

CH07



**ELECTRONIC CREAM COOKERS
WITH BAIN-MARIE SYSTEM**

**USE AND MAINTENANCE
MANUAL**

Series
CH07 02
TO SERIAL 23710

ORIGINAL INSTRUCTIONS



 **TAYLOR**® By  **FRIGOMAT**
ice cream machines



Azienda Certificata
UNI EN ISO 9001:2000
Numero Certificato
50 100 5650

IMPORTANT

We recommend that you read this manual fully and carefully before using your appliance.

It is in your interest to pay special attention to the warnings marked as follows:



Failure to comply with this signal causes very serious risks for health, death, and medium and long term permanent damage.



Failure to comply with this signal can cause very serious risks for health, death, and medium and long term permanent damage.



Failure to comply with this signal can cause injuries or damage to the machine.



Comply with these warnings for your machine to work properly and/or to be serviced correctly.



The machine can perform at best only through careful observance of these warnings.

We congratulate you for having chosen to purchase a **FRIGOMAT** machine.

This manual, supplied together with the machine, must be considered as an integral and essential part of it and must be delivered to the final user. Before carrying out any operations, we recommend studying these instructions carefully. Only by reading them carefully can you obtain the maximum performance from your machine. The following pages carry all of the indications required to correctly perform installation, operation, adjustments and routine maintenance. FRIGOMAT S.r.l. reserves the right to carry out the modifications it deems necessary to improve its product or the technical manual without prior warning, inserting the variations in the subsequent editions.

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The machine is covered by warranty according to the terms illustrated in the "WARRANTY CARD" supplied. It must be properly filled in and returned to:

FRIGOMAT s.r.l., via 1° Maggio, 28 26862 GUARDAMIGLIO (LODI) – ITALY

Please write the serial number of your machine in the field below.

Serial number

Stamp of dealer

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1 TRANSPORTATION, HANDLING AND STORAGE.

1.1 PRELIMINARY INSPECTION AND STORAGE

The machine is transported at the risk and peril of the customer. If you notice any damage to the packaging, immediately inform the carrier.

Inform the carrier right after opening the package if the machine is damaged even if it is a few days after delivery.

It is always preferable to accept goods **SUBJECT TO CLEARANCE**.

The appliance must be handled with care; it can be damaged by falls and blows even without exterior damages.

Storage temperature must be between 0° and + 50°C, and humidity between 30 and 95% with no dew.

Once the appliance has been unpacked, the packaging must be kept in a dry place out of the reach of children. If stored properly, it can be reused if the machine is moved.

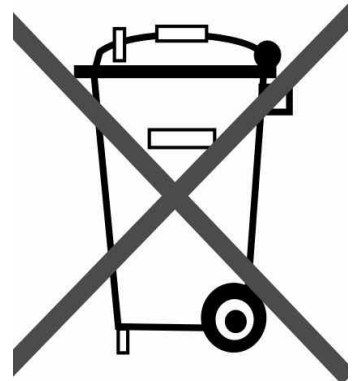
1.2 DIMENSIONS AND WEIGHTS OF PACKAGED MACHINES

MODEL	CRATE		BOX PALLET	
	MEASUREMENTS (CM)	WEIGHT N-G (KG)	MEASUREMENTS (CM)	WEIGHT N-G (KG)
CH07	103X50XH130	195	103X50XH130	150

1.3 INDICATIONS FOR DECOMMISSIONING

The machine contains electrical and/or electronic materials and can contain fluids and/or oil. If it needs to be decommissioned or disposed of, comply with the standards in force in the Country where it is used.

Even packaging materials (crates or boxes) must be divided by type and disposed of in compliance with standards in force in the Country where it is used when the machine is decommissioned.



2. MARKING AND GRAPHIC SIGNS

The machine is provided with an identification plate and some pictograms. They must be known along with the manual to guarantee safe use.

 Via l' Maggio 26862 Guardamiglio (LO) - ITALIA Tel.0377 415011 macchine per gelato Fax 0377 451079 www.frigomat.com e-mail:info@frigomat.com					
P.I.V.A.					
Mod.	Matr.				
Cod.	Serie				
		Hz	KW		
A. IP		CL.	R.	Kg	
					

Machine data plate

The adhesive plate applied on the rear enables to identify the model. It includes the following indications: Name and address of the manufacturer; machine model and version; serial number; nominal electrical features; type and weight of gas used; year of manufacture.

Indication

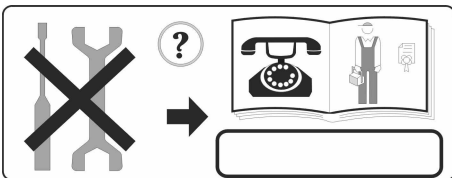
Lifting equipment hooking points:

This plate indicates the points where the lifting hooks must be placed to carry out this operation safely. Use a Phillips screwdriver to unscrew the two side panels of the machine and position the lifting equipment in the relevant points, making sure that they cannot accidentally slip off during lifting operations.



Attention!

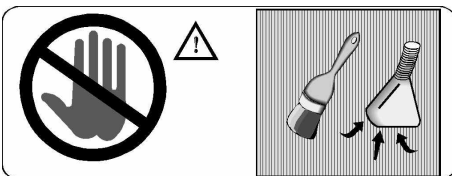
Maintenance reserved for qualified personnel. This plate applied on the rear panel prohibits extraordinary maintenance and/or repairs to any one but authorised personnel, whose address is indicated in the space provided.

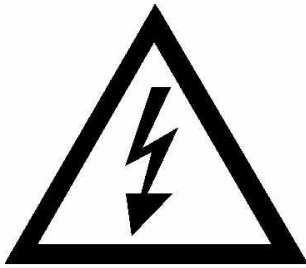


Attention!

Do not touch with your hands.

This plate applied on the rear panel of machines with air cooling indicates that the heat exchanger can only be cleaned using a brush or vacuum cleaner.

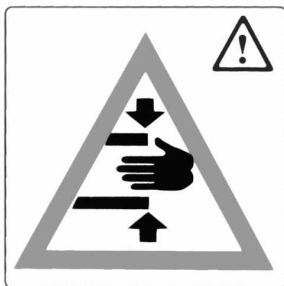




Attention!

High voltage inside; danger of electrocution.

This plate is applied on the cover of the electrical box and warns the operator that it must not be removed for any reason whatsoever, thus avoiding the danger of electrocution which could be fatal. In this case as well, maintenance of internal components is reserved for qualified personnel.



Attention!

Danger of crushing.

This plate is applied on the top panel at the right of the vessel cover. It indicates that one must pay attention, both during cleaning and charging, since it can fall and injure the operator if hit.

All CHEF LCD cream cookers are equipped with an advanced limb-shearing-prevention safety system capable of stopping moving parts if the lid is opened. Nonetheless, all cleaning and maintenance must be performed with the machine at "STOP" and the master switch disconnected.



Attention!

Danger of burns.

This plate is applied on the top of the machine and warns the operator that the cover must be opened with great care since he could be assailed by steam.

3. GENERAL SAFETY STANDARDS



Strictly observe the general safety and accident-prevention standards listed hereafter:

- Use of the machine is reserved for personnel in good health, responsible and appropriately trained as to allowed use and risks present.
- Use of the machine is reserved for operators only, who have read, understood and acknowledged all that is included in this manual.
- It is forbidden to remove or tamper with the safety systems installed on the machine.
- While the appliance is operating, it is mandatory to check that danger situations for persons do not occur. Should these conditions transpire, stop the appliance immediately.
- When you have finished working with the machine, it is mandatory to cut power by acting on the master switch.
- When unusual noise or anomalous functioning is perceived, it is mandatory to immediately stop operations in progress and to search for the cause of these irregularities. If in doubt, avoid improper operations by contacting the technical assistance service of the manufacturer.
- Any tampering or modification of the machine automatically entails the immediate termination of the warranty and relieves the manufacturer of all and any liability for direct or indirect damage caused.
- It is mandatory to check to make sure that the place where the machine is installed is ventilated and correctly illuminated. The surface where the appliance is installed must be solid, flat and levelled.
- During loading, unloading and handling operations, it is mandatory to use equipment with a capacity adequate for the mass (weight) of the machine, using hoisting devices and accessories with features and state of use suitable for the purpose.
- Use only original FRIGOMAT spare parts when performing maintenance. The manufacturer will not be held liable for damage caused by use of non-original spare parts. Use of non-original spare parts entails automatic termination of the warranty.
- It is mandatory to position the machine far away from equipment which emits electromagnetic radiation which could cause the circuit boards to malfunction.
- If fire-prevention equipment needs to be used, use types which are compatible with the presence of voltage on board.
- It is forbidden to wear long and loose apparel, ties, jewellery, scarves or similar clothing which could get caught in the moving parts of the machine.
- Hair must be tied and shirt-sleeves tight.

4. INSTALLATION

4.1 USE

Appliance suitable for the thermal processing bakery products and mixtures for ice cream, according to use allowed by Law.

4.2 WORKING LIMITS

Do not use the machine with inconstant power supplies or +/- 10% beyond the value indicated on the plate or with the power cable damaged;

Do not use the machine in explosive atmospheres;

Do not wash the machine with high-pressure water jets or with harmful substances;

Never aim the water flow of the shower head towards the side panels.

Do not expose the machine to excessive heat or humidity;

Do not use unbalanced mixtures and/or amounts which do not comply with the specifications carried on the packs.



Use not expressly indicated in this manual is to be considered improper and therefore must be strictly avoided.

The manufacturer will not be held liable for direct or indirect harm to persons or animals or damage to objects caused by improper use of the machine.

4.3 NOISE

SOUND EMISSION LEVEL EXPRESSED IN DECIBELS (measurement method A)

As foreseen by Machinery Directive 89/392 standard EN 23741
(A-weighted equivalent continuous sound pressure level)

MODEL	LEVEL (A)	MODEL	LEVEL (A)
CH07	< = 66 dB (A)		

4.4 SUPPLIED WITH MACHINE

- Brush
- Declaration of conformity
- Gasket extractor
- Warranty certificate
- O-ring kit
- FRIGOMAT lubricant
- Use and maintenance manual

4.5 ACTIVATION



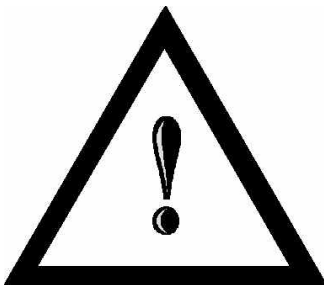
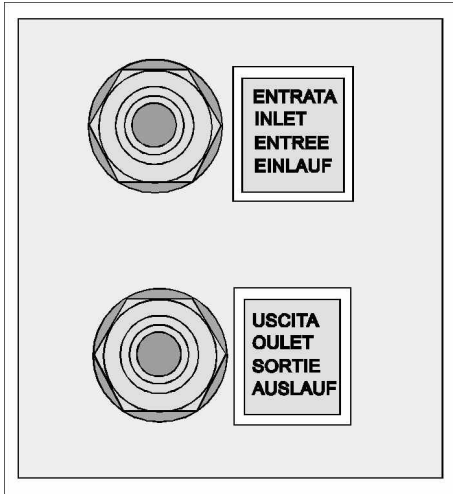
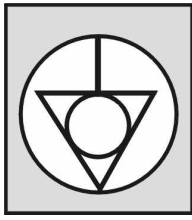
FRIGOMAT declines all and any liability for damage caused by failure to comply with the following indications. This lack of compliance causes the warranty to terminate.

Connection of the machine to the water mains must be performed respecting national regulations of the Country where the machine is installed.

To commission the machine, bring it to the place of use, checking what is requested for its installation:

- 1. Electrical power supply 3 phases + neutral + earth (5 wires);**
- 2. Cold water mains supply (13° - 20°C, only water mod.);**
- 3. Condensation water drain (only water mod.).**

- Make sure the appliance is positioned on a solid, stable, flat and levelled surface.
- Block the machine by acting on the relevant brake lever on the rear wheels.
- Leave at least 10 cm from the side panels and 30 cm from the rear panel between the machine and the walls or other obstacles. For machines with water condensation, the distance between the wall and the rear panel must be 10 cm.
- Check the exact correspondence between the voltage and power of the mains compared to the values carried on the data plate applied on the rear panel.
- Connect the machine to the electrical power supply system. Install a omnipolar master switch upstream the appliance with minimum contact opening of 3 mm of adequate power, with a fuse and circuit breaker protective system. Use an approved interlocking plug to allow only the open circuit to connect and disconnect.
- The cable must be well laid, without being rolled-up or overlapped. It must not be exposed to blows or tampering. It must not be in the vicinity of liquids or water and heat sources. It must not be damaged in any way. If so, before connecting the machine to the mains, have it replaced by qualified personnel with another having a 5G4 H07RN-F (400 V version), 5G6 H07RN-F (220 V / 3 version) cross-section.
- For safety purposes, make sure the earthing system to which the machine plug is connected is compliant with standards and perfectly efficient.



INVERTER



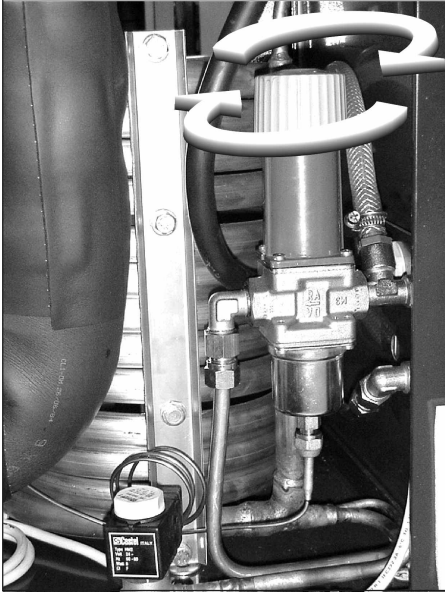
- If needed, carry out an equipotential bonding, using the screw placed on the rear of the machine below the frame and marked with the symbol shown to the left.
- Make sure that the cold water supply line intended for condensation has pressure values between 1 and 3 BAR and temperature between 13° and 20°C.
- Connect the cold water supply pipe intended for condensation onto the machine inlet as shown in the figure. Use a Ø1/2" fitting and place a gate valve in the operator's reach.
- Connect the condensation water drain pipe onto the machine outlet as shown in the figure, using a Ø1/2" fitting.
- Always use new pipes suitable for hot water and for pressure up to 10 bars both for delivery and draining. Never use worn or consumed piping. Use suitable DIN 3017 hose clamps.
- The drain pipe must have an inclination of at least 3 cm for each meter of length.
- After having connected the water inlet and outlet pipes, with the machine stopped, open the cut-off cock and make sure that water does not leak from the drain.
- Turn off the master switch and press the **STORAGE** button to check the following:
 1. **Plug connection phases.**

The machine beater motor is connected to an inverter that guarantees the correct direction of rotation (anti-clockwise) even if the phases in the plug are inverted.

Therefore, during installation it is possible to check that the phases are connected correctly only by observing that the direction of rotation of the glycol pump corresponds to that indicated by the arrow positioned on the pump itself.

If the direction of rotation of the glycol pump is not correct, check for glycol leaks from the system, over-heating and FLU alarm indications on the LCD.

To connect the phases properly cut the power and invert the two phase wires in the plug.



2. Condensation pressure (water models only).

With the machine in **STORAGE**, mode, after a few seconds condensation water must come out of the drain pipe at a temperature of about 35°C. If this is not the case, the pressure switch valve shown in the figure must be adjusted.

- Press the **STOP** button to stop the machine.



Three-phase machines are powered with three-phase + neutral lines: be careful never to connect the phase lines with neutral. FRIGOMAT will not be held liable for damage to the machine deriving from non-compliance with this rule.

Use of the machine with incorrect direction of rotation of the fluid pump leads to the risk of damage of the bain-marie system circuit parts.

FRIGOMAT will not be held liable for damage to the machine deriving from non-compliance with this rule.

- Operating temperature should be between 15° and 35°C.
- Humidity should be between 30 and 60%.



FRIGOMAT s.r.l. will not be held liable for personal harm and/or damage to objects deriving from incorrect installation and/or by failure to comply with work accident-prevention standards. Never intervene on the machine with your hands, neither during normal operating cycles nor during cleaning and maintenance, without first having stopped the machine by pressing the **STOP** button and having turned off the master switch. Never clean the appliance using a high-pressure water jet. Never shut the water cut-off cock while the machine is running. Be careful never to damage the power cable. If so, have it replaced.

Machines with water cooling which are left in places at a temperature below or close to 0°C, must first have all the water drained from the condenser.

5. SAFETY DEVICES

Shearing-prevention safety device: Implemented by means of a safety circuit compliant with European standards; it intervenes by blocking the beater motor when the tank cover is opened.

Beater motor overheating safety device: Realised via amperometric protection supplied by the inverter. If the beater motor should over-heat, the inverter module sends the relative alarm message to the display.

Hermetic compressor motor overheating safety device: Implemented by means of an automatic reset thermal-current sensor; it protects the machine compressor motor operation from overloads. The protection device intervention determines the temporary stop of the compressor motor only.

Heat elements safety device: implemented by means of safety thermostat; it protects the heat element from overheating, by signalling the relative “**Alarm!**” message on the display, emitting an intermittent acoustic signal and allowing restore directly from the push button control panel.

Chiller circuit over-pressure safety device: implemented by the approved automatic-restoration safety pressure switch; it protects the integrity of the chiller circuit from overpressure.

Protection against short circuit of auxiliary utilities: Implemented by fuses which intervene on the logic unit or auxiliary power supply in the event of short-circuits.

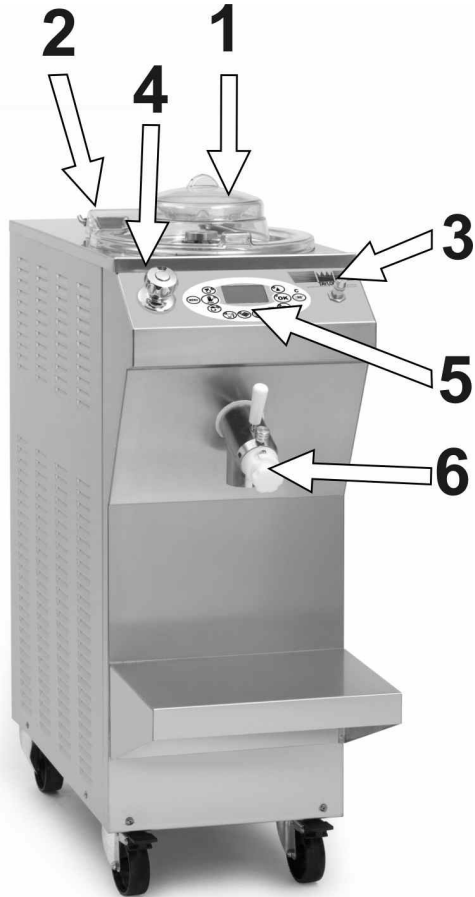
SELV safety circuit: the push button control panel and the water bath fluid levels are powered at low voltage by means of an approved dual-insulation safety transformer, protected against short circuits by fuses.

Water bath fluid level safety device: implemented by a conductivity probe inside the tank which signals “**Alarm!**” on the display and coupled with an intermittent acoustic signal if the fluid level is insufficient.

LCD panel auto-switch-off: During the Stand-by and 4°C STORAGE phase, the LCD panel turns off to save energy a few minutes after the last button was pressed. Press any key to reactivate the LCD panel.

6. OPERATION

6.1 MACHINE



1. Hopper lid

By removing the same, the operator can load the ingredients and discharge the steam in complete safety.

2. Tank lid

Closes the tank during the processing phases. It can be easily removed for cleaning.

3. Water shower head

Equipped with an extractable hose pipe, it enables the operator to wash the tank, tap and beater. Never direct water jets against the side panels.

4. Water tap

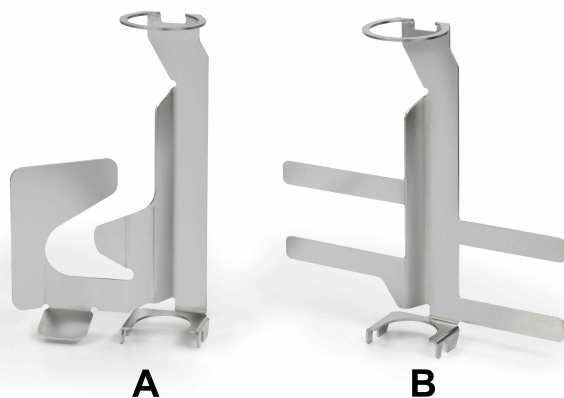
Opens or closes the shower head water.

5. Control panel

Enables to select the work programs.

6. Dispenser tap

Used when extracting the product and emptying water during the tank cleaning procedure.



A. Winged blades for cream cycles

It can be assembled onto the beater in order to guarantee excellent mixing of the cream.

B. Scrapers for chocolate tempering

Can be assembled onto the beater in order to guarantee excellent mixing of the chocolate during the tempering cycles.

BEATER ASSEMBLY



Attach the mobile scrapers to the steel structure of the beater. Make sure they are orientated correctly, perfectly mobile and that the thrust springs are positioned correctly in their seats. Insert the complete beater into the tank and carefully check that every part is correctly positioned as illustrated in the figure.

ACCESSORY ASSEMBLY



Position the accessory desired in a way that the upper ring is centred on the beater centring bush. Check that the grooving in the lower part is positioned exactly on the lower arms of the beater. Before inserting the beater in the tank, always check that assembly has been performed and that the accessory is correctly and stably restrained.

TAP ASSEMBLY

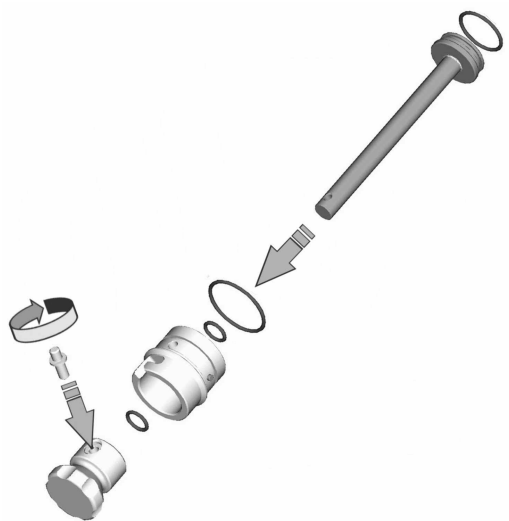


Fig.1

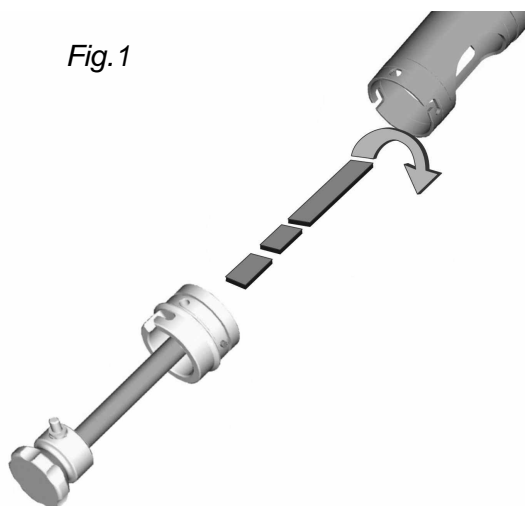
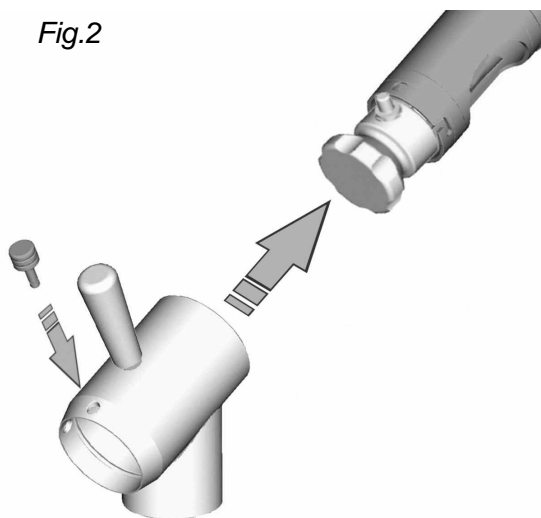
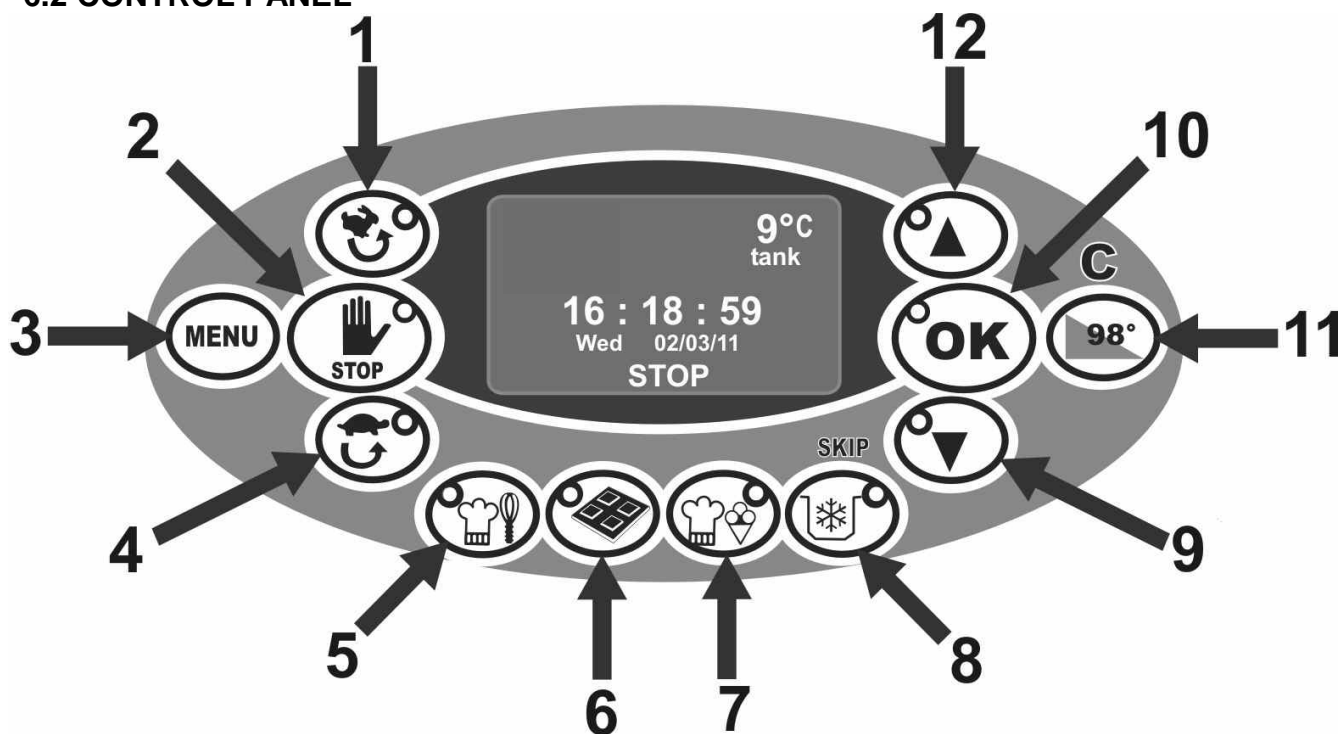


Fig.2

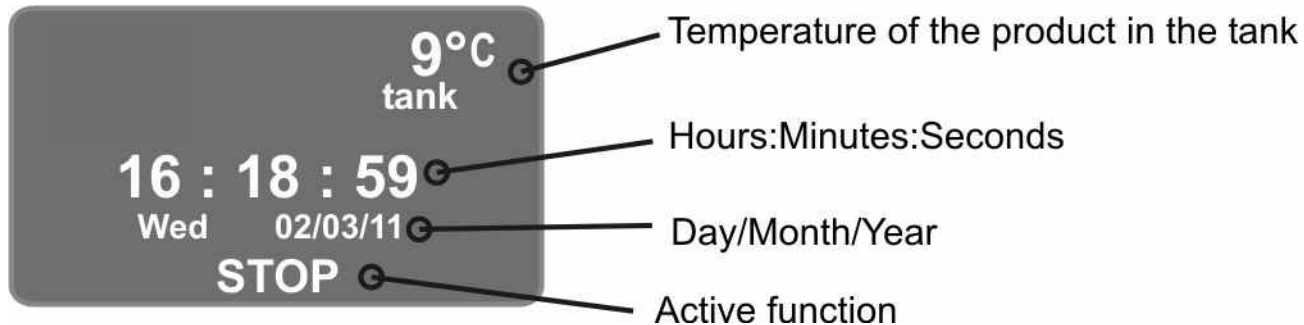


- Insert the O-ring gasket into the plastic bottom and lubricate it using the Frigomat lubricant supplied.
- Insert the piston into the bottom as illustrated in the figure.
- Position the piston knob onto the rod and tighten the steel pin. Check that the piston runs easily in the seat (fig. 1).
- Assemble the O-rings or all tap components and lubricate them using the Frigomat lubricant supplied.
- Insert the piston in the machine tap duct and turn the bottom by a few degrees up to the block position (fig. 2).
- Insert the tap body and turn it to the vertical position.
- Insert the locking pin (fig. 3).

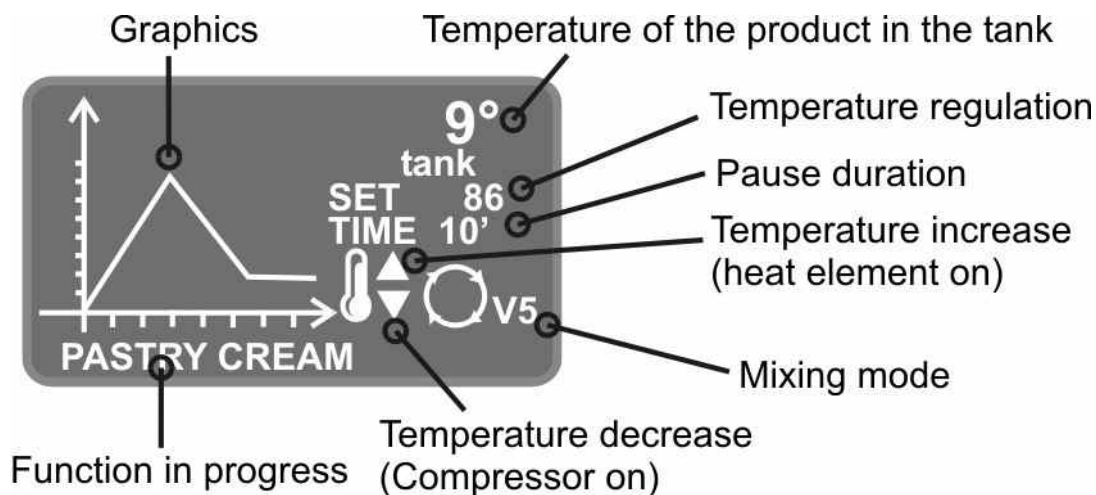
6.2 CONTROL PANEL



LCD panel display in Stand-by mode:



LCD panel display in operating mode:





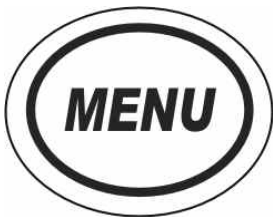
1. HIGH SPEED MIXING (V9)

With the machine at STOP, by pressing the HIGH SPEED MIXING key, the high speed beater motor (V9) starts up; press the STOP key to stop the beater.



2. STOP

In whatever operating phase the machine is in, pressing the STOP key stops the machine and cancels the function in progress.



3. MENU

With the machine at STOP, pressing the MENU key accesses the main screen where it is possible to choose to perform one of the 32 pre-set recipes, to change them or to create new ones.



4. MIXING (MEDIUM SPEED V5)

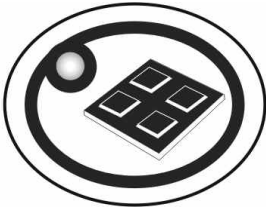
With the machine at STOP, by pressing the MEDIUM SPEED MIXING key, the medium speed beater motor (V5) starts up; press the STOP key to stop the beater.



5. "CREAM" QUICK KEY

With the machine at STOP, pressing the "CREAM" quick key accesses the optimised semi-automatic cycle to produce all the cream recipes, with the possibility of selecting the main cycle parameters.

Press the "CREAM" key twice to start the cycle quickly.



6. "CHOCOLATE TEMPERING" RAPID KEY

With the machine at STOP, pressing the "CHOCOLATE TEMPERING" rapid key accesses the optimised semi-automatic cycle for chocolate tempering, with the possibility of selecting the main cycle parameters.

Press the "CHOCOLATE TEMPERING" key twice to start the cycle quickly.



7. "MIXTURE PROCESSING" QUICK KEY

With the machine at STOP, pressing the "MIX TREATMENT" rapid key accesses the optimised semi-automatic cycle for pasteurisation of the mixture for ice cream, with the possibility of selecting the main cycle parameters.

Press the "MIXTURE PROCESSING" key twice to start the cycle quickly.

SKIP



8. "STORAGE" / SKIP QUICK KEY

This button has 2 functions:

1. With the machine at STOP, pressing the "STORAGE" rapid key accesses the screen of the menu where it is possible to choose the most suitable STORAGE cycle for the product being processed.
2. During the execution of a cycle, by holding the STORAGE key down for a few seconds, the SKIP function is enabled, which allows to annul the step in progress and pass to the next step.



9. DOWN

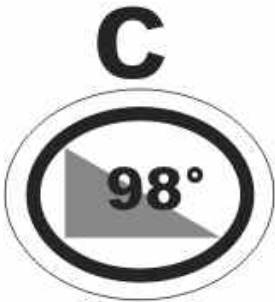
This button has 2 functions:

1. While a cycle is being executed, pressing the DOWN key decreases the rotation speed of the beater motor.
2. During programming, by pressing the DOWN button, it is possible to scroll the menu entries or to reduce the value of the selected parameter.



10. OK

During programming, pressing the OK key confirms the selection of the entry of the menu or the value of the parameter.



11. REDUCE HEAT / CANCEL

This button has 3 functions:

1. During any operative phase of the appliance, pressing the "REDUCE HEAT" key reduces the water bath fluid (glycol) temperature, from 120°C to 98°C. Selection of the heat reduction function is signalled by the flashing indicator of the OK key.
Press the "REDUCE HEAT" key again to restore the fluid at a maximum temperature of 120°C.
2. During programming, pressing the CANCEL key cancels the selection of the entry of the menu or the value of the parameter.
3. With the machine in STOP, by pressing CANCEL repeatedly, it is possible to read the temperatures of the auxiliary tank, the fluid and tank in sequence.



12. UP

This button has 2 functions:

1. While a cycle is being executed, pressing the UP key increases the rotation speed of the beater motor.
2. During programming, by pressing the UP button, it is possible to scroll the menu entries or to increase value of the selected parameter.

6.3. QUICK ACCESS PROGRAMS

The LCD graphical panel allows the user to access the most common processing and STORAGE functions easily and quickly.

All the parameters of the quick access semi-automatic programs are already optimised for creams, chocolate tempering, ice cream mixtures and different STORAGE modes. Each one of them is coupled to a dedicated key so that they can be started by pressing just one key.

The machine will request to set the main parameters of the cycle and afterwards it will continue in automatic mode showing the most useful information on the display and tracing the graphic of the cycle in real time.

The following paragraphs show how to execute the 4 quick access work programs step by step. Refer to the following instructions to start production:



- Make sure that the gate valve of cold water for condensation is open (water models only).
- Make sure the master switch is closed and that the machine is powered correctly.
- Make sure the dispenser tap is closed and that the tank beater is assembled correctly.
- Lift the cover and pour the ingredients in the tank, strictly observing the minimum and maximum amounts admitted per cycle and carried on the following table:

Model	MIN (kg)	MAX (kg)
CH07	3	12

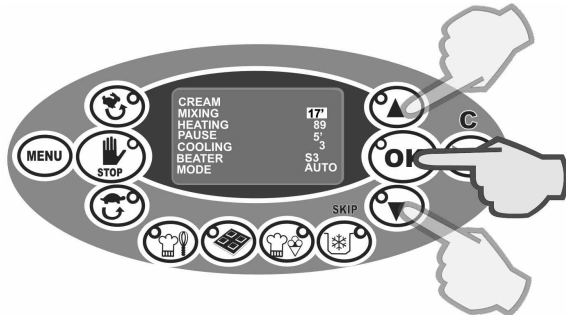


Failure to comply with the minimum and maximum load values can entail machine malfunctioning and even breakage.

6.3.1 “CREAM” RAPID SEMI-AUTOMATIC CYCLE



Press the “CREAM” key to enter the screen of the following parameters relative to the work cycle:

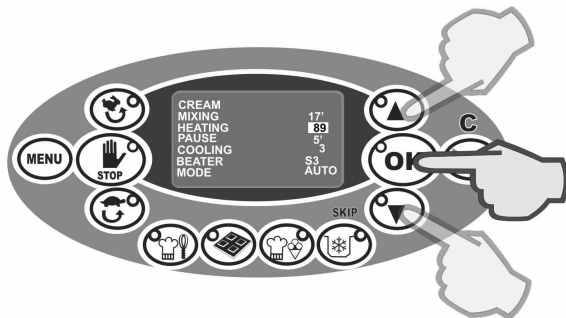


- **MIXING (from 0' to 20')**

The first item, automatically selected, concerns high speed mixing function (S8) of the ingredients. The user can program the total duration of this phase by selecting times up to 20'.

Press “UP” and “DOWN” to increase or decrease the mixing time value.

Press “OK” to confirm the data and pass to programming the next item.

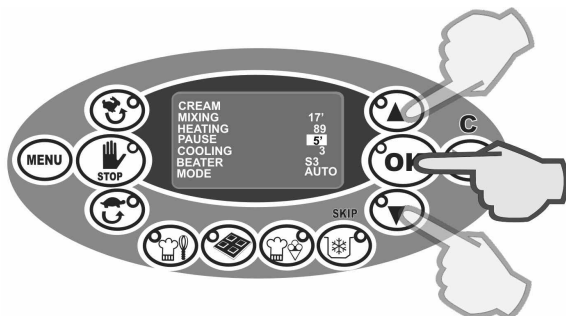


- **HEATING (from 1° to 115°)**

After having programmed the mixing time, it is possible to set the heating temperature of the product in the tank.

Press “UP” and “DOWN” keys to increase or decrease the heating temperature value.

Press “OK” to confirm the data and pass to programming the next item.

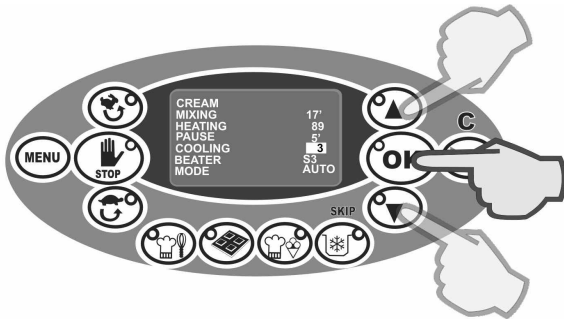


- **PAUSE (from 0' to 10 h)**

After having programmed the heating temperature, a stand-by time can also be set, during which this temperature is kept constant.

Press “UP” and “DOWN” keys to increase or decrease the stand-by time value.

Press “OK” to confirm the data and pass to programming the next item.



- **COOLING (to 1°C)**

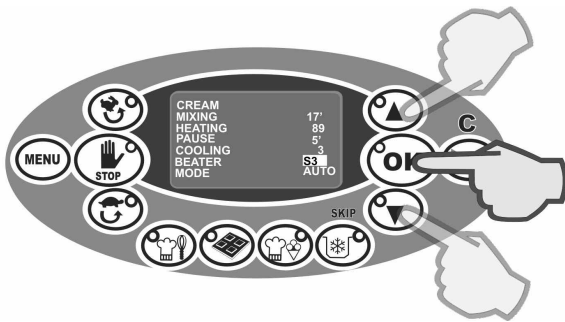
After having programmed the stand-by time, it is possible to set the cooling temperature of the product in the tank.

Press "UP" and "DOWN" keys to increase or decrease the cooling temperature value.

Press "OK" to confirm the data and pass to programming the next item.



To prevent programming errors by the users, it is possible to select only cooling temperatures lower than the heating temperature programmed previously



- **BEATER (from S1 to S10)**

After having programmed the cooling temperature, it is possible to set the mixing speed.

Press "UP" and "DOWN" keys to increase or decrease the mixing speed value.

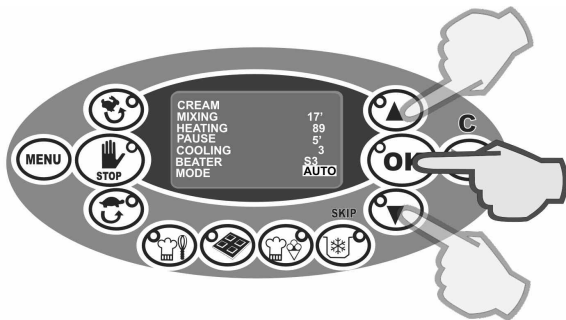
Press "OK" to confirm the data and pass to programming the next item.



Programming the mixing speed operated by the user, is used by the machine with different modes depending on the previously-set heating temperature, both higher and lower than 70°.

- If the heating temperature has been programmed at a value higher than 70°, the machine uses the speed programmed by the user only for heating temperatures exceeding 70°, during the entire stand-by and in the next cooling phase to 30°.
- However, if the heating temperature has been programmed at a value lower than 70°, the machine uses the speed programmed by the user during the entire heating phase, in the stand-by and in the next cooling phase to 30°.

In both cases, in the cooling phase, on exceeding 30°C the speed automatically switches to S1.



- **MODE (AUTO OR STD)**

After having programmed the mixing speed, it is not possible to choose between 2 control modes for maintaining the temperatures set: AUTO (recommended choice) or STD.

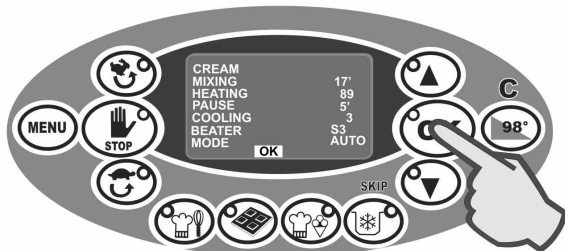
Press "UP" and "DOWN" to select one mode or the other.

Press "OK" to confirm the data.



Choosing the AUTO mode activates all the automatic software controls for temperature management and temperature drift control.

Choosing STD excludes software management of temperature drift control.



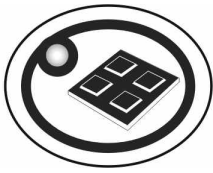
- After having programmed all parameters just described, OK appears at the bottom of the display: press OK to confirm that programming has been performed correctly, store the data and then start the cycle.

- During execution of the cycle, various messages on the display and relative acoustic warnings inform the operator when to add the ingredients.

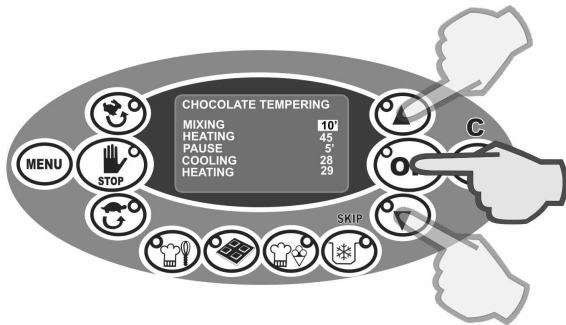
- When the cycle has ended, the STORAGE phase starts automatically at the temperature set by the user with cyclical mixing and chronometer active.



6.3.2 “CHOCOLATE TEMPERING” RAPID SEMI-AUTOMATIC CYCLE



Press the “CHOCOLATE TEMPERING” key to enter the screen of the following parameters relative to the work cycle:

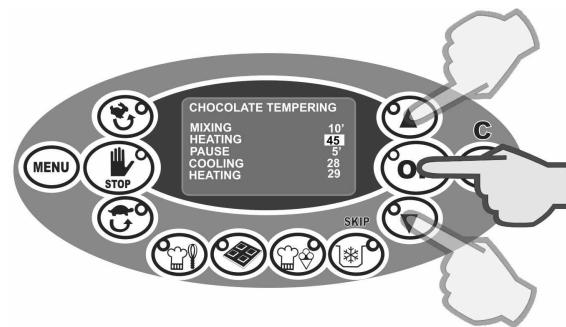


- **MIXING (from 5' to 20')**

The first entry, automatically selected, concerns the solid chocolate mixing - melting function by static heating of the tank for a period of time that varies from a minimum of 5' to a maximum of 20', at the end of which the heating phase with mixing will start.

Press “UP” and “DOWN” keys to increase or decrease the mixing - melting time value.

Press “OK” to confirm the data and pass to programming the next item.

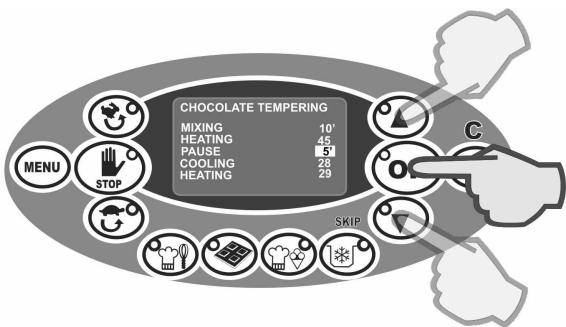


- **HEATING (from 40° to 53°)**

After having programmed the static mixing - melting time, it is possible to set the heating temperature of the chocolate in the tank with S3 mixing.

Press “UP” and “DOWN” keys to increase or decrease the heating temperature value.

Press “OK” to confirm the data and pass to programming the next item.



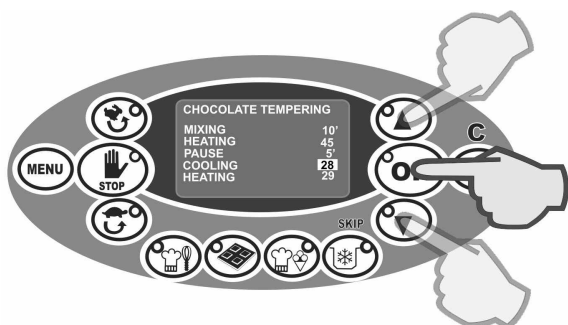
- **PAUSE (from 1' to 10')**

After having programmed the heating temperature, a stand-by time can also be set, during which this temperature is kept constant.

During stand-by, beater speed is S3.

Press “UP” and “DOWN” keys to increase or decrease the stand-by time value.

Press “OK” to confirm the data and pass to programming the next item.

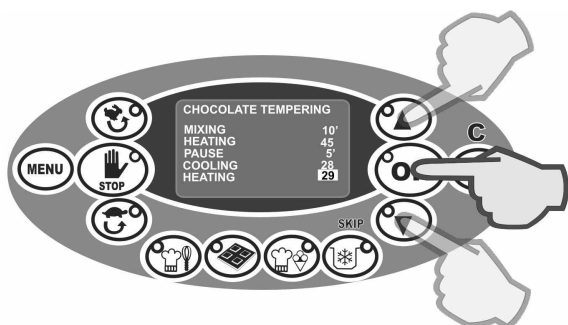


- **COOLING (from 25° to 30°C)**

After having programmed the stand-by time, it is possible to set the cooling temperature of the chocolate in the tank with mixing S2.

Press "UP" and "DOWN" keys to increase or decrease the cooling temperature value.

Press "OK" to confirm the data and pass to programming the next item.

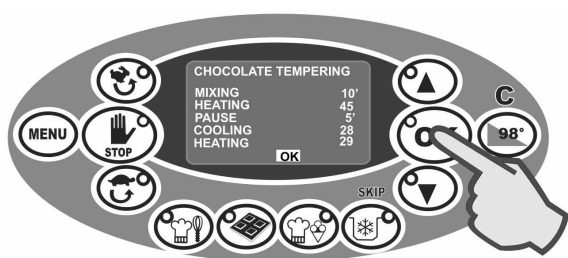


- **HEATING (from 25° to 33°)**

After having programmed the cooling temperature, it is possible to set the tempering maintenance heating temperature with S2 mixing.

Press "UP" and "DOWN" keys to increase or decrease the heating temperature value.

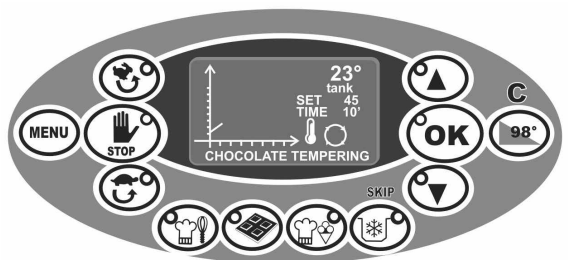
Press "OK" to confirm the data.



- After having programmed all parameters just described, OK appears at the bottom of the display: press OK to confirm that programming has been performed correctly, store the data and then start the cycle.

- During execution of the cycle, various messages on the display and relative acoustic warnings inform the operator when to add the ingredients.

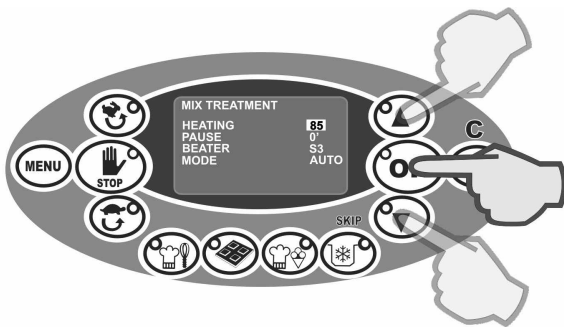
- When the cycle has ended, the STORAGE phase starts automatically at the temperature set by the user with continuous V1 mixing and chronometer active.



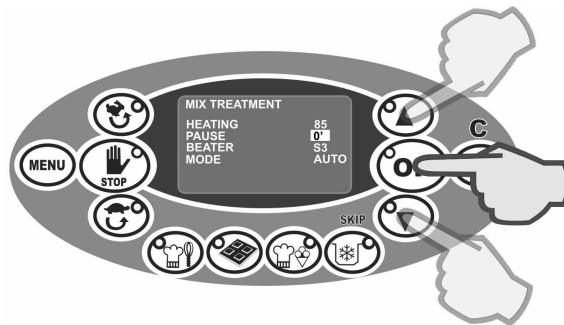
6.3.3 “MIX TREATMENT” RAPID SEMI-AUTOMATIC CYCLE



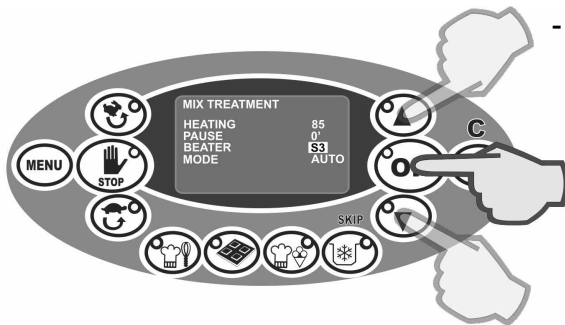
Press the “MIX TREATMENT” key to enter the screen of the following parameters relative to the work cycle:



- **HEATING (from 1° to 115°)**
The first entry selected automatically concerns the heating temperature of the product in the tank: Press “UP” and “DOWN” keys to increase or decrease the heating temperature value. Press “OK” to confirm the data and pass to programming the next item.



- **PAUSE (from 0' to 10 h)**
After having programmed the heating temperature, a stand-by time can also be set, during which this temperature is kept constant.
 - If the heating temperature selected previously is between 65° and 85°C, the machine automatically calculates the stand-by time required for correct pasteurisation of the product. If this time value is satisfactory, press “OK” to confirm it. If not, press the “UP” and “DOWN” keys to set a new time value. Then press “OK” to confirm it.
 - If the heating temperature set previously is not in between 65° and 85°C, the machine will not automatically calculate any time value. Press the "UP" and "DOWN" keys to set a new stand-by time and then press "OK" to confirm and pass to programming the next item.



- **BEATER (from S1 to S10)**

After having programmed the stand-by time, it is possible to set the mixing speed.

Press "UP" and "DOWN" keys to increase or decrease the mixing speed value.

Press "OK" to confirm the data and pass to programming the next item.



Programming the mixing speed operated by the user, is used by the machine with different modes depending on the previously-set heating temperature, both higher and lower than 40°C.

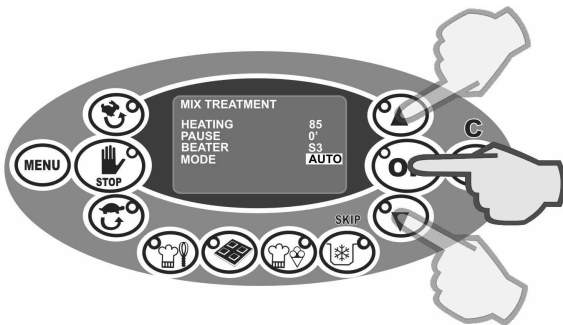
- If the heating temperature has been programmed at a value higher than 40°, the machine uses the speed programmed by the user only for heating temperatures exceeding 40°, during the entire stand-by and in the next cooling phase to 4°.
- However, if the heating temperature has been programmed at a value lower than 40°, the machine uses the speed programmed by the user during the entire heating phase, in the stand-by and in the next cooling phase to 4°.

- **MODE (AUTO OR STD)**

After having programmed the mixing speed, it is not possible to choose between 2 control modes for maintaining the temperatures set: AUTO (recommended choice) or STD.

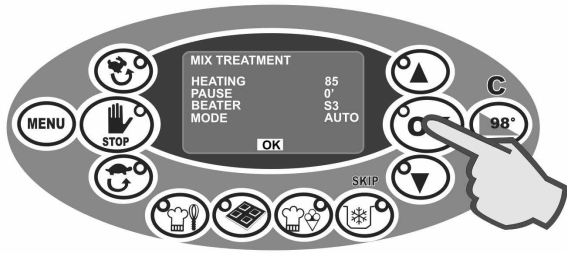
Press "UP" and "DOWN" to select one mode or the other.

Press "OK" to confirm the data.

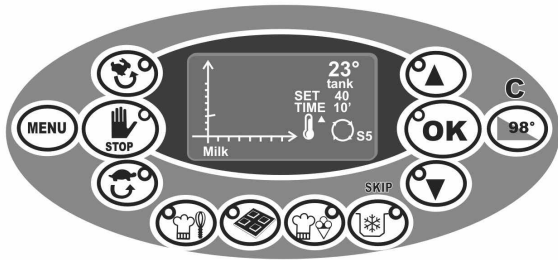


Choosing the AUTO mode activates all the automatic software controls for temperature management and temperature drift control.

Choosing STD excludes software management of temperature drift control.



- After having programmed all parameters just described, OK appears at the bottom of the display: press OK to confirm that programming has been performed correctly, store the data and then start the cycle.
- During execution of the cycle, various messages on the display and relative acoustic warnings inform the operator when to add the ingredients.
- When the cycle has ended, the STORAGE phase starts automatically at the temperature of 4°C with cyclical mixing V3 and chronometer active.

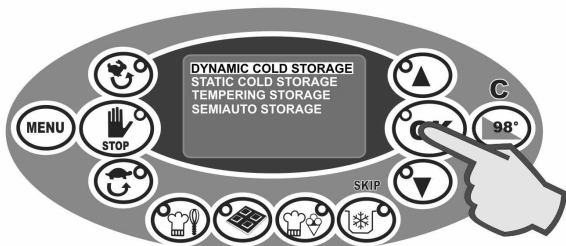


6.3.4 “STORAGE” RAPID SEMI-AUTOMATIC CYCLE



Press the “STORAGE” key to access the list of storage programs stored in the memory :

6.3.4.1 DYNAMIC COLD STORAGE (S3)

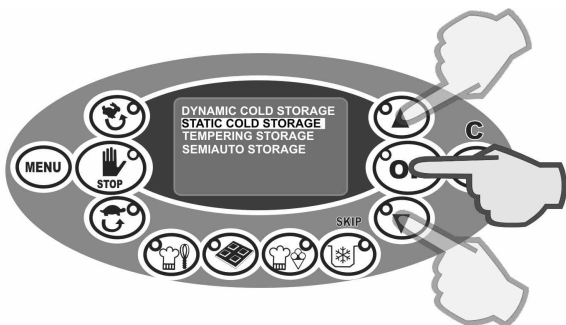


Press the "STORAGE" key.
The first entry selected automatically concerns cooling and storage at 4°C.
Press “OK” to start the cycle.



During reaching the temperature of 4°C the mixing speed is S3. During the next storage phase, the mixing speed is S3 cyclical.

6.3.4.2 STATIC COLD STORAGE (S0)



Press the "STORAGE" key.
Press the “UP” and “DOWN” keys until “STATIC COLD STORAGE” is selected; press “OK” to confirm and access the parameters screen relative to the cycle:

- **COOLING (from 1° to 4°)**

The first entry selected automatically concerns the cooling temperature of the product in the tank with static mixing.

Press “UP” and “DOWN” keys to increase or decrease the cooling temperature value.

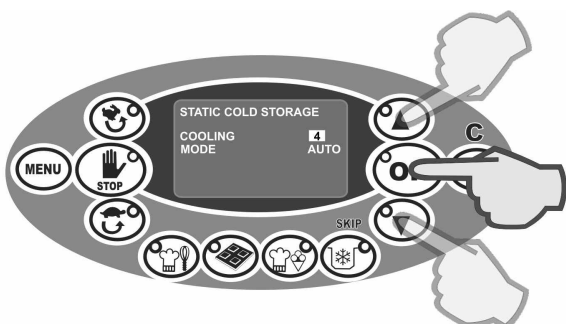
Press “OK” to confirm the data and pass to programming the next item.

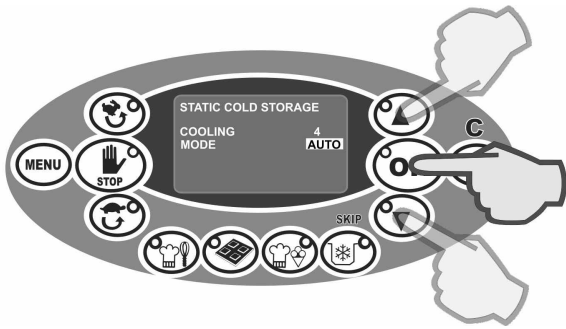
- **MODE (AUTO OR STD)**

After having programmed the cooling temperature, it is now possible to choose between 2 control modes for maintaining the temperature set: AUTO (recommended choice) or STD.

Press “UP” and “DOWN” to select one mode or the other.

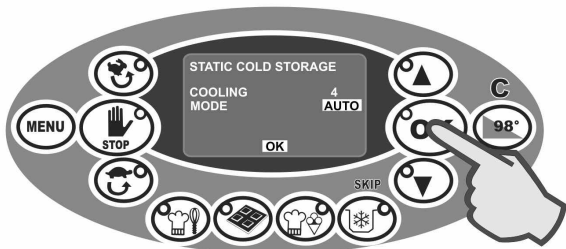
Press “OK” to confirm the data.





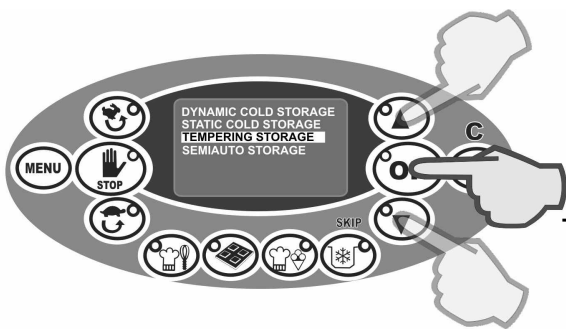
Choosing the AUTO mode activates all the automatic software controls for temperature management and temperature drift control. Choosing STD excludes software management of temperature drift control.

- Press "OK" to start the cycle.



When the cycle has ended, the storage phase starts automatically at the temperature set by the user with static S0 mixing and chronometer active.

6.3.4.3 TEMPERING CONSERVATION



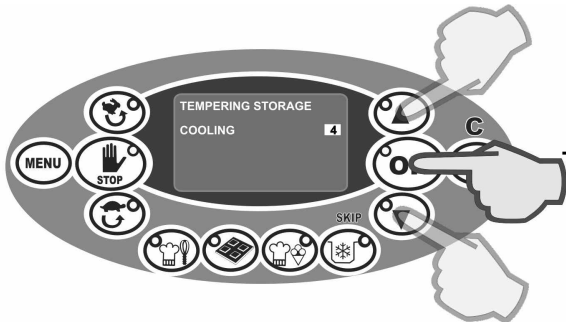
Press the "STORAGE" key
Press the "UP" and "DOWN" keys until "TEMPERING STORAGE" is selected; press "OK" to confirm and access the parameters screen relative to the cycle:

COOLING (from 25° to 38°)

The first entry selected automatically concerns the cooling temperature of the chocolate in the tank with S2 mixing.

Press "UP" and "DOWN" keys to increase or decrease the cooling temperature value.

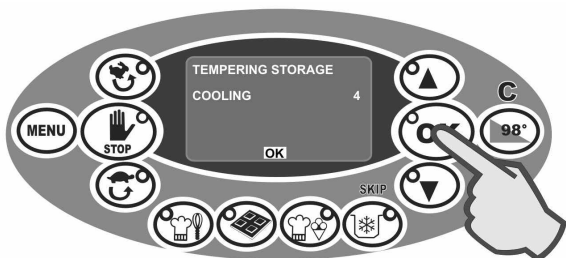
Press "OK" to confirm the data.



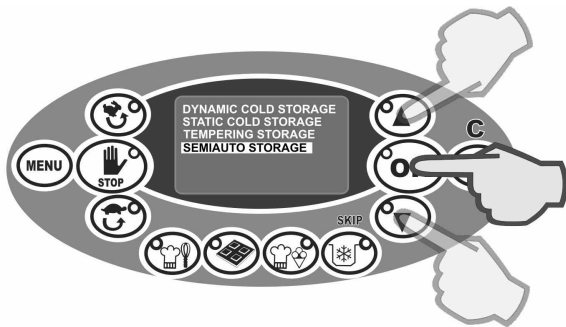
- Press "OK" to start the cycle.



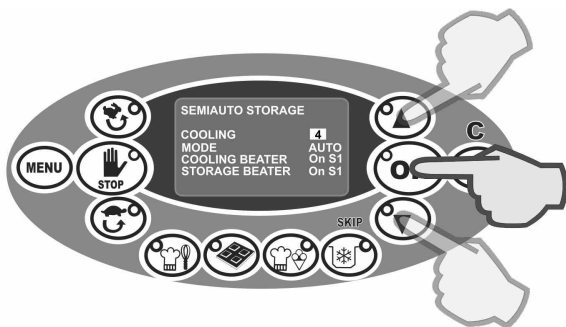
When the cycle has ended, the STORAGE phase starts automatically at the temperature set by the user with continuous S1 mixing and chronometer active.



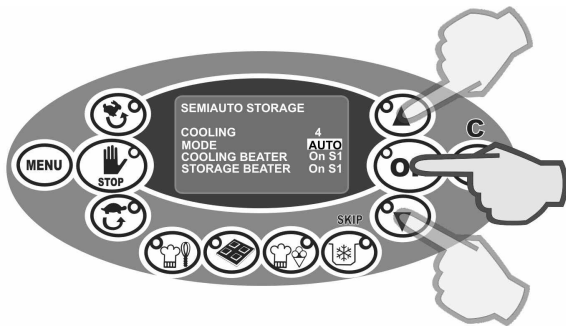
6.3.4.4 SEMI-AUTOMATIC STORAGE



Press the "STORAGE" key
Press the "UP" and "DOWN" keys until "SEMI-AUTOMATIC STORAGE" is selected; press "OK" to confirm and access the parameters screen relative to the cycle:



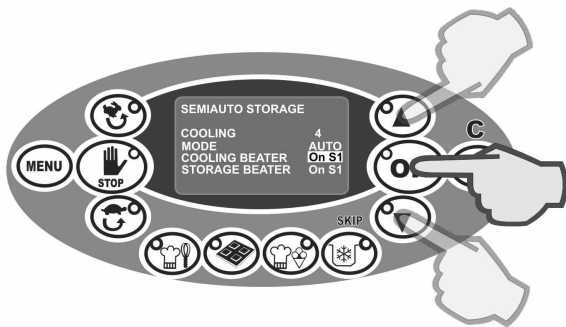
- **COOLING (from 1° to 115°)**
The first entry selected automatically concerns the cooling temperature of the product in the tank:
Press "UP" and "DOWN" keys to increase or decrease the cooling temperature value.
Press "OK" to confirm the data and pass to programming the next item.



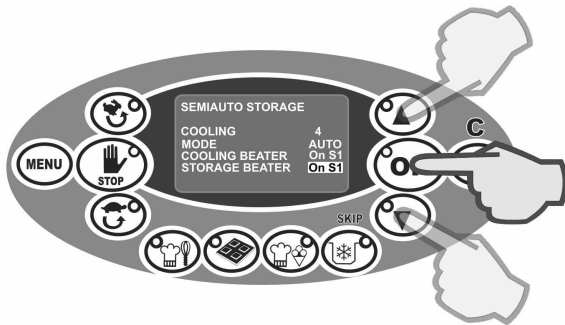
- **MODE (AUTO, COOLING, HEATING)**
After having programmed the cooling temperature, it is now possible to choose between the control modes for maintaining the temperature set: AUTO (recommended choice) COOLING or HEATING (only for experts).
Press "UP" and "DOWN" to select the desired mode.
Press "OK" to confirm the data.



Choosing the AUTO mode activates all the automatic software controls for temperature management and temperature drift control. Choosing COOLING or HEATING modes excludes software management of temperature drift control.



- **COOLING BEATER**
After having controlled the temperatures maintenance control mode, it is possible to set the mixing speed in the arrival phase at the temperature set by the user.
Press "UP" and "DOWN" keys to increase or decrease the mixing speed value.
Press "OK" to confirm the data and pass to programming the next item.

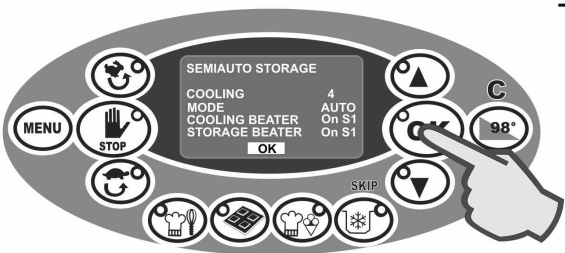


- **STORAGE BEATER**

After having programmed the mixing speed during the arrival phase of the temperature set by the user, it is possible to program the mixing phase in the STORAGE phase of this temperature.

Press "UP" and "DOWN" keys to increase or decrease the mixing speed value.

Press "OK" to confirm the data and pass to programming the next item.



- Press "OK" to start the cycle.

6.4 MENU

6.4.1 PREHEATING



The Frigomat cream cookers in the CHEF LCD series are machines designed to perform brief working cycles.

In order to further enhance this performance, the preheating function can be used. It heats up the water bath fluid up to 80°C before processing the product in the tank.

We suggest that you use this practical function while preparing the ingredients and loading the liquids in the tank. In this way, when the processing cycle starts, the product heating phase will be short.

Follow these instructions for preheating:

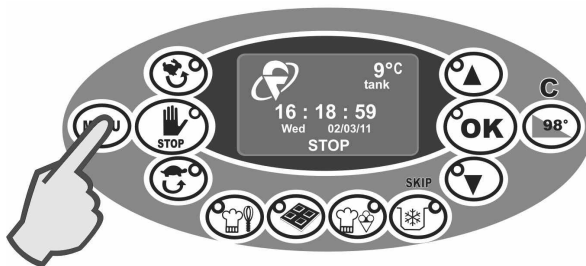


Fig.1

Press the “**MENU**” key to access the main screen of the menu. (fig.1-2).

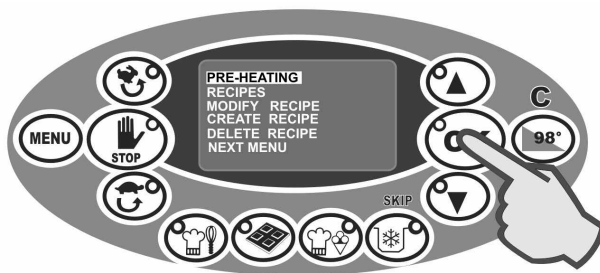
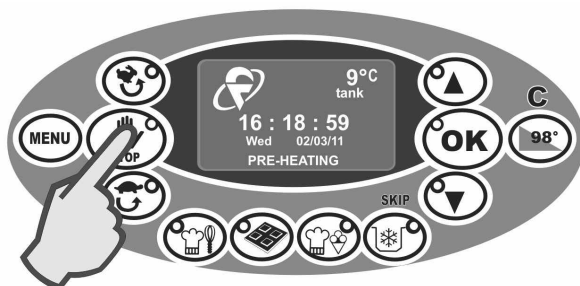


Fig.2

The entry “**PRE-HEATING**” is selected automatically. Press OK to confirm.



Press STOP to end the pre-heating function.

6.4.2 PERFORMING A RECIPE IN THE MEMORY

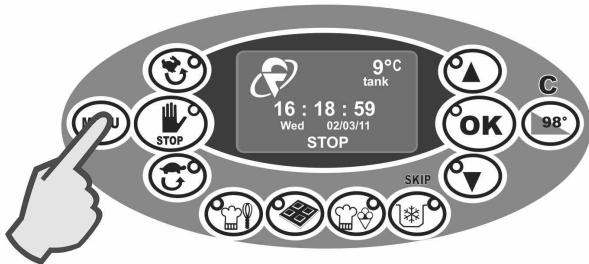


Fig. 1

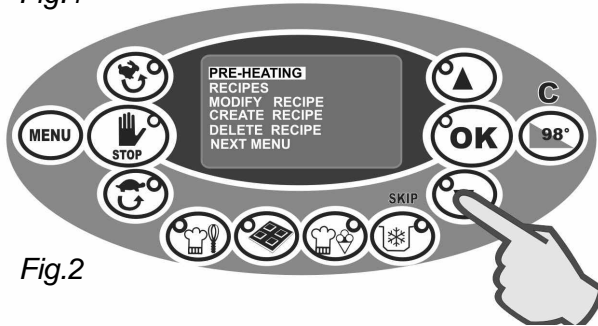


Fig. 2

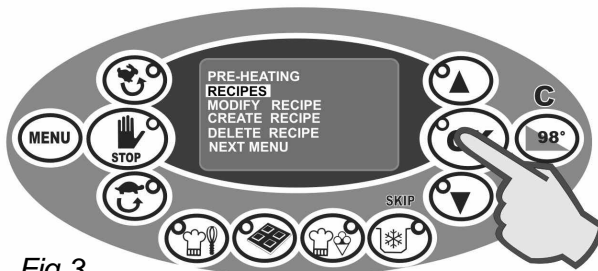


Fig. 3



Fig. 4

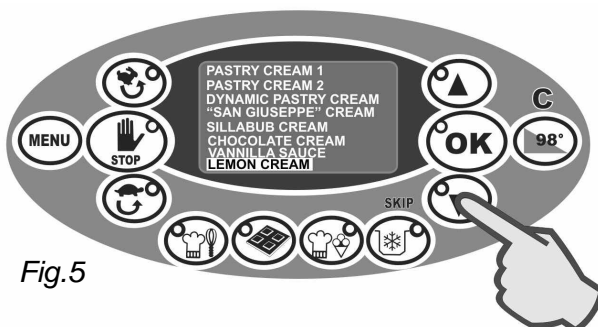


Fig. 5

Press the “**MENU**” key to access the main screen. (fig.1-2).

Press “**DOWN**” until selecting the entry “Recipes” (fig. 2-3).

Press “**OK**” to access the list of recipes included in the memory (fig.3-4).

Press “**UP**” and/or “**DOWN**” to scroll the list of recipes in the memory (fig.4). There are 32 pre-set recipes, with a maximum of 8 displayed on each screen.

Keeping the “**DOWN**” key pressed for a few instants, you quickly access the next screen (fig.5-6).

When the last recipe on a page has been selected, pressing “**DOWN**” accesses the following page (fig.5-6).

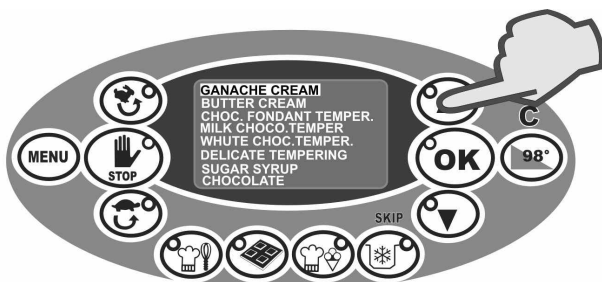


Fig. 6

When the first recipe on a page has been selected, pressing “UP” accesses the previous page (fig.6-7).



Fig. 7

When the desired recipe has been selected, for example “SILLABUB CREAM” as in the figure, press “OK” to start the corresponding cycle automatically (fig.8).

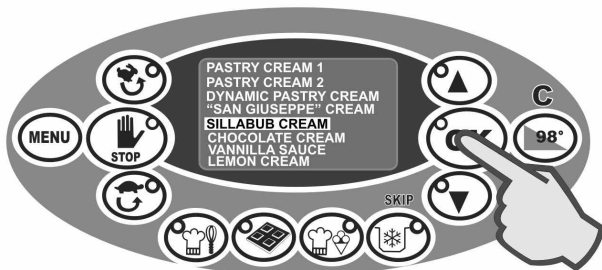


Fig. 8

During execution of the selected recipe, along with information regarding temperature, stand-by time and stirring, the cycle graphic is traced in real time (fig.9).



Fig. 9

During execution of a recipe, if you press “MENU”, the display of the temperature of the product in the tank is replaced by the temperature of the fluid of the water bath system (fig.10).

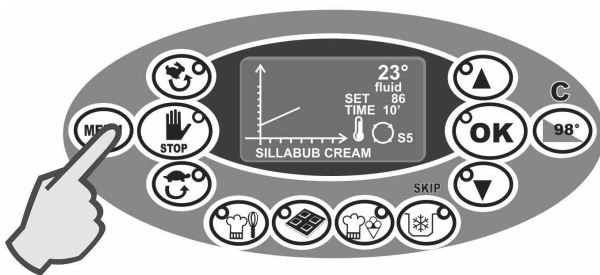


Fig. 10

During any phase of execution of a recipe, pressing “STOP” cancels the cycle in progress and stops the machine.

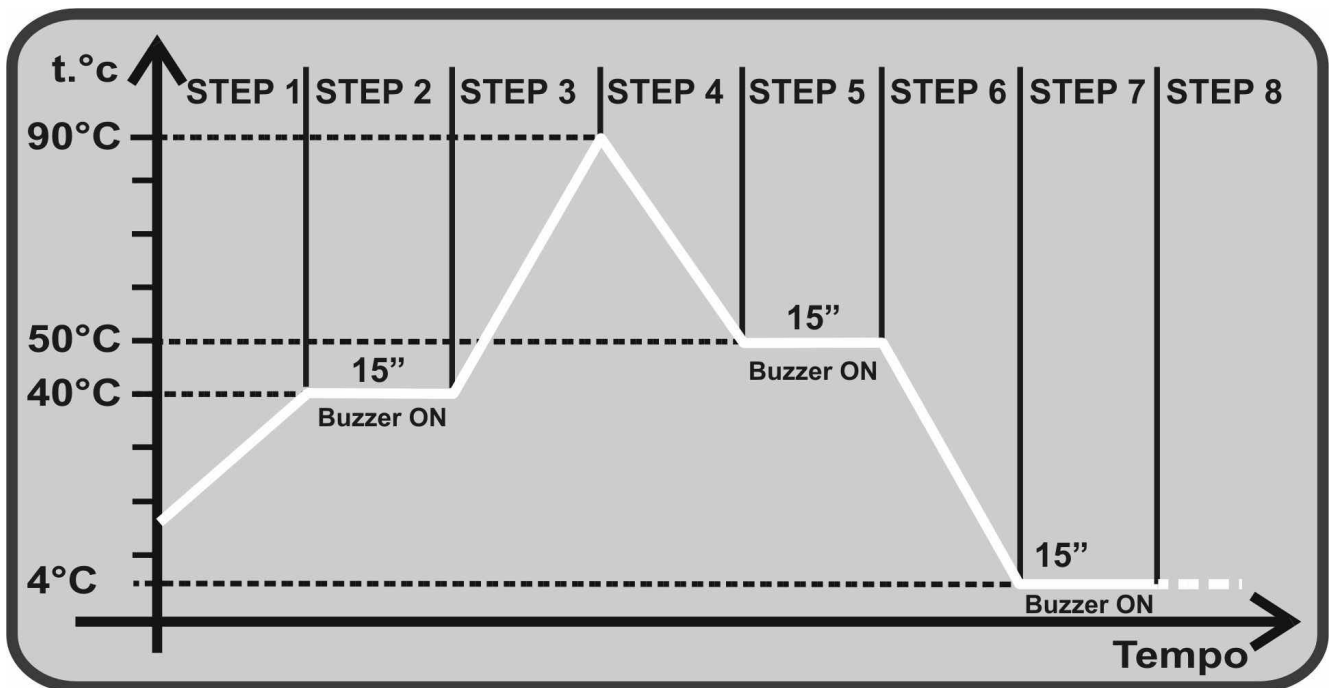
6.4.3 RECIPE MANAGEMENT (only for experts)

By “*recipe*” we mean a work program implemented through a sequence of intermediate phases called “**STEPS**”.

A Step is a part of the processing cycle composed of:

- Temperature of the bain-marie fluid (min. 91° – max. 120°C).
- Product temperature in tank (min. 0° – max. 115°).
- Duration of Step (stand-by) by which the temperature of the product in the tank will be maintained constant (min. 0” – max. infinite).
- Thermostat control mode.
- Programmable buzzer (acoustic warning).
- Programmable stirring.

A recipe can be made up of a minimum of 1 step and a maximum of 12 steps.



The Figure represents a sample recipe highlighting the 8 steps making it up.

Steps 1 and 3 represent the product heating phase, Steps 4 and 6 the cooling phase, Steps 2, 5 and 7 brief stand-by time periods of 15 seconds at a constant set temperature, generated to enable the buzzer at the temperatures indicated. Step 8 represents the preservation phase and has no time limits.

The Steps can be programmed in all their parts and autonomously, thus generating a practically infinite number of Recipes.

The following carries the structure of Step 1 in detail. The subsequent Steps are the same.

STEP 1 (first LCD screen)					
Bain-marie fluid temperature		Temperature limit of the bain-marie fluid (glycol) to be reached in the step in progress (MIN. 91° – MAX. 120°).			
Tank Temperature		Temperature limit of the product to be reached in the step (MIN. 0° – MAX. 115°).			
Step Duration		Stand-by time during which the temperature of the product in the tank is maintained constant (MIN. 0" – MAX. infinite).			
CONTROL MODE	HOT	The temperature limit is reached and maintained only with the intervention of the heat element.			
	COLD	The temperature limit is reached and maintained only with the intervention of the compressor.			
	AUTO	The temperature limit is reached and maintained using both the compressor and the heat element and exploiting the control logics to reduce temperature drift.			
BUZZER	OFF	The OFF position disables the buzzer in the Step in progress.			
	ON	The ON position enables the buzzer in the Step in progress.			
STEP 1 (second LCD screen)					
BEATER	ON V..	Enables the beater during the Step in progress.			
	OFF	Disables the beater during the Step in progress.			
	CYC V	Enables the beater in cyclical mode.	TIME ON	Time during which the beater operates.	
			TIME OFF	Time during which the beater is off.	
	CYC WITH V	Enables the beater in conditioned cyclical mode. (mixing is activated during the "TIME ON" and during interventions of the heat element or of the compressor)	TIME ON	Time during which the beater operates.	
			TIME OFF	Time during which the beater is off.	
FOLLOWING STEP	Accesses the following STEP				
OK	Ends the recipe and accesses the saving screen.				

6.4.3.1 "CHANGE RECIPE" MENU (only for experts)

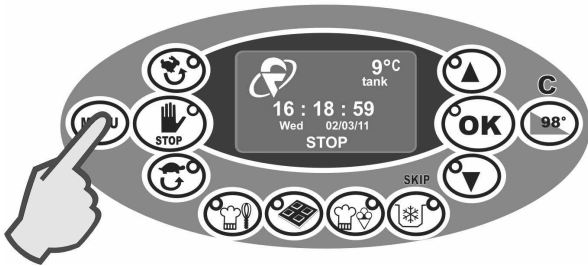


Fig.1

Press the “**MENU**” key to access the main screen (fig.1-2)..

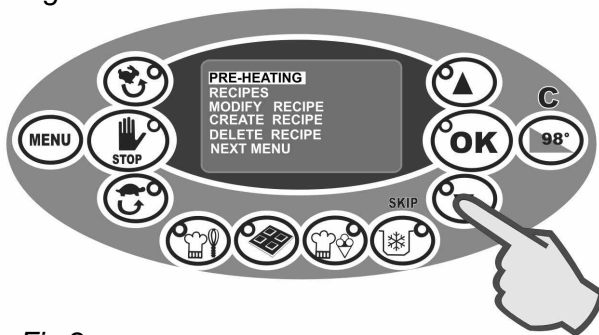


Fig.2

Press “**DOWN**” several times until selecting the entry “**MODIFY RECIPE**” (fig. 2-3).

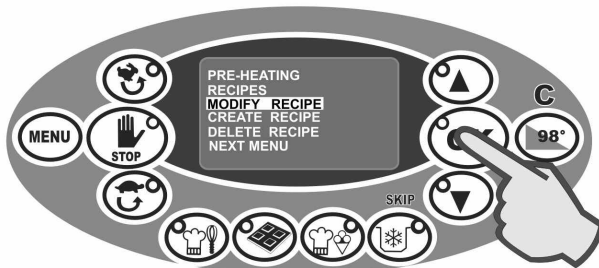


Fig.3

Press “**OK**” to access the list of recipes included in the memory (fig.3-4).

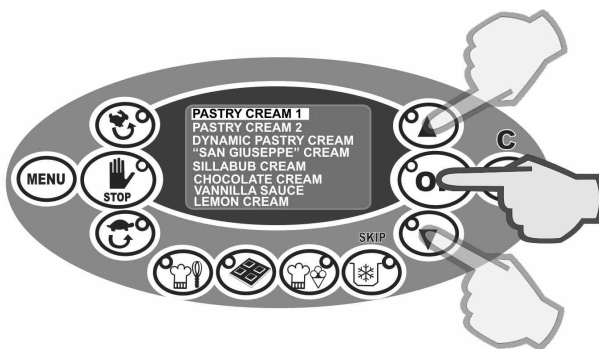


Fig.4

Press “**UP**” and/or “**DOWN**” to scroll the list of recipes in the memory. A maximum of 8 recipes are displayed on each screen.

Having selected the recipe you wish to change, for example “**PASTRY CREAM 1**” as in the figure, press “**OK**” to modify the Step 1 of the recipe selected (Fig. 4-5).

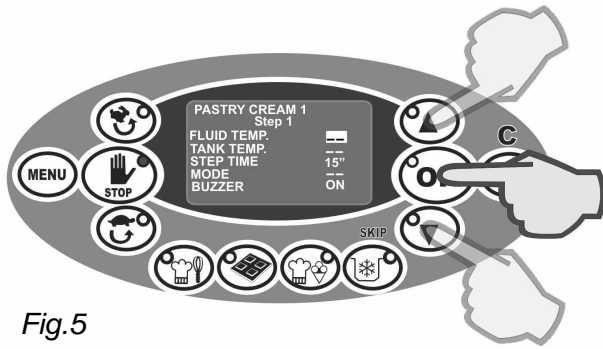


Fig.5

The first entry, selected automatically, is the regulation of the bain-marie fluid temperature (glycol) of the Step in progress: press **"UP"** and **"DOWN"** to increase or decrease this value. Then press **"OK"** to confirm the value set and pass on to the following entry (fig. 5).

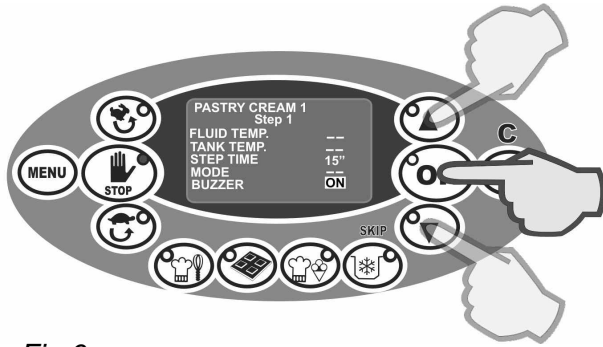


Fig.6

Repeat the same adjustment procedure for the other entries which make up the first screen of Step 1:

- Temperature limit of the product in the tank;
- Stand-by time during which the set temperature of the product in the tank remains constant;
- Thermostat control operative mode;
- Buzzer activation (fig.6).



Fig.7

When all the entries making up the first screen of the display have been programmed, the second screen appears automatically where beater can be adjusted (fig. 7).

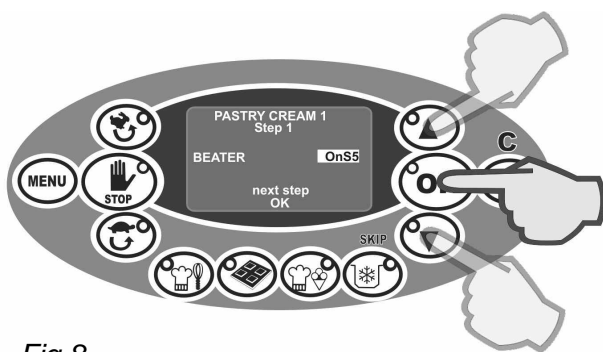


Fig.8

Press the **"UP"** and **"DOWN"** keys to increase the beater speed. (fig.8). Press **"OK"** to confirm the choice.

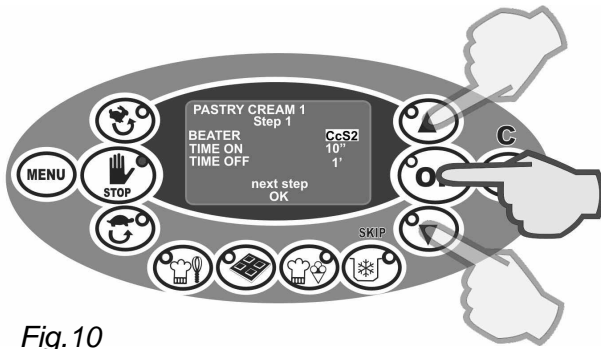


Fig. 10

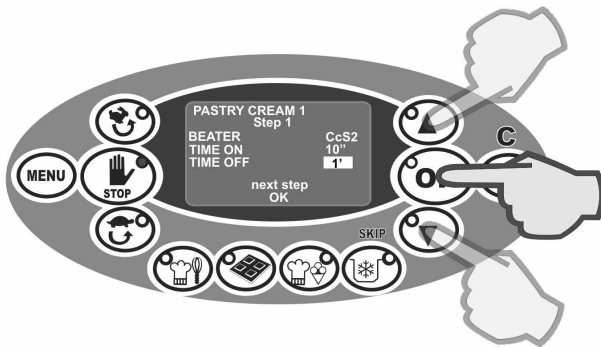


Fig. 11

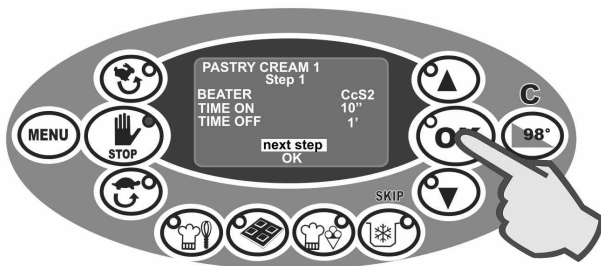


Fig. 12

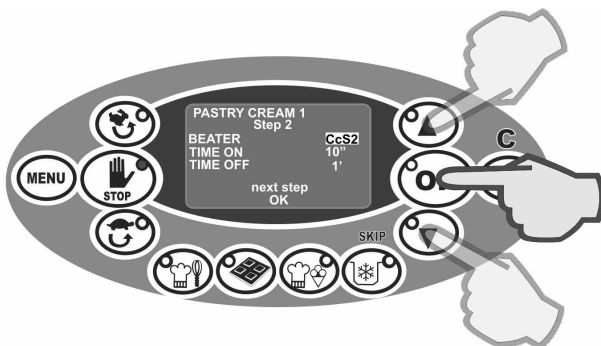


Fig. 13

In the cyclical mixing mode CS and conditioned cyclical mode Cc, pressing “OK” selects the time span the beater will be turned on. It can be chosen at will by using the “UP” and “DOWN” keys (fig.10).

Pressing “OK” confirms the adjustment, then passing on to automatic mode to select the stand-by mixing time, which can be adjusted the same way(fig.11).

When all the entries making up the first and second screen of the display have been programmed, the entry “NEXT STEP” automatically appears selected at the bottom of the screen.

Press “OK” to confirm the choice (fig.12).

The following screen highlights the passage to step 2 where all the adjustments shown for step 1 are possible, and so on for all the necessary steps up to a maximum of 15. (fig.13)



Fig.14

If however you wish to terminate the changes and exit programming, press **“DOWN”** to highlight the entry **“OK”** at the bottom of the screen and then press **“OK”** to confirm the choice (Fig.14).

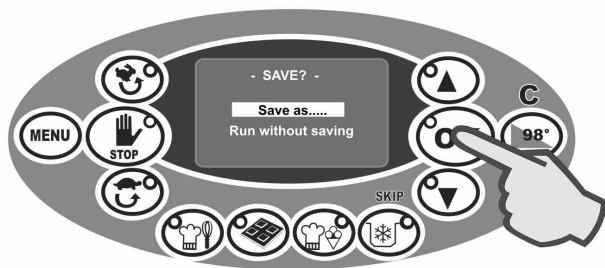


Fig.15

Whichever step you are in, when programming has ended, one accesses the **“SAVE”** menu, which allows you to add the recipe that was just modified to the recipe list present in the memory and which can be recalled directly from the **“Recipes”** menu (Fig.15).

6.4.3.2 “CREATE RECIPES” MENU (only for experts)

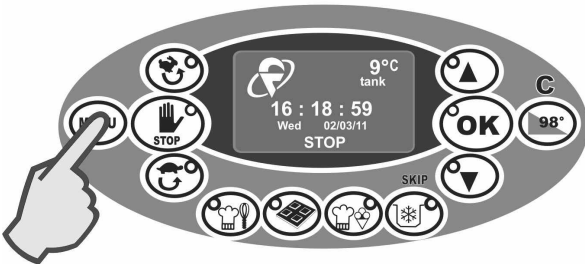


Fig.1

Press the “**MENU**” key to access the main screen (fig.1-2)..

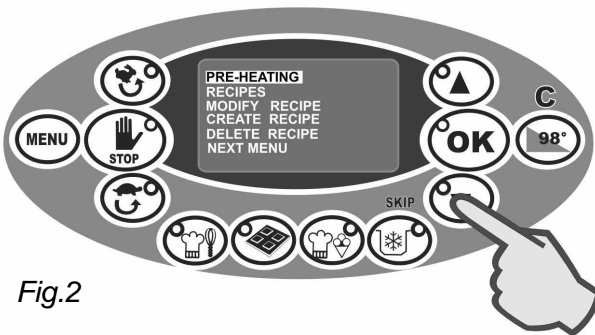


Fig.2

Press “**DOWN**” several times until selecting the entry “**CREATE RECIPE**” (fig. 2-3).

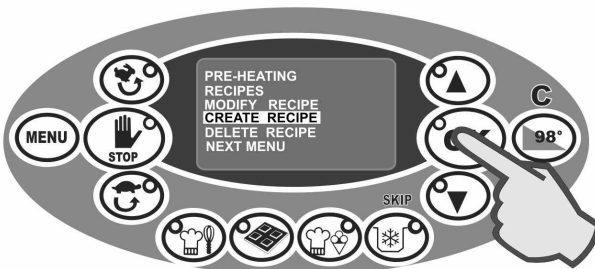


Fig.3

Press “**OK**” to access the new recipe creation screens “**New**”(fig.3-4).

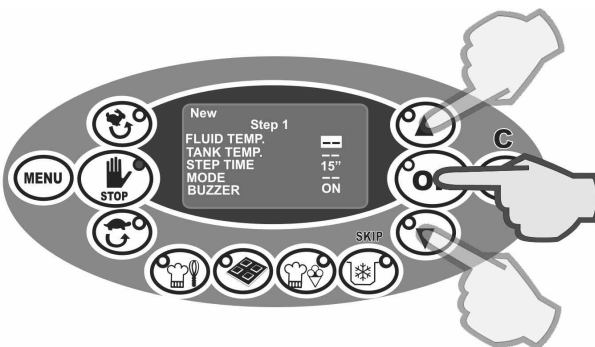


Fig.4

The first entry, selected automatically, is the regulation of the bain-marie fluid temperature (glycol) of the Step in progress: press “**UP**” and “**DOWN**” to increase or decrease this value. Then press “**OK**” to confirm the value set and pass on to the following entry. Repeat the same adjustment procedure for the other entries which make up the first screen of Step 1:

- Temperature limit of the product in the tank;
- Stand-by time during which the set temperature of the product in the tank remains constant;
- Thermostat control operative mode;
- Buzzer activation (fig.5).

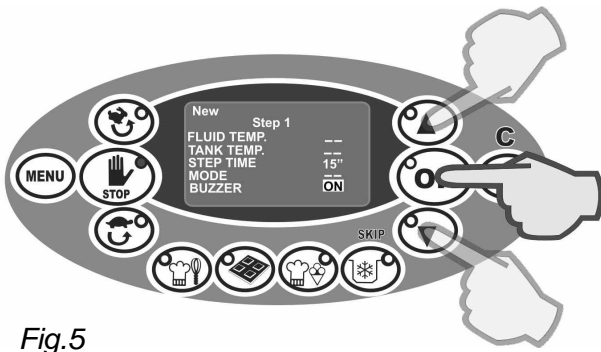


Fig.5

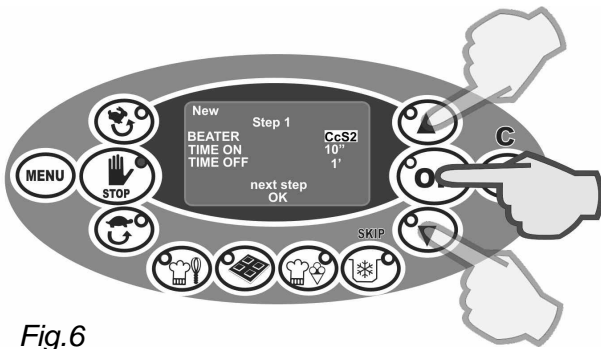


Fig.6

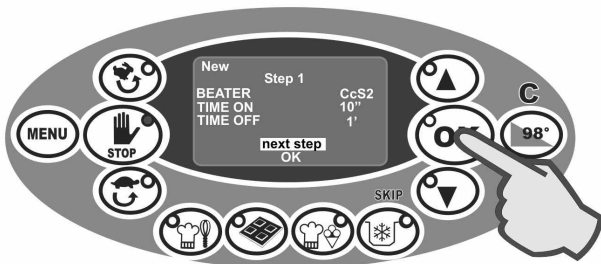


Fig.7



Fig.8

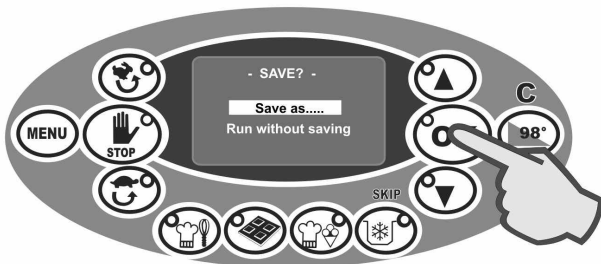


Fig.9

When all the entries making up the first screen of the display have been programmed, the second screen appears automatically where stirring can be adjusted (fig. 6).

For stirring adjustment, operate the same way as shown in the chapter 6.4.3.1 "CHANGE RECIPES" in the relevant part.

When all the entries making up the first and second screen of the display have been programmed, the entry "NEXT STEP" automatically appears selected at the bottom of the screen. Press "OK" to confirm the choice (fig.7).

The following screen highlights the passage to step 2 where all the adjustments shown for step 1 are possible, and so on for all the necessary steps up to a maximum of 15.

If however you wish to terminate the changes and exit programming, press "DOWN" to highlight the entry "OK" at the bottom of the screen and then press "OK" to confirm the choice (Fig.8). This will make you access the screen for saving the recipe just created. (Fig. 9)

6.4.3.3 "CANCEL RECIPES" MENU (only for experts)

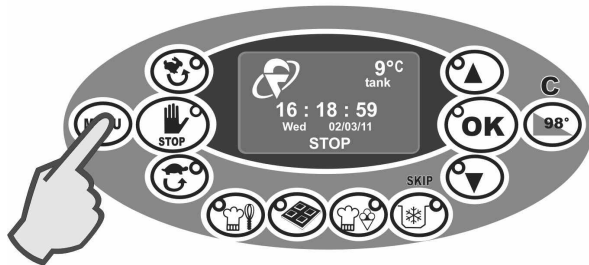


Fig. 1

Press the “MENU” key to access the main screen (fig.1-2)..

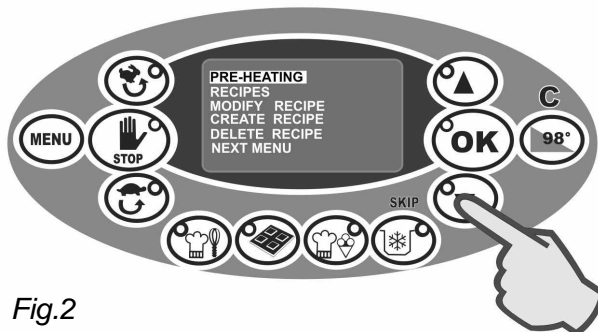


Fig.2

Press “DOWN” several times until selecting the entry “CANCEL RECIPE” (fig. 2-3).

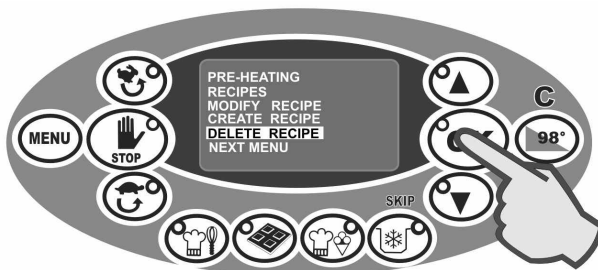


Fig.3

Press “OK” to access the list of customised recipes included in the memory (fig.3-4).

Attention: only the recipes created by the user appear on the list of recipes which can be cancelled; the recipes pre-set by Frigomat cannot be cancelled.

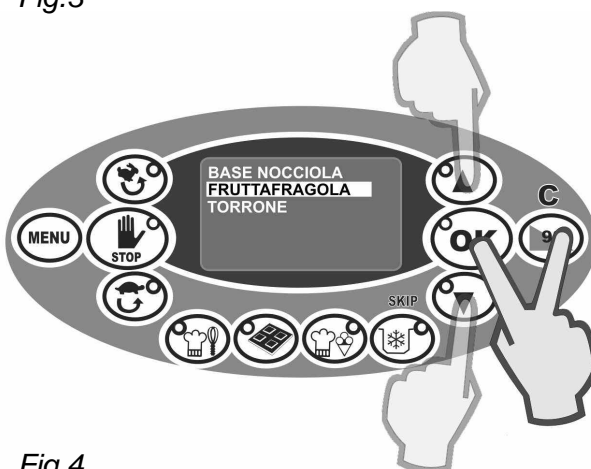


Fig.4

Press “UP” and/or “DOWN” to scroll the list of customised recipes in the memory. A maximum of 8 recipes are displayed on each screen.

Having selected the recipe you wish, for example “FRUTTAFRAGOLA” as in the figure, press the “OK” and “C” keys simultaneously, holding them for a few seconds to confirm the permanent elimination from the memory (Fig. 4).

6.5 SAVING CHANGES AND/OR NEW RECIPES

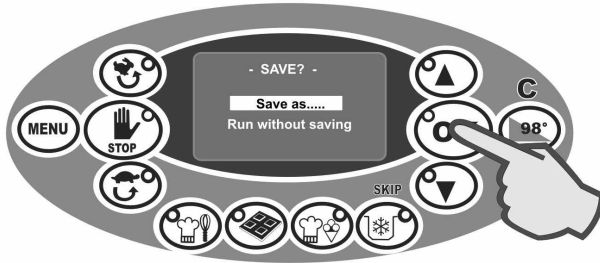


Fig.1

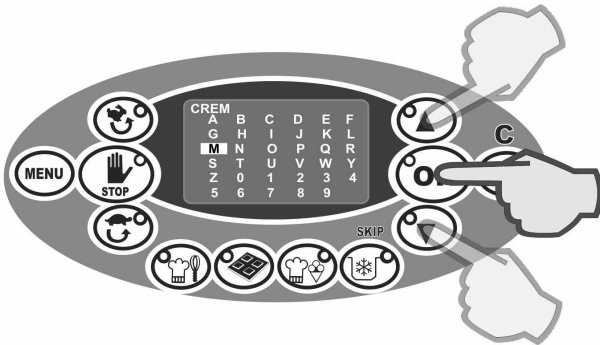


Fig.2

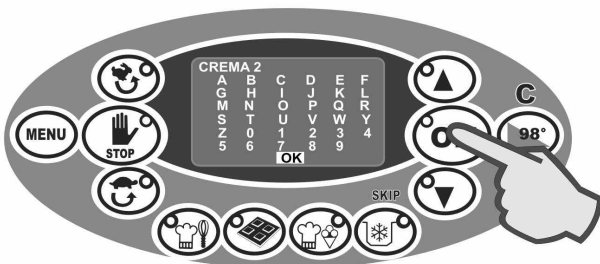


Fig.3

At the end of each procedure for changing or creating recipes, the user is requested to save the programming or to perform it without saving it.

If you wish the new recipes to be stored and automatically added to the recipe list in the memory, select the entry "Save as" and press "OK" (Fig.1).

You must give the recipe a specific name before saving it.

The letters of the alphabet, numbers 0 to 9 and the space bar appear on the display. Press "UP" and "DOWN" to select the first letter, number or space and then press "OK" to confirm the choice. Repeat this procedure for each subsequent letter, number or space until the name of the recipe is complete (Fig.2).

Attention: the name of the recipe can contain a maximum of 20 characters including spaces.

If the recipe name is composed of less than 20 characters including the spaces, hold the "OK" key pressed for awhile while confirming the last character. When the entry "OK" appears at the bottom of the screen, press "OK" once again to confirm the choice of the name (Fig.3).

When you have ended the saving procedure, the new recipe is added automatically to the recipe list available in the memory and can be recalled directly with the "Recipes" (see chapter 6.4.2). Should the memory be full, the message "memory full" will appear.

6.6 SETTING "CLOCK"

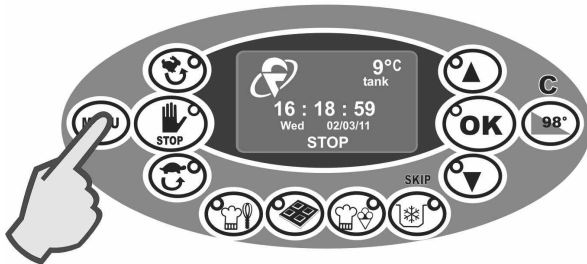


Fig. 1

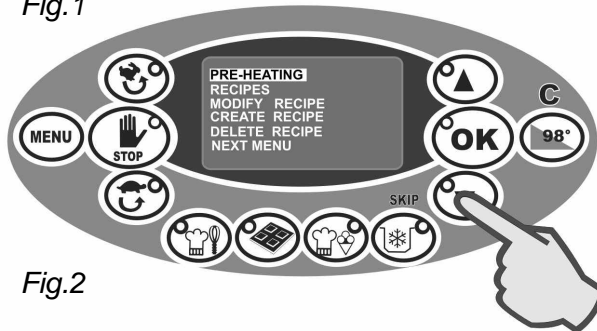


Fig. 2

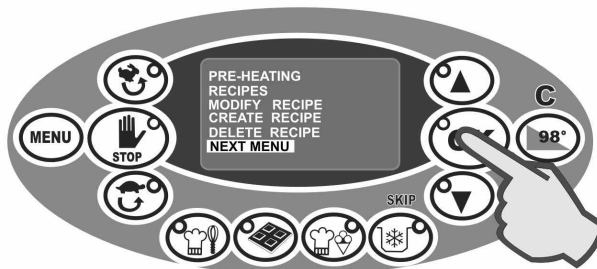


Fig. 3

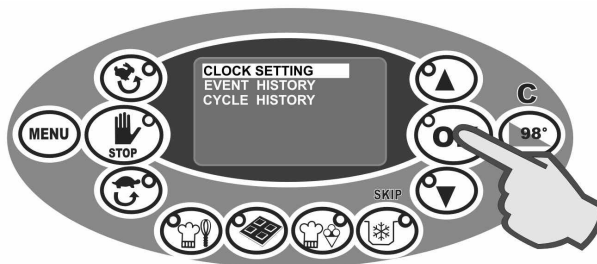


Fig. 4

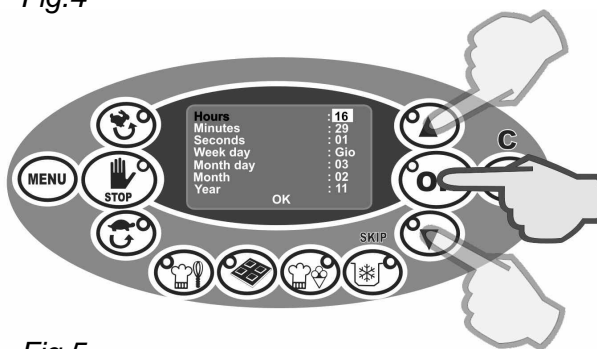


Fig. 5

Press the **"MENU"** key to access the main screen (fig.1-2)..

Press **"DOWN"** several times until selecting the entry **"NEXT MENU"** (fig. 2-3).

Press **"OK"** to access the screen of the following menu.

The first entry of the menu, selected automatically, is **"CLOCK SETTING"**.

Press **"OK"** to access the time and date adjustment options (fig. 4).

The first entry, selected automatically, is the current time: press **"UP"** and **"DOWN"** to increase or decrease this value.

Then press **"OK"** to confirm the value set and pass on to the following entry. Repeat the same procedure for all the entries available. (Fig.5)

6.7 CONSULTING “EVENT ARCHIVE”

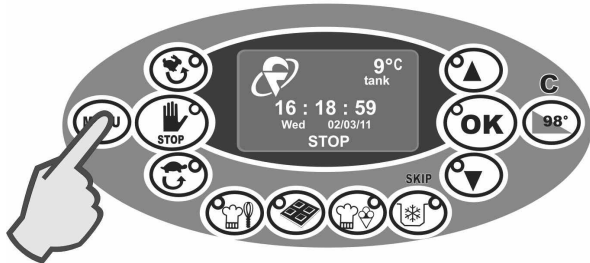


Fig.1

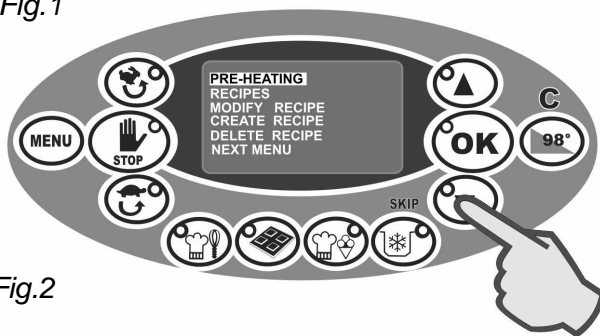


Fig.2

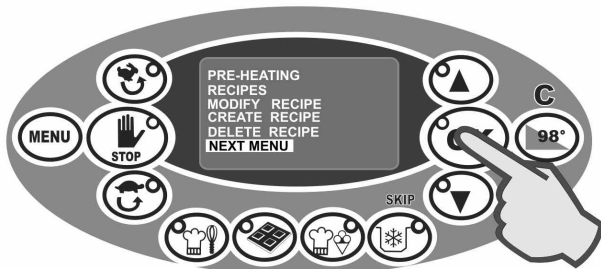


Fig.3

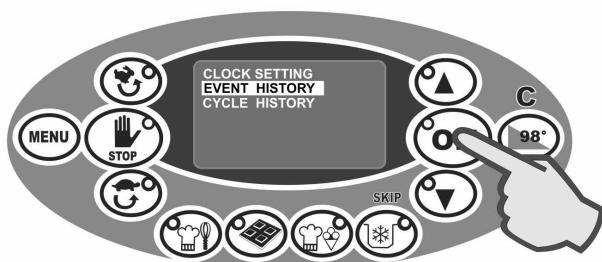


Fig.4



Fig.5

Press the “**MENU**” key to access the main screen (fig.1-2)..

Press “**DOWN**” several times until selecting the entry “**NEXT MENU**” (fig. 2-3).

Press “**OK**” to access the screen of the following menu.

Press “**DOWN**” until selecting the entry “**EVENT HISTORY**”.

Press “**OK**” to confirm (fig.4).

The list of events and alarms required by the technician for diagnosis of failures or anomalies appears on the display. (Fig.5).

6.8 CONSULTING “CYCLE ARCHIVE”

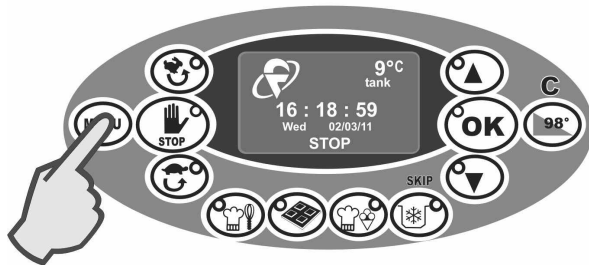


Fig.1

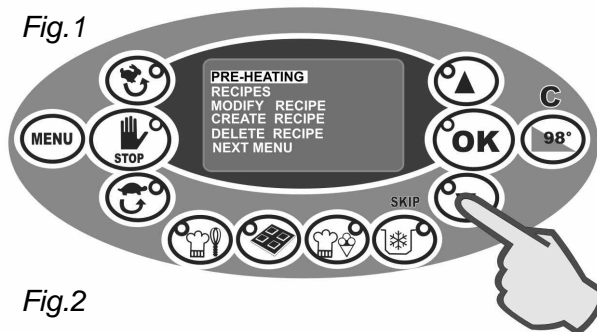


Fig.2

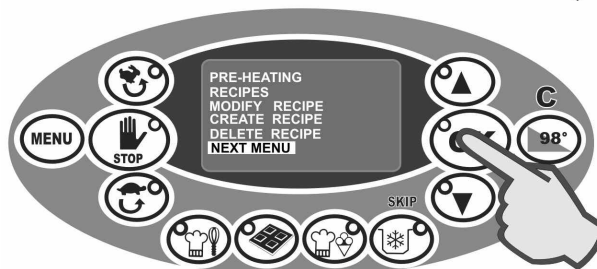


Fig.3

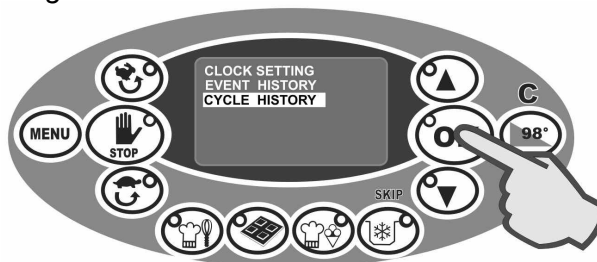


Fig.4

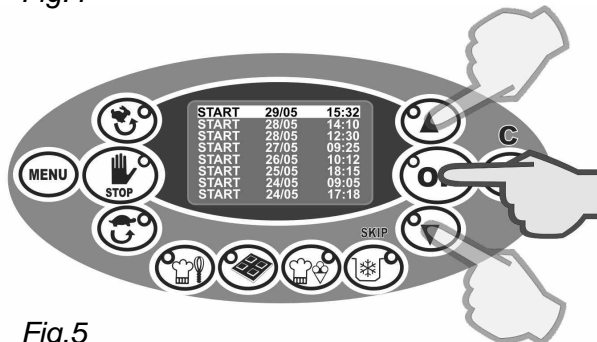


Fig.5

Press the “**MENU**” key to access the main screen (fig.1-2)..

Press “**DOWN**” several times until selecting the entry “*NEXT MENU*” (fig. 2-3).

Press “**OK**” to access the screen of the following menu.

Press “**DOWN**” several times until selecting the entry “*CYCLE HISTORY*”
Press “**OK**” to confirm (fig.4).

The list of cycles performed in the past 500 hours appears on the display.
Select the cycle you desire using the “**UP**” and “**DOWN**” keys and then press “**OK**”. (Fig.5).

The graphic of the cycle performed appears on the display.

7. MAINTENANCE

7.1 ROUTINE MAINTENANCE (INTENDED FOR USER)



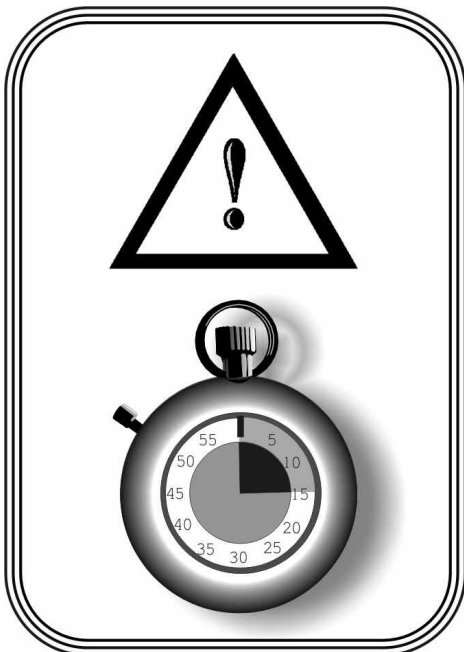
The fats present in the ice cream mixtures are ideal fields for the proliferation of bacterial loads and mould. To eliminate this serious problem, all the parts which come into contact with the product must be thoroughly washed and sanitised by careful procedures and using suitable sanitising products. The stainless and plastic materials used on our machines, in fact, comply with the strictest international provisions and their special shape facilitates their washing. However this is not enough to prevent the formation of mould and bacteria caused by insufficient or incorrect cleaning.

FRIGOMAT recommends thoroughly washing and sanitising the parts in direct contact with the product after each work shift and in compliance with hygienic standards in force in the Country where the machine is installed.

To correctly clean your machine, refer to the following operations:

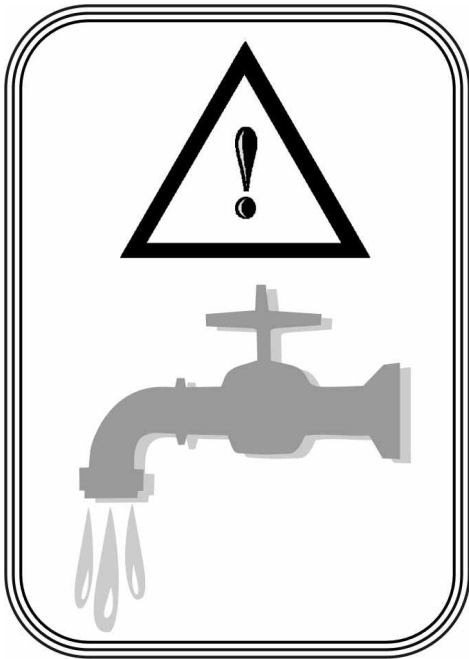
PREWASHING

- Pour the maximum admitted load of warm (approximately 50°C) drinking water into the tank.
- Press the MIXING key to start the beater motor. Let it run for about 3'. Open the dispenser tap and drain all the wash water. Repeat the procedure until the water coming out is clear and clean.
- Pour the maximum load admitted of cleanser/sanitizer into the tank.
- Press the STIRRING button to start the stirrer motor. Let it run for about 15'. Open the dispenser tap and drain the sanitizer.
-



We suggest using the following sanitising solution:

Ecolab P3 Topax-san
(4% dilution = 200 ml).



- Pour the maximum admitted load of cold drinking water into the tub to rinse the surfaces which were just treated with the sanitizer.
- Drain the rinse water and turn the machine off.
- When pre-washing is over, all the removable parts in contact with the product must be disassembled and sanitised in a separate tub.

SANITISING REMOVABLE PARTS

PREPARATION OF WASHING TUB

- Wash your hands well and/or wear disposable gloves.
- Fill a clean tub with a sufficient amount of drinking water at approximately 50°C and the sanitizer.
- Prepare the supplied brush and the OR disassembly

We suggest using the following sanitising solution:

Ecolab P3 Topax-san

(4% dilution = 200 ml every 5 litres of water).

device and immerse them in the solution.

REMOVING AND CLEANING COVER

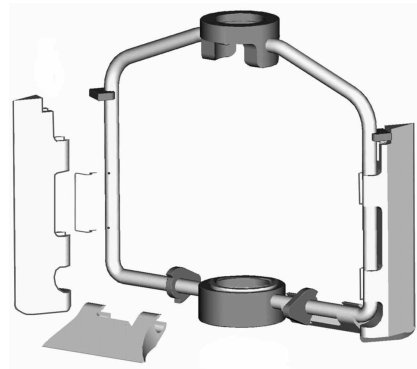
- Pull the hinge pins off and remove the cover, holding it with both hands.
- Emerge the previously disassembled components into the tub with the sanitizer and brush the surfaces with care. Pay special attention to the surfaces in direct contact with the product.





REMOVING AND CLEANING BEATER

- Turn the beater a few degrees anti-clockwise by hand until the release position and then pull it upwards. Remove the O-ring remaining on the transmission shaft of the heater vessel.
- Remove the scrapers, the thrust springs and pull the bottom bushing downwards.
- Place the previously disassembled components into the tub with the sanitizer and brush the surfaces with care. Pay particular attention to the scrapers.



REMOVING AND CLEANING THE TAP

- Remove the locking pin.
- Pull the tap body towards you and pull it completely off the piping. Remove the sealing O-rings.
-
-





- Turn the knob of the piston to unblock it and pull it towards you.
- Turn the bottom of the tap a few degrees to release it and pull it towards you. Unscrew the steel piston pin and disassemble all the parts of the piston. Remove all the O-rings.
- Immerse the previously disassembled components into the tub with the sanitizer and brush the surfaces with care. Pay special attention to the inner duct of the tap, to the holes and seats of the OR.



All the disassembled parts must remain soaking in the **Ecolab P3 Topax-san** sanitizer (4% dilution) for at least 15' before they are rinsed with plenty of cold drinking water.

SANITISING FIXED PARTS

While the removable parts soak in the sanitizer inside the tub, proceed sanitising the fixed parts of the machine:

SANITISING THE TUB

- Immerse a disposable paper cloth in the sanitising liquid.
- Pass the cloth over all the surfaces of the tub and fixed transmission shaft.
- Pass the cloth over the outer edge of the tub until reaching the surfaces of the cap and front panel.
- Use the brush previously emerged in the sanitizer to thoroughly clean the drain duct which connects the tank to the tap.





- Never use any type of solvents and/or thinners to preserve the plastic parts and gaskets during washing.
- Chemical sanitising products must be used in compliance with standards in force and with the utmost caution.
- During sanitising operations, do not touch parts with tissues, sponges, rags or any other non-sterile material.



RINSING AND DRYING

- Wash your hands well and/or wear disposable latex gloves.
- Remove from the sanitising tank all the components which were previously disassembled, brushed and immersed.
- Rinse them with plenty of cold drinking water, making sure to remove all possible leftover sanitising solution.
- Place the rinsed components on a clean table and let them dry in the air.



DO NOT use rags, sponges or anything else to dry the components. Make sure no dust or other impurities come into contact with the sanitised surfaces while they are drying.



- Use the flexible shower head supplied with the machine to rinse the fixed parts of the machine which were treated with the sanitizer (tank, drain duct, etc.).
- When all the components are dry, put them back onto the machine making sure the gaskets are in good conditions.



SUBSTANCES THAT CAN DAMAGE OR DAMAGE STAINLESS STEEL (use with caution)

Vinegar (vapors), hydrocyanic acid, oleic acid (subject to pitting), picric acid, fuming sulfuric acid, sulfurous acid, stearic acid, Ethanol, Methanol, Acetic anhydride, bisulphate of carbon, zinc chloride (subject to pitting) , sulfur chloride, ammonium phosphate, sodium phosphate, calcium hydroxide, magnesium hydroxide, sodium perborate, sodium peroxide, sodium silicate, ferrous sulfate, sodium sulfide (subject to pitting), trichlorethylene (subject to pitting).

SUBSTANCES THAT DAMAGE corrode STAINLESS STEEL (not to ever use)

Hydrochloric acid, hydrofluoric acid, muriatic acid (commercial), sulfuric acid, sulfur dioxide, chlorine bleach saturated (subject to pitting), Ferric Chloride (subject to pitting), ferrous chloride, mercuric chloride (subject to pitting), nickel chloride (subject to pitting), Gas chlorine, calcium Hypochlorite (subject to pitting), sodium Hypochlorite, carbon tetrachloride (subject to pitting).

EXTRAORDINARY MAINTENANCE (INTENDED FOR QUALIFIED PERSONNEL)



These operations are reserved exclusively for authorised qualified personnel. FRIGOMAT S.r.l. will not be held liable for damage to objects or harm to persons which occur due to failure to comply with the above.

Refer to the following instructions to program the circuit board:



Fig. 1

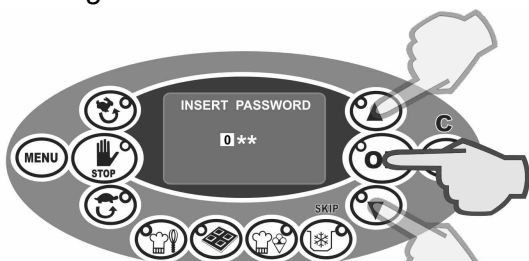


Fig. 2

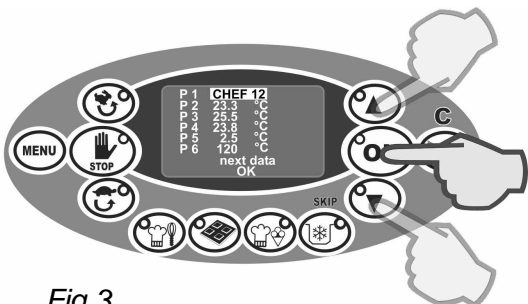


Fig. 3



Fig. 4

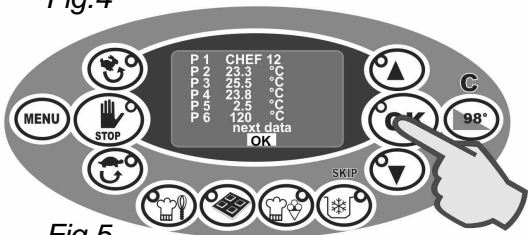


Fig. 5







1. Make sure the cover of the tank is closed tight.
2. Power the machine.
3. With the machine at STOP, press “OK” and “STOP” (fig.1) simultaneously and release them only after the password identification screen appears.
4. Press the “UP”, “DOWN” and “OK” keys to type in the password and then confirm it. If you do not know the password, contact the Frigomat assistance service (fig.2).
5. When the password has been accepted, the screen accesses the list of programming steps directly. The first programming step P1 is selected automatically and flashes (Fig.3).
6. If you do not wish to change the value of the selected step, press “OK” to directly access the following step. Pressing “CANCEL” returns you to the previous step.
7. If you wish to change the step selected, press the “UP” or “DOWN” keys to increase or decrease the value respectively. Then press “OK” to confirm the data and to access the following step.
8. To access the following screen which contains more programming steps, select the entry “Dati successivi” [Further data] at the bottom of the page and confirm by pressing “OK” (Fig.4).
9. To exit programming and to save the changes, select the entry “OK” at the bottom of the page and confirm by pressing the “OK” key (Fig.5).

"OMEGA2" BOARD PROGRAMMING TABLE (**)					
P	DESCRIPTION	MIN	MAX	CH07	STEP
P1	Machine model			CH07	
P2	Tank probe correction (TEV)	-6°	+6°	*	0.5□
P3	Probe correction fluid (TEF)	-6°	+6°	*	0.5□
P4	Probe correction auxiliary tank (TEC)	-6°	+6°	*	0.5□
P5	Tank overtemperature compensation when TEV>40°C	-6°	+6°	*	0.5□
P6	TEF Control Lim. in Heating mode (excluding Tempering Cycles)	60°	122°	120°	1□
P7	Delta Lim. in C/F TEV-TEF (Tempering Cycles only)	4°	10°	7°	1□
P8	TEF Control Lim. (Tempering pres. only)	30°	80°	40°	1□
P9	TEF Control Lim. in Preheating mode	30°	90°	80°	1□
P10	Anti-freeze intervention temp. (on TEC) when TEV>15°C	0°	-10°	-6°	1□
P11	Anti-freeze intervention temp. (on TEC) when TEV<15°C	0°	-10°	-5°	1□
P12	TEF Control Lim. in heat reduction mode	98°	100°	98°	1□
P13	TEF Control Lim. in Tempering STORAGE mode	0°	20°	8°	1□
P14	Delta TEF-TEV in step temperature setting	0°	20°	5°	1□
P15	Anti-temperature-drift function	0°	30°	10°	1□
P16	Temperature indication on display	C	F	C	F=°F C=°C
P17	LCD language selection	-	-	ITA	ITA, ENG, FRE, GER, SPA, CZE
P18	FRIGOMAT logo visualisation on LCD display	0	1	1	0=No logo 1=Logo

(*) These parameters vary for each unit and variant.

(**) The parameters may vary depending on the software version or customisation. You can always refer to the test inspection board supplied with the machine.

ENTER THE TOSHIBA INVERTER STEPS

-  **Press MODE until the code AUH appears**
-  Turn ROTARY to scroll the steps
-  Press ROTARY to enter the value
-  Turn ROTARY to modify the value
-  Press ROTARY to enter the value
-  To quit: press 3 times MODE

PROGRAMMING CHART OF THE TOSHIBA INVERTER		
PARAMETERS	FUNCTION	SET
SEt	Starting SETUP region	EU
CMOd	RUN Command	2
FMOd	Frequeancy command	3
ACC	Acceleration time 1	6
dEC	Deceleration time 1	1
FH	Maximun frequency	100
UL	Max. frequency limit	100
LL	Min. frequency limit	10
uL	Base frequency 1 Nom.	50
uLu	Base voltage 1	230
Pt	Control mode V/F	2
F400	Motor auto-tuning	2
F405	Motor Power (kw)	0,26
F415	Motor current (A)	1,9
F417	Motor speed (RPM)	850
F701	Indication unit (A)	1

(**) The parameters may vary depending on the software version or customisation. You can always refer to the test inspection board supplied with the machine.

8. INSTRUCTIONS FOR TROUBLESHOOTING

8.1 MANAGEMENT OF ALARMS

MESSAGE	DESCRIPTION	REMEDIES
ALARM! EMERGENCY HATCH OPEN	The cover is open or a safety device which stops the beater is active. The buzzer emits an intermittent acoustic signal.	Make sure that the cover is closed and positioned properly.
ALARM! INSUFFICIENT FLUID LEVEL	The level of the glycol is insufficient. The buzzer emits an intermittent acoustic signal.	Contact the technician to check the level of the glycol in the tank and to see if the circuit leaks.
ALARM! MOTOR CIRCUIT BREAKER OVERLOAD	A motor circuit breaker, the boiler safety thermostat or the transformer fuse has intervened. The buzzer emits an intermittent acoustic signal.	Wait a few minutes and then press STOP to restore machine operation. If the alarm continues, contact the technician.
ALARM! TEV PROBE INTERRUPTED	The TEV probe is faulty. The buzzer emits an intermittent acoustic signal.	Contact the technician for check and replace the faulty probe.
ALARM! TEF PROBE INTERRUPTED	The TEF probe is faulty. The buzzer emits an intermittent acoustic signal.	Contact the technician for check and replace the faulty probe.
ALARM! TEC PROBE INTERRUPTED	The TEC probe is faulty. The buzzer emits an intermittent acoustic signal.	Contact the technician for check and replace the faulty probe.
ALARM! TEV PROBE SHORT CIRCUIT	The TEV probe is faulty. The buzzer emits an intermittent acoustic signal.	Contact the technician for check and replace the faulty probe.
ALARM! TEF PROBE SHORT CIRCUIT	The TEF probe is faulty. The buzzer emits an intermittent acoustic signal.	Contact the technician for check and replace the faulty probe.
ALARM! TEC PROBE SHORT CIRCUIT	The TEC probe is faulty. The buzzer emits an intermittent acoustic signal.	Contact the technician for check and replace the faulty probe.
ALARM! CHECK THE CONNECTION WITH THE INVERTER	The inverter connection with the circuit board is faulty or interrupted.	Call the technician to check the connection between inverter and circuit board.
ALARM! INVERTER KO	The inverter is faulty or in alarm condition.	Call the technician to check correct inverter functioning.

8.2 TROUBLESHOOTING

PROBLEM	PROBABLE CAUSES	REMEDIES
The machine does not start (STOP button off).	Master switch open.	Close the switch.
	Electrical anomaly.	Contact the technician.
	Fuses blown.	Contact the technician.
During the stand-by or STORAGE at 4°C phase, the LCD turns off.	“Energy saving” function active.	Press any key to reactivate the display.
During the cooling phase, ice is formed on the walls of the tank.	Product insufficient.	Work with at least 1/3 the maximum amount of the product foreseen for each CH07 model.
	Insufficient mixing in tank The scraper blades do not remove the ice.	Cyclical stirring mode or selected speed is scarce.
		Check wear of the blades and their correct assembly
	Anti-freeze parameter incorrect.	Contact the technician to change the P10 and P11 parameters in machine programming.
The machine works intermittently during cooling.	Air-cooled machines: air condenser dirty or fan faulty.	Clean the condenser with a brush, check functioning of the fan and the installation conditions on page 9.
	Water-cooled machines: no condensation water.	Make sure there is water in the water system to which the machine is connected. Check the pipes and cocks.
The machine does not reach temperatures over 105°C quickly in heating mode.	Hopper lid assembled incorrectly	Make sure that the hopper lid prevents steam escaping.
	Product insufficient.	Work with at least 1/2 the maximum amount of the product foreseen for each CH07 model.
The machine does not wait for the end of the pasteurisation cycle and starts over.	Electrical black-out	Find out the causes of the electrical black-out

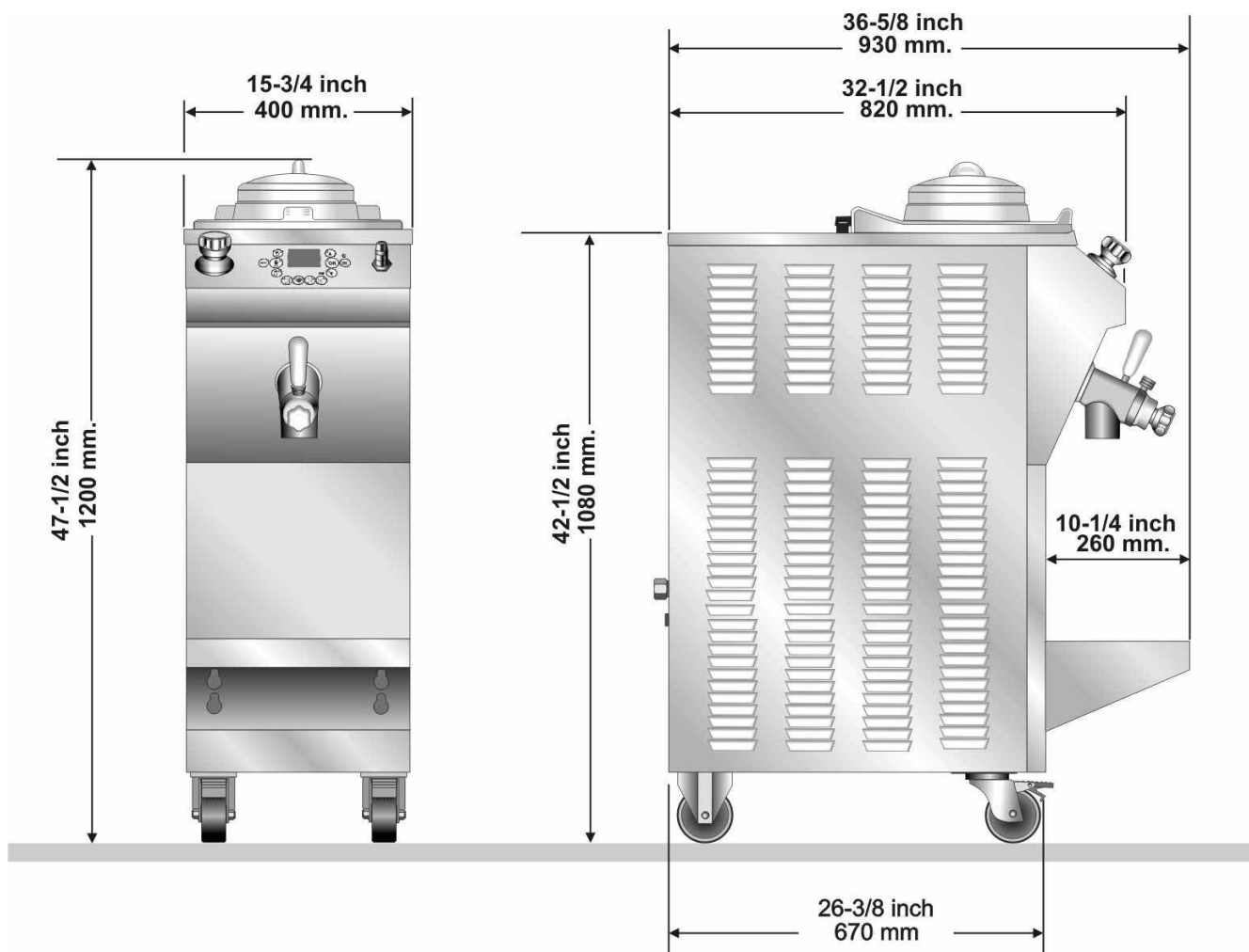
9 APPENDICI / APPENDICES / ANNEXES / ANHANG / APENDICES

9.1 Dati tecnici / Machine specifications / Caractéristiques techniques / Technische Daten / Datos Tecnicos

Modello Model Modell Modale Modelo	Alimentazione Current Stromart Tension Tensión	Condensazione Cooling Kühlung Condensation Condensación	Potenza Power Nennleistung Puissance Potencia	Gas R404	Altezza Height Höhe Hauteur Altura	Larghezza Width Breite Largeur Anchura	Profondità Dept Tiefe Profondeur Profundidad	Peso Weight Gewicht Poids Peso
		A* - W**	(kw)	(kg)	(cm)	(cm)	(cm)	(kg)
CH07	400/50/3	A	6,5	800	124	40	89	130
		W	6,3	400				
	220/60/3	A	6,3	800				
		W	6,5	400				

* Aria – Air – Luft – Aire – Aire

** Acqua – Water – Wasser – Eau – Agua



9.2 IMPIANTO ELETTRICO / ELECTRIC SYSTEM / GROUPE ELECTRIQUE / ELEKTRISCHE ANLAGE / INSTALACION ELECTRICA

Lo schema elettrico funzionale ed il lay-out del box elettrico, specifico per ogni modello, è collocato sulla parte esterna del coperchio del box stesso.

The functional wiring diagram and the electric box lay-out, different for each model are located on the box cover.

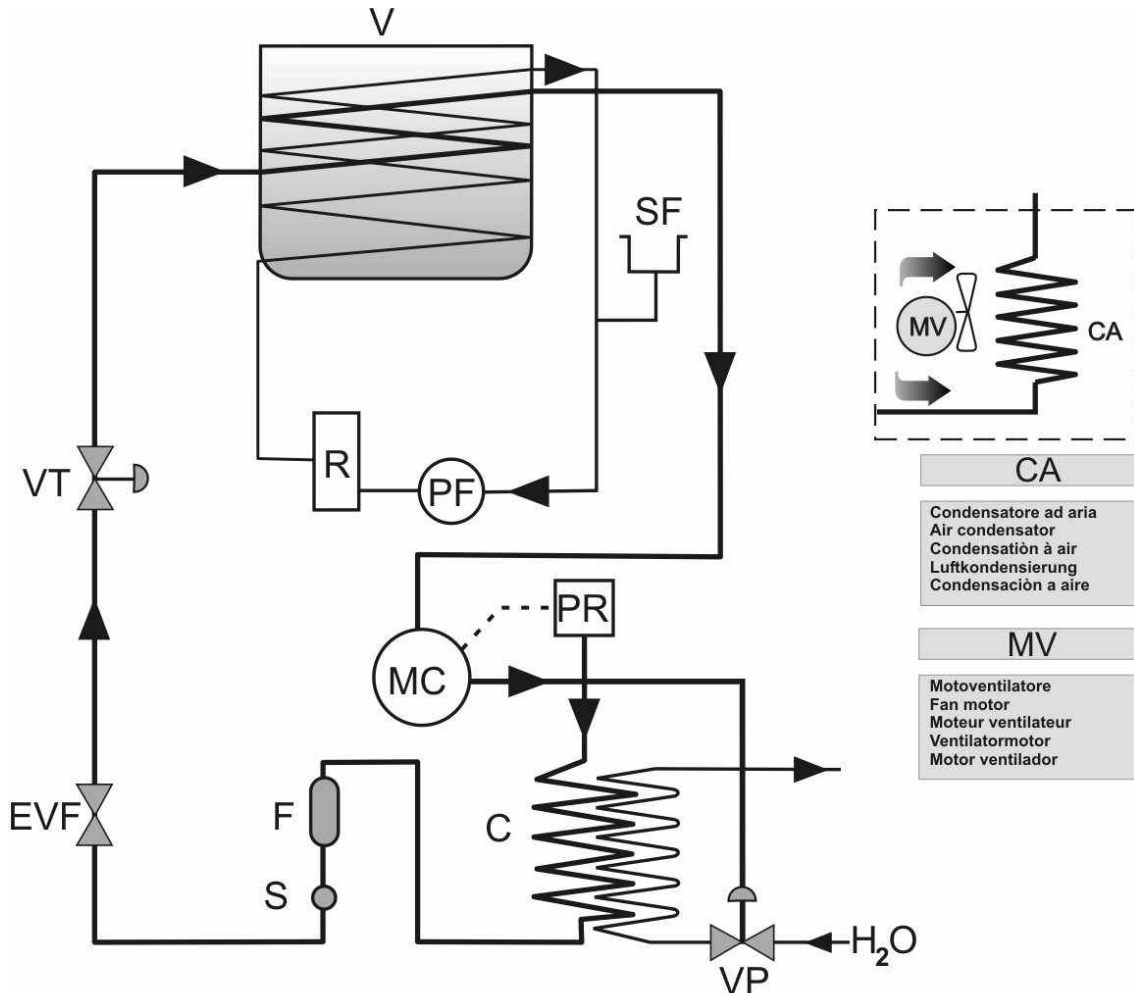
Le schéma électrique de fonctionnement et le lay-out de la boîte électrique, spécifique pour chaque modèle, se trouve sur la partie extérieure du couvercle de cette boîte.

Das Elektroschema und das Lay-out der Elektro-Box ist auf dem Deckel der selben Außen angebracht und ist für jedes Modell spezifisch bezogen.

El esquema eléctrico funcional y el lay-out de la caja eléctrica, específico para cada modelo, se halla en la parte externa de la tapa de la caja misma.

9.3 CH07

Schema circuito frigorifero / Refrigerant circuit diagram / Schéma du circuit frigorifique / Kühlnetzplan / Esquema circuito frigorífico



<p>Linea circuito frigorifero Refrigeration circuit line Ligne circuit frigorifique KälteKreislautverbindung Linea circuito frigorífico</p>		<p>Linea circuito fluido Fluid circuit line Ligne circuit fluide Kühlmittel-Kreislauf Linea circuito fluido</p>	
VP	C	EFV	F
Valvola pressostatica Water valve Soupape pressostatique Druckventil Valvula presostatica	Condensatore Condenser Condensateur Kondensator Condensador	Elettrovalvola gas Gas electro valve Vanne électrique gas Gas Elektroventil Valvula electrica gas	Filtro Filter Filtre Filter Filtro
S	VT	V	SF
Spia liquido Led fluid Led fluid Led Kühlmittel Mirilia fluido	Valvola termostatica Thermostatic valve Vanne thermostatique Thermostatisches ventill Valvula termostatica	Vasca Tank Bac Becken Tina	Serbatoio fluido Fluid tank Reservoir du fluid Kühlmittel-Behälter Alberca fluido
R	PF	PR	MC
Riscaldatore Heater Réchauffer Heizung Calentador	Pompa fluido Fluid pump Pompe fluid Kühlmittel-Pumpe Bomba fluido	Pressostato Pressostat Pressostat Pressostat Presostato	Compressore Compressor Compresseur Kompressor Compresor

9.4 RICAMBI / SPARE PARTS / PIECES DETACHEES / ERSATZTEILE / REPUESTOS

Per la richiesta delle parti di ricambio, si raccomanda di indicare sempre il numero di codice relativo e la denominazione riportata sulla legenda di ciascuna tavola. Si raccomanda inoltre di comunicare sempre il modello ed il numero di matricola della macchina, nonché le caratteristiche della stessa (voltaggio, frequenza e fasi), facilitando in tal modo l'identificazione del particolare. Per ordinare la componentistica di ricambio del compressore indicare sempre anche il modello specificato sulla targhetta del motore. In caso di sostituzione di pezzi, richiedere solo ricambi ORIGINALI FRIGOMAT ad un concessionario o ad un Rivenditore Autorizzato. FRIGOMAT declina ogni responsabilità per danni a persone e/o cose derivanti dall'utilizzo di ricambi non originali.

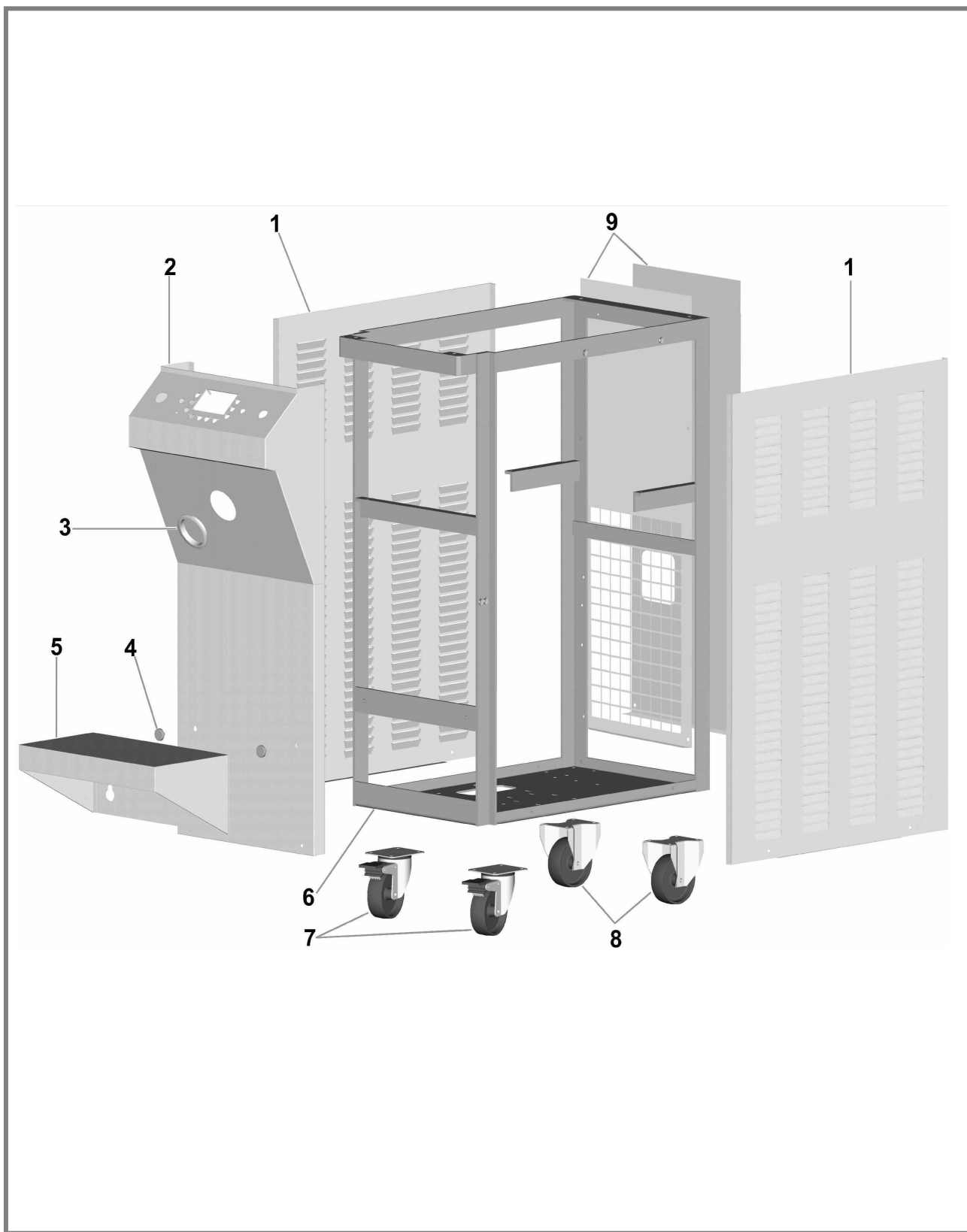
For spare parts ordering, always mention the corresponding code number and the name reported on each table caption. It is also recommended to always mention the machine model and the serial number as well as the technical data (voltage, frequency and phases), to make the identification of the component easier. To order spare parts for the compressor, always mention the model specified on the motor nameplate. In case it is necessary to replace a component, always ask a distributor or an authorized retailer for ORIGINAL spare parts. FRIGOMAT declines any liability for damages to people and/or things due to employment of non-original spare parts.

En cas de demande de pièces détachées, l'on recommande vivement d'indiquer le numéro de code correspondant et la description figurant sur la légende de chaque tableau. L'on recommande aussi de communiquer le modèle et le numéro d'immatriculation de la machine, ainsi que ses caractéristiques (voltagage, fréquence et phases), afin de faciliter l'identification de la pièce. Pour commander les composants de rechange du compresseur, il faut également indiquer le modèle qui est spécifié sur la plaque d'identification du moteur. En cas de remplacement de pièces, demander uniquement des pièces détachées ORIGINALES FRIGOMAT en vous adressant à un concessionnaire ou à un Revendeur Autorisé. FRIGOMAT décline toute responsabilité en cas de dommages aux personnes ou aux choses qui dériveraient de l'utilisation de pièces détachées non originales.

Für die Anfrage von Ersatzteilen raten wir Ihnen, immer die Kodenummer und die entsprechende Benennung einer jeden Tafel mitzuteilen. Wir raten weiterhin, immer das Modell und die Seriennummer der Maschine mitzuteilen als auch die Maschineneigenschaften (Voltleistung, Frequenz und Phasen), um die Erkennung von Besonderheiten zu vereinfachen. Um Ersatzteile des Kompressors zu bestellen, muß man auch das direkte Modell angeben, welches auf dem Motorschild verzeichnet ist. Im Austauschfall von Teilen nur Originalteilen der Firma Frigomat beim Konzessionär oder autorisiertem Wiederverkäufer anfragen. Die Firma FRIGOMAT ist von jeglichem Schadensersatz an Personen u/o Gegenständen entbunden, die auf den Einsatz von nicht originalen Ersatzteilen zurückzuführen sind.

Para la petición de las partes de recambio, se recomienda indicar siempre el número de código relativo y la denominación indicada en la leyenda de cada tabla. Además, se recomienda comunicar siempre el modelo y el número de matrícula de la máquina, así como las características de la misma (voltaje, frecuencia y fases), facilitando de esta manera la identificación de la parte. Para pedir los componentes de recambio del compresor indicar siempre también el modelo especificado en al placa del motor. En caso de sustitución de piezas, pedir sólo recambios ORIGINALES FRIGOMAT a un concesionario o a un Revendedor Autorizado. FRIGOMAT declina cualquier responsabilidad por daños a personas y/o cosas derivados del uso de recambios no originales.

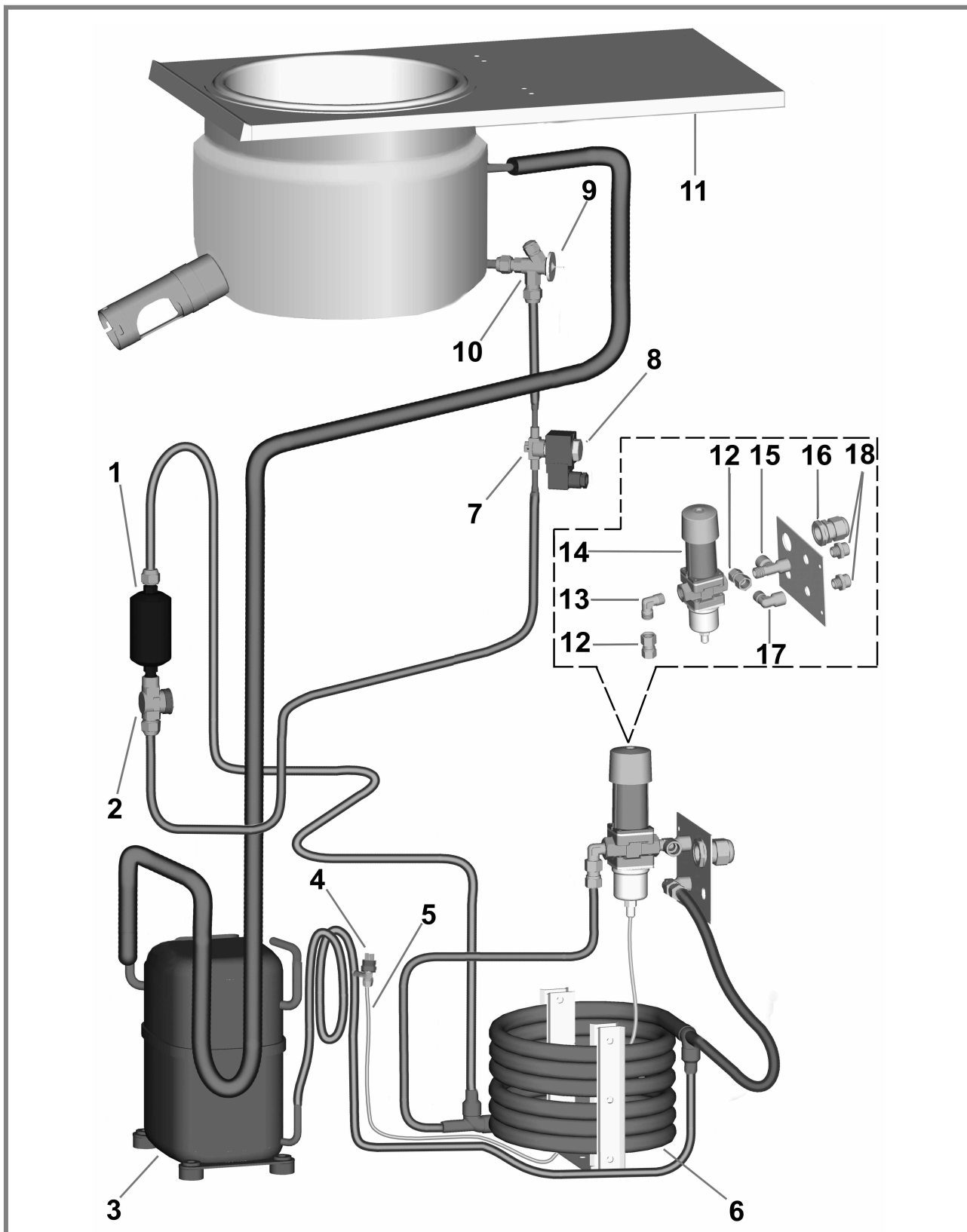
CH07 s02 Tav.1



CH07 s02 Tav.1

P.	COD.	DESCRIZIONE	DESCRIPTION	DESCRIPTION	BESCHREIBUNG	DESCRIPTION
1	A02.39451	Pannello laterale	Side panel	Panneau latéral	Seitenpaneel	Panel lateral.
2	A02.39443	Pannello anteriore	Front panel	Panneau antérieur	Vorderpaneel	Panel anterior
3	P19.38080	Flangia rubinetto	Flange	Bride	Flansch	Brida
4	B09.060	Borchia balconcino	Stud for rest	Ecrou pour support	Buegelbolzen	Remache
5	A03.39456	Balconcino	Rest	Support	Buegel	Repisa
6	A01.39438	Telaio	Frame	Châssis	Gestell	Armazón
7	F02.013	Ruota Girevole	Revolving wheel	Roue pivotante	Schwenkbares Lauftrad	Rueda giratoria
8	F02.014	Ruota fissa	Fixed wheel	Roue fixe	Festes Lauftrad	Rueda fija
9	A02.39445	Pannello posteriore Aria	Back panel Air	Panneau postérieur Air	Hinteres Paneel Luft	Panel posterior Aire
	A02.39446	Pannello posteriore Acqua	Back panel Water	Panneau postérieur Eau	Hinteres Paneel Wasser	Panel posterior Agua

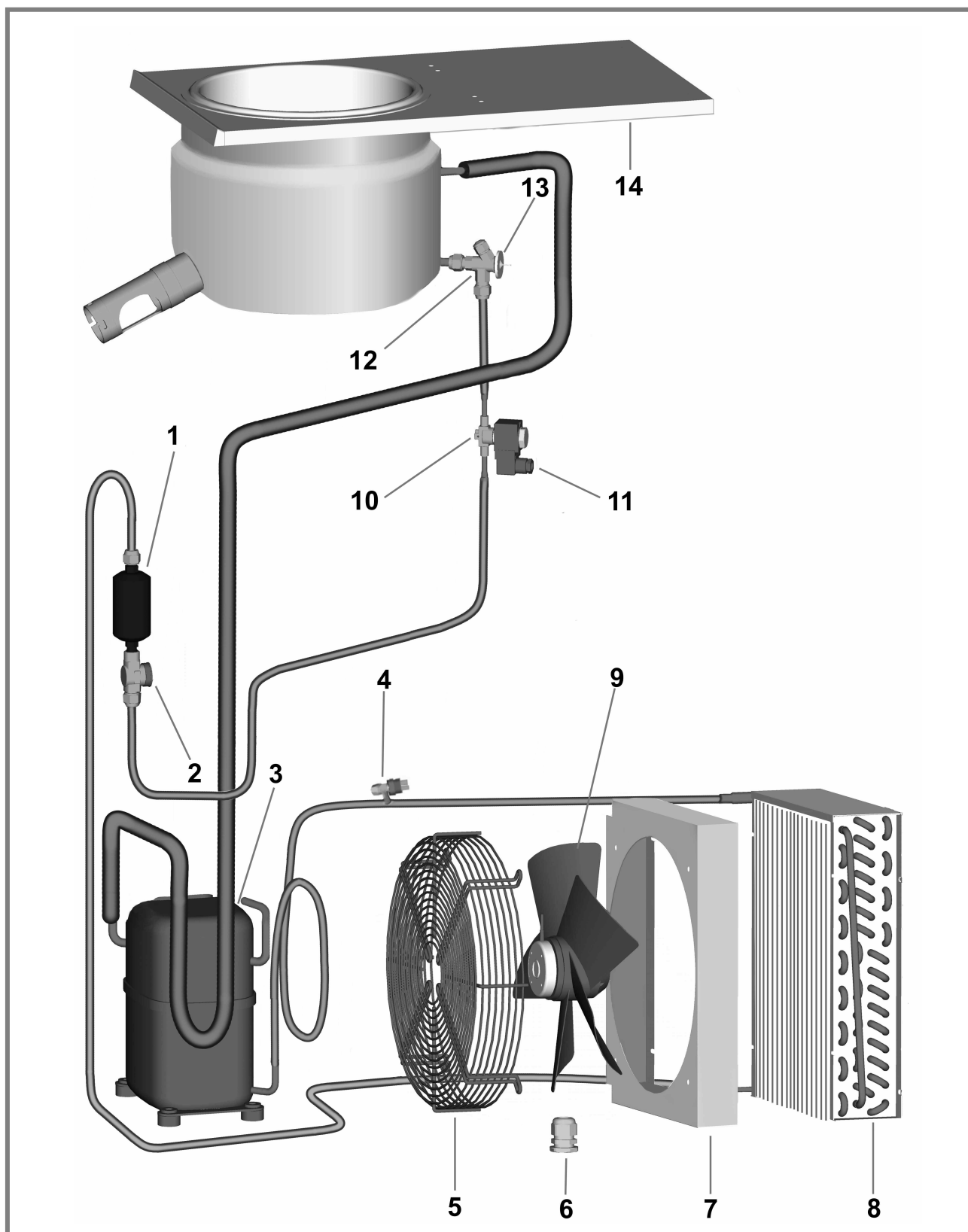
CH07 s02 W 400/50/3 – 220/60/3 Tav.2



CH07 s02 W 400/50/3 – 220/60/3 Tav.2

P.	COD.	DESCRIZIONE	DESCRIPTION	DESCRIPTION	BESCHREIBUNG	DESCRIPTION
1	A07.032	Filtro	Filter	Filtre	Filter	Filtro
2	A07.046	Spia liquido	Liquid sight glass	Témoins pour liquide	Flüssigkeitskontrolllampe	Testigo líquido
3	B01.37654	Compressore 400/50/3	Compressor 400/50/3	Compresseur 400/50/3	Kompressor 400/50/3	Compresor 400/50/3
	B01.39873	Compressore 220/60/3	Compressor 220/60/3	Compresseur 220/60/3	Kompressor 220/60/3	Compresor 220/60/3
4	A02.140	Pressostato	Pressure switch	Pressostat	Druckwächter	Presóstato
5	T50.016	Capillare valvola pressostatica	Capillary tube for water valve	Capillaire soupape thermostatique	Kapillares Druckventil	Capilar válvula presostática
6	A03.090	Condensatore ad acqua	Water condenser	Condensateur à eau	Wasserkondensator	Condensador de agua
7	A02.153	Elettrovalvola	Solenoid valve	Electrovanne	Elektroventil	Electroválvula
8	A02.154	Bobina elettrovalvola	Solenoid valve coil	Bobine électrovanne	Spule Elektroventil	Bobina electroválvula
9	A02.169	Orificio per valvola termostatica	Orifice for thermostatic valve	Orifice soupape thermostatique	Öffnung für thermost. Ventil	Orificio válvula termostática
10	A02.193	Valvola termostatica	Thermostatic valve	Soupape thermostatique	Thermostatisches Ventil	Válvula termostática
11	Z56.39440	Gruppo isolamento	Insulation unit	Groupe isolant	Isolationsgruppe	Grupo aislamiento
12	R02.114	Raccordo bicono F/F 10/8x3/8" Gas	Double-taper F/F 10/8x3/8" Gas	Raccord bi-conique F/F 10/8x3/8" Gas	Anschlußstück zweikegelig F/F	Unión bicono F/F 10/8x3/8" Gas
13	R03.019	Gomito M-M 3/8" Gas	Elbow M-M 3/8" Gas	Coude M-M 3/8" Gas	M-Bogen-M 3/8" Gas	Codo M-M 3/8" Gas
14	A02.061	Valvola pressostatica	Water valve	Soupape pressostatique	Druckventil	Válvula presostática
15	R05.009	Raccordo a T F/F/M 3/8" Gas	Tee-joint F/F/M 3/8" Gas	Raccord en T F/F/M 3/8" Gas	T Anschlußstück F/F/M 3/8" Gas	Unión en T F/F/M 3/8" Gas
16	E09.37287	Pressacavo	Cable grip	Presse-fils	Kabelhalter	Sujeta-cables
17	R03.058	Gomito 90° M/F 3/8" Gas	Elbow 90° M/F 3/8" Gas	Coude 90° M/F 3/8" Gas	Bogen 90° M/F 3/8" Gas	Codo 90° M/F 3/8" Gas
18	R02.113	Nipplo ridotto ½"x3/8" Gas	Reduced nipple ½"x3/8" Gas	Raccord fileté réduit ½"x 3/8" Gas	Verkleinerter Nippel ½"x3/8" Gas	Niple reducido ½"x3/8" Gas

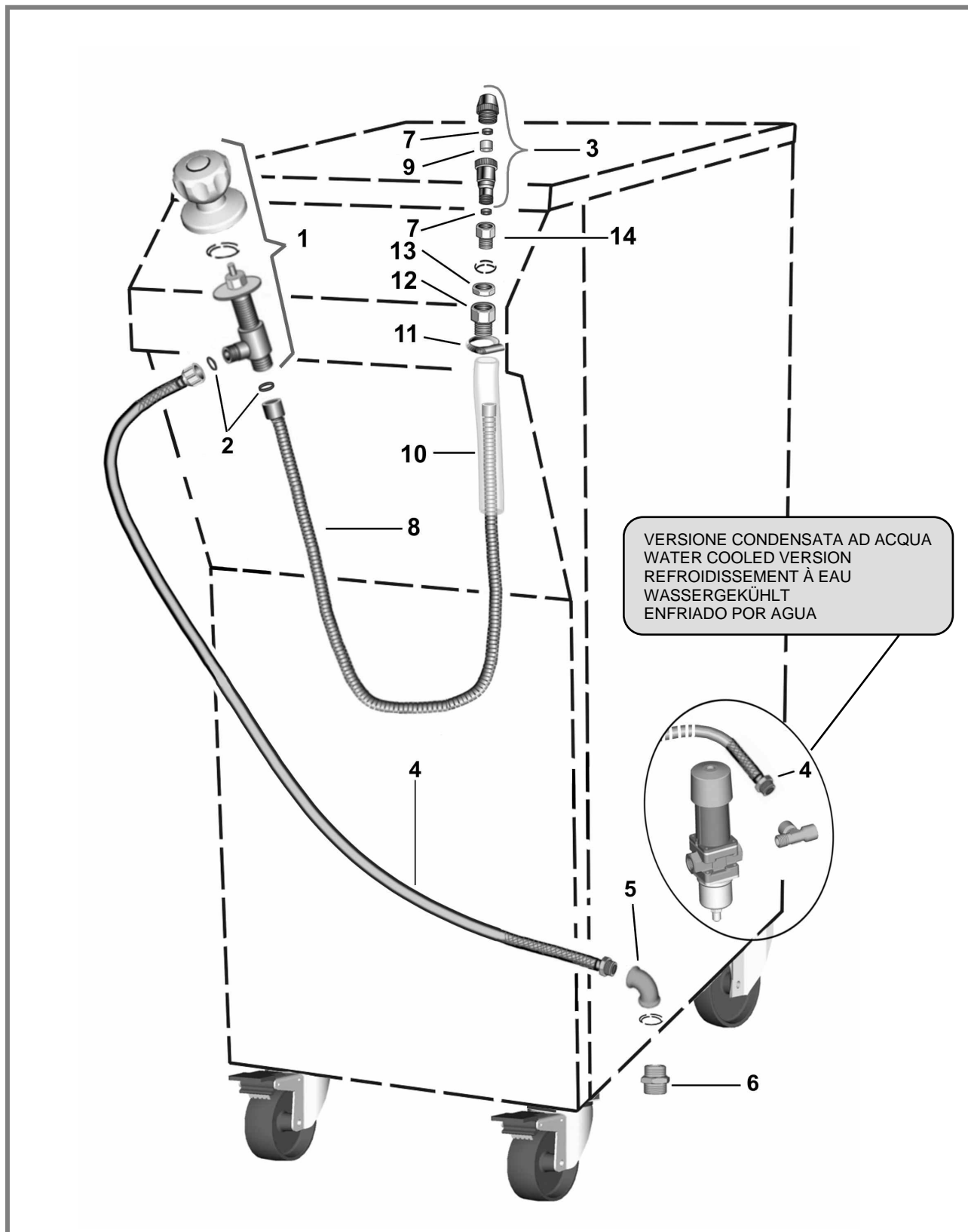
CH07 s02 A 400/50/3 – 220/60/3 Tav.3



CH07 s02 A 400/50/3 – 220/60/3 Tav.3

P.	COD.	DESCRIZIONE	DESCRIPTION	DESCRIPTION	BESCHREIBUNG	DESCRIPTION
1	A07.032	Filtro	Filter	Filtre	Filter	Filtro
2	A07.046	Spia liquido	Liquid sight glass	Témoin pour liquide	Flüssigkeitskontrollampe	Testigo líquido
3	B01.37654	Compressore 400/50/3	Compressor 400/50/3	Compresseur 400/50/3	Kompressor 400/50/3	Compresor 400/50/3
	B01.39873	Compressore 220/60/3	Compressor 220/60/3	Compresseur 220/60/3	Kompressor 220/60/3	Compresor 220/60/3
4	A02.140	Pressostato	Pressure switch	Pressostat	Druckwächter	Presóstato
5	B03.37449	Griglia	Grate	Grille	Gitter	Rejilla
6	E09.37287	Pressacavo	Cable grip	Presse-fils	Kabelhalter	Sujeta-cables
7	A04.37313	Convogliatore	Conveyor	Convoyeur	Kühlerhaube - Gleiter	Transportador
8	B02.37254	Condensatore ad aria	Air condenser	Condensateur á air	Luftkondensator	Condensador aire
9	E01.37422	Motore ventilatore	Fan motor	Moteur du ventilateur	Ventilatormotor	Motor ventilador
10	A02.153	Elettrovalvola	Solenoid valve	Electrovanne	Elektroventil	Electroválvula
11	A02.154	Bobina elettrovalvola	Solenoid valve coil	Bobine électrovanne	Spule Elektroventil	Bobina electroválvula
12	A02.189	Valvola termostatica	Thermostatic valve	Soupape thermostatique	Thermostatisches Ventil	Válvula termostática
13	A02.169	Orificio per valvola termostatica	Orifice for thermostatic valve	Orifice suopape thermostatique	Öffnung für thermost. Ventil	Orificio válvula termostática
14	Z56.39440	Gruppo isolamento	Insulation unit	Groupe isolant	Isolationsgruppe	Grupo aislamiento

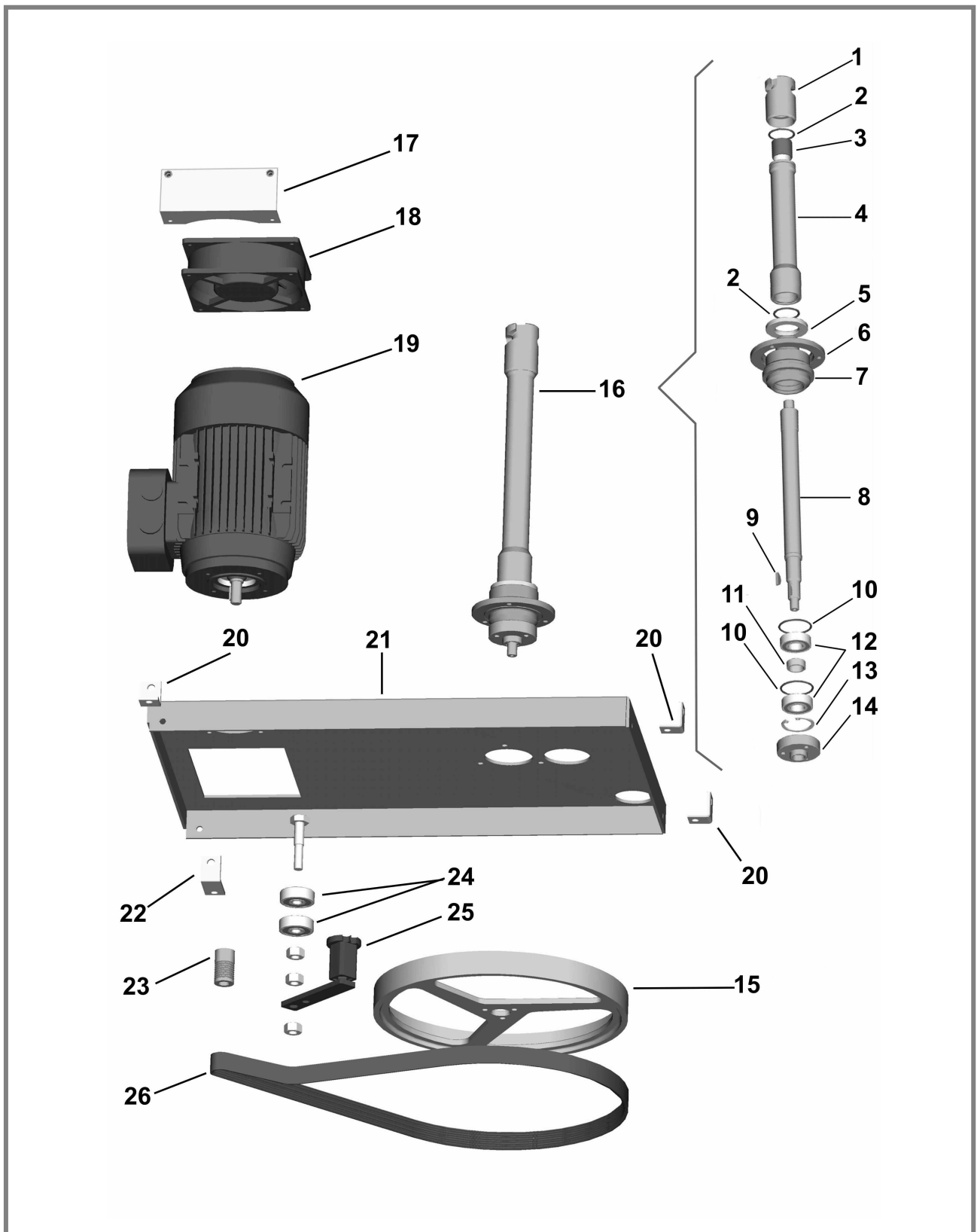
CH07 s02 Tav.4



CH07 s02 Tav.4

P.	COD.	DESCRIZIONE	DESCRIPTION	DESCRIPTION	BESCHREIBUNG	DESCRIPTION
1	A10.007	Rubinetto	Cock	Robinet	Ausgabehahn	Grifo
2	P06.085	Guarnizione 1/2"	Basket 1/2"	Joint 1/2"	Dichtung 1/2"	Guarnición 1/2"
3	A10.003	Terminale per doccia	Shower terminal	Terminal de douche	Duschenenteil	Terminal ducha
4	H05.39813	Tubo flessibile L.1500 3/8M-1/2F	Flexible tube L. 1500 3/8M-1/2F	Tuyau flexible L. 1500 3/8M-1/2F	Schlauch L. 1500 3/8M-1/2F	Tubo flexible L. 1500 3/8M-1/2F
5	R03.060	Raccordo a gomito F-F 3/8" Gas	Elbow fitting F-F 3/8" Gas	Raccord coudé F-F 3/8" Gas	Elbogen-Anschlussst. F-F 3/8" Gas	Codo de union F-F 3/8" Gas
6	R02.113	Nipplo ridotto 1/2"x3/8" Gas	Reduced nipple 1/2"x3/8" Gas	Raccord fileté réduit 1/2"x 3/8" Gas	Verkleinerter Nippel 1/2"x3/8" Gas	Niple reducido 1/2"x3/8" Gas
7	P06.011	Guarnizione per flessibile	Hose gasket	Joint pour flexible	Schlauchdichtung	Guarnición flexible
8	A10.008	Tubo doccia	Shower hose	Tuyau douchette	Duschschlauch	Tubo ducha
9	P06.030.02	Guarnizione per terminale	Terminal gasket	Joint terminal	Dichtung für Endanschluß	Guarnición terminal
10	S03.37087	Tubo acrilico	acrylic tube	tube acrylique	Acrylröhre	tubo de acrílico
11	B13.017	Fascetta 23-35/9	Clamp 23-35/9	Bague 23-35/9	Klemme 23-35/9	Abrazadera 23-35/9
12	R02.018	Manicotto 1/2"-3/4"	Sleeve 1/2"-3/4"	Manchon 1/2"-3/4"	Muffe 1/2"-3/4"	Manguito 1/2"-3/4"
13	V13.037	Dado esagonale 1/2"	Hexagon nut 1/2"	Ecrou hexagonal 1/2"	Sechskantmutter 1/2"	Dado exagonal 1/2"
14	A10.005	Manicotto doccia	Sleeve for shower	Manchon pour douchette	Muffe f. Dusche	Manguito por ducha

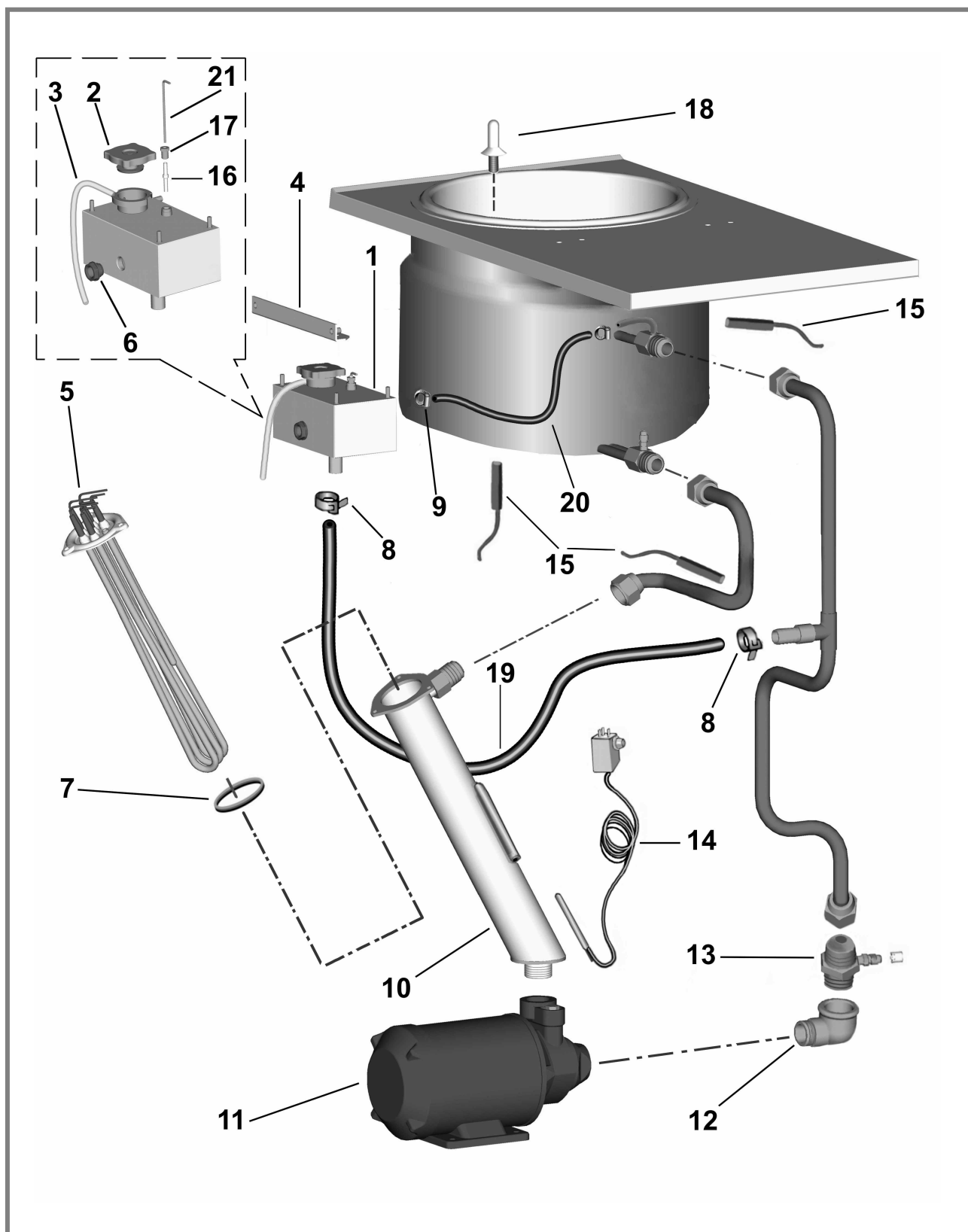
CH07 s02 400/50/3 – 220/60/3 Tav.5



CH07 s02 400/50/3 – 220/60/3 Tav.5

P.	COD.	DESCRIZIONE	DESCRIPTION	DESCRIPTION	BESCHREIBUNG	DESCRIPTION
1	L21.38086	Testa di trascinamento	Entraining head	Tête d'entraînement	Drehkopf	Cabeza de arrastro
2	P10.037	OR 2106	OR 2106	OR 2106	OR 2106	OR 2106
3	A11.38184	Bussola	Bush/sleeve	Douille	Buchse/Huelse	Aguja
4	L21.38067	Canotto	Sleeve - Transmission tube	Tube	Röhrchen - Huelse	Tube
5	P21.38062	Trappola termica	Insulating support	Support isolé	Isolierter-Kopf	Soporte aislato
6	L21.38376	Flangia per supporto	Flange	Bride	Flansch	Brida
7	L21.38059	Supporto trasmissione	Drive bearing	Support de transmission	Antrieblager	suporte transmision
8	L21.38068	Albero trasmissione	Drive snaft	Arbre de la transmission	Getriebevelle	Eje de transmision
9	V18.38069	Chiavetta	Key	Clavette	Keil	Chaveta
10	P10.014	OR 2137	OR 2137	OR 2137	OR 2137	OR 2137
11	L21.38060	Distanziale cuscinetti	Spacer - Tube - Shim	Entretoise - Bague - Rondelle	Zwischenteil - Scheibe	Distanciador
12	B14.036	Cuscinetto	Bearing	Galet	Kugellager	Cojinete
13	V14.072	Seeger	Seegerring	Seeger	Seegerring	Seeger
14	L21.38063	Flangia	Flange	Bride	Flansch	Brida
15	L06.38064	Puleggia condotta	Driven pulley	Poulie conduite	Geführte Rolle	Polea conducta
16	Z75.38070	Assieme trasmissione	Drive assy	Transmission complète	Kompl. Antrieb	transmision compl.
17	A04.39706	Staffa	Bracket	Patte/bride	Halterung	Molde
18	B01.340	Ventilatore	Fan	Ventilateur	Ventilator	Ventilador
19	E01.38186	Motore mescolatore	Beater motor	Moteur mélangeur	Rührmotor	Motor agitador
20	A04.38074	Staffa fissaggio	Fixing bracket	Branche de fixation	Fixierstaffel	Molde fijage
21	A01.39439	Piastra bollitore	Support plate	Support du cuiseur	Kocherhalter	plancha calentador
22	A04.39464	Staffa fissaggio	Fixing bracket	Branche de fixation	Fixierstaffel	Molde fijage
23	L06.38072	Puleggia motore	Driving pulley	Poulie de conduite	Riemenscheibe	Polea conductora
24	A11.37495	Cuscinetto	Bearing	Galet	Kugellager - Rolle - Lager	Cojinete
25	B65.37494	Tendicinghia	Belt tightener	Galopin de tension	Riemenspanner	Saporte correa
26	P10.38187	Cinghia poly V	Belt poly V	Courroie poly V	Riemen poly V	Correa poly V

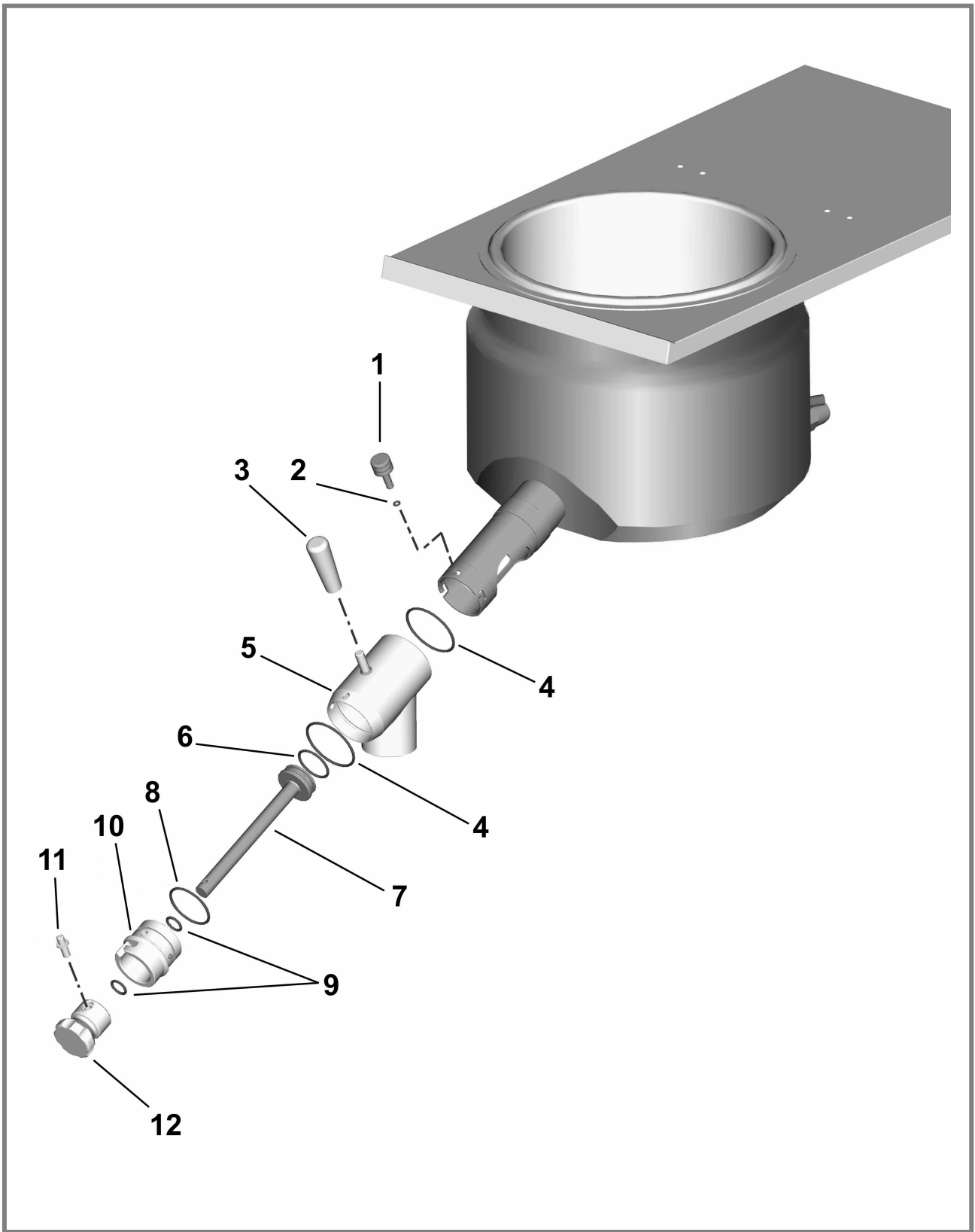
CH07 s02 400/50/3 – 220/60/3 Tav.6



CH07 s02 400/50/3 – 220/60/3 Tav.6

P.	COD.	DESCRIZIONE	DESCRIPTION	DESCRIPTION	BESCHREIBUNG	DESCRIPTION
1	Z61.40574	Serbatoio fluido compl.	Additional fluid tank	Réservoir de fluide compl.	Kompl. Flüssigkeitsbehälter	Contenedor fluido compl.
2	P03.194	Tappo serbatoio fluido	Fluid tank plug	Bouchon du réservoir fluide	Verschluß Flüssigkeitsbehälter	Tapón depósito fluido
3	T10.090	Tubo sfiato	Drain pipe	Tuyau d'échappement	Überlaufrohr	Tubo de desfogue
4	A23.40578	Staffa supporto serbatoio	Fluid tank bracket	Branche réservoir fluide	Staffel für Flüssigkeitsbehälter	Molde contenedor fluido
5	D08.034.01	Resistenza	Resistance	Résistance	Widerstand-Heizkoerper	Resistencia
6	P26.37681	Indicatore di livello liquido	Liquid sight glass	Témoin pour liquide	Flüssigkeitskontrollampe	Testigo líquido
7	P10.128	OR 6225	OR 6225	OR 6225	OR 6225	OR 6225
8	B13.128	Fascetta FBS 29/12	Clamp FBS 29/12	Collier FBS 29/12	Faschette FBS 29/12	Abrazadera FBS 29/12
9	G03.38492	Fascetta 10/19	Clamp 10/19	Collier 10/19	Faschette 10/19	Abrazadera 10/19
10	Z78.39054	Riscaldatore	Heater	Réchauffeur	Heizung - Heizkoerper	Calentador
11	E01.38333	Pompa fluido 230-400/50/3	Fluid pump 230-400/50/3	Pompe fluide 230-400/50/3	Flüssigkeitspumpe 230-400/50/3	Bomba fluido 230-400/50/3
	E01.38464	Pompa fluido 220/60/3	Fluid pump 220/60/3	Pompe fluide 220/60/3	Flüssigkeitspumpe 220/60/3	Bomba fluido 220/60/3
12	R03.061	Gomito M-F 1" Gas	Elbow M-F 1" Gas	Coude M-F 1" Gas	M-Bogen- M-F 1" Gas	Codo M-F 1" Gas
13	R02.101 + R02.031	Riduzione M/M 1"- ¾ SAE + Attacco carica	Adaptor M/M 1"- ¾ SAE + Charge coupling	Réducteur M/M 1"- ¾ SAE + Attelage charge	Reduzierstk. M/M 1"- ¾ SAE + Einfuellanschluss	Adaptador M/M 1"- ¾ SAE + Conexión carga
14	B11.37013	Termostato	Thermostat	Thermostat	Thermostat	Termostato
15	E05.38215	Sonda temperatura	Temperature probe	Sonde température	Temperatursonde	Sonda temperatura
16	B09.238	Premistoppa	Premistoppa	Stuffing nut	Presse-étoupe	Stopfbüchse
17	P20.218	Bussola	Bush	Douille	Buchse	Aguja
18	L23.38073	Portabulbo	Bulb holder	Porte-cuvette	Haltewulst	Portabola
19	T10.095	Tubo 18X28,5	Tube 18X28,5	Tuyau 18X28,5	Netzrohr 18X28,5	Tubo 18X28,5
20	S03.38506	Tubo retinato	Meshed tube	Tuyau armé	Netzrohr	Tubo armado
21	L23.40595	Sonda livello	Sonda livello	Probe level	Niveau sonde	Sondenstand

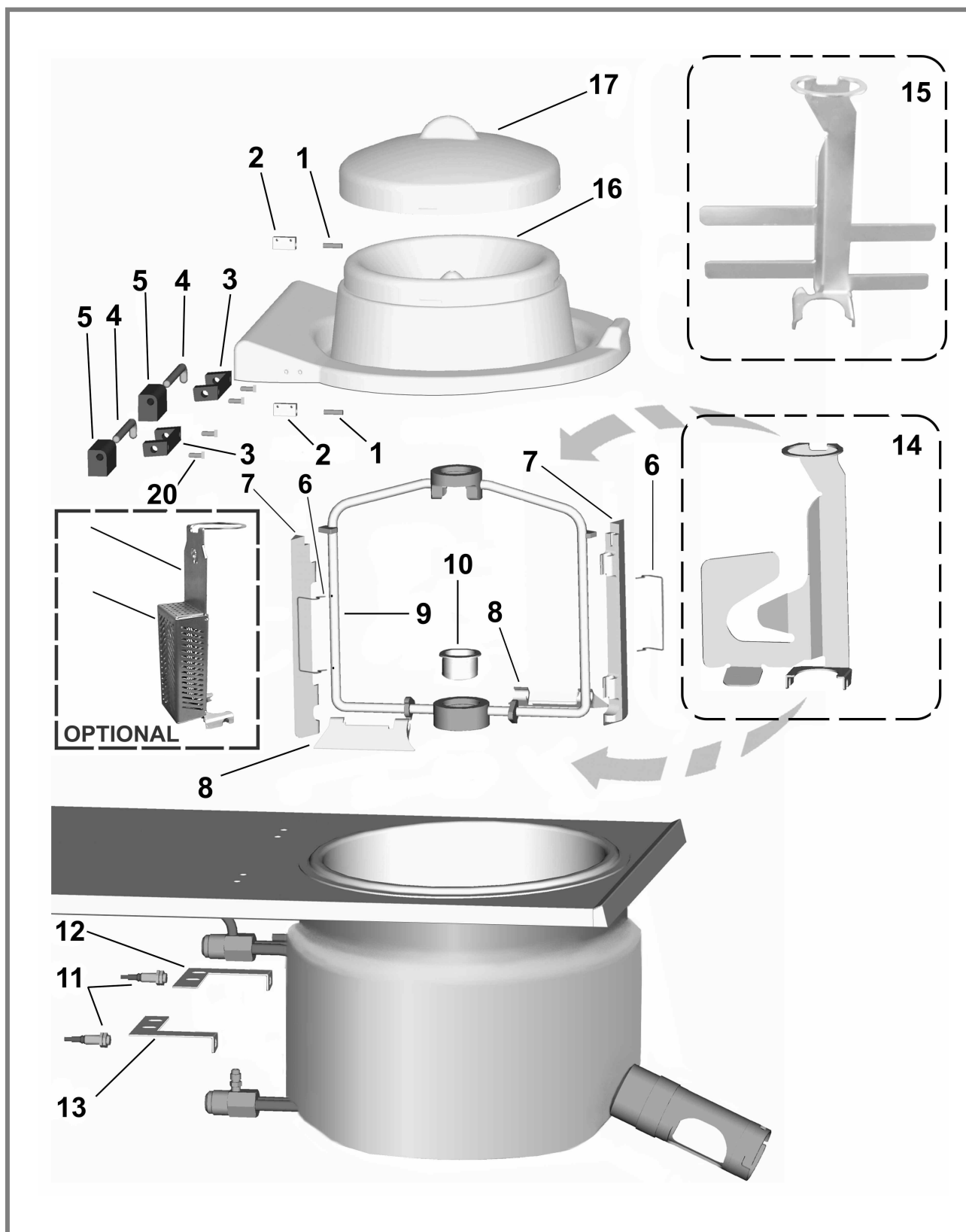
CH07 s02 Tav.7



CH07 s02 Tav.7

P.	COD.	DESCRIZIONE	DESCRIPTION	DESCRIPTION	BESCHREIBUNG	DESCRIPTION
1	L19.38015	Spina per rubinetto	Pin	Bondon	Stift	Colada
2	P10.017	OR 2018	OR 2018	OR 2018	OR 2018	OR 2018
3	P02.155	Maniglia	Lever	Poignée	Griff	Manija
4	P02.38195	OR 3237	OR 3237	OR 3237	OR 3237	OR 3237
5	Z82.38951	Rubinetto	Tap	Robinet	Zapfhahn	Grifo
6	P02.38196	OR 3143	OR 3143	OR 3143	OR 3143	OR 3143
7	Z82.39489	Pistone	Piston pump	Piston	Kolben	Piston
8	P02.38197	OR 3193	OR 3193	OR 3193	OR 3193	OR 3193
9	P10.070	OR 121	OR 121	OR 121	OR 121	OR 121
10	Z82.39486	Fondello rubinetto	Tap bottom	Fond robinet	Boden Zapfhahn	Fondo grifo
11	L19.39484	Spina	Pin	Bondon	Stift	Colada
12	P19.39483	Pomello	knob	pommeau	Handgriff	pomito

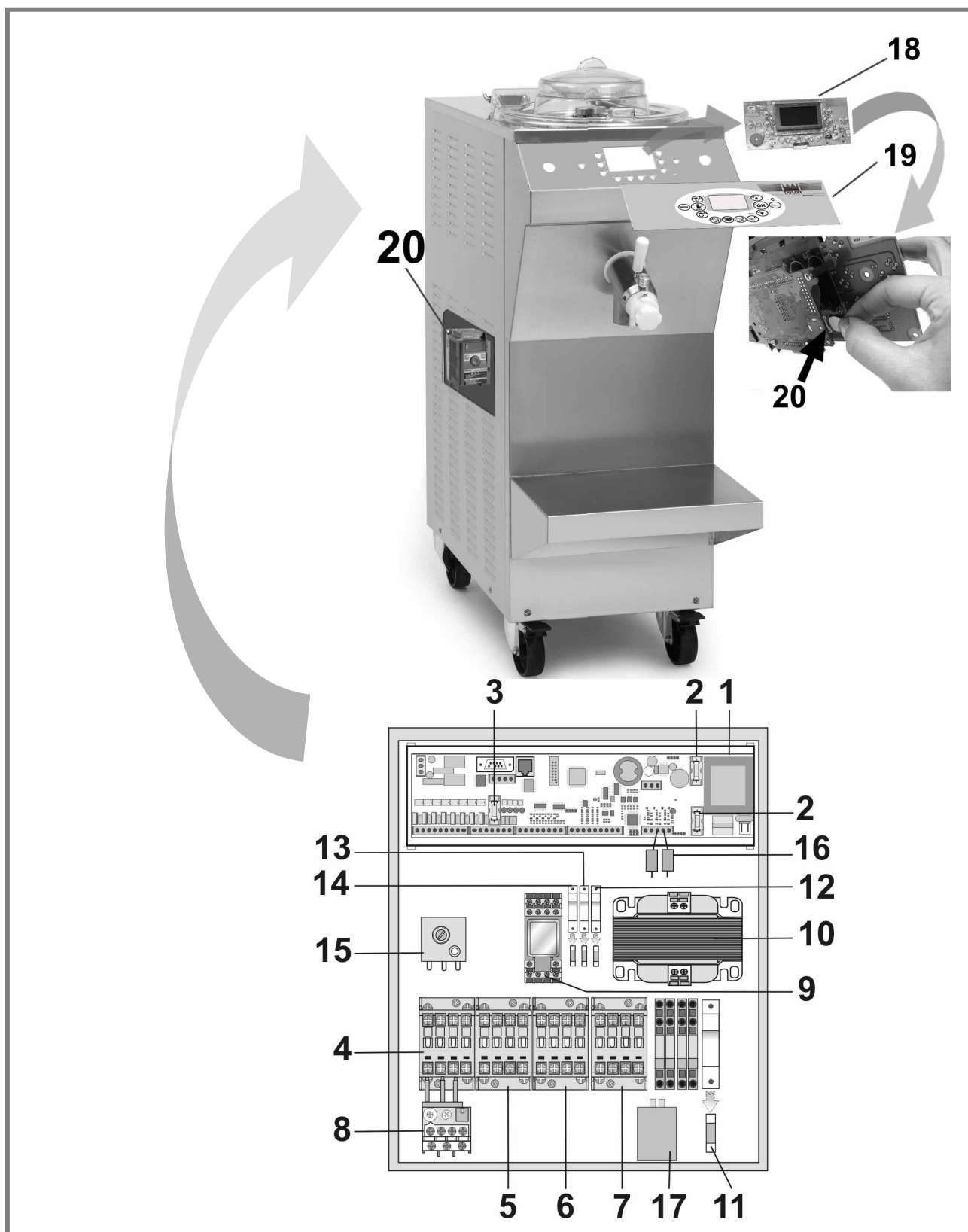
CH07 s02 Tav.8



CH07 s02 Tav.8

P.	COD.	DESCRIZIONE	DESCRIPTION	DESCRIPTION	BESCHREIBUNG	DESCRIPTION
1	E07.37991	Magnete	Magnet	Aimant	Magnet	Imán
2	P20.38398	Tassello portamagnete	Magnet holding boss	Tampon porte-aimant	Magnethaltedübel	Espiga portaimán
3	B15.038	Cerniera mobile	Moving hinge	Fermeoir mobile	Bewegliches Scharnier	Bisagra móvil
4	L19.37042	Perno cerniera	Hinge pin	Axe goujon de charnière	Scharnierbolzen	Perno para bisagra
5	B15.037	Cerniera fissa	Fixed hinge	Fermeoir fixe	Festes Scharnier	Bisagra fija
6	A10.39980	Molla	Spring	Ressort	Feder	Muelle
7	P18.38146	Pattino parete bollitore	Side Scraper	Racleur latéral	Schaber (Seite)	patino lateral calentador
8	P18.38153	Pattino fondo bollitore	Bottom scraper	Racleur inférieur	Schaber (unten)	patino fondo calentador
9	B65.38151	Agitatore bollitore	Mixer	Brasseur	Rührwerk	Agitador
10	P11.38185	Boccola	Bush - Bushing	Douille	Buchse	Anillo
11	D05.141	Contatto magnetico (REED)	Magnetic contact (REED)	Contact magnétique (REED)	Magnetkontakt (REED)	Contacto magnético (REED)
12	A04.38451	Staffa porta micro DX	Micro-holding bracket DX	Patte porte-micro DX	Mikrohaltebuegel DX	Molde micro DX
13	A04.38394	Staffa porta micro SX	Micro-holding bracket SX	Patte porte-micro SX	Mikrohaltebuegel SX	Molde micro SX
14	A18.39642	Mescolatore creme	Cream beater	Brasseur crème	Crème-Rührwerk	Agitador crema
15	A18.39643	Mescolatore tempera cioccolato	Chocolate tempering Beater	Brasseur detrempe chocolat	Rührwerk f. Schokolade abdeckung	Agitador templa chocolate
16	P16.39457	Coperchio	Cover	Couvercle	Deckel	Tapa
17	P16.39740	Copritramoggia	Hopper cover	Couvercle de trémie	Einfülltrichtergitter	Tapa tolva
18	A18.38565	Staffa porta aromi	Flavor bracket	Brides aromes	Aromas Fixierstaffel	Estribo aromas
19	A18.38566	Cassetto porta aromi	Flavor drip dray	Eguttoir aromes	Aroma-Tropfblech	Recogegotas aromas
20	B09.215	Vite cerniera	Screw for hinge	Vis fermeoir	Scharnierschraube	Tornillo bisagra

CH07 s02 A/W Tav.9



CH07 s02 A/W Tav.9

P.	COD.	DESCRIZIONE	DESCRIPTION	DESCRIPTION	BESCHREIBUNG	DESCRIPTION
1	E15.40615	Scheda comando OMG ²	OMG ² control card	Carte de commande OMG ²	Kommandokarte OMG ²	Tarjeta de mando OMG ²
2	E08.38486	Fusibile 5x20 T 500 mA	Fuse 5x20 T 500 mA	Fusible 5x20 T 500 mA	Sicherung 5x20 T 500 mA	Fusibile 5x20 T 500 mA
3	E08.39143	Fusibile 5x20 T 4A	Fuse 5x20 T 4A	Fusible 5x20 T 4A	Sicherung 5x20 T 4A	Fusibile 5x20 T 4A
4	D02.061	Teleruttore A12 30 10	Remote control switch A30 30 10	Télerupteur A30 30 10	Fernschalter A30 30 10	Telerruptor A30 30 10
5	D02.061	Teleruttore A12 30 10	Remote control switch A30 30 10	Télerupteur A30 30 10	Fernschalter A30 30 10	Telerruptor A30 30 10
6	D02.063	Teleruttore A16 30 10	Remote control switch A16 30 10	Télerupteur A16 30 10	Fernschalter A16 30 10	Telerruptor A16 30 10
7	D02.063	Teleruttore A16 30 10	Remote control switch A16 30 10	Télerupteur A16 30 10	Fernschalter A16 30 10	Telerruptor A16 30 10
8	D03.183 (400/50/3)	Termica Range 1-1,4	Overload Range 1-1,4	Thermique Range 1-1,4	Thermoschutz Range 1-1,4	Termal Range 1-1,4
	D03.172 (400/50/3)	Termica Range 1,3-1,8	Overload Range 1,3-1,8	Thermique Range 1,3-1,8	Thermoschutz Range 1,3-1,8	Termal Range 1,3-1,8
9	E08.37283	Relè	Relay	Relais	Relay	Rele
10	E08.36674	Trasformatore 12-24 V 63 VA	Transformer 12-24 V 63 VA	Transformateur 12-24 V 63 VA	Transformator 12-24 V 63 VA	Transformador 12-24 V 63 VA
11	E08.39665	Fusibile 10x38 T 10A	Fuse 10x38 T 10A	Fusible 10x38 T 10A	Sicherung 10x38 T 10A	Fusibile 10x38 T 10A
12	E08.37453	Fusibile 5x20 T 160MA	Fuse 5x20 T 160MA	Fusible 5x20 T 160MA	Sicherung 5x20 T 160MA	Fusibile 5x20 T 160MA
13	E08.39143	Fusibile 5x20 T 4A	Fuse 5x20 T 4A	Fusible 5x20 T 4A	Sicherung 5x20 T 4A	Fusibile 5x20 T 4A
14	D03.143	Fusibile 5x20 T 1,6A	Fuse 5x20 T 1,6A	Fusible 5x20 T 1,6A	Sicherung 5x20 T 1,6A	Fusibile 5x20 T 1,6A
15	B11.37013	Termostato tar.130°C	Thermostat cal.130°C	Thermostat cal. 130°C	Thermostat geeicht 130°C	Termostato cal.130°C
16	E15.39772	Filtro ferrite	Filter	Filtre	Filter	Filtro
17	E06.37665	Condensatore marcia motore ventilatore	Condensator fan motor	Condensateur moteur ventilateur	Kondensator für Ventilatormotor	Condensador por motor ventilador
18	E15.40623	Scheda pulsantiera	Pushbutton panel card	Carte du tableau de commande	Tastenkarte	Tarjeta caja pulsadores
19	M02.41289	Etichetta anteriore	Front label	Etiquette antérieure	Vorderes Schild	Etiqueta anterior
20	E13.40492	Batteria pulsantiera	Pushbutton panel battery	Batterie Tableau de commande	Tastenkarte-Batterie	Pilas tarjeta caja pulsadores
21	E15.42440	Inverter	Inverter	Inverter	Inverter	Inverter



Azienda Certificata
UNI EN ISO 9001:2000

Numero Certificato
50 100 5650

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