





## USE AND MAINTENANCE MANUAL

### Serie

Twin Chef	35	03
Twin Chef	45	03
Twin Chef	60	03



# ORIGINAL INSTRUCTIONS



Azienda Certificata  
UNI EN ISO 9001:2008

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 compliance with these warnings.



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

This manual, supplied together with the machine, must be considered an integral and essential part 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 perform installation, operation, adjustments and routine maintenance correctly. 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 duly 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

Dealer's stamp



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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 immediately after opening the package if the machine is damaged even if 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.

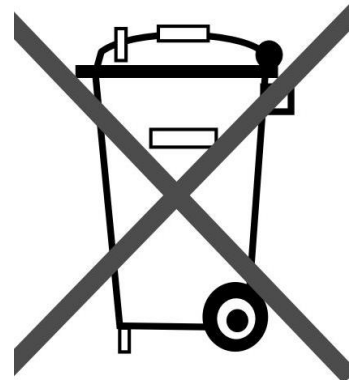
### 1.2 DIMENSIONS AND WEIGHTS OF PACKAGED MACHINES

MODEL	CRATE		BOX PALLET	
	MEASUREMENTS (CM)	WEIGHT N-G (KG)	MEASUREMENTS (CM)	WEIGHT N-G (KG)
<b>TWIN CHEF 60</b>	111X69X160	385-425	111X69X160	385-410
<b>TWIN CHEF 45</b>	111X69X160	375-415	111X69X160	375-400
<b>TWIN CHEF 35</b>	104X63X158	315-455	104X63X158	315-340

### 1.3 INDICATIONS FOR DECOMMISSIONING

The machine contains electrical and/or electronic materials and can contain fluids and/or oil. If it must 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 several pictograms. They must be known along with the manual to guarantee safe use.



### 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

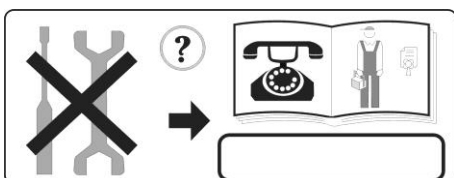
*Lifting equipment attachment points:*

This plate indicates the points where the lifting hooks must be placed in order to carry out this operation safely. Use a Phillips screwdriver 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!

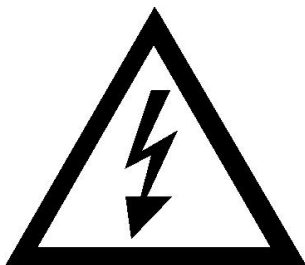
*Maintenance reserved for qualified personnel.* This plate applied on the rear panel prohibits extraordinary maintenance and/or repairs to any one but authorised personnel, whose address is indicated in the space provided.



### Attention!

*High voltage inside; electrocution hazard.*

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 also, maintenance of internal components is reserved for qualified personnel.





### 3. GENERAL SAFETY STANDARDS



Strictly comply with the general Safety and Accident-prevention Standards listed hereafter:

- Use of the machine is reserved for personnel in good health, responsible and appropriately trained regarding allowed use and risks present.
- Use of the machine is reserved for operators who have read, understood and taken in 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 dangerous 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 manufacturer's after-sales service.
- 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 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 FRIGOMAT original 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 is necessary 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 back and shirt-sleeves tight.

## 4. INSTALLATION

### 4.1 USE

Appliance suitable for the thermal processing of food mixtures for ice cream products and bakery products, for batch freezing of ice cream mixtures and slush production, 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

<b>SOUND EMISSION LEVEL EXPRESSED IN DECIBELS (measurement method A)</b> As foreseen by Machinery Directive 89/392 EN 23741 Standard (A-weighted equivalent continuous sound pressure level)			
MODEL	LEVEL (A)	MODEL	LEVEL (A)
Twin Chef 60	< = 68 dB (A)	Twin Chef 45	< = 68 dB (A)
Twin Chef 35	< = 68 dB (A)		

### 4.4 SUPPLIED WITH MACHINE

- 
- Ice cream extraction spatula
- Complete scrapers
- Centring pin for beater
- Brush
- Gasket extractor
- O-ring kit
- Rubber seal
- FRIGOMAT lubricant
- Use and maintenance manual
- Declaration of conformity
- Warranty certificate
-



#### 4.5 ACTIVATION (INTENDED FOR QUALIFIED PERSONNEL)



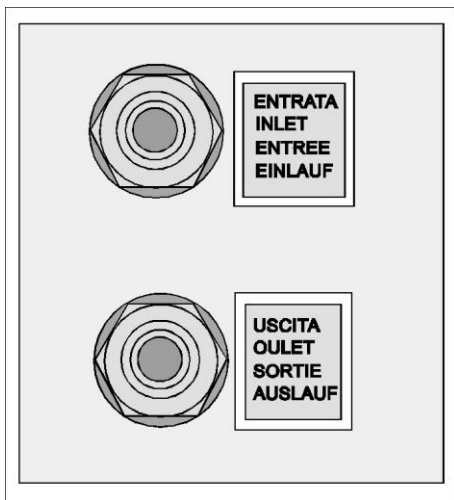
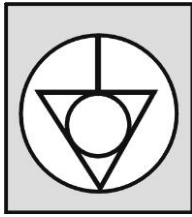
FRIGOMAT declines all and any liability for damage caused by failure to comply with the following indications. This lack of compliance causes the warranty to terminate.

Connection of the machine to the water mains must be performed in compliance with 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);**
- 3. Condensation water drain.**

- 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 between the machine and the walls or other obstacles.
- 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.
-



- 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 bar 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 AUTOMATIC button on the batch freezer control panel to check the following:

#### 1. Motor rotation direction.

The machine is equipped with a sophisticated electronic system which is able to automatically detect if the beater motor rotation direction of the batch freezer is the correct one (anti-clockwise).

If the phases are inverted in the plug, after a few seconds of operating in production mode, the machine stops and the display shows the relative alarm message. To connect the phases properly cut the power and invert the two phase wires in the plug.



## 2. Condensation pressure

With the machine in production 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.



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.

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

**Limbs shearing-prevention safety device (batch freezer):** Implemented by means of a safety circuit compliant with the European directive, it intervenes when the door is opened and/or when the safety grid on the hopper is lifted, temporarily switching the machine to STOP mode.

**Limbs shearing-prevention safety device (heater):** Implemented by means of a safety circuit compliant with the European directive, it intervenes when the lid is opened, temporarily switching the machine to STOP mode.

**Motor overheating safety device:** Implemented by means of automatic reset thermal relays; they protect the machine's beater motors from overloads, by signalling the relative alarm message on the display, emitting an intermittent acoustic signal and enabling to reset directly from the push button control panel.

**Semi-hermetic compressor motor overheating safety device:** Implemented by means of an automatic reset thermal relay; it protects the machine compressor motor operation from overloads, by signalling the relative alarm message on the display, emitting an intermittent acoustic signal and enabling to reset 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.

**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.

**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.

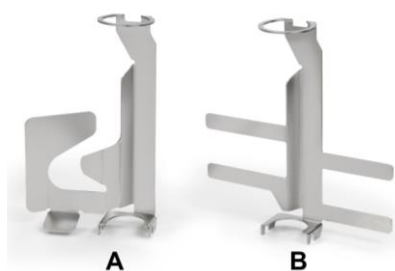
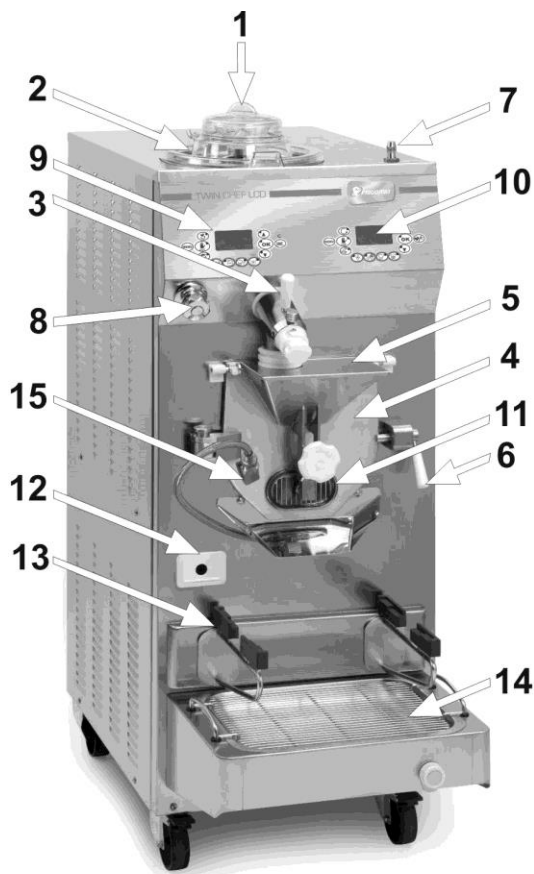
**SELV safety circuit:** the push button control panel is powered at low voltage by means of an approved dual-insulation safety transformer, protected against short circuits by fuses.

**Bain-marie 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 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



#### A. Wing-blade for cream cycles

It can be mounted onto the beater to grant the ideal mixing of the creams.

#### B. Comb-blade for chocolate tempering cycles.

It can be mounted onto the beater to grant the ideal mixing of the chocolate during the tempering cycles.

#### 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. Tap

Allows removing the product from the heater with the possibility of pouring it straight into the underlying batch freezing cylinder.

#### 4. Door

Closes the cylinder during the processing phases.

#### 5. Safety grid

Allows the operator to load the product safely. The cover keeps the mixture from coming into contact with dust.

#### 6. Door blocking handle

Seals the door with the lever lowered.

#### 7. Water shower head

Equipped with an extractable hose pipe, enables the operator to wash the machine.

#### 8. Water tap

Opens or closes the shower head water.

#### 9. Heater control panel

Allows to select the work programs for the heater.

#### 10. Batch freezer control panel

Allows to select the work programs for the batch freezer.

#### 11. Dispenser disk

Used when extracting ice cream and emptying water to clean the cylinder.

#### 12. Drip drawer

Collects leakage of liquid from the cylinder gland follower.

#### 13. Tub support shelves

Holds the tubs still while extracting ice cream.

#### 14. Balcony with collection tub

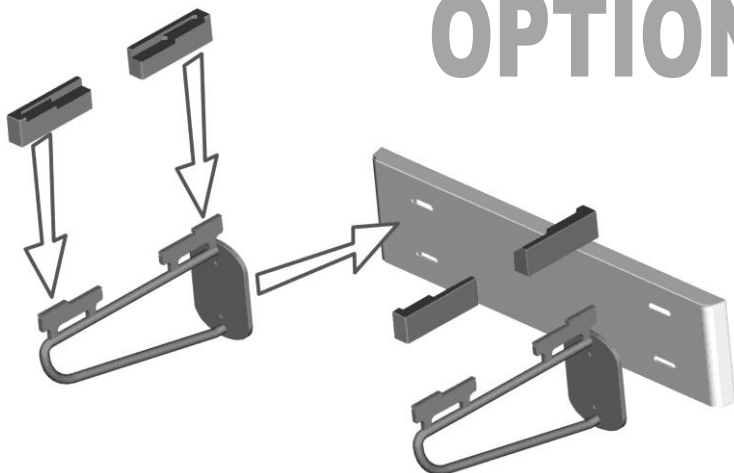
Supports the pits and the buckets for washing; thanks to the drain plug allows rapid cleaning.

#### 15. Temperature probe

For the control of the product temperature inside the freezing cylinder.

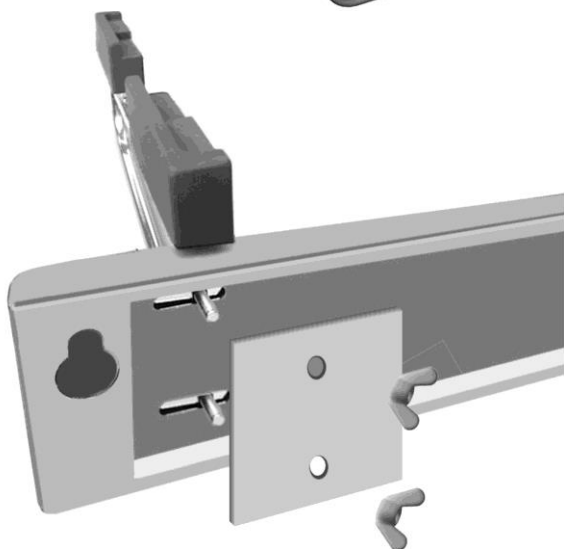
## ASSEMBLY AND ADJUSTMENT OF THE TUB SUPPORT (OPTIONAL)

# OPTIONAL



Assemble the two steel shelves on the support as described in figure. Pay attention to the up-down direction referring to the fixing slots on the back of the support.

Position the rubber buffers on the seats as shown in figure.



Position the two sheet steel shims and tighten the 4 wing nuts without fastening them.



Position the tub in the corresponding seat obtained through the rubber buffers. Adjust the position of the steel shelves making them slide on the support.

When the tub is sufficiently held by the supports, remove the machine support and fasten the ring nuts on the back.

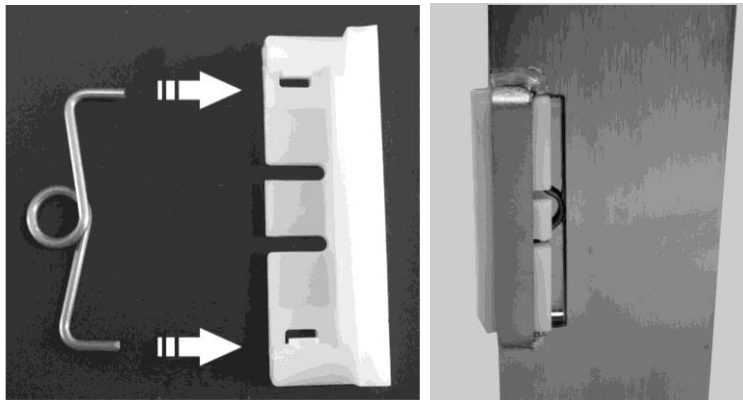


## HEATER BEATER ASSEMBLY



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.

## BATCH FREEZER BEATER ASSEMBLY

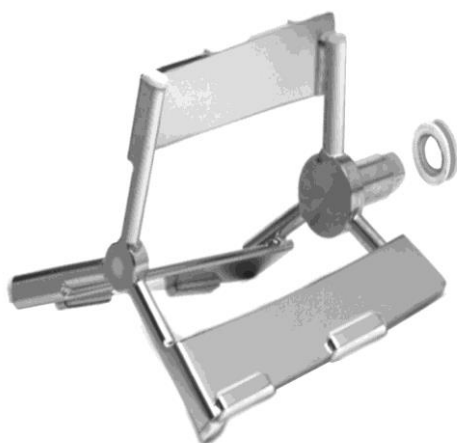


Insert the metallic springs in the seats of the scrapers.

Insert the scrapers in the containing pockets being careful to verify the assembly is carried out as in figure.

Manually verify that the scraper is correctly inserted inside the beater and free to slide in the seat. Verified at the spring pushes the scraper with force towards the outside.

Insert the seal gasket placed on the drive shaft of the beater push it up to the stop.



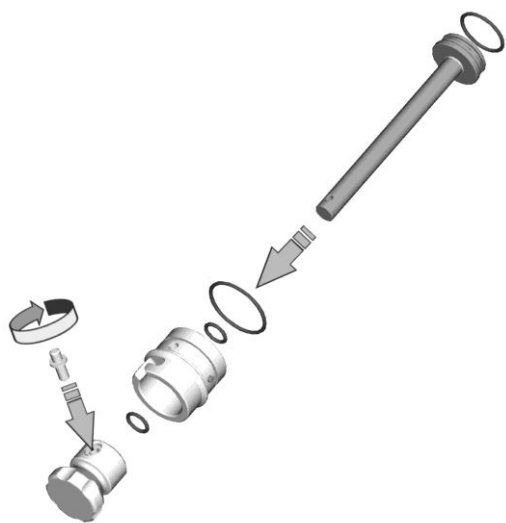


Fig.1

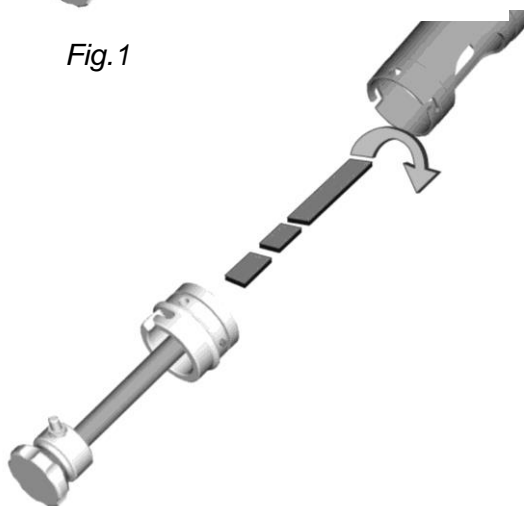


Fig.2

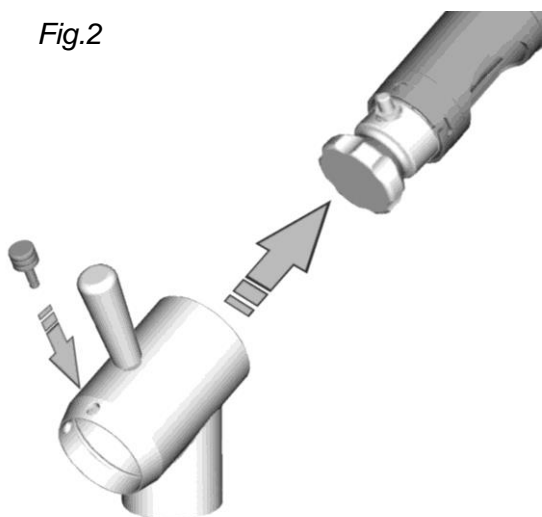
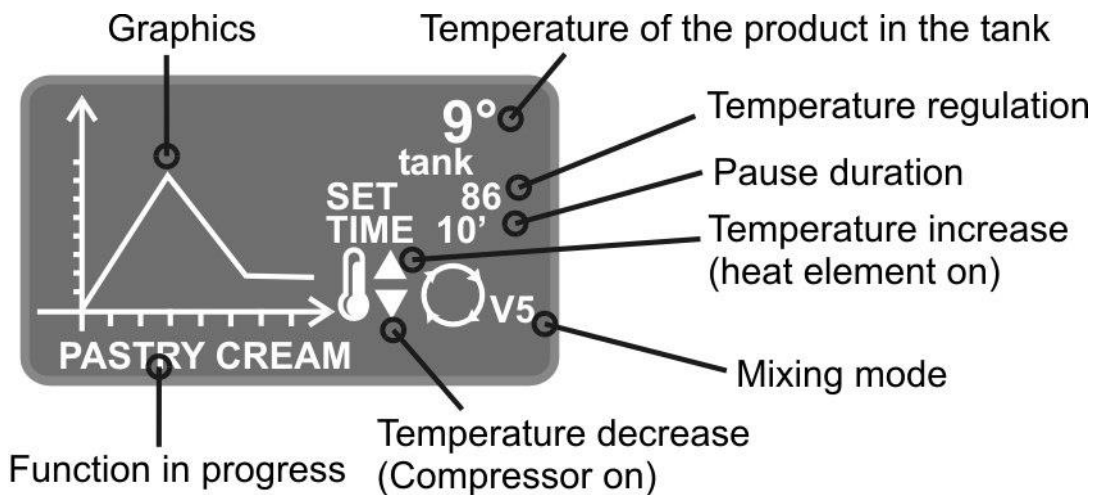
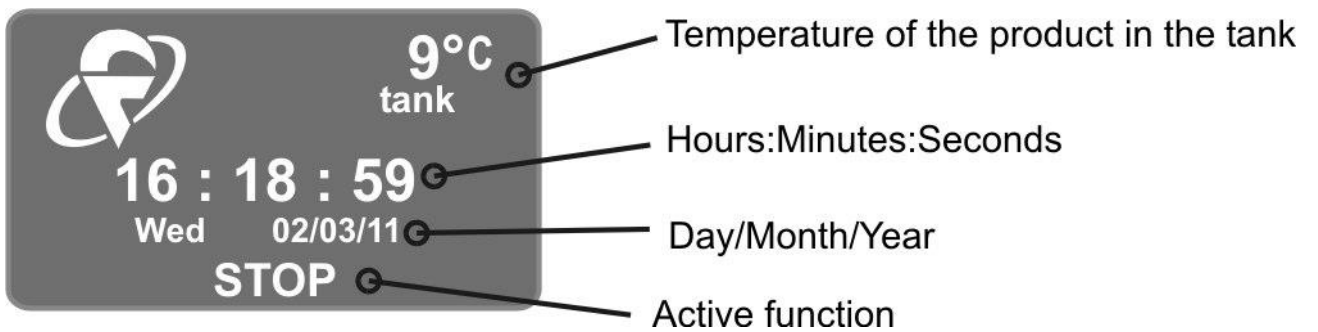
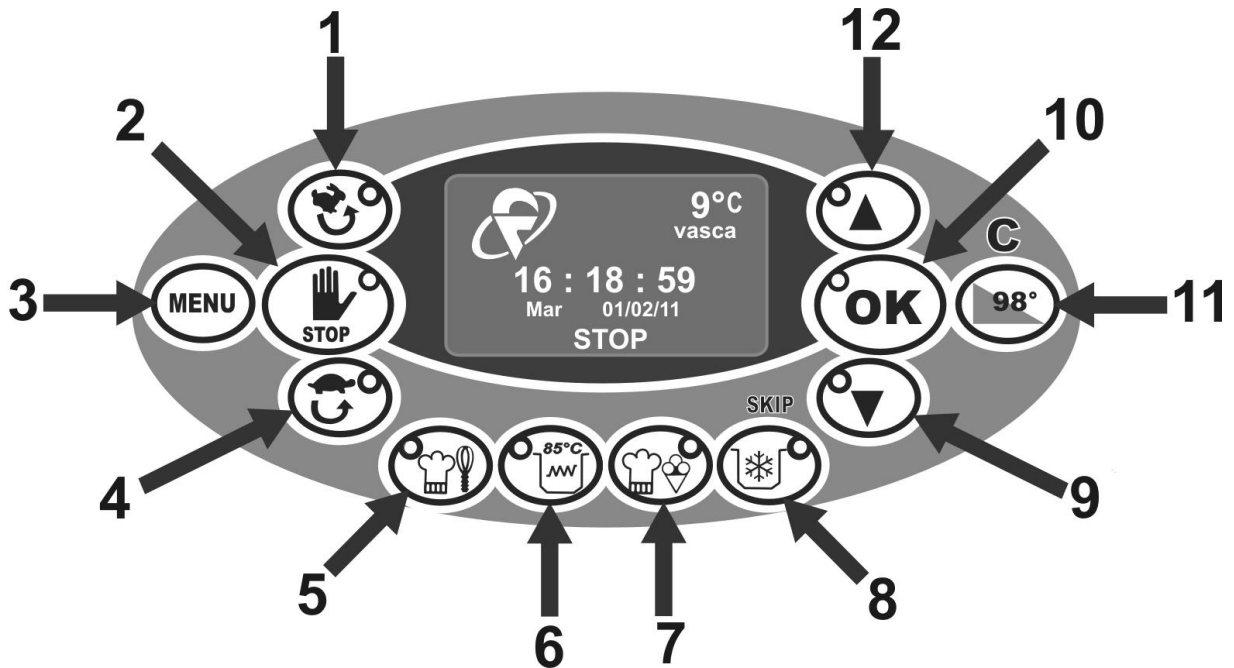


Fig.3

## TAP ASSEMBLY

- 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 HEATER CONTROL PANEL





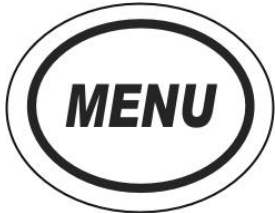
### 1. HIGH SPEED MIXING (V9)

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. "85° HEATING" QUICK KEY

Whatever the function in progress, by pressing the AUTOMATIC 85° key, the key LED switches on and starts the automatic heating cycle at 85°C with successive maintenance.



#### 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.



#### 8. "PRESERVATION" / SKIP QUICK KEY

This button has 2 functions:

1. With the machine at STOP, pressing the "PRESERVATION" rapid key accesses the screen of the menu where it is possible to choose the most suitable preservation cycle for the product being processed.
2. During the execution of a cycle, by holding the PRESERVATION 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

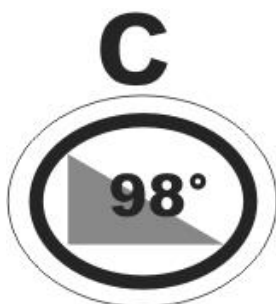
This button has 2 functions:

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. SLOW FLAME / CANCEL

This button has 3 functions:

1. During any operative phase of the appliance, pressing the "SLOW FLAME" 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 "SLOW FLAME" 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.

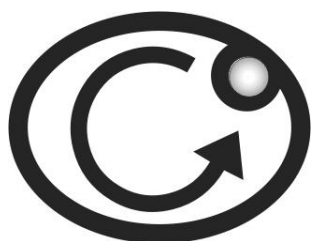
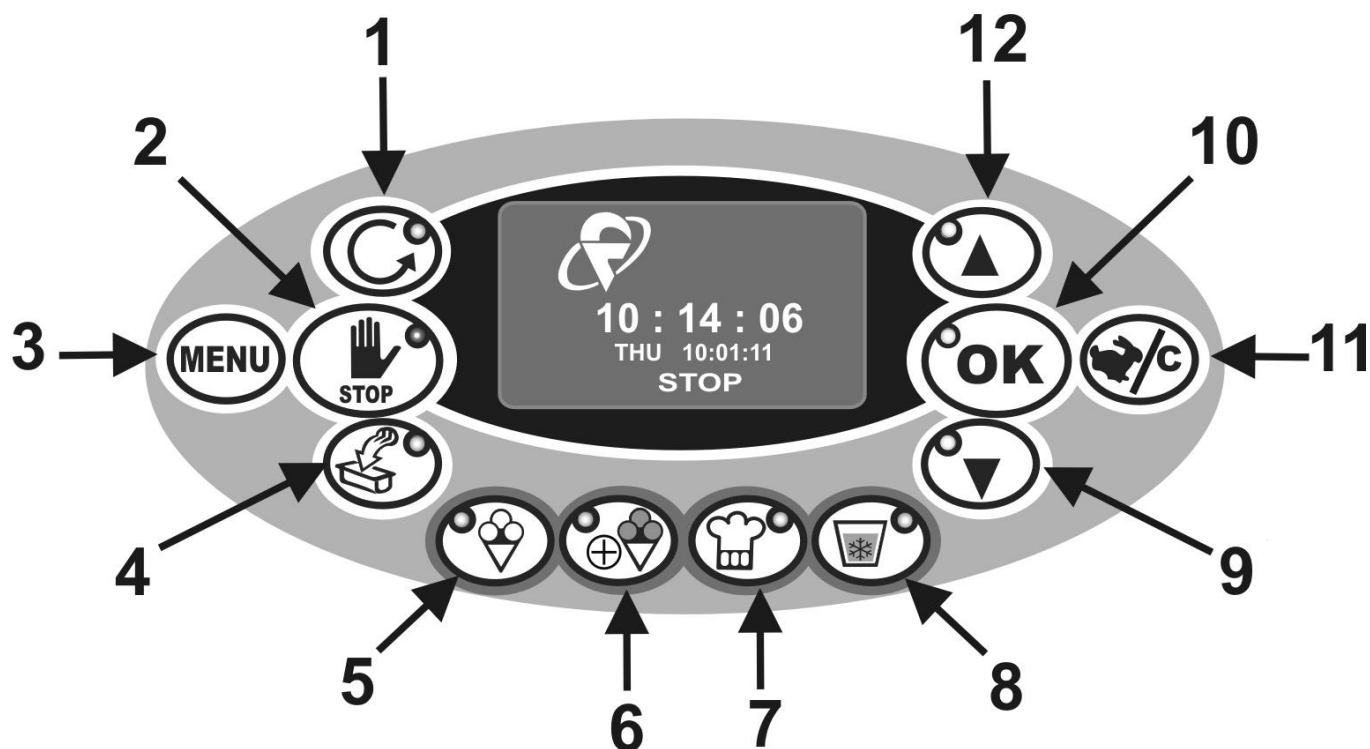


### 12. UP

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 BATCH FREEZER CONTROL PANEL



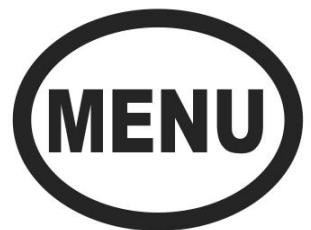
#### 1. MIXING

With the machine at STOP, pressing the AGITAZIONE (MIXING) key only starts the beater motor at low speed. During any other operative phase, pressing the AGITAZIONE (MIXING) key keeps the beater motor running at low speed and stops the compressor. Press the STOP key to stop mixing.



#### 2. STOP

In whatever operating phase the machine is in, pressing the STOP key stops the machine and cancels the function in progress. Do not stop the machine when the ice cream is close to its maximum consistence, neither during the automatic or semi-automatic cycles. This precaution lengthens the life of the transmission belts and of the beater motor.



#### 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 24 pre-set flavours, to change them or to create new ones.

#### 4. EXTRACTION



With the machine at STOP, pressing the ESTRAZIONE (EXTRACTION) key starts the beater motor at low speed. After a delay of a few seconds, it automatically switches into high speed.

During any other operating phase of the machine, pressing the ESTRAZIONE (EXTRACTION) key switches the beater motor from low speed to high speed after a delay of a few seconds and disables the compressor.

While the machine is extracting the product, pressing the EXTRACTION key again enables the compressor for 15" ("cold extraction" function).



#### 5. AUTOMATIC CYCLE

With the machine in STOP mode, by pressing the AUTOMATICO (AUTOMATIC) key the automatic cycle starts that enables to reach the best possible compromise between freezing time and ice cream consistency, regardless of the type of mixture used, provided that they are within the minimum and maximum capacity of the appliance.



#### 6. AUTOMATIC HARD CYCLE

With the machine in STOP, by pressing the AUTOMATICO HARD (AUTOMATIC HARD) key it is possible to access the automatic Hard cycle, that enables to reach the optimal level of ice cream batch freezing, regardless of the type of mixture used, provided that they are within the minimum and maximum capacity of the appliance.



#### 7. SEMI-AUTOMATIC CYCLE

With the machine in STOP, by pressing the SEMIAUTOMATICO (SEMI-AUTOMATIC) key, it is possible to choose to batch freeze with the ampere consistency control or with the processing time control.

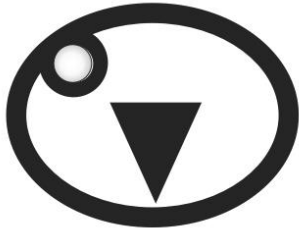
During the programming of the semi-automatic cycle it is possible to batch freeze at high speed (Turbo function).



#### 8. SLUSH CYCLE

With the machine in STOP, by pressing the GRANITA (SLUSH) key, it is possible to produce slush with the ampere consistency control and continuous stirring (normal slush), or with the processing time control and cyclical stirring (coffee slush).





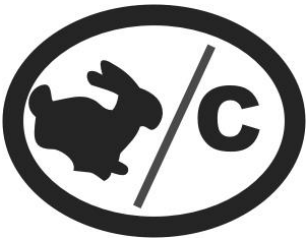
### 9. DOWN

With the machine in 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

With machine in programming, pressing the OK key confirms the selection of the menu entry or the value of the selected parameter.



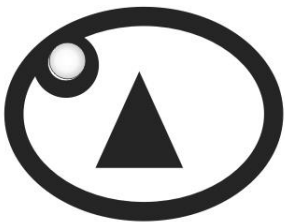
### 11. TURBO/CANCEL

This button has 2 functions:

4. By pressing the TURBO key during the batch freezing phase (both in automatic cycles and in semi-automatic cycles), the machine changes for 15 min to high speed. Upon each successive pressing of the TURBO key, this time increases in steps of 15 min, up to a maximum of 1 hour 30 min.

During the Turbo function the compressor always remains functioning, as long as the product does not reach the maximum admitted consistency value.

5. During programming, pressing the CANCEL key cancels the selection of the entry of the menu or the value of the parameter.



### 12. UP

With the machine in programming, by pressing the UP button, it is possible to scroll the menu entries or to increase the value of the selected parameter.

## 6.4 THERMAL PROCESSING OF MIXTURES

After having installed the machine in compliance with the instructions of chapter 3 and having accurately washed and sanitised it, according to the instructions contained in chapter 7, proceed as follows to start thermal processing:



- 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 (LITRES)	MAX (LITRES)
TWIN CHEF 60	3	10
TWIN CHEF 45	2,5	8
TWIN CHEF 35	2	6



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

- Lower the lid and select the wanted work cycle, referring to the instructions in the successive paragraphs.



## 6.4.1 “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 (V8) 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.

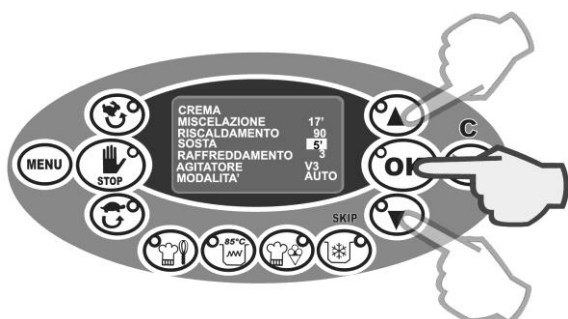


- **HEATING (from 1° to 115°C)**

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.

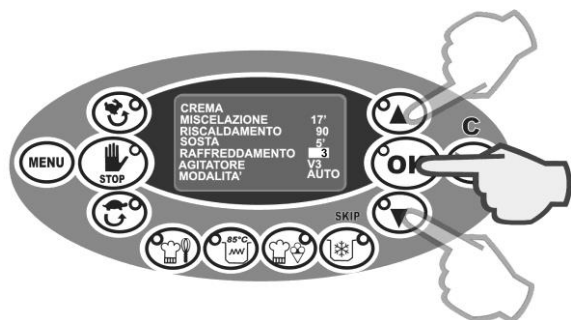


- **STAND-BY (from 0' to 10 h)**

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)**

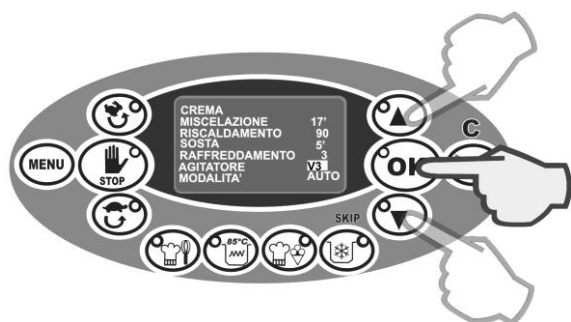
After having programmed the stand-by time, it is possible to set the cooling temperature of the product in the tank.

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 V1 to V10)**

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.

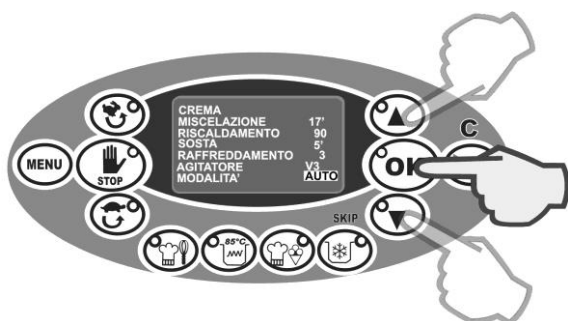
Press “OK” to confirm the data and pass to programming the next item.



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°C:

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

In both cases, in the cooling phase, on exceeding 30°C the speed automatically switches to V1.



#### - **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.

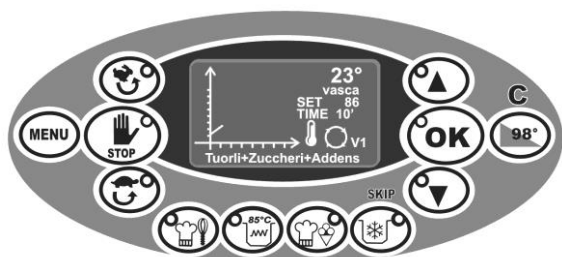
Choosing STD excludes software management of temperature drift control.



- 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 preservation phase starts automatically at the temperature set by the user with cyclical mixing and chronometer active.



## 6.4.2 AUTOMATIC CYCLE 85°C

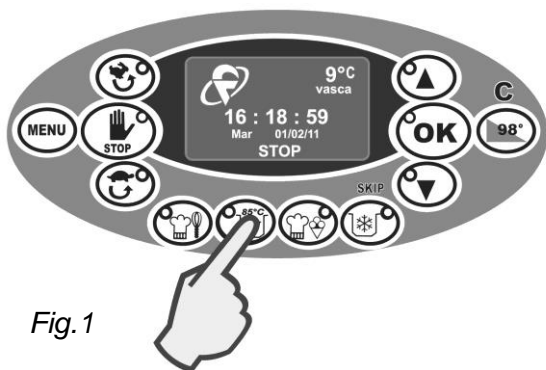


Fig.1

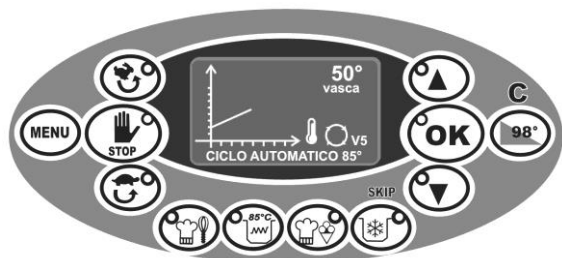


Fig.2

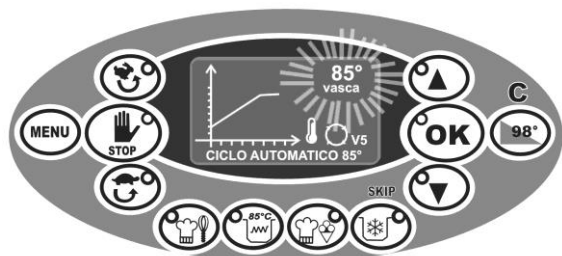


Fig.3

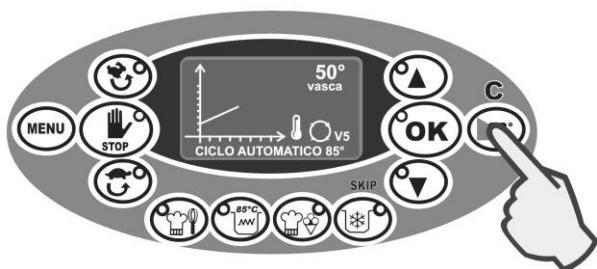


Fig.4

- Press the AUTOMATICO 85° [85° AUTOMATIC] key to start the automatic heating cycle at 85°C. The key LED such as on and the instantaneous temperature of the product in tank during the entire processing cycle is shown on display (fig.1-2).
- When a few minutes have elapsed and the temperature of 85°C is reached, the display flashes and the buzzer sounds intermittently, to inform the operator that the boiling mixture can be removed. If this is not possible right away, the beater will keep on mixing and the electrical heat element will hold the mixture at the correct temperature, thus starting the PRESERVATION phase without limits of time.
- During the preservation phase, the temperature of the product in tank flashes on the display.
- It is possible to go to the product extraction phase at any time (fig.3).



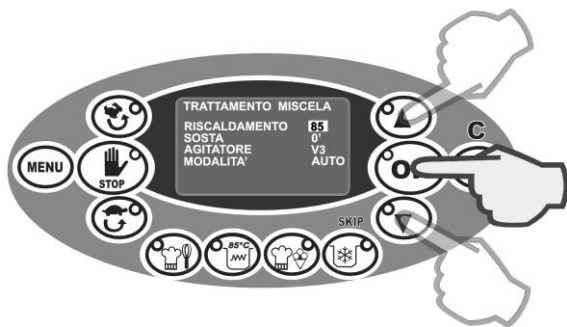
If the mixture contains ingredients which could alter own organoleptic features with tank temperatures too high (120°C), select the SLOW FLAME function to reduce the fluid temperature of the bain-marie system to 98°C (fig.4).

In this case, heating times could lengthen: this is normal and does not constitute an anomaly.

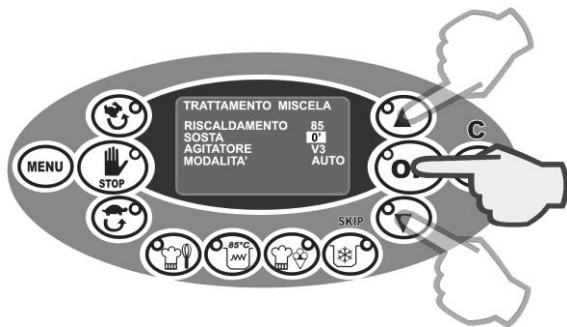
### 6.4.3 “MIX TREATMENT” RAPID SEMI-AUTOMATIC CYCLE



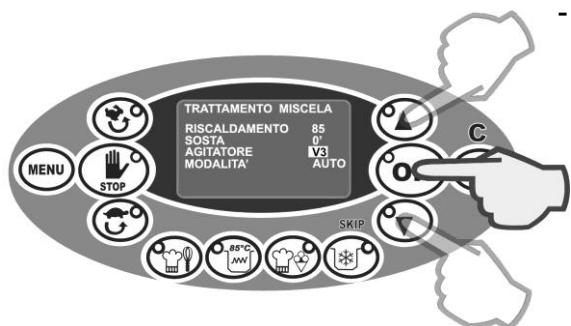
Press the “MIX TREATMENT” key to enter the screen of the following parameters relative to the work cycle:



- **HEATING (from 1° to 115°C)**  
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.



- **STAND-BY (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 V1 to V10)**

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°C, the machine uses the speed programmed by the user only for heating temperatures exceeding 40°C, during the entire stand-by and in the next cooling phase to 4°C.

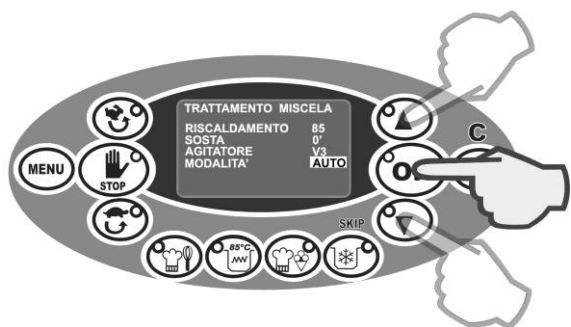
- However, if the heating temperature has been programmed at a value lower than 40°C, the machine uses the speed programmed by the user during the entire heating phase, in the stand-by and in the next cooling phase to 4°C.

- **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.



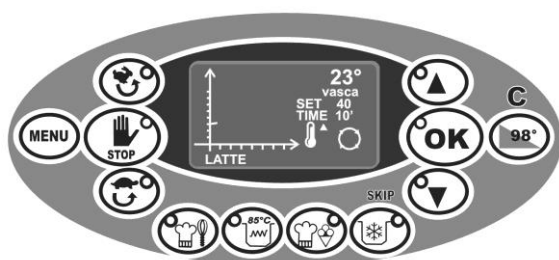
Choosing the AUTO mode activates all the automatic software controls for temperature management and temperature drift control.

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.

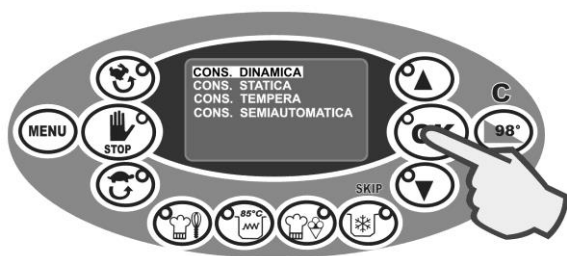


- During execution of the cycle, various messages on the display and relative acoustic warnings inform the operator when to add the ingredients. When the cycle has ended, the preservation phase starts automatically at the temperature of 4°C with cyclical mixing V3 and chronometer active.

## 6.4.4 “PRESERVATION” RAPID SEMI-AUTOMATIC CYCLE



Press the “PRESERVATION” key to access the list of preservation programs stored in the memory :



### 6.4.4.1 DYNAMIC PRESERVATION (V3)

Press the "PRESERVATION" key.

The first entry selected automatically concerns cooling and preservation at 4°C.

Press “OK” to start the cycle.

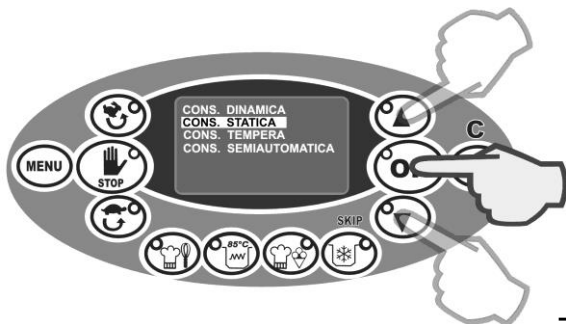


During reaching the temperature of 4°C the mixing speed is V3. During the next preservation phase, the mixing speed is V3 cyclical.

### 6.4.4.2 STATIC PRESERVATION (V0)

Press the "PRESERVATION" key.

Press the “UP” and “DOWN” keys until “STATIC PRESERVATION” is selected; press “OK” to confirm and access the parameters screen relative to the cycle:

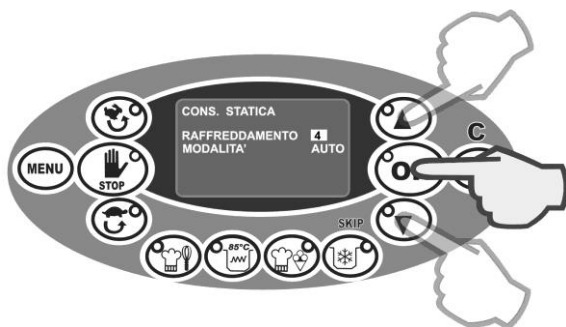


#### - COOLING (from 1° to 4°C)

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

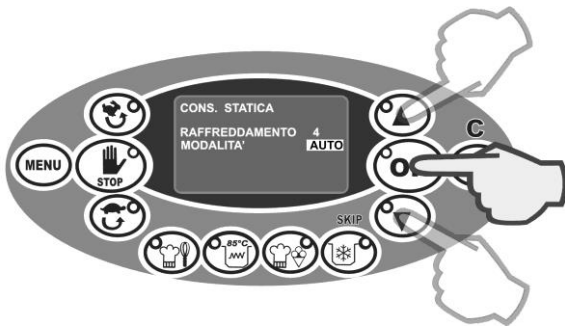
Press “UP” and “DOWN” keys to increase or decrease the cooling temperature value.

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.



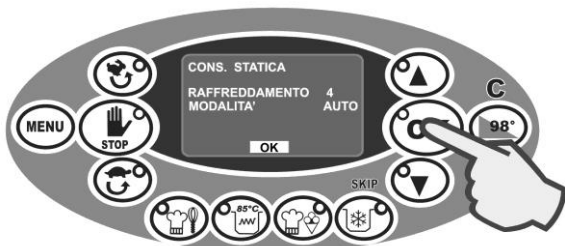
Press "UP" and "DOWN" to select one mode or the other.

Press "OK" to confirm the data.



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

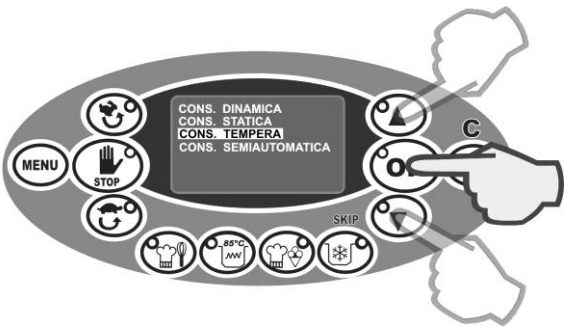
Choosing STD excludes software management of temperature drift control.



- Press "OK" to start the cycle.



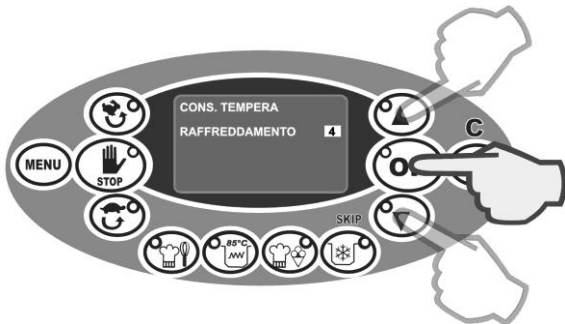
When the cycle has ended, the preservation phase starts automatically at the temperature set by the user with static V0 mixing and chronometer active.



#### 6.4.4.3 TEMPERING CONSERVATION

Press the "PRESERVATION" key

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



- **COOLING (from 25° to 38°C)**

The first entry selected automatically concerns the cooling temperature of the chocolate in the tank with V2 mixing.

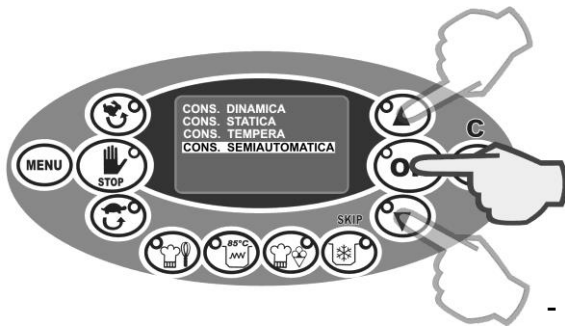
Press "UP" and "DOWN" keys to increase or decrease the cooling temperature value.

Press "OK" to confirm the data.



- Press "OK" to start the cycle.

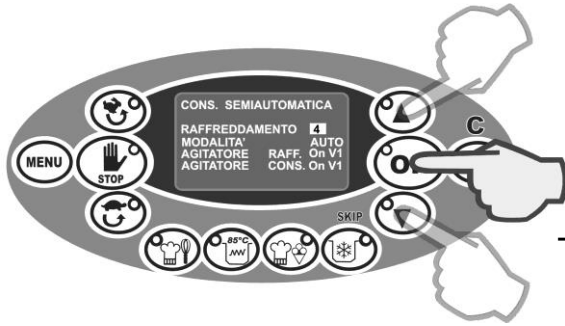
When the cycle has ended, the preservation phase starts automatically at the temperature set by the user with continuous V1 mixing and chronometer active.



#### 6.4.4.4 SEMI-AUTOMATIC PRESERVATION

Press the "PRESERVATION" key

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

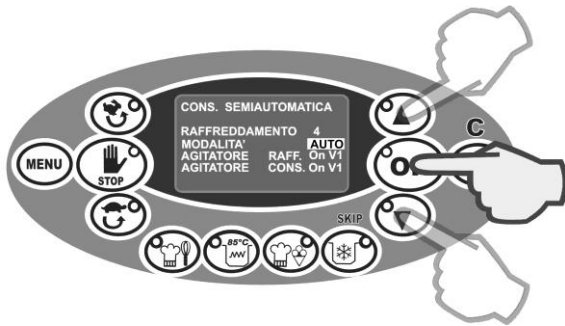


- **COOLING (from 1° to 115°C)**

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).

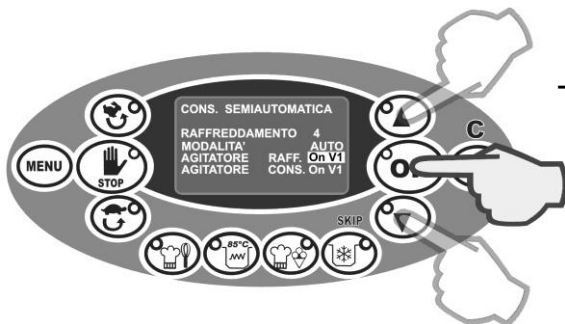
Press "UP" and "DOWN" to select the desired mode.

Press "OK" to confirm the data.



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

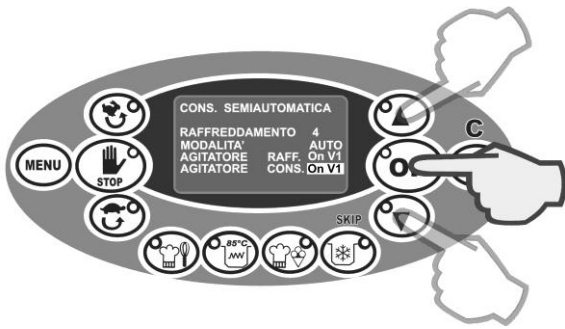
Choosing COOLING or HEATING modes excludes software management of temperature drift control.



- **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.



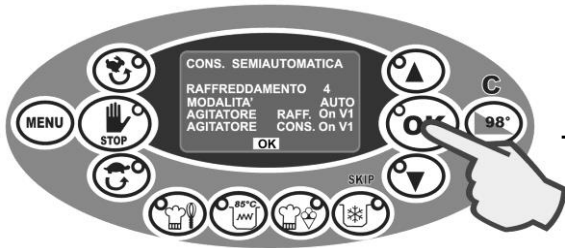
Press "OK" to confirm the data and pass to programming the next item.

- **PRESERVATION 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 preservation 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.

## 6.5 MENU

### 6.5.1 PREHEATING



The Frigomat combined machines in the TWIN CHEF series are 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 “**PRERISCALDAMENTO**” [PREHEATING] is selected automatically. Press “**OK**” to confirm (fig.2).



Fig. 3

Press **STOP** to end the pre-heating function (fig.3).

## 6.5.2 PERFORMING A RECIPE IN THE MEMORY

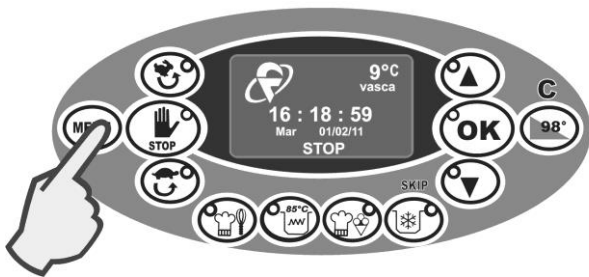


Fig.1



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 **"Ricette"** [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 “CREMA ZABAIONE” [ZABAIONE] 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).

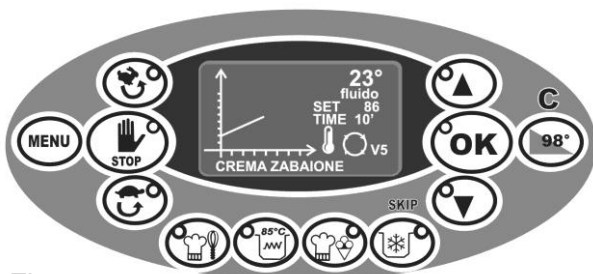


Fig.9

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).

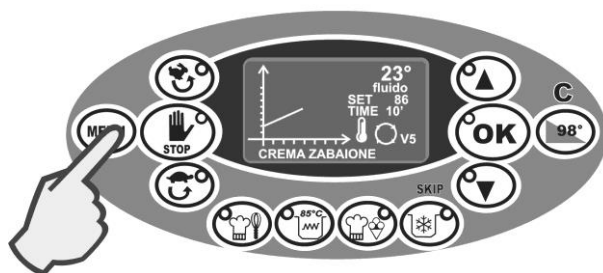


Fig.10

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



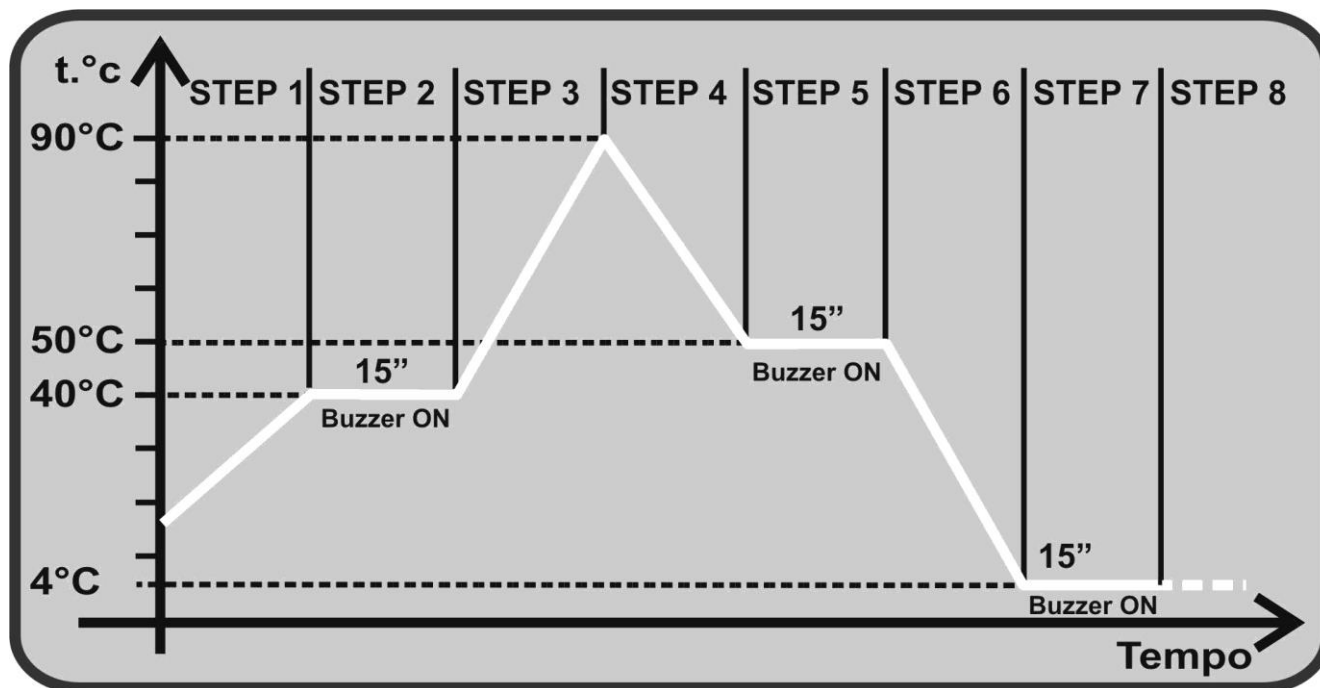
### 6.5.3 RECIPE MANAGEMENT (only for experts)

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°C – max. 120°C).
- Product temperature in tank (min. 0°C – max. 115°C).
- 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

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

### 6.5.3.1 "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 **"MODIFICA RICETTA"** [CHANGE RECIPE] (fig. 2-3).

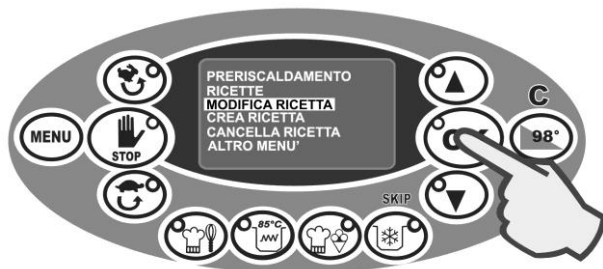


Fig.3

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

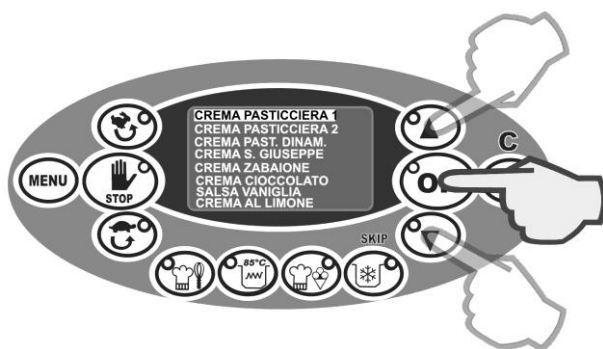


Fig.4

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 **CREMA PASTICCERA 1** [CUSTARD 1] as in the figure, press **"OK"** to modify the Step 1 of the recipe selected (Fig. 4-5).

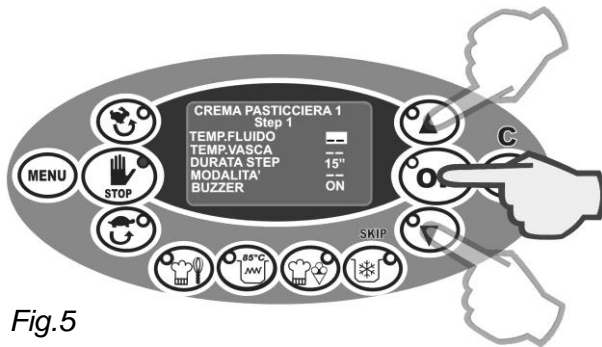


Fig.5

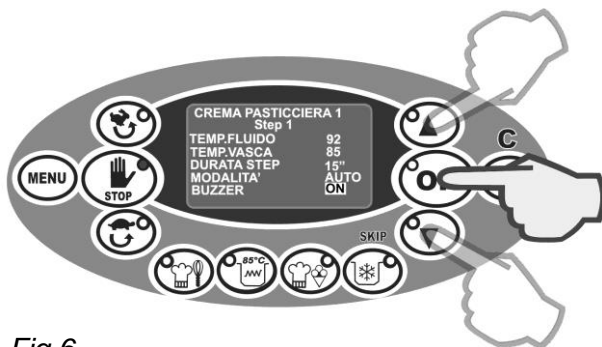


Fig.6



Fig.7

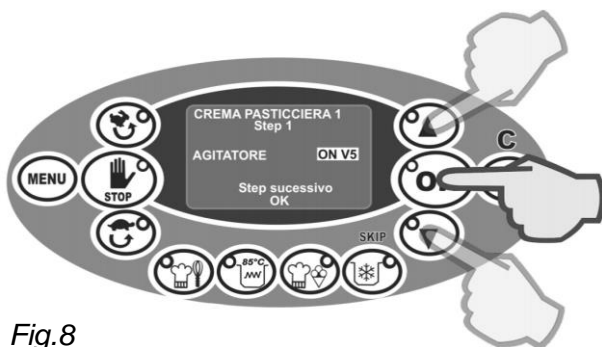


Fig.8

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).

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).

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

Press the “UP” and “DOWN” keys to increase the stirring speed. (fig.8). Press “OK” to confirm the choice.

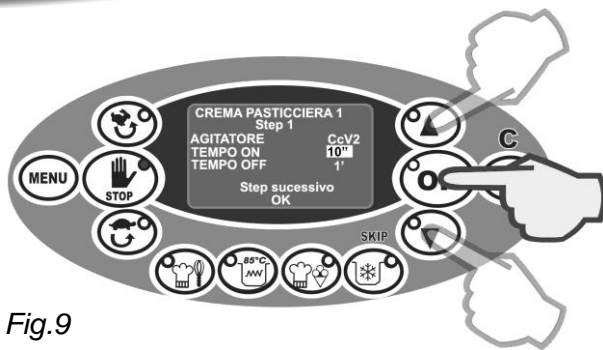


Fig.9

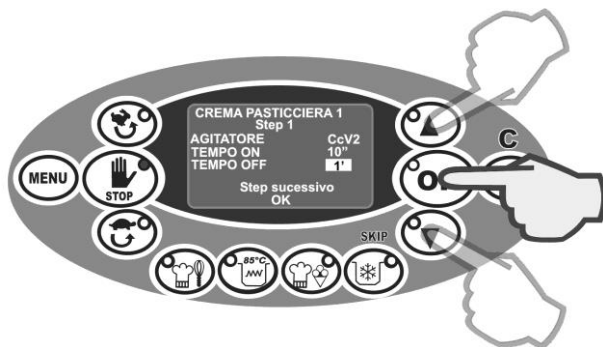


Fig. 10

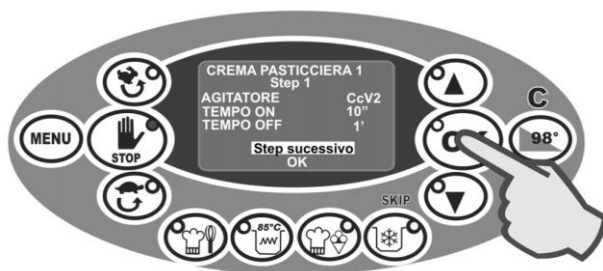


Fig. 11

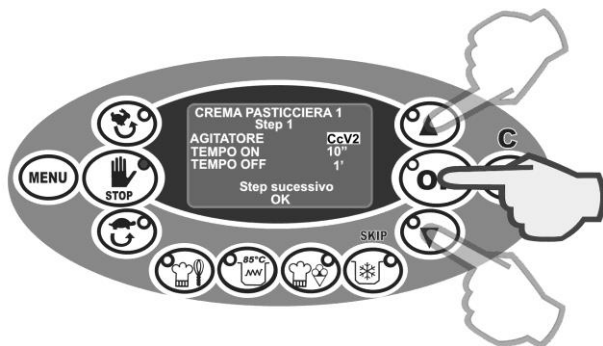


Fig. 12

In the cyclical mixing mode CV or Cc 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.9).

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.10).

When all the entries making up the first and second screen of the display have been programmed, the entry “Step successivo” [following step] automatically appears selected at the bottom of the screen.

Press “OK” to confirm the choice (fig.11).

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.12).



Fig.13

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.13).



Fig.14

Whichever step you are in, when programming has ended, one accesses the “**SALVA**” [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 “*Ricette*” [Recipes] menu (Fig.14).

### 6.5.3.2 "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 "**CREA RICETTA**" [CREATE RECIPE] (fig. 2-3).



Fig.3

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

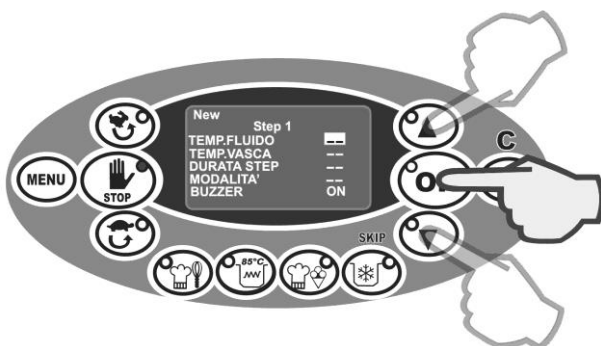


Fig.4

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).

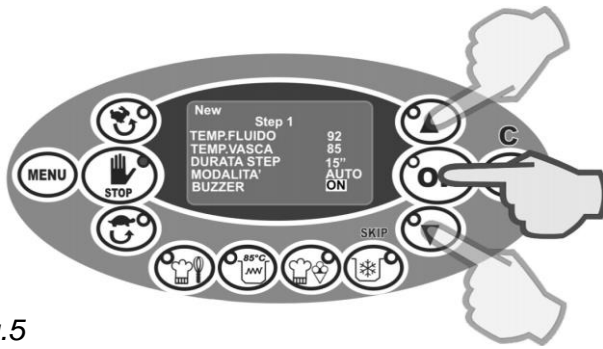


Fig.5

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).

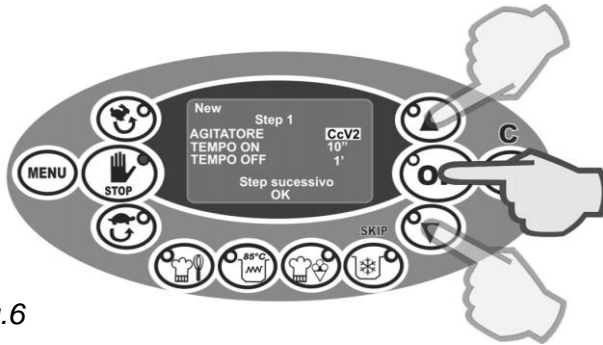


Fig.6

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

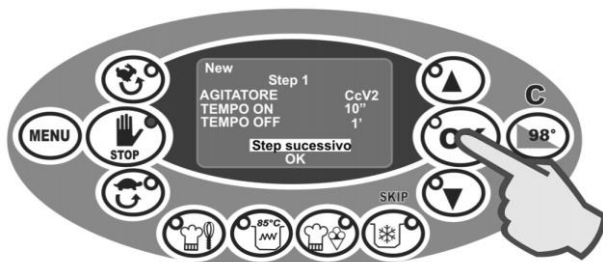


Fig.7

When all the entries making up the first and second screen of the display have been programmed, the entry "Step successivo" [following step] automatically appears selected at the bottom of the screen.

Press "OK" to confirm the choice (fig.7).

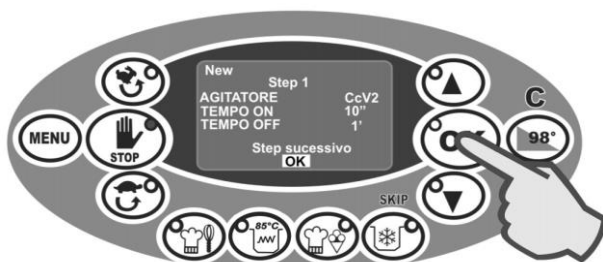


Fig.8

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.9

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)



### 6.5.3.3 "CANCEL RECIPES" MENU (only for experts)

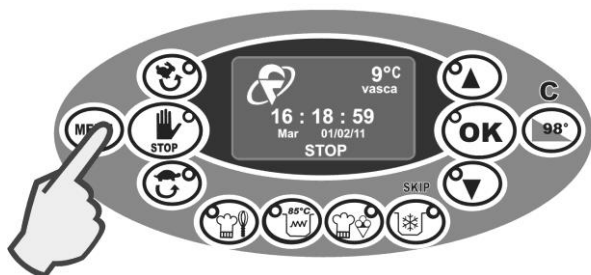


Fig. 1

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



Fig.2

Press “**DOWN**” several times until selecting the entry “**CANCELLA RICETTA**” [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.**

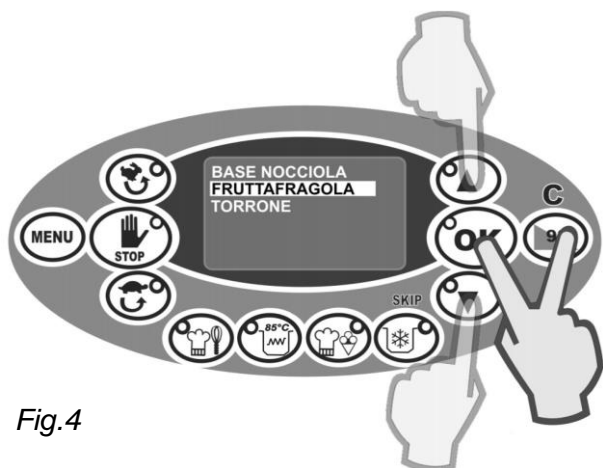


Fig.4

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).

## 6.5.4 SAVING CHANGES AND/OR NEW RECIPES



Fig.1

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 “*Salva con nome*” [Save as] and press “**OK**” (Fig.1).

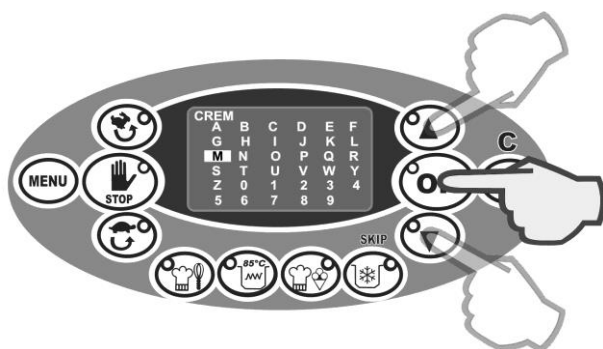


Fig.2

The recipe must be given 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.**

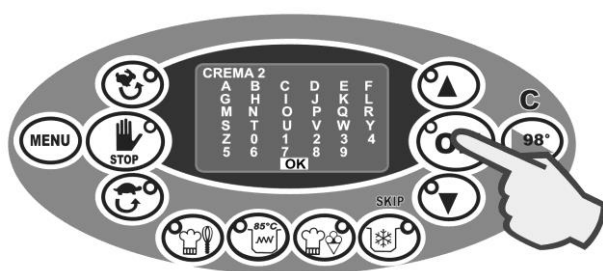


Fig.3

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 “*Ricette*” [Recipes] (see chapter 6.4.2). Should the memory be full, the message “memory full” will appear.

## 6.5.5 SETTING "CLOCK"

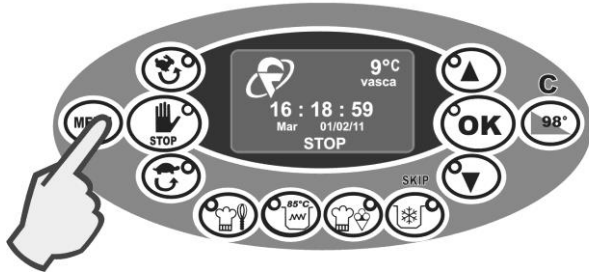


Fig. 1

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



Fig.2

Press **"DOWN"** several times until selecting the entry **"ALTRO MENU"** [OTHER MENU] (fig. 2-3).

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



Fig.3

The first entry of the menu, selected automatically, is **"MODIFICA OROLOGIO"** [CHANGE CLOCK].

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



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).

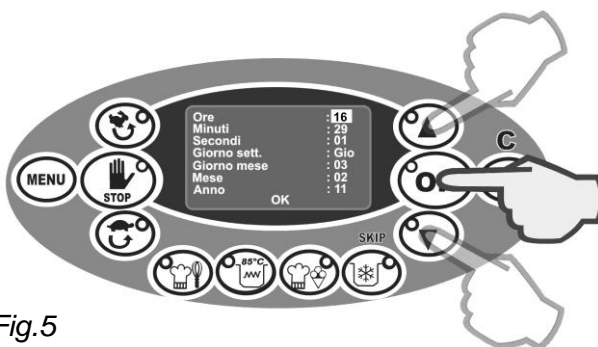


Fig.5

## 6.5.6 CONSULTING “EVENT ARCHIVE”

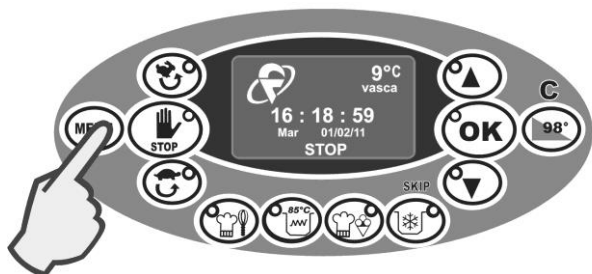


Fig.1



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 “**ALTRO MENU**” [OTHER MENU] (fig. 2-3).

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

Press “**DOWN**” until selecting the entry “**ARCHIVIO EVENTI**” [EVENT ARCHIVE].

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).

## 6.5.7 CONSULTING "CYCLE ARCHIVE"



Fig.1

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



Fig.2

Press "DOWN" several times until selecting the entry "ALTRO MENU" [OTHER MENU] (fig. 2-3).

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



Fig.3

Press "DOWN" several times until selecting the entry "ARCHIVIO CICLI" [CYCLE ARCHIVE].

Press "OK" to confirm (fig.4).



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).

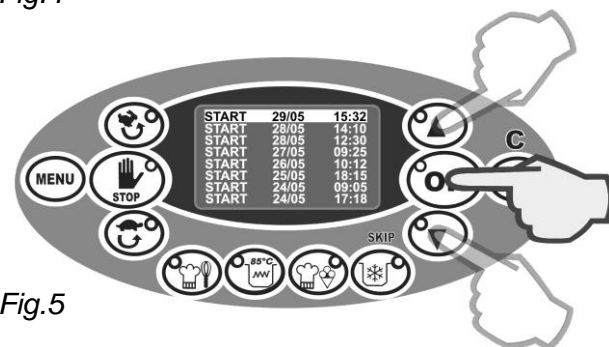


Fig.5

The graphic of the cycle performed appears on the display.

## 6.6 EXTRACTION OF BOILING MIXTURES

### 6.6.1 TRANSFER INTO BATCH FREEZING CYLINDER

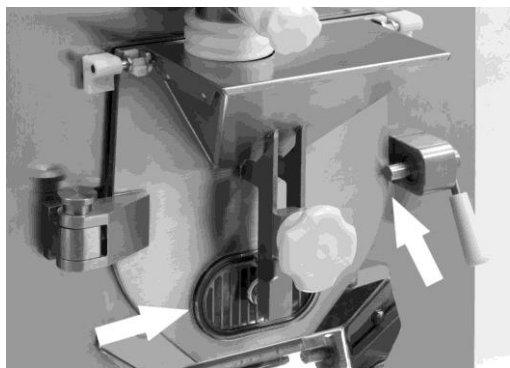


Fig.1



Fig.2



Fig.3

To transfer the mixture from the upper heater vessel directly into the underlying batch freezing cylinder, refer to the following procedure:

- Make sure that the amount of product you wish to pour from into the batch freezing cylinder respects the prescribed maximum and minimum values for each model (see chap. 6.5).
- Make sure that the gate valve of cold water for machine condensation is open.
- Make sure the beater and rubber seal of the batch freezer are in seat and assembled correctly.
- Check that the batch freezer door dispenser disk is assembled properly and in closed position (fig. 1).
- Make sure the heater tap is in the upright position to allow the product to flow directly into the hopper of the underlying batch freezer door (fig.2).  
If not, extract the blocking pin from its seat, turn the tap body to the upright position and reposition the pin.



In case of transferring the boiling mixture of the batch freezer with the door open, the lifted dispenser disk or tap turned in diagonal position, the user may be seriously scalded.

- Make sure that the hopper cover is in place (fig.3).



The hopper lid prevents the operator being scalded by boiling mixture splashes. Never remove the hopper lid during transfer operations.



Fig.4

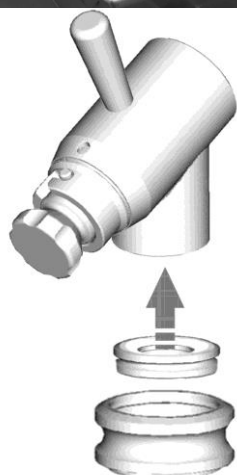


Fig.5



Fig.6

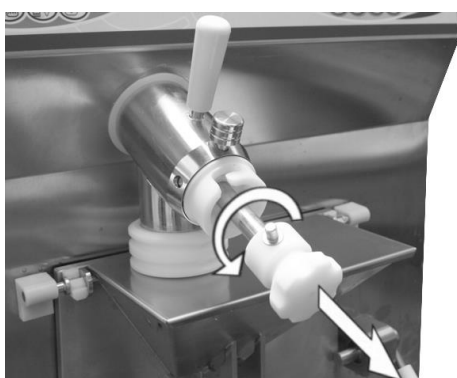


Fig.7



Fig.8

- Check that the plastic sleeve is correctly lowered and perfectly in contact with the metal hopper lid (fig.4).
- If the product to be poured is fluid (e.g.: ice cream mixture), ensure to have mounted the flow reducer ring inside the tap (fig.5).



In the presence of liquid mixtures, always use the flow reducer ring to avoid that, during transfer operation, the product completely floods the hopper by coming out of the upper lid. Leakage from the hopper could scald the operator!

- Regardless of the function in progress, press the STIRRING key on the control panel of the heater (fig.6).



To quickly and completely remove the product from inside the vessel, it is always necessary that the beater be functioning.

- To begin the transfer, turn the knob of the piston to the released position and pull it slowly towards you (fig.7).



Pull piston slowly to avoid filling the hopper of the batch freezer door to the maximum, thus avoiding risking the product leaking from the hopper itself. Leakage from the hopper could scald the operator!

- Select the wanted work program from the batch freezer push button control panel.
- When all the product has been transferred and the heater vessel is empty, push the tap piston to the closed position and turn it to block it.
- Press "STOP" on the heater control panel.

## 6.6.2 TRANSFER INTO SEPARATE CONTAINER



Fig.1



Fig.2



Fig.3



If you wish to transfer the product from the heater vessel to an external container, do as follows:

- Ensure the amount of product to be transferred is compatible with the useful capacity of the container of destination.
- Make sure the heater tap is in the diagonal position to allow the product to flow directly into the container you wish to use (fig.1).  
If not, extract the blocking pin from its seat, turn the tap body to the diagonal position and reposition the pin (fig.1-2).
- Regardless of the function in progress, press the STIRRING key on the control panel of the heater (fig.3).

To quickly and completely remove the product from inside the vessel, it is always necessary that the beater be functioning.

- To begin the transfer, turn the knob of the piston to the released position and pull it slowly towards you (fig.4).



Fig.4

Pay the utmost attention during transfer of boiling mixtures; handle the tap piston with extreme care, use suitable containers and take all possible precautions to reduce the risk of injuries, even serious, due to contact with boiling product.

- When all the product has been transferred in the container and the heater vessel is empty, push the piston to the closed position and turn it to block it.
- Press "STOP" on the heater control panel (fig.5).



Fig.5



## 6.7 ICE CREAM AND SLUSH PRODUCTION

After having installed the machine in compliance with the instructions of chapter 3 and having accurately washed and sanitised it, according to the instructions contained in chapter 7, proceed as follows to start ice cream making:

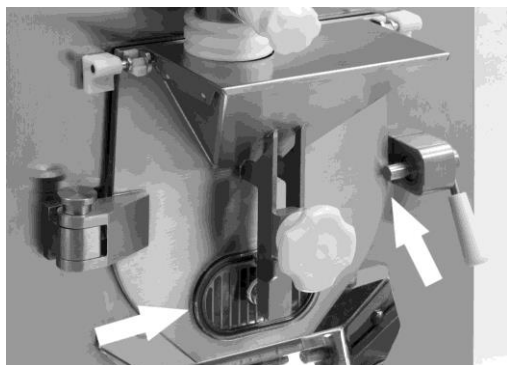


Fig.1

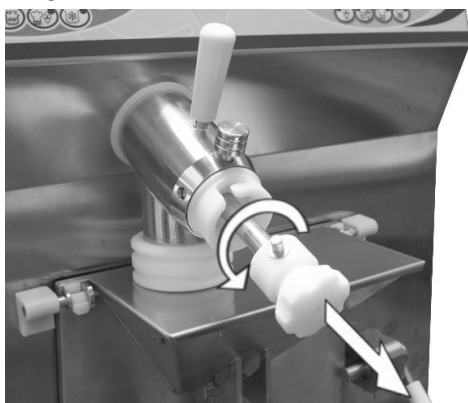


Fig.2



Fig.3



Fig.4

- Make sure that the gate valve of cold water for condensation is open.
- Make sure the master switch is closed and that the machine is powered correctly.
- Check that the door dispenser disk is assembled properly and in closed position (fig. 1).
- Transfer the mixture from the upper heater (fig.2) (see par. 6.4.1) or pour it directly into the loading hopper (fig.3), scrupulously respecting the minimum and maximum amounts admitted per cycle and reported in the following table:

MODEL	MIN (LITRES)	MAX (LITRES)
TWIN LCD 60	3	10
TWIN LCD 45	2,5	8
TWIN LCD 35	2	6



Failure to comply with the minimum and maximum load values can entail machine malfunctioning and even breakage. Minimum loads of mixture may entail the premature wear of the scrapers.

- Reposition the hopper lid in its place to prevent that, during processing, dust and other impurities may come into contact with the product (fig.4).

### 6.7.1 AUTOMATIC CYCLE



Fig.1



Fig.2



Fig.3



Fig.4

- Press the AUTOMATICO (AUTOMATIC) key to start the automatic batch freezing cycle. The numerical value of consistency and relative graphic bar are shown on the display during the entire batch freezing cycle (fig. 1-3). After a few minutes and once the best possible compromise between batch freezing time and consistency has been reached, depending on the type and amount of mixture introduced, the compressor stops, the display shows the wording “Estrarre” (Extract) and an intermittent acoustic signal warns the operator that it is possible to extract the ice cream. (Fig. 3-4). If this should not be immediately possible, the machine will automatically see to maintain the ice cream over time without changing its consistency any further.
- It is possible to go to the product extraction phase at any time.



The automatic batch freezing cycle is particularly recommended in the following cases:

- Mixtures with medium-low content of sugar and fat.
- Water-based fruit mixtures.
- Low amounts.

## 6.7.2 AUTOMATIC HARD CYCLE



Fig.1



Fig.2



Fig.3



Fig.4

- Press the AUTOMATICO HARD (AUTOMATIC HARD) key to start the automatic, high consistency, batch freezing cycle.
- The numerical value of consistency and relative graphic bar are shown on the display during the entire batch freezing cycle (Fig. 1-2).
- After a few minutes and once the optimal consistency level has been reached, relating to the type and amount of mixture introduced, the compressor stops, the display shows the wording "Estrarre" (Extract) and an intermittent acoustic signal warns the operator that it is possible to extract the ice cream. (Fig. 3-4). If this should not be immediately possible, the machine will automatically see to maintain the ice cream over time without changing its consistency any further.
- It is possible to go to the product extraction phase at any time.



The automatic HARD batch freezing cycle is particularly recommended in the following cases:

- Mixtures with high content of sugar and fat.
- Milk and alcohol-based cream mixtures.
- High amounts.

### 6.7.3 SEMI – AUTOMATIC CYCLE WITH CONSISTENCY CONTROL. (only for experts)



Fig.1



Fig.2

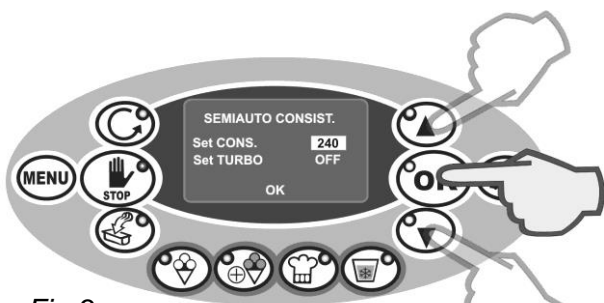


Fig.3

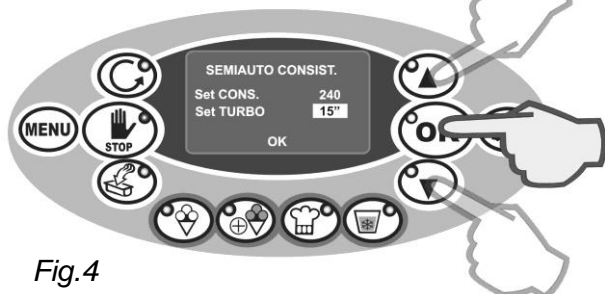


Fig.4

Press the “**SEMIAUTOMATICO**” (SEMI-AUTOMATIC) button to access the selection screen of the batch freezing mode (Fig. 1). The entry “*Consistenza*” (Consistency) is selected automatically. Press the “**OK**” key to access the settings menu of the batch freezing parameters (Fig. 2-3).

The first, automatically selected, entry is consistency SET expressed in numerical value between 60 and 250: press the “**UP (▲)**” and “**DOWN (▼)**” keys to increase or decrease the value. Higher consistencies correspond to high numbers, lower consistencies correspond to low numbers.

The maximum programmable consistency



value is equal to 250 numbers but not all mixtures and not all quantities can reach such a high consistency value.

For a reduced amount of mixture it is recommended to not select consistency numbers close to 250.

Then press “**OK**” to confirm the set consistency value and pass on to the following entry (Fig. 3).

The second entry to be programmed is the “Turbo” function; the period of time at the beginning of the batch freezing cycle during which batch freezing is to be carried out at high speed. Press the “**UP (▲)**” and “**DOWN (▼)**” keys to increase or decrease the high mixing time between a minimum of 0 min and a maximum of 5 min, in steps of 15 min (Fig. 4).



A period of time between 30 min and 1 hour 30 min is recommended for low milk-based mixtures and with such fat content to allow a good increase of volume upon finished product.

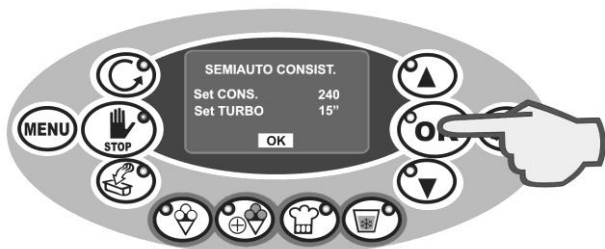


Fig. 1



Fig. 2



Fig. 3

Normally the water-based fruit mixtures do not require high speed batch freezing.

- Then press “OK” to confirm the value of time set.
- The wording “OK” appears at bottom of display to confirm the correct programming of the semi-automatic cycle. Press “OK” again to start the cycle (Fig. 1-2).
- If high speed batch freezing has been chosen for a certain period of time (TURBO function) during the programming phase, at the beginning of the cycle the display will show how many seconds or minutes missing to the end of the high speed batch freezing. After this time, the machine will automatically change to low speed and the display will show the consistency numbers (Fig. 3).
- After a few minutes and once the consistency level selected during programming has been reached, the compressor stops, the display shows the wording “Estrarre” (Extract) and an intermittent acoustic signal warns the operator that it is possible to extract the ice cream. If this should not be immediately possible, the machine will automatically see to maintain the ice cream over time without changing its consistency any further.
- It is possible to go to the product extraction phase at any time.



The semi-automatic batch freezing cycle is recommended for experts only because it requires full awareness of machine operation in relation to balancing the mixture one intends to process.

## 6.7.4 SEMI-AUTOMATIC CYCLE WITH TIME CONTROL. (only for experts)



Fig. 1



Fig. 2



Fig. 3

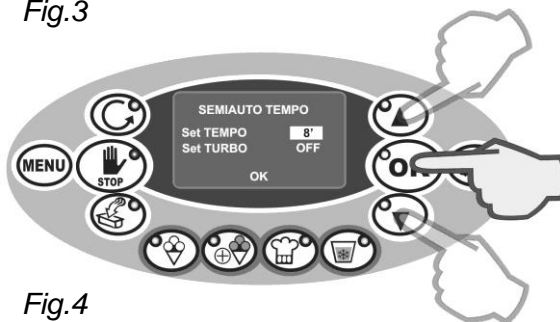


Fig. 4

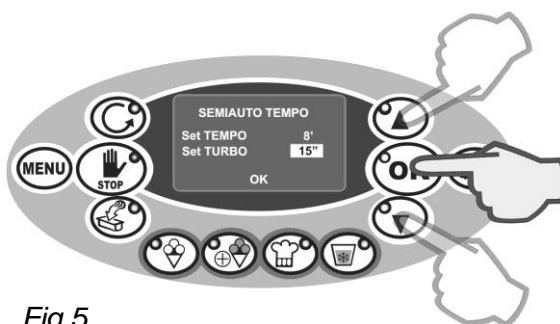


Fig. 5

- Press the “**SEMIAUTOMATICO**” (SEMI-AUTOMATIC) button to access the selection screen of the batch freezing mode (Fig. 1).
- Press “**DOWN (▼)**” to select the entry “**TEMPO**” (TIME). Press the “**OK**” key to access the settings menu of the batch freezing parameters (Fig. 2-3).
- The first, automatically selected, entry is the time SET expressed in minutes and included between 0 min and 30 min: press the “**UP (▲)**” and “**DOWN (▼)**” keys to increase or decrease the value. High batch freezing times correspond to higher consistencies, low times correspond to lower consistencies.



Normally batch freezing time can vary between 7 and 10 minutes depending on the mixture used and on the introduced amount. For low amounts of mixture introduced do not select time in excess of 5-7 minutes.

- Then press “**OK**” to confirm the value set and pass on to the following entry (Fig.4).
- The second entry to be programmed is the “Turbo” function; the period of time at the beginning of the batch freezing cycle during which batch freezing is to be carried out at high speed. Press the “**UP (▲)**” and “**DOWN (▼)**” keys to increase or decrease the high mixing time between a minimum of 0 min and a maximum of 5 min, in steps of 15 min (Fig. 5).



A period of time between 30 min and 1 hour 30 min is recommended for low milk-based mixtures and with such fat content to allow a good increase of volume upon finished product. Normally the water-based fruit mixtures do not require high speed batch freezing.



Fig. 1



Fig. 2



Fig. 3

Then press “**OK**” to confirm the value of time set.

The wording “**OK**” appears at bottom of display to confirm the correct programming of the cycle. Press “**OK**” again to start the cycle (Fig. 1).

If high speed batch freezing has been chosen for a certain period of time (TURBO function) during the programming phase, at the beginning of the cycle the display will show how many seconds or minutes missing to the end of the high speed batch freezing (Fig. 2). After this time, the machine will automatically change to low speed and the display will show the remaining batch freezing time (Fig. 3).

After the programmed time has elapsed, the compressor stops, the display shows the wording “*Estrarre*” (Extract) and an intermittent acoustic signal warns the operator that it is possible to extract the ice cream. If this should not be immediately possible, the machine will automatically see to maintain the ice cream over time without changing its consistency any further.

It is possible to go to the product extraction phase at any time.



If one sets a batch freezing time that is too high or if the product reaches its maximum admitted consistency value before the programmed time has run out, the display automatically clears any residual time and signals that it is possible to proceed with extraction.



The semi-automatic batch freezing cycle is recommended for experts only because it requires full awareness of machine operation in relation to balancing the mixture one intends to process.

## 6.7.5 SEMI – AUTOMATIC CYCLE WITH TEMPERATURE CONTROL (for experienced users only)



Fig.1

- Insert the temperature probe in its slot on the door.
- Push the “**SEMI-AUTOMATIC**” button to enter the selection screen of the freezing mode (Fig.1).
- Push “**DOWN (▼)**” to select the “**TEMPERATURE**” item. Push “**OK**” to enter the freezing parameters set-up menu (Fig.2-3).
- The first item, automatically selected, is the temperature SET, expressed in Celsius degrees and ranging between 105° e -20°: push “**UP (▲)**” and “**DOWN (▼)**” to increase or decrease the temperature.



- The freezing temperature normally ranges between -8° and 10° according to the mix employed.

- Subsequently push “**OK**” to confirm the set-up value and to go to the next step. (Fig.4). The second item to set is the “Turbo” function, i.e. the period of time – at the beginning of the freezing cycle – when you wish to activate the high speed freezing. Push “**UP (▲)**” and “**DOWN (▼)**” to increase or decrease the time of the fast agitation between a min. of 0” and a max. of 5 minutes every step of 15” (Fig.5).



A period of time ranging between 30” and 1’30” is recommended for milk-based mixes, which fat content is suitable to obtain a good overrun, when the product is finished. Normally, fruit-based mixes do not require a high-speed freezing.

- Subsequently, push “**OK**” to enter the time which has been set-up.



Fig.2



Fig.3



Fig.4

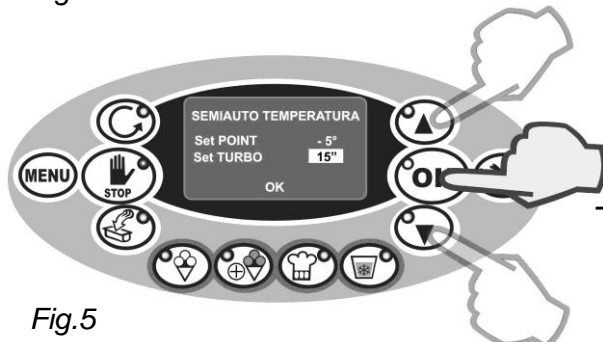


Fig.5



- At the bottom of the display you can read "OK" confirming the correct cycle programming. Push again "OK" to start the cycle (Fig.1).
- When the cycle starts and when the set-up includes the freezing at high speed for a certain time (TURBO function), a count-down will be displayed, showing the amount of seconds or minutes left from the end of the high-speed mode (Fig.2). When this time has elapsed the machine will automatically switch into low-speed mode and the display will show the temperature set, as well as the temperature measured by the probe. (Fig.3).
- After a few minutes and when the selected temperature has been reached, the display shows the message "Extraction" and an intermittent beep tone alerts the operator to draw out the gelato from the machine. If this is not immediately possible, the machine will automatically store the gelato, without any further alteration to its consistency.



Fig.3

You can always switch into the extraction mode



When the freezing temperature set is too low or when the product gets to its highest consistency allowed before the temperature set has been reached, the display will say the the extraction can be made.



The semi-automatic cycle is recommended for experienced users only: in fact, it requires a full awareness of the machine functions with reference to the type of mix employed.

### 6.7.6 NORMAL SLUSH

With the machine in STOP, press the “GRANITA” (SLUSH) button to access the selection screen of the slush production mode (Fig. 1).

The entry “Normale” (Normal) is selected automatically. Press the “OK” key to access the settings menu of the production parameters (Fig. 2).

The first, automatically selected, entry is consistency SET expressed in numerical value between 120 and 180: press the “UP (▲)” and “DOWN (▼)” keys to increase or decrease the value. Higher consistencies correspond to high numbers, lower consistencies correspond to low numbers.



For reduced amount of products it is recommended to not select numbers close to 180 (Fig. 3).

Then press “OK” to confirm the value of consistency set.

The wording “OK” appears at bottom of display to confirm the correct programming of the cycle. Press “OK” again to start the cycle (Fig. 4).

During the cycle the compressor and the beater will always remain functioning and the display will show the numerical value of consistency.

- After a few minutes and once the consistency level selected during programming has been reached, the compressor stops, the display shows the wording “Estrarre” (Extract) and an intermittent acoustic signal warns the operator that it is possible to extract the slush.



Fig.1

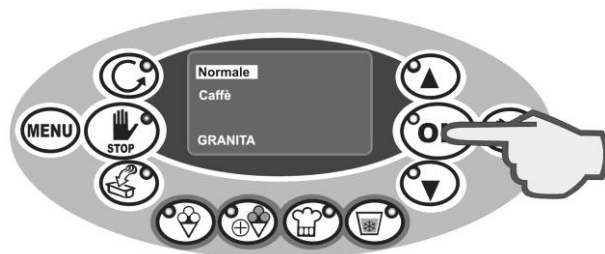


Fig.2

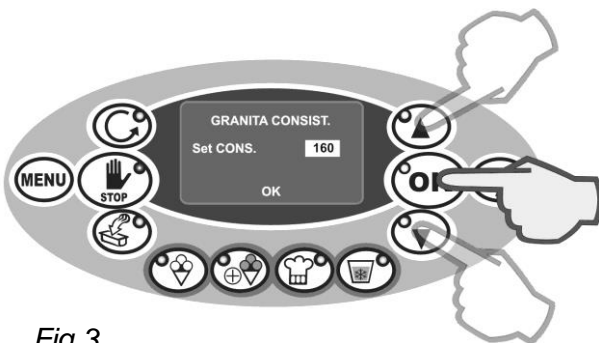


Fig.3



Fig.4

### 6.7.7 COFFEE SLUSH

With the machine in STOP, press the “GRANITA” (SLUSH) button to access the selection screen of the slush production mode (Fig. 1).

The entry “Normale” (Normal) is selected automatically. Press “DOWN (▼)” to select the entry “CAFFE” (COFFEE) (Fig. 2). Press the “OK” key to access the settings menu of the production parameters (Fig. 3).

The first, automatically selected, entry is the time SET expressed in minutes and included between 0 min and 10 min: press the “UP (▲)” and “DOWN (▼)” keys to increase or decrease the value. High processing times correspond to higher consistencies, low times correspond to lower consistencies.



Fig.1

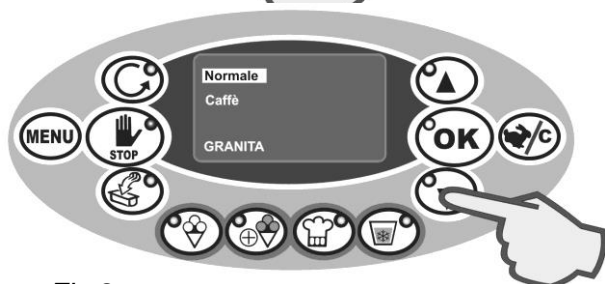


Fig.2



Fig.3

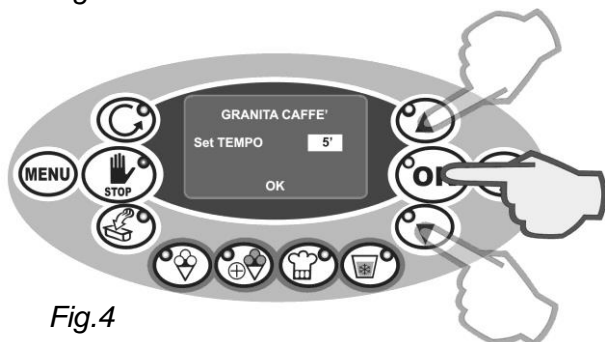


Fig.4



Fig.5



Normally processing time can vary between 2 and 6 minutes depending on the mixture used and on the introduced amount.

For low amounts of mixture introduced do not select time in excess of 2-4 minutes.

Then press “OK” to confirm the processing time set (Fig. 4).

The wording “OK” appears at bottom of display to confirm the correct programming of the cycle. Press “OK” again to start the cycle (Fig. 5).

During the cycle the compressor will always remain functioning, whereas the beater will remain still for about 10 seconds and in motion for about 1 second.

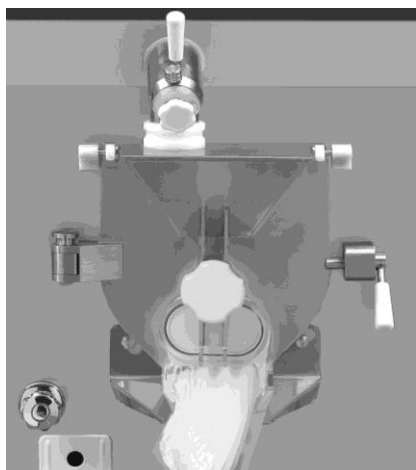
After the programmed time has elapsed, the compressor stops, the display shows the wording “Estrarre” (Extract) and an intermittent acoustic signal warns the operator that it is possible to extract the slush.



## 6.8 EXTRACTION

To extract the product at the end of a productive cycle, refer to the following instructions:

- Position a cold and clean tub of adequate capacity in the corresponding seat on the supports obtained through rubber buffers.
- Check that the production cycle has ended.
- Unscrew the plastic knob at the centre of the door by about half a turn.
- Press the knob to detach the dispenser disk from the door surface and subsequently pull it upwards.
- When the product starts coming out of the door safety grid, press the ESTRAZIONE (EXTRACTION) key to change the high speed and disable the compressor in order to prevent ice forming on the cylinder walls in the emptying phase (Fig. 1-2).



To maintain the quality of the products very rich in sugars and fats unaltered during the high speed extraction phase, it is recommended to enable the "Cold extraction" function, access to which is possible by pressing the ESTRAZIONE (EXTRACTION) key again, once extraction is already started.

- When all the product has come out of the door, press the STOP key to stop the machine and re-close the dispenser disk (Fig.3).



Fig.1



Fig.2



Fig.3

## 6.9 "FLAVOURS" MENU



The Frigomat combined machines of the "TWIN CHEF LCD" series are programmed with a menu of 24 "flavours" with fully automatic execution.

To each "flavour" corresponds its own batch freezing criteria, made of information regarding the consistency control system and the type of mixing.

With this practical function, the ice cream maker can decide how to batch freeze each individual flavour and memorise the information in the menu, thus making his work, and that of other operators, easier and more practical.

The list includes the following flavours:

- 
- CREAM-BASED
- CREAM+ALCOHOL-BASED
- WATER-BASED
- FIORDILATTE
- CREAM
- CHOCOLATE
- HAZELNUT
- BACIO
- TIRAMISU
- ENGLISH TRUFFLE
- YOGURT
- PISTACHIO
- LIQUORICE
- MARRON GLACE'
- MINT
- LEMON
- STRAWBERRY
- MIXED FOREST
- PEACH
- MELON
- WATER-MELON
- BANANA
- COCONUT
- KIWI
- ... and another 30 free positions for your customised work programs

To recall a memorised work program, refer to the procedure described in the following paragraphs.

## 6.9.1 EXECUTE A “FLAVOUR” PROGRAM



Fig. 1

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



Fig.2

The entry “*Gusti*” (Flavours) is selected automatically. Press “**OK**” to access the list of work programs included in the memory (fig. 3-3).



Fig.3

Press “**UP (▲)**” and “**DOWN (▼)**” to scroll the list of work programs in the memory (fig. 3). There are 24 pre-set flavours, with a maximum of 8 displayed on each screen.



Fig.4

Keeping the “**DOWN (▼)**” key pressed for a few instants, you quickly access the next screen (fig. 4-6).



Fig.5

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



Fig.6

When the first flavour on a page has been selected, pressing “UP (▲)” accesses the previous page (fig. 5-6).



Fig.7

When the desired recipe has been selected, for example “BASE CREMA” (CREAM-BASED) as in the figure, press “OK” to start the corresponding cycle automatically (fig. 7-8).



Fig.8

During execution of the selected work program, the following information is shown on the display:

- Title of program in execution.
- Instantaneous consistency numerical value (if the work program is based on ampere consistency control).
- Residue value of the batch freezing time (if the work program is based on control of processing time).
- Graphic bar with representation of the consistency growth (if the selected program is based on the ampere consistency control).

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

## 6.9.2 “CHANGE FLAVOURS” MENU (experts only)



Fig. 1

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



Fig.2

Press “**DOWN (▼)**” to select the entry “**MODIFICA GUSTI**” (CHANGE FLAVOURS) (fig. 2-3).



Fig.3

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



Fig.4

Press “**UP (▲)**” and “**DOWN (▼)**” to scroll the list of work programs in the memory. A maximum of 8 programs are displayed on each screen. By selecting the program you wish to change, for example “**BASE CREMA**” (CREAM-BASED), press “**OK**” to access the change screen (Fig. 4-5).



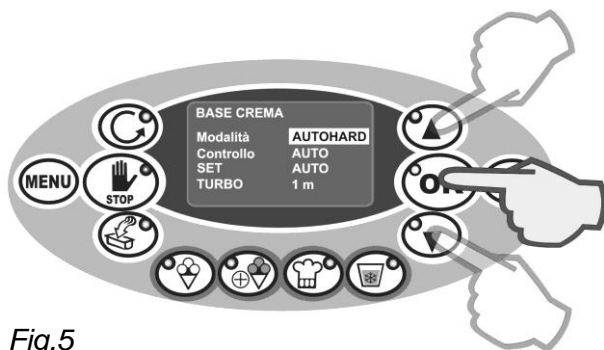


Fig.5

The first, automatically selected, entry refers to the choice of batch freezing method to be combined to the flavour in programming; press **“UP (▲)”** and **“DOWN (▼)”** to select the batch freezing method from the 4 possibilities:

- AUTOMATIC
- AUTOMATIC HARD
- SEMI-AUTOMATIC
- SLUSH

Then press **“OK”** to confirm the choice and pass on to the following entry (fig. 5).

If the AUTOMATIC or AUTOMATIC HARD batch freezing method has been chosen, you pass directly to the TURBO function programming.

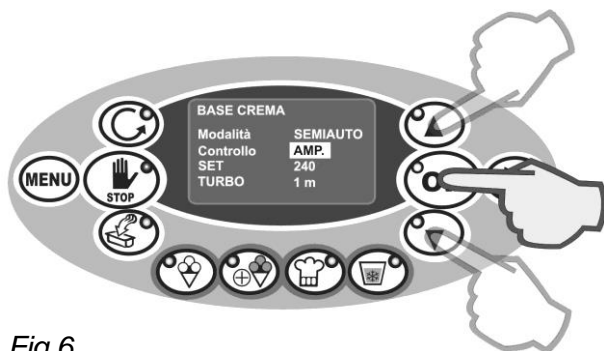


Fig.6

If the SEMI-AUTOMATIC or SLUSH batch freezing method has been chosen, access is gained to the programming of the control method; press **“UP (▲)”** and **“DOWN (▼)”** to select the wanted method from the following options:

- CONSISTENCY (Amp.)
- TIME

Then press **“OK”** to confirm the choice and pass on to the following entry (fig. 6).

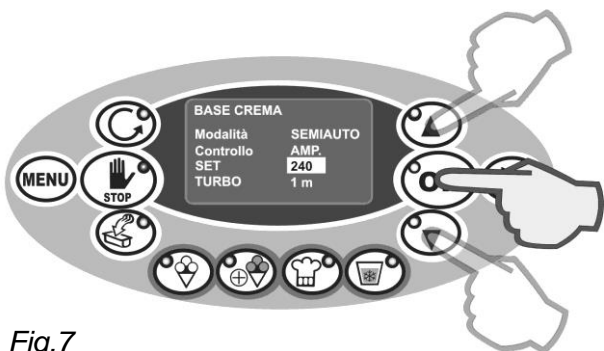


Fig.7

If the CONSISTENCY control method has been chosen, it is possible to set the SET of consistency expressed in numerical value between 60 and 250: press the **“UP (▲)”** and **“DOWN (▼)”** keys to increase or decrease the value. Higher consistencies correspond to high numbers, lower consistencies correspond to low numbers.

Then press **“OK”** to confirm the choice and pass on to the following entry (fig. 7).

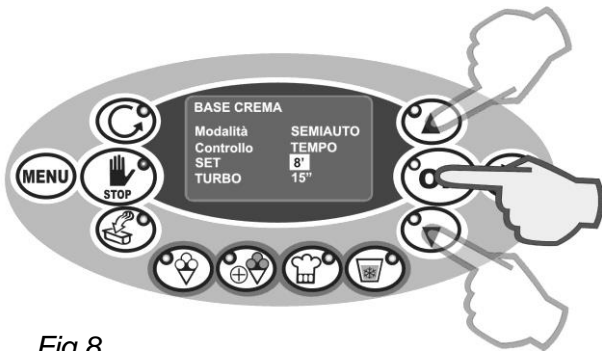


Fig.8

If the TIME control method has been chosen, it is possible to set the SET of time expressed in minutes between 0 min and 30 min: press the “UP (▲)” and “DOWN (▼)” keys to increase or decrease the value.

High batch freezing times correspond to higher consistencies, low times correspond to lower consistencies.

Then press “OK” to confirm the choice and pass on to the following entry (fig. 8).

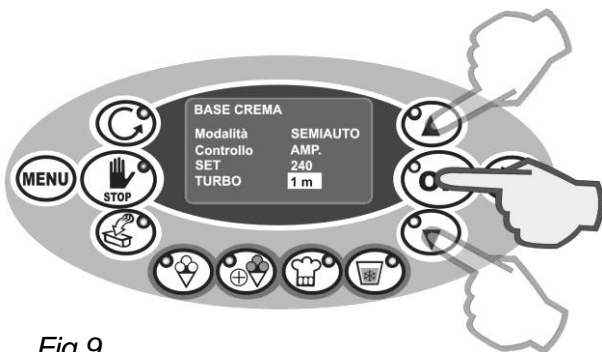


Fig.9

The last entry requiring programming, is the “TURBO” function; the period of time at the beginning of the batch freezing cycle during which batch freezing is to be carried out at high speed. Press the “UP (▲)” and “DOWN (▼)” keys to increase or decrease the high mixing time between a minimum of 0 and a maximum of 5 minutes, in steps of 15 min. Then press “OK” to confirm the value of time set (fig. 9).

This function is not available in the SLUSH method.

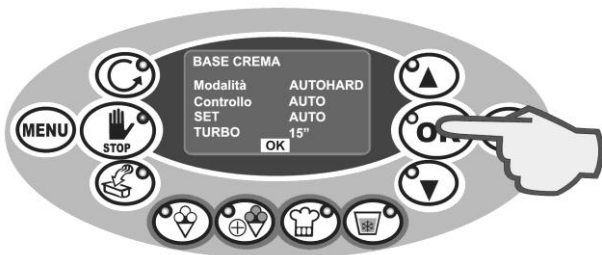


Fig.10

The wording OK appears at bottom of display to confirm the correct programming of the cycle. Press “OK” again to access the “SALVA” (SAVE) menu making the changes to the original work program effective (fig. 10).

### 6.9.3 “CREATE FLAVOURS” MENU (experts only)



Fig.1

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

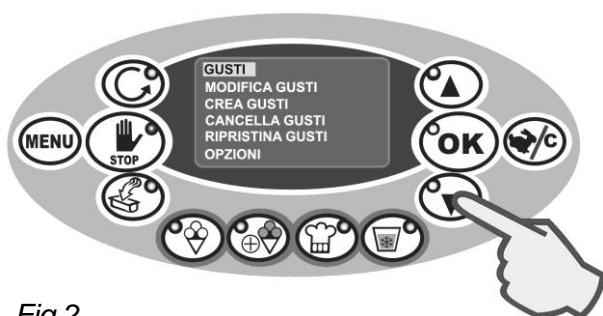


Fig.2

Press “**DOWN (▼)**” until selecting the entry “**CREA GUSTI**” (CREATE FLAVOURS) (fig. 2-3).



Fig.3

Press “**OK**” to access the new flavour creation screen “**New**” (fig.2-3).

The first, automatically selected, entry refers to the choice of batch freezing method to be combined to the flavour in programming; press “**UP (▲)**” and “**DOWN (▼)**” to select the batch freezing method from the 4 possibilities:

- AUTOMATIC
- AUTOMATIC HARD
- SEMI-AUTOMATIC
- SLUSH

Then press “**OK**” to confirm the choice and pass on to the following entry (fig. 4).

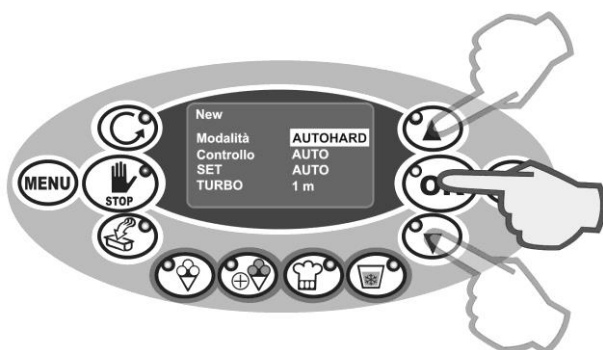


Fig.4

Proceed with the programming of the other entries as seen in previous paragraph.

Once programming is completed, it is possible to access the saving menu with a new name, described in paragraph 6.6.

### 6.9.4 “DELETE FLAVOURS” MENU (experts only)



Fig. 1

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

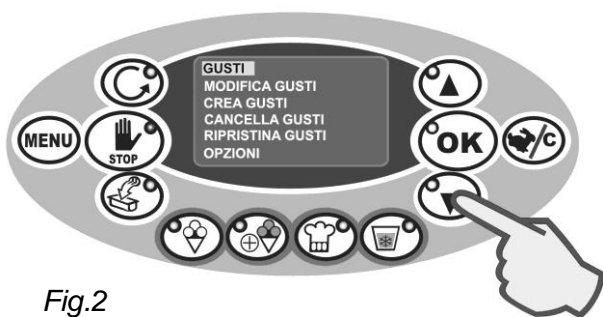


Fig.2

Press and “DOWN (▼)” until selecting the entry “CANCELLA GUSTI” (DELETE FLAVOURS) (fig. 2-3).



Fig.3

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

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

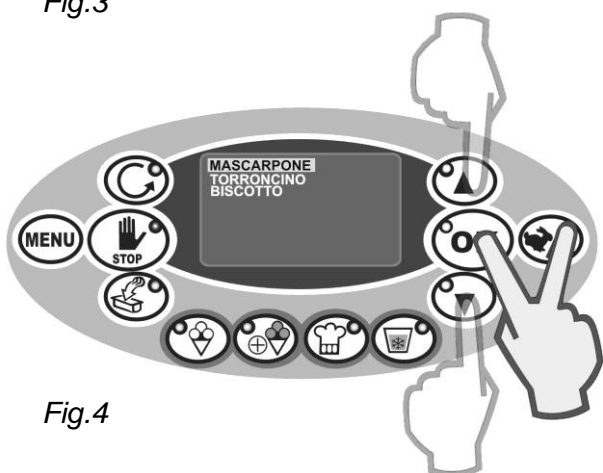


Fig.4

Press “UP (▲)” and “DOWN (▼)” to scroll the list of customised flavours in the memory. A maximum of 8 flavours are displayed on each screen.

Having selected the wanted program, for example “MASCARPONE” as in the figure, press the “OK” and “C” keys simultaneously, to confirm the permanent elimination from the memory. (Fig. 4).

## 6.9.5 “RESTORE FLAVOURS” MENU (experts only)



Fig. 1

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



Fig.2

Press and “**DOWN (▼)**” until selecting the entry “**RIPRISTINA GUSTI**” (RESTORE FLAVOURS) (fig. 2-3).



Fig.3

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

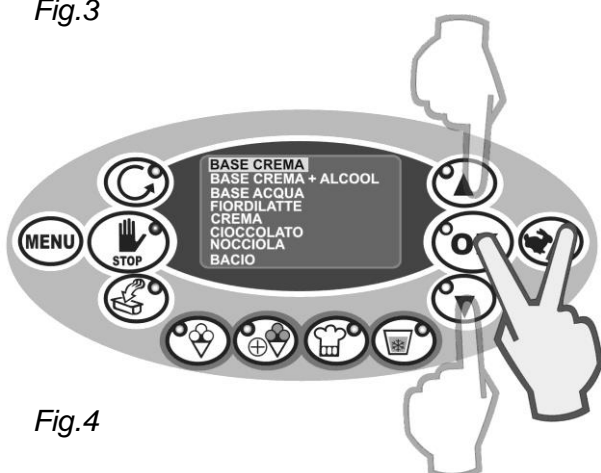


Fig.4

Press “**UP (▲)**” and “**DOWN (▼)**” to scroll the list of flavours in the memory. A maximum of 8 flavours are displayed on each screen.

Having selected the wanted program, for example “**BASE CREMA**” (CREAM-BASED) as in the figure, press the “**OK**” and “**C**” keys simultaneously, to confirm the permanent restore of the default work program (fig. 4) and cancel the previously made changes.

## 6.10 “SAVE WITH NAME” MENU (only for experts)



Fig.1

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

If you wish the new work program to be stored and automatically added to the list of flavours in the memory, select the entry “*Salva con nome*” (Save with name) and press “**OK**” (Fig. 1).

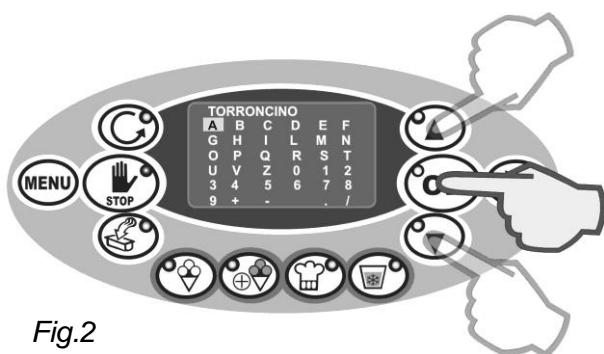


Fig.2

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

The letters of the alphabet, numbers 0 to 9, some symbols and the space bar appear on the display: Press “**UP (▲)**” and “**DOWN (▼)**” to select the first letter, number, symbol 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 flavour is complete (Fig. 2).

**Attention: the name of the flavours can contain a maximum of 13 characters including spaces.**



Fig.3

If the name of the recipe is composed of less than 13 characters including spaces, during typing of the last character, hold the “**OK**” key for a few instants. 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 flavour is added to the list of flavours available in the memory and can be recalled directly from the “*Gusti*” (Flavours) menu (see chapter 6.5.1). Should the memory be full, the message “memory full” will appear.

## 6.11 "OPTIONS" MENU

### 6.11.1 "OROLOGIO" [CLOCK] MENU



Fig.1

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



Fig.2

Press "**DOWN (▼)**" to select the entry "**OPZIONI**" (OPTIONS).

Press "**OK**" to access the screen of the following menu (fig. 2 - 3).



Fig.3

The first entry of the menu, selected automatically, is "**MODIFICA OROLOGIO**" (CHANGE CLOCK).

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



Fig.4

The first entry, selected automatically, is the current time: press the "**UP (▲)**" and "**DOWN (▼)**" keys to increase or decrease the value (Fig. 5).

Then press "**OK**" to confirm the value set and pass on to the following entry.

Repeat the same procedure for all the entries available.

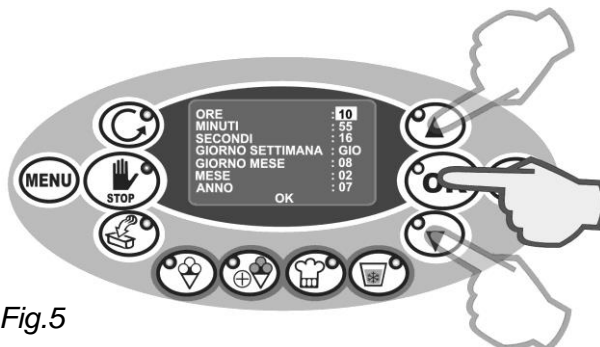


Fig.5

### 6.11.2 “EVENT ARCHIVE” (only for the technician)



Fig.1

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



Fig.2

Press “**DOWN (▼)**” to select the entry “**OPZIONI**” (OPTIONS).  
Press “**OK**” to access the screen of the following menu (fig. 2 - 3).



Fig.3



Fig.4

Press “**DOWN (▼)**” to select the entry “**ARCHIVIO EVENTI**” (EVENT ARCHIVE) and then press “**OK**” (Fig. 4).



Fig.5

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



## 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 sanitized by careful procedures and using suitable sanitizing 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.

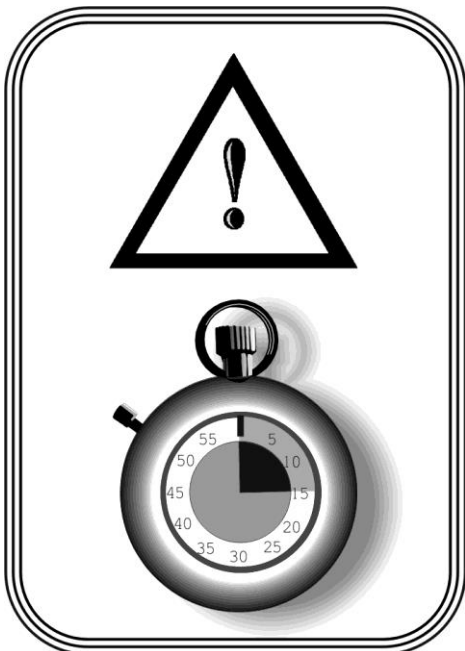
FRIGOMAT recommends thoroughly washing and sanitizing the parts in direct contact with the product after each work shift and in compliance with hygienic standards in force in the Country where the machine is installed.

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

#### 7.1.1 HEATER WASHING

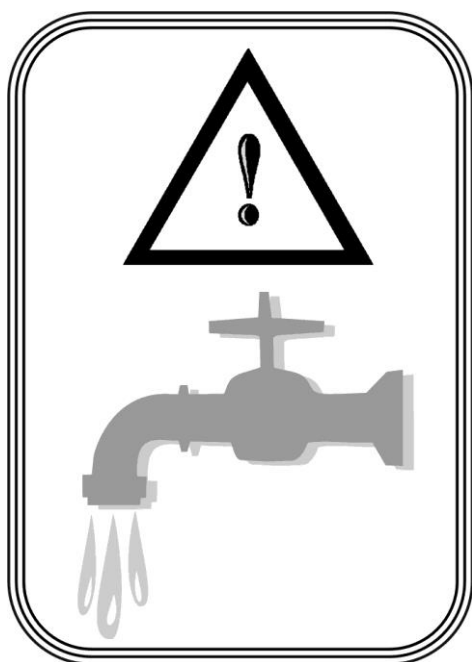
##### PREWASHING

- 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 beater 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 sanitized in a separate tub.

### SANITIZING 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).

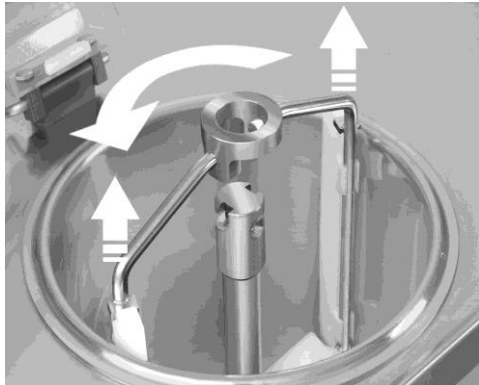
device and immerse them in the solution.

#### REMOVING AND CLEANING COVER

- Pull the hinge pins off and remove the cover, holding it with both hands.

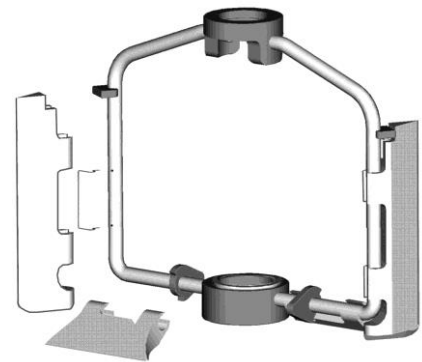
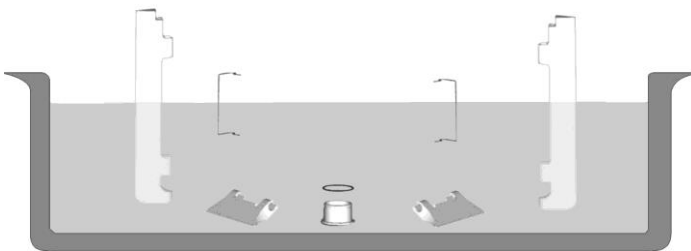
Emerge the previously disassembled components into the tub with the sanitizer and brush the surfaces with care. Pay special attention to the surfaces in direct contact with the product.





#### 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.

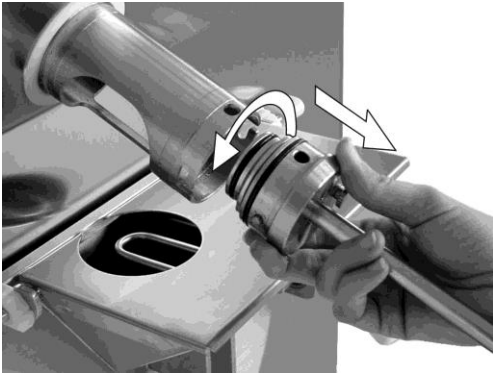


#### REMOVING AND CLEANING THE TAP

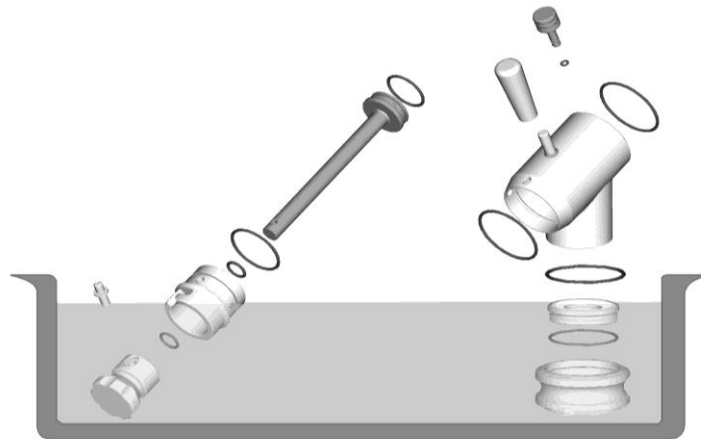
- Remove the locking pin.



- 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.

#### **SANITIZING FIXED PARTS**

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



#### sanitizing 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 cover and front panel.
- Use the brush previously emerged in the sanitizer to thoroughly clean the drain duct which connects the tank to the tap.

**! ATTENTION !**

- Never use any type of solvents and/or thinners to preserve the plastic parts and gaskets during washing.
- Chemical sanitizing products must be used in compliance with standards in force and with the utmost caution.
- During sanitizing 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.

**! ATTENTION !**

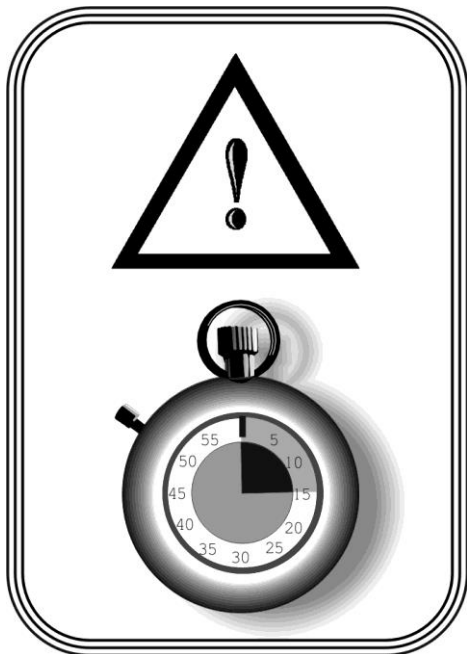
DO NOT use rags, sponges or anything else to dry the components. Make sure no dust or other impurities come into contact with the sanitized surfaces while they are drying.



- Use the flexible shower head supplied with the machine to rinse the fixed parts of the same, which were previously 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.

## 7.1.2 BATCH FREEZER WASHING

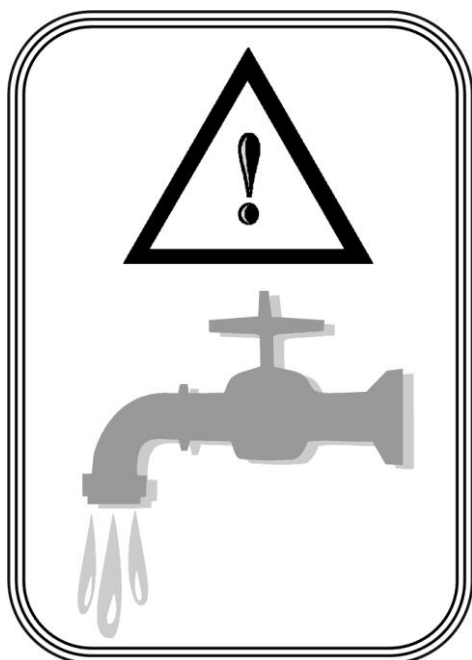
### PREWASHING



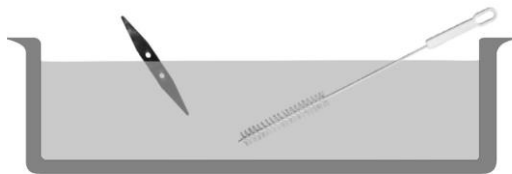
- Pour the maximum admitted load of warm (approximately 50°C) drinking water into the machine.
- Press the MIXING button to start the beater motor. Let it run for about 3 min: Open the dispenser disk to drain all the wash water. Repeat the procedure until the water coming out is clear and clean.
- Pour the maximum load admitted of cleansing/sanitising solution into the machine.
- Press the AGITAZIONE (MIXING) button in order to start the beater motor and let it run for about 15'. Open the dispenser disk to drain all the sanitising solution.

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 machine to rinse the surfaces which were just treated with the sanitiser.
- 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 sanitized in a separate tub.
-



## SANITIZING REMOVABLE PARTS

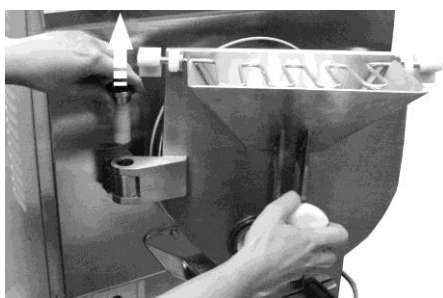
### PREPARATION OF WASHING TUB

- 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.

We suggest using the following sanitising solution:

#### **Ecolab P3 Topax-san**

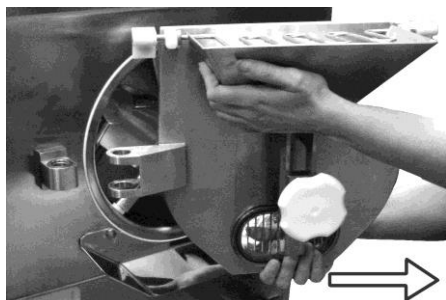
(4% dilution = 200 ml every 5 litres of water).



- Prepare the supplied brush and the OR disassembly device and immerse them in the solution.

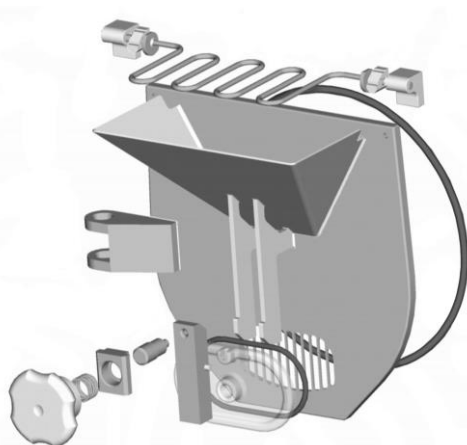
### REMOVING AND CLEANING THE DOOR

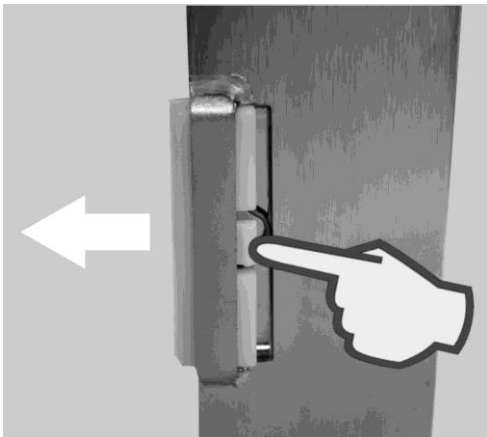
- Lift the blocking lever and open the door by rotating it to the left.
- Pull the hinge pin upwards and remove the door, holding it with both hands.



Handle the door with great care: because of its great weight, should it fall, it could cause injuries to staff and damages to things.

- Rest the door on a clean work surface and disassemble its parts:
  1. Remove the hopper lid.
  2. Unscrew and remove the plastic knob.
  3. Remove the steel guide controlling the dispenser disk from the guides.
  4. Remove the spring.
  5. Remove the dispenser disk.
  6. Use the OR disassembly device to remove the 2 OR gaskets from their place.
- Immerse the previously disassembled components into the tub with the sanitising solution and brush the surfaces with care. Pay special attention to the safety grid and gaskets.





#### REMOVING AND CLEANING BEATER

- Pull the beater towards you to remove it from the batch freezing cylinder.
- Recover the seal gasket placed on the back of the beater.
- Remove the scrapers from the beater by pressing firmly on the small fixing tooth.
- Remove the metallic springs from the scrapers.
- Immerse the previously disassembled components into the tub with the sanitising solution and brush the surfaces with care. Pay special attention to the seats of the scrapers and metallic springs.



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.



#### SANITIZING FIXED PARTS

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

##### SANITISING THE CYLINDER

- Immerse a disposable paper cloth in the sanitising liquid.
- Pass the cloth over all the cylinder surfaces.
- Also pass the cloth over the outer edge of the cylinder until reaching the surfaces of the front panel and funnel.



- Never use any type of solvents and/or thinners to preserve the plastic parts and gaskets during washing.
- Chemical sanitizing products must be used in compliance with standards in force and with the utmost caution.
- During sanitizing 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 sanitized surfaces while they are drying.

- Also carefully rinse the fixed parts of the machine which were treated with the sanitizing solution (cylinder, funnel, etc.)
- When all the components are dry, put them back onto the machine making sure the gaskets and scrapers are in good conditions.

## 7.2 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.

### 7.2.1 HEATER OMEGA<sup>2</sup> BOARD PROGRAMMING

Refer to the following instructions to program the circuit board:



Fig.1

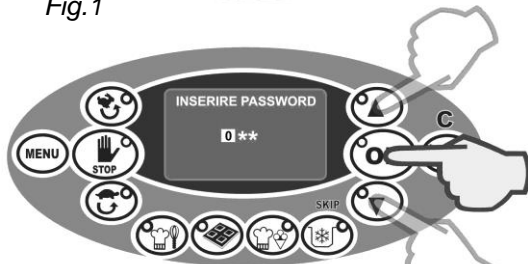


Fig.2

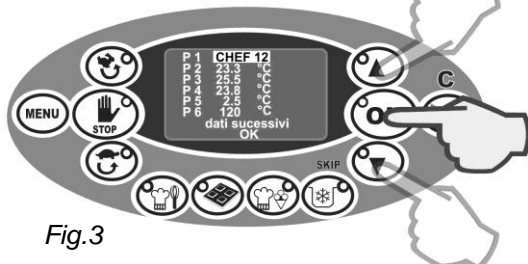


Fig.3



Fig.4

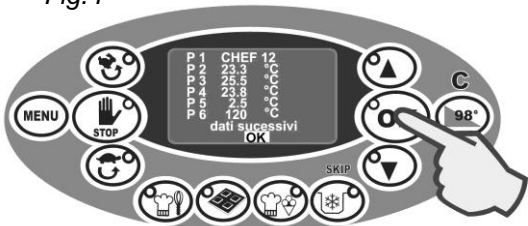


Fig.5

1. Make sure the cover of the tank is closed well.
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.
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 (fig.3).
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). 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).



**“OMEGA<sup>2</sup>” BOARD PROGRAMMING TABLE (\*\*)**

<b>P</b>	<b>DESCRIPTION</b>	<b>MIN</b>	<b>MAX</b>	<b>Twin Chef</b>	<b>STEP</b>
P1	Machine model				
P2	Tank probe correction (TEV)	-6°	+6°	*	0.5°C
P3	Probe correction fluid (TEF)	-6°	+6°	*	0.5°C
P4	Probe correction auxiliary tank (TEC)	-6°	+6°	*	0.5°C
P5	Tank overtemperature compensation when TEV>40°C	-6°	+6°	*	0.5°C
P6	TEF Control Lim. in Heating mode (excluding Tempering Cycles)	60°	122°	120°	1°C
P7	Delta Lim. in C/F TEV-TEF (Tempering Cycles only)	4°	10°	7°	1°C
P8	TEF Control Lim. (Tempering pres. only)	30°	80°	40°	1°C
P9	TEF Control Lim. in Preheating mode	30°	90°	80°	1°C
P10	Anti-freeze intervention temp. (on TEC) when TEV>15°C	0°	-10°	-6°	1°C
P11	Anti-freeze intervention temp. (on TEC) when TEV<15°C	0°	-10°	-5°	1°C
P12	TEF Control Lim. in heat reduction mode	98°	100°	98°	1°C
P13	TEF Control Lim. in Tempering preservation mode	0°	20°	8°	1°C
P14	Delta TEF-TEV in step temperature setting	0°	20°	5°	1°C
P15	Anti-temperature-drift function	0°	30°	10°	1°C
P16	Temperature indication on display	0	1	1	0=°F 1=°C
P17	LCD language selection	-	-	ITA	ITA, ENG, FRE, GER, SPA, CZE
P18	FRIGOMAT logo visualisation on LCD	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. It is always possible to refer to the test inspection board supplied with the machine.

**TECO INVERTER PROGRAMMING TABLE (\*\*)**

<b>Pitch</b>	<b>Description</b>	<b>Value</b>
F00		
F01	Acceleration Time 1	03.0
F02	Deceleration Time 1	01.5
F03	Motor Rotation	000
F04	RUN control	002
F05	Frequency Control	004
F06	External control mode	001
F07	Frequency MAX. limit	100
F08	Frequency MIN limit	010
F09	STOP method	000
F10	Display parameters indic.	001
F11	Clamp function S1	000
F12	Clamp function S2	001
F13	Clamp function S3	005
F14	Clamp function S4	006
F15	Clamp function AIN	017
F16	Clamp signal type AIN	001

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

## 7.2.2 OMEGA<sup>2</sup> BATCH FREEZER BOARD PROGRAMMING

Refer to the following instructions to program the circuit board:

Fig.1



Fig.2

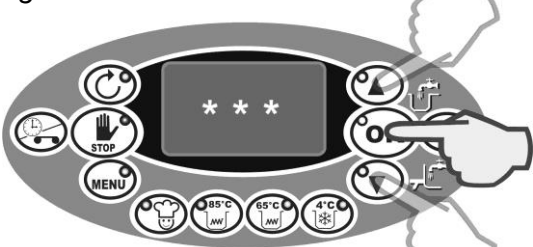


Fig.3

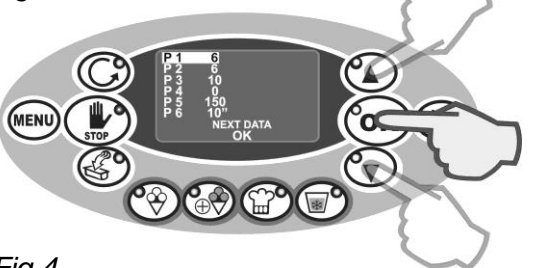


Fig.4

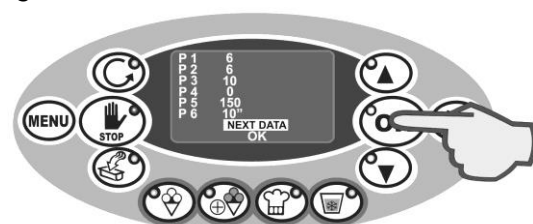
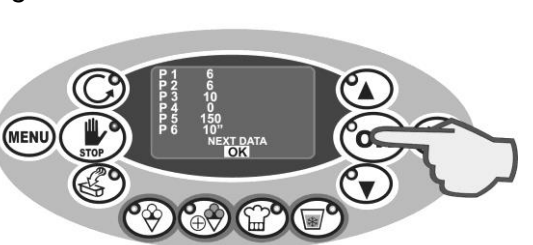


Fig.5



1. Make sure that the door is closed and the safety grid is lowered.
2. Power the machine.
3. With the machine at STOP, press “OK” and “STOP” 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.
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 step selected, press “OK” to directly access the following step (Fig.3). 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 “NEX 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).

**“OMEGA<sup>2</sup>” BOARD PROGRAMMING TABLE(\*\*)**

<b>P</b>	<b>DESCRIPTION</b>	<b>MIN</b>	<b>MAX</b>	<b>TWIN CHEF LCD 35</b>	<b>TWIN CHEF LCD 45</b>	<b>TWIN CHEF LCD 60</b>	<b>STEP</b>
P1	Machine model	0	7	0	1	2	
P2	Slush coefficient	1,0	4,0	2,2	3	2,2	1
P3	Consistency hysteresis (%of setting)	1	50	10	10	10	1
P4	Voltage and frequency selection	0	2	*	*	*	0= 115-230/50-60/1 1= 400-440/50-60/3 2= 220/230/50-60/3 (without neutral)
P5	Sampling 1 SET OK (AUTO cycle minimum threshold)	50	200	130	130	130	1
P6	Sampling 1 Time (AUTO cycle)	0	22	10	10	10	4,5,6,7,8,9,10,11,12,13,14, 15,16,17,18,20,22 sec.
P7	Sampling 2 SET OK (AUTO cycle average threshold)	50	200	180	180	180	1
P8	Sampling 2 Time (AUTO cycle)	0	22	4	4	4	4,5,6,7,8,9,10,11,12,13,14, 15,16,17,18,20,22 sec.
P9	Sampling 3 SET OK (AUTO HARD cycle minimum threshold)	50	200	180	180	180	1
P10	Sampling 3 Time (AUTO HARD cycle)	0	22	14	14	14	4,5,6,7,8,9,10,11,12,13,14, 15,16,17,18,20,22 sec.
P11	Sampling 4 SET OK (AUTO HARD cycle average threshold)	50	200	200	200	200	1
P12	Sampling 4 Time (AUTO HARD cycle)	0	22	10	10	10	4,5,6,7,8,9,10,11,12,13,14, 15,16,17,18,20,22 sec.
P13	Compressor in extraction ON time	0	2	2	2	2	0= 5 sec 1= 10 sec 2= 15 sec 3= 20 sec
P14	Beater ON time in Cyclic Slush mode	1	10	1	1	1	1 sec
P15	Function Anti-ice cream at centre	0	1	1	1	1	0= Off 1= On

**“OMEGA2” BOARD PROGRAMMING TABLE(\*\*) (continues)**

<b>P</b>	<b>DESCRIPTION</b>	<b>MIN</b>	<b>MAX</b>	<b>TWIN CHEF LCD 35</b>	<b>TWIN CHEF LCD 45</b>	<b>TWIN CHEF LCD 60</b>	<b>STEP</b>
P16	Function Anti-ice cream at centre (drop in numbers)	10	150	50	50	50	1
P17	Function Anti-ice cream at centre (% spontaneous increase numbers)	5	50	10	10	10	% consistency numbers
P18	Batch freezing Time- Out alarm	0	1	0	0	0	0= 35 min 1= 20 min
P19	Numbers indication filter	0	1	0	0	0	0= Off 1= On
P20	LCD language selection	-	-	ITA	ITA	ITA	ITA, ENG, FRE, GER, SPA, CZE
P21	FRIGOMAT logo visualisation on LCD	0	1	1	1	1	0=No logo 1=Logo
P22	Consistency Voltmeter correction	0	2	2	2	2	= Off 1= On V/mainsV 2= On V/mainsV x coefficient
P23	Synchrony Twin Chef	0	1	1	1	1	0=Titan – Twin/lcd 1= Twin Chef
P24	Presence of the temperature probe	0	2	1	1	1	0=Off 1= Yes, °C 2=Yes, °F
P25	Freezer Hysteresis Temperature CTR	0	20	0	0	0	0= Consistency (P3) 1-20= 0,1°C

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

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

### **CONSISTENCY CALIBRATION ON OMEGA BOARD**

The Frigomat combined machines of the TWIN LCD series are equipped with an electronic board provided with a sophisticated microprocessor able to control the consistency of the ice cream by acquiring different parameters, among which the value of absorption of the beater motor. During the batch freezing cycle the display of the machine indicates the value in numbers from 30 to 250, directly proportional to the hardness of ice cream. Each machine is tested and calibrated by FRIGOMAT with a mixture with standard features at an absorption value of the beater motor referred to 240 numbers of hardness. This value is shown on the test sheet that accompanies the machine (see test sheet at the following entry: BEATER AMPERE @SET240); normally this calibration is able to satisfy a very wide range of applications.



For any special requirement you can however vary the consistency value of the batch freezer: this operation should be carried out only by authorised technical personnel in possession of a clamp-type ammeter or capacity wattmeter and sufficient accuracy.

Refer to the following instructions to calibrate the consistency:

1. Disconnect the machine and remove the right side panel. Subsequently remove the cover of the electrical box.
2. Locate the cable that passes through the current transformer (identified with L1 - see electrical diagram) and connect the clamp-type ammeter. This way you can measure the absorption of the beater motor.
3. Fill the cylinder with ice cream mixture in the maximum amounts admitted for each model.
4. Power the machine.
5. Press the SEMIAUTOMATICO (SEMI-AUTOMATIC) button, set the ampere control with SET at 240 numbers and confirm by pressing OK. The machine starts.
6. With the machine running, keep “UP (▲)” and “DOWN (▼)” pressed simultaneously for at least 10 min. In this way access is gained to “*Taratura*” (Calibration), the “UP (▲)”, “DOWN (▼)” and “OK” keys light up and the display indicates the numerical value of consistency that increases as batch freezing proceeds.
7. Pressing “UP (▲)” and “DOWN (▼)” it is possible to, respectively, increase and decrease this number to carry out adjustment.
8. Upon reaching of the wanted consistency corresponding to a certain value in ampere, indicated on the clamp-type ammeter, press “UP (▲)” and “DOWN (▼)” until 240 appears on the display; the machine will now signal that the ice cream is ready.
9. Press **OK** to memorise the made adjustment. The machine will not emit an acoustic signal to confirm the data.

CONSISTENCY VALUES @ SET 240 400/50/3					
Consistency	TWIN 35	TWIN 45	TWIN 60	-	-
Ampere	6,3	9,0	9,6		
Watt	2500	3600	3800		

CONSISTENCY VALUES @ SET 240,220/60/3					
Consistency	TWIN 35	TWIN 45	TWIN 60	-	
Ampere	11	14	15		
Watt	2600	4000	4200		





## 8. TROUBLESHOOTING INSTRUCTIONS

### 8.1 MANAGEMENT OF HEATER ALARMS

MESSAGE	DESCRIPTION	REMEDIES
<b>ALARM! EMERGENCY HATCH OPEN</b>	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.
<b>ALARM! INSUFFICIENT FLUID LEVEL</b>	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.
<b>ALARM! MOTOR CIRCUIT BREAKER OVERLOAD</b>	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.
<b>ALARM! TEV PROBE INTERRUPTED</b>	The TEV probe is faulty. The buzzer emits an intermittent acoustic signal.	Contact the technician to check and replace the faulty probe.
<b>ALARM! TEF PROBE INTERRUPTED</b>	The TEF probe is faulty. The buzzer emits an intermittent acoustic signal.	Contact the technician to check and replace the faulty probe.
<b>ALARM! TEC PROBE INTERRUPTED</b>	The TEC probe is faulty. The buzzer emits an intermittent acoustic signal.	Contact the technician to check and replace the faulty probe.
<b>ALARM! TEV PROBE SHORT CIRCUIT</b>	The TEV probe is faulty. The buzzer emits an intermittent acoustic signal.	Contact the technician to check and replace the faulty probe.
<b>ALARM! TEF PROBE SHORT CIRCUIT</b>	The TEF probe is faulty. The buzzer emits an intermittent acoustic signal.	Contact the technician to check and replace the faulty probe.
<b>ALARM! TEC PROBE SHORT CIRCUIT</b>	The TEC probe is faulty. The buzzer emits an intermittent acoustic signal.	Contact the technician to check and replace the faulty probe.
<b>ALARM! CHECK THE CONNECTION WITH THE INVERTER</b>	The inverter connection with the circuit board is faulty or interrupted.	Call the technician to check the connection between inverter and circuit board.
<b>ALARM! INVERTER KO</b>	The inverter is faulty or in alarm condition.	Call the technician to check correct inverter functioning.

## 8.2 MANAGEMENT OF BATCH FREEZER ALARMS

MESSAGE	DESCRIPTION	REMEDIES
<b>ALARM!</b> EMERGENCY HATCH OPEN	The door is open and/or the safety grid is lifted. The buzzer emits an intermittent acoustic signal.	Make sure that the door is assembled and closed properly. Check that the safety grid is lowered.
<b>ALARM!</b> MOTOR CIRCUIT BREAKER OVERLOAD	A motor circuit breaker 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.
<b>ALARM!</b> INVERTED L2-L3 PHASES	L2-L3 phases inverted in the plug.	Contact the technician to invert the phases in the plug.
<b>ALARM!</b> TIME OUT BATCH FREEZING	If the machine is unable to bring the product to consistency within the time programmed in step P18, the alarm message appears on the display.	In the semi-automatic cycle, select lower times or consistency levels. Check that the amount of product is within the minimum and maximum admitted limits and that it is balanced properly. If the alarm continues, contact the technician.
<b>ALARM!</b> TA MICRO MISSING OR NOT FUNCTIONING	If an anomaly of the microprocessor or of the current transformer supervising the control of the consistency calibration occurs during functioning, the alarm is shown on the display followed by an intermittent beeping of the buzzer.	Contact the technician
<b>ALARM!</b> CURRENT ABSORBED BY BEATER TOO HIGH	During batch freezing the beater motor shows a too high or faulty absorption.	Contact the technician
<b>ALARM!</b> CHECK THE CONNECTION TO THE OMEGA BOARD	The connection cable or the connections between the Omega board and the LCD display show anomalies.	Contact the technician
<b>ALARM!</b> CHECK THE BATTERY OF THE DISPLAY BOARD	The buffer battery of the display board is discharging	Contact the technician to check and replace



### 8.3 HEATER 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.
The machine works regularly but the heating times are long.	SLOW FLAME function active.	Verify that the Slow Flame function is disabled (key LED off).
	Product insufficient.	Work with at least 1/2 the maximum amount of the product foreseen for each TWIN model.
	Missing, worn or incorrectly mounted beater scrapers.	Verify that the scrapers are correctly mounted, in good state and that the relative thrust springs are in seat.
	Missing or incorrectly assembled hopper lid.	Ensure the hopper lid is correctly positioned on the lid to prevent steam escaping.
	Faulty resistance or fluid pump.	Contact the technician.
The machine does not reach temperatures over 100°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 TWIN model.
During functioning the machine becomes noisy and the beater stops.	The belt slips.	Contact the technician to check the belts tension and possibly replace it.
Temperatures above 93°C cannot be selected in semi-automatic programming.	SLOW FLAME function active.	Verify that the Slow Flame function is disabled (key LED off).

## 8.4 BATCH FREEZER 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.
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 works properly but the product is too firm	Unbalanced mixture or too little introduced	Check that the amount of mixture introduced is correct and that it is balanced properly.
	Work program selection incorrect	Select a suitable work program for the product one wishes to achieve.
The machine works properly but the product is not firm enough	Unbalanced mixture or too much introduced	Check that the amount of mixture introduced is correct and that it is balanced properly.
	Work program selection incorrect	Select a suitable work program for the product one wishes to achieve.
	Beater scrapers worn	Check them and replace if necessary.
	Insufficient condensation	Check the installation conditions and that the temperature where the machine is installed does not exceed 35°C.
	Refrigeration system anomaly	Contact the technician.
During batch freezing the machine becomes noisy and the beater stops	The belts slip	Contact the technician to check the belts tension and possibly replace them
During product extraction the machine becomes noisy	Excessive hardening of the product	Make sure you have pressed the "Estrazione" ("Extraction") key before emptying the cylinder.
Presence of liquid ice cream in the drip drawer	Beater gasket absent or worn.	Check the presence of the gasket and that it is not excessively worn.



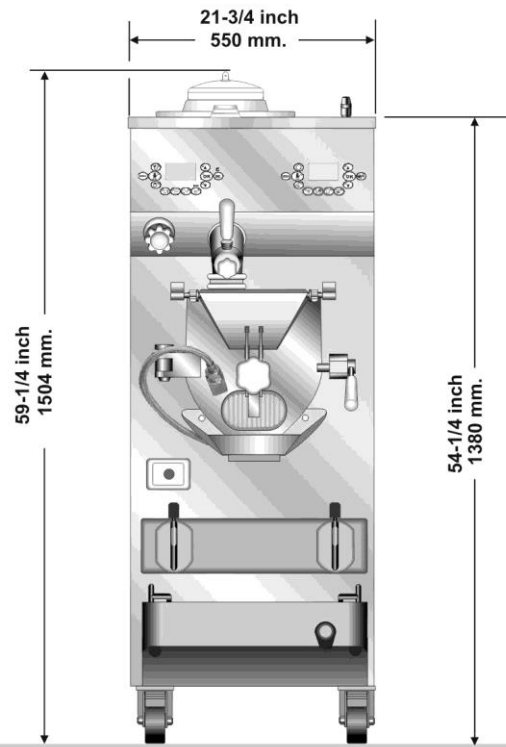
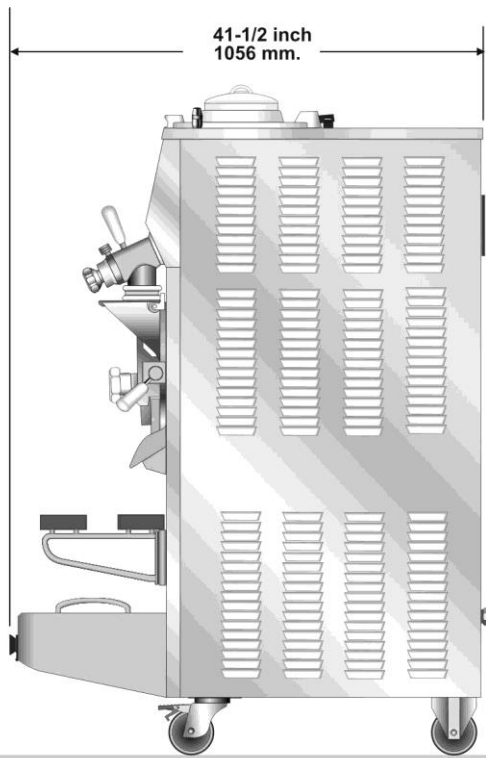
## 9 APPENDICI

### 9.1 Dati tecnici - Technical data

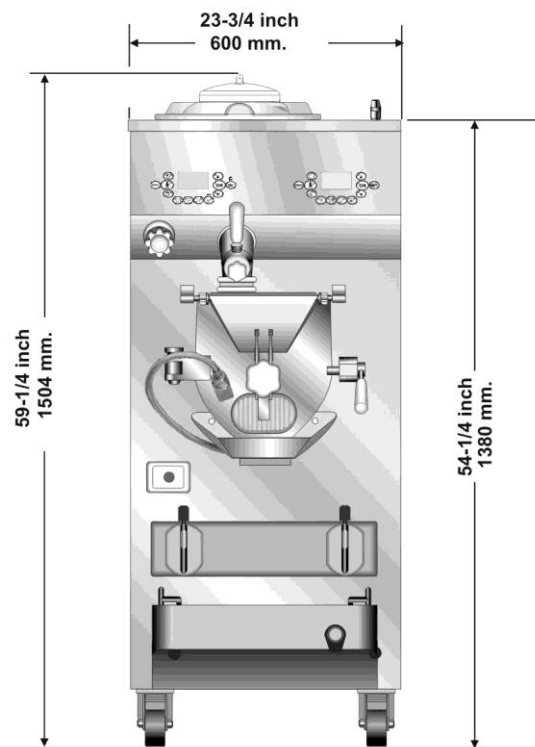
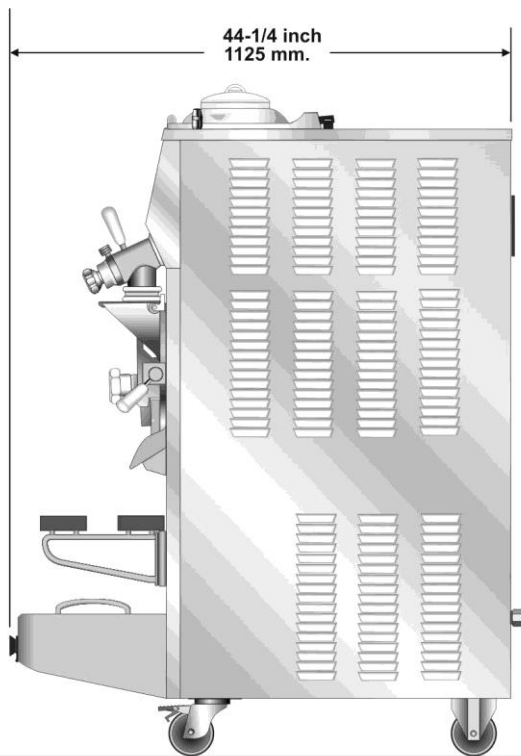
Modello Model Modell Modale Modelo	Alimentazione Current Stromart Tension Tensión	Condensazione Cooling Kühlung Condensation Condensación	Potenza Power Nennleistung Puissance Potencia	Gas R452	Altezza Height Höhe Hauteur Altura	Larghezza a Width Breite Largeur Anchura	Profondità Dept Tiefe Profondeur Profundidad		Peso Weight Gewicht t Poids Peso
TWIN chef		A* - W**	(kw)	(kg)	(cm)	(cm)	BASE	MAX	(kg)
<b>35</b>	400/50/3	W	9	1,200	138	55	70	103	340
	220/60/3	W	9,8						
<b>45</b>	400/50/3	W	10,5	1,400	138	60	77	110	393
	220/60/3	W	11,5						
<b>60</b>	400/50/3	W	12	1,800	138	60	77	110	408
	220/60/3	W	13,5						

\* Aria – Air – Luft – Aire – Aire

\*\* Acqua – Water – Wasser – Eau – Agua

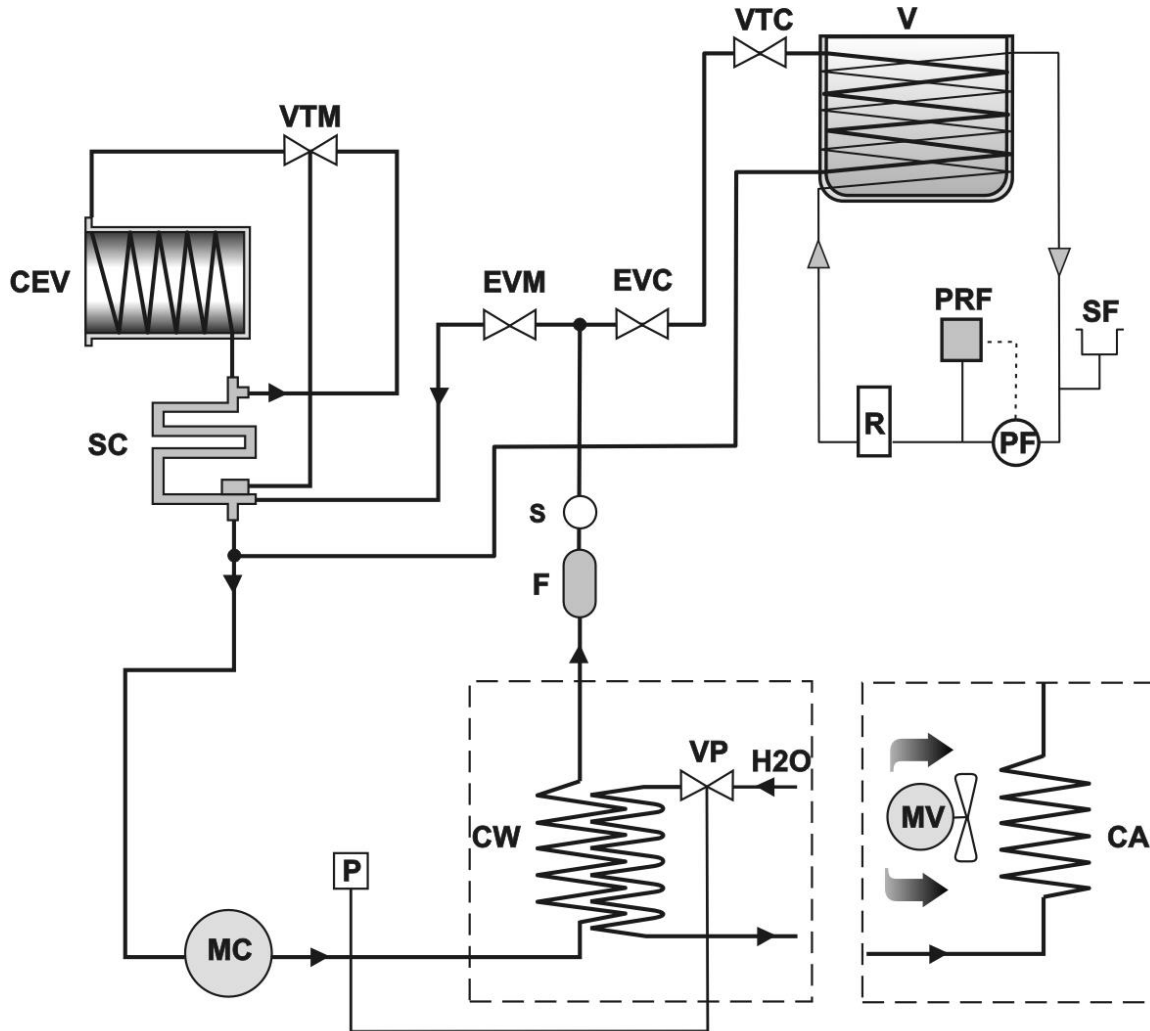


**TWIN CHEF 35 LCD**



**TWIN CHEF 45-60 LCD**

## 9.2 Schema circuito frigorifero- Refrigeration circuit layout



Linea circuito frigorifero Refrigeration circuit line Ligne circuit frigorifique KalteKreislautverbindung Linea circuito frigorifico	Linea circuito fluido Fluid circuit line Ligne circuit fluide Kühlmittel-Kreislauf Linea circuito fluido		SF Serbatoio fluido Fluid tank Reservoir du fluid Kühlmittel-Behälter Alberca fluido	PRF Pressostato fluido Fluid pressostat Pressostat fluid Kühlmittel-Pressostat Presostato fluido
VP Valvola pressostatica Water valve Soupape pressostatique Druckventil Valvula presostatica	CW Condensatore ad acqua Water condensor Condensation à eau Wasserkondensierung Condensación a agua	EVM-EVC Elettrovalvola gas Gas electro valve Vanne électrique gas Gas Elektroventil Valvula electrica gas	F Filtro Filter Filtre Filter Filtro	R Riscaldatore Heater Réchauffer Heizung Calentador
S Spia liquido Led fluid Led fluid Led Kühlmittel Mirilla fluido	VTM-VTC Valvola termostatica Thermostatic valve Vanne thermostatique Thermostatisches ventil Valvula termostatica	CEV Cilindro evaporatore Evaporator cylinder Evaporateur cylindre Zylinder-Verdampfer Evaporador cilindro	SC Scambiatore Heat exchanger Echangeur de chaleur Wärmeaustauscher Cambiador de calor	PF Pompa fluido Fluid pump Pompe fluid Kühlmittel-Pumpe Bomba fluido
CA Condensatore ad aria Air condensor Condensation à air Luftkondensierung Condensación a aire	MV Motoventilatore Fan motor Moteur ventilateur Ventilatormotor Motor ventilador	MC Compressore Compressor Compresseur Kompressor Compresor	P Pressostato Pressostat Pressostat Pressostat Presostato	V Vasca Tank Bac Becken Tina



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### 9.3 IMPIANTO ELETTRICO ELECTRICAL SYSTEM

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.

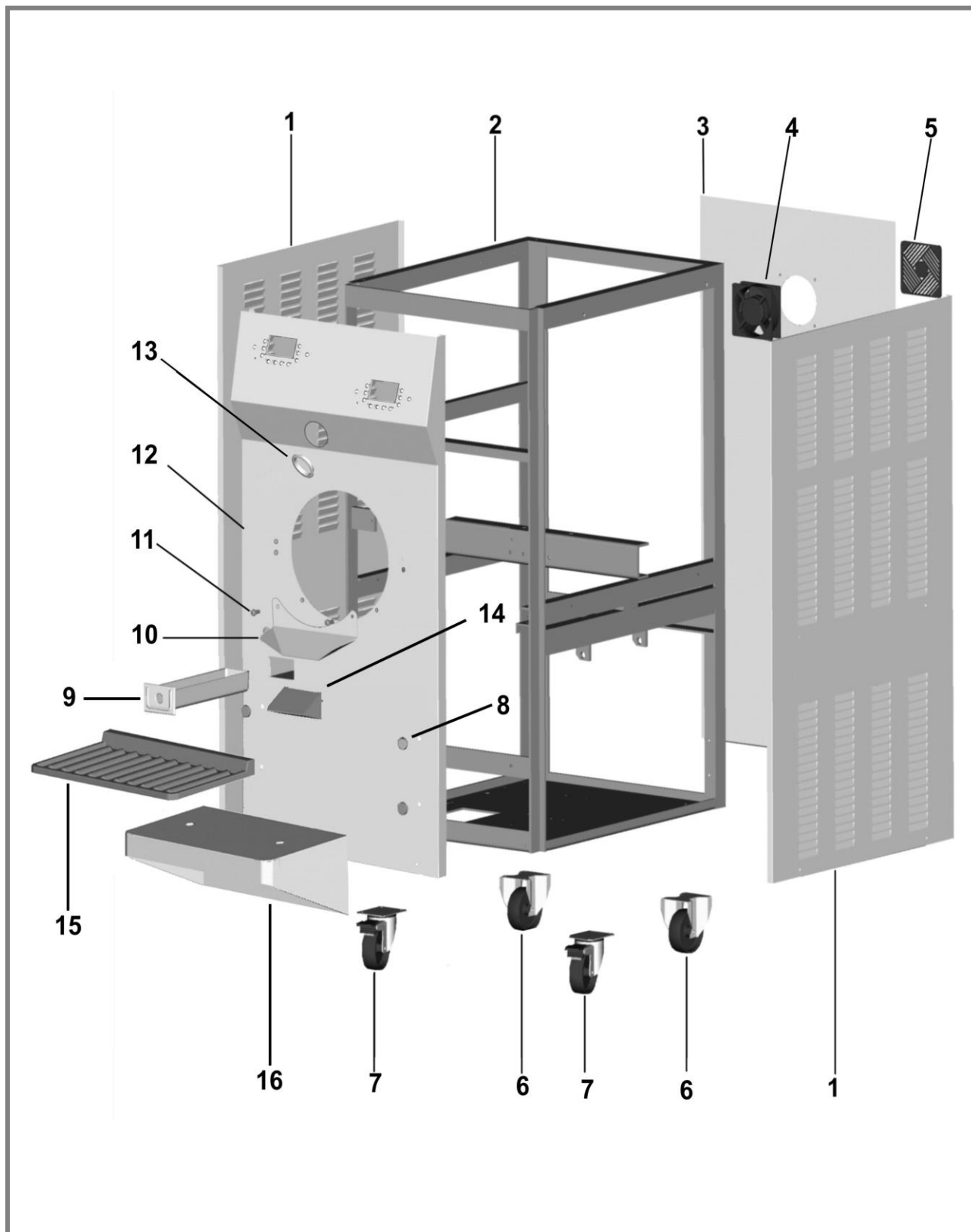
The functional electrical diagram and electric box layout, specific for each model, is placed on the outside of the box lid.

### 9.4 RICAMBI - SPARE PARTS

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.

To request spare parts, it is advised to always indicate the relative code and the name on the key of each table. It is also recommended to always communicate the model and serial number of the machine, as well as the features of the same (voltage, frequency and phases), thus facilitating the identification of the part. To order the compressor spare parts components always indicate the model specified on the motor plate. In case of replacing the pieces, request only FRIGOMAT ORIGINAL spare parts from a dealer or Authorised Retailer. FRIGOMAT declines every liability for damages to persons and/or things deriving from the use of non-original spare parts.



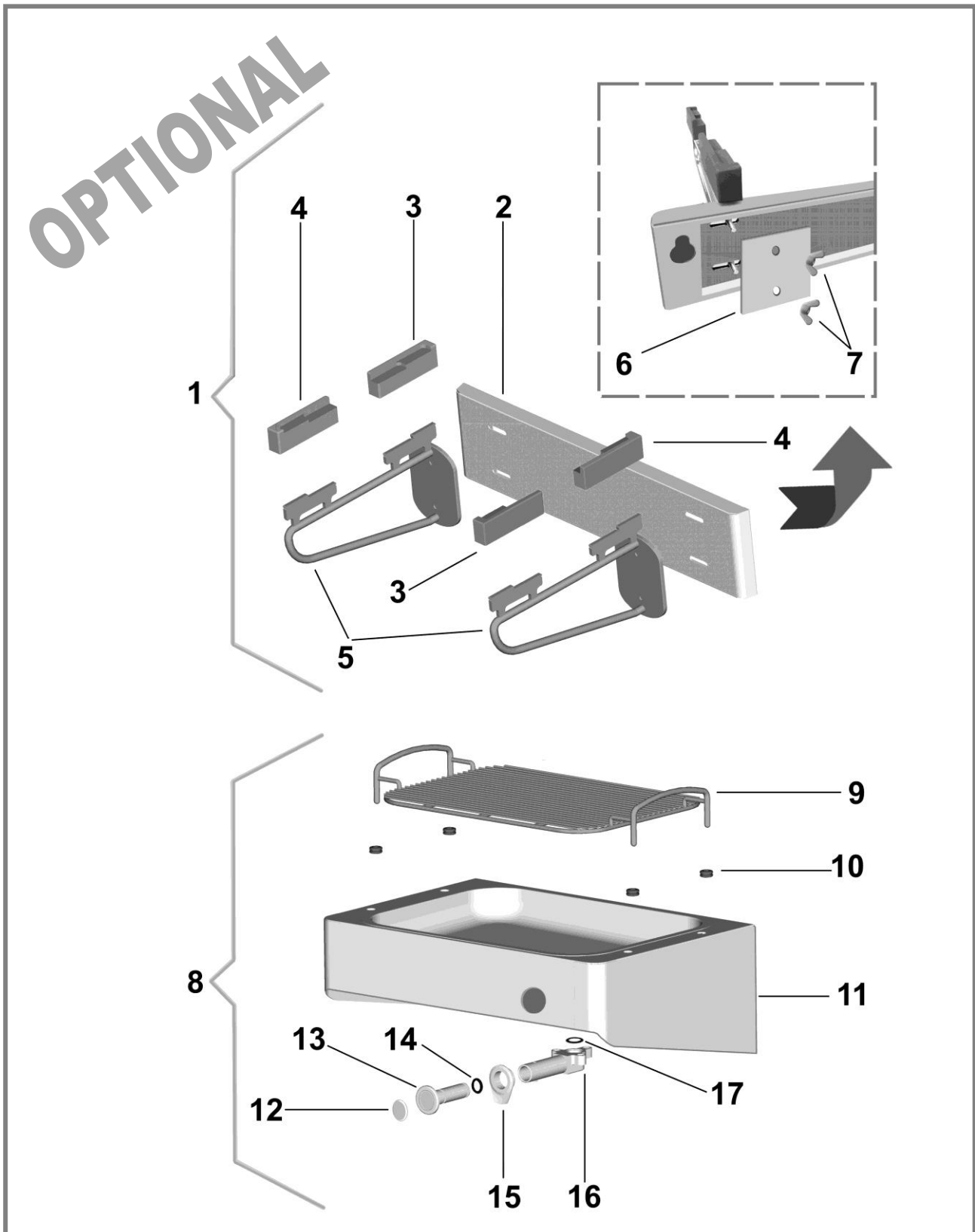




## TWIN Chef 35-45-60 s02

## Tav.1

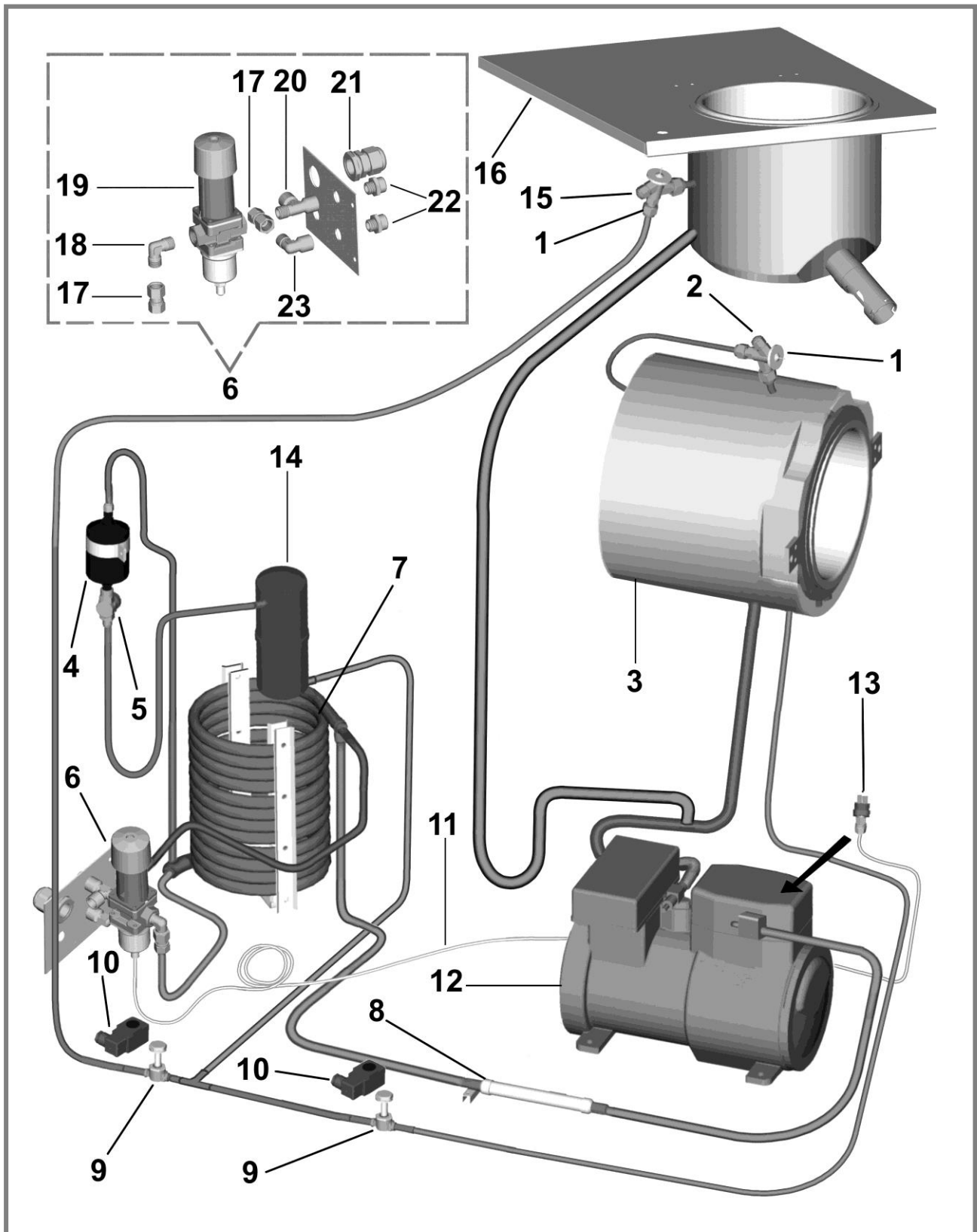
P.	COD.	Mod. TWIN lcd	DESCRIZIONE	DESCRIPTION	DESCRIPTION	BESCHREIBUNG	DESCRIPTION
1	<b>A02.38175</b>	<b>35</b>	Pannello laterale	Side panel	Panneau lat.	Seitenblechl	Panel lateral
	<b>A02.38176</b>	<b>45-60</b>	Pannello laterale	Side panel	Panneau lat.	Seitenblechl	Panel lateral
2	<b>A01.38945</b>	<b>35</b>	Telaio	Frame	Châssis	Gestell	Armazón
	<b>A01.38941</b>	<b>45-60</b>	Telaio	Frame	Châssis	Gestell	Armazón
3	<b>A02.38950</b>	<b>35</b>	Pannello posteriore	Back panel	Panneau postérieur	Hinteres Blech	Panel posterior
	<b>A02.38949</b>	<b>45-60</b>	Pannello posteriore	Back panel	Panneau postérieur	Hinteres Blech	Panel posterior
4	<b>B01.340</b>	<b>35-45-60</b>	Ventilatore	Fan	Ventilateur	Ventilator	Ventilador
5	<b>B03.38574</b>	<b>35-45-60</b>	Griglia ventilatore	grid	grille	das Gitter	parilla
6	<b>F02.014</b>	<b>35-45-60</b>	Ruota fissa	Fixed wheel	Roue fixe	Festes Laufrad	Rueda fija
7	<b>F02.013</b>	<b>35-45-60</b>	Ruota Girevole	Revolving wheel	Roue pivotante	Schwenkbares Laufrad	Rueda giratoria
8	<b>B09.060</b>	<b>35-45-60</b>	Borchia balconcino	Stud for rest	Ecrou pour support	Buegelbolzen	Remache
9	<b>P19.37193</b>	<b>35-45-60</b>	Cassetto Sgocciolatoio	Drip tray	Recueille-gouttes	Tropfblech	Recogedor de gotas
10	<b>A19.38947</b>	<b>35-45-60</b>	Bavagliola	Funnel	Etonnoir	Trichter	Embuto
11	<b>B09.197</b>	<b>35-45-60</b>	Vite bavagliola	Tunnel screw	Vis etonnoir	Trichterschraube	Tornillo embuto
12	<b>A02.41359</b>	<b>35</b>	Pannello anteriore	Front panel	Panneau antérieur	Frontblech	Panel anterior
	<b>A02.41061</b>	<b>45-60</b>	Pannello anteriore	Front panel	Panneau antérieur	Frontblech	Panel anterior
13	<b>P19.38080</b>	<b>35-45-60</b>	Flangia rubinetto	Flange	Bride	Flansch	Brida
14	<b>Z81.41065</b>	<b>35-45-60</b>	Portasonda	Probe holder	Porte sondes	Sondenhalter	Sonda de titular
15	<b>P25.41419</b>	<b>35-45-60</b>	Tappetino	Rubber matting	Tapis de caoutchouc	Gummimatte	tapecito
16	<b>A03.41420</b>	<b>35-45-60</b>	Balconcino	Rest	Support	Buegel	Repisa



## TWIN Chef 35-45-60 s02

## Tav.2

P.	COD.	DESCRIZIONE	DESCRIPTION	DESCRIPTION	BESCHREIBUNG	DESCRIPTION
1	<b>Z22.38835</b>	Assieme completo mensole	Pan holding assy	Appuie bac compl.	Becken-Abstellsystem kompl.	Apoyo cubeta completo
2	<b>B50.38828</b>	Supporto mensole	Pan support	Support bac	Beckenhalter	Apoyo cubeta
3	<b>P01.38833</b>	Fermo vasca "A"	Pan fixing "A"	Ferme-bac "A"	Becken-Halter "A"	Retén-cuba "A"
4	<b>P01.38834</b>	Fermo vasca "B"	Pan fixing "B"	Ferme-bac "B"	Becken-Halter "B"	Retén-cuba "B"
5	<b>Z22.38832</b>	Mensola	Shelf	Console	Ablage	Ménsula
6	<b>A03.38964</b>	Piastra fissaggio mensole	Shelf fixing	Fixage console	Ablage-Fixierung	Fixaje Mensula
7	<b>V14.0001</b>	Dado ad alette	Nut	Ecrou	Mutter	Tuerca
8	<b>Z22.38826</b>	Assieme balconcino	Compl. Drip tray	Egoittoir compl	Kompl. Tropfblech	Recogegotas compl.
9	<b>Z22.38823</b>	Griglia balconcino	Grate	Grille com	Gitter	Rejilla
10	<b>D06.157</b>	Pressacavo	Cable grip	Presse-fils	Kabelhalter	Sujeta-cables
11	<b>B50.38794</b>	Balconcino	Rest	Support	Buegel	Repisa
12	<b>C05.165</b>	Disco	Disc	Disque	Scheibe	Disco
13	<b>P19.35274</b>	Tappo di tenuta	Plug seal	Bouchon	Abdichtungsverschluss	Tapon
14	<b>P10.077</b>	OR 119	OR 119	OR 119	OR 119	OR 119
15	<b>P19.35273</b>	Salvagocce ABS	Dip protection	Protège-goutte ABS	Tropfenschutz ABS	Proteccone de gotas ABS
16	<b>P17.35275</b>	Canotto scarico	Drain pipe	Tuyau d'évacuation	Abflußrohr	Tubo de descarga
17	<b>P10.040</b>	OR 2081	OR 2081	OR 2081	OR 2081	OR 2081

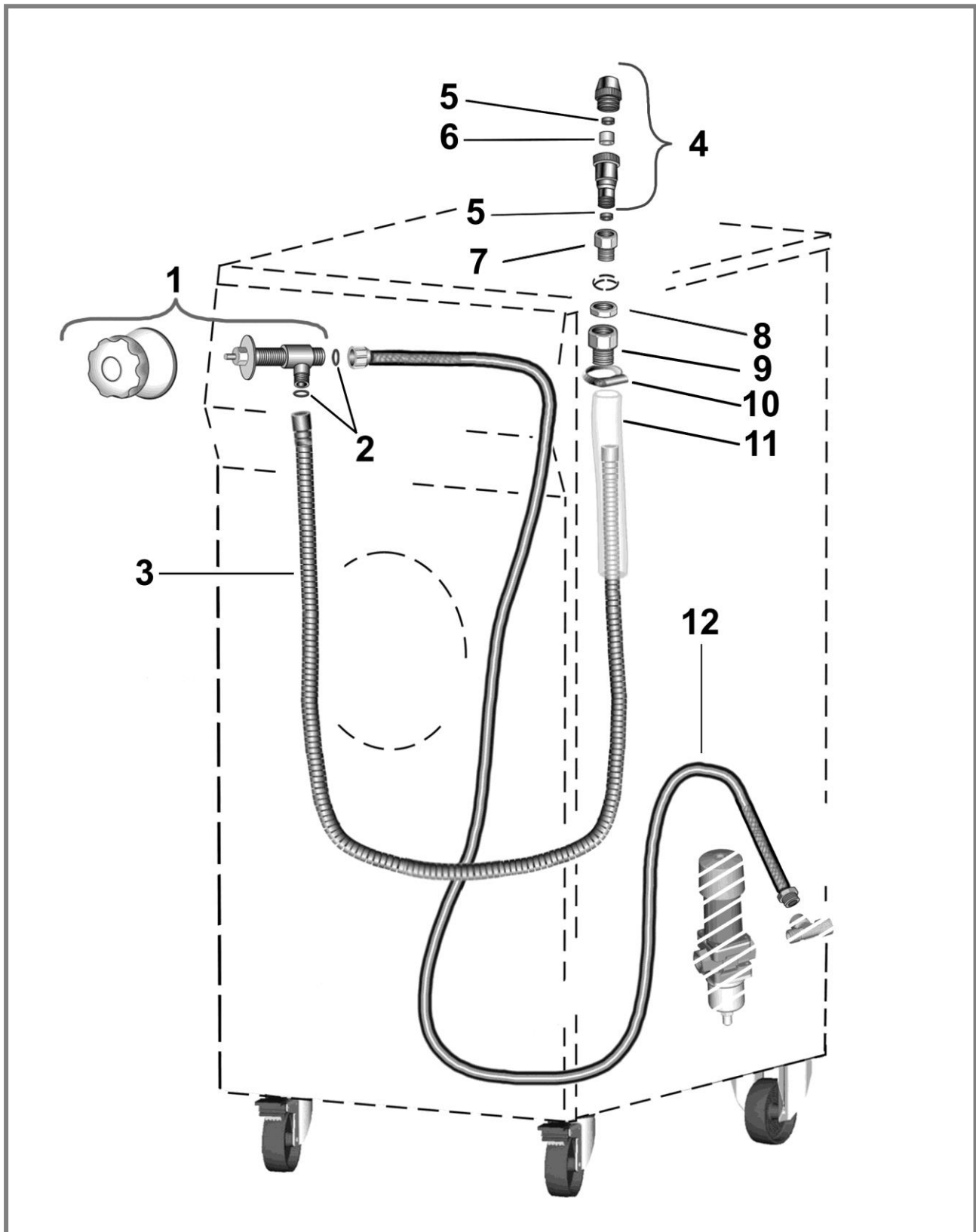




## TWIN Chef 35-45-60 s02

## Tav.3

P.	COD.	Mod. TWIN Chef	DESCRIZIONE	DESCRIPTION	DESCRIPTION	BESCHREIBUNG	DESCRIPTION
1	A02.193	35-45-60	Valvola termostatica	Thermostatic valve	Soupape thermostatique	Thermostatisches Ventil	Válvula termostática
2	A02.169	35	Orificio per valvola termostatica	Orifice for thermostatic valve	Orifice soupape thermostatique	Öffnung für thermost. Ventil	Orificio válvula termostática
	A02.170	45-60	Orificio per valvola termostatica	Orifice for thermostatic valve	Orifice soupape thermostatique	Öffnung für thermost. Ventil	Orificio válvula termostática
3	A06.151	35	Gruppo isolamento	Insulation unit	Groupe isolant	Isolationsgruppe	Grupo aislamiento
	Z56.38683	45	Gruppo isolamento	Insulation unit	Groupe isolant	Isolationsgruppe	Grupo aislamiento
	A06.121	60	Gruppo isolamento	Insulation unit	Groupe isolant	Isolationsgruppe	Grupo aislamiento
4	B04.35032	35-45-60	Filtro	Filter	Filtre	Filter	Filtro
5	A07.046	35-45-60	Spia liquido	Liquid sight glass	Témoins pour liquide	Flüssigkeitskontrolllampe	Testigo líquido
6	Z71.39545	35-45-60	Gruppo valvola pressostatica	Pressare valve assy	Groupe soupape pressostatique	Druckventil kompl.	Válvula presostática
7	A03.090	35	Condensatore ad acqua	Water condenser	Condensateur á eau	Wasserkondensator	Condensador de agua
	A03.091	45-60	Condensatore ad acqua	Water condenser	Condensateur á eau	Wasserkondensator	Condensador de agua
8	R09.001.02	35-45-60	Antivibrante	Vibration damper	Antivibratoire	Schwingungs-dämpfer	Antivibrante
9	A02.152	35-45-60	Elettrovalvola	Solenoid valve	Electrovanne	Elektroventil	Electroválvula
10	A02.154	35-45-60	Bobina elettrovalvola	Solenoid valve coil	Bobine électrovanne	Spule Elektroventil	Bobina electroválvula
11	T50.016	35-45-60	Capillare valvola pressostatica	Capillary tube for water valve	Capillaire soupape thermostatique	Kapillares Druckventil	Capilar válvula presostática
12	B01.39010	35	Compressore 400/50/3	Compressor 400/50/3	Compresseur 400/50/3	Kompressor 400/50/3	Compresor 400/50/3
	B01.39009	35	Compressore 220/60/3	Compressor 220/60/3	Compresseur 220/60/3	Kompressor 220/60/3	Compresor 220/60/3
	B01.38782	45	Compressore 400/50/3	Compressor 400/50/3	Compresseur 400/50/3	Kompressor 400/50/3	Compresor 400/50/3
	B01.39008	60	Compressore 400/50/3	Compressor 400/50/3	Compresseur 400/50/3	Kompressor 400/50/3	Compresor 400/50/3
	B01.39007	60	Compressore 220/60/3	Compressor 220/60/3	Compresseur 220/60/3	Kompressor 220/60/3	Compresor 220/60/3
13	A02.140	35-45-60	Pressostato	Pressure switch	Pressostat	Druckwächter	Presóstato
14	B04.38410	35-45-60	Raccogli liquido	Fluid tank	Recueille - liquide	Flüssigkeitsbehälter	Recogedor liquido
15	A02.169	35	Orificio per valvola termostatica	Orifice for thermostatic valve	Orifice soupape thermostatique	Öffnung für thermost. Ventil	Orificio válvula termostática
	A02.170	45-60	Orificio per valvola termostatica	Orifice for thermostatic valve	Orifice soupape thermostatique	Öffnung für thermost. Ventil	Orificio válvula termostática
16	Z56.39536	35-45	Gruppo isolamento bollitore	Insulation unit	Groupe isolant	Isolationsgruppe	Grupo aislamiento
	Z56.39532	60	Gruppo isolamento bollitore	Insulation unit	Groupe isolant	Isolationsgruppe	Grupo aislamiento
17	R02.114	35-45-60	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
18	R03.019	35-45-60	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
19	A02.061	35-45-60	Valvola pressostatica	Water valve	Soupape pressostatique	Druckventil	Válvula presostática
20	R05.009	35-45-60	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
21	E09.37287	35-45-60	Pressacavo	Cable grip	Presse-fils	Kabelhalter	Sujeta-cables
22	R02.113	35-45-60	Niplo 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
23	R03.058	35-45-60	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

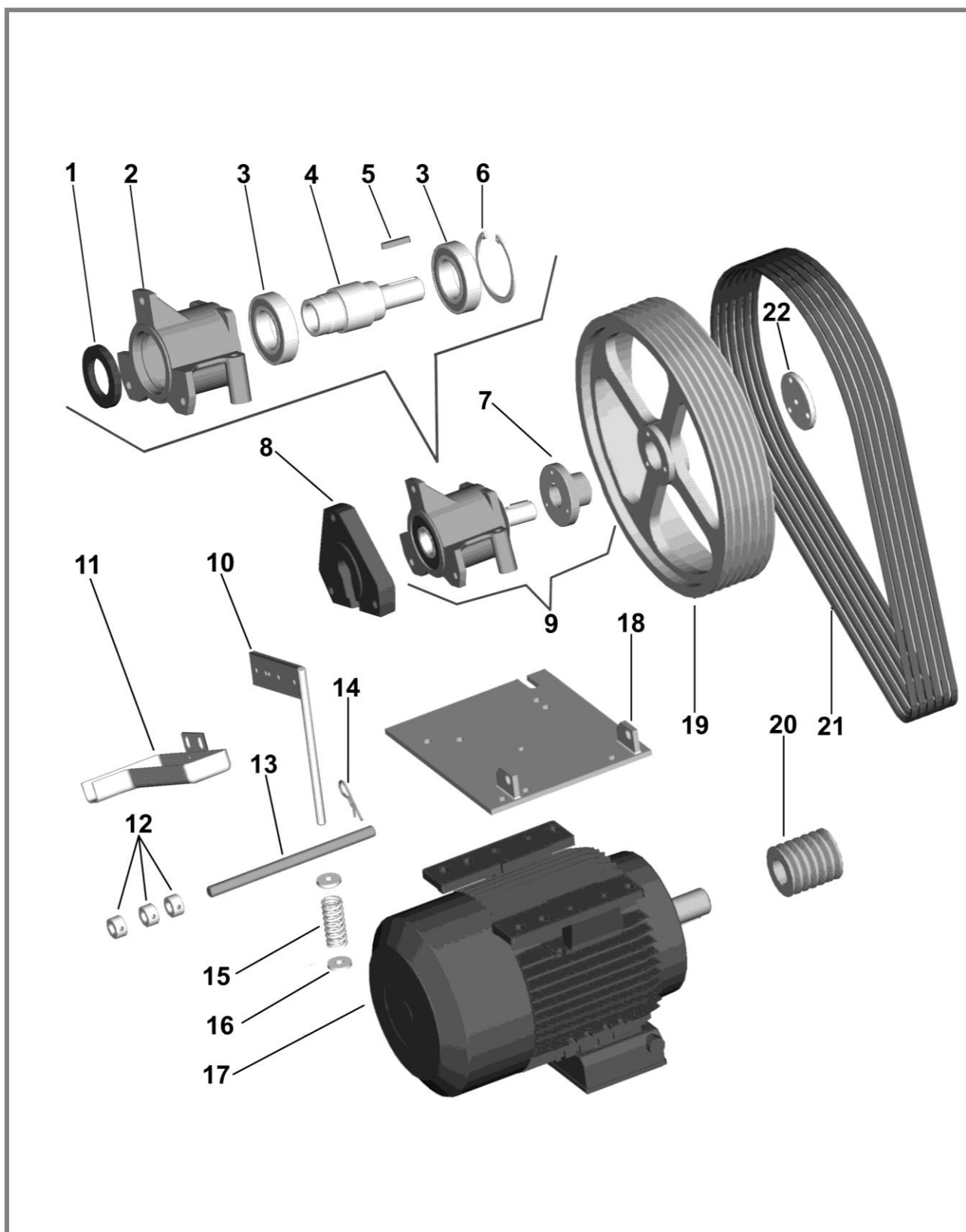


## TWIN Chef 35-45-60 s02

## Tav.4

P.	COD.	DESCRIZIONE	DESCRIPTION	DESCRIPTION	BESCHREIBUNG	DESCRIPTION
1	<b>A10.007</b>	Rubinetto	Cock	Robinet	Ausgabehahn	Grifo
2	<b>P06.085</b>	Guarnizione	Basket	Joint	Dichtung	Guarnición
3	<b>A10.013</b>	Tubo doccia	Shower hose	Tuyau douchette	Duschschlauch	Tubo ducha
4	<b>A10.003</b>	Terminale per doccia	Shower terminal	Terminal de douche	Duschenteil	Terminal ducha
5	<b>P06.011</b>	Guarnizione per flessibile	Hose gasket	Joint pour flexible	Schlauchdichtung	Guarnición flexible
6	<b>P06.030.02</b>	Guarnizione per terminale	Terminal gasket	Joint terminal	Dichtung für Endanschluß	Guarnición terminal
7	<b>A10.005</b>	Manicotto doccia	Sleeve for shower	Manchon pour douchette	Muffe f. Dusche	Manguito por ducha
8	<b>V13.037</b>	Dado esagonale 1/2"	Hexagon nut 1/2"	Ecrou hexagonal 1/2"	Sechskantmutter 1/2"	Dado exagonal 1/2"
9	<b>R02.018</b>	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"
10	<b>B13.017</b>	Fascetta 23-35/9	Clamp 23-35/9	Bague 23-35/9	Klemme 23-35/9	Abrazadera 23-35/9
11	<b>S03.37087</b>	Tubo acrilico	acrylic tube	tube acrylique	Acrylröhre	tubo de acrílico
12	<b>H05.39814</b>	Tubo flessibile L.1750 3/8M-1/2F	Flexible tube L.1750 3/8M-1/2F	Tuyau flexible L.1750 3/8M-1/2F	Schlauch L.1750 3/8M-1/2F	Tubo flexible L.1750 3/8M-1/2F



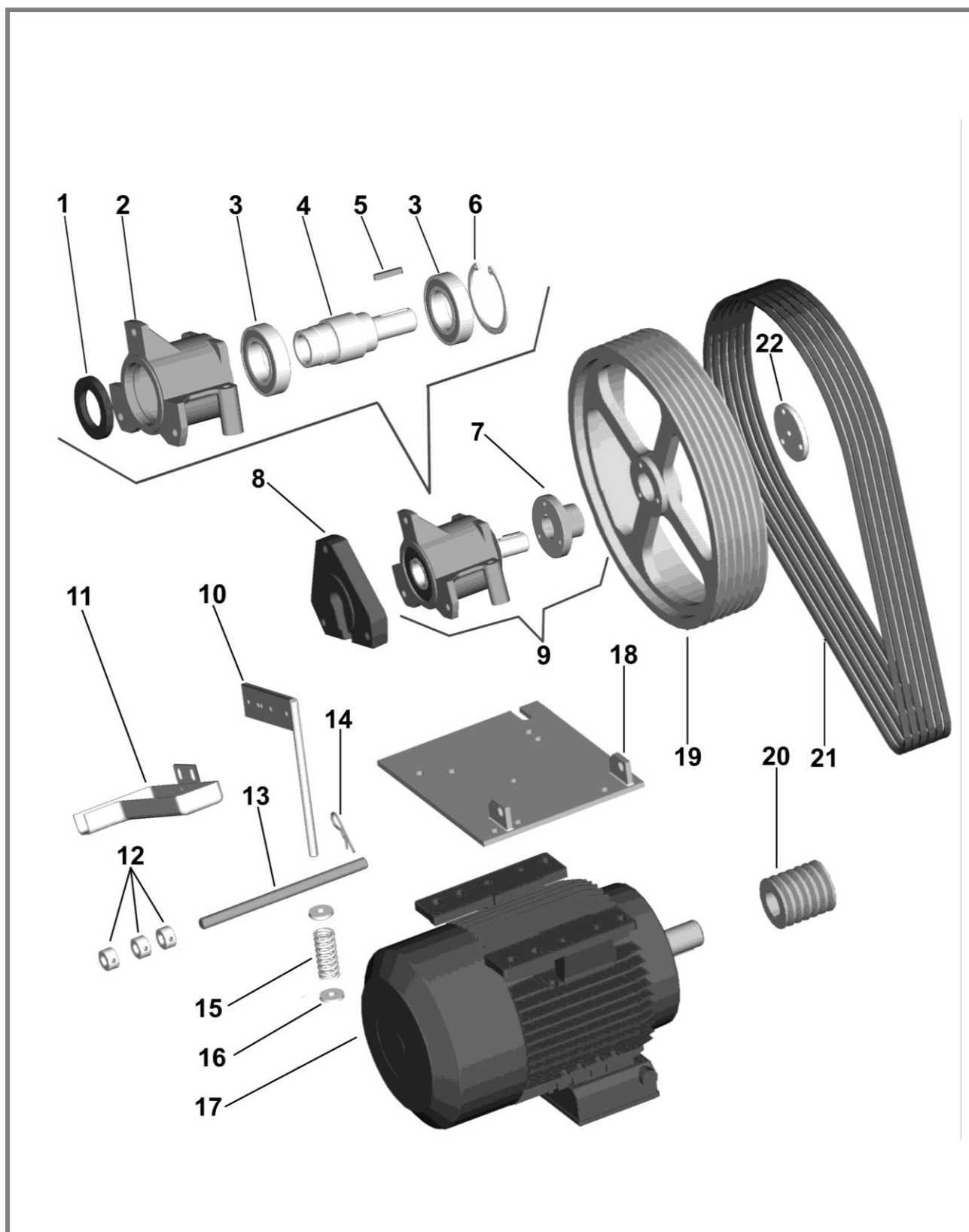




## TWIN Chef 35-45-60 s02 400/50/3

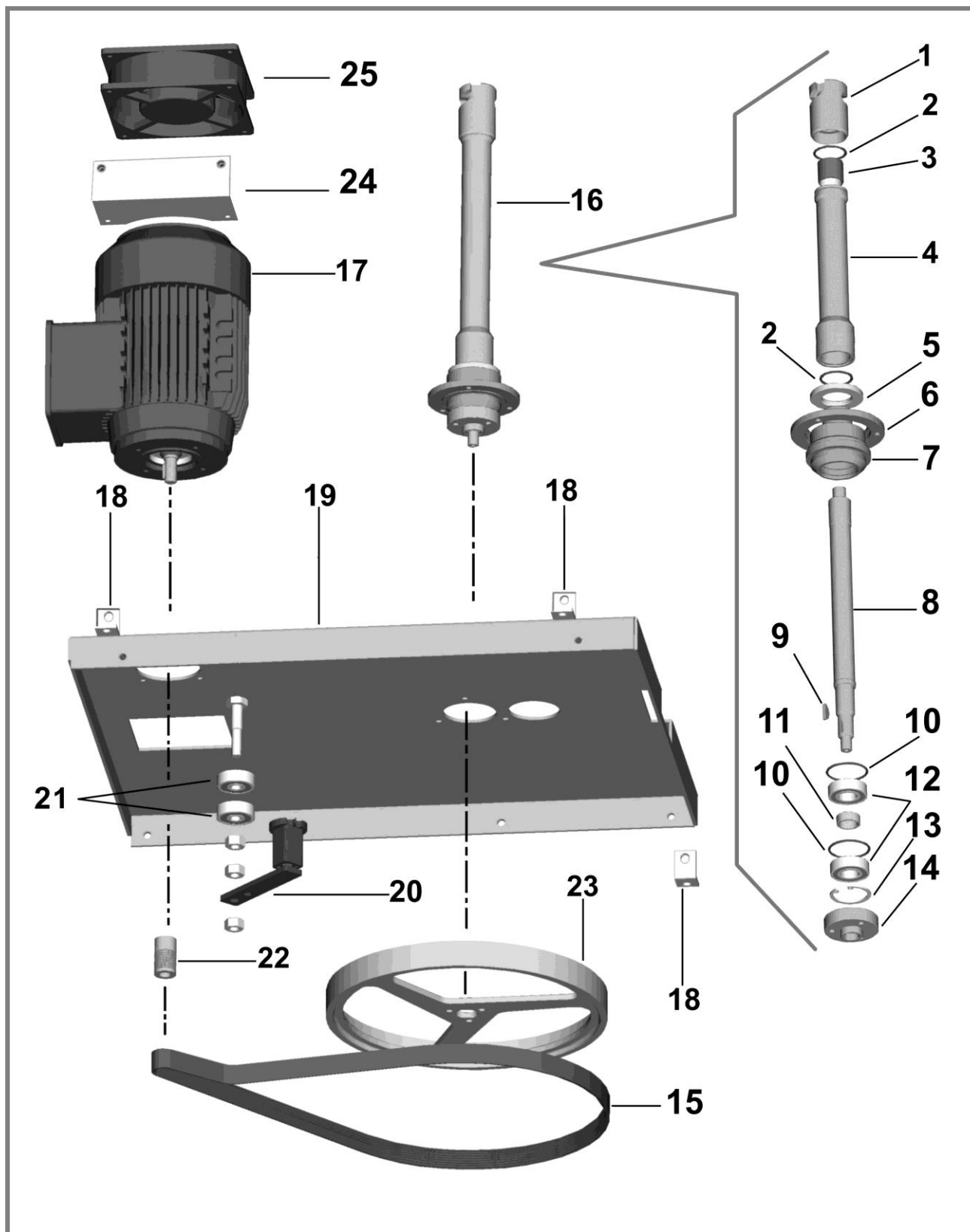
## Tav.5

P.	COD.	Mod. TWIN Chef	DESCRIZIONE	DESCRIPTION	DESCRIPTION	BESCHREIBUNG	DESCRIPTION
1	<b>P11.043</b>	<b>35-45-60</b>	Anello di tenuta	Seal Ring	Joint	Dichtung	Arandela de sujeccion
2	<b>B04.120</b>	<b>35-45-60</b>	Corpo supporto	Body	Corp du support	Gehäuse	Cuerpo soporte
3	<b>B14.007</b>	<b>35-45-60</b>	Cuscinetto	Bearing	Galet	Kugellager	Cojinete
4	<b>B04.106</b>	<b>35-45-60</b>	Perno condotto	Driven pin	Axe	Bolzen	Pernio canal
5	<b>B04.131</b>	<b>35-45-60</b>	Chiavetta	Key	Clavette	Keil	Chaveta
6	<b>V17.37933</b>	<b>35-45-60</b>	Seeger DI90	Seegerring DI90	Seeger DI90	Seegerring DI90	Seeger DI90
7	<b>B02.055</b>	<b>35-45-60</b>	Mozzo puleggia	Hub	Moyeu	Nabe	Eje pulea
8	<b>B10.235</b>	<b>35-45-60</b>	Guarnizione post.	Termic trap	Joint postérieur	Hintere Abdichtung	Guarnición post.
9	<b>B04.122</b>	<b>35-45-60</b>	Assieme supporto	Support assy	Support compl.	Kompl. Halter	Conjunto soporte
10	<b>F03.228</b>	<b>35-45-60</b>	Staffa tirante	Bolt	Tige	Bride	Estafa tirante
11	<b>A04.38770</b>	<b>35</b>	Sgocciolatoio	Drip tray	Recueille-gouttes	Tropfblech	Recogedor
	<b>A04.38948</b>	<b>45-60</b>	Sgocciolatoio	Drip tray	Recueille-gouttes	Tropfblech	Recogedor
12	<b>B10.236</b>	<b>35-45-60</b>	Boccola	Bush	Douille	Buchse	Hebilla
13	<b>L21.38182</b>	<b>35</b>	Perno piastra	Stud - Pin	Goujon - Axe	Bolzen	Perno
	<b>L21.37520</b>	<b>45-60</b>	Perno piastra	Stud - Pin	Goujon - Axe	Bolzen	Perno
14	<b>V14.071.02</b>	<b>35-45-60</b>	Copiglia sagomata	Split pin	Goupille	Splinte	Chaveta moldurado
15	<b>B11.026</b>	<b>35-45-60</b>	Molla	Spring	Ressort	Feder	Muelle
16	<b>P04.095</b>	<b>35-45-60</b>	Rondella in gomma	Rubber washer	Ecrou en caoutchouc	Gummi-Scheibe	Arandela en goma
17	<b>B01.343</b>	<b>35</b>	Motore mescolatore 400/50/3	Beater motor 400/50/3	Moteur mélangeur 400/50/3	Rührmotor 400/50/3	Motor agitador 400/50/3
	<b>B01.342</b>	<b>45-60</b>	Motore mescolatore 400/50/3	Beater motor 400/50/3	Moteur mélangeur 400/50/3	Rührmotor 400/50/3	Motor agitador 400/50/3
18	<b>A04.38942</b>	<b>35-45-60</b>	Piastra motore	Support plate	Support du moteur	Motorhalter	Brida motor
19	<b>L06.38864</b>	<b>35-45</b>	Puleggia condotta	Driven pulley	Poulie conduite	Geführte Rolle	Pulea conducta
	<b>L06.38865</b>	<b>60</b>	Puleggia condotta	Driven pulley	Poulie conduite	Geführte Rolle	Pulea conducta
20	<b>B02.008</b>	<b>35</b>	Puleggia motore 400/50/3	Driving pulley 400/50/3	Poulie de conduite 400/50/3	Führungsrolle 400/50/3	Pulea conductora 400/50/3
	<b>B02.017</b>	<b>45-60</b>	Puleggia motore 400/50/3	Driving pulley 400/50/3	Poulie de conduite 400/50/3	Führungsrolle 400/50/3	Pulea conductora 400/50/3
21	<b>P10.38822</b>	<b>35-45-60</b>	Cinghia	Belt	Courroie	Riemen	Correa
22	<b>B02.051</b>	<b>35-45-60</b>	Piattello pul.cond.	Driven pulley plate	Plat de poulie	Scheibe fuer Rolle	Platito polea



**TWIN Chef 35-45-60 s02 220/60/3**
**Tav.6**

P.	COD.	Mod. TWIN	DESCRIZIONE	DESCRIPTION	DESCRIPTION	BESCHREIBUNG	DESCRIPTION
1	<b>P11.043</b>	<b>35-45-60</b>	Anello di tenuta	Seal Ring	Joint	Dichtung	Arandela de sujeccion
2	<b>B04.120</b>	<b>35-45-60</b>	Corpo supporto	Body	Corp du support	Gehäuse	Cuerpo soporte
3	<b>B14.007</b>	<b>35-45-60</b>	Cuscinetto	Bearing	Galet	Kugellager	Cojinete
4	<b>B04.106</b>	<b>35-45-60</b>	Perno condotto	Driven pin	Axe	Bolzen	Pernio canal
5	<b>B04.131</b>	<b>35-45-60</b>	Chiavetta	Key	Clavette	Keil	Chaveta
6	<b>V17.37933</b>	<b>35-45-60</b>	Seeger DI90	Seegerring DI90	Seeger DI90	Seegerring DI90	Seeger DI90
7	<b>B02.055</b>	<b>35-45-60</b>	Mozzo puleggia	Hub	Moyeu	Nabe	Eje pulea
8	<b>B10.235</b>	<b>35-45-60</b>	Guarnizione post.	Termic trap	Joint postérieur	Hintere Abdichtung	Guarnición post.
9	<b>B04.122</b>	<b>35-45-60</b>	Assieme supporto	Support assy	Support compl.	Kompl. Halter	Conjunto soporte
10	<b>F03.228</b>	<b>35-45-60</b>	Staffa tirante	Bolt	Tige	Bride	Estafa tirante
11	<b>A04.38770</b>	<b>35</b>	Sgocciolatoio	Drip tray	Recueille-gouttes	Tropfblech	Recogedor
	<b>A04.38948</b>	<b>45-60</b>	Sgocciolatoio	Drip tray	Recueille-gouttes	Tropfblech	Recogedor
12	<b>B10.236</b>	<b>35-45-60</b>	Boccola	Bush	Douille	Buchse	Hebilla
13	<b>L21.38182</b>	<b>35</b>	Perno piastra	Stud - Pin	Goujon - Axe	Bolzen	Perno
	<b>L21.37520</b>	<b>45-60</b>	Perno piastra	Stud - Pin	Goujon - Axe	Bolzen	Perno
14	<b>V14.071.02</b>	<b>35-45-60</b>	Copiglia sagomata	Split pin	Goupille	Splinte	Chaveta moldurado
15	<b>B11.026</b>	<b>35-45-60</b>	Molla	Spring	Ressort	Feder	Muelle
16	<b>P04.095</b>	<b>35-45-60</b>	Rondella in gomma	Rubber washer	Ecrou en caoutchouc	Gummi-Scheibe	Arandela en goma
17	<b>E01.39880</b>	<b>35</b>	Motore mescolatore 220/60/3	Beater motor 220/60/3	Moteur mélangeur 220/60/3	Rührmotor 220/60/3	Motor agitador 220/60/3
	<b>E01.39879</b>	<b>45-60</b>	Motore mescolatore 220/60/3	Beater motor 220/60/3	Moteur mélangeur 220/60/3	Rührmotor 220/60/3	Motor agitador 220/60/3
18	<b>A04.38942</b>	<b>35-45-60</b>	Piastra motore	Support plate	Support du moteur	Motorhalter	Brida motor
19	<b>L06.38864</b>	<b>35-45</b>	Puleggia condotta	Driven pulley	Poulie conduite	Geführte Rolle	Pulea conducta
	<b>L06.38865</b>	<b>60</b>	Puleggia condotta	Driven pulley	Poulie conduite	Geführte Rolle	Pulea conducta
20	<b>B02.082</b>	<b>35</b>	Puleggia motore 220/60/3	Driving pulley 220/60/3	Poulie de conduite 220/60/3	Führungsrolle 220/60/3	Pulea conductora 220/60/3
	<b>B02.142</b>	<b>45-60</b>	Puleggia motore 220/60/3	Driving pulley 220/60/3	Poulie de conduite 220/60/3	Führungsrolle 220/60/3	Pulea conductora 220/60/3
21	<b>P01.033</b>	<b>35-45-60</b>	Cinghia	Belt	Courroie	Riemen	Correa
22	<b>B02.051</b>	<b>35-45-60</b>	Piattello pul.cond.	Driven pulley plate	Plat de poulie	Scheibe fuer Rolle	Platito polea

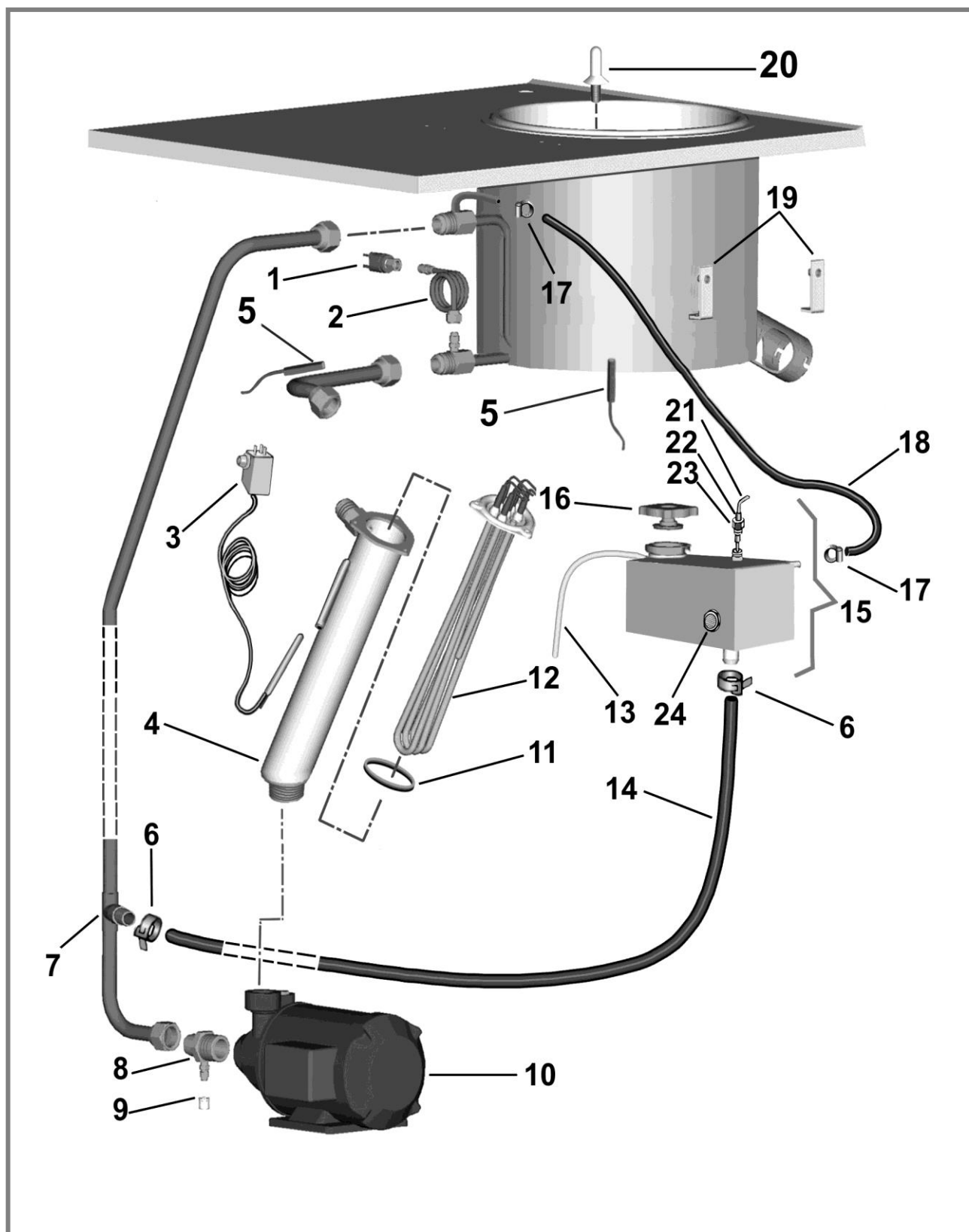




## TWIN Chef 35-45-60 s02

Tav.7

P.	COD.	Mod. TWIN	DESCRIZIONE	DESCRIPTION	DESCRIPTION	BESCHREIBUNG	DESCRIPTION
1	<b>L21.38086</b>	<b>35-45-60</b>	Testa di trascinamento	Entraining head	Tête d'entraînement	Drehkopf	Cabeza de arrastro
2	<b>P10.037</b>	<b>35-45-60</b>	OR 2106	OR 2106	OR 2106	OR 2106	OR 2106
3	<b>A11.38184</b>	<b>35-45-60</b>	Bussola	Bush/sleeve	Douille	Buchse/Huelse	Aguja
4	<b>L21.38067</b>	<b>35-45-60</b>	Canotto	Sleeve - Transmission tube	Tube	Röhrchen - Huelse	Tube
5	<b>P21.38062</b>	<b>35-45-60</b>	Trappola termica	Insulating support	Support isolé	Isolierter-Kopf	Soporte aislato
6	<b>L21.38376</b>	<b>35-45-60</b>	Flangia per supporto	Flange	Bride	Flansch	Brida
7	<b>L21.38059</b>	<b>35-45-60</b>	Supporto trasmissione	Drive bearing	Support de transmission	Antrieblager	suporte transmision
8	<b>L21.38068</b>	<b>35-45-60</b>	Albero trasmissione	Drive shaft	Arbre de la transmission	Getriebevelle	Eje de transmision
9	<b>V18.38069</b>	<b>35-45-60</b>	Chiavetta	Key	Clavette	Keil	Chaveta
10	<b>P10.014</b>	<b>35-45-60</b>	OR 2137	OR 2137	OR 2137	OR 2137	OR 2137
11	<b>L21.38060</b>	<b>35-45-60</b>	Distanziale cuscinetti	Spacer - Tube - Shim	Entretoise - Bague - Rondelle	Zwischenteil - Scheibe	Distanciador
12	<b>B14.036</b>	<b>35-45-60</b>	Cuscinetto	Bearing	Galet	Kugellager	Cojinete
13	<b>V14.072</b>	<b>35-45-60</b>	Seeger DI90	Seegerring DI90	Seeger DI90	Seegerring DI90	Seeger DI90
14	<b>L21.38063</b>	<b>35-45-60</b>	Flangia	Flange	Bride	Flansch	Brida
15	<b>P10.38199</b>	<b>35</b>	Cinghia poly V	Belt poly V	Courroie poly V	Riemen poly V	Correa poly V
	<b>P10.38187</b>	<b>45-60</b>	Cinghia poly V	Belt poly V	Courroie poly V	Riemen poly V	Correa poly V
16	<b>Z75.38070</b>	<b>35-45-60</b>	Assieme trasmissione	Drive assy	Transmission complète	Kompl. Antrieb	transmision compl.
17	<b>E01.38186</b>	<b>35-45-60</b>	Motore mescolatore	Mixer motor	Moteur mélangeur	Rühmotor	Motor mezclador
18	<b>A04.38074</b>	<b>35-45-60</b>	Staffa fissaggio	Fixing bracket	Branche de fixation	Fixierstaffel	Molde fijage
19	<b>A01.38168</b>	<b>35</b>	Piastra bollitore	Support plate	Support du cuiseur	Kocherhalter	plancha calentador
	<b>A01.38972</b>	<b>45</b>	Piastra bollitore	Support plate	Support du cuiseur	Kocherhalter	plancha calentador
	<b>A01.38008</b>	<b>60</b>	Piastra bollitore	Support plate	Support du cuiseur	Kocherhalter	plancha calentador
20	<b>B65.37494</b>	<b>35-45-60</b>	Tendicinghia	Belt tightener	Galopin de tension	Riemenspanner	Saporte correa
21	<b>A11.37495</b>	<b>35-45-60</b>	Cuscinetto	Bearing	Galet	Kugellager - Rolle - Lager	Cojinete
22	<b>L06.38072</b>	<b>35-45-60</b>	Puleggia motore	Driving pulley	Poulie de conduite	Riemenscheibe	Polea conductora
23	<b>L06.38064</b>	<b>35-45-60</b>	Puleggia condotta	Driven pulley	Poulie conduite	Geführte Rolle	Polea conducta
24	<b>A04.39707</b>	<b>35-45-60</b>	Staffa	Bracket	Patte	Halterung	Molde
25	<b>B01.340</b>	<b>35-45-60</b>	Ventilatore	Fan	Ventilateur	Ventilator	Ventilador

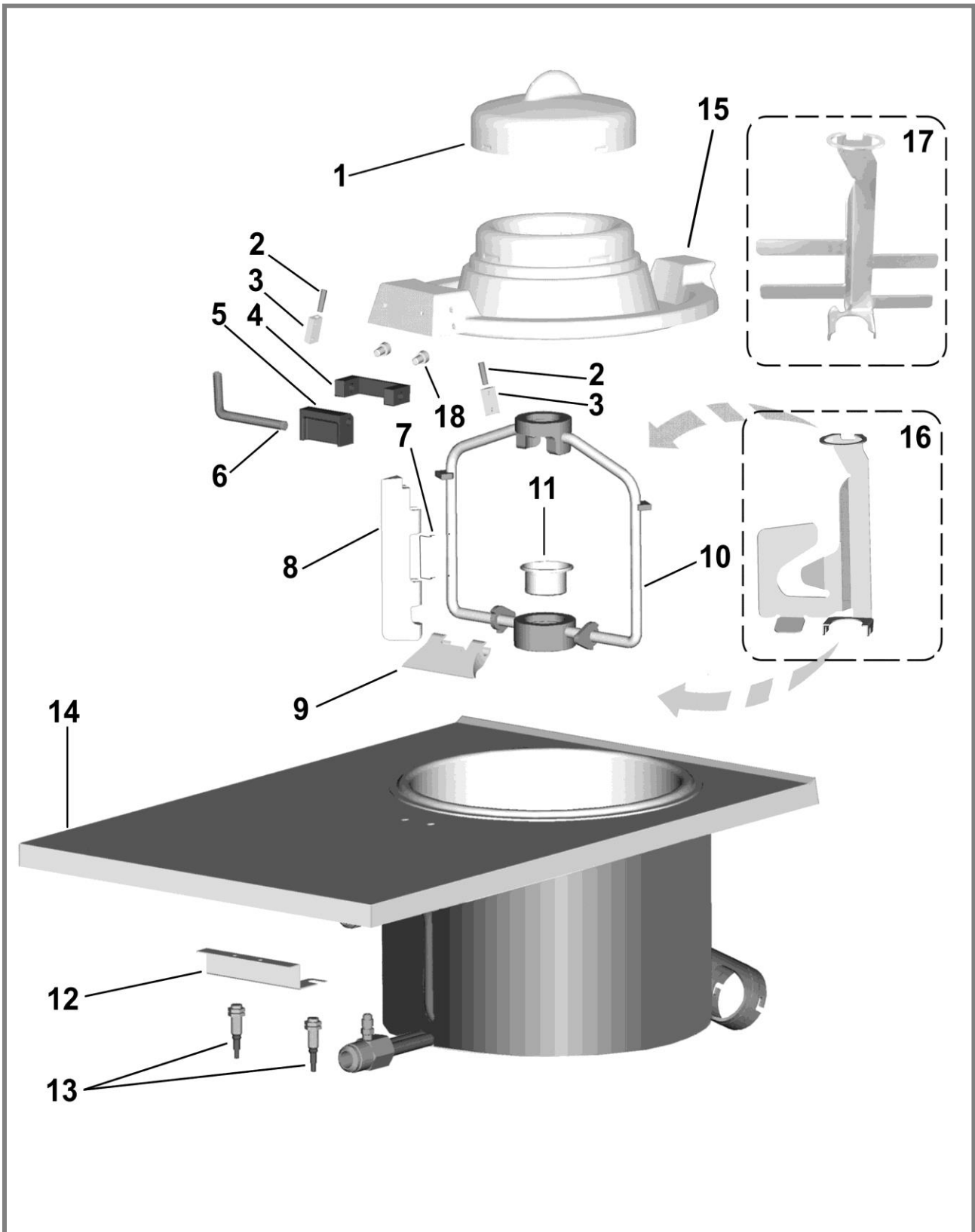


**TWIN Chef 35-45-60 s02**
**Tav.8**

P.	COD.	DESCRIZIONE	DESCRIPTION	DESCRIPTION	BESCHREIBUNG	DESCRIPTION
1*	<b>B11.38505</b>	Pressostato	Pressure switch	Pressostat	Druckwächter	Presóstato
2*	<b>Z96.35507</b>	Assieme tubo pressostato	Pressure switch pipe assembly	Groupe tuyau pressostat	Rohr u. Druckwächter zusammen	Grupo tubo presóstato
3	<b>B11.37013</b>	Termostato	Thermostat	Thermostat	Thermostat	Termostato
4	<b>Z78.39054</b>	Riscaldatore	Heater	Réchauffeur	Heizung - Heizkoerper	Calentador
5	<b>E05.38215</b>	Sonda temperatura	Temperature probe	Sonde température	Temperatursonde	Sonda temperatura
6	<b>B13.128</b>	Fascetta FBS 29/12	Clamp FBS 29/12	Collier FBS 29/12	Faschette FBS 29/12	Abrazadera FBS 29/12
7	<b>R06.007</b>	Tee	tee-joint	Tee	Tee	Tee
8	<b>R02.101 + R02.031</b>	Riduzione M/M 1"- 3/4 SAE + Attacco carica	Adaptor M/M 1"- 3/4 SAE + Charge coupling	Réducteur M/M 1"- 3/4 SAE + Attelage charge	Reduzierstk. M/M 1"- 3/4 SAE + Einfuellanschluss	Adaptador M/M 1"- 3/4 SAE + Conexión carga
9	<b>R02.032</b>	Cappuccio	Cap	Capuchon	Anschlusskappe	Caperuza
10	<b>E01.38333</b>	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
	<b>E01.39878</b>	Pompa fluido 220/60/3	Fluid pump 220/60/3	Pompe fluide 220/60/3	Flüssigkeitspumpe 220/60/3	Bomba fluido 220/60/3
11	<b>P10.128</b>	OR 6225	OR 6225	OR 6225	OR 6225	OR 6225
12	<b>D08.034.01</b>	Resistenza	Resistance	Résistance	Widerstand-Heizkoerper	Resistencia
13	<b>T10.090</b>	Tubo sfiato	Drain pipe	Tuyau d'échappement	Überlaufrohr	Tubo de desfogue
14	<b>T10.095</b>	Tubo 18X28,5	Tube 18X28,5	Tuyau 18X28,5	Netzrohr 18X28,5	Tubo 18X28,5
15	<b>Z61.40574</b>	Serbatoio fluido compl.	Additional fluid tank	Réservoir de fluide compl.	Kompl. Flüssigkeitsbehälter	Contenedor fluido compl.
16	<b>P03.194</b>	Tappo serbatoio fluido	Fluid tank plug	Bouchon du réservoir fluide	Verschuß Flüssigkeitsbehälter	Tapón depósito fluido
17	<b>G03.38492</b>	Fascetta 10/19	Clamp 10/19	Collier 10/19	Faschette 10/19	Abrazadera 10/19
18	<b>S03.38506</b>	Tubo retinato	Meshed tube	Tuyau armé	Netzrohr	Tubo armado
19	<b>A23.38372</b>	Staffa supporto serbatoio	Fluid tank bracket	Branche réservoir fluide	Staffel für Flüssigkeitsbehälter	Molde contenedor fluido
20	<b>L23.38073</b>	Portabulbo	Bulb holder	Porte-cuvette	Haltewulst	Portabola
21	<b>B09.237</b>	Sonda livello	Probe level	Niveau sonde	Sondenstand	Nivel sonda
22	<b>B09.238</b>	Premistoppa	Stuffing nut	Presse-étoupe	Stopfbüchse	Prensaestopa
23	<b>P02.218</b>	Bussola	Bush	Douille	Buchse	Aguja
24	<b>P26.37681</b>	Indicatore liquido	Liquid sight glass	Témoin pour liquide	Flüssigkeitskontrollampe	Testigo líquido

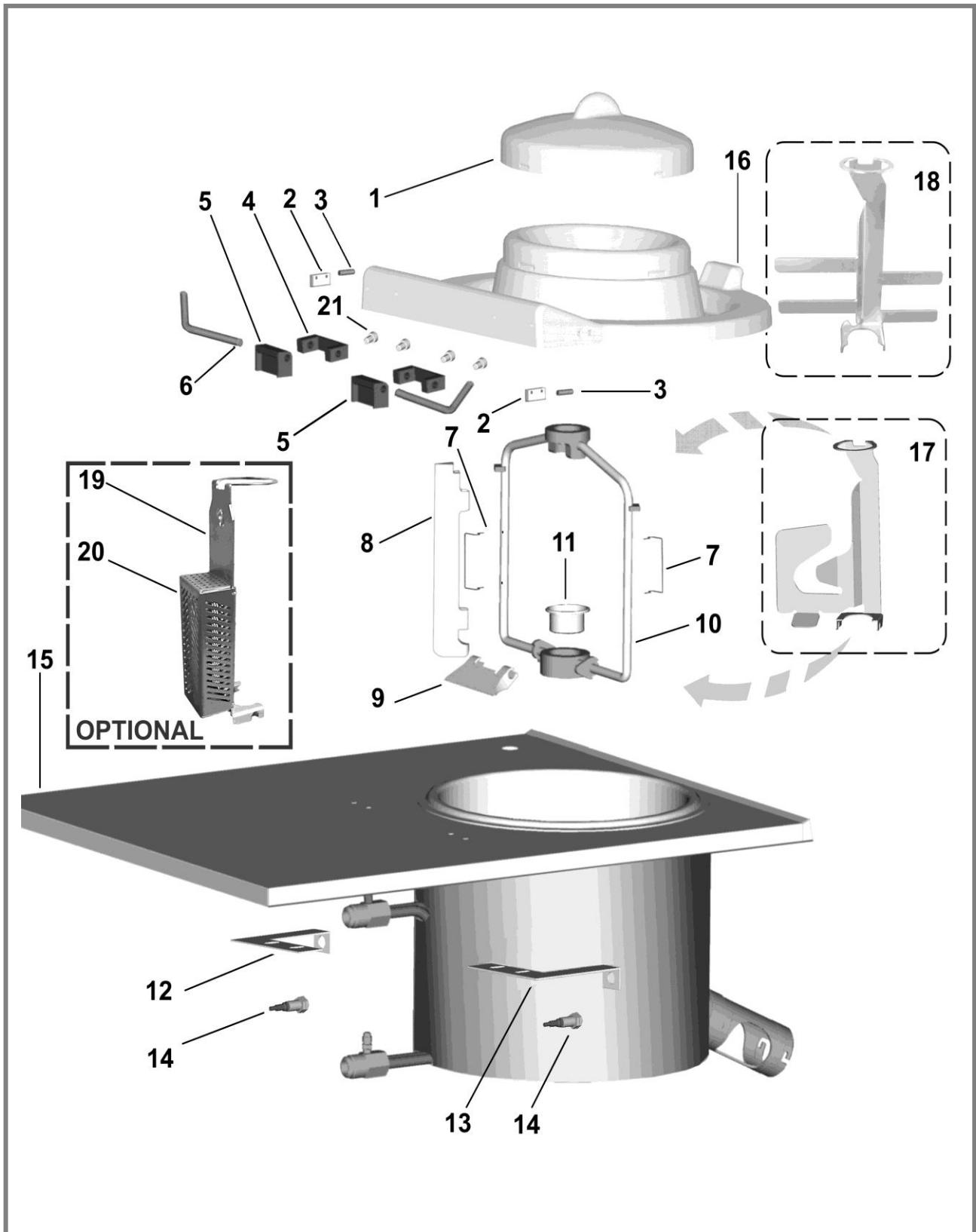
(\*) Solo per alcune versioni 220/60/3.





**TWIN Chef 35-45 s02**
**Tav.9**

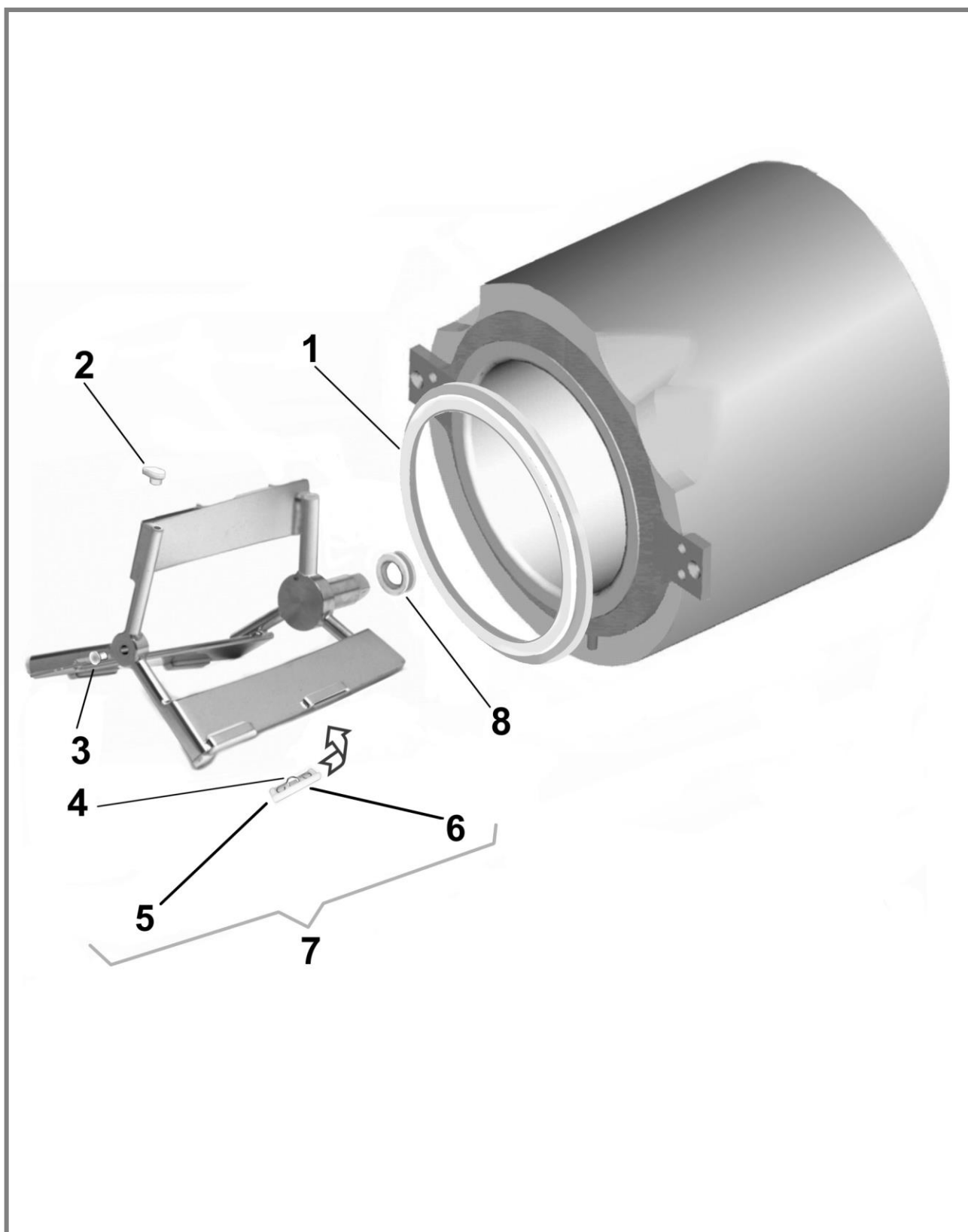
P.	COD.	DESCRIZIONE	DESCRIPTION	DESCRIPTION	BESCHREIBUNG	DESCRIPTION
1	<b>P16.39544</b>	Coperchio	Cover	Couvercle	Deckel	Tapa
2	<b>P20.38398</b>	Tassello portamagnete	Magnet holding boss	Tampon porte-aimant	Magnethaltedübel	Espiga portaimán
3	<b>E07.37991</b>	Magnete	Magnet	Aimant	Magnet	Imán
4	<b>B15.038</b>	Cerniera mobile	Moving hinge	Fermeoir mobile	Bewegliches Scharnier	Bisagra móvil
5	<b>B15.037</b>	Cerniera fissa	Fixed hinge	Fermeoir fixe	Festes Scharnier	Bisagra fija
6	<b>L19.37042</b>	Perno cerniera	Hinge pin	Axe goujon de charnière	Scharnierbolzen	Perno para bisagra
7	<b>A10.39980</b>	Molla	Spring	Ressort	Feder	Muelle
8	<b>P18.38146</b>	Pattino parete bollitore	Side Scraper	Racleur latéral	Schaber (Seite)	patino lateral calentador
9	<b>P18.38129</b>	Pattino fondo bollitore	Bottom scraper	Racleur inférieur	Schaber (unten)	patino fondo calentador
10	<b>B65.38144</b>	Agitatore bollitore	Mixer	Brasseur	Rührwerk	Agitador
11	<b>P11.38185</b>	Boccola	Bush - Bushing	Douille	Buchse	Anillo
12	<b>A04.38397</b>	Staffa porta micro	Micro-holding bracket	Patte porte-micro	Mikrohaltebuegel	Molde micro
13	<b>D05.141</b>	Contatto magnetico (REED)	Magnetic contact (REED)	Contact magnétique (REED)	Magnetkontakt (REED)	Contacto magnético (REED)
14	<b>Z56.39536</b>	Gruppo isolamento bollitore TWIN 35	Insulation unit TWIN 35	Groupe isolant TWIN 35	Isolationsgruppe TWIN 35	Grupo aislamiento TWIN 35
	<b>Z56.39534</b>	Gruppo isolamento bollitore TWIN 45	Insulation unit TWIN 45	Groupe isolant TWIN 45	Isolationsgruppe TWIN 45	Grupo aislamiento TWIN 45
15	<b>P16.39543</b>	Tramoggia	Hopper	Trémie	Trichter	Tolva
16	<b>A18.39645</b>	Mescolatore creme	Cream beater	Brasseur crème	Crème-Rührwerk	Agitador crema
17	<b>A18.39646</b>	Mescolatore tempera cioccolato	Chocolate tempering Beater	Brasseur detrempe chocolat	Rührwerk f. Schokolade-abdeckung	Agitador templa chocolate
18	<b>B09.215</b>	Vite cerniera	Screw for hinge	Vis fermeoir	Scharnierschraube	Tornillo bisagra



**TWIN Chef 60 s02**
**Tav.10**

P.	COD.	DESCRIZIONE	DESCRIPTION	DESCRIPTION	BESCHREIBUNG	DESCRIPTION
1	<b>P16.39740</b>	Coperchio	Cover	Couvercle	Deckel	Tapa
2	<b>P20.38398</b>	Tassello portamagnete	Magnet holding boss	Tampon porte-aimant	Magnethaltedübel	Espiga portaimán
3	<b>E07.37991</b>	Magnete	Magnet	Aimant	Magnet	Imán
4	<b>B15.038</b>	Cerniera mobile	Moving hinge	Fermeoir mobile	Bewegliches Scharnier	Bisagra móvil
5	<b>B15.037</b>	Cerniera fissa	Fixed hinge	Fermeoir fixe	Festes Scharnier	Bisagra fija
6	<b>L19.37042</b>	Perno cerniera	Hinge pin	Axe goujon de charnière	Scharnierbolzen	Perno para bisagra
7	<b>A10.39980</b>	Molla	Spring	Ressort	Feder	Muelle
8	<b>P18.38146</b>	Pattino parete bollitore	Side Scraper	Racleur latéral	Schaber (Seite)	patino lateral calentador
9	<b>P18.38153</b>	Pattino fondo bollitore	Bottom scraper	Racleur inférieur	Schaber (unten)	patino fondo calentador
10	<b>B65.38151</b>	Agitatore bollitore	Mixer	Brasseur	Rührwerk	Agitador
11	<b>P11.38130</b>	Boccola	Bush - Bushing	Douille	Buchse	Anillo
12	<b>A04.38451</b>	Staffa porta micro DX	Micro-holding bracket DX	Patte porte-micro DX	Mikrohaltebuegel DX	Molde micro DX
13	<b>A04.38394</b>	Staffa porta micro SX	Micro-holding bracket SX	Patte porte-micro SX	Mikrohaltebuegel SX	Molde micro SX
14	<b>D05.141</b>	Contatto magnetico (REED)	Magnetic contact (REED)	Contact magnétique (REED)	Magnetkontakt (REED)	Contacto magnético (REED)
15	<b>Z56.39532</b>	Gruppo isolamento bollitore	Insulation unit	Groupe isolant	Isolationsgruppe	Grupo aislamiento
16	<b>P16.39457</b>	Tramoggia	Hopper	Trémie	Trichter	Tolva
17	<b>A18.39642</b>	Mescolatore creme	Cream beater	Brasseur crème	Crema-Rührwerk	Agitador crema
18	<b>A18.39643</b>	Mescolatore tempera cioccolato	Chocolate tempering Beater	Brasseur detrempe chocolat	Rührwerk f. Schokolade-abdeckung	Agitador tempera chocolate
19*	<b>A18.38565</b>	Staffa porta aromi	Flavor bracket	Brides aromes	Aromas Fixierstaffel	Estribo aromas
20*	<b>A18.38566</b>	Cassetto porta aromi	Flavor drip dray	Eguttoir aromes	Aroma-Tropfblech	Recogegotas aromas
21	<b>B09.215</b>	Vite cerniera	Screw for hinge	Vis fermeoir	Scharnierschraube	Tornillo bisagra

(\*) Optional

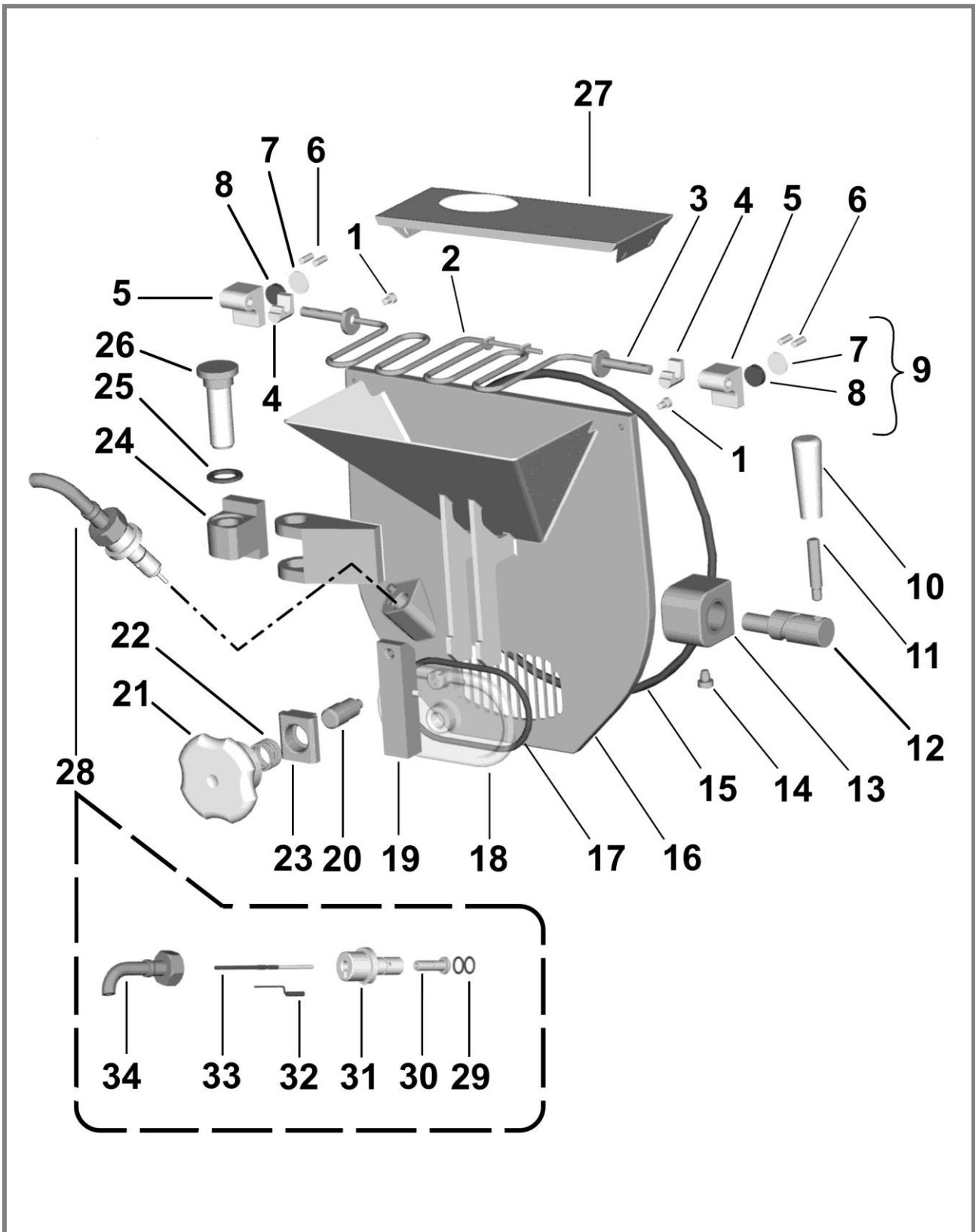




## TWIN Chef 35-45-60 s02

Tav.11

P.	COD.	Mod. TWIN	DESCRIZIONE	DESCRIPTION	DESCRIPTION	BESCHREIBUNG	DESCRIPTION
1	<b>P03.120.01</b>	<b>35-45-60</b>	Isolante anteriore	Front insulator	Isolant antérieur	Vorderes- Isolationselement	Aslante anterior
2	<b>P18.37146</b>	<b>35-45-60</b>	Tappo centratura	Centering boss	Centrage	Duebel	Tapon de cierre
3	<b>P18.37144</b>	<b>35-45-60</b>	Inserto centrale	Central insert	Bouchon	Einsatz	Injerto central
4	<b>A10.38854</b>	<b>35-45-60</b>	Molla per pattino	Scraper spring	Ressort râclette	Schaber-Feder	Patines-muella
5	<b>P18.38853</b>	<b>35-45-60</b>	Aletta lavorata	Scraper	Râclette	Schaber	Patines
6	<b>Z69.39012</b>	<b>35-45-60</b>	Aletta+molla	Scraper+spring	Ressort+râclette	Schaber+Feder	Patines+muella
7	<b>Z70.38855</b>	<b>35</b>	Agitatore completo	Beater assy	Agitateur compl.	Rührwerk	Agidador
	<b>Z70.38858</b>	<b>45</b>	Agitatore completo	Beater assy	Agitateur compl.	Rührwerk	Agidador
	<b>Z70.38850</b>	<b>60</b>	Agitatore completo	Beater assy	Agitateur compl.	Rührwerk	Agidador
8	<b>P12.005</b>	<b>35-45-60</b>	Premistoppa	Stuffing nut	Presse-étoupe	Stopfbüchse	Prensaestopa

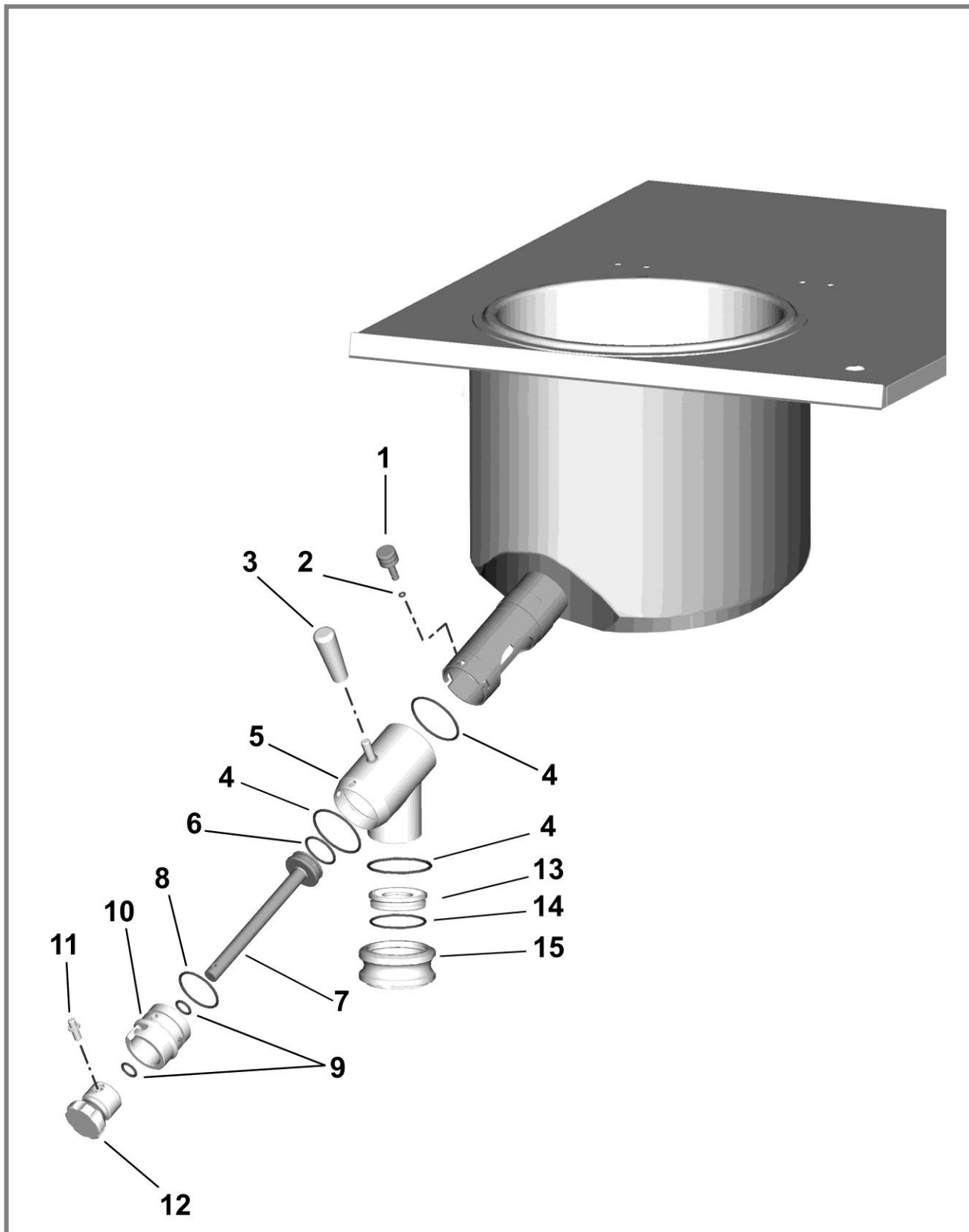


## TWIN Chef 35-45-60 s02

## Tav.12

P.	COD.	Mod. TWIN	DESCRIZIONE	DESCRIPTION	DESCRIPTION	BESCHREIBUNG	DESCRIPTION
1	<b>V04.37386</b>	<b>35-45-60</b>	Vite fissaggio bottone	Fixing screw	Vis de fixation	Befestigungsschraube	Tornillo
2	<b>B61.38613</b>	<b>35-45-60</b>	Griglia di sicurezza SX	Grate assy SX	Grille compl. SX	Kompl. Bitter SX	Rejilla SX
3	<b>B61.38609</b>	<b>35-45-60</b>	Griglia di sicurezza DX	Grate assy DX	Grille compl. DX	Kompl. Bitter DX	Rejilla DX
4	<b>P19.38615</b>	<b>35-45-60</b>	Supporto griglia	Grate bracket	Support de grille	Gitterhalter	Soporte rejilla
5	<b>P02.167.01</b>	<b>35-45-60</b>	Supporto magnete	Magnet support	Support	Magnet-Halter	Soporte imán
6	<b>V08.031</b>	<b>35-45-60</b>	Grano	Grain	Grain	Stift	Tornillo
7	<b>C05.159</b>	<b>35-45-60</b>	Dischetto	Small disk	Petit disque	Scheibe	disco
8	<b>D05.142</b>	<b>35-45-60</b>	Magnete	Magnet	Aimant	Magnet	Imán
9	<b>Z82.38447</b>	<b>35-45-60</b>	Assieme portamagnete	Magnet assy	Aimant complet	Kompl. Magnet	portaiman
10	<b>P02.155</b>	<b>35-45-60</b>	Maniglia leva portello	Lever handle	Poignée	Griff	Manija de bloqueo puerta
11	<b>B08.056</b>	<b>35-45-60</b>	Leva eccentrico	Eccentric lever	Poignée de came	Nochengriff	Leva para excentrica
12	<b>B08.080</b>	<b>35-45-60</b>	Eccentrico chiusura portello	Door closing cam	Came de fermeture porte	Nochentürverschuß	Excentrico de cierre puerta
13	<b>B08.045</b>	<b>35-45-60</b>	Blocchetto eccentrico	Block assy	Cale compl.	Block	Grupo bloque excentrico
14	<b>B09.114</b>	<b>35-45-60</b>	Vite fissaggio eccentrico	Fixing screw	Vis de fixation	Befestigungsschraube	Tornillo por excentrico
15	<b>P10.120</b>	<b>35-45-60</b>	Guarnizione	Door seal	Joint	Dichtung	Guarnición puerta
16	<b>Z84.41085</b>	<b>35-45-60</b>	Assieme portello	Door assy	Porte compl.	Kompl. Tür	Grupo puerta
17	<b>P10.130</b>	<b>35-45-60</b>	Guarnizione piattello	Door seal	Joint de porte	Türdichtung	Guarnición por platina de cierre
18	<b>P19.37143</b>	<b>35-45-60</b>	Portello erogazione	Door assy	Porte compl.	Kompl. Tür	Platina de cierre
19	<b>B08.075</b>	<b>35-45-60</b>	Corsoio	Slider	Coulisse	Gleitstein	Corredizo
20	<b>B09.214</b>	<b>35-45-60</b>	Perno di guida	Driving pin	Axe de conduite	Führungsring	Pierno
21	<b>P02.201</b>	<b>35-45-60</b>	Pomolo portello	Lever handle	Poignée	Griff	Pomo
22	<b>B11.057</b>	<b>35-45-60</b>	Molla	Spring	Ressort	Feder	Muelle
23	<b>B08.076</b>	<b>35-45-60</b>	Fodero molla	Spring sleeve	Corp du ressort	Gehäuse	Vaina muelle
24	<b>B08.048</b>	<b>35-45-60</b>	Blocchetto cerniera	Hinge block	Cale de charnière	Scharnierblock	Soporto bisagra
25	<b>B08.085</b>	<b>35-45-60</b>	Rondella	Washer	Rondelle	Scheibe	Arandela
26	<b>B08.061</b>	<b>35-45-60</b>	Perno cerniera	Pin for hinge	Goujon pour fermoir	Scharmierstift	Perno bisagra
27	<b>A19.38055</b>	<b>35-45-60</b>	Copri tramoggia	Hopper cover	Couvercle	Einfülltrichtergitter	Tapa tolva
28	<b>Z81.41136</b>	<b>35-45-60</b>	Assieme sonda	Probe assy	Sonde complète	Kompl. Sonde	Sonda compl.
29	<b>P10.063</b>	<b>35-45-60</b>	Guarnizione	Gasket	Joint	Dichtung	Guarnición
30	<b>P23.41072</b>	<b>35-45-60</b>	Fermo sonda	Probe stop	Verrou sonde	Sonde-Halter	Retén sonda
31	<b>L23.41071</b>	<b>35-45-60</b>	Portasonda	Probe holder	Porte-sonde	Sondenhalter	Titular de la sonda
32	<b>E07.41134</b>	<b>35-45-60</b>	Sensore	Sensor	Capteur	Sensor	Sensor
33	<b>E05.41138</b>	<b>35-45-60</b>	Sonda temperatura	Temperature probe	Sonde température	Temperatursonde	Sonda temperatura
34	<b>H05.39816</b>	<b>35-45-60</b>	Tubo flessibile	Flexible tube	Tuyau flexible	Schlauch	Tubo flexible

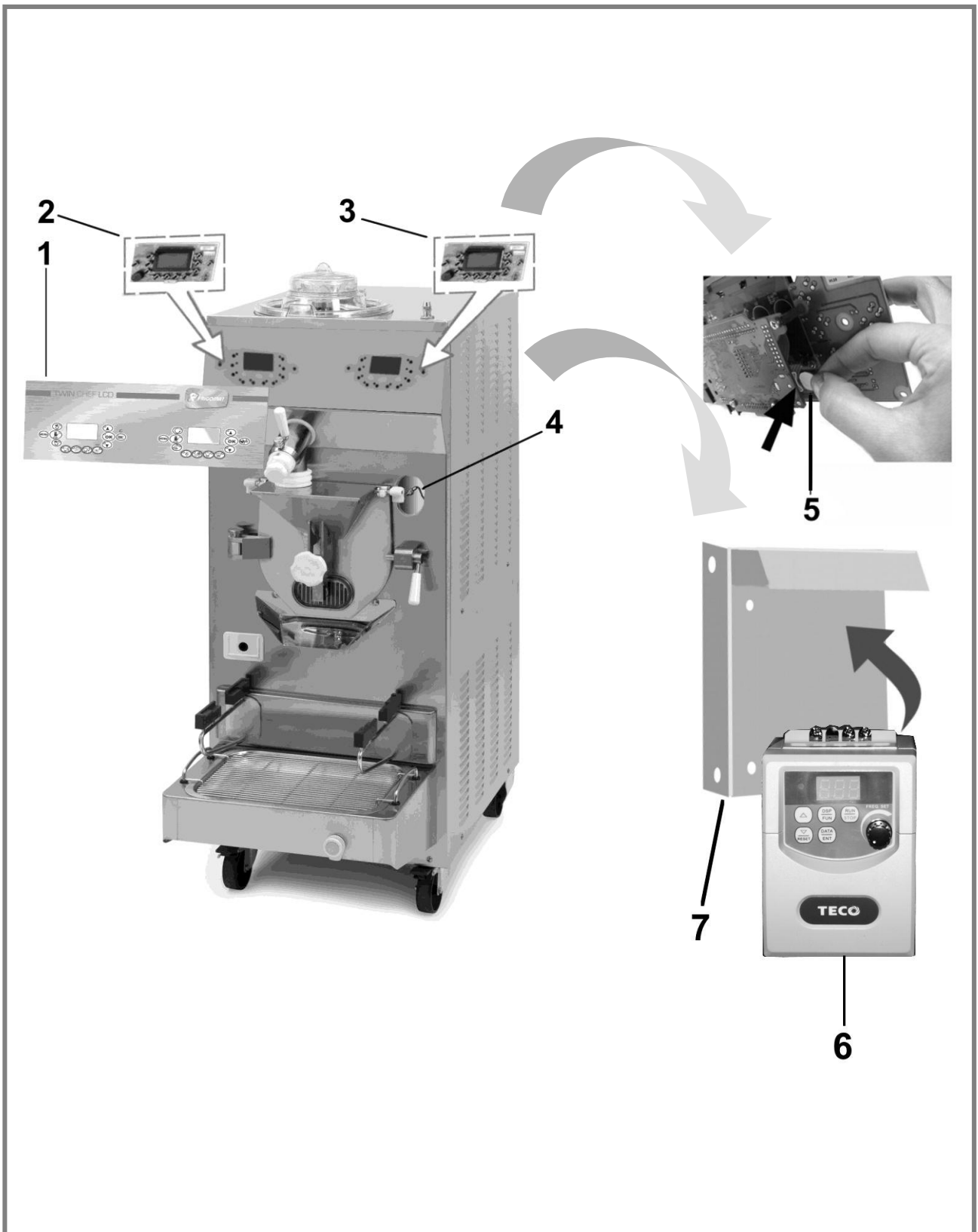




## TWIN Chef 35-45-60 s02

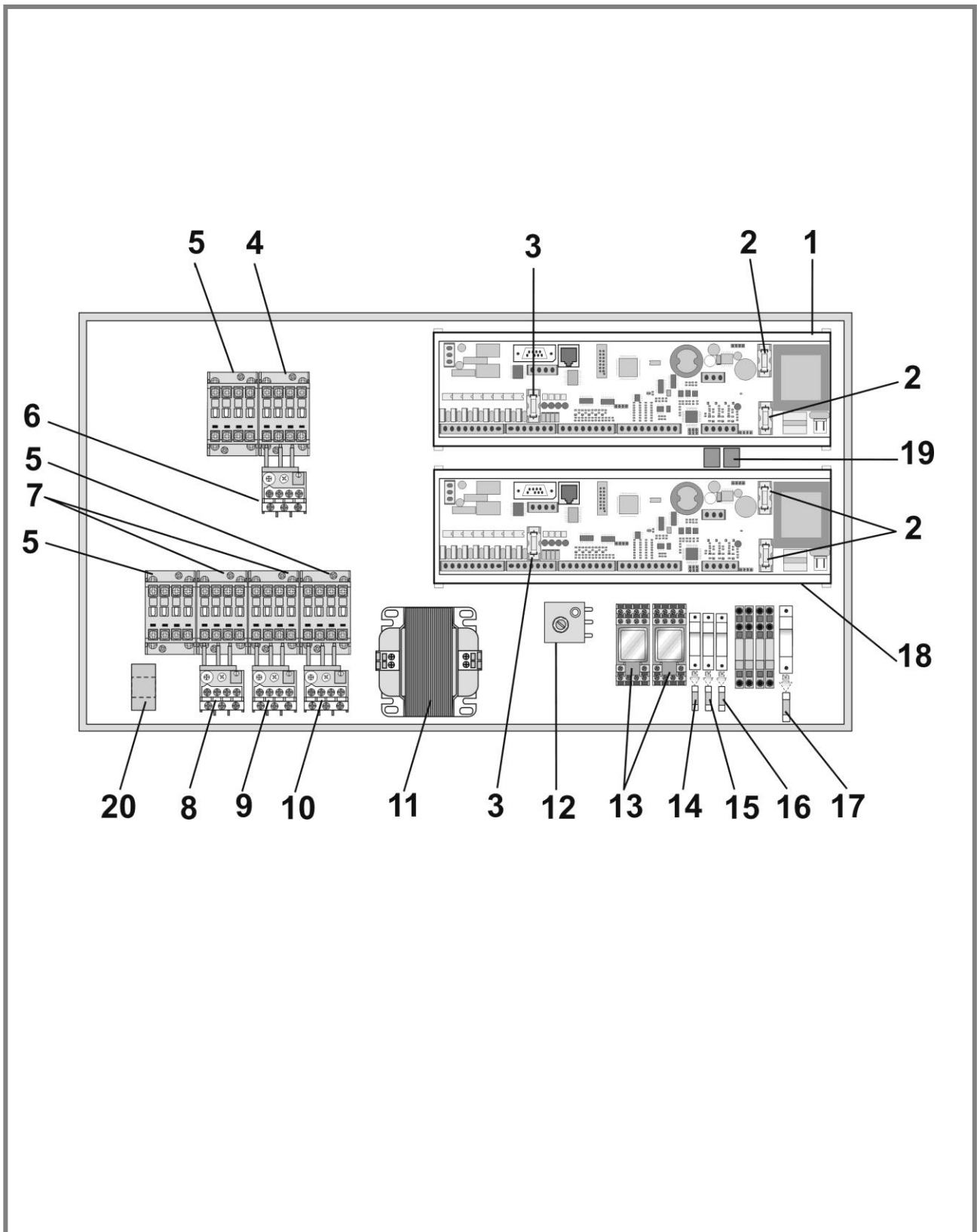
Tav.13

P.	COD.	DESCRIZIONE	DESCRIPTION	DESCRIPTION	BESCHREIBUNG	DESCRIPTION
1	<b>L19.38015</b>	Spina per rubinetto	Pin	Bondon	Stift	Colada
2	<b>P10.017</b>	OR 2018	OR 2018	OR 2018	OR 2018	OR 2018
3	<b>P02.155</b>	Maniglia	Lever	Poignée	Griff	Manija
4	<b>P02.38195</b>	OR 3237	OR 3237	OR 3237	OR 3237	OR 3237
5	<b>Z82.38951</b>	Rubinetto	Tap	Robinet	Zapfhahn	Grifo
6	<b>P02.38196</b>	OR 3143	OR 3143	OR 3143	OR 3143	OR 3143
7	<b>Z82.39489</b>	Pistone	Piston pump	Piston	Kolben	Piston
8	<b>P02.38197</b>	OR 3193	OR 3193	OR 3193	OR 3193	OR 3193
9	<b>P10.070</b>	OR 121	OR 121	OR 121	OR 121	OR 121
10	<b>Z82.39486</b>	Fondello rubinetto	Tap bottom	Fond robinet	Boden Zapfhahn	Fondo grifo
11	<b>L19.39484</b>	Spina	Pin	Bondon	Stift	Colada
12	<b>P19.39483</b>	Pomello	Knob	Pommeau	Handgriff	Pomito
13	<b>P19.39491</b>	Riduzione manicotto	Sleeve adaptor	Réducteur manchon	Reduzierstk.	Adaptador manguito
14	<b>P10.049</b>	OR 3200	OR 3200	OR 3200	OR 3200	OR 3200
15	<b>P19.39490</b>	Manicotto	Sleeve	Manchon	Muffe f. Ablaufrohr	Manguito



**TWIN Chef 35-45-60 s02**
**Tav.14**

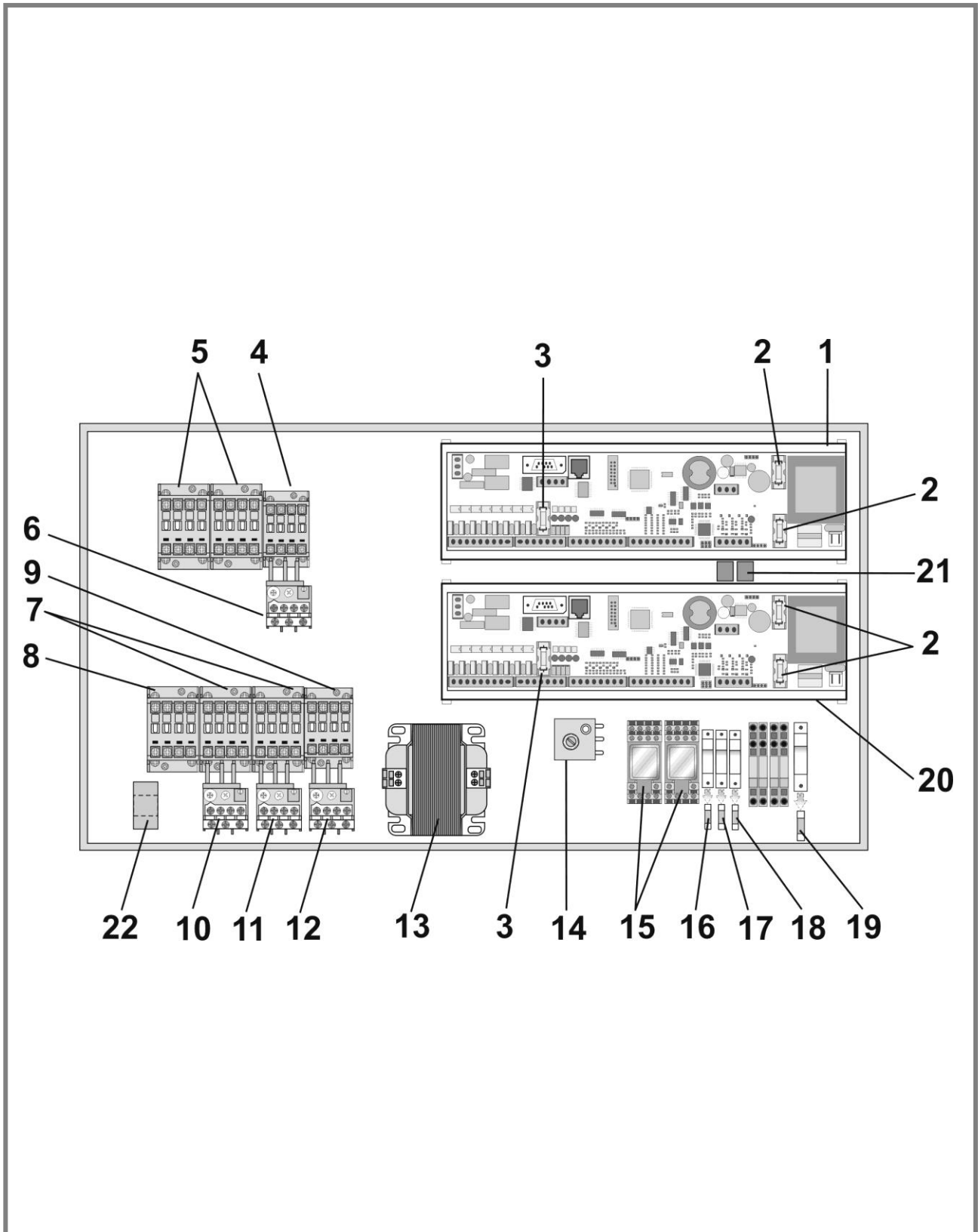
P.	COD.	Mod. TWIN CHEF	DESCRIZIONE	DESCRIPTION	DESCRIPTION	BESCHREIBUNG	DESCRIPTION
1	<b>M02.42317</b>	<b>35</b>	Etichetta anteriore	Front label	Etiquette antérieure	Frontkleber	Etiqueta anterior
	<b>M02.42318</b>	<b>45-60</b>	Etichetta anteriore	Front label	Etiquette antérieure	Frontkleber	Etiqueta anterior
2	<b>E15.40623</b>	<b>35-45-60</b>	Scheda pulsantiera bollitore	Pushbutton card (cooker)	Carte du tableau poussoirs (cuiseur)	Tastenfeldkarte (Kocher)	tarjeta pulsadores calentador
3	<b>E15.40518</b>	<b>35-45-60</b>	Scheda pulsantiera mantecatore	Pushbutton card (batch freezer)	Carte du tableau poussoirs (turbine)	Tastenfeldkarte (Speiseeismaschine)	tarjeta pulsadores mantecadora
4	<b>D05.141</b>	<b>35-45-60</b>	Reed	Reed	Reed	Reed	Reed
5	<b>E13.40492</b>	<b>35-45-60</b>	Batteria pulsantiera	Pushbutton panel battery	Batterie Tableau de commande	Tastenkarte-Batterie	Pilas tarjeta caja pulsadores
6	<b>E15.39641</b>	<b>35-45-60</b>	Inverter	Inverter	Inverter	Inverter	Inverter
7	<b>A04.39724</b>	<b>35-45-60</b>	Staffa fissaggio	Fixing bracket	Branche de fixation	Fixierstaffel	Molde fijaje
-	<b>E13.38654</b>	<b>35-45-60</b>	Cavo scheda pulsantiera	Wiring pushbutton panel card	Cable carte du tableau de commande	Tastenkarte-Kabel	Cablo tarjeta caja pulsadores
-	<b>E13.38317</b>	<b>35-45-60</b>	Cavo scheda pulsantiera	Wiring pushbutton panel card	Cable carte du tableau de commande	Tastenkarte-Kabel	Cablo tarjeta caja pulsadores



## TWIN Chef 35-45-60 s02 400/50/3

Tav.15

P.	COD.	Mod. TWIN CHEF	DESCRIZIONE	DESCRIPTION	DESCRIPTION	BESCHREIBUNG	DESCRIPTION
1	E15.40615	35-45-60	Scheda comando bollitore	Control card	Carte de commande	Bedienungskarte	Tarjeta de mando
2	E08.38486	35-45-60	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	35-45-60	Fusibile 5x20 T 4A	Fuse 5x20 T 4A	Fusible 5x20 T 4A	Sicherung 5x20 T 4A	Fusibile 5x20 T 4A
4	E08.41003	35-45-60	Teleruttore AS12 30 10 26	Remote control switch AS12 30 10 26	Télérupteur AS12 30 10 26	Fernschalter AS12 30 10 26	Telerruptor AS12 30 10 26
5	E08.41983	35-45-60	Teleruttore AS16 30 10 26	Remote control switch AS16 30 10 26	Télérupteur AS16 30 10 26	Fernschalter AS16 30 10 26	Telerruptor AS16 30 10 26
6	D03.171	35-45-60	Termica Range 0,63-1	Overload Range 0,63-1	Thermique Range 0,63-1	Thermoschutz Range 0,63-1	Termal Range 0,63-1
7	E08.35303	35-45-60	Teleruttore A16 30 01	Remote control switch A16 30 01	Télérupteur A16 30 01	Fernschalter A16 30 01	Telerruptor A16 30 01
8	D03.162	35	Termica Range 6-8,5	Overload Range 6-8,5	Thermique Range 6-8,5	Thermoschutz Range 6-8,5	Termal Range 6-8,5
	D03.164	45-60	Termica Range 7,5-11	Overload Range 7,5-11	Thermique Range 7,5-11	Thermoschutz Range 7,5-11	Termal Range 7,5-11
9	D03.162	35	Termica Range 6-8,5	Overload Range 6-8,5	Thermique Range 6-8,5	Thermoschutz Range 6-8,5	Termal Range 6-8,5
	D03.165	45-60	Termica Range 10-14	Overload Range 10-14	Thermique Range 10-14	Thermoschutz Range 10-14	Termal Range 10-14
10	D03.164	35	Termica Range 7,5-11	Overload Range 7,5-11	Thermique Range 7,5-11	Thermoschutz Range 7,5-11	Termal Range 7,5-11
	D03.165	45-60	Termica Range 10-14	Overload Range 10-14	Thermique Range 10-14	Thermoschutz Range 10-14	Termal Range 10-14
11	E08.37452	35-45-60	Trasformatore	Transformer	Transformateur	Transformator	Transformador
12	B11.37013	35-45-60	Termostato	Thermostat	Thermostat	Thermostat	Termostato
13	E08.37283	35-45-60	Relè ritenuta 24 V	Relay	Relais	Relais	Conectador
14	E08.37453	35-45-60	Fusibile 5X20 160m A	Fuse 5X20 160m A	Fusible 5X20 160m A	Sicherung 5X20 160m A	Fusibile 5X20 160m A
15	E08.39700	35-45-60	Fusibile 5x20 6A	Fuse 5x20 6A	Fusible 5x20 6A	Sicherung 5x20 6A	Fusibile 5x20 6A
16	D03.143	35-45-60	Fusibile 5X20 1,6 A	Fuse 5X20 1,6 A	Fusible 5X20 1,6 A	Sicherung 5X20 1,6 A	Fusibile 5X20 1,6 A
17	E08.39665	35-45-60	Fusibile 10X38 10A	Fuse 10X38 10A	Fusible 10X38 10A	Sicherung 10X38 10A	Fusibile 10X38 10A
18	E15.40521	35-45-60	Scheda comando mantecatore	Control card	Carte de commande	Bedienungskarte	Tarjeta de mando
19	E15.39772	35-45-60	Filtro	Filter	Filtre	Filter	Filtro
20	D03.157	35-45-60	Trasformatore amperometrico	AMP Transformer	Transformateur AMP	Amp Transformator	Transformador amp





**TWIN Chef 35-45-60 s02**

**220/60/3**

**Tav.16**

P.	COD.	Mod. TWIN CHEF	DESCRIZIONE	DESCRIPTION	DESCRIPTION	BESCHREIBUNG	DESCRIPTION
1	<b>E15.40615</b>	<b>35-45-60</b>	Scheda comando bollitore	Control card	Carte de commande	Bedienungskarte	Tarjeta de mando
2	<b>E08.38486</b>	<b>35-45-60</b>	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	<b>E08.39143</b>	<b>35-45-60</b>	Fusibile 5x20 T 4A	Fuse 5x20 T 4A	Fusible 5x20 T 4A	Sicherung 5x20 T 4A	Fusibile 5x20 T 4A
4	<b>D02.061</b>	<b>35-45-60</b>	Teleruttore A12 30 10	Remote control switch A12 30 10	Télerupteur A12 30 10	Fernschalter A12 30 10	Telerruptor A12 30 10
5	<b>D02.068</b>	<b>35-45-60</b>	Teleruttore A26 30 10	Remote control switch A26 30 10	Télerupteur A26 30 10	Fernschalter A26 30 10	Telerruptor A26 30 10
6	<b>D03.173</b>	<b>35-45-60</b>	Termica Range 2,2-3,1	Overload Range 2,2-3,1	Thermique Range 2,2-3,1	Thermoschutz Range 2,2-3,1	Termal Range 2,2-3,1
7	<b>E08.35303</b>	<b>35-45-60</b>	Teleruttore A16 30 01	Remote control switch A16 30 01	Télerupteur A16 30 01	Fernschalter A16 30 01	Telerruptor A16 30 01
8	<b>E08.41983</b>	<b>35-45-60</b>	Teleruttore AS16 30 10 26	Remote control switch AS16 30 10 26	Télerupteur AS16 30 10 26	Fernschalter AS16 30 10 26	Telerruptor AS16 30 10 26
9	<b>E08.41983</b>	<b>35</b>	Teleruttore AS16 30 10 26	Remote control switch AS16 30 10 26	Télerupteur AS16 30 10 26	Fernschalter AS16 30 10 26	Telerruptor AS16 30 10 26
	<b>D02.068</b>	<b>45-60</b>	Teleruttore A26 30 10	Remote control switch A26 30 10	Télerupteur A26 30 10	Fernschalter A26 30 10	Telerruptor A26 30 10
10	<b>D03.168</b>	<b>35-45-60</b>	Termica Range 13-19	Overload Range 13-19	Thermique Range 13-19	Thermoschutz Range 13-19	Termal Range 13-19
11	<b>D03.165</b>	<b>35</b>	Termica Range 10-14	Overload Range 10-14	Thermique Range 10-14	Thermoschutz Range 10-14	Termal Range 10-14
	<b>D03.175</b>	<b>45-60</b>	Termica Range 24-32	Overload Range 24-32	Thermique Range 24-32	Thermoschutz Range 24-32	Termal Range 24-32
12	<b>D03.165</b>	<b>35</b>	Termica Range 10-14	Overload Range 10-14	Thermique Range 10-14	Thermoschutz Range 10-14	Termal Range 10-14
	<b>D03.174</b>	<b>45-60</b>	Termica Range 18-25	Overload Range 18-25	Thermique Range 18-25	Thermoschutz Range 18-25	Termal Range 18-25
13	<b>E08.37452</b>	<b>35-45-60</b>	Trasformatore	Transformer	Transformateur	Transformator	Transformador
14	<b>B11.37013</b>	<b>35-45-60</b>	Termostato	Thermostat	Thermostat	Thermostat	Termostato
15	<b>E08.37283</b>	<b>35-45-60</b>	Relè ritenuta 24 V	Relay	Relais	Relais	Conectador
16	<b>E08.37453</b>	<b>35-45-60</b>	Fusibile 5X20 160m A	Fuse 5X20 160m A	Fusible 5X20 160m A	Sicherung 5X20 160m A	Fusibile 5X20 160m A
17	<b>E08.39700</b>	<b>35-45-60</b>	Fusibile 5x20 6A	Fuse 5x20 6A	Fusible 5x20 6A	Sicherung 5x20 6A	Fusibile 5x20 6A
18	<b>D03.143</b>	<b>35-45-60</b>	Fusibile 5X20 1,6 A	Fuse 5X20 1,6 A	Fusible 5X20 1,6 A	Sicherung 5X20 1,6 A	Fusibile 5X20 1,6 A
19	<b>E08.39665</b>	<b>35-45-60</b>	Fusibile 10X38 10A	Fuse 10X38 10A	Fusible 10X38 10A	Sicherung 10X38 10A	Fusibile 10X38 10A
20	<b>E15.40521</b>	<b>35-45-60</b>	Scheda comando mantecatore	Control card	Carte de commande	Bedienungskarte	Tarjeta de mando
21	<b>E15.39772</b>	<b>35-45-60</b>	Filtro	Filter	Filtre	Filter	Filtro
22	<b>D03.157</b>	<b>35-45-60</b>	Trasformatore amperometrico	AMP Transformer	Transformateur AMP	Amp Transformator	Transformador amp









Azienda Certificata  
UNI EN ISO 9001:2008

Numero Certificato  
50 100 5650

FRIGOMAT s.r.l., via 1° Maggio 26862 GUARDAMIGLIO (LO) – ITALIA  
tel. 0377.415011 – Fax. 0377.451079  
[www.frigomat.com](http://www.frigomat.com)  
[info@frigomat.com](mailto:info@frigomat.com)

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