APPLICARE

TARGA

CARATTERISTICHE

INSTRUCTION HANDBOOK

LABO XPL P

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.*

Moreover, Carpigiani machines comply with following European Directives:

- "Machinery" Directive 2006/42/EC,
- "Low Voltage" Directive 2014/35/EU,
- "EMC" Directive 2014/30/EU,
- "PED" Directive 2014/68/EU,
- Regulation 2004/1935/EC relating to "Materials and articles in contact with foodstuffs"
- Regulation 2023/2006/EC "Good manufacturing practice for materials and articles intended to come into contact with food"

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The purchaser has the right to reprint it for his own office use.
CARPIGIANI policy pursues a steady research and development, thus it reserves the right to make changes and revisions whenever deemed necessary and without being bound to previous statements to the purchaser.

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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 FLAMMABLE GAS HAZARD (ISO 817 - A2L)
Reports residual fire hazard from use of low- flammability refrigerant (A2L).



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.



EQUIPOTENTIAL CONNECTION
For connecting all appliances with this type of connection.
Warning: do not connect to ground.



READ THE INSTRUCTION MANUAL
It signals to the personnel involved that it is necessary to carefully read the instruction manual before using the machine.

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 the machine, one must be aware of the fact that drive mechanisms (rotary motion), high voltage components, as well as parts subject to high temperatures low-flammability refrigerant present in the refrigerating circuit, 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.
- open flames are not used near the machine.

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. 2.4).



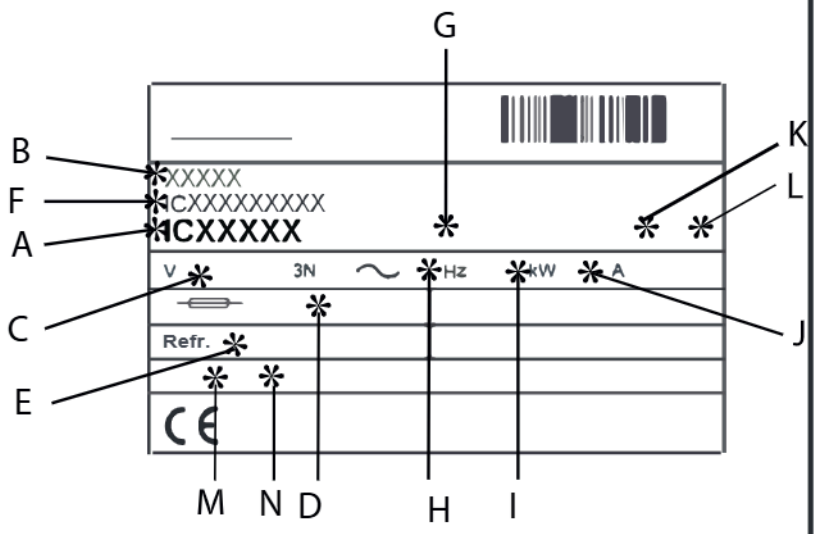
- Never perform operations on the machine using your hands, during both production and cleaning. Before carrying out any maintenance operation, make sure that the machine is in "**STOP**" position and that the main switch has been cut out.
- It is forbidden to wash the machine by means of a jet of pressurized 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 and open flame sources.
- Do not store explosive substances or spray cans inside the machine, nor aerosol cans containing flammable propellant.
- Ensure that ventilation openings of the machine remain unobstructed.
- Do not damage the refrigerant circuit
- Do not use any mechanical device or other means near the refrigerant circuit to prevent it from getting damaged
- **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.



Legend:

A= Serial number
B= Machine type
C= Supply voltage
D= Fuse rating
E= Gas type and weight
F= Machine code
G=Condensation type
A=Air
W=Water
H=Frequency
I= Power
J= Rated current
K= IP code
L= Climate class
M= Greenhouse effect gas quantity
N= PS max pressure admitted (if A2L gas is present)

IMPORTANT:
When the refrigeration circuit requires the use of low GWP refrigerant, classified as low flammability A2L(ISO817), the machine features the symbol next to the identification plate, which identifies residual al risk of fire/explosion in case of refrigerant accumulation in the equipment due to refrigeration system leakes.



NOTE:

Pay special attention to the indications in the manual highlighted with the symbol .



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

LABO XPL P are 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:

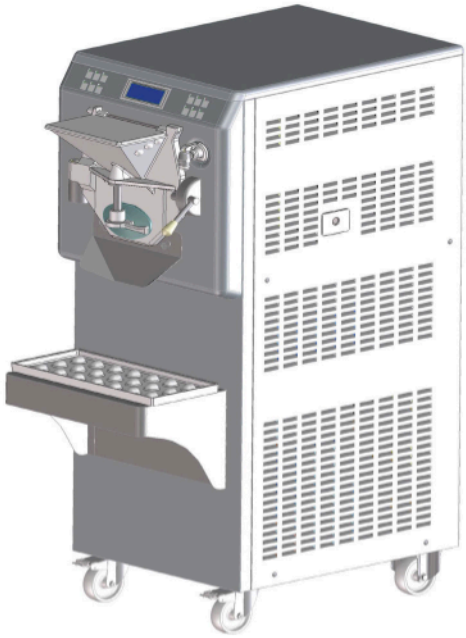
- Make your mixes yourselves from high quality natural ingredients or buy them from reliable companies.
- Follow closely instructions given by your mix supplier for the preparation of the mixes.
- Do not alter your mix supplier's recipies, by adding, for instance, water or sugar.
- Taste ice cream before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

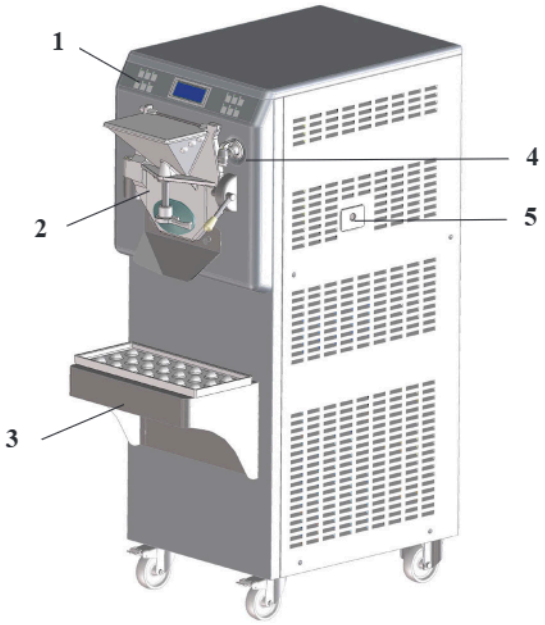
1.2.2 Technical features

MODEL	Production output	Mix q.ty per batch		Slush	electric spec.			Rated Power	Condenser	Dimensions cm			Net weight
	kg	Min. kg	Max. kg	kg	Volt	Hz	Ph	kW		Width	Depth	Height	kg
Labo 20 30 XPL P	20/30	3	5	4	400	50	3	4	Water*	52	65	140	230
Labo 30 45 XPL P	30/45	3,5	7,5	6,5	400	50	3	5,2	Water*	52	65	140	270
Labo 40 60 XPL P	40/60	5	10,5	9	400	50	3	6	Water*	52	65	140	320
Labo 50 90 XPL P	50/90	6	13	13	400	50	3	7	Water	52	65	140	330
Labo 60 110 XPL P	60/110	7	17	16	400	50	3	7,5	Water	52	85	140	350

The quantity per cycle and hourly production change according to the mixes used.
The values "Max" refer to the Italian classic easy-to-work ice-cream.
* The air-cooled condenser is available with an extra charge.
The following characteristics are purely indicative, Carpigiani reserves the right to make all the changes whenever necessary and without being bound to previous statements to the purchaser.



1.2.3 Location of machine groups



Caption:

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

Fig. 2

1.3 INTENDED USE

The **LABO XPL P** 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:	±6%
Min air temperature :	10°C
Max air temperature:	43°C
Min water temperature:	10°C
Max water temperature:	30°C
Min. water pressure:	0,1 MPa (1 bar)
Max water pressure:	0,5 MPa (5 bar)
Max 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, 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 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

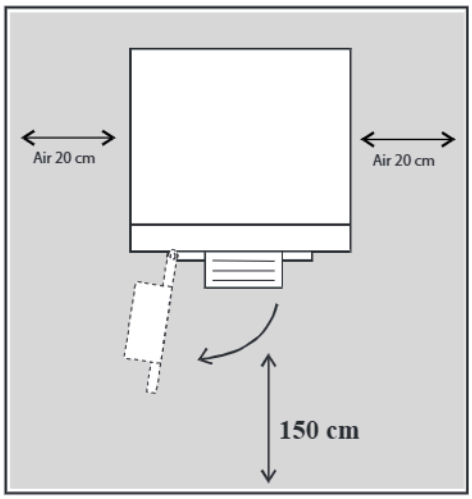
The machine must be installed in such a way that air can freely circulate all around.
Rooms for the approach to the machine must be left free in order to enable the operator to act without constraint and also to immediately leave working area, if need be.
The minimum approach room to working area should be at least 150 cm in consideration of space taken by opened doors.

ATTENTION
Machines with air-cooled condenser must have 20 cm. of free space along the sides in order to allow free air circulation around the condenser.

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

WARNING
Ensure that all ventilation openings of the machine remain unobstructed. Do not install the machine near heat sources

WARNING
Clean the floor under and near the machine frequently in order to prevent paper and other foreign bodies from obstructing regular air flow.



2.2 WATER SUPPLY CONNECTION

The machine must be connected to running water which pressure must not be higher than 0,5 MPa (5 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 air-cooled condenser must have 20 cm. of free space along the sides in order to allow free air circulation around the condenser.

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

2.4 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). The connection pipes are provided by the installer and must comply with IEC61770. Used pipes cannot be reused.
To make the machine run, a watercooled machine must be connected to running water supply, or to a cooling tower.
Water must have a pressure of 0.1 MPa and 0.5 MPa (1-5 bar) at least, and a delivery 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 20°C.



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

2.5 ELECTRICAL CONNECTIONS



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 ≤ 30mA.
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.



WARNINGS
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 Equipotential connection

Connection to external equipotential terminal is indicated by symbol .
It is present on the side or on the back of the machine, not to be connected to the protection ground.
The conductor to be used has a cross-section at least equivalent to the one of the connected conductor with greatest cross-section.



2.5.2 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 fitted with wheels to ease its positioning. The wheels feature mechanical lock mechanisms which, once engaged, prevent the machine from moving and shifting to a different position. The machine must be positioned at right angles on a horizontal bearing surface (max. tilt: 2°).

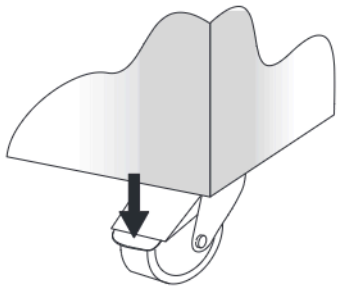


Fig. 4

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 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.

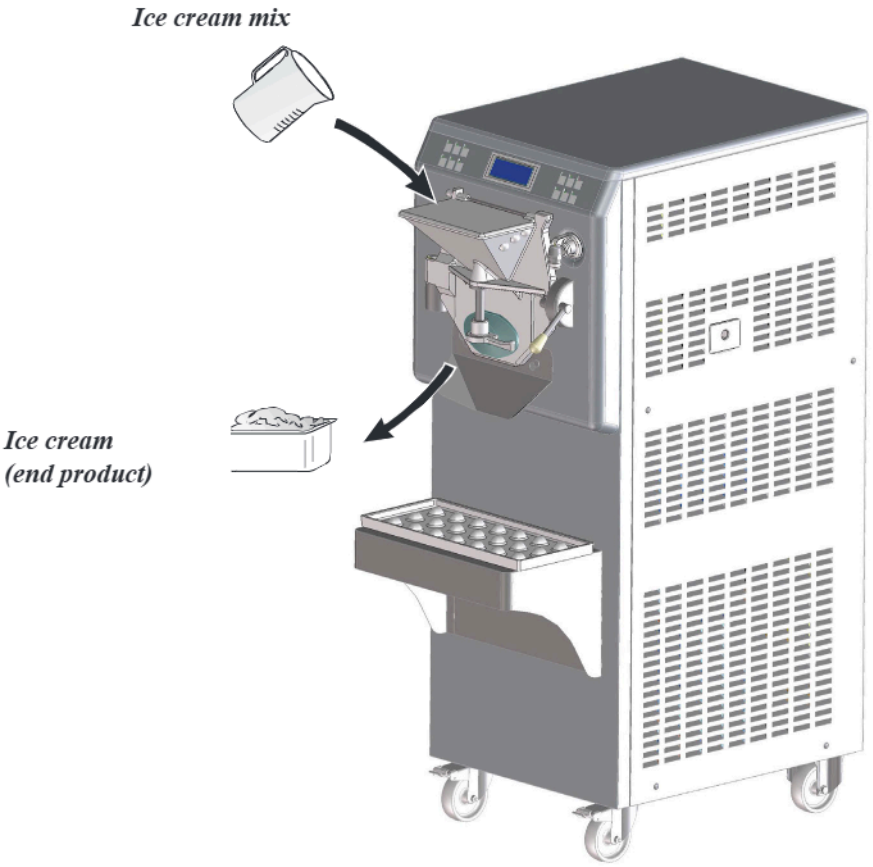


Fig. 5

3.2 CONTROLS

This machine is provided with an electronic control keyboard; every key relates to a machine function. For a correct use of the keys, press on the symbol or in the middle of the key; every key has a LED (light emitting diode) which lights up when relevant function is inserted.

3.2.1 Electronic control keyboard





STOP
In this function, the machine is idle and the relevant red LED is on. The display shows STOP. The backlighting on the display will switch off after 3 minutes; press any key to switch it on again.



WATER DISPENSER
Pressing the water dispenser key at any time activates the dispensation of water by the wand positioned on the front panel. Press the water dispenser key again or press the STOP key or wait 3' to stop the supply of water.



PRODUCTION
Pressing the production key will show the cycles on the display:

- GELATO
- SORBETTO
- Slush Fruit
- Gelato Crystal
- Fruit Crystal
- Icecream (Optional)

Use the Increment and Decrement keys to move the asterisk to the required cycle.

```
* GELATO
  SORBETTO
```

Press Production again to start the cycle or wait 5''.



CLEANING
If the Clean button is pressed, the display shows:

```
* CLEAN
  DEL.CLEANING
```

Use the **INCREASE** and **DECREASE** buttons to select the desired function and press Cleaning to activate it.
The available functions are:

- Clean
- Delayed Cleaning

CLEAN
In this function, only the slow beater is activated for 1 minute, then the machine automatically sets back to STOP in order to avoid excessive wear of cylinder and beater; the display shows the decreasing timer on the top line and the speed on the bottom line.

```
TIMER  01:00
  Speed 1
```



Press the **INCREASE** button to activate the quick beater. The timer keeps counting:

TIMER 01:00 Speed 2

It is possible to restore slow beating by pressing the Decrease button.

DELAYED CLEANING

With this function, cylinder walls are cooled while waiting for the cleaning, even if the machine is not immediately cleaned after product extraction.

The display shows:

00:00:35 DEL. CLEAN.

in the first line the time elapsed from cycle start, and in the second line the name of the program.



EXTRACTION

This function can be accessed at the end of all Gelato and Sorbet cycles (including the Crystal cycles).
When selecting this function, the relevant LED turns on and the slow beater motor activates.
The display shows:

TIMER 03:00 Speed. 1

To stop beating, press **STOP** or wait for 3 minutes.
From the EXTRACTION mode it is possible to access the COOLING EXTRACTION function (only from the Gelato and Sorbetto cycles) by pressing the **PRODUCTION** button. In this case, **PRODUCTION** button LED turns on and the compressor activates for 20 seconds, after which the system goes back to the simple extraction.

Press the Increase button to activate the fast beater.

TIMER 03:00 Speed. 2

To activate the slow beating again press the Decrease button.

TIMER 03:00 Speed. 1



INCREMENT

This key increases those values that can be modified both in Programming and in the values where allowed.



DECREMENT

This key decreases those values that can be modified both in Programming and in the values where allowed. Furthermore, it is used to reset the alarm messages.

3.3 ICE CREAM PRODUCTION (WORKING PROCESS)

After washing, sanitizing and throughly rinsing the machine right before its use, as per instructions given in section 5, cleaning, draw the mix from the pasteurizing unit, pour the desired quantity through the lid filling hopper into the cylinder, paying attention to respect minimum and maximum quantities indicated in table, paragraph 1.2.2.
Before pouring the mix, make sure that frontlid and icecream outlet door are perfectly closed.
By pressing the Production button, the display shows the cycles:

- GELATO
- SORBETTO
- Slush Fruit
- Gelato Crystal
- Fruit Crystal
- Icecream (Optional)

Position the asterisk on the desired cycle using Increase and Decrease buttons:

```
*       GELATO
        SORBETTO
```

Press PRODUCTION again to start the cycle or wait 5".

3.3.1 Gelato and Sorbetto

The product is cooled in the cylinder till its consistency value is reached. According to the selected cycle, Gelato or Sorbetto, the proper Consistency Set is automatically set.

In case of Gelato cycle the display shows:

```
    SET  100
GELATO  005
```

While in case of Sorbetto Cycle:

```
    SET      060
SORBET  005
```

SET = the consistency to be reached (it can be changed with Increase/Decrease button)
GELATO and SORBET = the current consistency

By pressing the Production  button, the display shows the timers:

```
060      20:00
GELATO  033
```

On the first left line the display shows the Hot Timer and on the right side the Timeout Prd. The second line shows the current consistency.

To go back to the initial page, press the Production button  again.

Once the desired consistency is reached, an intermittent acoustic signal activates, to indicate that ice cream is ready.

For the Gelato cycle, the display shows:

```
    SET  100
GELATO  100
```

3.3.2 Slush

The product is cooled in the cylinder till its consistency value is reached. The display shows:

SET 10:00
SLUSH 09:56

SET is the parameter of the total freezing minutes. This time can be changed, during freezing, using the Increase and Decrease keys in steps of 1 minute from a minimum of 2 to a maximum of 20 minutes.
SLUSH is the decreasing time.
The last freezing minute will only be a beating cycle.
At the end of the freezing cycle, an intermittent acoustic signal is activated.

3.3.3 Gelato Crystal and Fruit Crystal

The product is brought to the right consistency for 5 times.
The default consistency set is 60 for Gelato Crystal and 50 for Fruit Crystal:

SET 060
CRYSTAL 046

SET 050
CRYS.FR.046

The set can be changed using the Increase/Decrease buttons (minimum settable value = 35).
When the consistency is reached, the compressor is disabled for 20” before bringing the product back to the required consistency.
The beater is always active at freezing speed.

Once the product has been brought back to the right consistency for 5 times, the Increase/Decrease button LEDs go off and it is no longer possible to change the Set HoT.

The display eventually shows "Extract" (until next function change) and an intermittent acoustic signal is activated.

EXTRACT!
CRYSTAL 062

Alternated with:

SET 060
CRYSTAL 062

Press Production  to extract the product.
This allows you to switch from freezing to extraction speed (and vice versa).
When the button used to activate extraction speed is pressed, the acoustic signal stops and after 1 minute:

- if the function was not changed or if the extraction speed has not been disabled yet, the machine automatically switches to the freezing speed, the acoustic signal is activated again and the display starts flashing;
- if the speed had already been switched to the freezing speed manually, but the machine is still in Production mode, the acoustic signal is activated again.

Whenever the operator activates extraction speed by pressing the OK button, the one-minute timer starts again.
The OK button LED remains on when extraction speed is activated.

3.3.4 Icecream (optional)

WARNING
The IceCream cycle is a high-speed freezing cycle that has to be carried out with 3E Beater.

The product is cooled inside cylinder until consistency is reached (HoT), at high speed.
The display shows:

SET 100 ICECREAM 005

SET = indicates the consistency to be reached (Set HoT).
The Set can be modified by pressing the Increase/Decrease button and the changes are memorized
ICECREAM = indicates the current (HoT) consistency

Once the desired consistency is reached, an intermittent sound is activated to indicate that ice cream is ready.
The display shows:

SET 100 ICECREAM 100

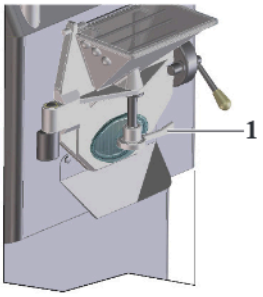
EXTRACT! ICECREAM 100

Press the Cleaning button to extract the product.

3.3.5 Ice cream distribution

When the production program is completed, ice cream will be taken out from the cylinder as follows:

- Place a tank on the shelf, under the icecream outlet.
- Turn the lid unlocking lever leftwards (ref. 1).
- Lift the lever together with the lid
- Lock the lid upwards by turning the lever rightwards till it stops.
- Select the function **DISTRIBUTION**.



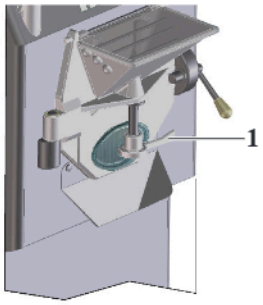
SAFETY NOTE
To avoid a useless wear of sliding shoes and cylinder, the machine will set at STOP after 3 minutes continuous running.

3.3.6 Use of ice cream distribution handle

Locking
Lock ice cream door turning the handle (ref. 1) rightwards till the stop.

Opening
Turn the handle (ref. 1) 90°C leftwards.
Lift handle and ice cream door.
Lock ice cream door upwards by turning the handle (rif. 1) rightward

Closing
Repeat in the opposite direction opening sequence described above.



3.3.7 Front lid cam locker (rif. 3)

Opening:
Push the knob to the front and pull i it rightwards.

Closing:
Close the lid, push the knob leftwards and lower.

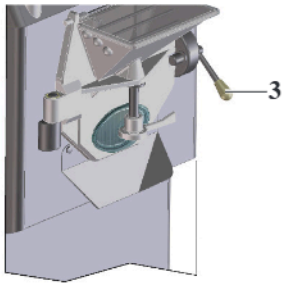


Fig. 9

3.4 USER PROGRAMMING



To access the User Programming with the machine in Stop mode, press Stop and Decrease and keep them pressed until the display shows:
"Manager Menu" and the sw version.
Then, the display shows the first step U15 with the relevant value.

Press Stop, in this way the steps shown below, which can be edited with the Increase and Decrease buttons will be shown, one by one.

Step	Display	Note	U.M.	MIN	MAX	Typical
U01	Hours		Hours	0	23	
U02	Minutes		min	0	59	
U03	Day of the Week		dd	Sun	Sat	
U04	Day of the month		dd	1	31	
U05	Month		mm	1	12	
U06	Year		yyyy	2000	2099	
U07	Language	Ita,Eng,Fra, Deu,Esp,Jpn	no.	Ita	Jpn	ITA
U08	Fahrenheit		Y/N	No	Yes	No
U09	Quart		Y/N	No	Yes	No
U14	Water Time		Sec	015	300	180
U15	Timer BackLight		Min	000	030	003

U01-U06
Time and date setting.

U07 Language
Language setting.

U08 Fahrenheit
Setting of °C (No) / °F (Yes).

U09 Quart
Setting of Liters (No) / Quart (Yes).
1 Quart USA = 946ml. The display of liters is Lt while for Quarts is Qt.

U14 Water Time
Water delivery time.

U15 Timer Backlight
With machine in Stop mode, the display (backlighting) turns off after a given inactivity time. This time in minutes can be set in this step.
If this step is set to 0, display backlighting is always on.
It is sufficient to press any button to activate the display backlighting again.

To exit user programming, wait for about 30 seconds without pressing any button or press CLEANING to force quit.
The values that have been modified will be automatically saved.

4. SAFETY DEVICES

4.1 FRONT LID MICROSWITCH



On closing lid of the freezing cylinder in which inside there is the beater assembly, you can find a microswitch controlling the immediate machine stop when the front lid is opened.



WARNING
tampering or removing devices for the operator's safety is severely forbidden.



ATTENTION
CARPIGIANI will not be responsible for any damages to people and/or to the machine, if safety devices turn to be tampered with or removed.

4.2 ALARMS



The machine signals possible alarms by displaying them on the second line and flashing the message on the display.
If an alarm was triggered and then reset, the alarm remains visible on the display in a steady way (not flashing).
To delete the message after restoring the alarm, press the **DECREASE** button. If the alarm will not reset, this means it is still active.

Available alarms are listed in the table below:

Alarm PR	Pressure switch This alarm stops the compressor. If pressure switch trips 3 times in a row or if it stays open for 2 consecutive minutes, the machine sets to Stop. The display reads "Alarm PR". Check the inlet and outlet water pipes to make sure that water can flow freely when the compressor is operating. For machines with air-cooled condensers, it is necessary to make sure that the condenser fan is running while the beater is switched on, or that the air-cooled condenser is not clogged; if this is the case, clean the condenser with a blast of compressed air.
Alarm RTC	Compressor thermal relay When the Compressor thermal relay is triggered, all outputs are disabled and the machine switches to Stop mode. The display shows “Alarm RTC” as long as the alarm is active.
Alarm RTL	Slow beater thermal relay When the Slow Beater thermal relay is triggered, all outputs are disabled and the machine switches to Stop mode. The display shows “Alarm RTL” as long as the alarm is active.
Alarm RTV	Fast beater thermal relay When the Fast Beater thermal relay is triggered, all outputs are disabled and the machine switches to Stop mode. The display shows “Alarm RTV” as long as the alarm is active.
Blackout	Blackout The blackout is recorded only in the events.

Spigot Door Open	Safety magnetic switch (IMS) or Spigot door open The machine switches to Stop mode from any function it might be. In Programming mode, the open spigot door is not signaled. When the spigot door is closed again, “Spigot Door Open” is no longer displayed.
Power back on	Power back on After a blackout the display shows “Power back on”. If the machine needs a self-defrost, the alarm is displayed only for a few seconds, followed by the Self-defrost display.
Timeout Prd	Production Timeout (Cooling fault) It is triggered when the machine cooling is faulty. If compressor remains on continuously for over 15' during freezing, and HoT does not reach the threshold of the relevant cycle , the machine sets to Stop with displayed “Timeout Prd” alarm. It can be reset by pressing Decrease button. One of the possible causes for this type of problem could be no gas in the system.
Alarm TEC Probe	"TEC" temperature probe switched off or short-circuited. Alarm active in the Postpone Clean cycle only. This alarm triggers machine Stop. As long as it is active, it will not be possible to execute the Postpone Clean cycle. Check TEC temperature probe and replace it if necessary.

4.3 BLACKOUT

In case of blackout, the machine will behave differently based on the function it was carrying out upon blackout.

From the Stop, Cleaning, Extraction functions, as soon as power is restored, the machine starts again in Stop mode without indications on the display.

Once power is restored, from Production (Gelato or Cremolata) functions, the machine restarts in Stop mode and displays “Power back on”.

5. CLEANOUT DISASSEMBLING AND REASSEMBLING OF 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 60°C) using a non-aggressive detergent and the cleaning brushes supplied as standard to forcefully brush all components and relevant holes.
- Use drinking water (bacteriologically pure) to rinse the parts.
- To sanitize, leave the disassembled parts in sanitized lukewarm water for the time indicated on the sanitizing product label. .
- 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/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). In substance the use of a cleaning/sanitising solution saves time by facilitating and simplifying washing/ sanitising 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/SANITISING SOLUTION

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

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

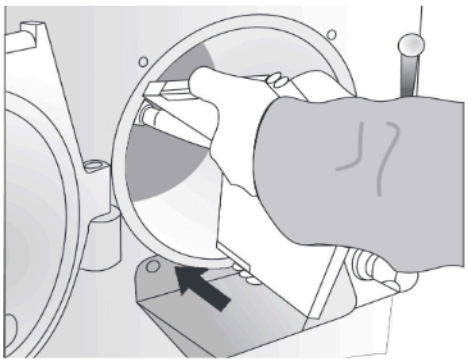
Clean the machine from dust and material its has been strewed with before shipment. Use water only and add a mild detergent, such as soap and a smooth cloth.

5.6 PRELIMINARY CLEANOUT

With machine off and beater front lid closed, let water in the barrel.
Press **CLEAN**, select the function **CLEANING** and let the beater run the least in order avoid a useless wear of sliding shoes and cylinder.
Position a bucket on the shelf and open product draining spigot door letting all water inside the cylinder out.
Once the cylinder is emptied, it is preferable to open the spigot door and clean the cylinder using a direct water jet, keeping the beater locked in its seat.

5.7 BEATER DISASSEMBLY

Remove the agitator by pulling gently outwards.
Be careful not to damage the scraping palettes and dent the cylinder walls with the agitator shaft.

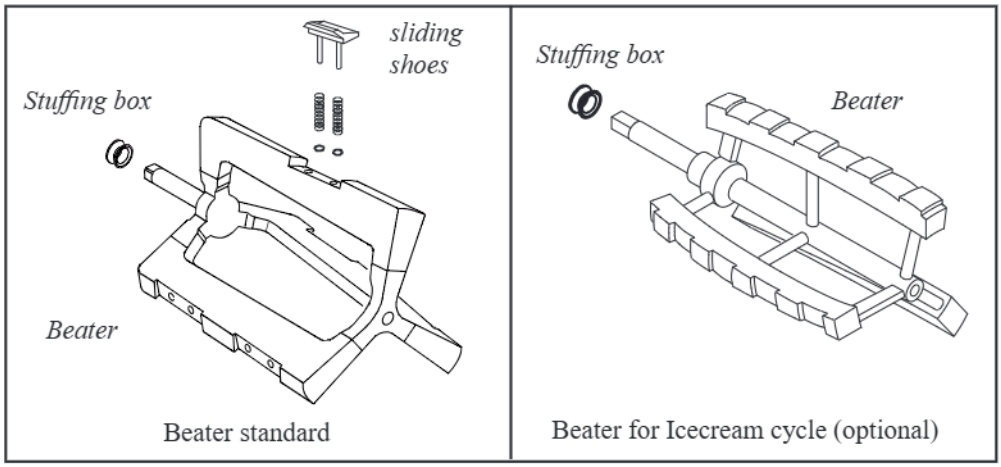


WARNING
Carry out this operation with utmost care, since beater may be damaged in case it falls to the ground.

- Fully disassemble the sliding shoes.

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

- Withdraw the stuffing box from its seat on the beater shaft.



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 with an original spare part 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.

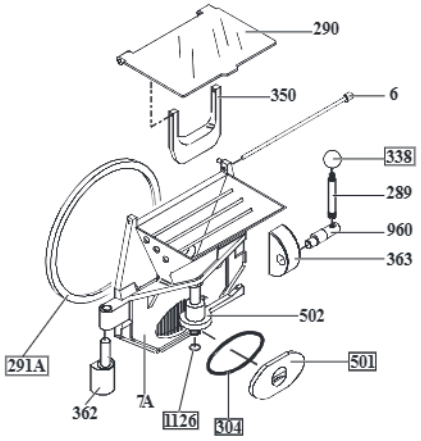
CAUTION

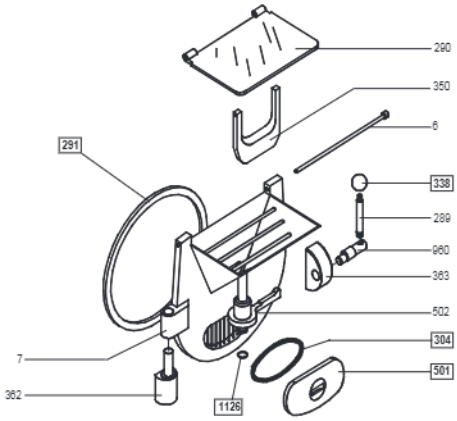


When you do not use the machine, leave beater lid open in order to avoid stuffing box buckling.

5.8 FRONT LID DISASSEMBLY

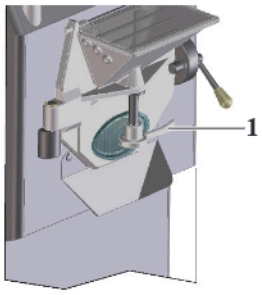
- Lift lid locking lever and shift it towards right.
- Open the lid by rotating it on its hinge.
- Remove lid while lifting it.
- To carry out cleaning operations, remove all movable parts and seal with barrel.





5.8.1 Ice cream door disassembly

- Lift the lid by turning the lever (ref. 1) 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 (1126) from the lid sliding rod, now, and take it out, in order to release the lever, as well.
- Remove the OR (304) of the lid itself.



5.8.2 Hopper cover disassembly

To clean the mix filling area, withdraw the cover fixing rod (pos. 6) and remove it.
The cover is provided with a small panel to prevent ice cream from going back to the hopper, which must be disassembled to be cleaned.

5.8.3 Product 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

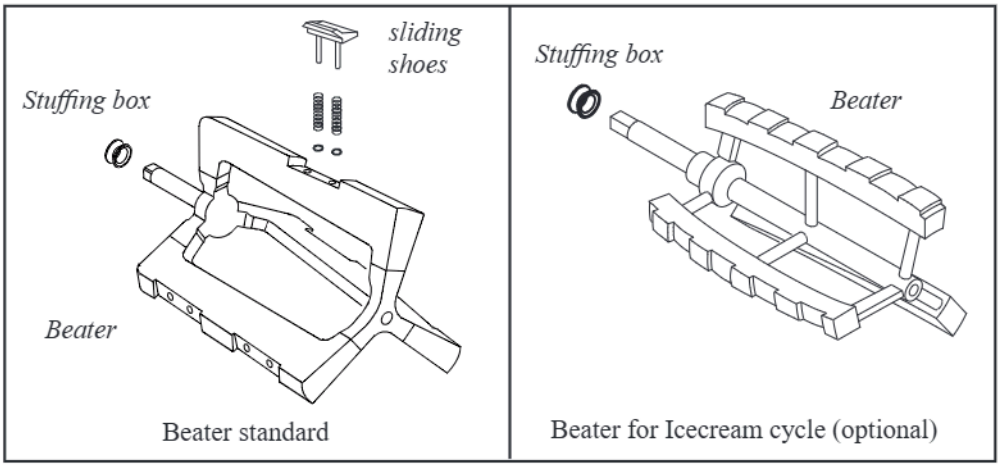
1. Remove larger residues by hand.
2. Remove finer residues with a jet of water
3. Soak the parts to be cleaned in the cleaning/sanitizing solution.
4. Use the supplied brushes to forcefully brush all the components and relevant holes.
5. Leave the cleaning/sanitizing solution to work for the time indicated 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.

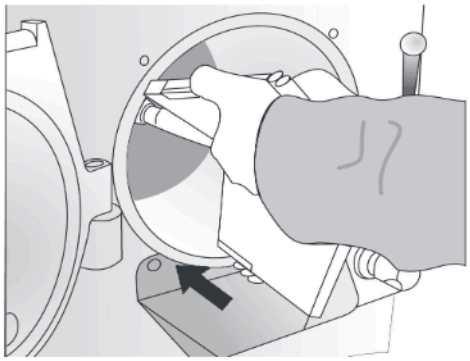
10. Remove drip tray (Ref. 3), clean it, sanitize it and refit it in its seat.
11. Disassemble tray shelf (Ref. 4), clean it, sanitize it and refit it.
12. Wipe the exterior of machine with a clean wet sanitized cloth.

5.10 BEATER REFITTING

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

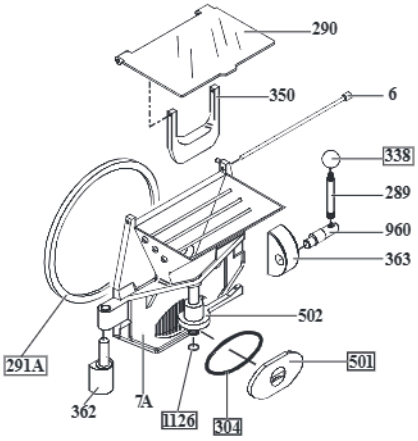


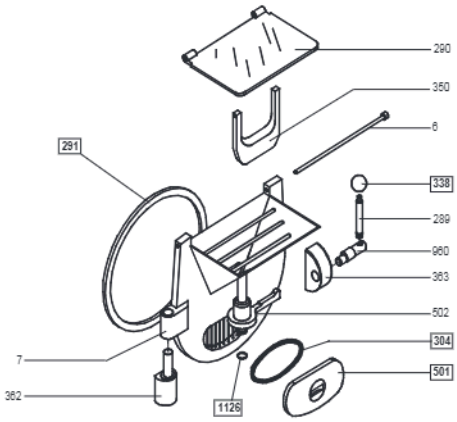
When refitting the beater, grab it with both hands and press scrapers so as to help insertion. Press beater fully home and meanwhile turn it until inserting the shaft fully in its seat.



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 switched off and the beater lid closed, pour the detergent/sanitising solution into the whipping cylinder.
- Press the **"CLEAN"** button and start the **"CLEAN"** programme. Let the machine run for 10/15 seconds.



WARNING

Prolonged operation on the "CLEAN" setting with the cylinder empty or containing water/sanitising solution will cause the beater sliding shoes to wear quickly.

- Let the detergent/sanitising solution react in the cylinder for the time indicated on the label of the product being utilised.
- Fully drain the detergent/sanitising solution from the whipping cylinder.
- Rinse utilising abundant clean water.



ATTENTION

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



WARNING

Before starting again with the ice cream production, rinse thoroughly with water so as to remove any residues of the 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".



WARNING

Do not use any mechanical device or other means near the refrigerant circuit to prevent it from getting demaged.



WARNING

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



WARNING

Make sure that nothing is obstructing the ventilation openings 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.
Here below 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.
- **Sprayer maintenance**
  If there is a water leak from the sprayer, we advice you to replace the seals (ref. 1, 2, and 3) in case they are broken, see the drawing. In order to replace the seals (ref. 1 and 2) it is enough to undo the front white plug. On the other hand, to replace the seal (ref. 3) it is necessary to undo the front white plug and remove the handle pin (ref. 4).





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 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.



WARNING
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	Machine unplugged Front lid is not closed well.	Check and plug in. Check front lid closure.
After 15 minutes of freezing cycle, the mix does not freeze, the machine switches to STOP mode.	No gas in the machine	-Air the room and contact a qualified technician -Disconnect power -Contact the qualified technician
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 not doubled up. Check that rear of machine is al least 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.	Check leakage and weld. Check connection and replace, if need be.
Mix in drip drawer	Stiffomg box missing or ruined	Installa if missing. Replace if ruined
Ice Cream come out from behind front lid	et missing or not properly installed	heck and fix or replace.