CARPIGIANI

APPLY

TARGA

CARATTERISTICHE

INSTRUCTION MANUAL

TRE/B-AV EVO

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 the 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 relating to "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.

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

CONVENTIONAL SYMBOLS

CAUTION: ELECTRIC SHOCK HAZARD
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: MOVING PARTS
This warns the personnel involved about the presence of moving parts and the hazards of injuries if the safety norms are not complied with.

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 personnel involved.

WARNINGS
This warns the personnel involved that the non-observance of warning may cause loss of data and damage to the machine.

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

QUALIFICATION OF THE PERSONNEL SYMBOLS

The personnel 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.).

SKILLED ENGINEER
He/she is a skilled engineer, capable of operating 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 payed 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 conse quently be met;
- The appliance is only to be installed in locations where its use and maintenance is restricted to trained personnel.
- only adequately skilled personnel should be assigned to electrical equipment; this appliance is not intended for use by person (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they been given supervision or instruction concerning use of the appliance by a person responsible fot their safety.
- Be on the look out 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!
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

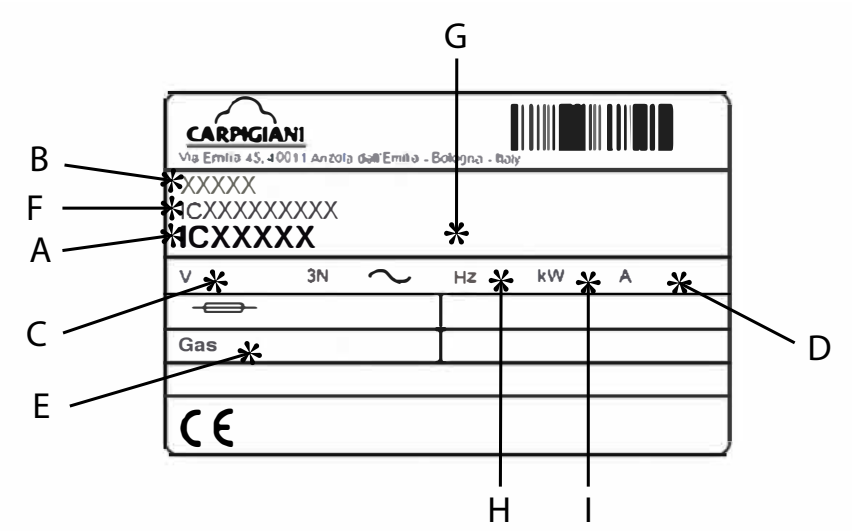
- Never put your hand into the machine, alike during production and cleaning operations. Before carrying out any maintenance operation, make sure that the machine is in “**STOP**” position and main switch has been cut out.
- It is forbidden to wash the machine by means of a bolt of water under pressure.
- It is forbidden to remove panels in order to reach the machine inside before having disconnected the machine.
- The place of installation must not be exposed to water sprays, high moisture, heat or steam sources.
- Do not store explosive substances or spray bottles inside the machine, nor bottles for aerosol with flammable propellants.
- **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 identification data

The machine has a data plate carrying manufacturer data, machine type and serial number, assigned when it is manufactured.
Copy of machine data plate to be found on first page of this manual.



Legend:

A= Serial number
B= Machine type
C= Supply voltage
D= Main-switch amperometric value
E= Gas type and weight
F= Machine code
G=Condensation type
H=Frequency
I= Power

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

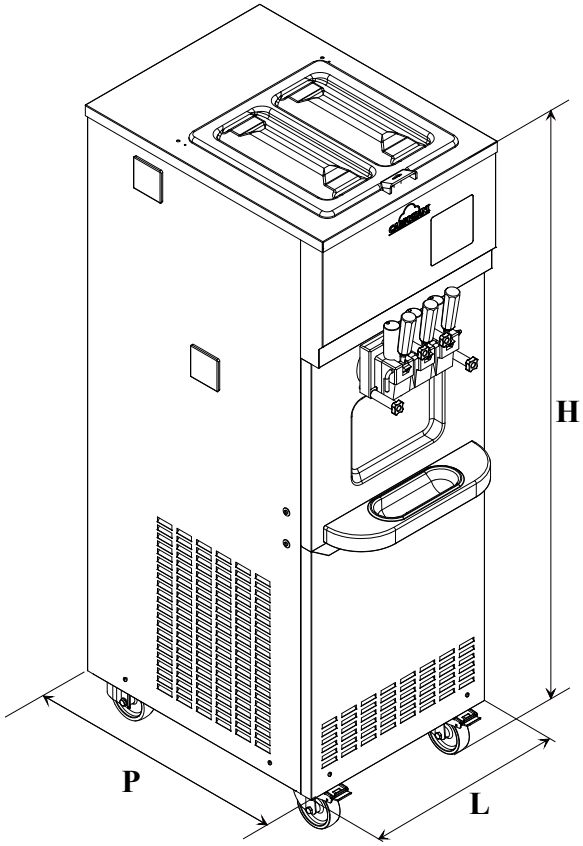
1.2.1 General information

Machines installed on the floor to immediately produce and dispense soft express ice cream, pump-fed type.
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 result 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 semi-finished products from reliable companies.
- Strictly follow the instructions for the preparation of the mixes given to you by your mix supplier.
- Do not alter your mix supplier's recipes, by adding, for instance, water or sugar.
- Taste the ice cream yourself before serving it and start selling it only if entirely satisfactory.
- Make sure your personnel always keeps the machine clean.
- Have your machine always serviced by assistance companies authorized by **CARPIGIANI**.

1.2.2 Machine layout



1.2.3 Technical features

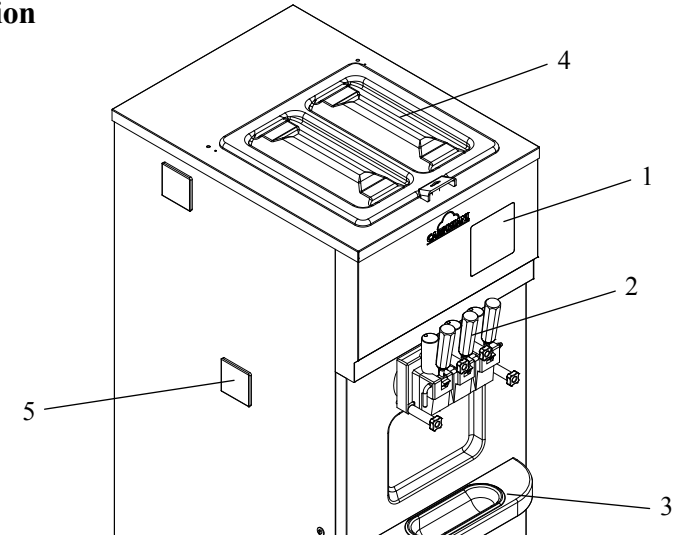
MODEL	Hourly production *	Hopper capacity	Flavors	Power supply**			Installed power	Condenser	Dimensions cm			Net Weight
	In 75 gr batches	liters		Volt	HZ cycles	Phase	kW		Width L	Depth P	Height H	kg
TRE/B-AV EVO	480	10x2	2+1	400	50	3	2.7	air/water	51	69	157	250

* 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.

** Additional voltages and cycles are available on request

1.2.4 Machine unit location

Legend:
1 Control panel
2 Cylinder spigot door
3 Tub support
4 Tank lid
5 Drip tray



1.3 INTENDED USE

The machine 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:	0,5 MPa (5 bar)
Max. air relative humidity:	85%

Any use of the machine non compliant with the intended use is not allowed.

1.4 NOISE

The equivalent continuous A-weighted sound pressure level in a workplace for water-cooled as well as air-cooled machines is less than 70 dB(A).

1.5 MACHINE STORAGE

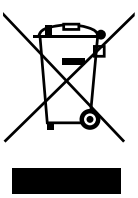
The machine must be stored in a dry and dump-free place.
Before storing the machine, wrap it in a cloth in order to protect it against dust or other impurities.

1.6 DISPOSAL OF PACKAGING MATERIALS

When opening the packing crate, divide packing stuff 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 unused electrical and electronic equipment. 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 on 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 FOR MACHINE USE

The machine must be installed in such a way that air can freely circulate all around its sides.
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 the working area, if need be. It is also necessary to have 40 cm on the side to pull out drip trays.
The minimum access space to working area should be at least 100 cm.

WARNING
MACHINES WITH AIR-COOLED CONDENSER must be installed at least 30 cm AWAY FROM THE BACK WALL and 5 cm from the SIDE WALLS in order to allow free air circulation around the condenser.

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

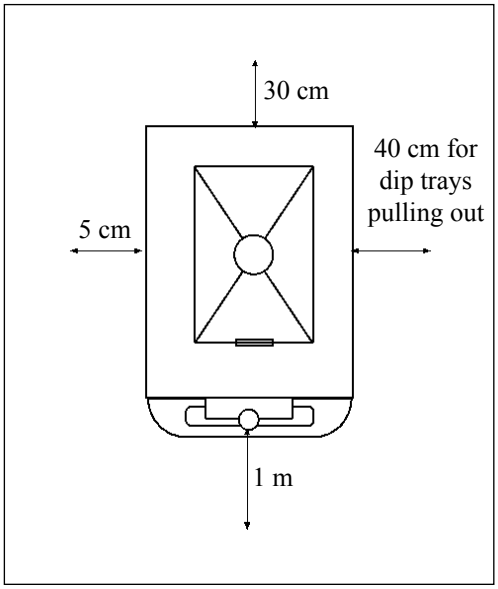


Fig. 3

2.2 MACHINE WITH AIR-COOLED CONDENSER

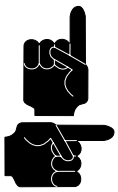
Machines with air-cooled condenser must be installed at least 5 cm away from the side walls and at least 30 cm from the back wall in order to allow free air circulation around the condenser.

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

2.3 MACHINE WITH WATER-COOLED CONDENSER

Machines fitted with a water-cooled condenser need to be connected to running water supply or to a cooling tower.
Water must have a pressure between 0.1 MPa and 0.5 MPa (1-5 bar) 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



IMPORTANT
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.

WARNING:
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 on the identification plate corresponds with the mains (see par. 1.1.1 point C).
Insert between the machine and the mains a differential magnetothermal protection switch adequately sized to absorption capacity required (see par. 1.1.1 point D) and with contact opening of 3 mm at least. The machines are delivered with a 5 wire cable: blue wire must be connected to the neutral lead.

IMPORTANT
Yellow/green ground wire must be connected to an adequate ground plate.

Rotation direction by three-phased machines
The beater rotates anticlockwise. In case of gravity-fed machines, panel must be removed to check rotation.

Reversing rotation direction
To reverse the rotation direction, when wrong, it is necessary to interchange two of the three leads coming from the differential magnetothermal protection switch.

2.4.1 Replacing the power cable
If machine main power 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 TOP-UPS

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 circuit is carried out at **CARPIGIANI** factory during the machine post production testing; top-ups or filling are not required if the machine is new.
If any gas top-up or filling becomes necessary, this must be made solely by skilled engineers, able to determine the reason of such occurrence.

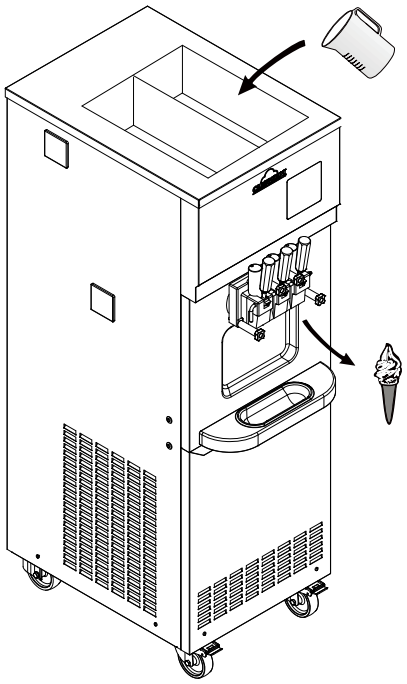
2.6 MACHINE TESTING

The machine is tested after production at **CARPIGIANI**'s premises; the requested operational and production functions are inspected and verified.
Machine test at the end user's premises must be carried out by authorized technical personnel or by a **CARPIGIANI** engineer. Once the machine has been positioned and connected to its supply lines, it is possible to carry out the operations required for machine functional check and operating test.

3 INSTRUCTIONS 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 tank 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 cylinder already mixed with air. Ice cream is produced only when it needs to be served. The dispensing spigot allows a single portion of soft ice cream to be served. 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

Display and keyboard details are shown in the picture below.

STOP button
When in Stop mode the machine is stopped and the relevant LED is on.
From Stop it is possible to access any machine function.
For the change, IT IS always NECESSARY to first return to STOP.
The display shows the current time.
If you leave the machine in Stop when mix is above the level, the message “Why in STOP??” will be displayed after 30" to alert the user to set the machine in Production or Storage modes.

PRODUCTION key
The Production function can only be accessed if the mix has reached the minimum levels. The product is cooled in the cylinder till its programmed consistency value is reached (HOT).

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., Custard, Fruit or Yogurt; 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
What has been illustrated is the first page of the menu; by pressing and holding the Production key you access the following combinations, specifically:

SoftIce	WaterIce	(Custard in side 1 and Fruit in side 2)
SoftIce	Yogurt	(Custard in side 1 and Yogurt in side 2)
WaterIce	SoftIce	(Fruit in side 1 and Custard in side 2)
WaterIce	WaterIce	(Fruit in side 1 and Fruit in side 2)
WaterIce	Yogurt	(Fruit in side 1 and Yogurt in side 2)
Yogurt	SoftIce	(Yogurt in side 1 and Custard in side 2)
Yogurt	WaterIce	(Yogurt in side 1 and Custard in side 2)
Yogurt	Yogurt	(Yogurt in side 1 and Yogurt in side 2)

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

Ice cream Ready ! +004°C +004°C

The first line indicates whether ice cream is ready to be dispensed (Ready!) or not yet (Do not Serve LH!).
If the message is Do not Serve LH! is displayed, it means that the ice cream has not yet reached its set consistency and it is therefore necessary to wait.
The second line indicates the temperature of the two hoppers.

By pressing Production again you move to the various “windows” or screens described below:

+014°C🡻 +016°C🡻 +015°C🡻 +013°C🡻

The first line (top) of this window shows the temperature in the Hoppers:
The second line shows the temperature of the two Cylinders:
🡻 = on when the hopper or cylinder is cooled

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

The first line (top) of this window shows the following:
HOT=085: reading of current consistency in the cylinders of both sides
The second line shows the following:
Set=100 : Set HOT of both side (left side 1, right side 2)

Daily 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 no. of total Cones:
0923456780 = number of total cones dispensed.

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

In this window, the display shows the various sensors (without displaying °C or °F):
TEC = Cylinder Thermostat (1 = side 1, 2 = side 2)
TE = Evaporator Thermostat (1 = side 1, 2 = side 2)

TEV1+016 TEV2+016 TGV-022

The first line of this window shows probes TEV1 and TEV2.
The second line shows probe TGV.
TEV1 = left hopper thermostat
TEV2 = right hopper thermostat
TGV = hopper ice thermostat

Press Production again to return to the initial display.

STORAGE key
The function of Storage is to bring the product in the hoppers and cylinders to a temperature of +4 °C.
Once Storage mode is activated the display shows the following:

+023°C🡻 +022°C🡻 Def.Hop +020°C

The first line indicates the temperature of the two hoppers

The second line shows the Hopper defrost temperature (TGV).

🡻 = on when hopper is cooled

Press Storage again to go to the menu described below:

TC1+066 TC2+068 TE1+078 TE2+081

This window shows the probe temperatures.

This key is also used to decrease the "User Programming" values.

CLEANING key
This function activates beater and pumps for 30 seconds to make cleaning easier, then the machine returns to Stop automatically to avoid an excessive wear of cylinder and beater. The display will read:

TC1+014 TC2+010
Beat.+Pump ON

Press Cleaning again to move to Heated Cleaning, the cylinders are heated to better melt the product inside them. For pump-fed machines the display shows:

TC1+014 TC2+010
Beat.+Pump+Heat.

In both cases, the first (top) line of this window shows cylinder temperature.

When Cleaning set temperature is reached in both cylinders the machine gets back to Stop.

KEYBOARD LOCK
By pressing the Cleaning key from any function mode for 3 seconds all keys are disabled and the Cleaning led flashes.
This allows cleaning the keyboard without triggering accidental function changes.
The machine does not quit the current function.
To unlock the keypad, press again for 3" the Cleaning key.

INCREASE key
This key is used to increase "User Programming" values.

NO MIX led
If the mix in the hopper falls below minimum level, the first line on the display shows the relevant fixed message. The messages displayed are the following:
Add Mix Left: : if the mix in the LH hopper is below medium level;
Add Mix Right:if the mix in the RH hopper is below medium level;
Mix Out Left: if the mix in the LH hopper is below minimum level.
Mix Out Right: if the mix in the RH hopper is below minimum level.
Add Mix Mix Out:if the mix is below medium level in the LH hopper and minimum level in the RH hopper;
Add Mix: if the mix is below minimum level in the LH hopper and medium level in the RH hopper;
Add Mix:if the mix is below medium levels in both hoppers;
Mix Out: if the mix is below minimum levels in both hoppers.

In all these cases the hopper low level led on the keyboard lights up 

and the buzzer beeps continuously.
The second line displays the number of cones that can be drawn (Last Cones) before the machine automatically sets to Storage.

Mix Out Left
Last Cones 5

Display in case of mix below the minimum level on the left side

Mix Out
Cones 5 Cones 4

Display in case of mix below the minimum level on both sides

Note:
It is not possible to access the next Production pages with any displayed message of mix below level.

3.3 PRELIMINARY OPERATIONS, WASHING AND SANITIZATION

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 ice cream, see section 5 of this manual.

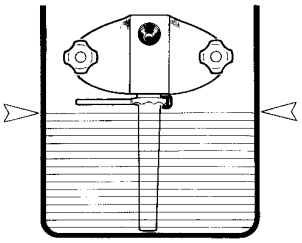
3.4 MACHINE START-UP

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 pressure pipe from hopper bottom and soak it in the sanitizing solution.

Prime Hopper:

- Take one bag of mix from the refrigerator.
  NB.: Mix to be poured at a temperature of 4-5°C.
- With the dispensing lever open, pour mix into the hopper allowing it to drain into the cylinder. Mix inside hopper shall never reach the pump (see the picture); furthermore mix shall be added whenever level is 2 cm from hopper bottom.
- When a small amount of full strength mix (not mix and sanitizing solution) is flowing from the spigot door, close the spigot door lever.



Connecting the pressure pipe:

- Keep pouring the mix until the cylinder has been filled (bubbles shall be visible in the hopper while filling); with clean and sanitized hands, remove the pressure pipe from the sanitizing solution, and insert it into the bottom of the hopper.
- Turn pressure pipe clockwise towards pump, and connect it to pump; turn connecting pipe (pos. 207) to lock it in place. Mix inside hopper shall never reach the pump (see the picture); furthermore mix shall be added whenever level is 2 cm from hopper bottom.
- Place hopper cover back.
- Select production function.

WARNING
Once the mix is poured in the hopper, the suitable lid must be used so as to keep it at the correct temperature and to minimize the risk of contamination

3.5 PRODUCTION

Dispense soft 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.

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.
As soon as you access the Production mode, you also enter a menu through which you can set the type of product you wish to serve from each of the two sides, i.e., SoftIce, WaterIce or Yogurt. The functions are:

Left side	Right side
CUSTARD	CUSTARD
CUSTARD	FRUIT
CUSTARD	YOGURT
FRUIT	CUSTARD
FRUIT	FRUIT
FRUIT	YOGURT
YOGURT	CUSTARD
YOGURT	FRUIT
YOGURT	YOGURT

3.6 OPENING PROCEDURE

3.6.1 Spigot door sanitization

- Soak a brush in the sanitizing solution and brush ice cream outfeed hole several times.
- Wash, rinse and sanitize drip tray, drip drawer and hopper cover.
- Wipe the exterior of the machine with a clean sanitized towel.

3.6.2 Machine start-up

Select the DISPENSING function; a few minutes are enough to make ice cream reach the correct consistency.

3.7 CLOSING PROCEDURE

3.7.1 Spigot door sanitization

- Soak a brush in the sanitizing solution and brush ice cream outfeed hole several times.
- Wash, rinse and sanitize drip tray, drip drawer and hopper cover.
- Wipe the exterior of the machine with a clean sanitized towel.

3.8 USER PROGRAMMING

To access User Programming, press STOP and STORAGE keys at the same time until the message "MANAGER MENU" is displayed, then release.
Press Stop to pass to the next step, INCREASE or DECREASE to change the value. See programming table:

Step	Display ITA	Display ENG	Min	Max	Default
U01	Ore	Hours	00	23	
U02	Minutes	Minutes	00	59	
U03	Day of the week	Day of Week	SUN	SAT	
U04	Day of the month	Day of Month	01	31	
U05	Month	Month	01	12	
U06	Year	Year	2000	2099	
U07	Linguaggio	Language	Ita	Chi	Eng
U08	Ora avvio Prod.	Start Prod. Time	00	23 + NO	no
U09	Past.-Stor. start time	Start Past-Stor	00	23 + NO	no
U10	Abilita Beep Liv	Lev. Beep Enable	NO	YES	YES
U12	Displ. 12 Hour Clock	12 Hour Clock	No	Yes	No
U13	Conserv. Autom	Autom. Storage	No	Yes	No
U14	Left Side Prod.	Prod. Left Side	SoftIce	Yogurt	SoftIce
U15	Right Side Product	Prod. Right Side	SoftIce	Yogurt	SoftIce
U16	HOT Sx Crema	HOT Left Dairy	000	120	100
U17	HOT Dx Crema	HOT Right Dairy	000	120	100
U18	HOT Sx Frutta	HOT Left Fruit	050	080	070
U19	HOT Dx Frutta	HOT Right Fruit	050	080	070
U20	HOT Sx Yogurt	HOT Left Yogurt	000	120	080
U21	HOT Dx Yogurt	HOT Right Yogurt	000	120	080
U22	Extra Agitaz.Vas	Extra Hop.Beat.	No	Yes	Yes

U01-U06
Date and time setting

U07 Language
Display language setting.

U08 Start Prod.Time
Set the time at which Distribution will automatically start. If set to no, automatic Dispensing is disabled.

U09 Start Time Pas-Con
Set the time at which Storage will automatically start.
If set to no, automatic Storage is disabled.

U10 Lev. Beep Enable
If set to Yes, the machine will beep intermittently when the mix is below the medium level, except in Stop mode, when it will not beep even if the function is enabled.

U12 Disp. 12 Hour Clock
Yes = enables display of 12-hour time format
No = displays 24-hour time format

U13 - Autom.stor.
Non pasteurizing machine: step not used.
Storage time is set in step U09.

U14 - Left Side Product
Identifies the type of product on the left side: SoftIce, WaterIce or Yogurt.

U14 - Right Side Product
Identifies the type of product on the right side: SoftIce, WaterIce or Yogurt.

U16 HOT Left Dairy
Side 1 (left) HOT value. Indicates the reference value when step U14 is set on Custard.
By increasing this value also ice cream hardness and beater motor absorption value will increase.

U17 HOT Right Dairy
Side 2 (right) HOT value. See previous step.

U18 - HOT Left Fruit
HOT value in case of Fruit production in side 1 (step U14 set on Fruit).
By increasing this value also ice cream hardness and beater motor absorption value will increase.

U19 - HOT Right Fruit
HOT value in case of Fruit production in side 2 (step U15 set on Fruit).
By increasing this value also ice cream hardness and beater motor absorption value will increase.

U20 - HOT Left Yogurt
HOT value in case of Yogurt production in side 1 (step U14 set on Yogurt).
By increasing this value also ice cream hardness and beater motor absorption value will increase.

U21 - HOT Right Yogurt
HOT value in case of Yogurt production in side 2 (step U15 set on Yogurt).
By increasing this value also ice cream hardness and beater motor absorption value will increase.

U22 - Hopper Extra Beat.
When set on Yes, it enables hopper periodical beating.

To quit programming, avoid pressing any key for about 30 seconds, or press PRODUCTION or CLEANING. Now the machine sets back to STOP showing the "Table Updated M." message if at least one value was changed.

4. SAFETY DEVICES

4.1 ALARMS

The machine signals possible alarms by showing them on the display and flashing the message. If an alarm was triggered and then reset, the alarm remains visible on the display in a steady way (not flashing).
To reset the warning message, press Storage/Reset.

The machine can be used in ice cream Production even if there is an alarm, except in the case of critical alarms. In this case, the machine does not allow ice cream production; press Stop and do not use the machine until it is repaired.

Below is a list of possible alarms:

ALARM	DESCRIPTION
Table Updated M.	The message appears when exiting the programming table, when it is changed via the keyboard on the machine.
Table Updated R.	The message appears when exiting the programming table, when it is changed via TCinterface or remote mode.
Add Mix Left - Right	The display indicates Add Mix when the mix is below the medium level. The LED turns steady on.
Al. Cylind.Probe 1 (TEC1)	Cylinder 1 probe fault. This is a critical alarm: consequently, the machine sets to Stop during Storage. During Production it does not quit the function, because in this case consistency is controlled.
Al. Cylind.Probe 2 (TEC2)	Cylinder 2 probe fault. This is a critical alarm: consequently, the machine sets to Stop during Storage. During Production it does not quit the function, because in this case consistency is controlled.
Al. Evapor.Probe 1 (TE1)	Cylinder 1 evaporator sensor alarm. This alarm does not cause the machine to stop (it keeps on running in the current function).
Al. Evapor.Probe 2 (TE2)	Cylinder 2 evaporator sensor alarm. This alarm does not cause the machine to stop (it keeps on running in the current function).
Al. IceHop.Probe (TGV)	Hopper evaporator probe faulty. This alarm does not cause the machine to stop (it keeps on running in the current function).
Al. Hopper Probe (TEV1)	Left hopper probe fault. Since it is a critical alarm, the machine sets to Stop during both Production and Storage.
Al. Hopper Probe 2 (TEV2)	Right hopper probe fault. Since it is a critical alarm, the machine sets to Stop during both Production and Storage.
Autosetup Manual	When an Autosetup is carried out upon activation, the display shows Autosetup Manual for 5”.
Autosetup Forced	Upon activation a check is carried out on the programming table, if corrupt, it is restored via a forced Autosetup. The display will show Autosetup Forced.for 5".
Close L/R/Mid Handlet	In production it warns that MIR has been engaged for more that 15". In this case it is necessary to dispense a cone by pulling the relevant lever (left, right or middle) all the way down and reposition it in the closed position. If when the machine switches to Production, MIR is already engaged, the signal is activated immediately.
No more Cones LH **No more Cones RH**	When the low level has been reached the machine can dispense the number of cones set at the Last Cones step in Production mode. After which the machine automatically sets to Storage displaying the no more Cones message on the relevant side (also saved in the events log). The alarm resets by pressing the Storage key.

Ice Cylinder1-2 x10 (ICE)	Cylinder defrost read by TE1 - TE2 probes. In Production, if one of the two TE falls below the value set in step Ice Cyl., the machine sets to HOT reached position and stores the IceCyl1 x10. alarm or the IceCyl2 x10 alarm among the events (storage is carried out every 10 alarms logged). This alarm may be due to insufficient mix feeding into the cylinder. Check pump efficiency. When the cylinder temperature rises the alarm resets. If, instead, the alarm is displayed in Stop mode, it is necessary to check/replace the relevant TE probe, because the readable temperature end of scale is read by the CPU.
Invert Phases!	It is necessary to invert the 2 phases on the three-phase cable so that the beater turns in the correct direction. The alarm is reset by pressing the Reset key (after having inverted the 2 phases). This condition is tested only for the first minute after the machine is turned on.
W - gg	In Production, “W - dd” is displayed, meaning that there are still dd days remaining until machine cleaning. A forced washing may be required if the machine is left in Stop mode for 24 hours with mix above the minimum level. See sec. 5.
Power On	Power supply returns after power loss. Blackout table check when the machine is in Production mode. The event is logged in any function and stored in the events.
Mix Out Left - Right	The display indicates Mix Out when the mix is below the low level sensor. The mix LED turns steady on. When the mix is below the low level and upon Production a number of cones same as/or higher than the value set in step Last Cones are dispensed, not only will Mix Out be displayed, but the machine will also set to Storage.
Do Not Serve ! **Do Not Serve LH!** **Do Not Serve RH!**	In Production mode, when consistency is lower than the value set in Hot Block step, “Do not serve” is displayed. If, in such a case, you try to dispense cones, all units stop (MA, MC, EVFC and MP) and an intermittent beep will be emitted until the photocell is no longer busy. As soon as it is released, both MA and MC reactivate in order to bring ice cream to its proper consistency. LH = left-hand side, RH = right-hand side
Why in STOP ??	If the machine is left in the Stop position with mix above the minimum level, after 30 seconds the flashing message “Why in STOP?” will be displayed and an intermittent beep will be emitted. This alerts the user to select either Production or Storage. The above mentioned message will be deleted by entering in Production, having low mix level, or pressing Storage key. To have the message back on the display, enter again in Production or Storage.
Spigot Opened (IMS)	Magnetic Safety Switch. If opened for 10 seconds, it resets the Wash message.
Pressure Switch (PR)	Pressure switch triggered. The machine Stops: - if it is triggered for the third time within 1 hour - if the pressure switch contact remains open for two consecutive minutes Check the flow of the cooling water.
Reset Hours	Counter Reset.
Overload Beater (PTMA)	Overload (bimetallic) for beater motor of cylinder triggered. The machine Stops.
Overload Compres (PTMC)	Overload Compressor Motor. The machine Stops.

Timeout Prd.	During Production the amount of time for which the beater motor runs is closely monitored. If the beater motor stays ON for 10 minutes (Timeout Prd.) without Hot being reached, the machine sets to position “Reached-HOT” with alarm “Timeout Prd.” in the event list. The timer is reset at MIR and when MA is turned on. Check the quantity of mix in the cylinder, the hopper pump, and the refrigeration system.

4.1.1 Blackout

In case of a power loss, if the machine was in Cleaning mode, when power returns the machine shifts to Stop.

If the machine was in Production or Storage mode, when power comes back on, the machine checks the TEV temperature (considering the higher between TEV1 and TEV2) and if it is below a level set by the manufacturer then the machine sets to the same function as before, showing the “Power On” alarm on the display. If TEV is higher than this value and the time exceeds the values in the table, the machine needs to be cleaned.

TEV Temperature	**Time**
from 68°C to 50°C	30 minutes
from 49°C to 15°C	10 minutes
from 14°C to 10°C	20 minutes
from 9°C to 4°C	2 hours

5. REMOVAL, CLEANING, SANITIZATION AND REFITTING OF THE PARTS IN CONTACT WITH THE PRODUCT

5.1 GENERAL INFORMATION

Cleaning and sanitization must be carried out at the end of every production 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 it is done immediately after use because some elements containing acid and saline substances might corrode the surfaces. A prolonged soaking is not recommended.

5.2 WASHING CONDITIONS

- **Avoid using solvents, alcohol or detergents that could damage machine parts or pollute the functional production parts.**
- When washing manually, never use powder or abrasive products, abrasive sponges or pointed tools. There is a risk of dulling the surfaces, removing or deteriorating the protective film present on the surface and scoring the surface.
- Never use metal scouring pads or synthetic abrasives and avoid any other means containing ferrous particles that could cause oxidization or compromise the integrity of the surfaces.
- Avoid using detergents containing chlorine and its compounds. The use of detergents such as bleach, ammonia, hydrochloric acid and limescale removers can attack the steel composition, marking and oxidizing it irreparably and causing damage to the parts made of "plastic" materials.
- Do not use dishwashers and their detergent products.

5.3 TIPS

- Use a non-aggressive detergent solution to wash the parts.
- Manually wash the parts in water (max 60°C) using a non-aggressive detergent and the cleaning brushes supplied as standard.
- Use drinking water (bacteriologically pure) to rinse the parts.
- To sanitize leave the disassembled parts in sanitized lukewarm water for the time indicated on the sanitizing product label and rinse them before reassembling.
- When the washing procedure has been completed and before reassembly, dry each component thoroughly with a clean and soft cloth that is suitable for coming into contact with foodstuffs, to avoid leaving any humidity rich in mineral salts and chlorine that could attack the metal surfaces and leave opaque traces.

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). Basically, the use of a cleaning/ sanitizing solution saves time by facilitating and simplifying washing/ sanitizing procedures.

WARNING

Every time the machine is washed and the parts that come into contact with the ice cream mix are disassembled, it is essential to carry out a visual inspection of all the parts made in thermosetting, plastic, elastomer-based and silicon-based 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 replacement with original spare parts. The manufacturer is available for consultation and for any specific requests made by the customer.

5.4 HOW TO USE CLEANING/SANITIZING SOLUTION

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

Washing/sanitizing by soaking
- Remove larger residues by hand
- Remove finer residues with a jet of water
- Immerse the parts to be cleaned into the solution
- Let the solution react for the time indicated on the label of the product being utilized
- Rinse the parts with care, using plenty of clean drinking water

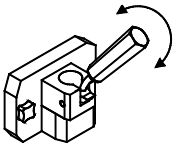
5.5 SCHEDULED CLEANING

The machine is provided with an automatic system which calls for washing of the parts in contact with the product for example every 3 days.
This system, identified as "WASH", disables the dispensing function at the end of the 3rd day after the latest cleaning. On the display, the message **"WASH TODAY"** appears.
In Dispensing mode, press the Increase key to display the number of days to machine next programmed cleaning.

WARNING

Cleaning and sanitization must be carried out at the programmed date indicated on the display (for example every 3 days), as a habit and with utmost care, in order to guarantee quality of production in the observance of healthy rules.

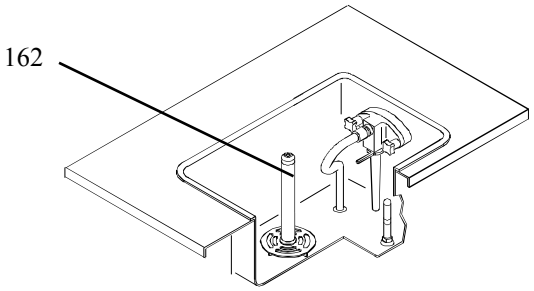
5.6 ICE CREAM SYSTEM EMPTYING



1. Place an empty pail under the dispensing spigot.
2. Press the STOP button.
3. Pull the dispensing levers and drain all ice cream from the cylinder.
4. Select the CLEANING function.
   Note: by pressing the CLEANING key again, it is possible to activate the HEATED CLEANING which melts ice cream in the cylinder during machine cleaning.
5. When the product coming out becomes liquid, press STOP and leave the dispensing levers open.
6. Remove hopper cover.
7. Disconnect pressure pipe from pump by turning it by 90° and sliding it out from its seat inside hopper. Wait for the product to be completely drained from hopper. Remove the pump by turning it 45° counterclockwise and pulling forwards.
8. Wait until the liquid mix flows out completely and then set the dispensing levers back to closing position. Fill the tanks with 10 liters of clean water. Clean hopper walls and level sensor using the supplied brushes. With a smaller brush, also clean pump and pressure pipe seats.
9. Place an empty pail under spigot door, lower dispensing lever and let water flow out.
10. Rinse with hot water until clean water flows out.
11. Select cleaning function and let the machine run about 10 seconds.
12. Press STOP button and drain all water out of machine.

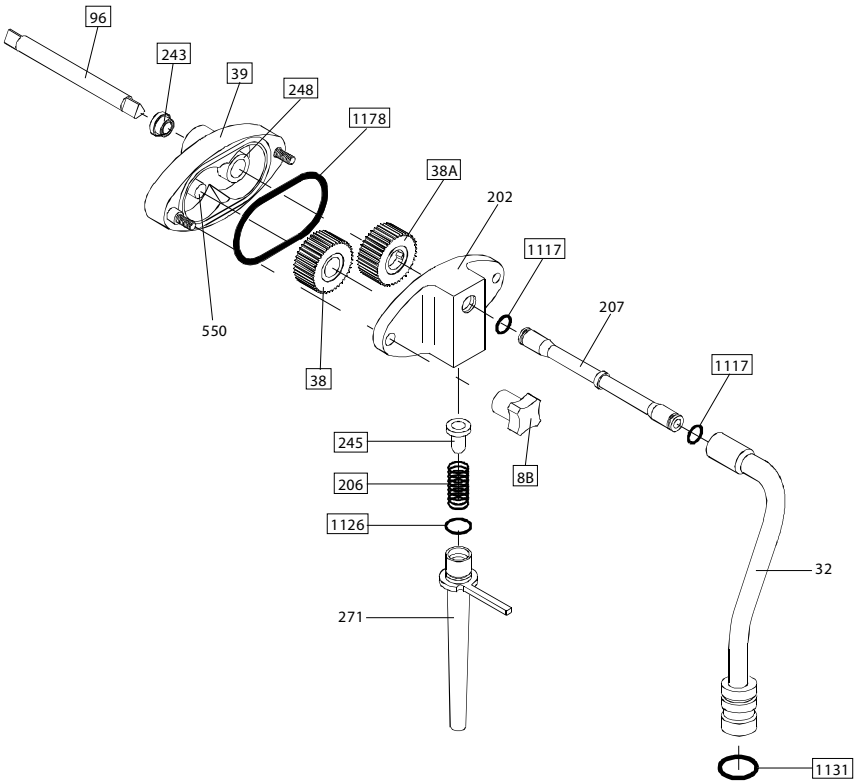
5.7 REMOVING THE MIX BEATER IN THE HOPPER

Remove the beater from the hopper (pos. 162) by pulling it upwards.



5.8 PUMP AND PRESSURE PIPE REMOVAL

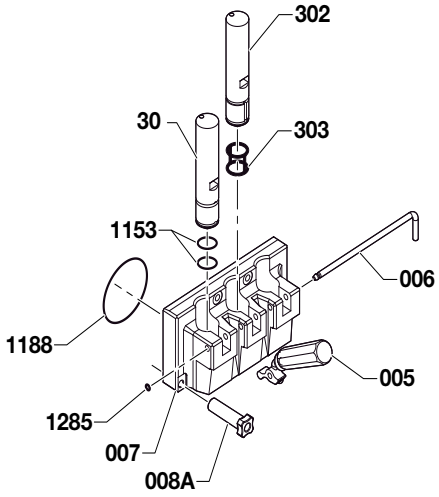
1. Remove the pumps by turning them 45° clockwise and pulling backwards.
2. Remove connecting pipes (pos. 207) from pump and pressure pipes (pos. 32). Rotate the RH and LH pressure pipes by 90° counter-clockwise and lift and remove them from their seat in the hopper. Remove O-rings (1117 and 1131).
3. Remove feeding tubes (pos. 271) by turning them counter-clockwise and pulling them downwards.
4. Remove spring (pos. 206) and valve (pos. 245). Use supplied puller to remove O-ring (pos. 1126).
5. Loosen the two knobs (pos. 8B) to separate cover (pos. 202) from pump body (pos. 39).
6. Tap pump body with your hand and remove gears (pos. 38 and 38A). Use puller to remove O-ring (pos. 1178).
7. Remove pump shaft (96) and seal (243) from pump body.



5.9 SPIGOT DOOR REMOVAL

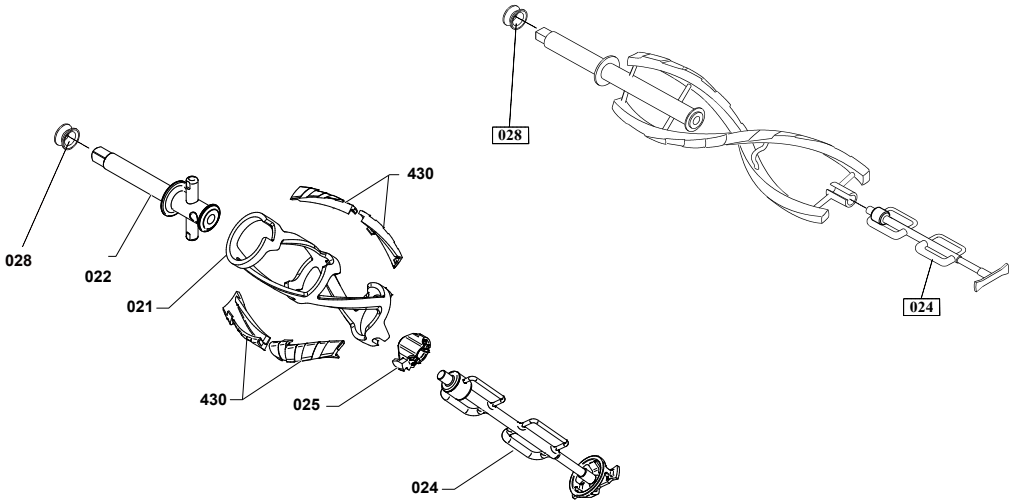
To remove the spigot door proceed as follows:

1. Loosen and remove the knobs on spigot door (pos. 8). Remove spigot door by pulling it outwards.
2. Working on dispensing levers (pos. 5), remove the pistons, pos. 30 and 302.
3. Remove the pin (pos. 6) locking dispensing levers in place (pos. 5).
4. Use dispensing levers to remove piston from its seat (pos. 30).
5. Remove all O-rings using a suitable puller.



5.10 BEATER REMOVAL

1. Slide beater out of its seat inside cylinder, taking special care not to hit cylinder walls.
2. Remove seal (pos. 28) by letting it slide along shaft.
3. Slide idler (pos. 24) from the shaft, and, if present, the beater terminal (pos. 25) and the helix (pos. 430).



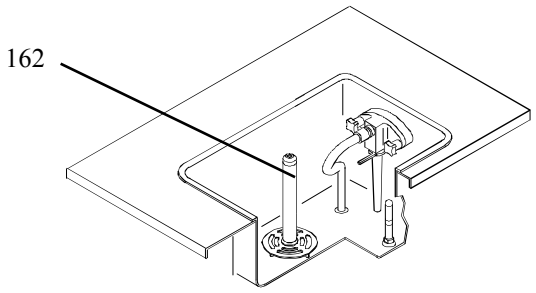
5.11 WASHING AND SANITIZING COMPONENTS

1. Remove larger residues by hand.
2. Remove finer residues with a jet of water
3. Soak the parts to be cleaned in the cleaning/sanitizing solution for the time indicated on the label of the product used.
4. Rinse the parts with care, using plenty of clean drinking water.
5. Place the components on a clean tray to air-dry.
6. Make sure that machine is in STOP mode.
7. Soak a brush in the cleaning/sanitizing solution and clean the cylinder.
8. Soak a brush in the cleaning/sanitizing solution and clean pressure pipe pump housing hole.
9. Spray cylinder back and hopper walls with the cleaning/sanitizing solution.

Repeat steps 7, 8 and 9 several times.

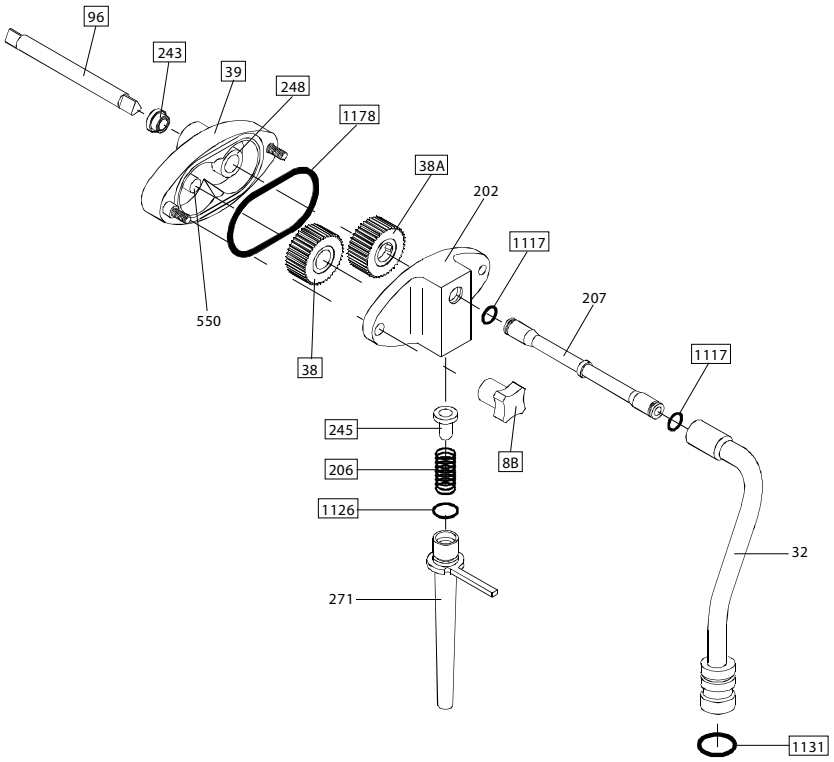
5.12 HOPPER BEATER REFITTING

Refit the beater in the hopper (pos. 162) in its seat.



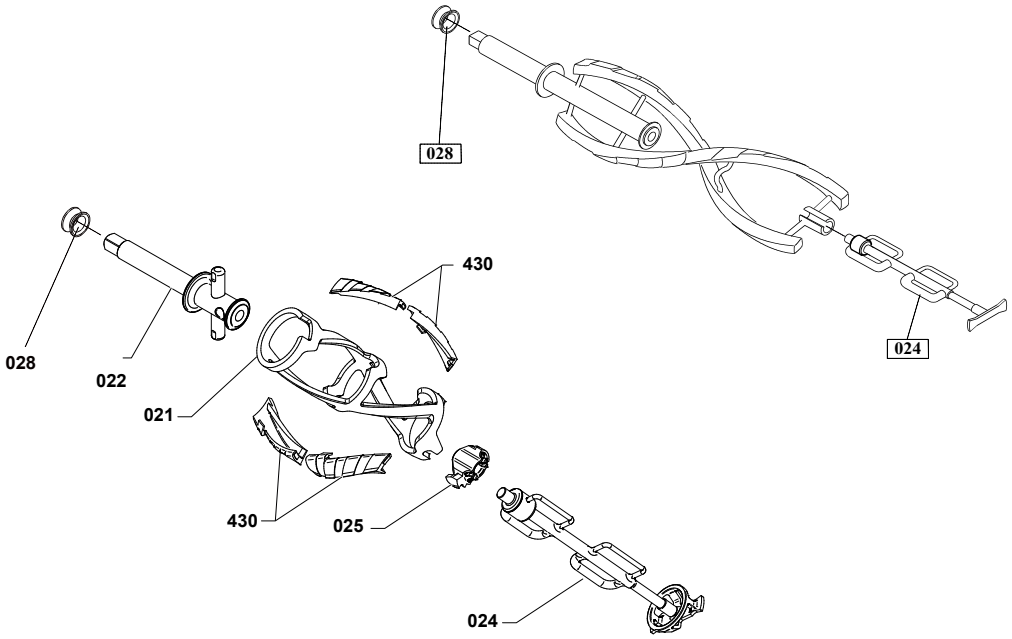
5.13 PUMP AND PRESSURE PIPE REFITTING

1. Lubricate and refit the O-rings (pos. 1117) on connecting pipes.
2. Lubricate and refit the O-rings (pos. 1126 and 1131) on RH and LH pressure pipes (pos. 32).
3. Install connecting pipes (pos. 207) on pressure pipes (pos. 32) and leave them soaked inside the sanitizing solution.
4. Lubricate and refit the O-ring (pos. 1178).
5. Lubricate gears (pos. 38 and 38A) and insert them inside pump body. **Warning: Do not lubricate the teeth of the pump gears.**
6. Lubricate and refit the O-ring (pos. 1126) inside suction pipe (pos. 271).
7. Fit valve (pos. 245) and spring (pos. 206) inside pump cover (pos. 202).
8. Fit feeding tube (pos. 271) in the pump cover by pushing it and turning it clockwise.
9. Fit pump cover (pos. 202) in the pump body, with the feeding tube as in the drawing, and firmly screw the two knobs (pos. 8).
10. Fit pump shaft (96) and seal (243) in pump body.
11. Refit pump inside hopper with the locking hook on the right side. Turn pump counterclockwise until it locks in place.



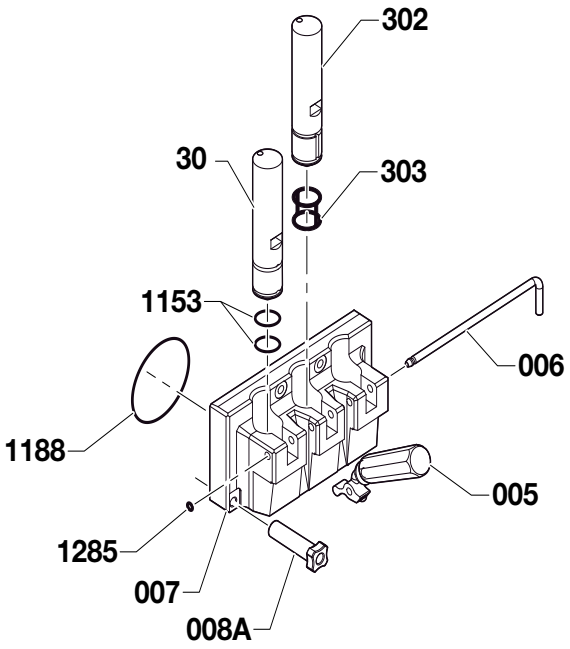
5.14 BEATER REFITTING

1. Lubricate seal (pos. 28) and insert it inside beater.
2. Fit idler (pos. 24), and, if present, the beater terminal (pos. 25) and the helix (pos. 430) in its correct position inside beater body.
3. Insert the beater assembly into the cylinder. Push it while turning it clockwise until it engages in its rear hub, otherwise the dispensing spigot door cannot be fastened properly, mix can flow out and serious damage may occur.



5.15 SPIGOT DOOR REFITTING

1. Lubricate and refit the piston O-rings in their seats.
2. Fit pistons (pos. 30 and 302) in their seat, taking special care to align piston square notch with rectangular notch on spigot door front side.
3. Position dispensing levers (pos. 5) on spigot door (pos. 7) and insert shut-off valve pin (pos. 6) through lever hole. Lubricate and install O-rings (pos. 1188).
4. Refit spigot door onto machine and fasten it with the two knobs (pos. 8).



5.16 MACHINE SANITIZATION

Before use, machine must be sanitized. Proceed as follows:

1. Fill hopper with a cleaning/sanitizing solution prepared according to the instructions provided by the product manufacturer, up to max. level, and let it flow inside cylinder.
2. Using the supplied cleaning brushes, clean mix level sensor, hopper walls and pump.
3. Select cleaning function and let the machine run about 10 seconds. Press the STOP button. Cylinder and pump are now filled with the cleaning/sanitizing solution.
4. Fill a pail with cleaning/sanitizing solution.
5. Soak a brush in the cleaning/sanitizing solution and clean spigot door. Repeat the operation twice.
6. Wipe the exterior of machine with a 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 spigot door and pull the dispensing lever.
9. Allow all of the sanitizing solution to drain. If the sanitizing solution does not flow out completely, keep the dispensing lever down and select the CLEANING function. Let the machine run for 5 seconds so that the last solution residues flow out, then push STOP.

WARNING

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

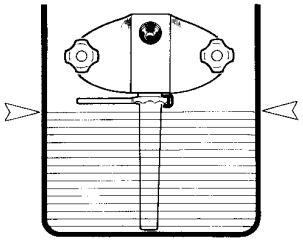
10. Proceed to rinsing by filling cylinder with drinking water.
11. Drain all water out of cylinder by lowering dispensing levers.

5.17 MIX LOADING

Remove the pressure pipe from hopper bottom and soak it in the sanitizing solution.

Prime Hopper:

- Take one bag of mix from the refrigerator. Mix to be poured at a temperature of 4-5 °C.
- With the dispensing lever open, pour mix into the hopper allowing it to drain into the cylinder. Mix inside the hoppers shall never reach the pump or the feeding needle; furthermore mix shall be added whenever level is 2 cm from hopper bottom.
- When a small amount of full strength mix (not mix and sanitizing solution) is flowing from the spigot door, close the spigot door lever.



Connecting the pressure pipe:

- Keep pouring the mix until the cylinder has been filled (bubbles shall be visible in the hopper while filling); with clean and sanitized hands, remove the pressure pipe from the sanitizing solution, and insert it into the bottom of the hopper.
- Turn pressure pipe clockwise towards pump, and connect it to pump; turn connecting pipe (pos. 207) to lock it in place. Mix inside hopper shall never reach the pump (see the picture); furthermore mix shall be added whenever level is 2 cm from hopper bottom.
- Place hopper cover back.
- Select production function.

WARNING

Once the mix is poured in the hopper, the suitable lid must be used so as to keep it at the correct temperature and to minimize the risk of contamination

6. MAINTENANCE

6.1 SERVICE TYPE

WARNING

Every maintenance operation requiring opening of the machine panels must be carried out with machine stopped and disconnected from the power supply!
It is forbidden to clean and lubricate moving parts!
"Repairs to the wiring, mechanical, air supply or cooling systems, or to parts of same must be carried out by qualified and authorized personnel 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 for correct machine operation are such that the majority of routine maintenance interventions are integrated into the production cycle.
Maintenance operations, such as cleaning of parts in contact with the product, replacing of seal, disassembling of beater assembly are to be carried out at the end of the working day, so as to speed up maintenance operations required.
Below is a list of ordinary maintenance interventions:

- **Seal cleaning and replacement**
  Seal must be cleaned at the end of every shift and replaced after visual inspection and when product is found to be leaking inside drip tray.

- **Machine panel cleaning**
  To be carried out daily with neutral soap, seeing to it that cleansing solution never reaches beater assembly at its inside.
- **Beater, pump, spigot door, drip drawer cleaning and machine sanitizing**
  According to procedures described in section 5 of this manual.

WARNING

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

6.2 WATER COOLING

By machines with water-cooled 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 AIR COOLING

Clean condenser, periodically, so as to remove dust, paper and whatever prevents air from circulating.
For cleaning, use a brush with long bristles or a bolt of compressed air.

WARNING!

When using compressed air, use personal protective devices in order to avoid accidents; wear protective goggles!

NEVER USE SHARP METAL OBJECTS TO CARRY OUT THIS OPERATION; THE CORRECT OPERATION OF A REFRIGERATION SYSTEM LARGELY DEPENDS ON HOW CLEAN THE CONDENSER IS.

6.4 SUPPLIED SPARE PARTS TABLE

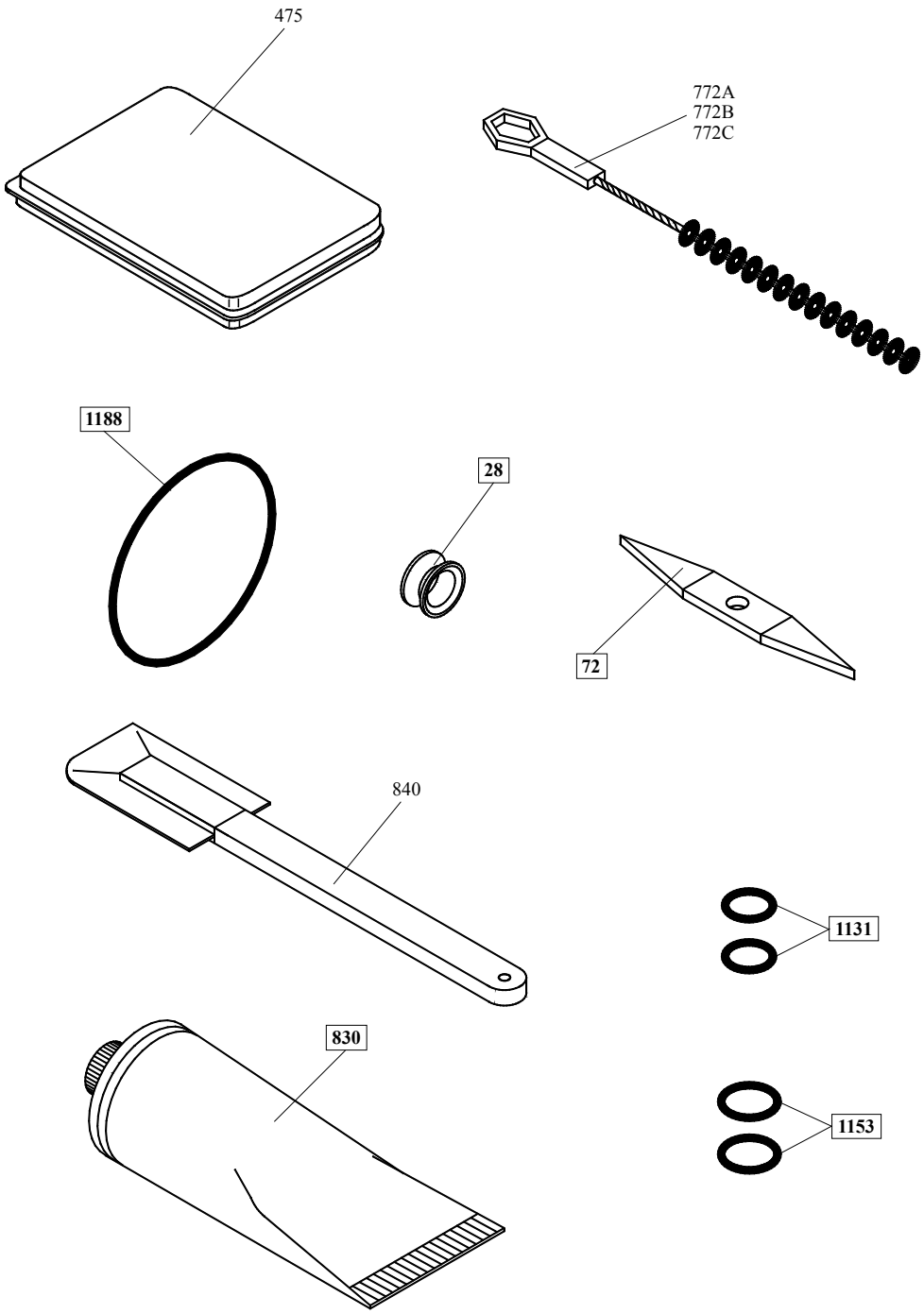


Fig. 38

Pos.	Description
28	Beater seal
72	OR puller
475	Accessories
772	Brush D. 8x250
772A	Brush D. 15x350
772C	Brush D. 40x400
772D	Brush D. 30x640
772E	Brush D. 85x145x390

Pos.	Description
830	Lubricating pipe
1117	O-ring
1126	O-ring
1131	O-ring
1153	O-ring
1178	O-ring
1188	O-ring
1266	O-ring

7. TROUBLESHOOTING

IRREGULARITY	CAUSE	PROCEDURE TO FOLLOW
The machine does not start.	1. Burnt fuses. 2. Wrongly inserted power socket. 3. Alarms displayed	1. Check and replace. 2. Check and correctly insert.
Compressor starts and stops after a few seconds.	1. In case of water-cooled machine: water does not circulate. 2. In case of air-cooled machine: air does not circulate.	1. Open water inlet cock and check that pipe is not squashed nor bent. 2. Make sure that machine rear side is at least at 50 cm. from the wall or from an obstacle. 3. Clean condenser, if clogged by dust or other materials.
The machine is working but no ice cream is dispensed by the dispensing spigot.	1. No sugar inside mix. 2. After the cleaning some water has remained and frozen in the spigot.	1. Wait for the ice cream to melt inside cylinder, change and modify mix. 2. Let it defrost and dispense a cup of ice cream before restarting.
The machine is working but the ice cream is too soft.	1. Too much sugar inside mix. 2. Machine has been working for too long without ice cream dispensing. 3. Ice cream is dispensed too quickly.	1. Modify or change mix. 2. Dispense some ice cream from the spigot so as to renew mix inside cylinder. 3. Comply with the interval indicated inside table, adjusting ice cream output speed, if necessary.
Mix or ice cream come out above or below piston though it is closed.	1. Piston without O-ring or O-ring is worn-out.	1. Insert or replace it with a new one if worn-out.
Mix coming out of drip tray.	1. Seal missing or worn-out.	1. Insert or replace it with a new one if worn-out.
Piston hard to operate.	1. Dry sugar on pistons.	1. Thoroughly wash and grease pistons and O-rings with food-grade grease.
Ice cream comes out from spigot door.	1. O-ring missing or not properly fit. 2. Knobs not tightened evenly.	1. Check and take the necessary actions. 2. Stop machine. loosen and tighten them again.
The bacterial test proved too a high bacteria content.	1. Too many bacteria present inside mix. 2. Poor machine cleaning and no sanitization. 3. Mix left inside the machine for more than 72 hours without having carried out machine cleaning and sanitizing operations.	1. Improve the preparation process by sanitizing all containers. Have the mix analyzed before it is put into the machine. Storage temperature is too high, adjust thermostat. 2. Completely empty and throughly clean it and, above all, sanitize it as indicated in chap. SANITIZATION. 3. Empty the machine, then clean and sanitize it; load it with new mix pasteurized at 4°C.