CONTI

TWIN STAR 2 R-EV

VERSION 2G & 3G

TECHNICAL DOCUMENTATION

CONTI - 04/2008 - V1.02

1 INTRODUCTION : INSTRUCTIONS AND RECOMMENDATIONS

1.1 Installation instructions

- **The installation must be carried out by a technician specifically trained by CONTI. The manufacturer is not responsible for any damages caused due to incorrect installation or use. The coffee machine must be installed on a solid furniture, supporting its weight under any circumstances.**
- **It is necessary to make the machine level to obtain equal coffee portions.**

1.2 Warranty

- **The life span of the TWIN STAR 2 EVOLUTION depends on the correct use of the machine, the daily cleaning and preventive maintenance.**

The non-respect of the daily cleaning and preventive maintenance would cancel the contractual warranty.

1.3 Safety instructions

- **The machine should not operate without supervision.**
- **The machine should only be used for its intended purpose.**
- **Switch on the machine only when the water shut-off valve is open.**
- **Place empty cups only on the cup warmer.**
- **Take care: coffee, hot water and steam can cause injuries.**
- **Never clean the machine with a high-pressure water jet.**
- **The hot parts of the machine, in particular the group and the cup warmer, can cause burns. Gloves or a protecting cloth must be used when cleaning the hot parts.**
- **Gloves should be worn when removing and cleaning the basin to avoid injuries -**
- **The safety devices must be regularly checked and maintained (service engineer).**
- **Do not remove the cover panels (risk of electric shock).**
- **Do not cover the machine in operation to allow air circulation.**

A regular and professional maintenance of the machine, the regular regeneration/refill of the water softener and maintenance of the safety devices are obligatory.

1.4 Power supply instructions

- **Never unplug or plug in when the main socket switch is on!**
- **The machine must be connected to a circuit breaker.**
- **The customer must provide an electrical installation complying with the requested standards of the country where the machine is installed.**
- **The power socket must be protected against current defects.**
- **The terminal plug must earth the machine.**
- **A differential circuit breaker is strongly recommended.**

2 TECHNICAL FEATURES

MAIN WATER SUPPLY	DRAIN	ELECTRICAL SUPPLY
*Minimum inlet pressure 2,5 Bar *Water connection pin 3/8". *The water supply pipes must resist to a constant pressure of 10 Bars *Water hardness <10°th (or 5.6°dh) *If the pressure of the main water. supply is superior to 5bars → a regulator must be installed	*Without pressure *Drain hose provided with the machine *The drain pipe must be lower than the machine	**400Vac - 50Hz** **3 phases** or **230Vac - 50/60Hz** **Single phase**

TYPE	HEATING POWER (Watt)	TOTAL POWER (Watt)	ELECTRICAL CONSUMPTION (Amps)	
			230Vac	400Vac
2 GROUPS	9000	9500	21 max	16 A / phase
3 GROUPS	11100	11500	21 max	18 A / phase

BOILER CAPACITY (IN LITERS)		
	2 Groups	3 Groups
TOTAL Hot Water/steam boiler	14	14
Hot water volume	10	10
Steam volume	4	4
Coffee boiler volume	2 x 0.5	3 x 0.5

	WEIGHT (kg)	
	EMPTY (Kg)	Weight in operation (Kg)
2G	73	95
3G	87	110

3 ACCESSORIES

- 1 filter holder 1-cup
- 1 filter holder 2-cups for each group
- 1 filter 1-cup
- 1 filter 2-cups for each group
- 1 cleaning filter (dummy filter)
- 1 cleaning brush
- 1 water hardness tester (be careful ! hardness indication in °dh (or °Gh))
- 1 cup support for each group (or espresso tray)

4 INSTALLATION:

4.1 First installation:

A . You must always stamp a reserve on the bill of lading. **Open the box**, **make sure the machine works properly**.

B . Make sure the machine is installed properly:

1/ Make sure the machine is perfectly horizontal. This is very important so that you have the same amount of coffee in each cup.

2/ Connect the machine to the waterline:
_ A tap must be installed between the water softener and the machine so that the machine is isolated from the waterline if necessary.
_ Check the waterline pressure (waterline pressure < 5 bar) if not use a pressure reducer set at 3 or 4 bars.
_ Check the inlet water hose is as straight as possible so that the water flow is OK.
_ Use the water hardness test provided with the machine to make sure you have the proper treatment. Nota: water hardness <10°th (French unit) or < 5.6°dh (or °Gh, German unit).
_ Make sure the drain hose is correctly installed to the drain and maintained with a Serflex type ring.
_ Check the drain hose is positionned with enough slope to evacuate the water to the drain. Use a siphon to avoid any smell from the drain.

3/ Connect the machine to electricity:
_ The coffee machine must have its own electrical plug.
_ The maximum power of the Tw2 2Gr Evolution is 9500W (2 groups version) or 11kW (3groups version). The machine can be connected in 230Vac one phase (40A max) or 400Vac three phase. Make sure the electrical protection of the machine is adapted to the active power of the machine.
_ We strongly advise to use a differential breaker.

4/ Check the machine can be ventilated:
_The holes in the body of the machine must be free.
_ No napkin must be placed on the cup heater.

C. First machine filling:

You can start the automatic machine filling:

_ Make sure the steam tap "V" is opened (lever up).

_ Engage the differential breaker and **check the machine is in Off position** (see on the display). If not put the machine Off immediately by pressing the On/Off button located under the machine. The displays are lighted in blue.

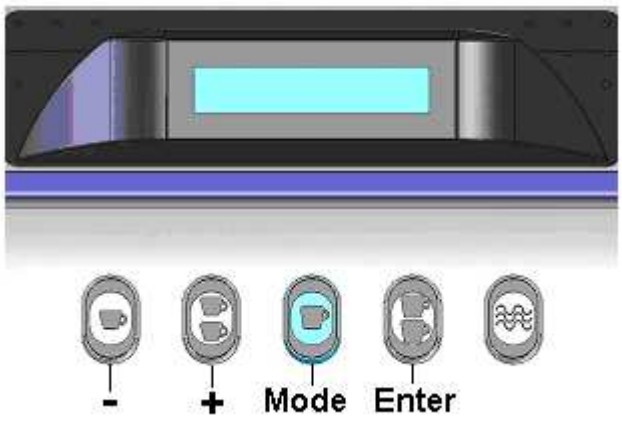
No button is lighted at this stage.
All functions are disabled apart from the motherboard programming.
The 2 displays show "OFF" and the first group the time also:

OFF HH:mm	OFF

_ Use the key (delivered with the machine) to access the program menus. Insert the key into the lock under the machine and turn to the left. The 2 first buttons of each coffee group are lighted and the displays show

Groups enabling	Parameters program

Nota: once you turn the key, the 4 first buttons of the first group are the programming buttons:



All the information are on the first display (on the left group).

Groups enabling	This is the bar menu. To access other menus, press **ENTER** for 5 sec. The display then shows « Password ? » :
Password ???	In this case for technical menu press 5 times on the first group: **+ + + + +**

The display shows:

Language: English

If you want to change the language, press **+** or **–** and press Enter to valid.

Press many times « **MODE »** until the right menu to fill up the coffee boilers.
The display shows:

1°filling press Enter

Press ENTER, the machines fills automatically (during 150sec) the coffee boilers then bleeds the air.
The display shows:

1°filling in progress

When the coffee boilers are filled.
The display shows again:

Exit from prog Set on

Get out from the programming mode, turning the key to the right and turn the machine **On** (On/Off button under the machine).

When the machine is ON, the displays show "**CONTI**", the time, and each coffee group name :

CONTI HH:mm AAAAAAAA

CONTI BBBBBBBB

The machine fills automatically the steam boiler.

The display shows:

Filling In progress

Put the steam « V » lever down to close the tap.

When the correct water level is reached (**SN** probe in contact), all the boilers **heating up** (**coffee and steam**) begins.

When a **coffee boiler** reaches the programmed temperature, all the buttons are lighted: the machine can make coffee.

When the manometer shows 1.2bar pressure, the buttons « **steam SC** », « **hot water** » and « **steam (On / Off)**» are lighted, all the functions can now be used.

4.2 Next filling

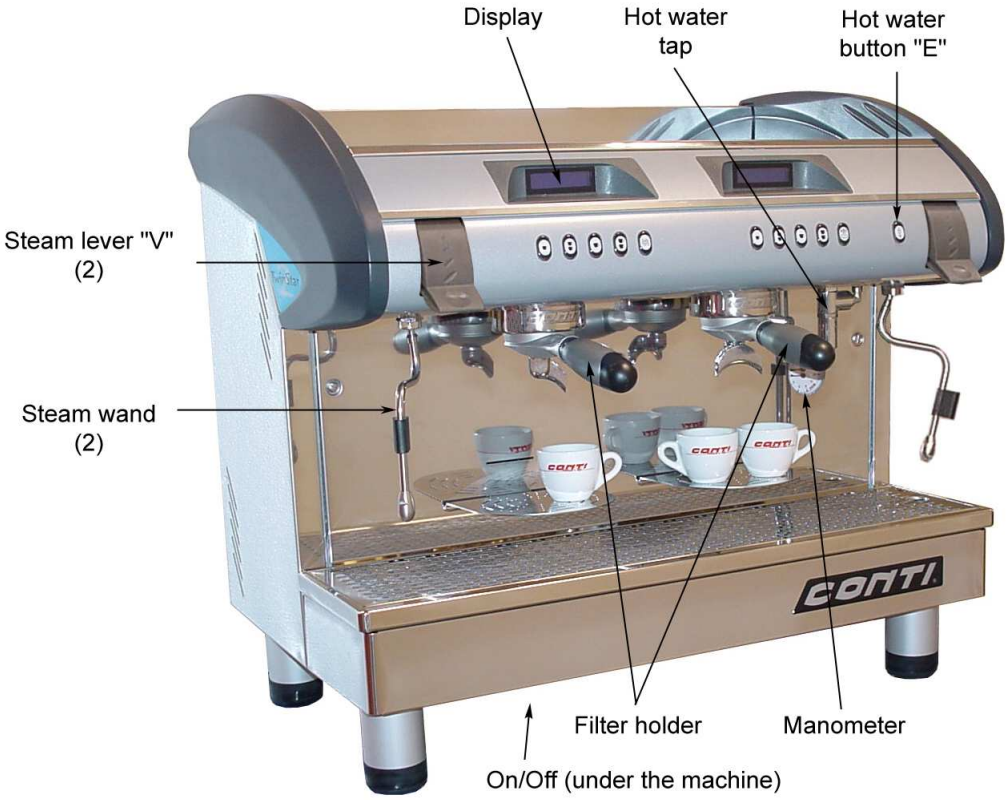
The ***TWIN STAR 2 EVOLUTION*** will manage the automatic filling of the boilers as long hot water is drawn (water level sensor maximum).

- **STANDARD PRESSURE - PRESSURE GAUGE:**

The steam boiler pressure has been adjusted in the factory between 0.9 and 1.2 bars.
An overheating thermostat will interrupt the boiler heating as soon as the temperature is increasing abnormally.

THE MACHINE IS READY FOR OPERATION.

5 DESCRIPTION OF OPERATING DEVICES



5.1 Steam tap

Two steams taps operating with levers “V” heat liquids or froth milk for cappuccino by injecting steam.
The liquid container should be high enough. The steam wand nozzle should soak into the liquid but not touch the bottom.

5.2 Hot water tap

The electric tap “E” is made to prepare hot water specialties (tea, grog...).
The hot water temperature can be adjusted thanks to a mixer system. The volume of hot water can also be adjusted via the programming mode.

5.3 Filters

The machine is supplied with 1-cup and 2-cup filters. Always ensure that the filters are unclogged and clean. To remove used coffee grounds from the filter, turn the filter holder upside-down and lightly tap it on the edge of a *wooden* box.

5.4 Dummy filter

The machine is delivered with a dummy filter. This component is only used for the daily cleaning of the coffee groups.

5.5 Filter- holders

Never take the filter-holder off when the unit is operating**,** firstly, ensure that the fluid has stopped flowing from the filter-holder outlet.
Always leave the filter-holders on the machine with the filters filled with the coffee grounds of the previous coffee in order to maintain the temperature of the filter-holders.
When the machine is not in use for an expended period of time, remove the filter-holders and expel the used coffee grounds.

5.6 Steam jet (option)

This kit allows to heat a liquid automatically in programming the steam temperature. The temperature sensor in the steam wand detects the temperature required and the steam stops automatically.

5.7 Espresso tray

Supplied with all Mug versions, this device allows to place espresso cups in a higher position.

5.8 Water hardness tester

Supplied with the machine to check the water hardness of the main water supply. The units indicated on the tester are °dh (or °Gh, German uni t). The hardness water which goes into the coffee machine must be < 5.6°dh .

6 FUNCTIONING & PROGRAMMING

6.1 Automatic switching ON & OFF

6.1.1 The Twin Star is connected to the main electrical supply: :

When switching on, the machine is getting back to the same state when it was switched off. During 5 seconds the display indicates:

Twin star 2 **Rev. 1.04**	

6.1.2 The machine is switched off:

When the machine is switched off
All the LED's are off, all the outlets are off.
All the functions are off except the programming of the main board.
The display indicates "OFF" and the time is shown on the display of the left group.

OFF HH:mm	**OFF**

6.1.3 The machine is switched on:

The displays are lit and indicate: "**CONTI"**, the current time and the name of each group.

CONTI HH:mm **Roaster name**	**CONTI** **Roaster name**

The water supply solenoid valve is activated.
The water level regulation of the steam boiler is activated.

When the safety sensor is reached (probe **SS** in contact with water):
The **security relay** is activated.

When the level sensor is reached (sensor **SN** in contact with water):
The **heating elements** of all the boilers (coffee & steam) are heating.

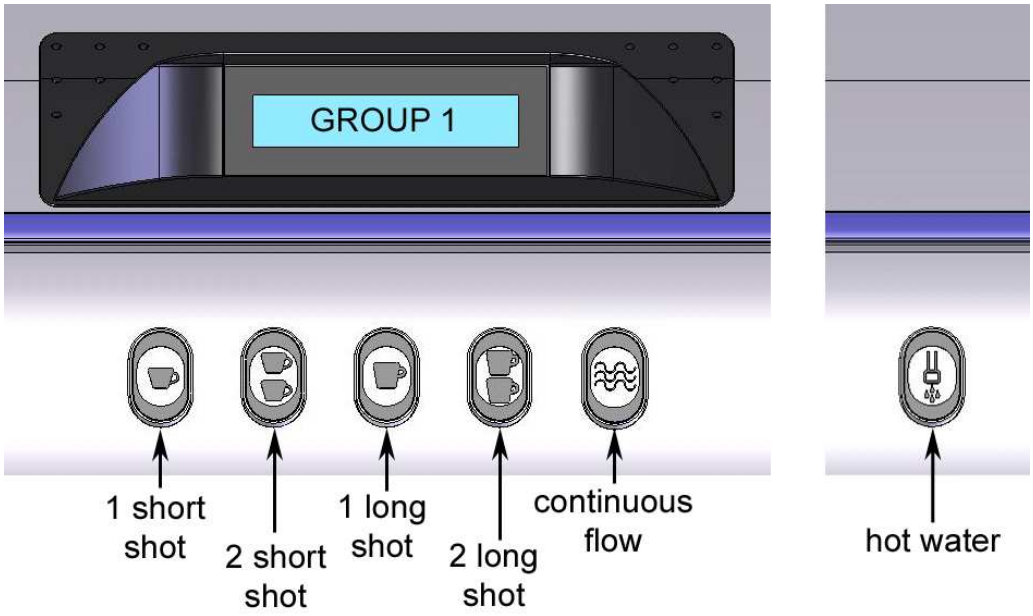
When the required temperature of the coffee boiler is reached:
All the LED's of the group are lit, and the automatic bleeding system is activated then all the functions of the group are operating.

6.1.4 Automatic Switching On & Off:

The automatic switching on & off of the machine could be programmed for every day of the week:
The main electrical supply must be switched on.
The timetable is programmed in advance.
A day off could be set.
The automatic switching on & off could be deactivated **(see programming)**

⚠ **The machine can always be turned ON and OFF with the ON/OFF button.**

6.2 Programming



6.2.1 Programming of coffee measures:

To get into the programming mode:

⇨ Insert and turn the programming key. The displays indicate

Water volume Programming	**Parameters Programming**

⇨ Press the right **push-button** (Continuous) of the group to program.
- Programming the left group will also program the other groups.
- Programming the other groups will program each group individually.

Put coffee ground in the filter holder before adjusting the dose .

⇨ The LED of the selected push-button **blinks**: **PROGRAMMING MODE**
⇨ Start the programming within **5 seconds** (otherwise the machine will get out of the programming mode).

⇨ Select the measure to be programmed by pressing the relevant button:
- All the LEDs of the group will go off,
  only the LED of the selected measure will remain alight.
- The LED of the button CONT blinks.
- The pump and the solenoid valve of the related group are activated.
- The water is flowing. Once the required measure is reached, press the button again to stop the flow.
- The data is stored.

The PROGRAMMING MODE will remain for 5 seconds (the right LEDs are blinking).
Continue the same procedure for the other measures of the group.

NOTES:

- Never forger to put coffee ground in the filter holder before adjusting the dose.
- During the **PROGRAMMING MODE** the LEDs of the already programmed push-buttons go off.

- Each group could be programmed individually: press the continuous flow button on the right of each group.
- Maximum flow time of the coffee measures: **3 minutes.** Wait for 5 seconds to go out of the programming mode before making coffees.
- During the programming of one group, the other groups do not work (including the hot water).
- The data are stored even if the machine is switched off.

6.2.2 Programming of tea measure :

⇨ Insert and turn the programming key. The displays indicate:

Water volume Programming	Parameters Programming	Parameters Programming

⇨ Press the push-button **continuous flow** (of the left group).
⇨ The LED of the button **blinks**: PROGRAMMING MODE.
⇨ Press the HOT WATER button to program: the hot water solenoid valve is activated.
⇨ When the hot water measure is reached, press the hot water button again to stop the flow.
⇨ The data is stored.

NOTES:

- If the user don't stop the hot water flow, the machine will automatically close the solenoid valve after 120 seconds.
- Wait for 5 seconds to go out of the programming mode before starting the flow.
- The data are stored even if the machine is switched off.

6.3 Beverage preparation

6.3.1 Coffee delivery:

The machine has to be switched on and the security water level in the steam boiler reached (sensor SS).

Machine switched on and no delivery: all the LEDs are lit.

Press the push-button to deliver the programmed coffee measure (each push-button could be programmed with a different measure – see PROGRAMMING MODE).

To stop the coffee flow press one of the 5 push-buttons of the operating group.

Press the selected push-button:
- The pump and the solenoid valve of the group are activated.
- The LED of the selected button is lit, the other LEDs of the group are turned off.
- The LEDs of the other groups are lit.

The flow meter detects the volume of water. When the programmed quantity is reached
- the flow stops automatically,
- the pump and the solenoid valve of the group are deactivated.
- the LEDs of the group are lit.

All the groups on the machine can be used at the same time.

If one of the groups has been deactivated in the Bar menu, all the LEDs of this group will stay off.
If the left group is deactivated, all the LEDs of this group stay off.

The coffee will not flow, if

- Time Out of the heating element (coffee boiler - alarm on the display),
- Overheating of the coffee boiler heating element (alarm on the display),
- Time Out for steam boiler filling up,
- The security sensor is not reached (lack of water in steam boiler).

When the coffee is flowing, the display of the operating group shows (according to the selection):

1 Espresso in Progress	**2 Espresso in Progress**	**1 Long dose in Progress**	**2 Long doses in Progress**	**Continuous dose in Progress**

6.3.2 Coffee delivery:

This function allows to moisten the coffee grind before infusion (opening of the solenoid valve time t1, deactivating time t2 and reopening).

The pre-infusion is set in the factory and can be modified and set different on each button of the group – ***see programming***.

6.3.3 Tea measure:

Machine turned on, no tea delivery: The tea LED will stay alight.

⇨ Press the tea push-button:

- The tea solenoid valve is activated and the hot water is flowing.
- The LED of the push-button is lit.

The TEA delivery can be programmed. When the programmed time is reached the TEA solenoid valve is closed and the hot water flow stopped.

The flow can be stopped before the end of the program by pressing the TEA button again.

The TEA and COFFEE functions can be used in the same time.
During the hot water delivery the display of the **left group** shows:

Tea in Progress

When coffee & tea are delivered in the same time on the left group, the display will show the information alternately.

When the programmed time is reached, the solenoid valve will close.

6.3.4 Tea with pump:

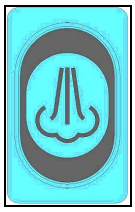
The anti-splash system of the hot water outlet can be adjusted using the pump and the tea solenoid valve in the same time – ***see technical menu.***

6.3.5 Jet Steam SC (steam control) and steam on / off functions: (in option)

« ***Steam SC*** » and « ***Steam*** **(On / Off)** » buttons are enabled when the machine is on and the steam boiler security level is reached (SS probe in contact with water). The machine only requires a complete water level when turned on (SN probe in contact with water) to allow steam distribution through the solenoid valves.

When the machine is ready to be used (boiler pressure = 1.2bar), the buttons « ***Steam SC*** » and « ***Steam*** **(On / Off)**» are lighted.

Steam SC



Steam On / Off

6.3.6 Jet steam SC

Pour the cold milk in the jug (preferently up to the middle) and insert it under the « jet steam SC » (see picture below).

Pressing « *Steam SC* » (steam Control), activates the steam solenoid valve to warm up the milk. The button **« Steam *SC* »** is lighted during the milk warming up.

When the programmed temperature is reached, the jet steam stops.

Nota:
- You can stop the jet steam by pressing the jet steam button **« *Steam SC* »**.
- When installing the machine, check if the programmed temperature is OK. Otherwise ask to your technician to adjust it according to your choice.
- If the programmed temperature is not reached, steam stops after 60 seconds.

6.4 Others functions

6.4.1 Safety level of steam boiler:

The water level is controlled by the sensor SS.
The sensor (SS) is not activated when the machine is OFF.
When the machine is ON and if the sensor does not detect the presence of water within 1 sec:
an alarm is activated,
the machine will turn off automatically and the left display will show:

Steam boiler empty

To suppress this alarm, the machine must be turned off and on again.

Remark: If the machine is turned on with the steam boiler empty, the automatic water filling will start without activating the alarm. If the boiler fails to fill, the filling Time Out (sensor SN) will activate the alarm again. Check if the inlet solenoid valve EE isn't clogged and check the good functioning of its coil.

6.4.2 Automatic filling up of the steam boiler:

The water level of the steam boiler is controlled by the level sensor SN.
When the sensor does not detect the presence of water within the time T ON, the solenoid valve of the water supply EE will be activated.
When the sensor detects the presence of water within the time T OFF, the solenoid valve of the water supply EE will be deactivated.

Both times, T ON and T OFF can be adjusted in the programming mode.

While the steam boiler is filling up, the left display will show:

Filling up In Progress

The steam boiler can be filled up using the pump MP and the solenoid valve EE simultaneously - **see programming mode.**

6.4.3 Automatic daily bleeding process:

When you turn on the machine (ON/OFF button). The coffee boilers bleeding process automaticaly starts when you turn on the machine (ON/OFF button).

The machine starts as the TwinStar2 (*steam boiler filling then coffee boilers heating*).

When a coffee boiler reaches the programed temperature:

Group i **PUMP** + **BLEEDING EV i** activaded for **6 seconds.**

PUMP activated for **8 seconds.**

Group i lighted

Group **i ready to make coffee**

If the group is disabled in the technical menu, the group remains OFF.

6.4.4 Cleaning function :

A cleaning cycle can be carried out independently on each group and at any time, otherwise and after 500 coffee are produced on a group, the corresponding display will show:

Please Rinse

Insert a blind filter with a cleaning tablet into one of the filter holders and install it on the group where the message is shown.

To start the cleaning cycle and suppress the message, press during 2 sec the 5th push-button (Continuous key) of the group where the message is shown.
The pump and the group solenoid valve are 2 sec ON, 1 sec OFF, repetition 15 times.
During the cleaning cycle the display will indicate:

Washing in Progress

When the 15 times rinsing cycle are finished, the display will indicate:

Rinse

Remove the filter holders and evacuate the coffee ground which remind in the dummy filter.
Put the filter holder on the group again then press the 5th push-button (Continuous key).
The rinsing cycle start. The pump and the group solenoid valve are 2 sec ON, 1 sec OFF, repetition 15 times. During the Rinsing cycle the display will indicate:

Rinsing in Progress

When the rinse cycle is finished, the display will return to the standard mode and the coffee counter of the group will go back to zero.

Remarks:
- The coffee counter: each push-button is worth 1 unit, the Continuous button has no value.
- The cleaning cycle can be activated before the message appears on the display.
- While a group is being cleaned, the others groups will work normally.
- All groups can be cleaned at the same time.
- The cycle can be stopped by pressing one of the five push-buttons of the group.

6.4.5 "Coffee credit":

This function enables coffee roasters to program the machine for a limited coffee delivery.

It can be activated and deactivated. The coffee roaster has access to the programming mode with an allocated password.
The coffee roaster can program the number of coffee shots to deliver according to the quantity of coffee beans sold.
A value is attributed to each push-button – value adjusted in the programming mode. The programmed credit decreases as and when the coffee is delivered.

A credit running out information can be programmed with a message on the display to inform the user about the quantity of coffees left to allow him to contact the roaster before the machine will be blocked.
The displays show:

Coffee credit Outrunning	**Coffee credit Outrunning**	**Coffee credit Outrunning**

When the programmed quantity of coffee shots were delivered:
The coffee push-buttons are deactivated, the LEDs go off.
The CAPPU push-button is deactivated, the LED goes off.
Only hot water and steam can be drawn.
The displays show:

Coffee credit Exhausted	**Coffee credit Exhausted**	**Coffee credit Exhausted**

6.4.6 Data reset:

This function allows to program the standard parameters again when they were lost.

Procedure:
- Turn off the main electrical supply (remove the plug) of the machine.
- Press simultaneously the left push-button of the left group and the tea push-button.
- Turn on the machine (while pressing both buttons).

When the LEDs of the 'continuous' push-buttons of all groups are blinking the data is programmed.
Turn off the main electrical and then reconnect the machine again to return to the standard functioning.

Remark: the following data will not be modified after the execution of this procedure:

_ Factory set parameters.
_ Roaster set parameters.
_ Counter of delivered shots.
_ Time.
_ Language.
_ Tea/ hot water settings.
_ Roaster's name.
_ Passwords.

6.5 Alarms

6.5.1 Time-out filling of steam boiler filling:

If the filling of the steam boiler (sensor SN covered) exceeds the set time **(⇨see programming mode)**, the filling is stopped.
The machine will turn off automatically and all the leds will blink. The left display will show:

Alarm **Filling up**

To suppress this alarm switch on the machine **(ON/OFF).**

6.5.2 Error flow meter:

When during a coffee cycle the pulsations of the flow meter are absent for more than 6 sec., the LED of the pushed button will blink and the display of the group will indicate:

Flowmeter **Alarm**

However, the functioning of the group will continue.

If the pulsations come back, the alarm will be deleted and the coffee cycle will finish.

If the absence of pulsation remains for 180 sec, the coffee delivery will be stopped and the alarm suppressed. Check the good functioning of the flow meter of the group where the message appears.

6.5.3 Coffee boiler over-heating:

If the water temperature in a coffee boiler rises above 140℃ / 284 ℉:

- All the LEDs of the group will blink.
- The heating of the coffee boiler will be stopped.
- The push-buttons of the group will be deactivated.
- The display of the group will indicate:

Group Boiler **Temperature**

The alarm will disappear when the temperature decreases 2℃ under 140℃/ 284℉.
_ Check the good functioning of the state relay which supply the heating element of the defective group.
_ Check the good functioning of the temperature sensor of the defective group.

6.5.4 Steam boiler over-heating**:**

Overheating thermostats monitors the maximum temperature allowed in the steam boiler and in the coffee boiler. When the maximum temperature is reached the overheating thermostat will deactivate the security relay, the auxiliary contact STR will open.

- The LEDs of the TEA and CAPPU push-buttons will blink
- The heating and push-buttons are deactivated
- The display of the left group will show:

Klixon **Opened**

6.5.5 Time out coffee boiler heating:

If a coffee temperature sensor is disconnected, the same procedure as for the overheating has to be applied. The display of the defective group will show:

Group Boiler Heating

The alarm will be activated even if the group is deactivated.

To delete the alarm switch the machine off and on (ON/OFF); if the message appears again :
_ Check the good functioning of the state relay which supply the heating element of the defective group.

6.5.6 Coffee temperature sensor disconnected:

If a coffee temperature sensor is disconnected, the same procedure as for the Overheating has to be applied. The display of the defective group will show:

Coffee Temp probe Not connected

To remove this alarm, switch off then on the machine.

6.5.7 Steam boiler temperature sensor disconnected:

If the temperature sensor of steam boiler is disconnected, the display will show :

Steam boiler probe Not connected

To remove this alarm, switch off then on the machine.

6.5.8 Steam control system temperature sensor disconnected:

If the steam control temperature sensor is disconnected:
- The LED of the steam push-button will blink
- The display of the first group will show:

Steam control not connected

The steam push-button is still functioning but the steam control system is deactivated. The steam push-button must be pressed again to stop the steam delivery..

The 5th key of the last group became automatically “continuous flow key” for coffee and cannot be used for steam application.

6.5.9 Overheating in steam boiler:

An alarm appears if the temperature sensor detect more than 140℃ in the steam boiler.

Overheating Steam boiler

6.5.10 Regeneration of water softener:

When a certain quantity of water has been used the LED of the CAPPU push-button will blink and the left display will show:

Filter regeneration

The message informs the user to change the cartridge (Brita) or to insert salt into the water softener but does not stop the delivery of products.
When the regeneration has been carried out, suppress the message as follows:

1/ Turn off the machine (button On/Off).
2/ Keep pressing the 3rd push-button of the left group and switch the machine on again.
3/ Turn on the machine (button On/Off).
The water counter is reset to 0.

All parameters can be set in the ⇨ **programming mode:**

a) flow rate of the water supply solenoid valve EE (cc/sec)
b) flow rate of the flow meters (ml)
c) water quantity of regeneration period.

6.6 Heating of the boilers

The heating of the boilers is managed by the main board when the machine is switched on.
A relay card located at the rear right side supplies the heating elements as follows:

Boilers	Probes	Resistances
Steam	Pressure switch	RC1 + RC2 + RC3
Coffee Group 1	Sensor ST1	RCC1
Coffee Group 2	Sensor ST2	RCC2

6.6.1 Regulation terms :

_ **Coffee boilers:**
The temperature is regulated with a **probe (NTC)** installed on each coffee boiler (hysteresis of 1 ℃)
When the temperature reaches the programmed T° ☞the supply of the relay will stop
When the temperature is 1°C above the programmed T ° ☞ the supply of the relay is going on

_ **Steam boiler:**
When the 2-bar pressure is detected by of the pressure switch, the contact of the pressure switch will open and the relay will deactivate and stop heating. A time filter has been installed to avoid constant backlashes of the relay which could damage its contact.

6.6.2 Management of the electrical consumption:

With voltage 400V 3NAC or 230V 3AC (power 0):
All heating elements can be heated in the same time.
The heating elements are supplied separately according to the above described temperature regulation.
The maximum consumption of the machine can reach **16 Amp** per phase.

With voltage 230V 1NAC (power 1 or 2):
To reduce power consumption, the machine only heats 2 or 3 heating elements at the same time.
Priority is given to the coffee boilers but one of the three heating elements of the steam boiler can be supplied continuously.
Order of priority: RCC1 (heating element coffee boiler GR 1)
RCC2 (heating element coffee boiler GR 2)
RC1 (heating element 1 for steam boiler)
RC2 (heating element 2 for steam boiler)
RC3 (heating element 3 for steam boiler): disabled in position: POWER **2**
The steam boiler can be heated with 1, 2 or 3 heating elements depending on the heating of the coffee boilers.
The power consumption is limited **to 25 Amp** (power 1) **or 17 Amp** (power 2).
(These parameters have been adjusted in the factory).

6.6.3 Desactivation of coffee groups:

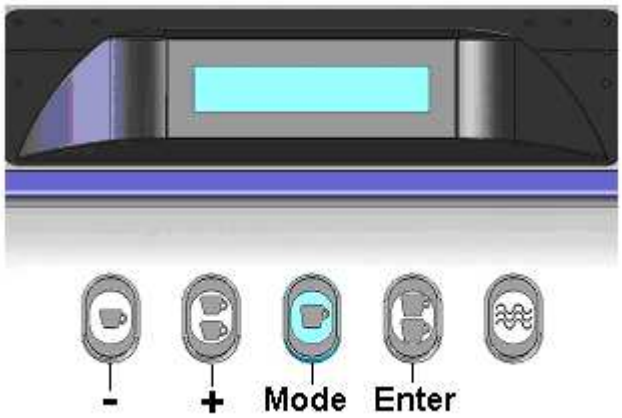
The user can deactivate temporarily one or several groups to reduce the power consumption (see programming, Bar menu).
The LEDs of the deactivated group are OFF,
The heating is deactivated,

Remark: the programmed data of the group (measures, temperature, etc.) remain stored.

Programming

Most parameters can be set in the programming mode.
Four adjustable menus are available:

"BAR MENU":	for the barman/barista to adjust machine (without password).
"TECHNICAL MENU":	only for the technician.
"FACTORY MENU":	only used by the CONTI technicians.
"ROASTER MENU":	only used by the roasters.



To access the menus insert the key (on the lock located under the machine) and turn it. **The programming is carried out with the 4 left push-buttons of the le left group and shown on the left display.**

6.6.4 To enter the programming mode:

Turn the programming key:

CONTI HH:mm
Roaster name

You will enter the BAR MENU

The display of the left group will show:

Water volume
Programming

To enter the other menus, press **ENTER** for 5 seconds (the 4th button from the left)

The display of the left group will indicate

Password ???

Enter the password by means of the push-buttons of the left group – see above drawing.

Technical password**:**	delivered with the machine: **+++++** (this password can be changed by the technician).
Factory password**:**	only used by CONTI.

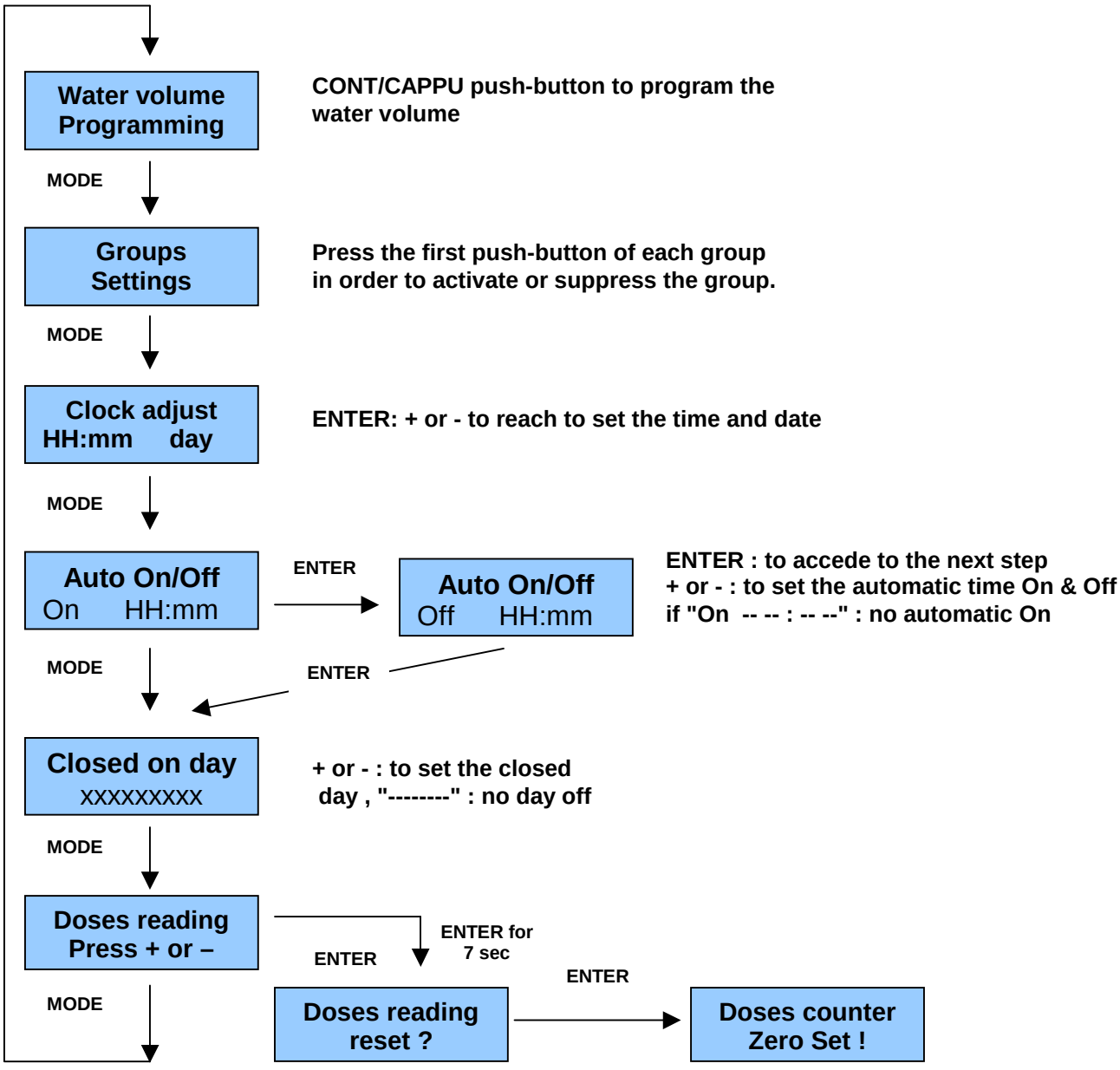
Roaster password**:**	The roaster selects his password. Only the roaster can access this menu.

The Technical menu also gives access to the Bar menu.
To exit the programming mode, turn the key to the left.

To exit out of the programming, turn the lock on the other side.
To enter in the menu Bar, press the **MODE** key.

6.6.5 Description of **Bar** menu**:**

To enter the menu Bar, press **MODE**.



BAR MENU:

_ Water volume programming:
This step allows to adjust the coffee and tea doses for each keys.
Read the details of the programming explanation on paragraph 6-2.

_ Groups Settings:
Allows to suppress temporarily one or several groups to reduce the power consumption
The LED of the left push-button indicates the state of the group.
Left LED lit = group activated
Left LED lit off = group deactivated

Press the left push-button of the group to activate or suppress the group

_ Clock adjust:
To adjust the time press ENTER, + and -.
HH. hour (0...23)
Mm: minutes (0...59)
Day: day of the week (Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday)

_ Setting of automatic On/Off switch → Auto On/Off:
Setting of the time of the automatic switch on and off.
Adjust by pressing ENTER, + and -.
ON: HH:mm hour/minutes of the automatic switch on
OFF: HH:mm hour/minutes of the automatic switch off.

The setting is valid for all days of the week.
To suppress this function, set as follows: **On:** -- --.—

Setting a day off on which the machine will not switch on automatically.
Set by pressing + and -.
To suppress this function, set: "----------"

_ Reading of the number of coffee delivered → Reading doses:

Pressing + and -, the list of all products will fast forward and the amount of the products delivered on each push-button will be indicated on the display.
The measure is counted each time the push-button is pressed (even in the programming mode).
The maximum counter is 65535 measures for each push-button, above this number the counter will return to "0".

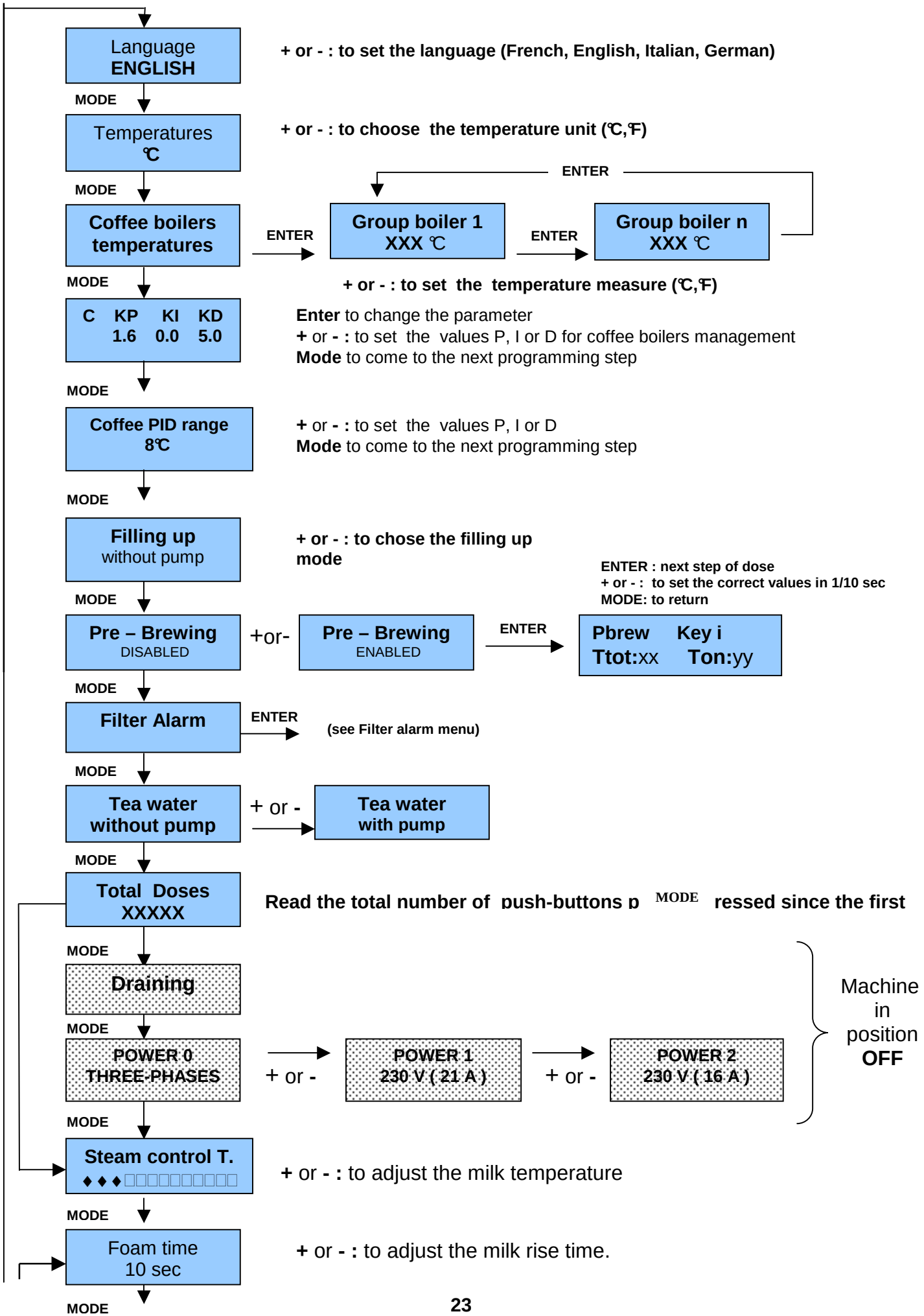
Doses reading reset ?

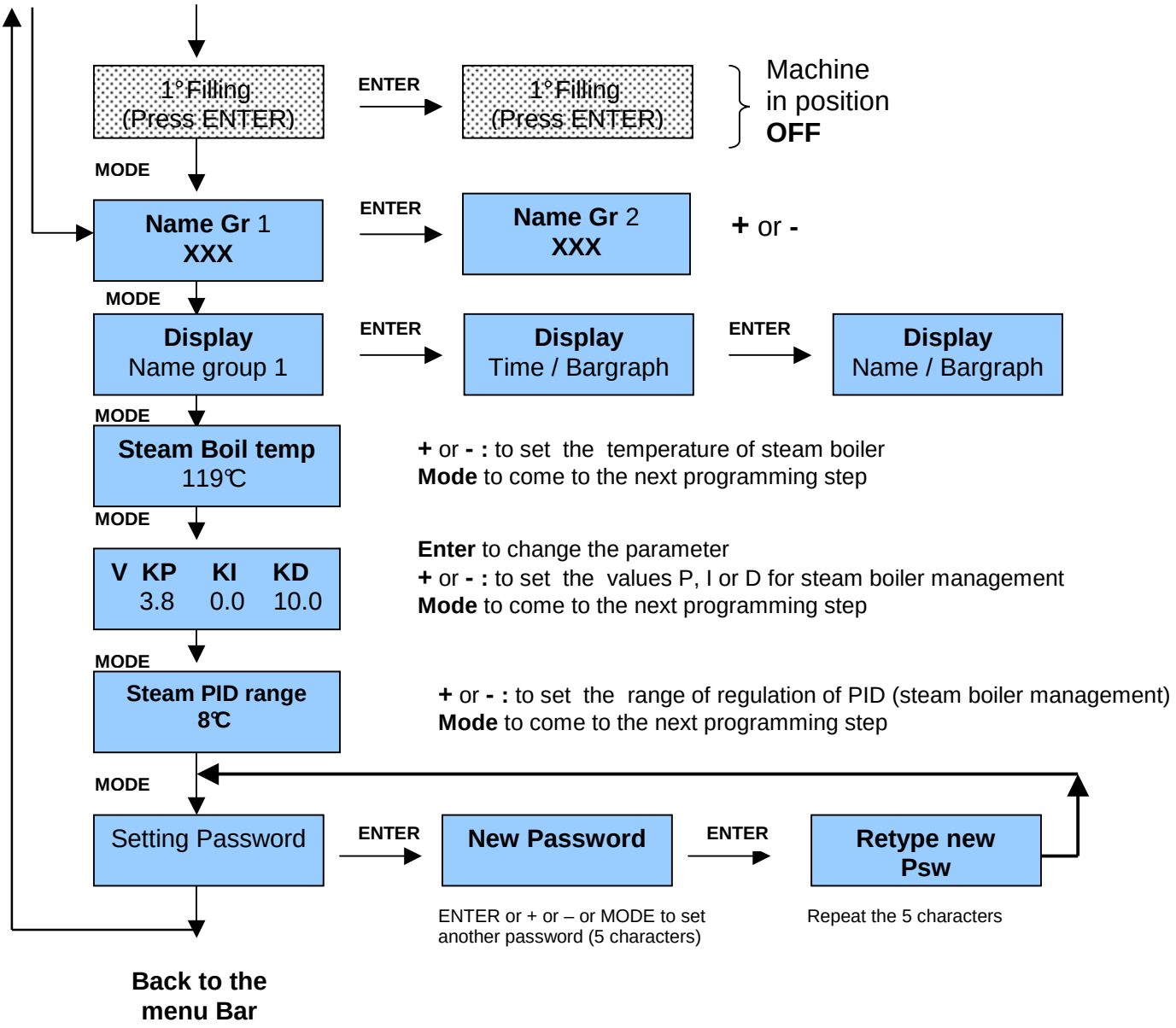
_ Reading doses reset:

To **reset** the counter, press **ENTER** and confirm by pressing **ENTER** again **within 7 seconds** (otherwise, the counter will return to the reading mode without reset).
The display will show:

Doses reading 0

6.6.6 Description of **Technical** menu:




1°Filling
(Press ENTER)
ENTER
1°Filling
(Press ENTER)
Machine
in position
OFF
MODE
Name Gr 1
XXX
ENTER
Name Gr 2
XXX
+ or -
MODE
Display
Name group 1
ENTER
Display
Time / Bargraph
ENTER
Display
Name / Bargraph
MODE
Steam Boil temp
119℃
+ or - : to set the temperature of steam boiler
Mode to come to the next programming step
MODE
V KP KI KD
3.8 0.0 10.0
Enter to change the parameter
+ or - : to set the values P, I or D for steam boiler management
Mode to come to the next programming step
MODE
Steam PID range
8℃
+ or - : to set the range of regulation of PID (steam boiler management)
Mode to come to the next programming step
MODE
Setting Password
ENTER
New Password
ENTER
Retype new
Psw
ENTER or + or – or MODE to set
another password (5 characters)
Repeat the 5 characters
Back to the
menu Bar

TECHNICAL MENU:

Language: 4 choices; French, English, Italian, German.

Setting of the Temperature measure: ℃ or ℉

Coffee boiler temperature:

The temperature can be adjusted for each coffee boiler between 85℃ and 105℃ (185℉ and 221℉)

Setting of PID parameters for coffee boilers heating regulation:

The 3 parameters P (proportional term), I (integrated term) et D (derived term) can be adjusted to modify the regulation heating management of the coffee boilers.

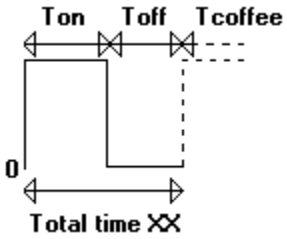
Range of regulation for PID system:

The range of regulation must be defined. The PID regulation start to work when this range of temperature is reached.

Filling up:

Filling up of the steam boiler **with** or **without pump** (SOLO KIT).

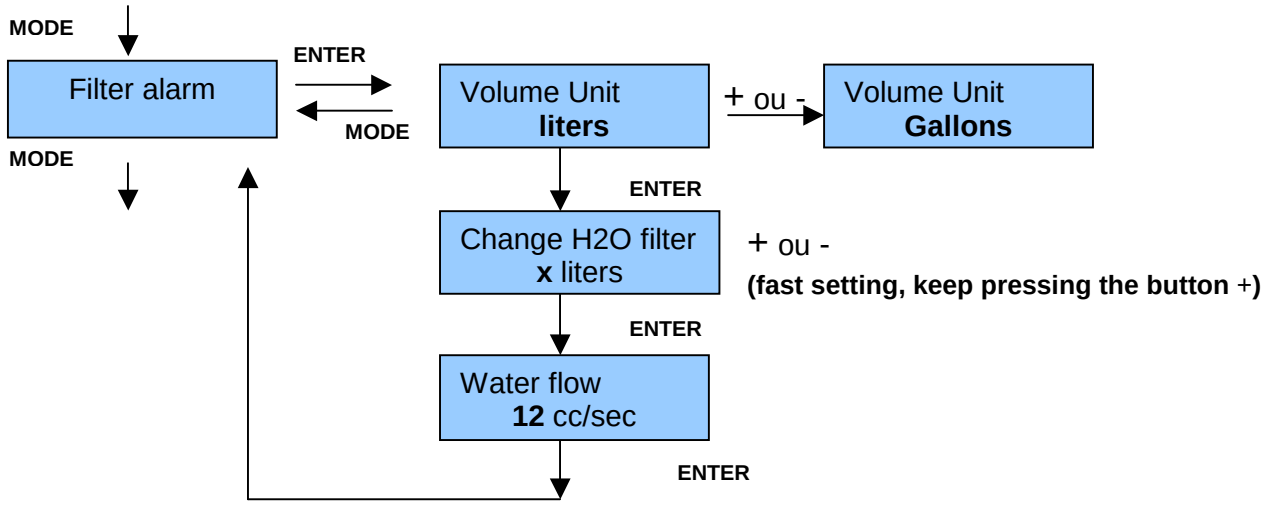
Pre – Brewing:



Setting of the pre-infusion time for the 4 coffee push-buttons of each group.
i = number of push-button
XX = Total time of pre-infusion (T1 (on) + T2 (off))
YY = time of switch on of the solenoid valve (T1 (on))

The values are expressed in **1/10 seconds (1s = 10).**
The pre-infusion time can be set between 0 and 50 (0 = 5 seconds).
To get out of the menu, press MODE or wait 30 seconds.

Filter Alarm:



This menu concern the water softener parameters :
Select the water unity quantity set on the machine : liters or Gallons.
Setting of the water quantity used before the alarm is activated.
When the programmed water quantity is reached, the display will show a message to change the cartridge or to regenerate the softener.
Setting of the following parameters:

Water quantity: 0 to 5000 liters (deactivated = 0)

Flow rate (cc/sec) 1 to 125 cc/sec to count the water consumption (deactivated = 0)

The water consumption include: the water quantity going through the flow meter

The water going inside the steam/hot water boiler

The counting of water return to zero.

Tea water:

The hot water flow can be adjusted with the mixing solenoid valve to avoid splashing. Cold water can be added to the hot water directly from the main water supply or via the pump.

Total Doses:

Allows to read the total number of coffee push-buttons activated since the first installation.
Can not be reset.
Maximum measures: 999999, then the counter will star again from 0.

The following fields can not be reached in normal MODE. To reach them:

- **Switch the machine OFF**
- **Get into the programming mode**
- **Get to Drain or heating**

Draining: when the machine is turned OFF

This function allows the technician to drain the coffee boilers.
Proceed as follows:

1) Turn OFF the machine and enter in **Technical Menu** programming.
2) Use the cut-off tap on the flow meter in order to cut the main water supply.
3) Press a push-button of the coffee group to drain. The relay RS and the group solenoid valve are activated. The water flows out of the group head.
4) when the water has stopped flowing of the group head, press a coffee push-button again to close the solenoid valve and to suppress the electrical supply of the security relay RS.

Several boilers can be drained in same time.
Remark: the pump is never used during this procedure.

Electrical Heating Control: when the machine is turned OFF

The machine has to be turned off .
Electrical power supply: **"400V 3NAC"or "230V 1NAC" or "230V 3AC"**
3 possibilities to set the electrical heating control (selected with +or-):

- "400V 3NAC" & "230V 3AC" : all the heating elements can be supplied together.
- 230V 1NAC (21A) : only 3 heating elements can be supplied together.
- 230V 1NAC (16A) : only 2 heating elements can be supplied together.

Temperature setting for Steam Control: (in option):

The heating of the liquid will stop when the sensor has detected the programmed temperature. 16 graduations are available between 55 and 71 ℃ (indicative value).

Milk rise time (foam time):

When the hot milk is blended with air its volume increase. This setting allows to adjust a time of rising milk in order to stop to froth the milk before outflank.

Menu "1°filling": same for connection on the water line or solo kit.

COMPULSORY FOR THE FIRST INSTALLATION.

☞ The machine is "OFF".

☞ Enter program mode and technical menu until "**1°filling**"

The display shows:

1°filling (press ENTER)

☞ When you press ENTER :

The display shows:

1°filling in progress

The boilers heating up is not activated, the auto filling procedure start.

☞ Then the display shows again:

1°filling (press ENTER)

You can go out of the programming menu and turned on the machine

Name:

The cursor is on the first letter: press ENTER to go forward
Press + or – to change the letter
Press MODE to end the operation.

Indication on displays: 3 possibilities

➢ **1st possibility:** same setting than Tw2

	Display 1	Display 2
Machine not used	**Conti HH:mm** **Name group 1**	**Conti** **Name group 2**
Machine used for coffee	**2 espressos** **en progress**	**1 coffee** **en progress**

➢ **2nd possibility:** Indication of **"extraction time in real time"** + **"Bargraph"**

	Display 1	Display 2
Machine not used	**Conti HH:mm** **Name group 1**	**Conti** **Name group 2**
Machine used for coffee	**Time 17 sec** ■■■■■■■□□□□	**Time 23 sec** ■■■■■■■□□□□

Remark : the counting of extraction time doesn't consider the time of pre-infusion

- **3rd possibility:** Indication of **"name group X"** with only **"Bargraph"**

	Display 1	Display 2
Machine not used	**Conti** **HH:mm** Name group 1	**Conti** **Name group 2**
Machine used for coffee	■■■■■■■□□□□	■■■■■■■□□□□

Remark : the counting of extraction time doesn't consider the time of pre-infusion

Temperature of steam boiler

The temperature of steam boiler (and the pressure) can be adjusted between 110℃ (0.5Bar min) and 126℃ (1.5Bar max).

Setting of PID parameters for steam boiler heating regulation:

The 3 parameters P (proportional term), I (integrated term) et D (derived term) can be adjusted to modify the regulation heating management of the steam boiler.

Range of regulation for PID system:

The range of regulation must be defined. The PID regulation start to work when this range of temperature is reached.

Password Setting:

The machine is delivered with password +++++.
Allows to change the password to the Technical menu set in the factory.
The display will show:

Setting Password

Press ENTER, the display will show

Use -, MODE, + and ENTER (the 4 coffee push-buttons of the left group) to enter the new password.
Each time one of the push-buttons is pressed, an asterisk will appear on the display.
After the fifth asterisk the display will indicate:

New Password

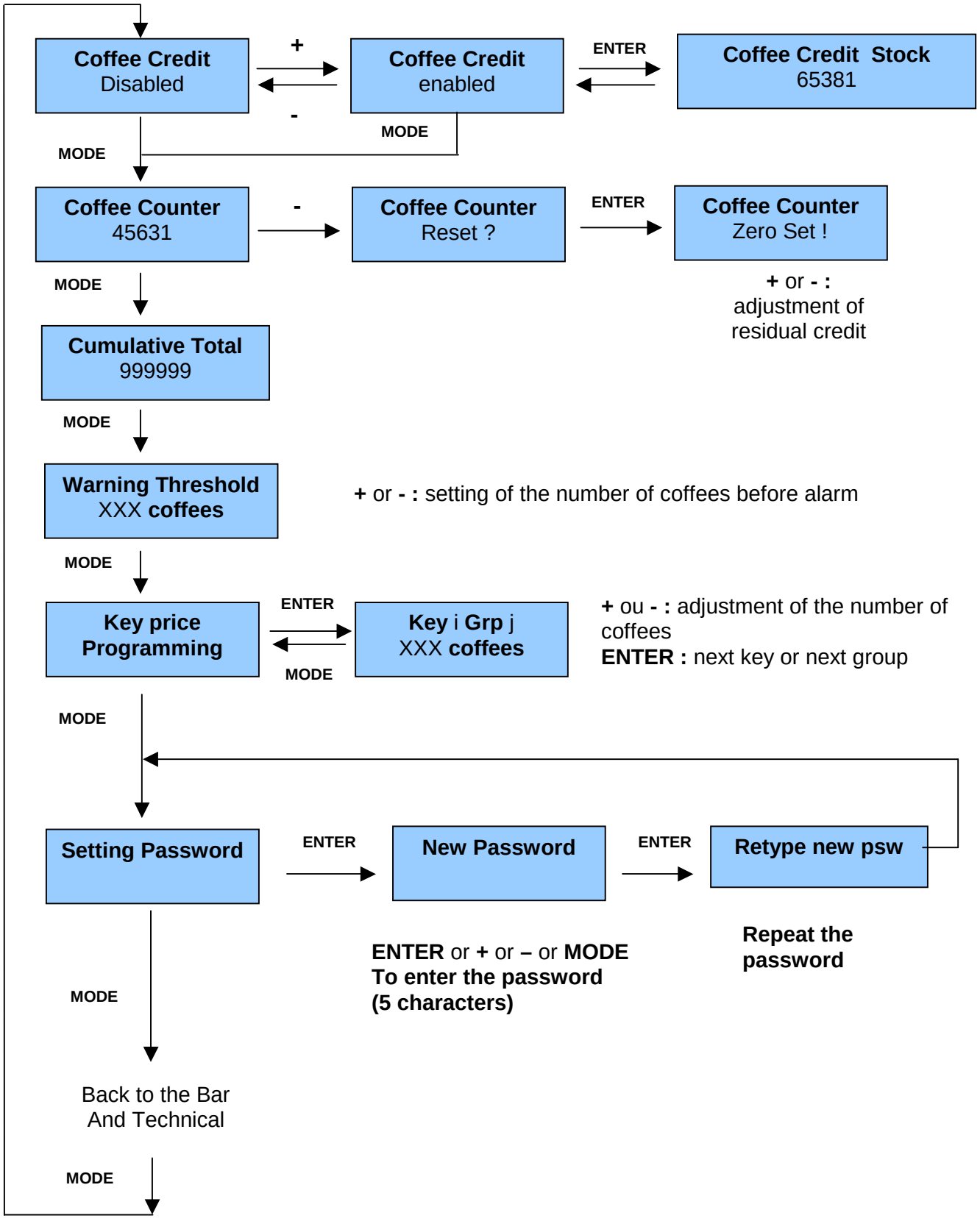
If the repeated password is not correct an error message will appear.
If the password is correct, the display will show again

Retype new psw

Press MODE to return to the Technical menu.

Setting Password

6.6.7 Description of **Roaster** menu**:**



ROASTER MENU:

Activation/deactivation function Coffee Credit:

This step allows
- to activate or deactivate the coffee credit (Roaster)
- to load the number of coffee credits

The display will show

Coffee Credit
enabled

Pressing ENTER the number of coffee credits left are shown. The number can be changed with + or -.

Coffee Credit Stock
65381

Pressing ENTER the new number will be memorized.
Pressing MODE return to the previous shown number without memorizing.

No limitation if the function COFFEE CREDIT is deactivated.

Reading number of coffees and reset:

Reading of the quantity of coffees delivered since the last reset (only quantities related to the coffee credit function – similar functions of other menus are not concerned).

The display will show:

Coffee Counter
45631

Maximum amount to be set: 999999, then the counter is going back to zero.

Press "-" to reset the counter.
The display will show:

Coffee Counter
Reset ?

Press ENTER within 5 seconds, otherwise the reset will not be taken into account.

Total of coffees delivered:

Reading the total quantity of coffees made since the first activation of the roaster system.
Maximum value: 999999, then the counter will go back to zero.
This quantity cannot be reset or modified.

Alarm point:

Setting of the quantity of **XXX coffees** which will activate an alarm and inform the user of the running out of the coffee credit.

The display will show:

Warning Threshold
XXX **coffees**

Maximum setting: 65535 coffees.

Setting of the value of each push-button:

Setting of the value = number of products for each coffee push-button.
When a coffee is delivered, its value will be deducted from the coffee credit.

Settings available:
- OFF: push-button blocked
- 0: delivery free of charge on this push-button
- 1 to 3: The value 1, 2 or 3 will be deducted from the coffee credit.

The display will show:

Key price Programming

Press ENTER to get to the Programming mode of each push-button:

Key i **Grp** j XXX **coffees**

Press ENTER to reach the next push-buttons and next groups.
Press MODE or wait 30 seconds to abort.

Change of the Password:

The machine is delivered with a 5 character password.
Allows to change the password to the Roaster menu set in the factory.
The display will show:

Setting Password

Press ENTER, the display will show

New Password

Use -, MODE, + and ENTER (the 4 coffee push-buttons of the left group) to enter the new password.
Each time one of the push-buttons is pressed, an asterisk will appear on the display.
After the fifth asterisk the display will indicate:

Retype new psw

If the repeated password is not correct an error message will appear.
If the password is correct, the display will show again

Setting Password

Press MODE to return to the Roaster menu.

7 HOW TO MAKE A PEFECT ESPRESSO

Perfect the art of fine espresso and cappuccino and respect the 4 M GOLDEN RULES:
MIX, MILL, MACHINE, MAN

◆**The Mix**: the choice of the coffee is very important. You will obtain a pleasant tasting and round aroma body with a good coffee quality and skilfully blend, selected among de 50 beans varieties available – stronger tasting and smother **ARABICA** with a hazelnut cream colour, bitter and harsher **ROBUSTA** with a grey brown colour are the most renown. The roasting quality is also very important.

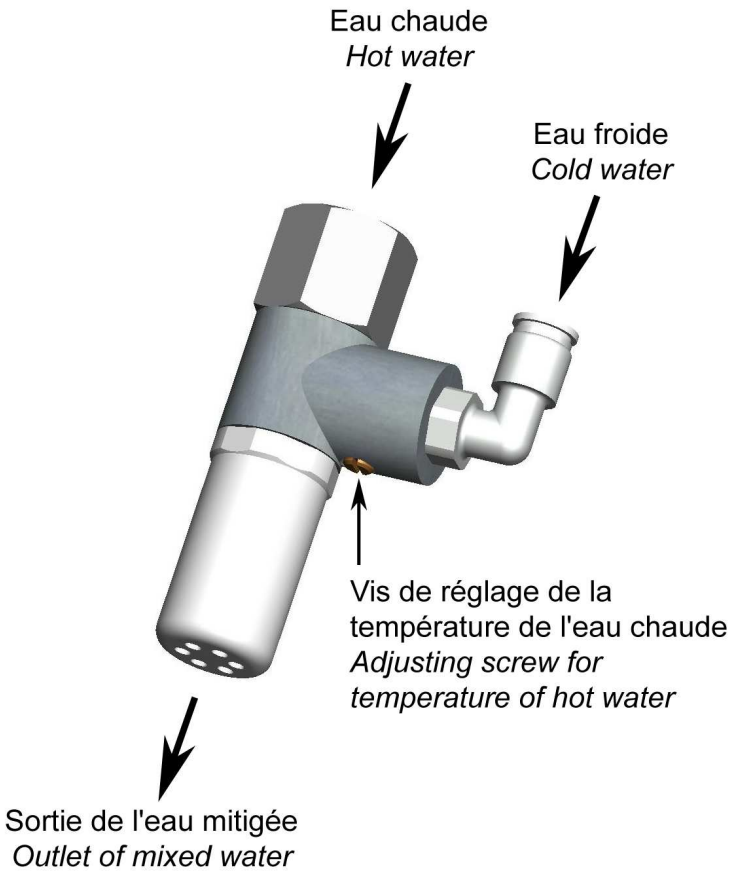
◆**The Mill**: Freshness and correct fineness of the grinds are crucial to a perfect extraction.
The grinder must be carefully adjusted and beans ground right before brewing. Adequate fineness, precise measuring (**7 grams** / **¼ ounces** of coffee per cup) and regular packing of the coffee grind in the filter holder should allow a smooth espresso flow of **20 to 25 seconds**.

◆**The Machine**: The machine must be accurately adjusted and daily cleaned, the Water temperature regulated between **86 to 92°C / 187-198°F** , the pressure set between **8** and **9 bars** to assure optimum aroma extraction and give the fresh shot of espresso its consistent crowning cream and flavourful character. Daily cleaning is essential to erase any thick and rancid residues which create harsh aromas and cause avoidable breakdowns.

◆**The Man**: The barista is the conductor and must adhere to the 4 Golden Rules.
Served in a warm thick ovoid porcelain cup, the fresh shot of espresso should not be exposed to the air for too long and be tasted right away: waiting for too long, the cream – the golden foam of volatile oils – would disappear and erase all flavour.

- the beans should be stored up to 2 weeks in good conditions: moisture-proof, moderate temperature and airtight. In contact with air the beans loose each day 1 % of its aroma and ground coffee up to 45 %.
- the filter holders must be kept warm and have to be left on the group.

8 SETTING OF MIXER TAP



- The temperature of tea water can be adjusted thanks to the adjusting screw located under the mixer tap.
- If the user want a very hot tea water (max 98℃), t ighten the adjusting screw in order to limit the admission of cold water.
- If the user want a tea water less hot, unscrew the adjusting screw in order to increase the admission of cold water.

Be careful: when you unscrew the adjusting screw, 3 turn max or you could lose the screw in the drip tray.

9 MAINTENANCE / SETTINGS

9.1 Daily Maintenance

The routine daily cleaning is extremely important and quick and assures continued optimum coffee quality and extends the machine's life span:

- take the filter holders off, clean the spouts, the filters and the filter holder gaskets with a brush.

- clean the sprinkler with the cleaning filter (on each group): install a filter holder **with the blind filter (dummy filter),** press the Continuous push-button for 5 seconds to start the **auto-cleaning procedure** of the selected group. **Cycles cleaning cycles** will be automatically carried out. This procedure can be stopped before the end by pressing one of the five push-buttons of the selected group.

Washing in process	Rinse	Rinsing in process

_ Clean the steam and hot water wands with a sponge.
_ remove the drip tray and clean it.
_ check if the drain's hole isn't blocked.

9.2 Weekly Maintenance

Use a brush and clean the filters to unclog the holes.

9.3 Maintenance every 3 month

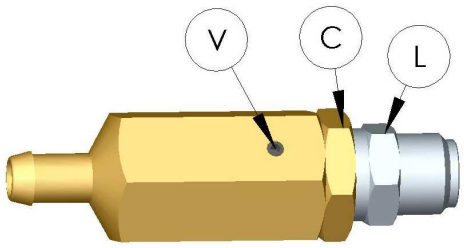
On the group head:

- dismantle and clean the sprinkler ref 355900 and the diffuser ref 404740N.
- dismantle and clean the spray nozzle ref 410704. (be careful to cut off the water supply).
- dismantle and clean the solenoid valve 3ways (be careful to cut off the water supply).

9.4 12 bar Security valve

This component assure the security of the coffee group when the pressure is exceeding 12 bar. All the 12 bar security valves must be changed once a year to assure the correct functioning of the machine and the security of the users.

This component (reference 409774) is tared to 12bar in factory, the complete valves must be changed.

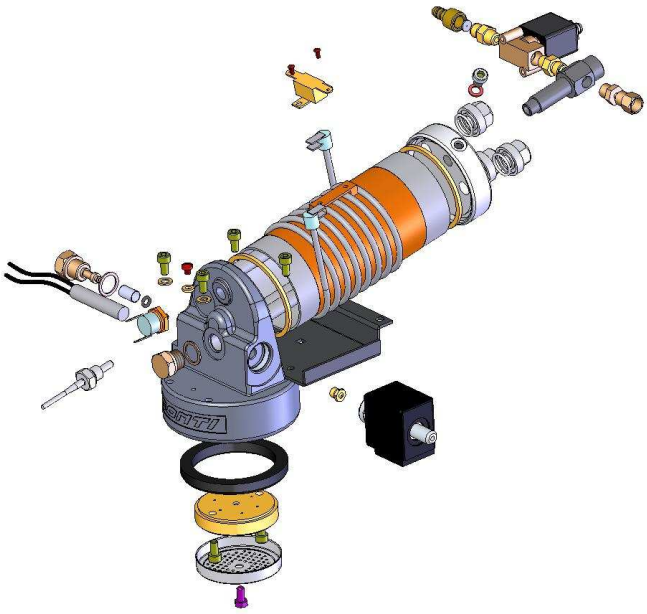


9.5 Recommendation

Each intervention inside the machine must be executed with some precautions:
1/ Switch the machine off.
2/ Close the cut-off tap of the main water supply.
3/ Remove the existential pressure of the steam boiler (open the steam tap "V").
If the earth protection has to be disconnected, firstly remove the electrical plug.

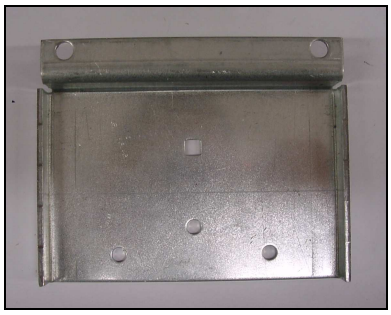
The non-respect of those directives relieve the manufacturer of all responsibility in case of any accident.

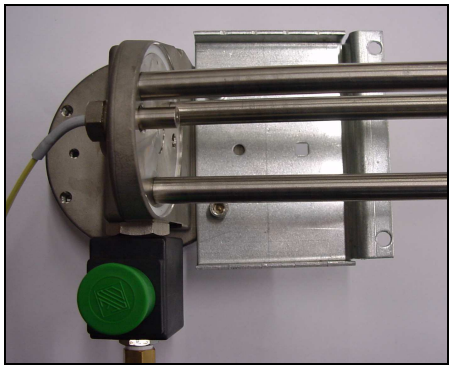
9.6 Procedure to change the PTFE gaskets

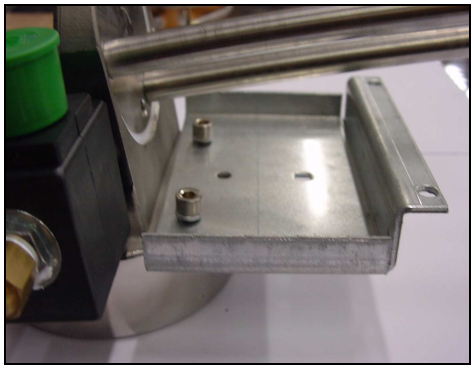


Please follow the instructions:

1) First, fix the group stand (ref 410967) on the coffee group.

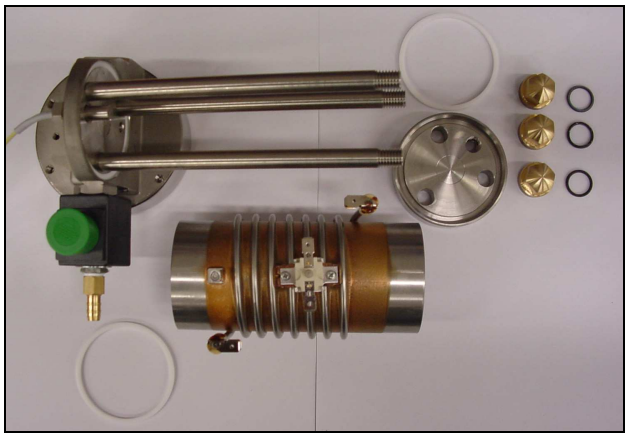






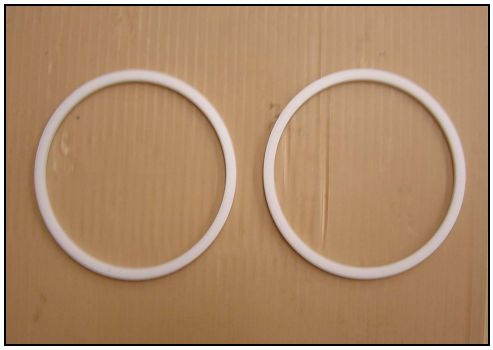
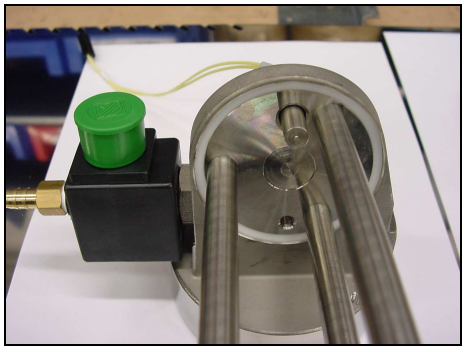
2) Gather the following elements:

- **1 complete coffee group.**
- **1 boiler (ref 4106201).**
- **1 rear flask (ref 4109471)**
- **2 PTFE gaskets 57.6 x 63.7 x 3.2mm (ref 410619).**
- **3 cap nuts (ref 4106311)**
- **3 EPDM o'rings 14 x 1.78mm (ref 411672)**

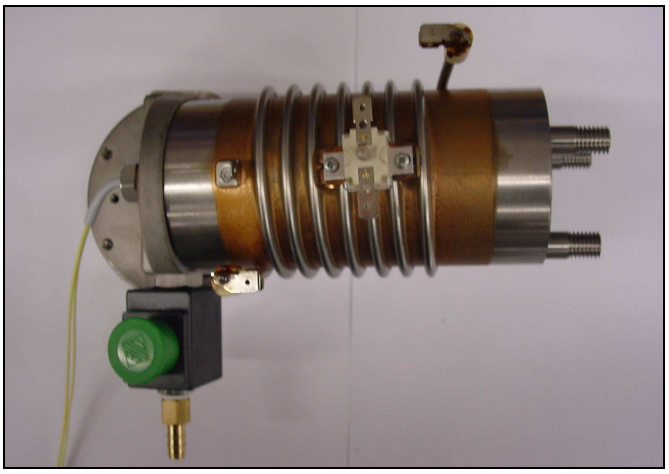
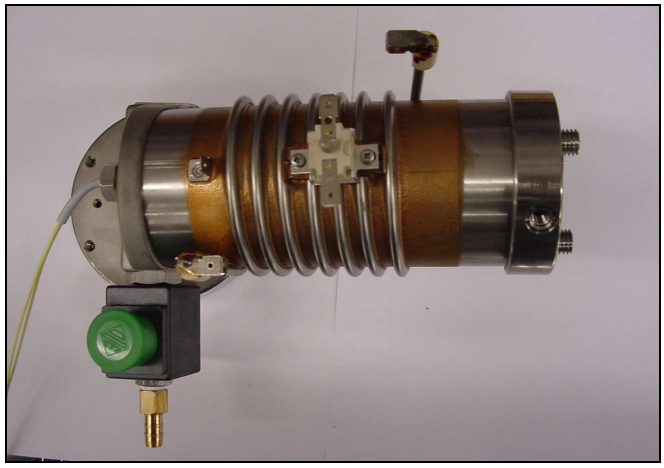


3) **Place the 2 PTFE gaskets:**

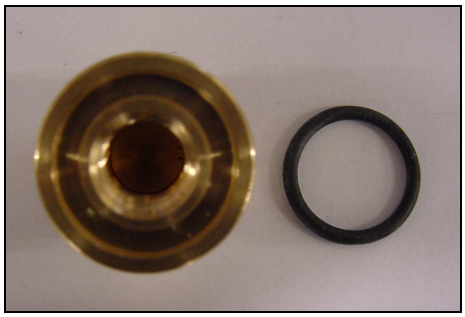
- **on the coffee group.**
- **on the rear flask.**

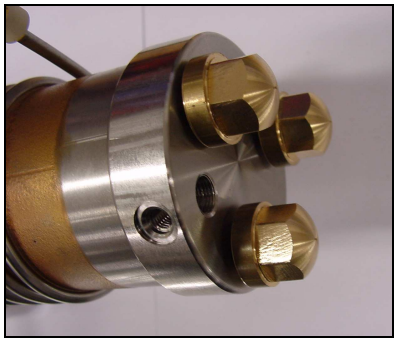

4) **Gather the group, boiler and rear flask (be careful to the location of the bleeding screw on the top).**

5) **Place the 3 EPDM o'rings in the 3 cap nuts:**


6) **Screw the 3 cap nuts.**

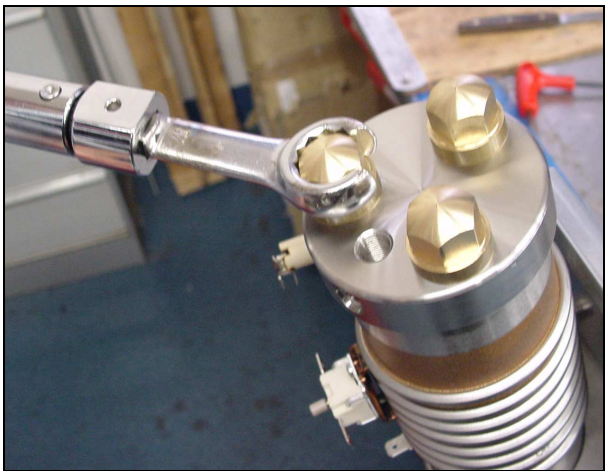


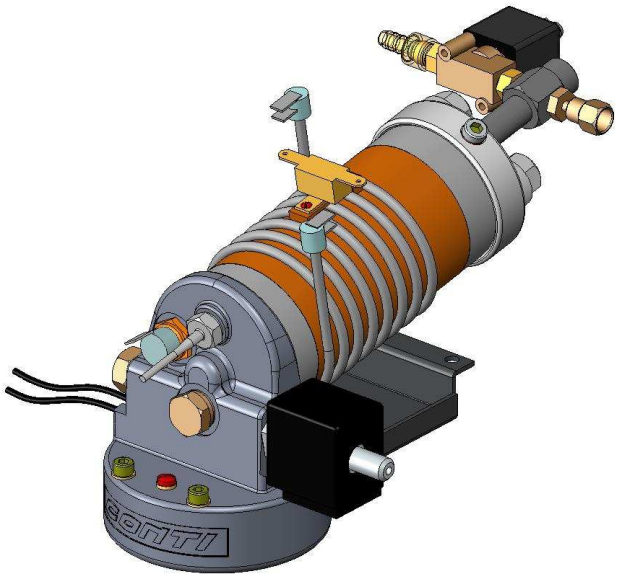
7) **Gather the following elements:**

- **the bleeding screw and its copper gasket (ref 406708 + 406709).**

8) **Take a torque wrench and set at 1.5 Nm.**

9) **Maintain the coffee group with a vice and tighten the 3 cap nuts (1.5 Nm).**



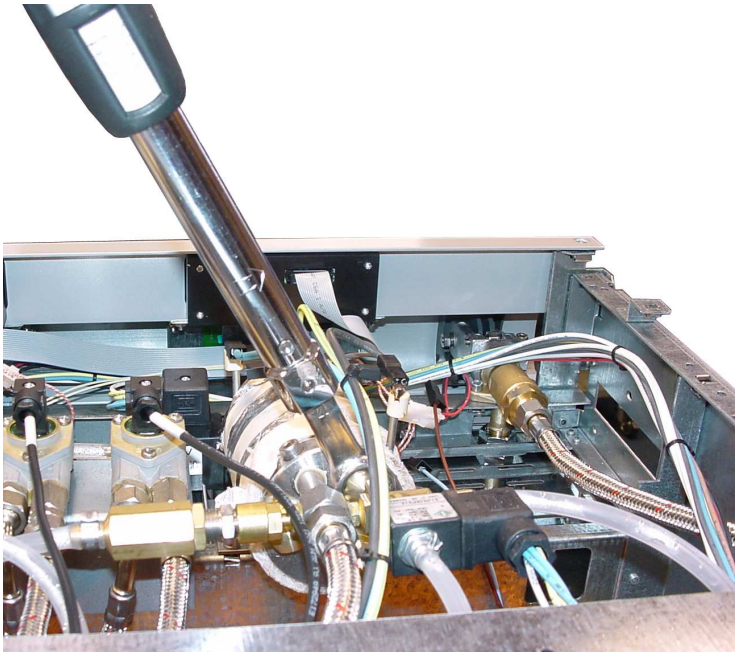


10) Install the coffee group in the machine.

11) Before switching on the machine don’t forget to bleed the coffee boilers.

12) Warm the coffee group for 15 minutes, then shut off the machine and wait 30 minutes.

13) After 30 minutes, tighten again the 3 cap nuts with the torque wrench (1.5 Nm).



The procedure is completed, the Twin Star 2 is ready to use.

<u>Once a year,</u> tighten the 3 cap nuts again.

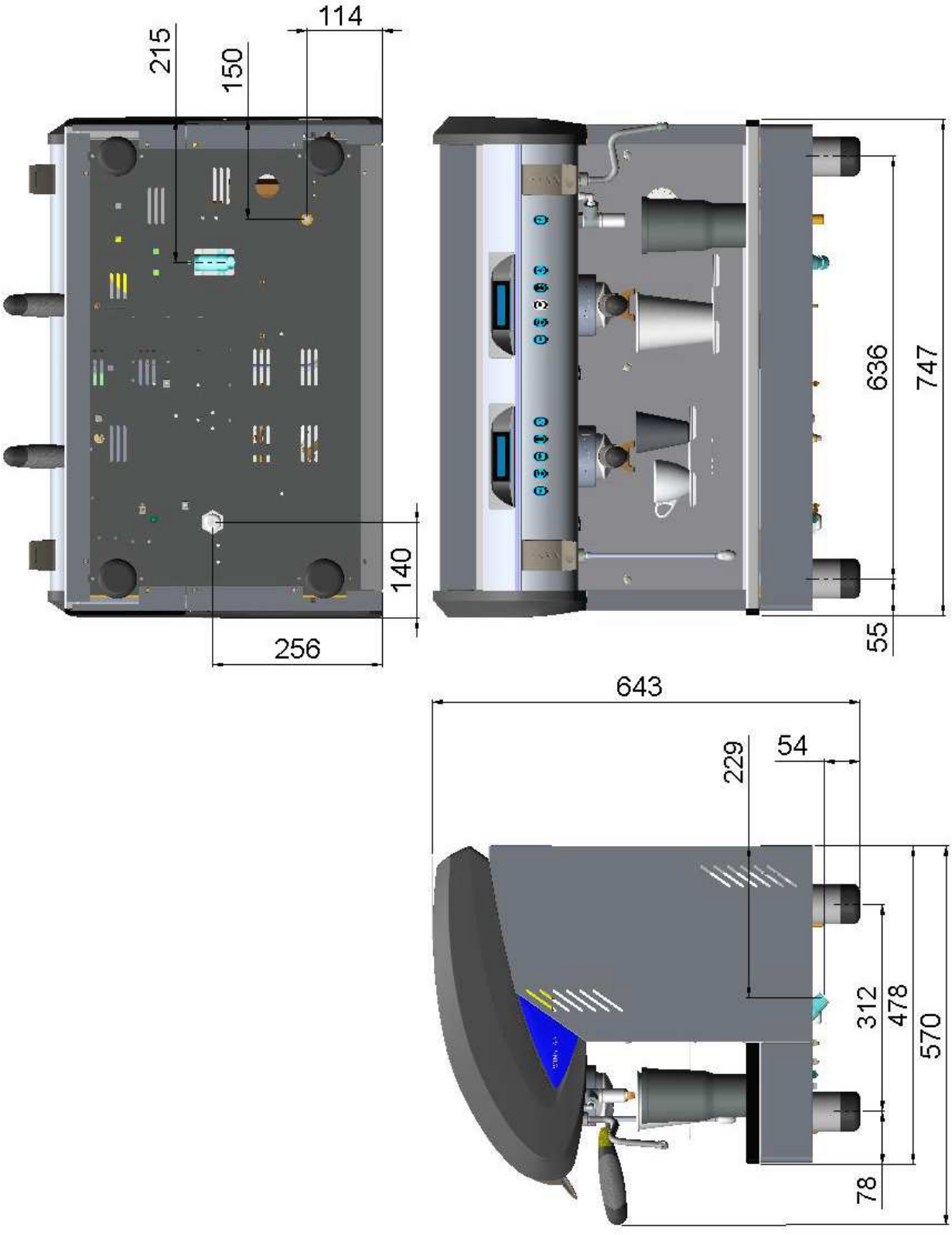
9.7 Maintenance parts list on Twin Star 2:

List of the parts to check during the visits.

n°	Area	Part concerned	Parts to replace	Ref number	Qty	Replacement frequency	1. Replacement = R 2. Cleaning = N 3. Check (& change if necessary) = C	Remarks
1	Coffee boilers & group heads	Pressure limiter 12bars (ref 409774)	Limiter assy tared on 12 bars	**409774**	2 or 3	Every 12 months	**R**	
		Bleeding solenoid valves		**430046**	2 or 3	Every 12 months	**N**	Clean the solenoid valves (seat & plunger) and silicon pipes if presence of scale
		Gaskets PTFE	2 gaskets PTFE (57,6x63,7x3,2)	**410619**	4 or 6	Every 12 months	**C**	Tighten the three cap nuts by 1/4th of a turn on the back of the coffee boiler
						Every 24 months	**R**	Change the 2 PTFE gaskets (410619) and respect the assembly procedure.
		O'rings of cap nuts	3 EPDM O'rings (14x1,78)	**411672**	6 or 9	Every 12 months	**C**	
						Every 24 months	**R**	Change the 3 EPDM O'rings (411672) and respect the assembly procedure.
		Group head	Group gasket	**002710**	2 or 3	Every 6 - 8 months	**C**	
			Diffusers	**4047401N**	2 or 3	Every 6 - 8 months	**N**	
			Sprinklers	**355900**	2 or 3	Every 6 - 8 months	**N**	
			Solenoid valve 3 ways 230Vac	**410615**	2 or 3	Every 12 months	**C**	Check the seat (410703) and the plunger of the solenoid valve and change it if necessary
2	Steam boiler	Safety valve 3bar	Complete pressure relief valve 3bar	**411827**	1	Every 24 months	**C**	After having removed the valve, back the new safety valve with Teflon tap on the thread in order to ensure a perfect tightness.
		Depressor	Complete depressor	**408898**	1	Every 30 months	**C**	
		Level sensor	Sensor SN	**376900**	1	Every 12 months	**C**	Clean the sensor SN if presence of scale
		Safety sensor	Sensor SS	**408783**	1	Every 12 months	**C**	Clean the sensor SS if presence of scale
3	Flow meter	Non return valve	O'Ring	**087520**	2 or 3	Every 12 months	**R**	
4	Hot water outlet	Adjusting screw for cold water injection	Brass adjusting screw	**415090**	1	Every 12 months	**N**	Remove the screw and clean it if presence of scale and change the O'ring also.
		Seal / gasket	O'ring of adjusting screw for cold water injection	**400039**	1	Every 12 months	**C**	Don't put grease around O'Ring
			O'Ring	**061200**	1		**R**	Put Conti grease (408235) around O'Ring
				239600	2		**R**	Put Conti grease (411017) around O'Ring

n°	Area	Part concerned	Parts to replace	Ref number	Qty	Replacement frequency	**1. Replacement = R** **2. Cleaning = N** **3. Check** (& change if necessary) **= C**	Remarks
5	**Hot water Mixer Tap**	Hot water solenoid valve	Solenoid valve 2 ways 8W - 230Vac	**4056201**	1	Every 12 months	**C**	Check the seat and the plunger of the solenoid valve and change it if necessary
		Cold water solenoid valve	Solenoid valve 2 ways 5W - 230Vac	**411476**	1	Every 12 months	**C**	Check the seat and the plunger of the solenoid valve and change it if necessary
6	**Steam outlet**	Seal / gasket	Supporting washer	**401320**	1	Every 12 months	**C**	
			O'Ring of spray nozzle (411922)	**055400**	1		**R**	Put Conti grease (408235) around O'rings
			O'rings of retaining nut (410137)	**061200** **055300**	1 1		**R** **R**	
7	**Supplying voltage**	Relay power	Contactor	**409892**	1	Every 24 months	**C**	Every 10 month, we suggest to screw tighter the contactor terminal's and the auxiliary contactor terminals
8	**Steam Taps**	Front O'rings	2 O'rings per tap	**403457**	2 or 4	Every 12 months	**R**	Put Conti grease (408235) around O'rings
		Gasket	1 gasket per tap	**407502**	1 or 2	Every 12 months	**R**	
9	**Inlet solenoid valve**	Sectional Tap	Taps located before inlet flow meter	**410617**	2 or 3	Every 12 months	**C**	Check the good functioning of the taps (open / close)
		Solenoid valve	Solenoid valve 2 ways 8W - 230Vac	**367920**	1	Every 12 months	**C**	Check the seat and the plunger of the solenoid valve and change it if necessary
		Non return valve	O'Ring	**087520**	1	Every 12 months	**R**	
10	**Pump**			**4057225**	1	Every 12 months	**C**	

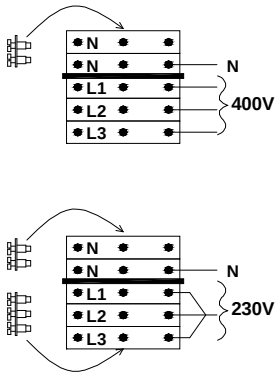
10 DIMENSIONS



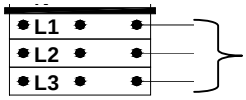
11 ELECTRIC DESIGNATIONS

N°	REFERENCES	DESIGNATIONS
1	CLE	Programming key
2	CP i	Coffee buttons GROUPE n°i
3	CV i	Flow meter GROUPE n°i
4	D	Circuit breaker 25 A
5	EC	Tea solenoid valve.
6	EE	Inlet valve.
7	EV i	Coffee solenoid valve nº
8	F1	Fuse 3.15A
9	F2	Fuse 1A
10	K TE	Tea key 1
11	K VAP	Steam key
12	LCDi	Connector DISPLAY GROUPE i
13	LV	Steam Control system probe
14	MP	Pump
15	ON / OFF	On / Off button
16	SV	Temperature sensor for steam boiler
17	RCCi	Heating element group n°i
18	RCi	Heating element n°i for steam boiler
19	RS	Security relay.
20	RV i	Adjustment of the display contrast groups n°i
21	SN	Level probe
22	SS	Security probe
23	ST i	Temperature sensor group n°i
24	STR	Auxiliary contact of relay RS
25	TSi	Coffee boiler n°i security thermostat
26	TSV	Steam boiler security thermostat
27	VAP	Steam solenoid valve for steam control (option)
28	Pi	Bleeding solenoid valves Gr i

Connection for “230V 1 AC” & “400V 3 AC+N

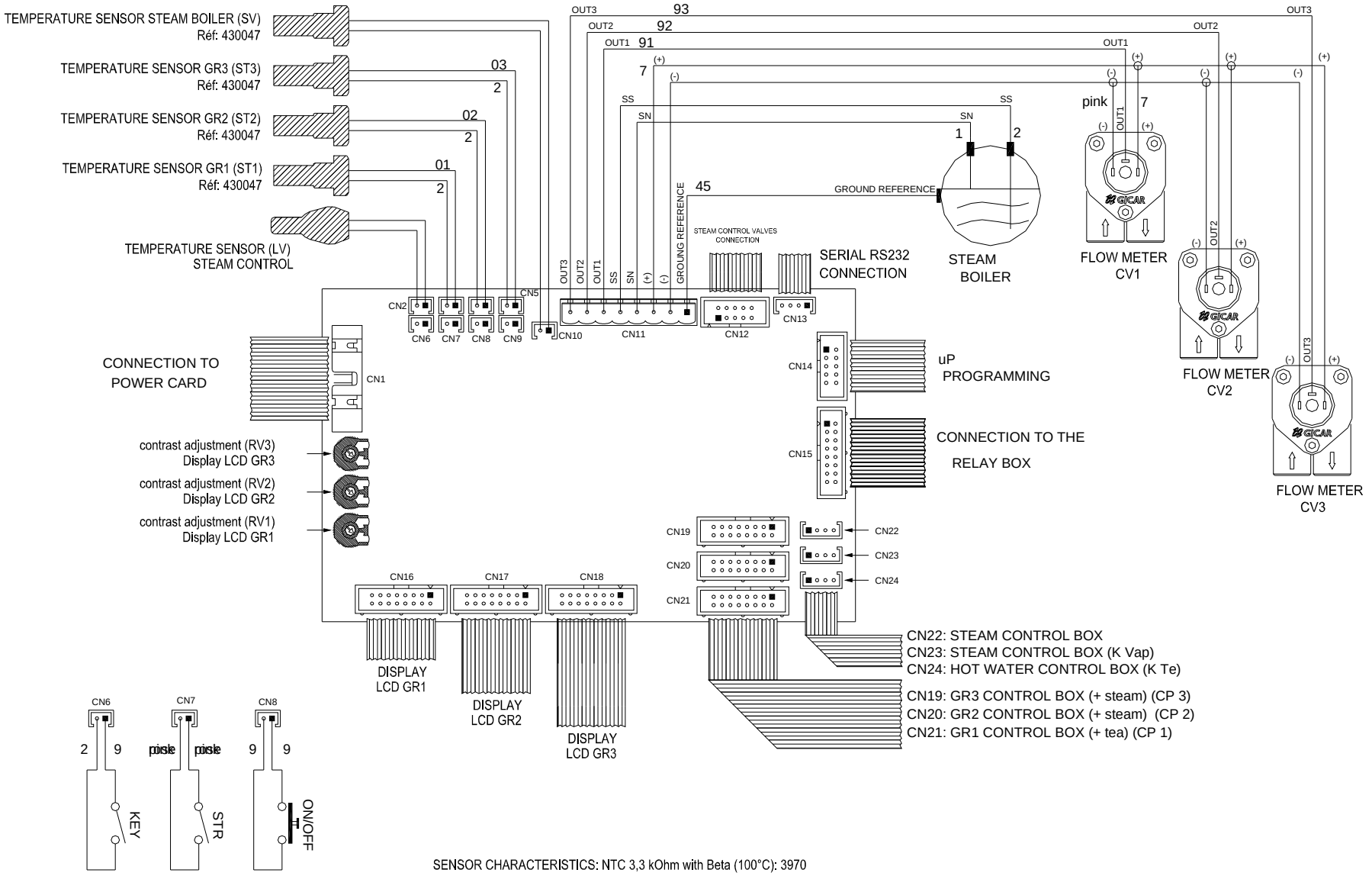


Connection for “230V 3 AC”



12 ELECTRIC DRAWING

12.1 CPU board



12.1.1 Installation of a new main board: Configuration OF THE NUMBER OF GROUPS 410885

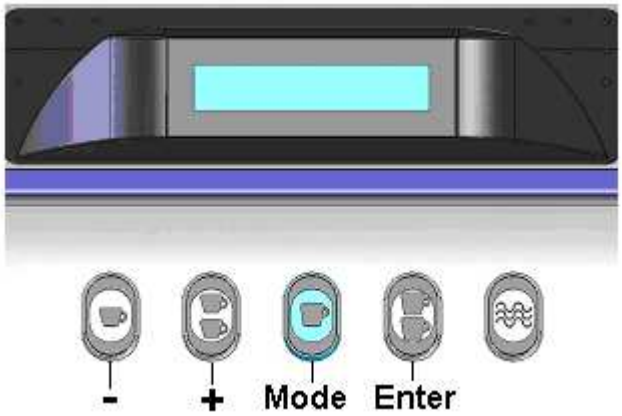
When a new main board has been installed, the number of groups (2 or 3 groups) to be managed has to be determined.

Enter the programming mode. The left display shows:

CONTI HH:mm	Turn the **programming key**:

When the key is inserted and turned, **the first four push buttons of the left group** will become programming **push buttons:**

Left group

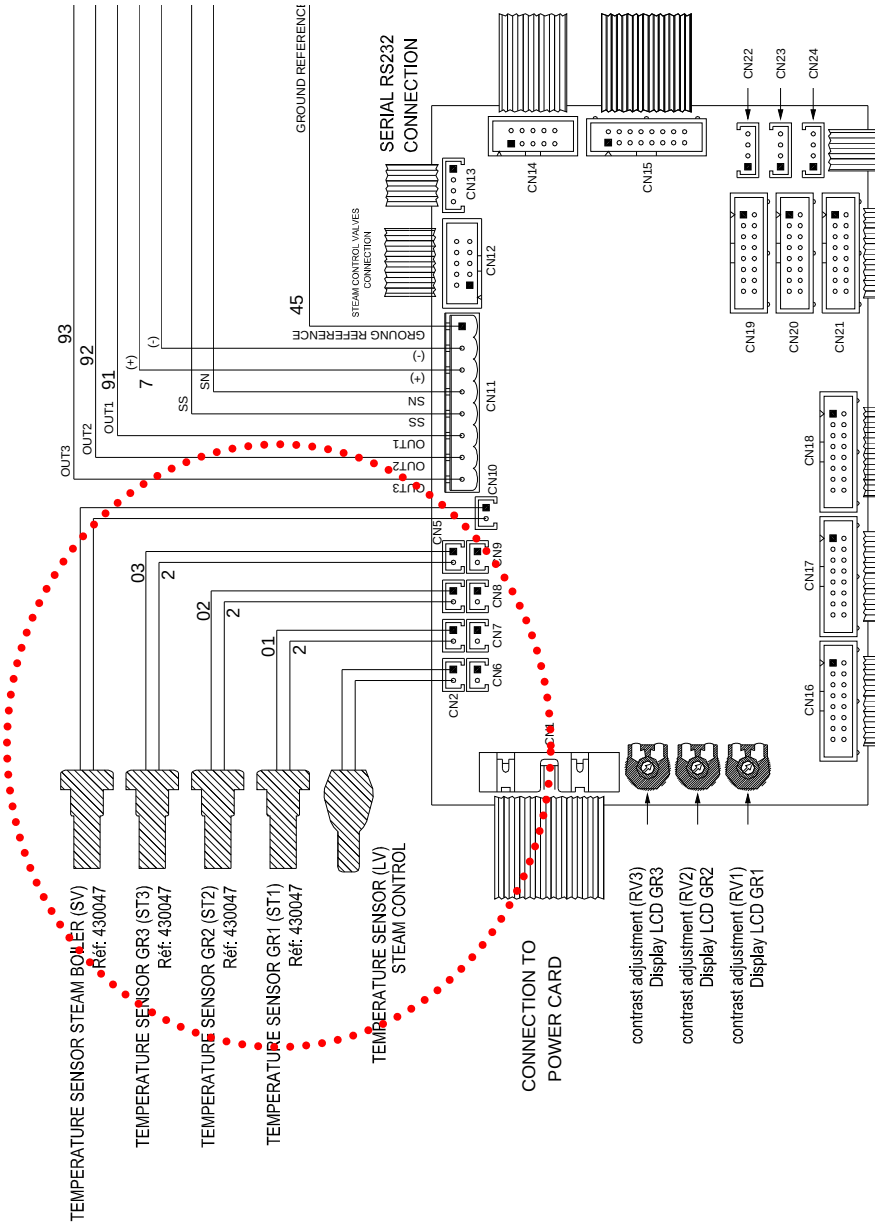


The display shows:

Water volume programming	Press **ENTER** during 5 sec. The display shows:
Password ???	Press **+ - + - +** *(Push buttons of the left group)*. The display shows:
Groups number **1**	Press **+** or **–** to select the number of groups, then **ENTER**

Groups number **1** → (+ or -) → Groups number **2** → (+ or -) → Groups number **2**

To **LEAVE** the programming mode, turn the **programming key** in the opposite direction.

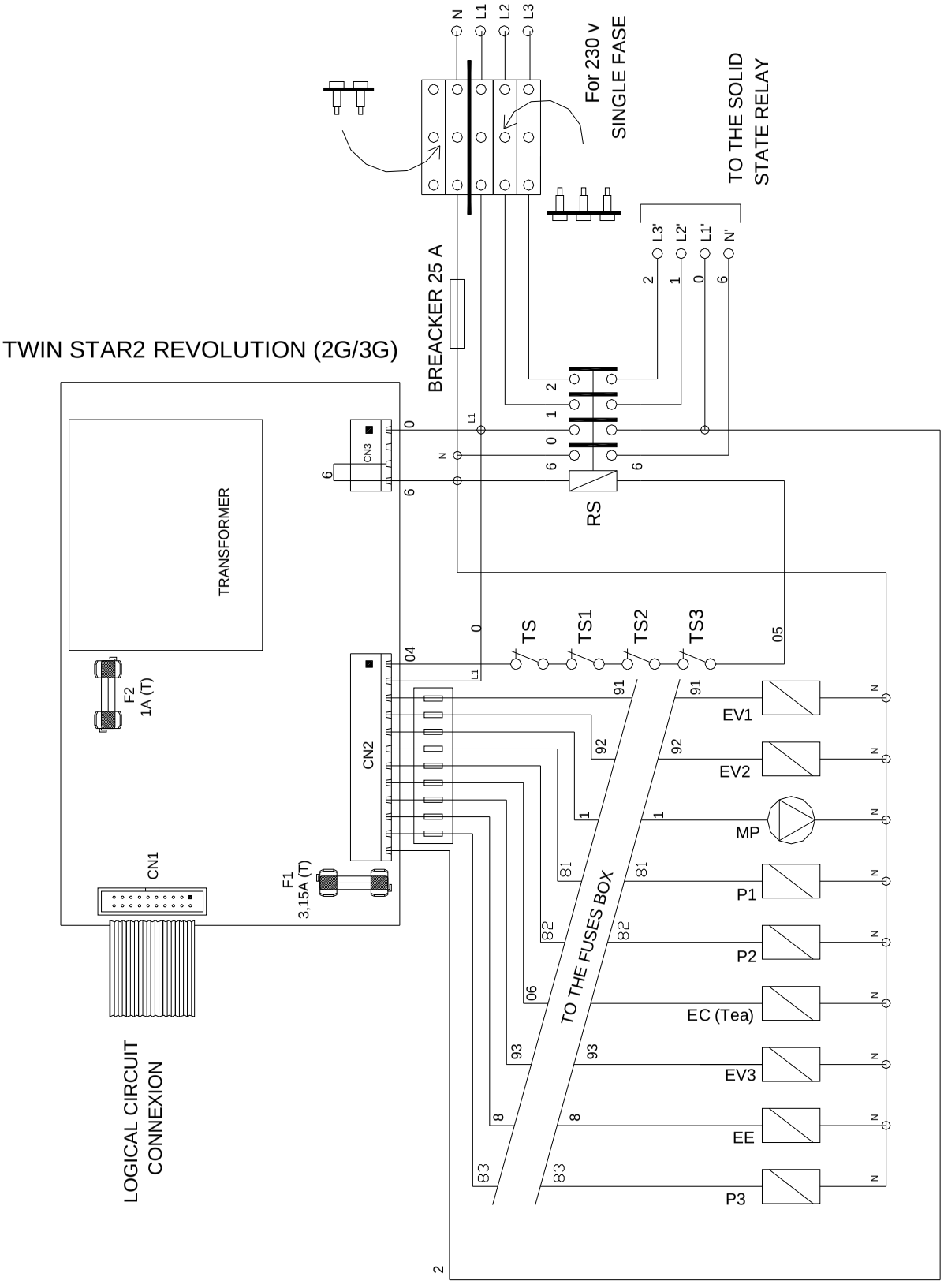


Temperature sensors connections

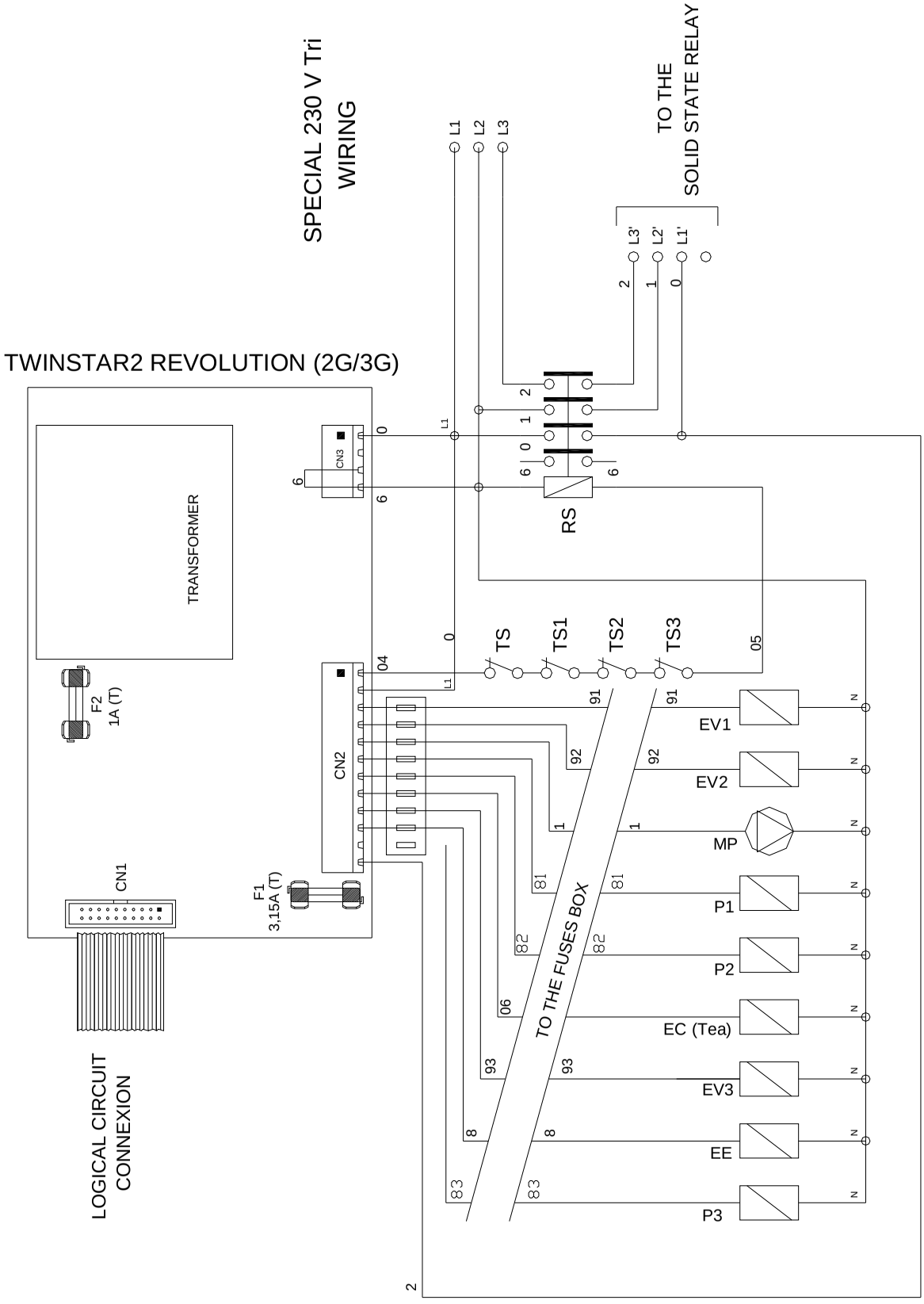
Be careful when changing the motherboard:

Do not reverse the temperature sensors connectors, otherwise it will damage the coffee boilers.

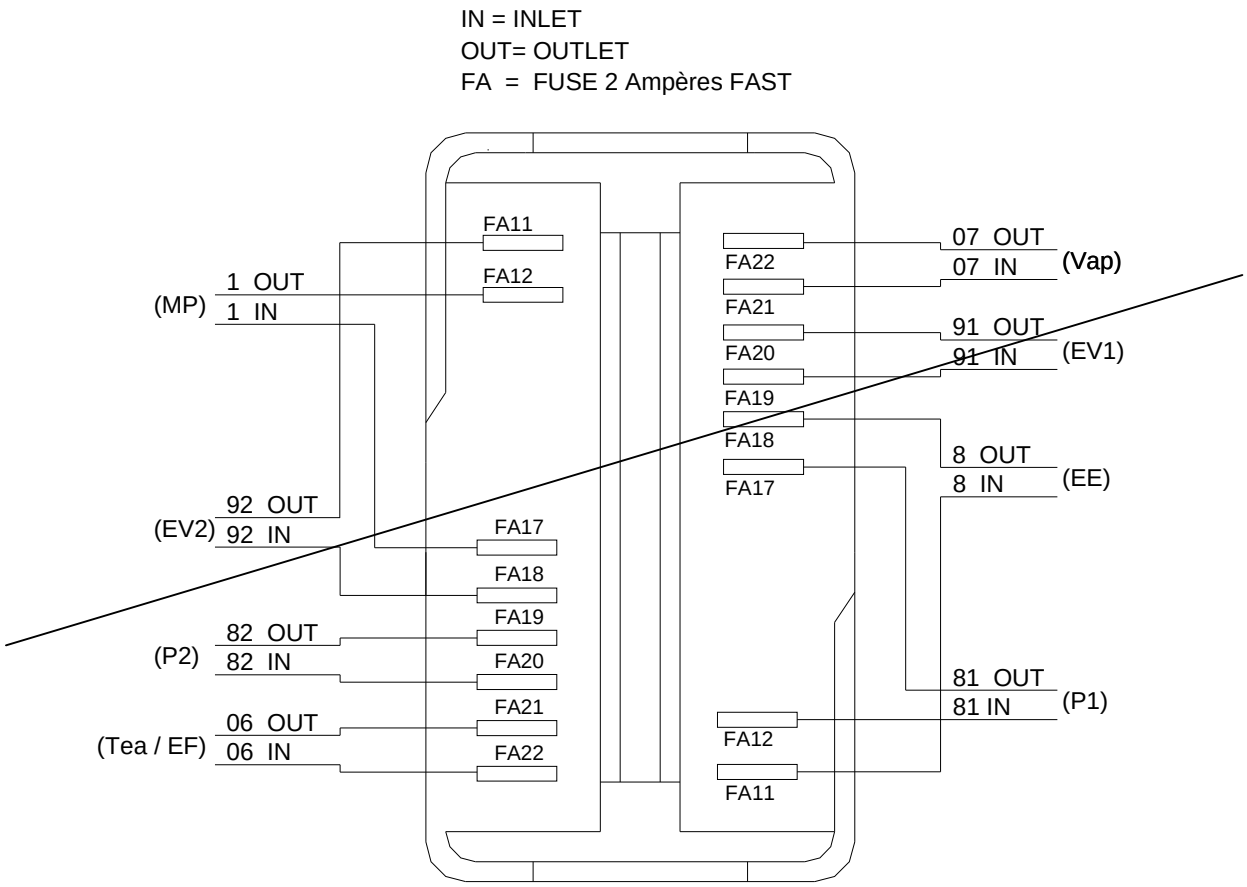
12.2 Electrical power diagram for “400 V 3NAC” & “230 V 1NAC”



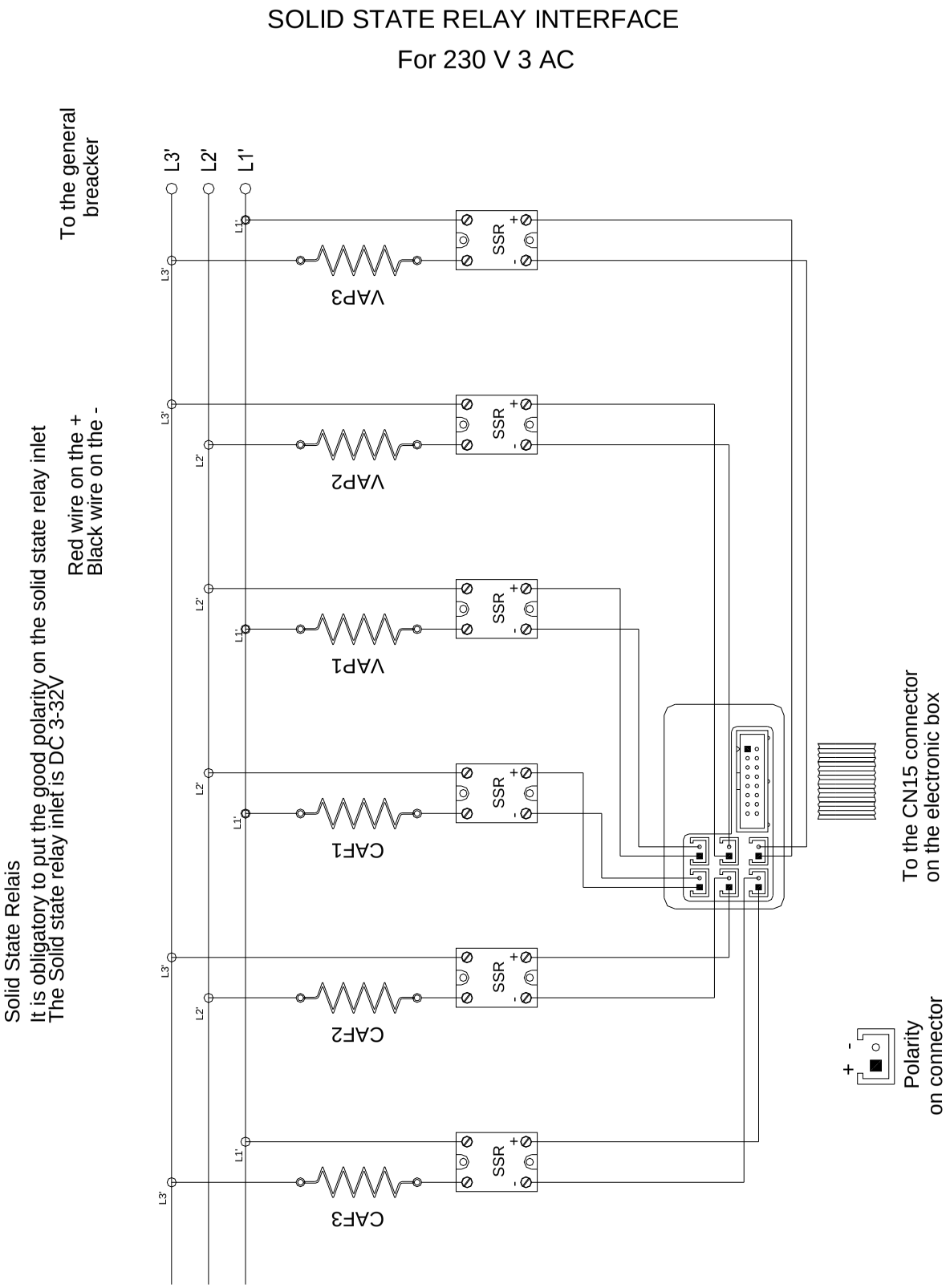
12.3 Electrical power diagram for “230 V 1NAC”



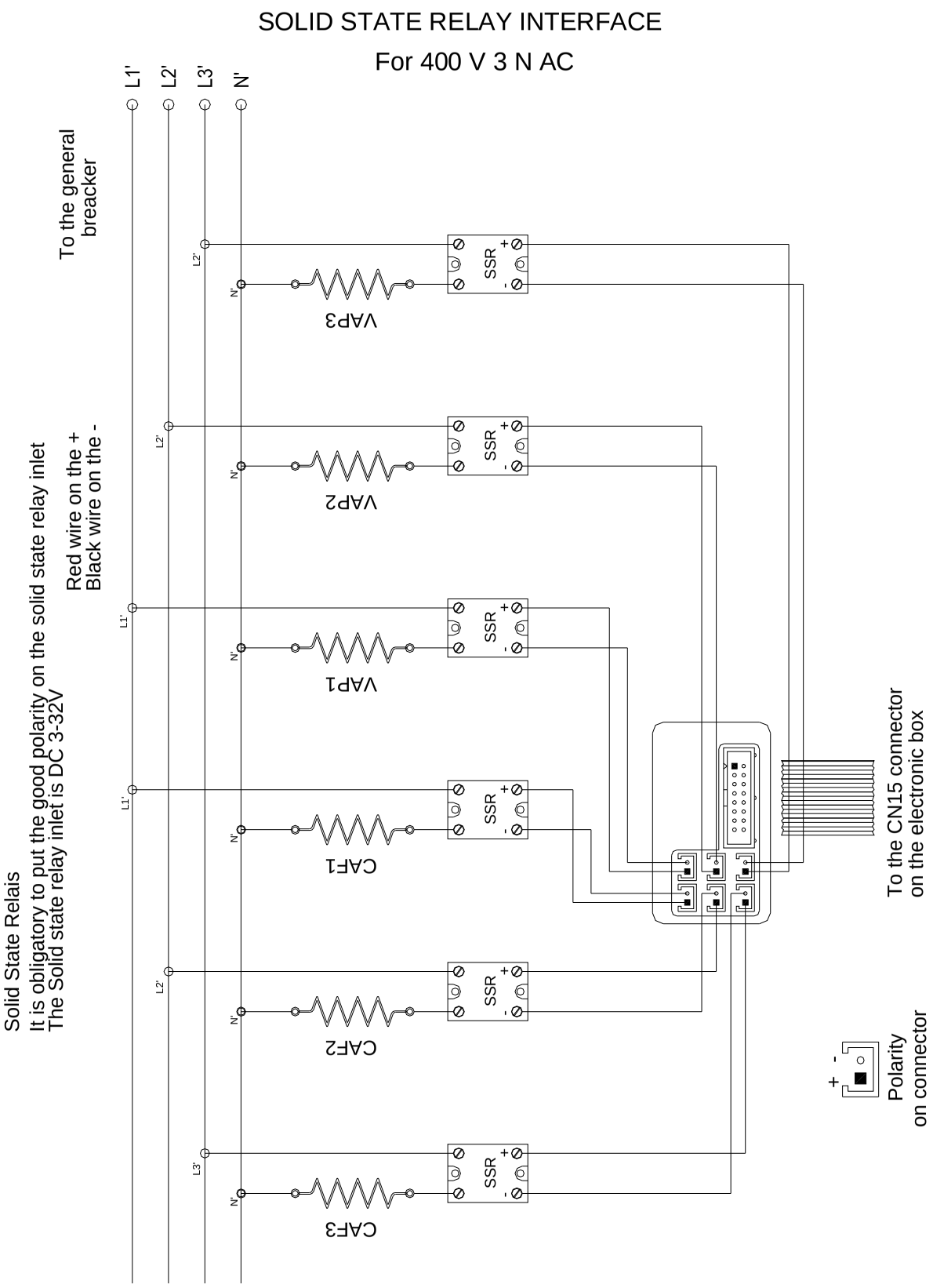
12.4 Connecting diagram: 8 fuses box



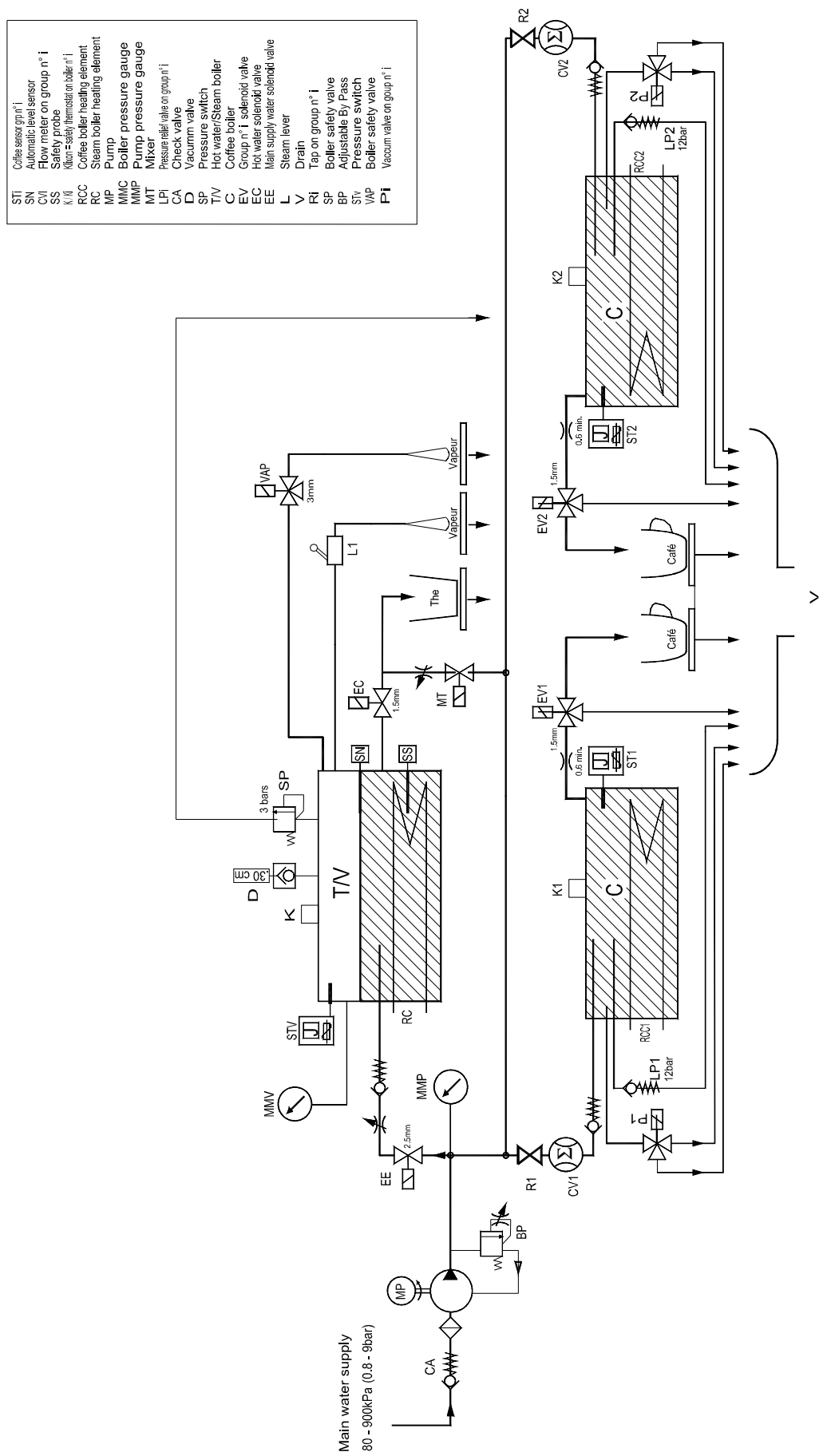
12.5 Solid state relay interface for “230 V 3AC”



12.6 Solid state relay interface for “400 V 3NAC”



13 HYDRAULIC DRAWING



14 DECLARATION OF COMPLIANCE WITH INTERNATIONAL COMMUNITY DIRECTIVES

*We, the Manufacturer **SACOME - CONTI**, established at 1 avenue ALBERT II, MONACO, declare that the following CONTI espresso coffee machines **XEOS - CLASSICA - CONTICLUB - TWIN STAR2 - TOUTAUTO 388** conform to the following European Community regulations:*

- ***93/68 CEE -** CE listing*
- ***73/23 CEE -** Low voltage*
- ***EN 60335-2-15 -** Electrodomestic safety requirements & others*
- *Electromagnetism regulations:*
  - *.directive **89/336 CEE** & amendment **92/31 CEE***
  - *.**EN 55014** emissions regulation*
  - *.**EN 50082/1** electromagnetic interference immunity*
- ***97/23 CEE:** under pressure equipment amendment*

DECLARATION DE CONFORMITE AUX DIRECTIVES EUROPEENNES

*Nous société **SACOME - CONTI**, dont le siège est situé 1 avenue ALBERT II à MONACO, déclarons sous notre responsabilité que les machines à café modèles: **XEOS - CLASSICA - CONTICLUB - TWIN STAR2 - TOUTAUTO 388** auxquels se réfèrent cette déclaration sont conformes aux normes:*

- ***93/68 CEE** : marquage CE*
- ***73/23 CEE** : basse tension*
- ***EN 60335-2-15** : sécurité des appareils électrodomestiques et analogues*
- *compatibilité électromagnétique:*
  - *.directive **89/336 CEE** modifiée par directive **92/31 CEE***
  - *.application des normes harmonisées **EN 55014** pour l'émission*
  - *.**EN50082/1** pour l'immunité électromagnétique.*
- ***97/23 CEE** : équipement sous pression*

EU - KONFORMITÄTSERKLÄRUNG

*Die Firma **SACOME-CONTI**, deren Sitz 1 avenue ALBERT II in Monaco liegt, übernimmt die Haftung dafür, dass die von der vorliegenden Erklärung betroffenen Kaffeemaschinen Modelle **XEOS - CLASSICA - CONTICLUB - TWIN STAR2 - TOUTAUTO 388**, den folgenden Normen entsprechen :*

- ***93/68 CEE** : EU- Kennzeichen*
- ***73/23 CEE** : Niederspannung*
- ***EN 60335-2-15** : Sicherheit der elektrischen Haushaltsgeräte und ähnlichen Apparaten,*
- *Elektromagnetische Übereinstimmung:*
  - *.Richtlinien **89/336 CEE** durch Richtlinien **92/31 CEE** abgeändert*
  - *.Anwendung der in Einklang gebrachten Normen **EN 55014** für die Emission*
  - *.**EN 50082/1** für die elektromagnetische Immunität*
- ***97/23 CEE** : gerüte unter druck Direktive*

*fait à **MONACO le 01/07/2007**, le Directeur Général Adjoint/ Managing Director/ Direktor*

Bruno PARISET

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