

## SIRIO HH

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### BASIC INFORMATION

#### a) Place of Installation

Before purchasing, it is important that the user identifies which is the place where the mixing machine will be installed. This should be done according to guidelines and recommendations relevant to industrial application specifications or indicated by regulations of each country.

Before mixing machine assembly, the installing technician evaluates installation site compatibility with regulations on hazardous area grading in force and checks that power supply electrical wiring complies with the recommendations reported here below.

#### b) Power supply system

Once installation site has been identified, preliminary requirements to be fulfilled before locating mixing machine are as follows:

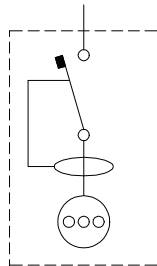
- Power supply must be supplied through a wall panel located near the mixing machine.
- The maximum power provided for is 1,5 Kw (2 Hp). The cutaway of each conductor must not be less than 2,5 mm<sup>2</sup>.
- Power supply line must be equipped with an effective ground connection and in conformity with the requirements provided for the regulations in force.
- The power supply panel must consist of a 16 A (Idn=0,03A) differential magnetothermal switch with voltage and phases compatible with power mixing machine supply type (monophasic and three phase). Such switch controls a socket (bipolar + ground), where the supply cable plug of mixing machine will be connected, according to the wiring here below:

In case the mixing machine is needed with lightning unit included, the panel should be equipped with a second socket.

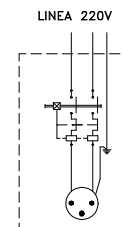
In order to get a full operating safety both for the machine and the user it is very important for panel manufacture to use the switch type indicated since this has a double function: magneto thermal for overload and short circuit protection and differential against possible ground fortuitous contact tensions.

It is important to make the necessary evaluations of the place and to follow the rules describing power supply system so as not to cause accidents.

In order to avoid that the machine might show instability problems, on full load bearing conditions, it is necessary to fix it to wall following the indications reported in the part regarding mounting instructions.



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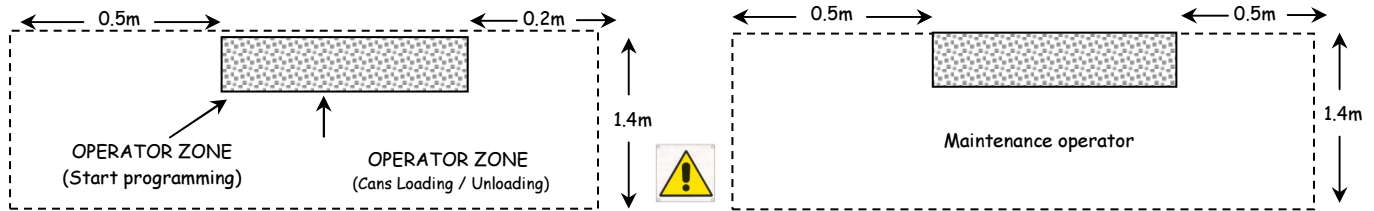


SCHEMA COLLEGAMENTO

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## Chap.1 Safety

### 1.1 Working zoned identification



### 1.2 Safety Regulations – Mixing machine safe use

It is the user's job to enter the machine into the company's risk assessment according to Art. 4 comma 1 of L.D. 626/94.

To guarantee a higher safety degree of mixing machine correct use, all the necessary measures have been taken during planning, manufacture, test and installation stages.

To avoid accidents and damages to people and things the machine must be used by a trained staff, well instructed on the right use of it.

The components are in conformity with regulations in force.

The areas where due to an improper use or not allowed interventions can be risky are:

- The control area
- The control panel and relevant motor
- The thermostatic (only heated panels)



It is forbidden to load or unload cans when the machine is running, since the driving vanes are moving. A provided alarm signal is located in a visible place on the machine front part.

Any tampering or not allowed intervention on electronic control panel is not allowed.

It is forbidden at all times for not allowed staff to open the engine compartment and especially when the machine electric plug is connected to the socket.

The removal of engine compartment protection is not allowed with exception of trained staff under maintenance stage; before operating the electric plug must be disconnected in any case

### 1.3 Components and safety devices

The machine is equipped with a red mushroom-shaped emergency button mounted on the electronic control panel.

Pressure activation of this button cause an immediate "0" type emergency stop, since the power supply to the motor is interrupted as well as the motion consequently.

The restoring of machine normal operating is obtained as follows:

- By form stripping the check device of mushroom-shaped emergency button
- By pressing starter button intentionally

### 1.4 Remaining risks

In spite of the precautions taken during machine planning aimed at guaranteeing a safety use reasonably predicable events can happen for which it was just possible to reduce the hazard but not to delete it.

Hazard	Precaution
Injuries or crushes during can load/unload	Use protective gloves and safety shoes during can load/unload
Eye injuries due to paint spurts	Use protective glasses
Improper actions during machine running	Do not load or unload cans during machine running

### 1.5 Symbols on the machine



Hazard for electrical wiring live. It is forbidden to work on electrical devices live. It is forbidden to operate on electrical systems without permission.



Danger for running equipment. Do not load or unload cans during machine running.



It is compulsory to read carefully instruction manual before any operation on the machine.



It is compulsory to ground the electrical system

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### 1.6 Noisiness

The maximum sound level of pressure gauged during full load machine running and detected at 1,60 m over ground level resulted less than 60 dB.

### 1.7 Safety of conveyance

The machines are conveyed on pallets and split into modular parts, packed in proper carton boxes. On each box there is a label on which is reported module type, code, weight in kg and overall dimensions. The identification and marking tag and the risk and remaining risk symbols are placed on base unit with motor which the only module with electrical parts always used in any modular machine. In case it is necessary to move a machine already in practice, this must be dismantled into single modules and moved carefully, following the indications provided by the accident-prevention regulations currently in force. Due to clear safety reasons it is forbidden to move an assembled machine.

### 1.8 Environment protection

Any product leak by chance from the cans must be retrieved and disposed of according to the regulations currently in force since dispersion can cause damages to people or environment. The mixing machine SP2001 must be placed into a special tub suitable for collecting the possible outflow of product from the can.

### 1.9 Reference rules

2006/42/CE	Machine Directive
2006/95/CE	Low tension Directive
UNI EN ISO 12100-1 2005	Machinery Safety – general principles of planning
UNI EN ISO 12100-2 2005	Machinery Safety – general principles of planning
CEI 44-14	Electrical equipment of machines
89/336/CE	Electromagnetic compatibility

## Chap.2 IP54 TECHNICAL SPECIFICATIONS

Feature	Value	Unit of Measure
<b>DIMENSIONS</b>		
Height	Modular (max)2300	mm.
Width	760 ÷ 1125 ÷ 1500 ÷ 1850	mm.
Depth	350	mm.
<b>MASS</b>		
Minimum	According to machine configuration	Kg.
Maximum		Kg.30
<b>TEMPERATURE VARIATION</b>		
	8÷40	°C
<b>MACHINE CHECK</b>		
	CPU	
<b>POWER SUPPLY TENSION</b>		
	220 ±15%	V
<b>NETWORK FREQUENCY</b>		
	50 Hz (60Hz)	Hz
<b>PHASE NO.</b>		
	1N + GROUND	
<b>MAX POWER INPUT ABSORBED</b>		
	1.5	KW
<b>PROTECTION LEVEL</b>		
	IP54	
<b>MAX. NOISINESS</b>		
	60	dB

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### Chap. 3 IP 54 MAIN PART TECHNICAL FEATURES

#### Electronic Control Panel

Dimensions:	15x7x5cm.
Protection level:	IP54
Panel protection:	Internal 10 ampere fuse
Power Supply Voltage:	220V 50/60Hz
Keyboard:	membrane type with bubble keys with tactile sensation
Signals:	red leds – green leds

#### Motors

##### Asynchronous monophasic – 4P B3 1 Hp motor

Technical Specifications:	type MEC 80-0,75Kw/1HP 4 poles 220/240V.-50Hz.
Manufacture type:	B3
Thermal protection:	thermal cut-out fitted into motor NC-250V-25A winding
Capacitor:	25µF placed into clamp box
Reference rules:	IEC 34-1 - 73/23 EEC – 89/336 EEC

### Chap. 4 Eex-d TECHNICAL SPECIFICATIONS

Feature	Value	Unit of Measure
DIMENSIONS		
Height	Modular (max)2300	mm.
Width	760 ÷ 1125 ÷ 1500	mm.
Depth	350	mm.
MASS		
	According to machine configuration	Kg.
Minimum		Kg.30
Maximum		Kg.400
TEMPERATURE VARIATION	8÷40	°C
MACHINE CHECK	CPU	
POWER SUPPLY TENSION	220 ±15%	V
NETWORK FREQUENCY	50 Hz (60Hz)	Hz
PHASE NO.	1N + GROUND	
MAX POWER INPUT ABSORBED	1.5	KW
PROTECTION LEVEL	Eex-d ATEX	
MAX. NOISINESS	60	dB

### Chap. 5 Eex-d MAIN PART TECHNICAL FEATURES

#### Electronic Control Panel:

Dimensions:	17.5x15x17cm.
Protection level:	IP54
Power Supply Voltage:	220V 50/60Hz
Keyboard:	ON key

#### Motors –

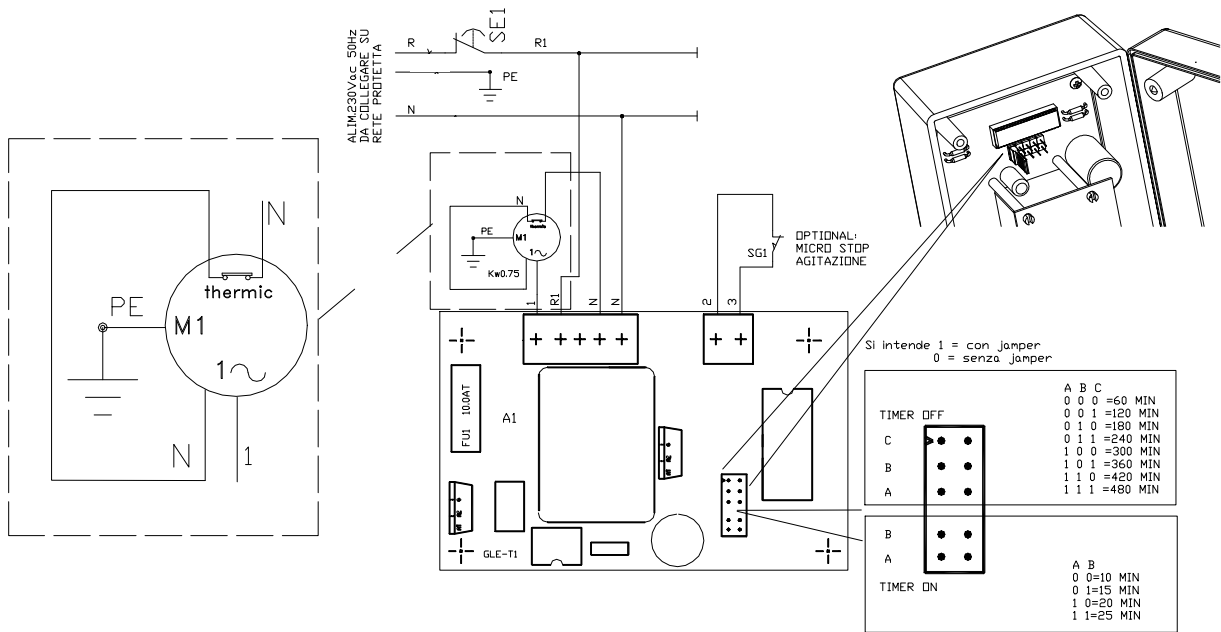
##### Eex-D ATEX asynchronous monophasic – 4P B3 1 Hp motor

Technical Specifications:	tipo II 2G Ex d IIB T4 -RL M80 B3 KW 0,75 V230 50/60Hz.
Manufacture type:	B3
Thermal protection:	thermal cut-out fitted into motor PTC 120°C
Capacitor:	25µF placed into clamp box
Reference rules:	EN 60079-0 2004; EN60079-1 2004; EN60079-4 2003; EN61241-0 2006; EN61241-1 2004; EN60529 Ottobre 1991 ; EN 60034-5 Ottobre 1991

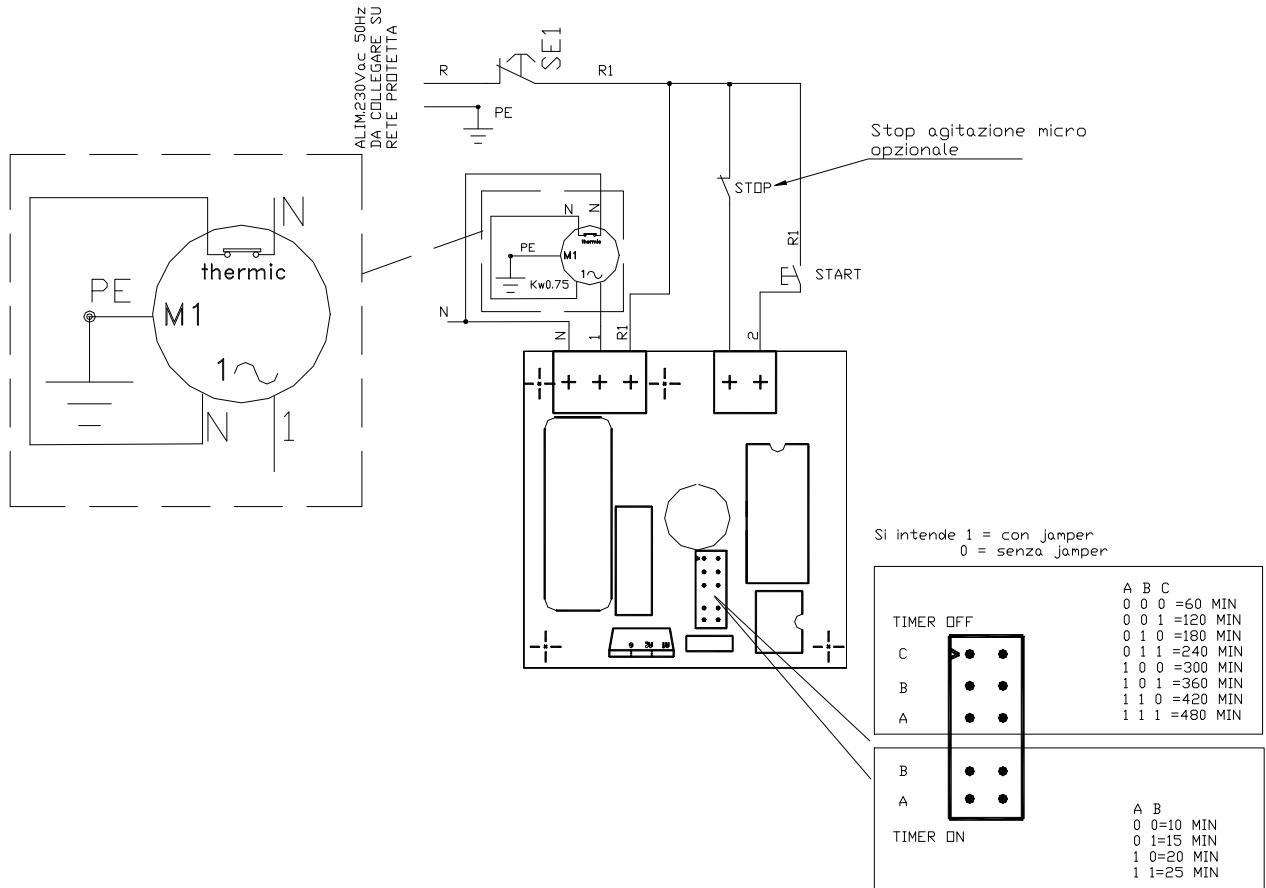
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## Cap. 6 ELECTRICAL SYSTEMS

### 6.1 Wiring of power supply-monophasic motor electronic control panel



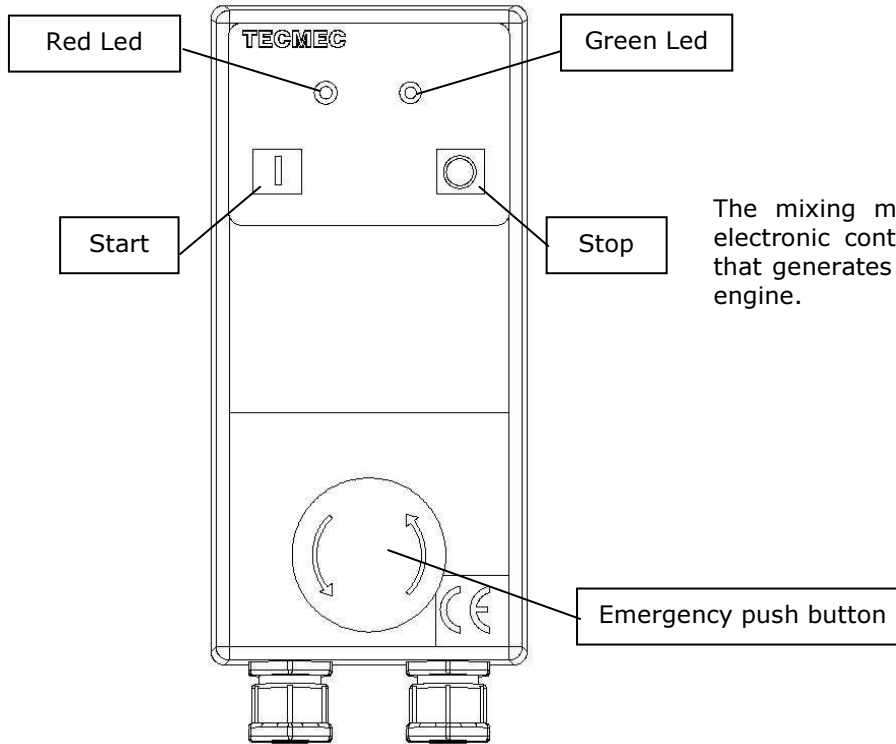
### 6.2 Wiring of power supply - Eex-d single phase motor electronic control panel



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## Chap. 7 ELECTRONIC CONTROL PANEL USE AND ADJUSTMENT INSTRUCTIONS

### 7.1 Electronic control panel

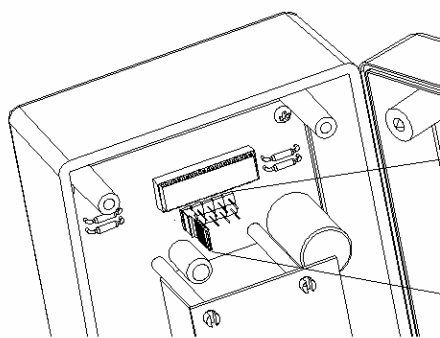


The mixing machine is controlled by an electronic control panel with internal CPU that generates the controls for starting the engine.

### Use and adjustment instructions

#### ➤ CONTROLS

The electronic control panel is pre-set for a stirring cycle of 20 minutes and a pause of 240 mts.  
 Other stirring cycle lengths that can be set internally : 10-15-25 mts.  
 Other pause lengths that can be set internally : 60-120-180-300-360-420-480 mts.



Si intende 1 = con jamper  
0 = senza jamper

TIMER OFF			A	B	C	Duration
0	0	0	•	•	•	=60 MIN
0	0	1	•	•	•	=120 MIN
0	1	0	•	•	•	=180 MIN
0	1	1	•	•	•	=240 MIN
1	0	0	•	•	•	=300 MIN
1	0	1	•	•	•	=360 MIN
1	1	0	•	•	•	=420 MIN
1	1	1	•	•	•	=480 MIN

TIMER ON		A	B	Duration
0	0	•	•	=10 MIN
0	1	•	•	=15 MIN
1	0	•	•	=20 MIN
1	1	•	•	=25 MIN

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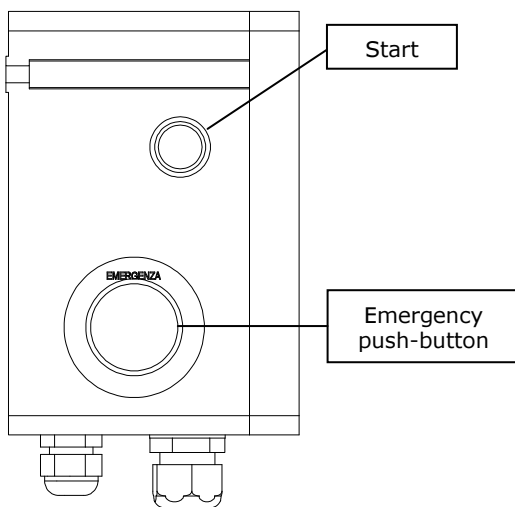
- **START KEY**  
It enables the motor to be started for the pre-set time in cyclical mode. (std 20-mts stirring cycle, 240-mts pause)
- **STOP KEY**  
It stops the motor and breaks off cyclical function.
- **EMERGENCY KEY**  
It stops the motor while keeping the panel supplied. In order to restart the motor and the cyclical function, after having released the emergency key by turning it clockwise, push the START key.
- **SIGNALS**
  - Green led = machine supplied (power voltage presence)
  - Blinking red led and green led turned off = motor is rotating and machine is in stirring cycle
  - Red and green leds lit steadily = cyclical mode set (motor is still but ready to start automatically)

**Note:**

**In order to start the motor during the pause (red led and green led on with fixed light), first of all press the stop key and then the start key.**

### Chap. 8 Eex-d ELECTRONIC CONTROL PANEL USE AND ADJUSTMENT INSTRUCTIONS

#### 8.1 Electronic control panel



The mixing machine is controlled by an electronic control panel with inner CPU that generates the controls for starting the engine.

Si intende 1 = con jumper  
0 = senza jumper

TIMER OFF	A	B	C	MIN
	0	0	0	=60 MIN
	0	0	1	=120 MIN
	0	1	0	=180 MIN
	0	1	1	=240 MIN
	1	0	0	=300 MIN
	1	0	1	=360 MIN
	1	1	0	=420 MIN
	1	1	1	=480 MIN

TIMER ON	A	B	MIN
	0	0	=10 MIN
	0	1	=15 MIN
	1	0	=20 MIN
	1	1	=25 MIN

#### Use and adjustment instructions

- **CONTROLS**  
The electronic control panel is pre-set for a 20 minutes-stirring cycle and a 240 mts- pause.  
Other stirring cycle lengths that can be set internally : 10-15-25 mts.  
Other pause lengths that can be set internally : 60-120-180-300-360-420-480 mts.
- **START KEY**  
It enables the motor to be started for the pre-set time in cyclical mode. (std 20-mts stirring cycle, 240-mts pause)



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- **EMERGENCY KEY**  
It stops the motor while keeping the panel supplied. In order to restart the motor and the cyclical function, after having released the emergency key by turning it clockwise, push the START key.

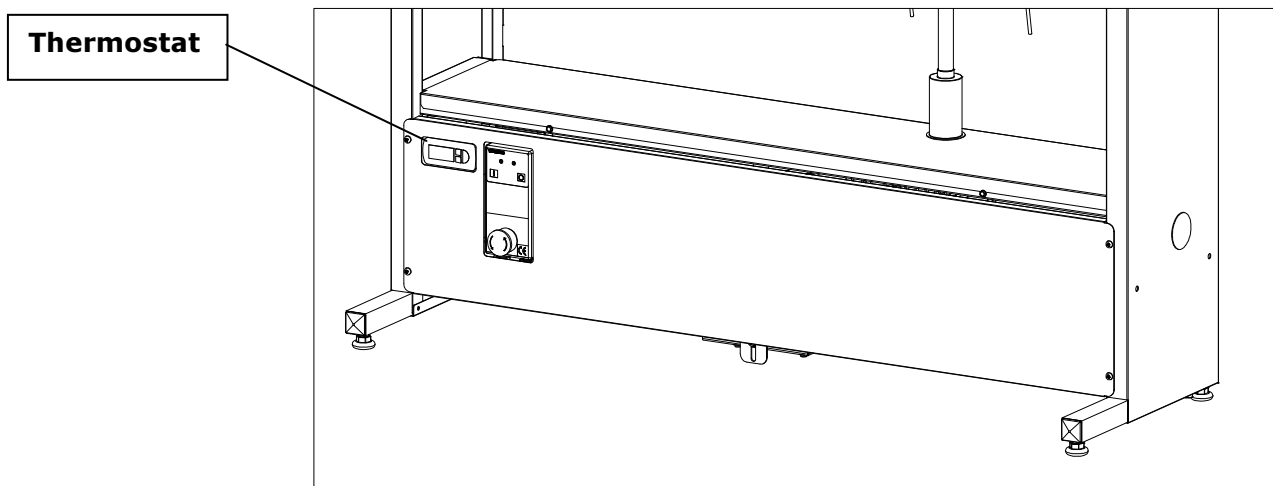
**Note: in order to start the motor during the pause, press the emergency button, wait for about 25 sec., then release the emergency button and press the start key.**

**Chap. 9 Thermostat functioning (only with heated panels)**

The heated panels function with a digital thermostat which detects the temperature thanks to a probe placed inside the module.

Once the set out (by TECMEC) temperature is reached the thermostat turns off the resistances until the temperature goes down the set up temperature.

During the heating phase the following symbol is seen on the thermostat display: 



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### Chap. 11 ANOMALIES : CAUSE / SOLUTIONS

PROBLEM	CAUSE	SOLUTION
The motor does not run and electric control panel is off.	<ul style="list-style-type: none"> <li>a) Power supply is missing</li> <li>b) Thermal cut-out has stopped the motor</li> <li>c) Emergency button is still locked.</li> </ul>	<ul style="list-style-type: none"> <li>a) Make sure that power supply cable is connected and working.</li> <li>b) Disconnect the plug and wait for an hour before plugging in, make sure of its working. If it does not properly, change the motor.</li> <li>c) Unlock emergency button by turning red button on the panel. Press start key</li> </ul>
All or part of electric control panel buttons do not work .	<ul style="list-style-type: none"> <li>a) Possible voltage overload</li> <li>b) Electric control panel breakage.</li> </ul>	<ul style="list-style-type: none"> <li>a) Remove the plug and then re-plug in.</li> <li>b) Replace defective panel.</li> </ul>
Motor runs badly and does not transmit rotation to vertical shaft	<ul style="list-style-type: none"> <li>a) Loosen belt</li> <li>b) Driving shaft lacking in pin</li> <li>c) Joint lacking in pin</li> </ul>	<ul style="list-style-type: none"> <li>a) Adjust belt tension level.</li> <li>b) Insert pin to couple driving pin and joint</li> </ul>
Noisy mixing machine	<ul style="list-style-type: none"> <li>a) Too tight belt</li> <li>b) Feet are not properly placed</li> </ul>	<ul style="list-style-type: none"> <li>a) Loosen the belt</li> <li>b) Adjust feet of base unit and motor plate adequately and at the same time check belt tension level</li> </ul>
The control panel is on but the motor doesn't run	<ul style="list-style-type: none"> <li>a) Burnt fuse</li> </ul>	<ul style="list-style-type: none"> <li>a) Change the fuse</li> </ul>
<b>HEATED PANELS</b>		
It does not heat	The resistance do not heat	Please contact the representative of NOVOL Sp. z o.o.
	The temperature outside Sirio HH is too low	Do not place it in too cold places
One of the panels does not heat	The resistance inside the panel does not work	Please contact the representative of NOVOL Sp. z o.o.
The display is off	The supply cable is not connected to the net	Connect the supply cable
	The thermostat is broken	Please contact the representative of NOVOL Sp. z o.o.