CARPIGIANI

INSTRUCTION MANUAL

LB 200-TRONIC G

AFFIX

PLATE WITH

SPECIFICATIONS

Code IC193-016766_03

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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FOREWORD

INSTRUCTION MANUAL

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

PURPOSE

This handbook was conceived taking machine users' needs into due account.
Topics relevant to a correct use of the machine have been analyzed in order to keep unchanged in the long run quality features characterizing **CARPIGIANI** machines all over the world.
A significant part of this manual refers to the conditions necessary for the machine use and to the necessary procedures during cleaning as well as routine and special maintenance.
Nevertheless, this manual cannot cover any possible need in detail. In case of doubts or missing information, please contact:

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STRUCTURE OF THE MANUAL

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

Section
A section is the part of the manual identifying a specific topic related to a machine part.
Chapter
A chapter is that part of a section describing an assembly or concept relevant to a machine part.
Sub chapter
It is that part of a chapter detailing the specific component of a machine part.

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

- The Operator must read the chapters concerning machine start-up 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:

- **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.

SYMBOLOGY 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.

CARPIGIANI 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 (see par. 2.5).

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

1.1.3 Information for users

- 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 in the country of the user.
- The manufacturer's service department is available for any information about operation, and requests of spare parts and service.
- The manufacturer reserves the right to make any changes deemed necessary to the machine described in this manual without prior notice.
- The descriptions and illustrations contained in this document are not binding.
- All copyrights on this manual belong to **Carpigiani**.

1.2 INFORMATION ABOUT THE MACHINE

1.2.1 General data

Machines intended for indoor use only and for commercial purposes such as ice cream and pastry workshops.
LB 200-tronic G are counter batch freezers for the production of ice cream.

Carpigiani recommends to always use high quality mix for ice cream production in order to satisfy your customers, even the hardest-to-please ones. 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:

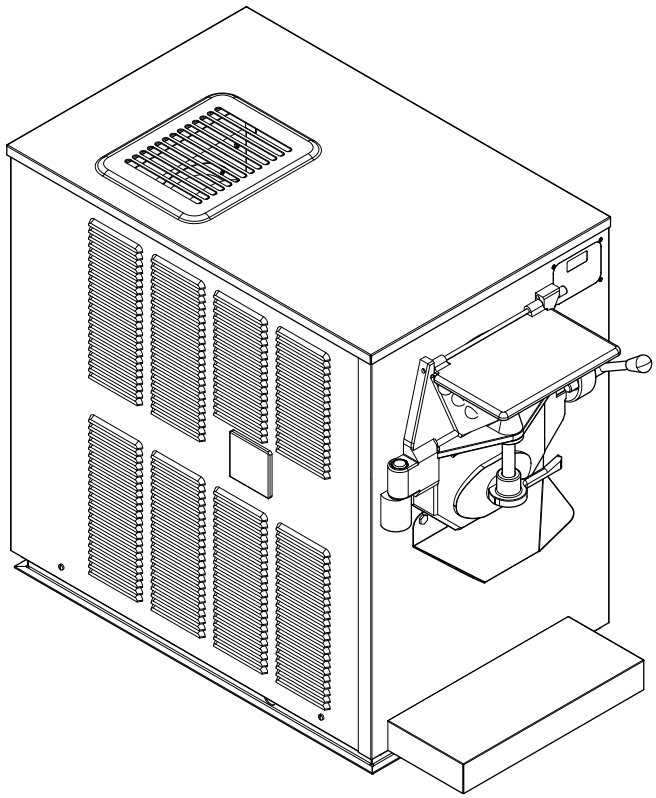
- Make your mixes yourselves from high quality natural ingredients or buy them from reliable companies.
- Follow closely instructions given by your mix supplier for the preparation of the mixes.
- Do not alter your mix supplier's recipies, by adding, for instance, water or sugar.
- Taste ice cream before 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 **Carpigiani**.

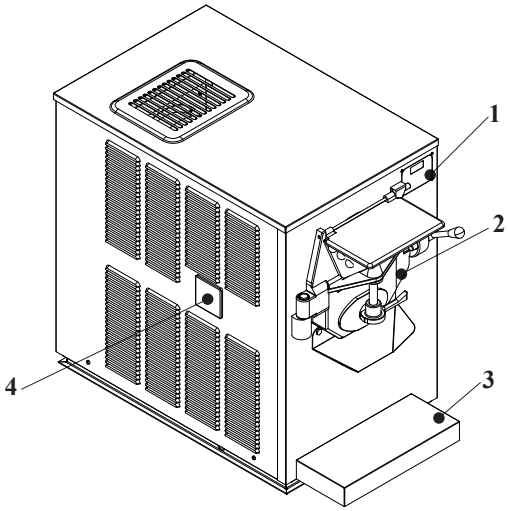
1.2.2 Technical features

MODEL	Hourly output	Cylinder Capacity	Electric spec.			Rated Power	Condenser	Dimensions in			Net weight
	Min	Max.	Volt	Hz	Ph	Hp		Width	Depth	Heigth	lb
LB 200-tronic G	8/10 gal	5 qts	203-230	60	1	2,8	Air	18,9	37,4	29	397

Performances featured by a room temperature of 77°F (25°C) and a cooling water temperature of 68°F (20°C).
Carpigiani reserves the right to make all the changes deemed necessary without prior notice.



1.2.3 Location of machine groups



Caption:

1. Control panel
2. Cylinder front lid
3. Shelf for drip tray
4. Drip drawer

1.3 INTENDED USE

The **LB 200-tronic** G must only be used for the production of ice cream, with the respect of what indicated in 1.2.1 "General information", within the limits indicated here under.

- Voltage: .....±10%
- Min. environment temperature.....10°C (50°F)
- Max. environment temperature: .....40°C (104°F)
- Water min. temperature .....10°C (50°F)
- Water max. temperature.....30°C (86°F)
- Water min. pressure .....1 bar (0.1 MPa) 14,5 PSI
- Water max. pressure.....5 bar (0.5 MPa) 72,5 PSI
- Max air relative humidity: 85%

This machine has been designed for its use in rooms not subject to explosion-proof laws; its use is thus bound to complying rooms 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 dump-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, separate 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.

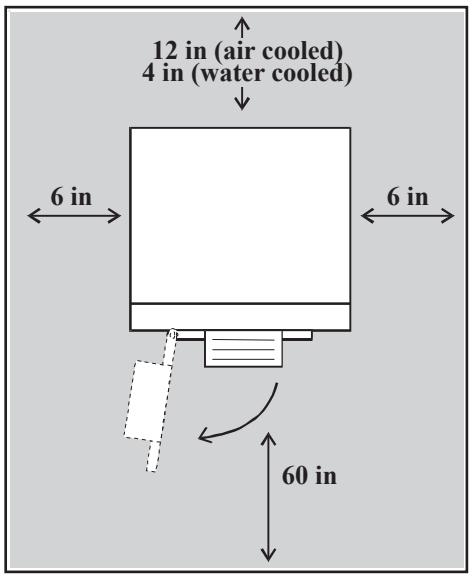
2. INSTALLATION

2.1 ROOM NECESSARY TO THE MACHINE USE

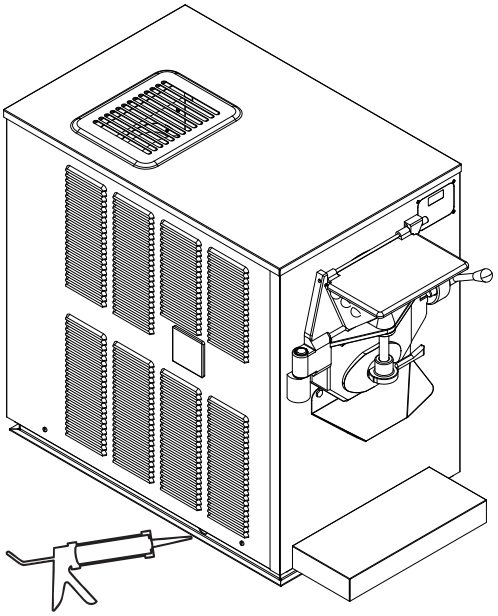
The machine must be positioned at right angles on a horizontal bearing surface (max. tilt: 2°).
The machine must be installed in such a way that air can freely circulate all around.
Rooms for the approach to the machine must be left free in order to enable the operator to act without constraint and also to immediately leave working area, if need be.
The minimum approach room to working area should be at least 60 in (150 cm) in consideration of space taken by opened doors.

ATTENTION
MACHINES WITH AIRCOOLED condenser must be installed NO CLOSER THAN 12 IN (30 CM) TO ANY WALL IN ORDER to allow free air circulation around the condenser.

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



For machines without legs: For proper sanitary operation, its necessary to seal the machine to the counter to prevent liquid spillage on adjacent surfaces of the countertop from passing underneath the machine.
Place the machine on a solid, supportive surface, clean it thoroughly, and apply (NSF approved) silicone sealant around the entire perimeter between the machine and the counter, leaving a small ~1cm gap at the rear side of the machine.



2.2 WATER SUPPLY CONNECTION

The machine must be connected to running water which pressure must not be higher than 0,5 MPa (14 PSI -5 bars).

By watercooled machines water connections (for cooling the gas) are placed on upper panel

2.3 MACHINE WITH AIRCOOLED CONDENSER

Machines with aircooled condenser must be installed no closer than 12 inc. to the rear and 6 inc. to the 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 (14 PSI / 5 bar). 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 (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

IMPORTANT
If water valve needs 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 (20°C).

ATTENTION
Do not leave the machine in a room with temperature below 32°F (0°C) 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 (IEC 60335-1, ref. 7.12.2). The opening distance of contacts must be at least 3 mm.
Check that the trip level of the differential circuit breaker is ≤ 30mA.
If the machine is equipped with a power cable, in case of three-phase machines with neutral, the blu wire of the power cable must be connected to the system neutral.

WARNING
If the machine is fitted with a power cable including a yellow/green wire, this 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

Stabilise the machine on the support surface to permit it to function correctly and avoid leaks of the mixture.

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.

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 damages to persons and things.
Who is in charge of plant safety must be on the look-out that:

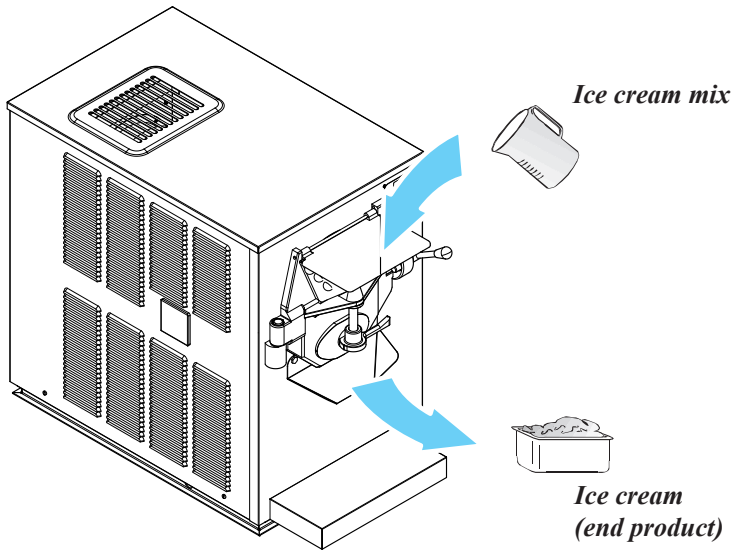
- An incorrect use or handling shall be avoided
- Safety device s must neither be removed nor tampered with
- The machine shall be regularly serviced
- Only original spare parts are to be used especially as far as those components with safety functions are concerned (ex.: frontlid microswitch).
- That appropriate individual protection equipment is used.

To achieve the above, the following is necessary:

- At working place an instruction manual relevant to the machine should be available.
- Such documentation must be carefully read and regulations must consequently be followed.
- Only adequately skilled personnel will have to be assigned to electrical equipment.

3.2 MACHINE CONFIGURATION

The machine consists of motor drive for beater assembly drive, a cooling system with water- or aircooled condenser.
Ice cream is made by pouring mix into the barrel and starting the automatic production cycle which ends when right consistency of ice cream as set by **Carpigiani** is reached. To this purpose, minimum and maximum quantities of mix per batch must be followed, as shown in table Sec. 1.2.2. When cycle is over, ice cream is ready for being taken out from ice cream door and poured directly in ice cream cups and containers.



3.3 ELECTRONIC CONTROL KEYBOARD AND KEY FUNCTION

The machine has an electronic control keyboard. For a correct use of the keys, press the same on the symbol or in the middle. When a led lights up, it means that relevant function has been selected. Monitor and keyboard controls are hereafter described and illustrated.

Function insertion light indicators
When a light indicator lights up, it means that the function relevant to the symbol next to the light indicator has been inserted.

Function STOP
In this function the machine is off and relevant red light is on.

PROGRAMMING key
This key is active in Programming mode, only. By pressing it during the production cycle, the display shows the HOT consistency set.

SELECTION KEY
By pressing this key many times, you can select hereafter described functions:
- Cleaning (CLE)
- Production (Prd)

Latest selection will be activated after 2 seconds (led is 2" on).
This key is also used to reset alarms that remain on the display.

Function CLEANING
By selecting this function, relevant light led lights up. Only does the beater run, whereas the cooling unit is off. This is a timed function and ends automatically when set time is over (usually 3 minutes).

Function PRODUCTION
If the sign Prd is left on the display 2 seconds, the letter "–H-" will appear.
By pressing the Selection Key again, the letter "-L-" will be displayed.
Latest selection will be activated after 2 seconds (led is 2" on).
A production cycle (-H- or -L-) will start depending on your selection.

Production -H-
On cycle start, the beater motor will run at production low speed and will be followed by the compressor 2 seconds later.
The product is cooled till the consistency set relevant to -H- cycle is reached.
Consistency is displayed in real time, whereas, HOT Set can be read 5" long after pressing the PROGRAMMING Key.

An intermittent sound of the buzzer will warn that the production cycle has been completed. The display blinks. The beater keeps on running and the compressor stops 20" and restarts to keep ice cream at its proper consistency.

Production -L-
On cycle start, the beater motor will run at production high speed and will be followed by the compressor 2 seconds later.
The product is cooled till the consistency set relevant to -H- cycle is reached. Consistency is displayed in real time, whereas, HOT Set can be read 5" long after pressing the PROGRAMMING Key.
An intermittent sound of the buzzer will warn that the production cycle has been completed. The display blinks. The beater keeps on running and the compressor stops 20" and restarts to keep ice cream at its proper consistency.

Function DISTRIBUTION
The function Distribution is enabled in Production, only and it allows the product Cooled Distribution. From Production mode, press the Selection Key. The sign "Out" will be displayed 2" long: soon after, current value of HOT consistency will be displayed, too. Further, the Distribution Led will light up. In this function the beater runs at its highest speed and the compressor starts if required by the product consistency. This will avoid the compressor operates when the cylinder is empty or when the product is already too cold. From this function the machine will automatically pass to Stop after 3' or after pressing the Stop Key.

3.4 PRELIMINARY OPERATIONS, WASHING AND SANITIZING

Before the machine start-up, it is necessary to thoroughly wash its components and sanitize food area parts (see sect. 5)

IMPORTANT
Cleaning and sanitizing must perfectly be carried out as a habit, at the end of each production day, in order to grant the production quality in the observance of the necessary hygienic standards.

3.5 ICE CREAM PRODUCTION

After washing, sanitizing and fully rinsing the machine right before its use, as described in section 5 Cleaning, pour the desired mix quantity into the cylinder, in the observance of minimum and maximum batches indicated in table of paragraph 1.2.2.
Before pouring the mix, make sure that ice cream outlet door is perfectly closed.
Select the function PRODUCTION.
The operator will be warned by an acoustic signal when the production cycle has come to completion.

3.5.1 Ice-cream distribution

When the production program is over, ice-cream can shall be taken out as follows:
- Place the tank on the mix, under the ice-cream outlet chute.
- Turn the unlock outlet door (ref. 1) letwards
- Lift the handle with the lid.
- Lock the lid up towards the right till its stop
- Select the function DISTRIBUTION

WARNING
To avoid a useless wear of sliding shoes and cylinder, the machine will pass to Stop position after 3' continuous operation.

3.6 SETTINGS AND CHECKS

3.6.1 Setting the product consistency

In both programs -L- and -H-, the consistency to be reached can be changed as follows:

1. Machine in Production: press the Key “P” .
2. Hot consistency Set will be displayed and can only be increased with SELECTION key between 20 and 120; so set new Hot value, now.
3. Press no key for 5 seconds in order to store the new value; new HOT value will now be on the display.

4. SAFETY DEVICES

4.1 ALARMS

This machine has a self - " CHECK " device indicating any possible operation troubles.
The "CHECK" led (a decimal point down on display right side) blinks when an alarm is active and it remains on to remind us that an alarm has tripped and reset. When an alarm is displayed, check the one it deals with, through the table below.
If it is a critical alarm, the machine will not allow to enter in Production.
Press Selection in order to delete the alarm message on the display after the alarm has reset.
The table here below shows the available alarms:

ALARM	DESCRIPTION
dor (IMS)	Safety Magnet Switch (Door open). Machine sets at Stop with sign "door". On closing the door, the alarm will automatically reset from display and machine is in Stop.
Pr (PRESS)	High pressure switch has tripped. This alarm causes the compressor stop and the display shows the message "Pr". If the Pressure switch trips 3 times or 2 running minutes, the machine will pass to Stop. Check inlet and outlet water pipes which shall be such that water can freely circulate when the compressor runs. By air-cooled units, check whether the condenser fan runs when the compressor is on, or check whether the condenser is obstructed: if this is the case, clean it with a compressed air jet.
PtA (PTMA)	Beater Motor Thermal Protector Machine passes to Stop with " Pt".
OL (Al. Inverter)	Alarm Inverter. Machine passes to Stop with " OL". To reset the Inverter, clear the machine 1' and then turn it on again.

4.2 BLACKOUT

If, in case of power failure, the machine was in:
- STOP or Cleaning or distribution, on power return it will pass to STOP.

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 detergent solution to wash the parts.
- Manually wash the parts in water (max 140°F) using a non-aggressive detergent and the cleaning brushes supplied as standard.
- Use drinking water (bacteriologically pure) to rinse the parts.
- To sanitize leave the disassembled parts in sanitized tepid water for 10-15 minutes (use the sanitizing product following the instructions of the manufacturer; the type and concentration of sanitizing agent shall comply with 40 CFR §180.940 for example Kay-5 sanitizer) and rinse them before reassembling.
- When the washing procedure has been completed and before the reassembly of each component dry 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 OUTSIDE CLEANOUT

Clean the machine from dust and material its has been strewed with before shipment. Use water only and add a mild detergent, such as soap and a smooth cloth.

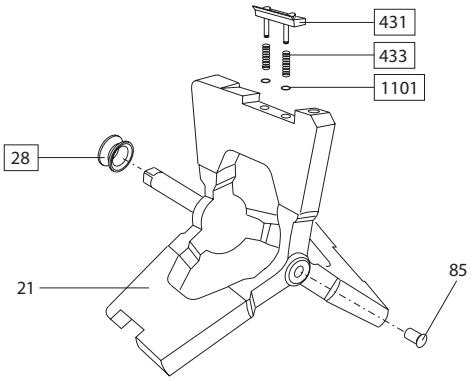
5.6 PRELIMINARY CLEANOUT

With machine off and beater front lid closed, let water in the barrel.
Select the function CLEANING and let the beater run the least in order avoid a useless wear of sliding shoes and cylinder.
Drain all water from the cylinder, open its lid so as to remove the beater.

5.7 BEATER DISASSEMBLY

Using both hands, remove the beater by delicately pulling outwards, taking care not to damage it and knock parts of the cylinder.

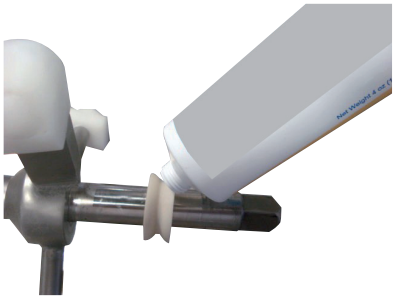
WARNING
Carry out this operation with utmost care, since beater may be damaged in case it falls to the ground.



Disassemble all beater parts (see picture).

5.7.1 Stuffing box

On disassembling beater also check wholeness of stuffing box; depending on machine operation length, it is necessary to replace it through the spare one to be found in the accessory kit inside machine packing.
- Remove beater assembly
- Remove stuffing box from its seat
- Lubricate spare stuffing box
- Mount the new stuffing box
- Clean and lubricate the old stuffing box and put it away for recovery of its elasticity.



IMPORTANT
Stuffing box must be replaced each time ice cream drops are found on withdrawing drip drawer placed at the machine side.
Keeping on operating the machine after finding ice cream drops brings about a bigger leakage from stuffing box, thence a malfunctioning of the machine which consequently affects production.

CAUTION
When you do not use the machine, leave beater lid open in order to avoid stuffing box buckling.

5.8 FRONT LID DISASSEMBLY

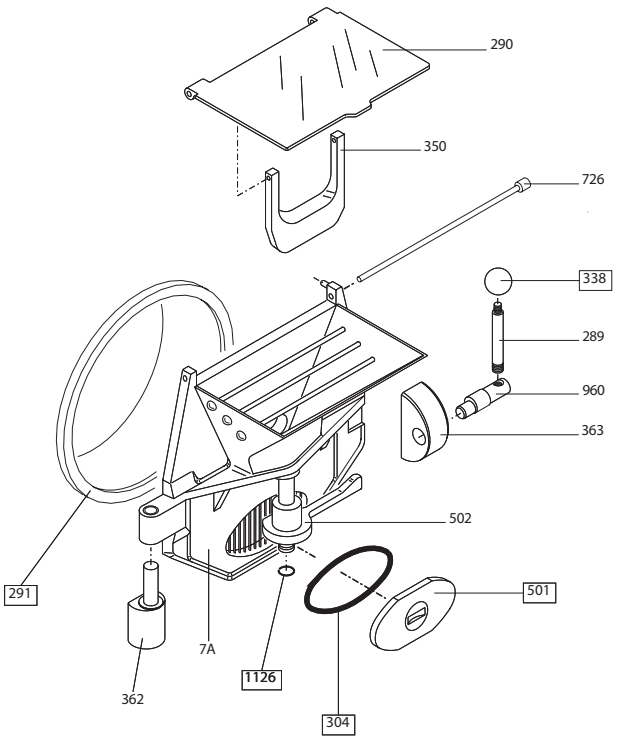
- Lift lid locking lever and shift it towards right.
- Open the lid by rotating it on its hinge.
- Remove lid while lifting it.
- To carry out cleaning operations, remove all movable parts and seal with barrel.

5.8.1 Ice cream Door Disassembly

- Lift the lid by turning the lever (ref. 502) by 90° towards the left.
- Lift the lever and the door and lock the lid upwards by turning the lever rightwards till its stop.
- Remove the OR from the lid sliding rod, now, and take it out, in order to release the lever, as well.
- Remove the OR of the lid seal.

5.8.2 Hopper cover disassembly

Machine is off: In order to clean the mix filling area, remove cover clamping rod (pos. 726).
The cover is provided with a small wall preventing ice-cream comes again up to the hopper which must be disassembled for cleaning.



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.

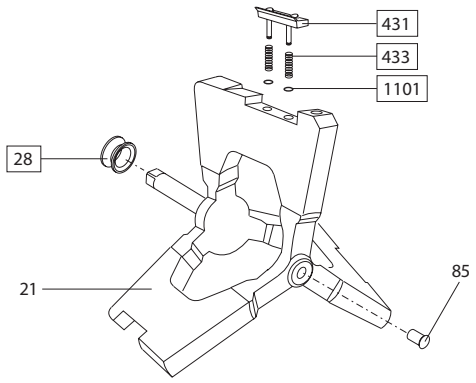
Repeat steps 8 and 9 several times.

10. Wipe the exterior of machine with a clean wet sanitized cloth.

5.10 BEATER REASSEMBLY

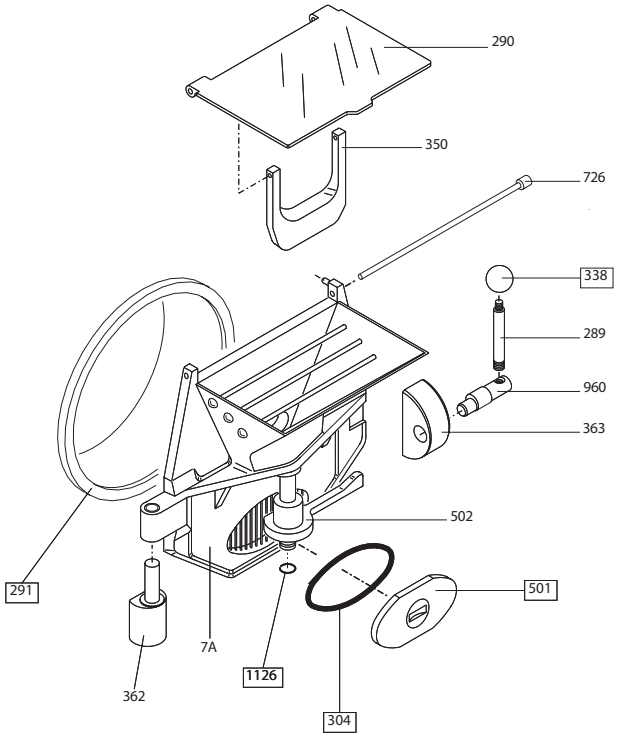
Reassemble the beater, following the reverse disassembling procedure. When reassembling the parts, do not forget to lubricate all gaskets with edible fat.
To refit the beater, hold it with both your hands and deeply push and rotate it so as to insert the shaft into its seat thoroughly.

WARNING
Carry out this operation with utmost care, since beater may be damaged in case it falls to the ground.



5.11 FRONT LID REASSEMBLY

Reassemble the front lid, following the reverse disassembling procedure. When reassembling the parts, do not forget to lubricate all gaskets with edible fat.



5.12 SANITIZING

Operation required before each production process.

- With the machine stopped, beater unit fitted and spigot door closed, pour cleaning/sanitizing solution prepared following producer's instructions.
- Select CLEANING function. Leave machine running for 10/15 seconds.

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

- Leave the cleaning/sanitizing solution in the chamber for the time indicated by the producer
- Completely drain all sanitizing solution from 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!
"Any electrical, mechanical or refrigeration repairs must be carried out by authorized, specialized technical personnel and possibly agreed upon by a specific ordinary and extraordinary maintenance plan that the customer foresees in reference to specific intervention modes on the basis of the usage of the machine".

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**
  At the end of a working day
- **Cleaning the metal sheets and drip tray**
  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).
Proceed as follows to carry out this operation:

- After turning off the inlet water, remove the discharge hose from its discharge outlet.
- Remove the beater as illustrated in Chapter 5.7.
- Turn the selector switch to the whipping mode for 15-20 seconds.
- 15 - 20 seconds are enough to completely drain the water contained in the 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

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

For proper cleaning, use the accessories supplied with the machine and replace them periodically, based on the frequency of use, and in any case whenever they are worn and/or deteriorated. Replacement with original parts is recommended.

7. TROUBLESHOOT GUIDE

IRREGULARITY	CAUSE	PROCEDURE
Machine does not start	Main switch is off. Machine unplugged. Machine is not set at PRODUCTION.	Close the switch. Check and insert. Check that the selector switch is turned to the PRODUCTION position.
Compressor starts and then stops after a few seconds without ice cream being thick.	Watercooled machine: water does not circulate. Aircooled machine: air does not circulate.	Open water tap. Check that hose is neither squashed nor doubled up. Check that rear of machine is at least 20 in (50 cm) from wall Clean condenser from obstructions.
After 30 minutes processing mix has not frozen and the machine returns to Stop.	No gas Pressure switch has broken down	Contact technical assistance. Contact technical assistance.
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.