

# TECHNICAL INSTRUCTIONS



# ARMONIA PLUS / SOFT PLUS



ARMONIA SOFT PLUS



ARMONIA PLUS

EN ENGLISH

LB-05105-01 EN  
EDITION OCTOBER 2016



[www.carimali.com](http://www.carimali.com)

# TABLE OF CONTENTS

HACCP SCHEDULE .....	5
GENERAL CHARACTERISTICS .....	5
TEST REPORT ON ENERGY CONSUMPTION .....	6
ELECTRIC - HYDRAULIC CONNECTION .....	7
STARTING UP .....	8
ACCESS THE MAIN SETTING MENUS WITH PASSWORD OR SMART-CARD .....	14
INFO-RESET .....	17
SET DOSES .....	20
SYSTEM MANAGER .....	26
SYSTEM CLOCK .....	27
SERVICE .....	29
ALARM HISTORY .....	32
DISPLAY REGULATION .....	33
MACHINE PARAMETERS .....	34
CHANGE PASSWORD .....	37
SMART CARD MANAGER .....	38
GROUP MANUAL MOVEMENTS .....	39
ACTUATORS TEST .....	40
BOILER DRAINING .....	42
MACHINE CONFIGURATION .....	43
USB MANAGER .....	45
PRESET CONFIGURATION .....	46
CLEANING PROCESS ABORT .....	47
TROUBLE SHOOTING .....	48
SPECIAL FUNCTIONS FOR MACHINE CALIBRATION .....	58
<b>GUIDE FOR THE CONNECTION OF THE TOUCH PANEL TO THE DISPLAY MASTERBOARD .....</b>	<b>60</b>
RECOMMENDATIONS FOR A CORRECT PREVENTIVE MAINTENANCE .....	62
CONTROL UNIT LEGEND .....	63

## INTRODUCTION AND GENERAL NOTES

Thoroughly read the instructions contained in this booklet because it gives important information regarding safety for installation, use and maintenance.

Keep this booklet in a safe and accessible place for further consultation.

This machine must be used only for the purpose it was designed:

dispensing coffee, cappuccino, pouring hot water.

Any other use is to be considered inappropriate and therefore dangerous.

The manufacturer declines all responsibility for damage caused by any improper, incorrect and unreasonable use of the machine.

The use of any electric appliance implies the observance of some fundamental rules.

More specifically:

- The appliance should be placed on a stable flat surface with the bodywork at a minimum distance of 20mm from the back wall, furthermore, it must be installed taking into account that the highest shelf must sit at a height that is at least 1.5 mt. During installation, fit a device that guarantees disconnection from the mains, duly sized according to the power of the equipment (see rating plate), as well as protection against leakage current with a value equal to 30mA. This cut-off device must be assembled on the power supply line in compliance with installation rules.
- do not touch the appliance with your hands or feet wet or damp
- do not use the appliance with bare feet
- do not pull the power cord to disconnect the plug from the power socket
- do not leave the appliance exposed to the weather (rain, sun, frost)
- do not let children or untrained persons use the appliance.

Before carrying out any cleaning and maintenance, disconnect the appliance from the power supply, pulling the plug from the power socket and turning off the main switch.

In case of failure or malfunction turn the machine off and do not attempt to carry out any repairs or direct operations on the machine.

All repairs must be carried out in an authorized service centre, using original spare parts only.

Failure to comply with the above recommendations will compromise the safety of the machine and the warranty conditions.

If this machine is no longer used we recommend that it is made inoperative by disconnecting the cable from the power supply, and all potentially dangerous parts are made harmless, especially to protect children who might use the machine for their games.

## INSTALLATION NOTES

Installation must be carried out according to the manufacturer's instructions.

An incorrect installation can cause damage to persons, animals or things; the manufacturer declines all responsibility for such situation.

Place the machine on a table having minimum height of 0,95mt. Furthermore the surface has to be flat, having a maximum inclination of 5°, in order to secure a perfect stability. Check also that the table can bear the weight of the machine.

This is a commercial machine and is not designed for home use and must be operated by duly qualified persons.

The machine must not be used by children or people with reduced mobility, sensory, mental or lack of experience or education, unless there is a supervisor.

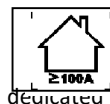
After unpacking check that the machine is not damaged.

If in doubt, do not use the machine and contact an Carimali S.p.A. Authorized Service Centre.

All packing materials (plastic wrapping, polystyrene, nails, etc.) are potentially dangerous and must be kept out of children's reach and disposed of in a safe manner for the environment.

Before connecting the machine to the power supply make sure that the rating information of the machine correspond to that of the power supply, and that the power supply is adequate to additional power absorption of the machine.

The machine is supplied with power cord and without plug, connect the machine to the main switch with knife switch and protection fuses. In case of maintenance, open the knife switch.



The machine with single phase voltage, having a rated current more than 16A, must be connected to power supply with a

dedicated impedance.

The electrical safety of this machine can be guaranteed only if correctly connected to an efficient earth circuit as indicated by current electrical safety regulations.

It is necessary to check this fundamental safety prerequisite, and in case of doubt, ask a professionally qualified technician to check the circuit.

The manufacturer declines all responsibility for any damage caused by failure to earth the equipment.

In order to avoid any dangerous overheating, we recommend that the power cord be fully unwound.

In case of damage to the cord, contact exclusively an authorized service centre to have it replaced.

The power cord of this machine must not be replaced by the customer.

Do not leave the machine connected unnecessarily.

Turn off the main switch of the machine when not in use.

Do not cover the ventilation openings of the machine.

Place the machine at an adequate distance from walls, objects, etc.

The machine must be connected to a system with a water pressure which is not greater than 0.6 MPa. Do not use pipes and coupling gaskets already used for previous installations.

If the pressure is greater, a pressure reducer must be installed.

The machine must be connected to a softener.

#### ENVIRONMENTAL CONDITIONS TO USE THE MACHINE

Environmental temperature: 5 – 30 °C (empty the hydraulic system in case of freezing)

Maximum humidity: 80% relative humidity

Water hardness: 5° eh, 7° dH, 13° Fh

### 1. Essential operational requirements

1.1 The machine shall be supplied with water for human consumption, in compliance with the laws in force where the installation is performed. The installer shall check with the owner or manager of the machine if the water complies with the requirements above.

1.2 The components and materials to be used during the installation are those supplied with the machine. In case other components are needed, the installer shall check if they are suitable to be used in contact with water for human consumption.

1.3 The installer shall set up hydraulic connections in compliance with the rules about hygiene, water safety and environment in force where the installation is performed.

1.4 At the end of the installation the machine is activated, brought to nominal operating conditions and left in the “ready for operation” mode.

Then it is turned off and the whole water circuit is drained from the initial water to eliminate any impurities.

Then the machine is once again loaded and brought to nominal operating conditions.

When the machine is in the “ready for operation” mode, the following deliveries are performed:

- 2 liters from the hot water outlet (in case there are more outlets, the 2 liters shall be equally divided)

- 1 liter of water from each coffee outlet

- each steam outlet is kept open for 1 minute

At the end of the installation, it is recommended to write a report of the operations that were performed.

## USE AND MAINTENANCE NOTES

For a correct functioning of the machine it is fundamental to comply with the manufacturer’s instructions, having qualified personnel to carry out special maintenance and to check all safety devices.

Do not use the machine without water.

Avoid to expose hands or other parts of the body to the coffee dispensing spouts or to the steam or hot water nozzles.

The water and steam from the nozzles is very hot and can cause severe burns.

The water and steam nozzles and the filter holders are very hot and therefore must be handled with care, holding them in the appropriate points.

Do not leave the machine in rooms where the temperature is below 0°C or 32°F without having first drained the boiler and the hydraulic circuit.

Cups and coffee cups must be placed on the cup-warmer tray (if fitted) only after having been fully drained.

Only the crockery related to the machine should be placed on the cup-warmer tray.

Placing any other object on the tray is to be considered incorrect.

The machine is not waterproof and therefore should not be cleaned with water jet.

### 1. Use of the machine

1.1 At the beginning of operations, and in any case at least once a day, all the water inside the machine shall be changed, following the instructions:

- for fully automatic machines, carry out a group washing and a power cleaner washing.

- for traditional machines, see the paragraph about draining the boiler.

1.2 Before the steam wand is used, it shall always be purged from the condensation water for at least 2 seconds or according to the instructions by the manufacturer.

### 2. Maintenance and repair

2.1 The components used during the maintenance or repair shall be guaranteed to meet the same hygiene and safety requirements as the machine. Genuine spare parts offer this guarantee.

2.2 After components related to parts that come into contact with water or food are repaired or changed, a washing procedure shall be carried out as indicated in the paragraph about the rules for the installation.

## HACCP SCHEDULE

We hereby declare that our HORECA machines have been designed and constructed to comply the European Community Sanitary law and that their sales are authorized by the Health Authorities.

A HACCP schedule (Hazard Analysis Critical Control Points) for risk identification and assessment is required. You should carry out a risk analysis on your premises.

With correct installation, care, maintenance and cleaning with approved detergent, Carimali meet the requirement above mentioned.

Carry out cleaning instruction, provided with machine, every day or at 8 hours shift intervals, to ensure that your system contains a minimum bacteria.

## GENERAL CHARACTERISTICS

MACHINES VERSION	EASY	LM
Number of coffee dispensing groups	1	
Number of milk frother	-	1
Number of grinders	1 or 2	
Number of product containers/mixer	1 or 2	
Hot water dispenser	1	
Maximum quantity of dispensable drinks per minute	2 Espressos - 1 Coffee - 1 Cappuccino - 1 Choco	
Maximum quantity of dispensable hot water per hour (lt)	10	
Machine width (mm)	325	
Machine height (mm)	725	
Machine depth (mm)	560	
Net weight (Kg)	43	
Coffee hopper capacity (gr)	650	
Instant canister capacity (lt)	2	
Coffee Boiler capacity (lt)	1	
Steam Boiler capacity (lt)	-	1
Coffee Boiler resistor (W)	1800	
Steam Boiler resistor (W)	-	1200
Voltage (V)	100V-1+N – 50/60Hz - 120V-1+N – 50/60Hz 200V-1+N – 50/60Hz 220V-1+N – 50/60Hz 230V-1+N – 50/60Hz - 240V-1+N – 50/60Hz	
Brewer group resistor PTC (W)	70	

### **MACHINES IN SELF CONFIGURATION (see exploded view manual for code number)**

Functions are absent or disabled by software:

- steam wand: absent
- extra milk function by pushing the cappuccino/latte dose key: disabled by sw
- function to stop the dose delivery by pushing a dose key: disabled by sw
- function to switch off the machine by pushing Shift and then Info keys: disabled by sw

Included features:

- Kit to block the drip tray
- Kit to block the decaf door
- Kit to block the programming keyboard lid

Recommended optional:

- Lock for beans hoppers and product canisters
- Lock for the coffee grounds bin, placed instead of the missing steam wand OR
- Direct coffee grounds.

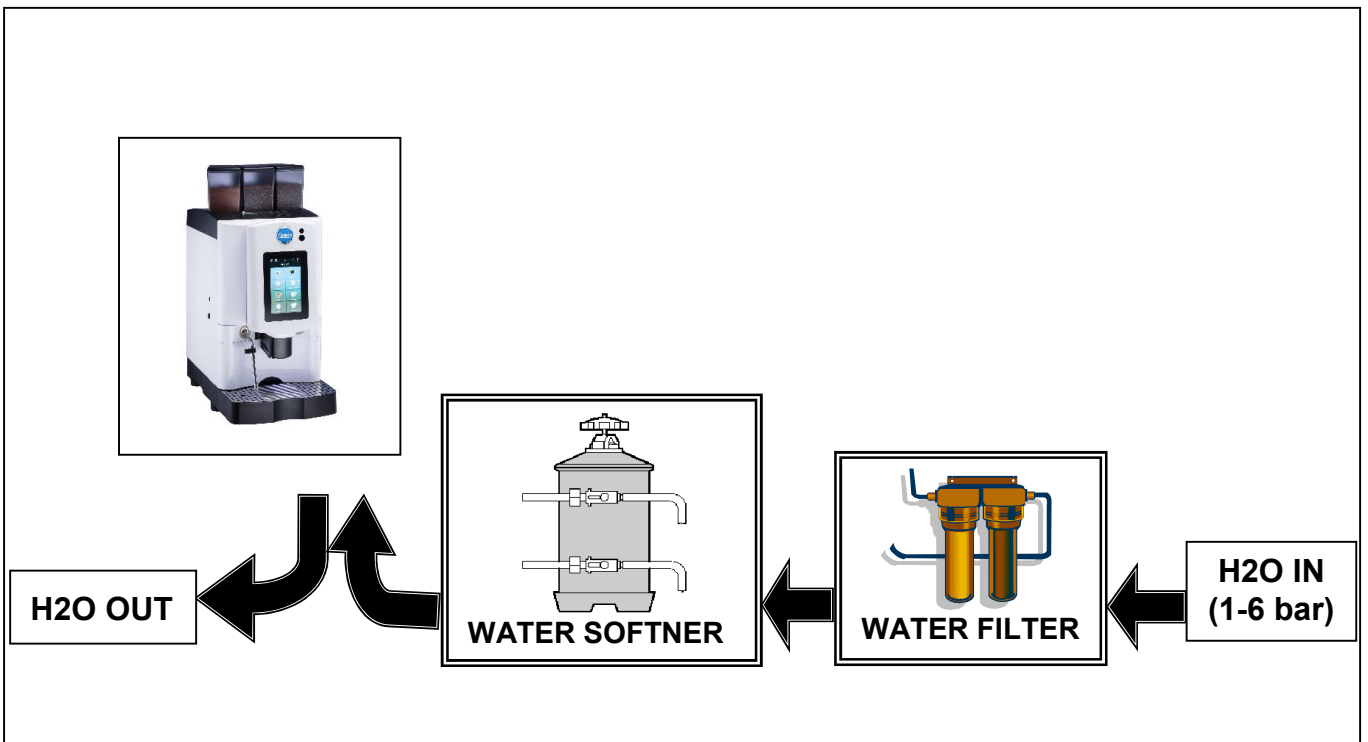
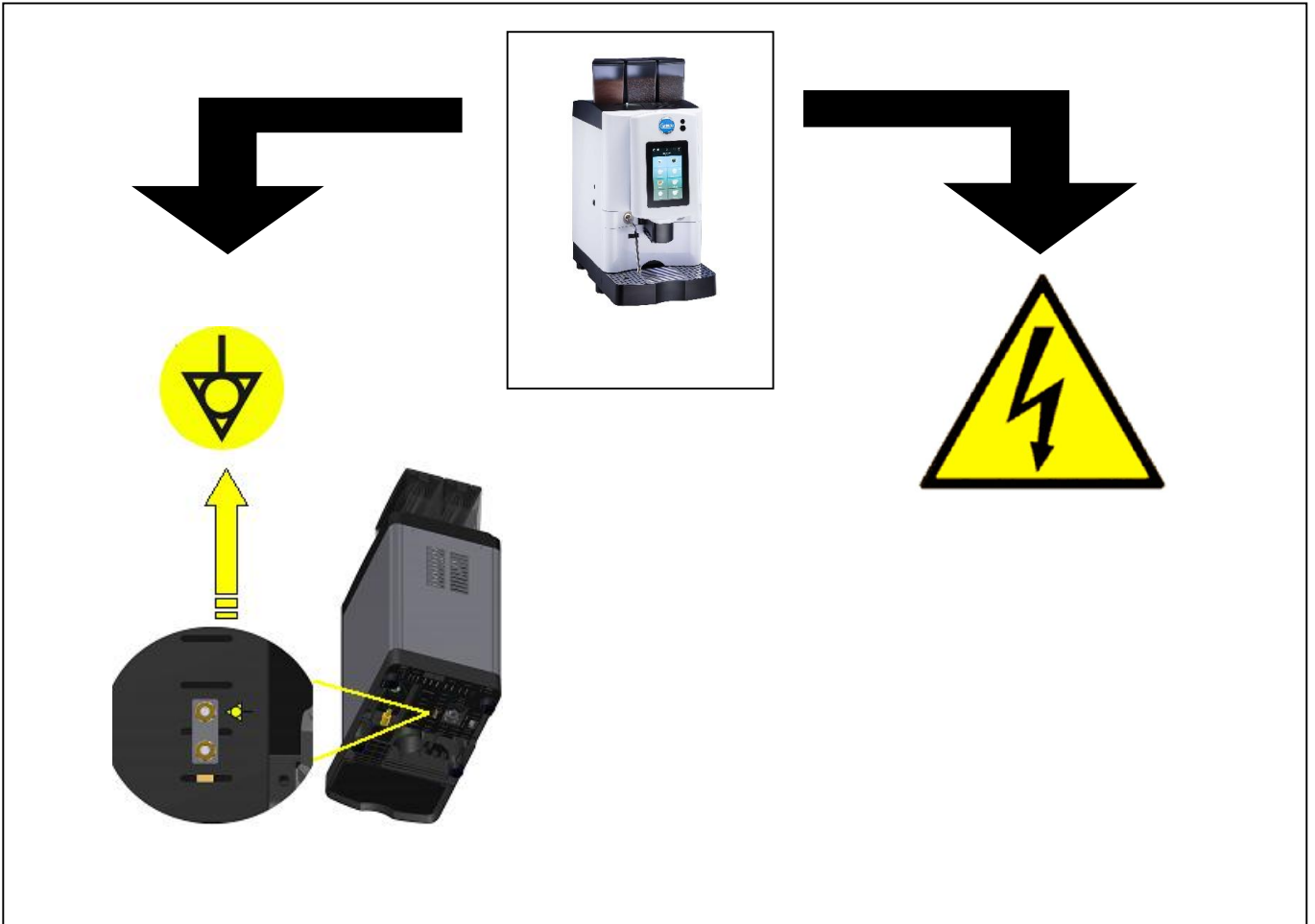
### **Materials used:**

- Stainless steel for boiler
- Teflon/Copper for hydraulic tubes
- Aluminium with stainless steel lining for the brewing group
- Plastic for grinder with conic grinder blades
- Other accessories in food plastic which are in contact with the ground coffee or drink
- Plastic for working area and cups tray
- Painted metal or stainless steel for machine body

## TEST REPORT ON ENERGY CONSUMPTION

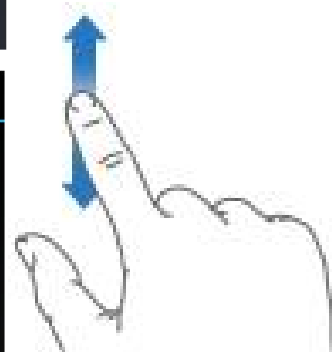
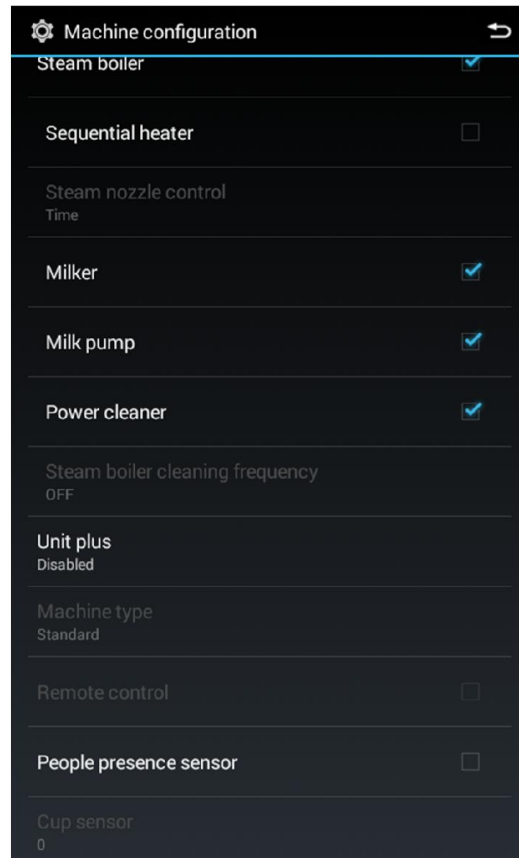
<p>Machine type: Armonia Plus/Soft Plus          Coffee boiler 1.0 litre heating element 1.8 KW (single phase)          Steam boiler 1.0 litre heating element 1.2 KW (single phase)          Machine load 3,15 KW          Environment temperature: 22°C</p>	MEASUREMENT
<p>1. HEAT UP PHASE          To reach operational coffee boiler temperature, 90°C, in 2'.30" (min, sec)          To reach operational steam boiler temperature, 124°C, in 5'.40" (min, sec)</p>	<p>Consumption 0.1 KWh          HU = 100 Wh</p>
<p>2. IDLE PHASE          Stand by at 90°C coffee boiler, 124°C steam boiler during 24 hours</p>	<p>Consumption 3.46 KWh / 24h          IM = 3460 Wh / 24h, 144 Wh</p>
<p>2.1 IDLE PHASE IN ENERGY SAVE MODE          Stand by 80°C coffee boiler, 110°C steam boiler 24 hours</p>	<p>Consumption 3.27KWh / 24h          IM = 3270 Wh / 24h, 136.25 Wh          Recovery time: 44 sec. Consumption: &lt; 100 Wh</p>
<p>2.2 IDLE PHASE IN ENERGY SAVE MODE          Stand by 70°C coffee boiler, 105°C steam boiler 24 hours</p>	<p>Consumption 2.9 KWh / 24h          IM =2900 Wh / 24h, 120.8 Wh          Recovery time:75 sec. Consumption: &lt; 100 Wh</p>
<p>2.3 IDLE PHASE IN ENERGY SAVE MODE          Stand by 60°C coffee boiler, 100°C steam boiler 24 hours</p>	<p>Consumption 2.5 KWh / 24h          IM = 2500 Wh / 24h, 104 Wh          Recovery time: 90 sec. Consumption: &lt; 100 Wh</p>
<p>3. VENDING PHASE          Delivery of No. 30 cups of coffee of 90ml, one cup every 2 minutes</p>	<p>L = ml 90          DV = ml 2700          VM = 350 Wh (vending phase)          DT = 87,4° C (average drink temperature)          ECPL = 129,6 Wh/l (energy consumption per litre)</p>

ELECTRIC - HYDRAULIC CONNECTION




## STARTING UP

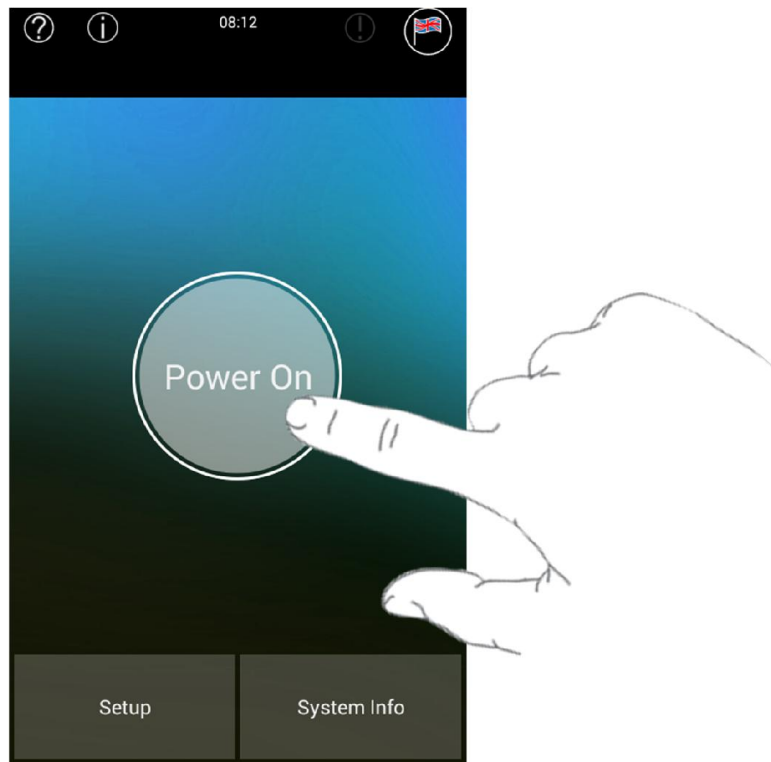
After having connected the machine to the water and electric networks, turn the switch on (see diagram). The display shows:



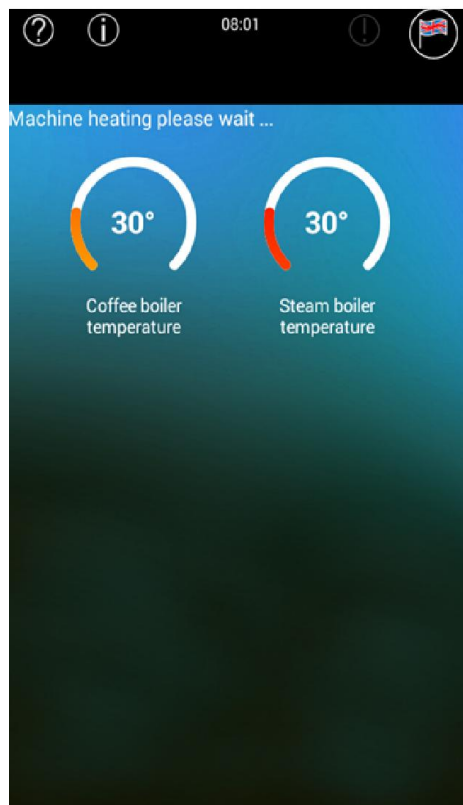
Check, and if necessary set the MACHINE CONFIGURATION parameters, according to the machine model.

Tap the back button , the display will show:



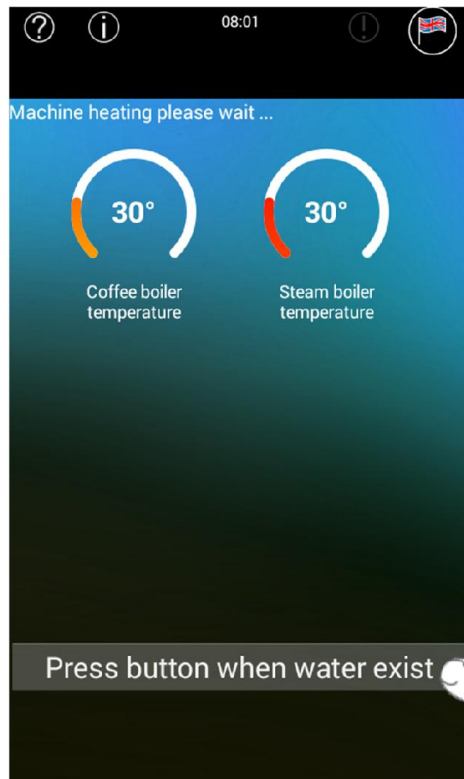


Tap "Power On" button to switch ON the machine, the display shows:



During this stage the steam boiler is being filled up.

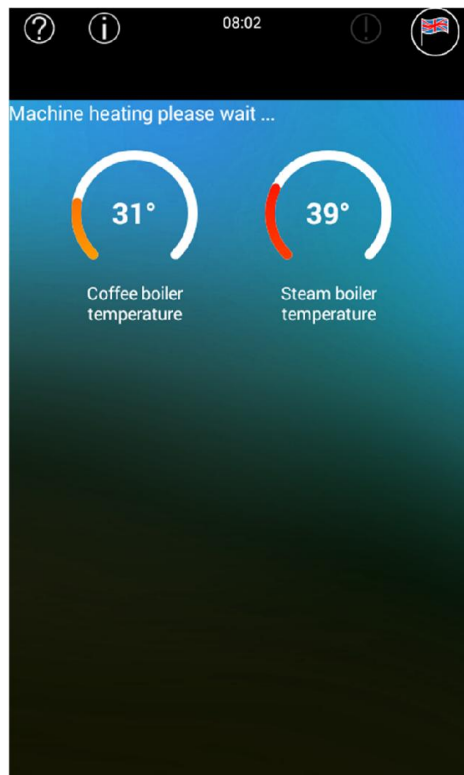
**WARNING:** The solenoid valve of the steam nozzle automatically opens to release the air inside the boiler. When the steam boiler has been filled up, the display shows:



During this stage the coffee boiler is being filled up

**WARNING:**

The upper piston of the coffee group positions itself inside the brewing chamber, and the coffee boiler starts filling up. When the coffee spout starts dispensing water, tap the button "**Press button when water exit**" to confirm that the filling up procedure has been carried out. When the coffee boiler has been filled up, the display shows:



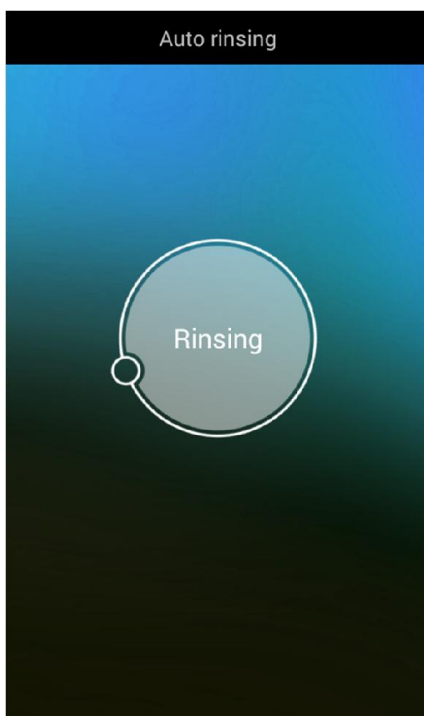
Where:

- 31 °C indicates the temperature of the coffee boiler
- 39 °C indicates the temperature of the steam boiler

**WARNING:**

A) DURING THIS STAGE THE MILK FROTHER AND STEAM WAND SOLENOID VALVES WILL STAY OPEN UNTIL 95°C. THIS WILL RELEASE THE AIR FROM THE BOILER AND GENERATE STEAM.

B) WHEN THE BOILER TEMPERATURE OF 50°C ITS REACHED THE MACHINE CARRY-OUT A RINSING GROUP. THIS IS USEFUL TO RELEASE AIR FROM THE WATER COFFEE CIRCUIT; THE DISPLAY WILL SHOW:



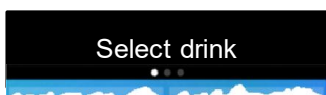
When the set-up temperature is reached, the display shows:

For machine configurations: Standard

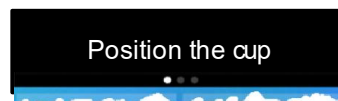


For machine configurations: Self

The display shows:

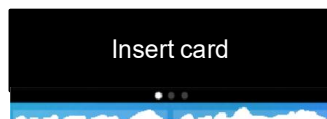


Alternated with the message:



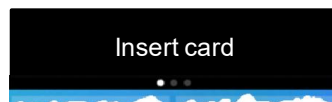
For machine configurations: waiters' card

The display shows:



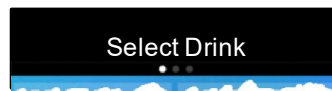
For machine configurations: Self + credit card

The display shows:



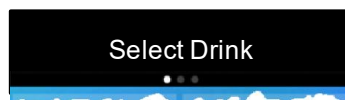
For machine configuration: Self with coin box


The display shows:

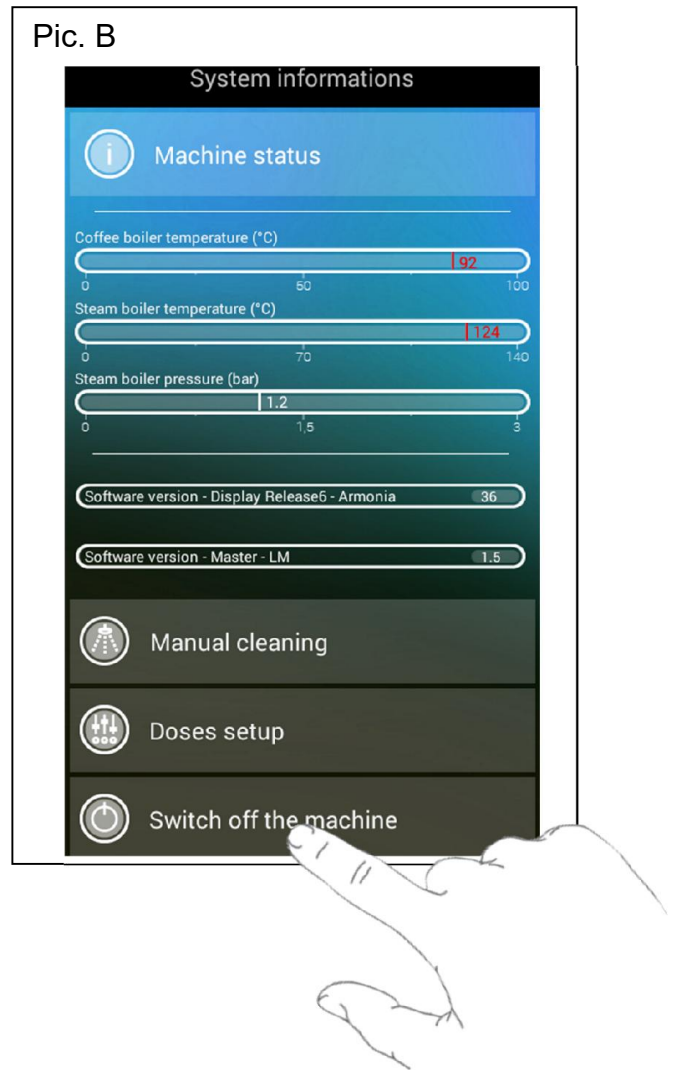
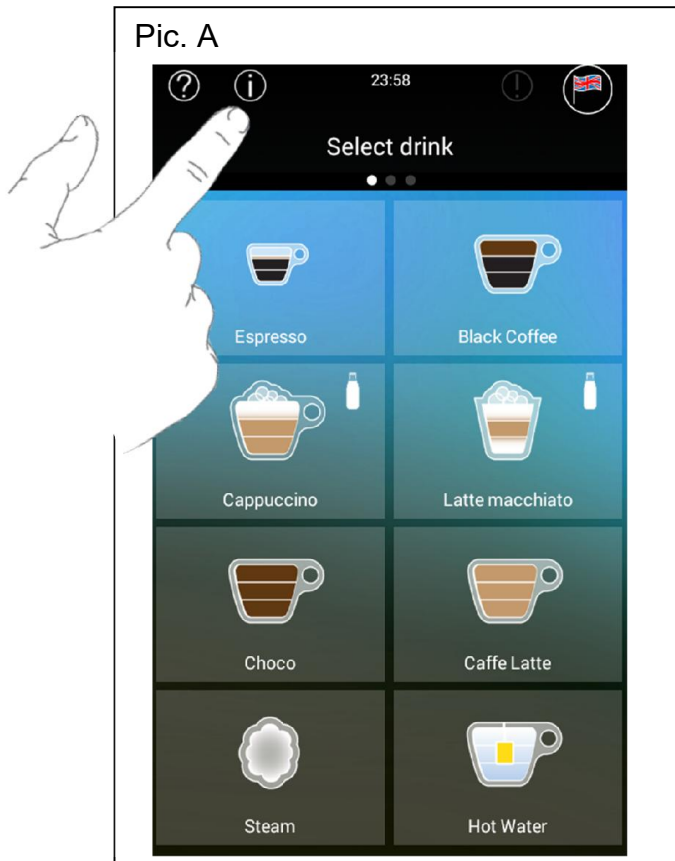


For machine configuration: Self with coin box + credit card

The display shows:

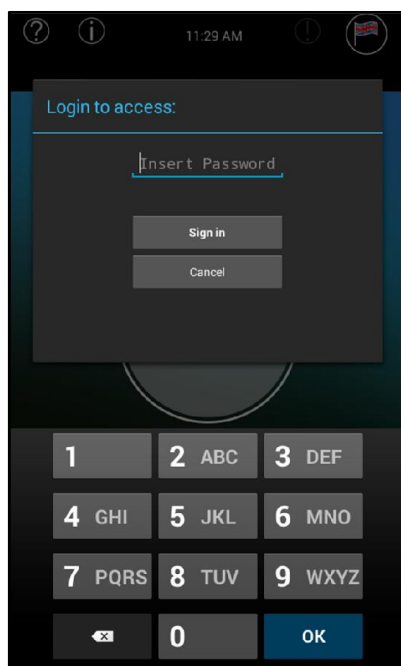


To switch OFF the machine, tap the Info button  (Pic.A) and then tap " Switch off the machine" button (Pic.B)



**WARNING:**

- a) For Self with coin box configuration the selections doses are enabled only when the set-up temperature of both boilers ( Coffee- Steam ) have been reached.
- b) To switch ON the machine on every type of Self – configuration, tap the "Power On" button, the display shows:

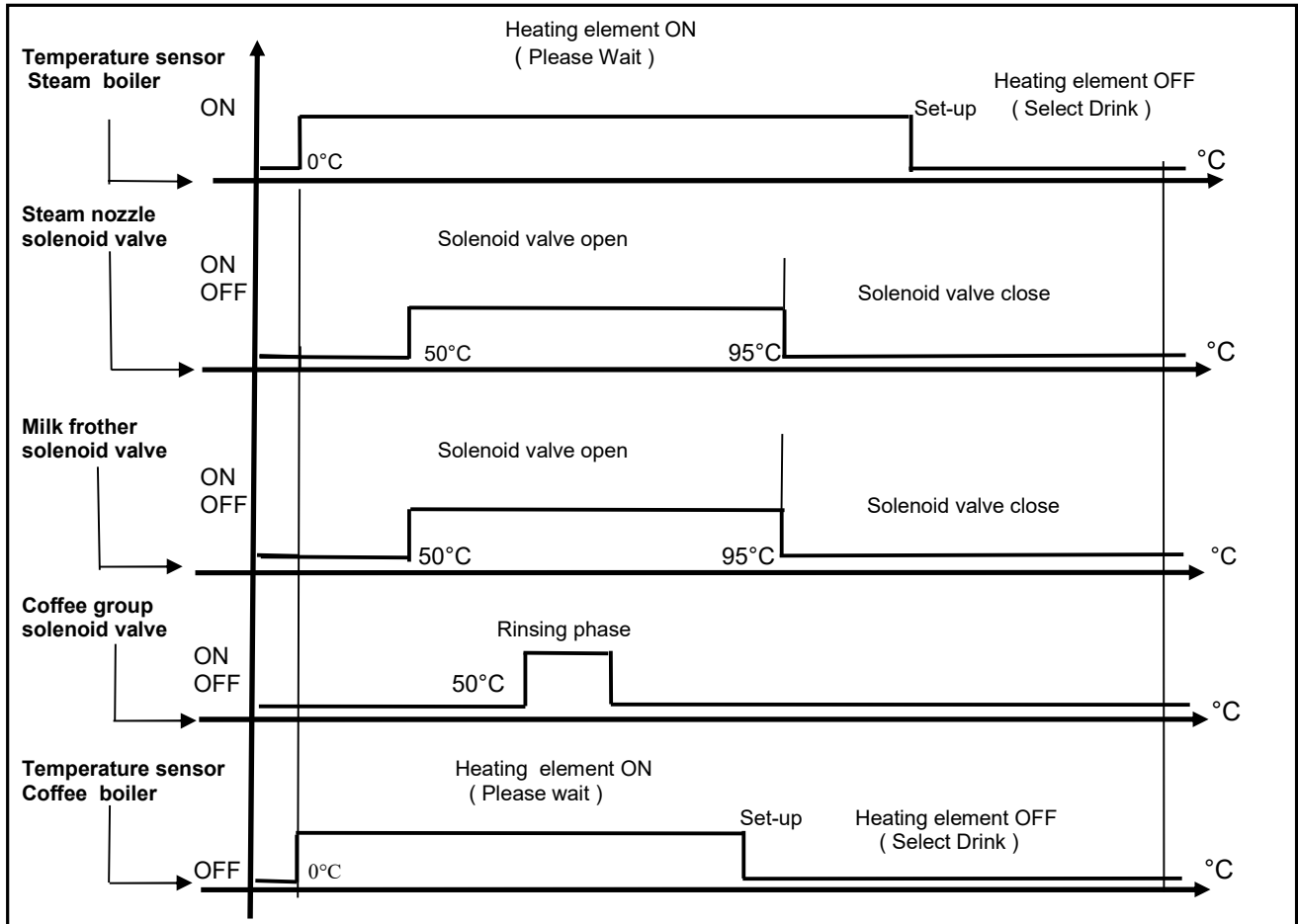


After insert the password the machine goes to on.



c) To switch off the machine, open the front door or tap the Info button, tap the "Switch off the machine" and after insert the password the machine goes to off.

**SCHEMATIC SUMMARY OF STEAM AND COFFEE BOILER HEATING PHASE**



## ACCESS THE MAIN SETTING MENUS WITH PASSWORD OR SMART-CARD

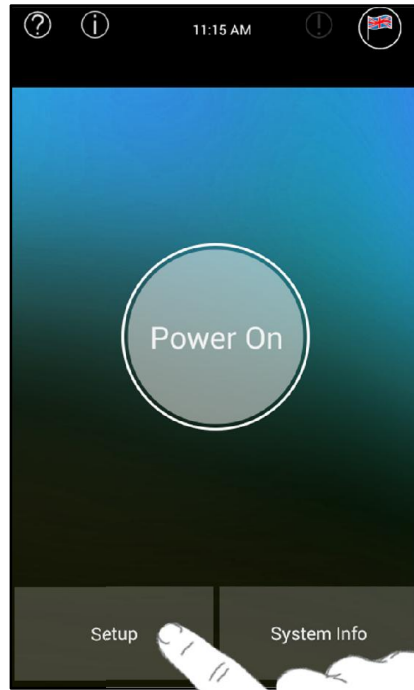
### A) ACCESS THE MAIN SETTING MENUS WITH PASSWORD

To enter the programming environments, a password is required which define the access rights to the different environments.

The password must be composed with 5 numbers.

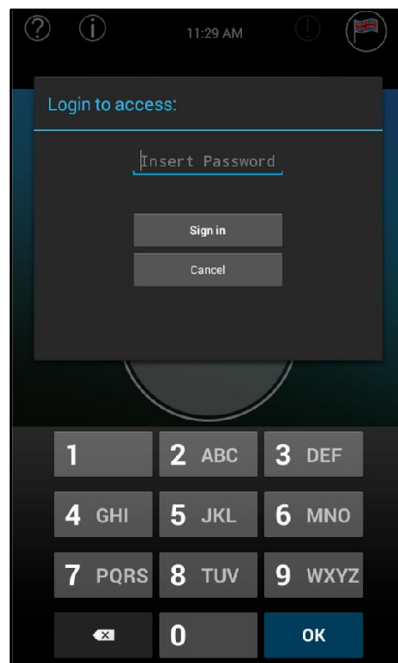
To insert the passwords proceed as follows:

- Turn the machine OFF
- Tap to "SETUP" button

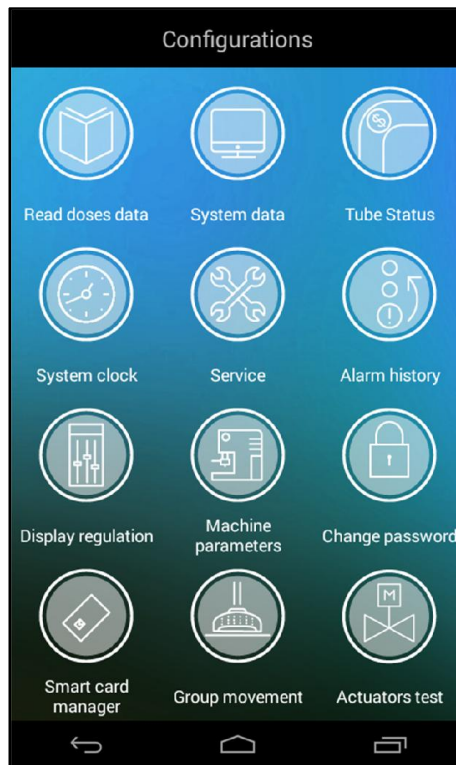


Enter one of the following passwords:

- Waiter 6 1 1 1 1
- Roaster 1 1 1 1 1
- Owner 2 2 2 2 2
- Service 3 3 3 3 3
- Technician (for Technician password contact the Carimali Technical Service)

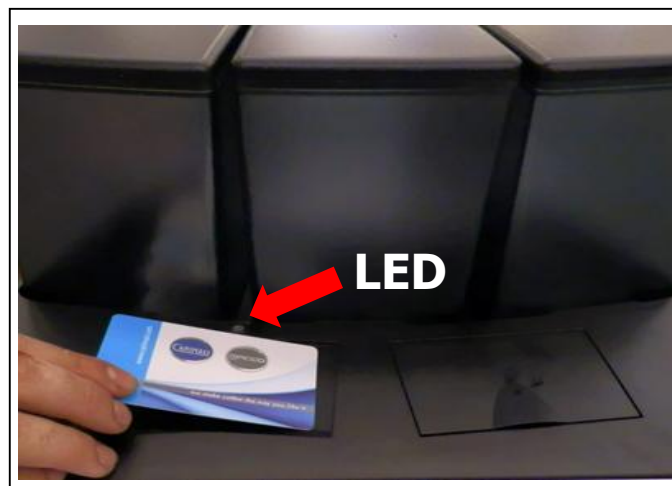


After insert the password the display shows the main menu programming environments:



**B) ACCESS THE MAIN SETTING MENUS WITH SMART CARD.**  
(ONLY FOR MACHINES WITH TRANSPONDER INSTALLED )

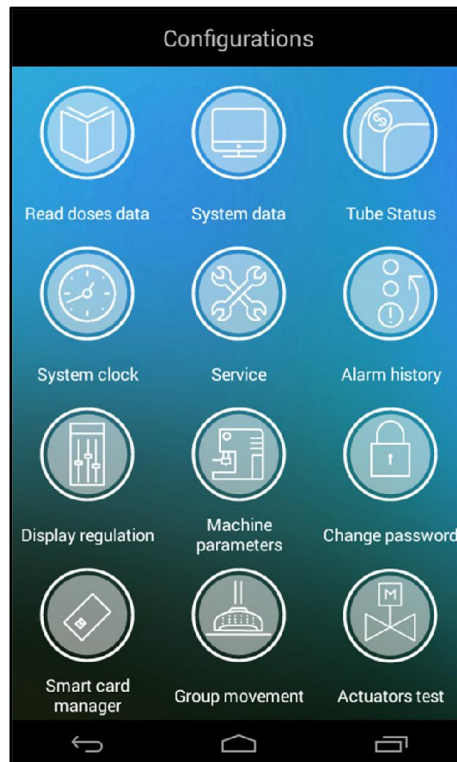
To enter the programming environments, place one of the following smart cards above the proper reader with the led light on and the machine in off:



- WAITER SMART CARD
- ROASTER- SMART CARD
- OWNER SMART CARD
- SERVICE SMART CARD
- TECHNICIAN SMART CARD

If the inserted card it is correct the reader led light off .

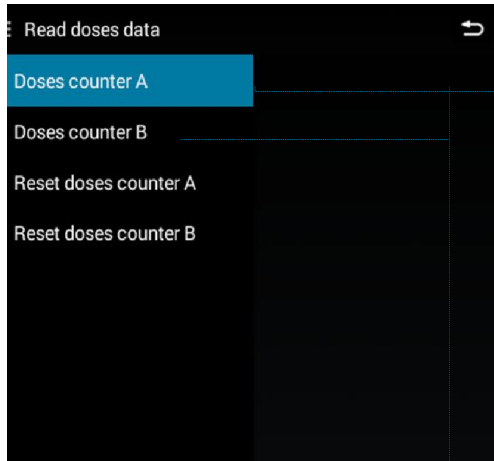
- Tap to "SETUP" button, the display shows:



**WARNING:**

If you use a card having a card code different from the machine code, the reader light flash simultaneously.





Tap the button Doses counter **A** or **B**.  
Is possible read two counter **A** or **B**,  
which can be use one for the total  
number of the dispensed daily doses and  
another for the total number of the  
dispensed weekly or monthly doses.

	Drink name	No.	No. Deca
1	Espresso	2	0
2	Milk	18	0
3	Cappuccino	0	0
4	Milchkaffee	0	0
5	Latte macchiato	0	0
6	Milch	0	0
7	Schoko	0	0
8	Schokopresso	0	0
9	Steam	0	0
10	Hot water	0	0
11	2 Espresso	0	0
12	2 Cafe Creme	1	0
13	Cappuccino	0	0
14	Milchkaffee	0	0
15	Latte macchiato	0	0
16	Milch	0	0
17	Schoko	0	0
18	Schokopresso	0	0
19	Hot water	0	0
20	Disable	0	0
21	Disable	0	0
22	Disable	0	0
23	Disable	0	0
24	Disable	0	0
25	Disable	0	0
26	Disable	0	0
27	Disable	0	0
28	Disable	0	0
29	Disable	0	0
30	Disable	0	0
Last reset date		01/01/16 - 08:00	
Total doses		21	
Total cashing		0.00€	
Extramilk		1	
Group cleaning		0	
Mixer cleaning		0	
Milker cleaning		0	
Power cleaner		0	

**No.1** Indicates the number of cups dispensed for each buttoni.

**No.Deca:** Indicates the number of decaffeinated dispensed cups,  
for each buttoni.

Indicates the date and time of the last reset doses counter.

Indicates the total dose delivered.

**X.XX:** Indicates the total cashing of the machine.  
The total will be calculates if the selling price has been set  
for each dose.

Indicates the n° of Extra milk carried out

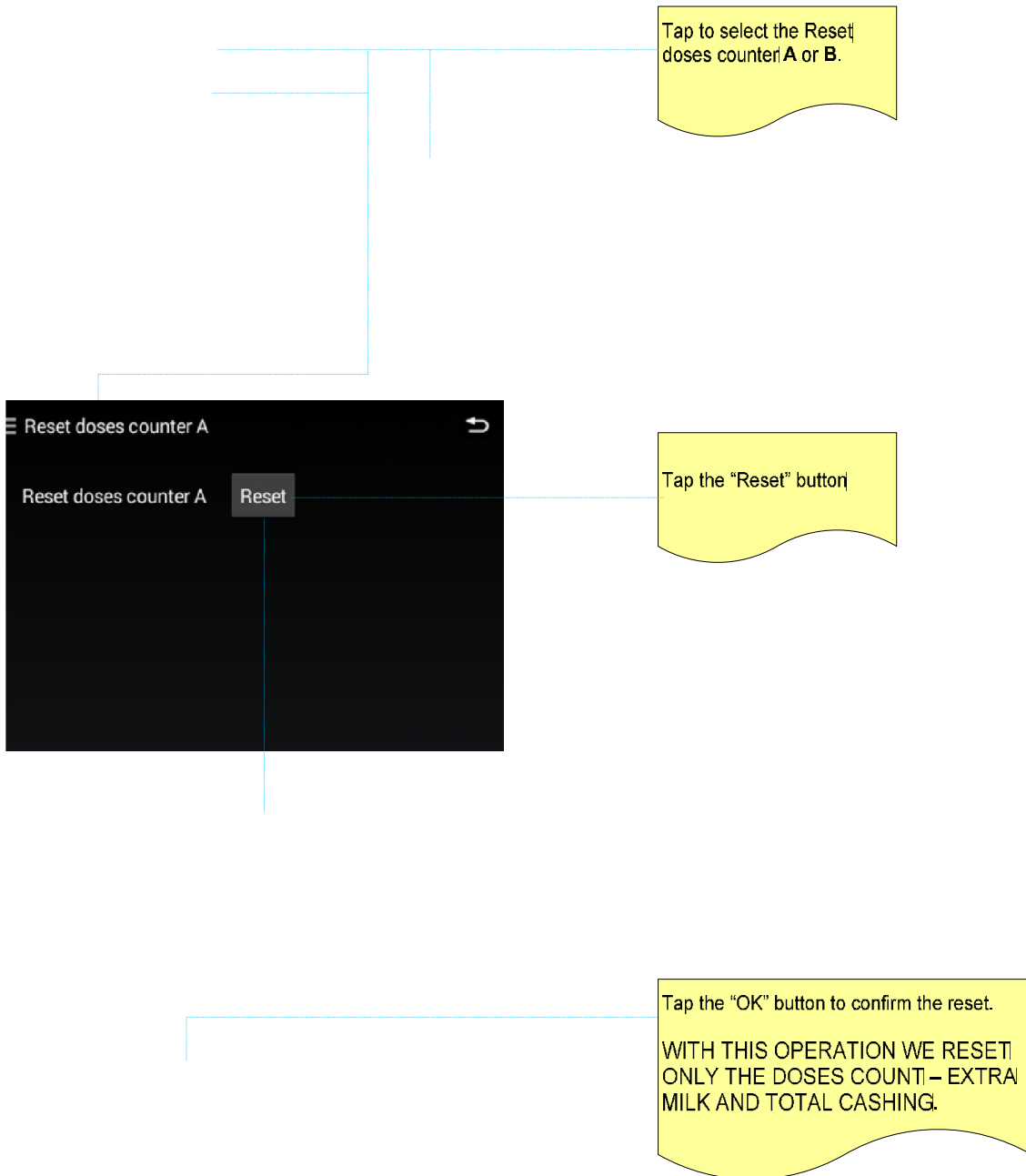
Indicates the n° of Group cleaning carried out

Indicates the n° of Mixer cleaning carried out

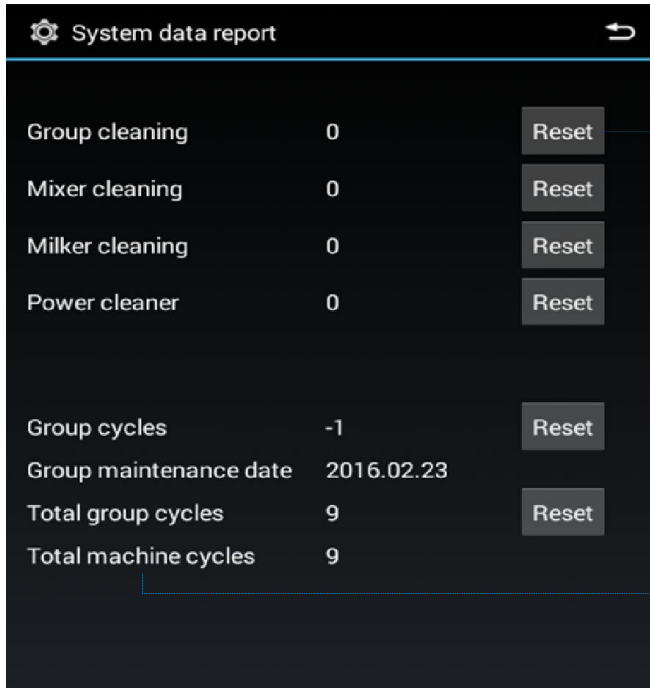
Indicates the n° of Milker cleaning carried out

Indicates the n° of Power cleaning carried out

## READ DOSES DATA (Reset doses counter A/B)

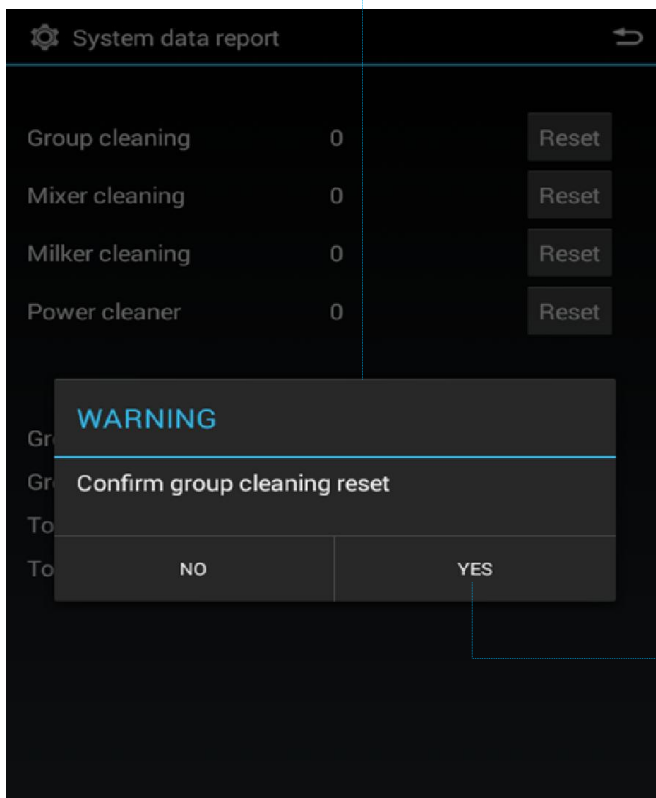


# SYSTEM DATA



Tap the "Reset" button of the counters you want to reset.

"Total machine cycles" indicates the N° of total cycles of the machine. It is not resettable.



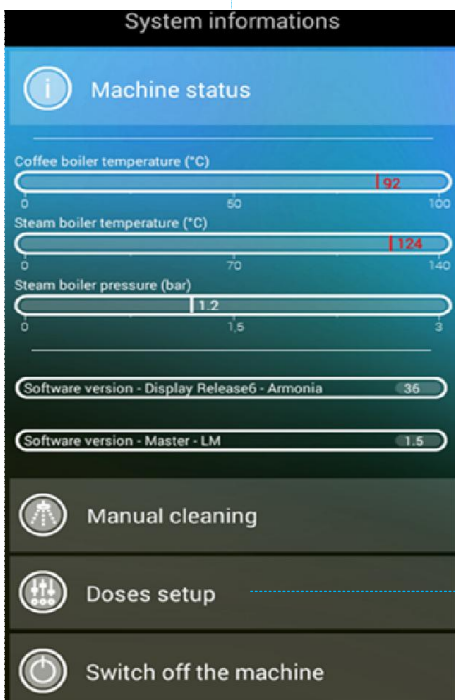
Tap on YES button to confirm the reset.

## SET DOSES

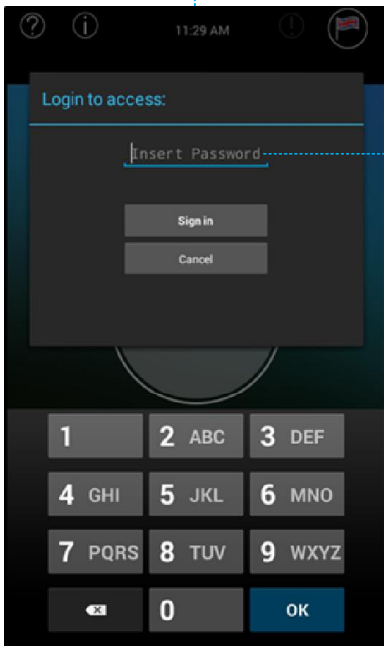
PLEASE NOTE: TO ACCESS TO THE SET DOSES PROGRAMMING, THE MACHINE MUST BE AT THE SET-UP TEMPERATURE.



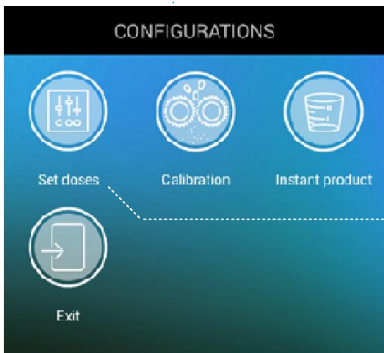
Tap the Info button



Tap the "Doses setup" button



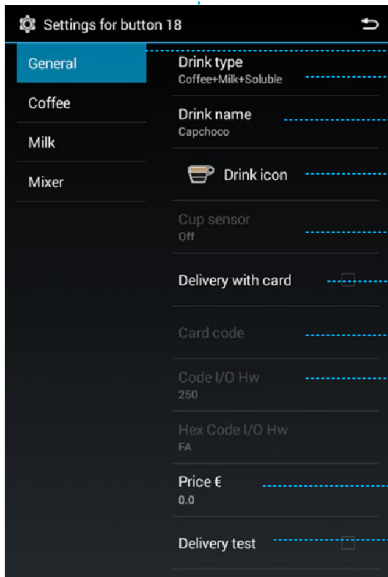
Insert the Technician Password.



Tap the "Set doses" button.



Tap a dose button you want to program.



Tap to **General** to program the main doses parameters:

Tap to "Drink type" to select the products combination available.

Tap to "Drink name" to digit the desired name for the drink.

Tap to "Drink icon" to select the desired icon for the drink.

Tap to "Cup sensor" to enable the low or high sensor cup. Available only for Optima Soft model.

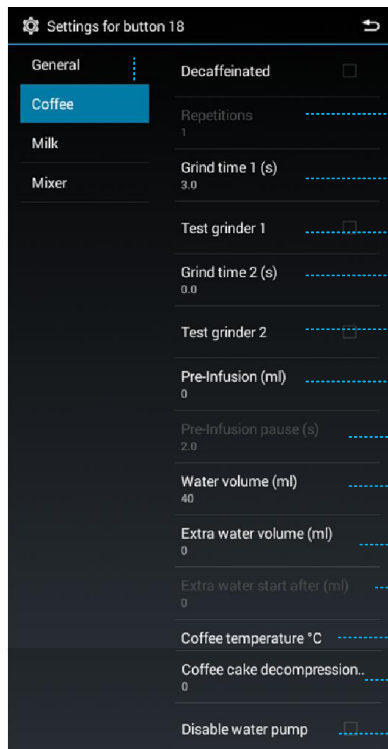
Tap to "Drink with card" to enable the deliveries with Waiter cards.

Tap to "Card code" to select the Code card from 0 to 25 to enable the deliveries with Waiter cards. With code 0 any smart card is enabled to deliver drinks. Available only with SELF configurations.

Tap to "Code I/O Hw" to program the serial trasmission code. Available only with SERIAL enabled.

Tap to "Price €" to program the price for the drink.

Tap to "Delivery test" to dispense the drink for check.



Tap to **Coffee** to program the doses parameters concerning the coffee :

Tap to "Repetitions" to set the number of the deliveries which will be repeated in sequence.

Tap to "Grind time 1(s)" to program the grinding time for grinder 1(right position).

Tap to "Test grinder 1" to activate the grinder and wheight the ground coffee

Tap to "Grind time 2 (s)" to program the grinding time for grinder 2 (left position).

Tap to "Test grinder 2" to activate the grinder and wheigh the ground coffee.

Tap to "Pre-infusion (ml)" to program the quantity of water for the pre-infusion.

Tap to "Pre-infusion pause (s)" to program the time of the pre-infusion pause.

Tap to "Water volume (ml)" to program the quantity of coffee water.

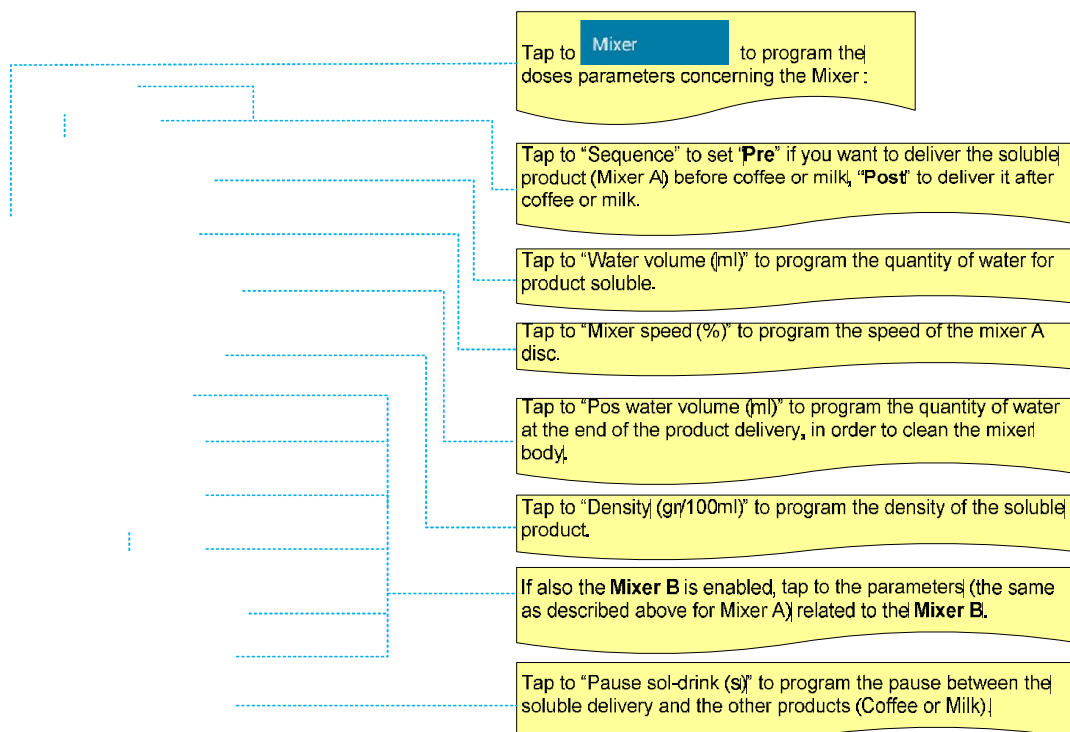
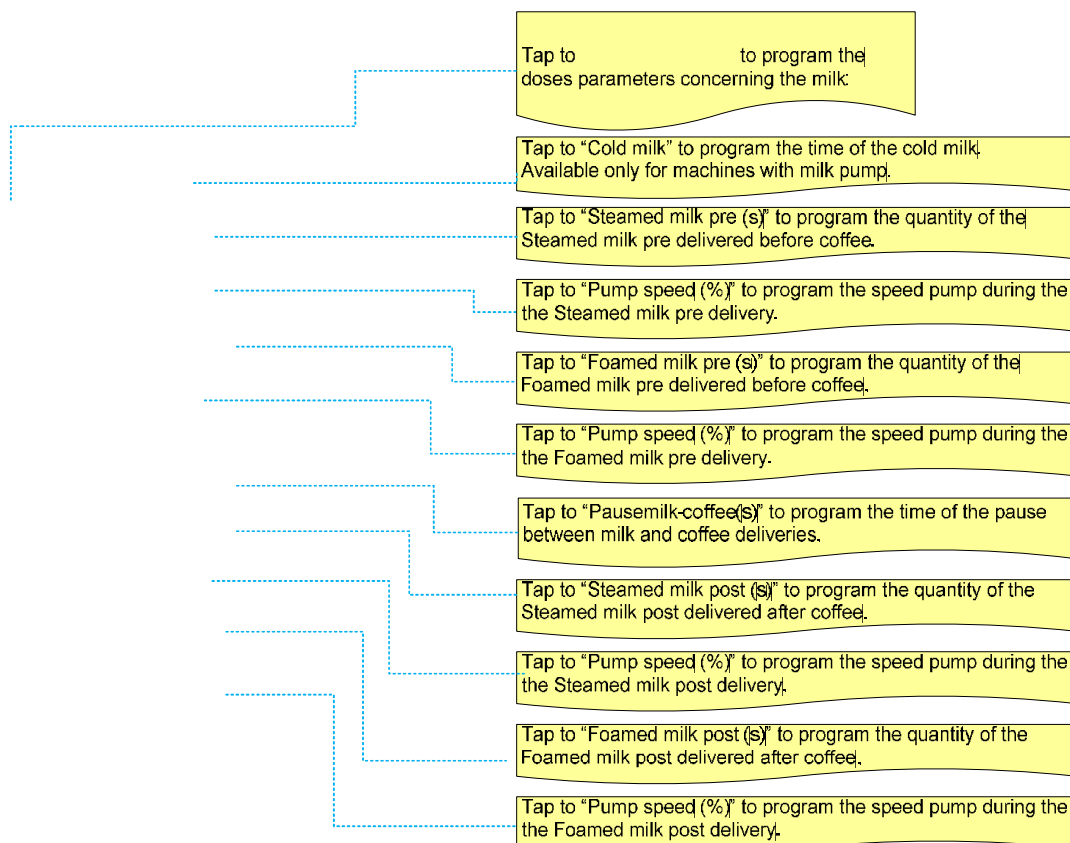
Tap to "Extra water volume (ml)" to program the quantity of extra water delivered directly into the cup.

Tap to "Extra water start after (ml)" to program after how many ml. activate the extra water.

Tap to "Coffee temperature °C" to program the dose coffee temperature higher than the temperature of the coffee boiler.

Tap to "Coffee cake decompression" to program the pulses(10Pulses=0,5mm). If the coffee cake decompression is enabled, during the coffee delivery, the lower piston moves back for the pulses/mm.programmed, in order to reduce the tamping of the coffee cake.

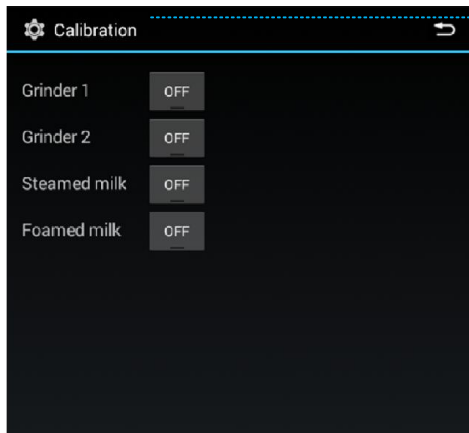
Tap to "Disable water pump" to disable the water pump during the coffee deliveries.



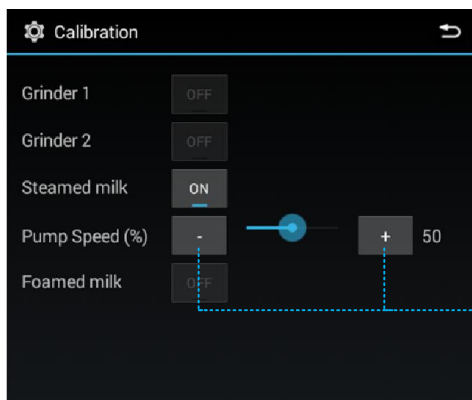
**Please note:**

- A) Some dose parameters will be enabled only if the relevant component has been activated in the "MACHINE PARAMETERS" environments : **milker- interface i/o hartwall or coin mechanism.**
- B) For Coffee + Milk and Milk drink type the "repetition cycle" is not available.
- C) The "Milk pump speed and Cold milk parameters" will be displayed only for machine with the milk pump installed.

### C) CALIBRATION (Grinder-Milker)



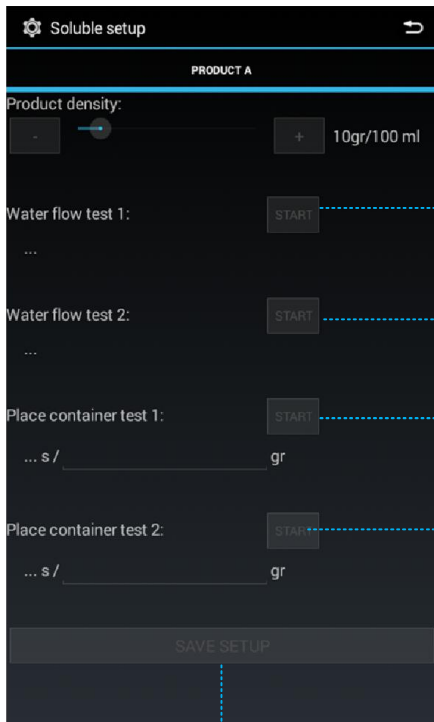
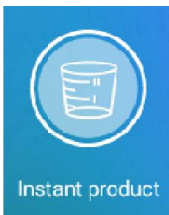
The Calibration menu is useful to adjust the Milker (steamed and foamed milk ) and the Grinders . To activate the Milker and the Grinders deliveries (for max.5 seconds) tap to the related on/off buttons, **OFF** also with the machine door opened.



During the Steamed or Foamed milk deliveries, tap to or **+** button to set the milk pump speed (%). The programmed value will be saved in all drinks with steamed/foamed milk.



# INSTANT PRODUCT CALIBRATION



Tap to START to deliver the "Water flow test 1" (delivery of 50ml.of water). The delivery time will be automatically stored.

Tap to START to deliver the "Water flow test 2" (delivery of 50ml.of water). The delivery time will be automatically stored.

**Place container test 1:**  
Remove the Mixer body, place a container under the product dispenser outlet and tap to START, the "A" soluble powder dispenser will deliver product for the time previously set for the "Water flow test". Weigh with a scale the delivered product and tap to **xxS/--gr**, to insert the value of the weight.

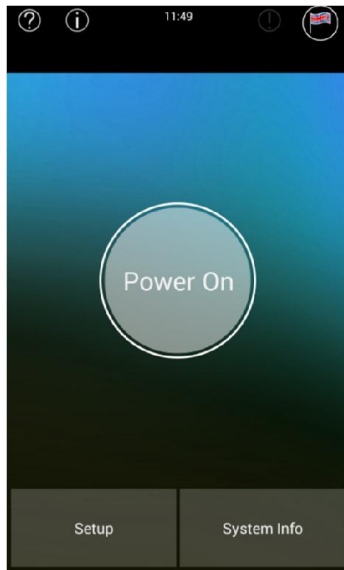
**Place container test 2:**  
Place again the container under the product dispenser outlet and tap to START, the "A" soluble powder dispenser will deliver product for the double of the time previously set for the "Water flow test". Weigh with a scale the delivered product and tap to **xxS/--gr**, to insert the value of the weight.

Tap to **-** or **+** buttons to set the Product density **xxgr/100ml**. (See the serving size wrote on the soluble product package).

**Save the data by tapping to SAVE SETUP button, and repeat the same adjustment for the Product B.**

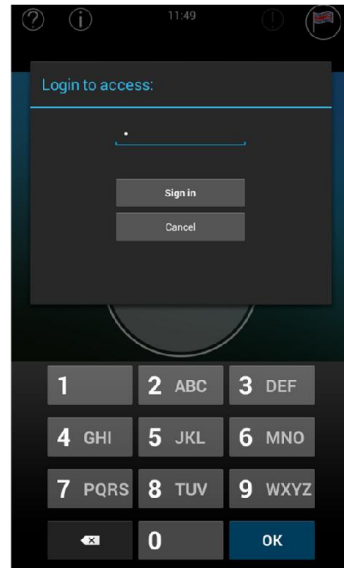
## SYSTEM MANAGER

To access to the menu, the machine must be OFF.  
Tap –Setup- button, the display request to digit  
the password

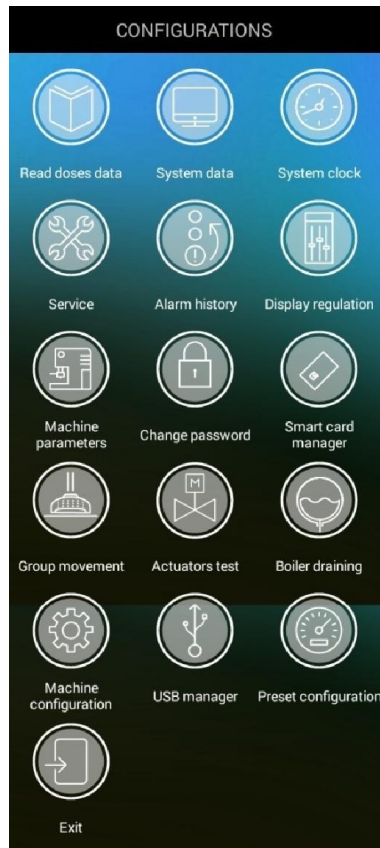


Enter one of the following password, then tap -Sign in- button:

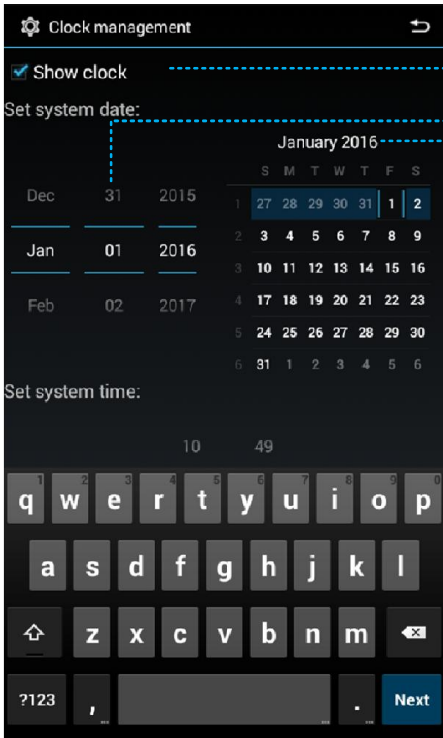
- Owner 2 2 2 2 2
- Service 3 3 3 3 3
- Technician FOR TECHNICIAN PASSWORD  
CONTACT THE CARIMALI TECHNICAL SERVICE



## MAIN MENU

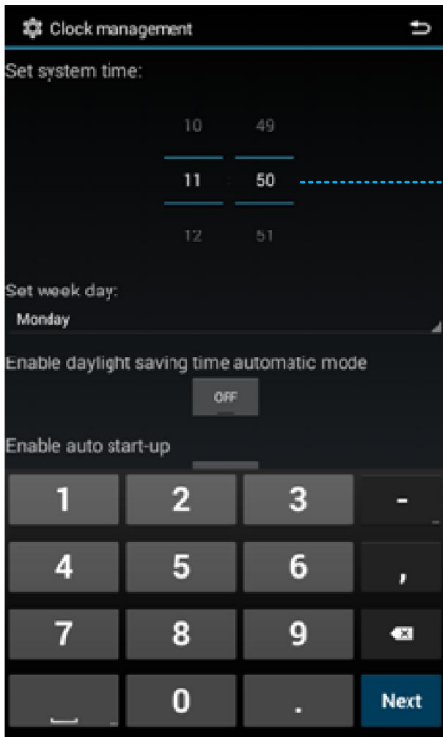


# SYSTEM CLOCK

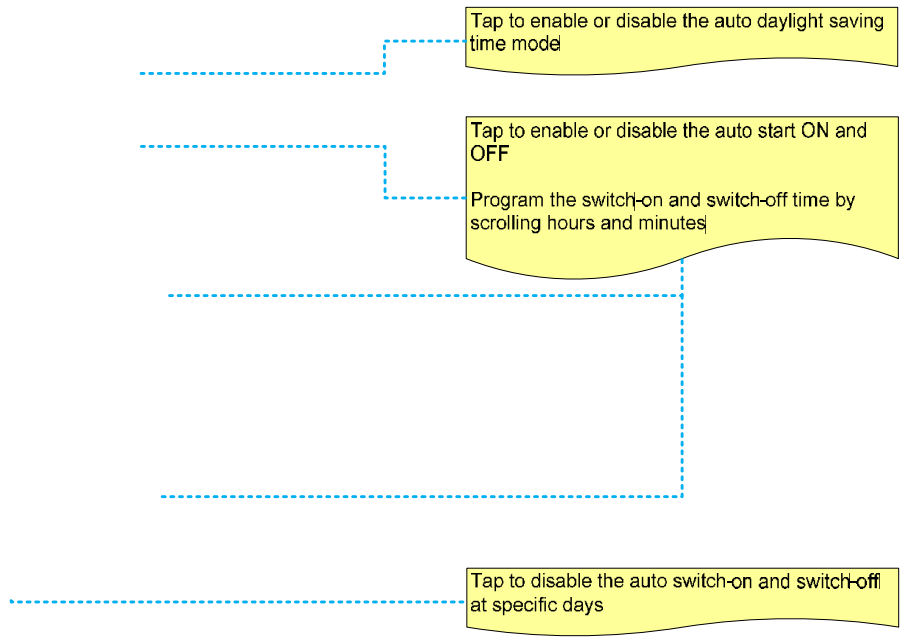


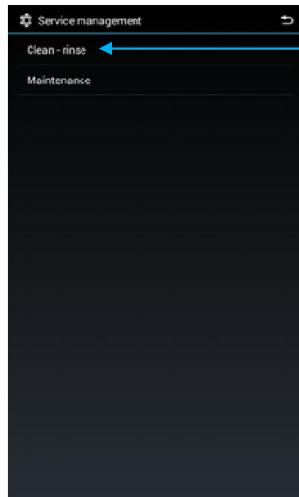
Flag the parameter to display the clock on the front page

Program the date of the clock by scrolling month day and year  
Alternatively tap the day on the calendar



Program the time of the clock by scrolling hours and minutes





Tap

Tap to set the cleaning message frequency  
 1DD-> every day  
 2DD-> every two days  
 3DD-> every three days  
 4DD-> every four days  
 5DD-> every five days  
 6DD-> every six days  
 7DD-> every seven days

Afterwards select at what time the message PLEASE CLEAN should appear

NOTE: if you set -Cleaning frequency 1DD-, it is possible to program up to three different cleaning times a day

If the time out of the "Stop drink selection" is programmed, the machine would stop dispensing coffee, milk and instant product based drinks once the time out has elapsed.

The machine would be able to dispense the above mentioned drinks once the cleaning is carried out

Tap to program after how many cups the message PLEASE CLEAN should appear

Afterwards the machine would stop dispensing coffee, milk and instant product based drinks once the time out has elapsed.

The machine would be able to dispense the above mentioned drinks once the cleaning is carried out

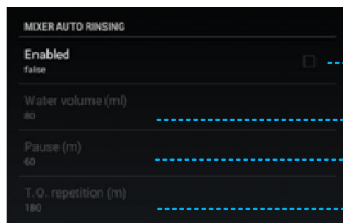
Water volume: Tap to program the amount of water used to clean the brewing unit with detergent

Repetition: Tap to program repetition 2 to 5 in order to increase or decrease the cleaning steps with water

Tap to enable or disable the group auto rinsing

T.O. after coffee: Tap to select after how many minutes from last coffee based drink, the machine carries out auto rinsing

T.O. repetition: Tap to select after how many minutes from last rinsing the machine carries out further auto rinsing



Water volume: Tap to program the amount of water used to clean the mixer

Repetition: Tap to program repetitions 2 to 5

Tap to enable or disable the mixer auto rinsing

Water volume: Tap to program the amount of water used to clean the mixer

Pause: Tap to select after how many minutes from last instant product based drink, the machine carries out auto rinsing

T.O. repetition: Tap to select after how many minutes from last rinsing the machine carries out further auto rinsing



Cleaning time: Tap to program the time to clean the milk frother

Pump Speed %: Tap to program the milk pump speed while cleaning

Detergent water time: Tap to program the time to fill in the jug with fresh water (detergent already inserted manually by the staff)

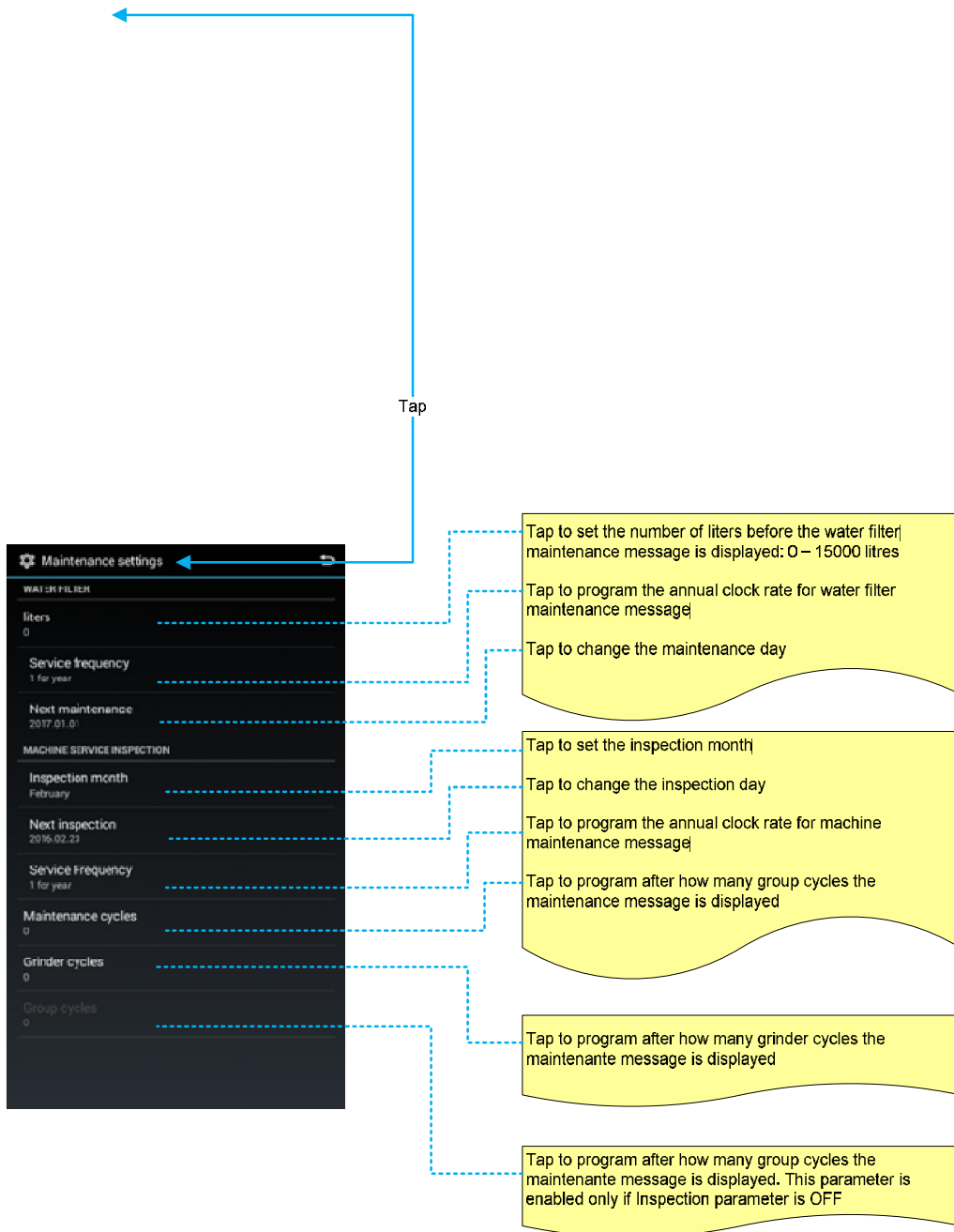
Rinsing water time: Tap to program the time to fill in the jug with fresh water for rinsing steps

Tap to enable or disable the milker auto rinsing

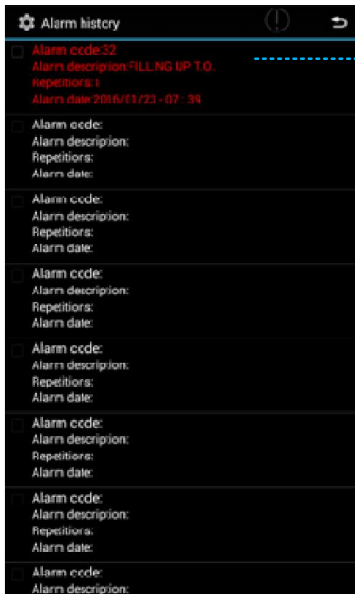
T.O. after milk: Tap to select after how many minutes from last milk based drink, the machine carries out auto rinsing

T.O. repetition: Tap to select after how many minutes from last rinsing the machine carries out further auto rinsing

Pump Speed %: Tap to program the milk pump speed while rinsing



# ALARM HISTORY



This menu lists the latest 10 alarms

Alarm description: in this example FILLING UP T.O.

Repetition: is the number of times the alarm occurred in a row

Alarm date: indicates the time which occurred the alarm; if more alarm occurred in a row, it records the time of last alarm

**Please Note:**

The maximum alarm number the machine can save is 10

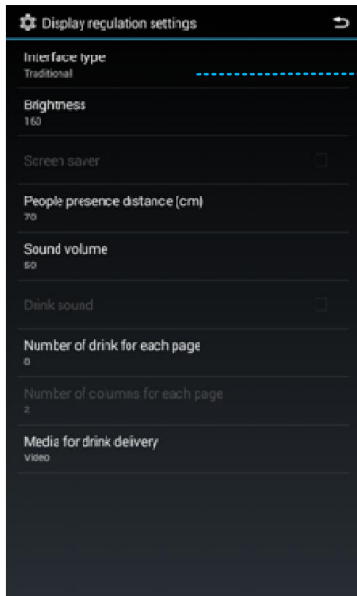
To reset the alarm data memory, carry out "Preset Configuration Data" procedure

Press the N°16 Enter key to return to the previous environment and/or exit

ALARM DETAILS - ALARM CODE	
H. MOTOR PULS	10
NO L. MOTOR PULS	11
H. MOTOR ERROR	12
L. MOTOR ERROR	13
TOO MUCH COFFEE	15
FILLING UP T.O.	32
COFFEE HEAT T.O.	33
STEAM HEAT T.O.	34
CHECK FLOW LINE	35
COFFEE TEMPERATURE	37
STEAM TEMPERATURE	38
INFUSION T.O.	41
FRIDGE TEMP.PROBE	45
FRIDGE TEMPERATURE	46
CW TEMP.PROBE	47
CORRUPTED DATA	60
CLOCK ERROR	63
MOTOR BLOCK	65
TRASPONDER PCB	66
UNIT PLUS SERIAL	67
MILK PUMP BLOCK	68
CW SERIAL ERROR	69
COIN VALIDATOR ERROR	70
GSM: SIM ERROR	80
GSM: OFF	81
GSM: PIN ERROR	82
INTERNET SERVICE	83
SMS SERVICE	84
FTP ERROR	85
CHANGE H2O FILTER	90
GROUP MAINTENA.	91
MAINTENANCE	92
GRINDER MAINTENA.	93



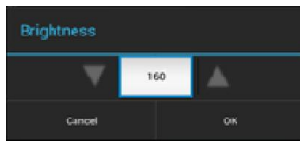
# DISPLAY REGULATION



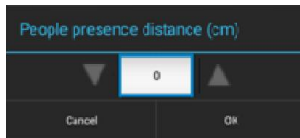
Tap to select  
Traditional : in order to select 4, 6, 8 on 10 drinks per page

Self Service : in order to select

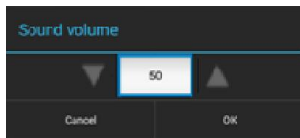
Drink Size : in order to select



Tap to set the display contrast



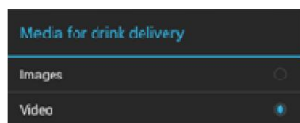
Tap to set the distance in cm of the proximity sensor range



Tap to adjust the sound volume for buzzer and voice messages



Tap to adjust the sound volume for buzzer and voice messages



Tap to set image or video to be displayed while the machine is producing drink

# MACHINE PARAMETERS



## GENERAL

Tap to enable or disable the serial connection (optional)  
In case serial is enabled you can set the maximum Time Out for communication

Tap to program the number of cups after which the alarm GROUNDS BIN FULL is displayed

Tap to program an additional amount of water for the first coffee dispensed after a settable time out (default values are respectively 10minutes and 2ml)  
Time out starts after a coffee dispensing, a group rinsing or cleaning cycle

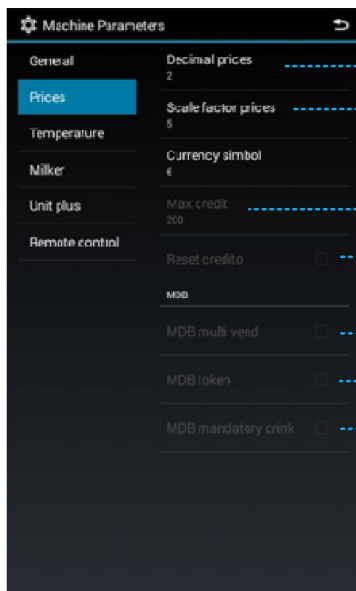
Flag to enable alarms visualized with number and descriptions or visualized only with number

Flag to enable buzzer four touch screen

Flag to enable buzzer during cleaning menu

Tap to edit User message, which will be displayed on the bottom line of the display

## PRICES



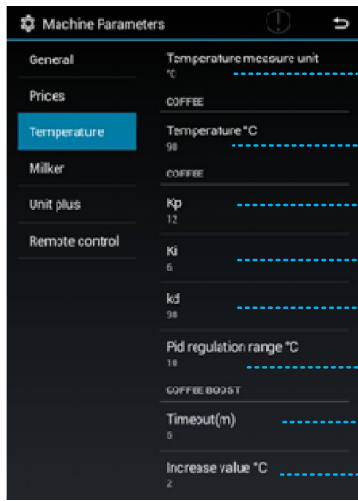
Tap to edit -Decimal price- and -Scale factor prices- parameters  
These parameters are set automatically in case of MDB device, in case of serial coinbox they have to be set according to the specs. of the coin box connected

Tap to program the -Max credit-  
Only in case of machine with card system

Flag if you want to reset any residue credit left in memory after having produced drink  
Only in case of coin mechanism present

Flag to set the relevant parameter useful in case of payment system in MDB

# TEMPERATURE



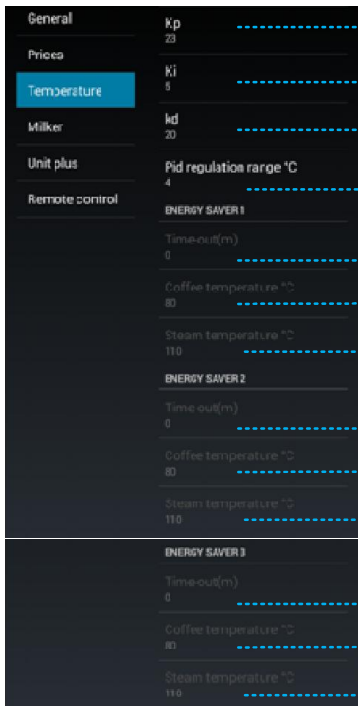
Tap to program the Temperature measure unit (Celsius or Fahrenheit)

Tap to program the coffee boiler temperature

Tap to program the PID for coffee boiler Available only with FACTORY password

Tap to program the increased coffee Boiler temperature for the first coffee  
The increased temperature will be enabled after -Timeout- parameter, which starts after any dispensing from the coffee boiler (default values are respectively 5 minutes and 2°C)  
Enabling these parameters disables the energy saver.

Tap to program the steam boiler temperature



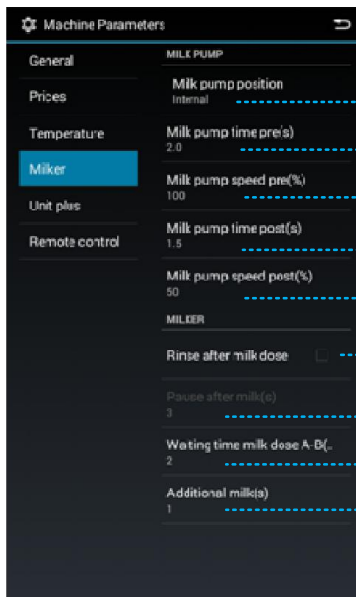
Tap to program the PID for coffee boiler Available only with FACTORY password

Tap to program ENERGY SAVER 1  
Once the energy saver time out has elapsed, coffee and steam boilers will be kept at the programmed energy saver temperatures (lower than normal) until any dose key is pressed

Tap to program ENERGY SAVER 2  
Once the energy saver time out has elapsed, coffee and steam boilers will be kept at the programmed energy saver temperatures (lower than normal) until any dose key is pressed

Tap to program ENERGY SAVER 3  
Once the energy saver time out has elapsed, coffee and steam boilers will be kept at the programmed energy saver temperatures (lower than normal) until any dose key is pressed

## MILKER



Tap to enable milk pump and set it "Internal" if the milk pump is positioned inside the machine or "External" when the milk pump is positioned outside (optional)

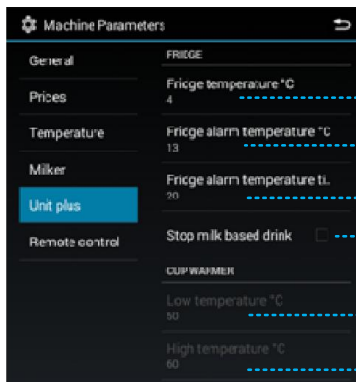
Tap to program the time and the milk pump speed parameters, to fill in the milk silicone tube at every milk based dispensing

Tap to program the time and the milk pump speed parameters, to drain the milk silicone tube after every milk based dispensing

Flag to enable the rinse of milk frother after every milk based drink  
Tap to program after how many seconds the rinse is carried out

Tap to program the time out after which the next milk based drink will be produced with additional milk time (default values are respectively, 2 minutes and 1 second)

## UNIT PLUS



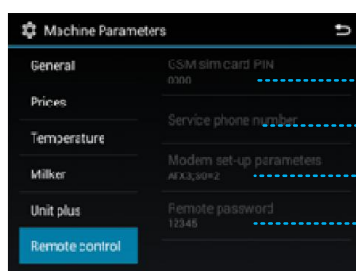
Tap to program the refrigerature temperature; only in case of fridge PLUS add on unit wired to master-PCB

Tap to program the alarm temperature for the refrigerator and the time out after which the alarm will be displayed on the machine display (default values are respectively 13°C 20 minutes); only in case of fridge PLUS add on unit wired to master-PCB

Flag to disable the dispensing of milk based drink if alarm MISSING MILK is enabled on the machine display

Tap to program the two available temperatures (button 1 and 2 on cup warmer; only in case of cup warmer PLUS add on unit wired to master-PCB

## REMOTE CONTROL



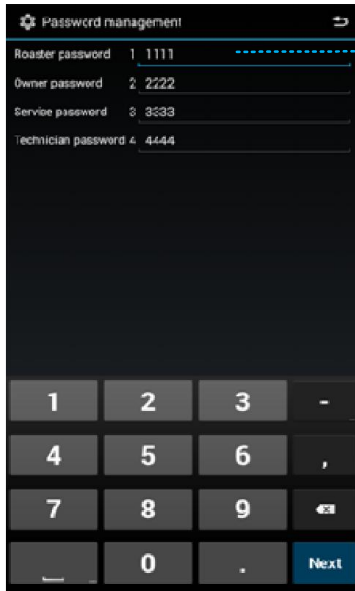
Tap to set the PIN code of the SIM card inserted in the GSM phone

Tap to set the phone number of the service assistance. When the machine will show an alarm the GSM will send a message

Don't change the default parameter for MODEN (ATXG;SO=2) is correct for the GSM supplied from Carimali.

Tap to set a remote password to be able to connect to the machine from a remote modem

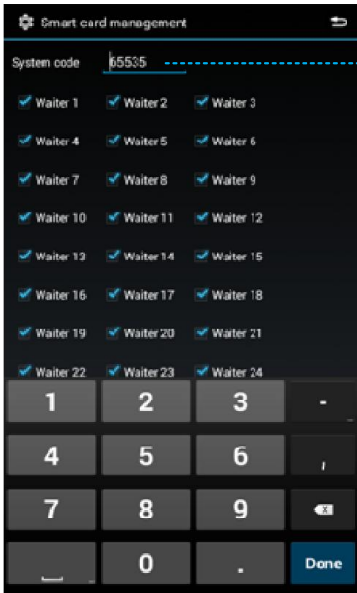
## CHANGE PASSWORD



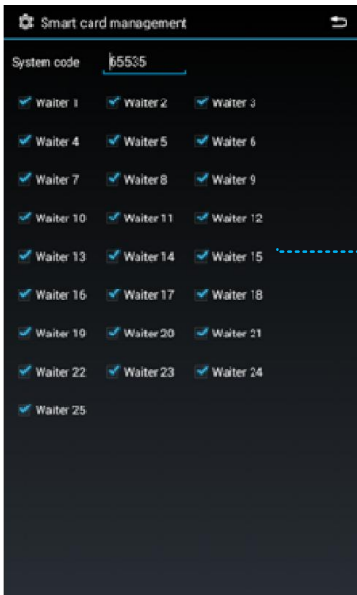
Tap to change the password

Each password indicate the user level: Roaster - Owner- Service – Technician  
The level enables the change of some or any password

# SMART CARD MANAGER

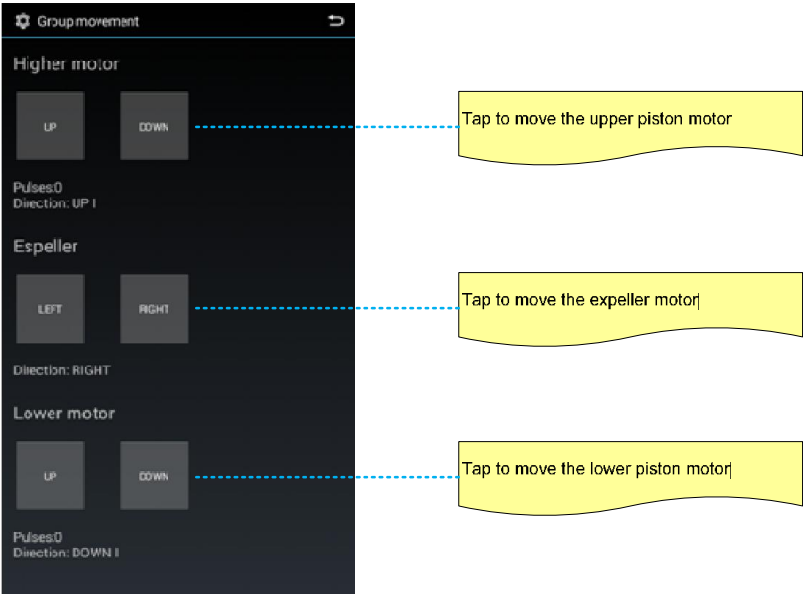


Tap to change the System code, which is the number of the device code assigned to the machine.  
The machine default System code is 65535

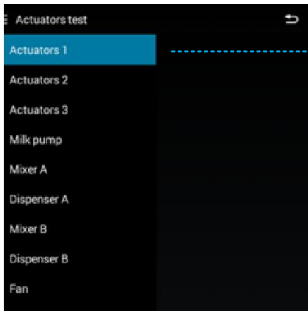


Tap to enable or disable waiter cards

**GROUP MANUAL MOVEMENTS**



# ACTUATORS TEST



Tap to select one of the sub menus



Tap to activate the actuator that you wish to check  
Tap again to stop the activated actuator from working

Flow meter counting

Tap to activate the actuator that you wish to check  
Tap again to stop the activated actuator from working

Reading of the coffee boiler temperature probe



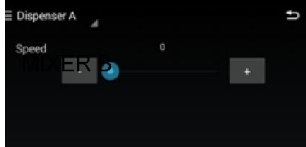
Tap to activate the actuator that you wish to check  
Tap again to stop the activated actuator from working

Reading of the steam boiler temperature probe



## MIXER - A

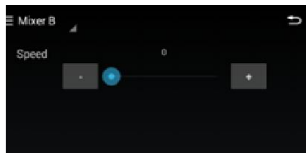
Tap + to increase the speed of the Mixer A motor  
Tap - to decrease the speed



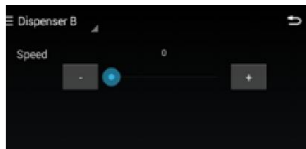
Tap + to increase the speed of the Dispenser A motor  
Tap - to decrease the speed

## MIXER - B

Tap + to increase the speed of the Mixer B motor  
Tap - to decrease the speed



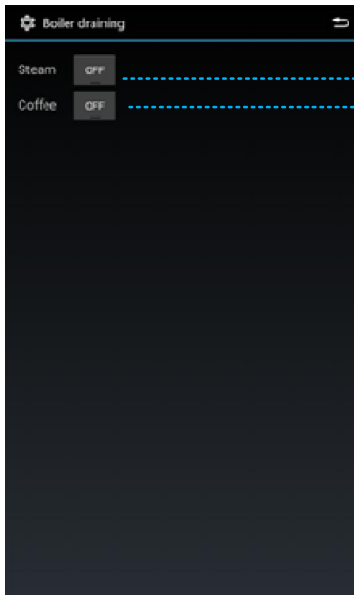
Tap + to increase the speed of the Dispenser B motor  
Tap - to decrease the speed



## EXHAUST FAN

Tap + to activate the exhaust fan

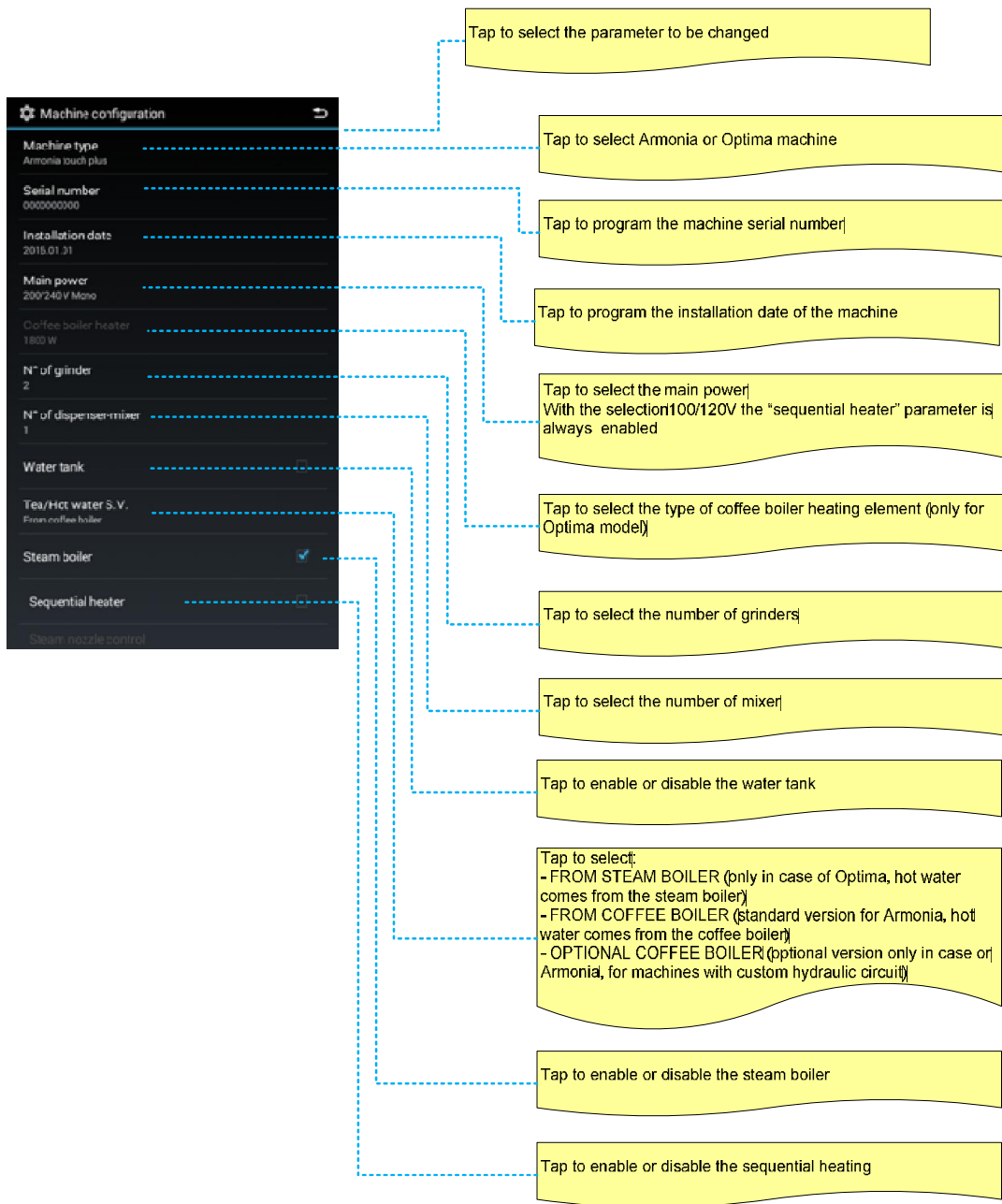
## BOILER DRAINING

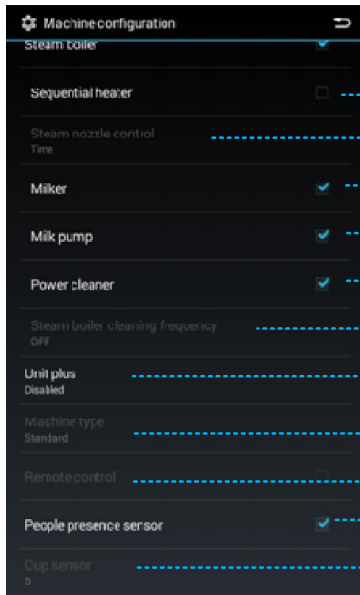


Tap to start steam boiler draining (solenoid valve of the steam and milker will be activated)

Tap to start coffee boiler draining (solenoid valve of the group and by-pass will be activated)

# MACHINE CONFIGURATION





Tap to select the main power  
With the selection 100/120V the "sequential heater" parameter is always enabled

Tap to enable or disable the barista steam wand (only for Optima)

Tap to enable or disable the automatic milk frother

Tap to enable or disable the milk pump (MTT)

Tap to enable or disable the Power Cleaner function for milk frother

Tap to program the steam boiler cleaning frequency (in case of milk frother not present)

Tap to enable or disable the serial communication with PLUS add on units (i.e. Fridge Plus)

Tap to program one of the following machine configuration:  
 - STANDARD  
 - WAITER CARDS  
 - SELF  
 - SELF+ CREDIT CARD  
 - SELF+ COIN BOX  
 - SELF+ CREDIT CARD+ COIN BOX  
 WARNING: The machine type that use cards are available only for coffee machine with transponder installed

Tap to enable or disable the remote controller  
Select Enabled to carry out Remote (GSM) or local data download by means of laptop with Wizard program

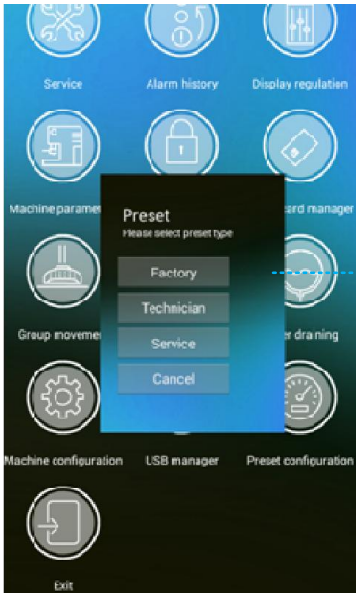
Tap to enable or disable the people presence sensor

Tap to enable or disable the cup station (optional)



MENU UNDER DEVELOPMENT

# PRESET CONFIGURATION



Tap to select the type of preset to be carried out

The Technician or Factory preset can be carried out only with Technician password or smart card.

With Service password or smart card can be carried out only the Service preset.

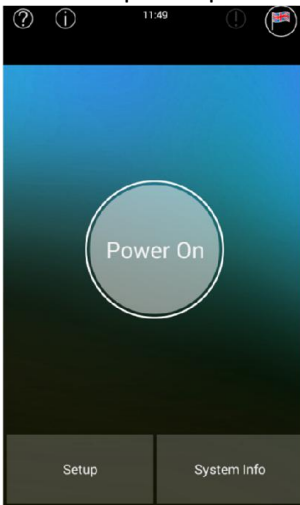
**WARNING :**

- With the SERVICE preset will be reseted only the service accessible parameters.
- With the TECHNICIAN preset will be reseted all parameters except the Machine Configuration parameters.
- With the FACTORY preset will be reseted all parameters included the Machine Configuration parameters

## CLEANING PROCESS ABORT

If you want to interrupt the cleaning procedure for group or mixer or milk frother follow the procedure:

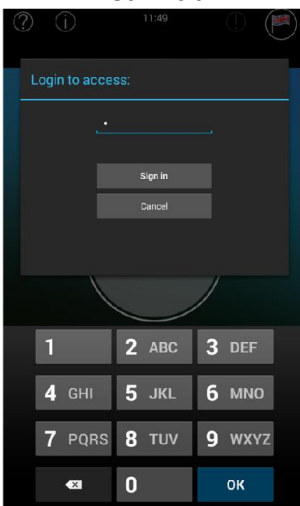
1. Turn the machine OFF
2. Tap -Setup- button, the display request to digit the password



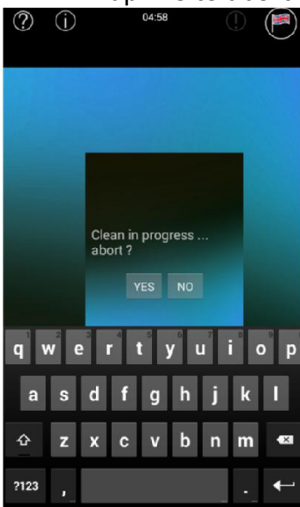
3. Enter one of the following password, then tap -Sign in- button

Service        3 3 3 3 3

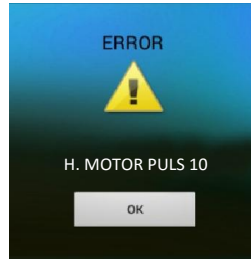
Technician    FOR TECHNICIAN PASSWORD CONTACT THE CARIMALI TECHNICAL SERVICE



4. Tap YES to abort the cleaning in progress



### 1) HIGHER MOTOR PULSES 10



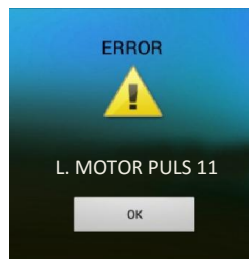
Causes: the upper motor encoder has not received pulses for 3 seconds, since the motor is not running

Result: the machine is switched OFF.

Check the following:

1. Wrong or misconnect electric connections
2. Faulty gear motor electric
3. Faulty encoder card
4. Faulty master card

### 2) LOWER MOTOR PULSES 11



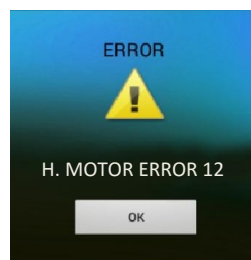
Causes: the lower motor encoder has not received pulses for 3 seconds, since the motor is not running.

Result: the machine is switched OFF.

Check the following:

1. Wrong or misconnect electric connections
2. Faulty gear motor electric
3. Faulty encoder card
4. Faulty master card

### 3) HIGHER MOTOR ERROR 12



Causes: a mechanical shutdown occurred to the gear motor or the upper piston encoder is not reading the impulses correctly.

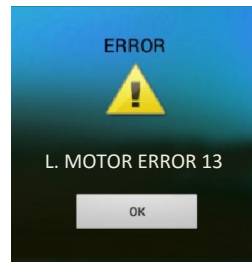
Result: the machine is switched OFF.

Check the following:

- 1) Gear motor defective
- 2) Gear motor not aligned with the brewing chamber
- 3) Faulty master card.



#### 4) LOWER MOTOR ERROR 13



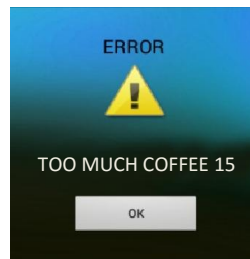
Causes: a mechanical shutdown occurred to the gear motor or the lower piston encoder is not reading the impulses correctly

Result: the machine is switched OFF.

Check the following:

- 1) Gear motor defective
- 2) Gear motor not aligned with the brewing chamber
- 3) Faulty master card.

#### 5) TOO MUCH COFFEE 15



Causes: the upper piston has positioned itself where the wet seal of the piston gasket in the brewing chamber is not guaranteed.

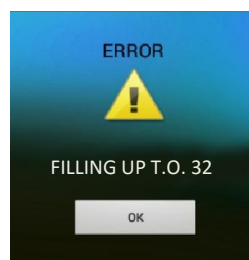
Result: the machine is switched OFF.

Solution: carry out the following controls.

- 1) Reduce coffee quantity
- 2) Clean the upper piston gasket from any coffee residue
- 3) Check the upper piston alignment with the brewing chamber.
- 4) Faulty encoder

**Please Note: before show the alarm the upper piston tries to insert itself into the brewing chamber twice.**

#### 6) FILLING UP T.O. 32



Causes: the stage of boiler fillings has exceeded the maximum time of 2 minutes; the level of the probe (SLC) has not been reached.

Result: the machine is OFF.

Check the following:

- 1) Level probe (SLC) is dirty, so isolated from the water (the complete filling of the boiler is checked)
- 2) no water from mains
- 3) low water pressure
- 4) faulty motor pump
- 5) faulty filling solenoid valve
- 6) incorrect electrical connections (level probe -SLC- misconnected wire).
- 7) PC board relay

## 7) COFFEE HEATING - COFFEE HEATING TIME OUT 33



COFFEE HEATING

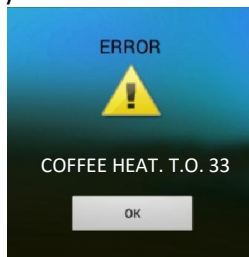
Cause: the coffee boiler temperature has reached the minimum value of 60°C

Result: boiler heating is interrupted and the buttons of coffee-based, milk-based and filter drinks are disabled.

Solution: turn off the machine and then turn it back on. If the alarm sets off again, verify:

### WARNING:

- a) If the alarm sets off again, wait until the machine reaches the working temperature
- b) If the machine is in OFF mode, the display shows:



It indicates that the heating up stage of the coffee boiler has exceeded 8' time-out, verify:

- 1) Faulty temperature probe
- 2) Temperature probe stopped
- 3) Faulty TRIAC
- 4) Faulty master board
- 5) Turn the machine in OFF mode and then turn it back on with the key N°11 (ON-OFF)

## 8) STEAM HEATING - STEAM HEATING TIME OUT 34



STEAM HEATING

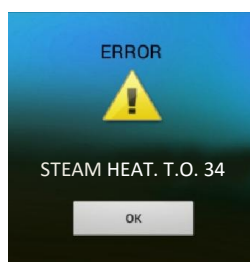
Cause: the steam boiler temperature has reached the minimum value of 105°C

Result: boiler heating is interrupted and the buttons of coffee-based, milk-based and filter drinks are disabled.

Solution: turn off the machine and then turn it back on.

### WARNING:

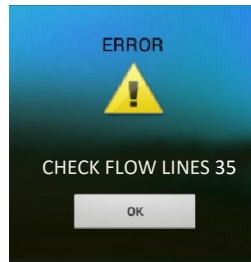
- a) If the alarm sets off again, wait until the machine reaches the working temperature
- b) If the machine is in OFF mode, the display shows:



It indicates that the heating up stage of the coffee boiler has exceeded 12' time-out, verify:

- 1) Faulty temperature probe
- 2) Temperature probe stopped
- 3) Faulty TRIAC
- 4) The steam boiler safety thermostat has set in (see alarm description of steam boiler safety thermostat)
- 5) Faulty master board
- 6) Turn the machine in OFF mode and then turn it back on with the key N°11 (ON-OFF).

## 9) CHECK FLOW LINES 35



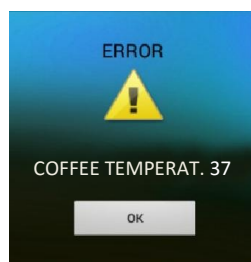
Cause: It indicates that when the machine is in stand-by there is a leakage from the coffee hydraulic circuit.

Result: the machine is OFF.

Check the following:

- 1) leakage from the expansion valve
- 2) leakage from the third way of the coffee group solenoid valve
- 3) leakage from the by-pass solenoid valve.
- 4) leakage from the tubes of the coffee hydraulic circuit
- 5) leakage from the no-return valve

## 10) COFFEE TEMPERATURE 37



**First case:** the temperature inside the coffee boiler has reached the limit value of 105°C (221°F) or more.

Result: boiler heating is interrupted and the buttons of coffee-based, coffee +milk-based and filter drinks are disabled.

Solution: turn OFF the machine. Replace the TRIAC of the heating element coffee boiler. Turn the machine ON.

**Second case:** the temperature probe is defective. The probe sends the following signal to the pcb: 0 Ohm.

To check the temperature the probe sends to the pcb press key no. 15 without any smart card into the slot

Result: boiler heating is interrupted and the buttons of coffee-based, coffee+ milk-based and filter drinks are disabled.

Solution: turn OFF the machine. Replace the temperature probe. Turn the machine ON.

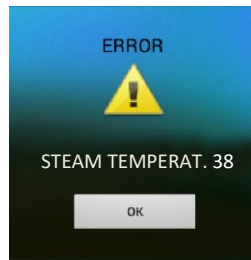
**Third case:** the temperature probe is defective. The probe sends the following signal to the pcb: 154 Ohm (short circuit).

To check the temperature the probe sends to the pcb press key no. 15 without any smart card into the slot

Result : boiler heating is interrupted and the buttons of coffee-based, coffee+ milk-based and filter drinks are disabled.

Solution: Turn OFF the machine. Replace the temperature probe. Turn the machine ON.

## 11) STEAM TEMPERATURE 38



**First case:** the temperature inside the steam boiler has reached the limit value of 129°C (264.2°F) or more.

Result: boiler heating is interrupted and all dose buttons are disabled.

Solution: turn OFF the machine. Replace the TRIAC of the heating element steam boiler. Turn the machine ON.

**Second case:** the temperature probe is defective. The probe sends the following signal to the pcb: 0 Ohm.

Result: boiler heating is interrupted and all dose buttons are disabled.

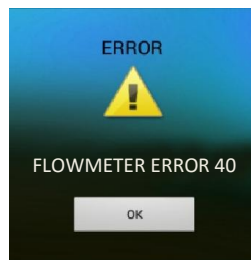
Solution: turn OFF the machine. Replace the temperature probe. Turn the machine ON.

**Third case:** the temperature probe is defective. The probe sends the following signal to the pcb: 154 Ohm (short circuit).

Result: boiler heating is interrupted and all dose buttons are disabled.

Solution: turn OFF the machine. Replace the temperature probe. Turn the machine ON.

## 12) FLOWMETER ERROR 40



Cause: the flowmeter is not sending signals to the control unit within a time-out of 5 seconds.

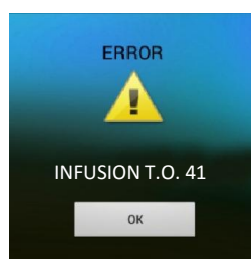
Result: delivery continues up to a time-out of 120 seconds or until the selected key is pressed.

Check the following:

- 1) No water from mains (coffee is not dispensed)
- 2) clogged group piston filters (coffee is not dispensed)
- 3) faulty group solenoid valve (coffee is not dispensed)
- 4) clogged inlet filters (coffee is not dispensed)
- 5) blocked flowmeter (coffee is not dispensed)
- 6) or faulty flowmeter (coffee dispensed continuously)
- 7) faulty electrical connection (coffee dispensed continuously).

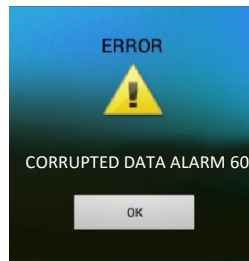
Note: If the coffee is dispensed continuously, use the machine as if it were manual: press the required key to start up the dose, then press the same key to stop the dose being dispensed, after checking the amount in the cup.

If dispensing continues until the above mentioned time-out of 120 seconds, the dispensing will be stopped and display shows:



The message signals that a time-out problem of the flowmeter occurred.  
At the next dose the message will be cancelled if dispensing is carried out correctly.

### 13) CORRUPTED DATA ALARM 60



**First case:** This alarm is visualised during machine functioning

Cause: incorrect operating data in machine memory.

Result: machine shutdown.

Solution: carry out the following controls.

- 1) Verify programming data relevant to the operation that is being carried out. They might be varied and therefore the machine does not recognise the new data.
- 2) Carry out "PARAMETERS PRESET" procedure (see chapter system programming configuration data preset).

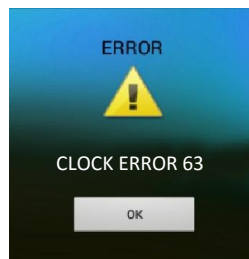
**Second case:** software programming values or data incorrect, data inserted by means of P.C. programming incorrect.

Result: machine shutdown.

Solution:

- 1) Carry out "PRESET CONFIGURATION DATA" procedure
- 2) Insert new software by means of P.C.

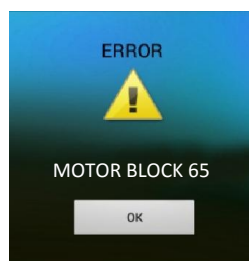
### 14) CLOCK ERROR 63



Solution: check the following:

- a) run down battery
- b) faulty master board

### 15) MOTOR BLOCK 65



Causes: a mechanical block occurred to the Mixer

Result: the machine is switched OFF

Check the following:

- 1) Mixer motor defective
- 2) Master board defective

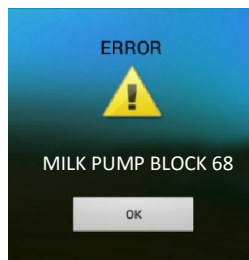
## 16) TRASPONDER PCB 66



Solution: check the following :

- 1) Trasponder cable
- 2) Trasponder PCBoard defective
- 3) Faulty master board

## 17) MILK PUMP BLOCK 68



Causes: a mechanical block occurred to the milk pump motor

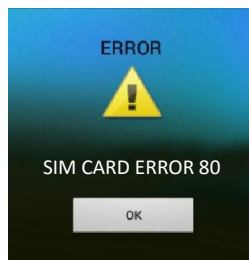
Result: the machine is switched OFF

Check the following:

- 1) Milk pump motor defective
- 2) Master board defective

## 18) SIM CARD ERROR 80

Only for machine with GSM Modem KIT



Solution: check the following :

- 1) SIM card not inserted into GSM Modem
- 2) faulty SIM card
- 3) SIM card not properly inserted
- 4) faulty GSM Modem

### 19) GSM : OFF 81

Only for machine with GSM Modem KIT

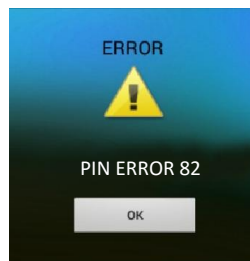


Solution: check the following :

- 1) check the power supply of the GSM modem installed in the coffee machine
- 2) check that the serial cable is properly connected in the GSM modem and in the master board (CN 16)

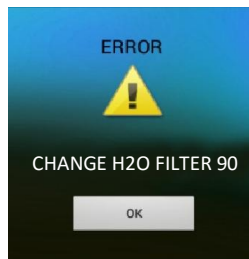
### 20) PIN ERROR 82

Only for machine with GSM Modem KIT



Solution: check that the PIN number programmed in the parameters "GSM : SIM CARD PIN " is the same as the Sim card inserted in the GSM Modem.

### 21) CHANGE H2O FILTER 90



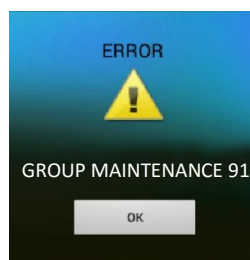
Cause: the flowmeter has reached the maximum value of XXXXX litres of previously programmed water, which may be dispensed.

Result: none.

Solution: renew the softener salts. To cancel the alarm, see the Info -Reset paragraph for further information.

Note: this alarm does not block dispensing. The softener alarm can be excluded by setting the litre value to zero (see Service – Maintenance set-up paragraph).

### 22) GROUP MAINTENANCE 91

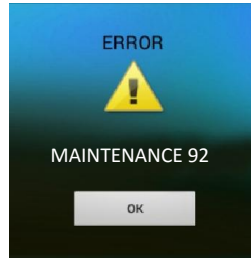


Cause: the group has reached the number of programmed cycles (see Service chapter).

Result: none.

Solution: check the group and cancel the alarm following the procedure of the chapter info reset.

### 23) MAINTENANCE 92



Cause: the machine has reached the number of programmed cycles or the inspection date (see Service chapter).

Result: none.

Solution: check or/and replace the wear parts and cancel the alarm following the procedure of the chapter Info reset.

### 24) GRINDER MAINTENANCE 93



Cause: the tools have reached the set up working time (see Service chapter )

Result: none.

Solution: replace the tools and cancel the alarm following the procedure explained in the info reset chapter.

### 25) Safety valve operation

NO MESSAGES ON THE DISPLAY

Cause: overpressure in steam boiler

Result: the safety valve opened at 1.7-1.9 bars, the steam is conveyed to the drip tray by means of a silicone tube.

Cause: overpressure in the steam boiler or faulty safety valve.

Solution: carry out the following controls.

- 1) Temperature probe of the boiler (see boiler temperature alarm)
- 2) Contacts of the electromagnetic switch of the electric element are stacked
- 3) Replace the safety valve in case it releases steam at a pressure lower than 1.7 bars,

### 26) Steam boiler Klicson cutoff

NO MESSAGES ON THE DISPLAY

Cause: The temperature of the boiler has reached the limit of 145°C.

Result: the steam boiler heating is interrupted.

Solution: carry out the following controls.

- 1) Faulty temperature probe
- 2) Faulty TRIAC of the heating element
- 3) Faulty klicson
- 4) Faulty Level probe
- 5) The water level in the boiler has dropped lower than the heating element.

#### **WARNING:**

To activate the safety thermostat, it is necessary to press the button placed at the centre of the thermostat itself.



## 27) Coffee boiler Klicson cutoff

NO MESSAGES ON THE DISPLAY

Cause: The temperature of the boiler has reached the limit of 120°C.

Result: the coffee boiler heating is interrupted.

Solution: carry out the following controls.

- 1) Faulty temperature probe
- 2) Faulty TRIAC of the heating element
- 3) Faulty klicson
- 4) No water inlet.

### **WARNING:**

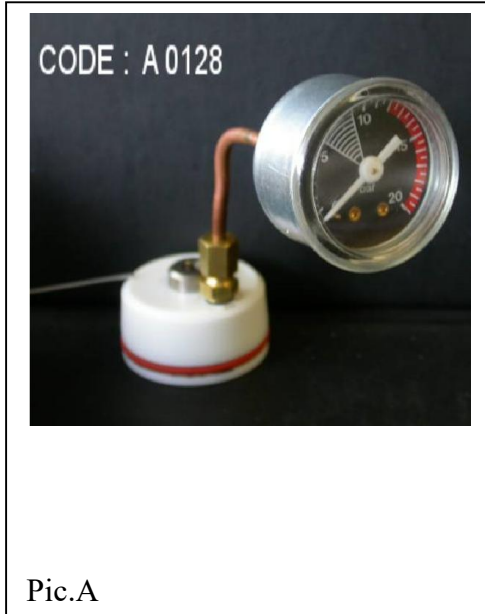
To activate the safety thermostat, it is necessary to press the button placed at the centre of the thermostat itself.

**1) Calibrating the coffee dispensing pressure (pump pressure).**

To calibrate the coffee dispensing pressure use the device code A 0128 (pic. A).

The procedure is the following:

- 1.1 Replace the upper piston with the one equipped with pressure gauge (pic. B);
- 1.2 Select a coffee dose key and rotate the -pump adjusting screw- to adjust the coffee dispensing pressure (8-9 Bar max.) clockwise to increase it, anti-clockwise to decrease it. The pressure will be shown on the gauge.



**2) Calibrating the coffee grinding degree.**

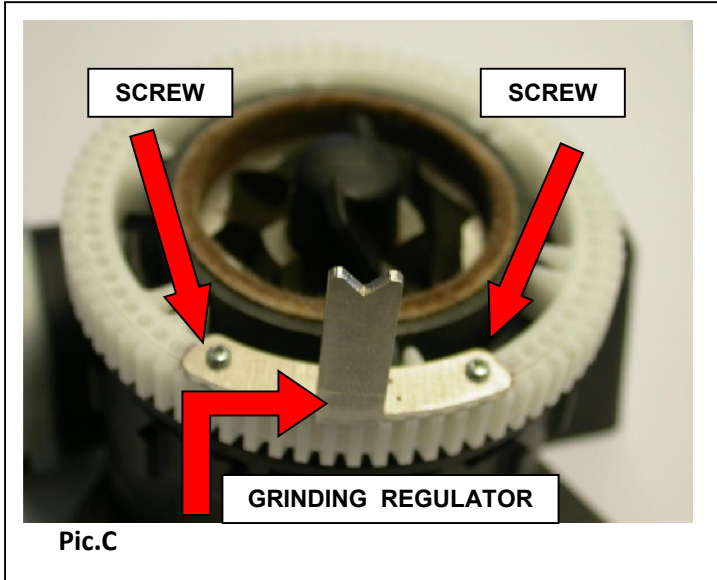
<p>a) Turn the screw on the top of the machine anticlockwise and then remove the hopper.</p>	<p>b) Move the adjustment to the right to get coarse coffee powder, to the left for finer.</p>	<p>c) Reinsert the hopper and lock it by turning the screw clockwise.</p>

Please Note: Brew and throw two doses, the third one will be dispensed with the new grinder set



**IF THE ADJUSTING RANGE IS NOT WIDE ENOUGH TO GET THE NEEDED GRINDING DEGREE, YOU CAN DO THE FOLLOWING:**

- 2.1 Remove the hoppers and/or product containers
- 2.2 Remove the top cover from the machine (unscrew the 2 rear and 2 front screws)
- 2.3 Unscrew the 2 screws (pic. C) and move the grinding regulator rightwards to get a finer degree and leftwards to get a coarser degree.



### 3) Calibrating the flow adjustment of the coffee outlet.

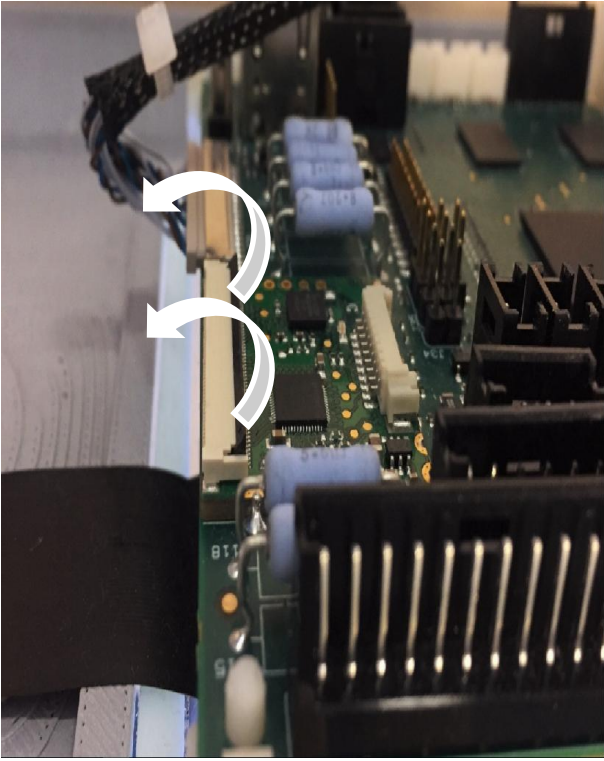
In order to calibrate the dispensing speed and change the amount of coffee cream, turn the screw of the coffee outlet regulator on the upper piston (pic. D) clockwise to decrease it and anti-clockwise to increase it. We recommend making the above adjustment while the coffee is being dispensed.



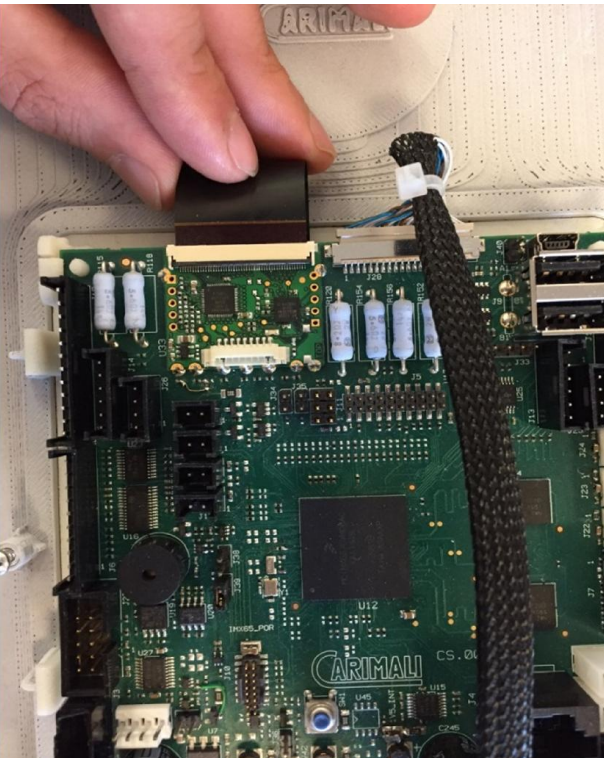
## GUIDE FOR THE CONNECTION OF THE TOUCH PANEL TO THE DISPLAY MASTERBOARD

In case of replacement of the touch panel or display masterboard see the hereunder procedure for the correct connection of the cable :

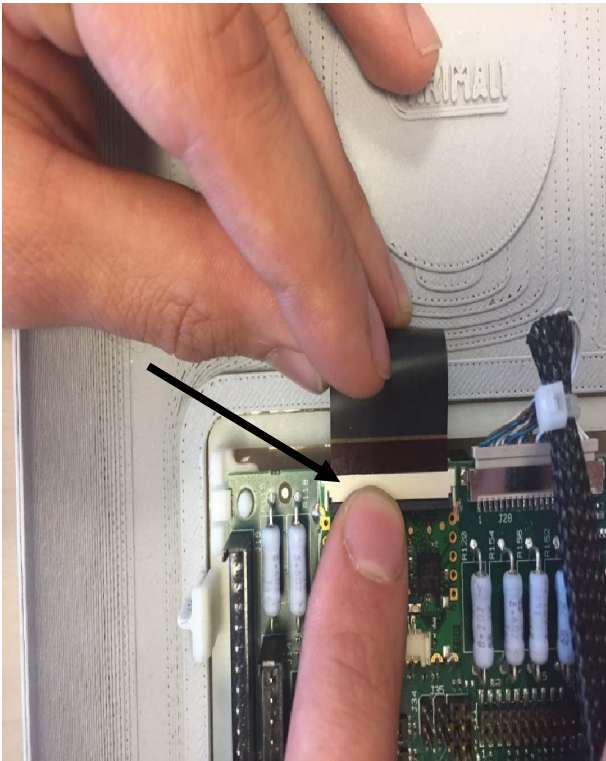
1) GENTLY PULL UP THE BLACK FLAP



2) INSERT THE FLAT CABLE TILL IT IS COMPLETELY IN THE CONNECTOR



3) KEEP THE CABLE FIRMLY INSIDE THE CONNECTOR AND PUSH DOWN THE BLACK FLAP





## RECOMMENDATIONS FOR A CORRECT PREVENTIVE MAINTENANCE

The aim of this schedule is to prevent as far as possible equipment from breaking down, through the periodical check-up and replacement of components subject to fair wear and tear, thus reducing service calls and relevant cost in working hours.

This schedule is based on the suppliers recommendations along with previous service history on equipment currently out in the field.

It is designed to assist in extending the operational life of the equipment.

### **A. Pre delivery inspection:**

We suggest to carry out a Pre Delivery Inspection on all machines before deliver them to final customer. PDI can detect inconveniences which may occur during transportation or a long storage. For instance:

- screws and nuts which fit the body-work may become loose;
- flowmeter may be block by dust especially after long storage;
- screws which fit the power supply wires may become loose.

### **B. 2 or 3 weeks after installation:**

#### Parts to be checked or adjusted:

1. the grinder/s settings
2. the dose settings
3. if daily cleaning of group and milk frother is carried out by the operator.

### **C. At 4 months' intervals:**

#### Parts to be changed:

1. o-rings for milk frother
2. milk silicone tube for milk frother
3. o-rings for group pistons.
4. Internal Mixer gasket

#### Parts to be cleaned or replaced (check and decide on site):

5. o-rings for the drip tray
6. group upper piston micro screen
7. group lower piston screen
8. milk frother
9. clean the hopper by the oil of the coffee
10. clean the coffee chute by means of a dry brush

#### Parts to be checked or adjusted:

11. grinder/s setting (coarseness of the coffee powder)
12. air adjustment for milk frother
13. coffee silicone tube
14. pump pressure should be 8-9 bars for rotation pump and 11 bars for vibration pump, check after had closed the coffee flow valve on upper piston or use the dedicated tool, code no. A 0128
15. coffee boiler expansion valve should leak at 13 bars after a few coffee deliveries
16. front door switch
17. grounds beans tray induction switch
18. check the gasket underneath the sweeper (it is glued to the sweeper)

Check the functioning of the machine with the customer:

19. dose settings (setting of milk frother, steam boiler pressure...)
20. that the double coffee spout delivers consistent quantity of coffee in the cup, if not replace it
21. check how many times the group cleaning procedure has been carried out
22. check how many times the milk frother cleaning procedure has been carried out.

#### **D. Check at 12 months' intervals**

Same as points C1-22, plus replace the following:

1. steam boiler safety valve
2. coffee boiler expansion valve
3. replace flat burrs grinder after having grounded approximately 300-500 Kg of coffee  
For grinder with conical burrs, check and/or replace the complete grinder after 50000 cycles
4. if the group has delivered 75.000 cycles replace the motors
5. group upper piston micro screen
6. group lower piston screen
7. milk frother
8. milk frother air adjustment.

#### Suggestions:

Use the Test Actuators menu to check all loads of the machine: grinder/s, solenoid valves, contactor and heating element.

Check Alarm History menu, if you find any alarm check and solve the problem.

Test Actuators and Alarm History menu are part of the System Manager menu.

**PLEASE NOTE:** It is very important to verify that your customers carry out recommended daily cleaning procedures of brewing unit and milk frother. More parts may be checked depending on your personal experience and also coffee/water quality.

## CONTROL UNIT LEGEND

### MASTER BOARD

Code no. 96.00841 (see Exploded view manual)

#### Functions of the fuses:

FU1 value: 4 Amp 250V type: D -> fuse for mixer motor 1

FU2 value: 4 Amp 250V type: D -> fuse for mixer motor 2

#### LED legend:

LED1 LD1 - Vcc : (red colour) 5 V DC power supply for microprocessor and electronic component

LED LD2 - VH: (red colour) 24 V DC main power supply for master board

LED LD3 - VREG : (red colour) 12 V DC power supply for TRIAC and ON/OFF relays

The Carimali product you have purchased is subject to Directive 2002/96/EC of the European Parliament and the Council of the European Union on waste electrical and electronic equipment (WEEE) and, in jurisdictions adopting that Directive, is marked as being put on the market after August 13, 2005, and should not be disposed of as unsorted municipal waste. For further information please contact Carimali.



The manufacturer reserves the right to change, without prior notice, the specifications of the equipment illustrated in this publication; the manufacturer declines all responsibility for any mistakes due to printing and/or typing errors contained in this publication. All instructions, drawings, tables and information contained in this publication are reserved and may not be reproduced entirely or in part or be communicated to a third party without written authorisation from the manufacturer who holds exclusive rights.

Code	Date	Note	Revisionato da:
<i>LB-05105-00</i>	<i>01/02/2016</i>	<i>First issue</i>	<i>Riccardo Rossi</i>
<i>LB-05105-01</i>	<i>04/10/2016</i>	<i>ADDED TECHNICAL NOTE</i>	<i>Alessandro Cini</i>

The manager  
Maurizio Boffelli  
Firma del Responsabile della Documentazione



Carimali S.p.A. con socio unico - Sede Amministrativa: Via Industriale, 1 – 24040 Chignolo d’Isola (BG) - Italy  
T: +39.035.4949555 – F: +39.035.905447 – www.carimali.com – carimali@carimali.com

Sede Legale: Via Monte Grappa, 7 – 24121 Bergamo (Italy) – Capitale Sociale Euro 1.661.520 i.v.  
REA 236532 della C.C.I.A.A. di Bg. – Reg.Impr.di Bg./P.I./Cod.Fisc. 01784890160 – Iscr.Reg. R.A.E.E. IT08040000004706