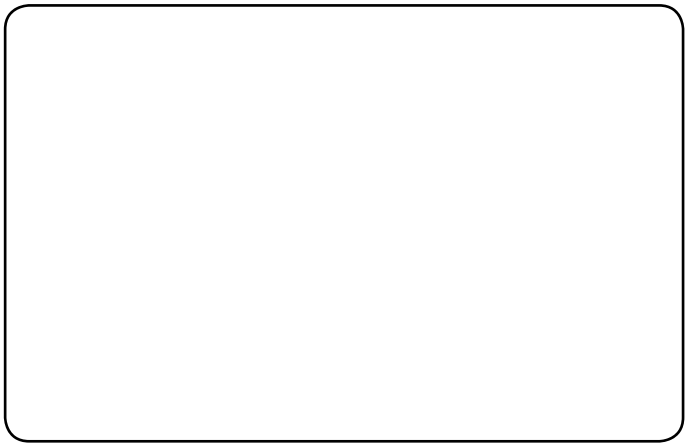
CARPIGIANI



INSTRUCTIONS HANDBOOK

Quartetto®

We wish to thank you for the preference granted to us by purchasing one of CARPIGIANI machines.

To the best guarantee, since 1993 **CARPIGIANI** has submitted its own Quality System to the certification according to the international Standard ISO 9001, nowadays its production has got UNI-EN-ISO 9001:2008 Certified Quality System.

Moreover, Carpigiani machines comply with following European Directives:

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

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Issue: 5	Date: 2011/10	Changes: sez. 1.2.2 - 1.2.4 - 3.2
Written: VB	Checked: AS	Approved: RV

GENERAL INDEX

FOREWORD

INSTRUCTION HANDBOOK

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

PURPOSE

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

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HANDBOOK STRUCTURE

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

Section

A section is the part of the handbook identifying a specific topic related to a machine part.

Chapter

A chapter is that part of a section describing an assembly or concept relevant to a machine part.

Subchapter

It is that part of a chapter detailing the specific component of a machine part.

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

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

ADDITIONAL DOCUMENTATION

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

- Part list: A list of spare parts which is delivered together with the machine for its maintenance.
- Wiring diagram: A diagram of wiring connections is placed in the machine.

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

CONVENTIONAL SYMBOLS

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

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

NOTE
It points out significant information for the staff involved.

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

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

QUALIFICATION OF THE STAFF

MACHINE OPERATOR
He/she is an unskilled person, who has no specific expertise and can only carry out easy chores, such as the machine operation by means of controls available on the push-button panel, and filling and drawing of products used during operations.

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

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

SAFETY

When using industrial equipment and plants, one must be aware of the fact that drive mechanisms (rotary motion), high voltage components, as well as parts subject to high temperatures may cause serious damage to persons and things.
Who is in charge of plant safety must be on the look-out that:

- An incorrect use or handling shall be avoided
- Safety devices must neither be removed nor tampered with
- The machine shall be regularly serviced
- Only original spare parts are to be used especially as far as those components with safety functions are concerned (ex.: protection microswitches, thermostats).
- Suitable personal protective equipment is worn.

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.
- Only adequately skilled personnel should be assigned to electrical equipment.
- Be on the look out that no technician will ever carry out interventions outside his own knowledge and responsibility sphere.

QUALIFICATION OF THE STAFF

Staff attached to the machine can be distinguished according to training and responsibility as follows:

OPERATOR

- A person who has not necessarily a high technical knowledge, just trained for ordinary operation of the machine, such as: startup, stop, filling, basic maintenance (cleanout, simple blocking, instrumentation checkings, etc.).

SKILLED ENGINEER

- A person enganged on more complicated operations of installation, maintenance, repairs, etc.

IMPORTANT!

One must be on the look-out that the staff does not carry out any operation outside its own sphere of konwledge and responsibility.

NOTE:

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

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

is able to realize and avoid any danger and has also been allowed by the person in charge of plant safety to carry out all kinds of interventions.

WARNING

When installing the machine, insert a differential magnetothermal protection switch on all poles of the line, adequately sized to the absorption power shown on machine data plate and with contact opening of 3 mm at least.

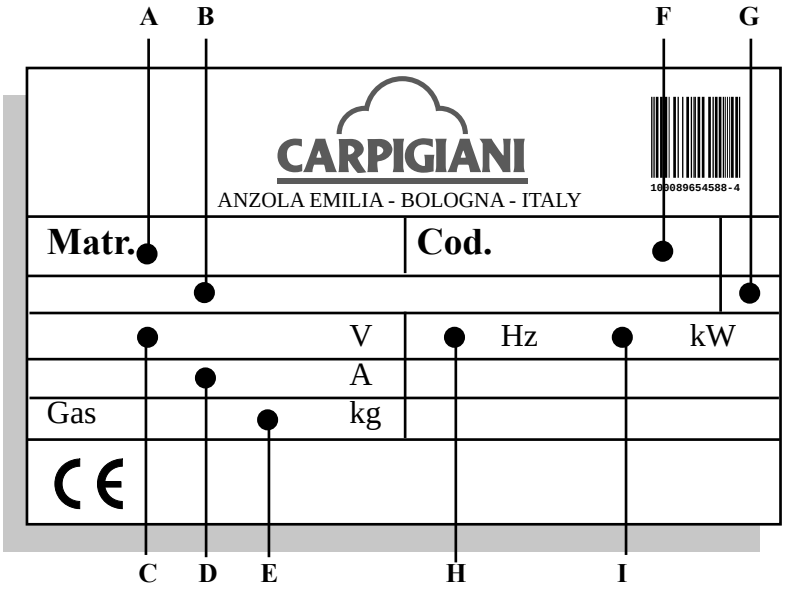
- **N**ever put your hand into the machine, alike during production and cleaning operations. Before carrying out any maintenance operation, make sure that the machine is in **"STOP"** position and main switch has been cut out.
- It is forbidden to wash the machine by means of a bolt of water under pressure.
- It is forbidden to remove panels in order to reach the machine inside before having disconnected the machine.
- **CARPIGIANI** is not responsible for any accident that might happen during operation, cleaning and/or servicing of its units, if this warning has not been fully complied with.

1 GENERAL INFORMATION

1.1 GENERAL INFORMATION

1.1.1 Manufacturer's identif cation data

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



LEGEND:

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

1.1.2 Information about service

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

1.1.3 Information to the user

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

1.2 INFORMATION ABOUT THE MACHINE

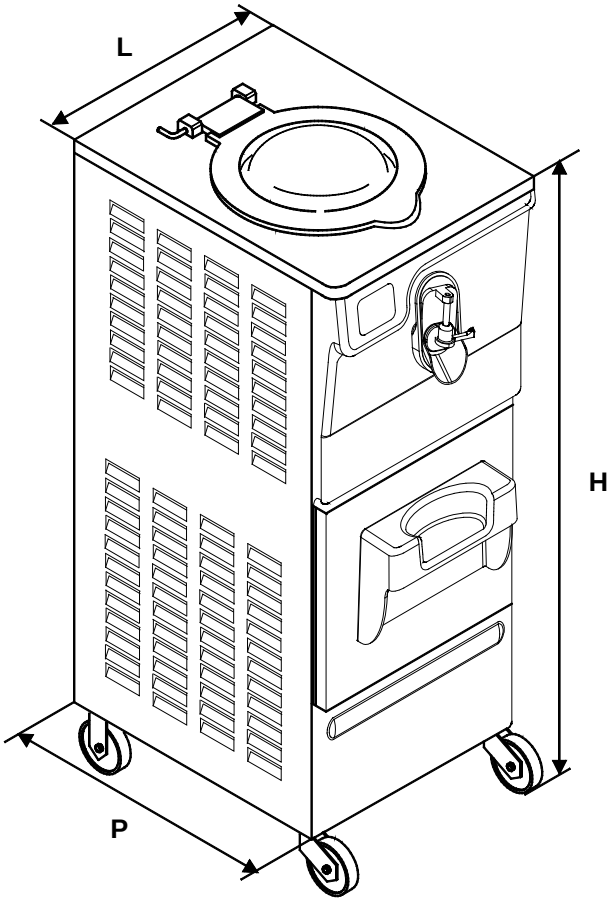
1.2.1 General data

Quartetto is a vertical batch freezer with ice-cream storage tank.

CARPIGIANI recommends to always use high quality mix for ice cream production in order to satisfy your customers, even the hardest-to-please ones. Any saving made to the prejudice of quality will surely turn into a loss much bigger than the saving itself.

Bearing in mind the above statements, please take heed of following suggestions:
- Make your mixes yourselves from high quality natural ingredients or buy them from reliable companies.
- Follow closely instructions given by your mix supplier for the preparation of the mixes.
- Do not alter your mix supplier's recipies, by adding, for instance, water or sugar.
- Taste ice cream before serving it and start selling it only if entirely satisfactory.
- Make sure your staff always keeps the machine clean.
- Have your machine serviced always by companies authorized by **CARPIGIANI** .

1.2.2 Machine layout



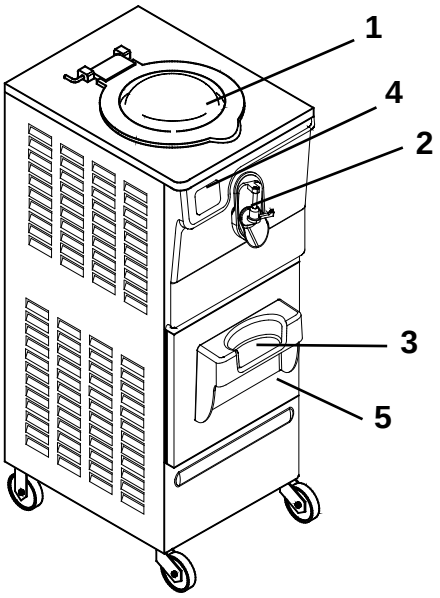
1.2.3 Technical features

Model	Q.ty Mix for cycle		Electric power			Rated Power	Condenser	Dimensions in (mm)			Net weight
	Min	Max	Volt	Hz	Phases	HP (kW)		Width (L)	Depth (P)	Height (H)	lbs (kg)
Quartetto	0.5 gal (2 lt)	0.8 gal (3 lt)	230	50	1	2.8 (2.1)	air	21.3 (540)	22.4 (570)	45.3 (1150)	254 (115)

* Hourly output and mix quantity per batch may vary depending on temperature and type of mix used, as well as on desired overrun.
Performances featured by a room temperature of 25°C

1.2.4 Machine groups location

Caption:
1 Hopper cover
2 Ice-cream outlet lid
3 Tank shelf
4 Control panel
5 Cold ice-cream storage tank



1.3 INTENDED USE

This machine must only be used to produce ice cream, conforming with contents of paragraph 1.2.1 "General Information", within the functional limits hereunder reported:

Voltage:	±10%
Air min. temperature	10°C
Air max. temperature	43°C
Water min. temperature	10°C
Water max. temperature	30°C
Water min. pressure	0.1 MPa (1 bar)
Water max. pressure	0.8 MPa (8 bar)
Max air relative humidity	85%

No other use than the one complying with the original manufacturing purpose is forseen

1.4 NOISE

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

1.5 STORING A MACHINE

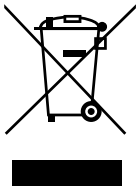
The machine must be stored in a dry and dump-free place.
Before storing the machine, wrap it in a cloth in order to protect it against dust and else.

1.6 DISPOSAL OF PACKING STUFFS

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

1.7 WEEE (Waste Electrical and Electronic Equipment)

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



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

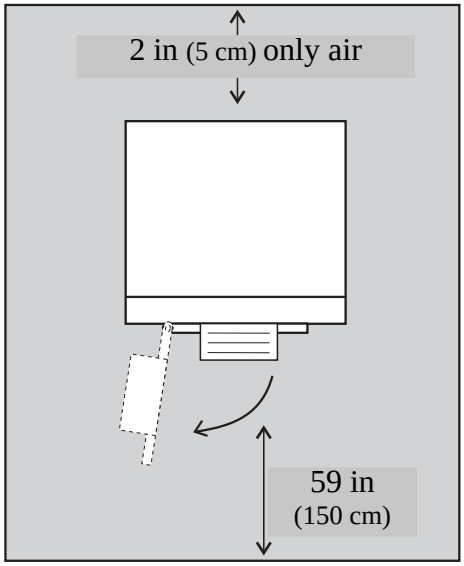
2. INSTALLATION

2.1 ROOM NECESSARY TO THE MACHINE USE

The machine must be installed in such a way that air can freely circulate all around.
Rooms for the approach to the machine must be left free in order to enable the operator to act without constraint and also to immediately leave working area, if need be.
The minimum approach room to working area should be at least 59 in (150 cm) in consideration of space taken by opened doors.

ATTENTION
MACHINES WITH AIRCOOLED CONDENSER must be installed WITH BACK WALL AT A LEAST DISTANCE OF 2 in (5 cm), in order to allow free air circulation around the condenser.

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



2.2 WATER SUPPLY CONNECTION

The machine must be connected to running water which pressure must not be higher than 0.8MPa (8 bars).
By aircooled units drinking water connection (for machine wash) is place under the machine.
By watercooled machines water connections (for machine wash and gas cooling) are placed on to the upper panel.

2.3 MACHINE WITH AIRCOOLED CONDENSER

Machines with aircooled condenser must be installed no closer than 2 in (5 cm) to any wall in order to allow free air circulation around the condenser.

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

2.4 MACHINE WITH WATERCOOLED CONDENSER

To make the machine run, a watercooled machine must be connected to running water supply, or to a cooling tower.
Water must have a pressure of 0.1 MPa and 0.8 MPa (1-8 bar) at least, and a delivery at least equal to the estimated hourly consumption.
Connect inlet pipe marked by plate "Water Inlet" to water supply installing a shut-off valve, and outlet pipe marked by plate "Water Outlet" to a drain pipe, installing a shut-off valve.

2.4.1 WATER VALVE ADJUSTMENT

IMPORTANT
If water valve needs be reset, this operation will have to be carried out by skilled personnel, only.
Valve adjustment must be carried out in such a way that no water flows when machine is off and lukewarm water flows when machine is on.

NOTE
Water consumption increases if temperature of entering water is above 20°C.

ATTENTION:
Do not leave the machine in a room with temperature below 0°C without f rst draining water from the condenser.

2.5 ELECTRIC CONNECTION

Before connecting the machine to the mains, check that machine voltage indicated in data plate corresponds with the mains (see par. 1.1.1. item C).
Insert a differential magnetothermal protection switch adequately sized to absorption capacity required and with contact opening of 3 mm at least (see par. 1.1.1 item D).
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 adeguate ground plate.

2.5.1 Replacing the power cable

Should the machine main cable be damaged, it must be replaced immediately with one having similar features. Replacement shall be carried out by skilled technicians, only.

IMPORTANT
Direction of rotation
Looking at the machine front, direction beater rotation is anticlockwise.

2.6 REFILLING

Motor installed in the machine is of the type with lubrication for life; no action of checking/ replacing or topping up is necessary.
Gas filling necessary to the freezing system is carried out at **CARPIGIANI** works during machine postproduction testing.
If a gas addition happens to be made, this must be carried out by skilled technicians, only, who can also find out trouble origin.

2.7 MACHINE TESTING

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

3. INSTRUCTIONS FOR USE

3.1 MACHINE SAFETY WARNINGS

When using industrial equipment and plants, one must be aware of the fact that drive mechanisms (rotary motion), high voltage components, as well as parts subject to high temperatures may cause serious damages to persons and things.
Who is in charge of plant safety must be on the look-out that

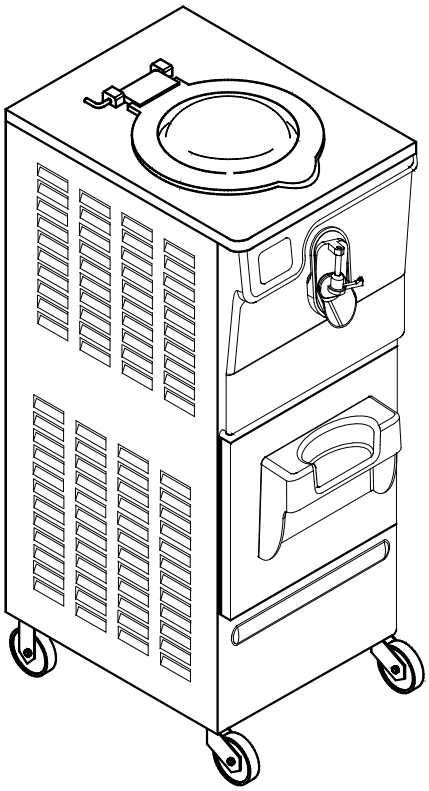
- An uncorrect use or handling is avoided
- Safety devices are neither removed nor tampered
- Service is regularly carried out
- Only are original spare parts to be used especially as far as those components with safety functions are concerned (ex.: protection microswitches, thermal relays)
- Suitable personal protective equipment is worn.

To achieve the above, the following is necessary:

- At working place an instruction manual relevant to the machine should be available.
- Such documentation must be carefully read and regulations must consequently be followed.
- Only must adequately skilled personnel be assigned to electrical equipment.

3.2 MACHINE CONFIGURATION

The machine consists of a transmission of movement for beater assembly, a heating and cooling system with aircooled condenser.
Ice-cream is prepared by letting the mix into the hopper and starting the automatic production program, up to reach the best ice cream consistency as set by CARPIGIANI in the observance of minium and maximum ice cream mix quantities reported in the table at paragraph 1.2.2. When the cycle ends, ice cream is ready to be taken out from ice cream outlet lid.



3.3 ELECTRONIC CONTROL KEYBOARD AND KEY FUNCTION

The machine has an electronic control keyboard. For a correct use of the keys, press the same on the symbol or in the middle. When a led lights up, it means that relevant function has been selected. Monitor and keyboard controls are hereafter described and illustrated.

Function insert light indicators
When a light indicator lights up, it means that the function relevant to the symbol next to the light indicator has been inserted.

Monitor
On turning your machine on, the monitor displays the temperature inside the cabinet and, during the production cycle, the product consistency.

Function STOP
In this function the ice-cream making unit is off and relevant red led is on. When selecting STOP, the monitor displays Stp (stop) for 2" and passes to the cabinet temperature display.

ON-OFF Key
By keeping this key pressed 2 seconds long, ice-cream making unit, as well as the compressor in the cabinet will switch off; in other words, the machine will fully switch off, included its monitor. Before accessing any function, one must switch on the machine by pressing this key again 2 seconds long, thence select the desired function. When pressing the key to turn the machine on, the temperature in cabinet will be displayed.

STORAGE Key
By pressing the key Storage, its led will blink, storage mode will be activated in the cabinet and you enter in the function "Max Cold" (-16°C). Once the Max Cold temperature has been reached, your machine will hold this temperature 3 hours and then will pass to the standard storage mode (-10°C).
By pressing the key Storage for the second time, its led will be fixed on and you enter in the function "Standard Storage" (-10°C).
If you press the key Storage for the third time, the led will switch off and storage inside the cabinet will set at stop.

SELECTION Key
By pressing this key many times, you can select hereafter described functions:
- Cleaning (CLE)
- Production (Prd)

Latest selection will be activated after 2 seconds (led is 2" on).
This key is also used to reset alarms that remain on the display.

Function CLEANING
By selecting this function, relevant light led lights up. Only does the beater run, whereas the cooling unit is off. This is a timed function and ends automatically when set time is over (usually 3 minutes).
Temperature of the product in cylinder will be displayed.
This function is also used to take out ice-cream.

Function PRODUCTION
By selecting the function Production, the product in the cylinder will be cooled up to reach the programmed consistency (HOT). The display will show real consistency value read in that very moment. When the production cycle is over, an intermittent acoustic signal will be emitted and the display blinks.

3.4 PRELIMINARY OPERATIONS, WASHING AND SANITIZING

Before the machine start-up, it is necessary to thoroughly wash its components and sanitize food area parts.

IMPORTANT
Cleaning and sanitizing must perfectly be carried out as a habit, at the end of each production day, in order to grant the production quality in the observance of the necessary hygienic standards.

CAUTION
Neither user solvents, nor alcohols and detergents that may damage the machine components or cause functional parts pollution

To wash this machine, Carpigiani recommends to use **XSAN** sanitizier. Using **XSAN** will optimize wash and sanitation because it eliminates 2 steps of the procedure (i.e., a rinse and a washing step); in practice, **XSAN** is a time saver and makes washing/sanitation easier.

3.4.1 How to use XSAN

Prepare a solution with water (at a temperature between 45 and 60°C) and **XSAN** concentrated at a percent between 1 and 3 % depending on water hardness.

Dipping Wash/santitation

- Remove coarse residual food by hand
- Remove the smallest residues with bolt water
- Dip all parts to be cleaned into **XSAN** solution
- Let the solution act some 10/15 minutes.
- Rinse the parts thoroughly with a plenty of drinking water.

3.4.2 Outside Cleaning

Remove dust and protective film which the machine was coated with before shipment. Use just water with addition of **XSAN,** if need be, and a soft cloth.

3.4.3 Preliminary Cleaning

Machine is off and front lid is closed: pour **XSAN** solution into the cylinder (1.5 l max).
Select the function CLEANING and let the beter run as less as you can, in order to avoid a useless wear of sliding shoes and cylinder.
Drain the cylinder by opening the drain door.

WARNING
While opening the drain door, it is necessary to push handle and lid towards the machine, so that the lid gasket will seal and then lift the lid (while keeping it pushed) in order to allow water to come out from the lower lid side.

3.4.4 Disassembling the machine

Disassemble, clean with **XSAN** solution and reassemble the machine parts as described in section 5 of this handbook.

3.4.5 Hygiene

Ice-cream fat contents are ideal fields of mildew and bacteria proliferation. To eliminate them, it is necessary to wash and clean parts in contact with mix and ice cream with utmost care, as described above.
Stainless steel and plastic materials, as well as rubber employed in the construction of the machine parts and their special design make cleaning easy, but cannot prevent mildew and bacteria if the machine is not properly cleaned.

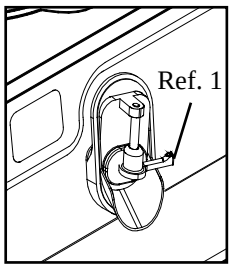
3.5 ICE CREAM PRODUCTION

After washing, sanitizing and fully rinsing the machine right before its use, as described in section 5 Cleaning, pour the desired mix quantity into the cylinder, in the observance of minimum and maximum batches indicated in table of paragrapgh 1.2.2.
Before pouring the mix, make sure that ice cream outlet door is perfectly closed.
Select the function PRODUCTION.
The operator will be warned by an acoustic signal when the production cycle has come to completion.

3.5.1 Ice-cream distribution

When the production program is over, ice-cream can shall be taken out as follows:

- Place the tank on the shelf, under the ice-cream outlet chute.
- Turn the unlock outlet door (ref. 1) letwards
- Lift the handle with the lid.
- Lock the lid up, by turning the handle rightwards till its stop
- Select the function CLEANING.



WARNING
To avoid a useless wear of sliding shoes and cylinder, the machine will pass to Stop position after 3' continuous operation in Cleaning mode.

WARNING
For best storing of the product in the cabinet, it is necessary to place tanks with milky f avours (custards) on the rear cabinet, and water f avours (for sherbets) in the front cabinet (see the picture).

3.6 SETTINGS AND CHECKS

3.6.1 Product consistency setting

The product consistency can be changed as follows:

1) Machine in STOP: press STORAGE and SELECTION keys at the same time and release them.

2) Hot and its real current value will be displayed. The value can be increased through the SELECTION key between 20 and 120; so change Hot according to the desired value.

3) Wait for 10 seconds till the value is stored; the machine will set back at Stop and will automatically display the cabinet temperature.

4. SAFETY DEVICES

4.1 ALARMS

This machine has a self - " CHECK " device indicating any possible operation troubles.
The "CHECK" led (**a decimal point down on display right side**) blinks when an alarm is active and it remains on to remind us that an alarm has tripped and reset. When an alarm is displayed, check the one it deals with, through the table below.
If the alarm is not a critical one, distribution can be used; if it is a critical alarm, the machine will not allow to enter in Production and if this is the case, press STOP and do not use your machine until its repair.
Press Selection in order to delete the alarm message on the display after the alarm has reset.
The table here below shows the avaialble alarms:

ALARM	DESCRIPTION
A05 (TECab)	Cabinet sensor faulty. Access to the functions Cleaning and Production is allowed. If on, the storage unit will switch off.
Opn (IMS)	Safety Magnet Switch (Cover Open). Only will the beater switch off and it will start again as soon as the cover is closed. If the word Opn appears on the display when the cover is closed, it means the PTMA motor thermal protection has tripped. Wait for its automatic reset, before going ahead with the production in progress. If PTMA trips again, it is necessary to call service.
A11 (PRESS)	High Pressure Switch has tripped. After 3 trippings or 2 running minutes Pressure Switch trips, the machine will pass to Stop position. The storing unit, too, if on, will switch off.
A15 (BLACK OUT)	Blackout. If machine was in Storage mode, it will return to relevant cycle (Standard or Max Cold). From Cleaning and Production modes, it goes back to Stop.

5. DISASSEMBLING, WASHING, SANITIZING PARTS IN CONTACT WITH THE PRODUCT

IMPORTANT
Cleaning and sanitizing must perfectly be carried out as a habit, at the end of each production day, in order to grant the production quality in the observance of the necessary hygienic standards.

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

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

CAUTION
Neither user solvents, nor alcohols and detergents that may damage the machine components or cause functional parts pollution

Never use powder or abrasive cleaning products, scourers or pointed tools when cleaning by hand; there is a risk of leaving the surfaces opaque or of removing or weakening the protective film on the surface, scratching it.
Never use metal or synthetic scouring pads under any circumstances to prevent any abrasion or removal of ferrous parts leading to problems of surface oxidation or weakening.

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

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

CAUTION
To wash the machine, Coldelite recommends using XSAN sanitizer/detergent.

To wash this machine, Carpigiani recommends to use **XSAN** sanitizer. Using **XSAN** will optimize wash and sanitation because it eliminates 2 steps of the procedure (i.e., a rinse and a washing step); in practice, **XSAN** is a time saver and makes washing/sanitation easier.

5.1 HOW TO USE XSAN

Prepare a solution with water (at a temperature between 45 and 60°C) and **XSAN** concentrated at a percent between 1 and 3 % depending on water hardness.

Dipping Wash/santitation

- Remove coarse residual food by hand
- Remove the smallest residues with bolt water
- Dip all parts to be cleaned into **XSAN** solution
- Let the solution act some 10/15 minutes.
- Rinse the parts thoroughly with a plenty of drinking water.

5.2 OUTSIDE CLEANING

Every day wash the cold storage tank, the front shelf, the hopper cover and the ice-cream door with XSAN solution (following instructions given above).

5.3 PRELIMINARY CLEANING

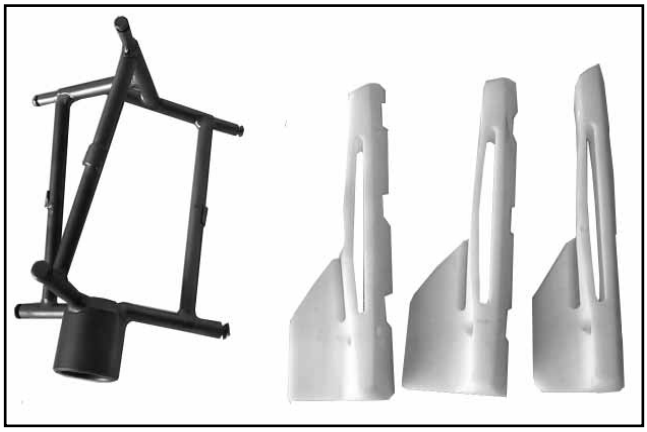
Machine is off and front lid is closed: pour **XSAN** solution into the cylinder (1.5 l max).
Select the function CLEANING and let the beter run as less as you can, in order to avoid a useless wear of sliding shoes and cylinder.
Place a pail under the drain door and open it in order to let all the solution out of the cylinder.

WARNING
While opening the drain door, it is necessary to push handle and lid towards the machine, so that the lid gasket will seal and then lift the lid (while keeping it pushed) in order to allow water to come out from the lower lid side.

Remove the upper tank cover.

5.4 DISASSEMBLING THE BEATER

Remove the beater from the freezing cylinder by slightly turning it anticlockwise and pulling it softly upwards, minding not to damage it.

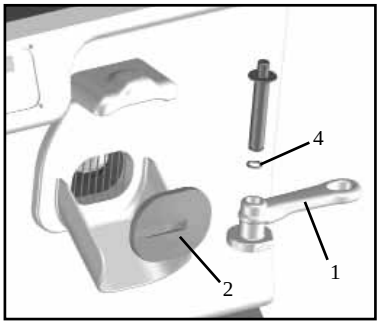


WARNING
Carry out this operation with utmost care, since beater may be damaged in case it falls to the ground.

- Disassemble all beater parts (see the picture)

5.5 DISASSEMBLING THE ICE CREAM DOOR

To remove the ice cream spigot, lift it by turning the lever (ref. 1) to the left; lift the lever and the spigot and then slide the spigot out (ref. 2) to the right.
Remove the OR from the lid sliding rod (ref. 4), now, and take it out, in order to release the handle, as well.



WARNING
The spigot (ref. 2) has a one-piece elastomer seal that must not be removed, either when cleaning or washing and sanitizing.

5.6 WASHING AND SANITIZING THE PARTS

1. Remove coarse residual food by hand
2. Remove the smallest residues with bolt water
3. Dip all parts into **XSAN** solution to clean them
4. Let the solution act some 10/15 minutes.
5. Rinse the parts thoroughly with a plenty of drinking water.
6. Place the parts on a clean tray ald let them dry in the air
7. Dip a brush into the sanitizing solution and clean the cylinder.
8. Dip a brush into the cleaning solution and clean the beater housing hole.
9. Spray the solution onto the cylinder walls

Repeat operations as at items 7, 8 and 9 a few times

5.7 REASSEMBLING THE PARTS

1. Reassemble the beater (OR and blades) providing to lubricate ORs with an eidble fat film.
2. Reassemble the front lid parts providing to grease the gaskets with an eidble fat film.
3. Reassemble the upper tank cover.

5.8 SANITIZING THE MACHINE

Your machine needs be sanitized before its use. Procedure to follow:

1. Fill the cylinder with **XSAN** solution prepare in water at 45-60°C (1,5 lt. max) and let it in the cylinder.
2. Clean the tank walls with the brushes in your accessories kit.
3. Select the function Cleaning and let the machine run 10 seconds. Press the key STOP. Cylinder and pump have by this been filled with **XSAN** solution
4. Fill a pail with **XSAN** solution.
5. Dip a brush into the solution and clean the ice-cream door. Repeat this operation twice.
6. Clean the machine external surface with a sanitizing cloth. Repeat this operation twice.
7. Wait for 5 minutes before carrying out the operations hereafter escribed
8. Place a pail under the outlet door and open it to drain all **XSAN** solution from the cylinder
9. Rinse the cylinder by filling the cylinder with drinking water.
10. Drain all water from the outlet door.

WARNING

While opening the drain door, it is necessary to push handle and lid towards the machine, so that the lid gasket will seal and then lift the lid (while keeping it pushed) in order to allow water to come out from the lower lid side.

WARNING

Too a long running in "CLEANING" position with empty cylinder or after just f lling it with sanitizer may cause a quick wear of the beater sliding shoes.

CAUTION

Do not touch sanitized parts with napkins or else.

5.9 HYGIENE

Ice-cream fat contents are ideal fields of mildew and bacteria proliferation. To eliminate them, it is necessary to wash and clean parts in contact with mix and ice cream with utmost care, as described above.

Stainless steel and plastic materials, as well as rubber employed in the construction of the machine parts and their special design make cleaning easy, but cannot prevent mildew and bacteria if the machine is not properly cleaned.

6. MAINTENANCE

6.1 SERVICING TYPOLOGY

ATTENTION

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

Cleaning and lubricating moving parts is forbidden!

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

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

- **Cleaning the beater**
  Carry out at the end of every working day
- **Cleaning the ice cream door**
  Carry out at the end of every working day
- **Cleaning the tank cover**
  Carry out daily with neutral soap, seeing to it that cleaning solution never reaches beater assembly at its inside.
- **Cleanout and sanitation**
  Carry out at the end of each working day, according to procedures described in section 5 of this manual.
- **Defrosting the cabinet**
  Carry out twice a week.
- **Cleaning the condenser**
  Carry out at the end of every working day

WARNING

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

6.2 WATERCOOLED MACHINES

By machines with watercooled condenser, water must be drained from condenser at the end of selling season in order to avoid troubles in the event that the machine is stored in rooms where temperature may fall under 0°C.
- After closing water inlet pipe, withdraw drain pipe from its seat and let water flow out from circuit.

6.3 AIRCOOLED MACHINES

Clean the condenser on a regular basis to remove any dust, paper or other items that could prevent the free flow of air.
When cleaning, use a long-bristled brush or a jet of compressed air.

ATTENTION

When using compressed air, it is necessary to proceed with care and to use the proper personal protective equipment to prevent injuries; wear safety glasses.

ATTENTION

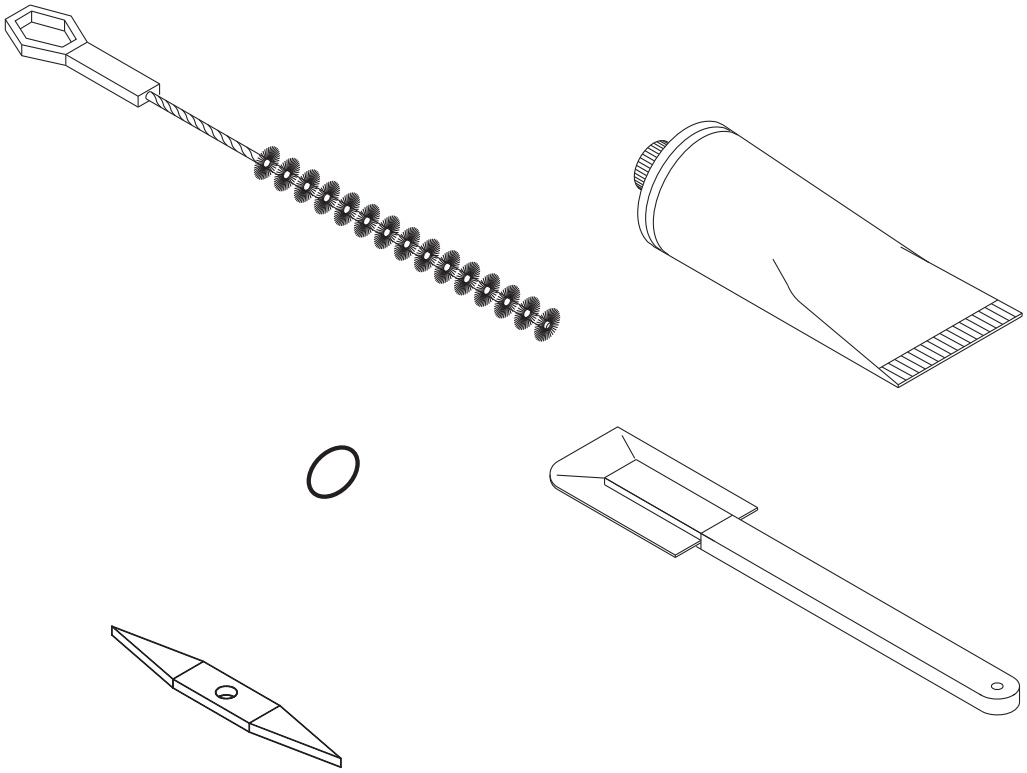
Never use sharp metal objects for this operation; the operation of the cooling system greatly depends on the cleanliness of the condenser.

6.4 CABINET NATURAL DEFROSTING

Ice building on the evaporator blades because of humidity brings about plant efficiency reduction up to hinder its operation.
A periodical cleaning (twice a week, at least) of the cabinet it is consequently necessary to remove ice. Defrosting is executed manually: machine shall be disconnected from the mains and cabinet door shall be left open.

CAUTION
Defrosting is necessary every 72 hours max.!

6.5 ACCESSORIES KIT



7. TROUBLE-SHOOT GUIDE

IRREGULARITY	CAUSE	REMEDIES
Machine does not starte	1. Fuses burnt 2. Machine not properly plugged 3. Alarms on the display	1. Check and replace 2. Check and plug in again
Compressor starts, then stops after a few seconds 1. OR missing or not properly installed	1. By watercooled machine: water is not circulating 2. By aircooled machine: air is not circulating	1. Open water cock and check whether water tube is squashed or bery doubled up. 2. Check that rear of machine is at least 50 cm from wall or any obstacle. Clean condenser if obstructed by dust or else.
Ice cream comes out from front lid	1. OR missing or not properly installed	1. Check and put remedy
Bacteria tests show too high level	1. Too high bacteria charge in mix 2. Machine not clean enough and not sanitized 3. Mix left longer than 72 hours in the machine without washing and sanitizing it	1. Improve preparation procedure by sanitizing all containers. Have mix analyzed before pouring it into the machine. Storage temperature too high: storage thermometer to be set. 2. Empty the machine: clean it with care and sanitize it as described in chapter Sanitation. 3. Empty the machine, clean and sanitize it and then fill with fresh and pasteruized mix at a temperature of 4°C.