

# C122 - C119

ELECTRONIC HORIZONTAL BATCH FREEZER  
TURBINES ÉLECTRONIQUES HORIZONTALES  
MANTECADORAS HORIZONTALES ELECTRÓNICAS  
MANTECATORI ORIZZONTALI ELETTRONICI

MANUAL OF USE AND  
MAINTENANCE

MANUEL D'UTILISATION  
ET D'ENTRETIEN

MANUAL DE USO Y  
MANUTENCION

MANUALE D'USO E  
MANUTENZIONE



**TAYLOR**®



US





## IMPORTANT

We recommend to carefully and fully read the present manual before using your TAYLOR machine.

In your own interest, pay particular attention to the following warnings:



The non-observance of this warning can jeopardize the user's health and the correct operation of the machine.



A careful observance of these warnings can lead to a top performance of the machine.

The machine is covered by guarantee according to the conditions reported in the Seller's

In the following field, please write your machine serial number in capital letters

Serial number

Distributor's stamp

Congratulations on purchasing a machine **TAYLOR**.

The present manual, enclosed to the machine, is integrant and essential part of the machine and shall be delivered to the final user. Before performing any kind of operation, it is recommended to carefully study the reported instructions, as only a careful reading allows you getting the highest performance from your machine. The following pages report all information necessary to correctly install, commission, adjust and service your machine. TAYLOR COMPANY reserves the right to carry out all changes necessary to improve its product or manual without prior notice and to insert them in the subsequent issues.

<b>INDEX</b>		
<b>1. TRANSPORT, HANDLING AND STORAGE.....</b>		<b>4</b>
1.1 Preliminary Inspection .....		4
1.2 Machine unpacking .....		4
1.3 Packing dimensions .....		4
<b>2. MARKING AND GRAPHICS .....</b>		<b>5</b>
<b>3. INSTALLATION .....</b>		<b>7</b>
3.1 Field of use .....		7
3.2 Limits of use .....		7
3.3 Machine outfit .....		7
<b>4. SAFETY DEVICES .....</b>		<b>8</b>
<b>5. OPERATIONS .....</b>		<b>9</b>
5.1 Controls .....		9
5.2 Control panel .....		10
5.3 Ice-cream production .....		11
<b>6. MAINTENANCE .....</b>		<b>13</b>
6.1 Routine maintenance .....		13
6.1.1 Cleaning and sanitization .....		13
6.1.2 Maintenance of agitator and gaskets .....		15
6.1.3 Refrigerating unit .....		15
<b>7. TROUBLE-SHOOTING .....</b>		<b>16</b>
7.1 Alarm management .....		16
7.2 Trouble-shooting .....		16

# 1 TRANSPORT, HANDLING AND STORAGE.

## 1.1 PRELIMINARY INSPECTION

The machine travels at the customer's risk. In case packing is damaged, immediately inform the carrier.

Immediately inform the carrier also in case of damage to the machine, even if you open the packing a few days after the delivery.

It is always advisable to accept the goods SUBJECT TO INSPECTION.

The equipment shall be assembled with great care: falls and shocks can damage it without showing external damages.

## 1.2 MACHINE UNPACKING

For a correct machine unpacking, carefully follow the instructions hereunder reported:

- Remove the case upper side and the side walls by means of a nail drawer, pay attention not to disperse the nails and the wood splinters;
- Remove the plastic bag and put it in a safe place;
- Unscrew the machine side panels by means of a cross and/or cut screw-driver;
- Turn out the screws fixing the packing lower side to the machine by means of a 17mm wrench;
- Remove the packing lower part, lift the machine and hook it up to the lifting points specified on the frame with the symbols;
- Reposition the side panels.

The packing shall be stored in a dry place, out of the children's reach. It can be used again, if correctly preserved, for a possible transfer of the machine.



The storing temperature shall range between 41°F and 131°F (+5°C and +55 °C).

Humidity shall range between 30 and 95%.

Packing elements such as plastic bags, nails, expanded polystyrene, cartons, etc. must be left out of the children's reach.

## 1.3 PACKING DIMENSIONS

MODEL	WATER CONDENSER		AIR CONDENSER	
	SIZES (mm)	WEIGHT (KG)	SIZES (mm)	WEIGHT (KG)
<b>C122</b>			885x520x950	160
<b>C119</b>	520x855x1440	216	520x855x1440	217





## 2. MARKINGS AND GRAPHICS



Never touch the machine with hands and tools during production or maintenance and cleaning operations, without making sure that the machine is in STOP position, the master switch is off and/or the multipolar plug disconnected.

TAYLOR declines any liability for accidents deriving from an improper use of the machine due to the non-compliance with the above-mentioned recommendations.

The machine is provided with a plate and some pictograms, which together with the present manual allow using the machine in safer conditions.

		Via F. Maggio 28962 GIARDAMIGLIO (LO) ITALY	
MODEL NUMBER	SERIAL NUMBER	REFRIGERANT	
PART NUMBER	MAX. BR. CIR. FUSE OR HACR CIR. BREAKER		
VOLTS	HZ	PH	MIN. CIRCUIT CAPACITY
		DESIGN PRESSURE	
		LOW	220 PSIG 15,2 barg
		HIGH	440 PSIG 30,4 barg
COMPRESSOR	N°	RLA	LRA/HP
BEATER MOTOR (L)		FLA	HP
BEATER MOTOR (H)		FLA	HP
COOLING MOTOR		FLA	W
			
			

### Machine data plate

The adhesive label located on the back of the machine allows identifying the model and reports the following indications:

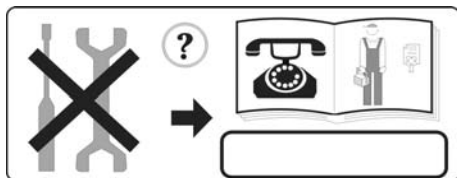
Manufacturer's name and address; Machine model and version; Serial number; Rated electrical characteristics; Type and weight of employed Freon; Manufacturing year.



### Indication

*Points of application of lifting devices.*

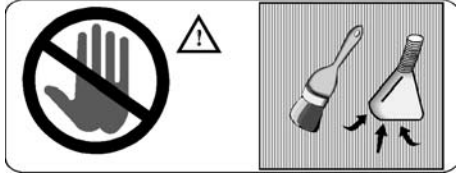
The following plate is placed on the four sides of the frame lower part and shows the points where lifting hooks shall be positioned in order to perform this operation in safe conditions. By means of a cross screw-driver unscrew the two side panels and then position the lifting devices into the apposite points. Make sure that they cannot accidentally come out during lifting operations.



### Warning!

*Maintenance allowed to qualified personnel only.*

The following plate placed on the machine back panel forbids extraordinary maintenance operations and/or repairs delegating them to authorized people only, whose address is indicated in the provided space.



**Warning!**

*Do not touch with hands.*

The following plate placed on the back of air-cooled machines shows that cleaning operations on the heat exchanger shall be carried out only by means of a brush or an exhaustor.



**Warning!**

*High voltage inside, danger of fulguration.*

The following plate is placed on the electric box cover and warns the operator that in no case the cover must be removed avoiding this way the risk of lethal fulguration. Also in this case, maintenance operations on internal components must be performed by authorized personnel only.

### **3. FIELD OF USE**

#### **3.1 FIELD OF USE**

The batch freezers TAYLOR are expressly designed and engineered for ice-cream batch freezing cycles.

#### **3.2 LIMITS OF USE**

Never use the machine with variable supply voltage and/or more than +/- 10% of the value showed in the nameplate or when the feeder is damaged;

Do not use the machine for purposes different from the ones indicated in the present manual;

Do not use the machine in explosive environment;

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

Do not expose the machine to excessive heat or humidity;

Do not use completely unbalanced mixtures and/or quantities not in compliance with the specifications reported on the packing.

#### **3.3 MACHINE OUTFIT**

- Cleaning rod
- Gasket extractor
- Manual of use and maintenance
- Declaration of conformity
- Certificate of guarantee



## 4. SAFETY DEVICES

**Shearing prevention system:** realised by means of microswitches and safety circuit; it stops the machine when the door is opened and/or the grid on the hopper is lifted.

**Motor reliability of service:** realized by means of overload relays with automatic reset. They protect the agitator and compressor motors against overloads by stopping the machine. STOP pushbutton lights up and DELIVERY pushbutton starts blinking.

**Auxiliary circuit supply safety system (24 V):** realized by means of glass quick-blow fuses 5x20. They trip in case of short-circuit on the logic unit or on the auxiliary power supply.

**In any case the machine carries out a series of tests during production:**

### **Production control system**

Carried out by the microprocessor through a current transformer. It controls the agitator motor watt.

### **Batch freezing safety timer**

It operates 16 minutes after the beginning of batch freezing in case the consistency minimum value set up by the manufacturer is not reached. It stops the machine and makes STOP and PRODUCTION pushbuttons light up. In this case check the presence of troubles in the refrigerant circuit and/or check the proportion of the batch.

### **Lack of growth in consistency**

It operates if the batch stops increasing in consistency due to a wrong proportion of ingredients or due to a non-uniform amalgamation, after the minimum alarm threshold is overcome. The compressor stops, the agitator keeps on running, the PRODUCTION pushbutton blinks and an intermittent beep is released.

### **Current transformer reliability of service**

It operates in case the current transformer is disconnected or broken down. It stops the machine and makes STOP pushbutton blink. If the production is in progress, the PRODUCTION pushbutton starts blinking and an intermittent beep is released to signalize the max. consistency.

### **Compressor motor reliability of service**

It signalizes that the compressor motor is broken down. It stops the machines and makes STOP pushbutton light up and PRODUCTION pushbutton blink.

### **Logic unit self-reset in case of lack of power supply**

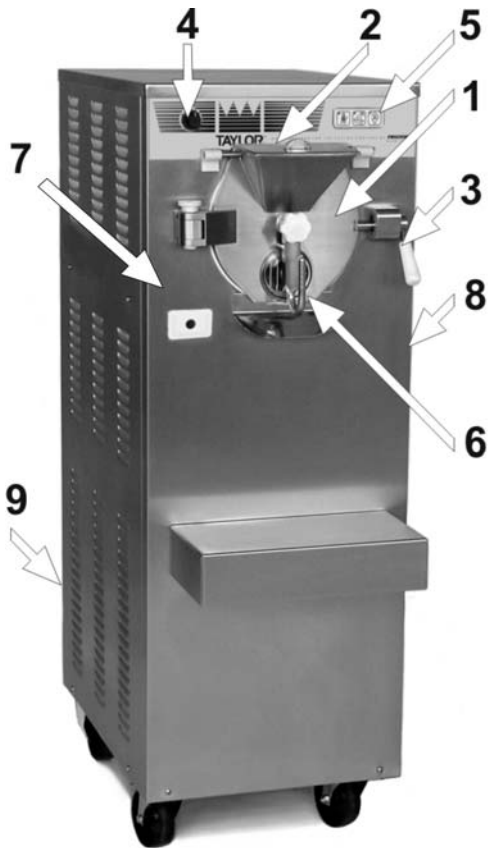
It stops the machine allowing the manual reset of the functions.

### **Logic unit self-diagnosis (watch-dog)**

It controls possible internal troubles and stops the card in case of failure.

## 5. OPERATION

### 5.1 CONTROLS



#### 1. Door

It hermetically seals the cylinder during the working cycles. It can be easily removed for cleaning purpose.

#### 2. Safety grid – hopper cover

It allows the operator to charge the product under safe conditions. The cover prevents the batch to get in contact with dust.

#### 3. Door locking handle

It hermetically seals the door, when the lever is turned downwards. To open the door, make sure that all product has been delivered and that the machine is in STOP position, then turn the lever upwards to unlock the door and turn it outwards.

#### 4. Consistency selector (only C119)

6-position consistency selector.

#### 5. Pushbutton panel

It allows selecting the working programs.

#### 6. Delivery door

It is used to deliver ice-cream and to run off water while cleaning the cylinder. To unlock it, turn it to the right.

#### 7. Drip drawer

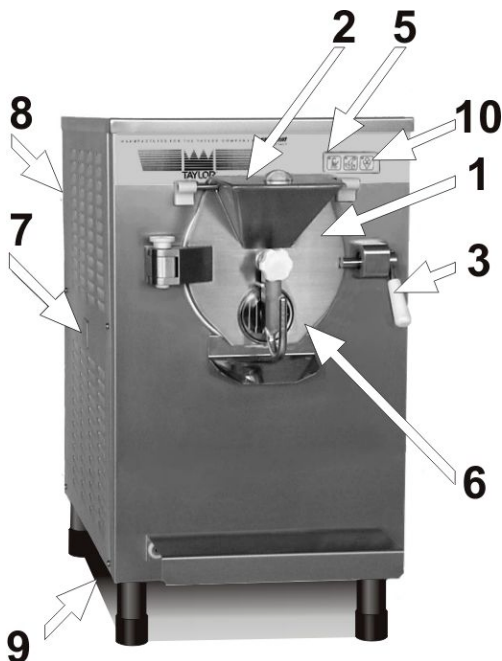
It allows collecting liquid leakage from the cylinder stuffing box.

#### 8. Electric box

#### 9. Power/water supply inlet

#### 10. Consistency selector (for C122 only)

Consistency selector with two positions



## 5.2 CONTROL PANEL C119



### 1. STOP

Whatever working cycle is in progress, it stops the machine and cancels any function in progress.

### 2. DELIVERY

By pressing the DELIVERY pushbutton, only the agitator motor keeps on running. The door safety catch is enabled and the agitator motor stops running after 15' of operation, the DELIVERY pushbutton warning light starts blinking.

### 3. PRODUCTION

When the machine is in STOP or DELIVERY position, press the PRODUCTION pushbutton to start up the batch freezing cycle: the PRODUCTION warning light lights up, the agitator motor starts up and after a few seconds, the compressor motor, the motor fan and the electronic module for consistency control start up too. The electronic module for consistency control allows reaching the ideal level of batch freezing, independently of the kind of mixture used, on condition that it is within the minimum and maximum quantities allowable for the machine capacity.

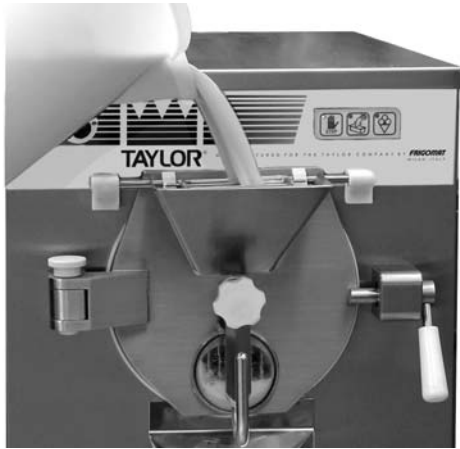
The following safety devices are all enabled: door safety catch, batch freezing safety timer, control for lack of growth in consistency and the acoustic signal to signalize that all functions have been stopped in case of overload.

On model **C122**, it is possible to decrease the consistency on "low consistency", pressing twice the PRODUCTION pushbutton, suitable for small product quantity.

### CONSISTENCY SELECTOR (only C119)

The model C119 is provided with 6 different consistency values, which allow reaching the best possible consistency according to the type and quantities of introduced mixture. The max. consistency degree can be reached by selecting position 6. However when a product shall be frozen, whose characteristics are unknown, it is advisable to position the selector on the number corresponding to the quantity of litres introduced into the cylinder decreased by 1.

### 5.3 ICE-CREAM PRODUCTION



After the machine has been installed according to the instructions reported in chapter 3 and carefully cleaned and sanitized according to the instructions reported in chapter 6, proceed as follows to start up the ice-cream production:

- Check that the master switch is closed, the STOP pushbutton is lighted up and the water supply cock is open.
- Lift the hopper cover and pour the mixture into the cylinder. Observe the suggested minimum and maximum quantities per cycle according to the following table:

MOD.	MIN	MAX
C122	1.05 quart (1 liters)	3.17 quart (3 liters)
C119	1.05 quart (1 liters)	4.2 quart (4 liters)



The non-observance of the minimum and maximum batch values can cause the malfunction of the machine and, sometimes, serious damages.

- Replace the cover on the hopper to prevent dust and other impurities from getting in contact with the mixture.
- (only C119) Select the desired degree of consistency by means of the 6-position selector. The greater is the value the higher is the level of consistency that can be reached. For quantities of introduced mixture near to the max. allowable values, it is advisable to turn the switch to position 5 or 6.
- (for mod. C122) for small mix quantities, next to the minimum values, it is suitable to twice the PRODUCTION pushbutton in order to bring in action the "half consistency"
- Press the PRODUCTION pushbutton to start up batch freezing.
- Once the optimal degree of batch freezing has been reached according to the characteristics and quantity of mixture introduced, the compressor stops, the PRODUCTION pushbutton blinks and an intermittent beep is release to warn the operator that the ice-cream can be drawn out. If this is not possible, the agitator keeps on rotating until the consistency level falls by a





- predetermined percentage value called consistency HYSTERESIS set up by the manufacturer and programmable) and the ice-cream PRESERVATION phase begins, which can be stopped at any time with the delivery of the ice-cream.

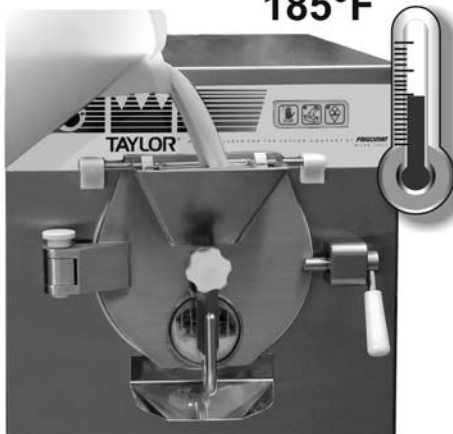


To obtain a drier ice-cream, it is advisable to make the compressor cycle once or twice.



- Press DELIVERY pushbutton to draw the ice-cream out and completely open the delivery door by means of the apposite lever.
- Once the ice-cream delivery has been concluded, press STOP pushbutton, close the door again and the machine is ready for another batch freezing.

185°F



#### INTRODUCTION OF A BATCH AT 185°F (85°C)

TAYLOR batch freezers C119 – C122 allows freezing batches at 185°F (85°C).

- When the machine is in STOP position, remove the hopper cover and introduce the batch at 185°F (85°C) into the cylinder according to the already mentioned quantities.
- Replace the hopper cover.
- Press the DELIVERY pushbutton and make the agitator run for at least 4-5 minutes.
- Press the PRODUCTION pushbutton to start up the cycle.





## 6. MAINTENANCE

### 6.1 ROUTINE MAINTENANCE (ADDRESSED TO THE USER)



During production, cleaning and maintenance operations, never touch the machine with hands or tools without making sure that the machine has been disconnected from mains.

In case of troubles, make sure that they are not caused by a lack of servicing. On the contrary, ask for the intervention of a TAYLOR COMPANY customer service. In case it is necessary to replace a piece, always ask a distributor or an authorized retailer for ORIGINAL spare parts.

It is advisable to make the machine be checked by a Customer Service every 6/8 months.

#### 6.1.1 CLEANING AND SANITIZATION

Bacteria and moulds easily proliferate due to the presence of fats in cream, that is why it is necessary to carefully wash and clean all parts in contact with the product, such as the cylinder, the agitator and the door.

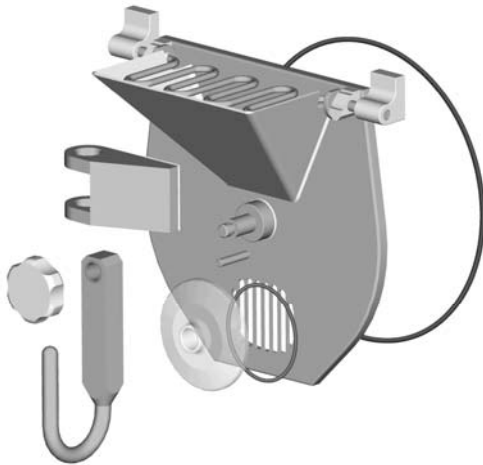


Rustless materials and/or made of plastic for food industry used for our machines, in conformity with the most severe international standards, make washing operations easier, however they cannot prevent mould proliferation, etc. caused by insufficient cleaning.

TAYLOR COMPANY recommends cleaning the tank and the parts in contact with the product after the employment and in any case in compliance with the sanitary standards in force in the country of installation. To thoroughly clean your batch freezer, proceed as follows:

1. Pour 4.2 quart (4 litres) of clean cold water into the cylinder.
2. Press the DELIVERY pushbutton and make the machine run for a few minutes. Press STOP and run off the washing water. Repeat the operation until the water coming out of the cylinder is clean.
3. Pour 4.2 quart (4 litres) of detergent solution/sanitizer into the cylinder.
4. Press the DELIVERY pushbutton and make the machine run for a few minutes. Then press STOP and run off the detergent solution.
5. Dismantle the door. To do this, turn the lever upwards, make the door rotate towards the left and holding it with a hand, remove the hinged knob with the other hand. At this point the door can be disassembled.

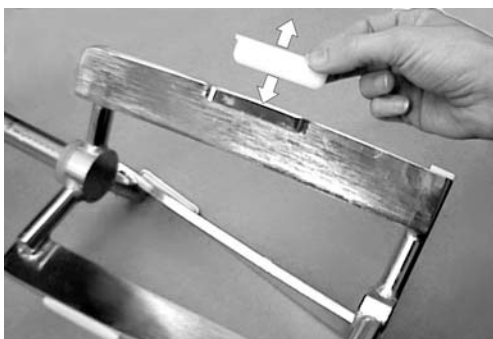




6. Dismantle the door into pieces:
  - Unscrew the handle adjusting knob
  - Remove the handle
  - Remove the delivery door and the spring
  - Draw the OR rings out
7. Pull the agitator and the stuffing box out: remove the scraping pads and wash them thoroughly. Use the cleaning rod to clean the pads seats on the agitator.
8. Accurately sanitize the cooling cylinder.
9. Remove the drip drawer from the side panel and thoroughly wash it. If the drip drawer contains some misture, the agitator stuffing box is leaking and shall be replaced.
10. Lubricate the OR rings and the stuffing box lubricant for food industry only. Once a week, it is advisable to rotate the agitator stuffing box so that the rubber elasticity can be recovered.



- To preserve plastic components and gaskets, never use solvents and/or diluents during washing.
- Sanitizing chemicals shall be used according to laws in force and with the utmost caution.
- After any sanitizing operation, it is indispensable not to touch the sterilized parts either with hands or with towels, sponges or other.
- Avoid making the agitator run empty, as the machine can be damaged.



### **6.1.2 MAINTENANCE OF AGITATOR AND GASKETS**

The agitator blades are equipped with scraping pads made of atoxic plastic materials suitable for food industry. These components are subject to wear according to the characteristics of the employed mixture: with high sugar content and low fat percentage a remarkable wear of pads can be the detected.

When the clearance between the pads and the cylinder is excessive, the agitator is no more able to perfectly scrap the cooling cylinder walls resulting in an extention of batch freezing times. To restore the machine performance, it is sufficient to replace the scraping pads.

### **6.1.3 REFRIGERATING UNIT**

In case of machine provided with air condenser, it is necessary to periodically clean the condenser fins from the dirtiness sucked in by the fan motor, which can obstruct it and considerably reduce its efficiency.

To clean the condenser, make use of a brush or an exhauster.



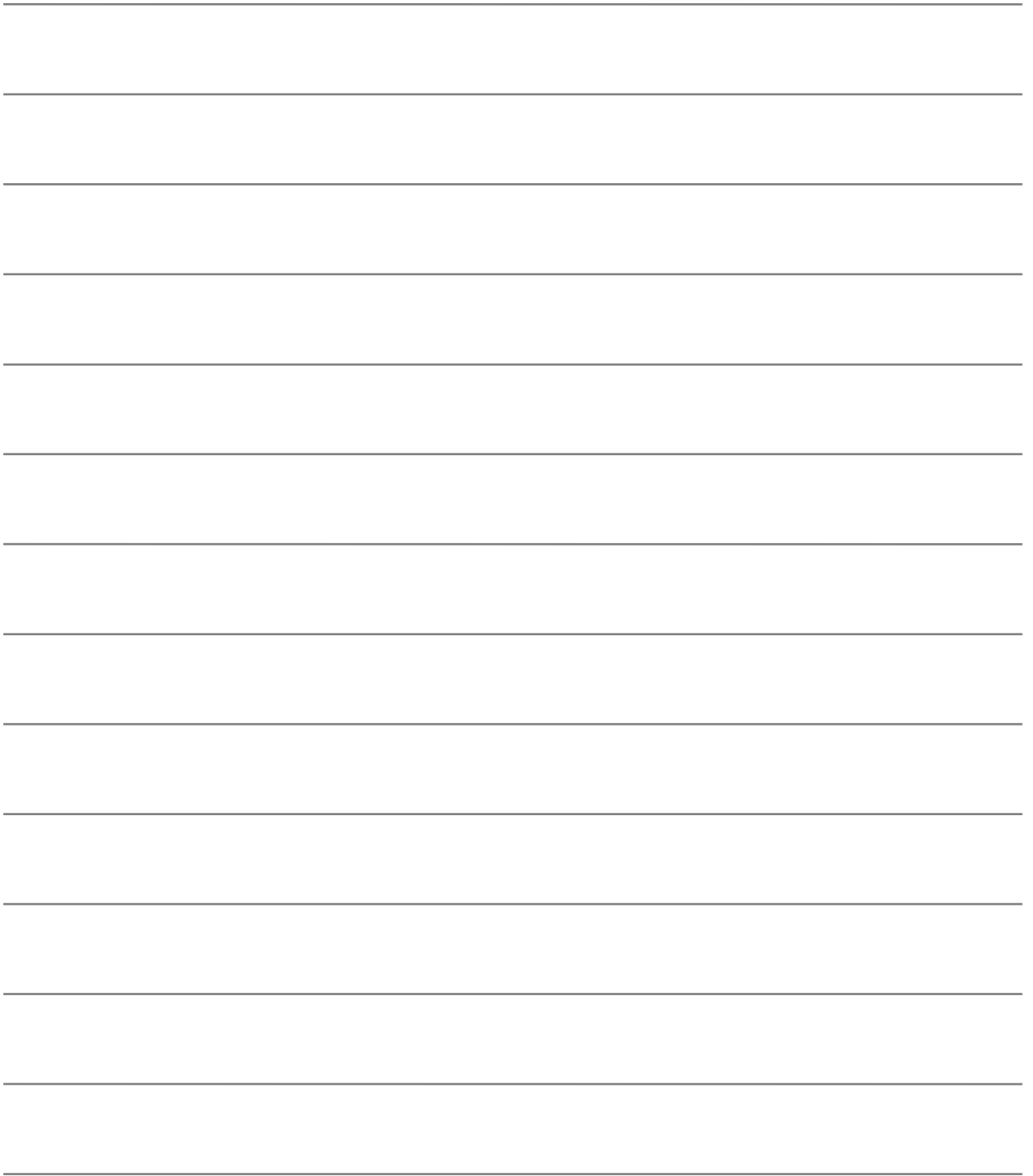
## 7 TROUBLE-SHOOTING

### 7.1 ALARM MANAGEMENT

MESSAGE	DESCRIPTION	REMEDIES
<b>STOP</b> pushbutton blinking and agitator motor still.	The agitator motor power consumption is too high in comparison to the current transformer calibration.	Check whether the agitator is blocked and the supply voltage correct.
	The current transformer circuit is cut off.	Check the circuit and in case of necessity replace the current transformer.
<b>STOP</b> pushbutton is fixed, the <b>DELIVERY</b> pushbutton is blinking and the agitator motor is still.	The agitator motor power consumption is too high in comparison to the thermal protection value.	Check the motor from an electrical point of view, the consistency value calibration and check that the agitator is not blocked.
<b>STOP</b> pushbutton is fixed, the <b>DELIVERY</b> pushbutton is blinking, an acoustic signal (beep) is released and the agitator motor is running.	Alarm for lack of growth in consistency.	Check that the quantity and the quality of introduced mixture are correct.
		Check the cooling parameters.
		Check whether the agitator scraping pads are worn out.
		Check that the agitator direction of rotation is correct (T4 three-phase).

### 7.2 TROUBLE-SHOOTING

TROUBLE	POSSIBLE CAUSES	REMEDIES
The machine does not start ( <b>STOP</b> pushbutton ON without active alarms)	Electric trouble	Send for a technician
	Incorrect power supply	Check phases
	The door or the hopper grid is open.	Close the door and lower the hopper grid.
The machine does not start ( <b>STOP</b> pushbutton OFF)	Master switch OFF	Close the switch
	Blown fuse on the electronic card	Check and replace it (send for a technician)
	Failure in electronic card or pushbutton panel	Send for a technician
Since the first phases of the batch freezing cycle, the compressor works intermittent	(C119 water) Lack of condensing water	Check the presence of water in the water system to which the machine is connected. Check the cocks.
	Dirty air condenser or broken down fan.	Clean the condenser by means of a brush and check that the fan motor correctly works.
Traces of liquid ice-cream in the drip drawer	Worn-out agitator stuffing box	Check and/or replace it.
Batch freezing times are prolonged and the ice-cream is still wet.	Worn-out scraping pads	Check and in case of necessity replace them
	Trouble in the refrigerant circuit	Send for a technician
During batch freezing the machine is noisy and the agitator stops.	The belt slips	Check the belt tension and in case of necessity replace it.
During the delivery of ice-cream, the machine is noisy.	The product is too hard.	Make sure that you have pressed the "DELIVERY" pushbutton.





**TAYLOR COMPANY, 750 North Blackhawk Boulevard, Rockton, IL 61072**

**Telephone: (815) 624-8333**

**Telex: 6871502 TAYLO**

**Fax: (815) 624-8000**

**[www.taylor-company.com](http://www.taylor-company.com)**

**December, 2004 Taylor**

**All rights reserved**

**cod. M04.37531**