



# E71 E

MANUALE DEL TECNICO

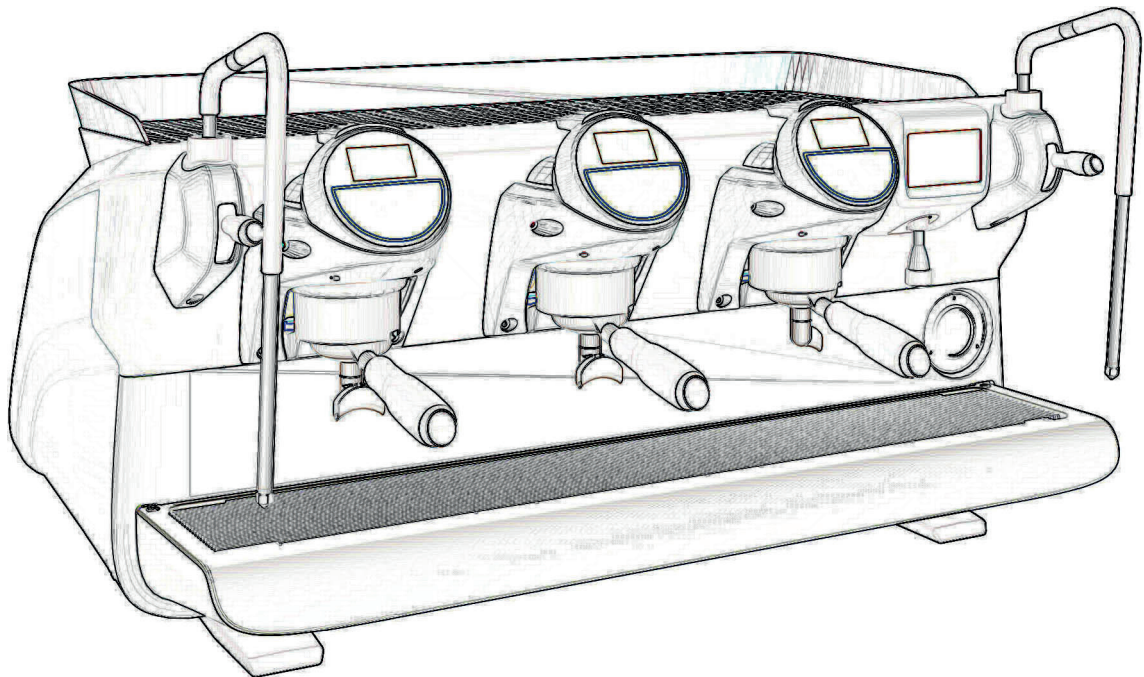
ENGINEER'S MANUAL

MANUEL DU TECHNICIEN

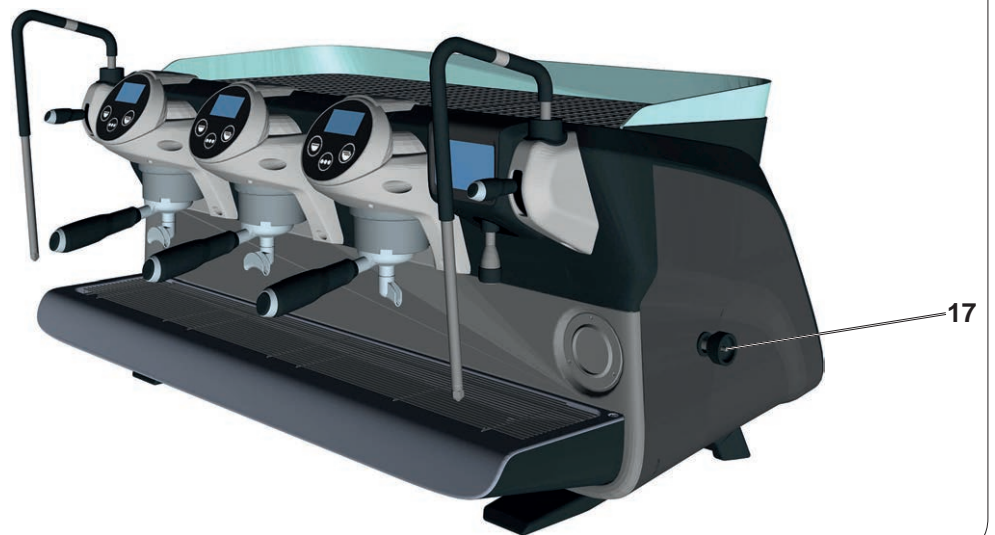
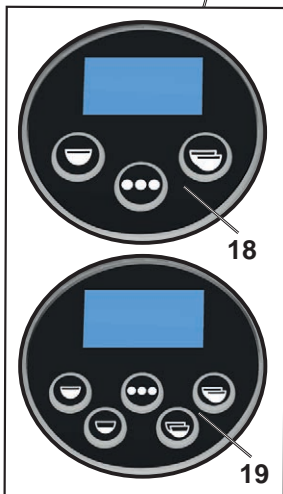
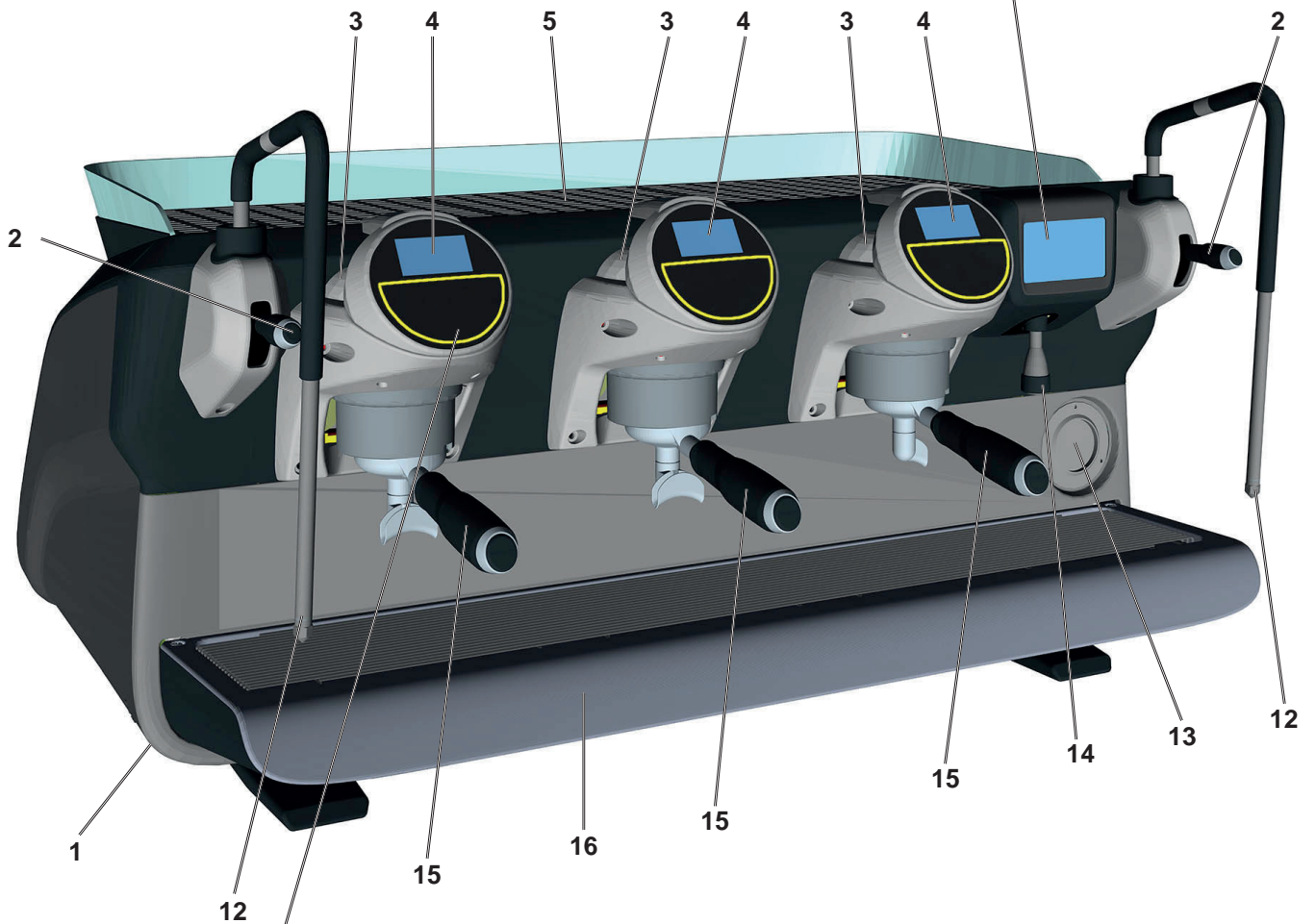
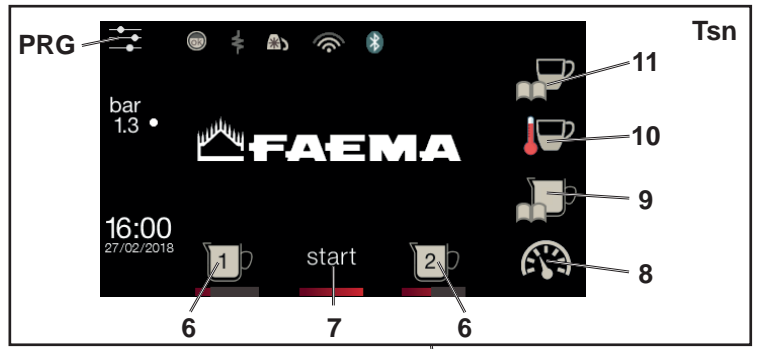
TECHNIKERHANDBUCH

MANUAL DEL TÉCNICO

MANUAL DO TÉCNICO








**E71 E**



**IT LEGENDA**

- 1 Interruttore generale
- 2 Leva erogazione vapore
- 3 Boiler caffè
- 4 Display grafico
- 5 Piano appoggiatazze
- 6 Pulsante acqua calda
- 7 Tasto "**STOP-CONTINUO**" acqua calda
- 8  Scorciatoia menu "Pressione caldaia"
- 9  Scorciatoia menu "Tasti acqua calda"
- 10  Scorciatoia menu "Temperatura boiler"
- 11  Scorciatoia menu "Tasti gruppo"
- 12 Tubo (lancia) vapore
- 13 Manometro pompa
- 14 Erogatore acqua calda
- 15 Portafiltro
- 16 Bacinella appoggiatazze
- 17 Manopola regolazione Bypass
- 18 Pulsantiera 3 tasti
- 19 Pulsantiera 5 tasti
- PRG**  Tasto per entrare in programmazione / menù
- TSn** Touch screen

**EN LEGEND**

- 1 Main switch
- 2 Steam supply lever
- 3 Coffee boiler
- 4 Graphical display
- 5 Cup warmer
- 6 Hot-water button
- 7 Hot-water "**STOP-CONTINUOUS**" key
- 8  "Boiler pressure" shortcut menu
- 9  "Hot water keys" shortcut menu
- 10  "Boiler temperature" shortcut menu
- 11  "Unit keys" shortcut menu
- 12 Steam pipe
- 13 Pump pressure gauge
- 14 Hot-water outlet
- 15 Filter holder
- 16 Tray
- 17 Bypass handle adjustment
- 18 3 keys pushbutton
- 19 5 keys pushbutton
- PRG**  Key to access programming mode / menu
- TSn** Touch screen

I componenti - \* - sono applicati solo in alcune configurazioni di prodotti. The components - \* - are applied only in some product configurations

**FR LÉGENDE**

- 1 Interrupteur général
- 2 Levier de débit du vapeur
- 3 Chauffe-eau, café
- 4 Ecran graphique
- 5 Chauffe-tasses
- 6 Bouton eau chaude
- 7 Touche « **STOP-CONTINU** » eau chaude
- 8  Raccourci menu « Pression chaudière »
- 9  Raccourci menu « Touches eau chaude »
- 10  Raccourci menu « Température chauffe-eau »
- 11  Raccourci menu « Touches groupe »
- 12 Buse vapeur
- 13 Manomètre pompe
- 14 Sortie eau chaude
- 15 Porte-filtre
- 16 Bac d'égouttement
- 17 Bouton réglage bypass
- 18 Clavier 3 touches
- 19 Clavier 5 touches
- PRG**  Touche programmation/menus
- TSn** Écran tactile

**DE LEGENDE**

- 1 Hauptschalter
- 2 Hebel Dampfabgabe
- 3 Boiler Kaffee
- 4 Graphisch Display
- 5 Tassenerwärmer
- 6 Heißwasser-Drucktaste
- 7 Taste "**STOP-KONTINUIERLICHE**" Heißwasserabgabe
- 8  Schnellauswahl „Boilerdruck“
- 9  Schnellauswahl „Heißwasser“
- 10  Schnellauswahl „Boilertemperatur“
- 11  Schnellauswahl „Tasten Einheit“
- 12 Dampfausgaberohr
- 13 Manometer Pumpe
- 14 Heißwasserausgabe
- 15 Filterhalter
- 16 Auffangschale
- 17 Bypass-Regulierschalter
- 18 Druckknopftafeln 3 tasten
- 19 Druckknopftafeln 5 tasten
- PRG**  Taste zur Programmierung / Menü
- TSn** Touchscreen

Les composants accompagnés d'un \* ne sont montés que dans certaines configurations de produit. Bauteile - \* - sind nur bei einigen Produkt-Konfigurationen angebracht.

**ES LEYENDA**

- 1 Interruptor general
- 2 Palanca erogación vapor
- 3 Calentador café
- 4 Display gráfico
- 5 Calientatazas
- 6 Botón suministro agua caliente
- 7 Tecla "**STOP-CONTINUO**" agua caliente
- 8  Acceso directo menú «Presión Caldera»
- 9  Acceso directo menú «Teclas agua caliente»
- 10  Acceso directo menú «Temperatura calentador»
- 11  Acceso directo menú «Teclas grupo»
- 12 Tubo (boquilla) vapor
- 13 Manómetro bomba
- 14 Erogador agua caliente
- 15 Portafiltro
- 16 Bandeja
- 17 Botón giratorio regulación Bypass
- 18 Panel de 3 botones
- 19 Panel de 5 botones
- PRG  Tecla para entrar en programación / menú
- TSn Pantalla táctil

**PT LEGENDA**

- 1 Interruptor geral
- 2 Alavanca de distribuição do vapor
- 3 Boiler café
- 4 Display gráfico
- 5 Grelha para aquecer chávenas
- 6 Botão de distribuição de água quente
- 7 Tecla "**STOP-CONTÍNUO**" água quente
- 8  Atalho do menu "Pressão na caldeira"
- 9  Atalho do menu "Botões da água quente"
- 10  Atalho do menu "Temperatura do boiler"
- 11  Atalho do menu "Botões do grupo"
- 12 Tubo do vapor
- 13 Manómetro da bomba
- 14 Distribuidor de água quente
- 15 Porta-filtro
- 16 Tabuleiro
- 17 Manípulo de regulação Bypass
- 18 Painel de 3 botões
- 19 Painel de 5 botões
- PRG  Tecla para entrar na programação / menu
- TSn Touch screen

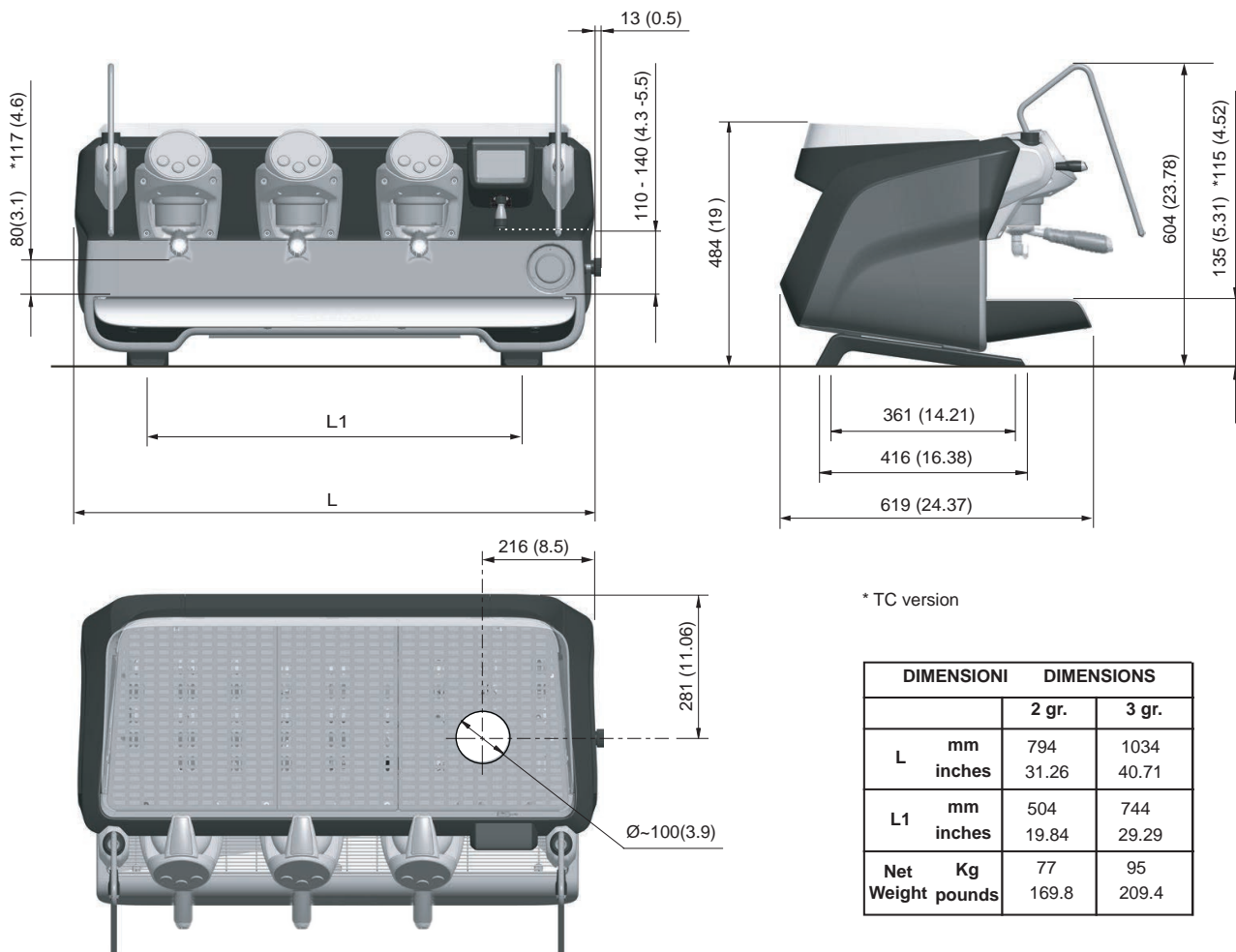
Los componentes - \* - se aplican sólo en algunas configuraciones de productos.

Os componentes - \* - são aplicados só em algumas configurações de produtos.



# E71 E

	$P_{max}$ [ bar ]	$T_{max}$ [ °C ]	tipo di macchina Type of machine type de machine Maschinentypen modelo de la máquina tipo de la máquina	2 gruppi 2 groups 2 groupes 2 Einheiten 2 grupos 2 grupos	3 gruppi 3 groups 3 groupes 3 Einheiten 3 grupos 3 grupos
			Fluido - Fluid - Fluide Flüssig - Fluido - Fluido	Capacità - Capacity - Capacité [ L ] Fassungsvermögen - Capacidad - Capacidade	
Caldaia Service boiler Chaudière Heizkessel Caldera Caldeira	2	133	acqua/vapore water/steam eau/vapeur wasser/dampf agua/vapor água/vapor	7	7
Boiler caffè Coffee boiler Chauffe-eau, café Boiler Kaffee Calentador café Boiler do café	15	160	acqua water eau Wasser agua água	0.60 x 2	0.60 x 3



DIMENSIONI		DIMENSIONS	
		2 gr.	3 gr.
L	mm	794	1034
	inches	31.26	40.71
L1	mm	504	744
	inches	19.84	29.29
Net Weight	Kg	77	95
	pounds	169.8	209.4

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**WARNING:** Installation and disassembly must only be performed by qualified and authorized technicians. Switch off the power to the machine before performing these steps.

## Description display symbols

### WATER LEVEL



This symbol indicates the boiler water level. During the loading phase, the bottom part of the icon blinks. When the optimum level is reached, the symbol looks like this:

### RESISTANCE



This symbol indicates that the resistance is activated and functioning; a thicker luminous flow passing through the resistance shows the electric heating is on. When the boiler pressure reaches the set value,

the icon looks like this:



This indicates that the heating resistance has been disabled.



**Note: the customer cannot switch on or switch off the electric heating.**

When the on/off function is programmed, the electric heating takes place automatically.

### SEVICE BOILER PRESSURE



This symbol indicates the boiler pressure value.

If the icon is pressed, the pressure gauge will be displayed analogically. This will be shown on the display:



Press again the icon to return to the regular display mode.

### COLD MACHINE



This symbol indicates that the machine is in its initial warming stage or that the boiler pressure has decreased to below 0.5 bar. It shows the boiler's warming status and appears if one or more boilers are still in their initial warming stage or if their temperature decreases to below 55°C.

Pressing the "START/continue coffee" icon will cause dispensing to occur at the current temperature.

All the other icons are disabled until required operating pressure is reached.

While waiting for the machine to be ready for use, attach the filter holders to the groups.

The machine has reached programmed operating temperature when the icon no longer appears on the display.

### CUP-WARMER



These symbols indicate the power currently selected by the cup warmer.

### WIFI

WiFi connection symbols:



- WiFi module present (optional).



- connected to server for data transmission.

### BLUETOOTH

These symbols refer to Bluetooth communication:



- the white icon indicates the presence of the Bluetooth module on the machine;



- the blue icon indicates that the machine is communicating with a Bluetooth grinder/dispenser.

### USB



This symbol appears on the display when a USB pen drive is connected.

### SD



This icon indicates the presence of an SD micro chip in the CPU board of the machine.

### BDS



BDS activation (Barista Driving System).

## Description display symbols

### PAYMENT SYSTEMS

This icon indicates that the machine is connected to a payment systems interface and is configured to work with it. Dispensing is therefore possible subject to approval by the payment system.



- the red icon indicates that the cash system has denied the transaction;



- the blue icon indicates that the cash system has approved the transaction.

### CONTROL OF THE FLOW (ONLY IF IN USE)

The appearance of this animated icon means that adjustments need to be made to the grinder/dispenser to tighten or loosen the grinding, to return coffee dispensing to the default parameters.

The icons that are shown are:



means that the grinding needs to be loosened. (flow of coffee is lower than the reference).



means that the grinding needs to be tightened. (flow of coffee is greater than the reference).

Note. The number next to the icon (1 or 2) indicates which grinder/dispenser needs adjusting.

The icon appears on the display instead of the level symbol.

## Switching off the boiler

**1**

Hold the key for approximately 8 seconds.

**2**

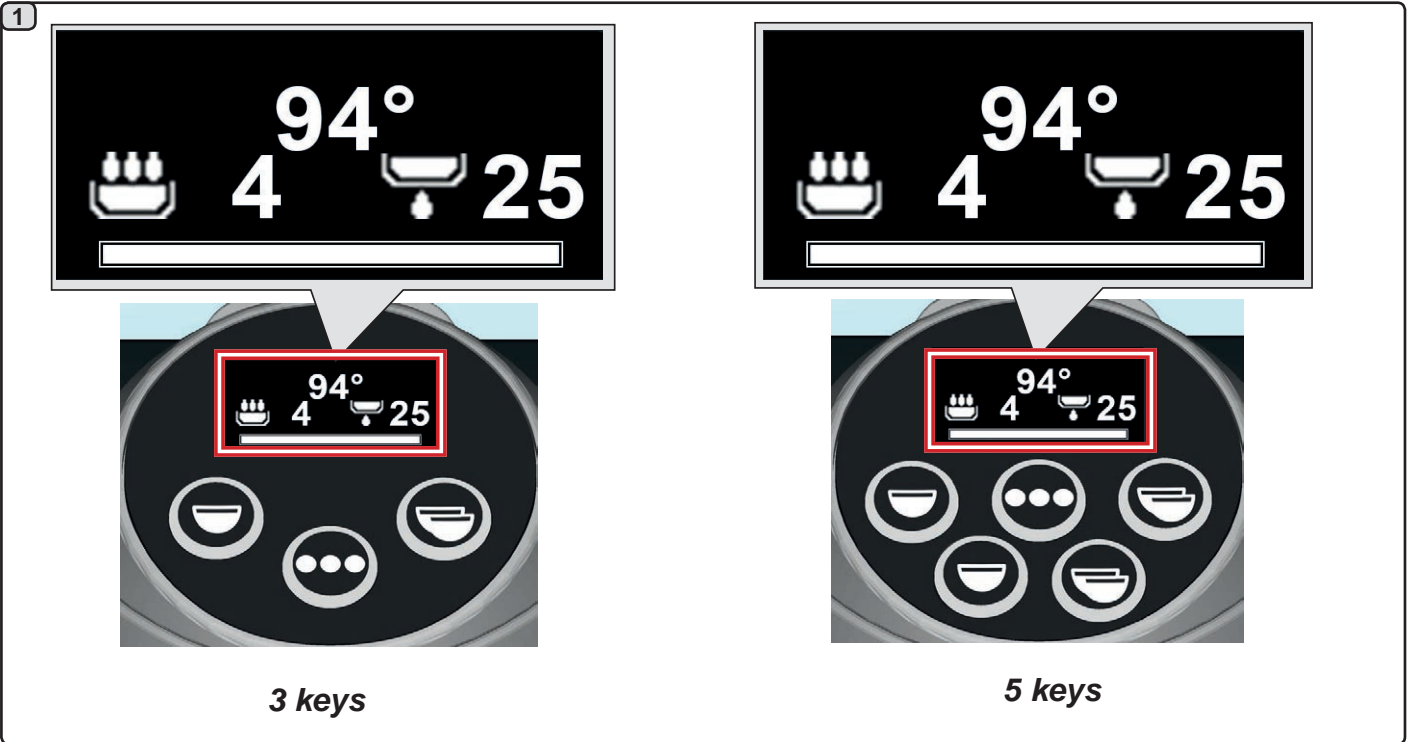
The coffee unit will go into STANDBY.

**3**

After a further 60 seconds without use, the coffee unit will turn off and dim the display.

Press any of the keys ( ) twice in a row to return to normal functioning.

Coffee unit symbols



2

**94°** Boiler temperature indication.

**4** Pre-infusion phase, represented with the symbol and relative duration.

**25** Dispensing phase, represented with the symbol and relative duration.

bar indicating the total progress of the operation.

This icon appears when the coffee boiler is switched on and indicates when the set temperature has been reached.

This icon indicates that the coffee boiler is heating up.



1

Press the coffee dispensing key corresponding to the preferred dose. The LED corresponding to the selected key will remain lit.

2

The pre-infusion phase starts, represented on the display for the group with the symbol with the relative duration. The bar below indicates the progress of the entire dispensing operation.

3

At the end of pre-infusion dispensing begins, represented by the symbol and the relative duration.

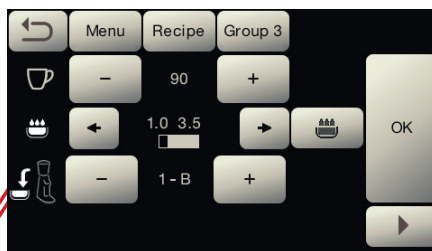
4

When the dose set is reached, dispensing will stop automatically. Before returning to the standby phase, the display will show the following parameters for a few seconds: total dispensing duration and duration of pre-infusion phase.

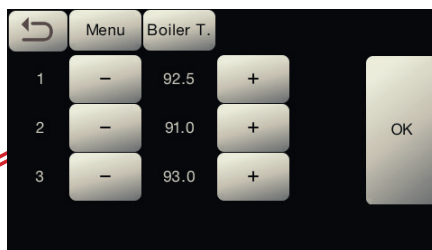
5

Press key for continuous dispensing.

Dispensing, whether for dosed servings or continuous, can be interrupted at any time by pressing the key or any other dosing key.



"Unit keys" shortcut menu  
 NOTE. The group on the right is predefined. To set other groups press one of the relevant buttons



"Boiler temperature" shortcut menu



"Hot water button" shortcut menu



"Boiler pressure" shortcut menu

For details about the functions, please see the dedicated sections on the following pages.

# Data flow chart - Technician programming

English



# TECHNICIAN PROGRAMMING

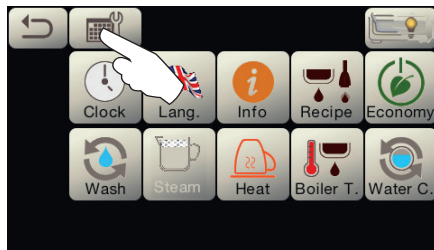
## 1. Programming access


Access the programming menu by pressing:

1) the key :




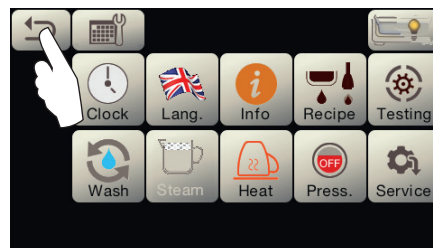
2) the key :



3) typing the password and pressing :



Return to the previous menu or exit the programming menu by pressing the key .



## 2. Service time menu



### AUTOMATIC SWITCH OFF / SWITCH ON

The machine can be set to switch off and switch on at programmed times.

**Note.** When the machine is working in the automatic on/off function do not use the general switch (1) to switch off the machine. If this happens, the machine will not be able to switch on again automatically.

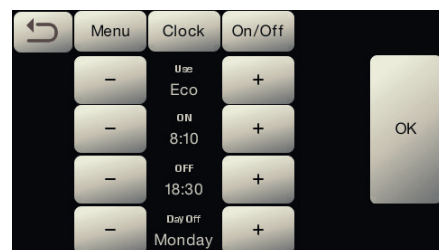
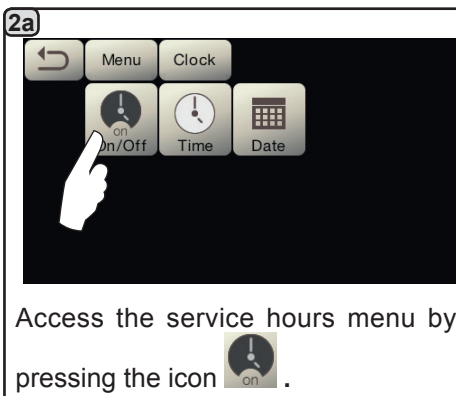
### FORCED SWITCH ON

Push any dispensing key to turn on.

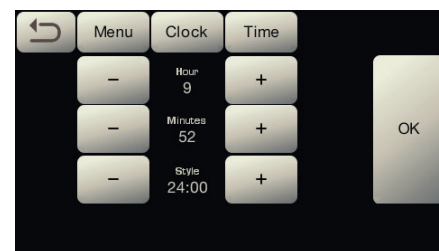
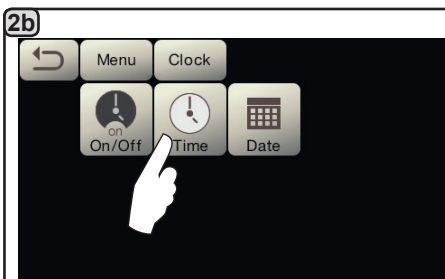
**Note.** Forcing the machine on does not change the programmed on/off times.

**Note.** At this point the machine will remain on until the next switch off time is reached.

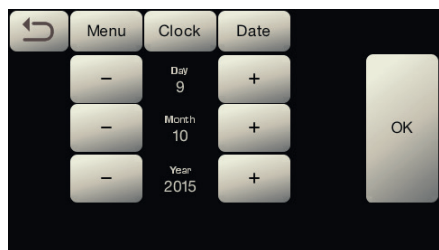
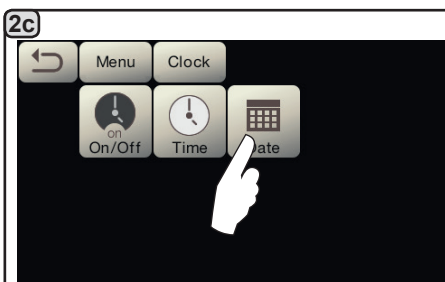
To immediately return the machine to "off" as originally programmed, switch it off and on again using the general on-off switch (1).



These parameters can be configured:  
**USE** - timed switch-on/switch-off: YES, NO, Eco (during the switch-off phase, the machine resistance is not completely disabled and allows the boiler pressure to remain at 0.2 bar).  
**ON** - (switch-on time);  
**OFF** - (switch-off time);  
**CLOSED** - (day of closure).



These parameters can be configured:  
**HOUR, MINUTES, STYLE** - (24:00 or AM/PM).



These parameters can be configured:  
**DAY, MONTH, YEAR.**



### 3. Language selection

Press the icon

Press the icon to choose the desired language.

### 4. INFO menu

1

Press the icon

2

In the INFO menu, you can view:

<b>Counters</b>		<b>Malfunc.</b>	
<b>Counters Sel.</b>		<b>Setup</b>	
<b>Water C.</b>		<b>Version</b>	
<b>Coffee</b>		<b>Serial N.</b>	

#### Counters

3a

In the **Counters** menu the listed parameters are:

- Coffee Group...** - (number of coffee-based beverages);
- Water** - (number of times that water was dispensed);
- Steam** - (disabled);
- Steam + Air** - (disabled);
- Hot milk** - (disabled);
- Cold milk** - (disabled);
- Total Coffee** - (total number of coffee-based beverages);
- (time since last start up).

Group	Count	Reset
Coffees Group 1	65	Reset
Coffees Group 2	52	Reset
Coffees Group 3	46	Reset
Coffees Group 4	-	Reset

Scroll through the entries using the and arrows.

3b

In the **Selection Counters** menu, the parameters relative to the individual keys are the ones that are counted.

Example of counter selection of a coffee group :


Group	Count	Reset
Group 1	25	Reset
Group 2	32	Reset
Group 3	16	Reset

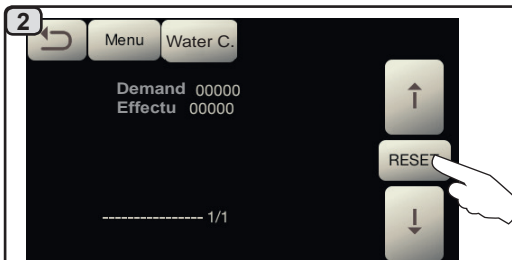
Example of counter selection of water doses :



Dose	Count	Reset
1	4	Reset
2	12	Reset
start	9	Reset

## Refill History



Press the icon  to display the water refill history.




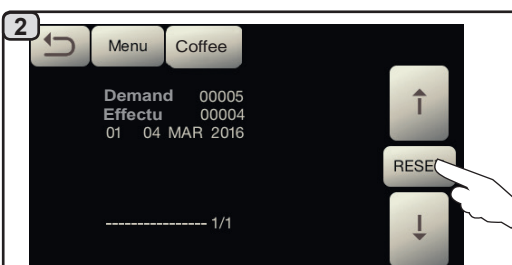
1) The items are scrolled by pressing the icons  .



2) Press the key **Reset** to clear/reset.

## Coffee history



Press the icon  to display the coffee wash archive.



1) The items are scrolled by pressing the icons  .



2) Press the key **Reset** to clear/reset.

## Fault history



Press the icon  to display the malfunct. archive.




1) The items are scrolled by pressing the icons  .



2) Press the key **Reset** to clear/reset.

## Setup



Press the icon  to display the "Setup" submenus.

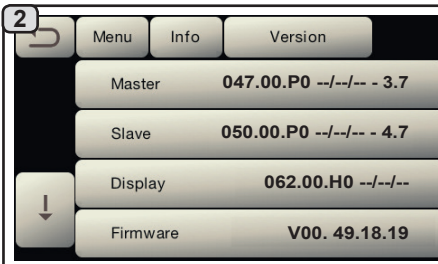




-  : NUMBER GROUPS:2, 3.
-  : 3 keys; 5 keys.

## Version



Press the icon  to display the "Version" submenus.




Scroll through the entries using the  and  arrows.

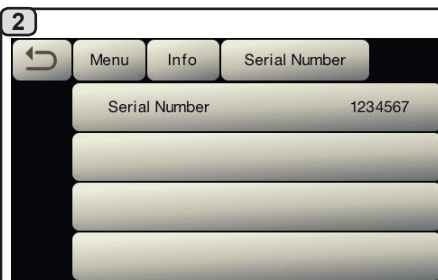
The submenus of the "Version" item display the stored versions for example:

- Master 047.00.P0;
- Slave 050.00.P0;
- Display 062.00.H0;
- Firmware V00.49.18.19;
- Bluetooth;
- WIFI;
- Group 076.00.B0.

## Serial number



Press the icon  to display the "Serial Number" submenus.



## 5. Programming measures function

### COFFEE

1

Press the icon

2

Press one of the coffee keys (ex. Group 3).

3

The icons of the programmable keys are shown on the services display.

4

When one of the coffee keys is pressed (e.g. the key), the following parameters are displayed on the services display:  
 Water dose; pre-infusion time; saturation time.  
 The key in question will remain highlighted on the unit display.

NOTE. THE key can also be programmed as DOSED: press the icon on the parameter display screen:

Press the icon to return to CONTINUOUS mode.

The other functions of the key will remain unchanged in both configurations.

5

All the parameters can be adjusted by the user:

- water dose (using the keys );
- pre-infusion time (using the keys );
- saturation time (by pressing the icon, this will turn into allowing the time to be adjusted with the keys . Press the icon to exit the settings menu).

Press the icon to confirm the information entered.

NOTE EXAMPLE : **3.5** shows the duration in seconds of the pre-infusion phase.  
**1.0** shows the duration in seconds of the saturation phase.

Grinder/dispenser selected can be associated with each key type.

6 TEST. By pressing the key, the dispensing starts and the following screen appears on the services display:

The parameters displayed are:

- Dv**: Volumetric meter incremental counter
- tG**: dispensing time
- TB**: instant coffee boiler temperature
- RB**: % activation coffee boiler resistance
- P**: service boiler pressure
- Rc**: service boiler resistance
- SL**: service boiler water level
- Evc**: service boiler load solenoid valve


## WATER


1

Press the icon .

2


Press the water key. These parameters can be configured:  
**SET...** - to set the dispensing time;  
**%** - to set the water temperature.

NOTE. -  the red corner in the top left of the icon shows that the key is being modified.  
 - the TEST phase of the water keys is exactly the same as that for the coffee keys


Press the  icon to confirm the information entered.

### Water dose programming using the "self-learning" function

1

Place a container suitable for the amount you wish to fill beneath the hot-water outlet and press the  icon.


2

The sound of the buzzer and the red corner in the top left of the  icon show that the SELF-LEARNING function is active.


3

Press key to be programmed. When the desired level is reached in the container press the key again. Continue with any additional programming of the keys.



4


Press the  icon to exit the SELF-LEARNING phase.

5

The sound of the buzzer and the red corner in the top left of the  icon will disappear.

6

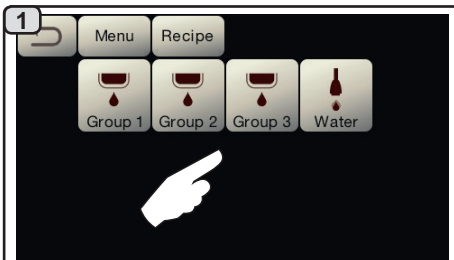
The dispensing time and temperature of the water added will be displayed which can be corrected manually using the buttons  .


Afterwards, confirm the values by pressing the  icon.

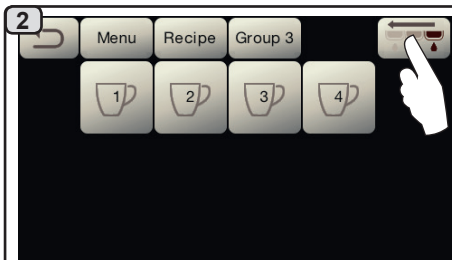



### Clone function

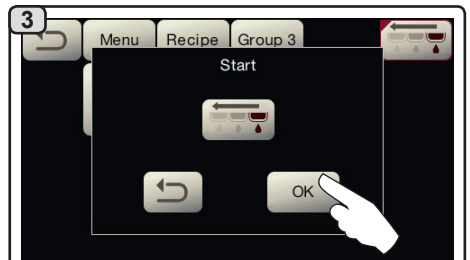
This feature allows you to replicate the coffee unit settings for all other machine groups.



Press the icon  Grup (ex. Group 3).



Press the icon .



Press the icon  to confirm.



At the end of the process, all the groups will have the same parameters.

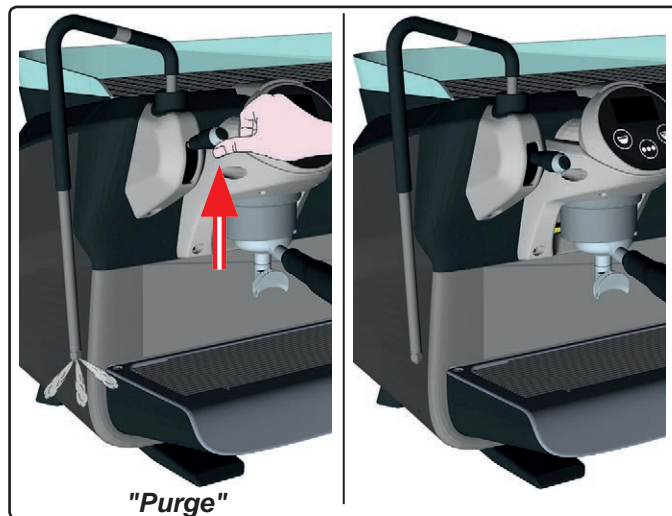
## Steam dispensing

The steam lever offers some special features that make it extremely useful.

### "Purge" function

One of the most interesting features is the "Purge" function, which makes it possible to eliminate any condensation that may have formed when a medium/long period of time passes between steam dispensing.

To activate the "Purge" function, push the steam lever upwards and keep it in this position for several seconds. When the lever is released, it automatically returns to the starting position.

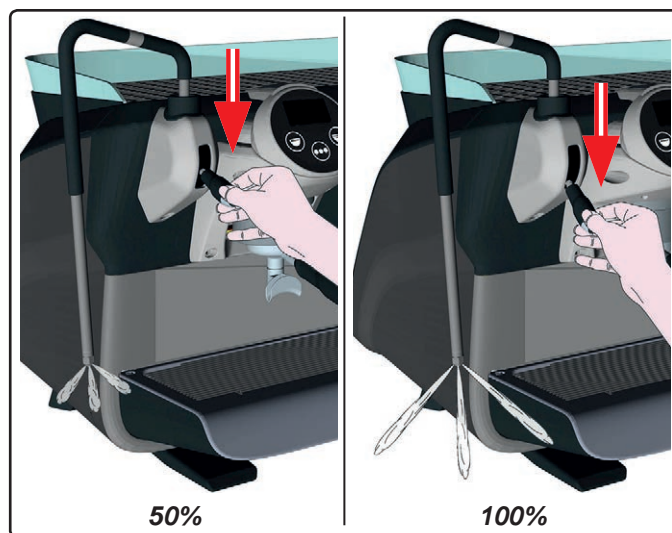


### Modularity

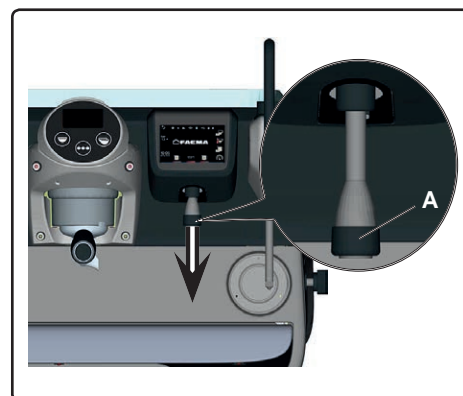
Another valuable function offered by the steam lever is modular dispensing.

When the steam lever is pushed towards the cup tray, there are 2 different positions for the lever, offering two different levels of steam intensity:

- position V1 (half way): 50% strength, to heat medium/small amounts of beverages;
- position V2 (fully up): 100% strength for large amounts of beverages.

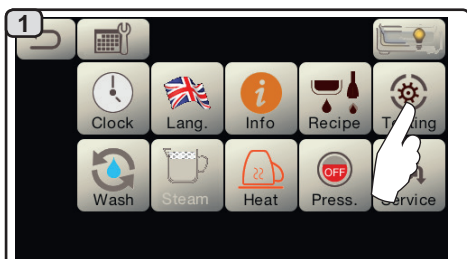



## Hot water dispensing

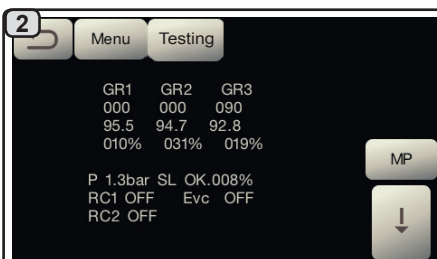


The bar below the water buttons indicates the temperature of the water: longer bar = higher temperature.

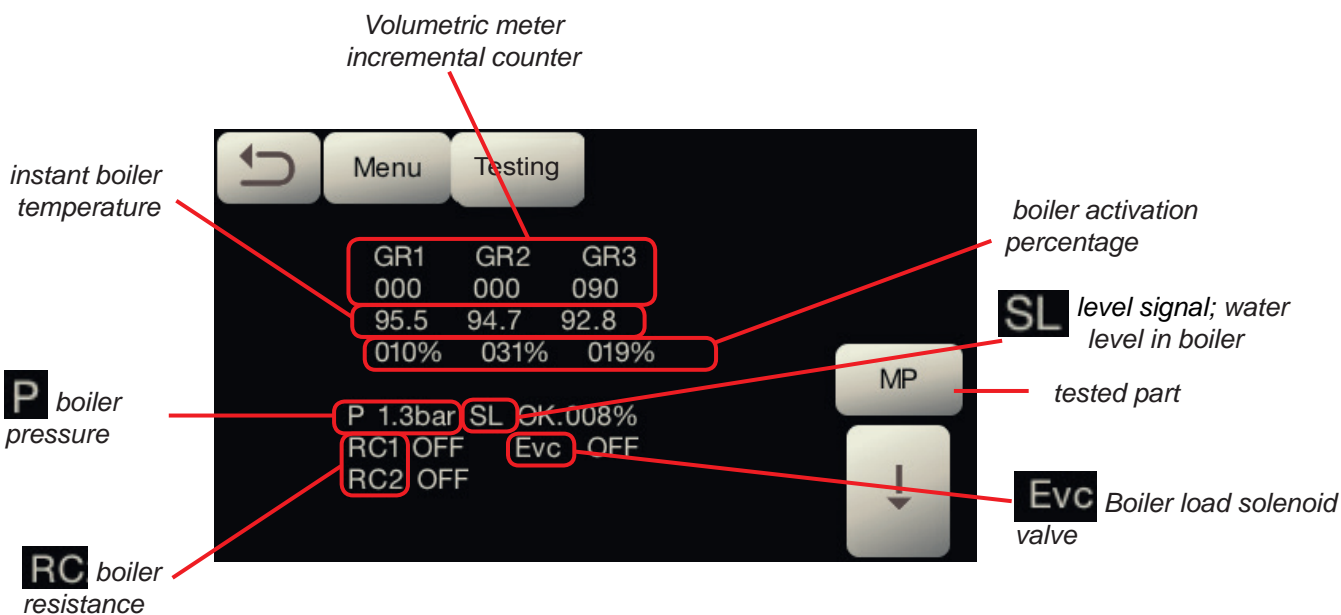
## 6. Testing



Press the icon .



The test screen permits manual operation of the components in the machine.



**Boiler activation percentage:** Modulation percentage of the heating power of the boiler.

**RC Boiler resistance:** Activation of resistance elements on the basis of the power selected.

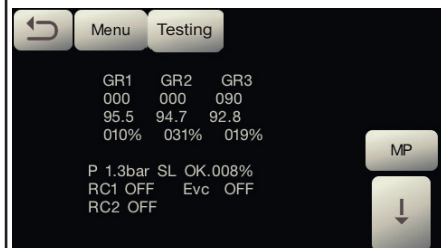
Total power divided into: RC1 =  $\frac{2}{3}$  - RC2 =  $\frac{1}{3}$



Full power cycle: RC1 ON / RC2 ON

Low power cycle: RC1 ON / RC2 OFF

RC1 OFF / RC2 OFF

RC1 OFF / RC2 OFF



The selection of the parts to be moved is done by pressing the icons  and ; the operation takes place by pushing the button which indicates the name of the part.

Here is the table of symbols used to define the moving parts that can be accessed:

<b>MP</b>	Pump motor
<b>G1÷G3</b>	Coffee dispensing solenoid valves
<b>Eac</b>	Hot water solenoid valve
<b>Eaf</b>	Cold water solenoid valve
<b>Eav</b>	Steam water solenoid
<b>Evc</b>	Boiler load solenoid valve
<b>Em</b>	Pressure-reset solenoid valve
<b>Ein1÷Ein3</b>	Pre-infusion solenoid valve

## 7. Washes

**1**

Press the icon

**2**

Select from the following wash settings:

- **Coffee**
- **Time**

**3**

**Coffee Wash:** press the key

- Choose the type of wash-cycle to perform ;
- Confirm by pressing the icon ;
- Follow the instructions on the display.

**4**

**Time:** press the key

This menu makes it possible to set the times requests appear for the water change in the boiler and the coffee circuit wash.

Select which of the following times to set:

- **Change**
- **Coffee**

**4a**

**Change:** press the key

Change the time depending on your requirements.      Confirm by pressing the key.      The new time appears under the key.

NOTES. The "WATER CHANGE" function with time request is set by the technical who can also enable or disable the "block" function.

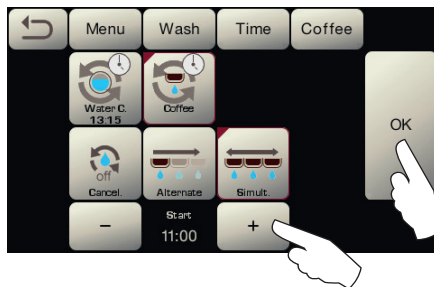
With "block" enabled, if the water refill is not done within one hour, the machine prevents the dispensing of the beverages, water and steam.

With request scheduled the user can only change the time the request appears.

English

4b

**Change:** press the key



Select which type of coffee wash you want to perform. For example .

Change the time depending on your requirements and confirm with the key.

The time appears under the key.


NOTES. It is possible to deactivate the scheduled washing request by pushing the key ; in this case no time appears under the key .

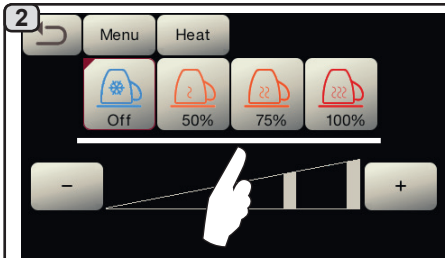
English



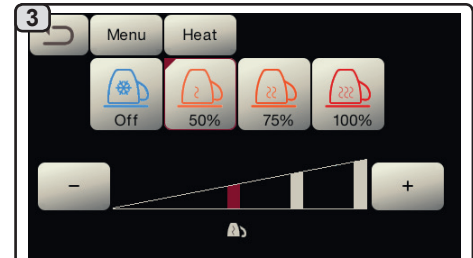
## 9. Cup Warmer



Press the icon .



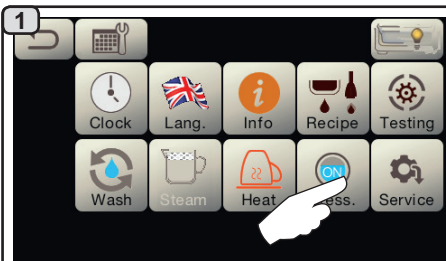
Select the heating level.




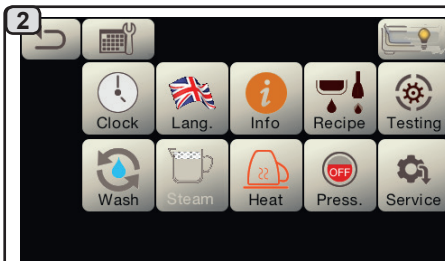
Additional changes are possible using the "+" and "-" keys.



## 10. Heating element



Service personnel can switch on or switch off the electric heating (service boiler and groups boilers) in this way:





Press the icon .

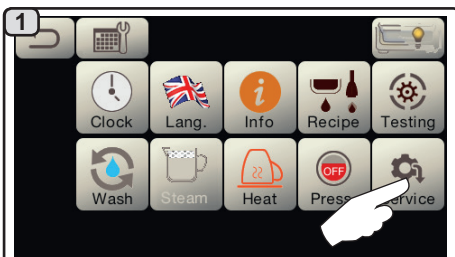


Returning to the main menu using the key  the icon of the deactivated heating element is displayed : all the heating elements and the self-leveller function of the service-boiler are deactivated.

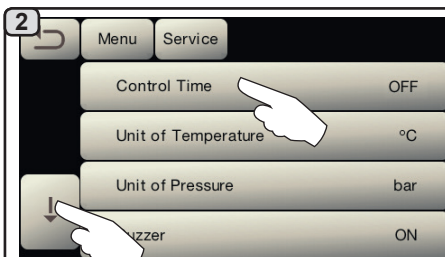
Icon  in programming = enabled resistances (icon  main menu);

Icon  in programming = disabled resistances (icon  main menu).

## 11. Programming

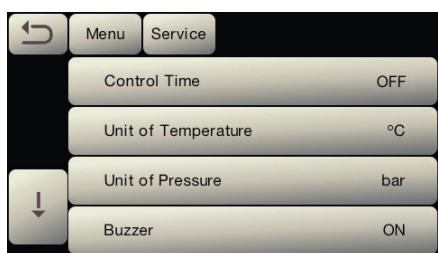
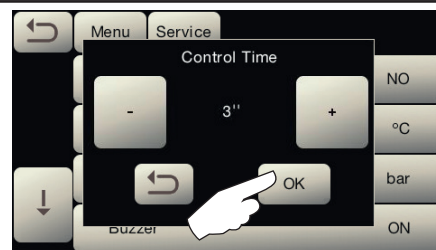


Press the icon



Press the icons to scroll through the entries.

Configuration of the parameter occurs by pressing the square of the parameter: press the desired icon on the screen and confirm with

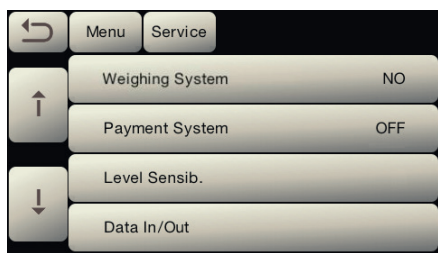


**Control Time** - display dispensing time: YES/NO (from 1" to 60').

**Unit of Temperature** - can be set to: °C, degrees centigrade/Celsius, or °F, degrees Fahrenheit.

**Unit of Pressure** - can be set to bar or psi.

**Buzzer** - enables/disables all acoustic signals when keys are pressed or messages are displayed: YES/NO.

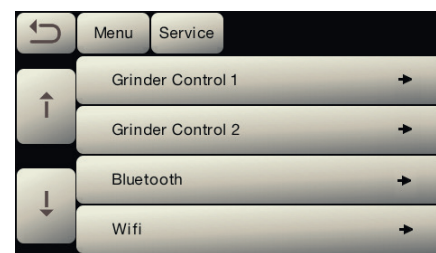


**Weighting system** - allows management of the Acaia scales for weighing the amount of coffee dispensed: YES/NO.

**Payment systems** - When connected, allows configuration of a payment system.

**Level Sensitivity** - indicates the degree of sensitivity of the level probe, which then operates the filling of the service-boiler with water. For safety reasons, automatic level control of the self-leveller service-boiler is disabled when the service-boiler heating element is turned off.

- Note: set a value of 1 if the machine is installed with very conductive water. Set a value of 3 if the water used is not very conductive (very soft).



**Grinder Control-1**

**Grinder Control-2**

The parameters that can be set are:

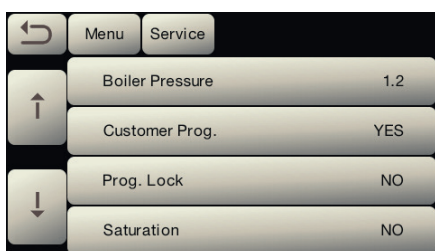
- **enabled** - MM1 - MM2

- **Adjustment threshold** - see the section "Steps for Bluetooth Coffee Machine-Grinder/Dispenser Communication" in the following pages.

**Bluetooth** - see section "Bluetooth Connection" in the following pages.

**Wi-Fi** - see section "Wi-Fi Configuration" in the following pages.

**WiFi Menu** - see the "WiFi Configuration" paragraph on the following pages.



**Boiler Pressure** - indicates the pressure of the service-boiler; 0.6 to 1.6 bar (9 to 23 psi)

**Customer Prog.** - customer programming: YES/NO.

**Prog. Lock** - block settings: YES/NO.

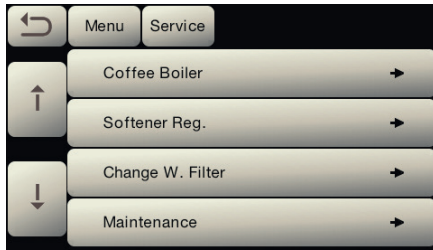
**Saturation** - Saturation YES/NO. Enabling (YES) allows the duration of the saturation phase to be programmed. This system allows the barista to saturate the coffee with water by applying the standard pressure of the pump for a programmable amount of time, before the pre-infusion phase.

**Data In/Out** - Function which makes it possible to transfer the programming data from machine to USB key and vice versa.


IN: transfer from USB to machine;

OUT: from machine to USB.

## 11. Programming




**Coffee Boiler** - this parameter includes the entries for setting the temperature of the coffee boilers, values that can be set are 60 to 110°C (140 to 230°F) in steps of 0.5°C. In this menu there is also the possibility of programming an **offset** of temperature for the boilers which can be modified in a range of +/- 2°C.

**Softener Reg.** - includes the parameters for the resin regeneration: resin litres (between 0.1l and 25l), hardness (between 0 and 45 °F). The decreasing resin efficiency level is also indicated. Once the softener regeneration has been performed, press the icon  to cancel the message.

**Change W. Filter** - On reaching the litre level set on the display a message is displayed which prompts replacement of the filter.

The efficiency percentage is displayed (Softener/Filter) decreasing from 100% to 0%.

Once the filter has been replaced, push the  icon to cancel the message.


**Maintenance** - includes 4 submenus for setting maintenance parameters:

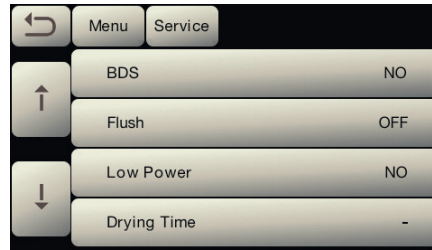
- **Max cycles** - the number of cycles set.

- **Max days** - the number of days set.

- **No. cycles/days** - this is the number of cycles and days until next maintenance.

- **Maintenance** - YES/NO.

Enables (YES) or does not enable countdown of the cycles and days until the next maintenance activity. Once the maintenance has been performed, press the icon  to cancel the message.

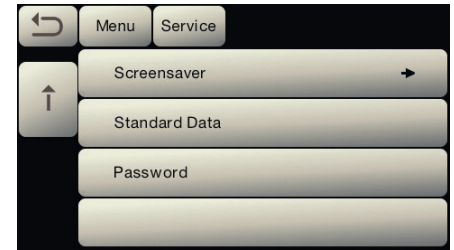


**BDS** - see section "BDS Activation" in the following pages.

**Flush** - Not active.

**Low power** - YES/NO

**Drying** - Not active.

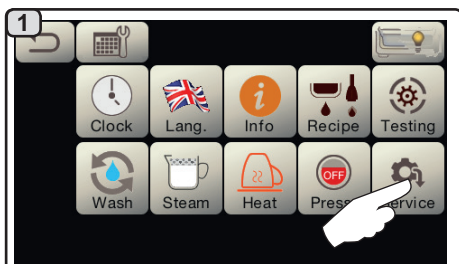


**Screensaver** - Possibility of programming the screensaver display time (from 30" to 20')

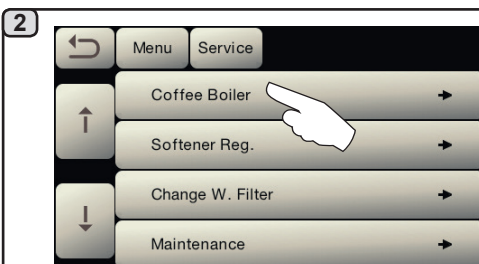
**Standard data** - allows loading of standard data or reconfiguration of the machine. In both cases the machine is automatically restarted.

**Password** - allows change of the code for accessing technical programming.

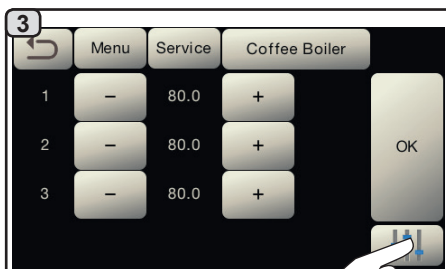
## Coffee Boiler



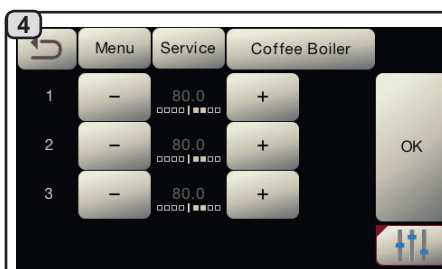
Press the icon .



The items are scrolled by pressing the icons .  
Press the icon **Coffee Boiler** .



Press the icon offset .



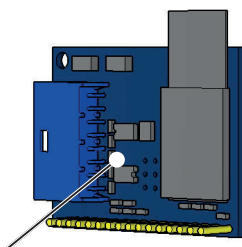
Set the desired values using the "+" and "-" icons.

NOTE: a temperature offset can be set for the boiler adjustable by  $\pm 2^{\circ}\text{C}$ .

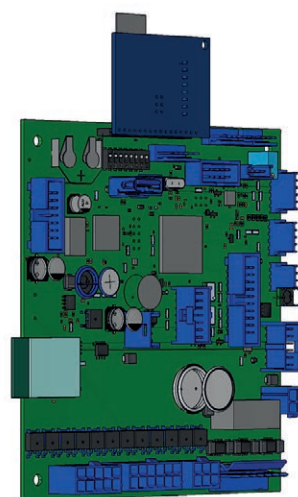
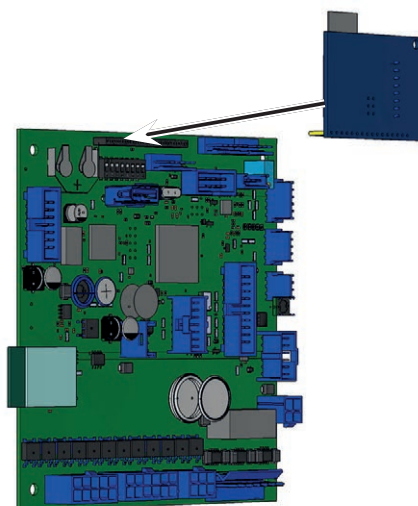
Each dot corresponds to approximately half a degree centigrade of offset.

Confirm the data inserted using the icon **OK** or exit and leave the previous data using the icon .

## Bluetooth Connection



Bluetooth Card





**Bluetooth Menu** - The parameters that can be set are:


- **MM1-MM2** - 1 to 2 grinders can be connected.
- **Search** - the machine will find all bluetooth devices within 10 m.
- **Reset** - cancels the connection with the associated device.

**Note:** during connection with bluetooth grinders/dispensers, the first one connected is set as MM1.

## Procedure for Bluetooth connection with the machine-grinder unit

1 Turn the machine on; the initial menu appears on the display. The  icon indicates that the machine can be linked to a Bluetooth device.




To enter TECHNICAL programming, press the icon .


2



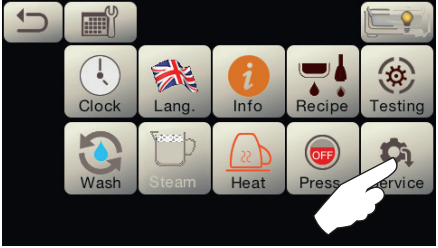
Press the icon .


3



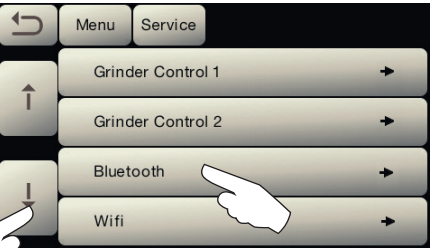
Type the password and then press .



4

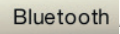


Press the icon .

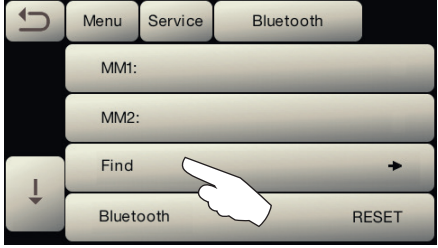
5




1) The items are scrolled by pressing the icons  .

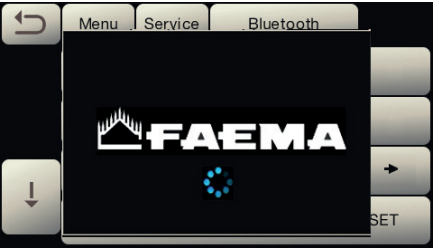
2) Press the icon .

6



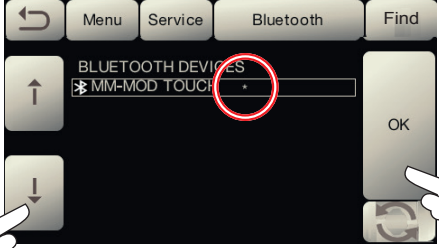
Press the icon .



7




The machine will find all Bluetooth devices within a range of 10 metres.

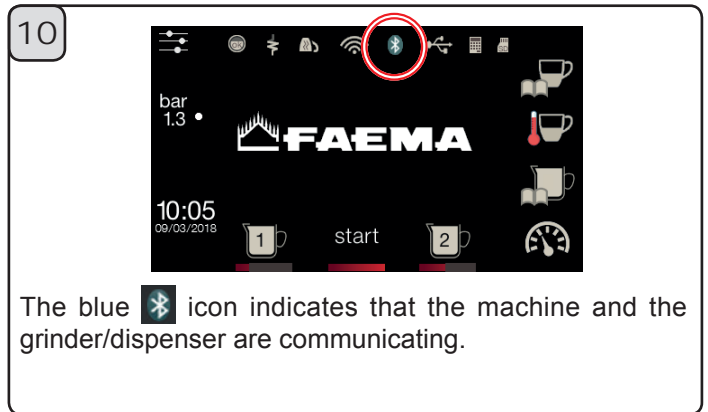
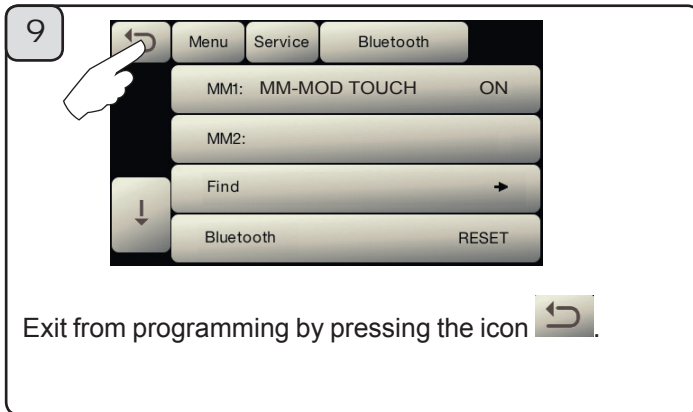
8



1) The items are scrolled by pressing the icons  .

2) Press the icon  to confirm the selected device, an asterisk will appear \* next to the line of the grinder/dispenser to indicate the successful Bluetooth association with the machine:





In the event of communication problems, the "COMMUNICATION FAILURE" message will appear on the display followed by the name of the disconnected grinder/dispenser. The message disappears automatically when the Bluetooth connection is restored. A common cause of this failure is the grinder/dispenser being turned off with the machine turned on.



## BDS activation and sensor configuration

**1**

1) The items are scrolled by pressing the icons .

2) Press the icon .

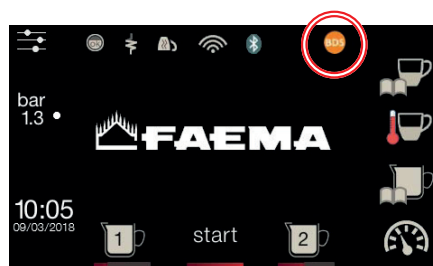
**2**

Press the icon .

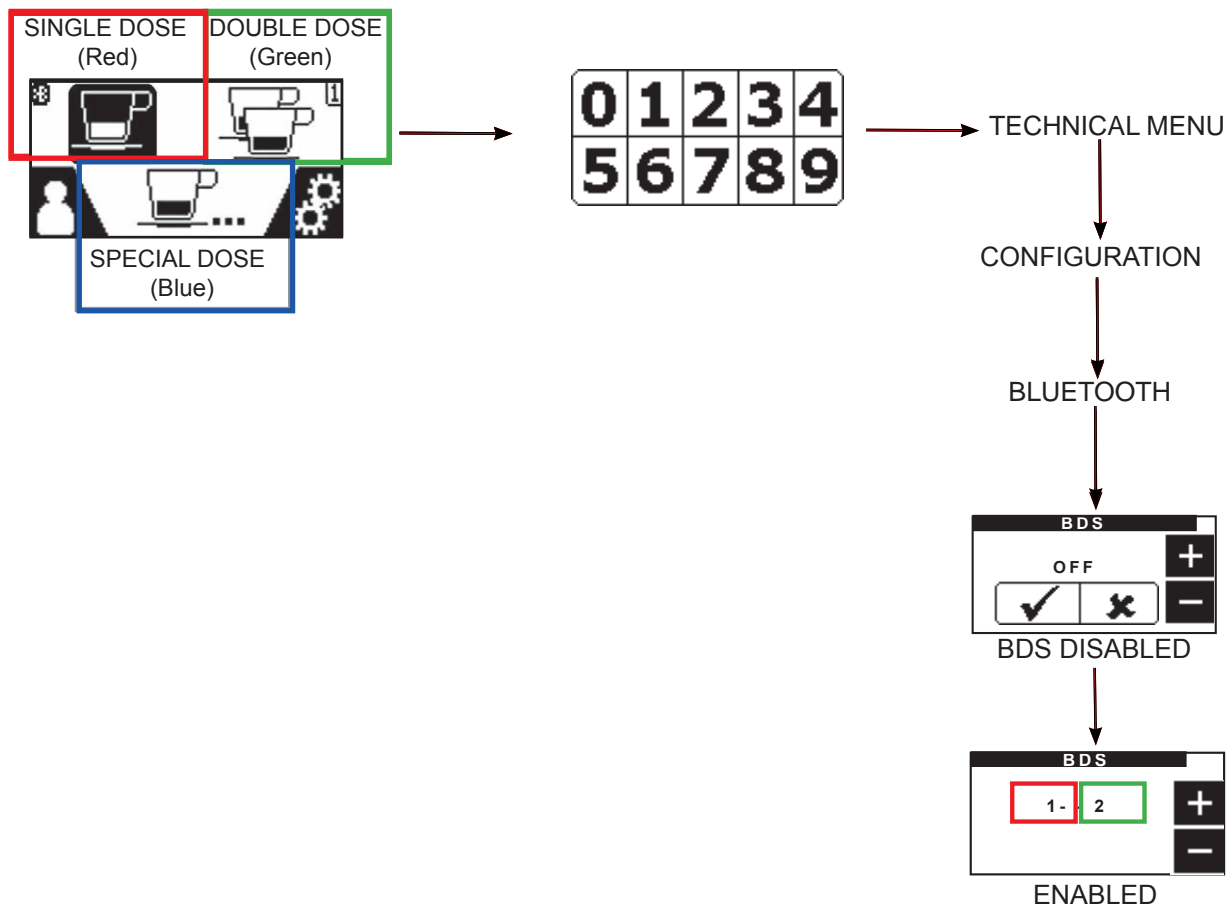
**3**

Press the icon to confirm.

**Note:** With BDS active the payment systems cannot be activated.



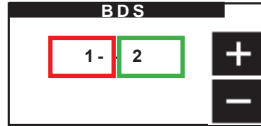
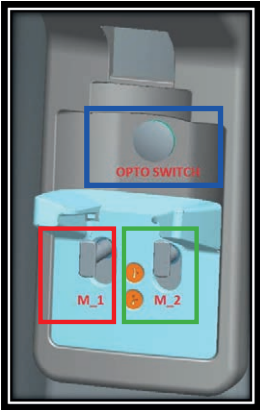
All the **TECHNICAL MENU** items of the "MD3000 Bluetooth" grinder/dispenser can be viewed only after the default technical code has been entered.



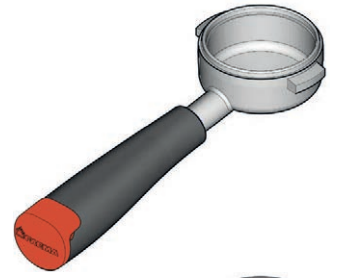
**CONFIGURATION MD3000 BLUETOOTH GRINDER/DISPENSER SENSORS**

- 0: sensor disabled
- 1: single dose (Red)
- 2: double dose (Green)

English



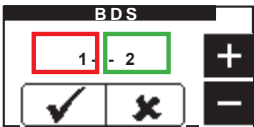
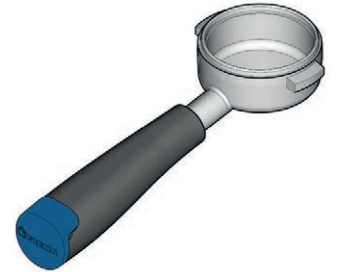
SINGLE DOSE (Red)



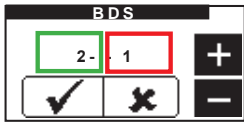
DOUBLE DOSE (Green)



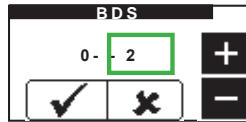
SPECIAL DOSE (Blue)



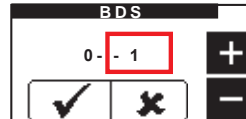
Single dose – Left sensor (Red)  
Double dose – Right sensor (Green)



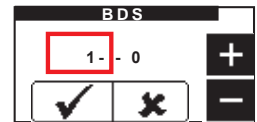
Double dose – Left sensor (Green)  
Single dose – Right sensor (Red)



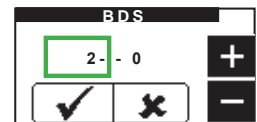
Left sensor disabled  
Double dose – Right sensor (Green)



Single Dose – Right sensor (Red)  
Left sensor disabled



Single dose – Left sensor (Red)  
Right sensor disabled



Double dose – Left sensor (Green)  
Right sensor disabled

## Setting recipes and connections with grinder/dispenser

**-NOTE: POSSIBILITY TO CONNECT ALSO WITH GRINDER/DISPENSER 2**

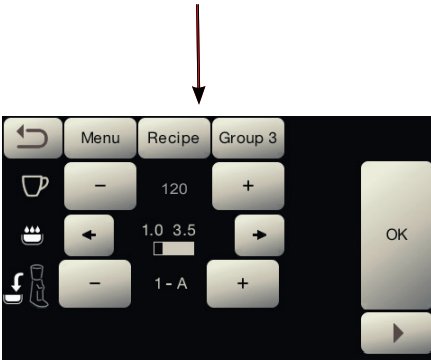
### GRINDER/DISPENSER 1



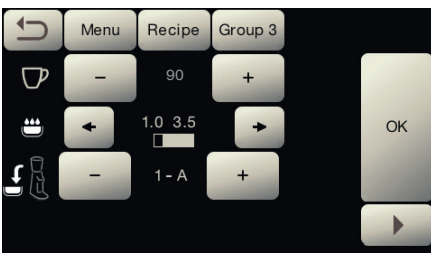
The filter holder-key and machine association logic is the following:  
**1-A or 2-A** = activation of the first actuator  
 (filter-holder with single delivery spout)  
**1-B or 2-B** = activation of the second actuator (filter-holder with double delivery spout)  
**1-C or 2-C** = activation of the third actuator with filter-holder with dedicated filter

With the number **1** the first grinder/dispenser **MM1** is identified  
 With the number **2** the second grinder/dispenser **MM2** is identified

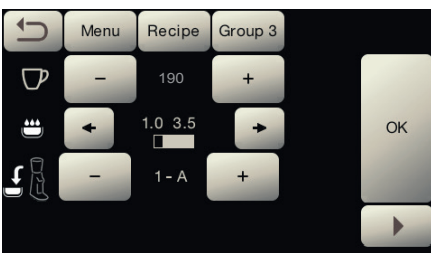
With the letters **A-B-C-D-E** the filter-holders are identified



← MEDIUM →



← SHORT →

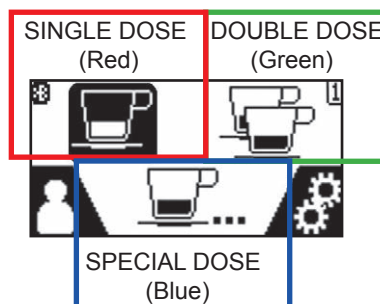


← LONG →




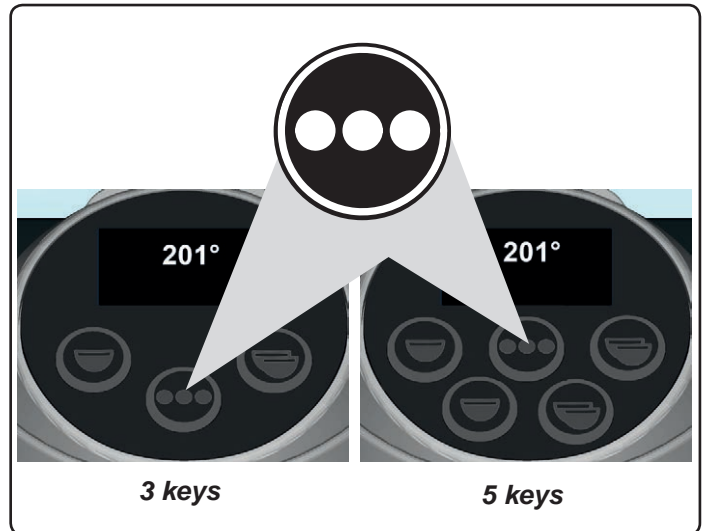
Every button on the machine can be configured based on the type and the relative grinder/dispenser. Not all types can be used with the BDS system. The possible choices are:

- Single type
  - Short
  - Medium -> SINGLE DOSE (Red)
  - Long -> SPECIAL DOSE (Blue)
- Double type
  - Short
  - Medium -> DOUBLE DOSE (Green)
  - Long



BDS system enabled.

Dispensing disabled NOTE: Start/Stop  key is always active.



Dose grinding and dispensing activated (key on)



Dispensing will remain active for 2 minutes. During this time, the grinder/dispenser used will be blocked and therefore unable to grind a second dose of coffee.

The grinder/dispenser will automatically release when the enabled key is pressed or when the two minutes of waiting time have elapsed.



## Grinder control parameters configuration

**1**

1) The items are scrolled by pressing the icons .

2) Press the icon **Grinder Control 1**.

### Grinder Control-1

### Grinder Control-2

The parameters that can be set are:

: not in use.

Note: If the grinder control system is not in use, extraction time and calculated flow rate data will not be available or sent to the telemetry platform.

: manual grinder control (for grinder/dispensers with no bluetooth connection option).

: automatic grinder control (bluetooth connection with grinder/dispenser).

Note: For proper operation of the grinder control system, keys of the same type (for example singular ones relative to grinder/dispenser 1) must be programmed with the same saturation and pre-infusion parameters.

**2**

Press the icon **Enabled**

**3**

: not in use

**4**

: manual grinder control (for grinder/dispensers with no bluetooth connection option).

**5**

: automatic grinder control (bluetooth connection with grinder/dispenser).

The parameters can be modified manually using the keys .

After completing operations confirm the values by pressing the key **OK** or exit and leave the previous data using the key .

: manual grinder control (for grinder/dispensers with no bluetooth connection option).



The appearance of this animated icon means that adjustments need to be made to the grinder/dispenser to tighten or loosen the grinding, to return coffee dispensing to the default parameters.

The icons that are shown are:



means that the grinding needs to be loosened. (flow of coffee is lower than the reference).



means that the grinding needs to be tightened. (flow of coffee is greater than the reference).

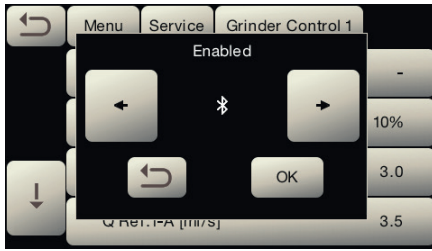
Note. The number next to the icon (1 or 2) indicates which grinder/dispenser needs adjusting. The icon appears on the display instead of the level symbol.

1. disable grinder control, if in use.
2. set and calibrate the machine and grinder/dispenser as desired.
3. dispense into the test square all the types of beverages to be used (double coffee, single coffee and any special blend - third key).
4. write down the satisfactory flow values of the coffees for each of the possible three types of beverage.
5. go to the grinder control panel and perform reset.
6. set the flow values for each of the beverages.
7. enable grinder control.

Note: Set the Q.ref of double coffees first for proper functioning of grinder control.



Method 1: manual setting of Qref.



1. disable grinder control, if in use.
2. connect the machine to the grinder/dispenser via blue-tooth and enable dialogue in the manner already in use.
3. set and calibrate the machine and grinder/dispenser as desired.
4. dispense into the test square all the types of beverages to be used (double coffee, single coffee and any special blend - third magnum key on demand).
5. write down the satisfactory flow values of the coffees for each of the possible three types of beverage.
6. go to the grinder control panel and perform reset.
7. set the flow values for each of the beverages.
8. enable grinder control.

Method 2: setting of Qref in fully self-learning mode.



1. Disable grinder control, if in use.
2. Connect the machine to the grinder/dispenser via blue-tooth and enable dialogue in the manner already in use.
3. Programme and calibrate the machine and grinder/dispenser as desired, dispensing the beverages until a satisfactory cup result is achieved.
4. Go to the grinder control panel and perform reset.
5. Enable grinder control.
6. Exit programming.
7. Dispense double coffees (5 or more) until the message Qref OK appears on the services display (with audible sound).
8. Dispense single coffees (5 or more) until the message Qref OK appears on the services display (with audible signal).
9. Dispense any special blend coffees (5 or more) until the message Qref OK appears on the services display (with audible sound).
10. Enter programming and check that the Qref values set are present.

Repeat the entire procedure for the second grinder/dispenser if present.

The machine is ready to work with the grinder control on. In the event of problems, dispensing can be performed in the test square with the grinder control in use to see if the symbol \* is present beside the flow. Remember that dispensing is deemed valid only if it lasts more than 10 seconds.

Other symbols are used in the test square:

> if the flow is too high compared to the reference, above the upper limit

< if the flow is too low compared to the reference, below the lower limit

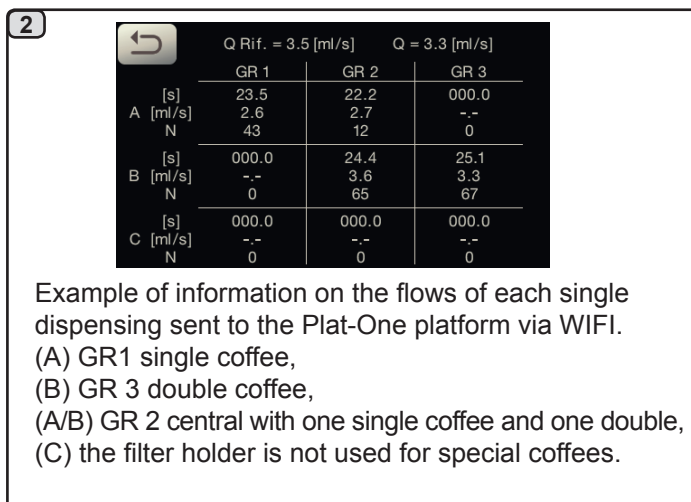
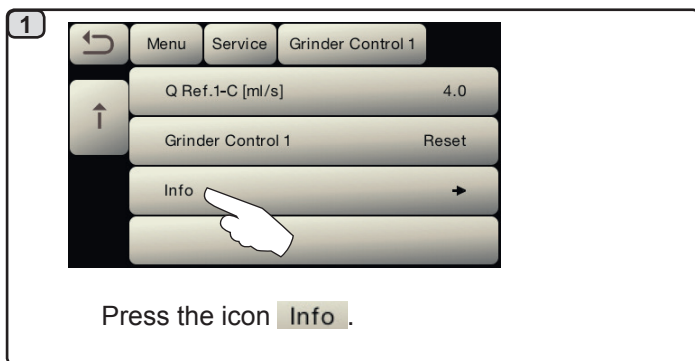
\* flow within the acceptable range

- dispensing too brief (at least 8 s but less than 10 s)

(3) number of remaining coffees to be dispensed and deducted from the count

## Grinder control parameters configuration

Info grinder control.



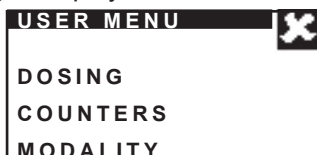
## Dose time variation relative to the MD3000 grinder/dispenser

To increase or decrease the measure-time operate as follows:

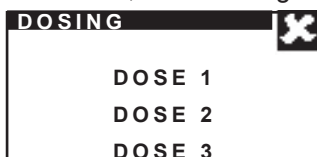
1) press the icon from the main screen:



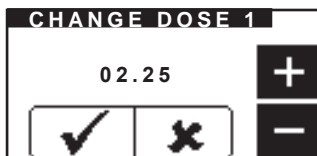
2) The following is displayed:



3) press the *DOSING* item; the following is displayed:



4) select the measure to be modified; the following is displayed:



Change the value by the “+” and “-” icons; confirm the entered value by the icon or press the icon to leave it unchanged.

The measure-number correspondence is the following:

*DOSE 1* for the single measure ;

*DOSE 2* for the double measure ;

\* *DOSE 3* for the continuous measure ...

**Note:** single-measure's and continuous measure grinding time variation in user mode is  $\pm 25$  hundredths of second ( $0 \div 1/4$  second).

Double-measure's grinding time variation in user mode is  $\pm 50$  hundredths of second ( $0 \div 1/2$  second).

\* Grinding in continuous mode, if equal to zero (*DOSE 3* = 0), can only be modified by the technician.

## WiFi configuration

1

1) The items are scrolled by pressing the icons .

2) Press the icon **Wifi**.

2

Scroll through the items using the icons .

3

To deactivate the function press RESET.

4

Reset the parameters with the icon **OK** - initialization of the standard data:

**Wi-Fi Menu** - Configure the following Wi-Fi parameters as shown below:

- **NETWORK** - enter the name of the access point.
- **SECURITY** - indicate the type of wireless network security:
- **KEY** - enter the password to access a protected Wi-Fi network (WPA or WEP)
- **URL** - enter [listener.gruppocimbali.com](http://listener.gruppocimbali.com).
- **Port** - enter 10000.
- **CONNECT** - to connect to the access point selected.
- **RSSI** - signal intensity:
- **IP** - displays the IP address assigned to the machine by the wireless access point.
- **RESET** - To restore the parameters to the standard parameters.
- **MAC** - represents the Mac address of the WiFi module present in the machine. It is a parameter that is only displayed, cannot be changed.
- **FTX** - reduces data transmission to the remote server:
  - transmits all data daily at machine startup, faults/washings per event;
  - level 1 plus hourly counts;
  - level 2 plus pings every 10 min. (default).

5

1) The items are scrolled by pressing the icons .

2) Press the icons required to configure the parameters.

6

Position the cursor on the item **CONNECT** to manually connect to the access point selected; if the configuration of the WiFi module is correct, the icon lights up during the transmission of the data to the server:

## Logo

The Faema standard logos are shown on all the machine displays, after a period of inactivity set for the "Screensaver" menu by the technician.



The machine is supplied with the logo shown in the image.

The user can replace it with another of the same size that will appear on all displays (groups and services), creating the file **custlogo.bmp** (maximum size 260 x 110 pixels).




To create a customised logo, proceed as follows:

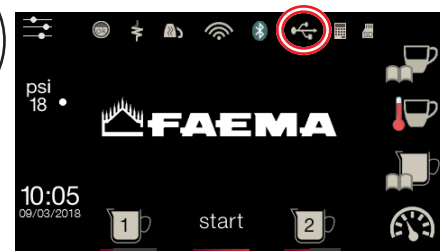
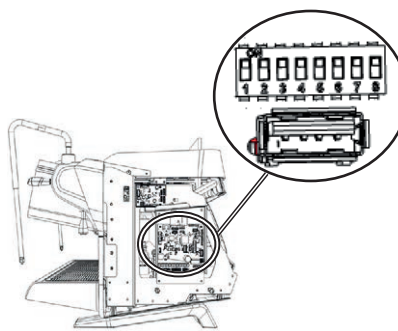
**1** Using any graphics program (e.g. Paint), create a file that meets certain characteristics; the prerequisites for a *bitmap* image to be used as a custom logo are:

**custlogo.bmp**

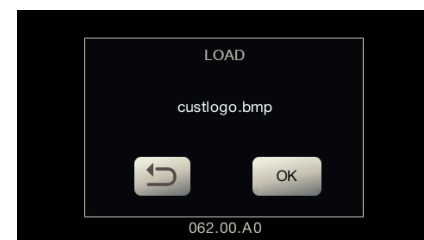
- width less than or equal to **260 pixels**;
- length less than or equal to **110 pixels**.
- **24-bit bmp** colour.

Copy into a USB pen drive the file "**custlogo.bmp**" if the user wants to display the on the services display.

**2** Insert the USB pen drive in the dedicated slot on the machine: the  icon will appear on the services display:



**3** Turn the machine off and back on again; when it comes back on the following will appear on the services display:



**4** Press OK and wait for the file to load:



**5** Once loading is complete, remove the USB pen drive from the machine.

At this point, the custom logo will be displayed according to the settings programmed by the technical staff.

Note: If the screensaver is active, it is possible immediately see the logos, without waiting for idle time, every time the user turns off the analogically gauge.



### Services logo

1

Return to the programming menu and press the icon **Screensaver**.

2

Press the icon **Logo**.

3

Press the icon **→**.

4

Press the icon **OK** to confirm.

5

Services display logo.

English

### Time

Possibility of programming the screensaver display time (from 30" to 20') with steps of 30 seconds.

1

Return to the programming menu and press the icon **Time**.

2

Press the icon **+**.

3

Press the icon **OK** to confirm.

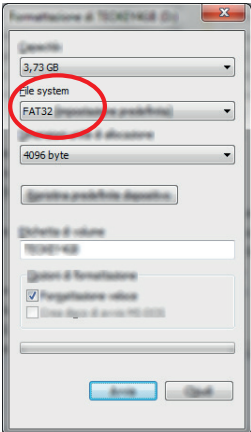
**1**

**PRELIMINARY OPERATIONS**

Format a USB Pen Drive using the **FAT32** format. If using Windows, use the predefined formatting settings as shown in the image.

Copy the update files (CPU image.hex; *only for E71: DISPLAY* E71.ppf ) to the main file path of a USB Pen Drive.


**NOTE:** do not turn off the machine or remove the USB Pen Drive until the update has been completed. If using a USB Pen Drive operating LED, this is shown by the LED flashing.



**2**

**PRELIMINARY OPERATION: Recognizing of USB support**

With the machine running, insert the USB Pen Drive containing the update files into the USB port. The icon will appear on the display to indicate that the storage device has been recognised.




**3**

**STARTING THE SOFTWARE UPDATE**

Turn the machine off leaving the USB Pen Drive inserted. With the subsequent restart, the upgrade of the two microprocessors (master and slave) begins with the file image.hex.

The correct recognition of each file by the machine is signalled by a buzzer (200ms ON).

*Pen Drive operating LED status: flashing (running).*



**4**

At the end of the slave CPU update, programming of the master CPU begins. For the entire duration of this phase, the buzzer sounds intermittently (200ms ON).


*Pen Drive operating LED status during the update: flashing (running).*

The update of the CPU board lasts few minutes and ends when the buzzer emits prolonged intermittent signals (2sec ON / 10sec OFF).

*Pen Drive operating LED status when update is completed: on (not running).*

**5**

The 3.6 boot the key can be left inserted and it continues to automatically update the displays as well.



**6**

Insert the USB Pen Drive; the copying of the 2 DISPLAY update files begins E71.ppf tft\_fw.ppf





**7** In the next step, the display update begins. The screen shown is displayed on all of the machine's touch screens.

**8** When the status indicator reaches 100% the update is complete and the machine restarts automatically. The following message appears when restarting:

Remove the USB Pen Drive.

**9** Enter the standard information, update the machine data and reactivate the resistance.

### DISPLAY CALIBRATION

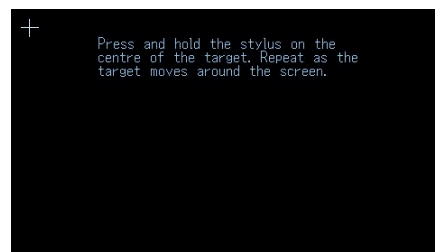
The calibration procedure can be performed at any time by starting the machine with Dip 3 ON.

The following message appears on all the displays when turned on:

Using a pen hold down the centre of the cross; repeat the operation in all the points where the cross appears.

Perform the calibration on all the displays or only on those where it is required.

At the end of the operation, turn off the machine and return the Dip 3 to OFF.



### Lights

**1**

Press the icon

**2**

This menu allows adjustment of the machine lights. Specifically:

- rear panel
- groups light

Set the values using the "+" and "-" keys. The changes will be applied after the data entered is confirmed with the key .

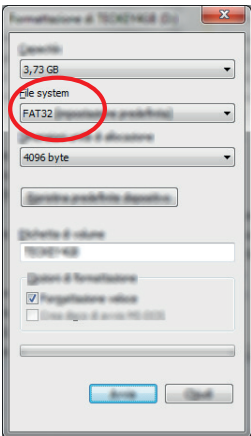
**1**

**PRELIMINARY OPERATIONS**

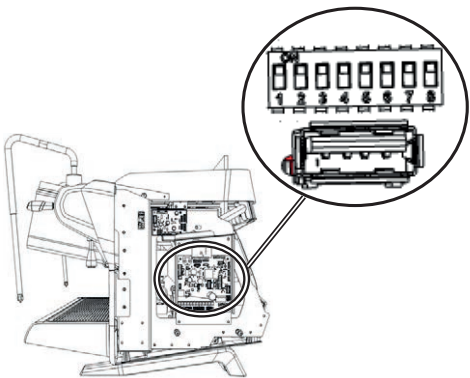
Format a USB drive using the FAT32 format. If using Windows, use the predefined formatting settings as shown in the image.

Copy the update files ( E71EGApp.hex) onto the USB drive's main path.


**NOTE:** Do not turn off the machine or remove the USB Drive until the update has been completed. If using a USB drive with an operating LED, it will flash when the update is complete.



**2** With the machine on, insert the USB drive containing the software update to be uploaded onto the machine.

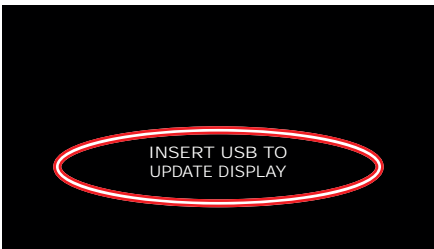


**3** When the following message appears, support files have been identified:



Switch off the machine and remove the USB Drive.

**4** Turn the machine on again:




With the machine on, insert the USB drive containing the update files into the USB port.

**5** The next step starts the update process.




**6**



Do not turn the machine off during the update!

**7** When the update is complete, the display automatically restarts, and the following screen appears:

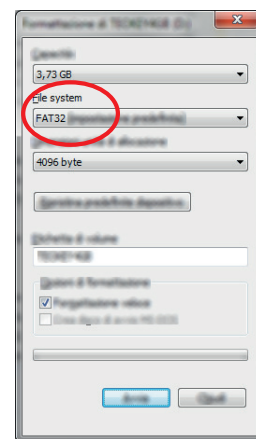


Remove the USB drive.

1

**PRELIMINARY OPERATIONS**

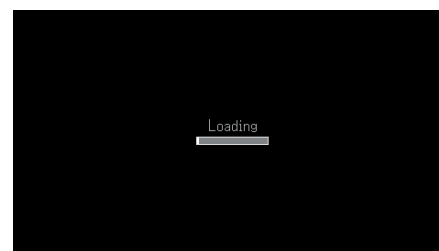
Format a USB Pen Drive using the **FAT32** format. If using Windows, use the predefined formatting settings as shown in the image.  
Copy the recovery files (E71\_Recovery; *only for E71: E71SOS.ppf*) in the main path of the USB Pen Drive.



2

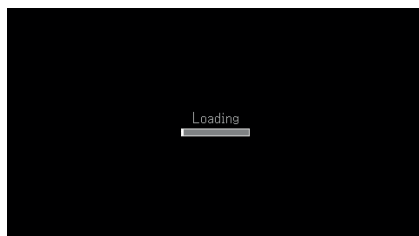
**START-UP WITH RECOVERY FILES**

Switch off the machine and insert the USB Pen Drive.  
Turn the machine on again: when it restarts, recovery will begin.  
The start of the procedure is indicated through an intermittent beep. During the update, the machine will beep at regular intervals.



3

The following message is displayed on the machine's touch screen.



4

When the update is complete, the services display automatically restarts and the following message appears:



Remove the USB Pen Drive.

5

Enter the standard data, update the machine data and reactivate the heating element, if necessary.



The display-test procedure can be performed at any time by starting the machine with Dip 5 ON.

Ensure that the information on the display is green, with no pressure on the screen.

### Service display.



if the information is red, check for any undesired pressure on the edge of the screen.

### Service display.



At the end of the operation, turn off the machine and return the Dip 5 to OFF.

## 12. Diagnostic messages

MALFUN. CODE	DESCRIPTION	POSSIBLE CAUSES	VERIFICATIONS and SOLUTIONS
020	<b>USB power-supply malfunction.</b>	<ul style="list-style-type: none"> <li>• USB-port current-consumption too high.</li> </ul>	<ul style="list-style-type: none"> <li>• Check the status of the USB port and its connections in order to identify possible causes of excessive consumption (e.g. short-circuit).</li> <li>• Once the cause of the malfunction is fixed the USB port should restore itself automatically and return to normal operation.</li> <li>• If the problem persists, replace the CPU board.</li> </ul>
(x)21*	<b>Group boiler pressure sensor x out of range (x = 1, 2, 3, 4)</b> Note: Group 1 is to the far left.	<ul style="list-style-type: none"> <li>• Sensor failure</li> <li>• Card failure.</li> </ul>	<ul style="list-style-type: none"> <li>• Check cabling</li> <li>• Replace the sensor</li> <li>• Replace the card.</li> </ul>
023	<b>AC 24V power supply malfunction.</b>	<ul style="list-style-type: none"> <li>• The glass fuse on the CPU board is likely broken.</li> </ul>	<ul style="list-style-type: none"> <li>• Replace the fuse.</li> </ul>
024	<b>Clock malfunction.</b>	<ul style="list-style-type: none"> <li>• Contacts oxidised.</li> <li>• Dead battery.</li> <li>• Clock blocked.</li> </ul>	<ul style="list-style-type: none"> <li>• Clean the contacts on the battery.</li> <li>• Measure the voltage of the battery (3 V DC) and, if necessary, replace it.</li> </ul> <p>If the battery is OK try, with the machine turned off, to remove it from the board and wait 2-3 minutes. Then reinsert the battery and check that the clock is working properly.</p>
025*	<b>No power: group, EV, milk pump</b>	<ul style="list-style-type: none"> <li>• Voltage drop in the power supply</li> </ul>	<ul style="list-style-type: none"> <li>• Check if CPU card has power.</li> <li>• Check power supply unit (protection)</li> <li>• Check cabling</li> </ul>
029 *	<b>LCD display not connected (applies only to machines other than Emblem R and M100).</b>	<ul style="list-style-type: none"> <li>• Break in cabling.</li> <li>• Display fault.</li> </ul>	<ul style="list-style-type: none"> <li>• Check cabling.</li> </ul>
030	<b>Slave micro processor malfunction.</b>		<ul style="list-style-type: none"> <li>• If the problem persists, replace the Newton board.</li> </ul>
041*	<b>Milk pump motor overcurrent</b>	<ul style="list-style-type: none"> <li>• Consequence of applied force</li> <li>• Rotor blocked</li> <li>• Pump motor faulty</li> </ul>	<ul style="list-style-type: none"> <li>• Check wiring.</li> <li>• Check whether the circuit or pump is clogged.</li> <li>• Replace the pump.</li> </ul>
051	<b>Temperature sensor signal out of range.</b>	<ul style="list-style-type: none"> <li>• Sensor failure</li> <li>• Card failure.</li> </ul>	<ul style="list-style-type: none"> <li>• Check cabling</li> <li>• Replace the sensor</li> <li>• Replace the card.</li> </ul>
(x)51*	<b>Group boiler temperature sensor x out of range (x = 1, 2, 3, 4)</b> Note: Group 1 is to the far left.	<ul style="list-style-type: none"> <li>• Thermocouple disconnected</li> <li>• Sensor failure.</li> </ul>	<ul style="list-style-type: none"> <li>• Check cabling</li> <li>• Replace the sensor.</li> </ul>
052	<b>Boiler heating timeout - 45 minutes.</b>	<ul style="list-style-type: none"> <li>• The safety thermocouple has been triggered</li> <li>• The resistance is interrupted (cabling defect)</li> <li>• The Triac card is malfunctioning.</li> </ul>	<ul style="list-style-type: none"> <li>• Check if the safety thermostat has been triggered, and reset it if necessary</li> <li>• Check if there are interruptions or detached fastons on the cabling</li> <li>• Check that the boiler resistance is not interrupted and replace it if necessary</li> <li>• Replace the Triac card.</li> </ul>

MALFUN CODE	DESCRIPTION	POSSIBLE CAUSES	VERIFICATIONS and SOLUTIONS
(x)52*	<b>Group x boiler heating timeout - 20 minutes (x = 1, 2, 3, 4)</b> Note: Group 1 is to the far left.	<ul style="list-style-type: none"> <li>The group x boiler safety thermostat has been triggered</li> <li>The resistance is interrupted (cabling defect).</li> <li>Triac board fault.</li> </ul>	<ul style="list-style-type: none"> <li>Check if the safety thermostat of the group x boiler has been triggered, and reset it if necessary</li> <li>Check if there are interruptions or detached fastons on the cabling</li> <li>Check that the group x boiler resistance is not interrupted and replace it if necessary</li> <li>Replace Triac board.</li> </ul>
(x) 53*	<b>Steam thermocouple out of range.</b>  <b>DX &gt; 053; SX &gt; 153</b>	<ul style="list-style-type: none"> <li>Thermocuple disconnected</li> <li>Wrong configuration during standard data insertion.</li> </ul>	<ul style="list-style-type: none"> <li>Enter in the programming mode and insert the correct standard data..</li> <li>Check connections.</li> <li>Replace the steam temperature probe.</li> </ul>
058	<b>Boiler overpressure alarm.</b>	<ul style="list-style-type: none"> <li>Resistanc alwayspowered.</li> <li>Temperature sensor out of range.</li> </ul>	<ul style="list-style-type: none"> <li>Check cabling</li> <li>Replace the sensor.</li> </ul>
059	<b>Boiler: Refill timeout - 15 minutes.</b>	<ul style="list-style-type: none"> <li>No water</li> <li>Refill EV failure</li> <li>Wiring interrupted</li> <li>Card failure.</li> </ul>	<ul style="list-style-type: none"> <li>Check water is supplied from the main line.</li> <li>Replace the refill EV.</li> <li>Check cabling.</li> <li>Replace the card.</li> </ul>
060	<b>Boiler-level signal errors.</b>	<ul style="list-style-type: none"> <li>Electrical fault.</li> <li>Leakage to earth.</li> </ul>	<ul style="list-style-type: none"> <li>Check wiring.</li> <li>Check, by activating the components individually on the manual control panel, that the level signal does not show any anomalies (%).</li> </ul>
062	<b>Coffees dispensed for MM1 with flow under the limit (3 consecutive coffees dispensed).</b>	<ul style="list-style-type: none"> <li>coffee filter blocked</li> <li>coffee type changed</li> <li>qref calibration wrong</li> <li>grind too fine, excessive dose ground.</li> </ul>	<ul style="list-style-type: none"> <li>wash the group</li> <li>clean/replace the coffee filter</li> <li>use a coarser grind</li> <li>calibrate the machine correctly on the basis of the coffee/recipe.</li> </ul>
063	<b>Coffees dispensed referred to MM1 with flow over the limit (3 consecutive coffees dispensed).</b>	<ul style="list-style-type: none"> <li>coffee type changed</li> <li>qref calibration wrong</li> <li>grinding too coarse</li> <li>grinder/dispenser blocked, insufficient dose of ground coffee.</li> </ul>	<ul style="list-style-type: none"> <li>check that there are no external elements in the grinders</li> <li>check that the measure grinder is working (pick-up current and fuses)</li> <li>use a finer grind</li> <li>calibrate the machine correctly on the basis of the coffee/recipe.</li> </ul>
064	<b>Coffees dispensed referred to MM2 with flow under the limit (3 consecutive coffees dispensed).</b>	<ul style="list-style-type: none"> <li>coffee filter blocked</li> <li>coffee type changed</li> <li>qref calibration wrong</li> <li>grind too fine, excessive dose ground.</li> </ul>	<ul style="list-style-type: none"> <li>wash the group</li> <li>clean/replace the coffee filter</li> <li>use a coarser grind</li> <li>calibrate the machine correctly on the basis of the coffee/recipe.</li> </ul>
065	<b>Coffees dispensed referred to MM2 with flow over the limit (3 consecutive coffees dispensed).</b>	<ul style="list-style-type: none"> <li>coffee type changed</li> <li>qref calibration wrong</li> <li>grinding too coarse</li> <li>grinder/dispenser blocked, insufficient dose of ground coffee.</li> </ul>	<ul style="list-style-type: none"> <li>check that there are no external elements in the grinders</li> <li>check that the measure grinder is working (pick-up current and fuses)</li> <li>use a finer grind</li> <li>calibrate the machine correctly on the basis of the coffee/recipe.</li> </ul>



MALFUN CODE	DESCRIPTION	POSSIBLE CAUSES	VERIFICATIONS and SOLUTIONS
(x)66	<b>Error in the group that is dispensing.</b> (x = 1, 2, 3, 4) Note: Group 1 is to the far left.		<ul style="list-style-type: none"> <li>• Check water is supplied from the main line.</li> <li>• Check there are no fitting obstructions or leakage.</li> <li>• Check flowmeter electrical connections.</li> <li>• Replace the broken flowmeter.</li> <li>• Replace the broken board.</li> </ul>
(x)70	<b>Measure-grinder adjustment: Bluetooth set up by the technician.</b> (x = 1, 2) MM1 > 170; MM2 > 270		Event only archived and not displayed on the display during normal machine operation.
082	<b>Temporary communication problem with the keyboards/ TFT display.</b>		<ul style="list-style-type: none"> <li>• Check the insulation.</li> <li>• Check the wiring and connections.</li> </ul>
083	<b>Services key communication error.</b>	<ul style="list-style-type: none"> <li>• Incorrect keyboard configuration (if applicable).</li> <li>• Wiring interrupted</li> <li>• Card failure.</li> </ul>	<ul style="list-style-type: none"> <li>• Check that the dip switches are correctly configured on the key board (if applicable).</li> <li>• Check cabling</li> <li>• Replace key board.</li> </ul>
(x)83*	<b>Group x (x = 1, 2, 3, 4) keypad communication error</b> Note: Group 1 is to the far left.	<ul style="list-style-type: none"> <li>• Incorrect keyboard configuration (if applicable).</li> <li>• Wiring interrupted</li> <li>• Card failure.</li> </ul>	<ul style="list-style-type: none"> <li>• Check that the dip switches are correctly configured on the key board (if applicable).</li> <li>• Check cabling</li> <li>• Replace key board.</li> </ul>
(x)85*	<b>Bluetooth communication error (x = 1, 2)</b> MM1 > 185; MM2 > 285	<ul style="list-style-type: none"> <li>• Incorrect association with measure grinder.</li> <li>• Measure grinder turned off.</li> </ul>	<ul style="list-style-type: none"> <li>• Turn on the grinder.</li> <li>• Repeat device association.</li> </ul>
089	<b>NVM RAM data integrity error</b>	<ul style="list-style-type: none"> <li>• Incorrect association with measure grinder.</li> <li>• Measure grinder turned off.</li> </ul>	Turn the machine off and on again. If the error persists, replace the CPU board. Check the condition of the clock battery.
091*	<b>No tank during milk washing cycle</b>	Data integrity error in non-volatile RAM memory of the CPU board.	<ul style="list-style-type: none"> <li>• Check the correct operation of the tank presence sensor on the manual control panel.</li> <li>• Check the wiring.</li> </ul>
092	<b>Request water softener resin regeneration.</b>	<ul style="list-style-type: none"> <li>• Removal of tank during the wash.</li> <li>• Tank presence sensor faulty.</li> </ul>	<ul style="list-style-type: none"> <li>• Softener maintenance.</li> </ul>
093	<b>Request replacement water filter.</b>		<ul style="list-style-type: none"> <li>• Replace the water-softner filter.</li> </ul>
096	<b>Maintenance needed.</b>		<ul style="list-style-type: none"> <li>• The machine has displayed the message to warn the user that maintenance must be performed. Carry out maintenance operations.</li> </ul>

MALFUN CODE	DESCRIPTION	POSSIBLE CAUSES	VERIFICATIONS and SOLUTIONS
097*	Reset standard password.	<ul style="list-style-type: none"> <li>Action desired by the user by entering the special code (applicable only for machines with TFT display).</li> </ul>	
098	Historical malfunctions and wash 1 reset.	<ul style="list-style-type: none"> <li>Initialisation malfunction history (and washing history for machines without TFT display)</li> </ul>	<ul style="list-style-type: none"> <li>Event only archived and not displayed on the display during normal machine operation.</li> </ul>
099	Default data input.		
105	SD card communication malfunction.	<ul style="list-style-type: none"> <li>SD card corrupted or malfunction.</li> </ul>	<ul style="list-style-type: none"> <li>Replace SD card.</li> </ul>
282	Keypad reset operation carried out by CPU board due to repeated communication problems.		<ul style="list-style-type: none"> <li>Check the insulation.</li> <li>Check the wiring and connections.</li> </ul>
583	TS/AS keyboard board communication error. RGB light module failure only for Emblem R.	<ul style="list-style-type: none"> <li>Break in wiring.</li> <li>Keyboard board failure.</li> <li>Light board failure.</li> </ul>	<ul style="list-style-type: none"> <li>Check wiring.</li> <li>Replace keyboard board.</li> <li>Replace light board.</li> </ul>
683	Autosteam module communication malfunction.	<ul style="list-style-type: none"> <li>Break in wiring.</li> <li>Board failure.</li> </ul>	<ul style="list-style-type: none"> <li>Check wiring.</li> <li>Replace autosteam board.</li> </ul>

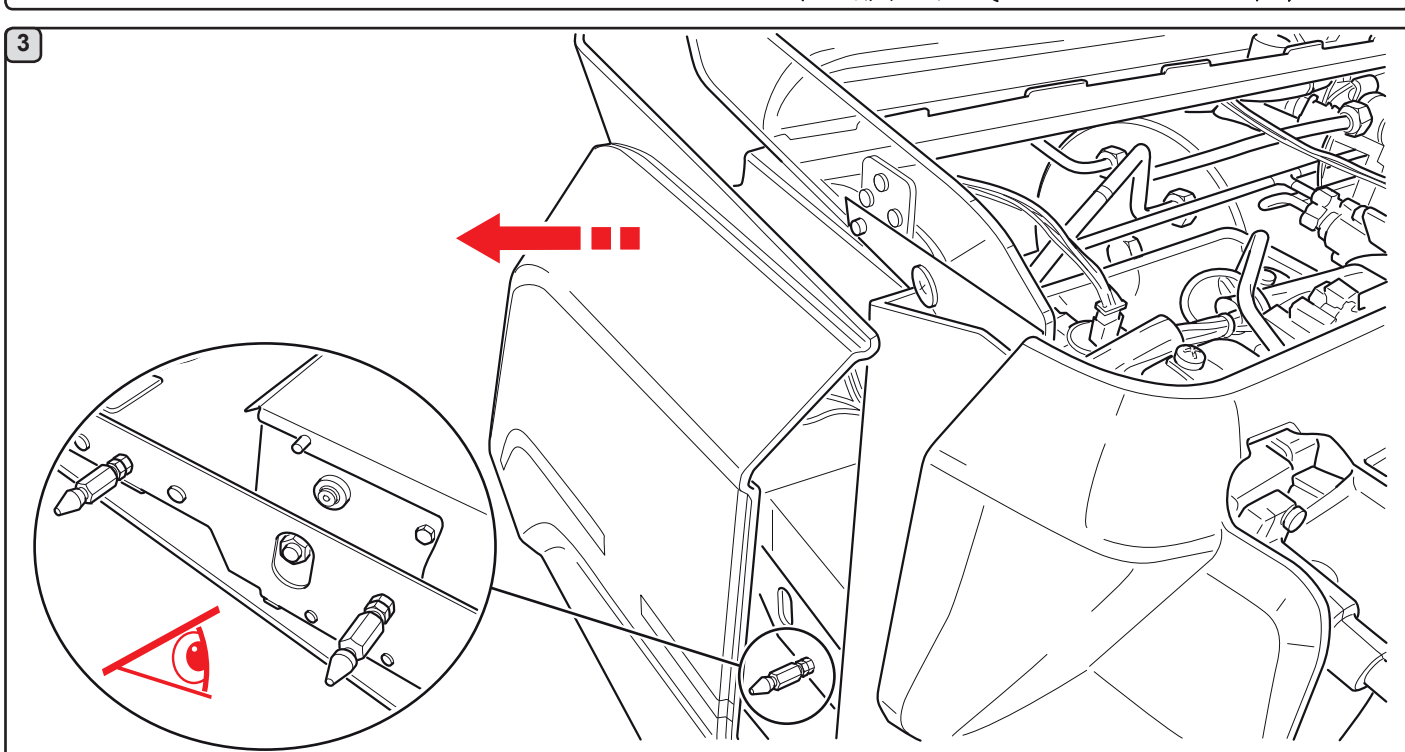
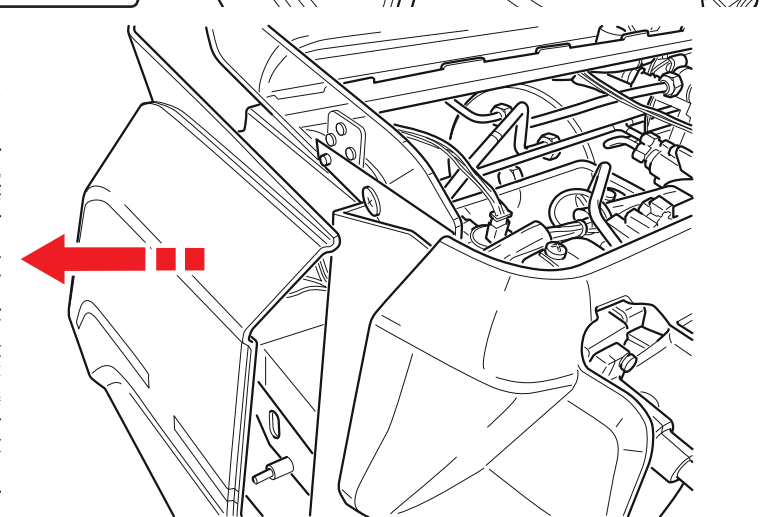
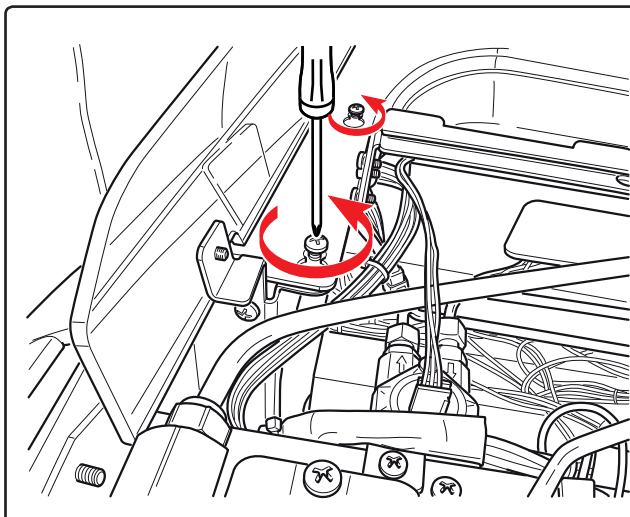
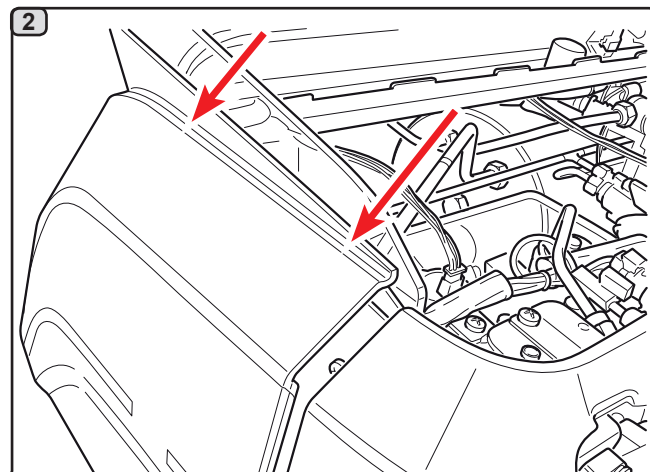
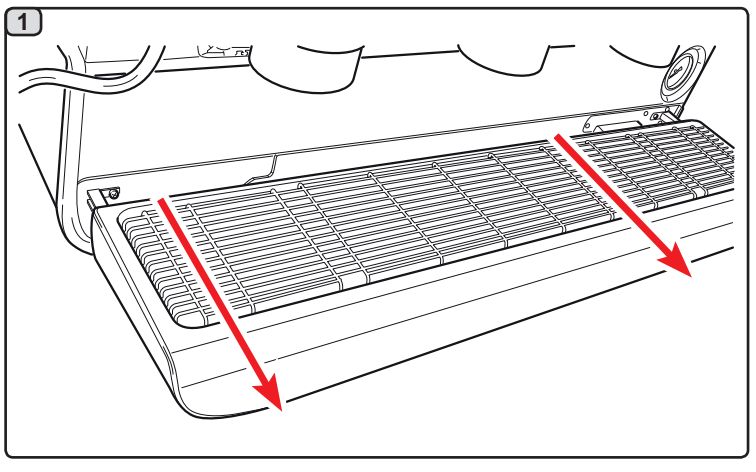
**Faults - \* - appear only in some product configurations.**

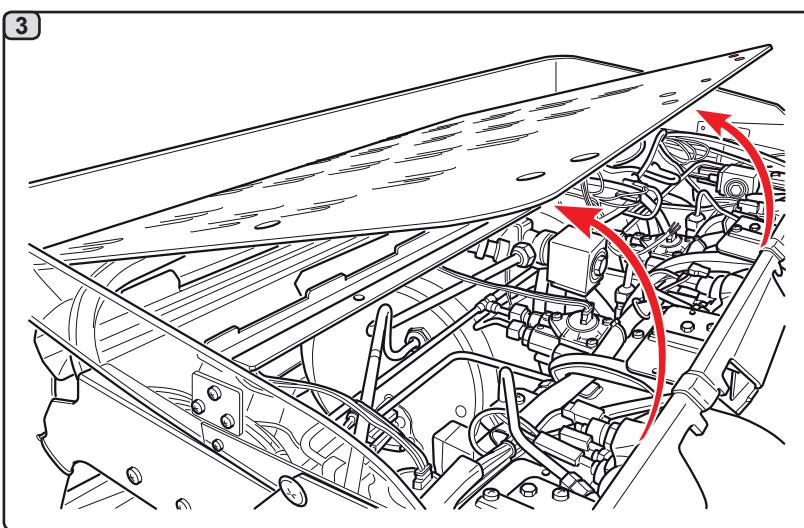
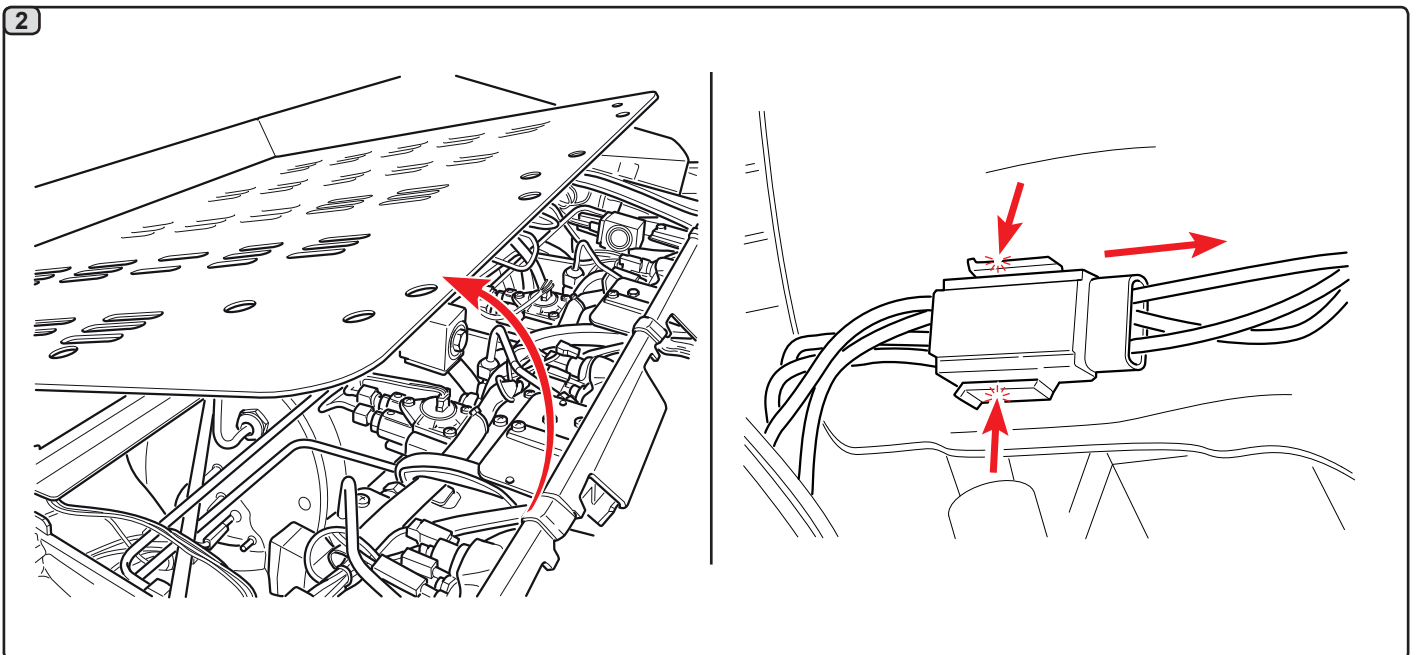
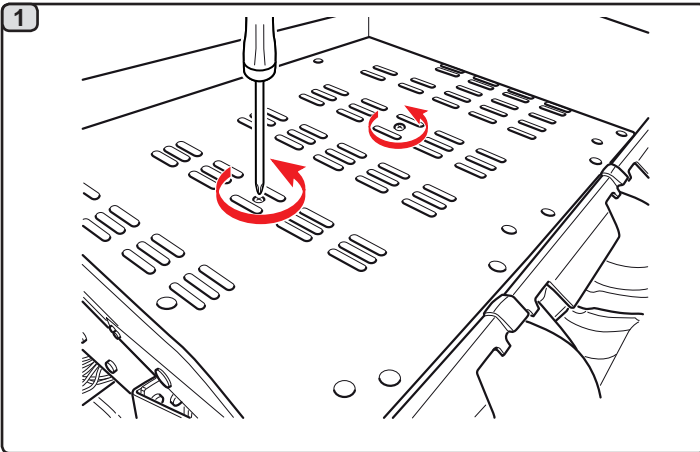
## DISASSEMBLY AND SETTING



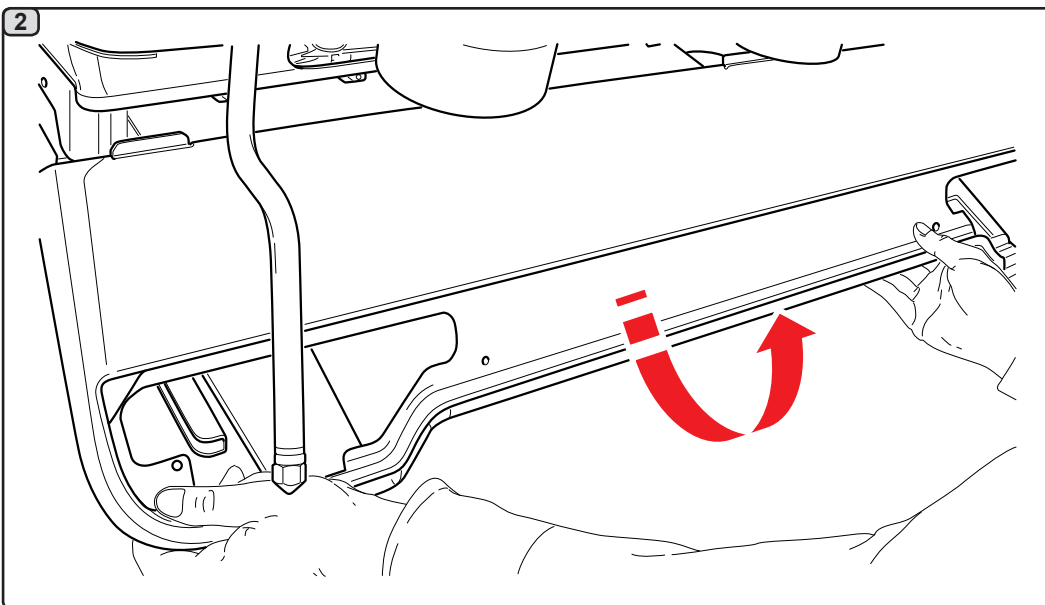
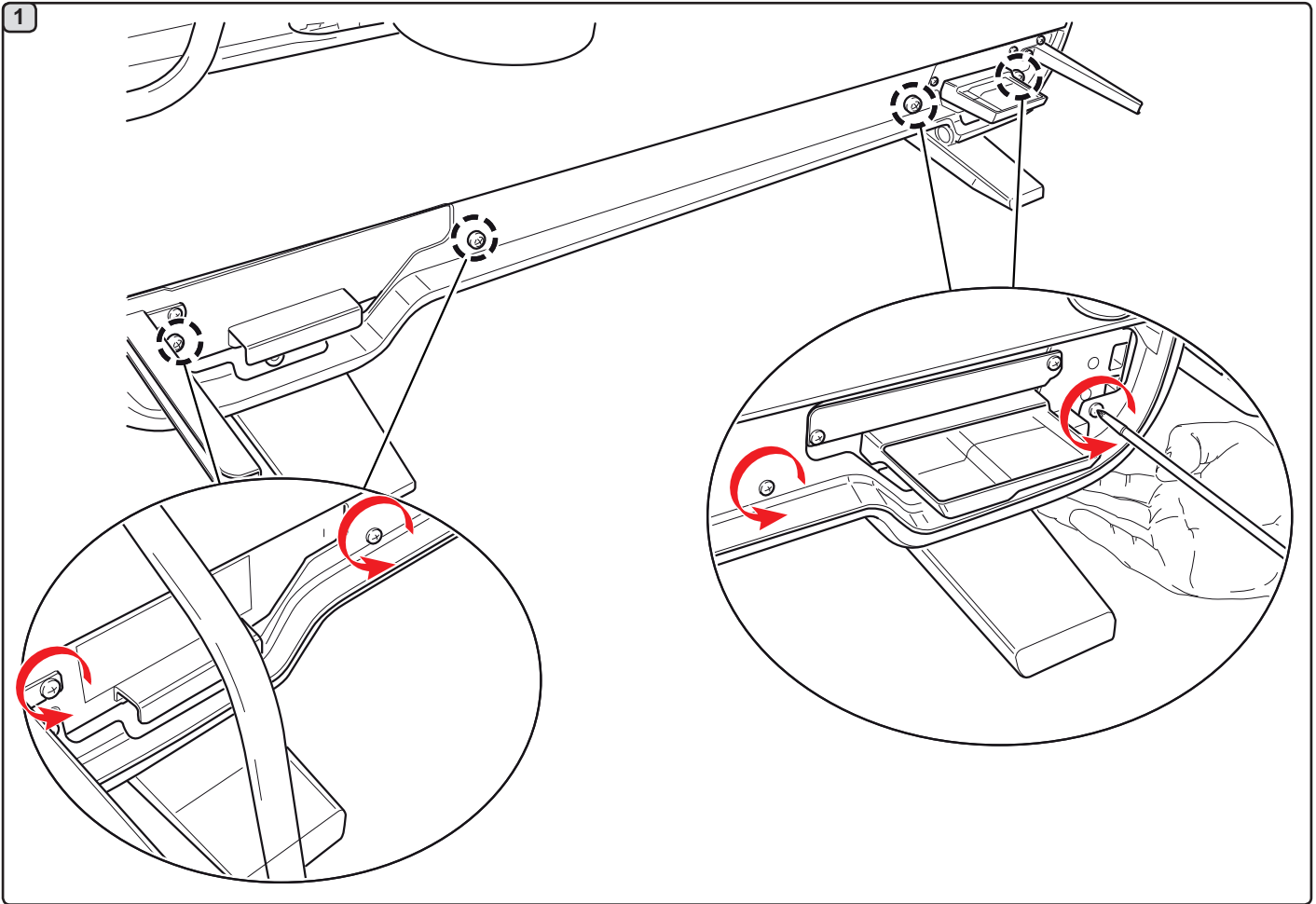
**ALL OPERATIONS MUST BE PERFORMED WITH THE MACHINE OFF AND COLD.  
TO ALWAYS USE THE NECESSARY SAFETY EQUIPMENT (SHOES/GLOVES).**

### 13. Removal of the side panels



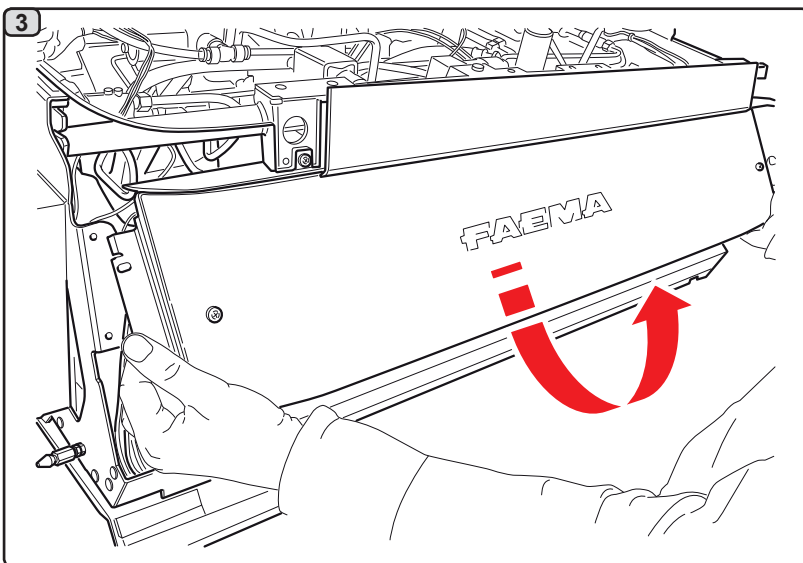
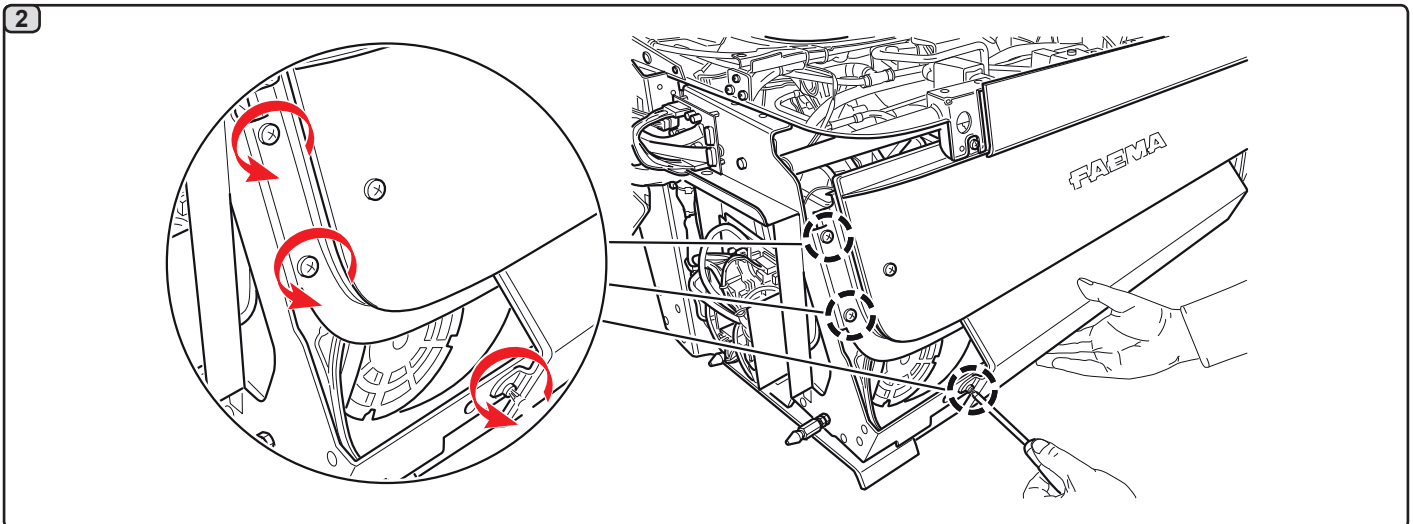
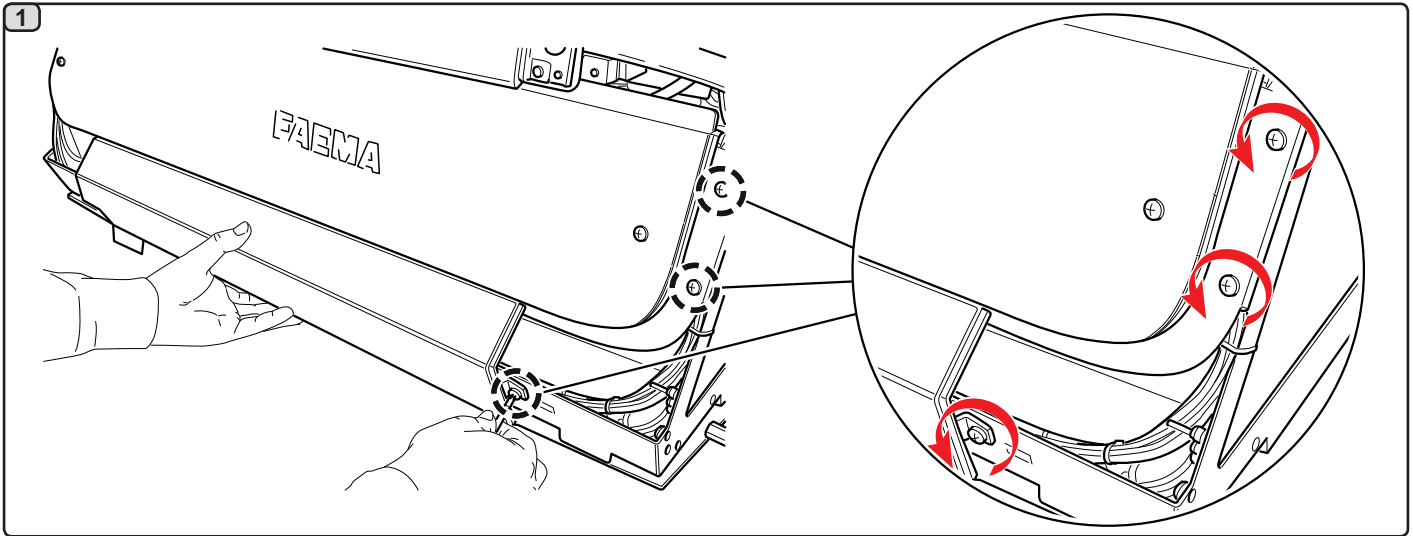
**14. Cup Warmer**

## 15. Stainless steel front panel



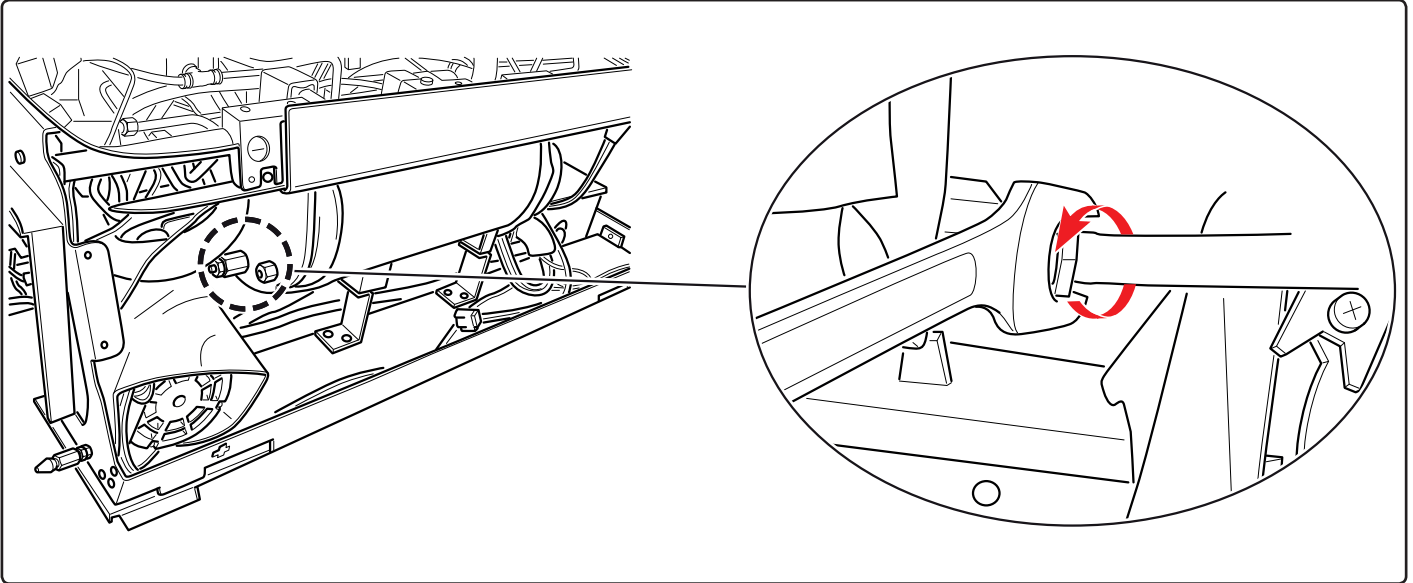
## 16. Rear panel

The back panel may be removed only after the cup warmer has been removed.



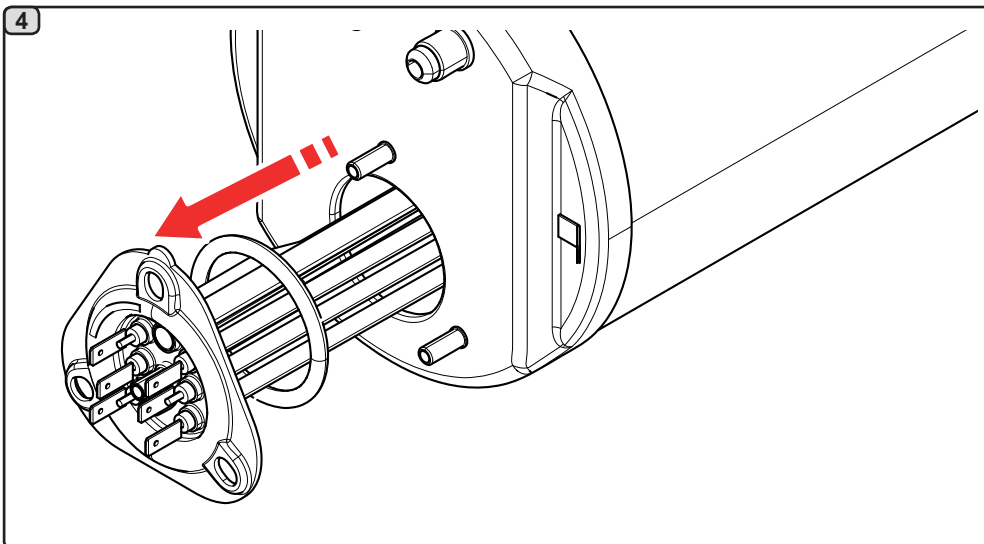
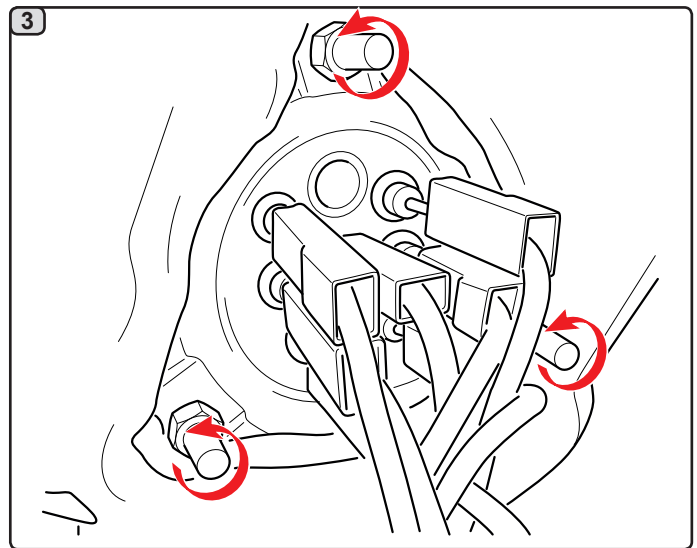
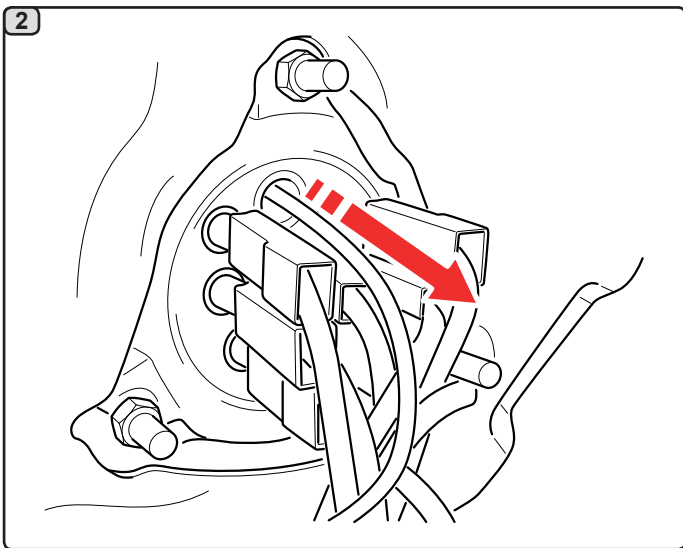
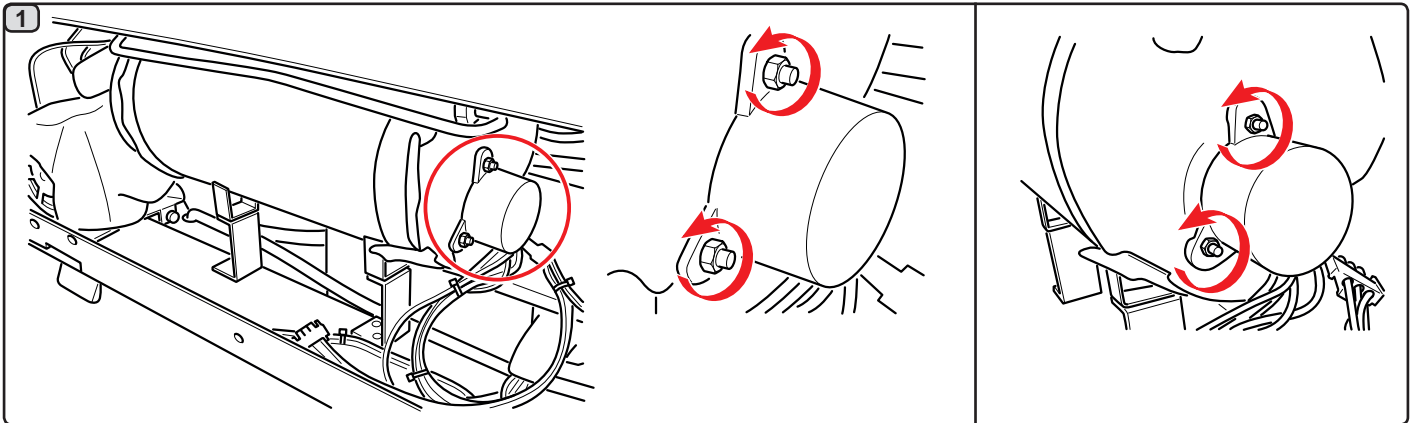


## 17. Draining the boiler water

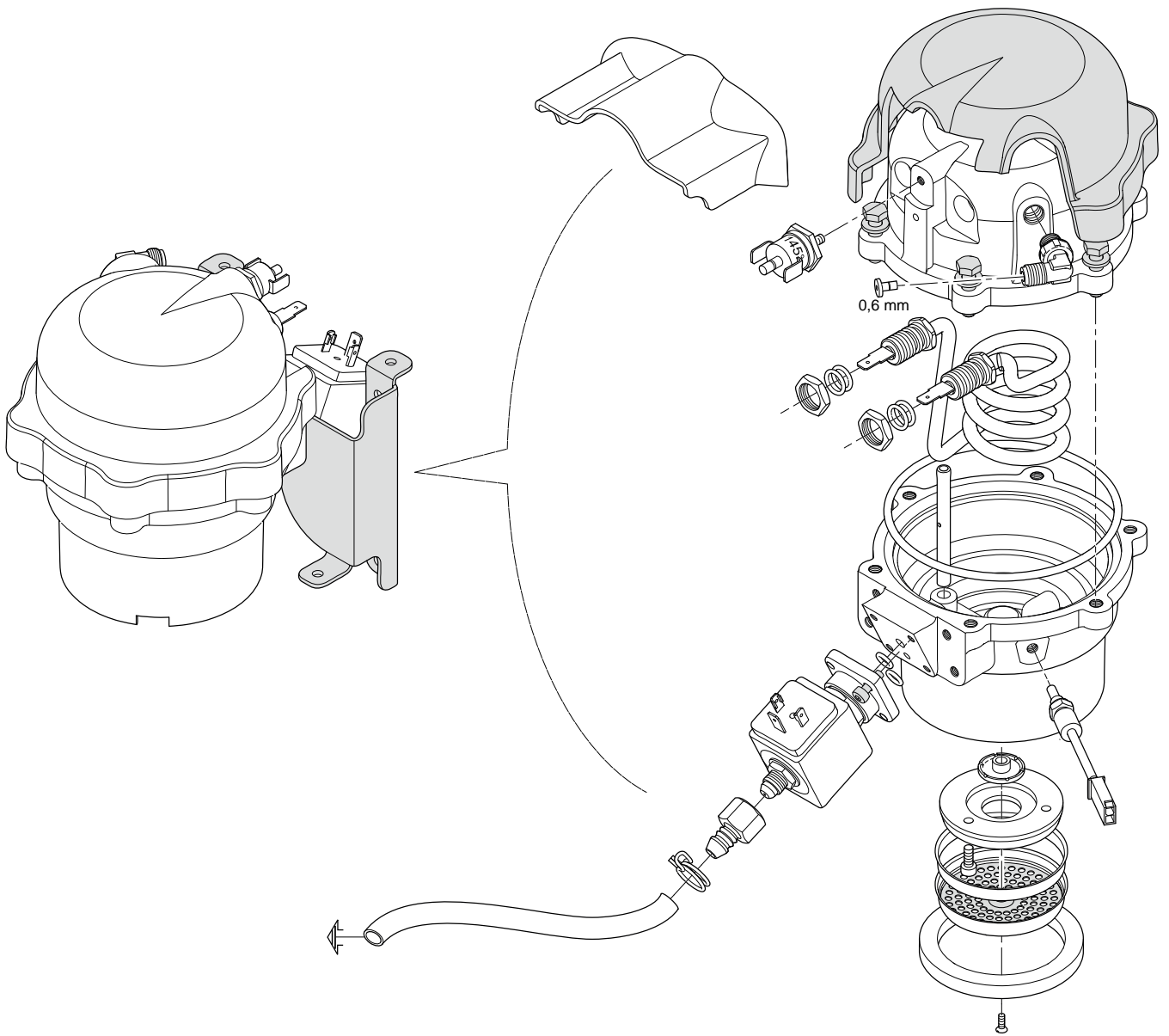


## 18. Removing the boiler heating element

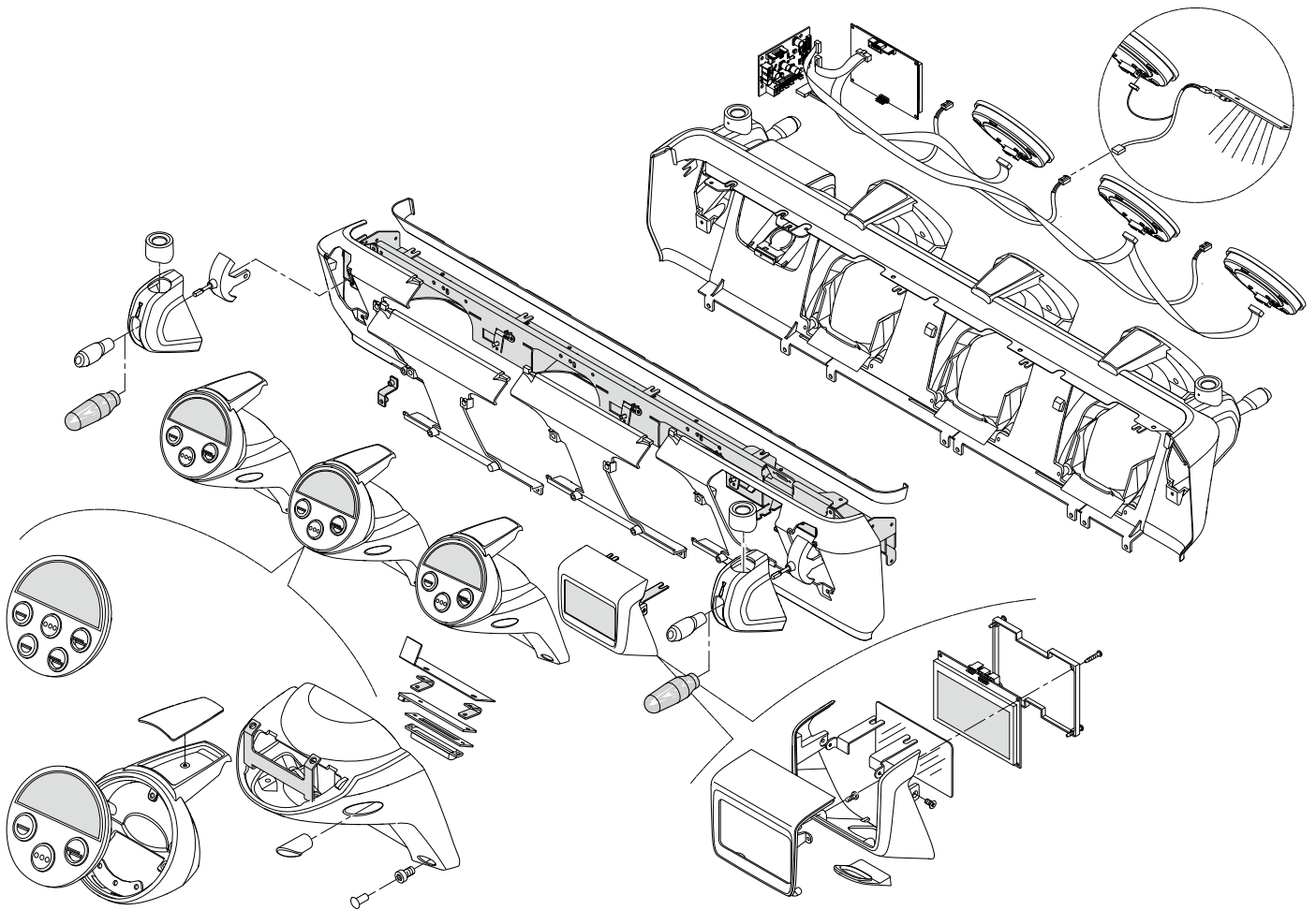
Remove the resistance only after emptying the boiler.



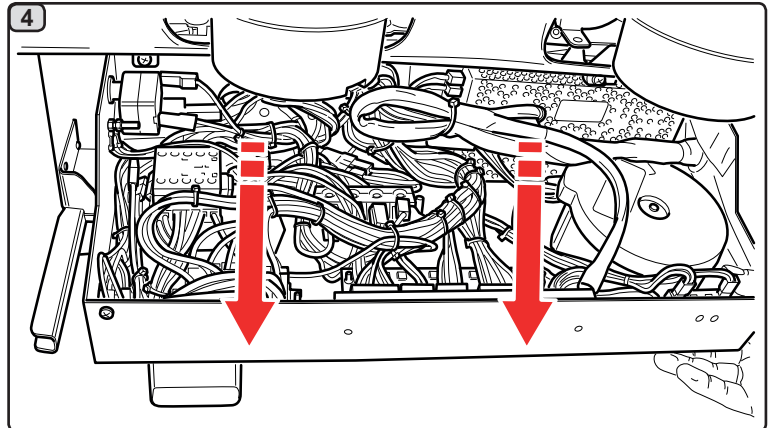
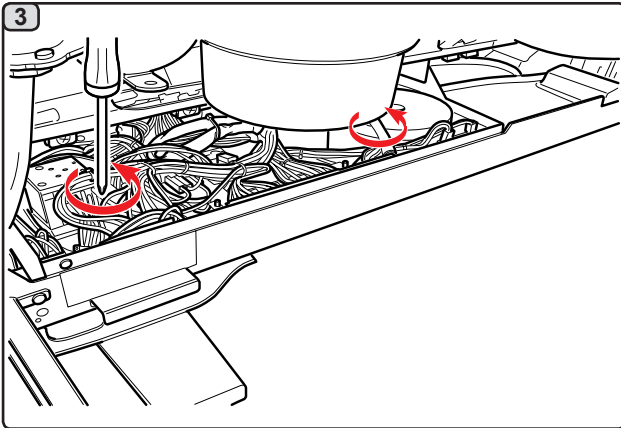
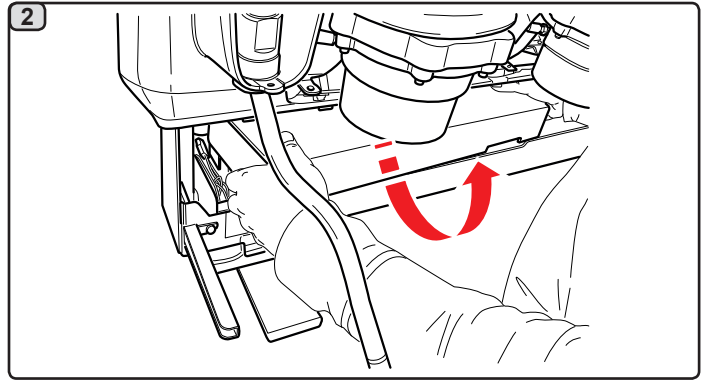
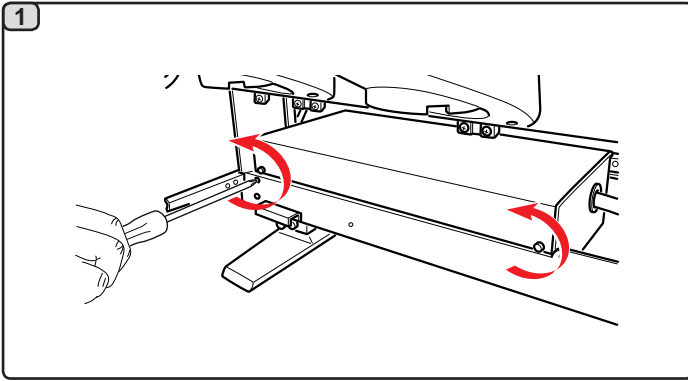
20. Coffee boiler



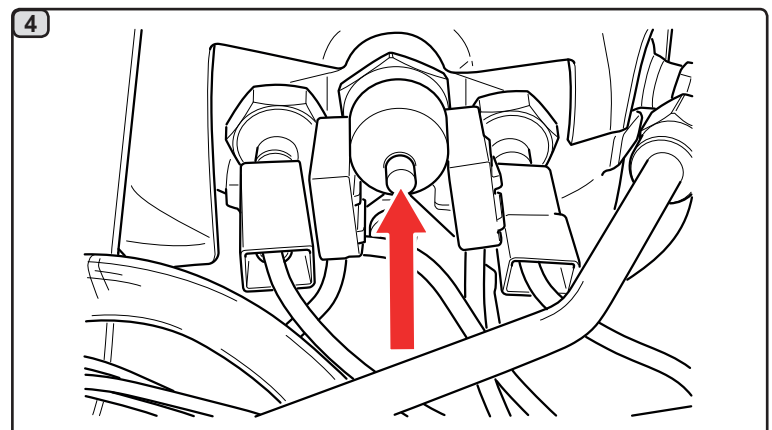
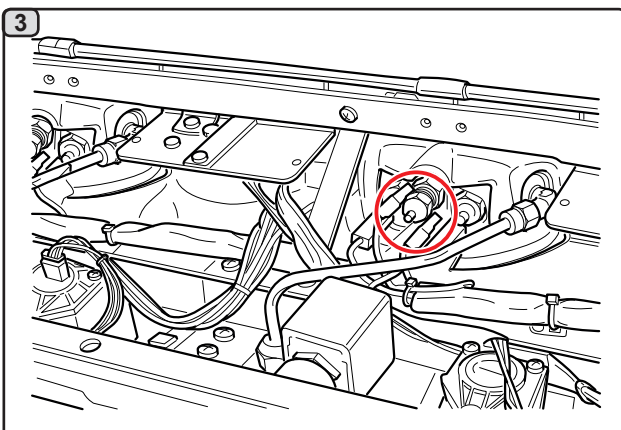
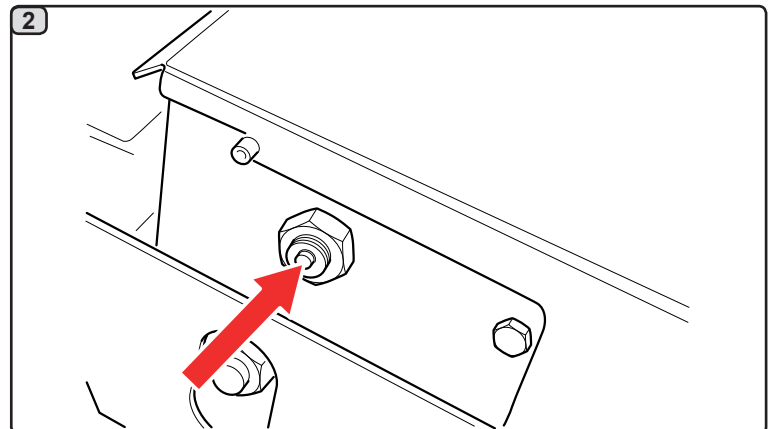
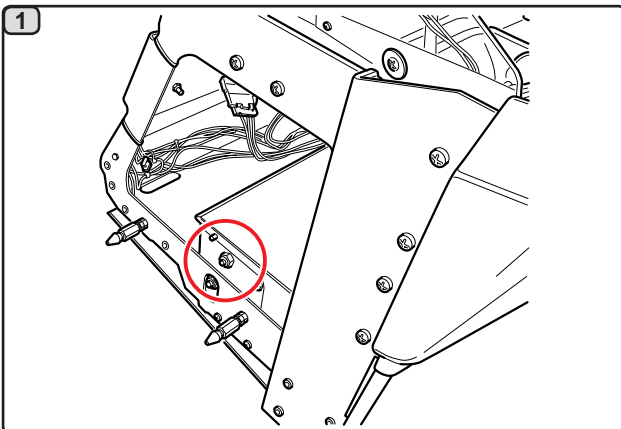
English

**21. display panel**

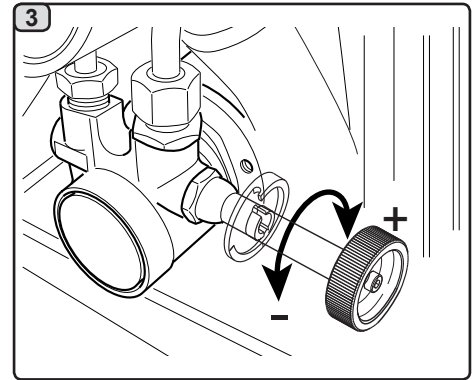
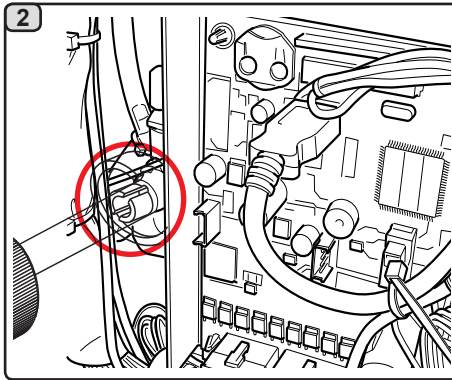
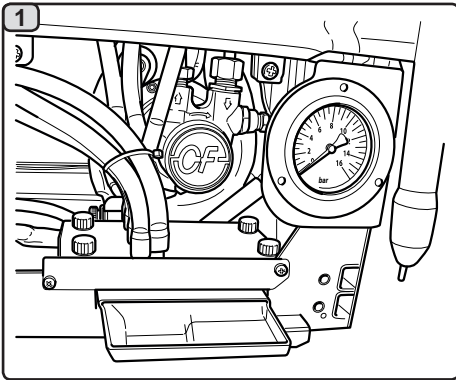
## 22. Junction Box



## 23. Safety thermostat



## 24. Peristaltic pump



## 25. CPU dip-switch

### CPU DIP-SWITCH

#### CAUTION!

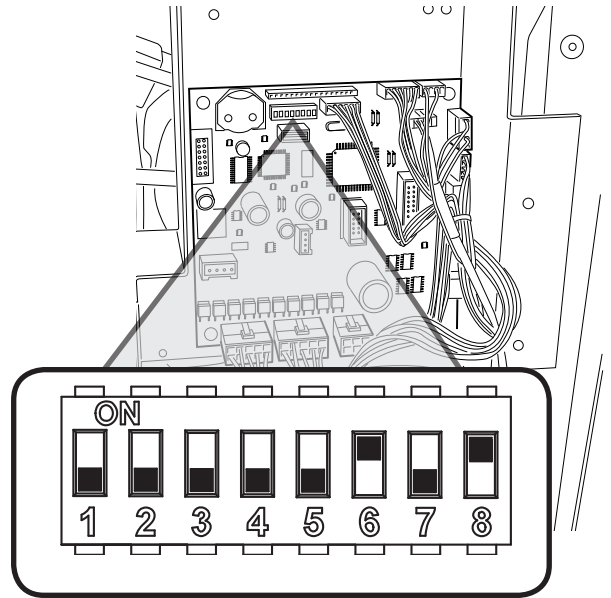
**When changing the position of the Dip-Switch, the machine MUST BE SWITCHED OFF.**

Under standard conditions, the dip-switches are positioned on OFF.

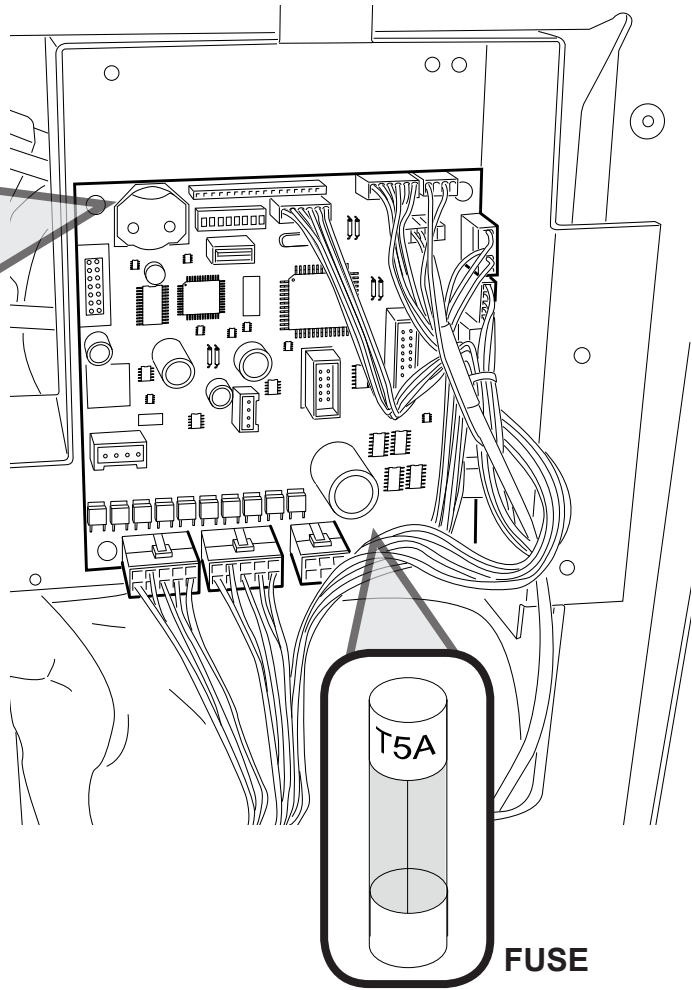
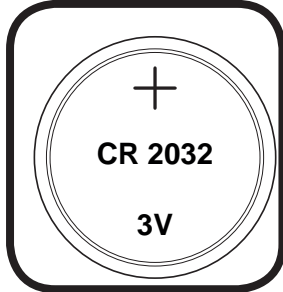
The dip-switches have the following functions:

- DIP 1 = OFF
- DIP 2 = OFF
- DIP 3 = OFF - ON calibration of the touch displays
- DIP 4 = OFF
- DIP 5 = OFF - ON touchscreen test
- DIP 6 = ON
- DIP 7 = OFF
- DIP 8 = ON

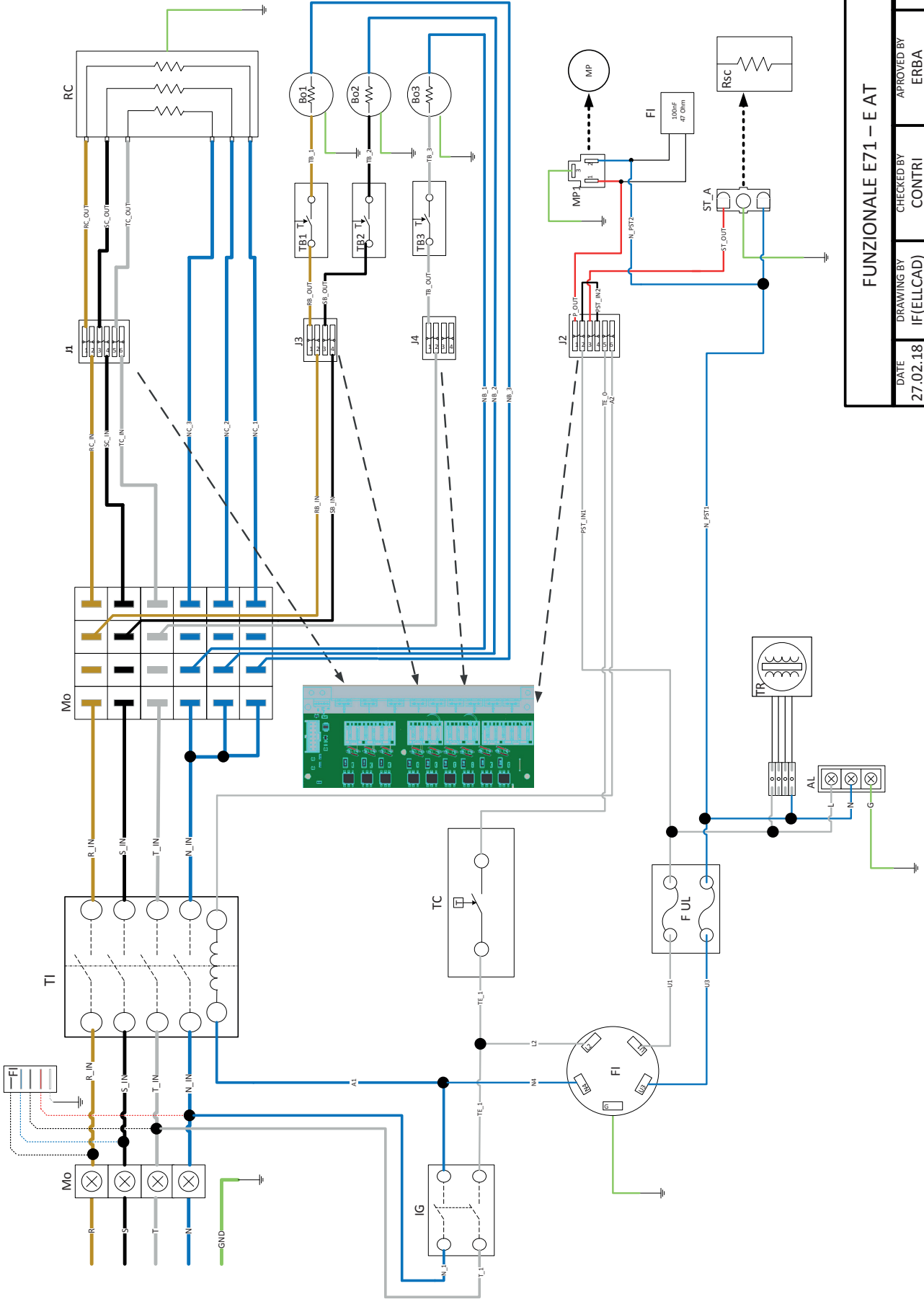
(\*) Upon completion of the standard data input operations, position DIP 1 to OFF again.





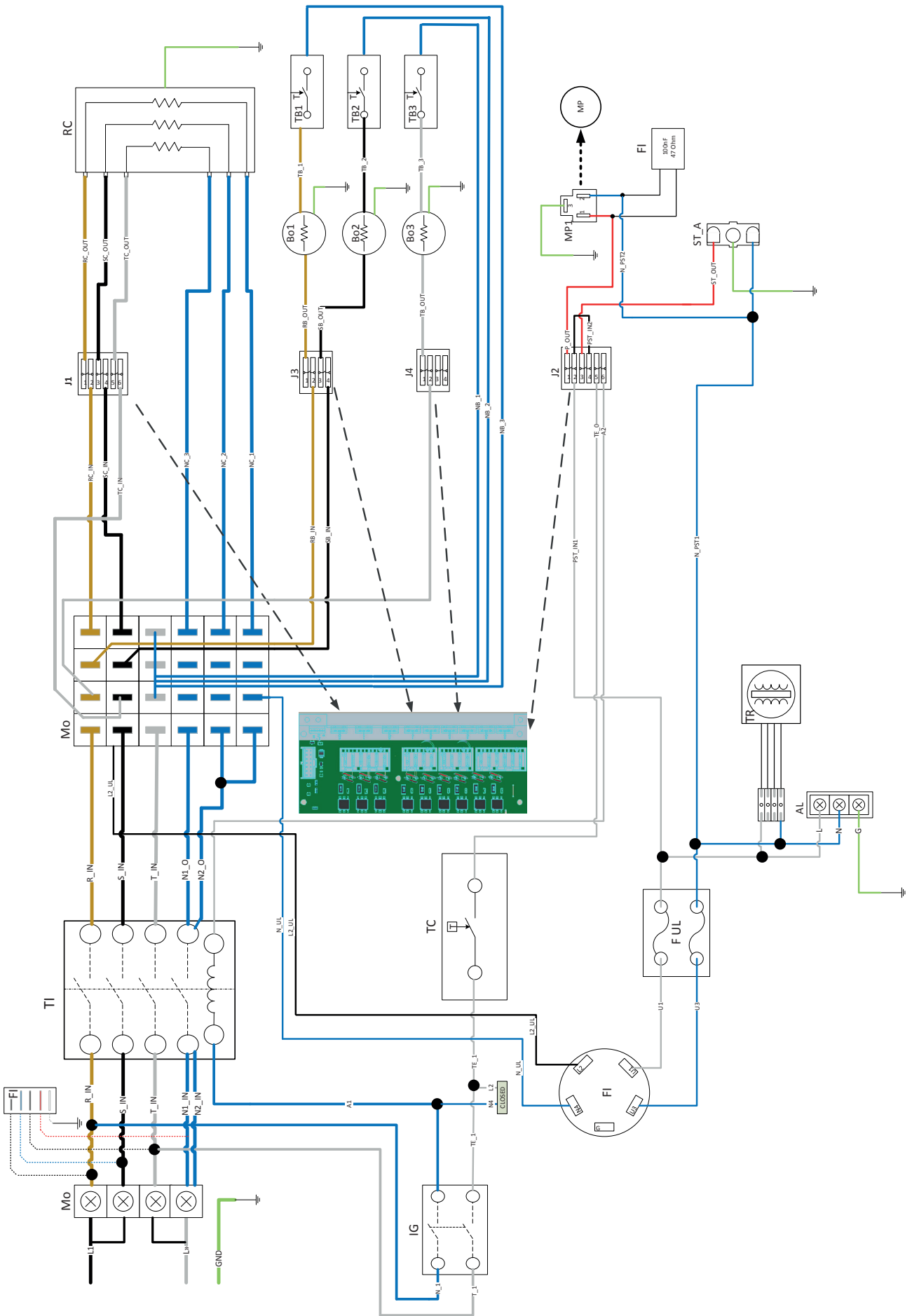
**BATTERY****FUSE**

WIRING DIAGRAM

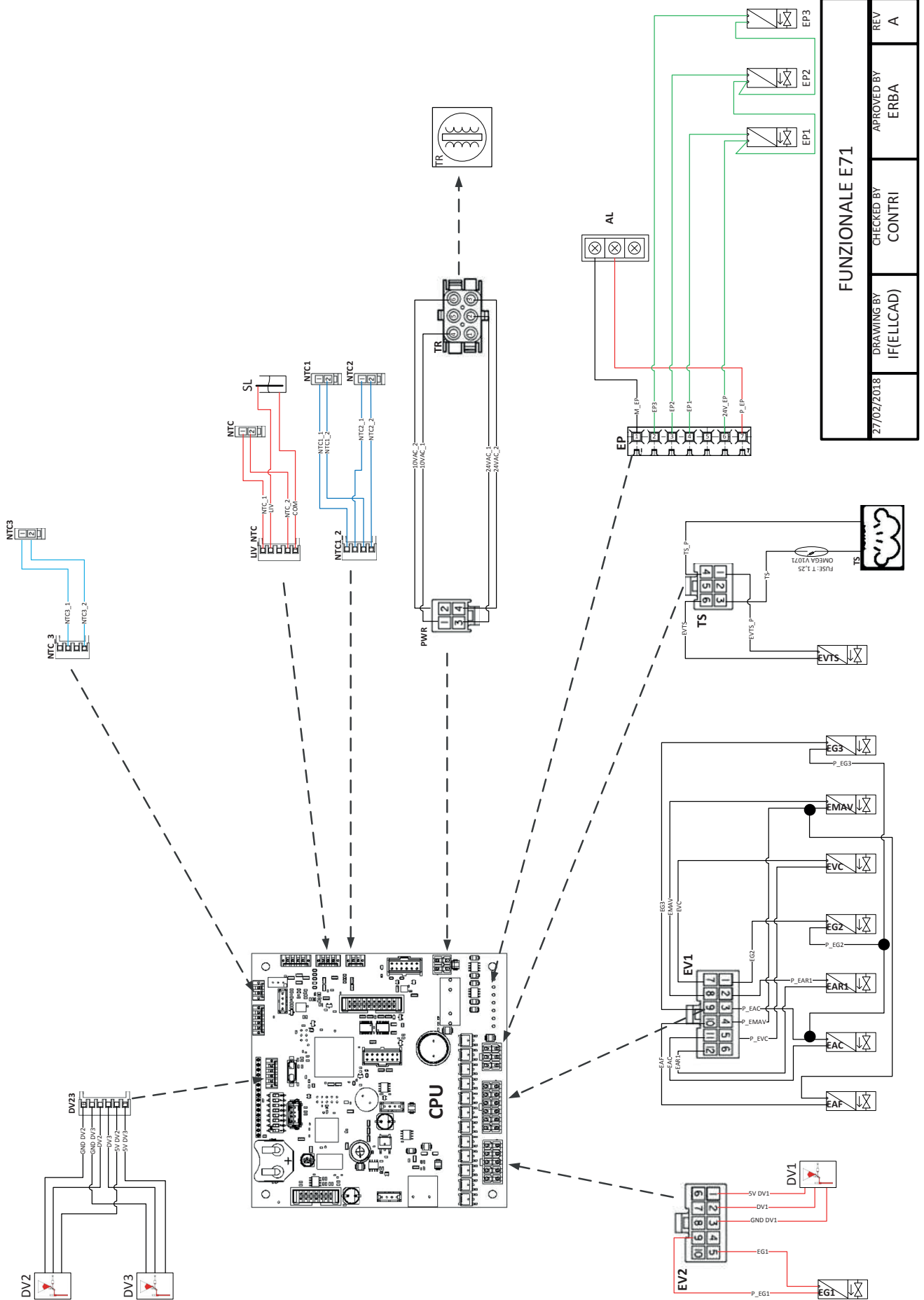


FUNZIONALE E71 - E AT			
DATE	DRAWING BY	CHECKED BY	APPROVED BY
27.02.18	IF(ELCAD)	CONTRI	ERBA
			REV
			A

# WIRING DIAGRAM



**WIRING DIAGRAM**



27/02/2018		DRAWING BY IF(ELCAD)		CHECKED BY CONTRI		APPROVED BY ERBA		REV A	
<b>FUNZIONALE E71</b>									



## WIRING DIAGRAM LEGEND

<b>AL</b>	=	Power supply
<b>Bo...</b>	=	Boiler
<b>DV..</b>	=	Flowmeter
<b>Fi</b>	=	Filter
<b>F UL</b>	=	Fuse
<b>IG</b>	=	Master switch
<b>Mo</b>	=	Clamp
<b>MP..</b>	=	Pump motor
<b>RC</b>	=	Service-boiler heating element
<b>Rsc</b>	=	Cup warmer heating element
<b>St</b>	=	Triac board
<b>TC</b>	=	Service-boiler safety thermostat
<b>TB...</b>	=	Coffee boiler safety thermostat
<b>TI</b>	=	Remote-control switch
<b>TR</b>	=	Transformer

## Connector list

<b>J1</b>	=	Keyboards
<b>J2</b>	=	Autosteam
<b>J3</b>	=	Power supply Led group
<b>J4</b>	=	Display power supply





**IT LEGENDA**

<b>Bo</b>	= Boiler
<b>Ca</b>	= Caldaia
<b>DV</b>	= Dosatore volumetrico
<b>Eac</b>	= Elettrovalvola acqua calda
<b>Eaf</b>	= Elettrovalvola acqua fredda
<b>Ein</b>	= Elettrovalvola pre-infusione
<b>Ev</b>	= Elettrovalvola vapore
<b>Evc</b>	= Elettrovalvola carico caldaia
<b>Fi</b>	= Filtro pompa
<b>G</b>	= Elettrovalvola caffè
<b>In</b>	= Iniettore
<b>Mix</b>	= Miscelatore acqua
<b>Mn</b>	= Manometro
<b>MP</b>	= Pompa volumetrica
<b>RV</b>	= Rubinetto vapore
<b>SL</b>	= Sonda livello caldaia
<b>SP</b>	= Sensore di pressione
<b>Va</b>	= Valvola antirisucchio
<b>Vs</b>	= Valvola di sicurezza caldaia

**EN LEGEND**

<b>Bo</b>	= Coffee boiler
<b>Ca</b>	= Boiler
<b>DV</b>	= Volumetric dispensing device
<b>Eac</b>	= Hot water solenoid valve
<b>Eaf</b>	= Cold water solenoid valve
<b>Ein</b>	= Pre-Infusion solenoid valve
<b>Ev</b>	= Steam solenoid valve
<b>Evc</b>	= Boiler supply solenoid valve
<b>Fi</b>	= Pump filter
<b>G</b>	= Coffee solenoid valve
<b>In</b>	= Nozzle
<b>Mix</b>	= Water mixer
<b>Mn</b>	= Pressure gauge
<b>MP</b>	= Volumetric pump
<b>RV</b>	= Steam tap
<b>SL</b>	= Boiler level probe
<b>SP</b>	= Pressure sensor
<b>Va</b>	= Anti-suction valve
<b>Vs</b>	= Boiler safety valve

**FR LÉGENDE**

<b>Bo</b>	= Chauffe-eau
<b>Ca</b>	= Chaudière
<b>DV</b>	= Doseur volumétrique
<b>Eac</b>	= Electrovanne eau chaude
<b>Eaf</b>	= Electrovanne eau froide
<b>Ein</b>	= Electrovanne pré-infusion
<b>Ev</b>	= Electrovanne de la vapeur
<b>Evc</b>	= Electrovanne de remplissage chaudière
<b>Fi</b>	= Filtre pompe
<b>G</b>	= Electrovanne du café
<b>In</b>	= Injecteur
<b>Mix</b>	= Mélangeur eau
<b>Mn</b>	= Manomètre
<b>MP</b>	= Pompe volumétrique
<b>RV</b>	= Robinet vapeur
<b>SL</b>	= Sonde de niveau de la chaudière
<b>SP</b>	= Détecteur de pression
<b>Va</b>	= Clapet fausse pression
<b>Vs</b>	= Soupape de sécurité chaudière

**DE LEGENDE**

<b>Bo</b>	= Boiler
<b>Ca</b>	= Kessel
<b>DV</b>	= volumetr. Dosiereinrichtung
<b>Eac</b>	= Heißwasser-Magnetventil
<b>Eaf</b>	= Magnetventil Kaltwasser
<b>Ein</b>	= Vorbrühen-Magnetventil
<b>Ev</b>	= Dampf-Magnetventil
<b>Evc</b>	= Wasserzugabe-Magnetventil
<b>Fi</b>	= Filter Pumpe
<b>G</b>	= Kaffee-Magnetventil
<b>In</b>	= Düse
<b>Mix</b>	= Wassermischer
<b>Mn</b>	= Manometer
<b>MP</b>	= Volumetrische Pumpe
<b>RV</b>	= Dampfhahn
<b>SL</b>	= Sonde-Kesselwasserniveau
<b>SP</b>	= Druckfühler
<b>Va</b>	= Rücksaugenschutzventil
<b>Vs</b>	= Heizkessel-Sicherheitsventil

**ES LEYENDA**

<b>Bo</b>	= Calentador eléctrico
<b>Ca</b>	= Caldera
<b>DV</b>	= Dosificador volumétrico
<b>Eac</b>	= Electroválvula agua caliente
<b>Eaf</b>	= Electroválvula agua fría
<b>Ein</b>	= Electroválvula preinfusión
<b>Ev</b>	= Electroválvula vapor
<b>Evc</b>	= Electroválvula de carga caldera
<b>Fi</b>	= Filtro pompa
<b>G</b>	= Electroválvula café
<b>In</b>	= Inyector
<b>Mix</b>	= Economizador
<b>Mn</b>	= Manometro
<b>MP</b>	= Bomba volumétrica
<b>RV</b>	= Grifo vapor
<b>SL</b>	= Sonda nivel
<b>SP</b>	= Sensor presión
<b>Va</b>	= Válvula antisucción
<b>Vs</b>	= Valvula de seguridad caldera

**PT LEGENDA**

<b>Bo</b>	= Boiler
<b>Ca</b>	= Caldeira
<b>DV</b>	= Doseador volumétrico
<b>Eac</b>	= Electroválvula água quente
<b>Eaf</b>	= Electroválvula água fria
<b>Ein</b>	= Electroválvula pré-infusão
<b>Ev</b>	= Válvula solenóide do vapor
<b>Evc</b>	= Electroválvula carregamento caldeira
<b>Fi</b>	= Filtro bomba
<b>G</b>	= Electroválvula café
<b>In</b>	= Injetor
<b>Mix</b>	= Misturador
<b>Mn</b>	= Manômetro
<b>MP</b>	= Bomba volumétrica
<b>RV</b>	= Torneira do vapor
<b>SL</b>	= Sonda nível
<b>SP</b>	= Sensor pressão
<b>Va</b>	= Válvula andisucção
<b>Vs</b>	= Válvula segurança de mola

Il Costruttore si riserva il diritto di modificare senza preavviso le caratteristiche delle apparecchiature presentate in questa pubblicazione

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