CARPIGIANI

APPLICARE

TARGA

CARATTERISTICHE

INSTRUCTION HANDBOOK

LABO 6/9 XPL P
LABO 8/12 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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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:

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

Before using the machine read carefully the instruction manual.
Carefully read safety instructions.

CONVENTIONAL SYMBOLS

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

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

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

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

NOTE
It points out significant information for the staff involved.

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

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

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.

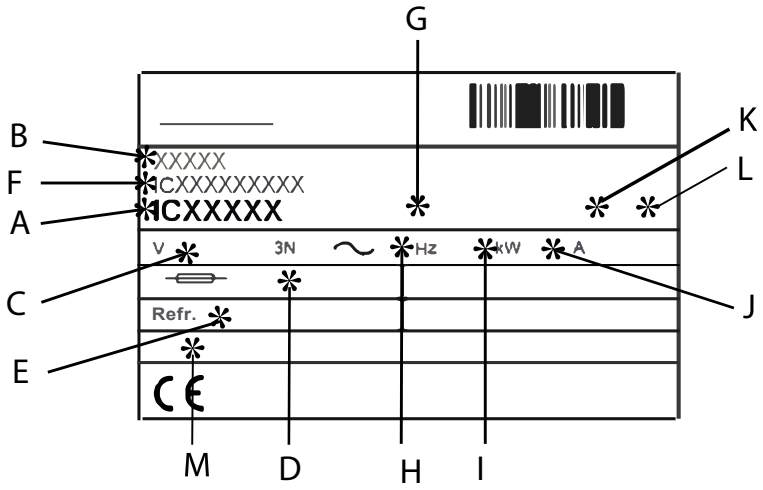
- Never perform operations on the machine using your hands, during both production and cleaning. Before carrying out any maintenance operation, make sure that the machine is in “**STOP**” position and that the main switch has been cut out.
- It is forbidden to wash the machine by means of a jet of pressurized 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 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	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 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 6/9 and 8/12 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		electric spec.			Rated Power	Condenser	Dimensions cm			Net weight
	kg	litres	Min. kg	Max. kg	Volt	Hz	Ph	kW		Width	Depth	Height	kg
Labo 6/9 XPL P	6	9	1	1,5	230	50	1	1,35	Air	36	55	74	85
Labo 8/12 XPL P	8	12	1,5	2,5	230	50	1	2,2	Air	36	55	74	90

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 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.

Fig. 1

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:	±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, 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.

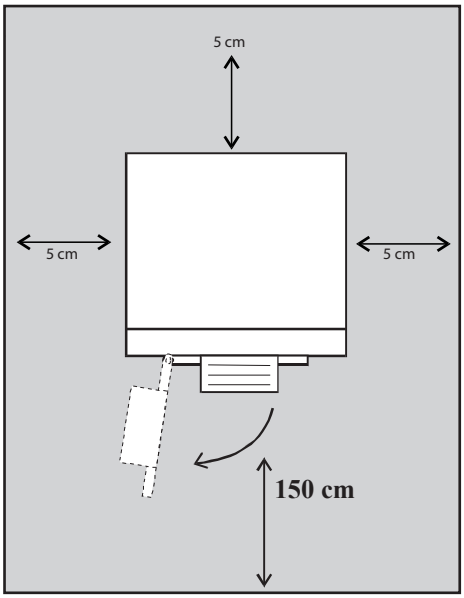
2. INSTALLATION

2.1 ROOM NECESSARY TO THE MACHINE USE

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

ATTENTION
MACHINES WITH AIR-COOLED CONDENSER must be installed no closer than 5 cm TO ANY WALL in order to allow free air circulation around the condenser.

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



2.2 MACHINE WITH AIRCOOLED CONDENSER

Machines with air-cooled condenser must be installed no closer than 5 cm to any wall in order to allow free air circulation around the condenser.

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

2.3 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.

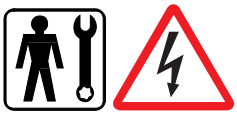
Check that the power supply network is provided with a disconnection device, in compliance with the installation rules, ensuring complete disconnection from the mains for each pole (differential circuit breaker), in the conditions of overvoltage category III. The opening distance of contacts must be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

2.3.1 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.

2.3.2 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.

2.4 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.

2.5 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;
- 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.

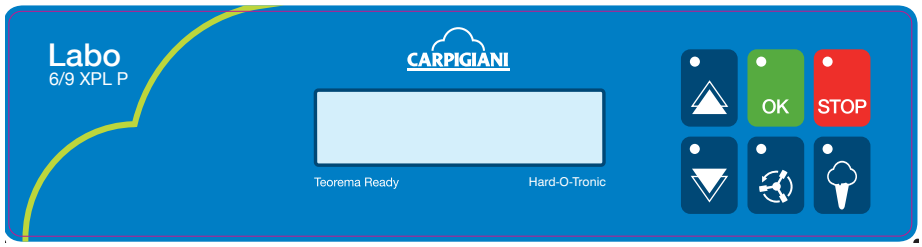
3.2 MACHINE CONFIGURATION

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

3.3 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.

3.3.1 Electronic control keyboard



STOP
In this function, the machine is not working and the relevant red LED is on. The display shows STOP. After 3 minutes the display backlighting goes off; the display turns back on when pressing any button. It is also used to reset alarm messages.

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

*CLEANING DEL.CLEANING

Use the Increase and Decrease buttons to select the desired function and press OK to activate it.
The available functions are:
- Cleaning
- Del.Cleaning

Cleaning
In this function, only the fast beater 1 is activated for 1 minute, then the machine goes back to the STOP mode automatically so as to avoid excessive wear of cylinder and beater. The display shows the decreasing timer on the upper line and the speed on the lower line.

TIMER 01:00 SPEED 01

Press the Increase or Decrease button to activate the fast beater. The timer continues the count:

TIMER 01:00 SPEED 02

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

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.

The display will read:

00:00:35 DEL:CLEANING

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

INCREASE
This increases the values that can be edited for those functions where this is permitted, e.g. the consistency set in the freezing cycle.
Furthermore, it allows changing the Beating speed in the Cleaning and Extraction functions.

DECREASE
This decreases the values that can be edited for those functions where this is permitted, e.g. the consistency set in the freezing cycle.
Furthermore, it allows changing the Beating speed in the Cleaning and Extraction functions.

OK
This button is used to start the selected cycle or to confirm the access to a page while scrolling the menus.

GELATO PRODUCTION
If the Gelato Production button is pressed the display will read:

* GELATO SORBET

Use the Increase and Decrease buttons to move the asterisk alongside the required cycle.
The available cycles are:
- Gelato
- Sorbet
- Fruit Slush
- Gelato Crystal
- Fruit Crystal

Press OK to start the selected cycle.

EXTRACTION
This function can be accessed at the end of all Gelato and Fruit Gelato cycles.
In this function the relevant LED turns on, only the slow beater motor is activated, the display shows the time count-down.

EXTRACTION Speed 2

To stop the beating, press STOP or wait 3' (fixed).
From the Extraction mode it is possible to access the Cooling Extraction function pressing the Gelato (Ice cream) Production button . In this case the Production LED turns on for 20" (fixed) at the end of which the machine goes back to the simple extraction, unless the 3 total extraction minutes are over, in which case the machine passes to the STOP mode.

Press the Increase button to activate the fast beater. To activate the slow beating again press the Decrease button.

3.4 GELATO PRODUCTION

After washing, sanitizing and thoroughly rinsing the machine right before its use, according to the instructions provided in chapter 5 “Cleaning”, make sure the spigot door and the ice cream outlet spigot door are perfectly closed and proceed as indicated below:

extract the mix, pour the desired quantity inside the cylinder through the spigot door loading hopper by respecting the minimum and maximum quantities indicated in the table in paragraph 1.2.2.
If the Gelato Production button is pressed the display will read:

```
* GELATO
  SORBET
```

Use the Increase and Decrease buttons to move the asterisk alongside the required cycle.
The available cycles are:
- Gelato
- Sorbet
- Fruit Slush
- Gelato Crystal
- Fruit Crystal

Press OK to start the selected cycle.

Gelato and Sorbet
The product is cooled in the cylinder till its consistency value is reached. Based on the selected cycle, Gelato or Sorbet, a suitable consistency set value is set automatically.

In the case of the Gelato cycle, the display shows:

```
SET  100
GELATO  005
```

Whereas in the case of the Sorbet Cycle, the display shows:

```
SET  060
SORBET.  005
```

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

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

```
060  20:00  020
GELATO  033
```

On the first left line the display shows the Hot Timer and in the middle the Timeout Prd and on the right side the hopper temperature. 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:

```
EXTRACT !
GELATO  100
```

Fruit 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 modified, during the freezing cycle, with the Increase and Decrease button 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.

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 FR.CRYS.046

The set can be changed using the Increase/Decrease buttons (minimum settable value = 35).
When reaching the consistency, the compressor is disabled for 20” before bringing the product back to 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

ATTENTION
To extract the product, apply a spacer to the spigot door as indicated in paragraph 3.4.4

Press OK 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.

3.4.1 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).
- 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.

3.5 USER PROGRAMMING

To access User Programming with the machine in STOP mode, press buttons **STOP** and **DECREASE** and keep them pressed simultaneously until the display shows “Manager Menu”. Then, the display shows some sub-menus which can be selected with the Increase/Decrease buttons:
- Date
- Time
- Time format
- Alarms
- Info
- Language
- Proc. Autosetup
- Temp. Scale

To access a sub-menu, press OK.

If a sub-menu contains editable values, the Increase and Decrease button LEDs will turn on and the value can be modified by pressing such buttons.
To select different values, press OK in the sub-menu.

The exit is automatic without pressing any button after 60" or by pressing the Stop button.

User Programming Map

Date
Time
Time format
Alarms
Info:
- Machine Model
- Software version

Language
Process Autosetup
Temp scale (°C/°F)

Date	Set Date Jan 01 2000
Once OK is pressed, the display shows an arrow towards the month that can be changed with the Increase and Decrease buttons. Press OK to pass to the next value.	Set Date →Jan 01 2000
When changing the year, press OK to save the date.	Set Date Dec 12 →2018

Time	Set Time 15:25:00
The time modification procedure is like that for the date.	Set Date →Jan 01 2000

Time Format	Set Time F. 24h
Use the Increase and Decrease buttons to select the time format.	
Press OK to save the selected time format	Set Time F. 12h

Alarms	
List of triggered Alarms it is possible to scroll through the alarms by pressing the Increase and Decrease buttons. The second line shows the alarm number and the total number of alarms occurred at the same time. By pressing on Stop, you go back to the User menu and you delete the alarms that have been restored in the meantime. When an alarm is triggered, this alarm page opens automatically. By pressing on Stop it is possible to reset the triggered restored alarms, whereas for those still active a timer is activated. When the time is out, the alarm/s will be displayed again.	Spigot Opened 1/5

Events	
By pressing the Increase and Decrease buttons, the display passes from one available window to the other.	
The event number is displayed for one second	5/270 Stop
After 1 second, the display shows date and time with the relevant event	14Jan18 15:22:34 Stop
Press Stop to quit	

Info	Machine Model Sw version
The display shows the machine model set in the technical programming and the software version installed in the control unit	

Language	Language Selection
Language Selection (Eng, Ita, Fra, Deu, Esp, Por, Jpn) with Increase/Decrease. Confirm with OK. To quit press Stop.	

Process Autosetup	
Press OK	Process Autosetup
	Process Autosetup? OK=Yes Stop=No
Select OK to perform the process Autosetup that sets all default values of the cycles (time, temperatures, HoT). Select STOP to cancel the operation	

Temp. scale	It sets the scale Celsius
Press Increase/Decrease to set °F Press OK to save the set scale. Press Stop to quit.	It sets the scale Fahrenheit

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 **STOP** button. If the alarm will not reset, this means it is still active.

Available alarms are listed in the table below:

Drive Alarm	Drive Brushless Alarm Contact the technical assistance service.
MA Curr. Absor.	Beater Inverter/Brushless motor overcurrent alarm (MA) Check the motor or compressor and the relevant wiring
Jumper Overh.	Driver jumper overheat alarm Driver overheat due to high temperature.
CE Driver	Driver - motor communication alarm Check the modbus connection between driver and motor
MA missing phase	Beater Inverter/Brushless motor missing phase alarm (MA)
Blackout	Power Off The blackout is recorded only in the events.
Stuck motor	Beater Brushless motor failure Check the motor or compressor and the relevant wiring
Spigot Opened	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.

Pressure switch	Pressure switch This alarm stops the compressor. If pressure switch trips 3 times (value that can be set) 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.
Power back on	Power 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.
Tamb Probe	“TAmb" temperature probe switched off or short-circuited. The alarm does NOT Stop the machine. Check TAmb temperature probe and replace it if necessary. If this alarm is triggered, the fan speed switches to the default value.
TEC probe	"TEC" temperature probe switched off or short-circuited. Active heating cycles and Delayed Cleaning alarm. This alarm triggers machine Stop. As long as alarm is active, none of the above-listed cycles can be started. Check TEC temperature probe and replace it if necessary.
TOC probe	"TOC" temperature probe switched off or short-circuited. The alarm does NOT Stop the machine. Check TOC temperature probe and replace it if necessary. If this alarm is triggered, the fan speed switches to the default value.
MA overcurrent	Beater Inverter/Motor overload alarm (MA) Check the motor or compressor and the relevant wiring
MA overheat.	Beater Inverter/Brushless motor overheating alarm (MA). Check the motor or compressor and the relevant wiring
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.
Timeout Cooling	Cooling Timeout It triggers when the machine, during cooling, does not reach the programmed set within one hour. One of the possible causes for this type of problem could be no gas in the system.

4.2.1 Blackout

In case of power blackout, then the machine switches back on in Stop mode and shows “Power back on”.

5. CLEANOUT DISASSEMBLING AND REASSEMBLING OF PARTS IN CONTACT WITH THE PRODUCT

5.1 GENERAL DESCRIPTION

Cleaning and sanitization 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 utilize 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 oxidizing 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 the disposable gloves and replacing them when required.
- To wash the parts use a non-aggressive cleaning solution and the brushes supplied, previously sanitized.
- Wash (manually) the parts in water (max 60°C), using a non-aggressive detergent and the supplied cleaning brushes.
- To rinse them use drinkable water (bacteriologically pure).
- For the disinfection, keep the disassembled parts in lukewarm sanitized water for the time indicated on the label of the product used, use the supplied cleaning brushes to forcefully brush all components and the holes present on the components, then rinse them using drinkable water (bacteriologically pure).
- At the end of the washing, and before repositioning each component, dry everything with a soft and clean cloth, suitable for food contact, to avoid any type of humidity rich in mineral salts and chlorine from building up on the metal surfaces and leaving opaque traces.
- Place the components on a clean and sanitized tray to air-dry.

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

WARNING

Every time the machine is washed and its parts that come into contact with the ice cream mix are disassembled it is essential to carry out a visual control of all the parts manufactured in thermoset materials and metal such as sliding shoes, pump gears, beaters, etc. All parts must be integral and not worn, without cracks or splits, or opaque if originally polished/transparent.
Carpigiani declines all responsibility for any damage caused by imperfections and/or undetected breakages and not promptly solved by the substitution of original spare parts and is available for consultation and for any specific requests made by the customer.

5.4 HOW TO USE CLEANING/SANITISING SOLUTION

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

Washing/sanitisation by immersion of components
- Remove larger residues by hand
- Remove finer residues with water jets
- Soak the assembled parts to clean in the solution
- Use the supplied cleaning brushes to forcefully brush all components and the relevant holes.
- Allow the solution to work for the time indicated on the label of the product used
- Rinse the parts with care, using plenty of drinkable water

5.5 OUTSIDE CLEAN OUT

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 CLEAN OUT

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

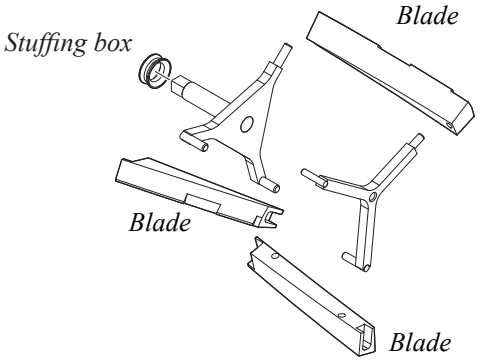
5.7 BEATER DISASSEMBLY

Remove the agitator by pulling gently outwards.
Be careful not to damage 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.

When reassembling the beater, catch it with both hands and push it to the bottom and at the same time let it turn in order to fully insert the beater shaft into its seat.

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



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

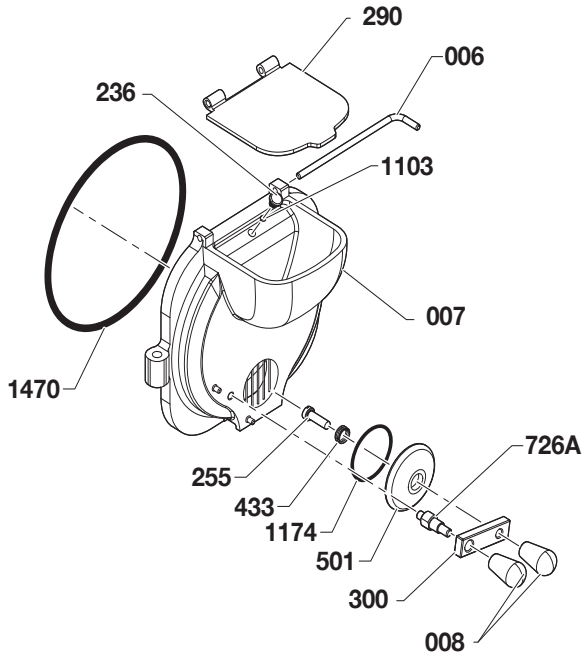
Stuffing box must be replaced with an original spare part each time ice cream drops are found on withdrawing drip drawer placed at the machine side.
Keeping on operating the machine after finding ice cream drops brings about a bigger leakage from stuffing box, thence a malfunctioning of the machine which 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 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 THE COMPONENTS

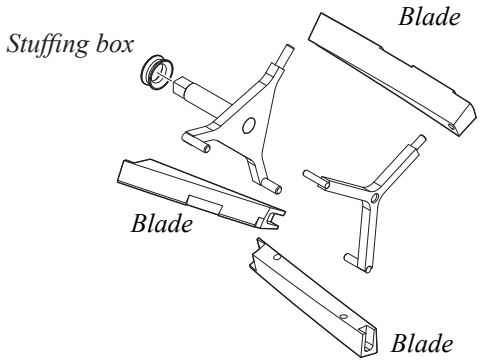
1. Remove larger residues by hand.
2. Remove finer residues with a jet of water
3. Soak the parts to be cleaned in the cleaning/sanitizing solution.
4. Use the supplied brush to forcefully brush all the components and relevant holes.
5. Leave the cleaning/sanitizing solution to work for the time indicated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

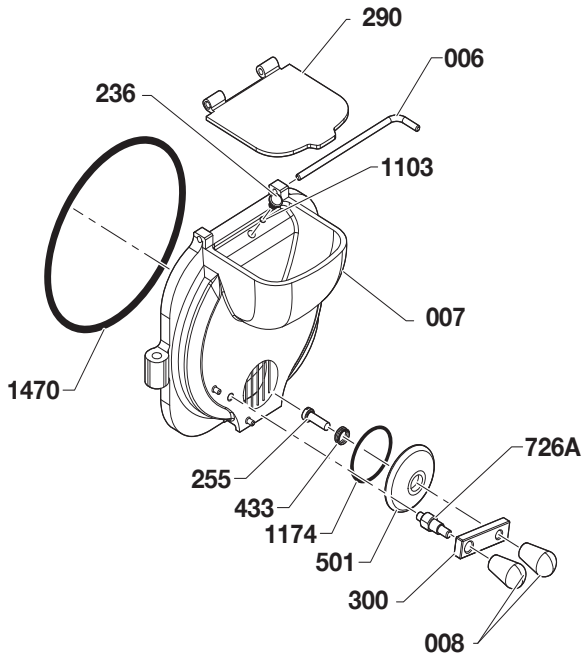
Smear seal with a thin layer of food-grade lubricant and refit it on beater shaft.
Refit blades.



When refitting the beater, grasp it with both hands, 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 output 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

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

Operations necessary to proper machine running are such that most of servicing is completed during production cycle. Servicing operations, such as cleaning of parts in contact with the product, replacing of stuffing box, disassembling of beater assembly are to be carried out at the end of a working day, so as to speed up serving operations required.
Herebelow you can find a list of routine servicing operations:

- **Cleanout and replacement of stuffing box**
  Cleaning should be carried out at the end of a working day, whilst replacement only after checking of stuffing box and in the event product drips inside drip drawer.
- **Cleanout of beater**
  At the end of a working day
- **Cleaning of spigot door**
  It must be carried out at the end of each shift.
- **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.

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 clean out, 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

6.5 ACCESSORIES KIT

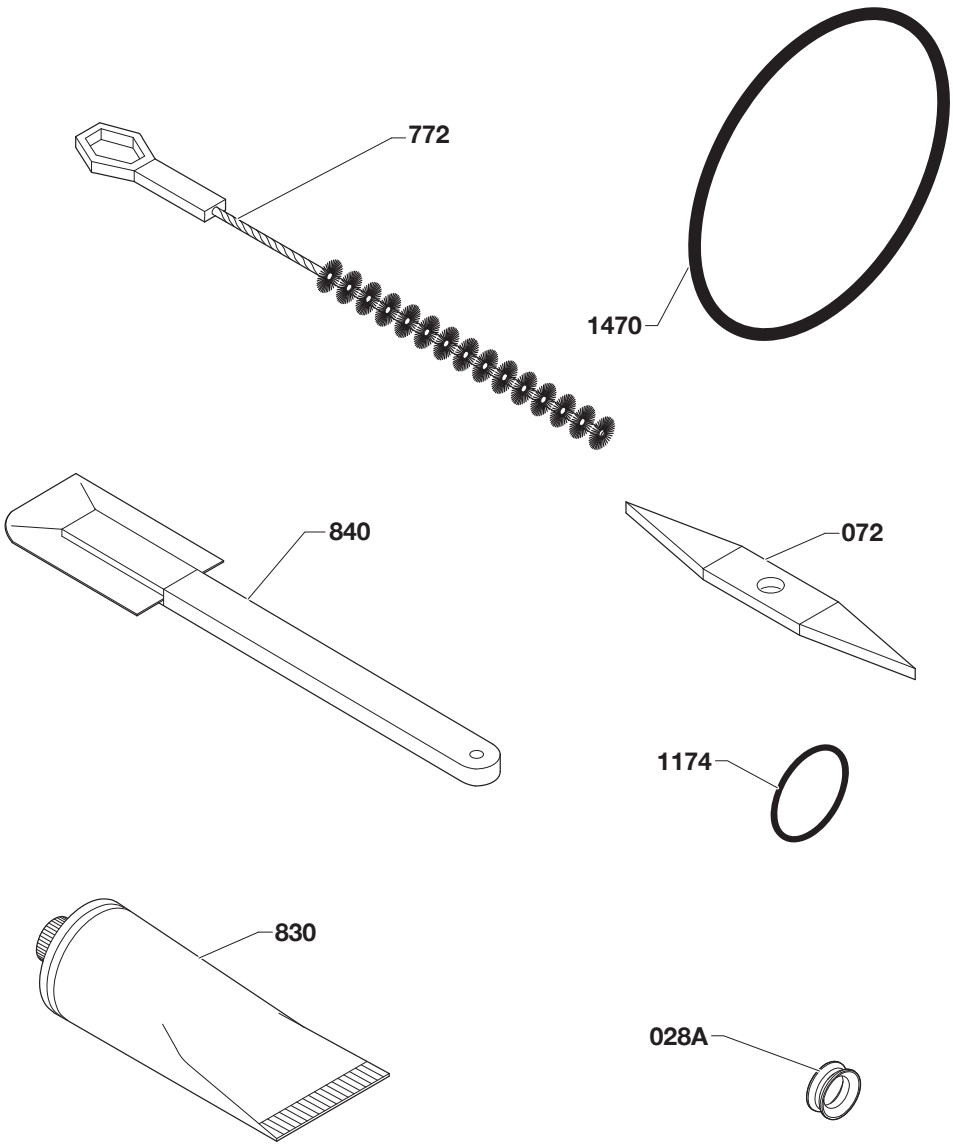


Fig. 15

Description	Position number
Beater stuffing box	28A
O-ring extractor	72
Brush	772
Food-grade lubrificant tube	830
Ice cream spatula	840
Spigot seal	1174
Spigot seal	1470

7. TROUBLESHOOT GUIDE

IRREGULARITY	CAUSE	PROCEDURE
Machine does not start	Machine unplugged.	Check and plug in.
	Front lid is not closed well.	Check front lid closure.
Compressor starts and then stops after a few seconds without ice cream being thick	Watercooled machine: water does not circulate.	Open water tap.
		Check that hose is neither squashed nor doubled up.
	Aircooled machine: air does not circulate	Check that rear of machine is at least 50 cm from wall.
		Clean condenser from obstructions.
After 30 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.
Mix in drip drawer	Stuffing box missing or ruined.	Install if missing. Replace if ruined.
Ice cream comes out from behind front lid	Gasket missing or not properly installed.	Check and fix or replace.