

**INSTRUCTION HANDBOOK**  
**193 SP/USA G**

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 9001:2008 Certified Quality System.

Moreover, **CARPIGIANI** machines comply with following European Directives:

- “Machinery” Directive 2006/42/EC,
- “Low Voltage” Directive 2006/95/EC,
- “EMC” Directive 2004/108/EC,
- “PED” Directive 97/23/EC,
- Regulation 2004/1935/EC relating to “Materials and articles in contact with foodstuffs”

## **CARPIGIANI**

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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 characterizing **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 start-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.

**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**

The staff involved is warned that the non-observance of warning may cause loss of data and damage to the machine.



### **PROTECTIONS**

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

### **SYMBOLGY OUALIFICATION OF THE STAFF**

The staff allowed to operate the machine can be differentiated by the level of preparation and responsibility in:



### **MACHINE OPERATOR**

Identify unqualified personnel, those without any specific technical abilities who are 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, controls of the instrumentation, etc.).



### **MAINTENANCE ENGINEER**

He/she is a skilled engineer for the 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 the manufacturer assigned to field 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 drive mechanisms (rotary motion), high voltage components, as well as parts subject to high temperatures may cause serious damage to persons and things.

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

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

To achieve the above, the following is necessary:

- at the working place an instruction manual relevant to the machine should be available;
- such documentation must be carefully read and requirements must consequently be met;
- only adequately skilled personnel should be assigned to electrical equipment;

### IMPORTANT!

One must be on the look-out that the staff does not carry out any operation outside its own sphere of knowledge and responsibility (refer to "Symbology qualification of the staff").

#### NOTE:

*According to the standard at present in force, a SKILLED ENGINEER is who, thanks to:*

- *training, experience and education,*
  - *knowledge of rules, prescriptions and interventions on accident prevention,*
  - *knowledge of machine operating conditions,*
- 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.*

## WARNING

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 data plate and with contact opening of 3 mm at least.

- Never put your hand into the machine, alike during production and cleaning operations. Before carrying out any maintenance operation, make sure that the machine is in "STOP" position and main switch has been cut out.
- It is forbidden to wash the machine by means of a bolt of water under pressure.
- It is forbidden to remove panels in order to reach the machine inside before having disconnected the machine.
- **CARPIGIANI** is not responsible for any accident that might happen during operation, cleaning and/or servicing of its units, if this warning has not been fully complied with.







## 1. GENERAL INFORMATION

### 1.1 GENERAL INFORMATION

#### 1.1.1 Manufacturer's identification data

The machine has a data plate carrying manufacturer data, machine type and serial number, assigned when it is manufactured.

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

MODEL NO. _____			
SERIAL NO. _____		DATE _____	
VOLTAGE _____		PHASE _____ HZ _____	
CIRCUIT BREAKER/FUSE SIZE _____ AMP			
MINIMUM CIRCUIT CAPACITY _____			
	RESTING PRES.	OPERATING PRES.	
HIGH SIDE PSIG			
LOW SIDE PSIG			
REFRIGERANT _____		AMOUNT _____ OZ	
	BEATER	COMPRESSOR	FAN
QTY			
JP			
FLA			
LRA			

#### 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

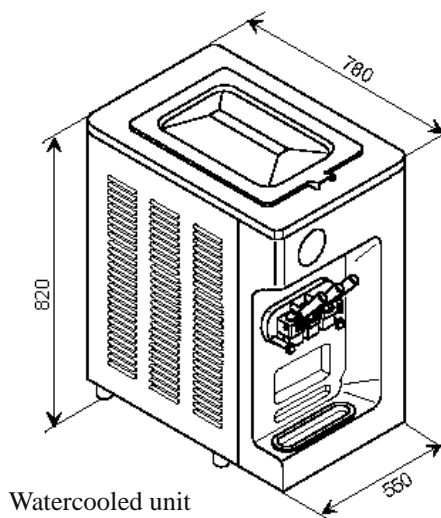
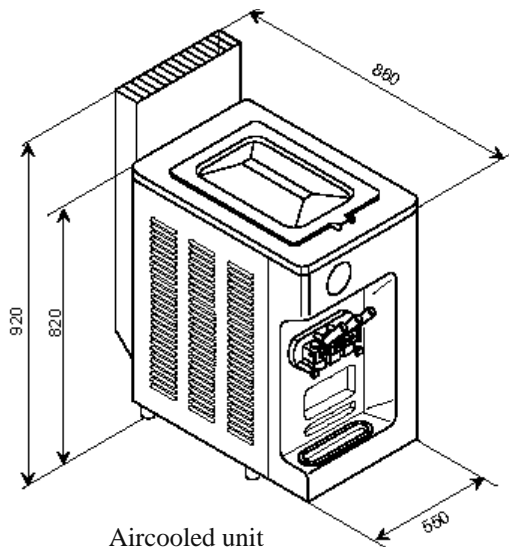
Counter-top machine to immediately produce and distribute soft express ice cream in two flavours + mixed,

**CARPIGIANI** recommends to always use high quality mix for ice cream production in order to satisfy your customers, even the most hard-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 recipes, by adding, for instance, water or sugar.
- Taste ice cream before serving it and start selling it only if entirely satisfactory.
- Make sure your staff always keeps the machine clean.
- Have your machine serviced always by companies authorized by **CARPIGIANI**.

**1.2.2 Machine layout**



**1.2.3 Technical features**

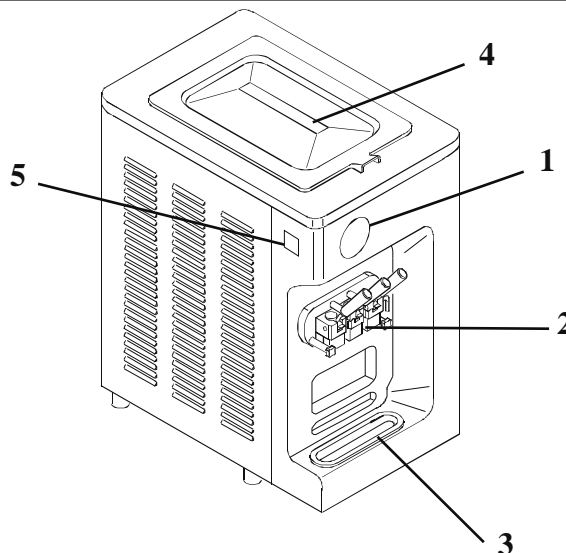
MODEL	Hourly production *	Hopper capacity liters	Flavors	Electrical supply			Installed power kW	Net weight kg
				Volt	Phase	Cycle		
193 P/SP N air	35 Kg	12 + 12	2 + mixed	400	3	50	4,4	173
193 P/SP N water	35 Kg	12 + 12	2 + mixed	400	3	50	4,1	173

\* The hourly production and the mix quantity for each ice cream can vary, according to the temperature and the type of mix used and the increase in volume (over-run) desired.

## 1.2.4 Machine sets location

Legend:

1. control panel
2. Freezing cylinder front lid
3. Drip tray shelf
4. Mix tank cover
5. Drip drawer



## 1.3 INTENDED USE

The machines must be used solely for the purpose described in chapter 1.2.1, “General information” within the functional limits described below.

Voltage	±10%
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	0,8 MPa (8 bar)
Max relative humidity	85%

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

## 1.4 NOISE

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

## 1.5 STORING A MACHINE

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

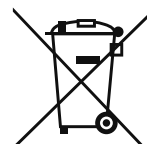
## 1.6 DISPOSAL OF PACKING STUFFS

When opening the packing crate, divide packing stuffs per type and get rid of them according to laws in force in machine installation country.

## 1.7 WEEE (Waste Electrical and Electronic Equipment)

In conformity with the European Directives 2006/66/EC, on batteries and accumulators and waste batteries and accumulators, and 2002/96/EC, also known as WEEE, the presence of the symbol on the side of the product or packaging means that the product must not be disposed of with normal urban waste. Instead, it is the user's responsibility to dispose of this product by returning it to a collection point designated for the recycling of electrical and electronic equipment waste. Separate collection of this waste helps to optimize the recovery and recycling of any reclaimable materials and also reduces the impact on human health and the environment.

For more information concerning the correct disposal of this product, please contact your local authority or the retailer where this product was purchased.





## 2. INSTALLATION

### 2.1 ROOM NECESSARY TO THE MACHINE USE

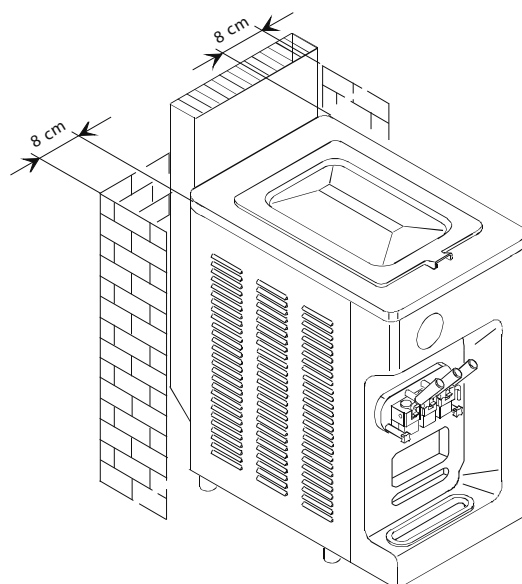
The machine must be installed in such a way that air can freely circulate allaround. Rooms for the approach to the machine must be left free in order to enable the operator to act without constraint and also to immediately leave working area, if need be.

#### ATTENTION

**MACHINES WITH AIRCOOLED CONDENSER must be installed no closer than 8 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 aircooled condenser must be installed no closer than 8 cm to any wall in order to allow free air circulation around the condenser.

#### NOTE

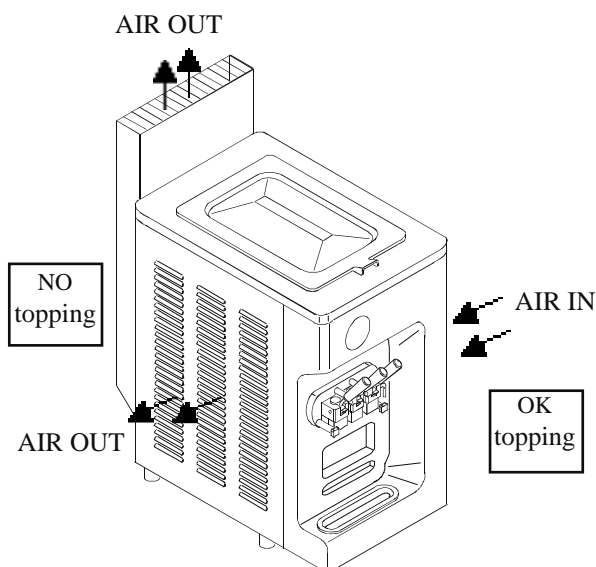
*An insufficient air circulation affects operation and output capacity of the machine.*

#### 2.2.1 Airflow

The **CARPIGIANI 193 P/SP N** machine is provided with an internal fan motor which takes fresh air from the right panel of the machine and exhausts the heated air through the left panels and through the stack on the rear of the machine

#### IMPORTANT

**Do not place topping containers, syrup containers or other products, in front of the left panel of the machine because the hot air flow increases the temperature of the products or may melt them.**





## 2.3 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 1 Bar at least and a delivery at least equal to the estimated hourly consumption. Connect inlet pipe marked by plate “Water Inlet” to water supply installing a shut-off valve, and outlet pipe marked by plate “Water Outlet” to a drain pipe, installing a shut-off valve.

### 2.3.1 Water valve adjustment

#### WARNING

If water valve must 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.**

## 2.4 ELECTRIC CONNECTION

Before connecting the machine to the mains, check that machine voltage indicated in data plate corresponds with the mains (see sec. 1.1.1 point C).

Insert a differential magnetothermal protection switch adequately sized to absorption capacity required (see sec. 1.1.1 point D) and with contact opening of 3 mm at least.

#### WARNING

**Yellow/green ground wire must be connected to a good ground outlet.**

#### Rotation direction by three-phased machines

The beater rotates anticlockwise.

#### Reversing rotation direction

To reverse the direction rotation, when wrong, it is necessary to interchange two of the three leads coming from the circuit breaker.

### 2.4.1 Replacement of power supply cord

If the machine main cable is damaged, it must be replaced through a cable with similar features. Replacement will have to be carried out by skilled technicians only.

## 2.5 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.

## 2.6 MACHINE TESTING

A postproduction test of the machine is carried out at **Carpigiani** premises; Operation and output functionality of the machine are thoroughly tested. Machine test at end user's must be carried out by skilled technicians or by one of **CARPIGIANI** engineers. After the machine positioning and correct connections, also carry out all operations necessary to functional check and test of the machine.



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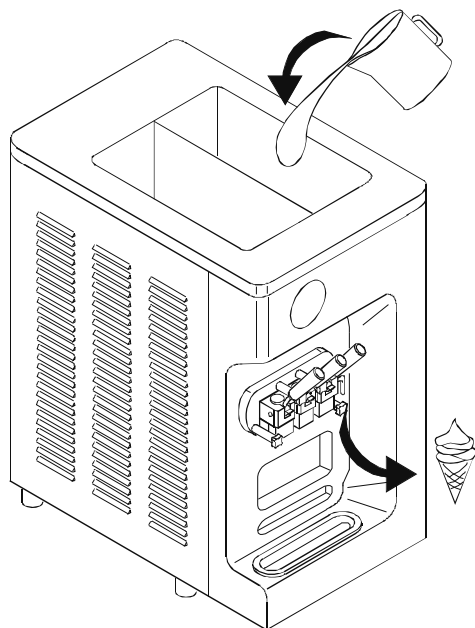
CARPIGIANI



### 3. DIRECTION FOR USE

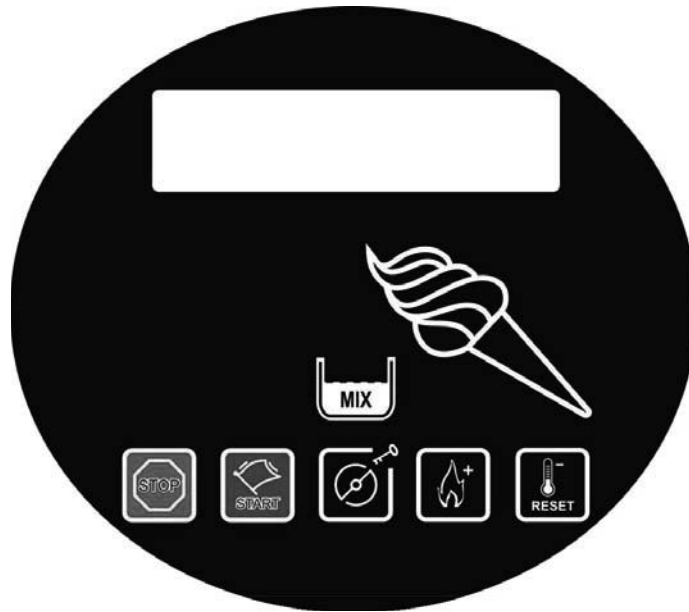
#### 3.1 MACHINE CONFIGURATION

The machine has a motor to drive the beater, and a cooling system with water or air condenser. **Soft ice cream is prepared by filling the tanks with cold mix (+4°C) and starting the automatic production cycle, until the ideal ice cream consistency set by CARPIGIANI is reached.** Thanks to the pump, the mix enters the freezing cylinder already mixed with air; ice cream is produced only when it needs to be served. The spigot head allows a single portion of soft ice cream to be distributed. At the same time, the same amount of mix moves from the tanks into the freezing cylinders.



### 3.2 ELECTRONIC CONTROL KEYBOARD AND BUTTON FUNCTIONS

Details of the panel are shown in the picture below.



#### Display

On turning the machine on and during its operation, a series of messages are displayed on the screen.

#### Led indicators

The led indicator lights up when the function corresponding to the symbol next to it is activated.



#### STOP key

In this function, your machine is off and relevant led (backlighted) is on. From Stop position you can enter in any machine function. For the change, IT IS always NECESSARY to first return to STOP. On the display:

10:33:21 Fri

To set the machine at Stop from Production, Pasteurization and Storage modes, it is necessary to press the key and hold it some 2" down. In this way you will avoid wrong pressures caused by "touching".

If you leave the machine in Stop when mix is above the level, the message "Why in STOP ???" will be displayed after 30" so as to alert the user to set the machine at Production, Pasteurization or Storage modes.



#### PRODUCTION key

The function of Production can only be entered if the mix has not reached the low level. The product is cooled in the cylinder till its programmed consistency value is reached (HOT).

During the ice cream production, as soon as the mix reaches the tank low level, the display will show the message "Aggiungere Mix - Add Mix", so allowing a programmed number of cones to be served.

After that, the machine will automatically pass to the Storage mode.

As soon as you enter in Production, you also enter in a menu through which you can set the type of product you may wish to serve from each of the two sides, i.e., SoftIce (custard) or WaterIce (fruit); you now have following display:

Custard Custard





This window shows the type of product served from each of the two sides:

SoftIce (left) = side 1 produces Softice

SoftIce (right) = side 2 produces Softice

The so illustrated page is the first one in the menu; by pressing Production you enter in following combinations:

Water Ice    SoftIce    (waterice in side 1 and softice in side 2)

SoftIce      WaterIce    (softice in side 1 and waterice in side 2)

WaterIce    WaterIce    (waterice in both sides)

Once the desired combination has been displayed, you shall wait for 3 seconds (no key needs be pressed) and the machine will automatically enter in the selected type of production, so loading relevant settings.

You will automatically enter in Production mode, now, and the display will be as follows:

Ice cream Ready!  
Wash in 14 days

The first line indicates whether ice cream is ready to be dispensed (Icecream Ready!) or not yet (Do not Serve!).

If the message is Do not Serve!, it means that ice cream has not yet reached its programmed consistency and you shall consequently wait .

The first line indicates the number of days to next machine wash. The example above shows there are 14 days to next wash.

By pressing Production you pass to the various “windows” or screens hereafter described:

Hopper ↓ +014°C  
↓ +015°C ↓ +013°C

The first line (top) of this window shows the Hopper temperature:

↓ = on, when cooling the hopper +014°C=temperature in the hopper (TEV)

The second line shows the temperature of the two Cylinders:

↓ left = on, when cooling the cylinder 1 +015°C=temperature in cylinder 1 (TEC1)

↓ right = on, when cooling cylinder 2 +013°C=temperature in cylinder 2 (TEC2)

Set=100 Set=100  
Hot=085 Hot=085

The first line (top) of this window shows the following:

Set=100 : Set HOT of both side (left side 1, right side 2)

The second line shows the following:

HOT=085: reading of current consistency in the cylinders of both sides

Today's Cones  
12345

This window shows the Cones of the day (starting 0:00 to 23.59):

12345 = number of cones dispensed in the day

Total Cones  
0923456780

This window shows the Total Cones

0923456780= number of total cones dispensed

TC1 +013 TC2 +013  
TE1 -012 TE2 -012



This window shows the sensors (neither °C nor °F are displayed):

TEC = Cylinder Thermostat (1 = side 1, 2 = side 2)

TE = Evaporator Thermostat (1 = side 1, 2 = side 2)

TEV+014 TGV-022

This window shows sensors TEV and TGV (neither °C nor °F are displayed):

TEV = TGV hopper thermostat = thermostat hopper defrost

By pressing Production again, you return to the starting screen.



#### CLEANING key


By pressing this key, the beater will run 30 seconds. This is a timed function which automatically ends when the programmed time (30 seconds) ends.

This machine has an automatic system commanding the wash of parts in contact with food products every 14 days. This system, called "WASH", inhibits the production at the end of the 14th day.

#### Function KEYBOARD LOCK

In order to clean the keyboard with a clean cloth, it is recommended to lock the keys on the board as follows:



Press the key  3 seconds, the check lamp will blink to indicate that the keyboard is now locked. You can clean it, now, with no risks. To unlock, press again 3 seconds and the check lamp will switch off.



#### PASTEURIZATION key

This program will never start if the mix in one of the hoppers has reached the low level. If both sides are active, mix must reach both levels.

**AUTOMATIC PASTEURIZATION CYCLE:** while the machine is in production mode and the mix is over the mean level, the automatic heat treatment cycle will automatically start at a certain time (as a rule, at 2,00).

During the Pasteurization cycle, the mix in the hopper and in the cylinder is heated till 65°C are reached, it is then held at this temperature for 30 minutes and, last, cooled down to 4°C.

At the end of the cycle, the display shows the message "Pasto End" as well as the date and time of operation end. The machine will then automatically pass to the STORAGE function.

For icecream to be served, press STOP and soon after PROD.

Manual start of the Pasteurization process (if the step "Pasto Start Time" has not been set) requires you to press the Pasteurization key and hold it 5 seconds down.

#### NOTE:

*At the end of production, for execute a pasteurization, you must turn the slider of the feeding tube, so that to close the hole on the feeding tube; conversely at the end of pasteurization, you must turn the slider of the feeding tube in the desired position for production (big hole or small hole).*

#### NOTE:

*Once it has started, the pasteurization cycle cannot be stopped. The complete cycle takes about 2 hours. During the heat treatment and Pause, the mix inside the machine is very hot, so neither try to take it out, nor to disassemble the machine.*

#### WARNING

**Neither serve ice cream, nor disassemble the machine during the heat treatment because the product is very hot and under pressure.**



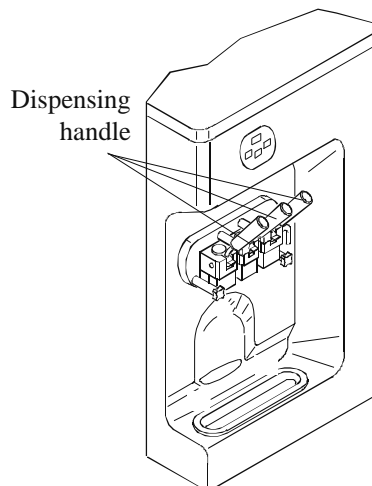
#### STORAGE key

By pressing the Storage key, the product is conveyed into the hopper and into the cylinder at a temperature of 4°C.



### 3.3 SPIGOT HANDLE

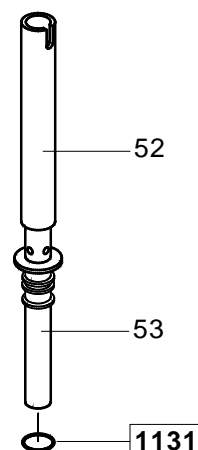
In order to dispense the product, place a cup or a cone under the spout and slowly pull down the dispensing handle. As soon as the product comes out, twist the cup or the cone to form a cone-shaped serving. When the portion has reached the desired size, close the dispensing handle and quickly pull the cone or the cup down in order to sharpen the tip.



### 3.4 FEEDING NEEDLE

How to obtain and how to keep quality performances.

1. Maintain a big mix level inside the hopper (above the half of the hopper itself). Mix temperature inside the hopper is +39°F both during production and storage
2. During the day the mix must periodically be stirred by use of a plastic spatula to avoid separation, particularly when product has not been dispensed over a long period and the machine has been in "storage" mode for a long time.
3. A fluid mix without particles has to be used. A thick mix with big particles could close the slot of the feeding needle thus blocking mix from entering the cylinder.
4. Keep the feeding needle slider (pos. 52) in a position as to allow for a smooth mix flow from the hopper. By rotating the slider slot to the whole with smaller diameter, the quantity of mix to the tank will decrease, and vice versa.
5. Set the feeding needle in such a way that inlet hole is turned towards the middle of the tank.
6. Never exceed production limits in kilograms declared by Carpigiani, and dispense cones and cups in the most regular way. If limits in production capacity as specified by Carpigiani are exceeded the machine could stop. In this case appear on the display the alarm signal "ICE". If this occurs to reset the machine please operate as follow.
  - stop the machine (pressing the push button to the STOP position)
  - remove the feeding needle to enable a quick drop of the mix into the cylinder
  - set machine in the "cleaning" position for a few minutes
  - make sure that the product coming out for the spigot body when dispensing is liquid
  - position the feeding needle again making sure the slider is sufficiently open
  - start the machine putting it in the "production" mode. Do not start dispensing product from the machine until the production cycle has been completed.





### 3.5 PRELIMINARY OPERATIONS, WASHING AND SANITIZING

Before starting the machine for the first time, it is necessary to thoroughly clean its parts and sanitize all parts coming into contact with the mix (see Sect. 5).



### 3.6 STARTING THE MACHINE

After installing the machine according to the instructions given in the chapter **INSTALLATION**, and after carefully cleaning and sanitizing the machine, proceed as follows:

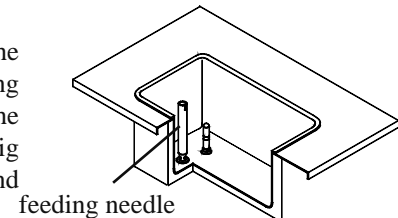
Remove the feeding needle from tank bottom and place it in the sanitizer solution.

Prime Hopper :

- Retrieve 1 bag of mix from the walk-in refrigerator.  
NB.: Mix to be poured at a temperature of 41° F.
- With the draw handle open, pour one bag of mix into the hopper allowing it to drain into the freezing cylinder. Mix level in the tank must never exceed feeding needle height (see picture) and more mix must be added when level goes below about 1 inch. from tank bottom.
- When only full strength mix (not mix and sanitizer) is flowing from the draw spout, close the draw handle.

Connect the feeding needle:

- When the mix stops bubbling from the bottom of the hopper, take the mix feeding needle from the sanitizing solution and insert it in its position in the bottom of the hopper, turn the slider in the desired position (big hole, small hole). Make sure your hands are clean and sanitized.
- Select production function to start the Automatic freezing operation.
- Replace the hopper cover.




### 3.7 PRODUCTION



Dispense ice cream without exceeding maximum production rate, as shown in the page 10 table; if you keep within this rate of production and refill the machine with fresh mix, the machine will never stop functioning, even during rush hours.

When the display indicates **MIX OUT RIGHT**, it means that the mix has reached the lowest level in the right hopper and it is necessary to add mix, otherwise the machine will dispense 5 cones, max, and then will automatically set at the Storage mode. If the mix in the right tank is low, the display indicates **MIX OUT LEFT**, if both levels are low the display indicates anyway “**MIX OUT**

**LEFT**”, the led  lights up and an acoustic signal will play uninterruptedly.

Out of business hours, keep machine set at **STORAGE** by pressing the **STOP** key and the **STORAGE** key. You will also save a lot of electricity because the compressor runs only when necessary in order to store the product at the right temperature. On reopening, just set the machine at **PRODUCTION** and within a few minutes the machine will be ready for service.

If, after a power failure, the machine has not worked a long time, it is indispensable to check the product temperature before starting service again; if it is above +6°C, empty, wash and sanitize the machine, last refill it with fresh mix at +4°C.

The function of **PRODUCTION** is further consisting of 4 functions for different product combinations in both tanks. These functions can be selected by pressing more and more the **PRODUCTION** key after entering in the same function, within 30 seconds.

Functions list:

Left side	Right side
CUSTARD	CUSTARD
CUSTARD	FRUITE
FRUITE	CUSTARD
FRUITE	FRUITE

### 3.8 PASTEURIZATION

This machine is pre-set to the daily automatic execution of both tanks and cylinders mix Pasteurization. Product inside the tank must anyway be over the half of tank capacity (level covered). The machine automatically executed heating and cooling programs and then stores the product at +4°C. This Pasteurization can anyway be executed manually: to this purpose, it is necessary to first press STOP and then act on the SELECTION key till the PASTEURIZATION led will switch on. In the event of a black-out during the pasteurization cycle, the machine will automatically carry out the program. On reopening your shop, press STOP and then select the production function; within a few minutes ice cream will reach its right consistency to be served. In the event of extended power failure, it is utmost necessary that, before dispensing ice cream again, the temperature of the mix inside the tank is checked, so as to pasteurize the mix in case it is beyond 6°C. If the power failure lasts several hours, it is then necessary to clean the machine and refill with fresh mix.

**NOTE:**

*At the end of production, for execute a pasteurization, you must turn the slider of the feeding tube, so that to close the hole on the feeding tube; conversely at the end of pasteurization, you must turn the slider of the feeding tube in the desired position for production (big hole or small hole).*

### 3.9 OPENING PROCEDURES

**ATTENTION**

**Ensure that your hands are thoroughly clean and sanitized before proceeding with the following operations.**

- Check that the Pasteurisation cycle has been totally completed and that the message “END” has appeared on the display. This message indicates that the pasteurisation process has been completed correctly without interruptions and the machine is ready for production. Press the Stop key and put the machine into production.

**ATTENTION**

**If the Pasteurisation cycle has not been completed, the machine is blocked and access cannot be gained to production. The mix has not been correctly pasteurized. Check why the pasteurization has not been carried out by reading the alarm messages on the display.**

**If necessary, contact Technical Assistance.**

**Press the Stop key and the arrow key to select the pasteurization function and carry out a manual pasteurization cycle. If the pasteurization cycle is completed successfully, the blockage automatically resets and the machine is ready to start production. No product can be dispensed during the pasteurization cycle.**

- *Turn the slider of the feeding tube in the desired position for production (big hole or small hole).*

#### 3.9.1 Sanitization of the lid area

- Fill a bucket with sanitising solution. Immerse the brush into the sanitising solution and accurately clean the dispenser zone, the dispenser spouts, the handles and the area surrounding the pistons.
- Spray sanitizing solution over the tap zone, handles, dispenser spouts and inside the lid holes.

**ATTENTION**

**Do not spray sanitising solution directly onto the photocell underneath the door.**

#### 3.9.2 Disassembly and cleaning of components

Remove the drip tray, the drip drawers and the tank cover. Wash, rinse and sanitise them. Reassemble the components after sanitisation.



#### 3.9.3 Reassembly of components

Reassemble the drip tray, the drip drawers and the tank cover after sanitization.





### 3.9.4 External cleaning of the machine

Using a clean and sanitised cloth, clean the door area, the front panel and any other areas that come into contact with the product.

## 3.10 CLOSING PROCEDURES

### ATTENTION

Ensure that your hands are thoroughly clean and sanitized before proceeding with the following operations.

### 3.10.1 Prepare the machine for a pasteurisation cycle overnight

- Open the lid and check the level of mix in the tank.
- Add mix if necessary. The LED of the tank level indicator must be off. The level of the mix in the tank must never reach the pump.
- Turn the slider of the feeding tube, so that to close the hole on the feeding tube;
- Ensure that the machine is in Distribution mode (the relative LED must be alight).



### 3.10.2 Disassembly and cleaning of the tank cover

Disassemble the tank cover and wash, rinse and sanitise it.

### 3.10.3 Cleaning the tank zone

Using a clean and sanitised cloth, accurately clean the external zone of the tank. Ensure that no debris drops into the tank. Reposition the sanitised tank cover on the tank.



### 3.10.4 Disassembly and cleaning the drip drawers

Remove the drip drawers from the side of the machine. Wash, rinse, sanitise and reassemble them.



### 3.10.5 Sanitization of the lid area

- Fill a bucket with sanitising solution. Immerse the brush into the sanitising solution and accurately clean the dispenser zone, the dispenser spouts, the handles and the area surrounding the pistons.
- Spray sanitizing solution over the tap zone, handles, dispenser spouts and inside the lid holes.

### ATTENTION

Do not spray sanitising solution directly onto the photocell underneath the door.

### 3.10.6 Cleaning and sanitisation of the drip tray

After sanitising the door area, remove the drip tray and wash, rinse and sanitise it. Replace it on the machine.



### 3.10.7 External cleaning of the machine

Using a clean and sanitised cloth, clean the door area, the front panel and any other areas that come into contact with the product.



### 3.11 ALARMS

The machine is provided with a self- CHECK device to indicate possible troubles.

The display shows the type of Alarm occurred. An acoustic signal will also warn the operator.

Press STORAGE/RESET in order to cancel the alarm from display.

Use the table below to check what alarm occurs.

The machine can used in Production mode also when a non-critical alarm has taken place; if the alarm is, instead, a critical one, the machine will not allow to enter in production and it is necessary to press STOP and not to use the machine till its repair. Alarms are listed in the table below:



ALARM	DESCRIPTION
Mix Out	The display indicates Mix Esaurita-Mix Out when the mix is below the level sensor. When the mix is low and in Production you distribute a number of cones same as/or higher than the value set in step Ultimi Coni- Last Cones, not only will Mix Esaurita- Mix Out - be displayed, but also your machine will set at ""Hot reached"" position, so disabling all outputs from side where cones are out.
Safety Therm.Cyl 1	Safety thermostat cylinder 1 tripped. Machine sets at Stop mode. - By PSP, only -
Safety Therm.Cyl 2	Safety thermostat cylinder 2 tripped. Machine sets at Stop mode. - By PSP, only -
Safety Therm.Hop	Hopper Safety Thermostat tripped. Machine sets at Stop. - By PSP, only -
Overload Beater 1	Overload (bimetallic) beater motor relevant to cylinder 1 tripped. Machine sets at Stop mode.
Overload Beater 2	Overload (bimetallic) beater motor relevant to cylinder 2 tripped. Machine sets at Stop mode.
Pressure Switch	Pressure Switch tripped. Machine sets at Stop: - if it trips for the third time within 1 hour - if pressure switch contact is opened 2 minutes running. If the machine was in Pasteurization mode, Pasteurization program shall be executed again. Check cooling water flow.
Overload Compres	Overload Compressor Motor. Machine sets at Stop.
Al.Hopper Probe	Hopper sensor faulty. This is a critical alarm: consequently, the machine sets at Stop, from Production as well as from Storage and Pasteurization modes.
Al.Cylind.Probe 1	Cylinder 1 sensor faulty. This is a critical alarm: consequently, the machine sets at Stop, from the Storage and Pasteurization modes; it stays in the same function when in production mode, because consistency is controlled.
Al.Cylind.Probe 2	Cylinder 2 sensor faulty. This is a critical alarm: consequently, the machine sets at Stop, from the Storage and Pasteurization modes; it stays in the same function when in production mode, because consistency is controlled.
Al.IceHop.Probe	Hopper evaporator sensor faulty. This alarm does not cause the machine to stop (it goes ahead with the outstanding function). In Pasteurization Heating step, the alarm is eliminated.
Spigot opened	Safety Magnet Switch. If opened 10 sec., it resets Wash message (Wash). IMS opening also resets Pasteurization flag, so that if the machine was in Pasteur. mode, you can directly enter in Production by opening and closing the front lid.
All.Evapor.Probe 1	Alarm Cylinder 1 evaporator sensor. This alarm does not cause the machine to stop (it keeps on running in the outstanding function). In Pasteurization Heating step, the alarm is eliminated.

ALLARME	DESCRIZIONE
All.Evapor.Probe 2	Alarm Cylinder 2 evaporator sensor. This alarm does not cause the machine to stop (it keeps on running in the outstanding function). In Pasteurization Heating step, the alarm is eliminated.
Power on	Power return after a blackout. Check blackout table in Pasteurization and Production. Event stored in all functions.
Ice Cylinder	Cylinder anti-icer read by sensors TE. In Production, if one of the two TE becomes lower than the value set in the step Ghiaccio cilin., Ice Cylinder, the machine sets at position ""HOT reached"" and stores the alarm Ghiaccio Cilin. Ice Cylinder among the events. The alarm might be caused by an insufficient feeding to the cylinder. Check the pump efficiency. The alarm reset will follow as soon as the temperature in the cylinder raises back. If, instead, the alarm is displayed in Stop, it is necessary to check/replace sensor TE, because the readable temperature end scale is read by the CPU.
Timeout Prd.	In Production, activation time of the beater motor is checked. If the beater motor is 10 minutes ON (Timeout Prd.) and Hot has not been reached, the machine sets at position ""reached-HOT"" with alarm ""Timeout Prd."" in the event list. The Timer will be reset on MIR and on MA starting. Check mix charge in cylinder, pump in the hopper and the freezing unit.
Belt alarm	In Pasteurization Heating step, if the temperature TGV2 becomes > than TEV-value programmed in step DELTA TGV-TEV, ""Allarme cinghia- Belt alarm"" is displayed and the machine sets at Stop. Check the driving belt or if the rotor is in its seat. Warning: this alarm is not active if one of the sensors TEV or TGV is inhibited.
Wash n days	In Production, ""Lavare tra n gg"" Wash in n days is displayed: this means that n days remain until machine wash. Alarm Wash might also be caused by leaving machine 24 hours in stop position with mix above the level sensor See WEEKLY CLEANING.
Wait! (Do not serve!)	In Production, every time consistency value is below the one programmed in step Blocco Hot Hot Lock, cone red led lights up to indicate wait for ready icecream and ""Wait"" is displayed. If, in such a case, you try to dipense cones, all units stop (MA and MC) till the photocell is no longer busy. As soon as it is set free, both MA and MC re-start in order to bring ice cream to its proper consistency.
Invert Phases!	It is necessary to exchange 2 phases on the three-phase line in order to get the correct beater rotation direction. The alarm resets by pressing the Reset key (after exchanging 2 phases). Check lasts 1 minute only, after switching the machine on.
Pasto needed	When machine has been set at Stop with mix above low level sensor for over 60', TEV temperature is checked and if it is 15°C or higher, Pasteurization is needed. So pressing the Production key, will cause the machine to automatically set at Pasteurization, unless you open its front lid and close it again. In this case, test on TEV ? 15°C will be cancelled for a time of 60' and Production will be accepted. If in all these cases, TEV<15°C, all functions will be accepted with no time limits.
Why in STOP ??	If the machine is left in the Stop position with mix covering the level sensor, the message ""Why in STOP?"" will be displayed 30 seconds later and an intermittent beep will be emitted. All this to warn the user to set the machine at Production, Pasteurization or Storage. Above mentioned message will be deleted by entering inProduction, having low mix level, or pressing Reset (Stor.) key. To have the message back on the display, enter again in Production, Storage or Pasteurization.



### 3.11.1 Blackout

In the event of a blackout, if the machine was in functions mentioned below, namely

- in Cleaning, on power return, it sets to STOP;
- in Production, Storage or Heating or Pause during Pasteurization: on power return, the machine sets back to the function where it was before the “blackout” on display.
- Cooling step in Pasteurization: on power return, the machine checks TEV temperature and blackout time; if time is more than the one indicated in the table, the machine will execute the pasteurization cycle again and completely : ALARM led will be on and “Blackout” will be shown both on display and in the events list. If, time is instead less than the one shown in the table, the machine will set back to Cooling of Pasteurization and “Blackout” will be displayed.



Tank and cylinder temperature	Blackout time
68°C ÷ 50°C	30 minutes
49°C ÷ 15°C	10 minutes
14°C ÷ 10°C	20 minutes
9°C ÷ 4°C	2 hours



### 3.12 PROGRAMMING FOR THE USER

To enter in Programming User, press STOP and RESET key at the same time till the message "MANAGER MENU" is on display, then release.



Press Stop to enter in the next step Increment  or Decrement  when you want to change the value. See programming table.

In order to leave the porgramming mode, it is enough no key is pressed for 15 seconds, or just press START OR CLEANING. The machine will now return to STOP.

Step	Display ITA	Display ENG	Min	Max	Default
U01	Ore	Hours	00	23	
U02	Minuti	Minutes	00	59	
U03	Giorno Settimana	Day of Week	SUN	SAT	
U04	Giorno del Mese	Day of Month	01	31	
U05	Mese	Month	01	12	
U06	Anno	Year	2000	2099	
U07	Linguaggio	Language	ENG	ENG	ENG
U08	Ora avvio distribuzione	Start prod time	00	23 + NO	08
U09	Ora avvio pastorizzazione	Start pasto time	00	23 + NO	02
U10	Abilita beep liv.	Liv. beep enable	NO	YES	YES
U11	Lato attivo	Active side	01	03	
U12	Lato frutta	Fruit side	00	03	

## 4. SAFETY DEVICES

### 4.1 SAFETY SYSTEMS ON THE MACHINE

#### PRESSURE SWITCH

It protects the refrigeration system and causes the compressor to stop if the pressure of the system exceeds the pressure switch setting value. This may occur especially due to a lack of water (machine with water condenser) or air circulation problems (machine with air condenser). The switch resets itself automatically up to the second tripping, on 3rd tripping, machine will set to STOP.

---

#### WARNING

**If the compressor runs for an excessive time or stops and starts repeatedly, this indicates insufficient condensation; check the causes.**

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#### OPERATOR PROTECTIONS

Safety microswitch on the lid.

A microswitch is located on the lid of the beating cylinder, containing the beating unit, which stops the machine immediately when the lid is opened. The machine enters STOP mode and the display shows the message "Front lid open".

When the lid is closed back, the machine remains stopped and shuts off the alarm on the monitor.

---

#### WARNING

**Always make sure that the machine is in STOP mode before opening the lid.**

---





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

### IMPORTANT

*Cleanout and sanitation must be carried out at the end of every working day as a habit and with utmost care in order to guarantee the production quality in the observance of necessary healthy rules.*

If dirt is left enough time to dry out, this increases the risk of stains, marks and damage to surfaces.

Removing dirt is much easier if done immediately after use and since there is also a risk that some elements containing acid or saline substances can damage the surfaces, prolonged soaking is not recommended.



### WARNING

**Never use solvents, alcohol, or detergents that can damage the machine parts or pollute production functional parts.**



Never use powder or abrasive cleaning products, scourers or pointed tools when cleaning by hand; there is a risk of leaving the surfaces opaque or of removing or weakening the protective film on the surface, scratching it.

Never use metal or synthetic scouring pads under any circumstances to prevent any abrasion or removal of ferrous parts leading to problems of surface oxidation or weakening.

Do not use detergents containing chlorine or chlorine compounds; using these detergents, which include bleach, ammonia, hydrochloric acid and scale removers can attack the steel compound used, causing it to stain or oxidize permanently. Only use recommended detergent/sanitizer, **XSAN**, since it has been tested and approved by our laboratories.

At the end of washing and before refitting any parts, always dry them with a clean, soft cloth that is suitable for use with foods; this is necessary even after a drying cycle in the dishwasher, since any type of moisture with a high mineral or chlorine content can attack metal surfaces and leave opaque traces.

### WARNING

**To wash the machine, Carpigiani recommends XSAN detergent/sanitizer.**



The use of **XSAN** makes it possible to optimise the washing and sanitizing process since it eliminates two stages in the procedure (that is, one rinse and one washing stage); all in all, using **XSAN** saves time, making washing/sanitizing procedures easier.

### 5.1 HOW TO USE XSAN DETERGENT/SANITIZER

Prepare a water-based solution (at a temperature between 45 and 60°C) and **XSAN** at a concentration between 1 and 3%, according to water hardness.

#### Washing/sanitizing by soaking

- Remove larger residues by hand.
- Remove finer residues with a jet of water.
- Soak the parts to be cleaned in the **XSAN** solution.
- Leave the solution to act for about 10-15 minutes.
- Rinse the parts with care, using plenty of clean drinking water.





## 5.2 PROGRAMMED CLEANING TIME

The machine is provided with an automatic system which calls for washing of the parts in contact with the product for example every 14 days.

This system, identified as "WASH", disables the dispensing function at the end of the fourteen day after the latest cleaning. On the display, the message "WASH TODAY" appears.

In Distribution mode, the display indicates the number of days to machine next cleaning.



### WARNING

**Cleanout and sanitization must be carried out at the programmed date indicated on the display (for example every 14 days), as a habit and with utmost care, in order to guarantee quality of production in the observance of healthy rules.**

## 5.3 DRAINING AND CLEANING

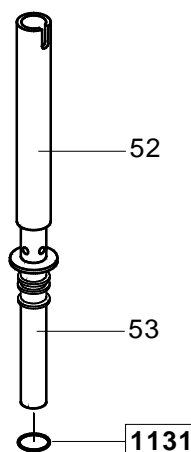


1. Place an empty pail under the spout.
2. Press the STOP button.
3. Pull the dispensing levers and drain the ice cream.
4. Select CLENOUT function .
5. When the product coming out becomes liquid, push STOP button and leave the spout open.
6. Remove the feeding needle.
7. Remove tank beaters (see par. 5.5).
8. Wait until the liquid mix flows out completely and then set the distribution handles back to closing position. Fill the tanks with 10 litres clean water. Clean tank walls, level sensor and tank mixer seats with the brushes provided. With a smaller brush, also clean feeding needle seats.
9. Place an empty pail under spout. Open the spigot piston and let the water drain out.
10. Rinse with warm water until the solution runs clear.
11. Select CLENOUT function and let the beater run for 10 seconds.
12. Press the STOP button, place a bucket beneath the dispensing spout, lower the distribution handles and drain all the water from the machine.
13. Fill the tanks with sanitizing solution prepared with 45-60°C water. Clean the tank walls, the level sensors and the mixer seats using the supplied brushes.
14. Select the CLEANING function and let the machine run for 10 seconds.
15. Press the STOP button. Allow the sanitizing solution to react for at least 10/15 minutes.
16. Lower the distribution handles and drain out all the sanitizing solution completely.

## 5.4 DISASSEMBLING FEEDING NEEDLE

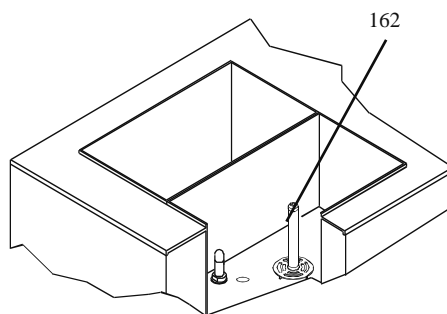
To disassemble the feeding needle

- remove its slider (pos. 52)
- take the feeding needle out of the tank
- remove OR from the needle (pos. 1131)



## 5.5 DISASSEMBLING THE TANK MIXER

After taking out the pump, also remove the mixer (pos. 162) by pulling it upwards.

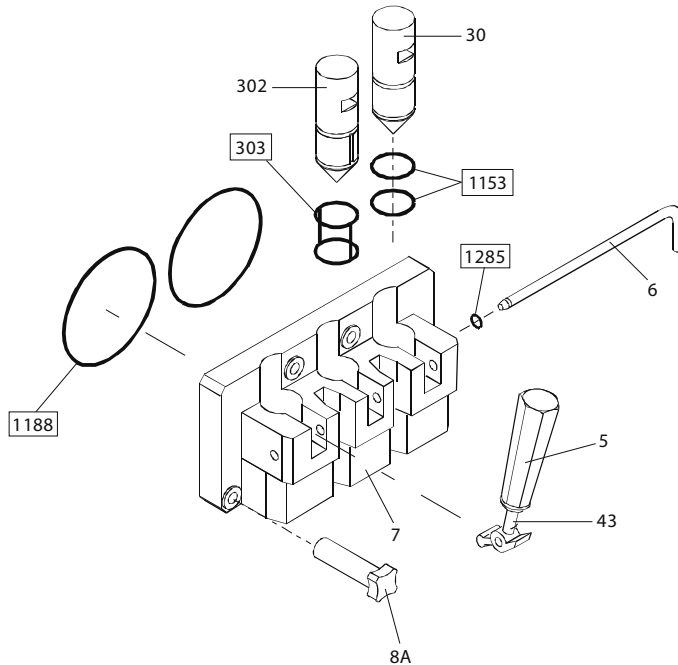


## 5.6 DISASSEMBLING FRONT LID

### CAUTION

Before disassembling the front lid, make sure that tanks and cylinders are completely drained.

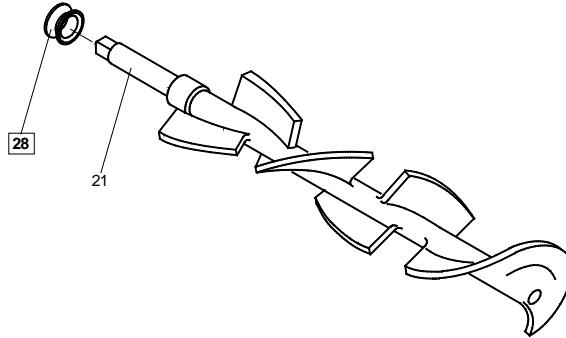
1. Remove the two retaining knobs (pos. 8A) and pull the door assembly towards you sliding it off the two front panel studs.
2. Pull the dispensing handle (pos. 5) so the pistons (pos. 30 and 302) raise in their housing.
3. Remove the pivot pin o-ring (pos. 1285) and the pivot pin (pos. 6) out releasing the dispensing handle (pos. 5)
4. Using the dispensing handle pull the piston (pos. 30 and 302) out completely.
5. Using the o-ring extractor, remove the o-rings (pos. 1153, 303 and 1188).





## 5.7 DISASSEMBLING OF THE BEATER

- 1- Pull the beater out of the cylinder.
- 2- Slide the beater seal (pos. 28) out of the beater shaft.
- 3- Pull the idler (pos. 24) slightly to the front of the beater until the groove in the shaft of the idler lines up with the slot on the beater frame. Pull the idler out.



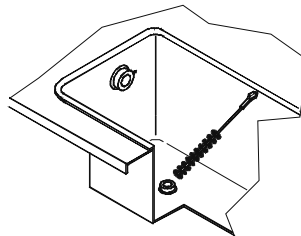
## 5.8 WASHING AND SANITIZING COMPONENTS

### CAUTION

For the use of sanitizers, instructions on labels are to be followed.

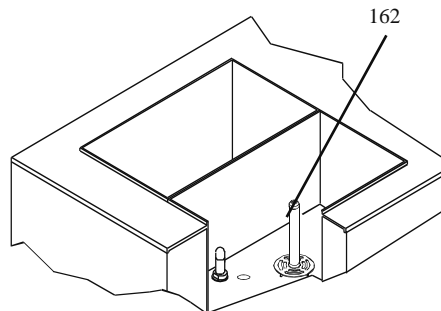


1. Fill another sink with sanitizing solution prepared with 45-60°C water.
  2. Dip the disassembled parts in the sanitizing solution and leave them there for at least 10/15 minutes.
  3. Carefully rinse the components using plenty of drinking water.
  4. Place the components on a clean tray to air-dry.
  5. Return to the machine with a small amount of sanitizer.
  6. Dip a brush into the sanitizer and thoroughly brush the freezing cylinder
  7. Spray the cylinder bottom and the tank walls with sanitizer.
- Repeat step 5, 6 and 7 several times



## 5.9 REASSEMBLING THE TANK MIXER

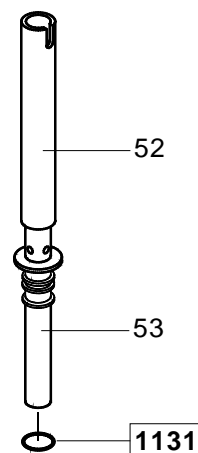
Place the mixer (pos. 162) back in its seat: pay attention to engage it onto its shaft correctly.





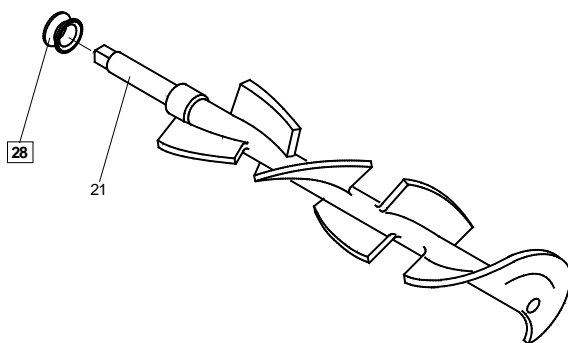
## 5.10 REASSEMBLING FEEDING NEEDLE

- 1- Lubricate the o-ring (pos. 1131)
- 2- Reassemble the feeding needle
- 3- Place the feeding needle in the sanitizing solution.



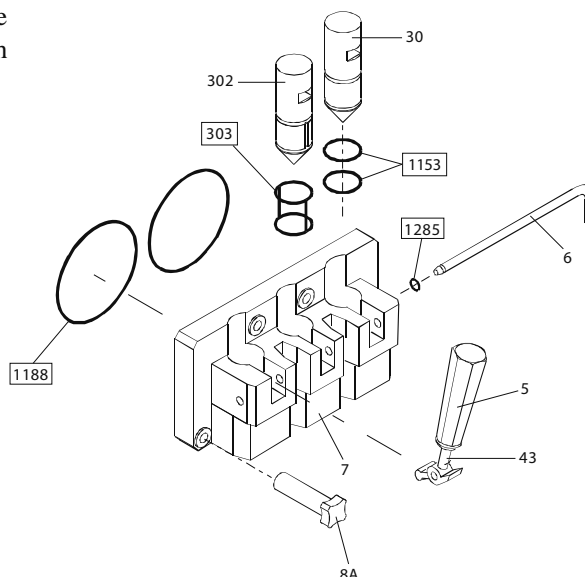
## 5.11 REASSEMBLING THE BEATER

- 1- Lubricate the sides of the beater seal (pos. 28) and slide it onto the beater shaft.
- 2- Insert the beater assembly into the cylinder. Push it while turning it clockwise until it engages in its rear hub, otherwise the dispensing head cannot be fastened properly, mix can flow out and serious damage may occur.



## 5.12 REASSEMBLING FRONT LID

1. Lubricate and slide the piston o-rings (pos. 1153 and 303) into their seats.
2. Insert the pistons (pos. 30 and 302), pointed end down, in the dispensing head (pos. 7) making sure that the piston square notch lines up with the rectangular opening on the spigot front.
3. Position the dispensing handle (pos. 5) on the lid (pos. 7) and insert the pivot pin (pos. 6) in its housing through the handle lever hole. Lubricate and insert the pivot pin o-ring (pos. 1285). Lubricate and slide the large front lid o-ring (pos. 1188) into its seat.
4. Insert the front lid assembly onto the two front panel studs and fasten it with the two knobs (pos. 8A) hand tight.





## 5.13 SANITIZING THE WHOLE MACHINE

The machine must be sanitized before mix is poured in. Proceed as follows:

1. Fill the tanks with sanitizing solution, prepared with 45-60°C water, up to the maximum level and allow the solution to flow into the cylinders.
2. Using the brush, clean the mix level sensors, the entire surface of the mix tanks, the surface of the feeding needle and the outside of the tank mixers.
3. Select CLEANOUT function and let the beater run about 10 seconds. Press the STOP button. Cylinders and pumps are now filled with the sanitizing solution.
4. Return to the machine with a small amount of sanitizer solution in a pail.
5. Dip the door spout brush in the pail of sanitizer and brush clean the dispensing spout. Repeat the operation twice.
6. Wipe the exterior of machine with clean sanitized towel. Repeat the operation twice.
7. Wait for at least 5 minutes before proceeding with the next instructions.
8. Place an empty pail under the front lid and pull the handle
9. Allow all of the sanitizer to drain. If the sanitizing solution does not flow out completely, keep the spigot open and select CLEANOUT function, let the beater running 5 seconds so that the last solution residues flow out, then push STOP.
10. Rinse with plenty of drinking water.

### CAUTION

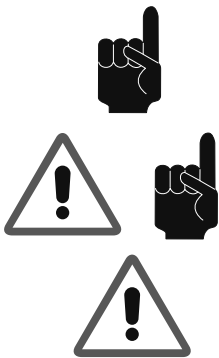
**Do not keep the beater running more than the time strictly needed to complete washing and saniting since the beater would wear out without lubricating action of mix fats.**

### ATTENTION

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

### WARNING

**Before starting again with ice cream production, rinse thoroughly with just water, in order to remove any residue of sanitizing solution.**



## 5.14 PRIMING THE MIX PUMP

### Prime Hopper :

- Retrieve 1 bag of mix from the walk-in refrigerator.
- With the draw handle open, pour one bag of mix into the hopper allowing it to drain into the freezing cylinder.
- When only full strength mix (not mix and sanitizer) is flowing from the draw spout, close the draw handle.

### Connect feeding needle:

- When the mix stops bubbling from the bottom of the hopper, take the mix feeding needle from the sanitizing solution and insert it in its position in the bottom of the hopper and adjust the slider in the desired position for production (big hole, small hole). Make sure your hands are clean and sanitized.
- Select production function to start the Automatic freezing operation.
- Replace the hopper cover.

## 6. MAINTENANCE

### 6.1 SERVICING TYPOLOGY

#### ATTENTION

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

**Cleaning and lubricating moving parts is forbidden!**

“Repairs to the wiring, mechanical, air supply or cooling systems, or to parts of same must be carried out by qualified personnel with permission to do so and if necessary, according to the routine and extraordinary maintenance schedules as envisaged by the customer with reference to specific intervention methods, according to the use for which the machine is destined”.

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

Herebelow you can find a list of routine servicing operations:

#### - Cleanout and replacement of stuffing box

Should you ever find that some product drips from drip drawer, it means that stuffing boxes (pos. 28) have lost their tightness; when disassembling the beater, it is consequently necessary to check them and, according to the machine working period, to replace and alternate them with the stuffing boxes included in the machine accessory kit.

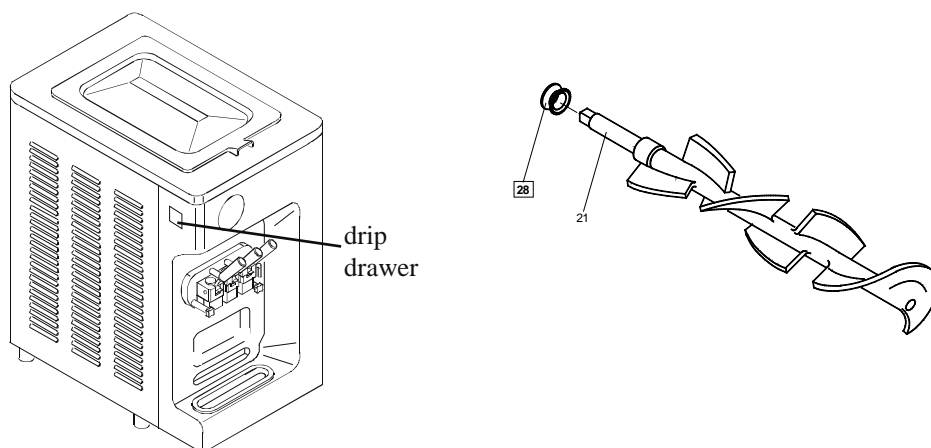
If the stuffing boxes show no defects, they can be used again after washing them, when at room temperature they have regained their original shape.

Replace stuffing boxes as follows:

- Draw the beater assembly out.
- Remove stuffing box from its seat
- Lubricate the new stuffing box and mount it
- Before putting the stuffing box away, clean and lubricate it so as to reach its elasticity again.

#### WARNING

**If you continue to work after noting traces of product in the drip drawer, you further accentuate the leakage of the stuffing box; this can lead to a malfunction of the machine serious enough to halt production.**





- **Cleanout of beater assembly, cleanout of pump or feeding needle, cleanout and sanitization of the all machine**  
According to procedures described in section 5 of this manual.
- **Cleanout of panels**  
To be carried out daily with neutral soap, seeing to it that cleansing solution never reaches beater assembly at its inside.

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**WARNING**

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

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## 6.2 WATERCOOLING

By machines with watercooled condenser, water must be drained from condenser at the end of selling season in order to avoid troubles in the event that the machine is stored in rooms where temperature may fall under 0°C.

After closing water inlet pipe, withdraw drain pipe from its seat and let water flow out from circuit.

## 6.3 AIRCOOLING

Clean condenser, periodically, so as to remove dust, paper and what can prevent air from circulating.

For cleanout, use a brush with long bristles or a bolt of compressed air.




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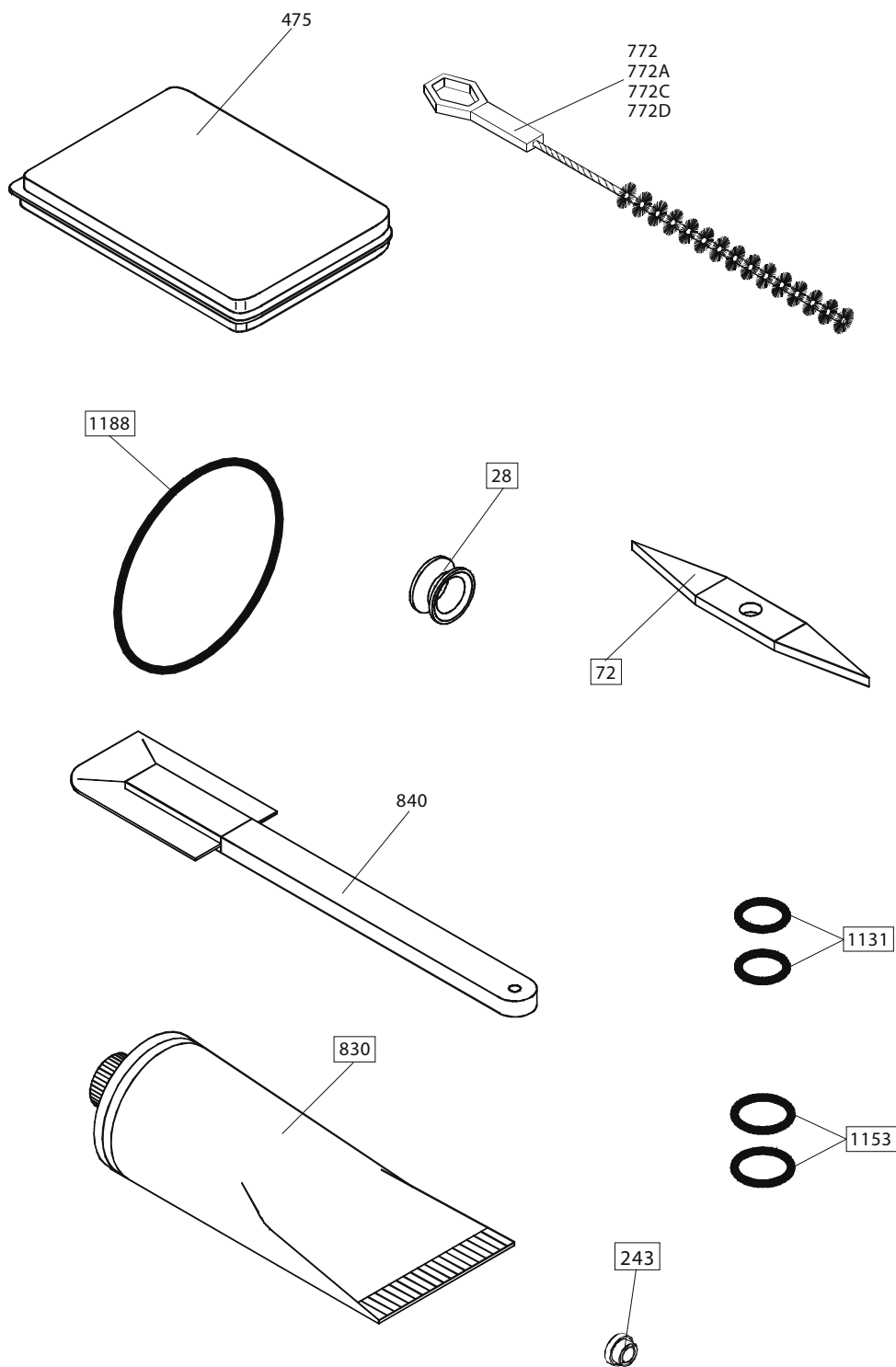
**ATTENTION!**

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

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**NEVER USE SHARP METAL OBJECTS TO CARRY OUT THIS OPERATION. GOOD WORKING OF A FREEZING PLANT MOSTLY DEPENDS ON CLEANING OF CONDENSER.**

6.4 TABLE OF SPARE PARTS EQUIPMENT



**Pos. Description**

- 28 Beater stuffing box
- 72 O ring extractor
- 243 Stuffing box
- 475 Accessories
- 772 Swab D8x250
- 772A Swab D15x350
- 772C Swab D40x400

**Pos. Description**

- 772D Swab D 30x640
- 830 Food-grade lubricant tube
- 840 Cleaning spatula
- 1131 Gasket OR
- 1153 Gasket OR
- 1188 Gasket OR



## 7. TROUBLESHOOT GUIDE

IRREGULARITY	CAUSE	PROCEDURE TO FOLLOW
<b>Compressor starts and then stops after a few seconds.</b>	1. If machine is watercooled: water is not circulating. 2. If machine is aircooled: air is not circulating.	1. Open water inlet cock and check that pipe is not squashed nor bent. 2. Check that machine clearance is at least 80 mm from wall. 3. Call for service if necessary
<b>Mix or ice cream come out above or below piston though it is closed.</b>	1. Piston without OR or OR is worn-out.	1. Stop the machine and insert or replace it with a new one if worn-out.
<b>Mix coming out of drip drawer</b>	1. Stuffing box missing or worn-out.	1. Stop the machine and install it if missing. If worn-out, replace it with a new one.
<b>Piston hard to operate.</b>	1. Dry sugar on piston.	1. Stop the machine and wash thoroughly and grease piston and OR with edible fat.
<b>Ice cream comes out from front lid .</b>	1. OR missing or not properly fit. 2. Front lid knobs not tightened evenly.	1. Stop the machine and check and put remedy. 2. Stop machine. loosen and tighten them again.