

INSTRUCTION MANUAL

LB 502
LB 1002

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

Via Emilia, 45 - 40011 Anzola dell'Emilia (Bologna) - Italy

Tel. +39 051 6505111 - Fax +39 051 732178

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FOREWORD

INSTRUCTION MANUAL

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

PURPOSE

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

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

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

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

CARPIGIANI

Via Emilia, 45 - 40011 Anzola dell'Emilia (Bologna) - Italy
Tel. +39 051 6505111 - Fax +39 051 732178

STRUCTURE OF THE MANUAL

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

Section

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

Chapter

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

Sub chapter

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

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

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

ADDITIONAL DOCUMENTATION

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

- **Supplied spare parts:** a list of spare parts delivered together with the machine for its routine maintenance.
- **Wiring diagram:** a diagram of wiring connections is 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 manual.
Carefully read safety instructions.**



CONVENTIONAL SYMBOLS



CAUTION: ELECTRIC SHOCK DANGER

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 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 staff involved.



WARNINGS

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



PERSONAL PROTECTIONS

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

SYMBOLGY QUALIFICATION OF THE STAFF

The staff 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.).



QUALIFIED ENGINEER

He/she is a skilled engineer for the installation and 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.



CARPIGANI ENGINEER

He/she is a skilled engineer assigned by the manufacturer to 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 (ex.: protection microswitches, thermostats).
- suitable personal protective equipment is used;
- 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.
- The machine must not be installed in an area in which a water jet could be used
- The machine is not for external use
- 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 a data plate carrying manufacturer data, machine type and serial number, assigned when it is manufactured.

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

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

1.1.2 Information on maintenance service

All operations of routine maintenance are here described in section “Maintenance”; any additional operation requiring technical intervention on the machine must be agreed upon with the manufacturer, who will also examine the possibility of a factory technician field 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 customer service department is available for any information about operation, and requests of spare parts and service.



1.2 INFORMATION ABOUT THE MACHINE

1.2.1 General data

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

LB machines are built to produce homemade ice cream.

They are electronically controlled machines for professional production of ice cream.

CARPIGANI recommends that you always use ingredients of the highest quality when making ice cream as this will allow you to satisfy even the most demanding of customers. Any saving made to the prejudice of quality will surely turn into a loss much bigger than the saving itself.

Bearing in mind the above statements, please take heed of 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 mix supplier's recipes, by adding, for instance, water or sugar;
- Taste ice cream before serving it and start selling it only if entirely satisfactory;
- Make sure your staff always keeps the machine clean.

Have your machine serviced always by companies authorized by **CARPIGANI**.

1.2.2 Technical features

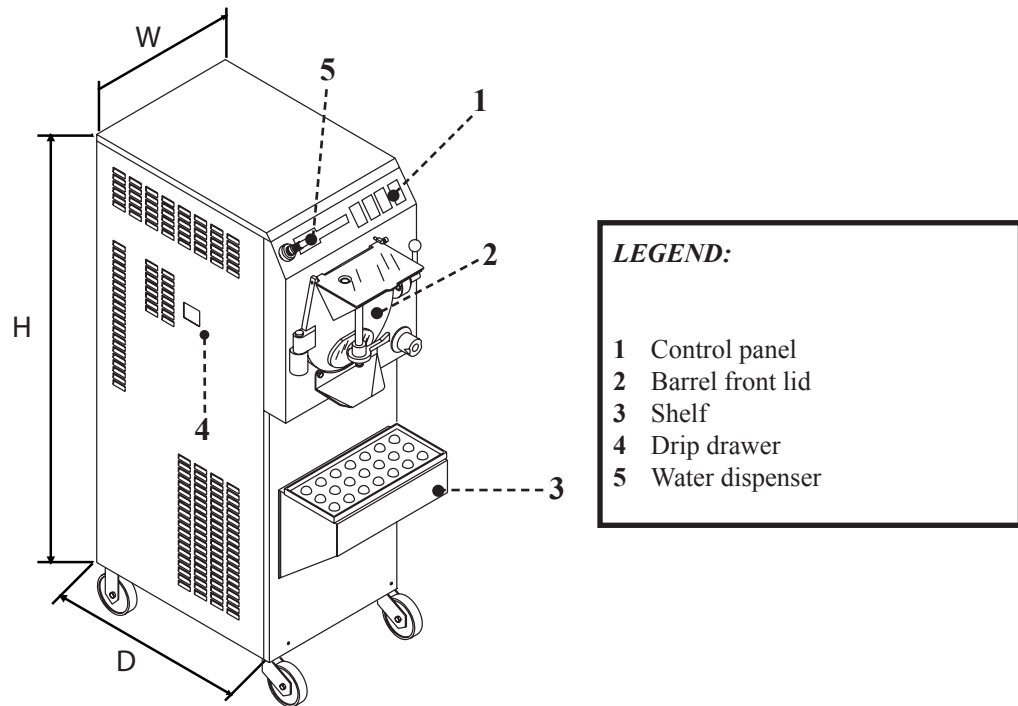
MODEL	Hourly production Gal.	Power supply*			Rated power kW	Condenser	Dimensions in			Net Weight lb	
		Volt	Hz	Ph			W	D	H		
LB 502	19	208	230	60	3	6,5	Water**	24	40	55	650
LB 502 G	17	208	230	60	3	6,5	Water**	24	40	55	700
LB 1002	40	208	230	60	3	9,5	Water	26	47	55	990
LB 1002 G	35	208	230	60	3	9,5	Water	26	47	55	1052

Production changes according to used ingredients

* Other voltages and cycles are available.

** Air cooling available with price surcharge

1.2.3 Location of machine groups



1.3 INTENDED USE

The machines 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 / 109.4°F
- Water min. temperature10°C / 50°F
- Water max. temperature.....30°C / 86°F
- Water min. pressure0,1 Pa (1 bar) - 14 PSI
- Water max. pressure.....0,5 Pa (5 bar) - 72 PSI
- Max air relative humidity:85%

The machine has been designed for its use in places which are not subject to explosion-proof standards; its use is thus bound to conforming places and normal atmosphere.

1.4 NOISE

The steady acoustic pressure level weighed A in a working place alike by watercooled and by aircooled machines is less than 70 dB(A).

1.5 STORING A MACHINE

The machine must be stored in a dry and dust-free place.
Before storing the machine, wrap it in a cloth in order to protect it against dust and else.

1.6 DISPOSAL OF PACKING STUFFS

When opening the packing crate, divide packing stuffs per type and get rid 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 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 optimize 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 TO THE MACHINE USE

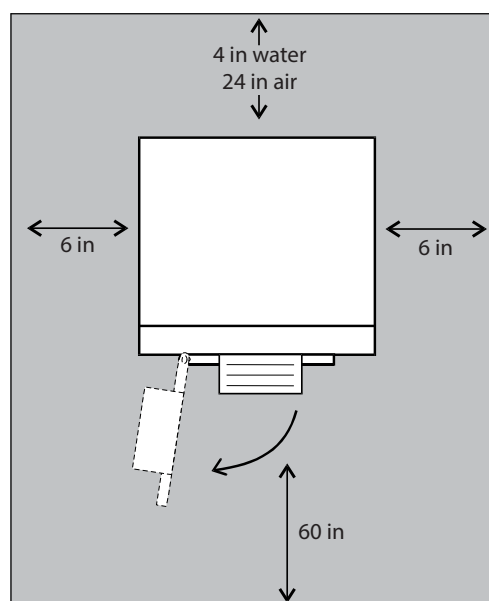
The machine must be installed in such a way that air can freely circulate all around. Rooms for the approach to the machine must be left free in order to enable the operator to act without constraint and also to immediately leave working area, if need be. The minimum approach room to working area should be at least 60 in. in consideration of space taken by opened doors.

ATTENTION

MACHINES WITH AIRCOOLED CONDENSER must be installed at least 24 in away from rear side 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 WATER SUPPLY CONNECTION

The machine must be connected to running water which pressure must not be higher than 0,8 MPa (8 bars).

By aircooled machines, water connection for drinking water (for machine wash) is placed under the machine.

By watercooled machines water connections (for machine wash and gas cooling) are placed on upper panel.

2.3 MACHINE WITH AIRCOOLED CONDENSER

Machines with aircooled condenser must be installed at least 24 in away from rear side in order to allow free air circulation around the condenser.

NOTE:

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





2.4 MACHINES WITH WATERCOOLED 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.

2.4.1 Water valve adjustment

WARNING

If water valve must be retarded, 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.

ATTENTION:

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



2.5 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.

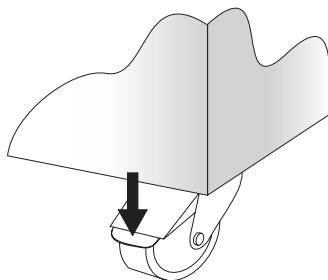
2.5.1 Replacing the power cable

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.



2.6 LOCATION

The machine is provided with castors for an easy positioning; a mechanical block system, once engaged, prevents machine from moving and keeps it standstill. The machine must be positioned at right angles on a horizontal bearing surface (max. tilt: 2°).



2.7 REFILLING

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

Gas filling necessary to the freezing system is carried out at **CARPIGIANI** works during machine postproduction testing.

If a gas addition happens to be made, this must be carried out by skilled technicians, only, who can also find out trouble origin.

2.8 MACHINE TESTING

A postproduction test of the machine is carried out at **CARPIGIANI** premises; Operation and output functionality of the machine are thoroughly tested.

Machine test at end user's must be carried out by skilled technicians or by one of **CARPIGIANI** engineers.

After the machine positioning and correct connections, also carry out all operations necessary to functional check and test of the machine.

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3. DIRECTIONS FOR USE

3.1 MACHINE SAFETY WARNINGS

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

Who is in charge of plant safety must be on the look-out that:

- Any incorrect use or handling shall be avoided;
- Safety devices must neither be removed nor tampered with;
- The machine shall be regularly serviced;
- Only original spare parts are to be used especially as far as those components with safety functions are concerned (ex.: protection microswitches, thermostats);
- Suitable personal protective equipment is worn;
- High care must be paid during hot product cycling.

To achieve the above, the following is necessary:

- At the working place 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;
- Be on the look out that no technician will ever carry out interventions outside his own knowledge and responsibility sphere.

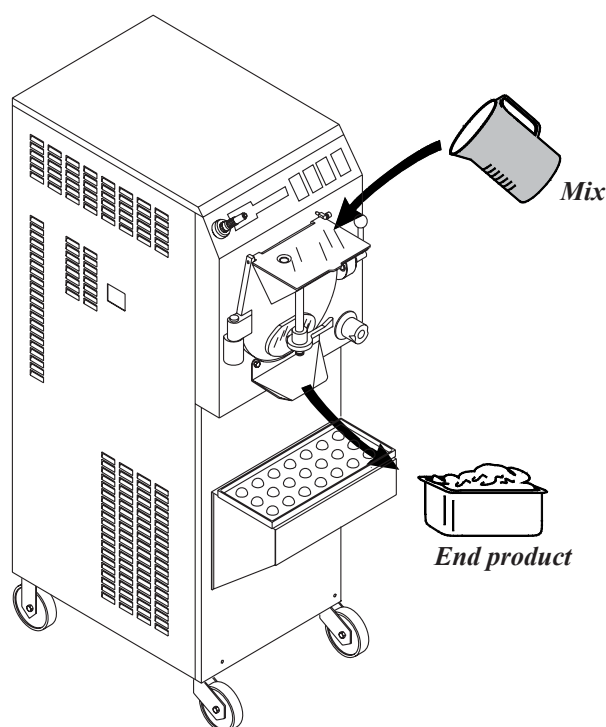
3.2 MACHINE CONFIGURATION

The machine is comprised of a motor-drive section to move the beater unit and a chilling system with air- or water-cooled condenser.

The product is prepared by placing the mix inside the production cylinder and starting up the automatic production cycle, using the minimum or maximum amounts of mix as listed in the table in paragraph 1.2.2. When the cycle has ended, the product is ready to be extracted from the ice cream door, directly into a tub.

CAUTION

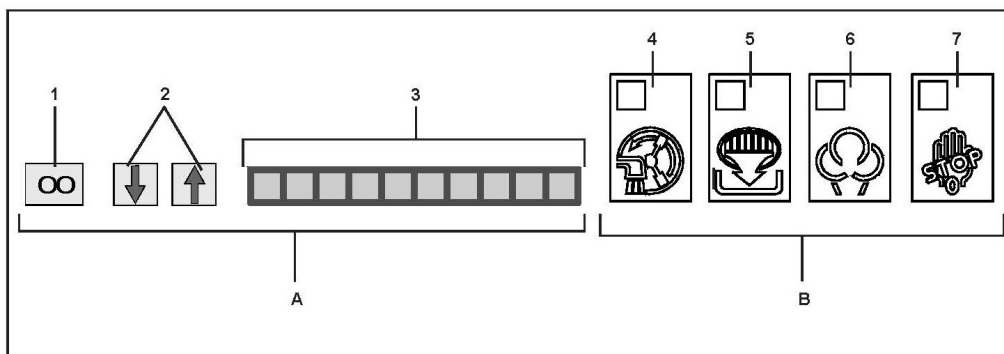
To make product dispensing easier, only use the plastic spatula supplied. Never use metal spatulas as these could damage the machine.



3.3 CONTROLS

3.3.1 Push-button Panel

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



3.3.2 Push-button functions



Rif 1 - Display

Displaying set calibration values



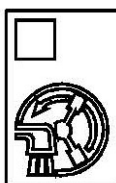
Rif 2 - Increase and Decrease-buttons

For variation of calibration values



Rif 3 - Led Bar

For checking all processing phases in a real time.



Rif 4 - Cleanout-button

When pressed, it just controls beater rotation, while the freezing system is cut out.

ATTENTION

Three minutes after selecting and inserting this function, the machine automatically sets to STOP in order to avoid an excessive wear of beater and barrel.

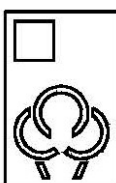


Rif 5 - Dispense-button

When pressed, it controls beater rotation at high speed for an easy dispense of the product.

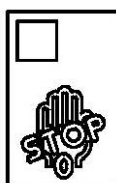
ATTENTION

Three minutes after selecting and inserting this function, the machine automatically sets to STOP in order to avoid an excessive wear of beater and barrel.



Rif 6 - Ice-cream production-button

When pressed, it automatically controls beater and compressor running. Ice cream consistency is controlled by Carpigiani exclusive electronic system called Hard-O-Tronic, through which the best ice cream processing value can be reached.



Rif 7 - STOP-button

When pressed it, machine stops.

ATTENTION

If the machine is left in STOP more than 30 minutes and no other button is pushed, the electronic card automatically switches off in order to reduce energy consumption.

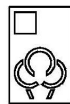
Press STOP in order to turn on the machine.

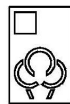


3.4 ICE CREAM PRODUCTION

After washing, sanitizing and thoroughly rinsing the machine immediately before use, as described in Sect. 5 "Cleaning", pour the required amount of mix into the cylinder through the loading hopper in the door.

Before pouring in the mix, make sure that the door and ice cream door are perfectly closed.



Pressing the Ice cream Production button , the machine will start the processing cycle by beating and cooling the mix: the led lights on the Hard-O-Tronic display will light in sequence, indicating the status of processing. When the LED BAR blinks and you hear an audible alarm, the processing cycle and the ice cream is ready to be dispensed. The beater will continue to run, but the compressor has stopped.

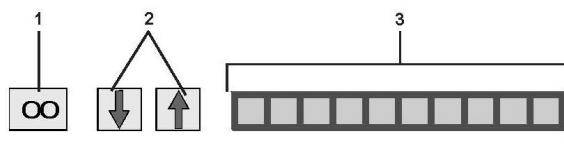
If the ice cream is not dispensed soon after processing is completed, beating of the ice cream will continue while the Hard-O-Tronic system will restart the compressor and processing to restore the ice cream to its optimal thickness and consistency

3.4.1 Changing ice cream consistency

Carpigiani sets the optimal ice cream consistency value according to the mix being used. Hard-O-Tronic constantly maintains ice cream in optimal condition. However, the operator can also set "personalized" custom processing cycles with the LB series.


High butter fat ice cream may require a higher consistency, while ice cream with low fat content (such as shebert) requires a lower consistency setting.

- To vary ice cream consistency, press the button (ref. 2) on the display panel while the machine is processing ice cream.
- To achieve a harder ice cream, increase the setting value displayed on the monitor (ref. 1) by pushing the up arrow.
- To achieve a softer ice cream, decrease the setting value displayed on the monitor by pressing the down arrow.



Example: To vary the consistency value from 10 to 7:



- Press the Ice cream Production button 
- Repeatedly press the down arrow button until the value 7 is displayed. The new consistency value is immediately stored.
- At the end of the processing cycle, the ice cream consistency value will be 7 instead of 10. A typical value is 10. The new value will remain stored until is changed again.

ATTENTION:

Hourly output may vary depending upon: room and cooling water temperature, type and quality of mix used, and the consistency value that is set in the machine



3.4.2 Dispensing ice cream

When the production cycle is over (indicated by blinking LEDs and an audible alarm), Ice cream may be dispensed from the barrel as follows:

- Place a container on the shelf under the ice cream door.
- Turn the ice cream gate handle
- Lift the handle together with the ice cream gate.



- Push the Distribution button
- Press STOP when all product is removed.

ATTENTION:

To avoid unnecessary wear of the beater shoes and barrel, the machine returns to the model after 3 minutes is non-use

3.4.3 Using the ice cream dispensing handle

Locking

Lock the ice cream gate turning the handle to the right until it stops.

Opening

Turn the handle (ref. 1) 90° to the left.

Lift the handle and the ice cream gate.

Lock the door upwards turning the handle (ref. 1) all the way to the right.

Closing

Repeat the opening operation in reverse order.

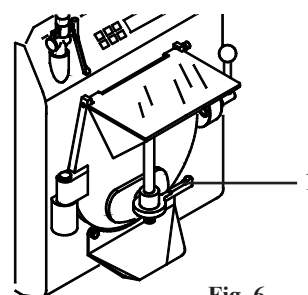


Fig. 6

3.4.4 Post cooling

This function is extremely useful for the models with greater production capacity (two or more tanks per cycle):

In fact, if each tank of ice cream needs to be externally processed after the extraction, such as garnishing, variegation or anything else, the ice cream that is still inside the machine, remains in beating mode at extraction high speed and tends to lose its initial consistency before being put into storage.



To activate this system during the extraction phase, press the Ice cream Production button to continue to cool the product. The compressor will start and stop automatically when the value of consistency is less than the prefixed value.



The post cooling system activates when the Ice cream Production button is pressed and the cooling remains active for 20”.

4. SECURITY DEVICES

4.1 THERMAL RELAY

The Thermal Relay monitors amperage draw of the beater motor. When maximum values are reached, the machine will stop and the monitor will blink "RT" which is the code that indicates the Thermal Cut-out has been tripped. Upon automatic resetting of the thermal relay, the display will stop blinking. Before restarting operation, it is important to investigate the reason the thermal cut-out tripped. To restart the machine, press the desired button.



4.2 PRESSURE SWITCH

The Pressure Switch protects the cooling system compressor. This switch will stop the compressor in the event of water flow interruption (water-cooled system) or air flow obstruction (air-cooled system); resetting is automatic

If the compressor runs too long, or the machine continually stops and restarts it may indicate cooling is insufficient. Call you authorized service technician.

4.3 PROTECTION FOR THE OPERATOR

A microswitch has been places on the door of the barrel with the beater assembly. The switch will immediately stop the machine when the door is opened. When the machine stops, the monitor will display "PT". The display will blink if the machine was running when it was stopped. The display will be steady (not blinking) if the machine was already stopped when the door was opened. After closing the door, the machine remains stopped and the display resets.

ATTENTION:

Make sure the machine is stopped before opening the front door.



5. DISASSEMBLING, WASHING, SANITIZING AND REASSEMBLING THE PARTS IN CONTACT WITH THE PRODUCT

5.1 GENERAL DESCRIPTION

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 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 oxidization 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 thermoset materials.
- Do not use dishwashers and their detergent products.



5.3 SUGGESTIONS

- Perform all washing and refitting operations using disposable gloves and replacing them when required.
- Use a non-aggressive cleaning solution to wash the parts and the supplied brushes, previously sanitized.
- (Manually) wash the parts in water (max 140°F) using a non-aggressive detergent and the cleaning brushes supplied as standard.
- Use drinking water (bacteriologically pure) to rinse the parts.
- For sanitizing, keep the disassembled parts in warm sanitized water for the time indicated on the label of the product used; use the supplied cleaning brushes to forcefully brush all the components and holes present on the components, then rinse using drinkable water (bacteriologically pure).
- When the washing procedure has been completed and before reassembly, dry each component thoroughly with a clean and soft cloth that is suitable for coming into contact with foodstuffs, to avoid leaving any humidity rich in mineral salts and chlorine that could attack the metal surfaces and leave opaque traces.
- Place the components on a clean and sanitized tray to air-dry.



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

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

WARNING

Every time the machine is washed and its parts that come into contact with the ice cream mix are disassembled it is essential to carry out a visual control of all the parts manufactured in thermoset 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 substitution of original spare parts and is available for consultation and for any specific requests made by the customer.





5.4 HOW TO USE CLEANING/SANITIZING 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 CLEANING THE EXTERIOR OF THE MACHINE


Remove the dust and protective material that was applied before shipment. Use water only with a mild soap-based detergent and apply using a soft cloth.



5.6 PRELIMINARY CLEANOUT

- With the machine OFF and the beater front door closed, use the hose and shutoff valve on the front of the machine to put water in the barrel.



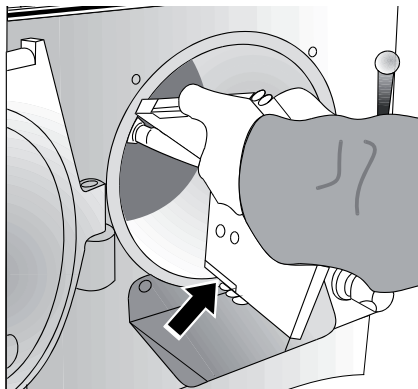
- Turn the machine on then press the Cleanout button  and let the beater run for the specified time. The machine will run for about three minutes then automatically stop. This helps prevent unnecessary wear on the sliding shoes and barrel.
- Drain the water from the barrel then open the door to remove the beater.

5.7 BEATER REMOVAL

Remove beater by pulling delicately out and taking care not to damage the scrapers; pay attention not to hit the cylinder walls with beater shaft.

WARNING

Act with utmost care, as a fall to the ground might damage the beater.

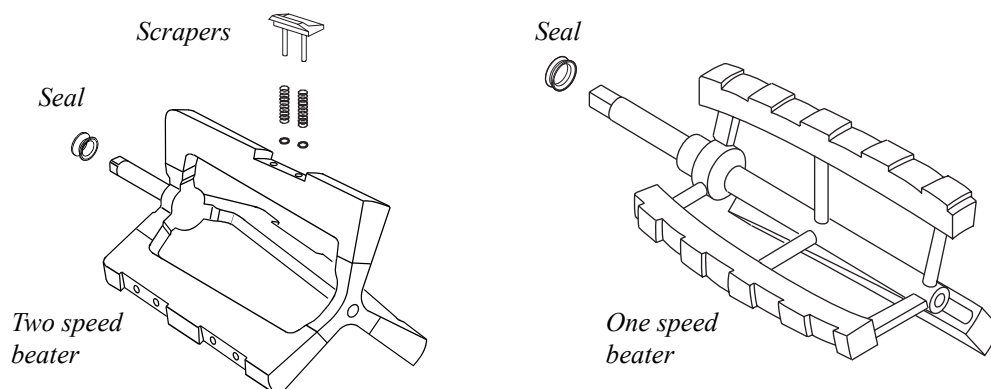


- Completely remove the scrapers.

WARNING

Beater scrapers are "self-regulating". Good cleanliness levels ensure system efficiency.

- Remove seal from its seat on beater shaft.



5.7.1 Seal

When removing the beater it is necessary to check the seal for wear. Seal can be replaced with the second seal supplied within the machine accessory box, depending on the current machine duty cycle.

- Remove beater unit
- Remove seal from its seat
- Lubricate the replacement seal
- Install the new seal
- Clean and lubricate the replaced seal and store it away to allow it to recover its elasticity.

IMPORTANT

Change seal with genuine parts any time you notice some ice cream when removing the drip tray on machine side.

Continuing production after this condition could further increase leakage, resulting in machine malfunction possibly affecting production quality.

PRECAUTIONS

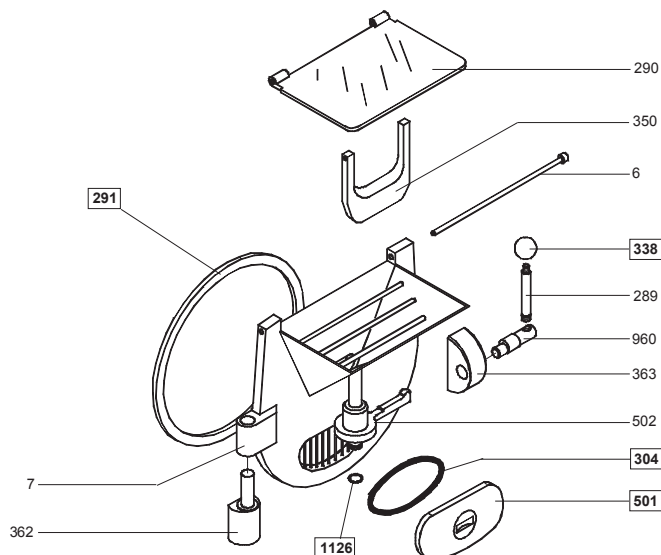
When the machine is not in use, leave beater spigot open to avoid seal compression which could lead to its deformation.



5.8 SPIGOT DOOR REMOVAL

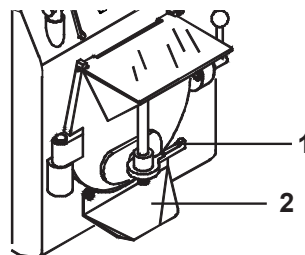


- Raise spigot locking lever and move it to the right.
- Open spigot pivoting on the hinge.
- Lift spigot to remove.
- Remove all mobile parts, including the cylinder seal.



5.8.1 Ice cream outfeed spigot door removal

- Turn lever (ref. 1) to the left by 90° to lift spigot.
- Lift lever and spigot and lock spigot up by turning lever fully home to the right.
- Now remove the bottom O-ring from spigot door pivot and remove it, in this way lever is released as well.
- Remove spigot O-ring.



5.8.2 Hopper cover removal

To clean mix feeding area, with machine stopped, slide out cover retaining shaft (pos. 6) and remove it.

Cover features a small baffle preventing ice cream from going up the hopper, which must be removed and cleaned.



5.8.3 Product outlet chute removal

In order to make easier the removal of any ice-cream residue, remove the ice-cream chute using both hands and turn it anti-clockwise so as to release it from its seat.



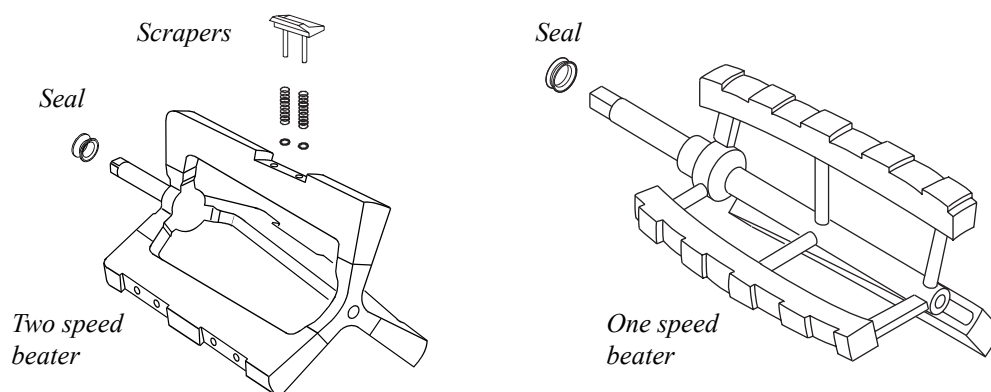
5.9 WASHING AND SANITIZING COMPONENTS

1. Remove larger residues by hand.
 2. Remove finer residues with a jet of water
 3. Soak the parts to be cleaned in the cleaning/sanitizing solution.
 4. Use the supplied brushes to forcefully brush all the components and relevant holes.
 5. Leave the cleaning/sanitizing solution to work for the time indicated on the product packaging.
 6. Rinse the parts with care, using plenty of clean drinking water.
 7. Place the components on a clean tray to air-dry.
 8. Soak a brush in the cleaning/sanitizing solution and clean the cylinder and housing hole of the beater.
 9. Spray cleaning/sanitizing solution on the whole internal surface of the cylinder.
- Repeat steps 8 and 9 several times.**
10. Remove drip tray (Ref. 3), clean it, sanitize it and refit it in its seat.
 10. Disassemble tray shelf (Ref. 4), clean it, sanitize it and refit it.
 11. Wipe the exterior of machine with a clean wet sanitized cloth.

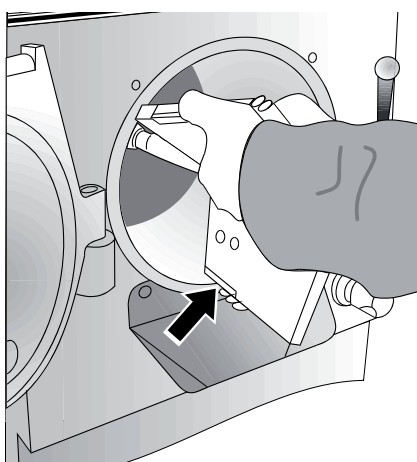


5.10 BEATER REFITTING

Refit all removed parts taking care to smear seal with some food-grade lubricant.



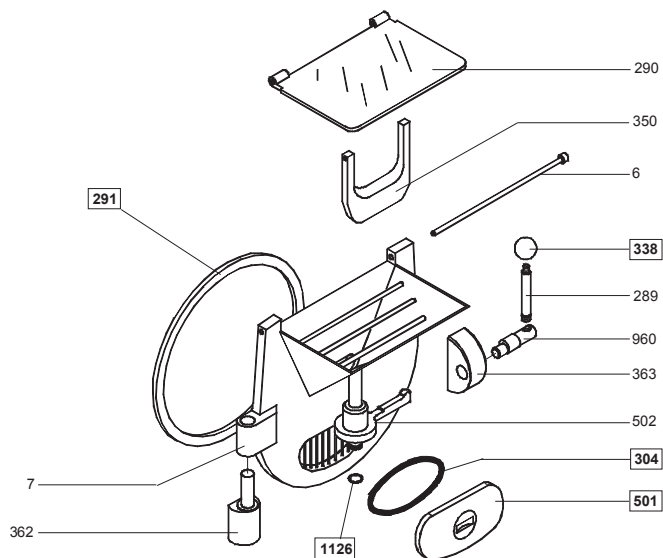
When refitting the beater, grab it with both hands and press scrapers so as to help insertion. Press beater fully home and meanwhile turn it until inserting the shaft fully in its seat.





5.11 SPIGOT DOOR REFITTING

- Reinstall all removed parts taking care to smear with some food-grade lubricant all O-rings and spigot door support shaft pos. 362.
Reposition the assembled spigot door in its seat



5.11.1 Product outlet chute repositioning

Reposition the chute on the front panel of the machine turning it clockwise in order to lock it in its seat.



5.12 SANITIZATION

Operation required before each production process.

- With the machine stopped, the beater unit enabled and the spigot door closed, pour the cleaning/sanitizing solution in the cylinder. It shall be prepared by following the instructions on the product label.
- Press the "CLEANOUT" button.
- Leave the machine running for 10/15 seconds.

WARNING

Operating the machine in "CLEANING" mode for too long with an empty cylinder or just filled with water and sanitizing solution brings about a quick wear of the beater scrapers.

- Let the cleaning/sanitizing solution react inside the cylinder during the time shown on the product label.
- Completely drain solution from working cylinder.
- Rinse with plenty of clean water.

WARNING

Do not touch the sanitized parts with hands, napkins, or else.

WARNING

Before starting again with production, rinse thoroughly with water only, in order to remove any residue of sanitizing solution.

5.13 HYGIENE

Ice cream fat contents are ideal fields for proliferation of mildew and bacteria.

To eliminate them, parts in contact with mix and ice cream must be thoroughly washed and cleaned. Stainless steel materials as well as plastic and rubber ones used for the construction of these parts and their particular design make cleaning easy, but cannot prevent the growth of mildew and bacteria if not properly cleaned.



6. MAINTENANCE

CAUTION

Never put your hands into the machine, either during the operation or during cleaning.
Before servicing, make sure the machine has been set in "STOP" position
and the main switch has been cut out.



6.1 SERVICING TYPOLOGY

ATTENTION

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

Cleaning and lubricating moving parts is forbidden!

“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 use for which the machine is destined”.



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

Servicing operations, such as cleaning of parts in contact with the product, replacing of stuffing box, disassembling of beater assembly are to be carried out at the end of a working day, so as to speed up serving operations required.

Herebelow you can find a list of routine servicing operations:

- **Cleanout and replacement of stuffing box**

Cleaning should be carried out at the end of a working day, whilst replacement only after checking of stuffing box and in the event product drips inside drip drawer.

- **Cleanout of beater assembly**

At the end of a working day.

- **Cleanout of sliding shoes**

At the end of a working day.

- **Cleanout of panels**

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

- **Cleanout and sanitization**

At the end of each working day, according to procedures described in section 5 of this manual.

WARNING

NEVER USE ABRASIVE SPONGES TO CLEAN MACHINE AND ITS PARTS,
AS IT MIGHT SCRATCH THEIR SURFACES.



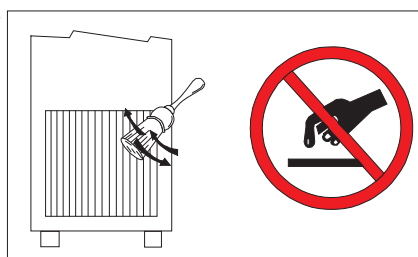
6.2 WATERCOOLING

By machines with watercooled condenser, water must be drained from condenser at the end of selling season in order to avoid troubles in the event that the machine is stored in rooms where temperature may fall under 32°F (0°C). After closing water inlet pipe, withdraw drain pipe from its seat and let water flow out from circuit.



6.3 AIRCOOLING

Clean condenser, periodically, so as to remove dust, paper and what can prevent air from circulating. For cleanout, use a brush with long bristles or a bolt of compressed air.



ATTENTION

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



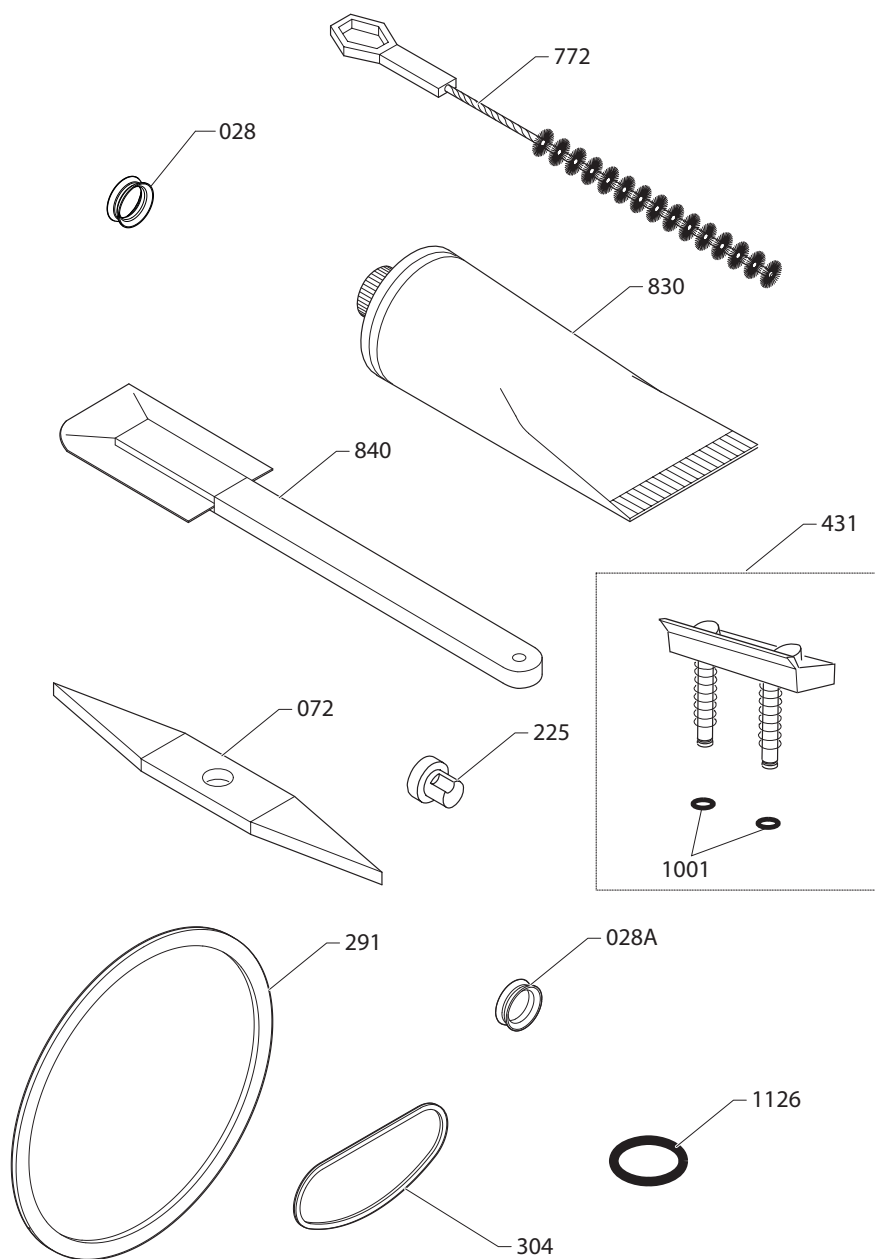
NOTE: never use sharp metal objects to carry out this operation. Good working of a freezing plant mostly depends on cleaning of condenser.

6.4 ORDERING SPARE PARTS

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



6.5 ACCESSORIES KIT



Description	Position number
Beater stuffing box	28/28A
O-ring extractor	72
Seal plug	225
Hose adapter	291
Gaskets for hose adapter	304
Scraper self adjusting	431
Brush	772
Food-grade lubricant tube	830
Ice cream spatula	840
O-ring	1126

7. TROUBLESHOOT GUIDE

IRREGULARITY	CAUSE	PROCEDURE
Machine does not start	Main switch is off	Switch it on
	Machine unplugged	Check and plug in
	Machine is not set at PRODUCTION	Check push button for PRODUCTION is lit
	Front lid is not closed well	Check front lid closure
Compressor starts and then stops after a few seconds without ice cream being thick	Watercooled machine: water does not circulate	Open water tap Check that hose is neither squashed nor doubled up.
	Aircooled machine: air does not circulate	Check that rear of machine is at least 2 in (50 cm) from wall Clean condenser from obstructions
After 15 minutes processing mix has not frozen and the machine returns to Stop	No gas	Contact Technical Assistance.
	Pressure switch has broken down	Contact Technical Assistance.
Machine runs but no ice cream comes from ice cream door	No sugar in the mix	Allow to thaw, then modify or replace the mix
Machine works but ice cream is too soft	Too much sugar in the mix	Modify or replace the mix
Mix in drip drawer	Stuffing box missing or ruined	Install if missing Replace if ruined
Ice cream comes out from behind front lid	Gasket missing or not properly installed	Check and fix or replace
Bacteria tests show too high bacteria charge	Too high bacteria charge in the mix	Improve preparation procedure by sanitizing all containers, spoons, etc., and have mix analyzed before pouring it into the machine
	Machine not clean enough	Empty and thoroughly wash the machine. Carry out sanitization as per chapter 5 of manual.

