

**LA CIMBALI**

# M100 RE

## GTi - HDi - Dosatron

MANUALE DEL TECNICO

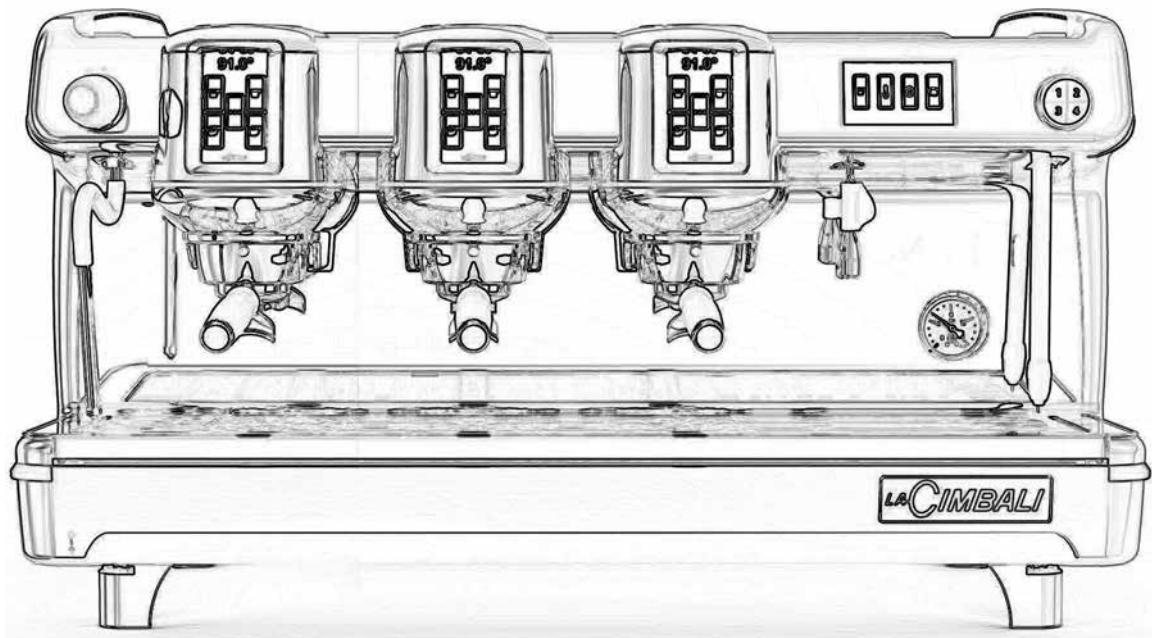
ENGINEER'S MANUAL

MANUEL DU TECHNICIEN

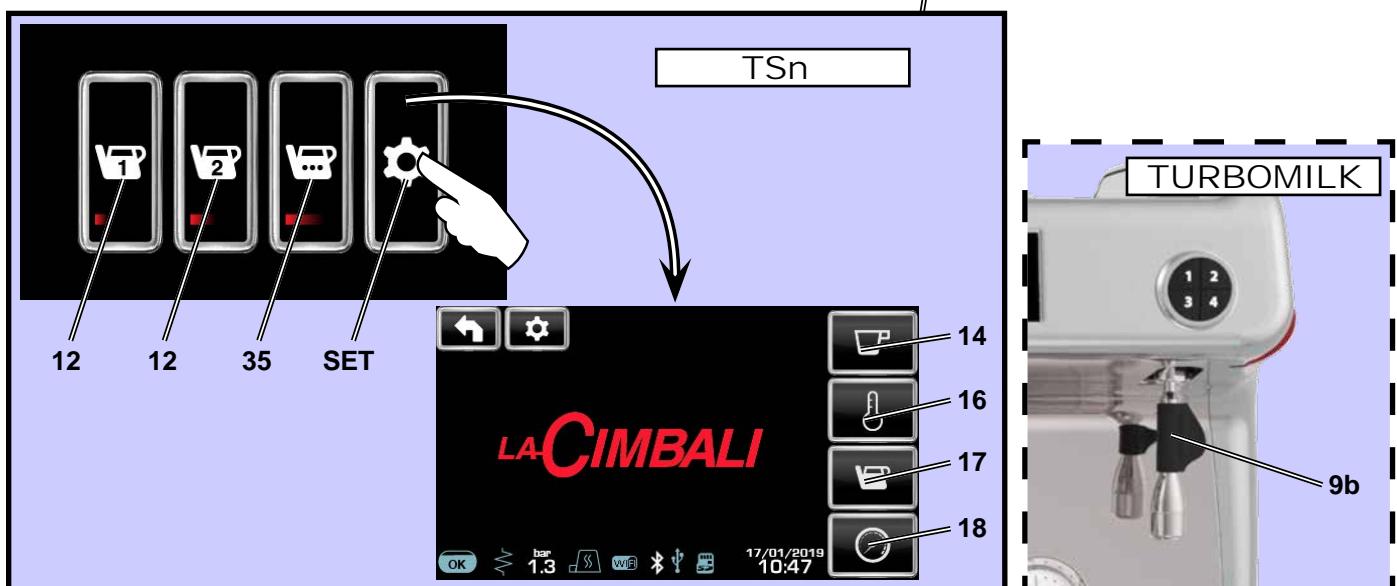
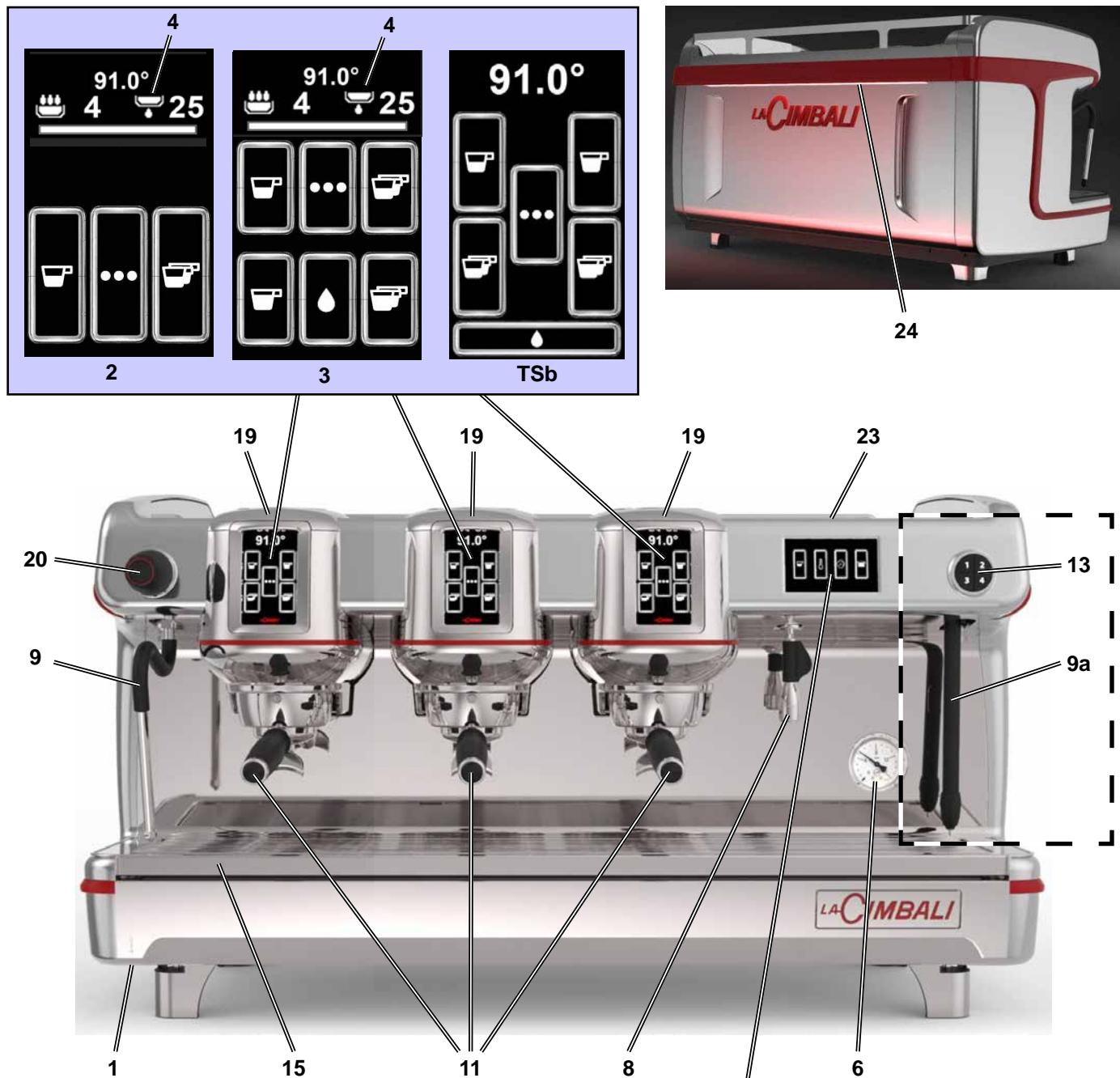
TECHNIKERHANDBUCH

MANUAL DEL TÉCNICO

MANUAL DO TÉCNICO



**M100 RE**



**IT LEGENDA**

- 1 Interruttore generale  
 2 Tastiera 3 selezioni  
 3 Tastiera 6 selezioni  
 4 Display grafico  
 6 Manometro pompa  
 8 Erogatore acqua calda  
 9 Tubo (lancia) vapore / Tubo (lancia) Turbosteam Cold Touch (\*)  
 9a Tubo (lancia) Turbosteam Cold Touch (\*)  
 9b Tubo (lancia) Turbo Milk (\*)  
 11 Portafiltro  
 12 Tasto acqua calda  
 13 Selettore Turbosteam / Turbomilk (\*)  
 14 Accesso rapido menu "Tasti gruppo"  
 15 Bacinella appoggiatezze  
 16 Accesso rapido menu "Temperatura boiler"  
 17 Accesso rapido menu "Tasti acqua calda"  
 18 Accesso rapido menu "Pressione caldaia"  
 19 Boiler caffè (\*)  
 20 Manopola erogazione vapore  
 23 Ripiano scaldatazzze  
 24 Barra led posteriore  
 35 Tasto "STOP-CONTINUO" acqua calda  
**SET** Tasto per entrare in programmazione / menù  
**TSb** Touch screen di selezione  
**TSn** Touch screen

I componenti - \* - sono applicati solo in alcune configurazioni di prodotti.

**EN LEGEND**

- 1 Main switch  
 2 3 keys pushbutton  
 3 6 keys pushbutton  
 4 Graphical display  
 6 Pump pressure gauge  
 8 Hot-water outlet  
 9 Steam pipe / Turbosteam Cold Touch pipe (\*)  
 9a Turbosteam Cold Touch pipe (\*)  
 9b Turbo Milk pipe (\*)  
 11 Filter holder  
 12 Hot-water key  
 13 Turbosteam / Turbomilk selector (\*)  
 14 Quick access menu "Unit keys"  
 15 Cup tray  
 16 Quick access menu "Boiler temperature"  
 17 Quick access menu "Hot water keys"  
 18 Quick access "Boiler pressure"  
 19 Coffee boiler (\*)  
 20 Steam supply knob  
 23 Cup-warmer tray  
 24 Rear led bar  
 35 Hot-water "STOP-CONTINUOUS" key  
**SET** Key to access programming mode / menu  
**TSb** Selection touch screen  
**TSn** Touch screen  
 Items marked - (\*) - are fitted in some product configurations only.

**FR LÉGENDE**

- 1 Interrupteur général  
 2 Clavier 3 touches  
 3 Clavier 6 touches  
 4 Ecran graphique  
 6 Manomètre pompe  
 8 Sortie eau chaude  
 9 Buse vapeur / Buse Turbosteam Cold Touch (\*)  
 9a Buse Turbosteam Cold Touch (\*)  
 9b Buse Turbo Milk (\*)  
 11 Porte-filtre  
 12 Touche eau chaude  
 13 Sélecteur Turbosteam / Turbomilk (\*)  
 14 Accès rapide menu « Touches groupe »  
 15 Bac repose-tasses  
 16 Accès rapide menu « Température chauffe-eau »  
 17 Accès rapide menu « Touches eau chaude »  
 18 Accès rapide menu « Pression Chaudière »  
 19 Chauffe-eau, café (\*)  
 20 Robinet de débit du vapeur  
 23 Plateau chauffe-tasses  
 24 Barre LED arrière  
 35 Touche « STOP-CONTINUO » eau chaude  
**SET** Touche programmation/menus  
**TSb** Écran tactile de sélection  
**TSn** Écran tactile

Les composants accompagnés d'un - (\*) - ne sont montés que dans certaines configurations de produit.

**DE LEGENDE**

- 1 Hauptschalter  
 2 Auswahltafel 3 Tasten  
 3 Auswahltafel 6 Tasten  
 4 Grafikdisplay  
 6 Manometer Pumpe  
 8 Heißwasserausgabe  
 9 Dampfausgaberohr / Dampfausgaberohr Turbosteam Cold Touch (\*)  
 9a Dampfausgaberohr Turbosteam Cold Touch (\*)  
 9b Milchausgaberohr Turbo Milk (\*)  
 11 Filterhalter  
 12 Heißwasser-Drucktaste  
 13 Wahlschalter Turbosteam / Turbomilk (\*)  
 14 Schnellauswahl Menü „Tasten Einheit“  
 15 Tassenaufsatztwanne  
 16 Schnellauswahl Menü „Boilertemperatur“  
 17 Schnellauswahl Menü „Heißwasser“  
 18 Schnellauswahl Menü „Kesseldruck“  
 19 Boiler Kaffee (\*)  
 20 Drehknopf Dampfabgabe  
 23 Fläche zur Tassenvorwärmung  
 24 LED-Leiste hinten  
 35 Taste „STOP-KONTINUIERLICHE“ Heißwasserabgabe  
**SET** Taste zur Programmierung / Menü  
**TSb** Wahl-Touchscreen  
**TSn** Touchscreen  
 Die mit - (\*) - gekennzeichneten Bauteile sind nur in bestimmten Modellen installiert.

**ES LEYENDA**

- 1** Interruptor general
  - 2** Botoneras 3 teclas
  - 3** Botoneras 6 teclas
  - 4** Display gráfico
  - 6** Manómetro bomba
  - 8** Erogador agua caliente
  - 9** Tubo (boquilla) vapor / Tubo (boquilla) Turbosteam Cold Touch (\*)
  - 9a** Tubo (boquilla) Turbosteam Cold Touch (\*)
  - 9b** Tubo (boquilla) Turbo Milk (\*)
  - 11** Portafiltro
  - 12** Tecla suministro agua caliente
  - 13** Selector Turbosteam / Turbomilk (\*)
  - 14** Acceso rápido menú "Teclas grupo"
  - 15** Bandeja de goteo
  - 16** Acceso rápido menú "Temperatura calentador"
  - 17** Acceso rápido menú "Teclas agua caliente"
  - 18** Acceso rápido menú "Presión caldera"
  - 19** Calentador café (\*)
  - 20** Botón giratorio erogación vapor
  - 23** Bandeja caliente-tazas
  - 24** Barra led posterior
  - 35** Tecla "STOP-CONTINUO" agua caliente
  - SET** Tecla para entrar en programación / menú
  - TSb** Pantalla táctil de selección
  - TSn** Pantalla táctil
- Los componentes - (\*) - solo se pueden aplicar en algunas configuraciones del producto.

**PT LEGENDA**

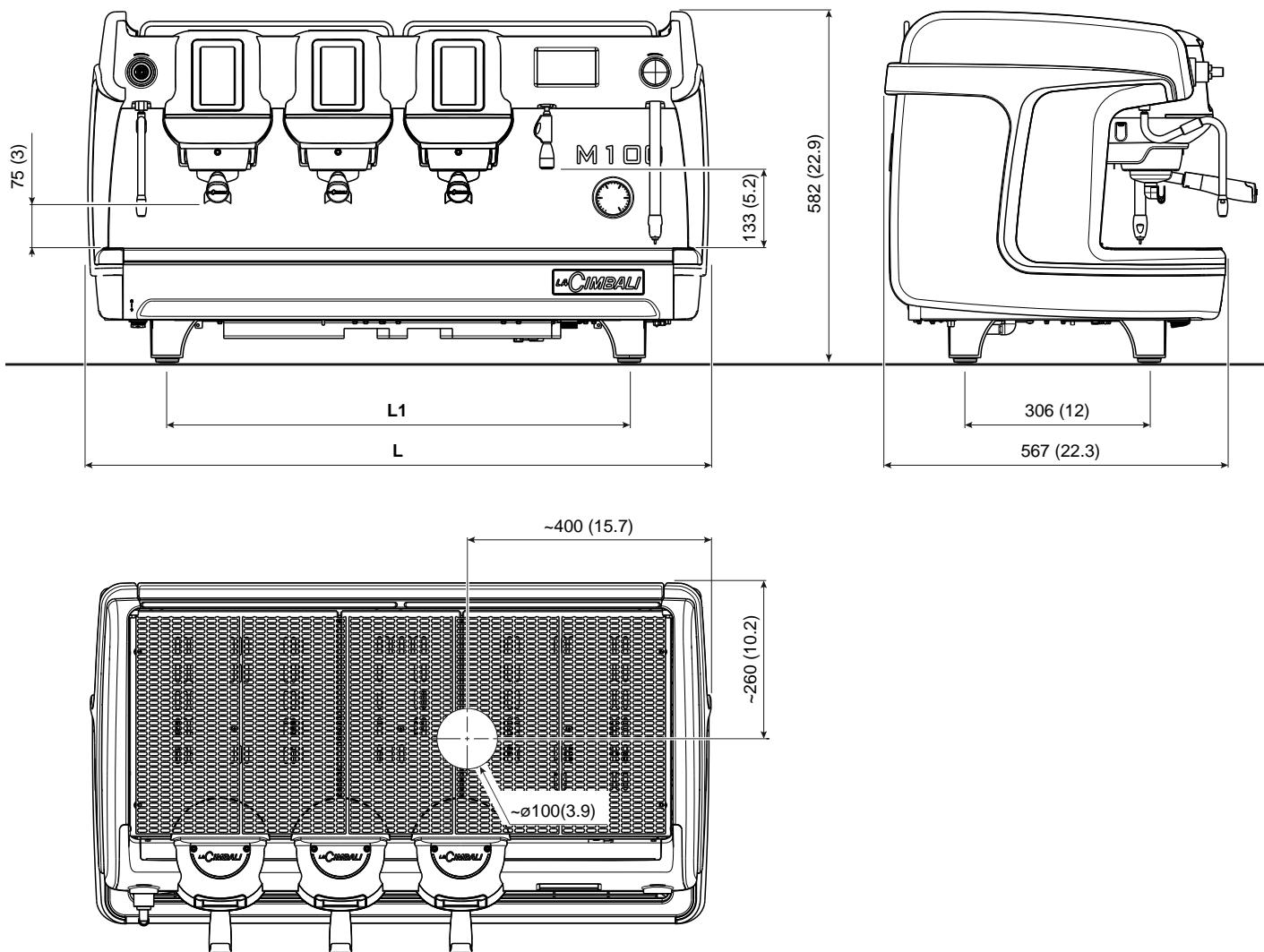
- 1** Interruptor geral
  - 2** Quadro de 3 botões
  - 3** Quadro de 6 botões
  - 4** Display gráfico
  - 6** Manómetro da bomba
  - 8** Distribuidor de água quente
  - 9** Tubo do vapor / Tubo do vapor Turbosteam Cold Touch (\*)
  - 9a** Tubo do vapor Turbosteam Cold Touch (\*)
  - 9b** Tubo Turbo Milk (\*)
  - 11** Porta-filtro
  - 12** Botão de distribuição de água quente
  - 13** Selector Turbosteam / Turbomilk (\*)
  - 14** Acesso rápido menu "Teclas grupo"
  - 15** Tabuleiro das chávenas
  - 16** Acesso rápido menu "Temperatura boiler"
  - 17** Acesso rápido menu "Teclas água quente"
  - 18** Acesso rápido menu "Pressão na caldeira"
  - 19** Boiler café (\*)
  - 20** Manípulo de distribuição do vapor
  - 23** Superfície de aquecimento das chávenas
  - 24** Barra led traseira
  - 35** Tecla "STOP-CONTÍNUO" água quente
  - SET** Tecla para entrar na programação / menu
  - TSb** Touch screen de selecção
  - TSn** Touch screen
- Os detalhes - (\*) - são aplicados só em algumas configurações de produtos

**M100 GTi - M100 HDi**

	P <sub>max</sub> [ bar ]	T <sub>max</sub> [ °C ]	tipo di macchina Type of machine type de machine Maschinentyp 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	4 gruppi 4 groups 4 groupes 4 Einheiten 4 grupos 4 grupos			
			<b>Fluido - Fluid - Fluide Flüssigkeit - Fluido - Fluido</b>						
			<b>Capacità - Capacity - Capacité [ L ] Fassungsvermögen - Capacidad - Capacidade</b>						
Caldaia - Service boiler Chaudière - Heizkessel Caldera - Caldeira	2	133	acqua/vapore - water/steam eau/vapeur - Wasser/ Dampf - agua/vapor - água/vapor				10		
Scambiatore Heat exchanger Échangeur de chaleur Wärmeaustauscher Intercambiador de calor Permutador de calor	12 (GT) 15 (HD)	133	acqua - water eau - Wasser agua - água				0.22 x 2		
Boiler caffè - Coffee boiler Chauffe-eau, café Boiler Kaffee Calentador café Boiler do café	12 (GT) 15 (HD)	160	acqua - water eau - Wasser agua - água				0.40 x 2	0.40 x 3	0.40 x 4

**M100 Dosatron**

	P <sub>max</sub> [ bar ]	T <sub>max</sub> [ °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	4 gruppi 4 groups 4 groupes 4 Einheiten 4 grupos 4 grupos			
			<b>Fluido - Fluid - Fluide Flüssigkeit - Fluido - Fluido</b>						
			<b>Capacità - Capacity - Capacité [ L ] Fassungsvermögen - Capacidad - Capacidade</b>						
Caldaia - Service boiler Chaudière - Heizkessel Caldera - Caldeira	2	133	acqua/vapore - water/steam eau/vapeur - Wasser/ Dampf - agua/vapor - água/vapor				10	15	20
Scambiatore Heat exchanger Échangeur de chaleur Wärmeaustauscher Intercambiador de calor Permutador de calor	12	133	acqua - water eau - Wasser agua - água				0.18 - 0.25 x 2	0.18 - 0.25 x 3	0.18 - 0.25 x 4



DIMENSIONS					
		2 gr.	3 gr.	4 gr.	
<b>L</b>	<b>mm</b>	832	1032	1232	
	<b>inches</b>	32.7	40.6	48.5	
<b>L1</b>	<b>mm</b>	568	768	968	
	<b>inches</b>	22.4	30.2	38.1	
<b>Weight</b>	<b>GTi</b>	<b>Kg</b>	89	105	120
	<b>HDi</b>	<b>pounds</b>	196	232	265
<b>Weight</b>	<b>DT</b>	<b>Kg</b>	87	100	123
		<b>pounds</b>	187	221	271

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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.**

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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 of display symbols

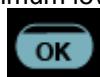
### WATER LEVEL



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 "STOP/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.

### WI-FI



This symbol appears on the display when the Wi-Fi module is in the machine.

### BLUETOOTH

These symbols refer to Bluetooth communication:



- the 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.

### USB



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

### 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)

When this icon lights up it means that it is necessary to adjust the grinder-dispenser to tighten or loosen the grinding, in order to return the coffee dose to the correct parameters.

The icons that are shown are:



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

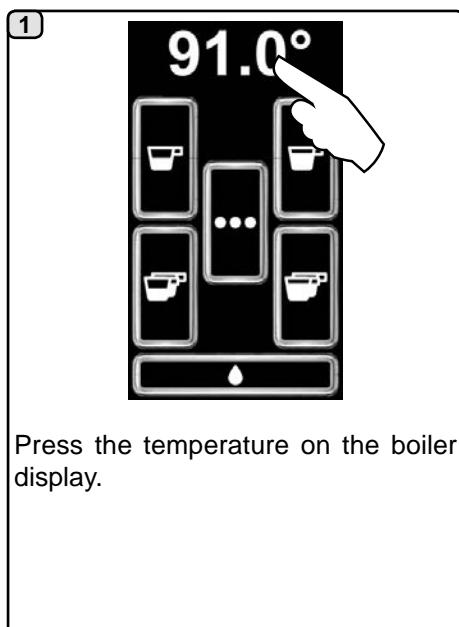


means that the grinding needs to be tightened.  
(flow of coffee is greater than the reference).

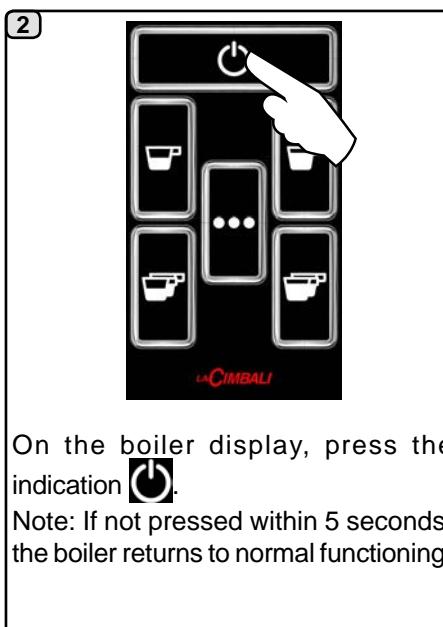
Note. The number next to the icon (1 or 2) indicates the grinder-dispenser that must be used.

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

### Boiler shut off (only on "HDI / GTi" machines)

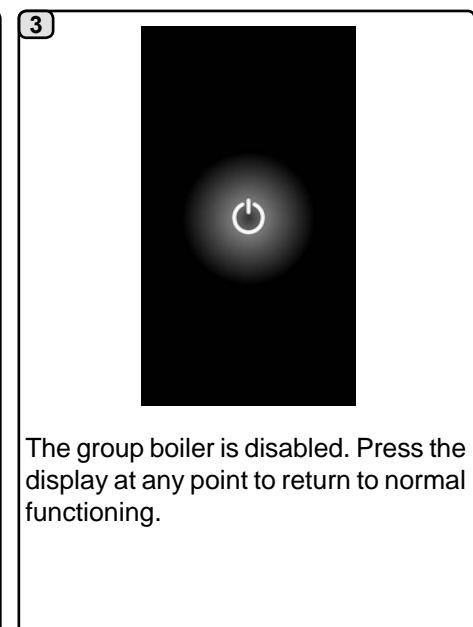


Press the temperature on the boiler display.



On the boiler display, press the indication .

Note: If not pressed within 5 seconds, the boiler returns to normal functioning.



The group boiler is disabled. Press the display at any point to return to normal functioning.

### Programming / menu access

With the service display in "water dispensing" mode, machine programming can be accessed by pressing the  icon.



**NOTE.** The  icon may turn a different colour in some instances:

 WHITE: normal operating mode.



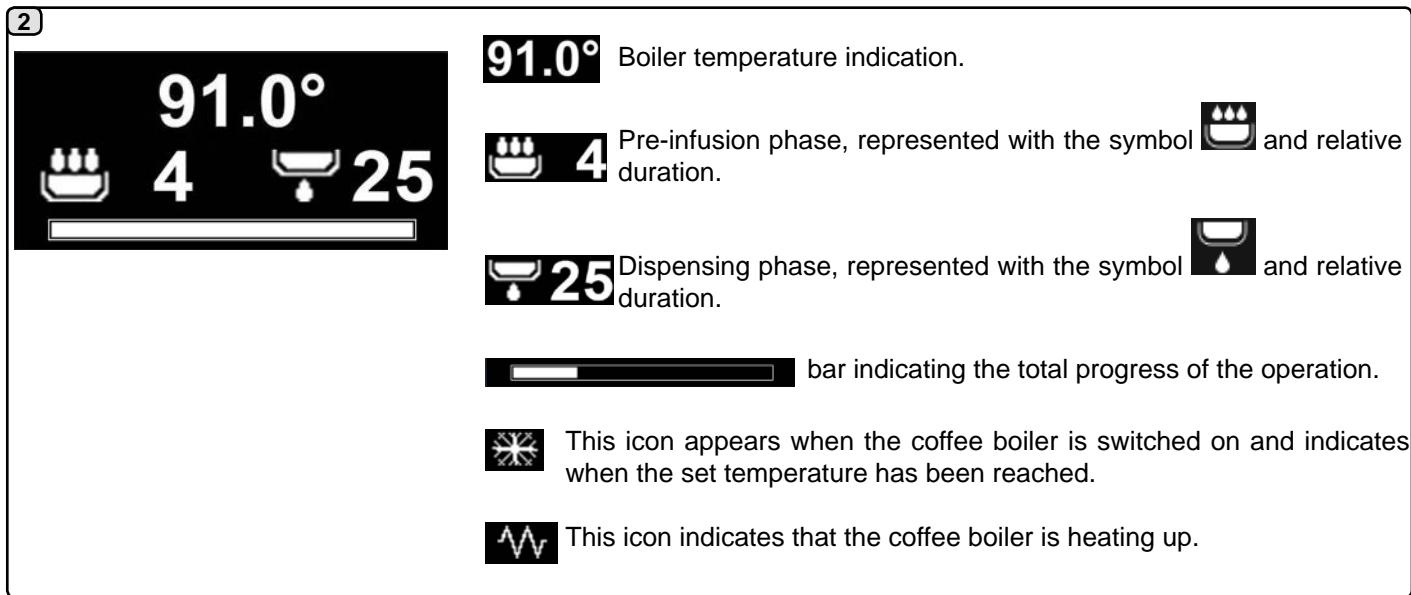
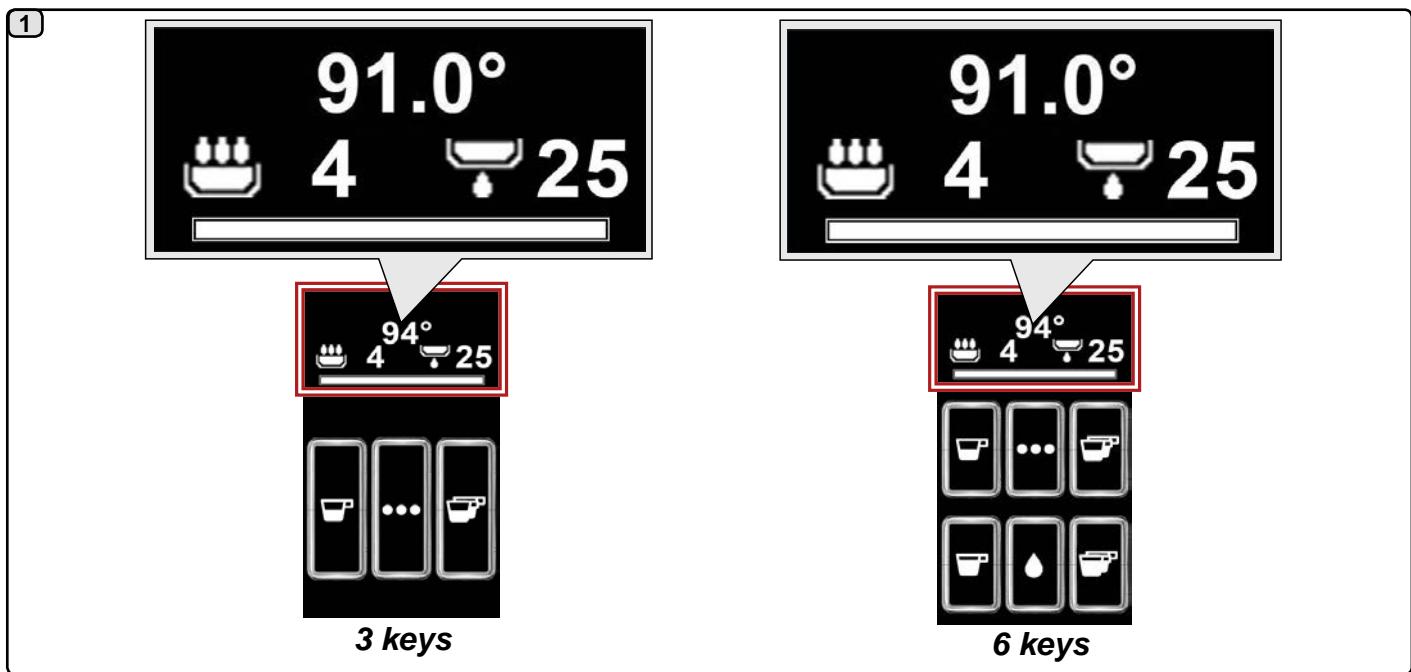
 YELLOW: service display message requiring user intervention (for example, wash request, grinder adjustment, with the PGS system active, etc.).



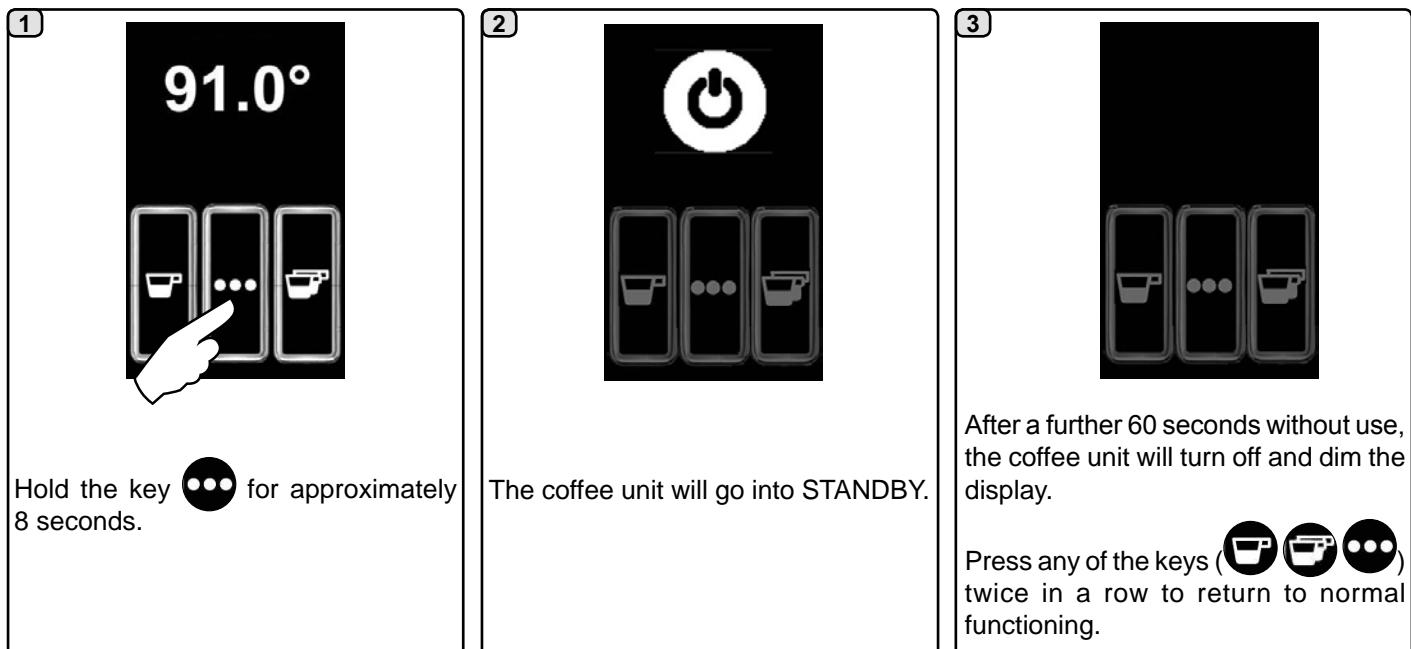
 RED: error message

## Symbols (coffee unit keyboard)

English

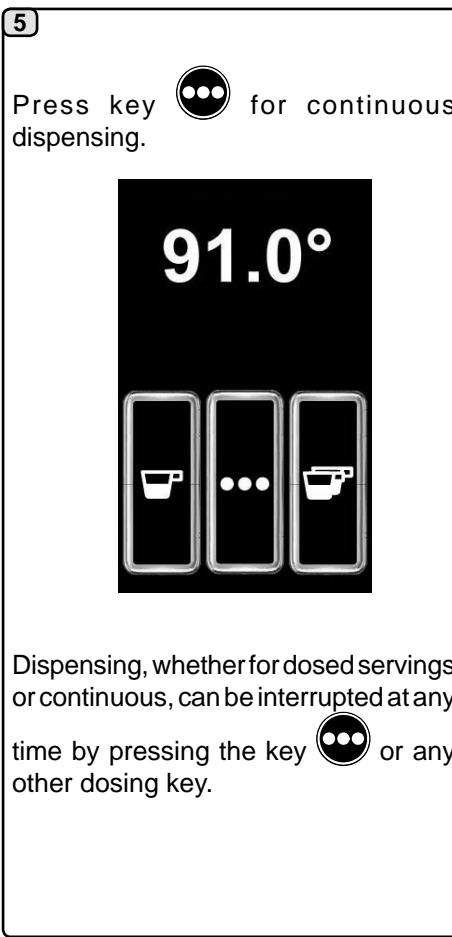
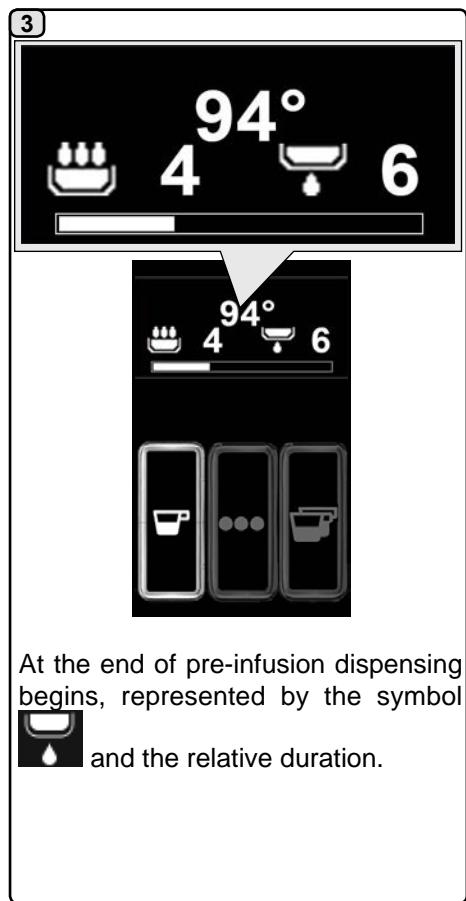
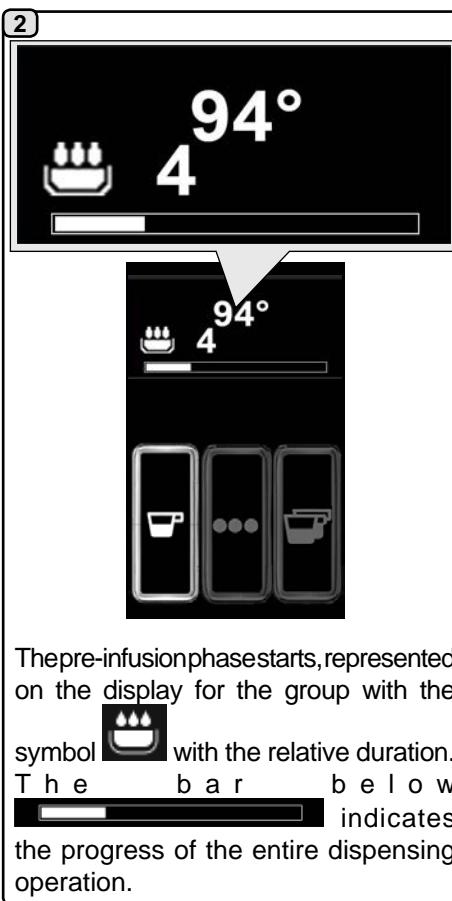
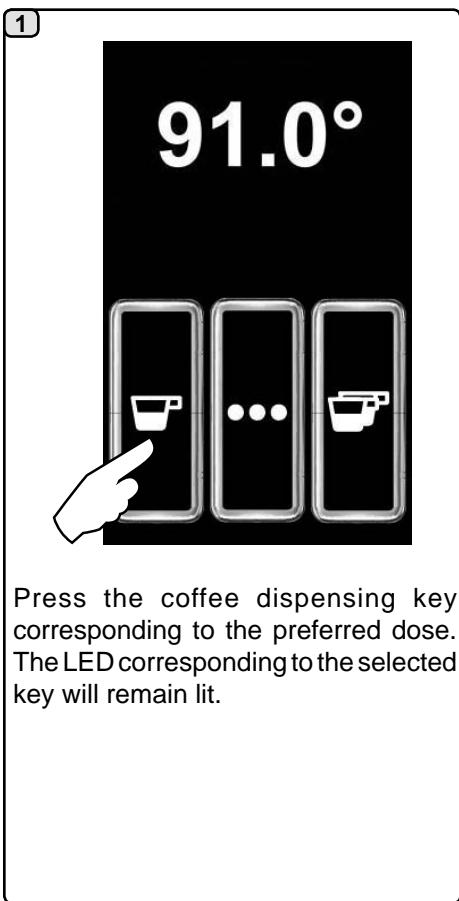


## Boiler shut off (unit keyboard)



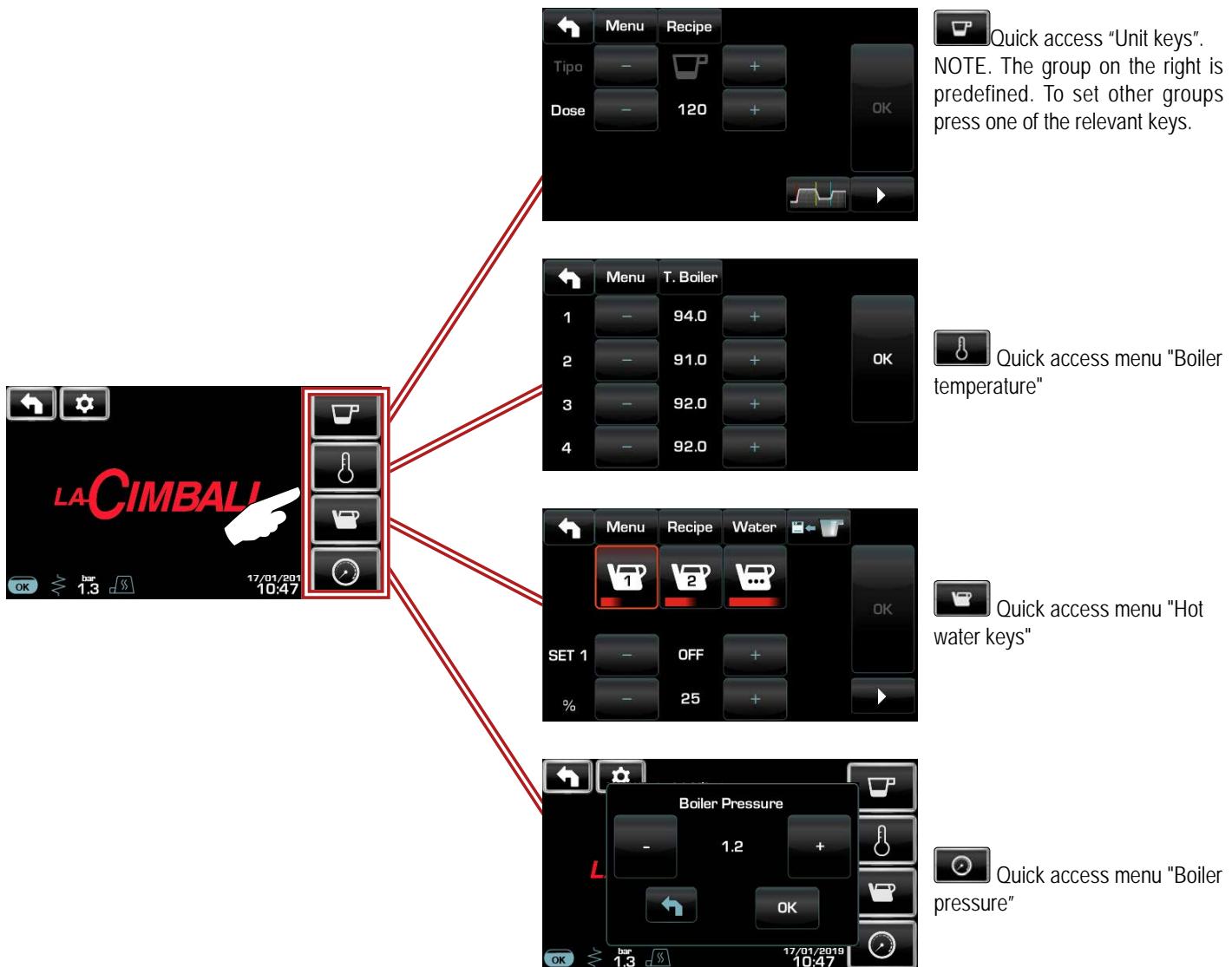
## Dispensing (coffee unit keyboard)

English



Quick access menu for the most frequently used parameters on the machine

English



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

## Data flow chart - Technician programming



# TECHNICIAN PROGRAMMING

## 1. Programming access

Access the programming menu by pressing:

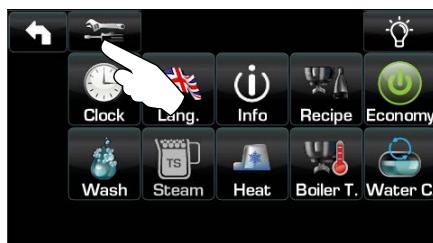
the key **SET**  :



(versions with *Turbosteam L* and *Turbosteam R*)



1) the key  :



2) typing the password and pressing **OK** :



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. During the machine off phase, the display light is dimmed.

**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 button to turn it on.

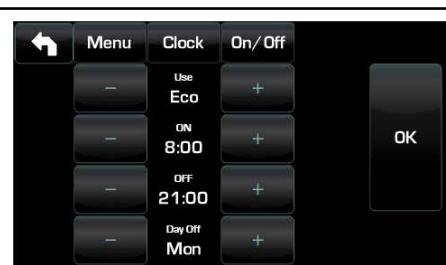
**Note.** Forcing the machine on does not change the programmed on/off times.

**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).



Access the service hours menu by pressing the icon



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).



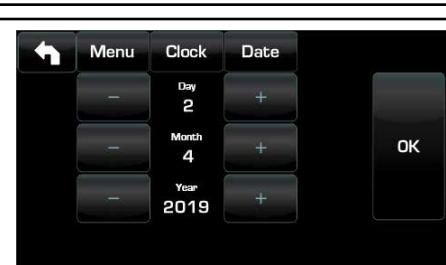
Press the icon to set the time.



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



Press the icon to set the date.



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



Press the icon .



In the INFO menu, you can view:



#### 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** - (number of times that steam was dispensed using the Turbosteam selector on position TS 1÷4 with emulsion 0);  
**Steam + Air** - (number of times that steam and air were dispensed using the Turbosteam selector, positions TS 1÷4 with emulsion 10÷100);  
**Hot milk** - (number of times hot milk was dispensed);  
**Cold milk** - (number of times cold milk was dispensed);  
**Total Coffee** - (total number of coffee-based beverages);  
 - (time since last start up).



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 :



Example of counter selection of water doses :



**Counters (versions with Turbosteam L and Turbosteam R)**

**3c**

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



Example of a Turbosteam key selection counter:



Icon	Count	Action
TS 1	23	Reset
TS 2	15	Reset
TS 3	20	Reset
TS 4	18	Reset



**Turbosteam 2 (SX)**



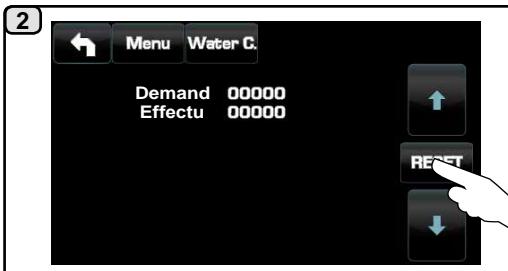
**Turbosteam 1 (DX)**

English

**Water Change**



Press the icon to display the "Water Change" submenus.

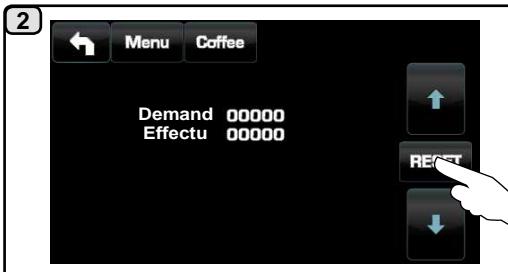


- 1) The items are scrolled by pressing the icons .
- 2) Press the key **RESET** to clear/reset.

**Coffee**



Press the icon to display the "Coffee" submenus.



- 1) The items are scrolled by pressing the icons .
- 2) Press the key **RESET** to clear/reset.

**Milk (versions with Turbo Milk)**



Press the icon to display the "Milk" submenus.



- 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 "Malfunctions" submenus.

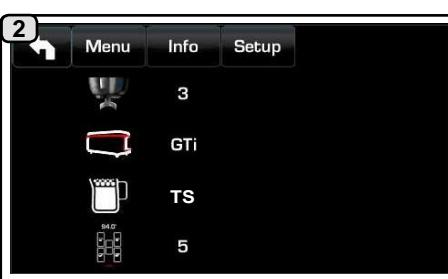


- 1) The items are scrolled by pressing the icons .
- 2) Press the key to clear/reset.

## Setup



Press the icon to display the "Setup" submenus.



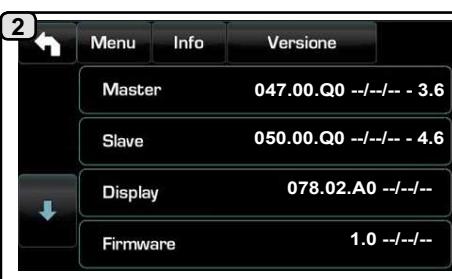
- : NUMBER OF GROUPS: 2, 3, 4;
- : Version DT - HDi - GTi;
- : Turbosteam: TS - TS/2 - NO; TurboMilk: YES / NO
- : 1 key; 5 keys; 7 keys.

NOTE: machines configured with 1 dispensing key do not allow "BDS" and connection to the payment system.

## Version



Press the icon to display the "Version" submenus.



Scroll through the entries using the and arrows.

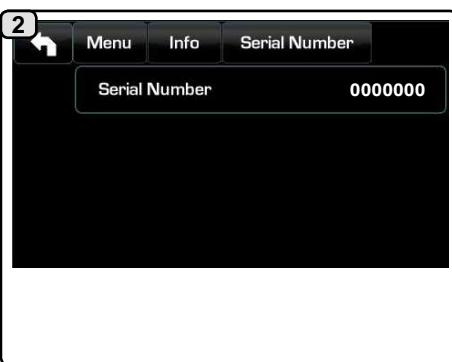
The submenus under "Version" show the memory versions:

- Master 047.00.Q0;
- Slave 050.00.Q0;
- Display 078.02.A0
- Firmware 1.0;
- Bluetooth;
- WIFI;
- VEBOX;
- TurboMilk / Turbosteam;
- Group.

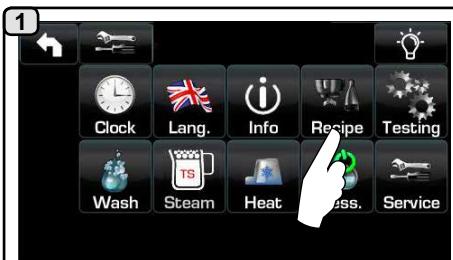
## Serial number



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



## 5. Programming measures function



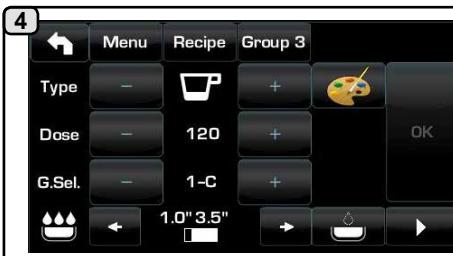
Press the icon



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



The programmable keys' icons are shown on the display.



When one of the coffee keys is pressed (for example Key 1), 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.



All parameters can be adjusted:

water dose (using the keys );

pre-infusion time (using the keys );

saturation time (pressing the icon will transform the icon 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 1.0'' 3.5'': 3.5 shows the duration in seconds of the pre-infusion phase.

1.0 shows the duration in seconds of the saturation phase.

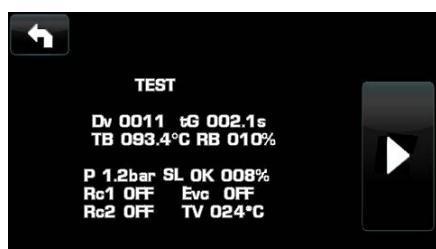
Sel.M. Grinder/dispenser selected can be associated with each key type.



Possibility to change the colour associated with each key type.

6

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

**SL:** service boiler water level; % level signal

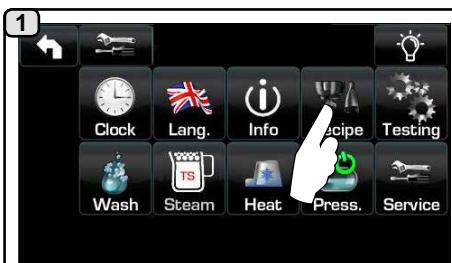
**Rc:** service boiler resistance

**Evc:** service boiler load solenoid valve

**TV:** Turbosteam wand steam temperature

### Water dose programming

English



Press the icon .



Press the icon. These parameters can be configured:

**SET...** - to set the dispensing time;

% - to set the water temperature.

**NOTE.** - the red border around the icon indicates the key being changed.

- the TESTING phase for the water keys is similar to that of the coffee keys.

Press the icon to confirm the information entered.



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



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



The buzzer sound and the red border around the icon indicate the SELF-LEARNING phase.



Press key to be programmed. When the desired level is reached in the container press the key again.

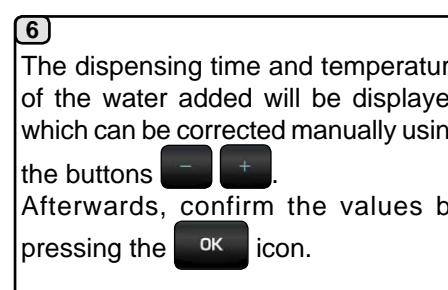
Continue with any additional programming of the keys.



Press the icon to exit the SELF-LEARNING phase.



The buzzer sound will stop and the red border at the top left of the icon will disappear.

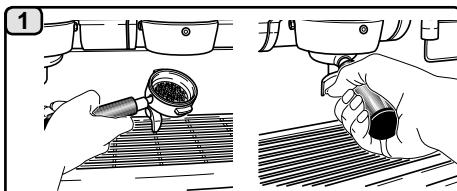


The dispensing time and temperature of the water added will be displayed which can be corrected manually using the buttons .

Afterwards, confirm the values by pressing the icon.

**Programming measures using the “SELF-LEARNING” function**

English



Hook the filter holder with the dose of ground coffee to the group.



Press one of the coffee keys (e.g. Group 3).



Press the key ; a red outline and the buzzer indicate the SELF-LEARNING phase.



Place the cup or cups underneath the filter holder nozzles.  
The numbers relative to each key appear on the group display.



Push the button to be programmed (e.g. key 1): the icon of the key in question remains selected on the display.

When the desired level is reached in the cup or cups, press the key again.

Continue to program all the coffee keys.



By pushing the coffee buttons on the services display, the doses entered can be viewed, with the values of the impulses of the volumetric dosing devices.

The doses entered with the self-learning function can be corrected manually using the +/- keys.

Afterwards, confirm the values by pressing the key.

**Clone function**

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

English



Press one of the coffee keys (e.g. Group 3).



Press the icon .



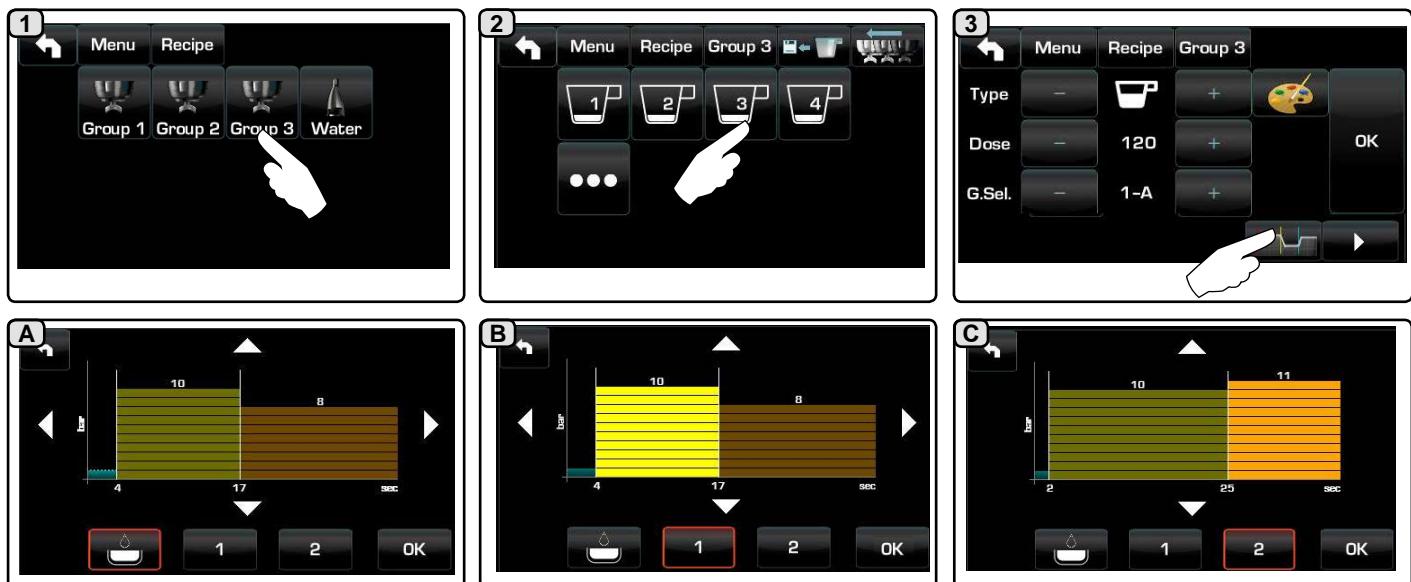
Press the icon  to confirm.



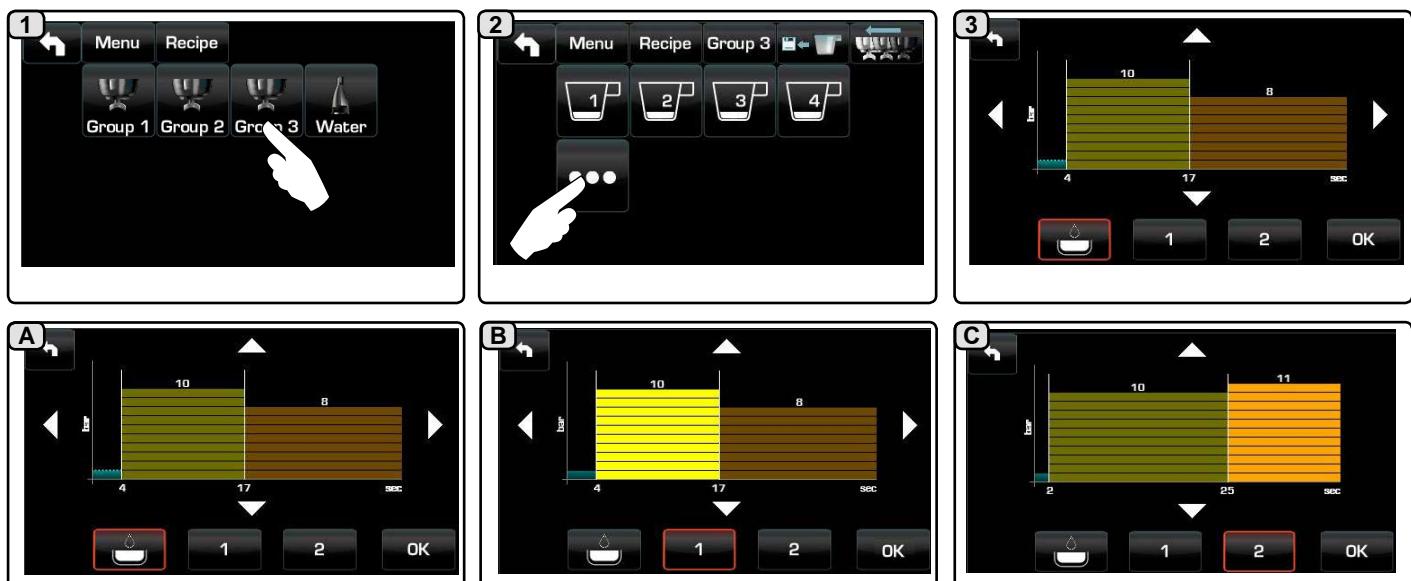
At the end of the process, all the groups will have the same parameters.

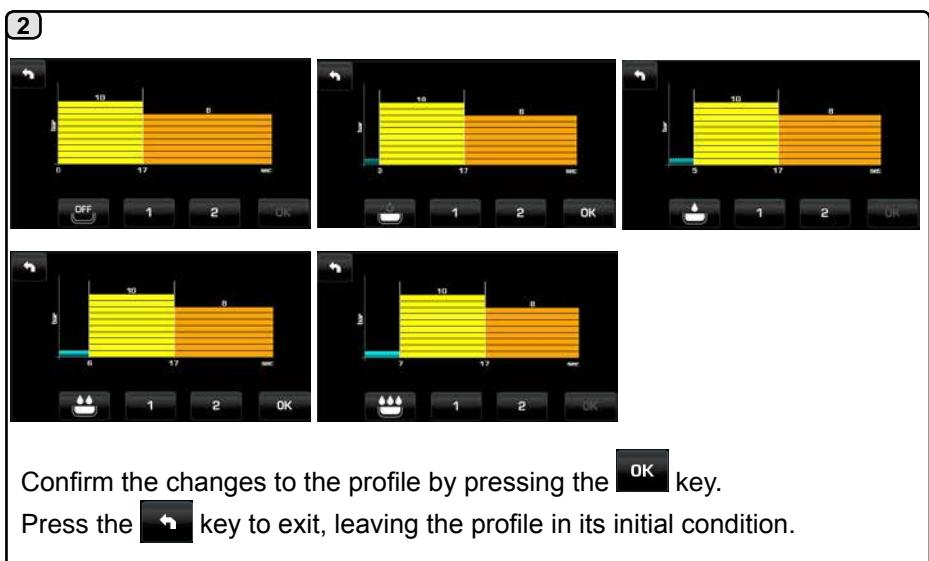
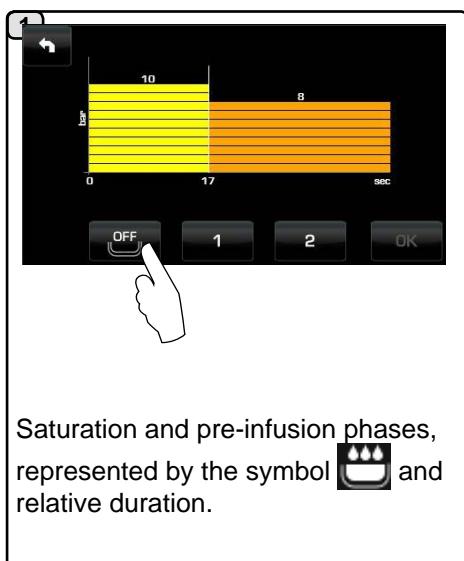
**Pressure profile (only on “HDI” machines)**

This function lets you set the profile for the pressure at which the coffee is dispensed.

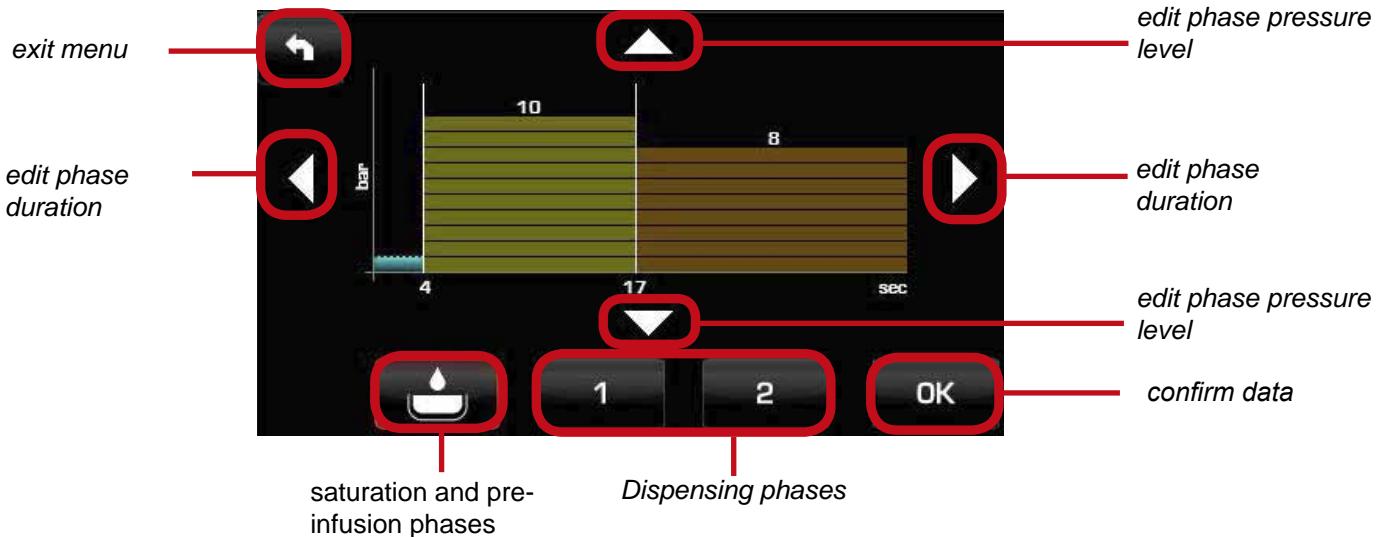


**Pressure profile: Start/Stop key**

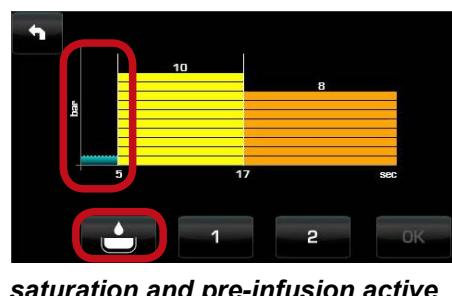
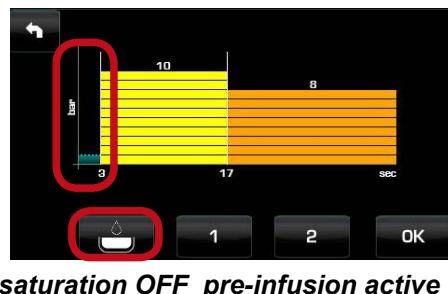
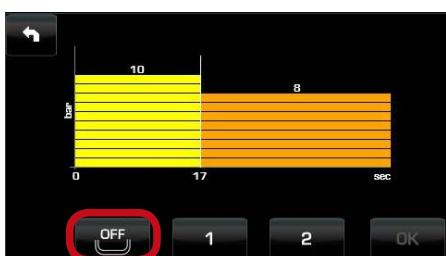


**Edit Profiles**

The profiles can be customized by modifying the duration and pressure of each separate dispensing phase.



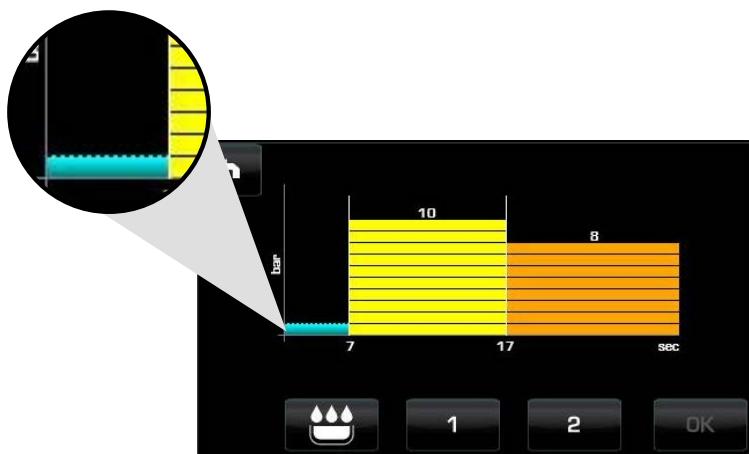
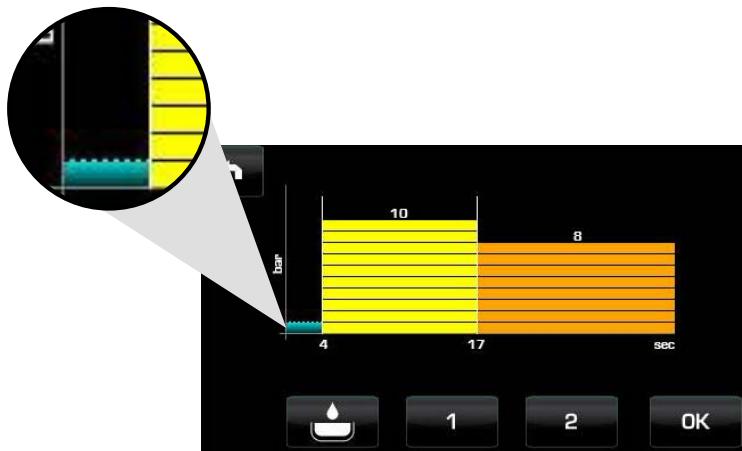
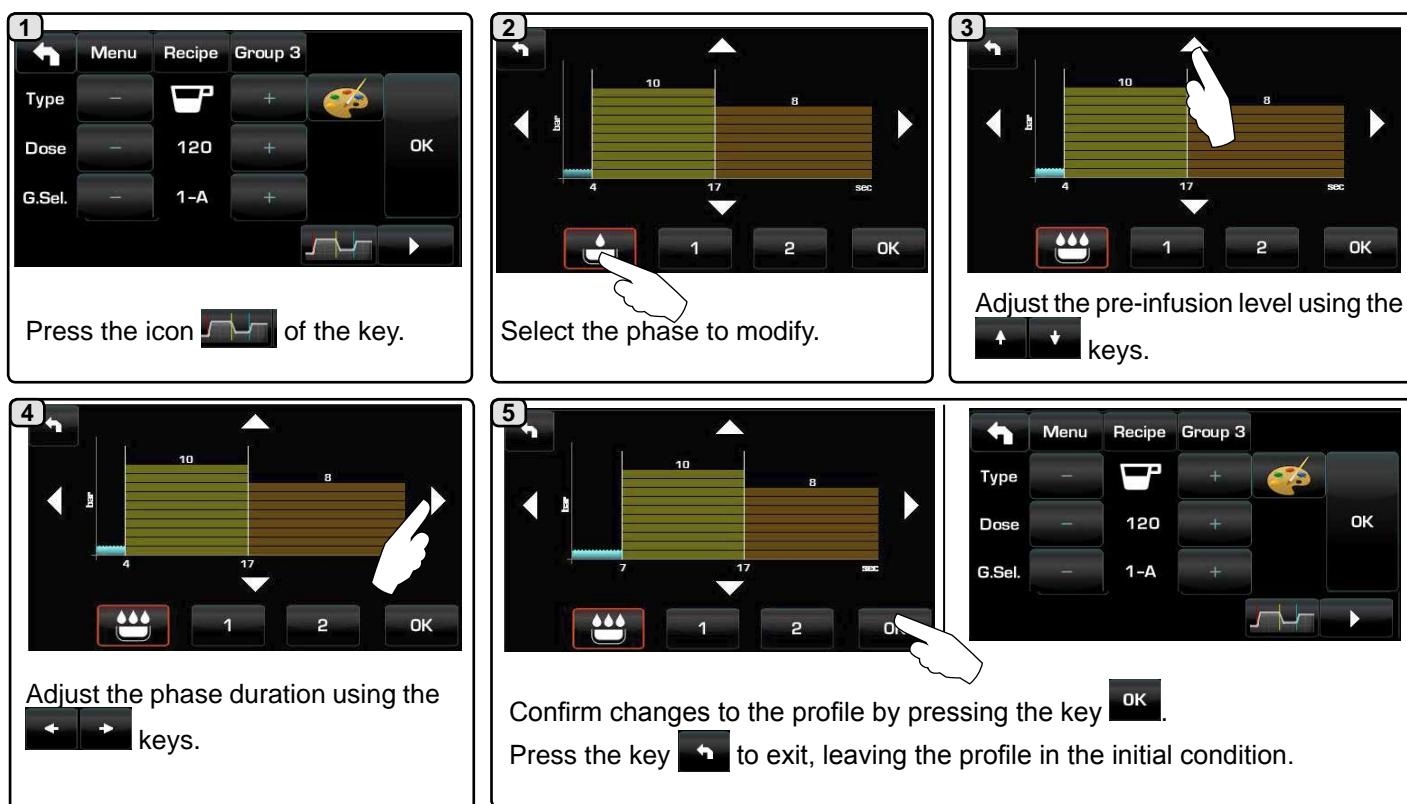
The numbers which appear on the graph identify the phase parameters.  
For example, **phase 1** will have a duration of 17 seconds at 10 bar.



**Edit profiles**

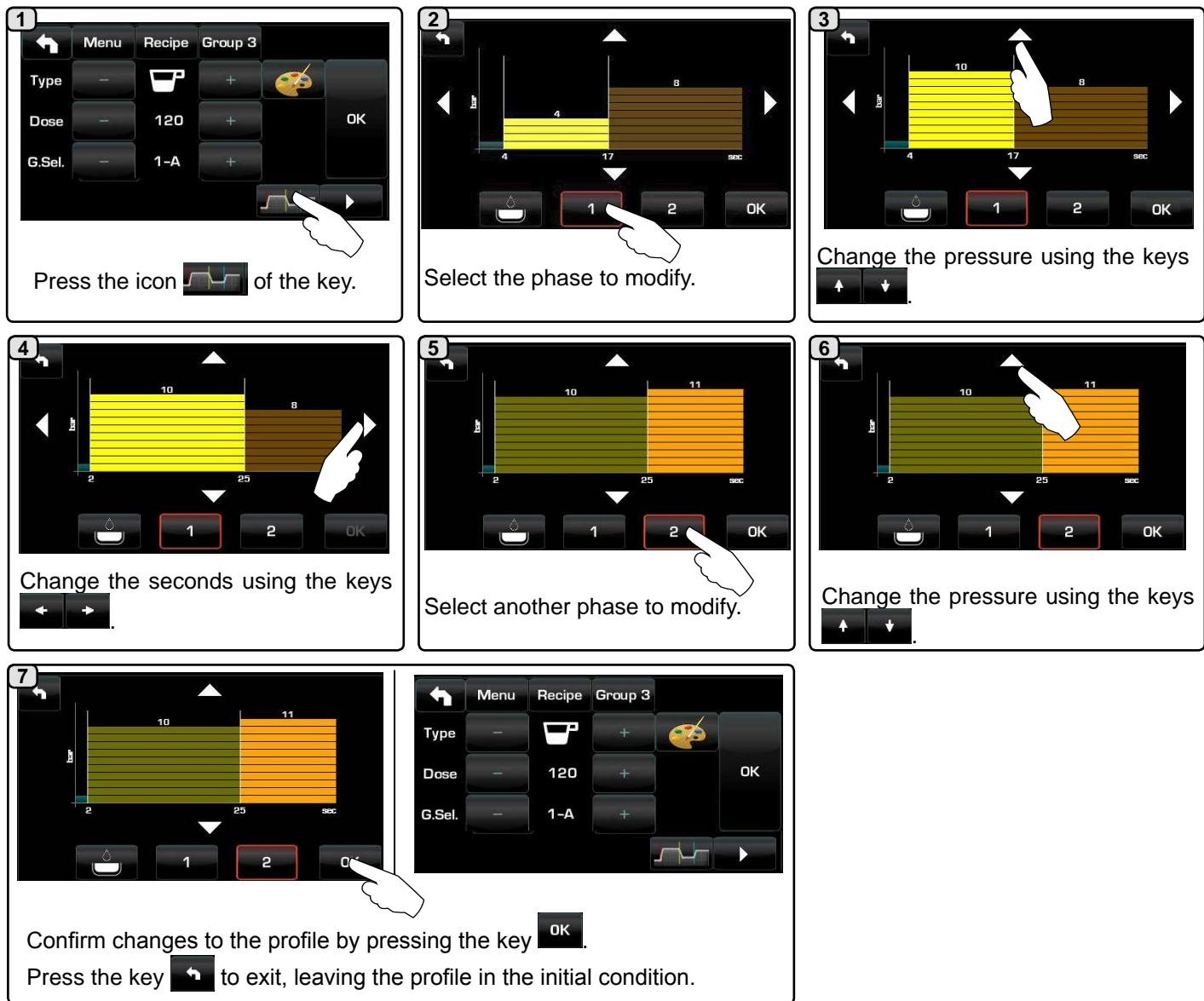
The following illustrates, in detail, how to proceed; the individual phases of the **3 short coffees key of unit 3** will be edited.

English

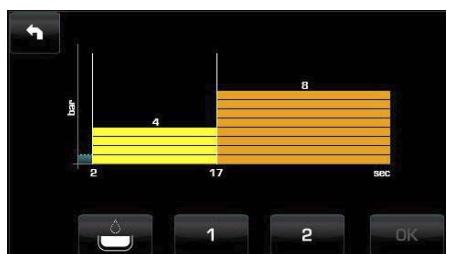


The following illustrates in detail the steps to follow: the separate phases to follow: the separate phases of the key **3 strong coffee of group 3**.

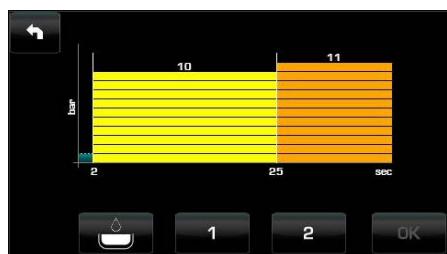
English



The change to the pressure profile tied to the key **3 strong coffee of group 3** is evident when comparing the initial profile with the modified one:



*Initial profile*



*Modified profile*

## 6. Testing

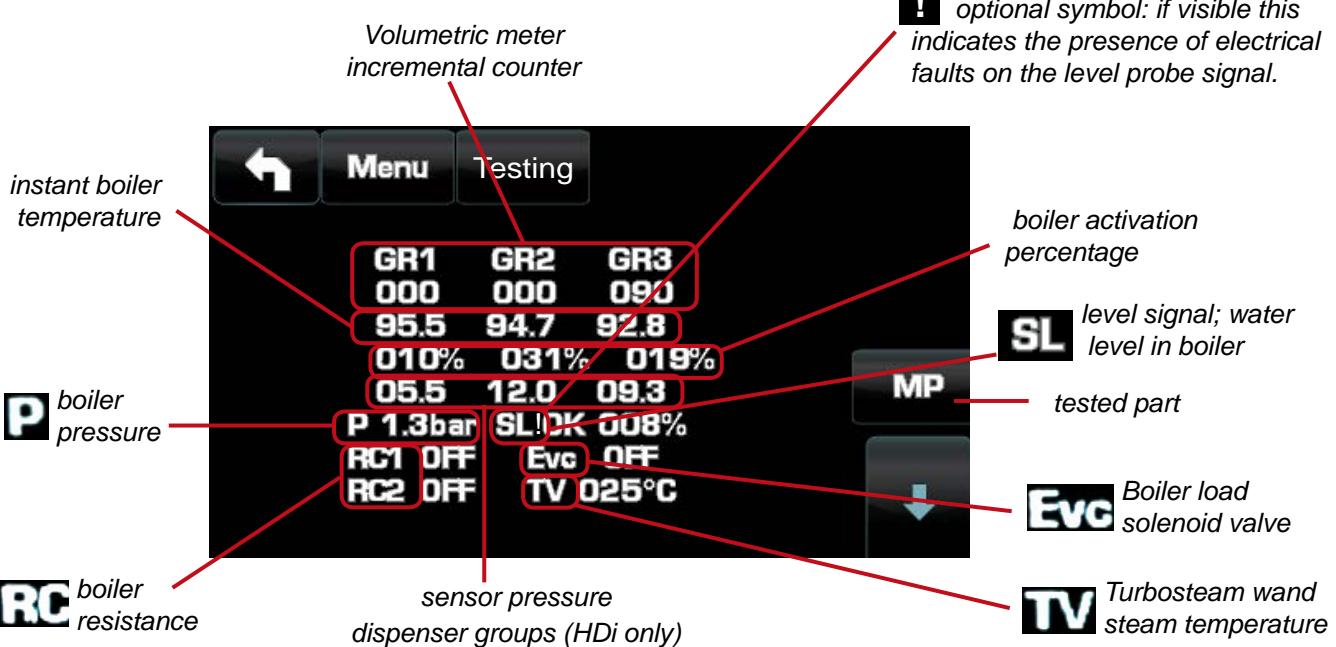


Press the icon

GR1	GR2	GR3
000	000	090
95.5	94.7	92.8
010%	031%	019%
05.5	12.0	09.3
P 1.3bar	SL OK	008%
RC1 OFF	Evc	OFF
RC2 OFF	TV	025°C

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

English



**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



Components to operate are selected by pressing icons ; 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:

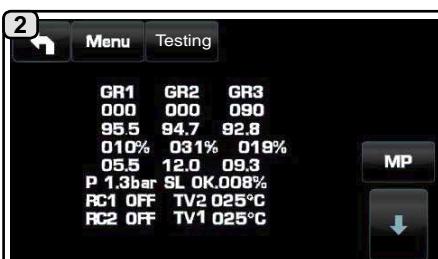
<b>MP</b>	Pump motor
<b>G1-G4</b>	Coffee dispensing solenoid valves
<b>Eac</b>	Hot water solenoid valve
<b>Eaf</b>	Cold water solenoid valve
<b>Eav</b>	Steam water solenoid
<b>Evc</b>	Boiler load solenoid valve
<b>Ets</b>	Steam solenoid valve (Turbosteam)*
<b>MC</b>	Turbosteam compressor motor*
<b>Eds</b>	EDS solenoid valve*
<b>Em-Erp</b>	Milk solenoid valve/ Pressure-reset solenoid valve*
<b>Gp1-Gp4</b>	Proportional solenoid valve*

*The components - \* - are only applied with certain product configurations.*

(versions with *Turbosteam L* and *Turbosteam R*)

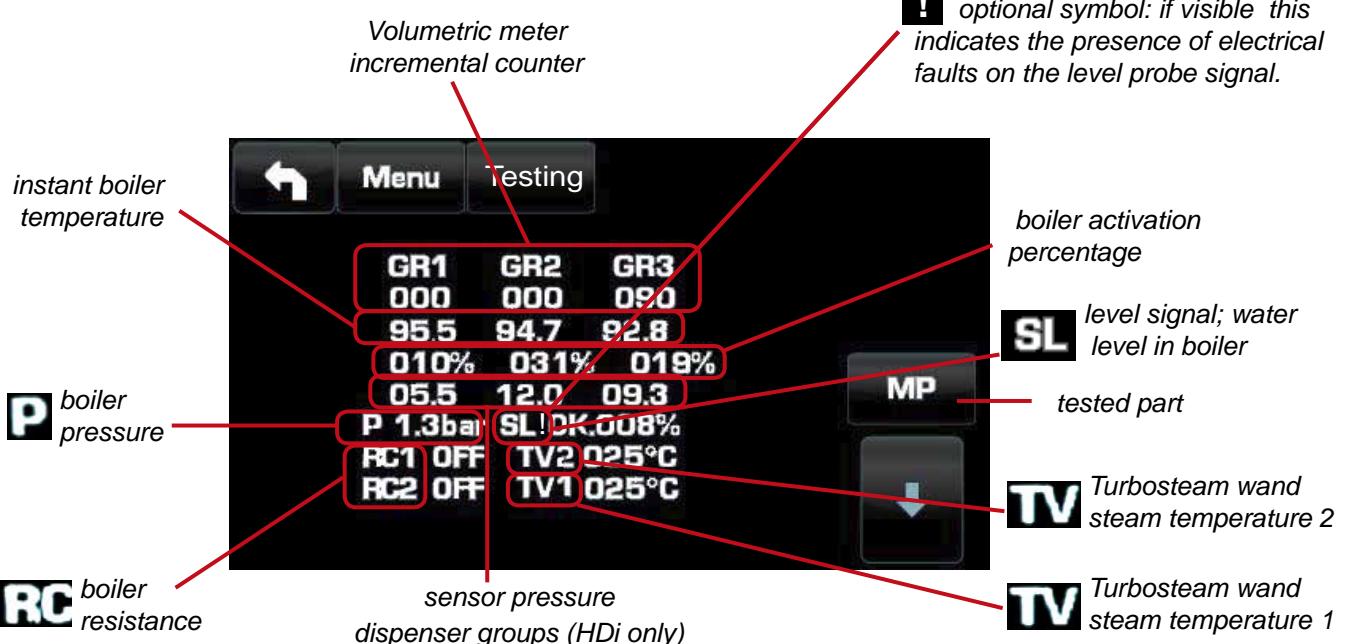


Press the icon



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

English



**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

RC1 OFF / RC2 OFF

Low power cycle: RC1 ON / RC2 OFF

RC1 OFF / RC2 OFF



Components to operate are selected by pressing icons ; 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÷G4</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>Ets</b>	Steam solenoid valve (Turbosteam) (Dx)*
<b>MC</b>	Turbosteam compressor motor (Dx)*
<b>Ets2</b>	Steam solenoid valve (Turbosteam) (Sx)*
<b>MC2</b>	Turbosteam compressor motor (Sx)*
<b>Eds</b>	EDS solenoid valve*
<b>Em</b>	Milk solenoid valve/ Pressure-reset solenoid valve
<b>Gp1÷Gp4</b>	Proportional solenoid valve*

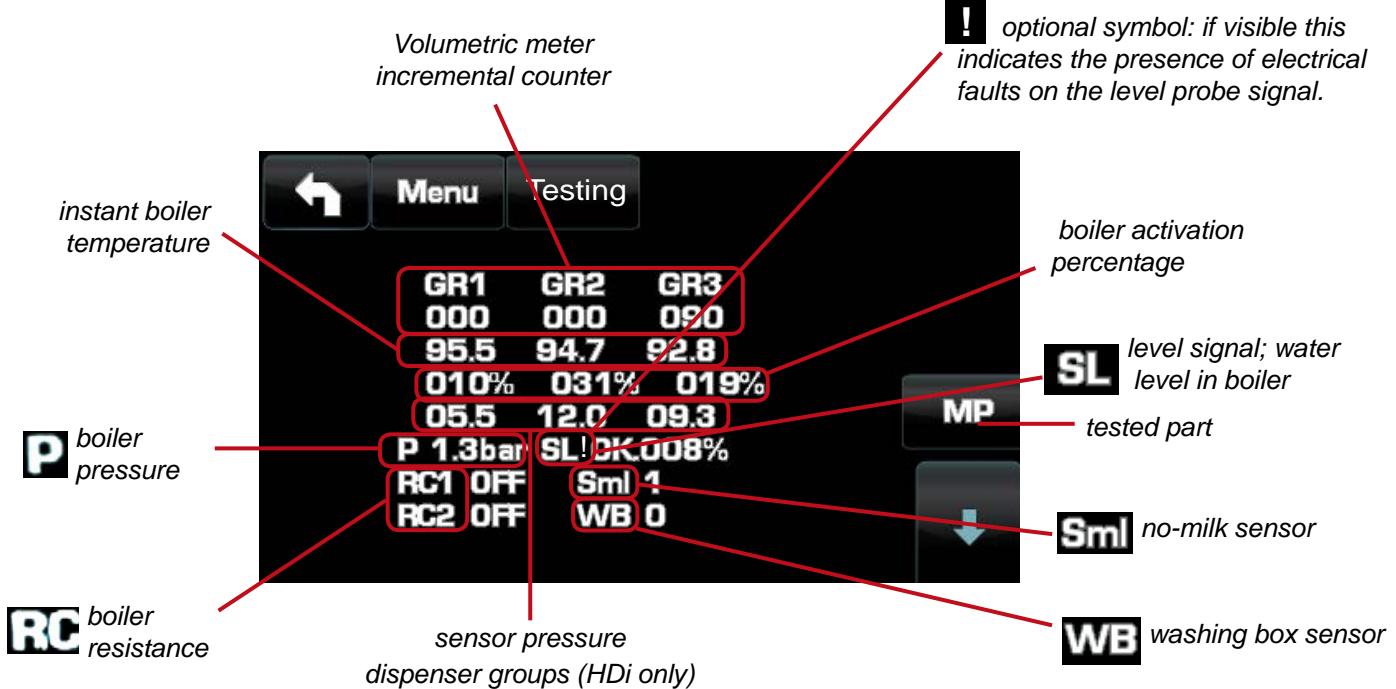
*The components - \* - are only applied with certain product configurations.*

(versions with Turbo Milk)



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

English



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

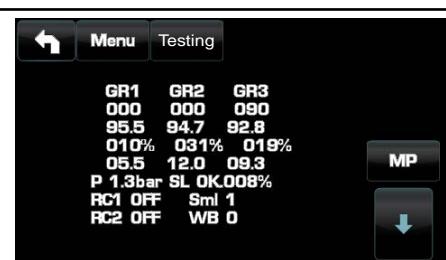
**RC Boiler resistance:** Activation of resistance elements on the basis of the power selected.  
Total power divided into:  $RC1 = \frac{2}{3}$  -  $RC2 = \frac{1}{3}$

Full power cycle:  $RC1 \text{ ON} / RC2 \text{ ON}$

$RC1 \text{ OFF} / RC2 \text{ OFF}$

Low power cycle:  $RC1 \text{ ON} / RC2 \text{ OFF}$

$RC1 \text{ OFF} / RC2 \text{ OFF}$



Components to operate are selected by pressing icons ; 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>	Dispense-coffee solenoid valve
<b>Eac</b>	Hot water solenoid valve
<b>Eaf</b>	Cold-water solenoid valve
<b>Ev</b>	Steam solenoid valve
<b>Evc</b>	Charge-boiler solenoid valve
<b>Em</b>	Milk solenoid valve
<b>Ed</b>	Diverter solenoid valve

<b>Elf1</b>	Water solenoid valve for milk reconstitution
<b>Edm</b>	Milk diverter solenoid valve
<b>Edar</b>	Air diverter solenoid valve
<b>Esm</b>	Milk safety solenoid valve
<b>Etm</b>	Turbomilk solenoid valve
<b>Elf</b>	Washing solenoid valve
<b>Mpl</b>	Milk pump motor

## 7. Washes

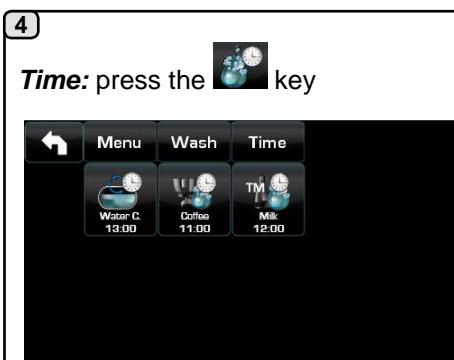
English

Press the icon .

Select from the following wash settings:

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

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

Press the  key and follow the instructions on the display.**NOTE:** More information on the wash cycle can be found in the "Cleaning and Maintenance" chapter.

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

Select which of the following times to set:

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

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 personnel 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

**Coffee:** 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 cancel the scheduled wash request by pressing the  key; in this case no time appears under the  key.

4c

**Milk:** press the  key



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



**NOTE.** It is NOT possible to cancel the scheduled wash request.

The new time appears under the  key.

## Steam dispensing

## Heating milk for frothy coffee (cappuccino)

General indications

Milk is a delicate biological product and can easily deteriorate. Heat modifies its structure. Milk must be kept at a storage temperature **no higher than 5 °C (41 °F)** from the moment the container is opened and throughout its entire period of use. Our storage appliances are suitable for this purpose.

**NOTE:** at the end of the work day (or not more than 24 hours from the time the container is opened), any remaining milk must be discarded.

## Dispensing with the Turbosteam selector (13)

(where applicable)

Machines equipped with the TURBOSTEAM (STOPSTEAM) dispensing system have the "*stop steam dispensing when set temperature is reached*" function, and can rapidly heat and froth milk.

The Turbosteam selector keys have different functions according to the following configuration:

- 1 heated milk.
- 2 frothed milk (low froth).
- 3 frothed milk (medium froth).
- 4 frothed milk (high froth).



- 13 Insert the steam nozzle (9a) into a suitable container, making sure the bulb is completely immersed in the milk.  
Use the selector (13) to select the type of frothed milk from the four available settings (1 ÷ 4) and press the related key.

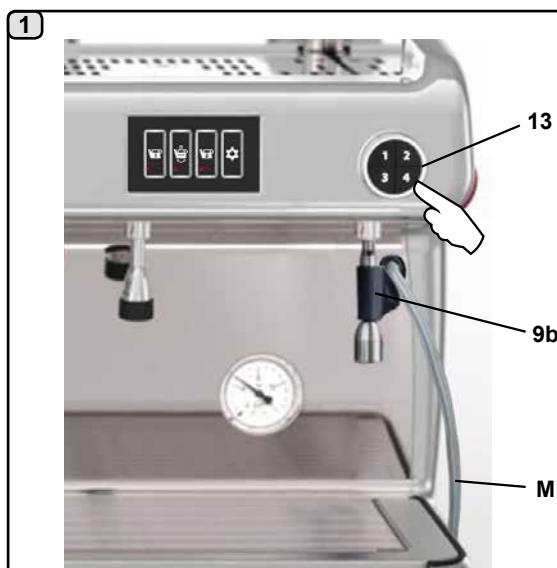


The type of frothing selected is displayed on the touch screen during dispensing.

Once the set temperature has been reached, steam dispensing will stop automatically.

Dispensing can be interrupted at any time by pressing any Turbosteam selector key (13).

## Milk dispensing (if applicable)



The type of milk selected is displayed on the touch screen during dispensing.

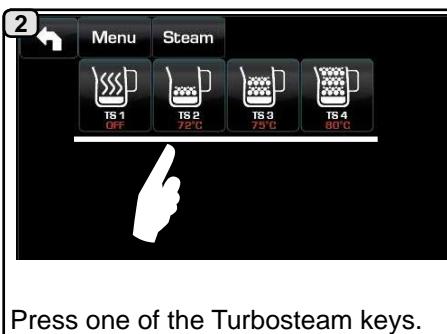
Once the set temperature is reached, the steam will stop automatically.

Dispensing can be interrupted at any time by pressing any Turbosteam selector key (13).

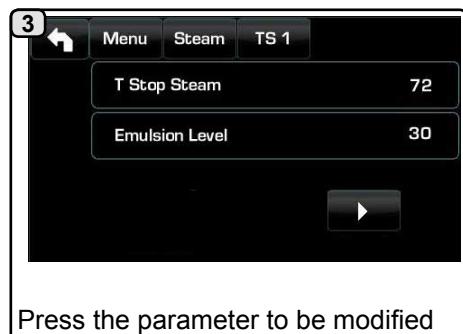
## 8. Turbosteam



Press the icon .



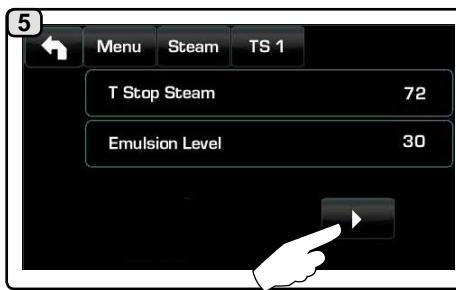
Press one of the Turbosteam keys.



Press the parameter to be modified



Set the values using the keys. Confirm the data inserted using the key or exit and leave the previous data using the key .



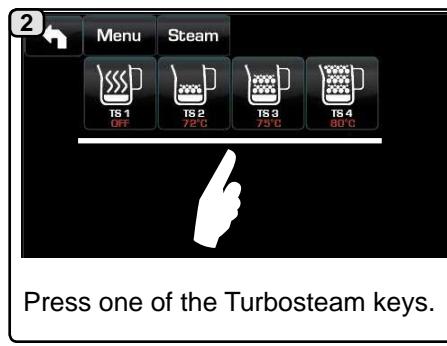
By pressing the key the following screen appears on the services display.



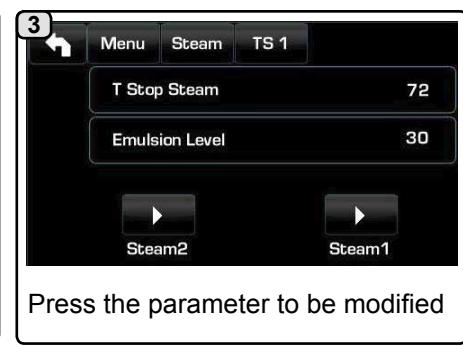
(versions with *Turbosteam L* and *Turbosteam R*)



Press the icon .



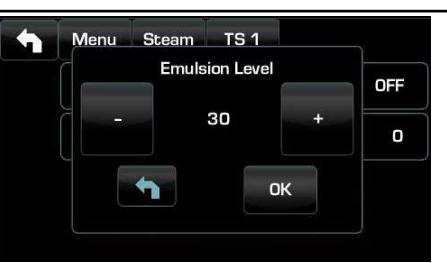
Press one of the Turbosteam keys.



Press the parameter to be modified



Set the values using the keys. Confirm the data inserted using the key or exit and leave the previous data using the key .

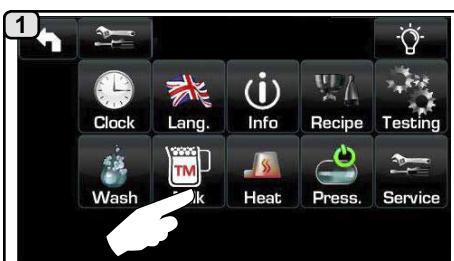


By pressing the key the following screen appears on the services display.

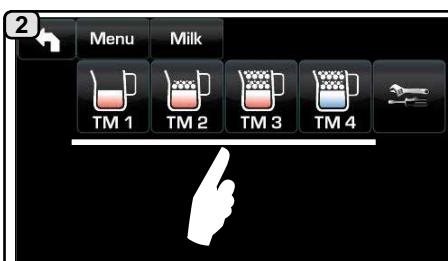


Milk (versions with Turbo Milk)

English



Press the icon .



Press one of the Turbo Milk keys.



Press the parameter to be modified.



Set the values using the keys. Confirm the data inserted using the key or exit and leave the previous data using the key .



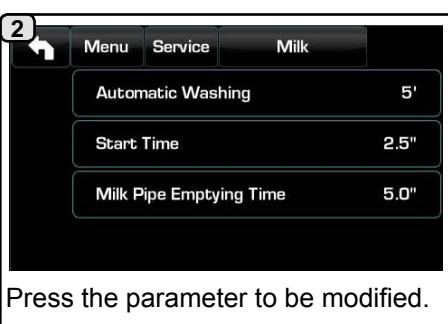
Note: pressing the icon makes it possible to edit the type of key ( )



By pressing the key the following screen appears on the services display.



Press the icon .



Press the parameter to be modified.



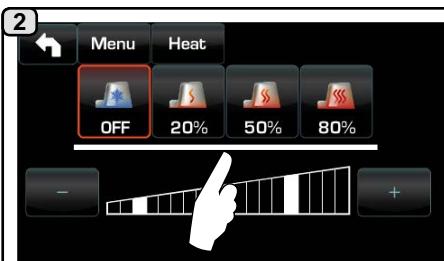
Set the values using the keys.

Confirm the data inserted using the key or exit and leave the previous data using the key .

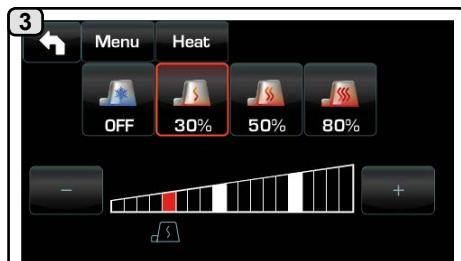
## 9. Cup Warmer



Press the icon



Select the heating level.



Additional changes are possible using the 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, the key displays the barred icon of the resistance : all resistances are disabled.

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

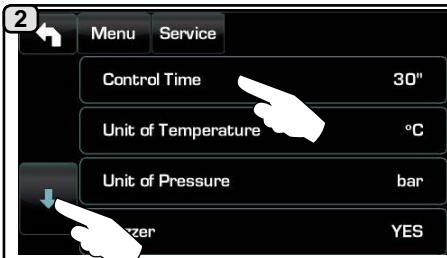
Icon in programming = disabled resistances (icon main menu).

## 11. Programming

English



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 .



	Menu	Service
Control Time	30"	
Unit of Temperature	°C	
Unit of Pressure	bar	
Buzzer	YES	

**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.

	Menu	Service
Weighing System	YES	
Payment System	OFF	
Level Sensib.	2	
Data In/Out		

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

**Payment Systems** - allows a payment system to be configured, when connected.

**Level Sensib.** - indicates the degree of sensitivity of the level probe, which then operates the filling of the boiler with water. For safety reasons, automatic level control of the boiler is disabled when the boiler resistance is turned off.  
- Note: set a value of 1 if the machine is installed with very conductive water.  
- NOTE: set a value of 3 if the water used is not very conductive (very soft).

**Data In/Out** - contains the items:  
IN: transfer from USB to machine;  
OUT: from machine to USB.

	Menu	Service
Grinder Control 1		►
Grinder Control 2		►
Bluetooth		►
Wifi		►

**Grinder Control-1**

**Grinder Control-2**

**(only if the machine is connected to a wireless grinder/dispenser).**

The parameters that can be set are:

- **enabled** - MM1 - MM2

Set to "NO" during the machine configuration phase; "YES" once parameters have been entered.

- **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.

	Menu	Service
Boiler Pressure	1.2	
Customer Prog.	NO	
Prog. Lock	NO	
Drying Time	5.0"	

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

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

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

**Drying** - (tablet drying time; YES/NO [from 1 min to 5 min])

## 11. Programming



**Coffee Boiler** - this parameter includes the items for setting the coffee boiler temperature; values that can be set are 60°C to 110°C (140°F to 230°F) with steps of 0.5°C. Group temperature programming with offset correction possible (see section in pages below).

**Softener Reg.** - includes the resin regeneration parameters: litres of resin (from 0.1 l to 25 l), hardness (from 0°F to 45°F). The decreasing resin efficiency level is also indicated.

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

For both functions, an efficiency percentage is displayed (Softener/Filter), descending from 100% to 0%.

**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.



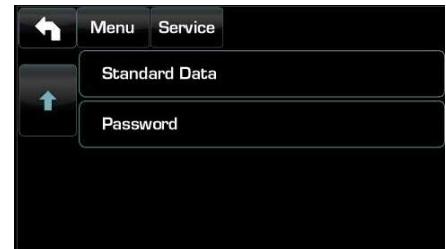
**Bds** - see section “BDS Activation” in the following pages.

**Flush** - see section “Enabling Flush key” in the following pages.

**Low Power** - YES/NO

**Drying Time** - coffee disc drying time from 0 to 5 with steps of 0.1 seconds.

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

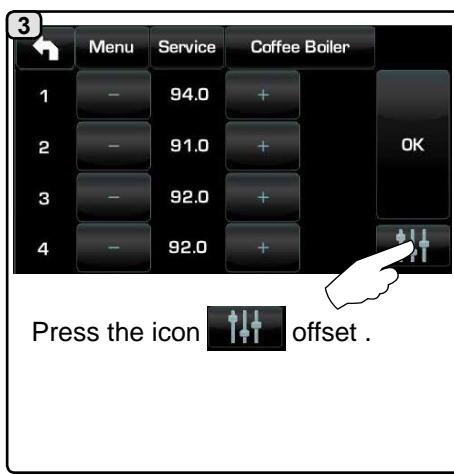
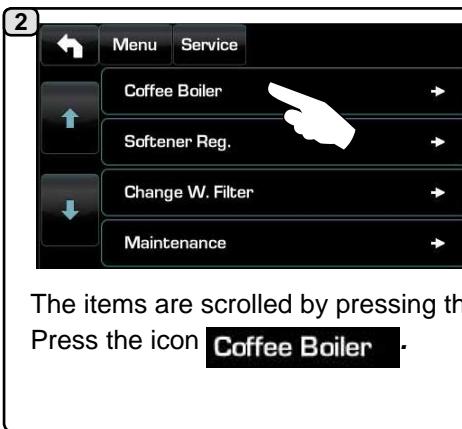
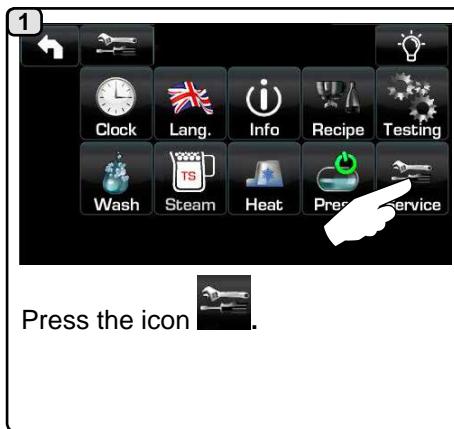


**Standard data** - Allows loading of standard data or reconfiguration of the machine. In both cases the machine is automatically restarted.

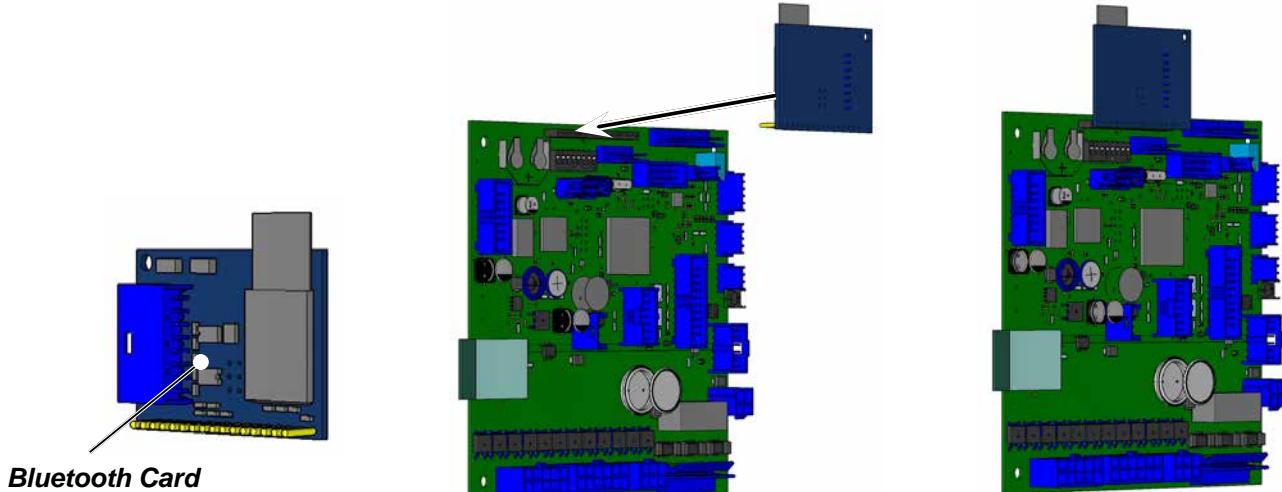
**Password** - allows change of the code for accessing technical programming.

## Boiler temperature

English



## Bluetooth Connection



**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

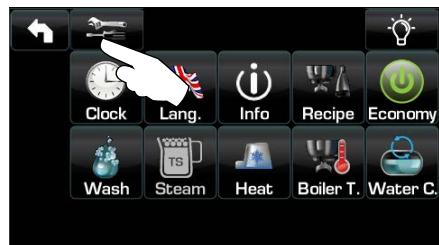
English

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



To enter the TECHNICIAN 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

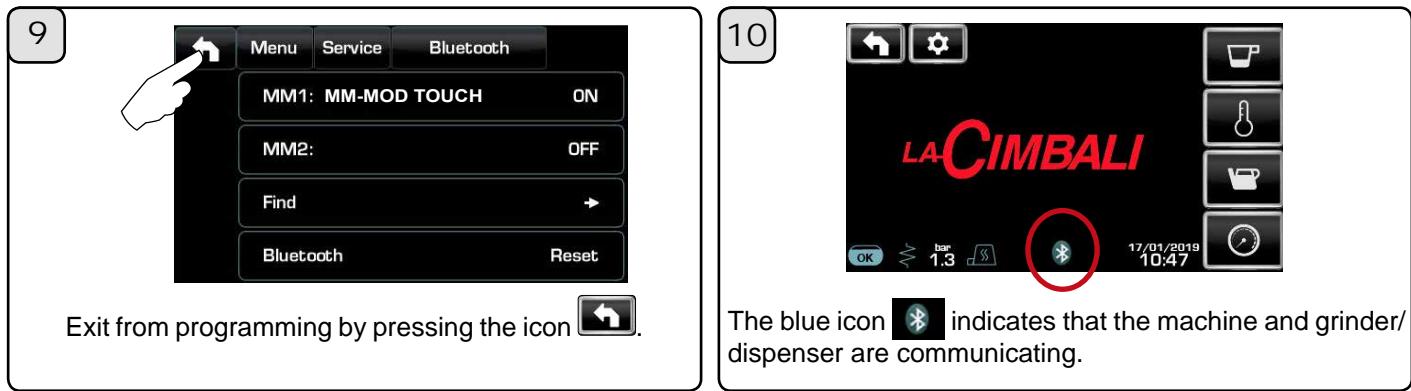


The machine will find all Bluetooth devices within a range of 10 metres.

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

English

**1**

Menu Service  
BDS NO  
Flush OFF  
Low Power NO  
Screensaver →

**2**

Menu Service  
BDS NO YES  
NO 3" NO  
Screensaver →

1) The items are scrolled by pressing the icons ↓ ↑.  
2) Press the icon **BDS**.

**3**

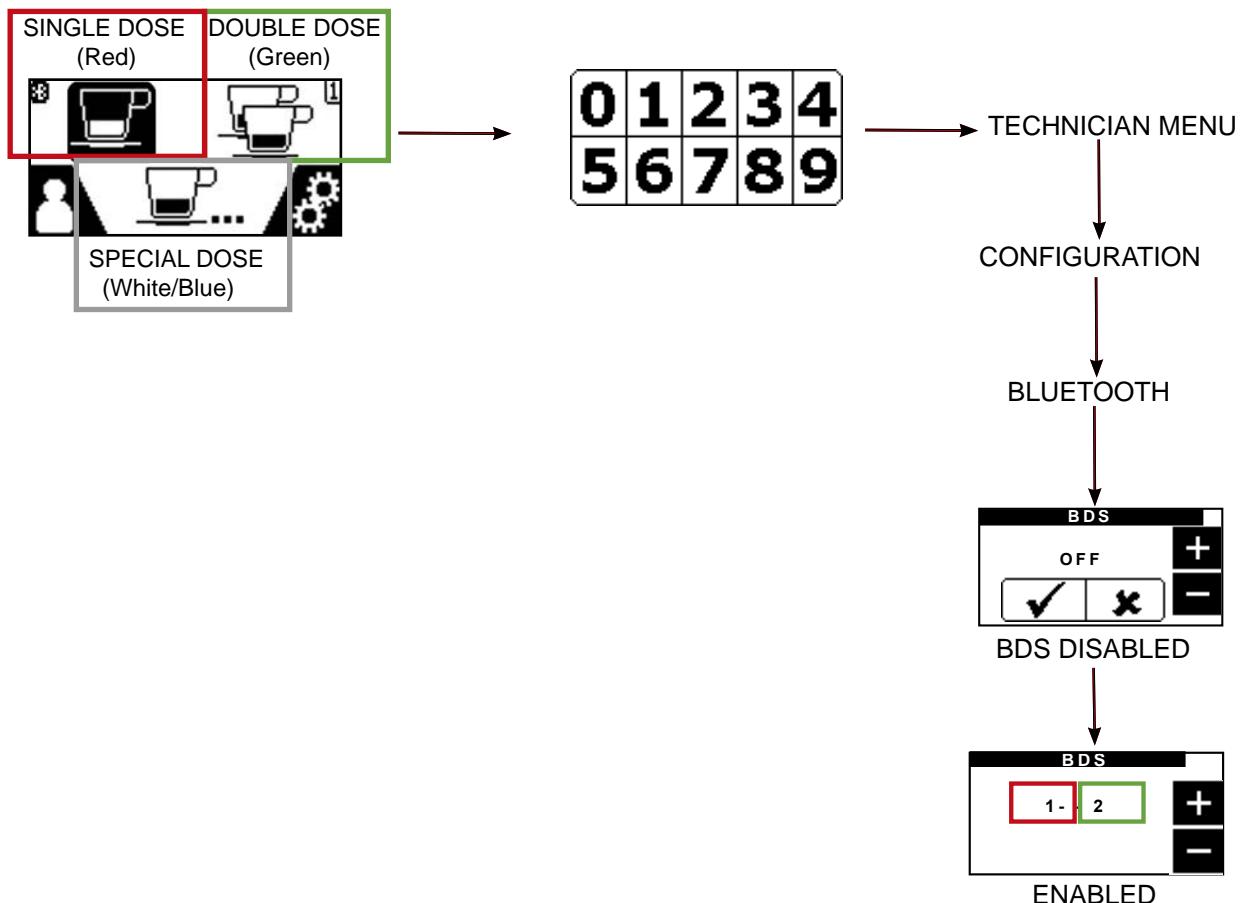
Menu Service  
BDS YES YES  
NO 3" NO  
Screensaver →

Press the icon **OK** to confirm.

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

**Screen Preview:** Shows the main screen with the BDS icon circled in red at the bottom right.

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



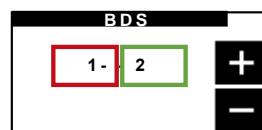
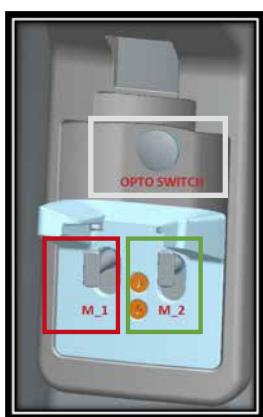
**CONFIGURATION OF MAGNUM BLUETOOTH GRINDER/DISPENSER SENSORS**

0: sensor disabled

1: single dose (Red)

2: double dose (Green)

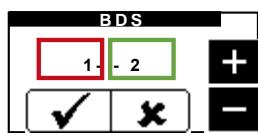
SINGLE DOSE  
(Red)



DOUBLE DOSE  
(Green)



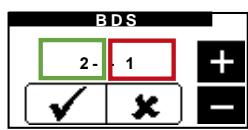
SPECIAL DOSE  
(White)



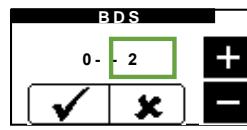
Single dose – Left sensor (Red)

Double dose – Right sensor (Green)

SPECIAL DOSE  
(Blue)

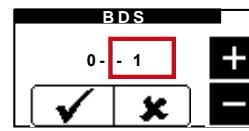


Double dose – Left sensor (Green)  
Single dose – Right sensor (Red)



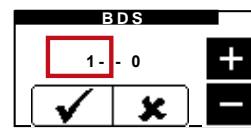
Left sensor disabled

Double dose – Right sensor (Green)

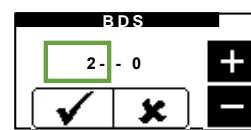


Single Dose – Right sensor (Red)

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 o 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** and **C** the filter-holders are identified



MEDIUM



SHORT

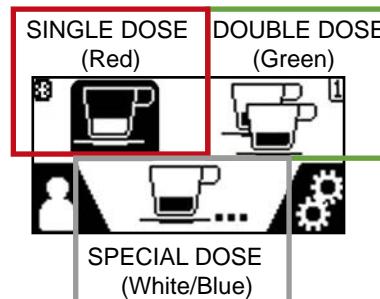


LONG



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 (White/Blue)
- Double type
  - Short
  - Medium -> DOUBLE DOSE (Green)
  - Long

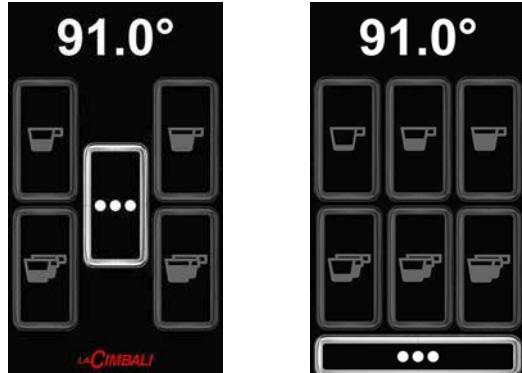


## Operating logic

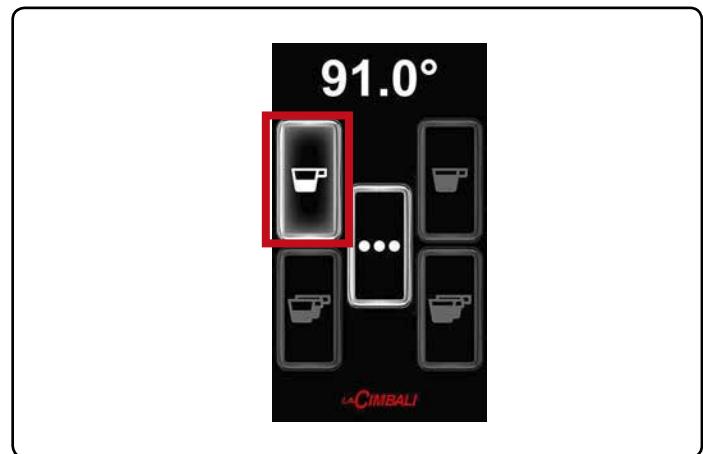
BDS system enabled.

Dispensing disabled (keys off) NOTE: Start/Stop key is always active.

English



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.



**1**

The screen shows a menu with the following options:

- Menu
- Service
- Grinder Control 1
- Grinder Control 2
- Bluetooth
- Wifi

A hand icon points to the "Grinder Control 1" option.

1) The items are scrolled by pressing the icons .

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

**Grinder Control-1****Grinder Control-2**

**(only if the machine is connected to a wireless grinder/dispenser).**

The parameters that can be set are:

: not in use

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

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

**2**

The screen shows the following settings:

- Enabled: - (not in use)
- Setup Limit: 10%
- Q Ref.1-B [ml/s]: 2.0
- Q Ref.1-A [ml/s]: 3.5

A hand icon points to the "Enabled" setting.

Press the icon **Enabled**

Note: For proper operation of the grinder control system, keys of the same type (for example singular ones relative to grinder/dispenser 1) programmed with the same pressure and time parameters, in all the phases of the profile.

**3**

The screen shows the following settings:

- Enabled: - (not in use)
- Setup Limit: 10%
- Q Ref.1-B [ml/s]: 2.0
- Q Ref.1-A [ml/s]: 3.5

A hand icon points to the "Enabled" setting.

: not in use

**4**

The screen shows the following settings:

- Enabled: ✓ (manual grinder control)
- Setup Limit: 10%
- Q Ref.1-B [ml/s]: 2.0
- Q Ref.1-A [ml/s]: 3.5

A hand icon points to the "Enabled" setting.

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

**5**

The screen shows the following settings:

- Enabled: \* (automatic grinder control)
- Setup Limit: 10%
- Q Ref.1-B [ml/s]: 2.0
- Q Ref.1-A [ml/s]: 3.5

A hand icon points to the "Enabled" setting.

: 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 or exit and leave the previous data using the key .

## Grinder control parameters configuration

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

***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.

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.

## Grinder control parameters configuration

 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.



Press the icon **Info**.

**2**

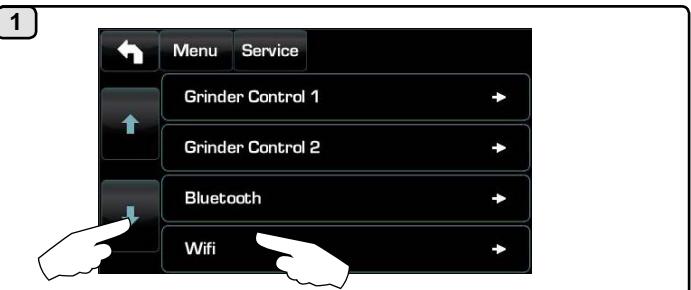
	Q Rif. = 3.5 [ml/s]			Q = 3.3 [ml/s]
	GR 1	GR 2	GR 3	
[s]	23.5	22.2	000.0	
A [ml/s]	2.6	2.7	--	
N	43	12	0	
[s]	000.0	24.4	25.1	
B [ml/s]	--	3.6	3.3	
N	0	65	67	
[s]	000.0	000.0	000.0	
C [ml/s]	--	--	--	
N	0	0	0	

Example of information on the flows of each single dispensing sent to the Plat-One platform via WIFI.

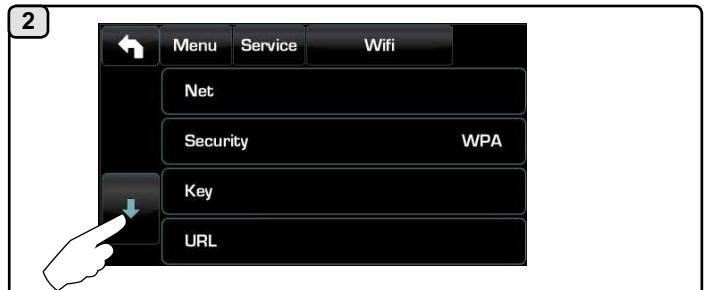
- (A) GR1 single coffee,
- (B) GR 3 double coffee,
- (A/B) GR 2 central with one single coffee and one double,
- (C) the filter holder is not used for special coffees.

## Wi-Fi configuration

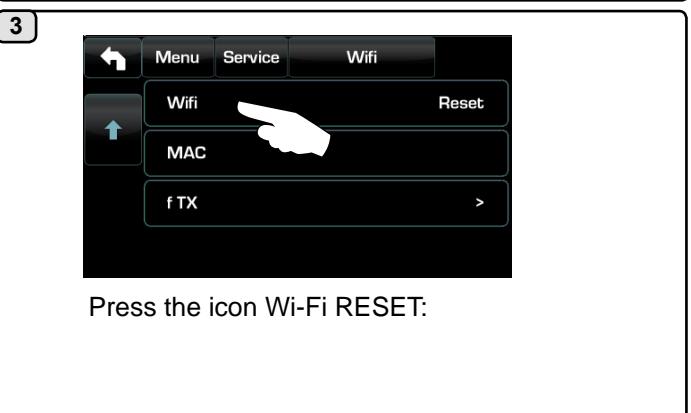
English



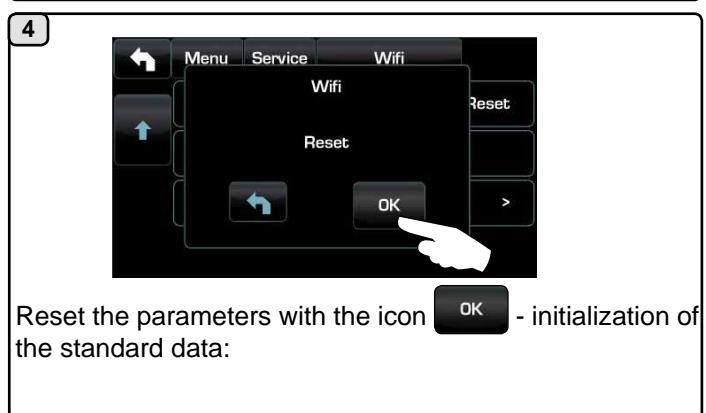
- 1) The items are scrolled by pressing the icons   
2) Press the icon **Wifi**.



Scroll through the items using the icons



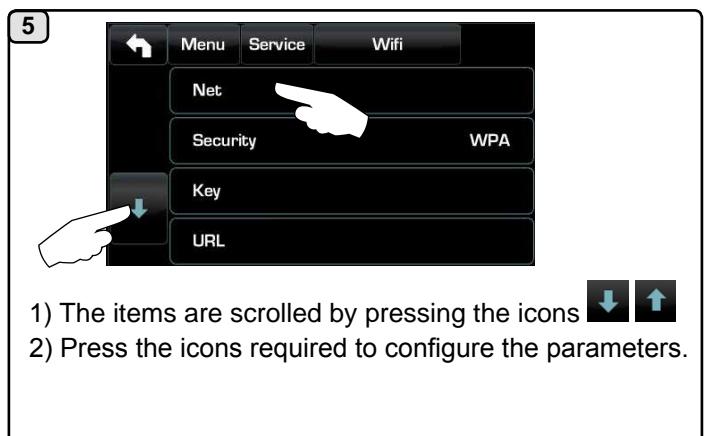
Press the icon Wi-Fi RESET:



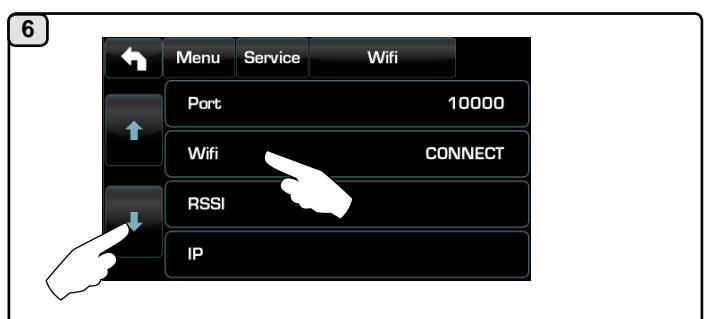
Reset the parameters with the icon **OK** - initialization of the standard data:

**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.
- **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).



- 1) The items are scrolled by pressing the icons   
2) Press the icons required to configure the parameters.

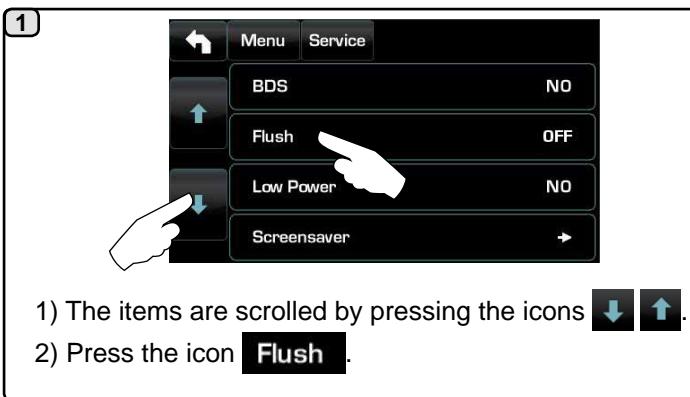


Place the cursor on the item CONNECT to manually connect to the access point selected; if the configuration of the Wi-Fi module is correct, the following icon appears on the display **WIFI**:

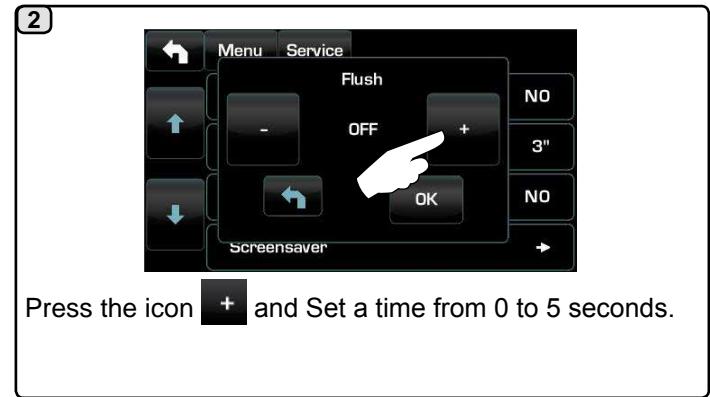
## Enabling Flush key

By entering the programming menu you can activate the FLUSH key.

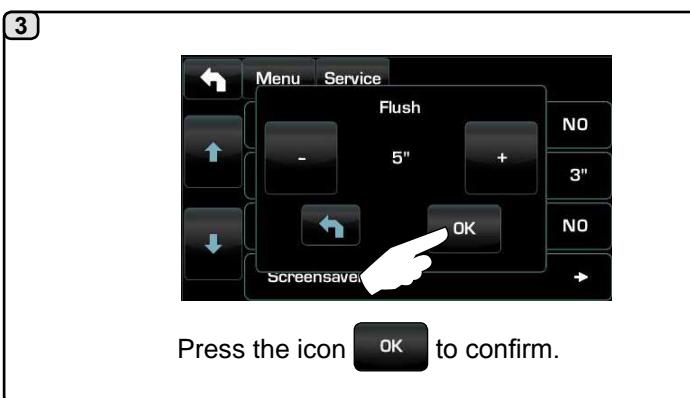
English



- 1) The items are scrolled by pressing the icons .
- 2) Press the icon **Flush**.



Press the icon and Set a time from 0 to 5 seconds.



Press the icon to confirm.

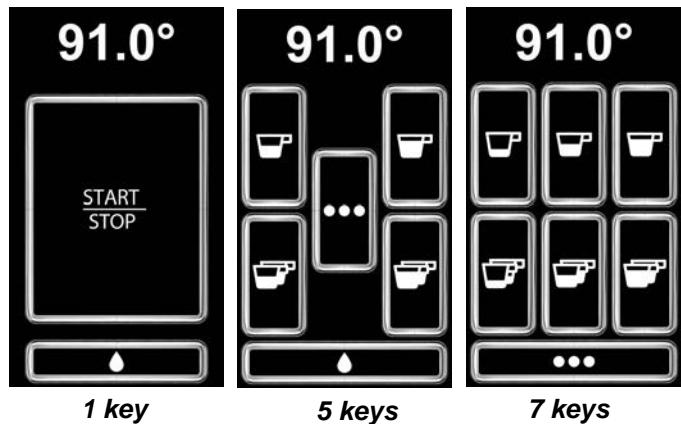
The machine can be set with 3 configurations:

1 key;

5 keys;

7 keys.

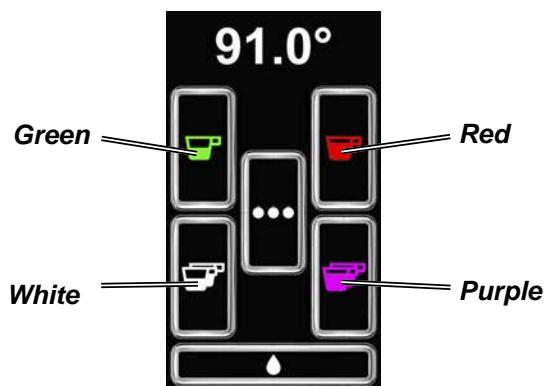
NOTE: when the machine is configured with 7 dispensing keys, the FLUSH key cannot also be present.



Note: the machine can only be configured to six keys in the version with a mechanical keyboard.

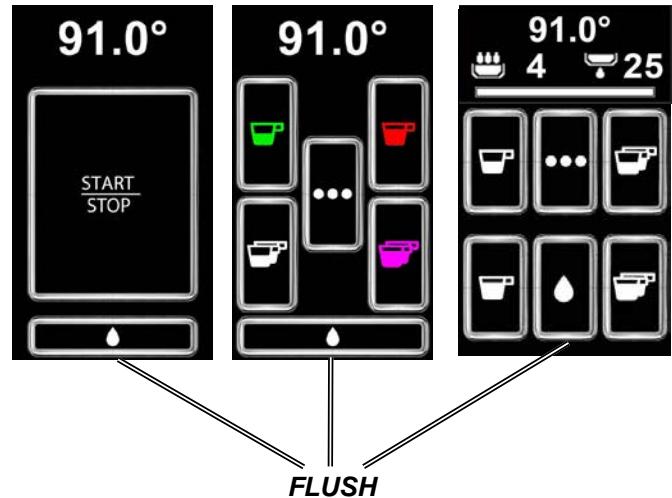


In addition, the keys of each dispenser group can be represented with different colours:



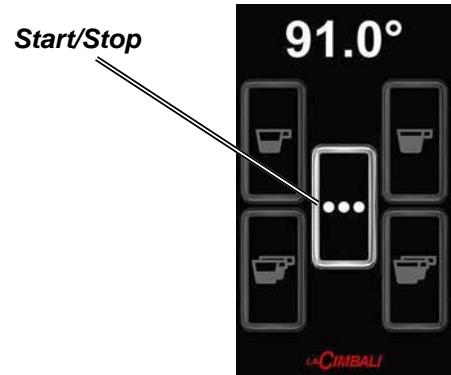
An additional function which is represented by the FLUSH key in the lower part of the display of each coffee dispenser group.

The FLUSH key makes it possible to briefly operate the "group rinse" (between 1 and 5 seconds) before inserting the filter holder.



If you want to interrupt this cycle, it is possible to stop the dispensing at any time by pressing any key on the unit.

The FLUSH key is not tracked in the cycle counters and remains free and active with payment systems in operation



## Logo

On all the machine displays, after a period of inactivity set on the "Screensaver" menu, the standard Cimbali logos appear



English

**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:

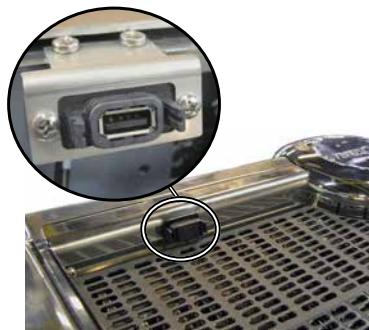
<i>custlogo.bmp</i>	<i>logogrp.bmp</i>
<ul style="list-style-type: none"> <li>width less than or equal to <b>270 pixels</b>;</li> <li>length less than or equal to <b>170 pixels</b>.</li> <li><b>24-bit bmp</b> colour.</li> </ul>	<ul style="list-style-type: none"> <li>width less than or equal to <b>272 pixels</b>;</li> <li>length less than or equal to <b>480 pixels</b>.</li> <li><b>24-bit bmp</b> colour.</li> </ul>

Copy onto a USB pen drive the "*logogrp.bmp*" and/or "*logosrv.bmp*" files if you want to display a logo for the group display and one for the services display.

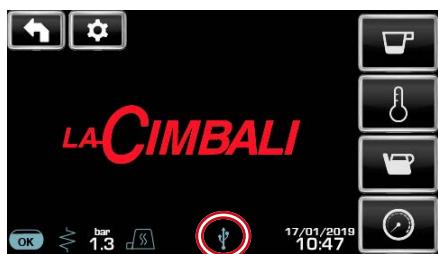
Copy the file "*custlogo.bmp*" if the user wants to display the same logo on all displays.

NOTE: If in the USB pen drive there are all files logo, will be displayed the image of the file "*custlogo.bmp*".

**2** Insert the USB pen drive in the dedicated slot on the machine:



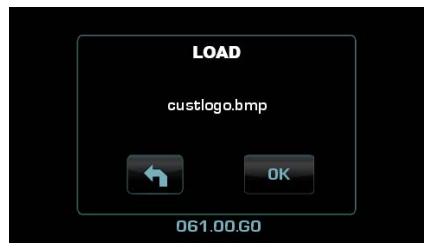
the icon will appear on the services display:



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



If in the USB pen drive there is the file *logogrp.bmp* and / or *logosrv.bmp*



If in the USB pen drive there is the file *custlogo.bmp*

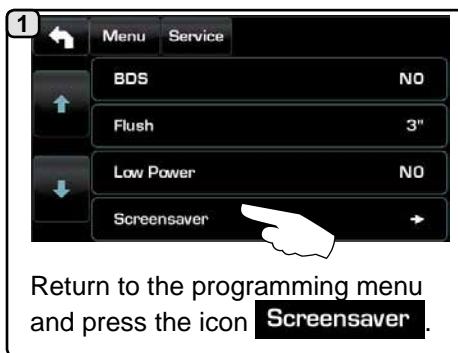
**4** Press OK and wait for the file to load:



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

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



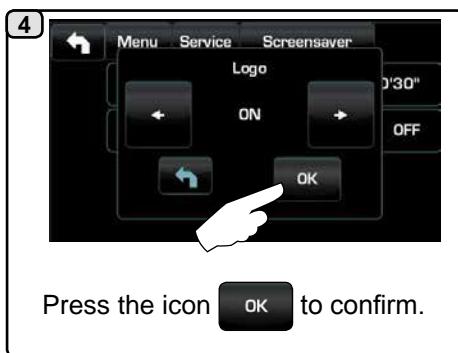
Return to the programming menu and press the icon **Screensaver**.



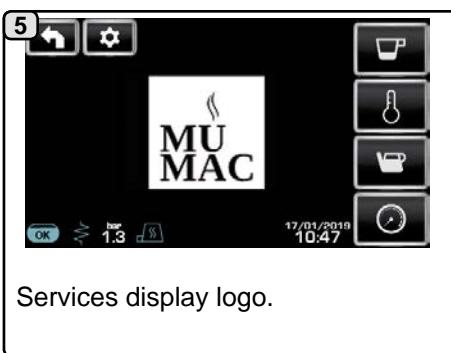
Press the icon **Logo**.



Press the icon **→**.



Press the icon **OK** to confirm.



## Coffee group display logo

- 6 Select the item GROUP to display the logo, both on the services display and on all displays of the coffee groups (the logo appears after 1 minute of inactivity)



Press the icon **OK** to confirm.

7



Coffee group display logo.

- 8 If you do not want to load custom images, M100 also offers a "default logo" that is always present in the machine. It is the "La Cimbali" logo



- 9 In the programming menu, just activate the logo item (without inserting any USB drive)

The "La Cimbali" logo will be displayed on the services display and, if the item group is activated, it will also be displayed on the coffee group display

## Time

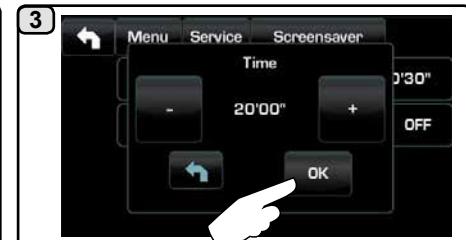
Possibility of programming the screensaver display time (from 30" to 20') with steps of 30 seconds.



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

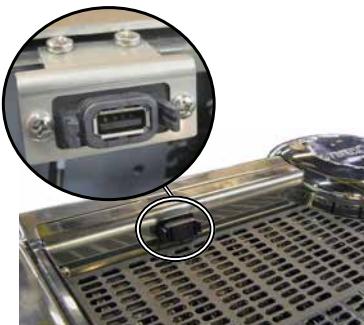


Press the icon **+**.

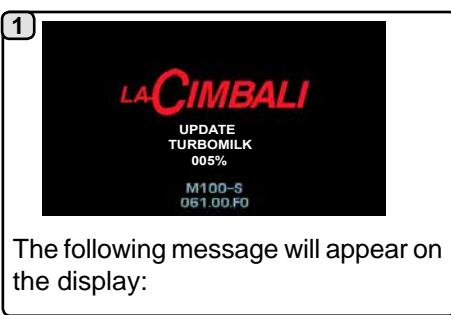


Press the icon **OK** to confirm.

## Updating the TurboMilk SW board using USB Pen Drive.



- 1 Take an empty USB pen drive.
- 2 Copy the update file "Tmilk.hex" into the main directory of the pen drive from [ftp://cffirmware:firmware@213.182.66.30/NEWTON/FIRMWARE/065\\_00\\_A0\\_09062015.zip](ftp://cffirmware:firmware@213.182.66.30/NEWTON/FIRMWARE/065_00_A0_09062015.zip)
- 3 Insert the USB pen drive in the dedicated port on the machine
- 4 Turn on the machine



The following message will appear on the display:



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

## Updating from a USB pen drive

1

**PRELIMINARY OPERATIONS**

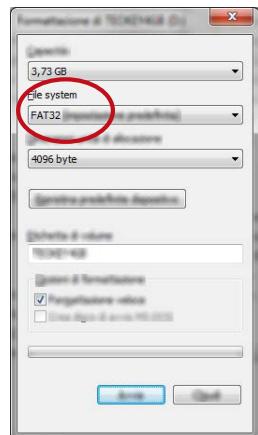
Format a USB Pen Drive using the **FAT32** format. If using Windows, use the predefined formatting settings as shown in the image.



Copy the update files (CPU **image.s19**; *only for M100RE: DISPLAY M100RE.gcf*) 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.



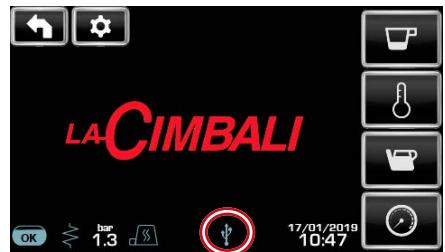
2

**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.s19**.

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 key can be left inserted and will also automatically update the displays.



6

Insert the USB Pen Drive; start the DISPLAY update:



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.



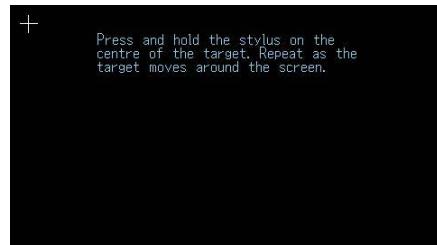
### DISPLAY CALIBRATION

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

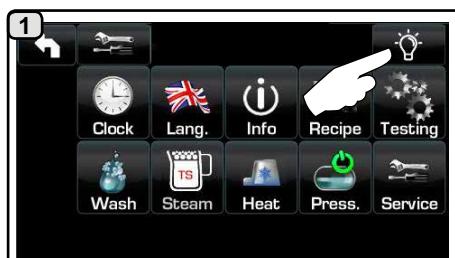
The following message appears on all the displays when turned on:

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

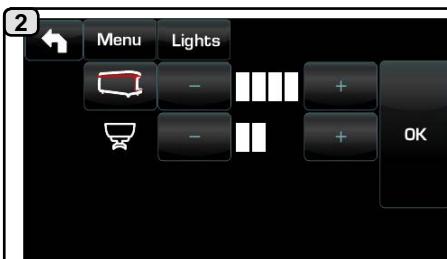
Perform the calibration on all the displays or only on those where it is required. At the end of the operation, turn off the machine and return the Dip 3 to OFF.



### Lighting



Press the icon .



This menu allows adjustment of the machine lights. Specifically:

- **rear led bar**
- **groups light**

Set the values using the and keys.

The changes will be applied after the data entered is confirmed with the icon .

The rear LED bar is not adjustable and can only be switched on/off (it is switched on when the machine is started) .

**NOTE.** Continuous lighting (24 hours a day, 7 days a week) can be activated by pressing the .

When the icon shows, this function is active.

1

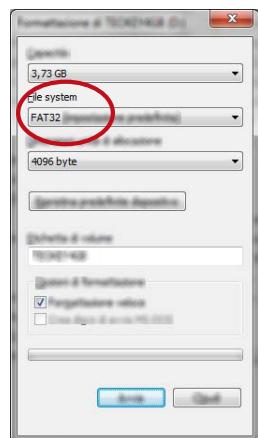
## PRELIMINARY OPERATIONS

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 ( GCKeyApp.hex) onto the USB drive's main path.

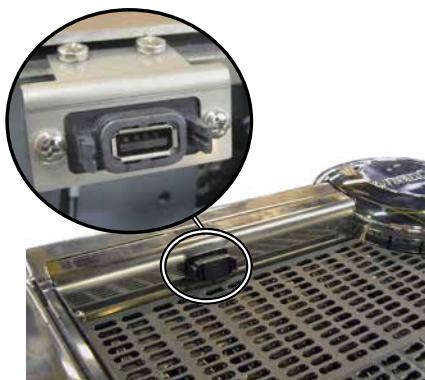


**NOTE:** Do not turn off the machine or remove the USB Drive until the update has been completed. If using a USB drive with an operating LED, it will flash when the update is complete.



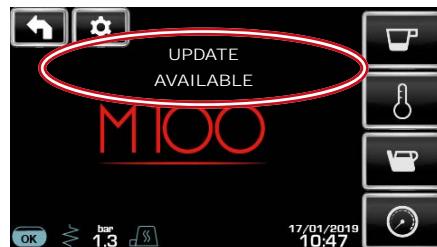
2

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:



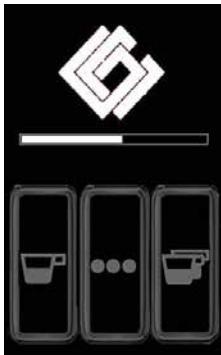
With the machine on, insert the USB drive containing the update files into the USB port.

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.

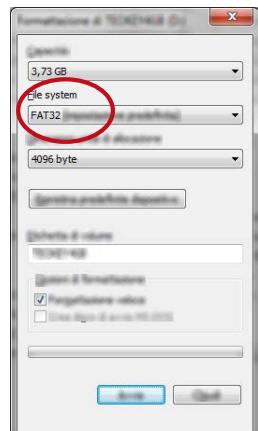
1

**PRELIMINARY OPERATIONS**

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

Copy the M100RE.gcf and GCKeyApp.hex files from the USB drive.

Create a text file in the GC folder and rename it I2CSOS.CIM.



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.



**Touch screen display test**

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.

**Coffee group display**X:0  
Y:0**Service display.**X:0  
Y:0

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

**Coffee group display**+  
X:460  
Y:23**Service display.**+  
X:27  
Y:144

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

**English**

## 12. Diagnostic messages

English

MALFUN. CODE	DESCRIPTION	POSSIBLE CAUSES	VERIFICATIONS and SOLUTIONS
020	<b>USB power-supply malfunction.</b>	• USB-port current-consumption too high.	<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.	• Sensor failure • Card failure.	<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>	• The glass fuse on the CPU board is likely broken.	<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>	• Voltage drop in the power supply	<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>

MALFUNCTION CODE	DESCRIPTION	POSSIBLE CAUSES	VERIFICATIONS and SOLUTIONS
(x)52*	<b>Group x boiler heating timeout - 20 minutes</b> <b>(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>Thermocouple 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>Resistance always powered.</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> <b>(x = 1, 2, 3, 4)</b> 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. (x = 1, 2)</b> <b>MM1 &gt; 170; MM2 &gt; 270</b>		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> <b>MM1 &gt; 185; MM2 &gt; 285</b>	<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>	<p>Turn the machine off and on again. If the error persists, replace the CPU board.</p> <p>Check the condition of the clock battery.</p>
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*	<b>Reset standard password.</b>	• Action desired by the user by entering the special code (applicable only for machines with TFT display).	
098	<b>Historical malfunctions and wash 1 reset.</b>	• Initialisation malfunction history (and washing history for machines without TFT display)	• Event only archived and not displayed on the display during normal machine operation.
099	<b>Default data input.</b>		
105	<b>SD card communication malfunction.</b>	• SD card corrupted or malfunction.	• Replace SD card.
282	<b>Keypad reset operation carried out by CPU board due to repeated communication problems.</b>		• Check the insulation. • Check the wiring and connections.
583	<b>TS/AS keyboard board communication error. RGB light module failure only for Emblem R.</b>	• Break in wiring. • Keyboard board failure. • Light board failure.	• Check wiring. • Replace keyboard board. • Replace light board.
683	<b>Turbosteam module communication malfunction.</b>	• Break in wiring. • Board failure.	• Check wiring. • Replace Turbosteam board.

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

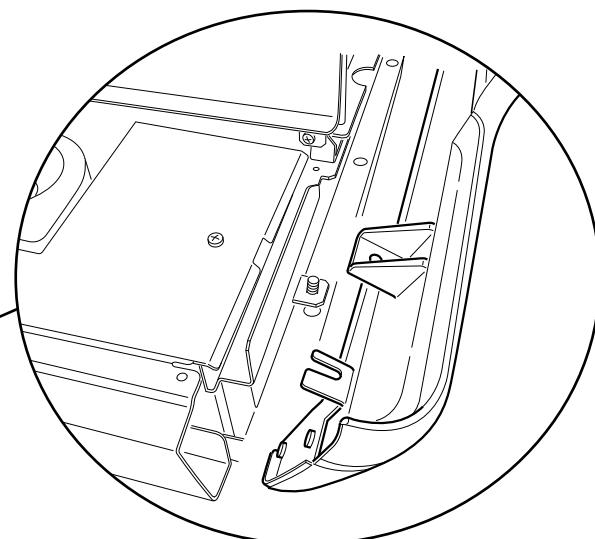
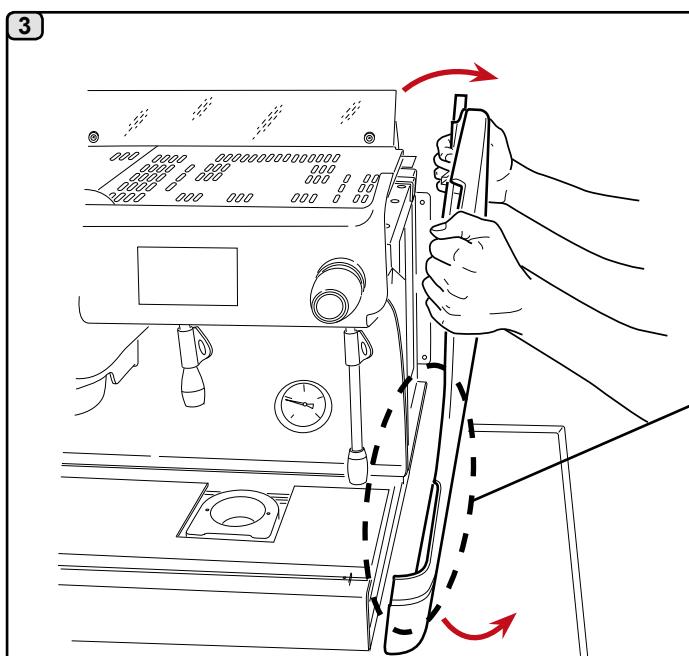
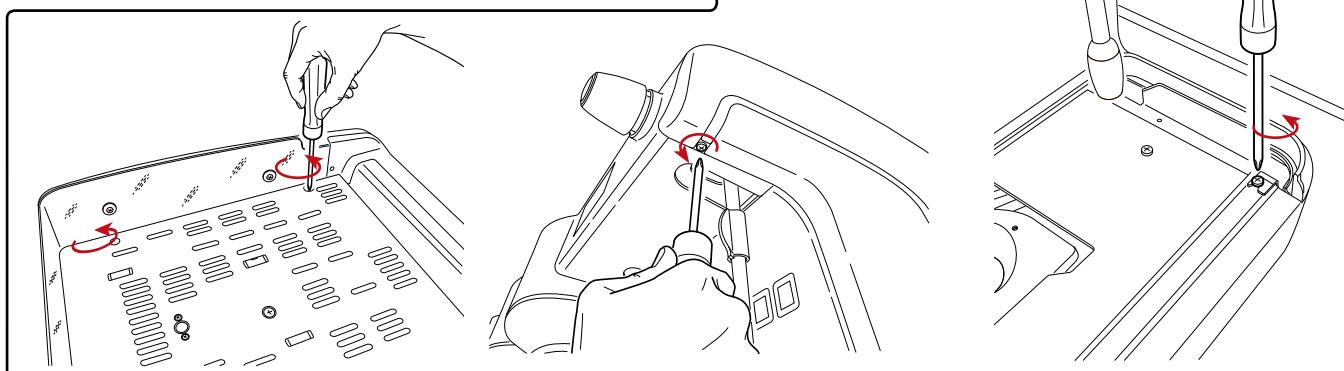
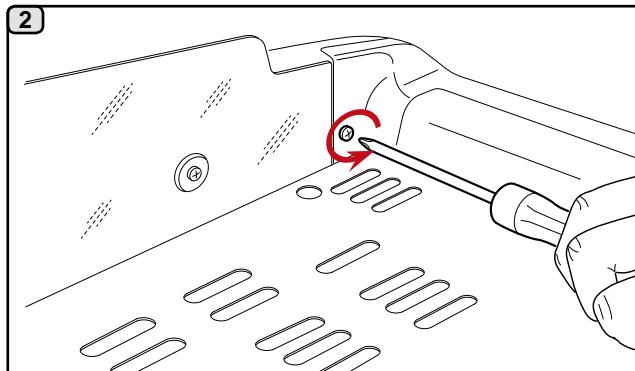
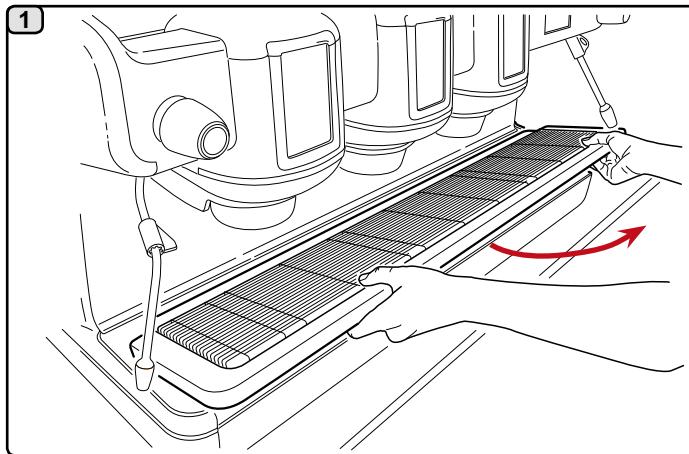
## DISASSEMBLY AND ADJUSTMENTS



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

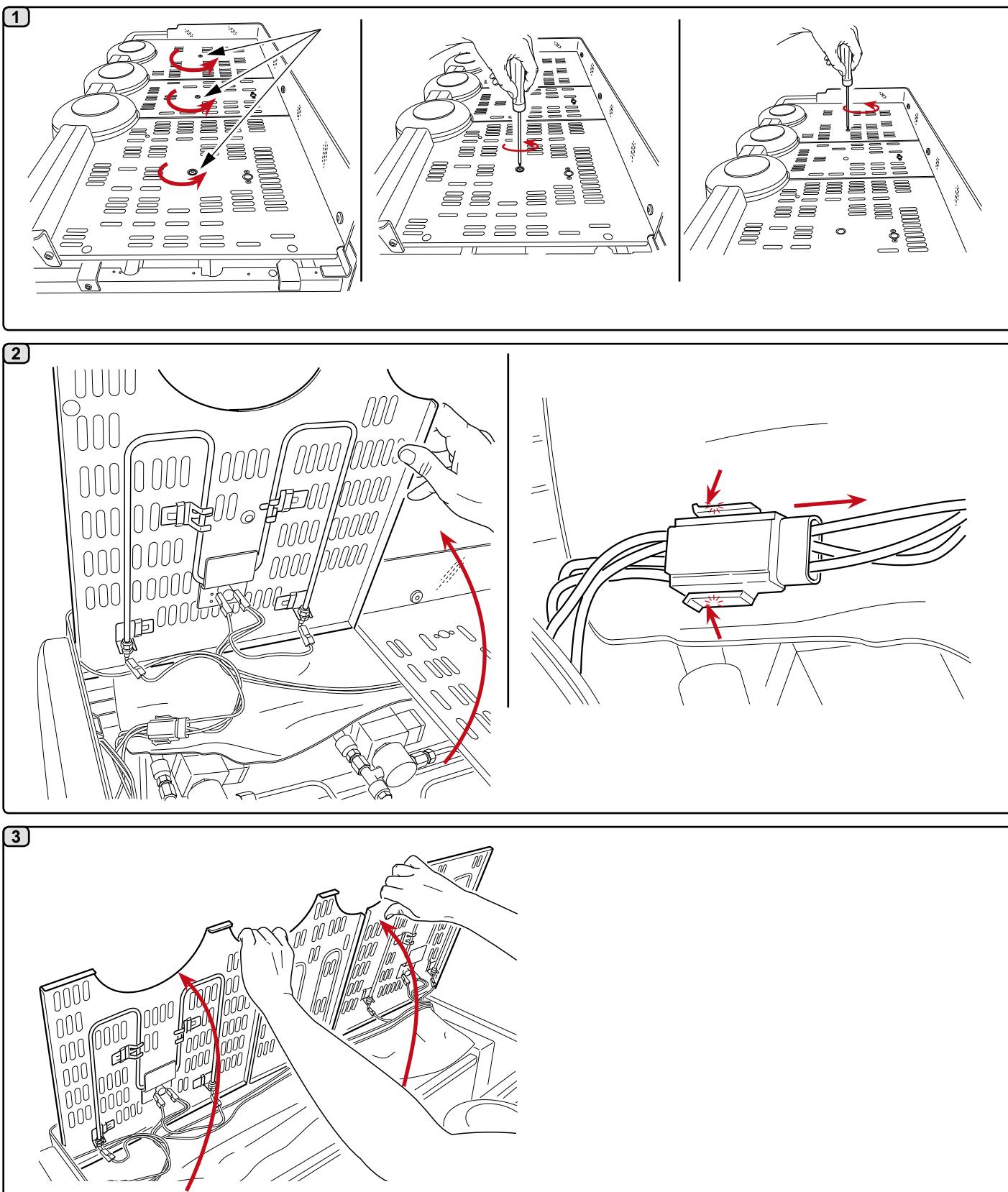
## 13. Removal of the side panels

English



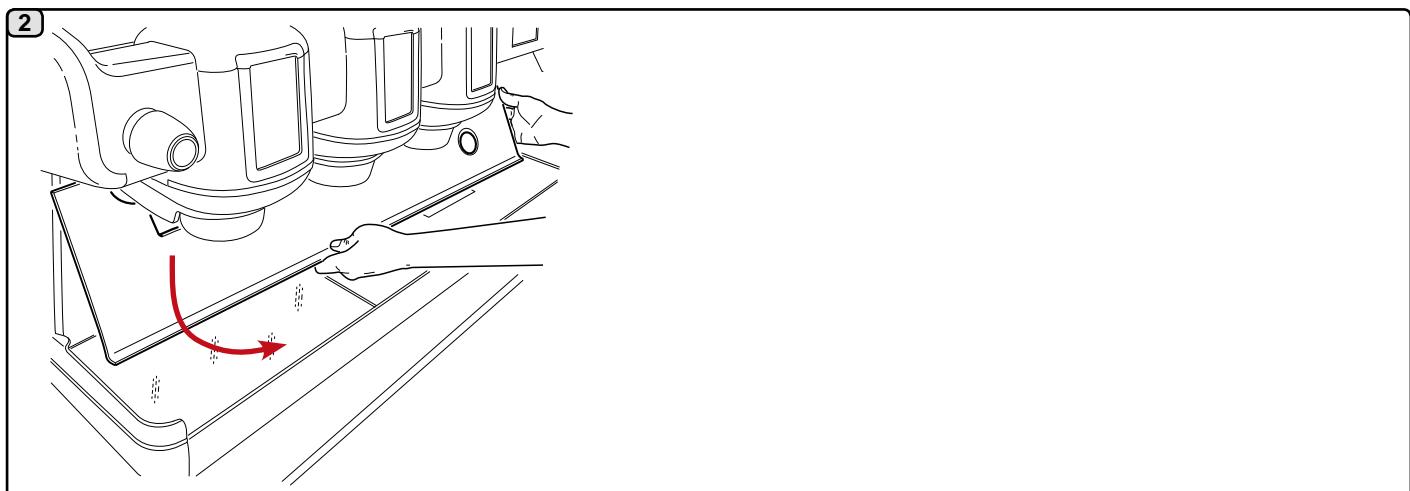
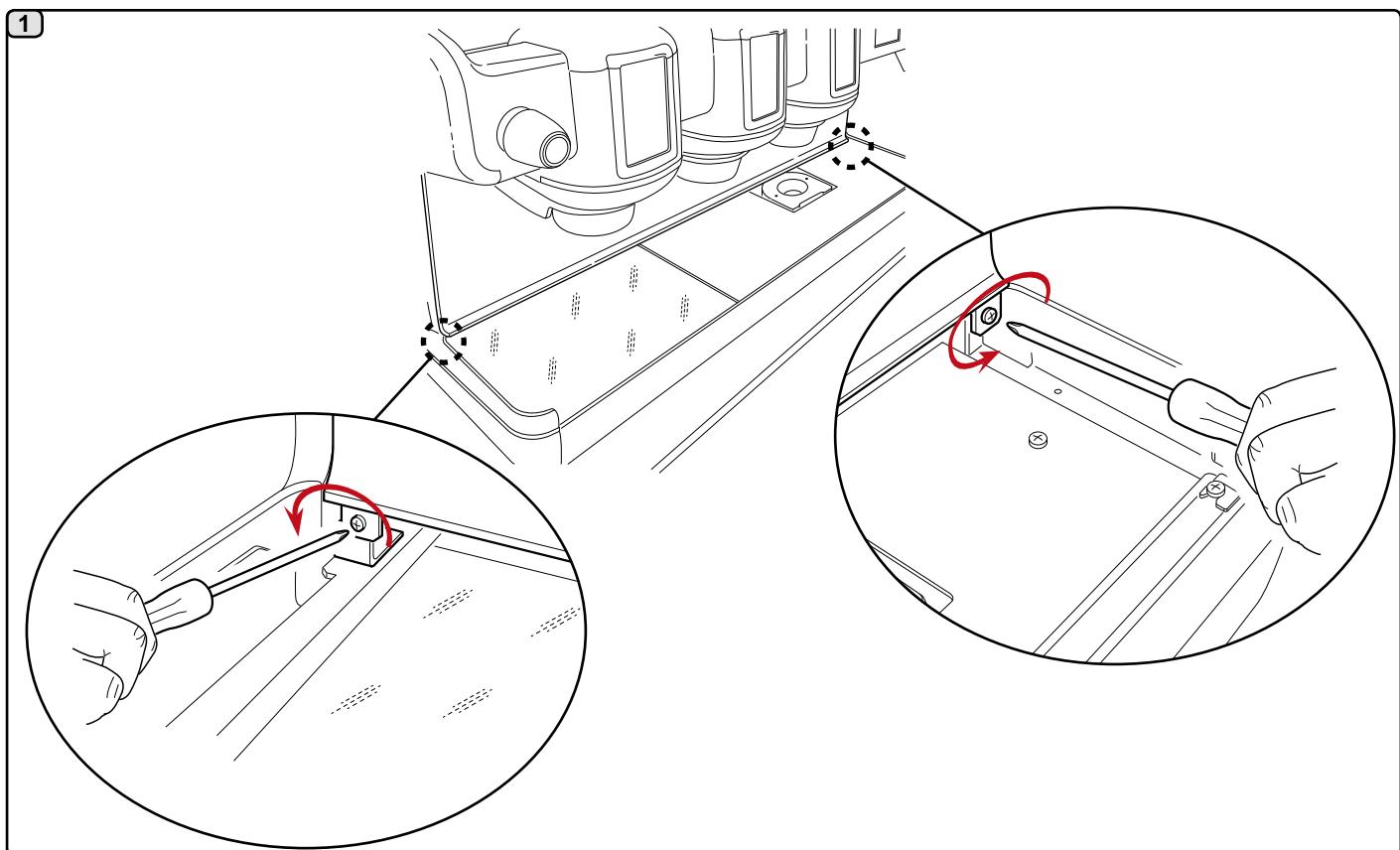
## 14. Cup Warmer

English



## 15. Stainless steel front panel

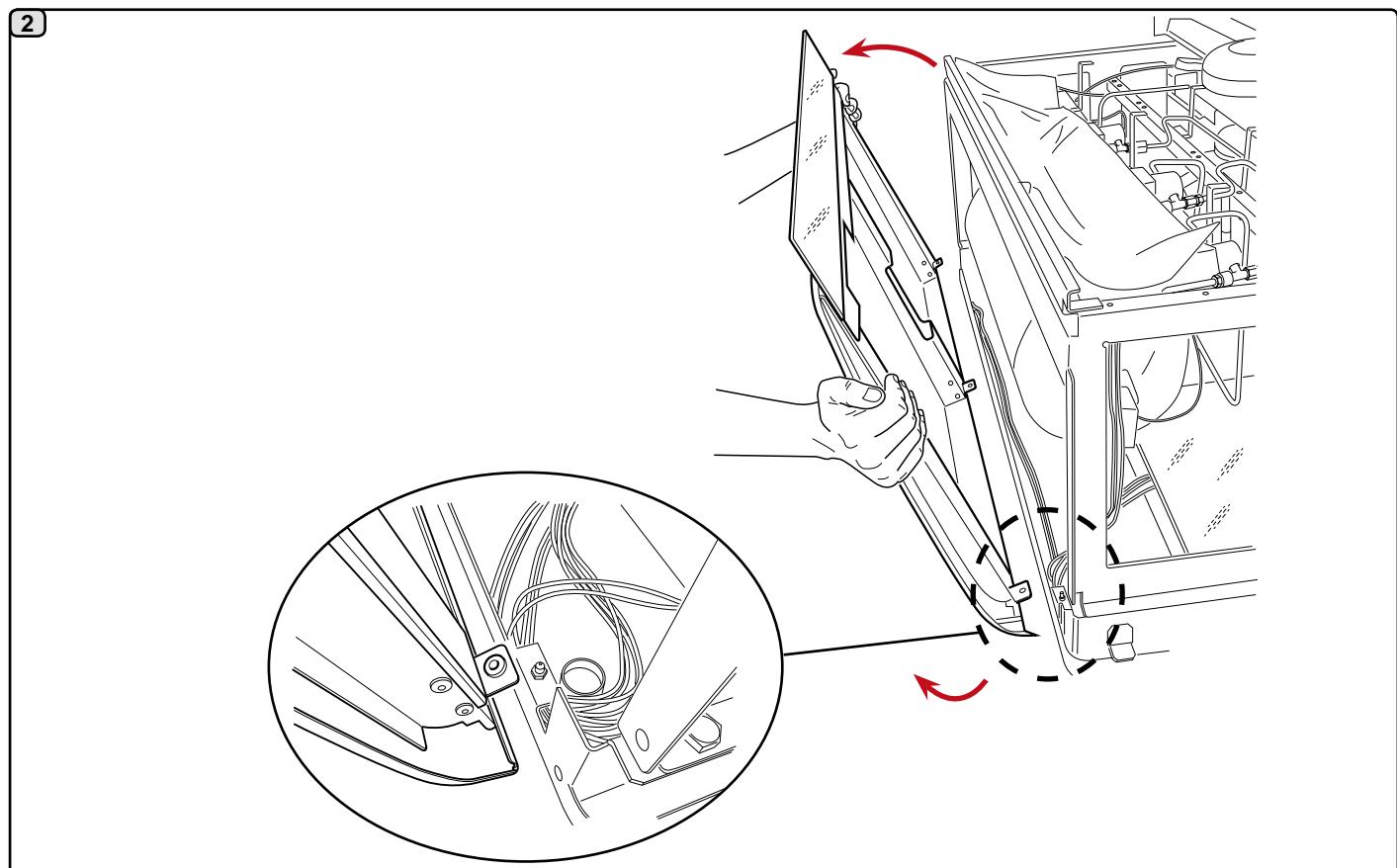
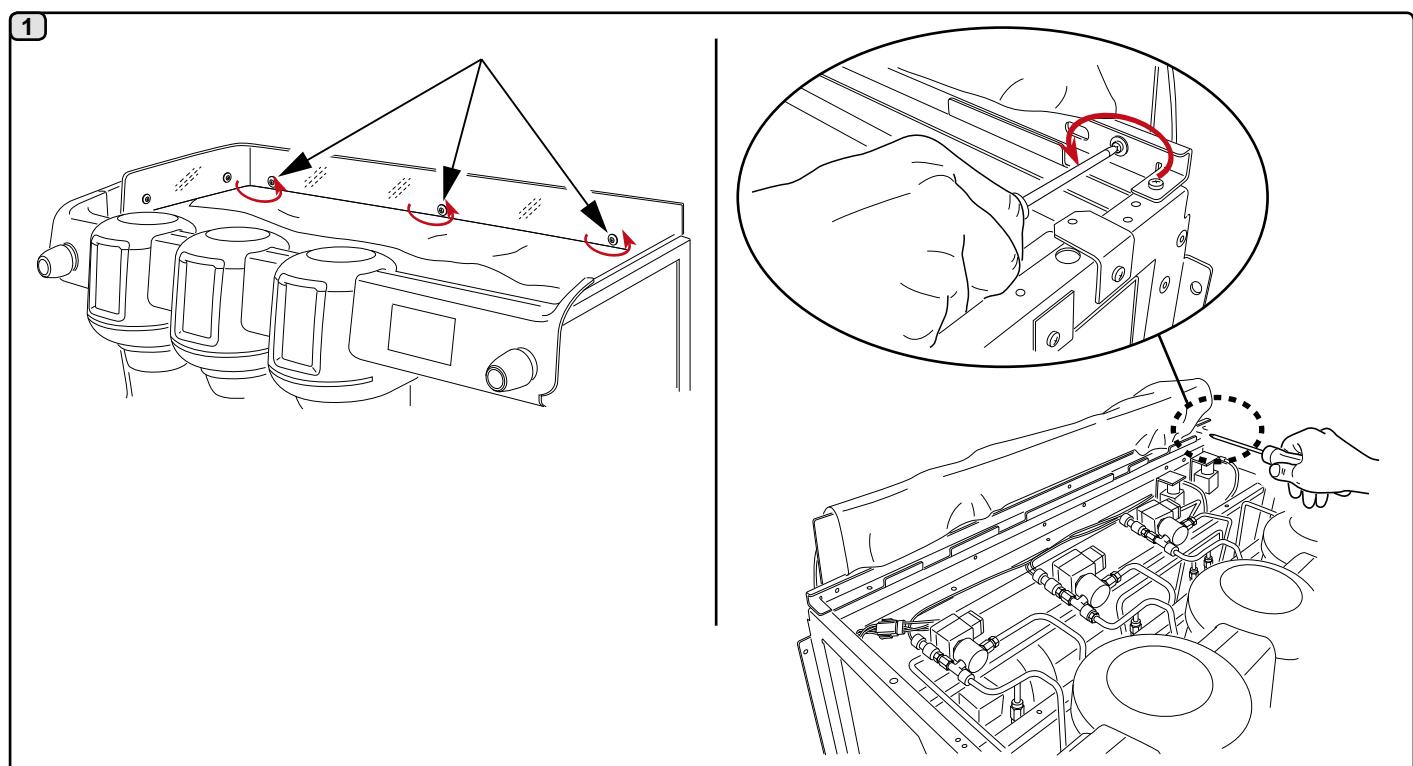
English



**16. Rear panel**

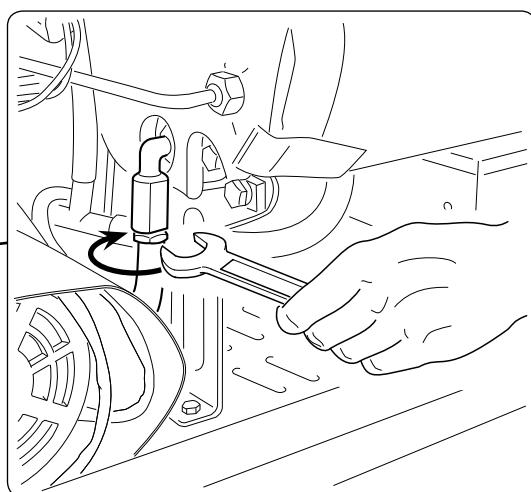
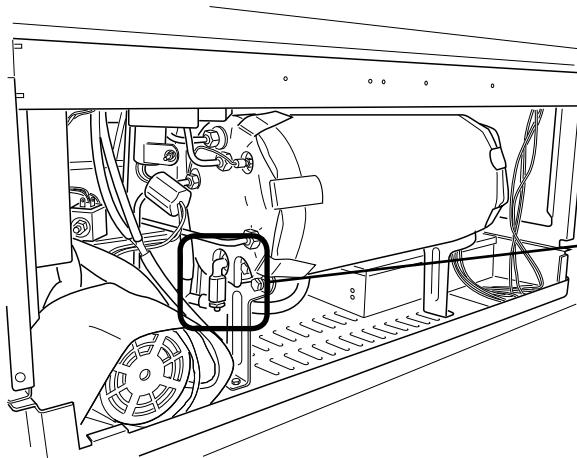
English

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



**17. Draining the boiler water**

English

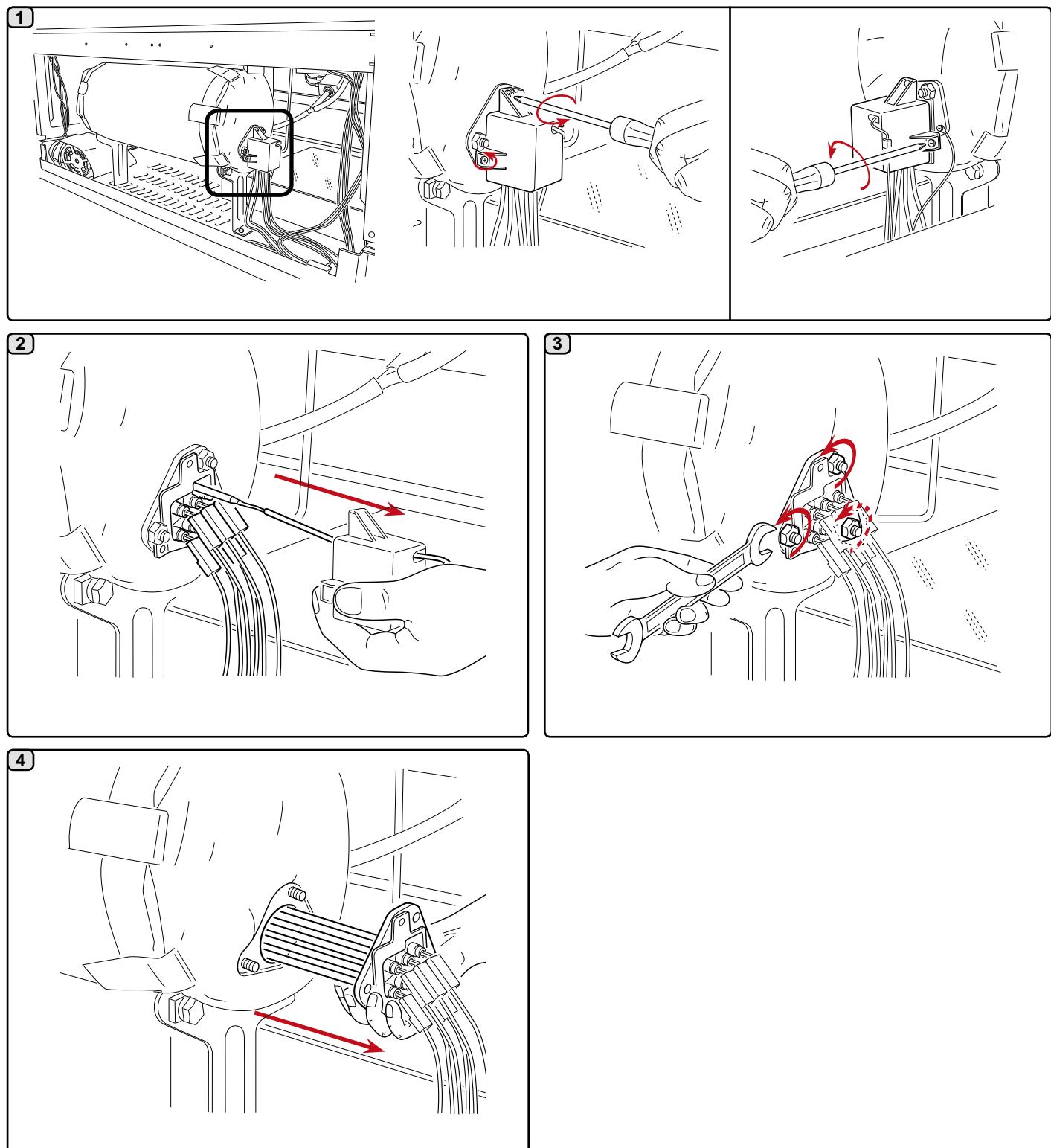


Slip a tube on the drain fitting and turn the nut in the direction indicated in the figure.

**18. Disassembling the boiler heating element**

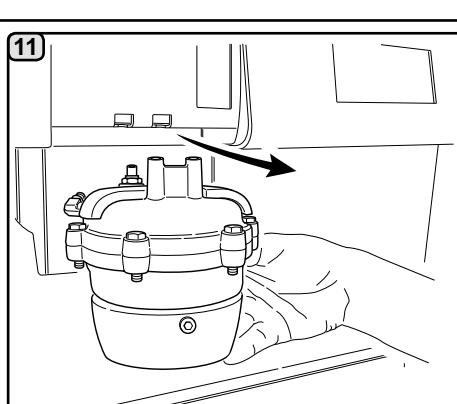
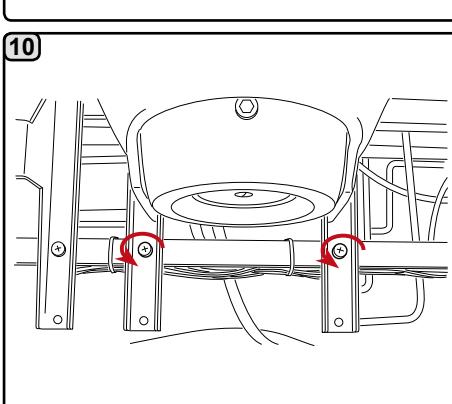
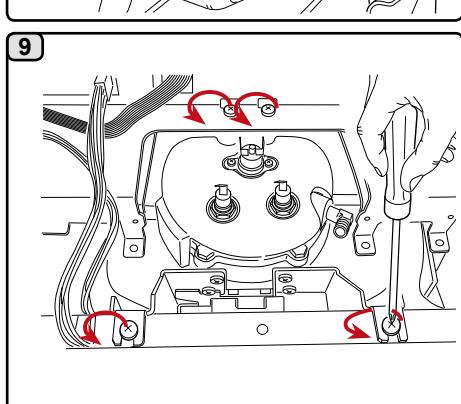
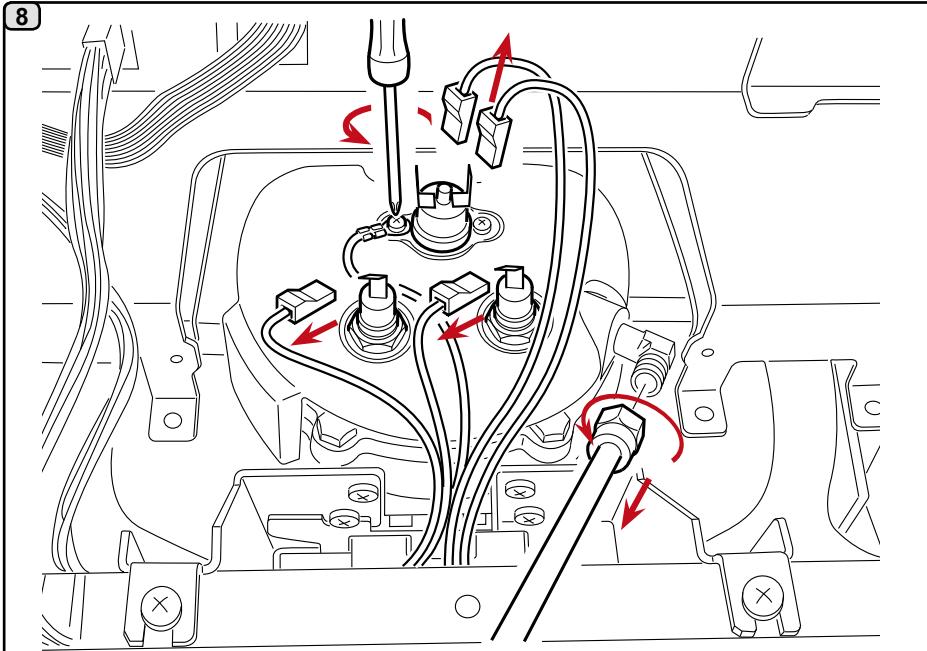
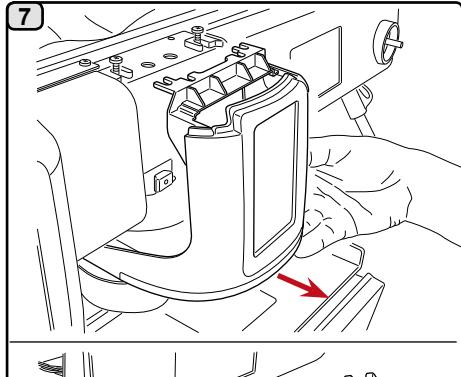
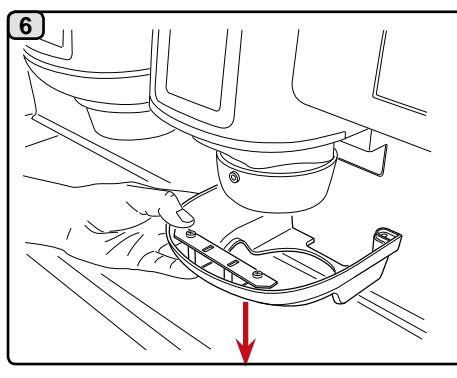
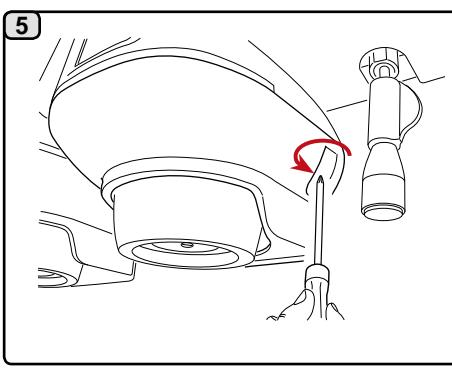
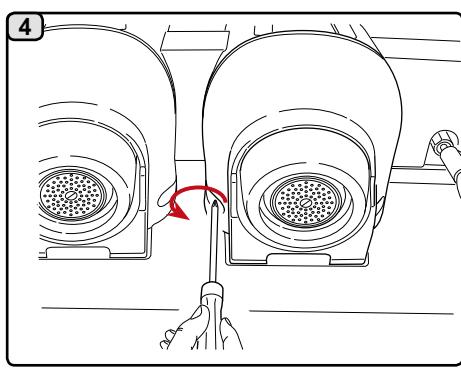
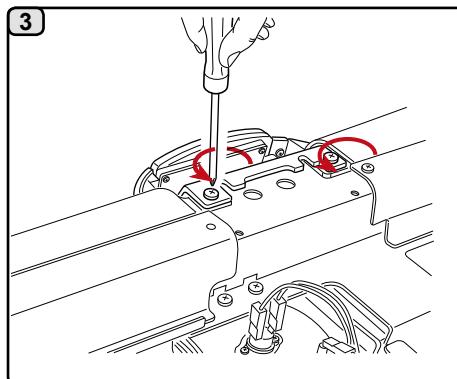
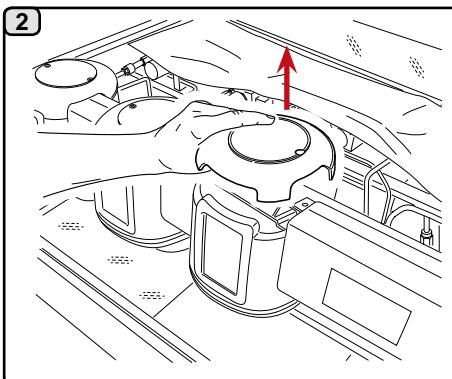
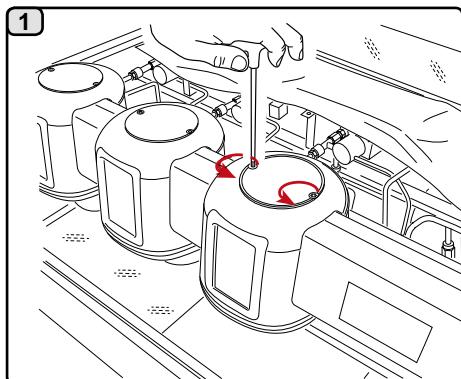
Remove the resistance only after emptying the boiler.

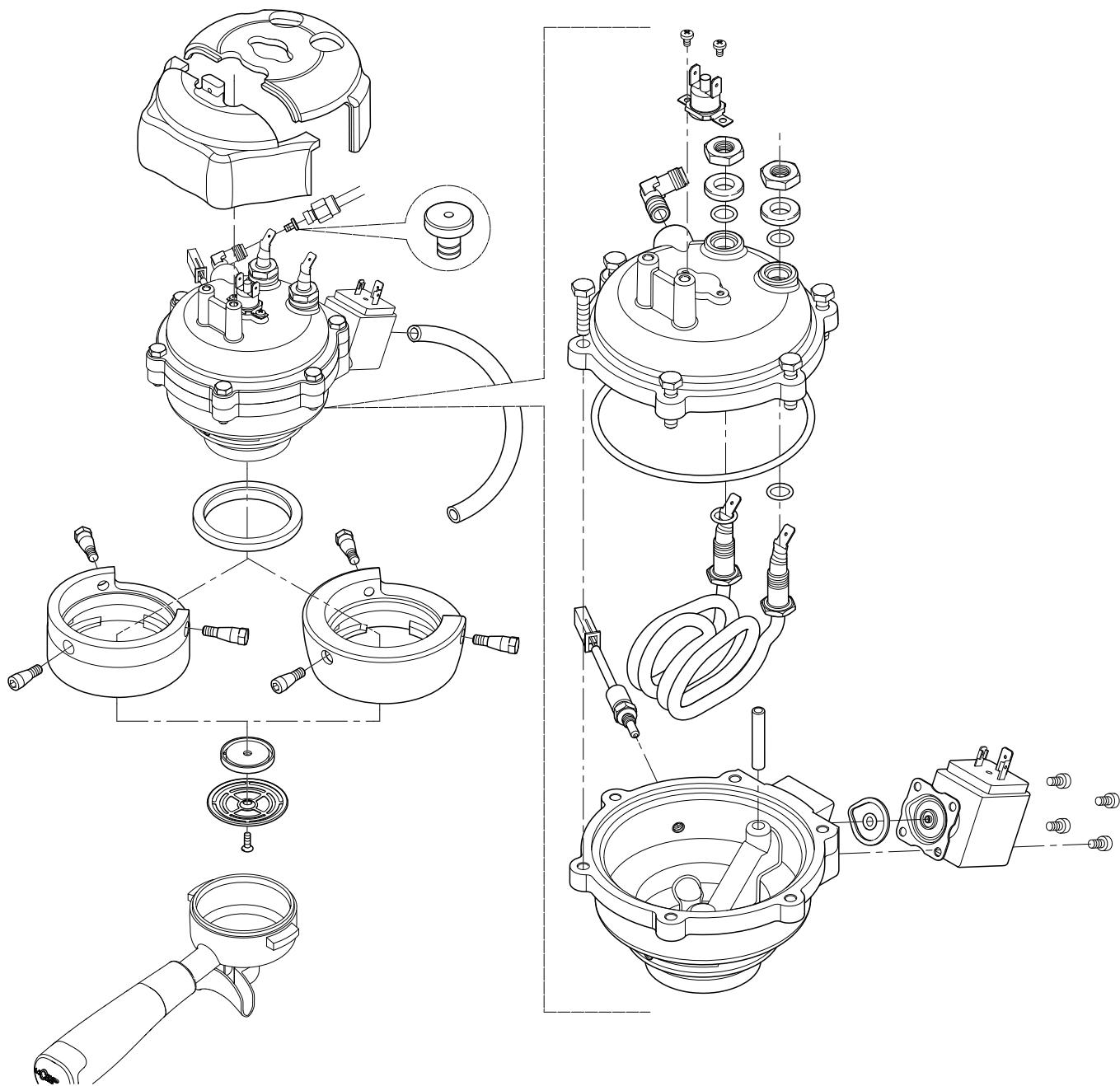
English



## 19. Coffee boiler

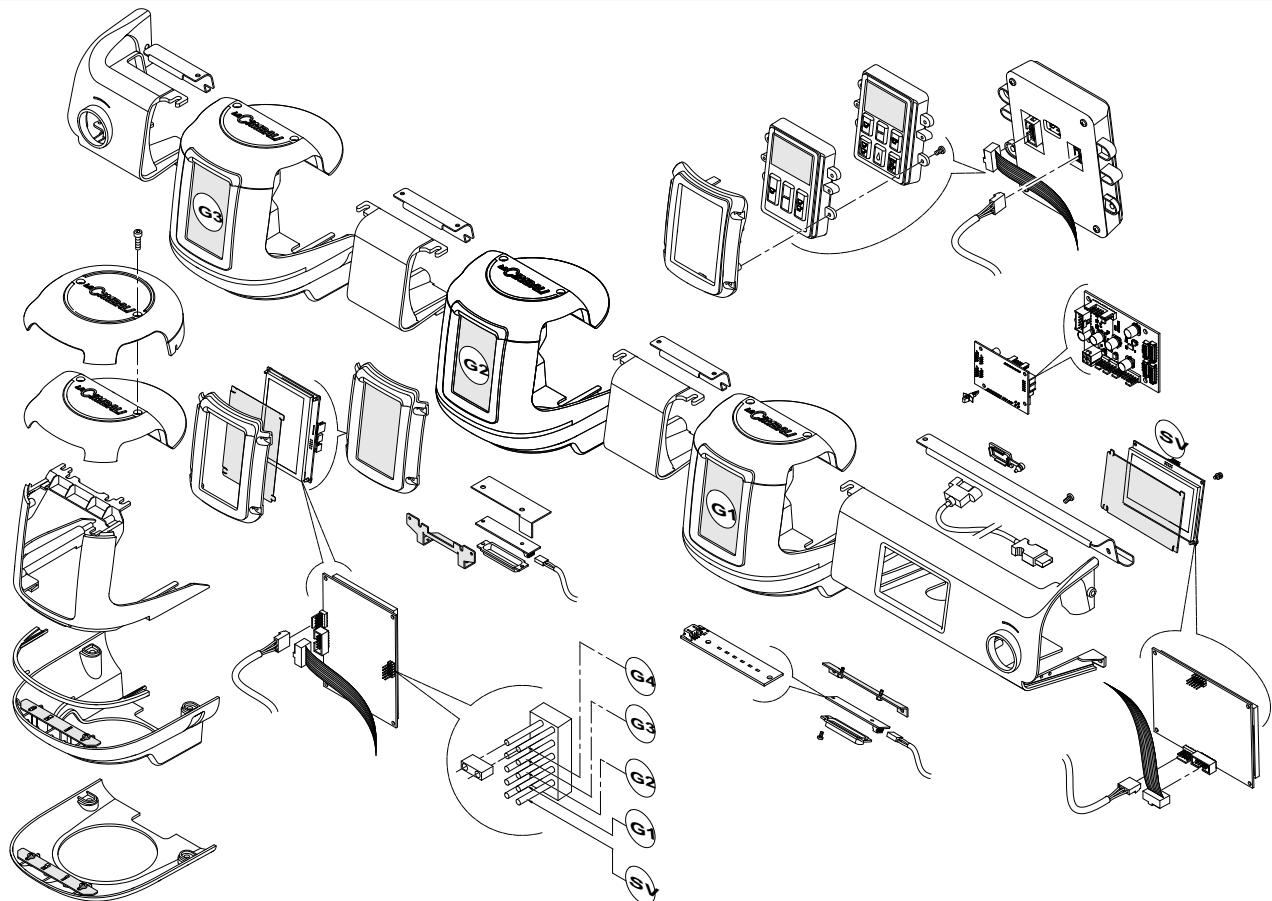
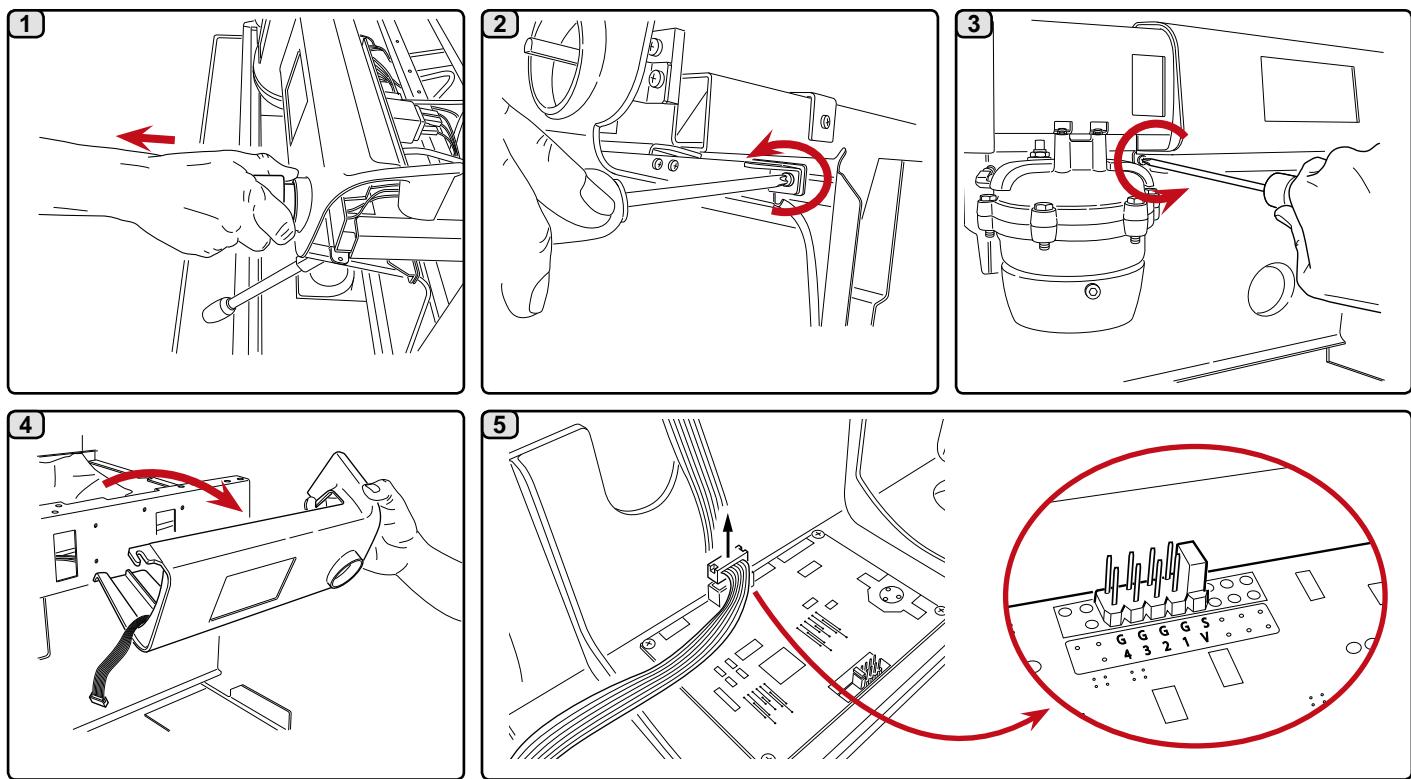
English

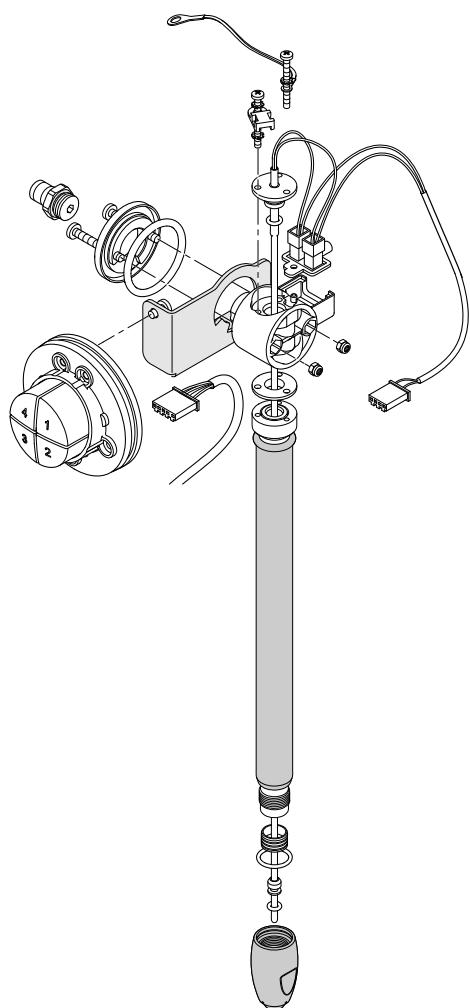




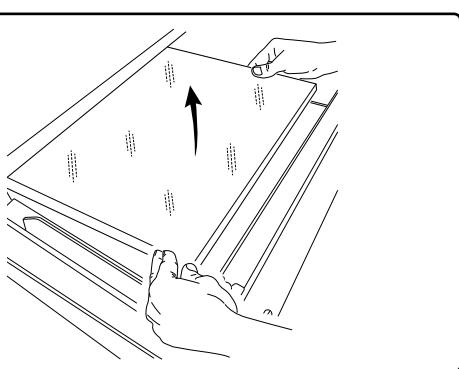
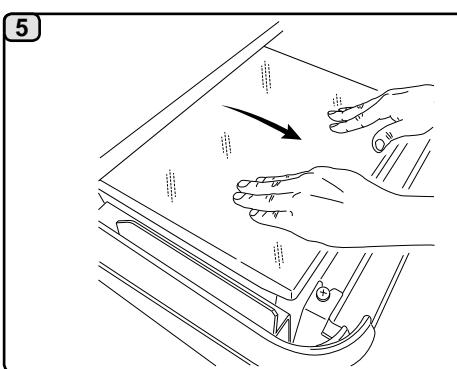
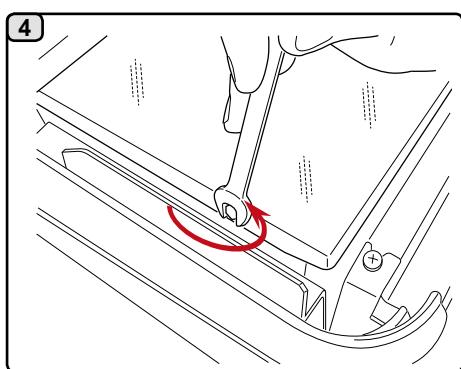
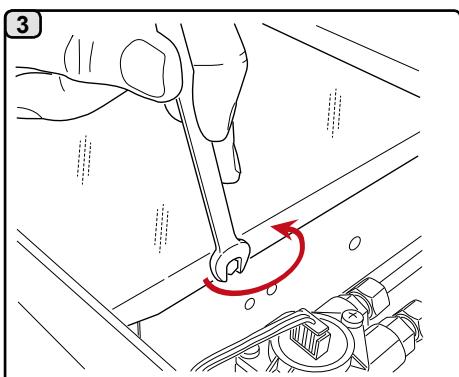
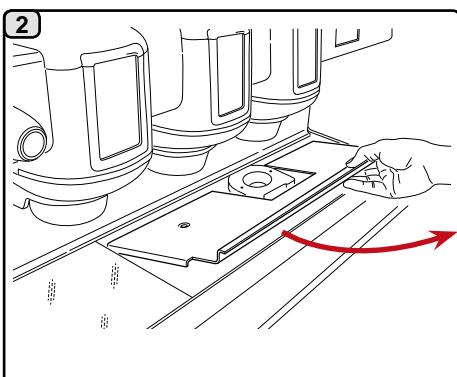
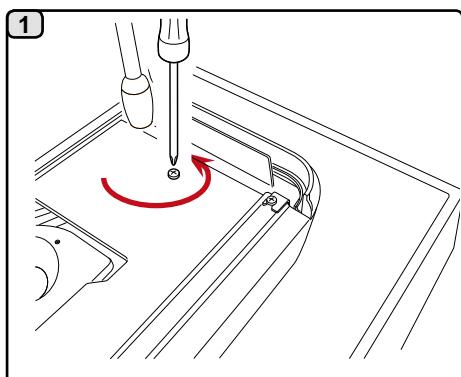
## 20. Services display panel

English

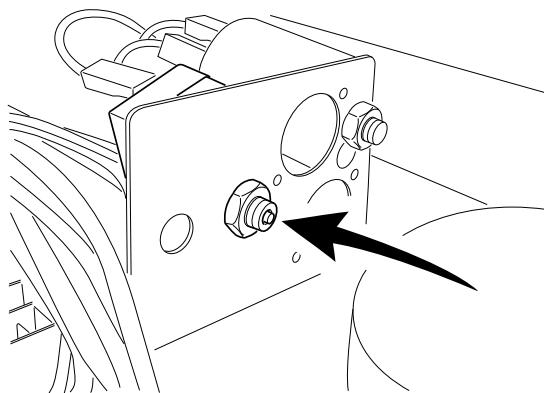


**21. Turbosteam Controller and Lance Unit**

English

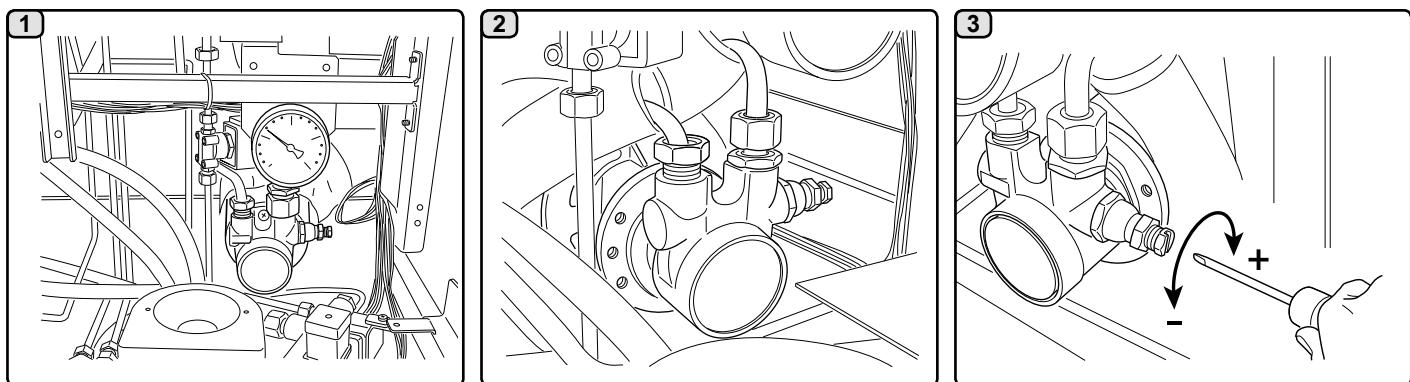
**22. Electrical Box**

## 23. Safety thermostat



English

## 24. Volumetric pump



## 25. CPU Dip-Switch

### CPU DIP-SWITCH

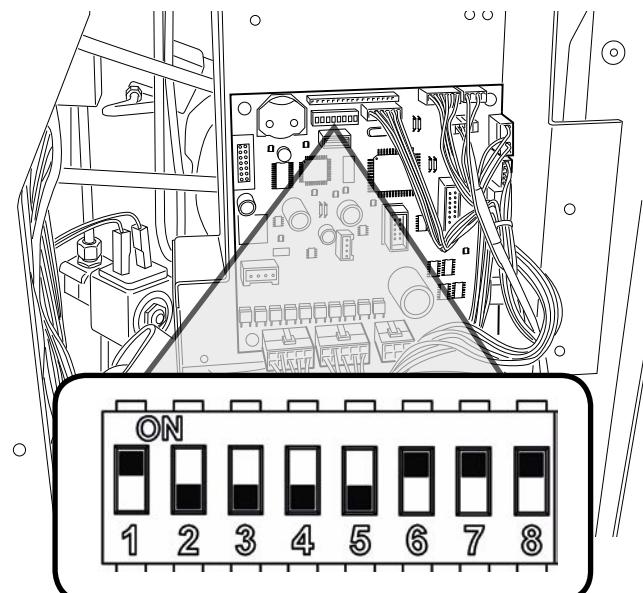
#### CAUTION!

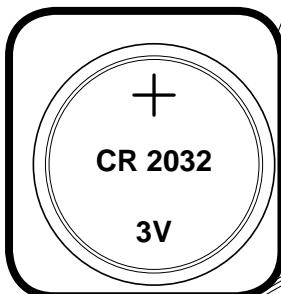
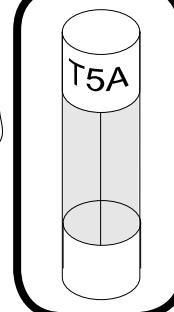
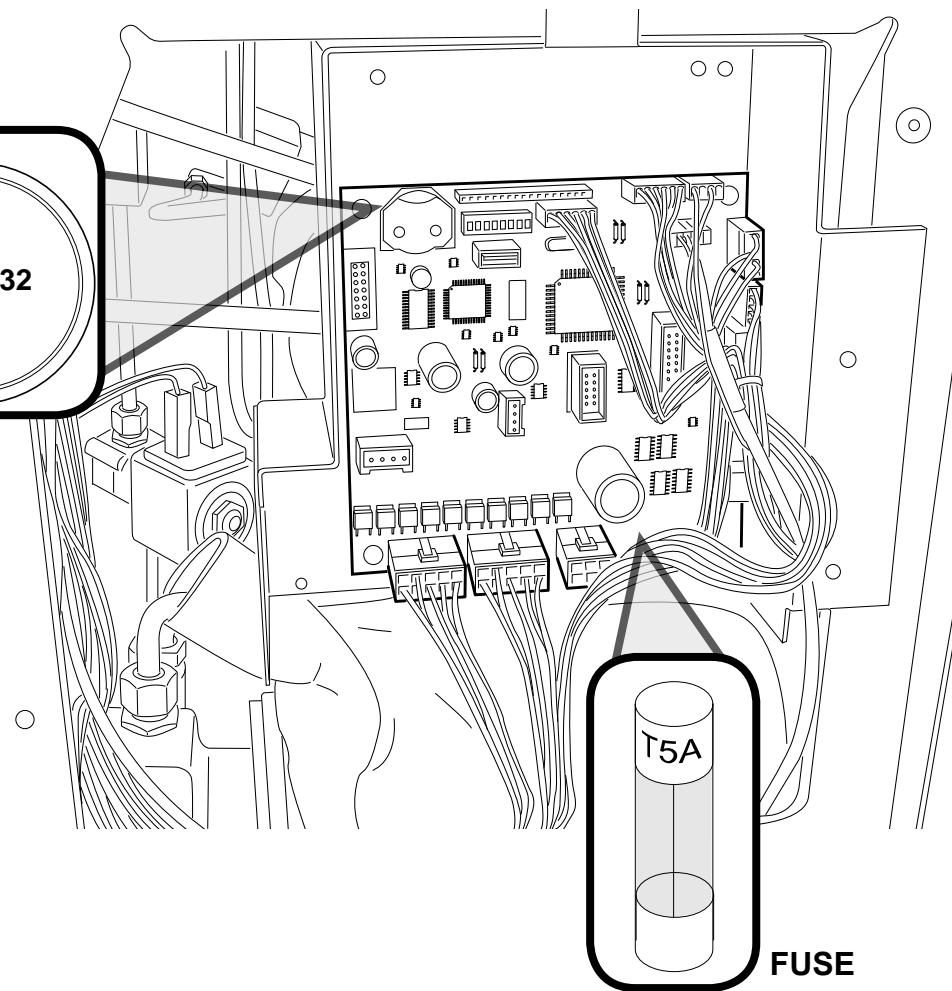
**When changing the position of the Dip-Switch, the machine MUST BE SWITCHED OFF.**

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

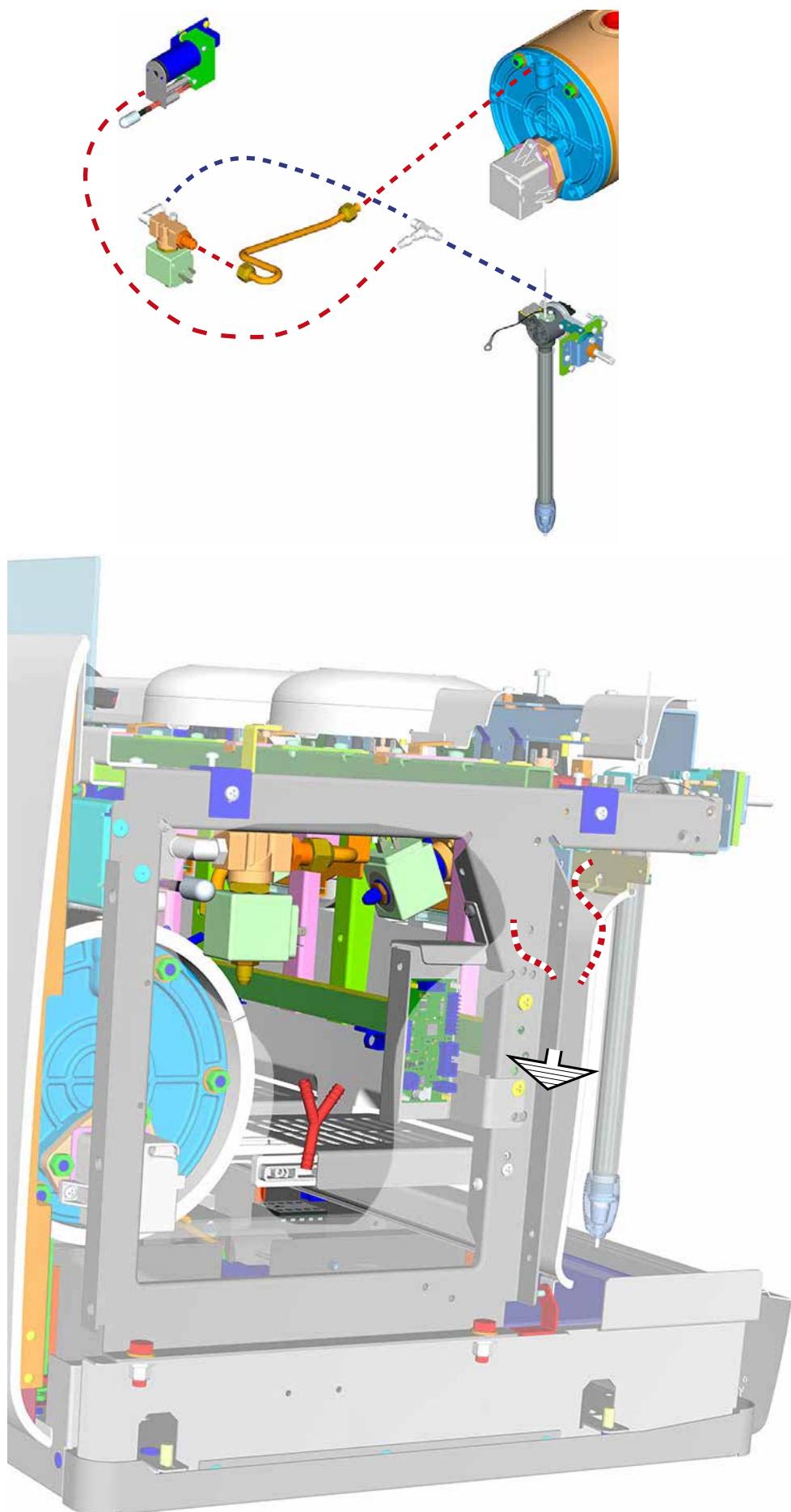
The dip-switches have the following functions:

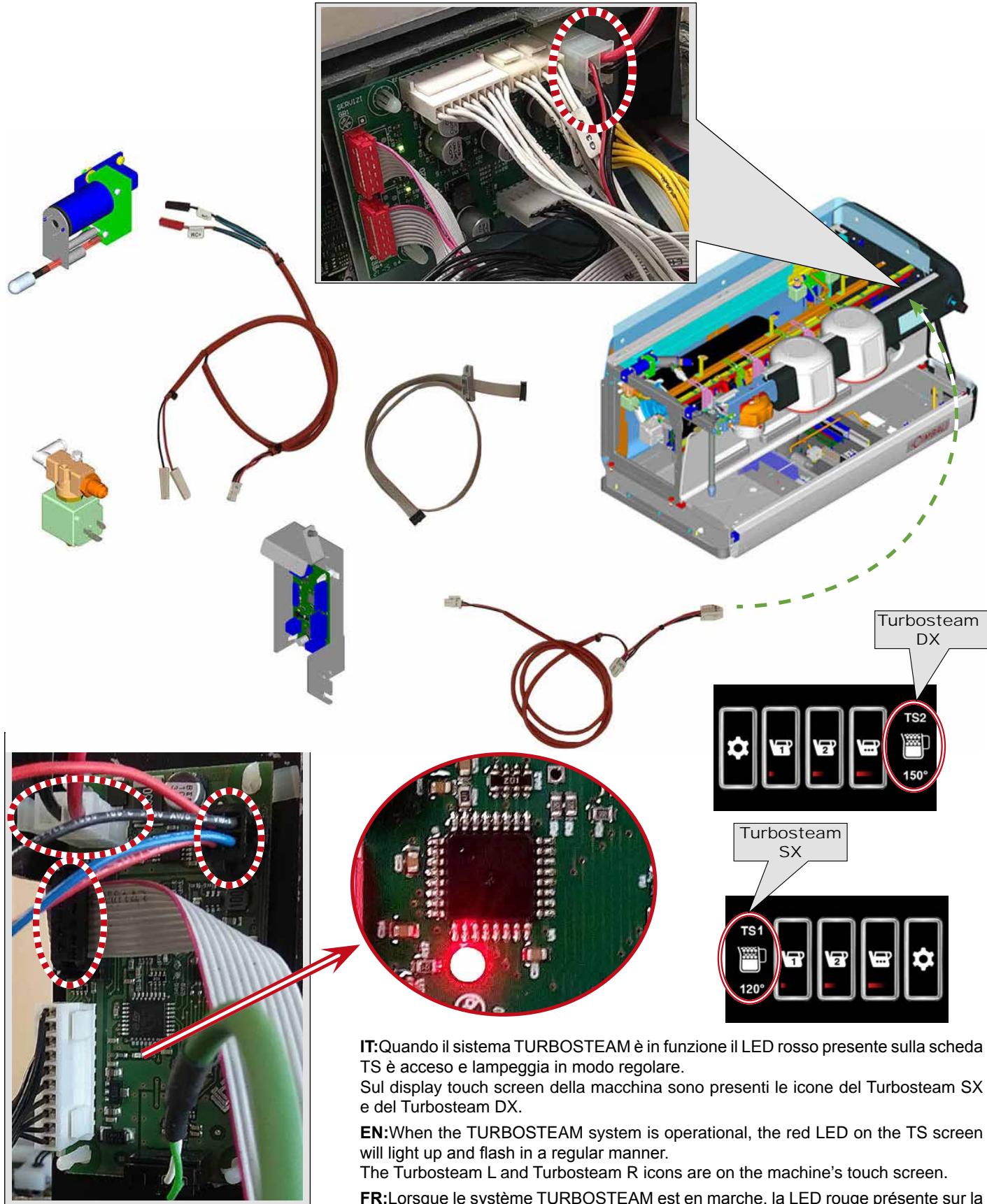
- DIP 1 = ON
- DIP 2 = OFF
- DIP 3 = OFF - ON calibration of the touch displays
- DIP 4 = OFF
- DIP 5 = OFF - ON touchscreen test
- DIP 6 = ON
- DIP 7 = ON
- DIP 8 = ON



**BATTERY****English****FUSE**

## 26. TURBOSTEAM on the left side





**IT:** Quando il sistema TURBOSTEAM è in funzione il LED rosso presente sulla scheda TS è acceso e lampeggia in modo regolare.

Sul display touch screen della macchina sono presenti le icone del Turbosteam SX e del Turbosteam DX.

**EN:** When the TURBOSTEAM system is operational, the red LED on the TS screen will light up and flash in a regular manner.

The Turbosteam L and Turbosteam R icons are on the machine's touch screen.

**FR:** Lorsque le système TURBOSTEAM est en marche, la LED rouge présente sur la carte TS est allumée et clignote de manière régulière.

L'écran tactile de la machine comporte les icônes du Turbosteam côté gauche et du Turbosteam côté droit.

**DE:** Ist der TURBOSTEAM in Betrieb, leuchtet die rote LED der TS-Platine und blinkt regulär.

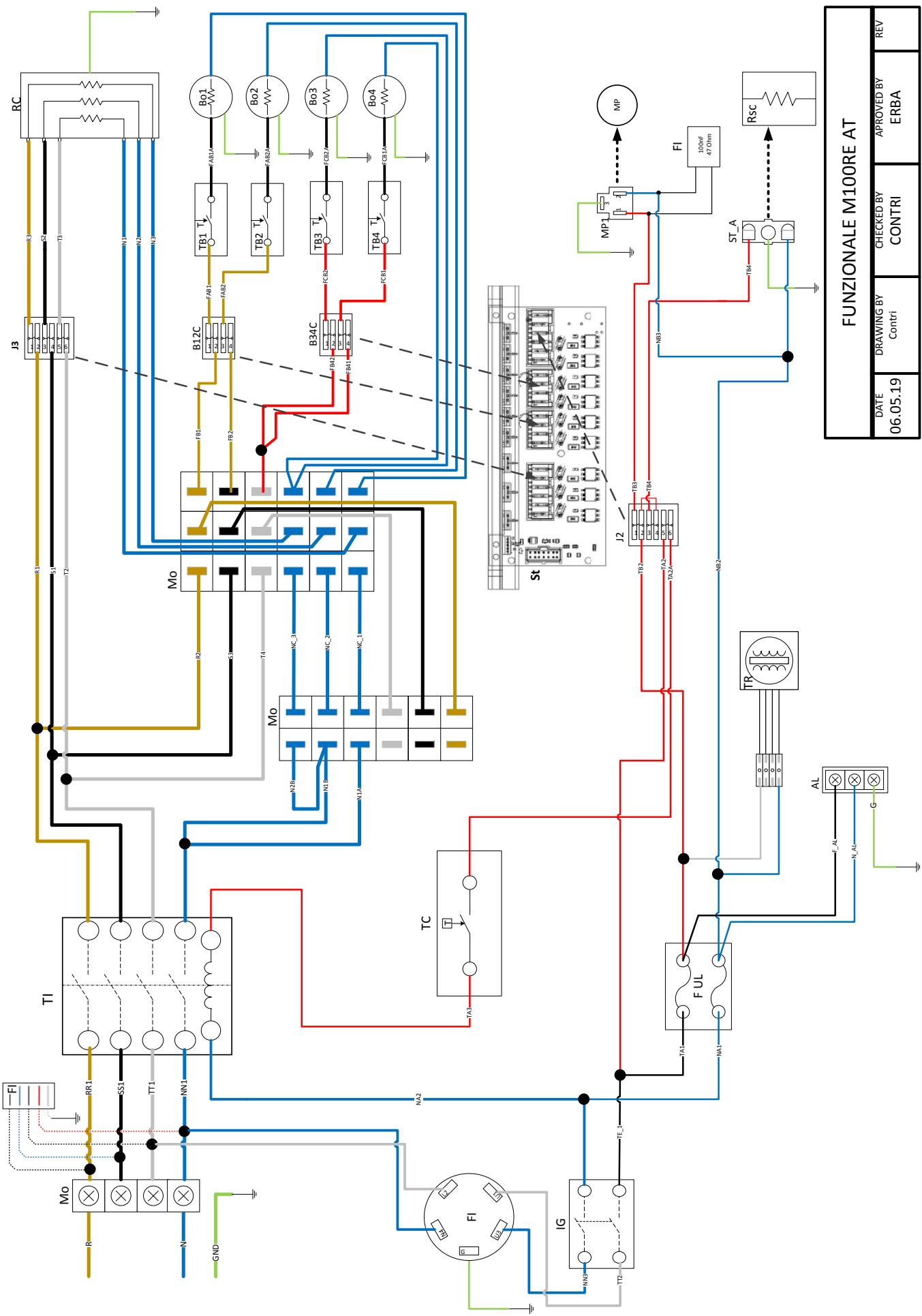
Auf dem Touchscreen-Display der Maschine befinden sich die Symbole Turbosteam LINKS und Turbosteam RECHTS.

**ES:** Cuando el sistema TURBOSTEAM está en funcionamiento, el LED rojo presente en la tarjeta TS está encendido y parpadea de manera regular.

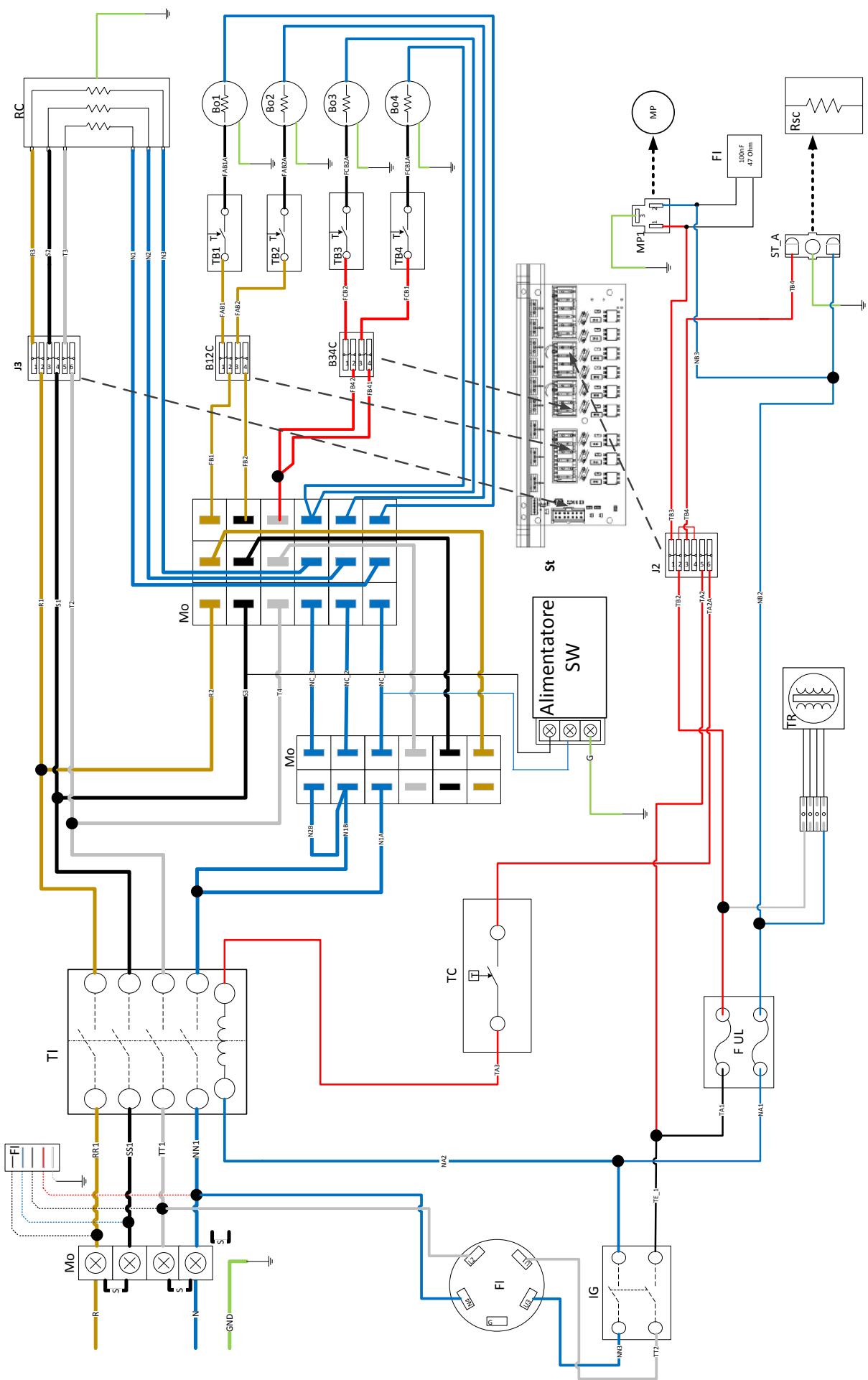
En el visualizador con pantalla táctil de la máquina se encuentran los iconos del Turbosteam IZDO y del Turbosteam DCHO.

**PT:** Quando o sistema TURBOSTEAM está a funcionar o LED vermelho presente na placa TS está aceso e pisca de forma regular. No visor tátil da máquina estão presentes os símbolos do Turbosteam ESQ. e do Turbosteam DIR.

**WIRING DIAGRAM**



## WIRING DIAGRAM

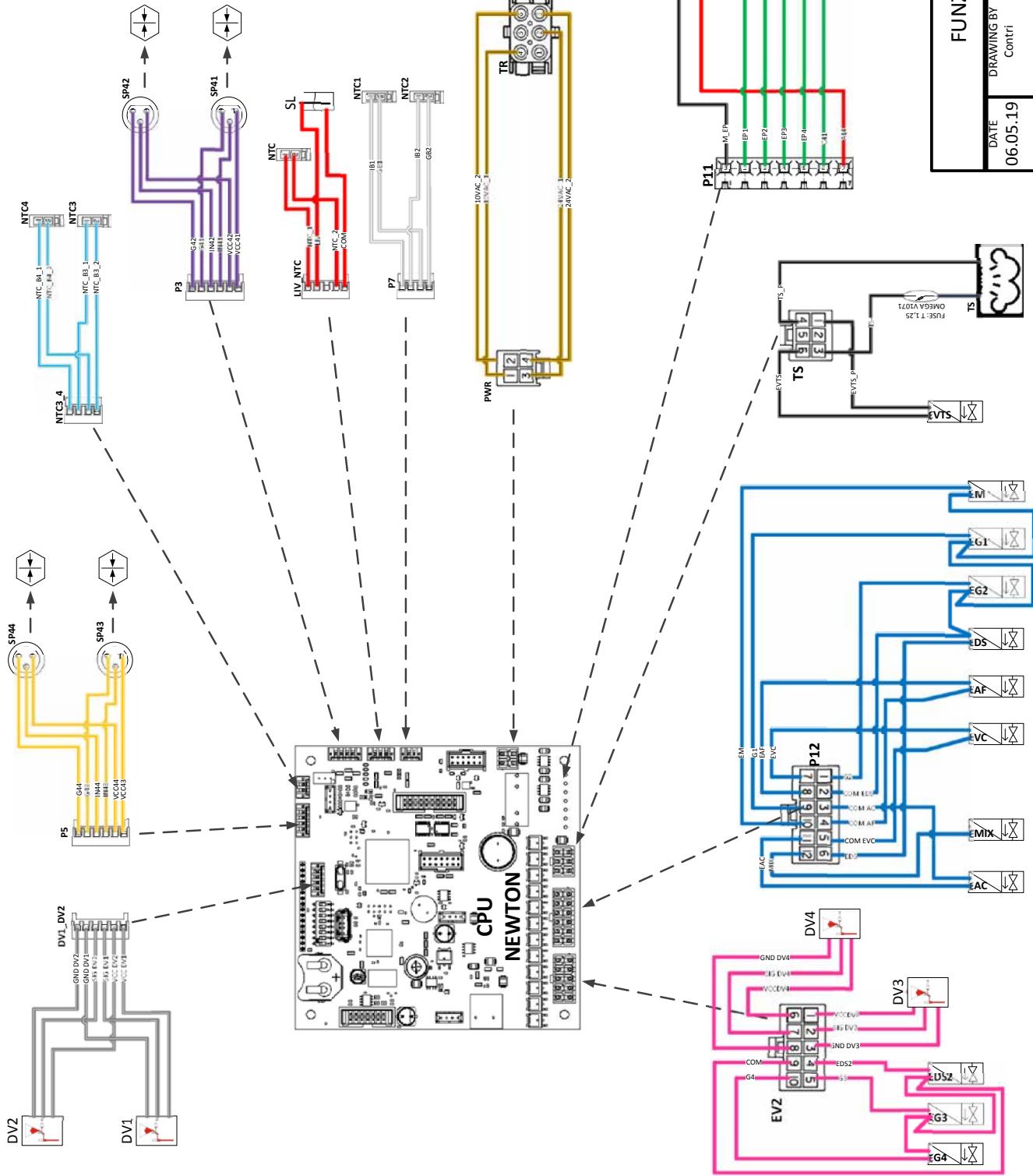


FUNZIONALE M100RE BT - UL

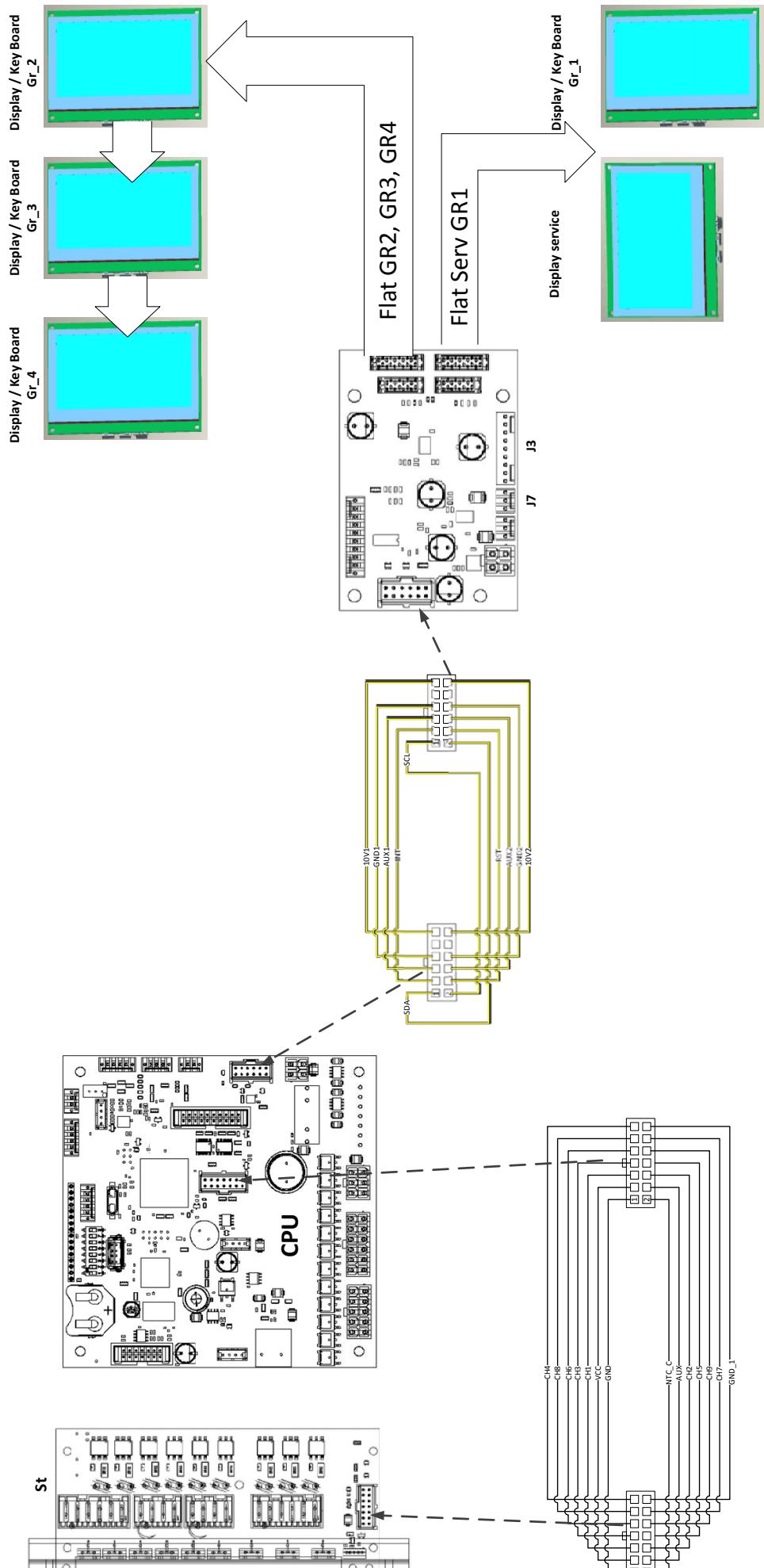
DATE	DRAWING BY	CHECKED BY	APPROVED BY	REV
06.05.19	Contri	Contrri	ERBA	

English

## WIRING DIAGRAM



**WIRING DIAGRAM**

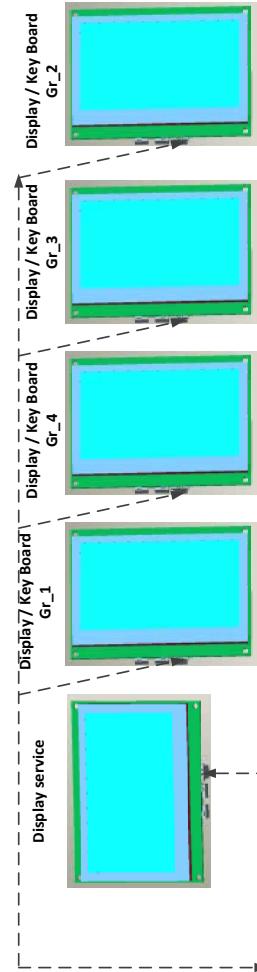
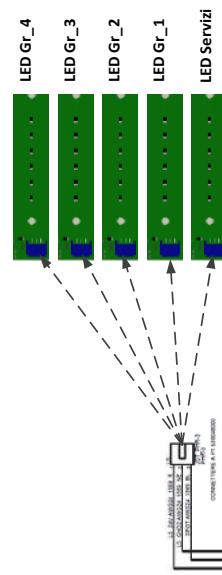
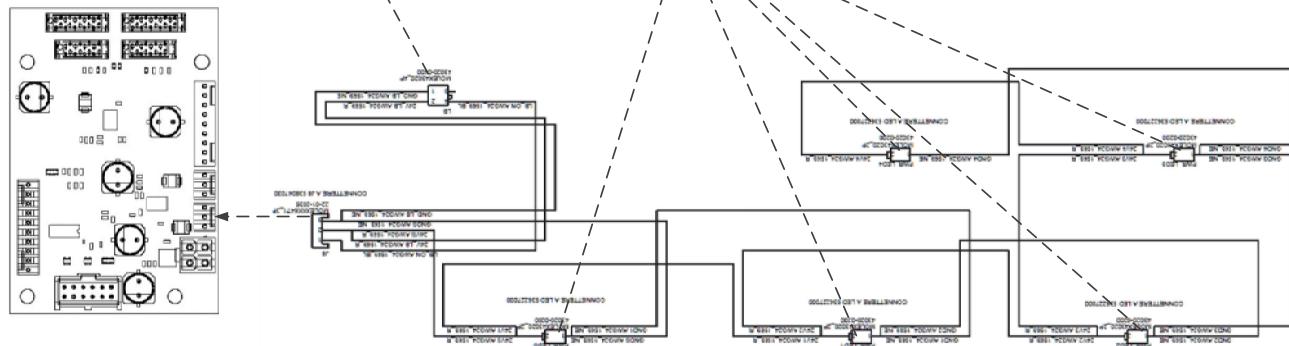


FUNZIONALE M100RE BT			
DATE	DRAWING BY	CHECKED BY	APPROVED BY
06.05.19	Contri	CONTRI	ERBA
			REV

English

**WIRING DIAGRAM**

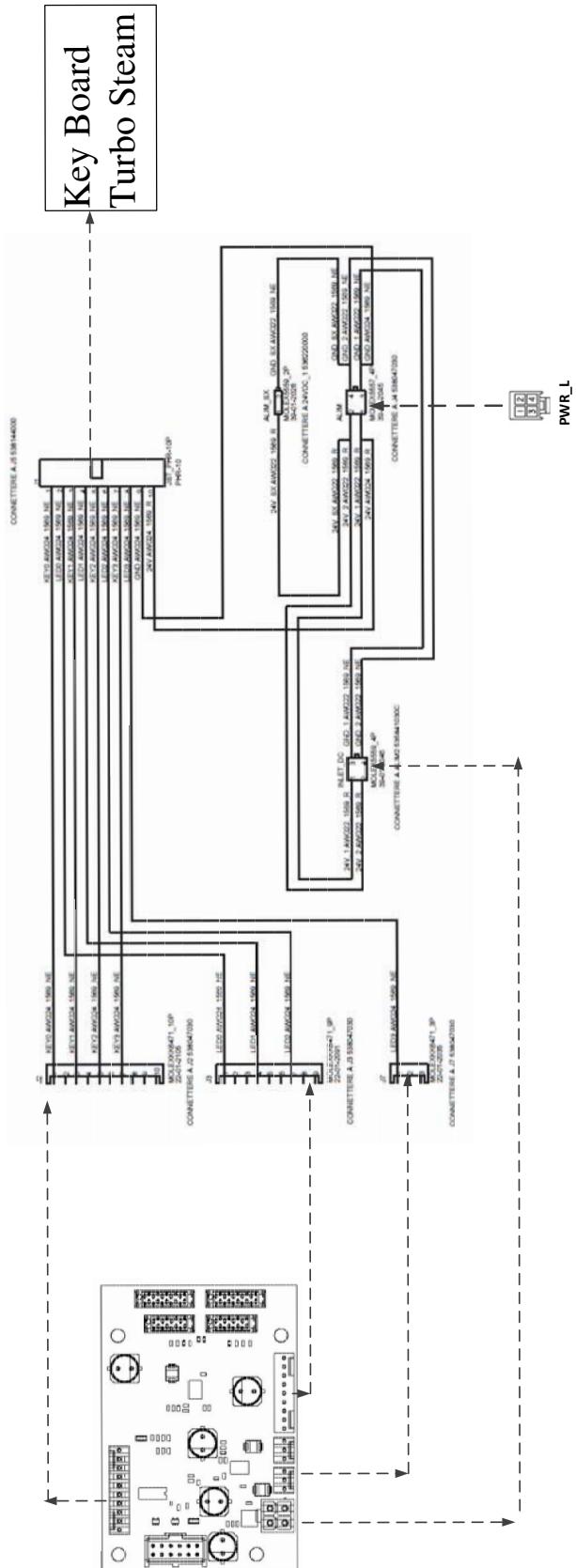
**Schematic led**



FUNZIONALE M100RE BT			
DATE	DRAWING BY	CHECKED BY	APPROVED BY
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**WIRING DIAGRAM**

**Schematic Key  
Board  
TURBO STEAM**



FUNZIONALE M100RE BT			
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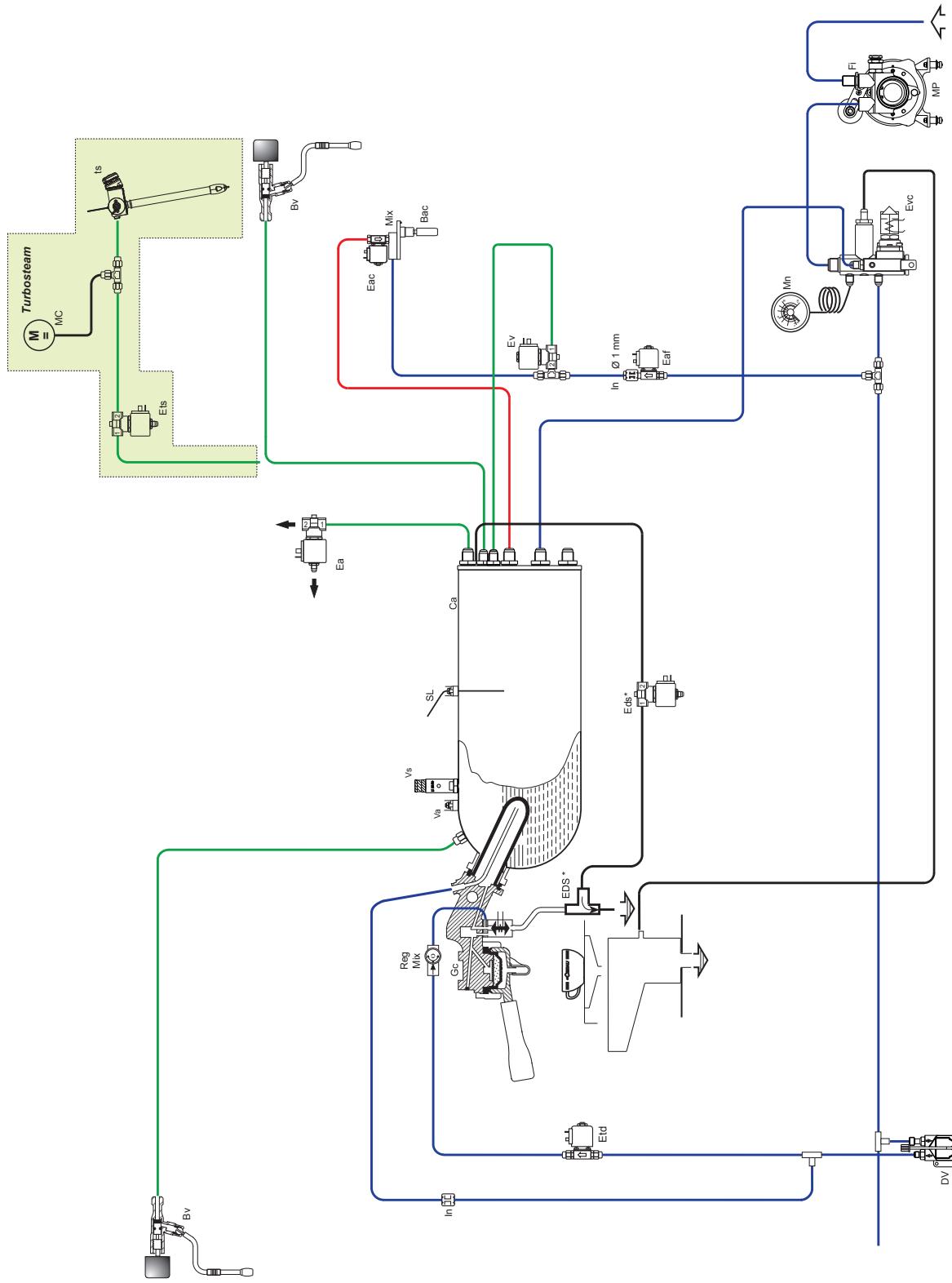
**English**

**AL** = Power supply  
**BO** = Boiler  
**FUL**= Fuse  
**Fi** = Filter  
**IG** = Main switch  
**Mo** = Terminal strip  
**MP..**= Motor pump  
**RC** = Service Boiler resistance  
**Rsc**= Cup heater resistance  
**SL** = Level probe  
**St** = Triac board  
**TC** = Service Boiler supply security thermostat  
**TB..**= Coffee Boiler supply security thermostat  
**TI** = Contactor  
**TR** = Transformer  
**TS** = Turbosteam

**Connectors list**

**J2** = Turbosteam  
**J3** = Services Led, gr.1, gr.2  
**J4** = Display feed  
**P3** = Pressure sensor gr.3, gr.4  
**P7** = NTC boiler gr.1, gr.2  
**P11** = Proportional solenoid valve feed Gp  
**P12**= Solenoid valve feed: G1, G2, Evc, Eac, Eds, Emix, Eaf, Em

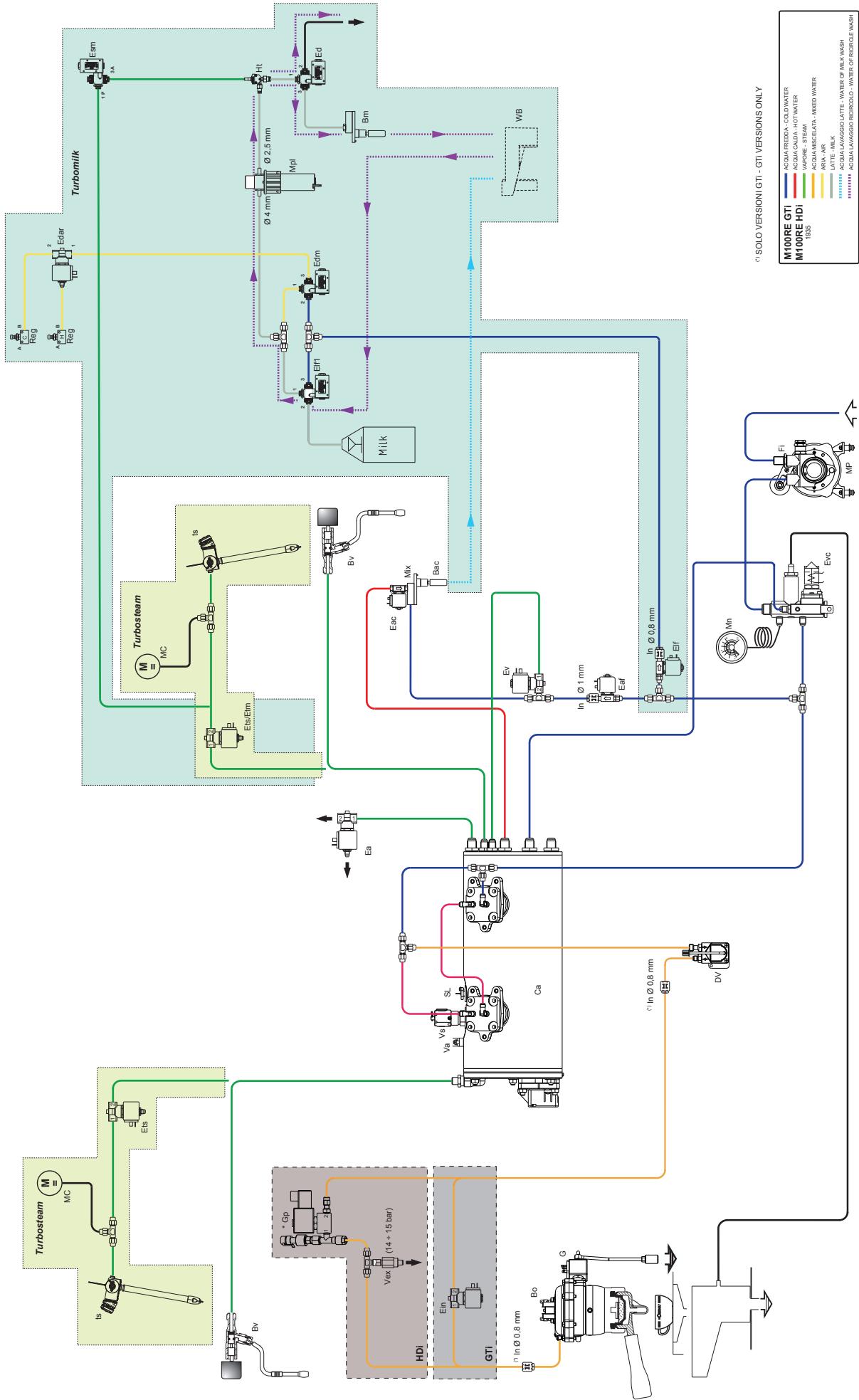
## HYDRAULIC CIRCUIT



M100RE DOSATRON  
2007  
 COCA FREDDA - COLD WATER  
 COCA CALDA - HOT WATER  
 Vapore - STEAM

**Bac** = Hot-water delivery spout  
**Bv** = Steam delivery spout  
**Ca** = Boiler  
**DV** = Volumetric dosing device  
**Ea** = Anti-backflow solenoid valve  
**Eac** = Hot water solenoid valve  
**Eaf** = Cold water solenoid valve  
**Etd** = Thermodrive solenoid valve  
**Ets** = Turbosteam solenoid valve  
**Ev** = Steam solenoid valve  
**Evc** = Boiler supply solenoid valve  
**Fi** = Pump filter  
**Gc** = Coffee unit  
**EDS** = Electronic Drying System  
**Eds** = EDS solenoid valve  
**In** = Injector  
**ts** = Turbosteam selector  
**Reg Mix** = Water-mixing regulator  
**Mix** = Water mixer  
**Mn** = Pressure gauge  
**MP** = Volumetric pump  
**SL** = Boiler level probe  
**MC** = Compressore motor  
**Va** = Anti-suction valve  
**Vs** = Boiler safety valve

## Hydraulic circuit



**Bac** = Hot-water delivery spout  
**Bm** = Milk delivery spout  
**Bo** = Coffee boiler  
**Bv** = Steam delivery spout  
**Ca** = Boiler  
**DV** = Volumetric dosing device  
**Ea** = Anti-backflow solenoid valve  
**Eac** = Hot water solenoid valve  
**Eaf** = Cold water solenoid valve  
**Ed** = Diverter solenoid valve  
**Edar** = Air-diverter solenoid valve  
**Edm** = Milk diverter solenoid valve  
**Ein** = Infusion solenoid valve  
**Etm** = Turbomilk solenoid valve  
**Elf..** = Cold Washing solenoid valve  
**Esm** = Milk-safety solenoid valve  
**Ets** = Turbosteam solenoid valve  
**Ev** = Steam solenoid valve  
**Evc** = Boiler supply solenoid valve  
**Fi** = Pump filter  
**Ht** = Heater  
**G** = Coffee solenoid valve  
**Gp** = Proportional solenoid valve  
**In** = Injector  
**ts** = Turbosteam selector  
**Mix** = Water mixer  
**Mn** = Pressure gauge  
**MP** = Volumetric pump  
**Mpl** = Milk-pump motor  
**Reg** = Air regulator  
**SL** = Boiler level probe  
**MC** = Compressore motor  
**Va** = Anti-suction valve  
**Vex** = expansion/overpressure valve  
**Vs** = Boiler safety valve  
**WB** = Washing-box sensor

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The Manufacturer reserves the right to modify the appliances presented in this publication without notice

Le fabricant se réserve le droit de modifier sans préavis les caractéristiques des appareils présentés dans cette publication

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O Construtor reserva-se o direito de modificar sem aviso prévio as máquinas tratadas neste manual

GRUPPO CIMBALI SpA - 20082 BINASCO (MILANO) ITALY



CERT. NR. 50 100 3685 / 10877 / 11721