APPLICARE

TARGA

CARATTERISTICHE

INSTRUCTION HANDBOOK

LABOTRONIC HE
LABOTRONIC HE-I

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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FOREWORD

INSTRUCTION HANDBOOK

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

PURPOSE

This handbook was conceived taking machine users' needs into due account.
Topics relevant to a correct use of the machine have been analyzed in order to keep unchanged in the long run quality features charachterizing **CARPIGIANI** machines all over the world.
A significant part of this handbook refers to the conditions necessary to the machine use and to the necessary procedure during cleanout as well as routine and special maintenance.
Nevertheless, this handbook cannot meet all demands in details. In case of doubts or missing information, please apply to:

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HANDBOOK STRUCTURE

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

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

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

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

ADDITIONAL DOCUMENTATION

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

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

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



CONVENTIONAL SYMBOLS



CAUTION: ELECTRIC SHOCK 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.



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

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, adequately sized to the absorption power shown on machine identification plate and with a contact opening of 3 mm at least.



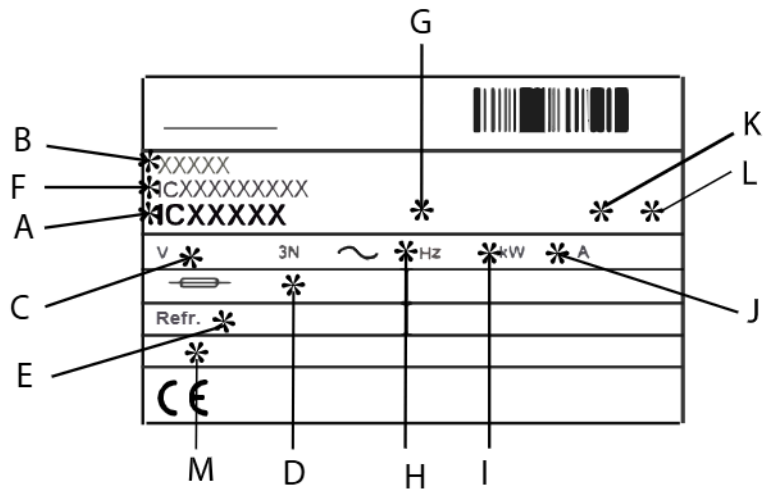
- Never perform operations on the machine using your hands, during both production and cleaning. Before carrying out any maintenance operation, make sure that the machine is in "**STOP**" position and that the main switch has been cut out.
- It is forbidden to wash the machine by means of a jet of pressurized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

1. GENERAL INFORMATION

1.1 GENERAL INFORMATION

1.1.1 Manufacturer'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.



Legend:

- **A** Serial number
- **B** Machine type
- **C** Voltage
- **D** Main-switch amperometric value
- **E** Gas type and weight
- **F** Machine code
- **G** Condensation
- **H** Frequency
- **I** Power input
- **J** Rated current
- **K** IP code
- **L** Climate class
- **M** Greenhouse effect gas quantity

1.1.2 Information about service

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

1.1.3 Information to the user

- The manufacturer of the machine is at user's disposal for any explanation and information about the machine operation.
- In case of need, please call the local distributor, or the manufacturer, if no distributor is available.
- Manufacturer's service department is available for any information about operation, and requests of spare parts and service.



1.2 INFORMATION ABOUT THE MACHINE

1.2.1 General data

LABOTRONIC HE are batch freezers for the production of ice cream. They have a horizontal barrel which facilitates the extraction of ice cream.
These machines are electronically controlled to ensure a professional use and best quality of ice cream. It is possible to personalize ice cream production programs in order to get any kind of ice cream and other specialities; only with the **LABOTRONIC HE** can you really produce an extraordinary variety of ice cream, exclusively tasty cremolata fruit

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:

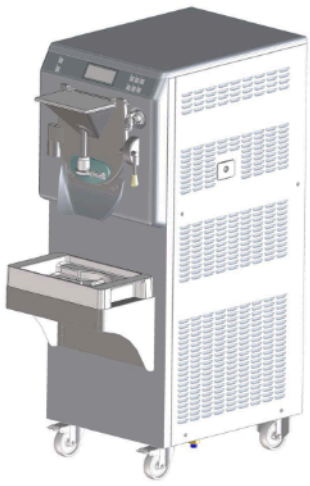
- Make your mixes yourselves from high quality natural ingredients or buy them from reliable companies;
- Follow closely instructions given by your mix supplier for the preparation of the mixes;
- Do not alter your mix supplier's recipies, by adding, for instance, water or sugar;
- Taste ice cream before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

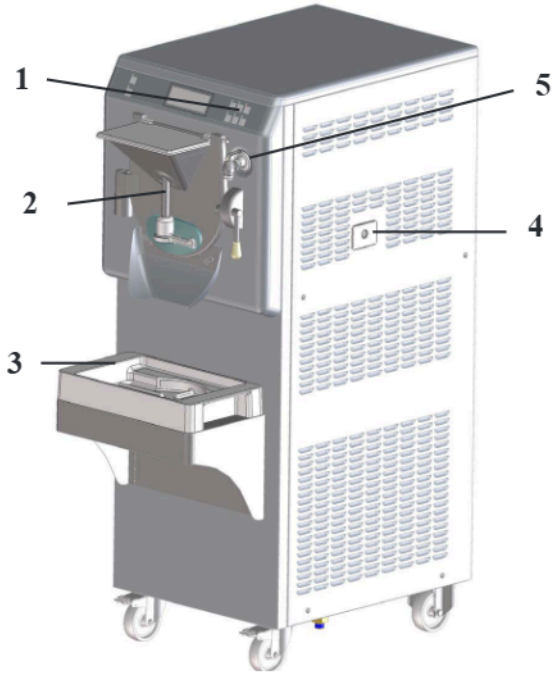
1.2.2 Technical features

MODEL	ICE-CREAM								CRYSTAL		CREMO-LATA	GRANITA ***	Beater motor speed n	Power sup-ply *			Rated outpu	Con-dens-er**	Dimensions cm			Net weight
	Quantity per batch				Hourly output														base		Height (H)	
	Mix batch kg		Ice cream l		Mix batch kg		Ice cream l		Quantity per cycle kg		Quantity per cycle kg	Quantity per cycle kg		Volt	Hz	Ph	kW		Width (L)	Depth. (P)		kg
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max												
Labotronic 10 45 HE	1,5	7,5	2	10,5	10	45	12	63	3,5	7,5	7,5	7,5	2	400	50	3	6,4	water	52	65 W 93 A	140	270
Labotronic 10 45 HE-I	1,5	7,5	2	10,5	10	45	12	63	3,5	7,5	7,5	7,5	5/6	400	50	3	6,4	water	52	65 W 93 A	140	270
Labotronic 15 60 HE	2,5	10,5	3,5	15	15	60	21	84	5	10,5	10,5	10,5	2	400	50	3	7,6	water	52	65 W 93 A	140	320
Labotronic 15 60 HE-I	2,5	10,5	3,5	15	15	60	21	84	5	10,5	10,5	10,5	5/6	400	50	3	7	water	52	65 W 93 A	140	320
Labotronic 20 90 HE	3,5	13	5	19	20	90	28	135	6	13	13	13	2	400	50	3	9	water	52	65	140	345
Labotronic 20 90 HE-I	3,5	13	5	19	20	90	28	135	6	13	13	13	5/6	400	50	3	8,3	water	52	65	140	345
Labotronic 25 110 HE	4,5	17	6,5	24	25	110	35	152	7	17	16	16	2	400	50	3	11	water	52	85	140	420
Labotronic 25 110 HE-I	4,5	17	6,5	24	25	110	35	152	7	17	16	16	5/6	400	50	3	10	water	52	85	140	420

* Other voltages and cycles are available with an extra cost
** Air-fed version available, with extra cost
*** Only for HE-I models
The quantity per freezing cycle and hourly production change according to the mixes used.
The values "Max" refer to the Italian classic easy-to-work ice-cream.
Performances refer to a 25°C room temperature and 20°C condenser water temperature.
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



Legend:

1 Control panel
2 Barrel front lid
3 Shelf
4 Drip drawer
5 Water dispenser

1.3 INTENDED USE

The **LABOTRONIC HE** must only be used for the production of ice cream, cremolata fruit and slush ("G" option) with the respect of what indicated in 1.2.1 "General information", within the limits indicated here under.

Voltage:	±10%
Min air temperature:	10°C
Max air temperature:	43°C
Min water temperature:	10°C
Max water temperature:	30°C
Min. water pressure:	0,1 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 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.

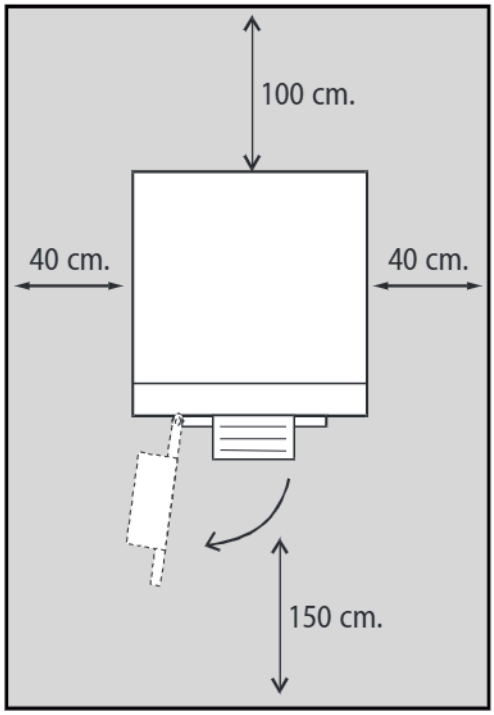


2. INSTALLATION

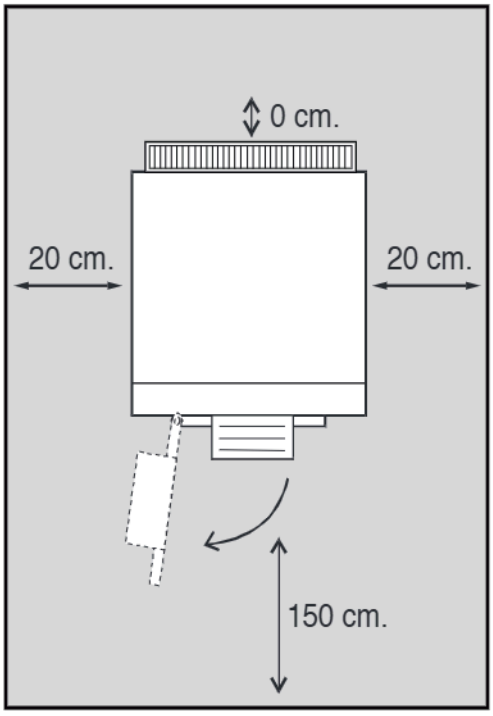
2.1 ROOM NECESSARY TO THE MACHINE USE

The machine must be installed in such a way that air can freely circulate.
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.

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



Machines without rear conveyor air:
Labotronic 20 90 HE
Labotronic 25 110 HE



Machines with rear conveyor air:
Labotronic 10 45 HE
Labotronic 15 60 HE

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.

ATTENTION
If the mains water may contain solid particles greater than 1 mm, such as sand, it is recommended, before commissioning, to install a water filter to keep the water circuit unobstructed and prevent particles from damaging the exchanger or cause non-optimal performance.

2.3 MACHINE WITH AIRCOOLED CONDENSER

Machines with air-cooled condenser must have sufficient free space along the sides and rear 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

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" (Pos. A Fig. 4) 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.

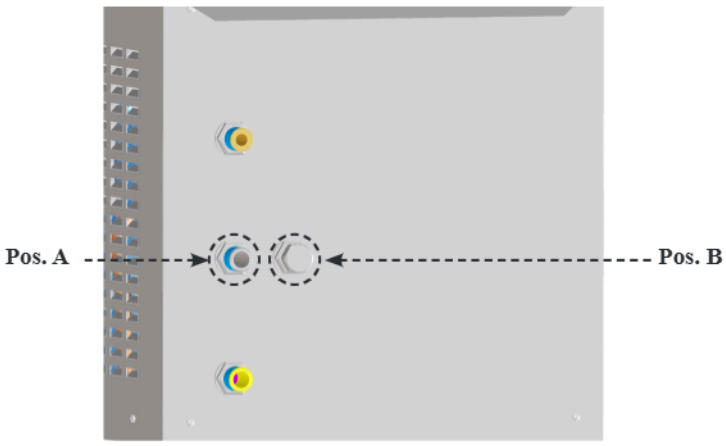


Fig. 4

If the gas is cooled by water coming from a recovery system (e.g., cooling tower), connect the inlet pipe to the connector on the right (Pos. B Fig. 4).
Make sure that the inlet not being used is closed using the special cap, see Fig. 4 Pos. B.

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 ELECTRIC CONNECTION

The power supply system must comply with the national regulations in force in the place of installation and provided with an efficient ground connection.
The manufacturer is not responsible for any malfunction or for injury to persons and/or damage to property resulting from connection to a non-compliant electrical system.
The appliance must be installed according to the current regulations for electrical installation, by competent and qualified technical personnel meeting the technical and professional requirements provided for by the legislation in force in the country of installation.
Before connecting the machine to the mains, check that the mains characteristics meet those of the machine specified in the identification plate applied to the machine itself.

Check that the power supply network is provided with a disconnection device, in compliance with the installation rules, ensuring complete disconnection from the mains for each pole (differential

circuit breaker), in the conditions of overvoltage category III. The opening distance of contacts must be at least 3 mm.
Check that the trip level of the differential circuit breaker is ≤ 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.

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



2.5.1 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.

IMPORTANT
Direction of rotation
Beater rotation is anticlockwise.




NOTE
By threephased machines, it is necessary to check that axial pulley A has clockwise rotation: to do that, watch through slits of rear panel (see picture).

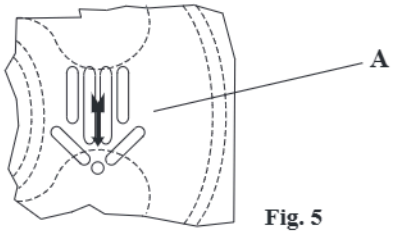


Fig. 5

Reversal of rotation
Should direction of rotation be wrong, reverse it by exchanging two of the three phases which start at the differential magnetothermal protection switch.

2.6 LOCATION

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

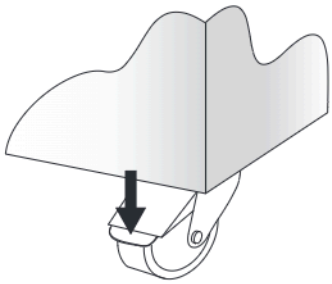


Fig. 6

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 uncorrect use or handling is avoided
- Safety devices must neither be removed nor tampered
- Maintenance interventions are performed on a regular basis
- Only original spare parts are to be used especially as far as those components with safety functions are concerned (ex.: protection microswitches, thermostats)
- Suitable personal protective equipment is worn.

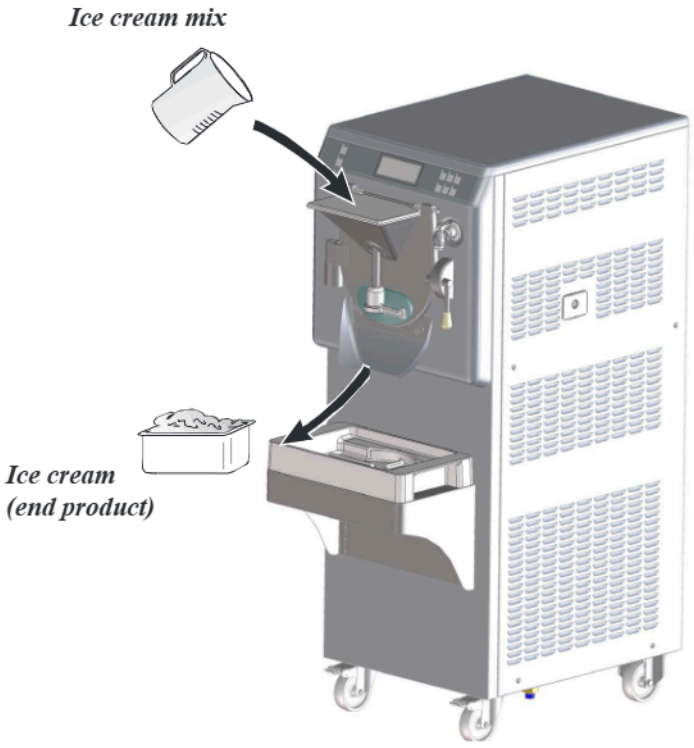
To achieve the above, the following is necessary:

- 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.

WARNING
To make ice cream extraction easier, only use the plastic spatula provided.
Do not use metal spatulas since these could damage the machine.



3.3 CONTROLS

3.3.1 Button Pad

The machine is equipped with a button pad on the front facing the operator; each button has a symbol to explain the function assigned to it.



3.3.2 Button functions

DISPLAY
The machine has an alphanumeric LCD display to show a series of messages when the machine in switched on as well as during use. In STOP mode, it shows the time in the top left, the date in the top right and the machine model in the centre. 3' minutes after the last button has been pressed and with the machine in STOP, the lighting on the display will switch off; to switch it on again, enable a function or press OK.



STOP KEY
In this function, the machine is idle.
From this position, it is possible to access the other functions.
Stop has priority over all other functions.



WATER DISPENSE KEY
Whenever this is pressed, it starts to dispense water through the nozzle on the front.
To stop dispensing water, press the same key again or press STOP or wait for 3'.
To set a dispensing time of less than 3', edit the step U14 from the user menu or follow this automatic procedure:
- Start the water dispensing function
- After the required amount of time, hold down the Water Dispense button (until you hear the "beep").
- Dispensing stops and the time from enabling is then stored to memory.
- When the shower is used again, the dispensing time will be the one stored to memory.

To increase the time again, it needs to be re-edited in step U14 of the user menu.



OK KEY
When pressed while viewing the menu, it starts the selected process.
It is used during cycles to confirm that ingredients have been introduced or to confirm the continuing of a process after the Stop button has been pressed.



INCREASE KEY
This increases the values that can be edited for those functions where this is permitted, e.g., to change the temperature set.
If this button is kept pressed when running this procedure, the stage being performed can be skipped ONLY if the machine is NOT in the set editing mode.
Pressed from Stop for 5" the temporarily inhibited processes will resume.



DECREASE KEY
This decreases the values that can be edited for those functions where this is permitted, e.g., to change the temperature set.
When running this procedure, keeping this button pressed allows the user running the AUTOSETUP for the single process, namely for the current cycle. In other words, the Temperature, Timer and Speed Set values are reset to their default values.
In this case as well, function is active only if the machine is NOT in the set editing mode. It is also used to reset alarm messages.

CLEANING/EXTRACTION

CLEANING FUNCTION

Upon pressing the button in Stop mode, the following menu is displayed:

```
* CLEAN
  CLEAN+DEFROST
  DEFROST
  DELAYED CLEANING
```

and the Cleaning, Decrease and Increase LEDs light up.
The user may select the desired cleaning cycle using the **INCREASE** and **DECREASE** buttons (an asterisk appears next to the selected cycle).
Press the **OK** button to start the desired cleaning program.

NOTE: *The last cycle is stored and shown first in next use.*

CLEANING PROGRAMS:

- **CLEAN**: to wash the machine in a traditional way, using the nozzle (that can be connected to hot water supply), first fill cylinder with water and press **OK** to activate beater, then wash.
- **CLEAN + DEFROST**: not only beater, but heating is also activated for 1'.
- **DEFROST**: Heating with no beating is activated for 5'.
- **DELAYED CLEANING**: With this function, cylinder walls are cooled to allow an easy cleaning even if the machine is not immediately cleaned after product extraction.
- **WATER FILLING**: With this function it is possible to fill the cylinder with a certain amount of water, using the shower. The display shows:

```
WATER FILLING
Set    L      10.00
       OK?
```

- the current function on the first line;
- the number of liters on the second line (it can be changed from 0.00 to 17.00 liters);

It is possible to edit the amount of water dispensed using the **INCREASE** and **DECREASE** buttons.

Press **OK** to confirm the amount set and to start dispensing. The display shows the amount of water dispensed on the third line:

```
WATER FILLING
Set   L    10.00
Water L    01.50
```

Once dispensing is completed, the machine automatically sets to Stop.

During the washing cycle, the display first line indicates the selected washing program, the second and third line show warning messages in case of hot cylinder (as is the case in the DRYING program), while the fourth line shows beater speed and 1' timer countdown.
Timer is increased by 1' 30" if speed 1 is selected, while it is decreased by the same time when shifting back to speed 2 or 3.
Machine is automatically set back to Stop mode as soon as timer times out or whenever the Stop button is pressed. If speed 1 is set and timer is already below one and a half minute, if speed 2 or 3 is selected, the machine will automatically set to Stop mode as the 1' timer has already elapsed.

EXTRACTION FUNCTION

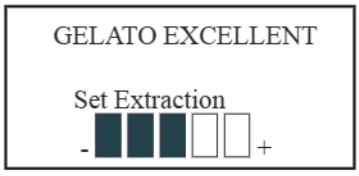
Press Cleaning Button during a cycle to dispense the product.
During ICE CREAM and GRANITA/CREMOLATA cycles, extraction lasts 8 minutes for 25-110, 7 minutes for 20-90 and 5 minutes for the remaining models. At the end of this time, the machine automatically sets to Stop.
For all the other cycles, extraction has no time limit and the machines sets to Stop only if the button is pressed.

Extraction - ICE CREAM cycles (Labotronic HE-I only)
The fourth line of the display shows the speed; it can be changed using the Increase and Decrease buttons on a scale from 1 to 5. Speed 3 is enabled as initial speed. The maximum speed (5) is reached using an acceleration of 20".
The display shows:



The speed can be changed using the Increase/Decrease buttons, but the changes will not be set as default values for following extractions.

Extraction speed can be changed and saved as default speed by holding the Cleaning button pressed for 3".
The display shows:



The OK button LED switches on, speed can be changed using the Increase/Decrease buttons. Press OK to confirm (this value will be set as default speed for the extractions of all ice cream cycles). After confirmation the display goes back to the Extraction page.

Variegated extraction (Labotronic HE-I only)
Variegated extraction can also be enabled.
The Cleaning button remains enabled after extraction is started.
By pressing the Cleaning button the display shows "Variegated" and speed 1 (Slow Variegated Extraction) is always enabled.



The speed can be changed using the Increase/Decrease buttons (the changes will not be saved for following variegated extractions).

Slow variegated extraction speed can be changed and saved as default speed by holding the Cleaning button pressed for 3".
The display shows:



The OK button LED switches on, speed can be changed using the Increase/Decrease buttons. Press OK to confirm (this value will be set as default speed for the slow variegated extractions of all ice cream cycles). After confirmation the display goes back to the Variegated Extraction page.

When the Cleaning button is pressed again, the machine shifts to Variegated Extraction (Fast) and Speed 5 is activated.



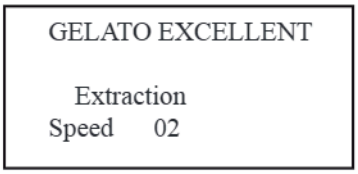
The speed can be changed using the Increase/Decrease buttons (the changes will not be saved for following variegated extractions).

Fast variegated extraction speed can be changed and saved as default speed by holding the Cleaning button pressed for 3".
The display shows:



The OK button LED switches on, speed can be changed using the Increase/Decrease buttons. Press OK to confirm (this value will be set as default speed for the fast variegated extractions of all ice cream cycles). After confirmation the display goes back to the Variegated Extraction page.

Extraction - GRANITA and ICE CREAM cycles (Labotronic HE)
The speed can be changed using the Increase and Decrease buttons on a scale from 1 to 3, setting as initial speed the speed of the freezing cycle. The display shows:



Cooling extraction - ICE CREAM cycles
During the extraction of all ICE CREAM cycles, no matter of the machine model, Cooling extraction can be enabled.

<u>COOLING EXTRACTION from Gelato Speed, Gelato Simply, Gelato Hard, Gelato Zero+, Sorbet Zero+:</u>
Once extraction is activated from the above-mentioned cycles, press Ice Cream button, to activate product cooling during extraction, which will stop once a 20-second timer will elapse.
Ice Cream button LED turns on for the 20" while cooling is active.

<u>COOLING EXTRACTION from Gelato Excellent, Gelato Simply, Gelato Manual and Stuffed Gelato:</u>
Once extraction is activated from the above-mentioned cycles, press Ice Cream button to activate automatic cooling, which will turn on only if necessary, depending on consistency reading of the product being dispensed, so as to avoid cooling when cylinder is empty or when product is cool enough. Ice Cream button LED turns on while cooling is active.
If the machine is in variegated extraction and either of the two lower speeds is selected, Cooling cannot be activated.



ICE CREAMS KEY

When the Ice Creams key is pressed, this opens a menu with the following available cycles:

Labotronic HE I	Labotronic HE
- Gelato Excellent - Gelato Speed - Gelato Hard - Gelato Simply or Cream Gelato or Fruit Gelato or Fruit Sherbet - Gelato Manual - Stuffed Gelato - WF Gelato (optional) - Gelato Crystal - Gelato Zero+ - Sherbet Zero+ - IceCream	- Gelato Excellent - Gelato Speed - Gelato Hard - Gelato Simply or Cream Gelato or Fruit Gelato or Fruit Sherbet - WF Gelato (optional) - Gelato Crystal - Gelato Zero+ - Sherbet Zero+ - IceCream



CREMOLATA KEY

Press the Cremolata key to open a menu containing the following available cycles:
- Sicilian Granita (for HE-I version only):
- Fruit Cremolata

To select a cycle, use the **INCREASE** and **DECREASE** keys to scroll through the different recipes, moving the asterisk to alongside the required recipe and pressing **OK** to confirm.

3.4 CYCLE SELECTION AND DESCRIPTION

IMPORTANT

If the last cycle performed is in a submenu (e.g., Gelato Cream), when the Ice Creams key is pressed, the submenu previously selected is the one viewed. It is possible to select the cycle using the arrow keys or to return to the main menu by selecting "BACK" and pressing OK to confirm.

3.4.1 Gelato Excellent

Press the Ice Cream keys and scroll through the menu with the Increase and Decrease keys to move the asterisk to the program to be carried out:

```
* GELATO EXCELLENT
  GELATO SPEED
  GELATO HARD
  GELATO SIMPLY
```

When OK is pressed to confirm, the cycle starts and the display will read:

```
GELATO EXCELLENT

100 ▬▬▬▬ 47
```

- with the name of the programme in progress on the first line
- the fourth line shows the current consistency value on the right, the set consistency to be reached on the left and the consistency increase graph in the centre.

When processes are started, the Increase and Decrease keys light up to permit the operator to vary Set consistency. The proposed Set is the setting that was set during the last cycle.
The Excellent whipping cycle obtains an excellent product in relation to the type and quantity of mix introduced and automatically modifies the cold to ensure an optimum thermal exchange to obtain Gelato Excellent.

This cycle is particularly recommended for minimum loads and water-based products.
When the set consistency is reached, the machine will interrupt chilling but without emitting any acoustic signal since for optimum ice cream drying, the intermittent signal will only sound when the required consistency is reached.
At this point it is possible to extract the product by pressing the Cleaning/Extraction key.
We recommend carrying out this cycle using the beater with mobile slide blocks.

3.4.2 Gelato Speed

Press the Ice Creams key and scroll through the menu with the Increase and Decrease keys to move the asterisk to the program to be carried out:

```
  GELATO EXCELLENT
* GELATO SPEED
  GELATO HARD
  GELATO SIMPLY
```

when OK is pressed to confirm, the cycle starts and the display will read:



- with the name of the programme in progress on the first line
- on the fourth line, the current consistency value on the right and the set consistency to be reached on the left, and in the middle, the consistency increase bar chart.

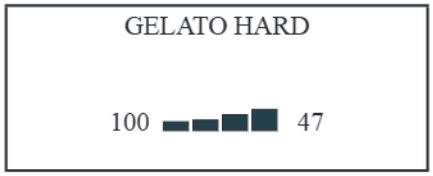
When processes are started, the Increase and Decrease keys light up to permit the operator to vary Set consistency. The proposed Set is the setting that was set during the last cycle.
The Speed whipping cycle is faster than the Excellent cycle and is particularly indicated for dealing with maximum or medium loads (no min. loads).
When the set consistency is reached, the machine stops the chilling function and an intermittent acoustic signal informs the operator to extract the ice cream, using the Cleaning/Extraction key.
We recommend carrying out this cycle using the beater with mobile slide blocks.

3.4.3 Gelato hard

Press the Ice Creams key and scroll through the menu with the Increase and Decrease keys to move the asterisk to the program to be carried out

```
  GELATO EXCELLENT
  GELATO SPEED
* GELATO HARD
  GELATO SIMPLY
```

When OK is pressed to confirm, the cycle starts and the display will read:



- with the name of the programme in progress on the first line
- The fourth line will show the current consistency on the right and the set consistency to be reached on the left, with the consistency increase bar chart in the centre.

When processes are started, the Increase and Decrease keys light up to permit the operator to vary Set consistency. The proposed Set is the setting that was set during the last cycle.
The Hard whipping cycle obtains a very compact and dry product; ideal for those who use the scoop to serve the Ice Cream.
The Gelato hard cycle can only be used with medium or maximum loads.
When the set consistency is reached, the machine stops the chilling function and an intermittent acoustic signal informs the operator to extract the ice cream, using the Cleaning/Extraction key.
We recommend carrying out this cycle using the beater with mobile slide blocks.

3.4.4 Gelato Simply

Press the Ice Creams key and scroll through the menu with the Increase and Decrease keys to move the asterisk to the program to be carried out:

```
  GELATO EXCELLENT
  GELATO SPEED
  GELATO HARD
* GELATO SIMPLY
```

Press OK to confirm and open the submenu:

```
* GELATO CREAM
  GELATO FRUIT
  FRUIT ICE
 ---- BACK ----
```

Use the Increase and Decrease keys to scroll through the submenu , moving the asterisk alongside the required cycle and then pressing OK to confirm.
If we are carrying out the "Gelato Cream " cycle, the display will read:

```
      GELATO CREAM


100 ▬▬▬▬ 47
```

- with the name of the programme in progress on the first line
- the fourth line will show the current consistency on the right and the set consistency to be reached on the left, with the consistency increase bar chart in the centre.

For simply group programme cycles, the consistency value can only be changed by varying the user programming steps (U09, U10, U11 – see User Programming).
The Simply group allows the ice cream maker to set cycles according to his or her experience and products, so as to create dedicated recipes that, even when prepared by less qualified staff, can guarantee gelato of excellent quality.

3.4.5 Gelato Manual (for HE-I version, only)

Press Ice Cream button and scroll the menu using the Increase and Decrease buttons to move the asterisk next to the required program:

```
  GELATO HARD
  GELATO SIMPLY
* GELATO MANUAL
  STUFFED GELATO
```

as soon as you press OK to confirm, the selected cycle starts and the display shows:

```
   GELATO MANUAL
        Speed
     - ▮▮▮□□ +
100 ▬▬▬▬ 47
```

Speed 3 is the default speed (standard freezing speed).
The LEDs of the Increase/Decrease buttons are on, so that the Set HOT can be changed.

This cycle allows you to change freezing speed from 1 to 6.
By pressing the Ice Cream button (the OK button LED switches on) the display shows the speed setting page:

```
   GELATO MANUAL
   Set Speed
     - ▮▮▮□□ +
100 ▬▬▬▬ 47
```

The default speed indicated is always the standard freezing speed, but user can change it using Increase and Decrease buttons.

By pressing the OK button the set speed is saved as default speed for all following Manual cycle executions, while by pressing the Ice Cream button this change is applied only to the running cycle (the following Manual cycle will start with speed 3). Anyway, after pressing one of the two buttons, the display goes back to the Manual cycle standard page, the OK button LED switches off and the Increase/Decrease buttons can be used to change the set Hot again.

NOTE:
By changing speed and consistency, the operator is responsible for product outcome.

3.4.6 Gelato Garnish (for HE-I version, only)

Press Ice Cream button and scroll the menu using the Increase and Decrease buttons to move the asterisk next to the required program:

```
  GELATO HARD
  GELATO SIMPLY
  GELATO MANUAL
* GELATO GARNISH
```

as soon as you press OK to confirm, the selected cycle starts and the display shows:

```
      GELATO GARNISH


   100 ▬▬▬▬ 47
```

- on the first line, the name of the ongoing process
- on the fourth line the current consistency to the right and the target consistency setting to the left, with consistency indicator at the center.

When cycle starts, the Increase and Decrease buttons light up to allow the operator to change the consistency setting. The displayed setting is the one set when this cycle was last used.

This cycle is useful for multilayer trays. It allows the operator to freeze the ice cream, remove a part of it, and keep the rest inside the freezer for the time necessary to cool and fill the first removed layer.
The cycle consists of four phases:

1. A first freezing phase with a Set Hot that can be changed. The display will read:

```
      GELATO GARNISH


   100 ▬▬▬▬          047
```

2. When the Set Hot is reached, it is possible to remove a part of the product by pressing the Cleaning Button. The display will read:

```
      GELATO GARNISH
     CONTINUE ? (OK)
         Extract
        - ▮▮▮▯▯ +
```

NOTE:
At the end of this first extraction phase, at least the machine minimum load quantity of product must remain inside the freezer.

3. As soon as the extraction timer elapses or by pressing OK as shown on the display, the remaining ice cream is kept at a Set Hot lowered by 20 points with respect to the one of phase 1, for a time which can be set between 5 and 15 minutes.

In this phase speed is reduced, and the fourth line of the display shows (intermittent message) the phase duration timer showing on the left the timer set and on the right the time left

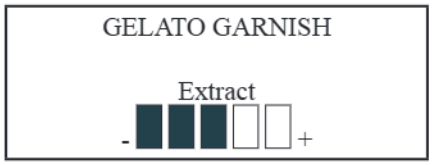
```
      GELATO GARNISH


    10:00  Timer  09:45
```

It is possible to change phase duration by pressing the Ice Cream button: the message on the last line becomes steady and timer can be edited using the Increase and Decrease buttons.

Press the Ice Cream button again to go back to the previous screen.
The set timer is stored and shown again upon next cycle.

4. As soon as maintenance timer elapses, the ice cream is brought to phase 1 Set Hot again at normal freezing speed. When the Set is reached, it is possible to carry out extraction by pressing the Cleaning Button :

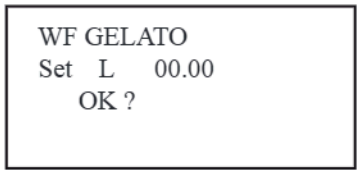


3.4.7 WF Gelato

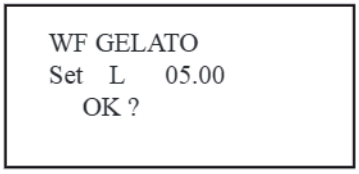
Press Ice Cream button and scroll the menu using the Increase and Decrease buttons to move the asterisk next to the required program:



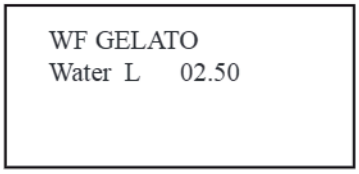
Press **OK** to start the process. The display shows:



Use the Increase and Decrease buttons to set the amount of water to dispense in number of liters.



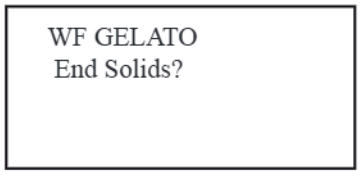
Press OK to activate water dispensing.



When the counter reaches half of the amount set, dispensing ends and the display shows:



Press OK to enable the beater and add the solids.
Once they have been added the display shows:



Press OK to dispense the remaining half of the water.

```
WF GELATO
Water L     02.50
```

At the end of dispensing the machine sets to Beating. This phase lasts 3':

```
WF GELATO

Mixing
Timer: 00:02:59   +18
```

Press Ice cream button to access the pages where to edit mixing duration (from 1 to 5') and speed (from 1 to 3).
This setting of time and speed is stored.
Press the beating button to set the maximum speed; it can be changed further more using the Increase/Decrease button. This changes are not stored. Press the beating button again to set the speed back to the default value.
At the end of beating, the machine starts freezing (EXCELLENT gelato cycle). The Set HOT can always be changed.
The process and messages are the same as in the EXCELLENT cycle.

3.4.8 Gelato Crystal

Press Ice Cream button  and scroll the menu using the Increase and Decrease buttons to move the asterisk next to the required program:

```
  GELATO HARD
  GELATO SIMPLY
  WF GELATO
* GELATO CRYSTAL
```

confirm with OK.

Starting the Gelato Crystal cycle, the display shows:

```
GELATO CRYSTAL


060 ▬▬▬▬ 47
```

Speed 2 is the default speed (standard freezing speed).
The LEDs of the Increase/Decrease buttons are on, so that the Set HOT can be changed.
This cycle does not allow you to change freezing speed.

The product is brought to the right consistency for 5 times.
The consistency set = 60 as default value. It can be changed using the Increase/Decrease buttons (minimum settable value = 40).

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

```
GELATO CRYSTAL

   Remove
060 ▬▬▬▬ 47
```

The product is kept at the right consistency with the same cyclical activations as the previous phase.

Press the OK button to extract (it is recommended to use the OK button because in this way the product is kept at the right consistency and the machine remains in the same function).
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.

3.4.9 Gelato Zero+

Press Ice Cream button  and scroll the menu using the Increase and Decrease buttons to move the asterisk next to the required program:

```
  GELATO GARNISH
  GELATO WF
  GELATO CRYSTAL
* GELATO ZERO+
```

confirm with OK.
This program allows freezing ice cream with low solid content. To be used for milk-based ice cream.

3.4.10 Sorbet Zero+

Press Ice Cream button  and scroll the menu using the Increase and Decrease buttons to move the asterisk next to the required program:

```
  GELATO WF
  GELATO CRYSTAL
  GELATO ZERO
* SORBETTO ZERO+
```

confirm with OK. This program allows freezing ice cream with low solid content. To be used for water-based ice cream.

3.4.11 IceCream (optional)

WARNING
The IceCream (optional) cycle is a freezing cycle that has to be carried out with 3E Beater.



Press Ice Cream button  and scroll the menu using the Increase and Decrease buttons to move the asterisk next to the required program:

```
  GELATO CRYSTAL
  GELATO ZERO+
  SHERBET ZERO+
* ICECREAM
```

as soon as you press OK to confirm, the selected cycle starts and the display shows:

```
      ICE CREAM


   100        047
```

A Speed-type cooling is activated with freezing speed higher than that for ice cream.
The LEDs of the Increase/Decrease buttons are on, so that the Set HOT can be changed.
The freezing speed cannot be modified during the cycle.
When shifting to extraction mode, the freezing speed is maintained but it is always possible to change it with the arrow keys.

3.4.12 Sicilian Granita (for HE-I versions, only)

Press Granita/Cremolata button and scroll the menu using the Increase and Decrease buttons to move the asterisk next to the required program:

```
* SICILIAN GRANITA
  FRUIT CREMOLATA
```

Press the OK button to start the process.

During the program, the display shows

```
        SICILIAN GRANITA


   -03°C    TEC=+04°   15:59
```

The display shows:
- On the first line, the name of the ongoing process
- On the fourth line, the temperature set is on the left, the product temperature is at the center and the decreasing freezing cycle timer is on the right.

Press Increase and Decrease Buttons to change Granita freezing time. The Temperature set can be programmed in step U11.

When the product reaches the set temperature, for example: - 3°C, cooling stops and beating continues.

Now an intermittent beeping sound is activated and the display reads:

```
        SICILIAN GRANITA

          Extract
        Granita End
```

Correct cooling end temperature depends on the quantity of sugar inside granita.
Roughly for 120 gr/liter, -3°C is the correct value, while -9°C is the correct value for 350 gr/liter.

3.4.13 Fruit Cremolata

Press the Cremolata button :

```
  SICILIAN GRANITA
* FRUIT CREMOLATA
```

Press OK to start.

While Fruit Cremolata is being made, the display will read:

```
        FRUIT CREMOLATA


   Set timer:  10        09:59
```

The display reads:
- The name of the programme in progress on the first line
- The fourth line will show the set total batch freezing time on the left and on the right, the count-down timer for batch freezing time for the Cremolata.

Use the Increase and Decrease keys to change the batch freezing time for the Cremolata.

The compressor is enabled for the whole time that Cremolata is being made, less 1 minute.
The batch freezing time can be programmed from 1' to 20' using the Increase or Decrease keys

When the set time is up, the buzzer will sound for an undetermined amount of time to indicate that the cremolata is ready for extraction, while the display will read as follows:

FRUIT CREMOLATA Extract Cremolata end

For this cycle, use the beater with mobile scrapers with the same scrapers as used to prepare Ice Creams.

3.5 PROCESS MENU CUSTOMIZATION

In each process menu, the displaying of unused cycles can be deleted by positioning the asterisk on the cycle to be hidden and by pressing the OK button for 5 seconds.
To enable all of them again: press the Increase Button from Stop for 5 seconds.
The display shows:

Loading Programs

If all cycles of a unit are deleted the display shows "Unit Empty" and it goes back to Stop mode.

3.6 ICE CREAM PRODUCTION (BATCH FREEZER)



After having attended to the wash, sanitizing and complete rinse immediately before use, as indicated in section 5 of hygiene, take out the mix from the pasteurizer, pour the desired amount with the loading hopper through the panel into the cylinder keeping within the minimum and maximum amount s indicated in the paragraph table 1.2.2.
Before pouring the mix, make sure that the lid and ice cream hatch are perfectly closed.

At this point, start the required cycle, as described in paragraph 3.4.



NOTE
If the ice cream is not taken out immediately after batch freezing, maybe due the operator is momentarily busy, the ice cream is kept in agitation and the HARD-O-DYNAMIC is kept under constant control.
If the ice cream loses in consistency, the HARD-O-DYNAMIC restarts the compressor and automatically resumes batch freezing that restores the ice cream to optimal conditions.

IMPORTANT
When using a boiling mix at +85°C, before pouring it into the cylinder, it is necessary to press the "GELATERIA" button, select the required cycle, press OK and wait for the beater to start.



3.6.1 Ice Cream Consistency



CARPIGIANI equips the machine with optimal ice cream consistency settings.
The HARD-O-DYNAMIC assures a constantly perfect ice cream relative to the mix being processed, but each operator can set even personal processing cycles.
A higher consistency can be, in fact, necessary for particularly creamier ice creams, or low skim ice creams, like some fruit sorbets.

3.6.2 Changing gelato consistency



Cycles: Gelato Excellent Speed, Hard Manual and Filled only
After selecting the required batch freezing cycle, it is possible to change the final consistency of the ice cream using the INCREASE and DECREASE keys. The value on the display will be changed as a result, from a minimum of 50 to a maximum of 120.
The changed value will be stored to memory for the next batch freezing operation unless there is a power outage, in which case, the consistency value will return to 100.
Cycles: Gelato Simply
The consistency can be changed through programming steps U09, U10 and U11.

3.6.3 Ice cream removal

At the end of the production cycle, after the acoustic signal, remove the ice cream from the bath freezing cylinder, and then proceeding to:

- Place the tray on the shelf, under the ice cream chute.
- Rotate the ice cream release lever towards the left (see fig. 1).
- Lift the lever with the panel.
- Push the button **EXTRACTION**.
- Select speed 3 by pressing the INCREASE key.
- At the end of this phase, press **STOP**.

WARNING

To facilitate the removal of the ice cream use only the spatula and plastic material supplied. Do not use metal spatulas inasmuch as they could damage the machine.

SECURITY NOTICE

To avoid unnecessary wear of the scraper sliding block and the cylinder, the machine returns to STOP after 1 minute of continuous functioning in extraction mode.

3.6.4 Use of the ice cream release lever

Stancher

Stop the ice cream flow aperture turning the lever completely to the right until the flow ceases.

Opening procedure

Rotate the lever (see fig. 1) by 90° towards the left.
Lift the lever and the panel.
Block the upper panel by rotating the lever (see fig. 1) all the way towards the right.

Closing procedure

Repeat the aforementioned operations described for opening in an inverse manner.

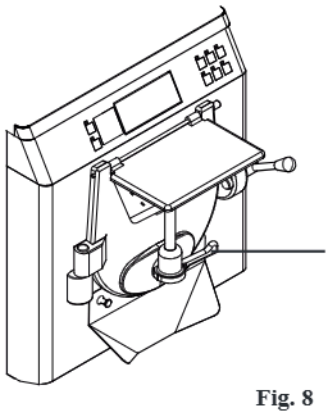


Fig. 8

3.6.5 Auto-Defrost

If a Gelato cycle is interrupted (e.g., the Stop button is accidentally pressed or there is a power blackout), a few seconds after entering STOP mode, the machine will automatically (if necessary) enable the defrost function for the cylinder to enable the beater to start up again.
The display will read:

15:21:39	07-01-10
AUTO-DEFROST	04:46
Wait...	

It is not possible to enable any cycle during this function.
The function will end when the timer has finished, if the Stop button is pressed or in the event of an alarm.
The function can be restarted manually by selected the DEFROST program from the CLEAN cycle.

3.7 FRUIT CREMOLATA PRODUCTION



After cleaning, sanitizing and fully rinsing the machine immediately before use - pursuant to sect. 5 Cleaning - , pour the fruit mix through the loading hopper on spigot door inside the cylinder, respecting minimum and maximum quantities as provided in paragraph 1.2.2.
Before pouring the mix, make sure that the spigots are perfectly closed.
Now start the desired cycle as specified in paragraph 3.4.8 and 3.4.9

3.7.1 Production time and temperature change



The user can vary the production time relative to the final product desired.
To vary the production time of the fruit cremolata one must act upon the Increase and Decrease buttons, with the machine in **CREMOLATA PRODUCTION** mode. To obtain a dryer cremolata increase the overall time by pushing the Increase button, vice versa the Decrease button will shorten it.
The user can change the production time depending on the required final product..
The new set time is visualized on the display.



NOTE
In the case of a power failure to the machine, time settings stay automatically on the last input stored.

3.7.2 Cremolata extraction



Once the production cycle has finished, which is signalled by an acoustic warning and a notice on the display, press the STOP key.
At this point, it is possible to extract the cremolata by opening the front lid and using the spatula provided.



WARNING
To facilitate the cremolata extraction only use the plastic spatula included. Do not use metal spatulas for they could damage the machine.



NOTE
The best FRUIT CREMOLATAS are obtained with equal or greater mix quantities to those indicated on the table on page 10.

3.8 USER PROGRAMMING

By pressing simultaneously the **STOP** and **DECREASE** buttons, the display will read "Manager Menu" and subsequently;

Hour **Step U01 15**

Modify the clock settings with the **INCREASE** and **DECREASE** buttons if necessary.

Press STOP, this way each value of the following table will appear sequentially – all adjustable with the **INCREASE** and **DECREASE** buttons.

Step	Display	Notes	M. U.	MIN	MAX	Default
U01	Hour		hours	0	23	
U02	Minutes		min	0	59	
U03	Day Week		gg	Sun	Sat	
U04	Day of the Month		gg	1	31	
U05	Month		mm	1	12	
U06	Year		yyyy	2000	2099	
U07	Language	Ita, Eng, Fra, Deu, Esp	n°	Ita	Eng	Ita
U08	HOT- Cream Simply		N	000	120	100
U09	Hot- Fruit Simply		N	000	120	90
U10	Hot- Fruit Ice Simply		N	000	120	80
U11	Set TEC GRANITA		°C	-009	009	-003
U14	Shower Time		Sec	015	300	180
U15	BackLight Time		Min	000	030	003

Steps U08, U09 and U10 concern the Set HOT for the cycles Simply Cream, Simply Fruit, Simply Sorbet.

U11 is the Granita temperature setting (Labotronic HE-I).

U14 is the water dispensing time.

U15 is the number of minutes after which the backlighting of the display switches off when the machine is in Stop. This is switched on again when a function is enabled, during Programming or when the OK key is pressed.

To quit the user programming mode, wait approx. 30" without pressing any keys or to quit immediately, press **CLEANING/EXTRACTION**.
The changed values will automatically be stored to memory.

4. SAFETY DEVICES

4.1 ALARMS



The machine signals possible alarms by displaying them on line four 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). E.g. :

```
15:21:39          07-01-10
    LABOTRONIC
Overload Compres. RTC
```

To delete the message after restoring the alarm, press the Decrease button. If the alarm will not reset, this means it is still active.

Display	Description
Inverter Alarm (HE-I only)	This alarm triggers machine Stop. Check the inverter.
Alarm TES	**Safety Thermostat Alarm** This alarm triggers machine Stop.
MB EEV Com.Error	A communication error between machine control board and electronic valve control board has occurred. Check that the communication cable is properly connected and make sure that dip switch is correctly positioned on board.
MB Inverter Com.Error	A communication error between machine control board and beater motor inverter has occurred. Check that the communication cable is properly connected.
Pressure Switch	**Safety pressure switch tripping** 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 “Pressure Switch”. 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 compressor 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.
Slow Beater Thermal breaker	**Slow Beater overload cutout tripped** This alarm triggers machine Stop. Check MA absorption limits.
Quick Beater Thermal breaker	**Quick Beater overload cutout tripped** This alarm triggers machine Stop. Check MA absorption limits.
Compressor Breaker	**Compressor overload cutout tripped.** This alarm triggers machine Stop.
T_IN Alarm	"TIN" temperature probe switched off or short-circuited. Alarm displayed during Excellent Ice Cream cycles. This alarm triggers machine Stop. As long as alarm is active, no ICE CREAM cycle can be started: - Gelato Excellent - Simply (if T25 = 0)
Al. B.P. Sensor	B.P. Sensor malfunction Alarm displayed during the Ice Cream cycles. It signals a malfunction of evaporator outlet pressure sensor.
Al. A.P. Sensor	A.P. Sensor malfunction Alarm displayed in Stop mode, it does not prevent any machine function. It signals a malfunction of compressor outlet pressure sensor. Alarm can be reset by pressing the Decrease button.

T_OUT Alarm	"TOUT" temperature probe switched off or short-circuited. Alarm displayed during the Ice Cream cycles. This alarm triggers machine Stop. As long as alarm is active, no ICE CREAM cycle can be started: - Gelato Excellent - Simply (if T25 = 0) Speed cycles, on the contrary, can be used in safety mode with a substantial increase of freezing time.
Timeout Prd	Timeout Prod (Cooling fault). It is triggered when the machine cooling is faulty. If compressor remains on continuously for over 20', during freezing (Gelato Cycles), and HOT does not reach a (fixed) Discriminant value, the machine sets to Stop with displayed “Timeout Prd” alarm. It can be reset by pressing any button. One of the possible causes for this type of problem could be no gas in the system.

Below is the list of WARNINGS; messages that are not locked so they are NOT considered alarms:

Display	Description
Wait	**Autodefrost** If a Freezing or Postponed cleaning Storage cycle is interrupted by pressing the Stop Button or due to blackout, the machine will automatically start (after setting to Stop mode) the cylinder defrost function (MC + EVC activation) after which standard operation can be resumed.
WARNING HOT!	**Hot product inside cylinder warning** If the cylinder probe reads a temperature value above 40° in Stop mode, when the machine is running or during the Washing programs, the "WARNING: HOT!" message will appear flashing on the display.
Spigot Door Open	**The spigot door is open** This alarm triggers machine Stop and is automatically reset when spigot door is closed.
Cool.Blackout	**Blackout** The alarm is displayed when time/temperature parameters are not followed. See blackout.
Safety Mode ON	**Safety mode activation** In case of P.B. Pressure or T_OUT temperature sensor malfunction, the machine operates with the EEV open in fixed position. Damaged sensor must be replaced in the shortest delay.
Service	**Scheduled Maintenance Warning** The machine has to be serviced. The warning does not inhibit machine operation and resets after technician intervention.
Setting in progress ...	**Setting in progress (Start up)** The machine carries out a periodical reset of Electronic Valve position. This re-positioning procedure, lasting approx. 16 seconds, takes place: 1) whenever voltage is restored 2) through a special command by the operator forcing the procedure from the push-button panel (see Par. “Setting”) 3) at regular intervals, in automatic mode During this phase, "Setting in Progress" is displayed and the machine cannot be used until this procedure is completed.

4.2 BLACKOUT

In case of blackout, the machine will behave differently based on the function it was carrying out upon blackout.
In the functions/cycles of:
- Stop
- Cleaning
- all Ice Cream cycles
- Granite

the machine restarts in Stop mode once power is restored. If, upon blackout, the machine was in ice-cream freezing cycle, once back to Stop mode (if necessary) it will enable the AUTO-DEFROST function.

From the other cycles:
- in the heating and mixing phases, when power is restored, the machine resumes the interrupted phase without displaying any message, however saving the "Black Out" event

- in the cooling phases, after restoring the power supply, the machine resumes the interrupted phase and checks the TEC temperature as well as the duration of the blackout. If the blackout lasted longer than the time given in the blackout table, the machine will display "Cool. Blackout" (saving the event in the memory) to warn the user that the product may have been altered. Otherwise, if the duration of the blackout was shorter than the time given in the blackout table, no message will be displayed, however the machine will log the "Black Out" event.

- During storage or thermostating phases, the machine will resume the interrupted phase and check how much TEC diverges from its Temperature Set. If the difference is lower than the value set by the Manufacturer, the "Black Out" event is logged and no message is displayed. Instead, if the value is higher, the machine will display "Cool.Blackout" (saving the event in the memory) to warn the user that the product may have been altered.

Blackout table

TEC Temperature	Time
>50°C	30 minutes
49°C 15°C	10 minutes
14°C ÷ 10°C	20 minutes
9°C ÷ 4°C	2 hours

5. CLEANING, DISASSEMBLY AND REASSEMBLY 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 CLEANING THE EXTERIOR OF THE MACHINE



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

5.6 PRELIMINARY CLEANING



1. With machine stopped and beater spigot door closed, use the hose located on machine front panel and press "**WATER DISPENSING**" button, to feed water to freezing chamber.
2. Press the **CLEANING** button in Stop mode to display the following menu:



* CLEANING CLEAN+DEFROST DEFROST WATER FILLING

and the Cleaning, Decrease and Increase LEDs light up.
The user may select the desired cleaning cycle using the **INCREASE** and **DECREASE** buttons (an asterisk appears next to the selected cycle).
Press the **OK** button to start the desired cleaning program.

Cleaning programs:
- CLEANING: beating is enabled
- CLEAN+DEFROST: beating and heating are activated (to facilitate the defrosting of the product still present inside the cylinder)
- DEFROST: heating is enabled and the beater remains still.
- WATER FILLING (optional): cylinder water filling is enabled.

Press **OK** to start the desired cleaning program (E.g. CLEANING) and the display shows

CLEANING Speed 2 00:59

The first line shows the name of the cleaning program, the second and third lines are used for warning messages in case of **hot cylinder** (such as in the DEFROST program), while the fourth line shows the speed (which can be edited in CLEANING and CLEAN + DEFROST) and the 1' countdown timer.

3. Position a bucket on the shelf and open product draining spigot door (ref. 1) letting all water inside the cylinder out.
4. Once the cylinder is emptied, it is preferable to open the spigot door (ref. 2) and clean the cylinder using a direct water jet, keeping the beater locked in its seat.

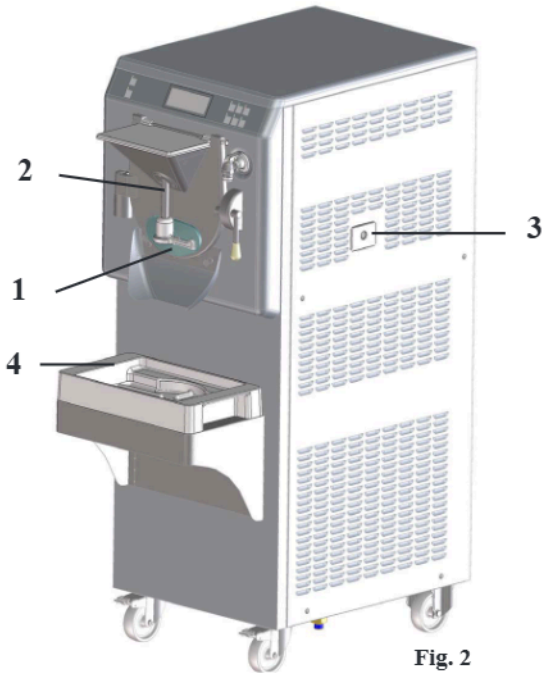
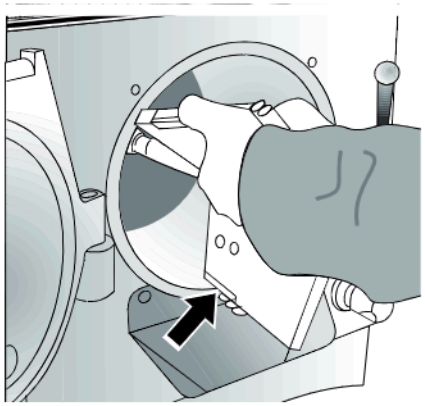


Fig. 2

5.7 BEATER REMOVAL

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

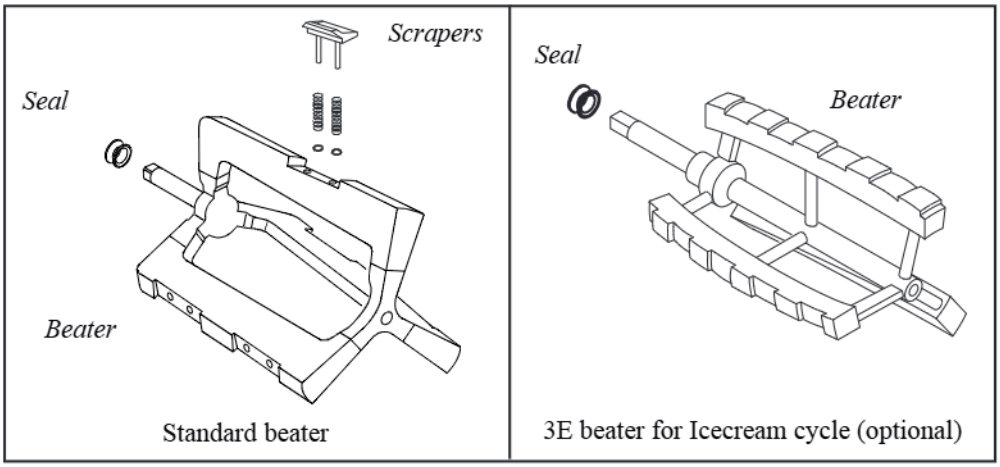
WARNING
Act with utmost care, as a fall to the ground might damage the beater.



- Completely remove the scrapers.

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

- Remove seal from its seat on beater shaft.



Standard beater

3E beater for Icecream cycle (optional)

5.7.1 Seal

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

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

IMPORTANT
Change seal with genuine parts any time you notice some ice cream when removing the drip tray on machine side.
Continuing production after this condition could further increase leakage, resulting in machine malfunction possibly affecting production quality.

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

5.8 SPIGOT DOOR REMOVAL

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

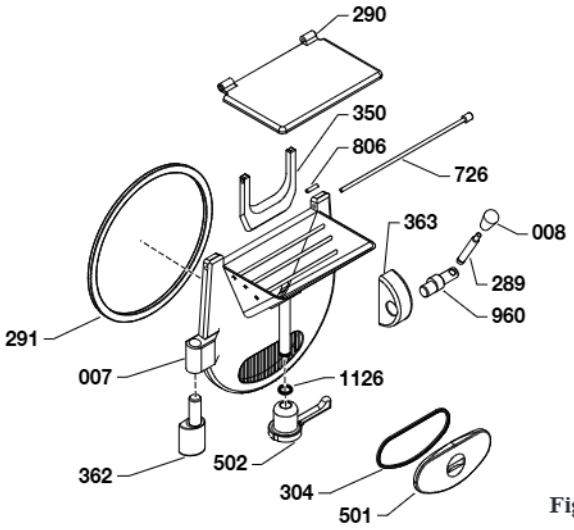


Fig. 13

5.8.1 Ice cream outfeed spigot door removal

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

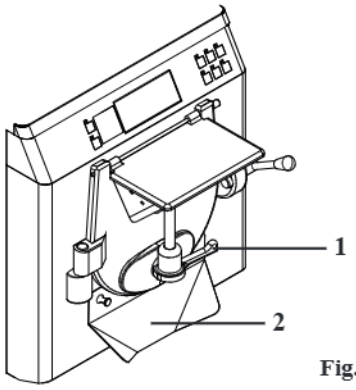


Fig. 14

5.8.2 Hopper cover removal

To clean mix feeding area, with machine stopped, slide out cover retaining shaft (pos. 6) and remove it.
Cover features a small baffle preventing ice cream from going up the hopper, which must be removed and cleaned.

5.8.3 Product outlet chute removal

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



5.9 WASHING AND SANITIZING COMPONENTS



1. Remove larger residues by hand.
2. Remove finer residues with a jet of water
3. Soak the parts to be cleaned in the cleaning/sanitizing solution.
4. Use the supplied brushes to forcefully brush all the components and relevant holes.
5. Leave the cleaning/sanitizing solution to work for the time indicated on the product packaging.
6. Rinse the parts with care, using plenty of clean drinking water.
7. Place the components on a clean tray to air-dry.
8. Soak a brush in the cleaning/sanitizing solution and clean the cylinder and housing hole of the beater.
9. Spray cleaning/sanitizing solution on the whole internal surface of the cylinder.

Repeat steps 8 and 9 several times.

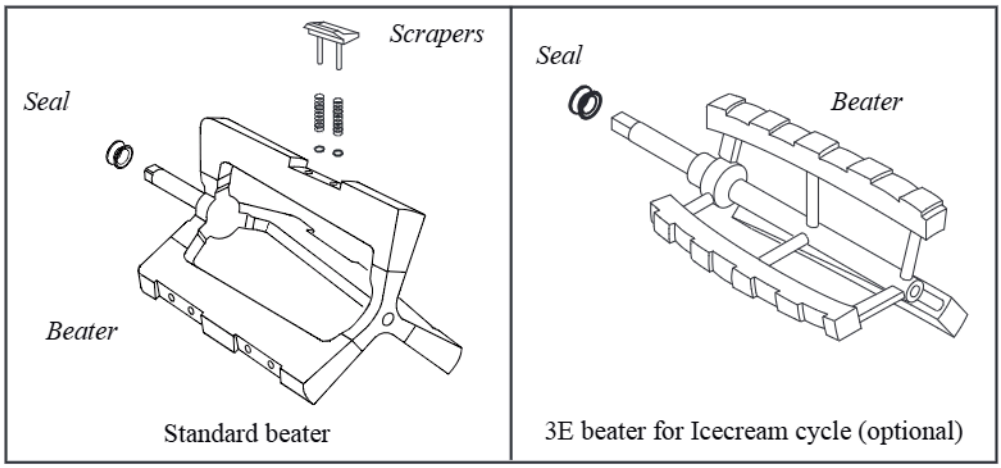
10. Remove drip tray (Ref. 3), clean it, sanitize it and refit it in its seat.
10. Disassemble tray shelf (Ref. 4), clean it, sanitize it and refit it.
11. Wipe the exterior of machine with a clean wet sanitized cloth.

5.10 BEATER REFITTING





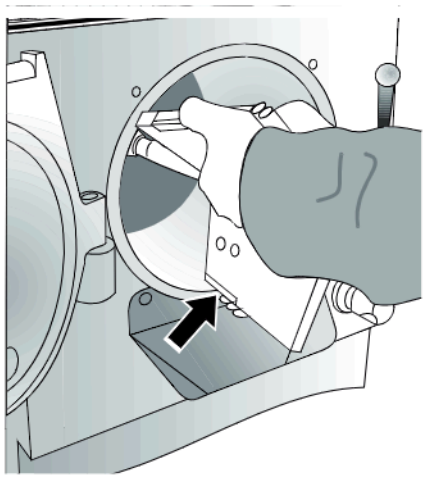
Refit all removed parts taking care to smear seal with some food-grade lubricant.



Standard beater

3E beater for Icecream cycle (optional)

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

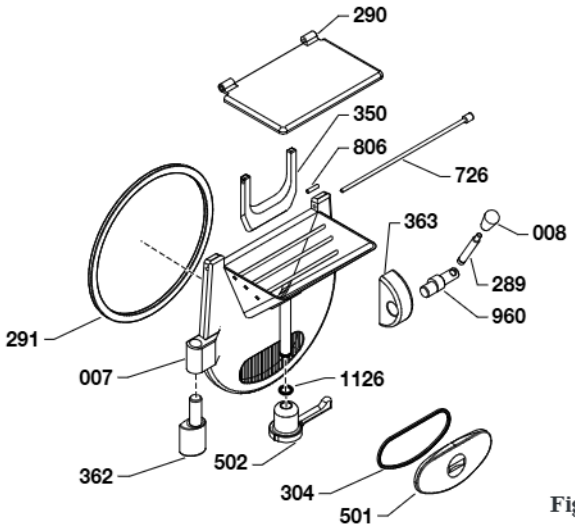


Fig. 13

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 machine stopped, beater unit in place and closed spigot door, pour cleaning/sanitizing solution prepared according to the instructions on the label of the product used, in the cylinder.
- Press "**CLEANING**" button and start "**CLEAN**" program. Leave machine running for 10/15 seconds.



WARNING

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

- Let the cleaning/sanitizing solution react inside the cylinder for the time indicated on the label of the product used.
- Completely drain all cleaning/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 as above specified.
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 when the machine is operating or whilst cleaning. Before maintenance, make sure the machine has been placed in "STOP" mode and disconnected from the electrical power supply.



6.1 MAINTENANCE TYPOLOGY

ATTENTION

Any maintenance operation requiring the opening of machine panels must be carried out with the machine placed to Stop mode and disconnected from the electrical power supply!
The cleaning and lubricating of moving parts is strictly forbidden!
Repairs to electrical and refrigeration systems must be carried out by skilled technicians!
"Repairs to the whole or parts of the electrical, mechanical, air supply and cooling systems must be carried out by specialist technicians approved by the manufacturer and if necessary in accordance with agreed routine and special maintenance schedules as provided for by the customer with reference to specific intervention methods and according to the intended use of the machine".





WARNING

NEVER USE ABRASIVE SPONGES TO CLEAN THE MACHINE AND ITS PARTS BECAUSE THE SURFACES MIGHT BECOME SCRATCHED.



Operations necessary for the correct running of the machine are such that most maintenance is completed during the production cycle.
Maintenance operations, such as the cleaning of parts that come into contact with the product, assembly of the stuffing box, disassembly of the beater assembly must be carried out at the end of the working day, so as to speed up the required serving operations.
Here below is a list of routine maintenance operations:

- **Cleaning and substitution of the stuffing box**
  Cleaning must be carried out at the end of the working day. Substitution of the stuffing box must be made if product drips inside drip drawer.
- **Cleaning the beater assembly**
  To be carried out at the end of the working day.
- **Cleaning the sliding shoes**
  To be carried out at the end of the working day.
- **Cleaning the panels**
  To be carried out daily with neutral soap and ensuring that the cleaning solution never reaches beater assembly inside.
- **Cleaning and sanitization**
  To be carried out at the end of each working day in accordance with 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 WATER-COOLED MACHINES

For machines with a water-cooled condenser, the water must be drained from the condenser at the end of the selling season to avoid troubles if the machine is stored in rooms where the temperature falls below 0°C. After closing the water inlet tube, withdraw the drain tube from its seat and let the water flow out from the circuit.



6.3 AIR-COOLED MACHINES

For machines with an air-cooled condenser, periodically clean the condenser to remove dust, paper and whatever may prevent air from circulating. Use a brush with long bristles or a jet of compressed air for cleaning.



ATTENTION

Wear personal protection in order to avoid accidents when using compressed air.
Wear protective glasses!

***N.B.**: Never use sharp metal objects to carry out this operation. The correct functioning of a refrigeration system mainly depends on cleaning the condenser.*



6.4 ORDERING SPARE PARTS

When parts are worn out or broken, order spare parts from your local distributor.



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

6.5 ACCESSORIES KIT

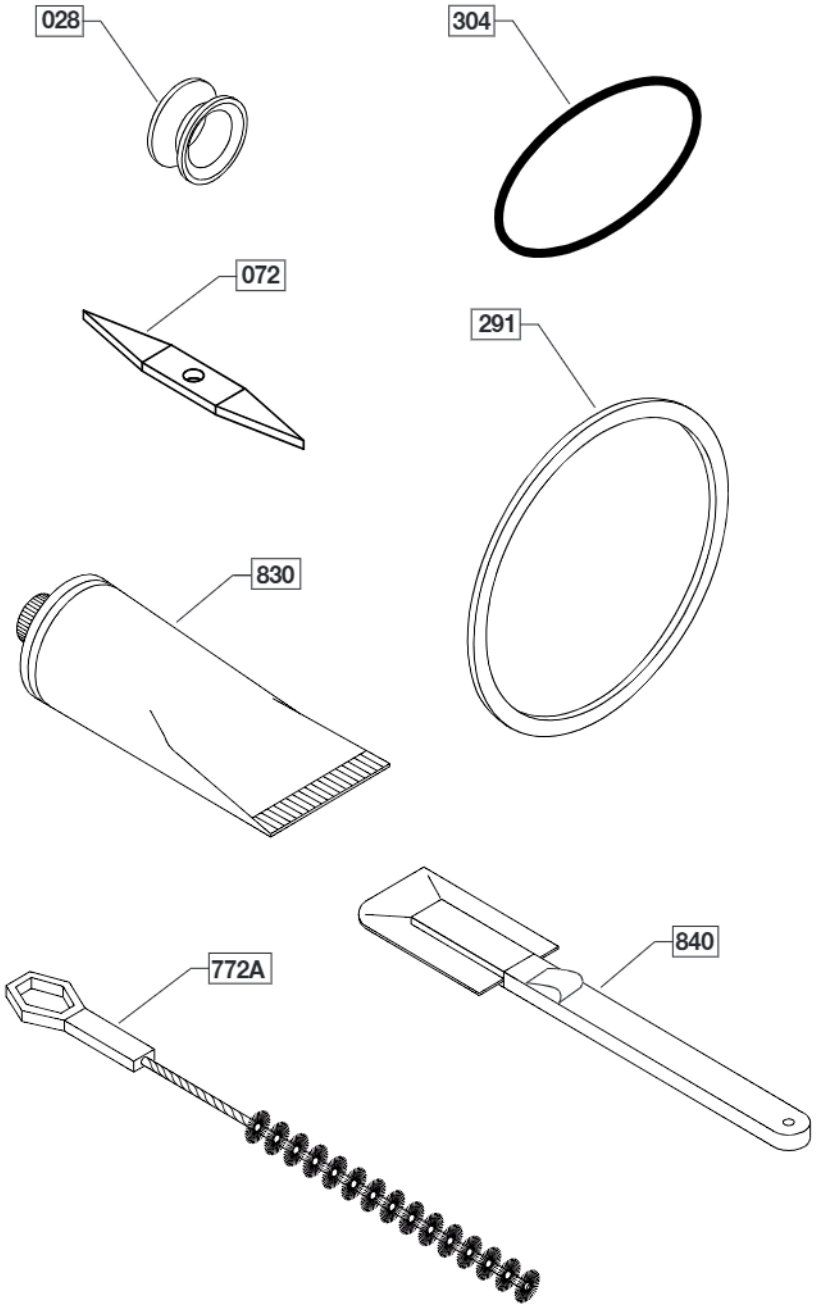


Fig. 15

LABOTRONIC HE ACCESSORY KIT

Description	Position number
Beater stuffing box	28
O-ring extractor	72
Hose adapter	291
Gaskets for hose adapter	304
Brush	772A
Tube of food-grade lubricant	830
Ice cream spatula	840

7. TROUBLESHOOT GUIDE



IRREGULARITY	CAUSE	PROCEDURE
Machine does not start	Main switch is off	Switch it on
	Machine unplugged	Check and plug in
	Machine is not set at PRODUCTION	Check push button for PRODUCTION is lit
	Front lid is not closed well	Check front lid closure
Compressor starts and then stops after a few seconds without ice cream being thick	Watercooled machine: water does not circulate	Open water tap
		Check that hose is neither squashed nor doubled up.
	Aircooled machine:	Check that rear of machine is air does not circulate at least 50 cm from wall
	obstructions	Clean condenser from
After 20 minutes processing mix has not frozen and the machine returns to Stop	No gas	Check leakage and weld
	Pressure switch has broken down	Check connection and replace, if need be
Machine runs but no ice cream comes from ice cream door	No sugar in the mix	Wait for the gelato in the cylinder to defrost or start the DEFROST program and then change or replace the mix.
Machine works but ice cream is too soft	Too much sugar in the mix	Modify or replace the mix
Mix in drip drawer	Stuffing box missing or ruined	Install if missing Replace if ruined
Gelato comes out between the plastic disc and steel support.	Gasket missing or not properly installed	Check and fix or replace
Bacteria tests show too high bacteria charge	Too high bacteria charge in the mix.	Improve preparation procedure by sanitizing all containers, spoons, etc., and have mix analyzed before pouring it into the machine
	Machine not clean enough.	Empty and thoroughly wash the machine. Carry out sanitization as per chapter 5 of manual.
The machine is displaying the service message	The number of operating hours means that the machine now requires a service	The machine can be used normally. To restore optimum performance, contact your authorized assistance service.