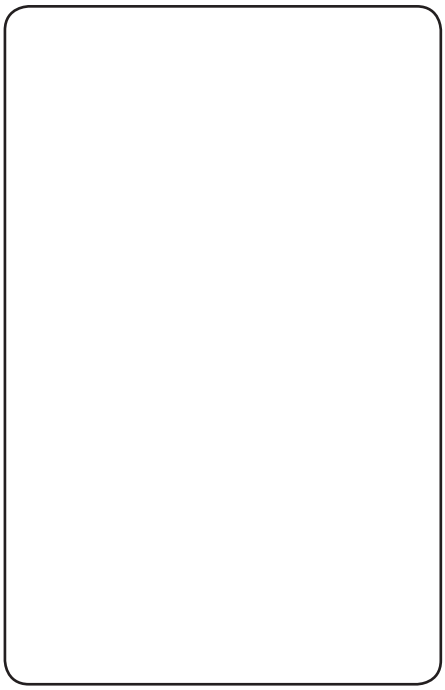
INSTRUCTION HANDBOOK

COMPACTA VARIO US



ICETEAM
1927

Code IC193-008659_01

We wish to thank you for purchasing one of ICETEAM 1927 machines.
To the best guarantee, since 1993 ***ICETEAM 1927*** *has submitted its own Quality System to the certification according to the international Standard ISO 9001.*
Nowadays ICETEAM 1927 production has got UNI-EN-ISO 9001 Certified Quality System.

ICETEAM 1927

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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 **ICETEAM 1927** 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;
- the 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 which is delivered together with the machine for its maintenance.
- **Wiring diagram**: a diagram of wiring connections is placed in the machine.
- **Installation sheet:** To be completed by the installer. Return a copy to the customer, the dealer and the manufacturer in order to activate the machine warranty

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

CONVENTIONAL SYMBOLS

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

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

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

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

NOTE
It points out significant information for the staff involved.

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

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

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

SYMBOLOGY QUALIFICATION OF THE STAFF

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

MACHINE OPERATOR
Unqualified personnel, without any specific technical abilities, capable of carrying out simple jobs, such as: operating the machine using the commands available on the keypad, the loading and unloading of products used during production, the loading of any consumable materials, basic maintenance operations, (cleaning, simple blockages, inspections of the instrumentation, etc.).

QUALIFIED ENGINEER
He/she is a skilled engineer for the installation and operation of the machine under normal conditions; he/she is able to carry out interventions on mechanical parts and all adjustments, as well as maintenance and repairs. He/she is qualified for interventions on electrical and refrigeration components.

ICETEAM 1927 ENGINEER
He/she is a skilled engineer assigned by the manufacturer to interventions for complex jobs under particular conditions or in accordance with agreements made with the machine's owner.

SAFETY

When using the machine, one must be aware of the fact that drive mechanisms (rotary motion), high voltage components, as well as parts subject to high temperatures may cause serious damage to persons and things.
Persons in charge of plant safety must make sure that:

- any incorrect use or handling is avoided;
- safety devices are not removed or tampered with;
- the machine is regularly serviced;
- only original spare parts are used especially as far as those components with safety functions are concerned (ex.: protection microswitches, thermostats);
- suitable personal protective equipment is worn;
- attention is paid during hot product cycling.

To achieve the above, the following is necessary:

- at the work station an instruction manual relevant to the machine should be available;
- such documentation must be carefully read and requirements must consequently be met;
- 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 persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety;
- Make sure that no technician will ever carry out interventions outside his own knowledge and responsibility sphere;
- Children should be supervised to ensure that they do not play with the appliance.

IMPORTANT!
Make sure that the staff does not carry out any operation outside their own sphere of knowledge and responsibility (refer to “Symbology qualification of the staff”).

NOTE:
According to the standard in force, a QUALIFIED ENGINEER is a person who, thanks to:
- training, experience and education,
- knowledge of rules, prescriptions and interventions on accident prevention,
- knowledge of machine operating conditions,
is able to recognise and avoid any danger and who has also been allowed by the person in charge of plant safety to carry out all kinds of interventions.

WARNINGS

- 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.
- **ICETEAM 1927** 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. RECEIPT, HANDLING, UNPACKING

1.1 RECEIPT

- Before opening the packaging, make sure there is no damage due to impacts during transport.
- If there is a damage in the packaging suggesting that the contents may be damaged, immediately inform the insurance company, without trying any operation.

1.1.1 Lifting of packed machine

The packaging must be lifted by completely inserting the forks of the lift in the space between the pallet feet, distributing the weight of the machine so that the center of gravity of the packaging is balanced.

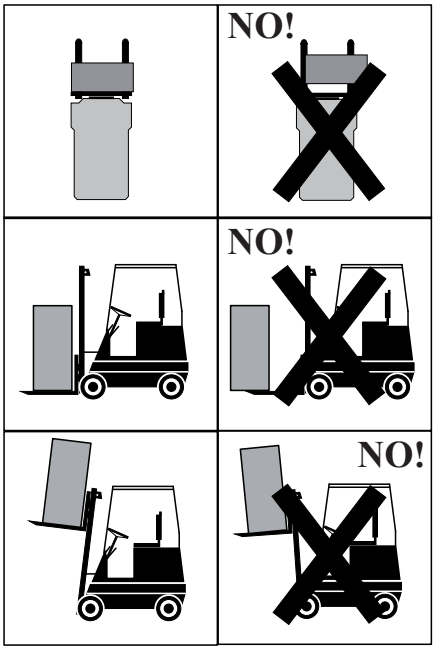


Fig. 1

1.1.2 Prohibited lifting equipment

Do not use lifting equipment or systems that do not comply with safety requirements, such as those having:

- Lifting capacity lower than the weight of the machine or unsuitable lift construction characteristics (e.g. short forks).
- Non-conforming or worn ropes or cables.

1.2 UNPACKING

The protective wooden packaging can be opened my means of suitable tools.

1- Remove the nails, starting from the upper part and uncovering the machine while it is still fixed to the pallet (packaging platform).
2- Remove the protective cloth that wraps the machine.
3- Visually check that the machine has not been damaged during transport.

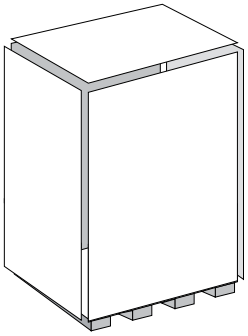


Fig. 2

The carton packaging is closed externally with steel straps.

1- Cut the external straps using a shear and holding an end with your hands.
2- Slide out the carton from the top.
3- Remove polystyrene and polypropylene bag that protect the machine.
4- Cut the straps that fasten the machine.

WARNING
Protect your hands with gloves, since there is the risk of injury with splinters of wood or when cutting the straps, if they are not properly held during the operation.

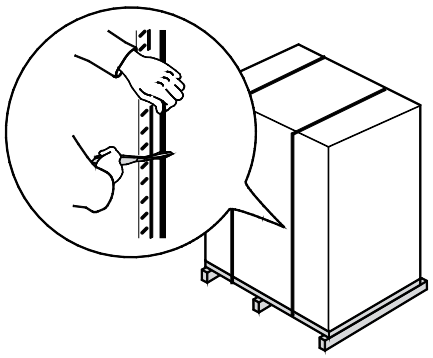


Fig. 3

1.2.1 Machine removal from pallet

1- Using a suitable wrench, remove the four screws that fix the two transoms placed between the pallet and the machine.

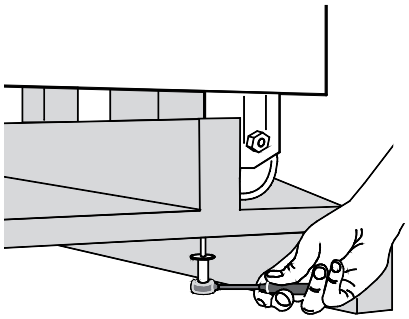


Fig. 4

WARNING

Machine removal from the pallet must be carried out by TWO operators properly trained on required maneuvers. Remove the machine from the pallet only after having read the instructions below.

2- Place the wooden ramp supplied on the rear side of the machine.

3- Push the machine from the rear side until the two cross bars fall, then remove them laterally.

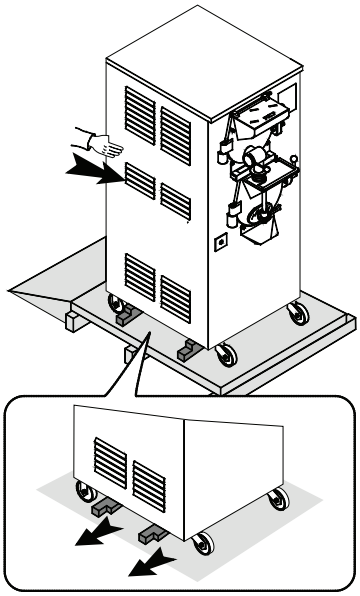


Fig. 5

4- The descent of the machine from the ramp must be guided by **TWO** operators, one positioned on the rear side and the other on the front side.

WARNING

Pay attention that during the movement the machine does not gain speed or does not block when touching the floor since, in both cases, there is a RISK OF OVERTURNING with possible personal injury and/or damage to surrounding property.

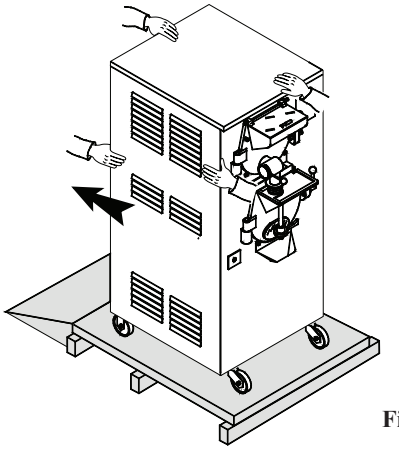


Fig. 6

1.3 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.

IMPORTANT:
In case of packed machine storage it is recommended not to stack packing boxes.

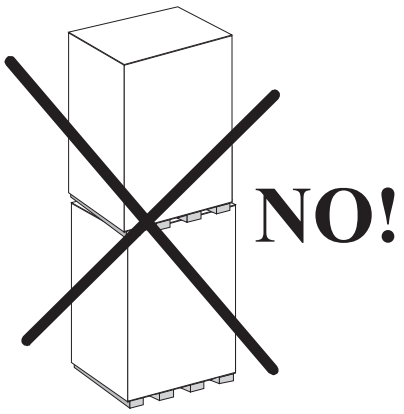


Fig. 7

1.4 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.

1.5 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. GENERAL INFORMATION

2.1 GENERAL INFORMATION

2.1.1 Manufacturer identification data

The machine is provided with an identification plate with the manufacturer's data, machine type and serial number assigned to it when it was manufactured.

Model No.						
Serial No.					Fac.ID.	
Volts	Phase		Hz			
Max Breaker Fuse Size						
Minimum Circuit Ampacity						
Total Load						
	DESIGN PRE		OPERATING PRE			
HIGH SIDE, PSIG						
LOW SIDE, PSIG						
REFRIGERANT	AMOUNT (OZ)					
REFRIGERANT						
	QTY	VOLT	HP	FLA/RLA	LRA	
COMPRESSOR						
BEATER (HIGH)						
BEATER (LOW)						
FAN MOTOR						

2.1.2 Customer/user identification data

CUSTOMER: .....

ADDRESS:.....

TELEPHONE:.....

Machine Serial No.:.....
Machine delivery date: .....
Manual delivery date:.....

2.1.3 Information on maintenance service

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

2.1.4 Information for user relations

- 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 in the country of the user.
- The manufacturer's service department is available for any information about operation, and requests of spare parts and service.
- The manufacturer reserves the right to make any changes deemed necessary to the machine described in this manual without prior notice.
- The description and illustrations contained in this document are not binding.
- All copyrights on this manual belong to **ICETEAM 1927**.

2.2 INFORMATION ABOUT THE MACHINE

2.2.1 General information

Machines installed on the floor, to produce ice cream, low-fat ice cream or fruit ice cream.
The machines are equipped with electronic control board to access all machine functions.
The main components of **Compacta VariO** machines are:

- Upper heating cylinder
- Lower freezing and production cylinder
- Electronic control panel divided into heating and freezing sections
- Flexible water shower for cylinder cleaning
- Spigot doors for mix insertion in heating and freezing cylinders.
- Handles for product dispensing and passage from upper to lower cylinder
- Spigot doors with accident prevention devices for opening of product processing cylinders
- Wheels for easy movement.

ICETEAM 1927 recommends using 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:

- Choose high quality natural ingredients and create your own mix or buy it from trustworthy suppliers.
- Closely follow instructions given by your mix supplier for the preparation of the mixes.
- Do not alter your supplier's recipes, by adding, for instance, water or sugar.
- Taste your ice cream before serving and start selling only if entirely satisfactory.
- Make sure your staff always keeps the machine clean.

Have your machine always serviced by companies authorized by **ICETEAM 1927**.

LEGEND:

1 Flexible water shower
2 Electronic control panel
3 Spigot door for mix introduction into heating cylinder
4 Upper cylinder (heating)
5 Handle for product dispensing and passage from upper to lower cylinder
6 Spigot door for mix introduction into freezing cylinder
7 Lower cylinder (freezing and performance of production cycles)
8 Wheels for easy movement
9 Tub support

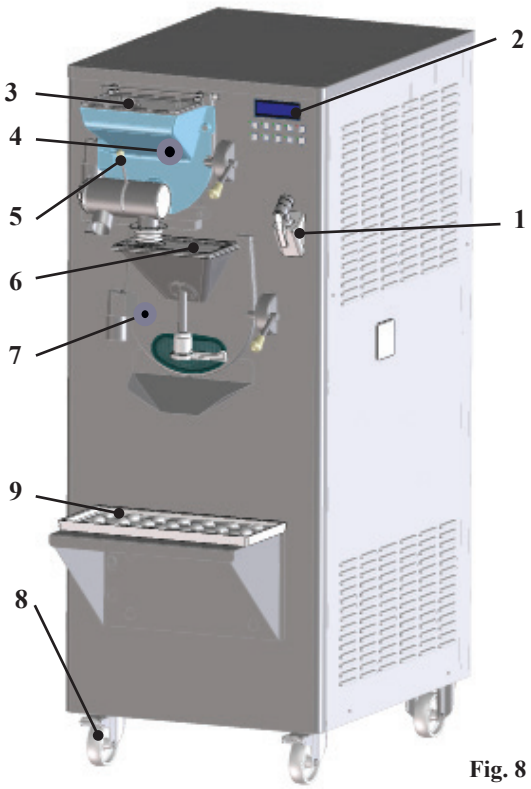


Fig. 8

These parts are inside the machine

2.2.2 Technical features

Model	Quantity per freezing cycle		Electrical supply			Installed power
	Mix fed kg/lb					
	Min	Max	Volt	Hz	Phase	kW/hp
Compacta VariO 8	1.5/3.3	8/18	208-230	60	3	8.8/12
Compacta VariO 12	1.5/3.3	12/26	208-230	60	3	14/19

* *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.*

2.2.3 Machine layout

Model	Dimensions cm/in			Weight
	Width	Depth	Height	Kg/lb
Compacta VariO 8	60/24	77/30	153/60	290/640
Compacta VariO 12	60/24	87/34	153/60	430/948

Fig. 9

2.3 INTENDED USE

Compacta VariO models must be used solely for the purpose described in paragraph 2.2.1, "General information", within the functional limits described below.

- Voltage: .....±10%
- Air min. temperature °C: .....10°C (50°F)
- Air max. temperature °C:.....35°C (109°F)
- Water min. temperature .....10°C (50°F)
- Water max. temperature.....30°C (86°F)
- Water min. pressure .....1 bar (0.1 MPa) 14 PSI
- Water max. pressure.....5 bar (0.5 MPa) 72 PSI
- Max air relative humidity: 85%

- Any use of the machine other than the intended use is not allowed.

2.4 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).

3. INSTALLATION

3.1 ROOM NECESSARY FOR MACHINE USE

The machine must be installed in such a way that air can freely circulate all around its sides.
Enough room must be left free around the machine, in order to enable the operator to act without constraint and also to immediately leave working area, if necessary.
The minimum access space to working area should be at least 150 cm. (60 in), which takes into account the space taken up by open doors, if any.

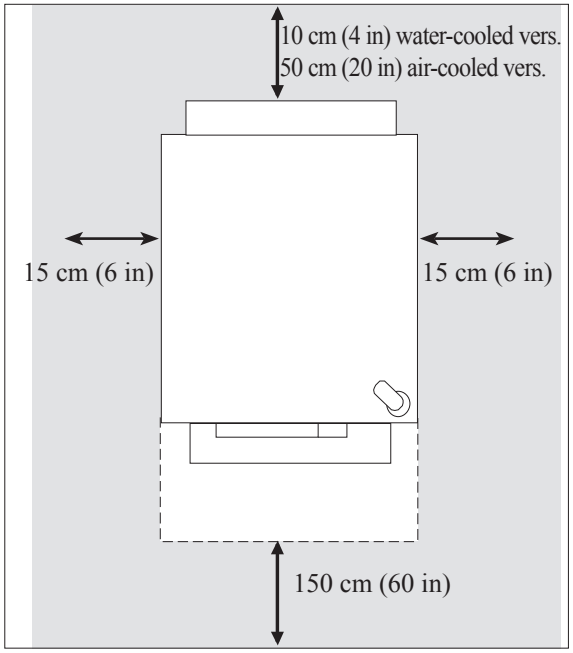


Fig. 10

3.2 WATER SUPPLY CONNECTION

The machine must be connected to the mains water, which must not exceed a pressure of 5 bar 72 PSI.
In water-cooled machines water connections (for machine wash and gas cooling) are placed on rear panel.

3.3 MACHINE WITH AIR-COOLED CONDENSER

Machines with air-cooled condenser must be installed at least 50 cm (20 in) away 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.

3.4 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/14 PSI and 0.5 MPa/72 PSI (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.

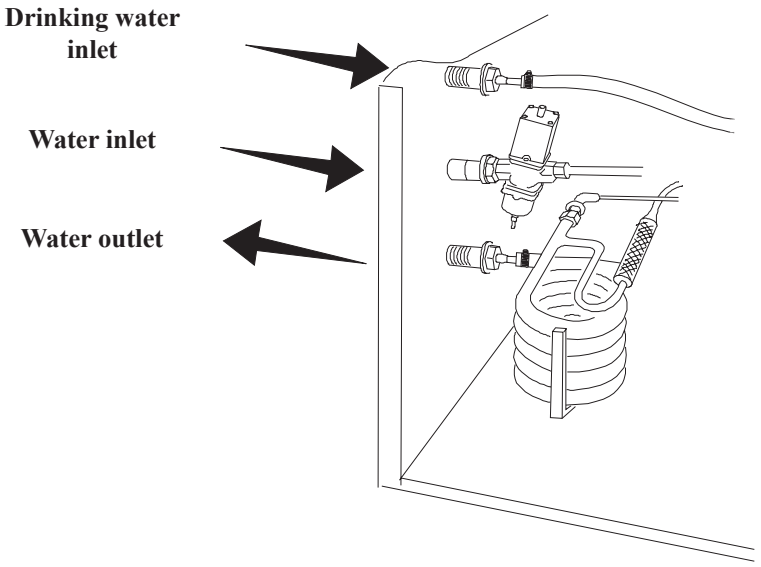


Fig. 11

3.4.1 Water valve adjustment

IMPORTANT:
If water valve must be reset, this operation shall 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 inlet water is above 68° F.

WARNING!
Do not leave the machine in a room with temperature below 32°F without first draining water from the condenser (see Sec. 7 of the manual).

3.5 ELECTRIC CONNECTION

The machine must be installed in compliance with the current electrical installation regulations. Before connecting the machine to the mains, check that machine voltage indicated on the identification plate corresponds to that of the mains.
Place between the mains and the machine a differential magnetothermal protection switch, with contact opening of 3 mm (0.118 in) at least and adequately sized to absorption capacity required.

IMPORTANT
Yellow/green wire MUST be connect to a good ground plate.

Beater rotation
By machine models **Compacta VariO** the direction of beaters rotation is *anticlockwise*.

Reversing the rotation direction
If the direction of rotation is not correct, interchange two of the three leads coming from the circuit breaker.

3.6 POSITIONING THE MACHINE

The machine is fitted with wheels to ease its positioning. The wheels feature mechanical lock mechanisms which, once engaged, prevent the machine from moving and shifting to a different position.

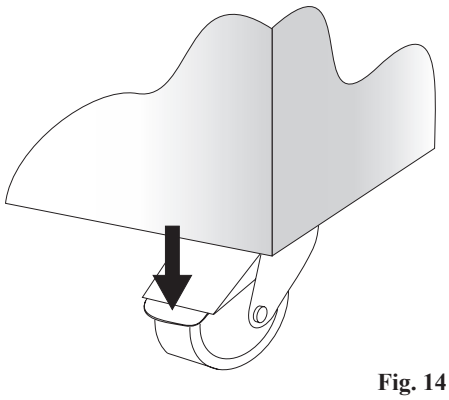


Fig. 14

Eliminate external dust from your machine and remove the protective product which was spread on it before delivery.
Use a soft cloth and water, with addition of a mild soap-detergent if necessary.

WARNING
Avoid using solvents, alcohol or detergents that could damage machine parts or pollute the functional production parts.

3.7 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 **ICETEAM 1927** 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.

3.8 MACHINE TESTING

The machine is tested after production at **ICETEAM 1927**'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 one of **ICETEAM 1927** engineers.
After positioning the machine and connecting it properly to the supply lines, proceed with the operations related to the functional check and with the operating test of the machine.

4. INSTRUCTIONS FOR USE

4.1 MACHINE SAFETY WARNINGS

When using industrial equipment and plants, one must be aware of the fact that moving parts (rotary motion), high voltage components, as well as parts subject to high temperatures, etc. may cause serious damage to persons and things.
The persons in charge of safety must ensure that:

- An incorrect use or handling is avoided
- Safety devices are neither removed nor tampered with
- The machine is regularly serviced
- Only original spare parts are used, especially as far as those components with safety functions are concerned (ex.: protection microswitches, stop buttons, differential switches etc.)
- Suitable personal protective equipment is worn
- Attention is paid during hot product cycling.

To achieve the above, the following is necessary:

- An instruction manual relevant to the machine should be available at the work station.
- Such documentation must be carefully read and requirements must consequently be met.
- Only suitably skilled personnel should be assigned to electrical equipment.

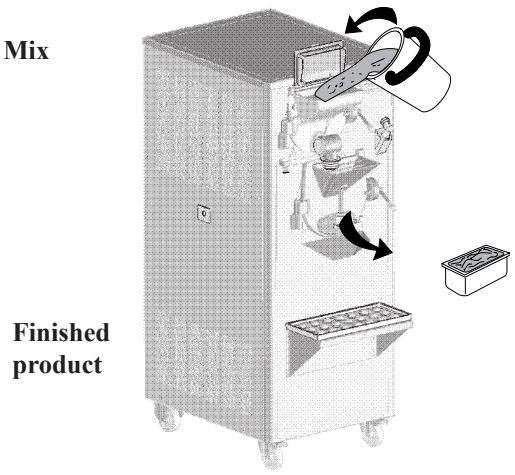
4.1.1 Machine configuration

The machine has two motors to drive the beater units, and a cooling system with water-cooled or air-cooled condenser (or both, according to the version).
The product preparation is carried out by filling the cooking cylinder or the freezing cylinder with the mix and by starting the automatic production cycle.
When the cycle ends, the product can be dispensed using the proper handles.

WARNING
In any case, do not touch the spigot door during the heating stage or the stages immediately after, since it can reach very high temperatures.

WARNING
Be very careful during the processing/extraction of hot products – coming into contact with the product could cause burns.
Do not open neither the out door nor the spigot door when the machine is running.

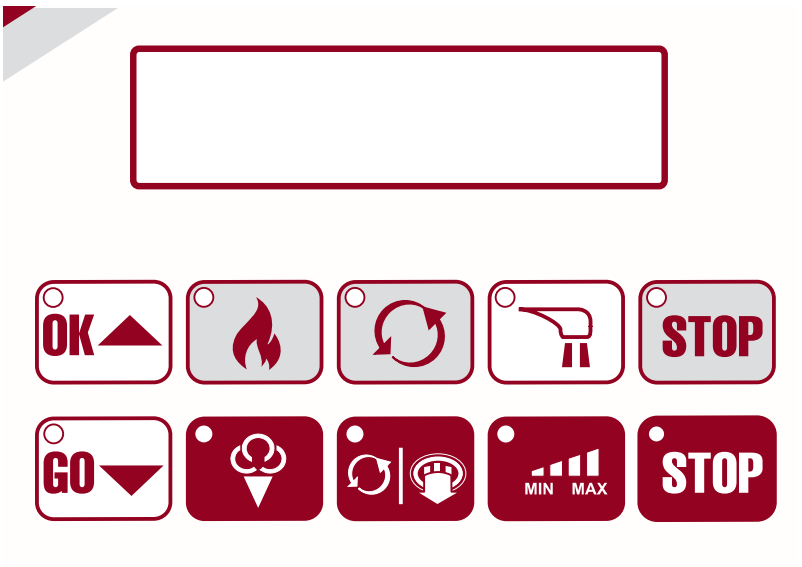
WARNING
To make product dispensing easier, only use the plastic spatula supplied. Never use metal spatulas as these could damage the machine.



4.2 CONTROLS

4.2.1 Electronic control panel

The machine has an electronic control panel on the operator side; each button has a specific symbol according to its function.



4.2.2 Standard functions

INCREASE Button
This button increases the values that can be edited for those functions where editing is permitted.

DECREASE Button
This button decreases the values that can be edited for those functions where editing is permitted.
From Stop, press and hold this button to run the Autosetup of all the programs.
It is also used to reset alarm messages (both on boiler side and batch freezer side).

WATER DISPENSER button
If pressed, at any time, it enables the solenoid valve to dispense water.
The solenoid valve can be deactivated by pressing again the same button, the Stop button (both on Boiler and on Batch Freezer side) or after 3 minutes.
Water supply starts by pressing the handle on the nozzle, once the solenoid valve is activated.

4.2.3 Operator functions
BOILER section (upper part)

The upper part of the machine concerns the boiler and the relevant messages are displayed on the first line.

STOP button
The upper part of the machine is stopped in this mode.
From this position it is possible to access the other functions of boiler section (upper part).
STOP has priority over any other upper part function.
The display will read

11:15:08 MON

HEATING button
This button selects the cycle to carry out.
Once the button is pressed, the display shows the cycle that can be modified using Increase and Decrease buttons, which can be either:

HEATING+90
HEATING+85
HEATING+65
Free heating

After 3 seconds, by pressing Heating button, the display indicates the charge that can be modified using Increase and Decrease buttons, which can be:

Max. Charge
Med. Charge
Min. Charge
Extramin Charge

Then the relevant cycle will start after about 2" or by pressing Heating button.

WARNING
before enabling any boiler cycle, ensure that there is mix inside the cylinder, or sensors TER1-2-3 could get damaged and heating elements could get burnt.

The display (first line) shows the temperature of the product in the boiler cylinder on the left and the set target temperature on the right.
The display will read:

The ramp refers to the temperature that increases.

By pressing Heating again, the set temperature on the right becomes editable and Increase/Decrease LEDs turn on. Then, it is possible to edit the Heating temperature value, by using Increase and Decrease buttons.
Press Heating again to quit "heating temp. edit" mode or wait for 10" without pressing any button (in this way the temperature value is no longer blinking and Increase/Decrease LEDs turn off).
The edited temperature value is saved when you exit the function.

Heating can be programmed as follows:

Cycle	Min	Max
HEATING 194°F	194	203
HEATING 185°F	167	185
HEATING 149°F	149	167
Free Heating	131	203

When the set temperature is reached (e.g.: 185°F) heating elements are deactivated and an acoustic signal is emitted for 5", during which the display shows for instance:

+86 10:59 +85

where the temperature of the boiler cylinder is indicated on the left, the time countdown at the center and the set temperature on the right.
In this time the product is thermostat-controlled, and the time becomes editable when pressing Heating button.
Using Increase and Decrease arrows the cooking time can be modified from 0 to 30 minutes.
If the timer is set to 0 there are in any case 15" to edit the thermostat-control time.
Once the time is set, press again Heating button to exit setting mode.
The timer set is saved when you exit the function and shown when the cycle is run again.
When set time elapses, the boiler switches to Beating mode for 1 minute and 30 seconds.

BEATING button
Press the button to start beating, which remains active until **STOP** button is pressed or at the end of 1 minute countdown.
The display shows the product temperature:

TEV=+085

WARNING
After 1 minute from beating start, the machine automatically sets to STOP to prevent an excessive wear of beater and cylinder.

4.2.4 Operator functions
BATCH FREEZER section (lower part)

The lower part of the machine concerns the batch freezer and the relevant messages are displayed on the second line.

STOP Button

By pressing STOP the machine is idle and the relevant LED is on. From Stop condition, it is possible to access User Programming.
From Stop, press and hold STOP button to read the machine event log.

SET BEATING SPEED button (batch freezer)

By pressing 

button from Freezing, Extraction or Beating, Increase and Decrease LEDs turn on and, using the relevant buttons, it is possible to change Beating speed.

BEATING / EXTRACTION Button

Beater function:

Pressing the Beater key in Stop mode, the Beater is activated for 1 minute. The display visualises:

Timer 01:00 VEL3

Pressing the key once, slow beating (speed 3) is activated and on the left the display visualises the decreasing timer and on the right the beater speed. When the time has expired, the machine goes into Stop mode.

Pressing the 

key, the LEDs of the Increase/Decrease keys light up. Using the Increase/Decrease keys, modify the speed of the beater motor from 1 to 7.

Extraction function:

Pressing the Whipping key, access is gained to the Extraction function. The beater is activated at speed 7 (programmable at step U11).
The Extraction function can only be activated from the Whipping function and not from Stop mode. Beating time during extraction is 5 minutes.
The display visualises:

15:26:14 Mon
Timer 03:00 VEL7

Pressing the 
key again, the speeds set at steps U11 and U12 are alternatively activated.

Pressing the 

key, the Increase/Decrease LEDs light up and using these keys, the speed of the beater can be modified from G, 1, 2 to 7, where G is the speed of the Slush cycle (only for the Compacta Vario version).

Coolde Extraction

Once Extraction has been activated from the Whipping function, pressing the key 
again, a cooling cycle of the product is activated (EVF ON - MC ON) during extraction that finishes when the timer expires that depends on the cycle and the load in execution.
The LED of the Whipping key lights up during the activation of the cooling cycle.

FREEZING Button

Press FREEZING button to access the Freezing recipes created specially for ice cream production.

- Gelato Max
- Gelato Med
- Gelato Min
- Gelato Extramin.
- Fruit Sorbet Max
- Fruit Sorbet Med
- Fruit Sorbet Min
- Fruit Sorbet Xmin
- Ice Cream Max
- Ice Cream Med
- Ice Cream Min
- Cremolata Max
- Cremolata Med
- Cremolata Min
- Granita Max
- Granita Med
- Granita Min
- Cooling

"GELATO" recipes must be used in preference with milk-based products to obtain classic hard ice cream.
"FRUIT SORBET" recipes must be used in preference with water-based products.
"ICE CREAM" recipes must be used with milk-based products to obtain American ice cream.

Set recipes are calibrated upon ICETEAM 1927 testing and are ready to be used by less expert operators as well.
To obtain quality products using the set recipes, we recommend to use the following quantities of product:

Model	Extra Min	Min	Med	Max
VariO 8	1.5 - 2.5	2.5 - 4	4 - 6	6 - 8
VariO 12	1.5 - 3	3 - 6	6 - 9	9 - 12

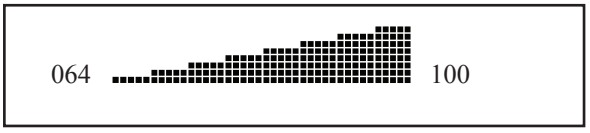
WARNING

Using recipes for Compacta VariO 12 and for Compacta VariO 8 with a quantity of product lower than 4 liters causes an excessive wear of beater scrapers.

An extended use of "MIN" or "EXTRAMIN" recipes, because of the reduced quantity of prepared product, causes an excessive wear of scrapers.

Using "EXTRAMIN" and "MIN" recipes with high quantities causes an increased freezing time and failure to reach the maximum consistency set, with the risk of a product not suitably frozen.

By pressing FREEZING button, the last recipe carried out is displayed. Now it is possible to select within 5" the recipe to launch using INCREASE and DECREASE buttons (e.g. "Gelato Max"), which will be automatically carried out after 5". The display will read:



The second line displays product consistency on the left, consistency value to reach on the right, and consistency ramp at the center.

Ice cream consistency change

To change set consistency, press FREEZING button (LEDs on INCREASE and DECREASE buttons turn on) and change consistency within 10" using INCREASE and DECREASE buttons.

Cremolata Recipe
The display will read:

08:40	28°F	10

The second line displays time countdown on the left, current product temperature at the center and Cremolata Freezing set time on the right.

Cremolata freezing timer change

To change freezing time, press button (LEDs on INCREASE and DECREASE buttons turn on) and change the timer within 10" using INCREASE and DECREASE buttons.

Granita Recipe

By pressing button, the last process carried out is displayed. Now it is possible to select the recipe to launch within 5" using INCREASE and DECREASE buttons (e.g. Granita Max), which will be automatically carried out after 5" or after pressing button.

Correct cooling end temperature depends on the quantity of sugar inside granita. Roughly for 150 g/liter, 27°F is the correct value, while 16°F is the correct value for 350 g/liter. Then a different Granita Temperature Set is automatically set according to sugar content.
When the recipe starts, Increase and Decrease LEDs turn on and the user can select sugar content for his/her Granita.
The initial display will read:

Sugar 150 g/l

for this selection the temperature set is 27°F.
If the INCREASE button is pressed the display will read:

Sugar 250 g/l

for this selection the temperature set is 21°F
If the INCREASE button is pressed the display will read:

Sugar 350 g/l

for this selection the temperature set is 16°F

The cycle with sugar content selected by the user starts automatically after 5" or after pressing button.
The display will read:

01:57	19°F	15

The second line displays time countdown, current product temperature and set time.

Granita freezing timer change

To change freezing time, press button (LEDs on INCREASE and DECREASE buttons turn on) and change the timer within 10" using INCREASE and DECREASE buttons.

WARNING
Extended use of CREMOLATA and GRANITA functions causes a quick wear of the scrapers.

Cooling
By selecting a Cooling cycle, a beating cycle of 30" is run and the display will show:

```
15:26:14  Mon
+20 00:29  +04
```

Later on, the machine starts the cooling cycle until reaching the temperature set, and the display will show:

```
15:26:14  Mon
+20       +04
```

At this stage, by pressing the Freezing key, Increase and Decrease button LEDs turn on, and temperature Set can be modified from 0° to 30°C.

Press key to quit the Set edit function.

Once the set value is achieved, the display will show the storage time in minutes:

```
15:26:14  Mon
+04 00:00  +04
```

4.3 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 product. For washing operations refer to chapter 6 of this manual.

4.4 MACHINE START-UP

4.4.1 Description and use of boiler section

The boiler section is located in the upper part of the machine and is composed of the heating cylinder, the chamber where the mix is heated, in which a beater to mix the product is placed.
The heating chamber is hermetically closed through spigot door (**301**) and can be opened by lifting handle (**289**)and pulling it to the right **.**

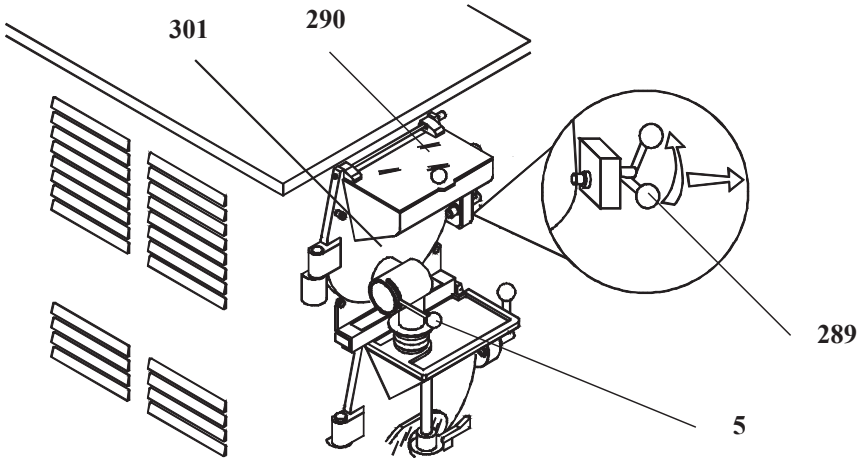


Fig. 17

To add the mix in the cylinder, lift door **290** and pour it.

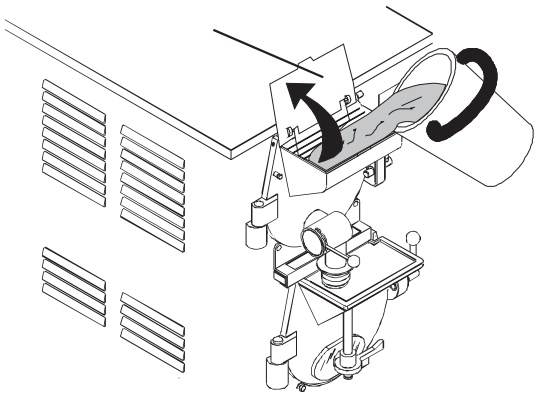


Fig. 18

With STOP position activated, you can start heating the mix added in the cooking cylinder by pressing **HEATING** button.

This button selects the cycle to carry out.
Once the button is pressed, the display shows the cycle that can be modified using Increase and Decrease buttons, which can be either:

HEATING+90
HEATING+85
HEATING+65
Free heating

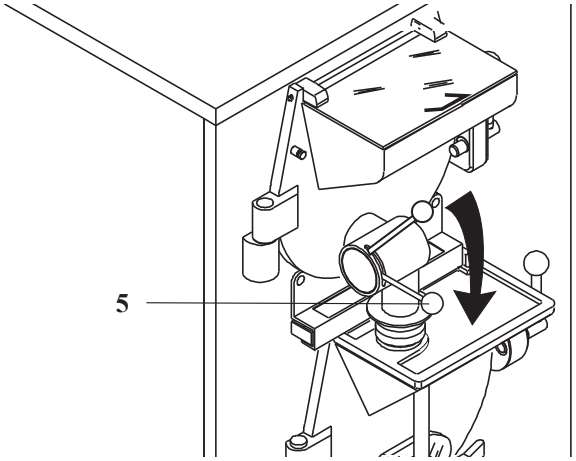
After 5 seconds or when pressing Heating button the display indicates the charge that can be modified using Increase and Decrease buttons, which can be:

Max. Charge
Med. Charge
Min. Charge

Then the relevant cycle starts after about 5" or after pressing Heating button.

WARNING!
Heating section spigot door is equipped with a heat screen (protective safety device). In any case, do not touch the spigot door during heating and cooking stages or the stages immediately after, since it can reach very high temperatures.

After heating the mix, it can be sent to the cylinder, by gradually lowering handle **5**.



4.5 ICE CREAM PRODUCTION (FREEZING CYCLE)

After washing, sanitizing and thoroughly rinsing the machine right before its use, according to the instructions given above, take the mix (39°F), pour through the hopper according to the required quantity and respecting the minimum and maximum values shown in the table (Sec. 2).

- Before pouring the mix, make sure that the spigot door is perfectly closed.
- Pour the required quantity of mix inside the hopper.
- By pressing FREEZING button, the first freezing recipe is displayed. Now it is possible to select within 5" the recipe to launch using INCREASE and DECREASE buttons (e.g. "Gelato Max"), which will be automatically carried out after 5" or after pressing button.
- When freezing is over, an acoustic signal informs the operator that ice cream is ready.
- Place a suitable container under the ice cream outfeed, take the spigot door handle and rotate the spigot door clockwise up to the limit stop, press EXTRACTION button.
- This operation is carried out with beater rotation speed set to 7 (can be set by the user, see User Programming). It is possible to have a cooling extraction by pressing FREEZING button.
- It is possible to activate VEL 3 (can be set by the user) by pressing again extraction button or change the speed using MIN MAX button.
- Each time you press button activates **POST-COOLING** for a certain time depending on the selected charge.
- When extraction is over, close the spigot door by taking the handle and rotating it anticlockwise.

WARNING
Never introduce any object in the metal grille of the extraction spigot door while the beater is operating; this could damage the spigot door and the beater of the machine.

4.6 CREMOLATA PRODUCTION

Press  button to access the 6 Cremolata/Granita recipes created specially for cremolata or Sicilian granita production:

- Cremolata Max
- Cremolata Med
- Cremolata Min
- Granita Max
- Granita Med
- Granita Min

To obtain quality products using the set recipes, we recommend to use the following quantities of product:

Model	Min	Med	Max
VariO 8	2.5	5	8
VariO 12	4	8	12

WARNING
Using "MAX" recipes with a quantity of product lower than 4 liters causes an excessive wear of beater scrapers.

Using "MIN" or "MED" recipes with high quantities causes an increased freezing time and failure to reach the maximum consistency set, with the risk of a product not suitably frozen.

By pressing  button, the last cycle carried out is displayed. Now it is possible to select within 5" the recipe to launch using INCREASE and DECREASE buttons (e.g. "Cremolata Max"), which will be automatically carried out after 5" or by pressing  button.

Proceed as follows:

- Pour fruit mix through the hopper inside the freezing cylinder.
- With the machine in STOP position, press  button to display the first recipe available.
- Select within 5" the recipe to launch using INCREASE and DECREASE buttons (e.g. "Cremolata Max"), which will be automatically carried out after 5".
- When the cycle is over, an acoustic signal and a message display inform the operator that Cremolata is ready.
- Place a suitable container under the ice cream outfeed, open the spigot door and extract **CREMOLATA** manually, using the supplied spatula.
- When extraction is over, close the spigot door.

WARNING
Never introduce any object in the metal grille of the extraction spigot door while the beater is operating; this could damage the spigot door and the beater of the machine.

4.7 GRANITA PRODUCTION

Press  button to access the 6 Cremolata/Granita recipes created specially for cremolata or Sicilian granita production:

- Cremolata Max
- Cremolata Med
- Cremolata Min
- Granita Max
- Granita Med
- Granita Min

To obtain quality products using the set recipes, we recommend to use the following quantities of product:

Model	Min	Med	Max
VariO 8	2.5	5	8
VariO 12	4	8	12

WARNING

Using "MAX" recipes with a quantity of product lower than 4 liters causes an excessive wear of beater scrapers.

Using "MIN" or "MED" recipes with high quantities causes an increased freezing time and failure to reach the maximum consistency set, with the risk of a product not suitably frozen.

By pressing  button, the last cycle carried out is displayed. Now it is possible to select the recipe to launch within 5" using INCREASE and DECREASE buttons (e.g. Sicilian Granita MED), which will be automatically carried out after 5" or after pressing  button.

Proceed as follows:

- Pour the mix through the hopper inside the freezing cylinder.
- With the machine in STOP position, press  button to display the last cycle carried out.
- Select the recipe to launch within 5" using INCREASE and DECREASE buttons (e.g. Granita MAX).
- Select the desired sugar content using INCREASE and DECREASE buttons (see message displayed). The recipe will be automatically carried out after 5" or by pressing  button.
- When the cycle is over, an acoustic signal and a message display inform the operator that Granita is ready.
- Place a suitable container under the ice cream outfeed, open the spigot door and extract **GRANITA** manually, using the supplied spatula.
- When extraction is over, close the spigot door.

WARNING

Never introduce any object in the metal grille of the extraction spigot door while the beater is operating; this could damage the spigot door and the beater of the machine.

4.8 SETTING OF A FREE PROGRAM

When the machine is set to Stop on both sides, press button for 5”, and the lower line will show the names of the free programs:

15:26:14 Mon
Free Program 1

Press Increase and Decrease buttons to select the cycle to be set up (e.g.: Free Program 1). When button is pressed, the display will read:

15:26:14 Mon
020 --> 050 V=3 F=3

The second line - from left to right - shows:

- 020 --> 050: HOT limit values for step 1 (e.g.: from 20 to 50 of HOT)
- V=3: beating speed in the selected range
- F=3: cooling power in the selected range (can be edited from 1 to 3)

At the beginning, value 50 (first intermediate set of HOT) is flashing and its value can be edited through the Increase and Decrease keys. The value can be set to any value, from the lowest of the range (20 in the example) to 120.

Once the correct value has been selected and confirmed with button, the beater speed value, which can be edited from 1 to 7 using the Increase and Decrease keys, will start flashing.

15:26:14 Mon
020 --> 050 V=3 F=3

As already stated, once the correct value has been selected and confirmed with button, the cooling power value, which can be edited from 1 to 3 using the Increase and Decrease keys, will start flashing.

15:26:14 Mon
020 --> 050 V=3 F=3

Press button for 3” to switch to the next consistency range. The pre-set values relevant to step 2 will be displayed and the first editable parameter will start flashing:

15:26:14 Mon
020 --> 070 V=3 F=3

Set the values of Steps 2 and 3 as described above.

Pressing button for 3” during step 3 parameter setting, the whole cycle is stored and the display shows the message "STORED CYCLE".

4.8.1 Performing a free program

When the free program is stored, it is also enabled and then made available under Ice cream menu.

To perform a free program, press button from Stop mode, select the free program to perform and start it by pressing button again or waiting for a few seconds.

***Note**: Both free and automatic cycles have a pre-cooling stage, with beating at speed 3 and maximum cooling power.*

***Note**: Like automatic cycles, free cycles can be disabled (the cycle is "hidden" to the user but the set values remain stored and the cycle can be restored by means of "Setting a free program" procedure)*

***Note**: by default, free programs are disabled and will not appear in the list of production cycles. The program will be listed among the cycles which can be carried out only after setup.*

4.9 USER PROGRAMMING

By pressing STOP button (on BATCH FREEZER side) and DECREASE button simultaneously, you enter in User Programming mode, where it is possible to set some functions according to user preferences.
"Manager Menu" will be displayed, followed by:

Hour
Step U01 15

If necessary, modify the time setting using the INCREASE and DECREASE buttons.
Press Stop (on BATCH FREEZER side), in this way the steps shown below, which can be edited with the INCREASE and DECREASE buttons, will be shown one by one.
To exit user programming, wait for about 60" without pressing any button or press BEATING (BATCH FREEZER side) to quit.
The values that have been modified will be automatically saved.

Step	Display	Note	U.M.	MIN	MAX	TYPICAL
U01	Hours		hour	0	23	
U02	Minutes		min	0	59	
U03	Day of week		dd	Sun	Sat	
U04	Day of month		dd	1	31	
U05	Month		mm	1	12	
U06	Year		yyyy	2000	2099	
U07	Language	Ita, Eng, Fra, Deu	no.	Ita	Deu	ITA
U10	Timer Backlight		min	0	60	03
U11	Extr.speed 1	GS=vel. Granita	no.	1	7+GS	07
U12	Extr.speed 2	GS=vel. Granita	no.	1	7+GS	03
U13	Display TEC PRD		Y/N	N	Y	N

U01÷U06: Date and time setting

U07: Setting language

U10: With the machine in Stop, after several minutes (can be set in this step) the display turns off to save energy. If step U10 is set to 10, display backlighting is always on.

U11÷U12: When extraction function is activated, beating activates at speed set in step U11. Pressing Extraction button several times, the speeds set at steps U11 and U12 activate alternately.

U13: Display TEC PRD
By enabling this step you can display Timer and TEC during freezing (instead of the increase bar).

4.10 PROCESS AUTOSETUP

Pressing Decrease button from the Stop mode (both boiler and batch freezer) for about 10", the autosetup of cycle values is carried out. Values such as temperature set or consistency set are reset to default values in any process (heating cycles, ice cream cycles, both automatic and free ones). The following message will be displayed:

AUTOSETUP RECIPES

4.11 ENABLING/DISABLING PROCESS

To enable processes:
Select the process as if to run it, when the name of the cycle to disable is displayed press and hold Ice Cream button (if in Freezing cycle) or Heating button (if in Heating cycle) until the selected cycle is disabled (indicated by an acoustic signal) and the following cycle is displayed.

NOTE: If the only Heating cycle enabled is Free Heating, press Heating button from Stop mode to immediately access the Charge selection.

NOTE: If all the Heating or Freezing cycles are disabled, the display shows "No Programs" when the relevant key is pressed. Enable the recipes again as follows:

Enabling all the processes:

From Stop mode, press 

button for 10", "Loading Programs" is displayed and all the processes (both of heating unit and of freezing unit) are enabled.

5. SAFETY DEVICES

5.1 MACHINE SAFETY SYSTEMS

WARNING!
It is strictly forbidden to operate the machine in case the safety-related devices have been disabled, altered or tampered with.
ICETEAM 1927 will NOT be held responsible for any damage or injury to persons and/or property, in case any safety-related devices, designed to grant the safety of operator and machine, have been disabled, altered or tampered with.

Safety systems available in the machines are:

THERMAL RELAYS
They detect anomalous absorptions of beater motor and motor-driven compressor; when maximum calibration values are reached, the machine stops and sets to alarm mode.

Before restoring operation, it is necessary to check the triggering cause.
Thermal relays can be reset automatically.

PRESSURE SWITCH
It protects the cooling system and causes the stop of circuit cooling compressor, in case of lack of water in the circuit (water-cooled condensation) or lack of air circulation in the condenser (air-cooled condensation). The reset is automatic.

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

FUSES
They protect the electric circuit of controls from overloads.
If they trigger, check and remove the cause of the failure before replacing them.

NOTE:
To identify rating and characteristics of fuses refer to the machine wiring diagram.

NOTE:
Every time a safety device trips, the machine displays the type of automatic intervention in progress.

5.1.1 User safety devices

This machine is equipped with safety devices on spigot doors to prevent harm to the operator.

HEAT PROTECTION OF HEATING SECTION SPIGOT DOOR

During heating stage, the spigot door of the cooking section reaches high temperatures; to prevent possible harm to the operator, the spigot door is protected by a heat screen 257.
This protection must not be removed upon operation.

WARNING!
Heating section spigot door is equipped with a heat screen (protective safety device). In any case, do not touch the spigot door during heating and cooking stages or the stages immediately after, since it can reach very high temperatures.

SWITCH NEAR THE UPPER HEATING SPIGOT DOOR

Every time the door for mix introduction **290** or spigot door **301** are open, beating is blocked to prevent any harm to the operator.
When the door is closed again, beating restarts.

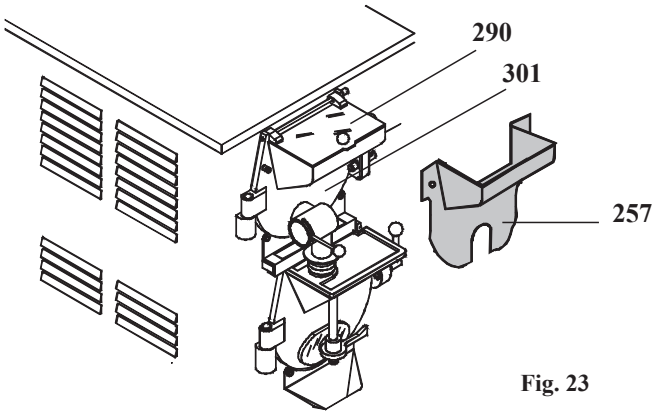


Fig. 23

MICROSWITCH, FREEZING LOWER SPIGOT DOOR

Every time spigot door **301** is open, a microswitch stops the batch freezer to prevent any harm to the operator; beating restarts when the spigot door is closed.

NOTE:
Every time a safety device trips, the machine displays the type of automatic intervention in progress.

5.2 ALARMS

When the machine is in STOP mode, the alarm is shown in the relevant line of the display.
E.g. (Alarm TEV Probe above and Overload PTMA below):

Al.Hopper Probe
Overload PTMA.

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

BOILER SECTION (UPPER PART)

Alarm TER1	"TER1" temperature probe open circuit or short-circuit. The upper part does not switch to Stop but deactivates the relevant resistance. Check TER1 temperature probe and replace it, if necessary. A possible cause is heating activation without the presence of mix inside the boiler.
Alarm TER2	"TER2" temperature probe open circuit or short-circuit. The upper part does not switch to Stop but deactivates the relevant resistance. Check TER2 temperature probe and replace it, if necessary. A possible cause is heating activation without the presence of mix inside the boiler.
Alarm TER3	"TER3" temperature probe open circuit or short-circuit. The upper part does not switch to Stop but deactivates the relevant resistance. Check TER3 temperature probe and replace it, if necessary. A possible cause is heating activation without the presence of mix inside the boiler.
Alarm Thermost.	Boiler Thermostat The alarm signals boiler overheating. This alarm triggers machine Stop.
TEV Alarm	"TEV" temperature probe open circuit or short-circuit. The upper part sets to Stop mode. Check TEV temperature probe and replace it, if necessary.
Overload Boil MA	RTA Beater overload cutout tripped This alarm triggers machine upper part STOP. When the overload cutout is reset, the alarm switches from flashing to steady and can be reset by pressing Increase button.
Lid Open	Upper Spigot Door Lid Opened or Upper Spigot Door Opened This alarm does NOT trigger machine (upper part) Stop but blocks active outputs. IMS (IMSA in the diagram) interlocks the lid and the spigot door opening.

BATCH FREEZER SECTION (LOWER PART)

The alarm is shown on the second line of the display.
To delete the message, press DECREASE button in the alarms for which the message remains displayed.
If the alarm does not reset, this will mean it is still active.

Alarm table:

Display	Description
Alarm MA Inv.	Beater Inverter Check beater inverter conditions and replace it, if necessary. This alarm triggers machine Stop.
Alarm MC Inv.	Compressor Inverter Check compressor inverter conditions and replace it, if necessary. This alarm triggers machine Stop.
Overload PMTC	Compressor overload cutout tripped. This alarm triggers machine Stop.
TEC Alarm	"TEC" temperature probe switched off or short-circuited. Check TEC temperature probe and replace it, if necessary.
COM.ErrorMA	Communication with Beater Check MA Modbus connection cable This alarm triggers machine Stop.
COM.ErrorMC	Communication with Compressor Check MC Modbus connection cable This alarm triggers machine Stop.
Spigot door open	Lower spigot door opened This alarm triggers machine STOP and is automatically reset when spigot door is closed.
Pressure switch	Safety pressure switch tripping This alarm stops the compressor. If pressure switch trips 3 times in a row or if it stays open for 2 consecutive minutes, the machine sets to Stop. The display reads "Pressure switch". Check the inlet and outlet water pipes to make sure that water can flow freely when the compressor is operating. For machines with air-cooled condensers, it is necessary to make sure that the condenser fan is running while the compressor is switched on, or that the air-cooled condenser is not clogged; if this is the case, clean the condenser with a blast of compressed air.
PTMA thermal cutout	PTMA overload cutout tripped This alarm triggers machine lower part Stop. When the overload cutout is reset, the message on the display can be reset by pressing the Decrease button.
Overload RTC	Compressor Breaker Check compressor motor absorption.This alarm triggers machine Stop. When Compressor inner protection is reset, the message on the display can be reset by pressing the Decrease button.
Timeout Prd	Timeout Prod (Cooling fault). It is triggered when the machine cooling is faulty. If compressor remains on continuously for over 20', during cooling, and HOT does not reach a (fixed) Discriminant value, the machine sets to Stop with displayed "Timeout Prd" alarm. It can be reset by pressing any button. One of the possible causes for this type of problem could be no gas in the system.

5.2.1 Blackout

If there is a blackout, as soon as power is restored, the machine will restart in Stop mode for the boiler part in case of simple heating while it will restart the freezing interrupted cycle, only if it was a Cooling cycle.
If a Recipe was in progress, with cooling or heating active, the machine restarts from the phase that was in progress: if it was a heating phase, before restarting, the machine asks to confirm to add product in case mix is below level.

6. CLEANING AND SANITIZATION (Removal, cleaning, sanitization and refitting of the parts in contact with the product)

6.1 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.

6.2 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 or synthetic abrasive scouring pads 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 lime scale 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 the relevant detergent products.

6.3 TIPS

- Use a non-aggressive detergent solution to wash the parts.
- (Manually) wash the parts in water (max 140°F) 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. Type and concentration of the sanitizing product must comply with 40 CFR §180.940 (for instance Kay-5 sanitizer).
- 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.

ICETEAM 1927 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.
ICETEAM 1927 declines any liability for damages 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.

6.4 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

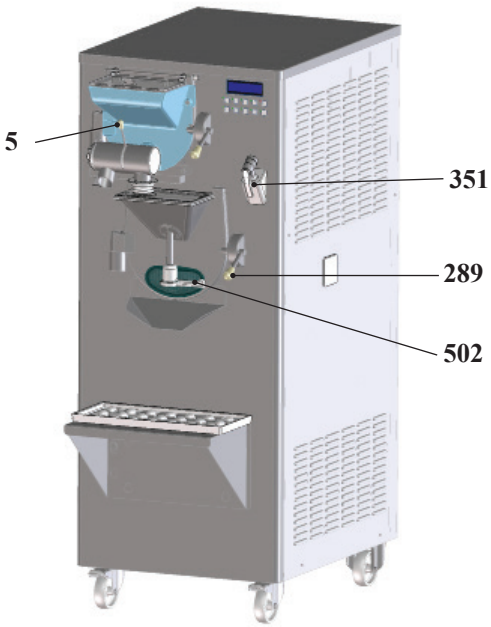
6.5 CLEANING

To clean the machine proceed as follows:

1. Fill the two cylinders with water using the suitable shower placed on the front of the machine
2. After introducing water, press **BEATING** button both for boiler section and for batch freezer section. After the set time the machine sets automatically to STOP position.
3. Turn the handle **502** and lift the handle **5** so that all the water inside the cylinders comes out.
4. Once the freezing cylinder is empty, we recommend to open the spigot door, by lifting the handle **289** and pulling it to the right, and clean the cylinder with a direct jet of water, keeping the beater blocked in its seat.
5. Extract the drip tray **27**, wash and sanitize it.
6. Remove the tub support **50**, wash and sanitize it.

WARNING
During disassembly and reassembly of the tub support, pay attention to prevent crushing of fingers or hands.

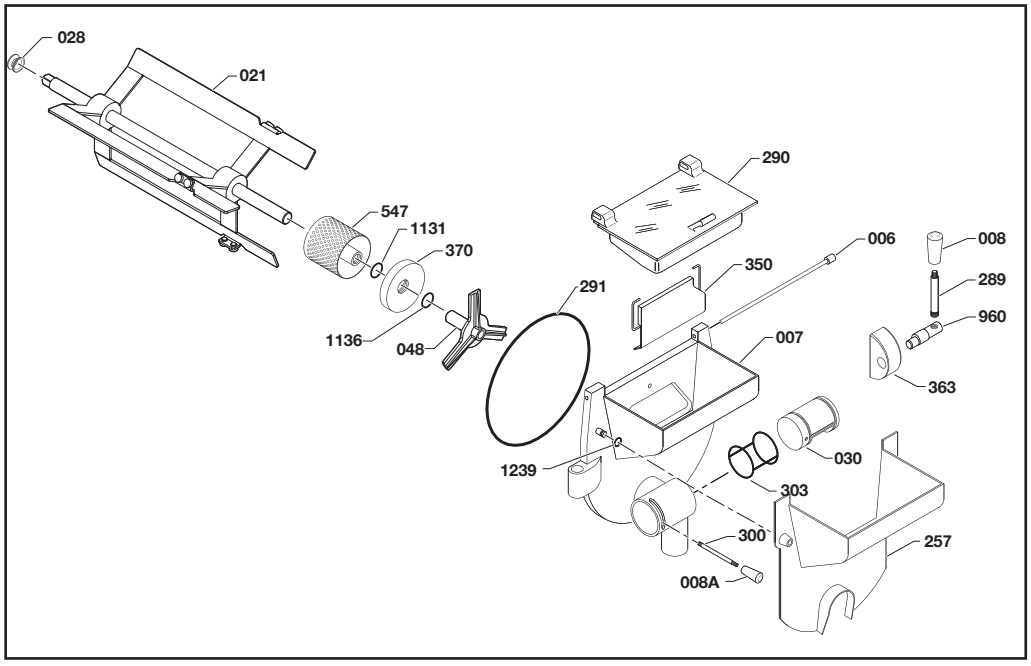
7. Clean the exterior of machine with a damp and sanitized cloth.

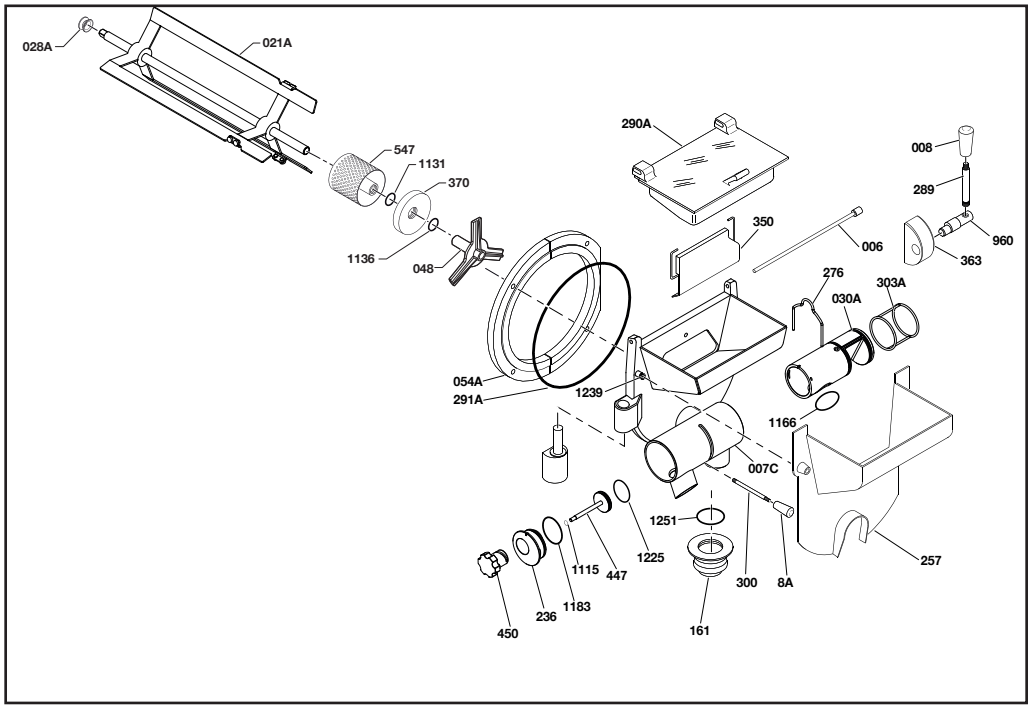


6.6 SPIGOT DOOR AND UPPER BEATER (BOILER) DISASSEMBLY

To disassemble spigot door **7**, unlock it by lifting lever **289** and moving it to the right.

- Slide O-Ring **1239** out and remove spigot door protection **257**.
- Open the spigot door, move it to the left and lift it by sliding it out of the pin.
- Disassemble spigot piston **030** by loosening pin **300** and pushing it out of its seat.
- Disassemble seals **303 and 291** using the suitable puller, thoroughly clean them and lubricate with food grade grease before re-assembling them.
- Disassemble spigot door cover **290** by sliding retaining pin **6** out and remove spigot door closure **350**.
- Clean and sanitize all disassembled parts.
- Disassemble beater **21** by removing it from its seat, slide seal **28** out and then clean and sanitize.
- Slide out flavor holder **547**, O-Rings **1131** and **1136**, cover **370**, spoke **48**, clean and sanitize them.
- Clean and sanitize cylinder internal wall.
- Re-assemble beater and spigot door repeating the previous procedures in reverse order.

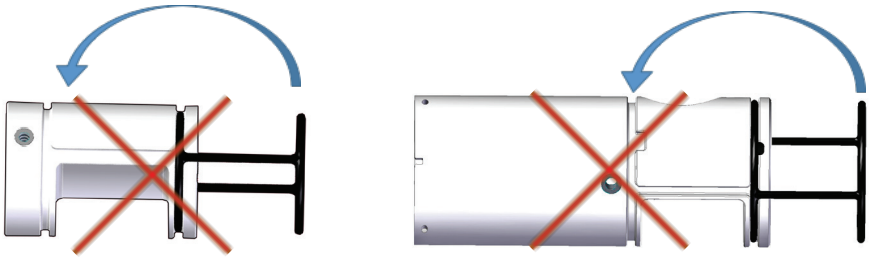




ATTENTION!
Carry out cleaning operations with sanitising solution at the end of each work day.

CAUTION
Handle with care, as a fall to the ground might damage the beater.

WARNING
Pay attention to the correct positioning of the OR 303 while refitting it on the spigot piston 030. Overturning the OR as shown in the figure is not allowed.

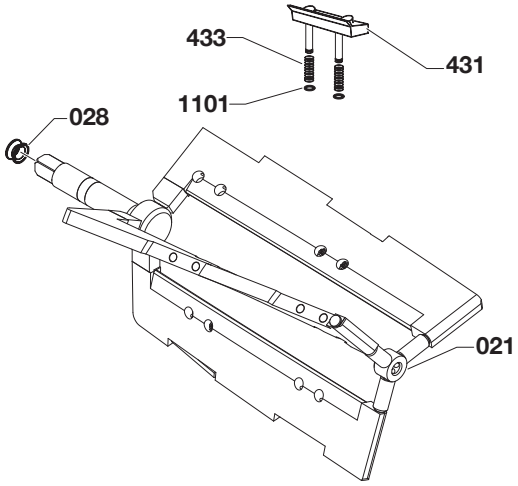


WARNING
During beater re-assembly, pay attention to position spoke 48 correctly (see figure).

6.7 BEATER

- Disassemble the beater **21** by withdrawing it from the cylinder, remove the adjusting plates **431**, and the stuffing box **28**.
- While disassembling the beater, also check that springs **433** and OR **1101** are intact and clean, or replace them, if need be.
- Thoroughly wash all parts with water and reassemble.

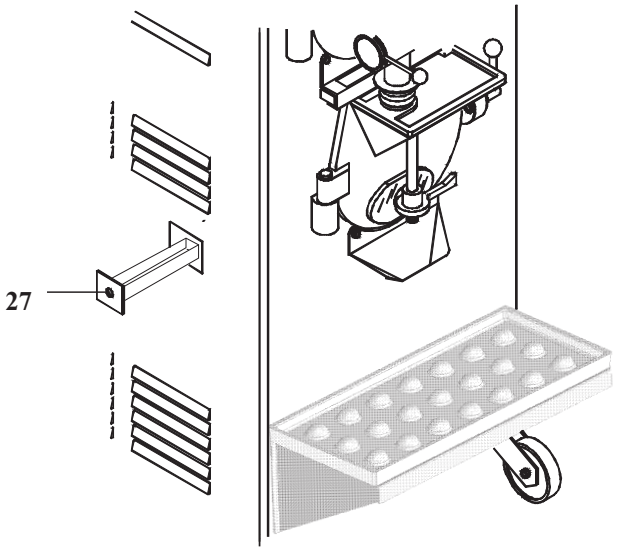
CAUTION
Handle with care, as a fall to the ground might damage the beater.



ATTENTION!
Carry out cleaning operations with sanitising solution at the end of each work day.

6.7.1 Stuffing box checking

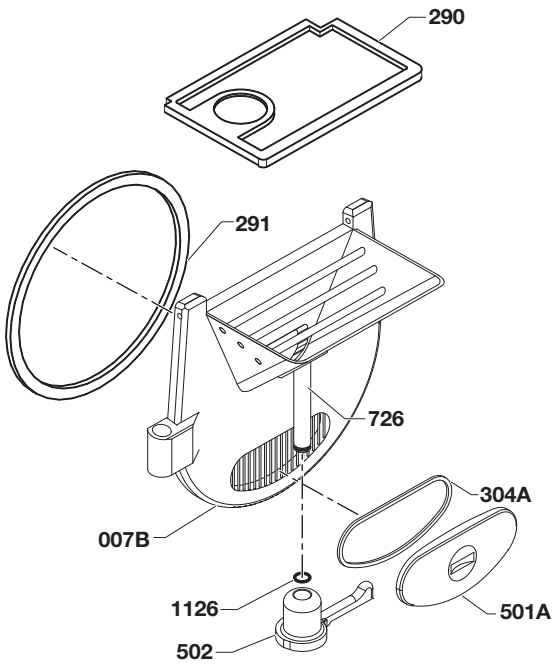
When removing the stuffing box, check whether its shows defects. If not, after washing and greasing the stuffing box, you can use it again.
If, on the contrary, you find ice cream rests in the drip drawer **27**, you would be better to change it since, most probably, it is worn out and consequently leaks.
The spare stuffing box is to be found in the spare parts kit (see section "Maintenance").

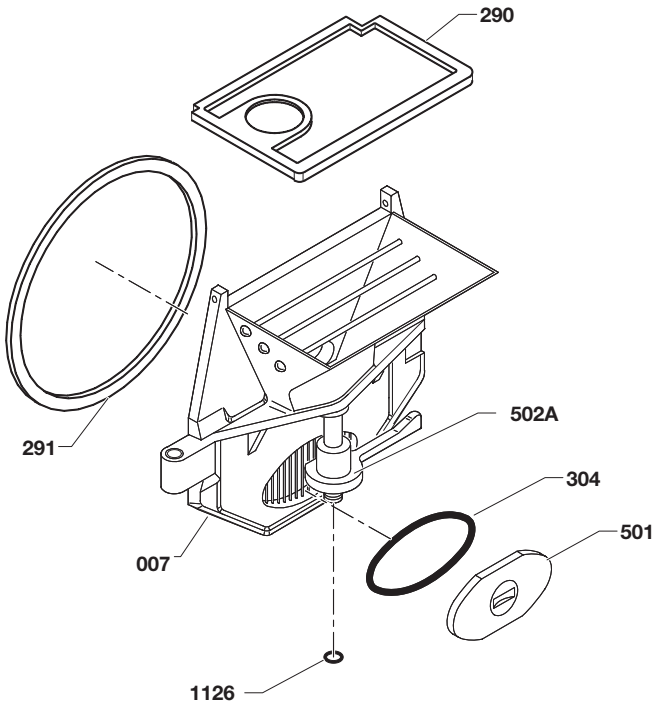


6.8 LOWER FRONT LID DISASSEMBLY (BATCH FREEZER)

To disassemble front lid **301** release it by lowering lever **289** and shifting it to the right.

- Open the front lid by shifting it to the left and lift it while extracting from spigot pin.
- Disassemble ice cream door **501** and ice cream door lever **502** by withdrawing downwards, after removing gasket **304**.
- Disassemble lid mouthpiece cover **290** and protection grid **769**.
- Wash well all parts with water and reassemble.





ATTENTION!
Carry out cleaning operations with sanitising solution at the end of each work day.

6.9 SANITIZATION

Reassemble tub support and drip tray.

WARNING!
During disassembly and reassembly of the tub support, pay attention to prevent crushing of fingers or hands.

With machine in Stop mode, fill the boiler cylinder with water and sanitizing solution.
Activate the beater by pressing **BEATING** button (upper part).
After about 30 seconds of beating, pour sanitizing solution in the freezing cylinder then activate beating by pressing **BEATING** button (lower part) for a time equal to the section previously sanitized.

WARNING
Operating the machine in "BEATING" mode for too long with empty cylinders or just filled with sanitizing solution brings about a quick wear of the beaters.

Let the solution stay for the time necessary (10-15 minutes), then completely drain sanitizing solution using handles **5** and **502**.

Note:
It is necessary to rinse with fresh and sterile water before finally starting the machine.

WARNING!
Do not touch the sanitized parts with hands, napkins, or else.

6.10 HYGIENE

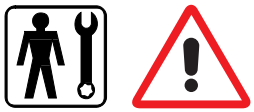
Fat contents of ice cream and other products are ideal fields for proliferation of mildew and bacteria. To eliminate them, parts in contact with the product must be thoroughly washed and cleaned as specified above.
Stainless steel materials as well as plastic and rubber ones used for the construction of these parts and their particular design make cleaning easy, but cannot prevent the growth of mildew etc., if not properly cleaned.

WARNING!
It is necessary to rinse with fresh and sterile water before finally starting the machine.

7. MAINTENANCE

7.1 SERVICE TYPE

WARNING!
Any maintenance operations requiring opening of machine panels must be carried out with machine at standstill 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 operation methods, according to the use for which the machine is destined".



Operations necessary for correct machine operation are such that most of routine maintenance operations are integrated into the production cycle.
Maintenance operations, such as cleaning of parts in contact with the product, replacing of seal, disassembly of beater assemblies 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 operations:

- **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.
- **Beater assemblies cleaning**
  It must be carried out at the end of each shift.
- **Scraper cleaning**
  It must be carried out at the end of each shift.
- **Spigot doors cleaning**
  It must be carried out at the end of each shift.
- **Cleaning of machine panels, tub support and drip tray**
  To be carried out daily with neutral soap, seeing to it that cleansing solution never reaches beater unit at its inside.
- **Cleaning and sanitization**
  At the end of every working day, according to procedures described in section 6 of this manual.
- **Shower cleaning**
  It must be carried out once a year, according to procedures described in par. 7.4.

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

7.2 WATER COOLING

In the case of water-cooled machines, water must be drained from condenser circuit at the end of the season in order to avoid troubles in the event that the machine is stored in rooms where temperature may fall under 32°F.

- Slide out inlet and outlet pipes from their seats and let water flow out from circuit by starting the machine for a few seconds.

7.3 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.

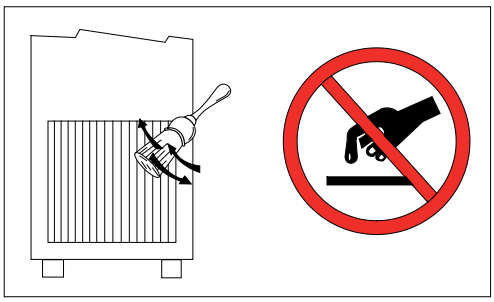


Fig. 31

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

WARNING!
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.

NOTE:
For machines equipped with air-cooled condenser and water-cooled condenser, consider both precautions indicated in paragraphs 7.2 and 7.3.

7.4 SHOWER SEAT CLEANING

Periodically clean the hose and the shower seat:

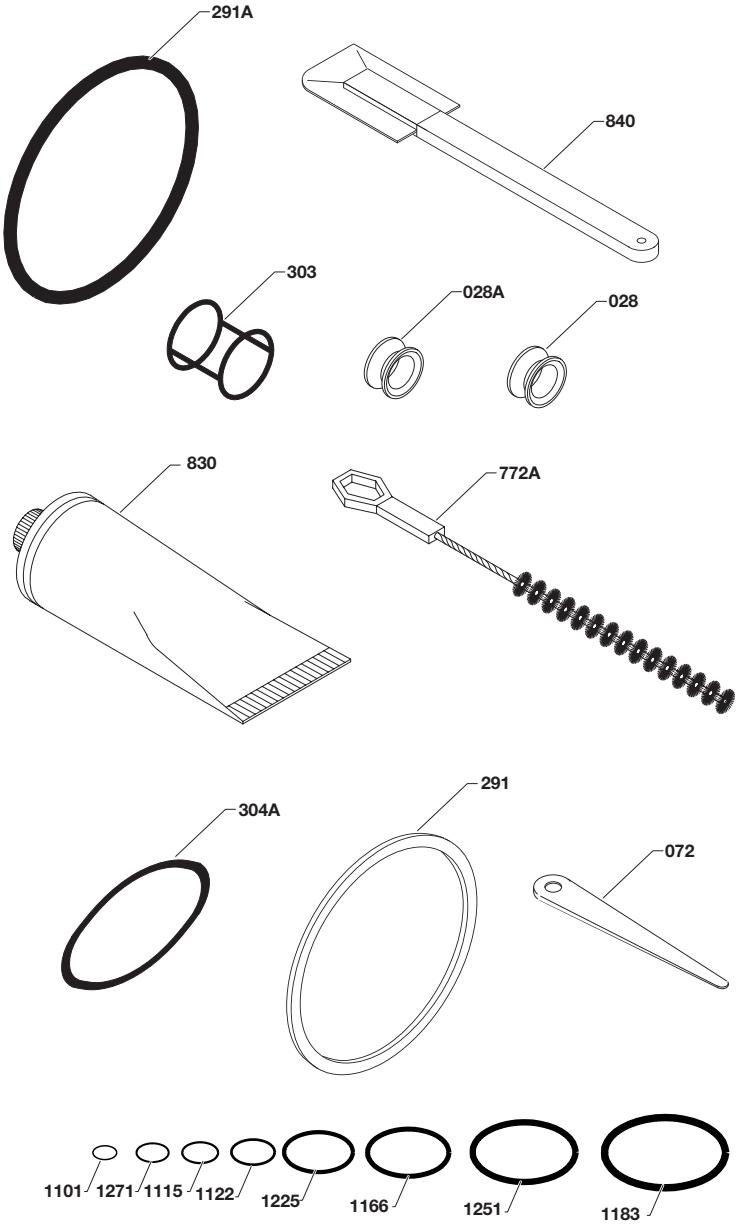
- disconnect the machine from the mains and remove machine side panel (shower side)
- remove the shower from the hose and slide the hose out of the shower seat
- externally clean the hose and the shower seat using a brush
- reassemble hose, shower and machine side panel in the reverse sequence.

7.5 ORDERING SPARE PARTS

In the event of breaking or wear of one or more parts, request the new ones directly to a **ICETEAM 1927** Engineer, always detailing machine type and serial number printed on identification plate located on the back of the machine.

WARNING
Before using spare parts and/or supplied parts intended to come into contact with the product on the machine, it is absolutely necessary to clean and sanitize them as indicated in sec. 6 of this manual

7.6 SUPPLIED SPARE PARTS TABLES



Q.ty	Description	Position
No.1	Beater seal	28
No.1	Beater seal	28A
No.1	O-Ring extractor	72
No.1	Spigot seal	291
No.1	Spigot seal	291A
No.1	Piston special O-Ring	303
No.1	Seal	304A
No.1	Gelilube tube	830
No.1	Cleaning spatula	840
No.6	O-Rings	1101
No.1	O-Rings	1115
No.1	O-Rings	1122
No.1	O-Rings	1166
No.1	O-Rings	1183
No.1	O-Rings	1225
No.1	O-Rings	1251
No.1	O-Rings	1271

8. TROUBLESHOOTING

Problems	Possible causes	Recommended remedies
The machine will not start	a) Main switch open	a) Turn switch off
	b) Plug connecting to the mains disconnected	b) Check and turn on.
	c) The machine is not in production mode both in freezing section and in cooking section.	c) Check that PRODUCTION button is on.
	d) Spigot doors not perfectly closed.	d) Check that spigot doors are closed
The machine will not start (display on)	a) Third phase, supplying compressor and electric motors, is missing.	a) Connect the 3rd phase or check for any blown fuses.
Compressor starts and then stops after a few seconds, but the ice cream has not reached the right consistency.	a) Water-cooled machine: water is not circulating.	a) Open the shut-off valve of condensate water. Make sure the rubber pipe is not squashed or bent.
	b) Air-cooled machine: air is not circulating.	b) Make sure the rear side of the machine has a distance of at least cm 50 from the wall. Remove any rags, dust, etc. from condenser. Check operation of fan motor.
After 15 minutes of freezing cycle the mix does not freeze: the machine switches to STOP mode	a) No gas in the machine	a) Check for leak weld and recharge
	b) Faulty pressure switch	b) Check the connection and replace it if necessary
The machine is working but no ice cream is dispensed by the spigot door	a) No sugar in the mix	a) Wait for the ice-cream in the cylinder to melt, then modify or change the mix.
The machine is working but the ice cream is too soft	a) Too much sugar in the mix	a) Modify or change the mix
Mix flowing into tray	a) Seal missing or worn out	a) Install it if missing Replace it if worn out.

Ice cream flowing out from behind spigot door	a)	Sealing missing or not properly installed	a)	Check and proceed as necessary
A bacterial test proved too many bacteria in ice cream	a)	Too many bacteria in the mix.	a)	Improve preparation procedure by sanitizing all the containers, spoons, etc. and have the mix analyzed before it is put into the machine.
	b)	Machine not sufficiently cleaned and sanitized.	b)	Empty the machine and wash it thoroughly. Sanitize as indicated under chapter 6 of this manual.