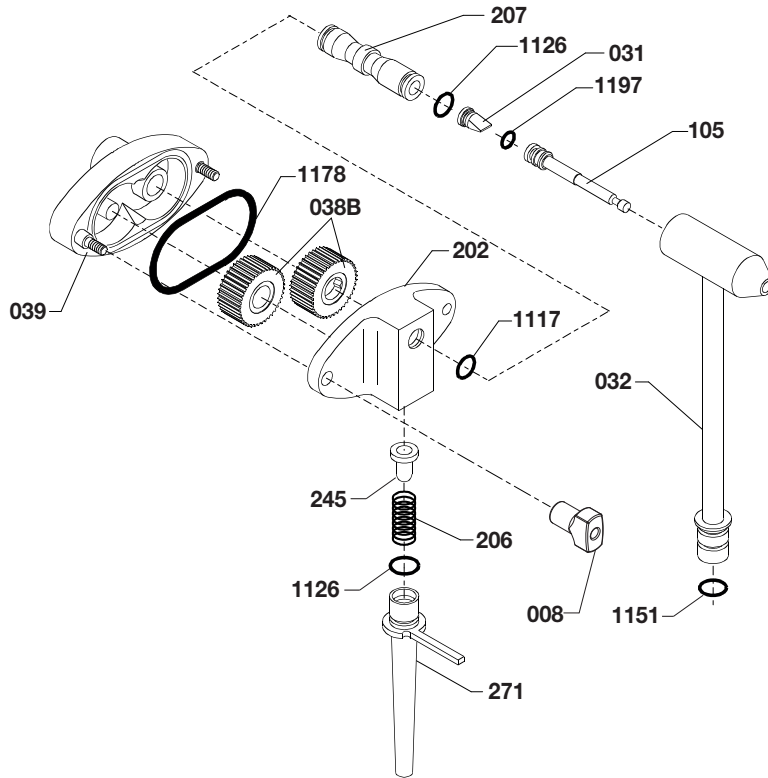
Slightly turn pressure pipe and extract it from its seat.

Turn the pump slightly and extract it from its seat (Fig.11).

Clean carefully the mix level sensor (Fig.11).



Remove all pump components as shown in the picture below.

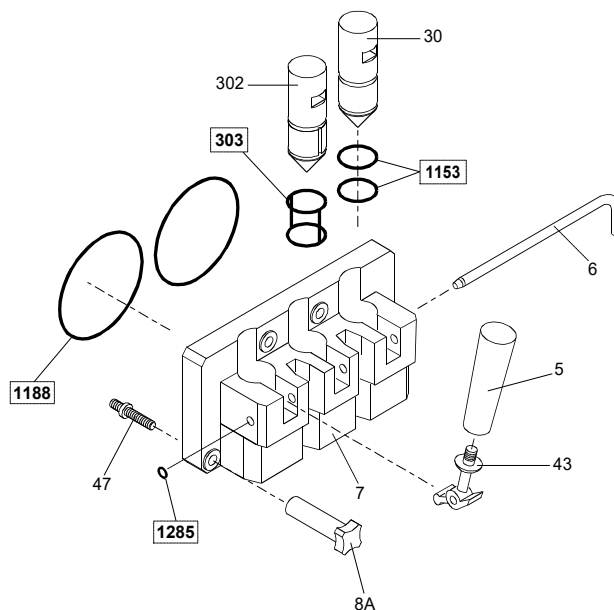


5.8 DISASSEMBLING FRONT LID

CAUTION

Before disassembling the front lid, make sure that tanks and cylinders are completely drained.

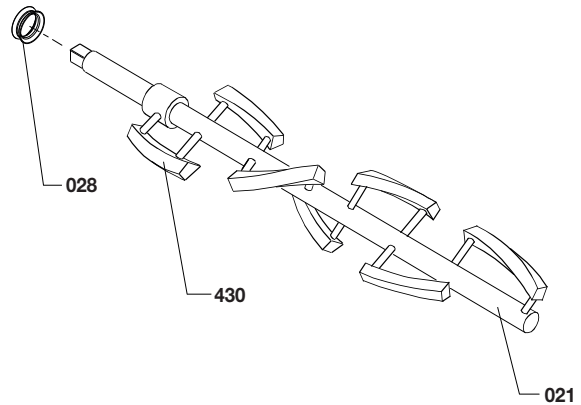
1. Remove the two retaining knobs (pos. 8A) and pull the door assembly towards you sliding it off the two front panel studs.
2. Pull the dispensing handle (pos. 5) so the pistons (pos. 30 and 302) raise in their housing.
3. Remove the pivot pin o-ring (pos. 1285) and the pivot pin (pos. 6) out releasing the dispensing handle (pos. 5)
4. Using the dispensing handle pull the piston (pos. 30 and 302) out completely.
5. Using the o-ring extractor, remove the o-rings (pos. 1153, 303 and 1188).



5.9 DISASSEMBLING BEATER



- 1- Draw the beater out from the cylinder taking care to avoid hitting the cylinder walls.
2. Slide the beater seal (pos. 28) out of the beater shaft.



5.10 WASHING AND SANITISING COMPONENTS



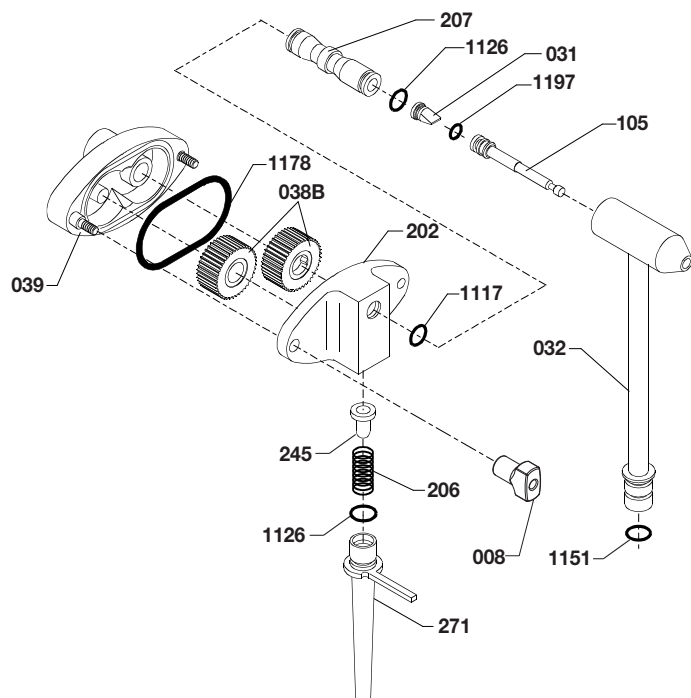
1. Remove larger residues by hand.
2. Remove finer residues with a jet of water
3. Prepare a solution of water and cleaning/sanitizing product following the instructions indicated on the label of the product used, soak the parts to clean in the cleaning/sanitizing solution.
4. Use the supplied cleaning brushes to forcefully brush all components and the relevant holes.
5. Allow the cleaning/sanitizing solution to work for the time indicated on the label of the product used.
6. Rinse the parts with care, using plenty of clean drinking water.
7. Place the components on a clean tray to air-dry.
8. Make sure the machine is in STOP mode.
9. Soak a brush in the cleaning/sanitizing solution and clean the housing holes of feeding needle.
10. Spray the cleaning/sanitizing solution on the whole internal surface of the cylinders and on the hopper walls.
11. Soak a brush in the cleaning/sanitizing solution and clean cylinders and hoppers.

Repeat the operations 9, 10 and 11 several times.

5.11 REASSEMBLING THE PUMP AND COMPRESSION PIPES



- 1) Grease all gaskets before placing them to their positions.
- 2) Take pump body pos. 39 and grease gear seats.
- 3) Assemble gears pos. 38B and OR gaskets pos. 1178 and also lubricate pump surface.
- 4) Assemble cover pos. 202, clamp the pumps with knobs pos. 8 and OR gasket pos. 1117.
- 5) Place valve pos. 245 and spring pos. 206 in their seats.
- 6) OR gaskets pos. 1126 must be assembled onto the regulator pos. 271 before placing the latter into pump cover.
- 7) Turn the regulator by 45° C at least, in order to secure it to the proper lock position.
- 8) Assemble OR gasket pos. 31, 1126 onto the connection pipe pos. 207.
- 9) Assemble OR gasket pos. 1151 on pressure pipe pos. 32.
- 10) Last reassemble seal valve pos. 1197 and pos. 105.

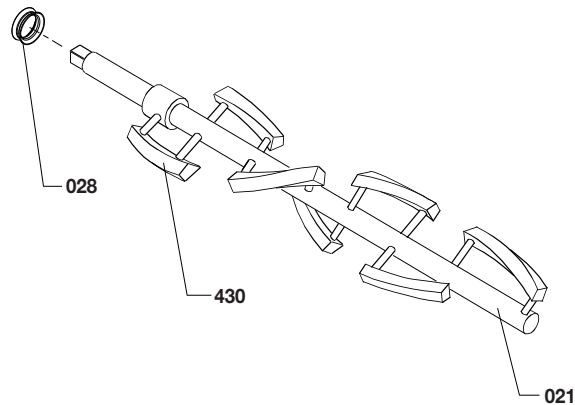


A wrong or not fully proper assembling of the individual components prevents the pump from sucking as sufficient quantity of mix from the tank, so damaging the beater.

The pump may not operate if spring and valve acting as safety devices against over-pressures have been removed from the regulator.

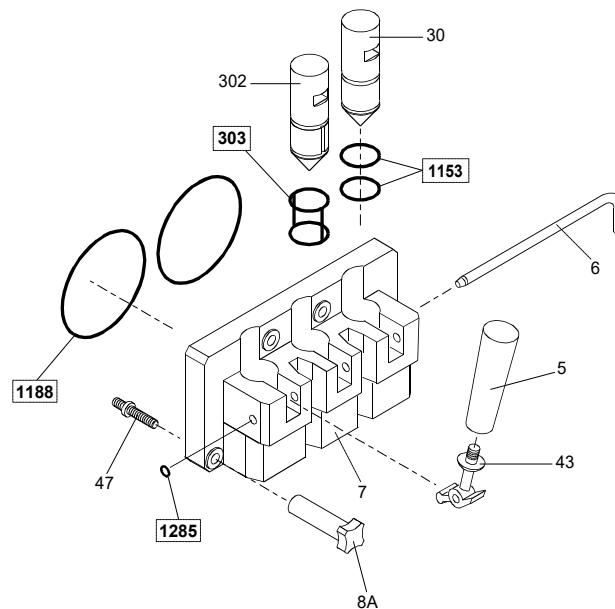
5.12 REASSEMBLING THE BEATER

- 1- Lubricate the seal (pos. 28) and slide it onto the beater.
2. Insert the beater assembly into the cylinder. Push while turning it clockwise until it engages in its drive shaft, otherwise the lid cannot be closed and mix could flow out of the cylinder resulting in serious damage.



5.13 REASSEMBLING FRONT LID

1. Lubricate and slide the piston o-rings (pos. 1153 and 303) into their seats.
2. Insert the pistons (pos. 30 and 302), pointed end down, in the dispensing head (pos. 7) making sure that the piston square notch lines up with the rectangular opening on the spigot front.
3. Position the dispensing handle (pos. 5) on the lid (pos. 7) and insert the pivot pin (pos. 6) in its housing through the handle lever hole. Lubricate and insert the pivot pin o-ring (pos. 1285). Lubricate and slide the large front lid o-ring (pos. 1188) into its seat.
4. Insert the front lid assembly onto the two front panel studs and fasten it with the two knobs (pos. 8A) hand tight.



5.14 SANITISING THE WHOLE MACHINE



The machine must be sanitised before use. Proceed as follows:

1. Fill the hoppers with detergent/sanitising solution, prepared according to the instructions on the used product label, up to the maximum level and allow the solution to flow into the cylinders. Leave it stay for the time specified by the manufacturer.
2. Using the brushes supplied, clean the mix level sensors, the hopper walls and the surface of the pumps.
3. Select BEATER function and let the machine run for about 10 seconds. Press the STOP button. Cylinders are now filled with sanitising solution.
4. Pour some detergent/sanitising solution in a pail.
5. Dip a brush in the pail of detergent/sanitising solution and brush clean the lid. Repeat the operation twice.
6. Wipe the exterior of machine with a clean sanitising towel. Repeat the operation twice.
7. Place an empty pail under the front lid and pull the spigot handles.
8. Allow all of the detergent/sanitising solution to drain. If the sanitising solution does not flow out completely, keep the spigot handles down and select BEATER function, let the machine run for 5 seconds so that the last solution residues flow out, then push STOP.
9. Rinse with plenty of drinking water.

WARNING

Do not keep the machine running in "BEATER" mode for a long time and with cylinders full of sanitising solution or empty cylinders since the beater would wear out.

WARNING

Do not touch sanitised parts with hands, napkins, or else.

WARNING

Before starting again with ice cream production, rinse thoroughly with just water, in order to remove any residue of sanitising solution.



5.15 PRIMING THE MACHINE

See paragraph 3.6 Machine start-up



6. MAINTENANCE

6.1 SERVICE TYPE

WARNING

Any servicing operation requiring the opening of machine panels must be carried out with machine set to stop and disconnected from main switch!

Do not clean and lubricate moving parts!

“Repairs to the wiring, mechanical, air supply or cooling systems, or to parts of same must be carried out by qualified personnel with permission to do so and if necessary, according to the routine and extraordinary maintenance schedules as envisaged by the customer with reference to specific intervention methods, according to the intended use of the machine”.

Operations necessary to proper machine running are such that most of servicing is completed during the machine production cycle.

Herebelow you can find a list of routine servicing operations:

- Cleaning and replacement of seal

Should you ever find that some product drips from drip drawer, it means that seals (pos. 28) have lost their tightness; when disassembling the beater, it is consequently necessary to check them and, according to the machine working period, to replace and alternate them with the seals included in the machine accessory kit.

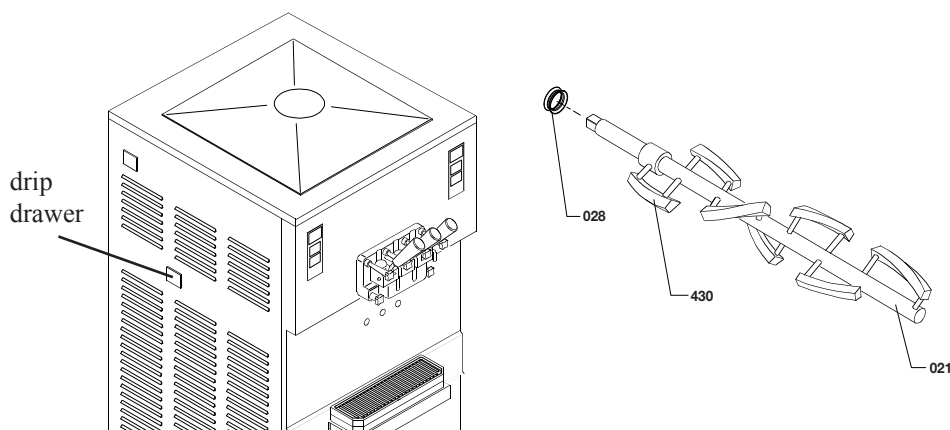
If the seals show no defects, they can be used again after washing them, when at room temperature they have regained their original shape.

Replace seals as follows:

- Draw the beater assembly out.
- Remove seal from its seat
- Lubricate the new seal and mount it
- Before putting the replaced seal away, clean and lubricate it so as to reach its elasticity again.

WARNING

If you continue to work after noting traces of product in the drip drawer, you further accentuate the leakage of the seal; this can lead to a malfunction of the machine serious enough to halt production.



WARNING

Like all moving parts, the complete beater is also subject to wear and tear. For this reason, we recommend checking the amount of wear of parts in direct contact with one another (beater/beater idler and beater/cylinder walls) on a regular basis during scheduled cleaning operations and in any case, every six months of machine operation. In particular, make sure that the wear on the bushing on the beater idler is no more than 2 mm, as indicated by the marking on the bushing itself. If there is more than 2 mm wear, it is necessary to replace the beater idler.



- **Cleaning of beater assembly, cleaning of pumps, cleaning and sanitisation of the all machine**
According to procedures described in section 5 of this manual.
- **Cleaning of panels**
To be carried out daily with neutral soap, seeing to it that cleansing solution never reaches the inside of beater assembly.



WARNING

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

6.2 WATER COOLING

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

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

6.3 AIR COOLING

Clean the condenser periodically, in order to remove dust and impurities that may hinder air circulation. Use a brush with long bristles or a jet of compressed air



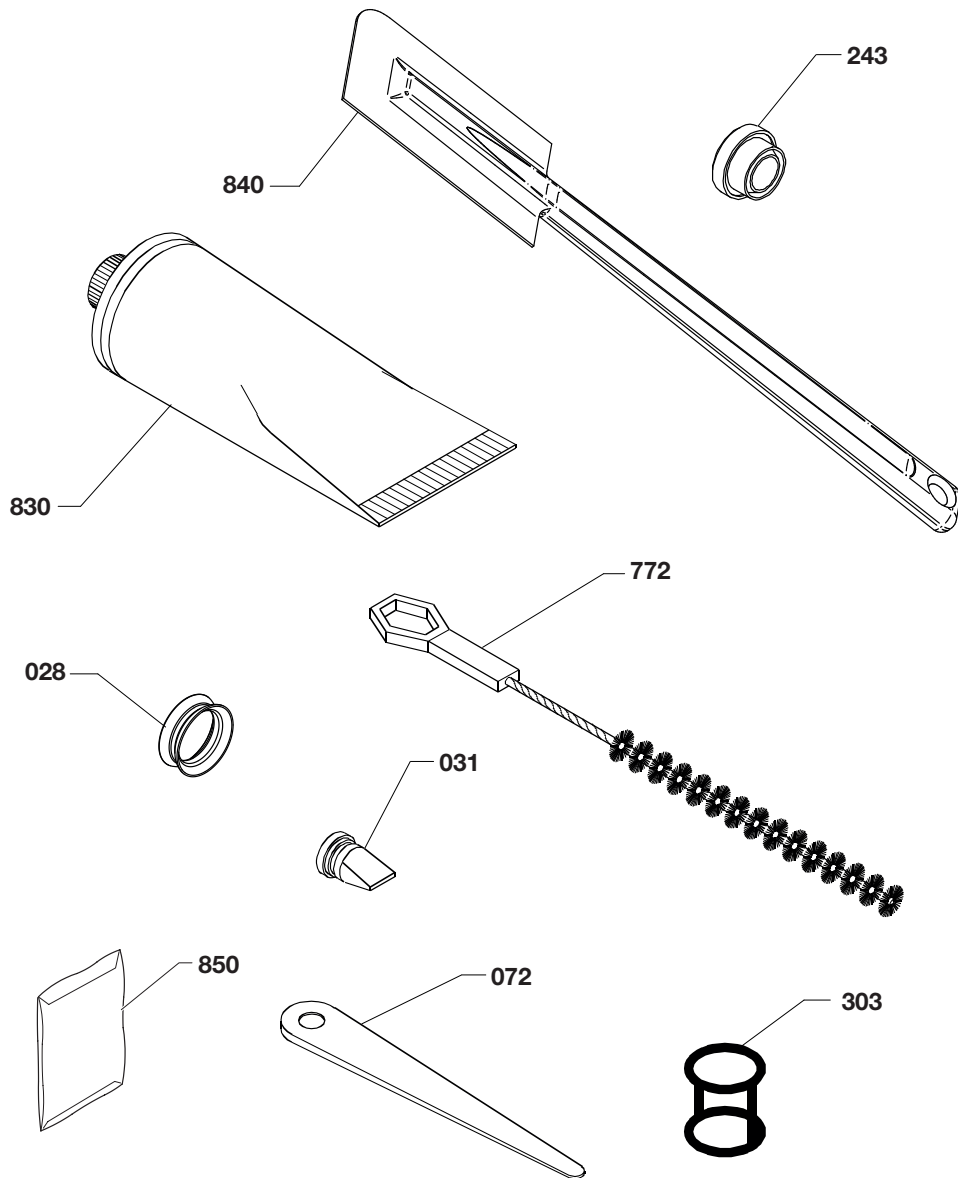
WARNING!

When using compressed air, use personal protections in order to avoid accidents; put on protective glasses



NEVER USE SHARP METAL OBJECTS TO CARRY OUT THIS OPERATION. THE CORRECT OPERATION OF A REFRIGERATION SYSTEM MOSTLY DEPENDS ON HOW CLEAN THE CONDENSER IS.

6.4 ORDERING SPARE PARTS



ATTENTION

Before using spare parts and/or supplied parts intended to come into contact with the product on the machine, it is absolutely necessary to clean and sanitize them as indicated in sec. 5 of this manual



Pos.	Description
28	Beater seal
31	Valve
72	O-ring extractor
243	Seal
303	O-ring
772	Swab
830	Food-grade lubricant tube
840	Cleaning spatula
850	O-ring set

7. TROUBLESHOOTING GUIDE

FAULT	CAUSE	PROCEDURE TO FOLLOW
Product too soft	a) Drawing faster than machine can produce. b) H.O.M. control out of calibration or malfunctioning. c) Machine short of Freon gas.	a) Slow down draw rate. b) Contact authorized service agency. c) Contact authorized service agency.
Nothing comes out of dispensing head.	a) No mix or low mix in mix tank. b) Feeding tube setting not sufficiently open.	a) Add mix to mix tank. b) Adjust gravity feed tube sleeve to larger opening.
Machine will not freeze.	a) Restricted air flow. b) Compressor not working. c) Short of Freon gas. d) Malfunctioning torque control (H.O.M.). e) Malfunctioning starter. f) Insufficient power supply.	a) Remove obstruction or restriction. b) Contact authorized service agency. c) Contact authorized service agency. d) Contact authorized service agency. e) Contact authorized service agency. f) Contact authorized service agency.
Machine runs continuously.	a) Short of Freon gas. b) Restricted or excessively warm air.	a) Contact authorized service agency. b) Remove obstruction or restriction.
Beater motor humming.	a) No mix in cylinder.	a) Refer to #2) above.
Machine will not start.	a) No power to machine. b) Malfunctioning control panel. c) Off on overload. d) Safety switch not energized	a) Check plug, disconnect switch or fuses. Push reset button. b) Contact authorized service agency. c) Push reset button after waiting for reset to cool. d) Control if spigot head is properly assembled.
Short cycle on machine	a) Going off on high pressure.	a) Clean condenser (air cooled models). b) Malfunctioning Klixon on compressor. c) Check water flow.
Mix drips from rear of head assembly.	a) O-ring missing or has a split. b) Head not tight.	a) Install or replace O-ring. b) Tighten hand knobs.
Low overrun.	a) Defective O-ring. Check all O-rings. b) Too much liquid in cylinders.	a) Replace any worn or damaged O-ring. b) Close liquid hole in feeding tube, draw several portions and reopen hole.