Service Manual : Gaggia Classic UP

Rev.00 26/01/2026



Gaggia Classic GT			
TYPE	SIN	12NC	DESCRIPTION
EG2500/00	SIN 047	688001006102	EG2500/00 EU GAG.ESPR.CLASSIC UP INOX (EU)
EG2500/00	SIN 047	688001006103	EG2500/00 UK GAG.ESPR.CLASSIC UP INOX (UK)
EG2500/00	SIN 047	688001006101	EG2500/00 US GAG.ESPR.CLASSIC UP INOX (US)
EG2500/10	SIN 047	688001006275	EG2500/10 EU GAG.ESPR.CLASSIC UP BLACK (EU)
EG2500/10	SIN 047	688001006277	EG2500/10 UK GAG.ESPR.CLASSIC UP BLACK (UK)
EG2500/10	SIN 047	688001006276	EG2500/10 US GAG.ESPR.CLASSIC UP BLACK (US)

HISTORY OF CHANGES TO THE SERVICE MANUAL				
From Rev.	To Rev.	Chapter	Inserted	Modified
REV.00				FIRST RELEASE

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Subject to modification

PROUDLY MADE IN ITALY

GAGGIA CLASSIC UP

Technical specification	
Power supply	"230V 50Hz 1250W" "120V 60Hz 1350W"
Pump pressure	15 bar
Safety valve	9 bar
Water tank	Integrated & removable
Water tank capacity	2,1 l
Coffee/Steam boiler	Brass 120ml (CW510-Lead free)
User interface	display + 4 capacitive buttons and 3 backlit toggle switches
Display	colored 2" TFT display with symbols
Professional filter-holder	Yes
Filters included	1 traditional double filter (18g); 1 traditional single filter (up to 11g); 1 blind filter
Size in mm. (L x H x D)	21.1 x 35.8 x 27.8
Weight	8.10 kg
Bodywork	Stainless steel
Color	Inox-Black
Accessories	Lower drip tray, new stainless steel tamper, filters
Automatic shut-off	Yes (settable by the consumer)

Table of contents

		Page
1.	Introduction	
1.1.	Specific tools and equipment	1
1.2.	Maintenance Products	1
1.3.	Safety warnings	1
1.4	Water circuit diagram	2
1.5.	Electrical diagram	3
1.6.	Service POLICY grid as used for coffee machine	5
1.7.	External machine parts	5
1.8.	Internal machine parts	6
1.9.	Error code	6
2.	Technical specifications	
2.1.	Specification for the measurement of the coffee products temperature.	1

Table of contents

		Page
3.	Test mode and reset	
3.1.	Test mode and reset	1
4.	Disassembly	
4.1.	Outer Shell	1
4.2.	Programming	1
4.3.	Display assy	2
4.4	Boiler	2
4.5.	Steam wand	3
4.6.	Gauge	4
4.7.	Pump	4
4.8.	Tightening torques	6

CHAPTER 1
INTRODUCTION

1.1. Specific tools and equipment

As well as the standard equipment, the following is required:

12NC	Description	Notes
-	Flathead screwdriver	# 0, # 2
-	Torx screwdriver	(T10-T20)
-	Head screwdriver	
-	Cutter	
-	Cable tie tightening tool	
-	Pliers for Oetiker clamps	
-	Digital Thermometer	Type K (accuracy for temperature of 0,05 % or ± 0,3°C)
-	Temperature probe	80PK-22 (80AK-A Thermocouple adapter required)
-	Scale	KERN EMB 500-1 or comparable device with a base accuracy of 0,05 % or ± 0,5 g
-	Power meter	Voltcraft EnergyCheck 3000 or comparable device with a base accuracy of 1 % or ± 5W
-	Stopwatch	Basic model
-	Allen wrench	#3-4-5
-	Wrench	#14-16-18

1.2. Maintenance Products

12NC Code	Material	Description
-	Thermal paste	Heat resistance > 200°C
421940051702	Descaler	“DECALCIFYING LIQUID”
421940051741	Coffee oil remouver	"CLEANING TABLETS"

1.3. Safety warnings

Please, read the Service manual of the machine before starting any maintenance.
Operation, maintenance and/or repair of this device has to be carried out only by qualified persons, trained for work at or with electric devices.



The technicians to operate under safety conditions, needs to:
1. Use personal safety devices;
2. Disconnect the appliance from the power mains before repairing;
3. Before and after repair, it is recommended to perform dielectric strength tests (This domestic appliance is rated as insulation class 1).



During the machine disassembly the operator has to pay attention to hot and under pressure parts.
All parts involved can be find in the hydraulic circuit below schema.

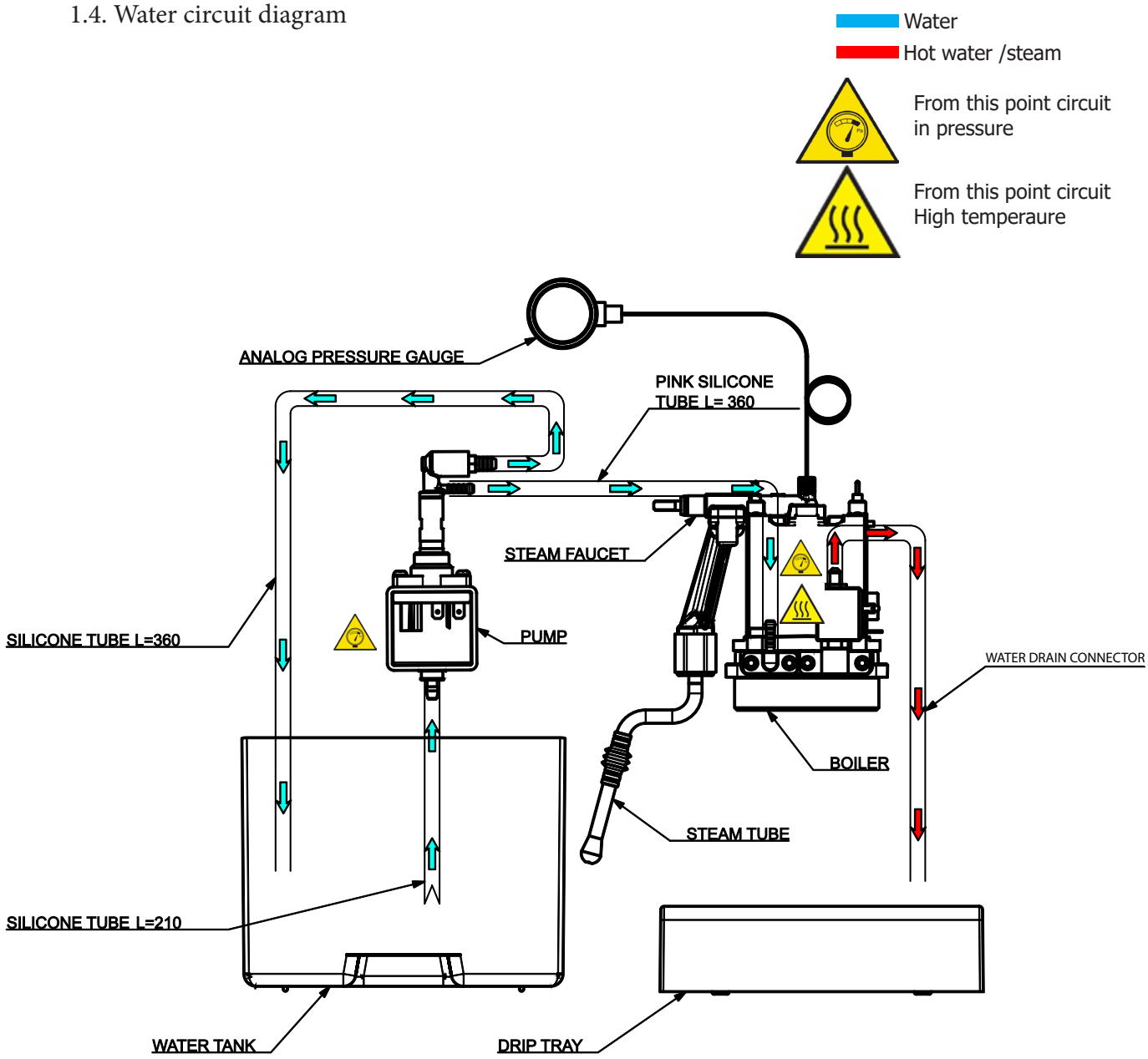


The machine hydraulic circuit can reach maximum pressure of 11 +1/-0,5 bar.

When the machine arrives at the Service Center in descaling mode interrupted, or making Descaling , take EXTREME CARE to avoid any unintentional contacts with the descaler.

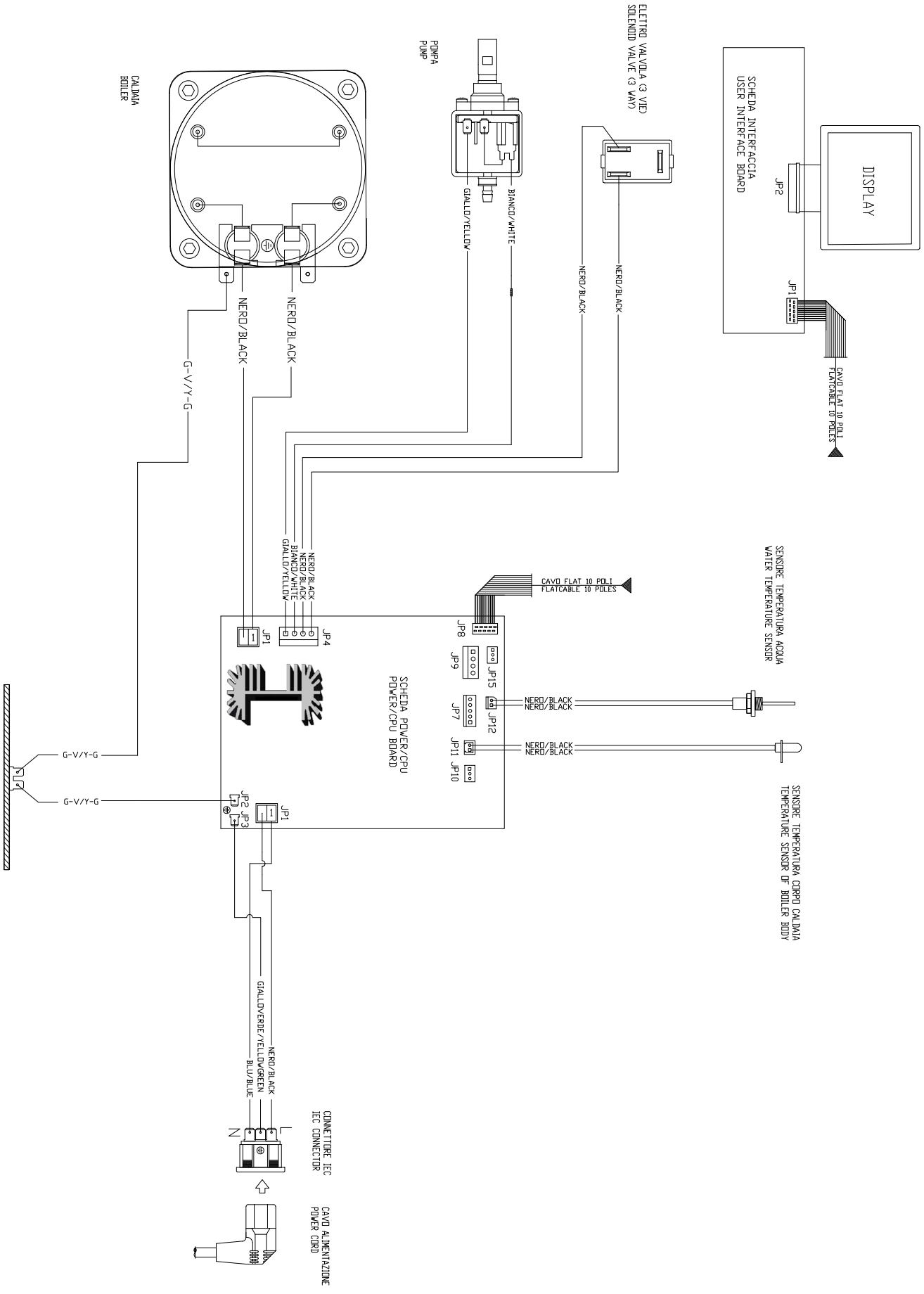
After the product has been repaired, it should function properly and has to meet the safety requirements and legal regulations as officially laid down at this moment.

1.4. Water circuit diagram

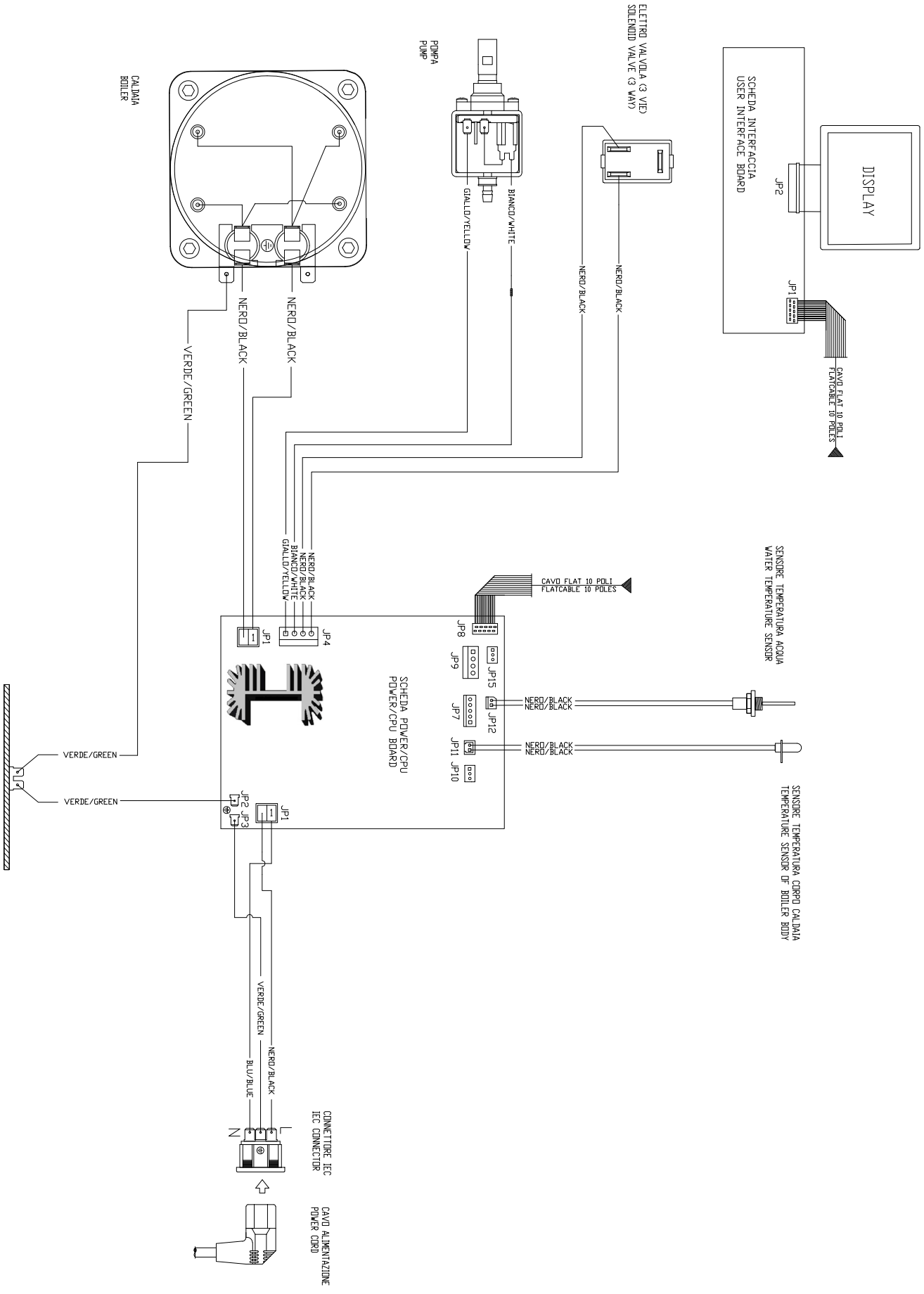


1.5. Electrical diagram

230-240V



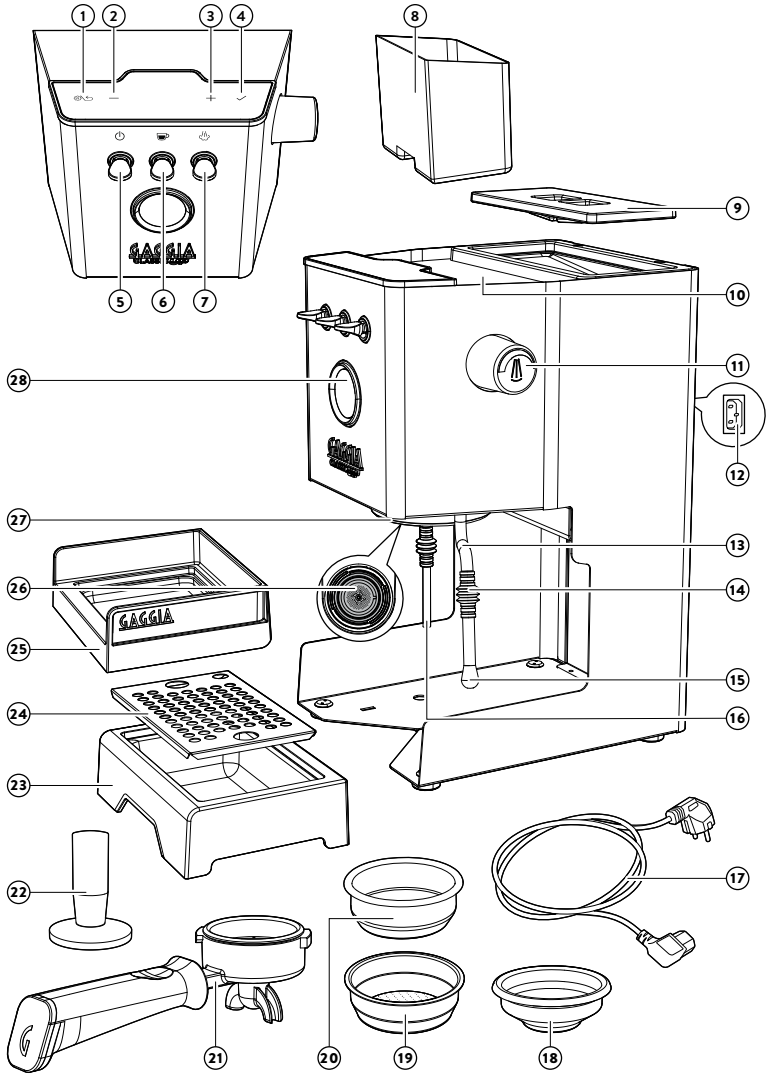
120V


CALDAIA
BOILER
POMPA
PUMP
ELETTRO VALVOLA (3 VIE)
SOLENOID VALVE (3 WAY)
SCHEDA INTERFACCIA
USER INTERFACE BOARD
DISPLAY
JP2
JP1
CAVO FLAT 10 POLI
FLATCABLE 10 POLES
GIALLO/YELLOW
BIANCO/WHITE
NERO/BLACK
NERO/BLACK
VERDE/GREEN
NERO/BLACK
NERO/BLACK
GIALLO/YELLOW
BIANCO/WHITE
NERO/BLACK
JP1
JP4
CAVO FLAT 10 POLI
FLATCABLE 10 POLES
JP8
JP9
JP15
JP7
JP12
JP11
JP10
SENSORE TEMPERATURA ACQUA
WATER TEMPERATURE SENSOR
NERO/BLACK
NERO/BLACK
NERO/BLACK
NERO/BLACK
SCHEDA POWER/CPU
POWER/CPU BOARD
PIASTRA SCALDATAZZE
CUP HEATER PLATE
VERDE/GREEN
VERDE/GREEN
JP2
JP3
JP1
SENSORE TEMPERATURA CORPO CALDAIA
TEMPERATURE SENSOR OF BOILER BODY
VERDE/GREEN
BLU/BLUE
NERO/BLACK
N
L
CONNETTORE IEC
IEC CONNECTOR
CAVO ALIMENTAZIONE
POWER CORD

1.6. Service POLICY grid as used for coffee machine

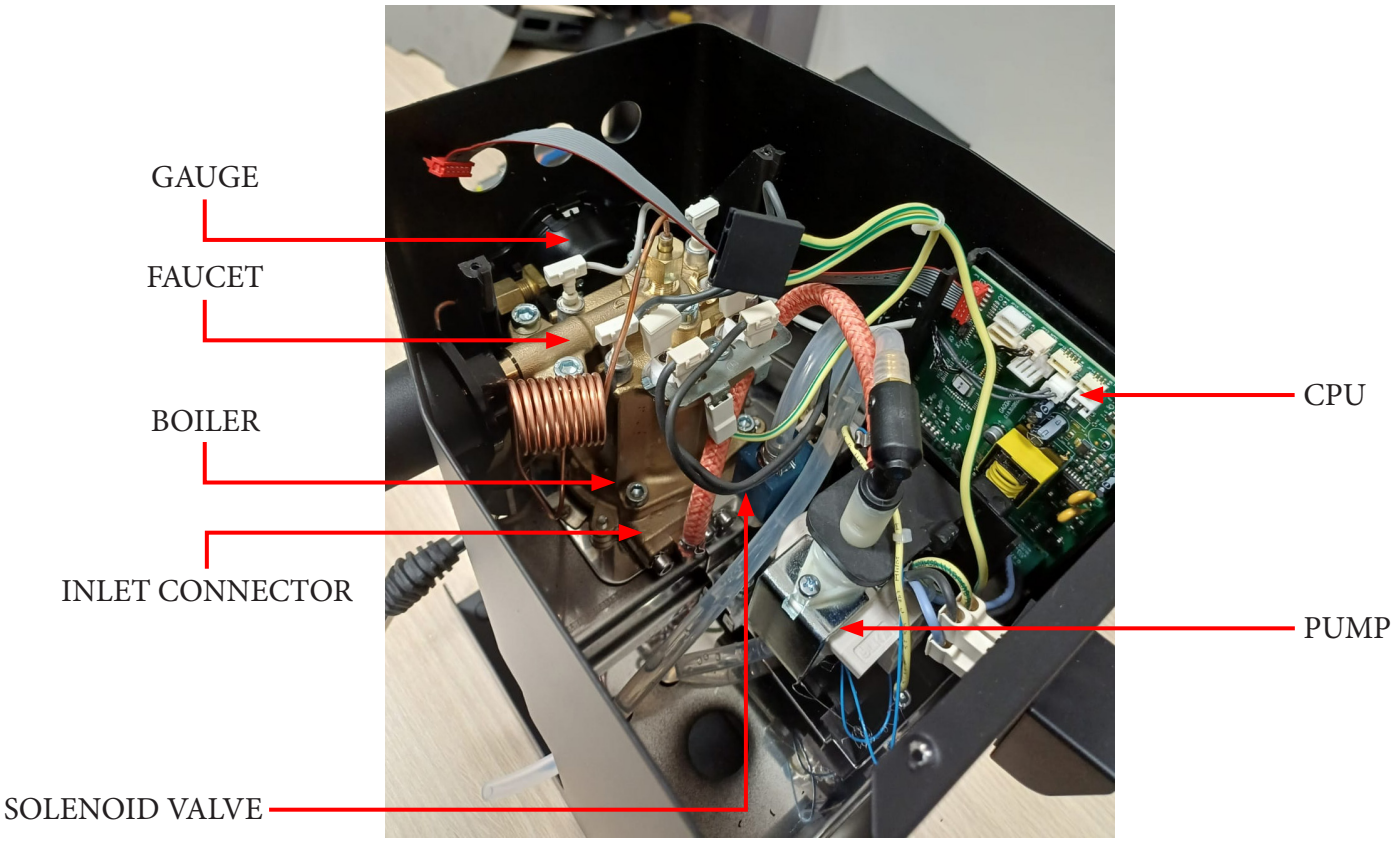
During the repair is always recommended to use, if possible, single parts rather than the correspondent assembly.

1.7. External machine parts



1	SETTING/BACK button
2	Navigation button (-)
3	Navigation button (+)
4	OK button
5	ON/OFF toggle switch
6	Coffee toggle switch
7	Steam toggle switch
8	Water tank
9	Water tank lid
10	Cup warmer
11	Steam/hot water knob
12	Power cord socket
13	Steam wand
14	Steam wand handle
15	Steam wand nozzle
16	Telescopic drain pipe
17	Power cord
18	1-cup filter
19	2-cup filter
20	Blind filter
21	Filter Holder
22	Coffee tamper
23	Classic drip tray
24	Drip tray grid
25	Low drip tray
26	Screen
27	Coffee brew group
28	Pressure gauge

1.8. Internal machine parts



1.9. Error codes

ERROR CODES	DESCRIPTION
E10	Coffee boiler temperature sensor, out of order
E11	Hotwater&Steam boiler temperature sensor, out of order (NTC1, on top, doesn't work).
E16*	boiler pump, time-out.

*Note = There is a 180second timeout to protect the pumps from overheating. If the pumps runs continuously for more than 180 seconds, the E16 error appears on the screen. Simply turn the machine off and on again to resolve the event.

CHAPTER 2
TECHNICAL SPECIFICATIONS

2.1. Specification for the measurement of the coffee products temperature.

The temperature is influenced by the flow from the dispenser and stratification of temperatures in the glass. In order to consider these phenomena and to introduce measures that allow comparisons in controlled conditions, below guidelines must be followed:
Conditions:

a) Water temperature in tank: 23°C (+/-2°C).
b) It must be used a plastic cup (see picture N°1).
c) It must be used a thermocouple thermometer (e.g. type K - see picture N°2).
d) The coffee machine is tested without any change of parameters or calibrations, which may affect the temperature of products, so the measurement of temperature must be done with machine in default factory setting.

Procedure:

1. The temperature must be measured in the cup, immediately after dispensing. Cup has to be placed on a non-metal surface using a thermocouple thermometer (Picture 1).

2. The temperature in the cup is measured by immersing the probe of the thermometer up to touch the bot tom.The probe then must be moved in a circular motion for 5/6 rotations. At the of the rota- tions, stop in the center of the cup (Picture 2).

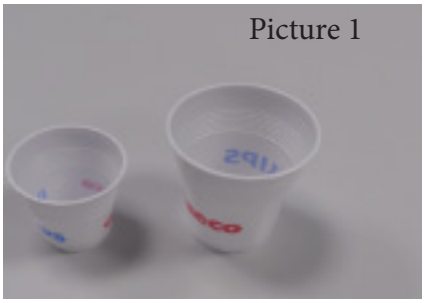
3. The highest temperature measured during the rotations is the value we are searching for, and that must be reported;

4. Test measurement: from end of dispensing to the end of rotations must be completed within 12 seconds.

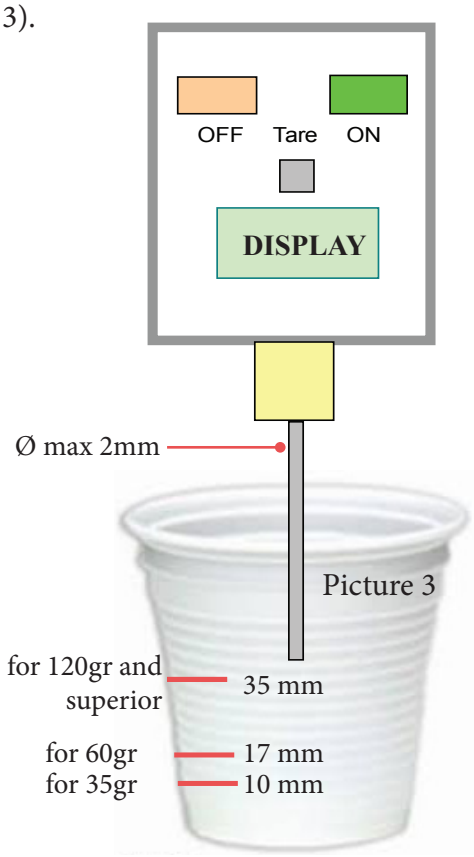
5. The distance of the probe from the bottom of the glass is a function of the quantity of coffee dispensed: 10mm for 35gr - 17mm for 60gr - 35mm for 120gr and superior (Picture 3).

Limits of acceptability
The acceptance limits are divided by features and products and are the following:

Espresso Coffee Q.ty 25/60 gr. (One product)
Temperature of 1st product 69°C ≤ 82°C
Temperature of 2nd product 72°C ≤ 85°C


Picture 1


Picture 2



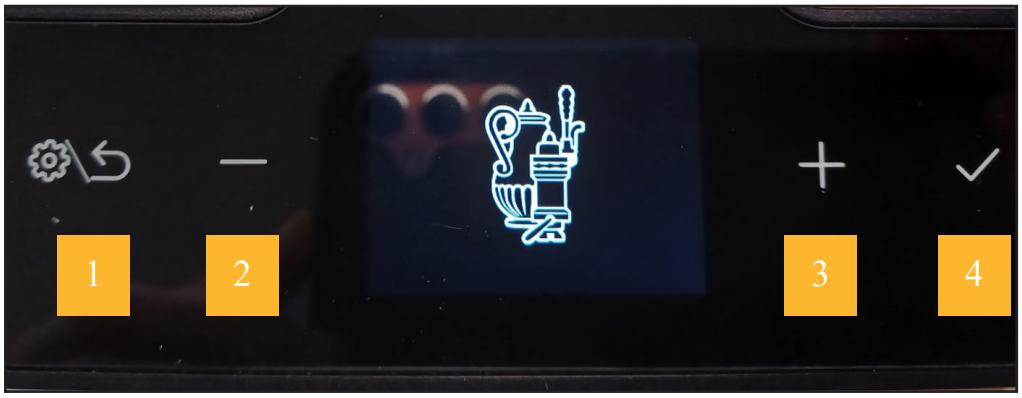
Picture 3

CHAPTER 3
TEST MODE AND RESET

3.1. Test Mode and Reset

How to enter

When the display turns ON, the logo appears and press the keyboard buttons in the order described below:



Pressing the on/off toggle you can exit to the test mode

Description

When the machine is in Test Mode appears a windows divided in several sectors:
Page 1: Entering page;
Page 2: Toggle/button and led unit;
Page 3: Hydraulic circuit testing;
Page 4: Reset.

The first row of each window is a title, the white sectors represents the functions (or loads) available to activate or deactivate, the last row is used to show other info. When a function is enabled the corresponding box becomes colored.

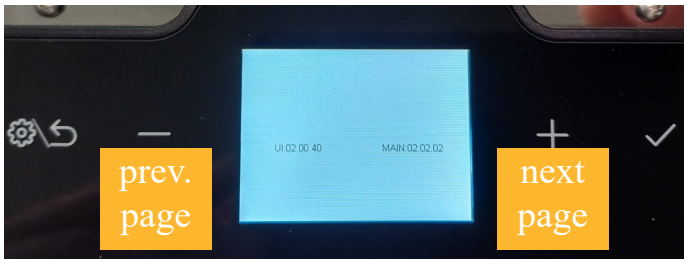
Activation of loads

In Test Mode all loads are initially disabled.

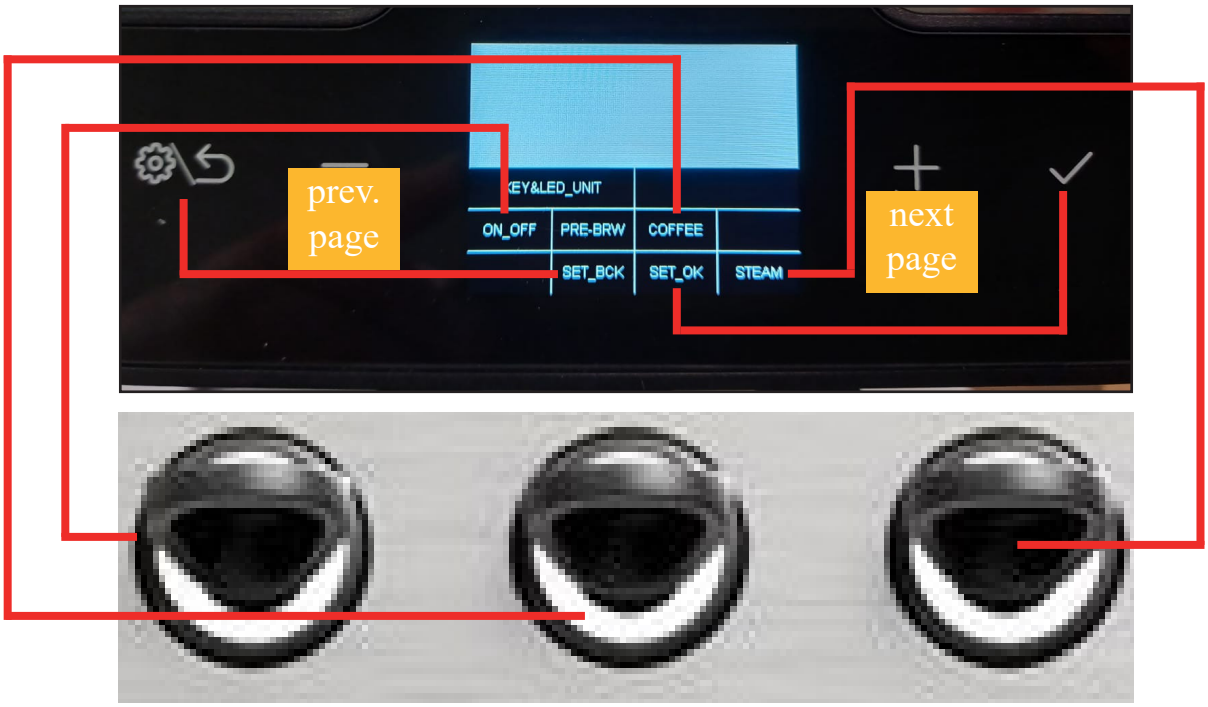
To activate a load press the corresponding button/toggle on keyboard, to deactivate press again the same button/toggle. Other conditions for which a load may be switched off automatically without key presses are:

•The achievement of 100°C (T2 parameter see Hydraulic circuit page) for the boiler or remain active for only 5 seconds.

Page 1: Entering page
This is the first window of Test Mode. It show the version of UI and Main software



Page 2: Toggle/button and led unit
This page allows you to check their functionality and relative LED lighting (toggle) for each button/ toggle:



When a Button/Toggle is pressed, the corresponding box will become colored and the LED (only for Toggle) will light up, if pressed again the background of the corresponding box will become black and the LED (only for Toggle) will turn off.

Command:
- SETTINGS/BACK button: when pressed the corresponding cell it will turn white;
- OK button: when pressed the corresponding cell it will turn blue;
- ON/OFF toggle switch: when pressed the corresponding cell it will turn blue;
- Coffee toggle switch: when pressed the corresponding cell it will turn red;
- Steam toggle switch: when pressed the corresponding cell it will turn white.

Page 3: Hydraulic circuit testing
This page allows you to check the functionality of the hydraulic circuit:



The meaning of the sectors are the following:

Command:
• Coffee boiler (B1): when pressed coffee toggle activates (red) if the temperature is lower than 100°C (T2 parameter), if higher it will be deactivated and the cell will return to black. When active, it automatically deactivates after 5 seconds;
• Coffee pump (P1): when steam toggle is pressed activated (red)/ deactivates;
• EV1 solenoid valve (coffee circuit): when the settings/back button is pressed, the solenoid valve is activated (yellow)/deactivates;

Info:
• T2: Temperature detected by the sensor

Page 4: Reset
This page allows you to perform a factory reset:



Commands:
• Steam toggle switch: when pressed the corresponding cell it will turn green and it doesn't turn off. This means that the reset has been performed

CHAPTER 4
DISASSEMBLY

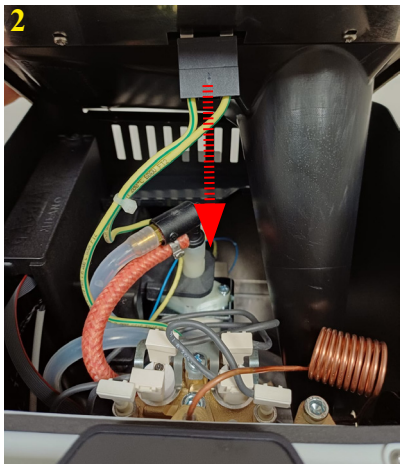
4.1. Outer Shell



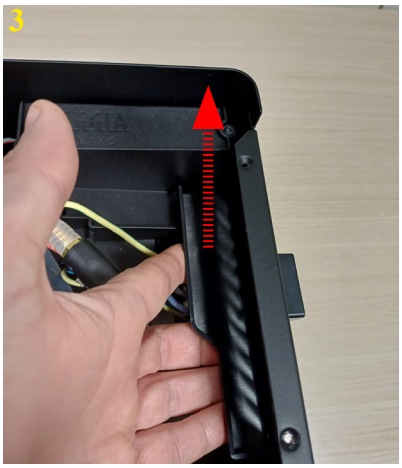
Remove the water tank and it's lid, portafilter, drip tray and it's grate, telescopic discharge tube.



1. Unscrew the screw shown and lift up the cup warmer

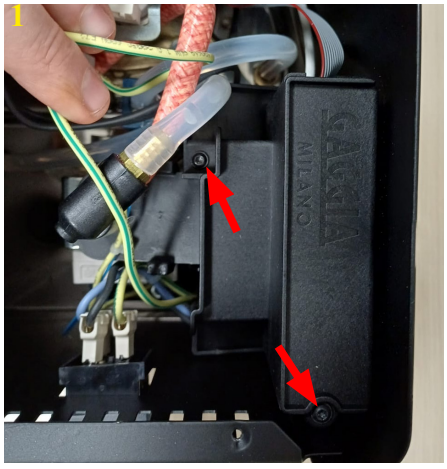


2. Slip off the yellow/green wires

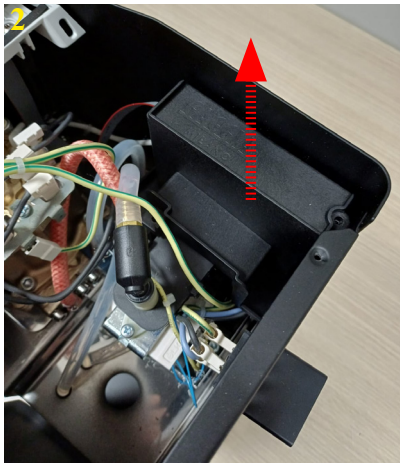


3. Slip off the Internal bulkhead

4.2. Programming



1. Unscrew the screw shown

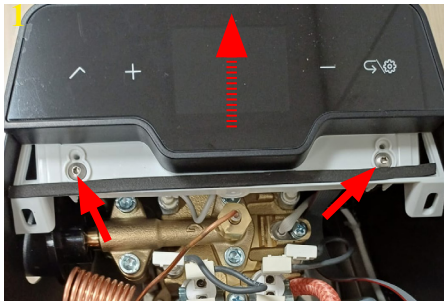


2. Slip off the CPU cover

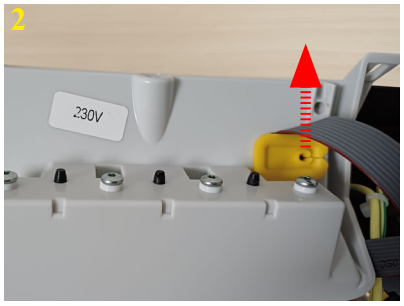


3. CPU connection with calbe code 421946047151

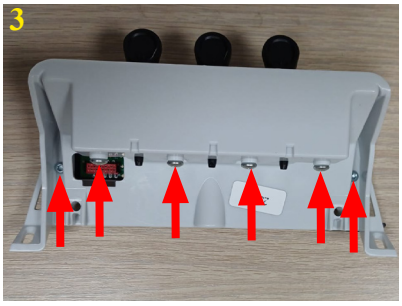
4.3. Display assy



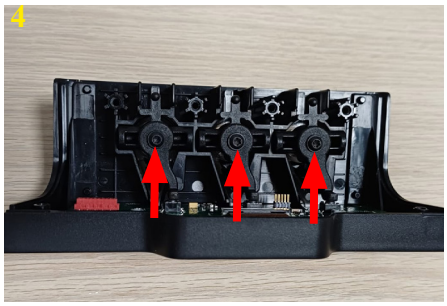
1. Unscrew the screw shown and slip off the display



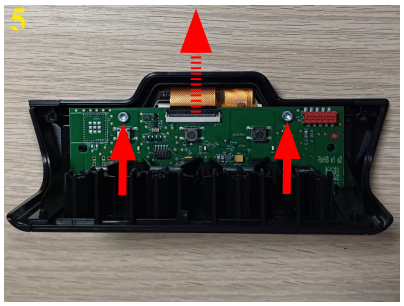
2. Slip off the yellow seal and the flat cable



3. Unscrew the screw shown



4 Unscrew the screw shown

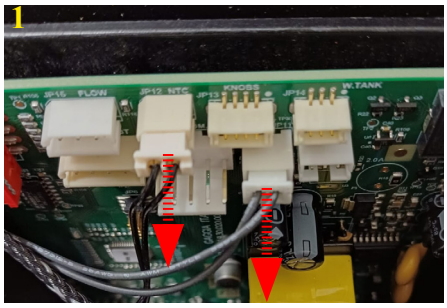


5. Unscrew the screw shown and slip off display flat cable

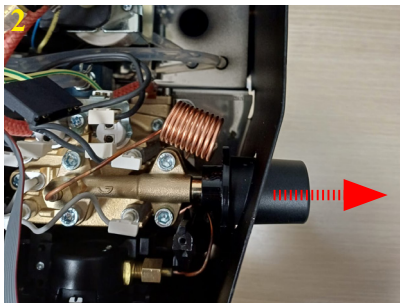


Display assy --> all parts

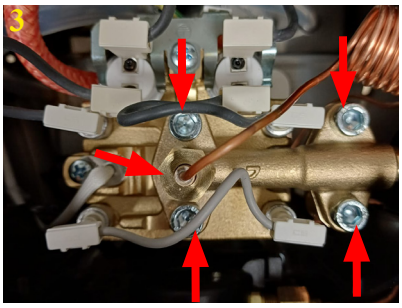
4.4. Boiler



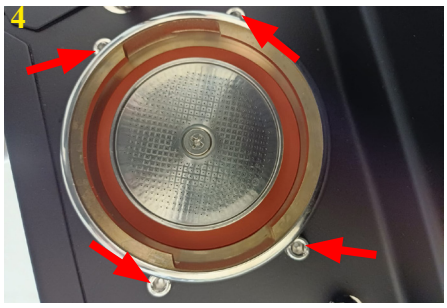
1. Slip off the sensor's wirings



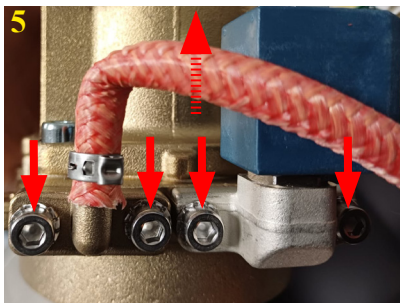
2. Slip off the steam knob



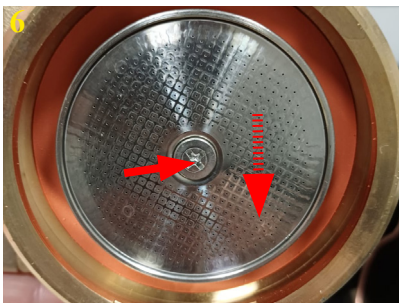
3. Unscrew the screw shown and gauge capillary



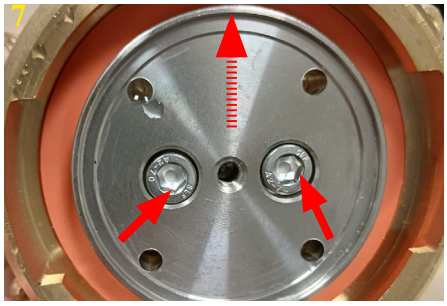
4 Unscrew the screw shown and slip off the boiler



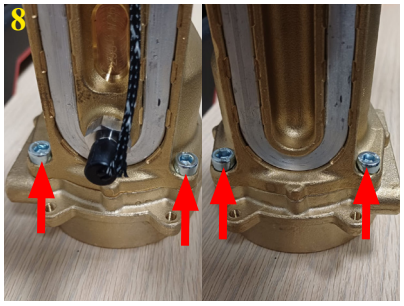
5. Unscrew the screw shown



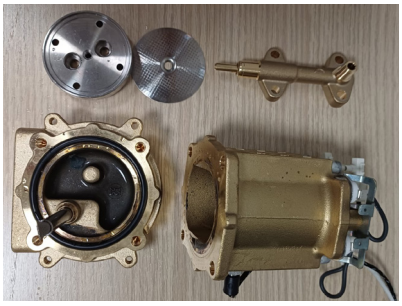
6. Unscrew the screw shown and slip off the shower



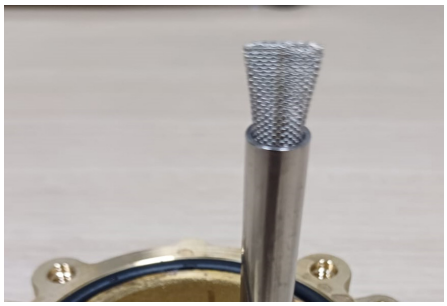
7. Unscrew the screw shown and slip off the shower holder



8. Slip off the yellow seal and the flat cable



Boiler --> all parts

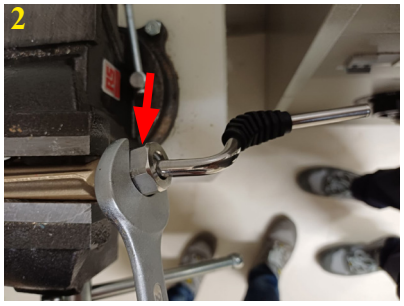


4.5. Steam wand

NOTE: the group body specific has mettallic filter on the dip tube to safeguard of the coffee solenoid valve.



1. Unscrew the steam nozzle



2. Unscrew the steam wand



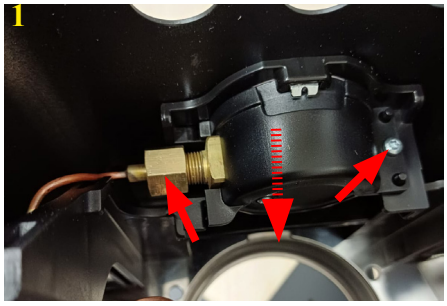
Steam wand --> all parts



NOTE: These two parts is branded and designed to Classic UP specifications to achieve top of the range performance.

GENERAL NOTE:
Steam wand assemblie is glued with loctite.
If these are disassembled for repair, it is mandatory to glue them back on for safety reasons. In the attachment you will find the technical sheet of the loctite to apply.

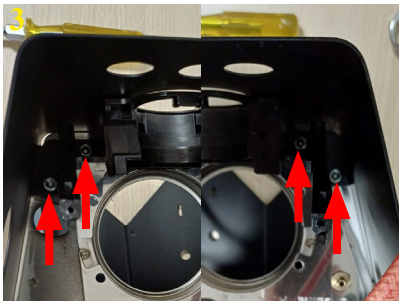
4.6. Gauge



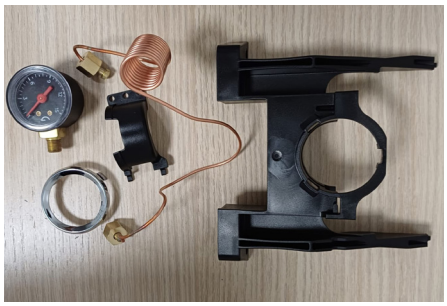
1. Unscrew the screw shown, gauge capillary and slip off the gauge.



2. Slip off the gauge cover ring

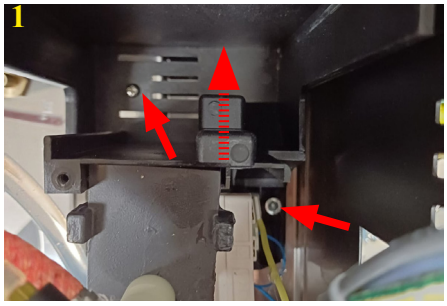


3. Unscrew the screw shown

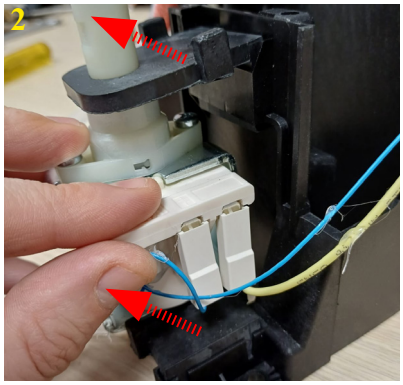


Gauge --> all parts

4.7. Pump

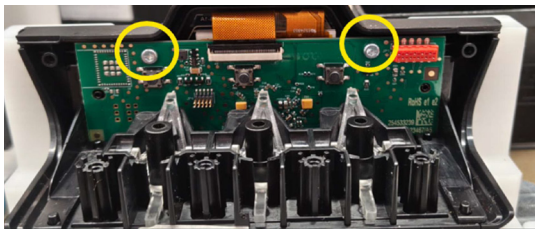
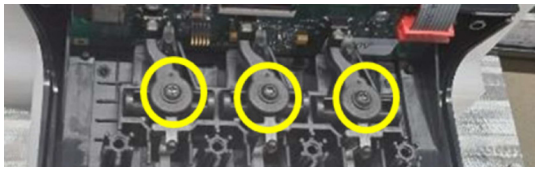
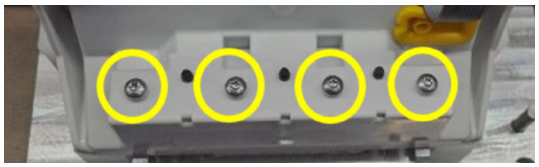
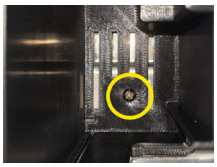
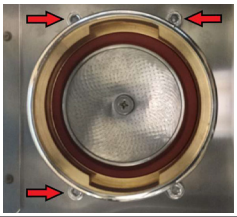
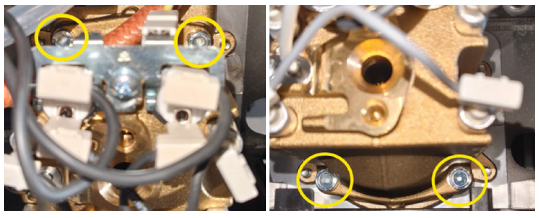


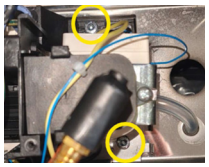
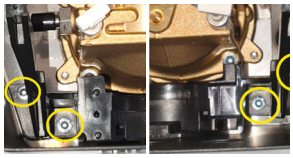
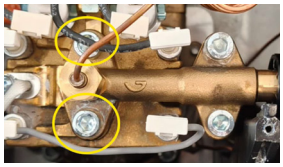
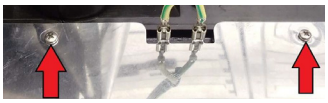
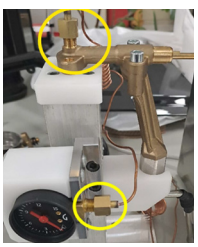
1. Unscrew the screw shown and slip off the pump support.

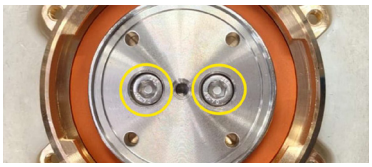
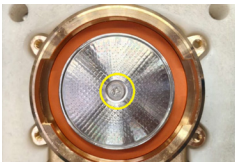
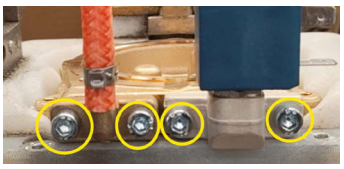
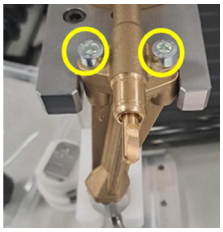


2. Slip off the pump support.

4.8. Tightening torques

Screw/bolts	Qty	Image	tightening torque
User interface assy	2		0,6 Nm ± 0,1
User interface assy	3		0,7 Nm ± 0,1
User interface assy	4		0,7 Nm ± 0,1
User interface assy	2		0,7 Nm ± 0,1
Saddle	2		2,3 Nm ± 0,3 OUTLET FITTING 5,5 Nm ± 0,5 M5X12
Bottom	1		2,0 Nm ± 0,2
Safety valve	1		1,0 Nm ± 0,1
Saddle	3		5,5 Nm ± 0,5
Boiler	4		6,5 Nm ± 0,5

Screw/bolts	Qty	Image	tightening torque
Pump	2		2,0 Nm ± 0,5
Gauge support	4		2,0 Nm ± 0,5
Gauge	1		0,6 Nm ± 0,1
Faucet	2		6,5 Nm ± 0,5
User interface assy	2		0,6 Nm ± 0,1
CPU cover	2		0,7 Nm ± 0,1
Cup wormwer	2		0,3 Nm ± 0,1
Funnel	2		1,5 Nm ± 0,3
Cup wormer	2		0,3 Nm ± 0,1
Gauge Capillary	2		9,0 Nm ± 0,6

Screw/bolts	Qty	Image	tightening torque
Shawer holder	2		6,5 Nm ± 0,5
Shawer	1		2,8 Nm ± 0,3
Inlet and EV	4		5,5 Nm ± 0,5
Coffee NTC	1		9,0 Nm ± 0,6
Boiler NTC	1		1,5 Nm ± 0,2
Thermostat spring	1		1,5 Nm ± 0,2
Filter holder	1		3,5 Nm ± 0,3
Steam wand	1		15,0 Nm ± 0,6
Steam wand	2		6,5 Nm ± 0,5