Coffee Machine

Service
Service
Service

Moltio

ServiceManual

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PHILIPS

Saeco

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MODIFICATIONS TO SERVICE MANUAL				
From Rev.	**To Rev.**	**Chapter**	**Inserted**	**Modified**
REV.01	REV.02	02		Par.2.2.1. Specification for the measurement of the coffee products temperature.

MOLTIO
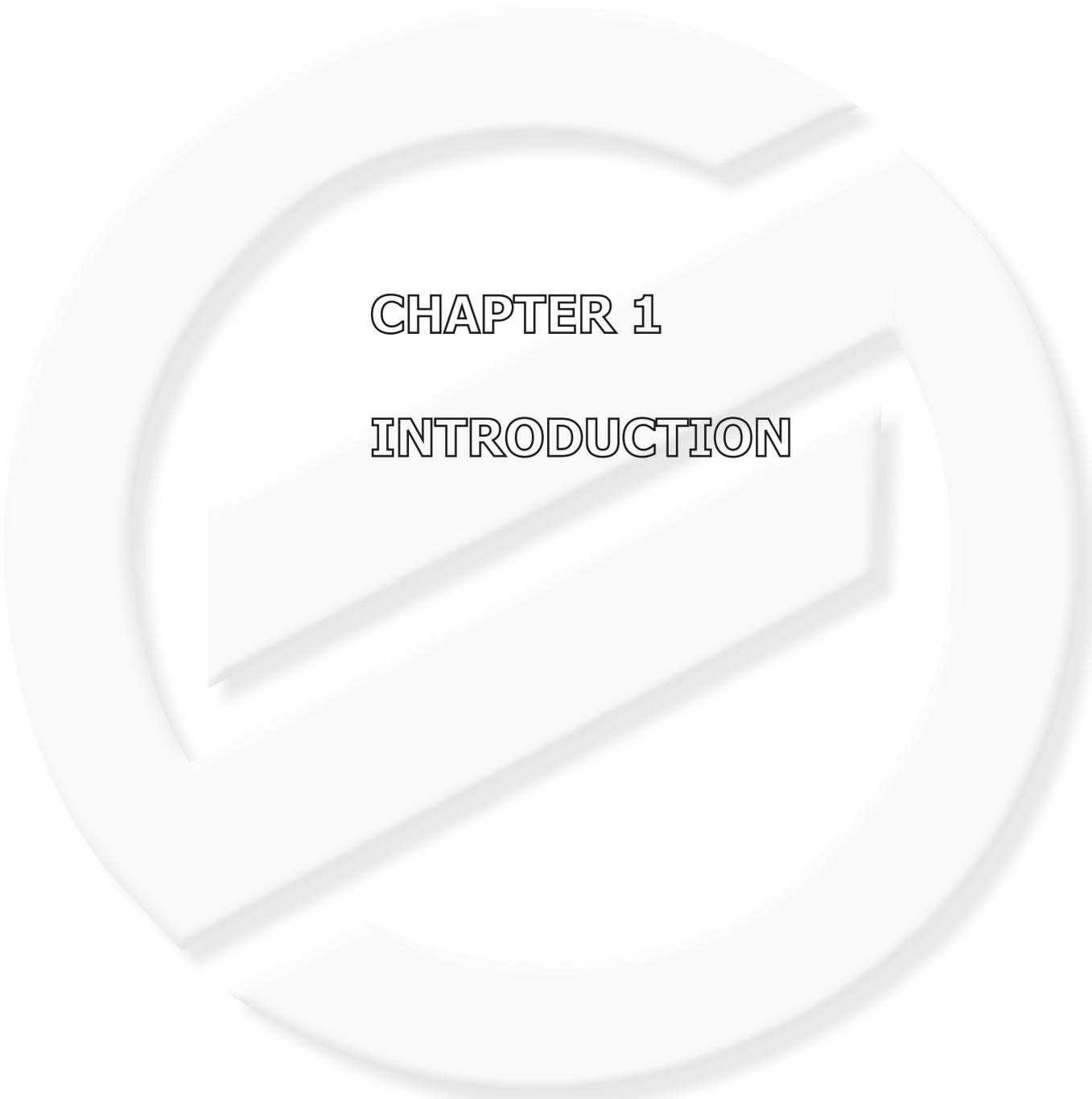
CHAPTER 1

INTRODUCTION

1.1 Documentation required

The following documentation is needed for repair procedures:

- Instruction booklet for specific model
- Technical documentation for specific model (diagrams, exploded view, sympton cure and service manual)

1.2 Tools and equipment required

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

Qty.	Description	Notes
1	Screwdriver	
1	Pliers for Oetiker clamps	
1	CC -A - Vdc tester	
1	Digital thermometer	Scale limit > 150°C
1	SSC (Saeco Service Center)	Programmer (for programming and diagnostics mode)

1.3 Material

Description	Notes
Thermal paste	Heating element > 200°C
Descaler	Saeco descaler
Grease solvent	Personal choice
Silicone grease	Safe to use with food

1.4 Safety warnings

We recommend you consult the technical manual of the machine before performing any maintenance work.
Observe all applicable standards relating to the repair of electrical appliances.

Always disconnect the power plug from the mains before beginning repair work.
Simply turning off the main machine power switch is not an adequate safety precaution.

This domestic appliance is rated as insulation class I.
On completion of the repair work, insulation and dielectric rigidity tests must be performed.

1.5   Service POLICY grid as used for coffee machine

For IN WARRANTY repairs is mandatory to use the single components (not the assembly) available in the exploded views of the coffee machines or of the specific components. If you find the information "SEE THE EXPLODED VIEW E…….." in the assembly description field, it means that the single components of the assembly are available in the other pages of the exploded view. It's possible to use the assembly only if there is a specific Symptom Cure that include this possibility or when the single components are not available for the order.

List of principal assembly present in all our coffee machines

Components	Assembly use	Single components available
COFFEE GRINDER	**Only for OOW repairs**	**YES**, to consult the specific exploded-view of the machine or of the Coffee Grinder on website
BREWING UNIT	**Only for OOW repairs**	**YES**, to consult the specific exploded-view of the machine or of the Brewing unit on website
BOILER	**Only for OOW repairs**	**YES**, to consult the specific exploded-view of the machine on website
GEAR MOTOR	**Only for OOW repairs**	**YES**, to consult the specific exploded-view of the machine on website
FILTER HOLDER	**Only for OOW repairs**	**YES**, to consult the specific exploded-view of the machine on website
MILK CARAFE	**Only for OOW repairs**	**YES**, to consult the specific exploded-view of the machine on website
THERMAL CARAFE	**Only for OOW repairs**	**YES**, to consult the specific exploded-view of the Thermal Carafe on website
MILK ISLAND	**Only for OOW repairs**	**YES**, to consult the specific exploded-view of the Milk Island on website

1.6.1 External machine parts

Coffee bean hopper locking/removal selector switch

Pre-ground coffee compartment

Coffee bean hopper lid

Coffee bean hopper tray

Coffee bean hopper

Pannarello (Classic)

Cappuccino valve (Automatic)

(One Touch Milk Carafe)

Power cable socket and main switch

Coffee dispenser

Water tank

Service door

Drip tray+grille

Dreg drawer

Espresso brew button

Coffee brew button

"Aroma" Pre-ground coffee button

ESPRESSO	MEMO	One Touch Milk Carafe	MEMO	CAPPUCCINO
COFFEE	MEMO			LATTE MACCHIATO
AROMA		MENU	STAND BY	

Cappuccino brew button

Latte Macchiato brew button

ON/OFF button

MENU button

Espresso brew button

Coffee brew button

Cappuccino/hot water button

ESPRESSO	MEMO	Automatic	AROMA
COFFEE	MEMO		MENU
CAPPUCCINO/WATER			STAND BY

"Aroma" Pre-ground coffee button

MENU button

ON/OFF button

Espresso brew button

Coffee brew button

Steam/hot water button

ESPRESSO	MEMO	Classic	AROMA
COFFEE	MEMO		MENU
STEAM / WATER			STAND BY

"Aroma" Pre-ground coffee button

MENU button

ON/OFF button

1.6.2 Internal machine parts

Thermostat

Grinding adjustment insert

Coffee grinder

Power board

Safety valve

Boiler

Flow-meter

Pump

3-way solenoid valve (Milk Carafe)

2-way solenoid valve

KYB - Interface

Automatic and Classic

Hot water dispenser and insert milk carafe

Coffee dispenser

Boiler pin

CHAPTER 2

TECHNICAL SPECIFICATIONS

2.1. Technical specifications

Power supply and output:	240 V~ 50 Hz 1850 W - 230 V~ 50/60 Hz 1850 W 120 V~ 60 Hz 1500 W
Temperature monitoring:	(NTC) variable resistor sensor - transmits the value to the electronic card
Safety system:	2 thermostats at 190°C one shot
Coffee heat exchanger output: Stainless steel	(230 V~) 1900 W - (120 V~) 1300 W - (100 V~) 1100 W for coffee, hot water and steam dispensing
Gear motor:	2 rotation directions; power supply 24VC
Pump:	Ulka Type EP5/S GW approx. 13-15 bar with reciprocating piston and thermal switch 100°C 48 W, 230V, 50 Hz, 120V, 60Hz 100V, 50/60 Hz
Overpressure valve:	Opening at approx. 16-18 bar
Water filter:	In tank
Coffee grinder:	Direct current motor with flat ceramic grinder blades
Automatic dosage:	Dose adjustment controlled by the electronic system
Power consumption:	During heating phase- approx. 5.6 A
Dimensions: W x H x D in mm:	256 x 350 x 470 mm
Weight:	8.5 kg
Water tank capacity:	1.9 l
Coffee bean hopper capacity:	300 g. of coffee beans
Dreg drawer capacity:	14
Water circuit filling time:	Approx. 15 sec Max. on first filling cycle
Heating time:	Approx. 45 sec.
Grinding time:	Approx. 8-10 sec.

2.2.1. 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 bottom.The probe then must be moved in a circular motion for 5/6 rotations. At the of the rotations, 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 Italy Q.ty 25/40 gr.
Temperature of 1st product 69°C ≤ 85°C
Temperature of 2nd product 72°C ≤ 85°C

Coffee Q.ty 70/120 gr.
Temperature of 1st product 69°C ≤ 85°C
Temperature of 2nd product 72°C ≤ 85°C

OFF   Tare   ON

DISPLAY

Ø max 2mm

Picture 1

Picture 2

Picture 3
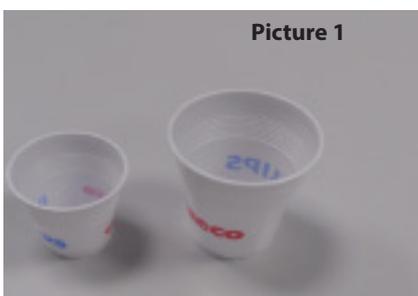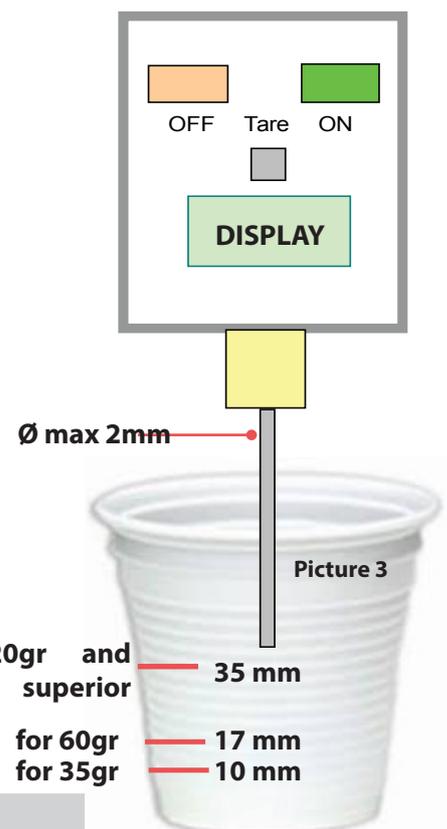
for 120gr and superior — 35 mm

for 60gr — 17 mm
for 35gr — 10 mm

2.2.2. Specification for the measurement of the Milk products temperature.

Milk evaluation

To carry out the test, a partially skimmed UHT milk with a percentage of grease between 1.5-1.8% at a refrigerator temperature Trefr. (between 4 to 10°C) must be used.
The milk product must be checked on a beaker of 250 ml of capability and with an inner diameter of 70mm, brewing 100gr of product.

Parameters to be respected:

The parameters to be respected are: milk temperature and height of the cream. Each of these parameters, however, must be evaluated depending on the type of system used for the production of hot milk.
Actually three types of devices are present on the appliances:

-        Manual system (pannarello)
-        Semi-Automatic system (cappuccinatore)
-        Automatic system (carafe, Pinless wonder system, etc.)

Milk temperature in the beaker:

System without Pinless Wonder: e.g. Xelsis, Exprelia, Syntia, Intelia.
        With milk at Trefr. (about 4-10 °C): $\longrightarrow \Delta \geq 36$

System with Pinless Wonder: e.g. New royal, Energica Pure, Intelia EVO Latte.
        With milk at Trefr. (about 4-10 °C): $\longrightarrow \Delta \geq 45$

Height of the milk cream in the beaker:

Manual system (pannarello)
        $\geq$ 15mm on 100gr. of brewed product

Semi-automatic system (cappuccinatore)
        $\geq$ 20mm on 100gr. of brewed product

Automatic system: carafe, cappuccinatore, Pinless wonder e.g. (New Royal, Energica Pure, Intelia EVO latte) $\geq$ 20mm on 100gr. of brewed product

How to measure the temperature of the milk.

1)   The measurement is carried out in the beaker, immediately after the end of milk brew, positioned on a non-metallic surface, using a thermocouple thermometer (eg. Type K). Stop the preparation of mixed product: at the end of milk brewing, where "One Touch product" function is present.

2)   The temperature is measured by immersing the probe of the thermometer, positioning the probe inside the beaker at about 10mm from the bottom of the container, then the probe moves in a circular motion for 3-5 turns, stopping at the end, at the center of the beaker. It detects the maximum temperature reached in a time of relief between 3 to 5 seconds. It is important the mixing of milk before the measurement at 10mm from the bottom of the beaker. If the mixing is correct, temperature, for a few fractions of a second, during the measurement should not oscillate.

How to measure the milk cream.

The temperature (Trefr or Tamb) of the milk doesn't affect as much the test result on measuring the milk cream; by convection is assumed to always use milk at refrigerator temperature **T**refr..

Manual systems (Pannarello)

Pour 100cc. of milk at Trefr. in a beaker of 250 ml of capacity and with a inner diameter of 70 mm; with machine in steam mode:

1.   Open the steam knob to discharger water circuit for 4 sec, then close the knob.
2.   Place the beaker with the frother dipped in milk, open the steam knob to maximum and start the chronometer.
3.   After about 30 to 60 seconds, close the knob and check the result on milk.

Semi-automatic systems (cappuccino)

Pours milk at Trefr. in a container ; with the machine in steam mode:

1.   Open the steam knob to discharge water circuit for 4 sec. then close the knob.
2.   Insert the silicone tube in the milk container, placing a beaker of 250 ml capacity and with an inner diameter of 70 mm under the cappuccino maker and open the steam knob.
3.   After having provided 100gr. of product, close the knob and check the result obtained on milk. Note: The same applies to machines which have a steam key on the user interface and a solenoid valve in place of the steam tap.

Automatic: Carafe, Cappuccino Pinless wonder (New Royal, Energica Pure, Intelia EVO Latte), etc..

After setting the machine to delivery of 100gr. of product:

1.   Launch the "hot milk" function.
2.   Collect the product in a beaker with a 250ml of capacity and with an inner diameter of 70 mm, and verify the result obtained on milk. Carry out the test using milk at a **T**refr..

In case the machine allows modify of the emulsion through the menu, use the machine with the emulsion set to the default value.

Related to the above testing procedure derives the following table of acceptability:

Manual, Semi-Automatic and Automatic's Milk System	
Grams of Product	Minimun Height of the milk cream
≥ 130	≥ 30mm
120	≥ 25mm
110	≥ 22mm
100	≥ 20mm
90	≥ 16mm
80	≥ 13mm
70	≥ 11mm

NB: To verify more accurately the height of the cream, a practical expedient dictated by expe-rience is to add to the product just delivered a small amount of coffee. The addition of coffee immediately put in evidence the surface of separation between liquid and cream.

2.3. Machine parameters and performance

PRODUCT QUANTITY	Minimum quantity (Puls.)	Default quantity (Puls.)	Maximum quantity (Puls.)	User programmable	Programm. by Production / Service
Espresso	50	165	600	Yes	No
Long coffee	70	440	600	Yes	No
Pre-ground	No				
Hot water	Continues until the water supply has been exhausted (capacitive sensor)				
Steam pannarello (frother)	Continues until the water supply has been exhausted (capacitive sensor)				

RINSE	Initial rinse	Final rinse
When performed	When the machine is switched on and the boiler temperature is ≤ 50°C	When the machine is switched off electronically, manually or automatically after 30', if at least one coffee has been dispensed, before switching off
No. of pulses	180	80
Stopping option	Yes, by pressing any key	Yes, by pressing any key
User disable option	No	No
Production/Service department disable option	No	No
No. of pulses user adjustment option	No	No
No. of pulses Production/ Service department adjustment option	No	No
Pulse range (Min. – Max.)	No	No

Descaling cycle frequency			
Hardness	Water hardness	Without water filter	With water filter
1	Soft (up to 7°dH)	240 litres (480,000 pulses)	480 litres (960,000 pulses)
2	Medium (7° - 14°dH)	120 litres (240,000 pulses)	240 litres (480,000 pulses)
3	Hard (15° - 21°dH)	60 litres (120,000 pulses)	120 litres (240,000 pulses)
4	Very hard (over 21°dH)	30 litres (60,000 pulses)	60 litres (120,000 pulses)

The default water hardness level is 4. Each litre of water corresponds to approximately 2,000 pulses.
In the machines where is not possible change the water hardness the default hardness level is 3.

DREG DRAWER	Description and values
Time-out for dreg drawer	5 sec.
Reset dreg counter	Dreg emptying alarm, if the dreg drawer is removed for more than 5 seconds.

| STANDBY	Description and values
Inlet time (default)	30 minutes
Inlet time programmed by Production/Service	Yes
Boiler temperature during Standby	Boiler OFF

WATER TANK	Description
Water reserve (pulses) with water filter	200
Water reserve (pulses) with no water filter	200
Water reserve modifiable by Production/Service departments	No
"Fill tank" alarm	Yes
"No tray" alarm	Yes (Fill tank)
Water mains	No
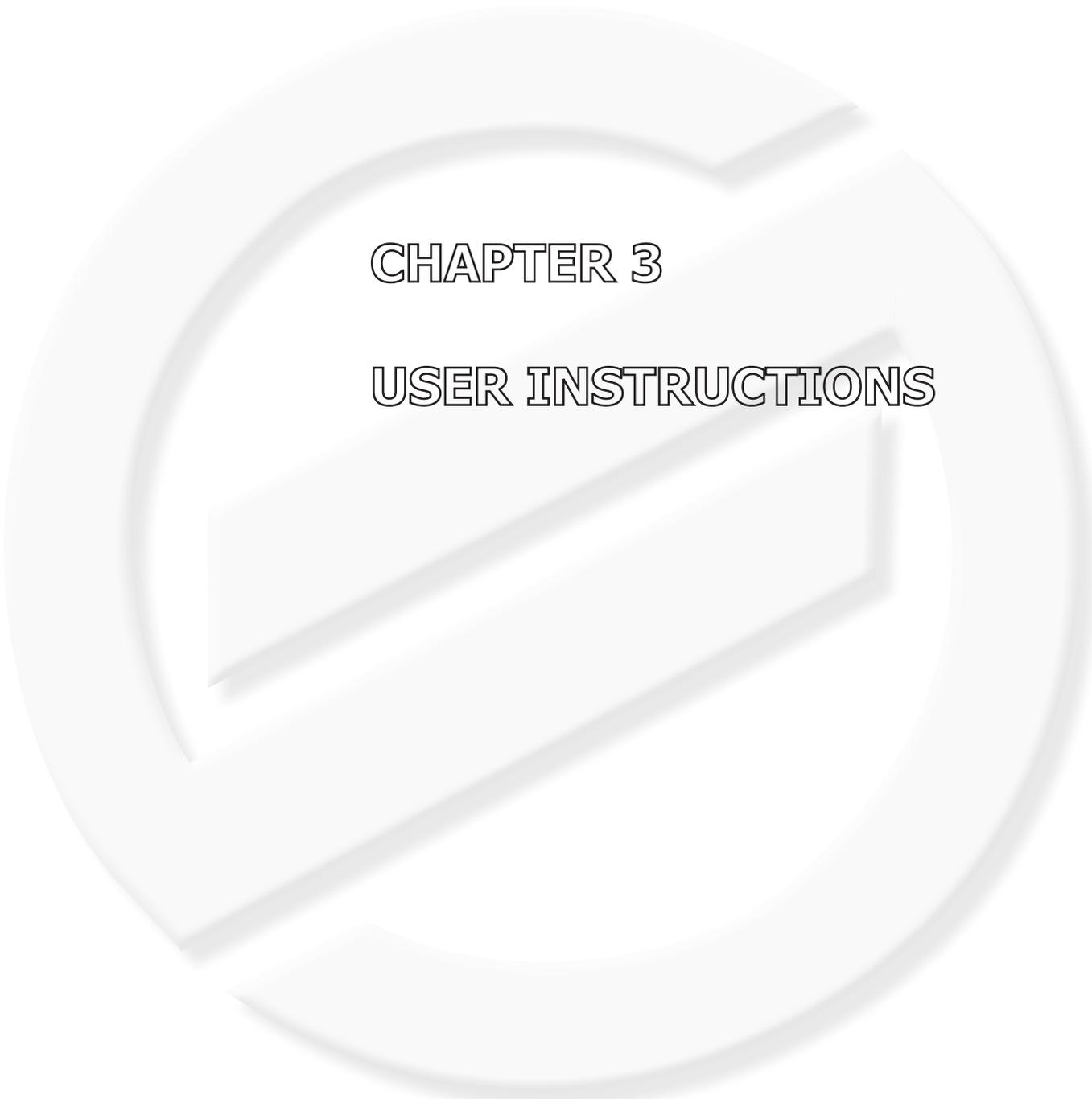
CHAPTER 3

USER INSTRUCTIONS

3.1.1. Customer menu in the Moltio one Touch Milk Carafe.
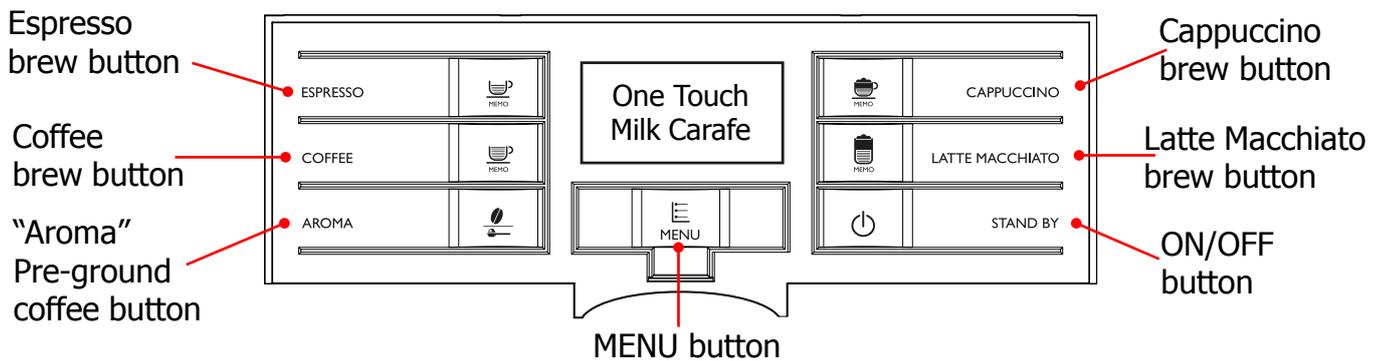
Espresso brew button

Coffee brew button

"Aroma" Pre-ground coffee button

ESPRESSO

COFFEE

AROMA

One Touch Milk Carafe

CAPPUCCINO

LATTE MACCHIATO

STAND BY

MENU

Cappuccino brew button

Latte Macchiato brew button

ON/OFF button

MENU button

This machine is equipped with a colour-coded system to make your understanding of the display signals easier.
The icons are colour-coded according to the traffi c light principle.

Machine ready signals (**GREEN colour**)

The machine is ready to brew coffee with Arabica coffee beans

The machine is brewing one cup of coffee.

The machine is ready to brew coffee with Robusta coffee beans

The machine is brewing two cups of espresso.

The machine is ready to brew coffee with a mix of coffee beans

The machine is brewing two cups of coffee.

The machine is ready to brew pre-ground coffee.

Coff ee brewing using pre-ground coffee in progress.

Select the programming menu or special beverages menu

The machine is programming the amount of coffee to brew.

Hot milk or hot water selection.

Hot milk brewing.

Hot water dispensing.

The machine is brewing cappuccino.

The machine is brewing one cup of espresso.

The machine is programming the amount of milk to dispense for the cappuccino.

The machine is programming the amount of coffee to dispense for the cappuccino.

The machine is programming the amount of milk to dispense for the hot milk.
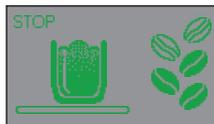
The machine is brewing Latte Macchiato.

Insert the water dispensing spout and press the " 🥛 " button to start dispensing.
Press " 🥛 " to exit.
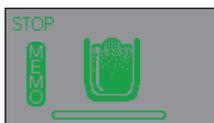
The machine is programming the amount of milk to dispense for the Latte Macchiato.

The machine will remind the user that the carafe must be inserted.

The machine is programming the amount of coffee to dispense for the Latte Macchiato.

Machine ready signals (YELLOW colour)

The machine is heating up to brew beverages or dispense hot water.

The brew group is being reset due to machine reset.
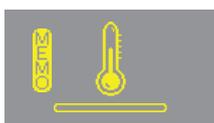
The machine is heating up during beverages programming.

Refill the coffee bean hopper with coffee beans and restart the cycle.

The machine is performing the rinse cycle. Wait until the machine has completed the cycle.

Prime the circuit.

The machine needs the "INTENZA+" water filter to be replaced.

The machine needs to be descaled. Press the " 🥛 " button to start the descaling process. Follow the steps described in the descaling chapter of this manual.
If you want to descale later, press the " 🥛 " button to continue using the machine.
Please note that not descaling your machine will ultimately make it stop working properly. In this case repair is NOT covered under your warranty.

Machine ready signals (RED colour)

Close the service door.

Insert the coffee grounds drawer.

Fill the coffee bean hopper.

Empty the coffee grounds drawer and the coffee residues drawer.

The brew group must be inserted into the machine.
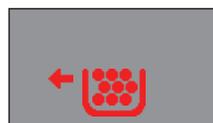
Fully insert the coffee grounds drawer before turning the machine off.

Fill the water tank.

Insert drip tray.

Insert the coffee bean hopper.
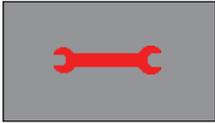
Turn off the machine. After 30-seconds, turn it back on. Try this 2 or 3 times. If the machine does not start, contact the Philips SAECO hotline in your country and communicate the Error-code which you see on the display.

3.1.2. Customer menu in the Automatic and Classic.
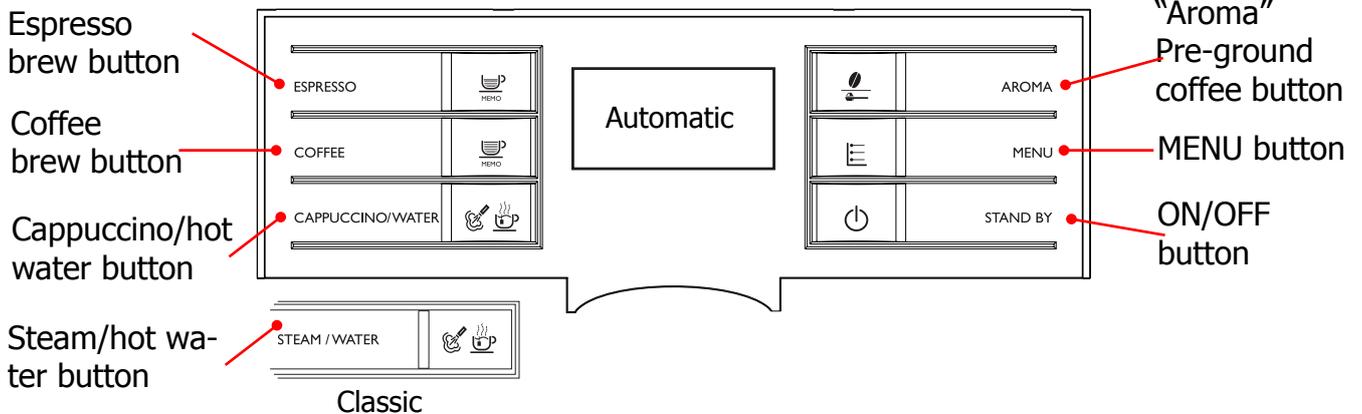
Espresso brew button

Coffee brew button

Cappuccino/hot water button

ESPRESSO

COFFEE

CAPPUCCINO/WATER

Automatic

AROMA

MENU

STAND BY

"Aroma" Pre-ground coffee button

MENU button

ON/OFF button

Steam/hot water button

STEAM / WATER

Classic

This machine is equipped with a colour-coded system to make your understanding of the display signals easier.
The icons are colour-coded according to the traffi c light principle.

Machine ready signals (**GREEN colour**)

The machine is ready to brew coffee with Arabica coff ee beans

Steam or hot water selection.

The machine is ready to brew coffee with Robusta coffee beans

Steam dispensing

The machine is ready to brew coffee with a mix of coffee beans

The machine is brewing one cup of espresso.

The machine is ready to brew pre-ground coffee.

The machine is brewing one cup of espresso.
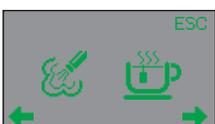
Steam or hot water selection.

The machine is brewing two cups of espresso.

The machine is brewing two cups of coffee.

The machine is programming the amount of coffee to brew.
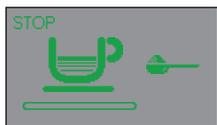
Coffee brewing using pre-ground coff ee in progress.

Machine ready signals (YELLOW colour)

The machine is heating up to brew beverages or dispense hot water.

The brew group is being reset due to machine reset.

The machine is performing the rinse cycle. Wait until the machine has completed the cycle.

Refi ll the coffee bean hopper with coffee beans and restart the cycle.

The machine needs the "INTENZA+" water filter to be replaced.

Prime the circuit.

The machine needs to be descaled. Press the "⬚" button to start the descaling process. Follow the steps described in the descaling chapter of this manual.
If you want to descale later, press the "⬚" button to continue using the machine.
Please note that not descaling your machine will ultimately make it stop working properly. In this case repair is NOT covered under your warranty.

Machine ready signals (RED colour)

Close the service door.
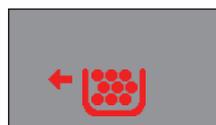
Fully insert the coffee grounds drawer before turning the machine off.

Fill the coffee bean hopper.

Fill the water tank.

The brew group must be inserted into the machine.

Insert the coffee bean hopper.

Insert the coffee grounds drawer.

Empty the coffee grounds drawer and the coffee residues drawer.
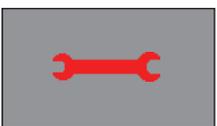
Turn off the machine. After 30-seconds, turn it back on. Try this 2 or 3 times. If the machine does not start, contact the Philips SAECO hotline in your country and communicate the Error-code which you see on the display.

3.2. Operation, cleaning and maintenance

Operating the machine		
1	Fill water tank	
2	Fill the coffee bean hopper	
3	Switch on the appliance	
4	Press the button to start the appliance	⏻
5	Heating	When the heating phase begins, wait for it to finish
6	Rinse	Carry out a rinse cycle for the internal circuits
7	Machine ready	The machine is ready to dispense beverages

CLEANING AND TECHNICAL SERVICING		
A	Empty the dregs drawer	When indicated
B	Empty the drip tray	As necessary
C	Clean the water tank	Weekly
D	Clean the coffee bean hopper	As necessary
E	Clean the casing	As necessary
F	Clean the brewing unit	Every time the coffee bean hopper is filled or weekly
	Lubricate the brewing unit	After 500 dispensing cycles or when the grease is no longer present on the brewing unit
	Clean the unit housing	Weekly
H	Descaling	When indicated

| Descaling cycle frequency			
Hardness	Water hardness	Without water filter	With water filter
1	Soft (up to 7°dH)	240 litres (480,000 pulses)	480 litres (960,000 pulses)
2	Medium (7° - 14°dH)	120 litres (240,000 pulses)	240 litres (480,000 pulses)
3	Hard (15° - 21°dH)	60 litres (120,000 pulses)	120 litres (240,000 pulses)
4	Very hard (over 21°dH)	30 litres (60,000 pulses)	60 litres (120,000 pulses)
The default water hardness level is 4. Each litre of water corresponds to approximately 2,000 pulses. **In the machines where is not possible change the water hardness the default hardness level is 3.**			

CHAPTER 4

OPERATING LOGIC

### 4.1.1. Water circuit in Moltio One Touch Milk Carafe

Brewing unit

Water

Hot water /steam

Compensation valve water outlet

Three-way solenoid valve

1900 W boiler

Compensation valve water outlet

Milk carafe

Flow-meter

Water tank

Pump
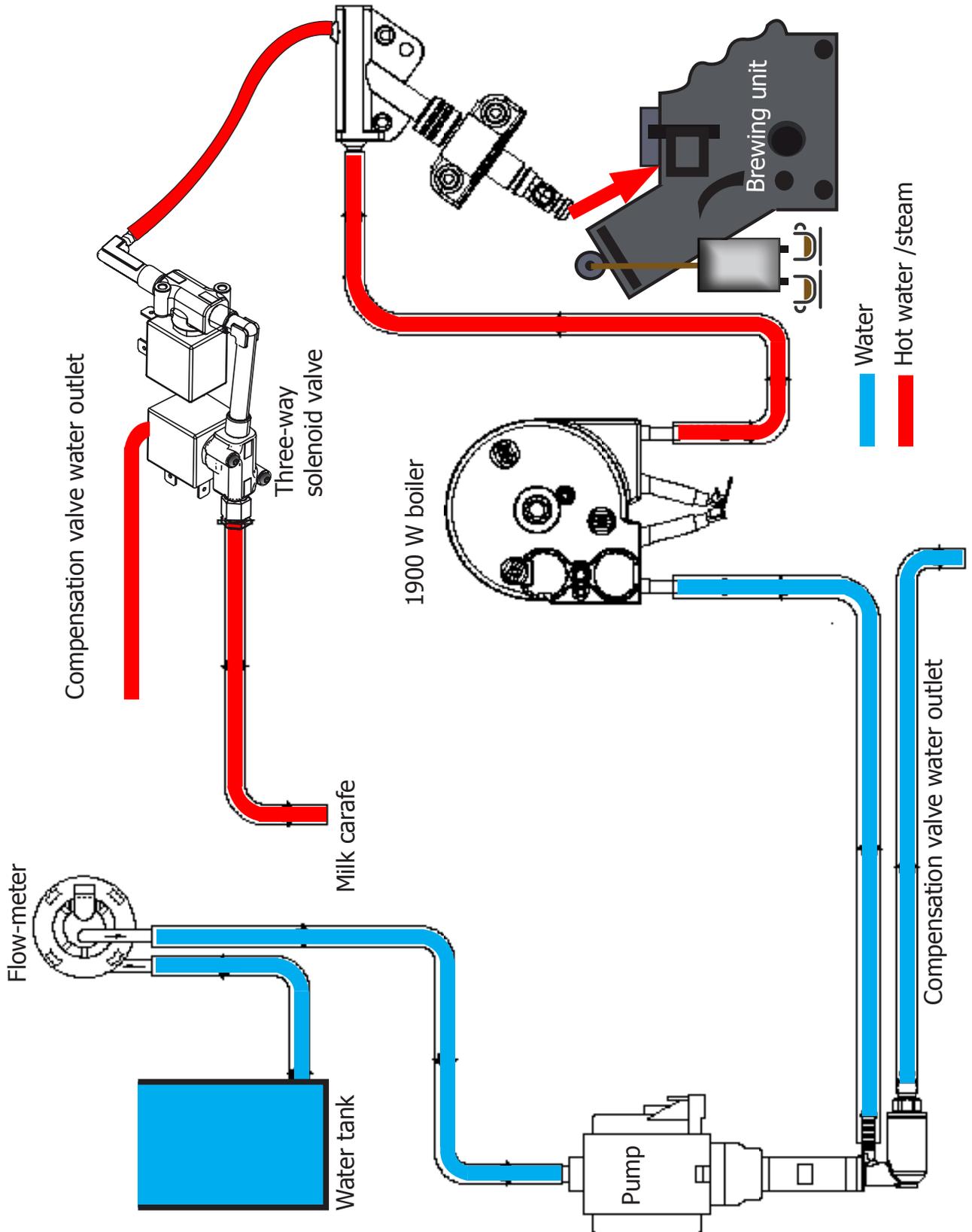
4.1.2. Water circuit in Moltio Classic and Automatic

Brewing unit

Water

Hot water /steam

Two-way solenoid valve

1900 W boiler

Steam pipe

Compensation valve water outlet

Flow-meter

Water tank

Pump

4.1.2. Milk Carafe

1

2

1) Steam input
2) Bring the cappuccino maker into dispensing position
3) Milk tank

3

Steam

The steam passes through the pipe creating a sucking effect that pulls the milk upwards

The milk is heated by the steam and taken towards the emulsion chamber where it is mixed with air and transformed into foam

4.2. Coffee cycle

Main switch ON		START	STOP	
Time				
Coffee grinder			Pulses (Dosage)	
Heating	approx. 45 sec.			
Pump			Pump operation (flow meter pulses) in accordance with the amount of product selected. *	
Brewing unit gear motor	↓ ↑		↑	↓ ↑
Status	**Heating**	**Ready**	**Coffee cycle**	

Notes: * Only with Pre-brewing

Status Microswitch	OFF		ON		

Single microswitch gear motor

Switching on

When the machine is switched on, the gear motor repositions itself as follows:
- It acts on microswitch 1 (see following chapter).
- The gear motor changes its rotation direction and moves upwards again by approx. 1-2 mm.
- The boiler begins to heat the water for approx. 45 sec., at full power, in order to reach the optimal temperature. The temperature will then remain at a constant level.

Coffee cycle

1. The coffee grinder starts the grinding process (controlled by pulses generated by a sensor).
2. The gear motor (brewing unit) moves to the brewing position.
3. Preliminary dispensing phase (short pump activity, short pause).
4. Product dispensing (the pump operation period is defined by the amount of product dispensed).
5. The gear motor moves to its home position (the dregs are expelled automatically).

4.3.   Single microswitch
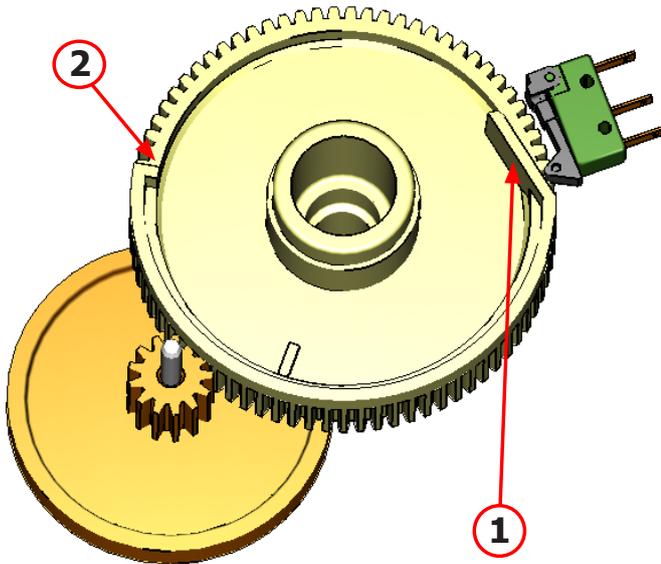
The gear motor is powered by a direct current motor that engages with the smaller double toothed wheel using a worm screw. The unit is mounted on the axle of the large gear wheel and when a coffee is requested, it moves from the standby position to the dispensing position, and then back to the standby position again.

- Standby position: 1

- Dispensing position: 2

4.4.   Temperature sensor (adjustment)

Temp. (°C)	R nom (kΩ)	ΔR (+/- %)
20	61.465	8.6
50	17.599	5.9
75	7.214	4.1
80	6.121	3.7
85	5.213	3.4
90	4.459	3.1
100	3.3	2.5
125	1.653	3.9
150	0.893	5.1

An NTC is used as a temperature sensor; in the event of overheating this reduces boiler element power consumption.
The electronic system detects the current boiler temperature from the drop in voltage of the sensor and adjusts it accordingly.
Heating element values and corresponding temperatures: see table.

4.5. Coffee grinder
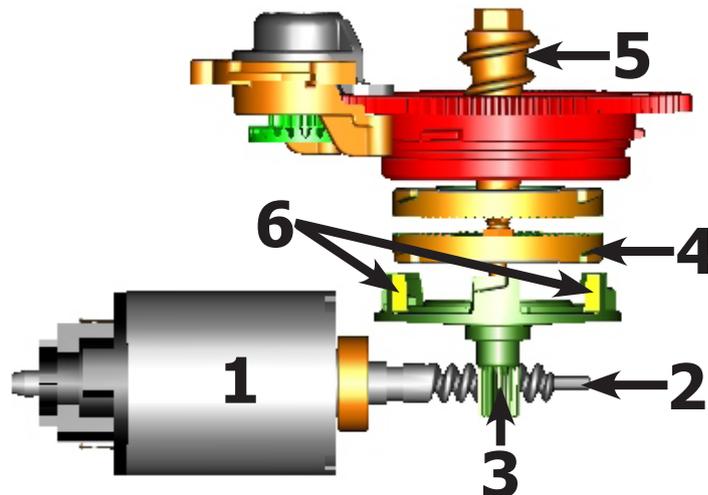
The coffee grinder is driven by a direct current motor (1) using a worm screw helicoidal wheel transmission (2).
The worm screw (2) drives a plastic gear wheel (3), which turns the lower grinder (4) and the increment pin (5)
There are two magnets (6) in the gear wheel; at every rotation these induce two pulses to a Hall sensor, which in turn transmits them to the electronic system.

4.6. Low bean level detection, dose quantity adjustment, coffee grinder blocked

No coffee
A low coffee bean level is detected by the Hall sensor, after variations in the pulse frequency (with or without coffee).
If there are no coffee beans (operation while empty), the number of rotations – and therefore the number of pulses – will be greater.
t1 = no coffee indication

If, however, there are coffee beans, the number of rotations will be lower due to the force created by the grinding.
t2 = no indication

t3 and t4 = this measurement is performed at the end of each grinding process
Dose quantity adjustment
The dose quantity is adjusted in accordance with the pulses detected (number of rotations proportional to the selected flavor – mild, medium or strong).
Coffee grinder blockage
If the coffee grinder becomes blocked for any reason, pulses will no longer be transmitted to the electronic system and the grinder will come to a stop.

4.7. Dose self-learning (SAS)

The aim of this function is to automatically regulate the average dose of ground coffee (SELF-LEARNING); this takes place with an algorithm based on the following values and setting by the user:

1. Number of coffee grinder pulses during the grinding cycle.
2. Max. average value of the power consumed by the gear motor during the coffee brewing cycle.
3. Aroma selected by the user.

The algorithm compares the maximum average value of the power consumed by the gear motor with the value listed in the table for the selected aroma, in order to calculate the new grinding pulse value for the next coffee produced.

If the power consumption value is less than the minimum current value, the grinding pulses will be increased by 2.

If the power consumption value is greater than the maximum current value, the grinding pulses will be decreased by 4.

If the power consumption value falls within the "over-torque" interval, the product will be dispensed and the grinding pulses will be decreased by 10.

If the power consumption value falls within the "abort cycle" interval, the dreg will be expelled and the grinding pulses will be decreased by 10.

If the "pre-ground" flavour is selected by the user, no modification will be made.

This guarantees that, regardless of the coffee type used, the grinding level setting and the wear on the grinders, the ground coffee dose always remains constant.

		3 levels	5 levels	DOSE ADJUSTMENT (NUMBER OF GRINDER IMPULSES) TO APPLY TO MED AROMA				
				+2	0	-4	-10	-10 and CYCLE ABORTED
Aroma of the grinded product	A	Light	Very Light	MAX_CURRENT_mA <150mA	<=150mA MAX_CURRENT_mA <=250mA	MAX_CURRENT_mA >250mA	MAX_CURRENT_mA >800mA	MAX_CURRENT_mA >1000mA
	B	Med	Light / Med	MAX_CURRENT_mA <250mA	<=250mA MAX_CURRENT_mA <=350mA	MAX_CURRENT_mA >350mA	MAX_CURRENT_mA >800mA	MAX_CURRENT_mA >1000mA
	C	Strong	Strong / Very Strong	MAX_CURRENT_mA <350mA	<=350mA MAX_CURRENT_mA <=500mA	MAX_CURRENT_mA >500mA	MAX_CURRENT_mA >800mA	MAX_CURRENT_mA >1000mA

Important:

For perfect operation, machine adjustment should take place in the area of the fields highlighted in green (A, B, C). When the type or brand of coffee is changed, there may be variations in the size of the beans and their stickiness or roasting level. This leads to variations in power consumption (mA), with resulting excessive or insufficient doses (until the necessary adjustments have been made to compensate for this change).

Caution: In the case of excessive dosage, powder may be expelled into the dreg drawer. This is not a fault, but can occur during preliminary operation or after a service.

4.8. Water level detection (water tank)

Water tank

Sensor

200 puls.
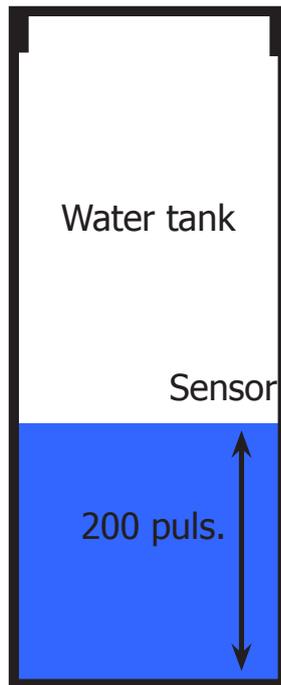
"Water low" message (water reserve)

Function:
The water level is monitored by a capacitative sensor, located one third of the way up the water tank wall.
If the electronics assembly detects, by means of the sensor, that the amount of water in the tank has dropped below the above mentioned level, a water reserve remains available for the dispensing process underway (this will cover 200 flow meter pulses).
The product dispensing process will then come to an end.
If a dispensing cycle ends after the sensor has been triggered (in the reserve) then the display "Water low" continues to be displayed during the following dispensing cycle.

4.9. Descaling request

Flow meter pulses

Filter
on

Filter
off

Number of pulses

360°
1 rev
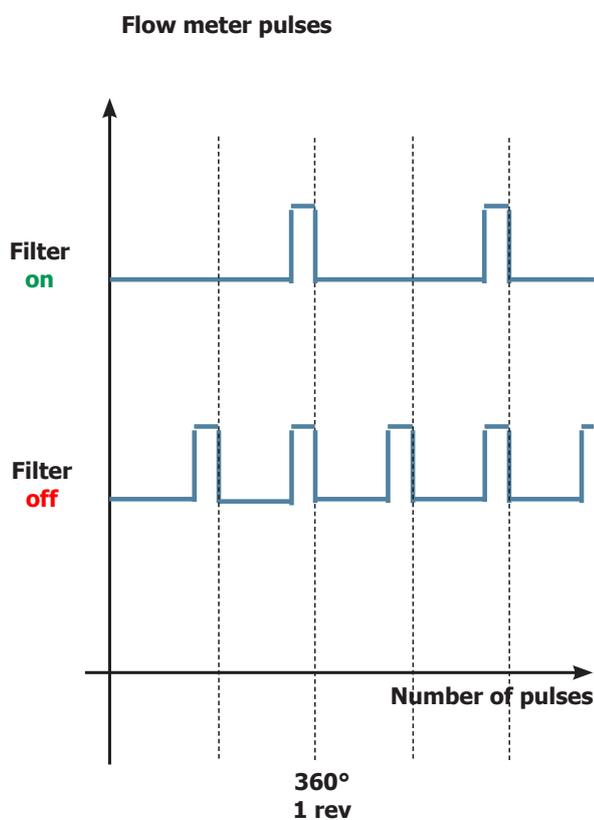
"Descaling" – message with water filter inserted
(appliances with display only)

The water hardness is set on the basis of the regional water hardness analysis
(1, 2, 3, 4).

Filter off:
If the function is turned off the electronics assembly monitors the flow meter pulses, recording one pulse each turn.

Filter on:
If the function is turned on the electronics assembly monitors the flow meter pulses, recording one pulse every two turns.

"Change water filter" message
The electronics assembly uses the flow meter impulses to keep track of the amount of water which has flowed through; after the specified amount (set in accordance with the water hardness level), the "Replace filter" message appears.

4.10. Water filter

Bypass
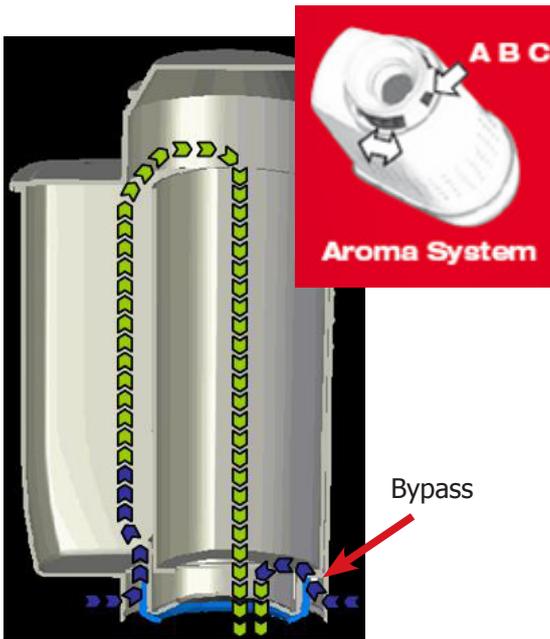
Function:
- Reduced limescale deposits which take longer to form.
- Improved water quality.
- Improved taste due to the ideal water hardness.

**Life span / descaling performance:**
- - 10 ° dH
- 60 litres
- 2 months

To achieve the best possible operating mode consistency over the total life span, the water is channelled using a 3-stage bypass (A, B, C) depending on the degree of hardness. See small image.

CHAPTER 5

TROUBLESHOOTING

5.1.1. Test mode in Moltio One Touch Milk Carafe
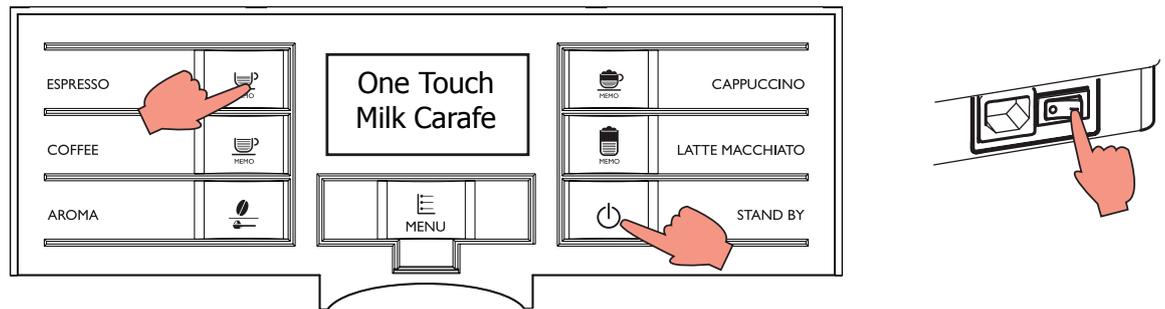
To enter Test Mode

The machine enters Test Mode by holding pressed together Espresso and Stand-by while switching on the machine by mean of the main switch on the backside of the machine. Once entered in Test Mode, the display shows the firmware version.

The Test Mode is organized into **6 different pages :**

(press CAPPUCCINO to move to the next screen)

Page 0: The display shows:
    a) Firmware version.
    b) Type.
    c) "230"/"120" if the machine is a 230V or 120V model.
    d) Main supply frequency (50 or 60 Hz).
Page 1: Keyboard and display's colour test:
    a) Espresso button
    b) Coffe button
    c) Aroma button
    d) Cappuccino button
    e) Latte Macchiato button
    g) Stand-by button
    h) Menu button
Page 2: Input signals test:
    a) Water level sensor
    b) Microswitch door closed/opened
    c) Microswitch presence of the Brew Unit
    d) Microswitch presence of the Dregdrawer
    e) Select the COM port between USCP and Freemaster
    f) Lever position on Drip
Page 3: Low voltage loads test:
    a) Brew Unit movement upward and downward (24V DC)
Page 4: High/Low voltage loads test (Pump, E.Valve) :
    a) Pump (120-230V AC)
    b) Electro Valve two-way (24Vdc)
    c) Electro Valve three-way (24dc)
Page 5: High voltage loads test (Heater, Grinder, Protection cover coffee beans):
    a) Heater (120-230V AC)
    b) Grinder (170-320V DC)
    c) Cover ON/OFF
Page 6: Values Autodose
    a) Value Autodose for each selection of beans

Firmware Software version

Firmware version on the display.
The machine model is shown (Higo Carafe).
The voltage of the main supply "230V/120V"
The frequency of the main supply is shown (50 or 60 Hz)

Press CAPPUCCINO to move to the next screen

Operational check – keys

Start condition

Press buttons from 1 to 6
When a button is pressed the letter next to it varies from N to Y.
Pressing button 1 the backlight color changes from GREEN to RED.
Pressing button 2 the backlight color changes from GREEN to YELLOW.
The button 4 is pressed at the end because it takes you to the next page

ERROR:
The letters do not change from Y or N and Y are always, in this case need to check the flat cabe communication with the CPU-Power, but if it does not change color also need to check the wiring JP4.

Press CAPPUCCINO to move to the next screen

Operational check microswitches and sensors

Start condition

Insert the BrewUnit
The indications BU-P changes from "N" to "Y".
NOTE: removing the BrewUnit the indication from "Y" to "N" requires about 2-3 seconds to switch.

ERROR: Check the BU presence Microswitch and the wiring (JP16).

Insert a full Water Tank
The indication TANK-H20 changes from "N" to "Y".
NOTE: the switching from "N" to "Y" requires about 1-2 seconds.

**ERROR:** The indication TANK-H2O doesn't change; check the capacitive sensor (fixing) and the wiring (JP23)

Insert the Dreg Drawer
The indication DREG change from "N" to "Y"

ERROR: The indication DREG does not change; check the Microswitch for the DREG and the wiring (JP16).

Close the Door (the Dreg Drawer should be inserted)
The indication DOOR change from "N" to "Y"

ERROR: The indication DOOR does not change; check the Microswitch for the door and the wiring (JP14).
NOTE: without the Dreg Drawer correctly inserted the DOOR indication cannot change !

Insert the drip tray.
The indication TRAY change from "N" to "Y"

ERROR: The indication TRAY does not change; check the Microswitch for the door and the wiring (JP14). NOTE: Check if the drip tray is correctly inserted

The indicatin COM must remain on USCP

Press CAPPUCCINO to move to the next screen

Operational check – brewing unit

Start condition

Press the ESPRESSO button to move the BU to Work
When the BU reaches the work position the indication **WORK** changes from "N" to "Y", the number of the current is minus than 200mA (without BU) or 300mA (with BU).

ERROR: The indication **WORK** doesn't change and remain "N", the display backlight changes from green to red; Check the work microswitch (broken?), the BU motor (blocked?) and the wiring (JP16) and (JP14)

ERROR: **(Without BU)** The absorbed current is more than 200mA,
the display backlight changes from green to red; check the BU and the motor.

Operational check – brewing unit
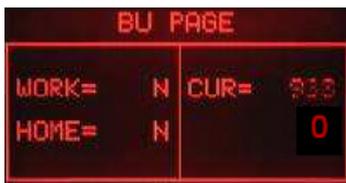
ERROR: **(With BU)** The absorbed current is more than 300mA, the display backlight changes from green to red; check the BU and the motor

Press the COFFE button to move the BU to Home
When the BU reaches the home position the indication **HOME** changes from "N" to "Y", the number of the current is minus than 200mA (without BU) or 300mA (with BU).

ERROR: The indication **HOME** doesn't change and remain "N", the display backlight changes from green to red; Check the work microswitch (is broken), the BU motor (is blocked) and the wiring (JP16).

ERROR: **(Without BU)** The absorbed current is higher than 200mA, the display backlight changes from green to red; check the BU and the motor.

ERROR: **(With BU)** The absorbed current is higher than 300mA, the display backlight changes from green to red; check the BU and the motor

Press CAPPUCCINO to move to the next screen

Operational check - solenoid valves and pump

Start condition

If you submit the following screen means that there is the coffee grounds drawer is not correctly inserted, or the side door is not completely closed. Only after entering the drawer and closed the door, the following screen will disappear.
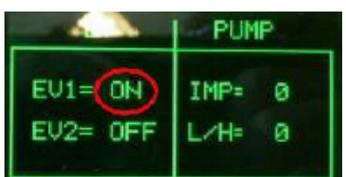
Press the ESPRESSO button to switch on the solenoid valve EV1
It is possible to hear the "click" from Electro Valve. The indication beside the **EV1** changes from "OFF" to "ON".
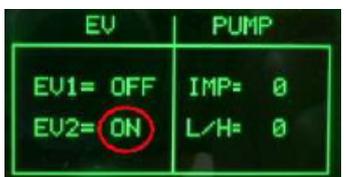
Press the COFFEE button to switch on the solenoid valve EV2
It is possible to hear the "click" from Electro Valve. The indication beside the **EV2** changes from "OFF" to "ON".

Press the LATTE MACCHIATO button to switch on the Pump
The water begins to leak from the tube and the indication IMP (pulse flowmeter) the display shows an increasing number.
The indication L / H must be in the range 10-18

ERROR: The display backlight changes from green to red and the impulse remains 0; If water comes out the pipe: check the wiring from the flowmeter to the CPU/POWER board (JP5). If no water comes out the pipe: check the pump and the wiring from the pump to the CPU/POWER board (JP24).

Press CAPPUCCINO to move to the next screen

Operational check - coffee grinder and boiler

Start condition

Remuve the beans cover
The signal changes from "COVER ON" to "COVER OFF".
ERROR:
If the indication COVER ON / OFF COVER does not match respectively the PRESENCE /ABSENCE of the cover beans
Check presence and alignment with magnente REED sensor.
Presence REED sensor and wiring to CPU JP25.

Reposition the beans cover
The grinder starts to spin and the number of pulses is marked in as circled in red, the other numbers at the moment, are not important for the test

ERROR:
If the number is 0, the backlight changes to red, and the motor moves, then the fault is to be found in Hall sensors, or in their associated wiring, or in the CPU / POWER (JP2). If the engine does not start then the fault lies in the chain (JP8), wiring, coffee grinder, or the grinder itself

Temperature control
The circled number expresses the temperature of the boiler in degrees centigrade

ERROR: In the indication HEATER appears "SHORT", the NTC temperature-sensor is shorted, the display backlight changes from green to red; check the wiring from the NTC temperature-sensor to the CPU/POWER board (JP13).

ERROR: In the indication HEATER appears "OPEN", the NTC temperature-sensor is detached or broken, the display backlight changes from green to red; check the wiring from the NTC temperature-sensor to the CPU/POWER board (JP13).

Press the COFFEE button to switch on the Heater
The absorbed current (Amperometer on the main supply) is OK, the indication HEATER changes from "OFF" to "ON" and the temperature starts increasing.

If temperature is over 135°C, the backlight change from GREEN to YELLOW. This is a ALERT message to avoid heating the HEATER element over dangerous temperature.

ERROR: the absorbed current is KO or the temperature does not increase; check the wiring from the heater to the CPU/POWER board (JP19) and the wiring of the NTC temperature-sensor (JP13).

Press CAPPUCCINO to move to the next screen

Start condition

The machine shows the three values dell'autodose
Selection beans.
The default value is 90 for all. After the coffee brewing values change (as shown in the image)

5.1.2. Test mode in Moltio Automatic and Classic
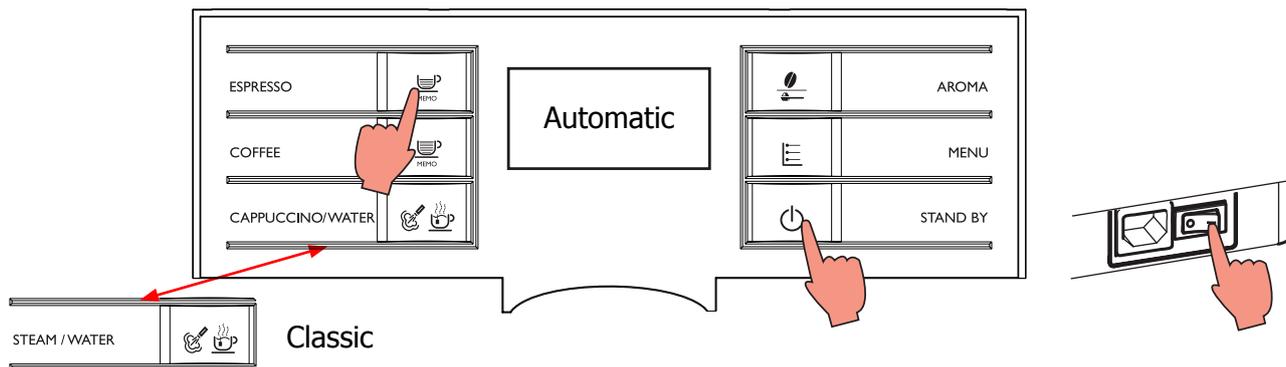
To enter Test Mode

The machine enters Test Mode by holding pressed together ESPRESSO and STAND-BY while switching on the machine by mean of the main switch on the backside of the machine. Once entered in Test Mode, the display shows the firmware version.

The Test Mode is organized into **6 different pages :**

(press AROMA to move to the next screen)

Page 0: The display shows:

a) Firmware version.
b) Type.
c) "230"/"120" if the machine is a 230V or 120V model.
d) Main supply frequency (50 or 60 Hz).

Page 1: Keyboard and display's colour test:

a) Espresso button
b) Coffe button
c) Cappuccino/Water or Steam/Water button
d) Aroma button
e) Menu button
f) Stand-by button
g) Unused button
h) Backlight colors

Page 2: Input signals test:

a) Water level sensor
b) Microswitch door closed/opened (if the dregdrawer is not present , the display indication is always "N")
c) Microswitch presence of the Brew Unit
d) Microswitch presence of the Dregdrawer

Page 3: Low voltage loads test:

a) Brew Unit movement upward and downward (24V DC)

Page 4: High/Low voltage loads test (Pump, E.Valve) :

a) Pump (120-230V AC)
b) Electro Valve (24Vdc) (The door microswitch and the dregdrawer microswitch must be **closed**)

Page 5: High voltage loads test (Heater, Grinder, Protection cover coffee beans):

a) Heater (120-230V AC)
b) Grinder (170-320V DC)
c) Cover ON/OFF

Page 6: Values Autodose

a) Value Autodose for each selection of beans

Firmware Software version

Firmware Version "xx.xx.xx"
The machine model "CAPP." or "PANN."
The "120" text for 120V models or the "230" text for 230V models .
The frequency of the main supply "50HZ" or "60HZ"

Press AROMA to move to the next screen

Operational check – keys

Strart condition

Press buttons from 1 to 6
When and only when a button is pressed the letter beside change from N to Y.
Pressing button 1, 3 ,4, 6 the backlight color changes from GREEN to RED.
Pressing buttons 2, 5 the backlight color changes from GREEN to YELLOW.
Note: Press button 4 as the last once, since it makes change the test page.

ERROR: The letters do not change from N to Y or are always Y; check the interface board and the flat cable (JP21). During themovement the backlight remain green; check the wiring (JP4) from the interface board and the display.

Press AROMA to move to the next screen

Operational check microswitches and sensors
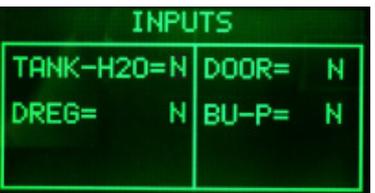
Start condition

Insert a full Water Tank
The indication H20 changes from "N" to "Y".
NOTE: the switching from "N" to "Y" requires about 1-2 seconds

ERROR: The indication TANK-H2O doesn't change; check the capacitive sensor (fixing) and the wiring (JP23)

Insert the Dreg Drawer
The indication DREG change from "N" to "Y"

ERROR: The indication DREG does not change; check the Microswitch for the drag drawer and the wiring (JP16)

Close the Door (Dreg Drawer must be inserted)
The indication DOOR change from "N" to "Y"

ERROR: The indication DOOR does not change; check the Microswitch for the door and the wiring (JP14). NOTE: without the Dreg Drawer correctly inserted the DOOR indication cannot change !

Insert the BrewUnit
The indications BU-P changes from "N" to "Y".
NOTE: removing the BrewUnit the indication from "Y" to "N" requires about 2-3 seconds to switch.

ERROR: Check the BU presence Microswitch and the wiring (JP16).

Press AROMA to move to the next screen

Operational check – brewing unit

Start condition

Press the ESPRESSO button to move the BU to Work
IMPORTANT NOTE: If the DREGDRAWER is not inserted or the DOOR is not closed the BU test cannot be performed. If these 2 inputs are not in the right position, a warning message will be shown and the display turns to yellow..

When the BU reaches the work position the indication **WORK** changes from "N" to "Y", the number of the current is minus than 200mA (without BU) or 300mA (with BU).

ERROR: The indication **WORK** doesn't change and remain "N", the display backlight changes from green to red; Check the work microswitch (broken?), the BU motor (blocked?) and the wiring (JP16).

ERROR: **(Without BU)** The absorbed current is more than 200mA, the display backlight changes from green to red; check the BU and the motor.

ERROR: **(With BU)** The absorbed current is more than 300mA, the display backlight changes from green to red; check the BU and the motor.

Press the CAFFEE button to move the BU to Home
When the BU reaches the home position the indication HOME changes from "N" to "Y", the number of the current is minus than 200mA (without BU) or 300mA (with BU).

ERROR: The indication **HOME** doesn't change and remain "N", the display backlight changes from green to red; Check the work microswitch (is broken), the BU motor (is blocked) and the wiring (JP16).

ERROR: **(Without BU)** The absorbed current is higher than 200mA, the display backlight changes from green to red; check the BU and the motor.

ERROR: **(With BU)**The absorbed current is higher than 300mA, the display backlight changes from green to red; check the BU and the motor

Press AROMA to move to the next screen

Operational check - solenoid valves and pump

Start condition

Press the ESRESSO button to open the Electro Valve
IMPORTANT NOTE: If the DREGDRAWER is not inserted or the DOOR is not closed the EV test cannot be performed. If these 2 inputs are not in the right position, a warning message will be shown and the display turns to yellow.

It is possible to hear the "click" from Electro Valve. The indication beside the **EV1** changes from "OFF" to "ON".

Press the MENU button to switch on the pump
The water goes out from the pipe and the indication IMP shows increasing numbers. The indication L/H must be within the range 10-18.

ERROR: The display backlight changes from green to red and the impulse remains 0; If water comes out the pipe: check the wiring from the flowmeter to the CPU/POWER board (JP5). If no water coems out the pipe: check the pump and the wiring from the pump to the CPU/POWER board (JP24).

ERROR : The L/H is zero or very low; the Electro Valve does not open. Check the wiring from the Electro Valve to the CPU/POWER board (JP3) and the Electro Valve.

Operational check - coffee grinder and boiler

Start condition

Remove the Bean Hopper Cover
The "COVER ON" switches to "COVER OFF". Replacing the Bean Hopper Cover the text switches again to "COVER ON".

ERROR: if the text shown "COVER ON" / "COVER OFF" does not reflect the PRESENT / NOT PRESENT status of the Bean Hopper Cover, check the magnet presence on the cover, the REED sensor on the Bean Hopper and the REED cable to the JP25 connector onto the CPU/POWER board.

Replace the Bean Hopper Cover and press the MENU button to switch on the grinder.
The grinder rotates and in the indication GRINDER the number increasing up to 40. The other numbers inside the GRINDER box are not important for this test.

ERROR: The number remains 0 or the grinder does not run, the display backlight changes from green to red; check the Hall sensor board of the Grinder, the Grinder, the wiring from the Hall sensor board to the CPU/POWER board (JP2) and the wiring from the Grinder to the CPU/POWER board (JP8)

Check the temperature.
The number shows the heater temperature

ERROR: In the indication **HEATER** appears **"SHORT"**, the NTC temperature-sensor is shorted, the display backlight changes from green to red; check the wiring from the NTC temperature-sensor to the CPU/POWER board (JP13).

ERROR: In the indication **HEATER** appears **"OPEN"**, the NTC temperature-sensor is detached or broken, the display backlight changes from green to red; check the wiring from the NTC temperature-sensor to the CPU/POWER board (JP13).

Press the CAFFEE button to switch on the Heater
The absorbed current (Amperometer on the main supply) is OK, the indication HEATER changes from "OFF" to "ON" and the temperature starts increasing.

If temperature is over 135°C, the backlight change from GREEN to YELLOW. This is a ALERT message to avoid heating the HEATER element over dangerous temperature.
ERROR: the absorbed current is KO or the temperature does not increase; check the wiring from the heater to the CPU/POWER board (JP19) and the wiring of the NTC temperature-sensor (JP13).

Press AROMA to move to the next screen

Start condition

The display shows the 3 values of the autodoses for the 3 types of bean selection (Arabica, Robusta, Mix).
The default values for all is 90. After brewing some coffees the values change as shown in picture.

5.2. Error codes

ERROR CODES	DESCRIPTION
01	The coffee grinder is blocked (grinder blades jammed or sensor not reading properly)
03	The brewing unit is blocked in work position (microswitch not released in up position after 3", torque error trying to move down, descent time out exceeded)
04	The brewing unit is blocked in home position (microswitch not released in down position after 3", torque error trying to move up, ascent time out exceeded)
05	Water circuit / flow meter problems (water circuit blocked or no flow meter signal)
10	Boiler temperature sensor short circuited
11	Boiler temperature sensor open circuit
14	The boiler temperature has exceeded the maximum allowed value (165°c)
15	The boiler temperature has not increased by x°C in y sec (boiler power supply disconnected, incorrect boiler fitted must be a 1300W boiler, partial power supply to boiler, cut out thermostat tripped)
19	Mains voltage trouble

CHAPTER 6

STANDARD CHECKS

6.1. Repair schedule

	Action
1	Visual inspection (transport damage)
2	Machine data check (rating plate)
3	Operational check / problem analysis
4	Opening machine
5	Visual inspection
6	Operational tests
7	Repairing the faults encountered
8	Checking any modifications (view Symptom Cure, new software, etc.)
9	Service activities in accordance with the operating schedule
10	Internal cleaning
11	Operational test while the appliance is open
12	Assembly
13	Final inspection test
14	Draining the circuit (in winter)
15	External cleaning
16	Lubricating the brewing unit with suitable grease
17	Insulation test HG 701 (dielectric)
18	Documentation

6.2. Service schedule

S	Replacement	**P**	Cleaning	
ES	Visual inspection	**TR**	Noise test	
D	Descaling	**R**	Adjustment	

Component	Action	Support/tool
Water filter	**P/S**	
Water tank lip seal	**S**	
Boiler pin O-ring	**S**	
Brewing unit	**ES/P**	Grease solvent / Grease
Hoses, attachments and Oetiker clamps	**ES**	
Pump	**ES/TR**	
Gear motor	**ES/TR**	
Coffee grinder	**P/R**	Vacuum cleaner / brush
Water circuit	**D**	Saeco descaler
Hot water/steam valve	**ES/S**	

6.3. Final test

Test	Procedure	Support/ tool	Standard	Tolerance
Espresso	2-3 Espressos for adjustment purposes	Measuring scoop	Same amount	15%
Coffee	2-3 Coffees for adjustment purposes	Measuring scoop	Same amount	15%
Noise			Standard	
Amount of cream	Blow into the cup until the cream separates		The cream should come together again to form a complete layer	
Cream colour			Hazel brown	
Temperature	Reading taken while dispensing	Thermometer	84 °C	± 4 °C
Grinding level	Check the grain size of the ground coffee			
Hot water	Dispense water			
Steam	Dispense steam			
Dreg drawer missing indication	Remove the dreg drawer		Dreg drawer missing indication	
Low bean level indication	Start brewing a coffee while the coffee bean hopper is empty		Low bean level indication	
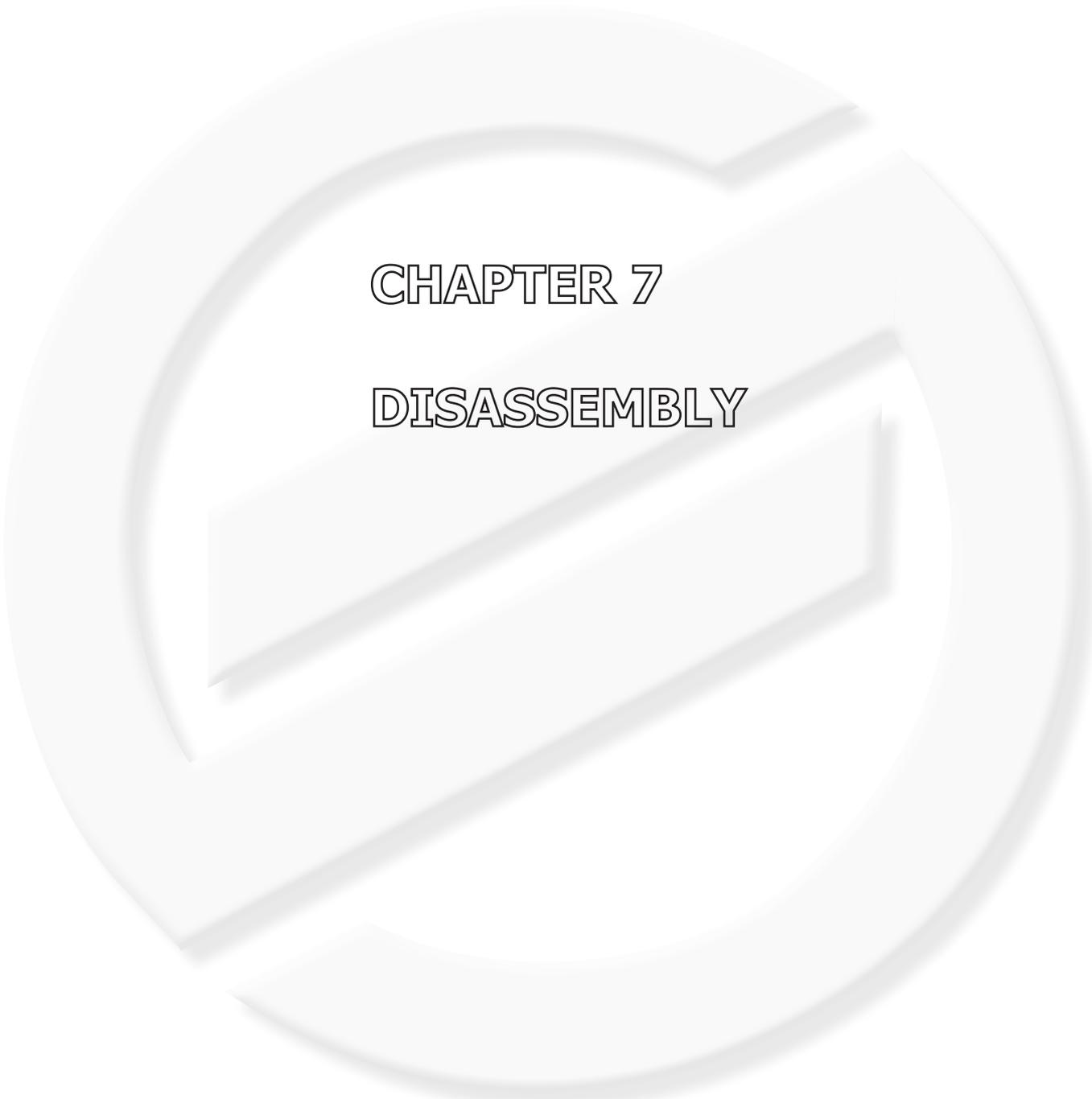
CHAPTER 7

DISASSEMBLY

7.1.   Outer Shell

Remove the water tank, coffee container and cover, drip tray, dreg drawer, brewing unit, hot water dispenser.
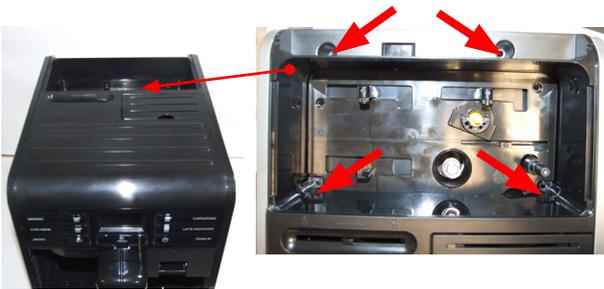
Unscrew the screws shown.
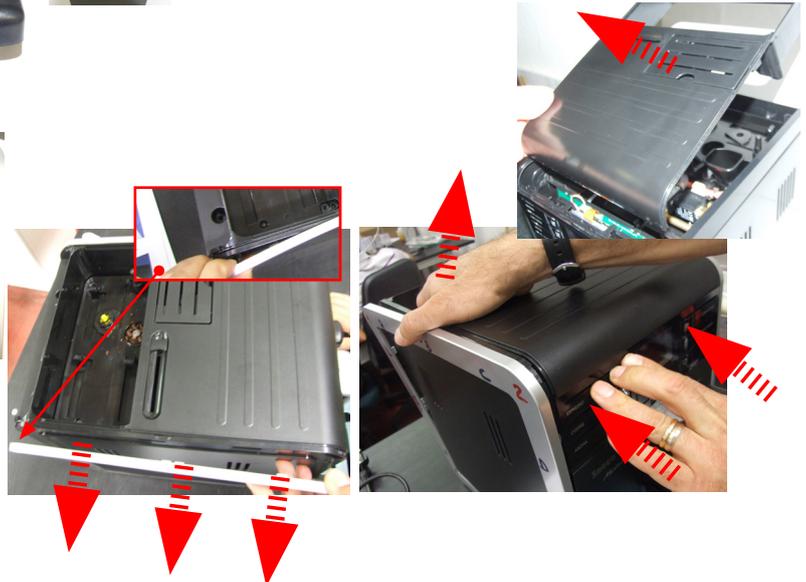
Unhook the highlighted frame and press and lift the top cover.

Lateral panels

Left   **Right**

Unscrew the screws shown.

Unscrew the screw shown and remove the lateral panels

Unscrew the screws shown.   Remuve the rear pannel

7.2. Coffee grinder
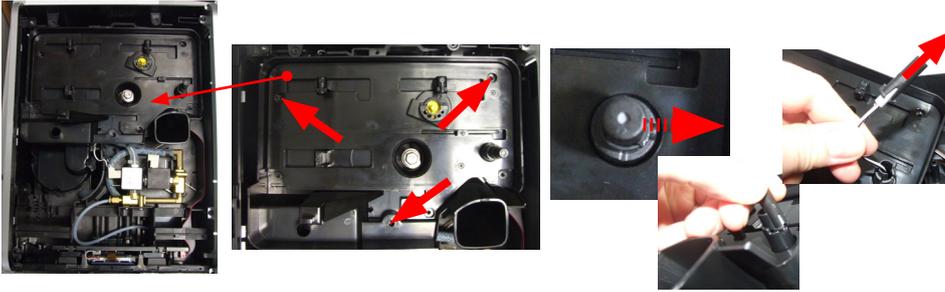
Unscrew the screws shown.

Remove the support the reed sensor

Remove the support the coffee container.
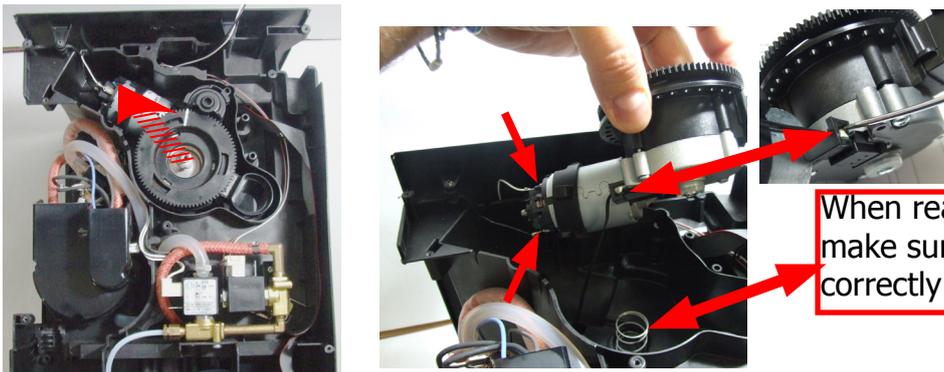
Raise the coffee grinder and remove the connections.

When reassembling the coffee grinder, make sure the spring is repositioned correctly (see photo).

7.3. Grinder blades
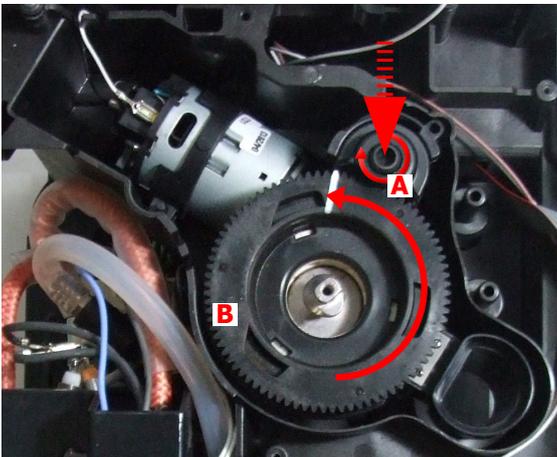
To extract the top support of the appliance, press on the grinding adjustment spindle (A) and turn the support anticlockwise until it unhooks.

Turn the grinder blades anti-clockwise out of the support.
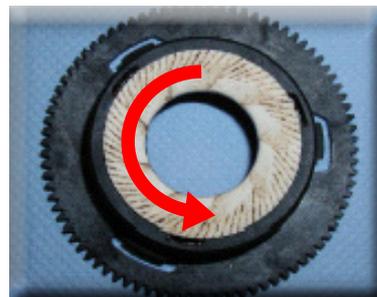
Turn the grinder blades clockwise out of the support. The bayonet connections can be accessed from the rear.
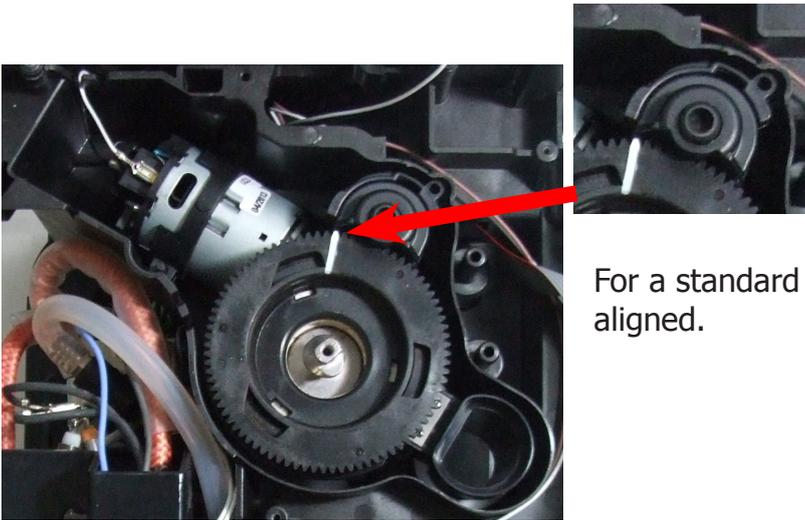
For a standard adjustment, both markings must be aligned.

7.4.   Coffee grinder adjustment
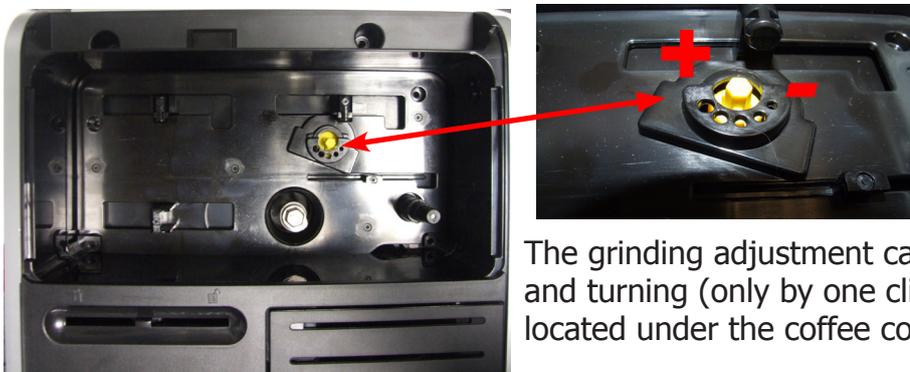
The grinding adjustment can be set by the user by pressing and turning (only by one click at a time) the insert that is located under the coffee container.

Adjustment by a service center

To adjust grinding further, the tecnical service can work directly on the coffee grinder by pressing and turning the ring nut (C) shown. (clockwise + to increase the particle size of the coffee and anticlockwise - to decrease it).

If there are any remains of coffee powder between the two grinding blades it is recommended to tighten by max. two marks at a time.

Lastly, move the point yellow (A) on the adjustment knob to the center of the adjustment .

7.5. Solenoid valve
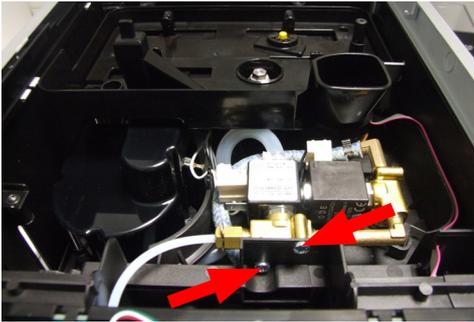
Loosen the screws holding the solenoid valve to the upper plate
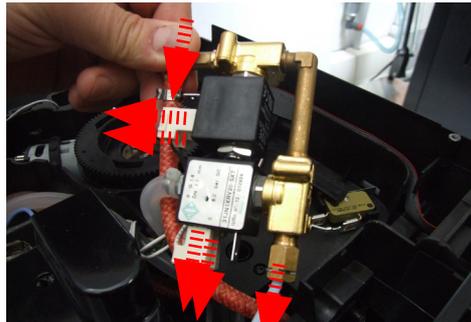
Disconnect all electrical and water circuit connections (Moltio Milk One Touch Carafe)
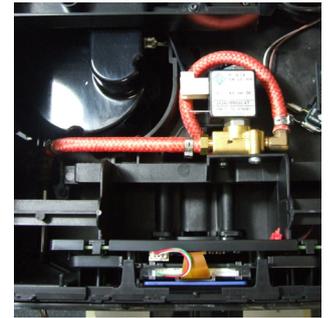
Moltio Automatic and Classic

7.6. Pin boiler
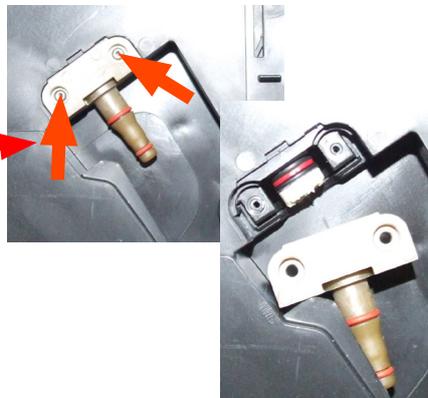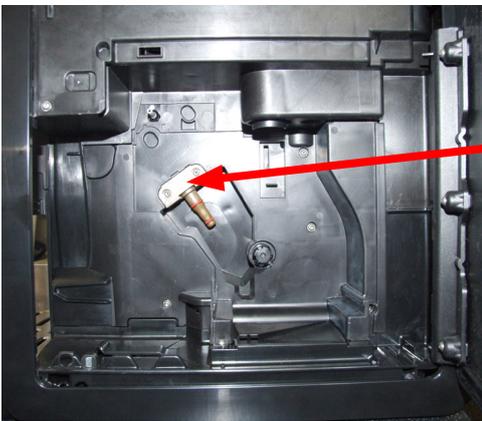
Loosen the screws as illustrated and remove the boiler pin

7.7. Steam pipe

Loosen the screw.
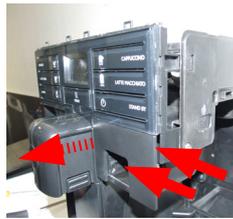
Loosen the screws and remove the cover evidenced. (Moltio One Touch Milk Carafe)

Disconnect the electrical connections. Press to right and left and lift the assembly KYB.
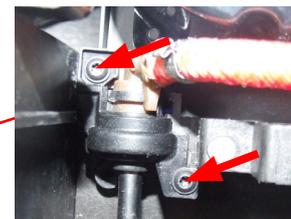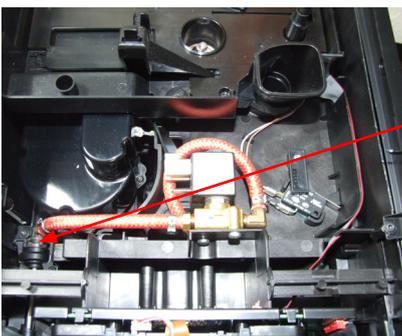
Loosen the screws

Disconnect the water circuit connection

7.8.   Dispenser

Loosen the screws and remove the cover evidenced. (Moltio One Touch Milk Carafe)

Disconnect the electrical connections.
Press to right and left and lift the assembly KYB.
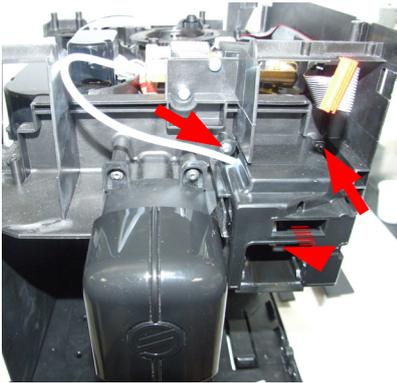
Loosen the screws and remove the assembly graft milk carafe (Moltio One Touch Milk Carafe)

Loosen the screws and remove the assembly dispenser coffee proceeding as in the picture
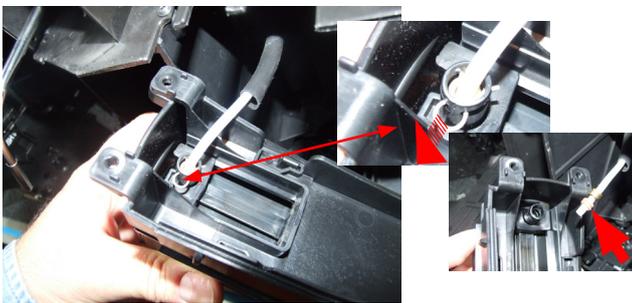
Slide out the fork as illustrated

Unhook the dispenser cover

Moltio Milk One Touch Carafe - remove the assembly graft milk carafe
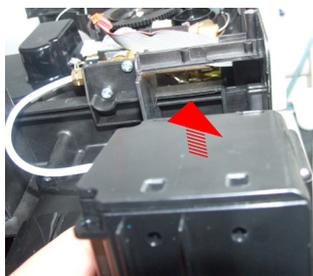

Loosen the screws   Remove the cover, loosen the screws and support teflon tube
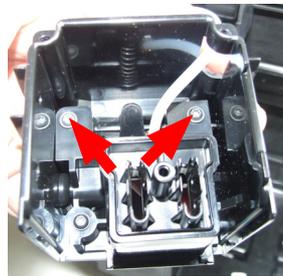
7.9. Gear motor
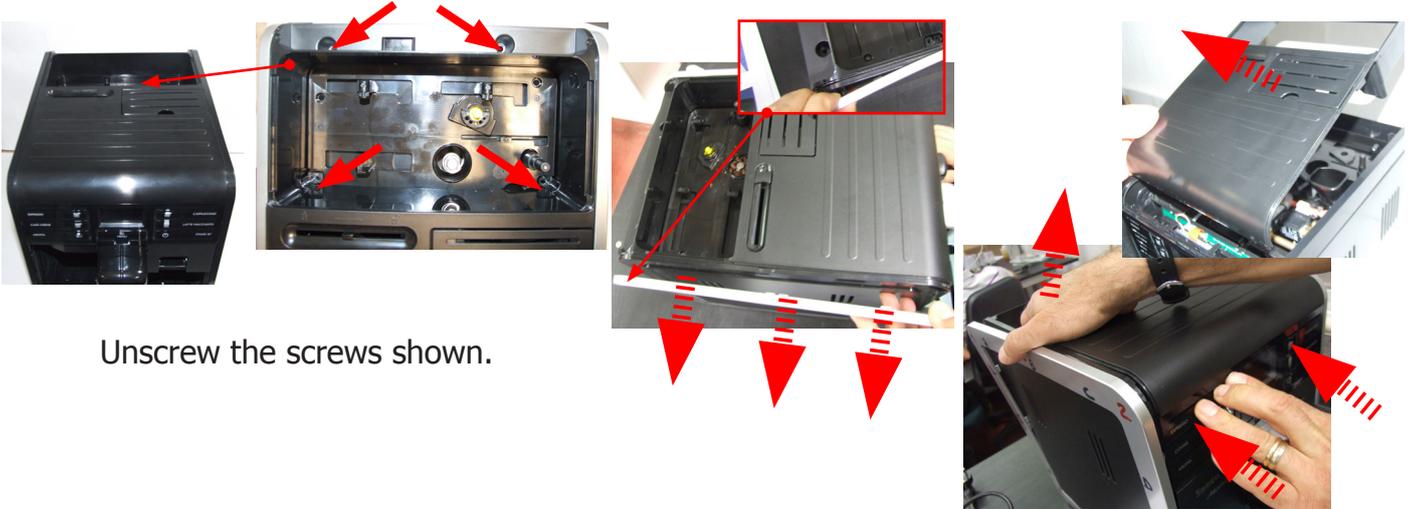
Unscrew the screws shown.

Unhook the highlighted frame and press and lift the top cover.

Lateral panels

Unscrew the screws shown.

Left   **Right**

Unscrew the screw shown and remove the lateral panels

Loosen the screws and remove the cover evidenced. (Moltio One Touch Milk Carafe)

Disconnect the electrical connections.
Press to right and left and lift the assembly KYB.
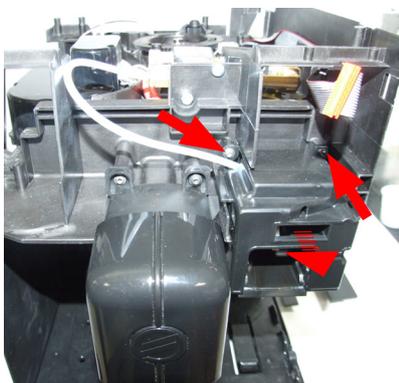
Loosen the screws and remove the assembly graft milk carafe (Moltio One Touch Milk Carafe)

Loosen the screws and remove the assembly dispenser coffee proceeding as in the picture
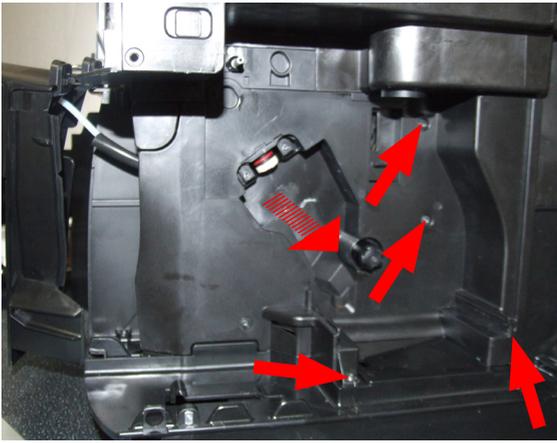
Loosen the screws as illustrated and remove the gear motor cover.
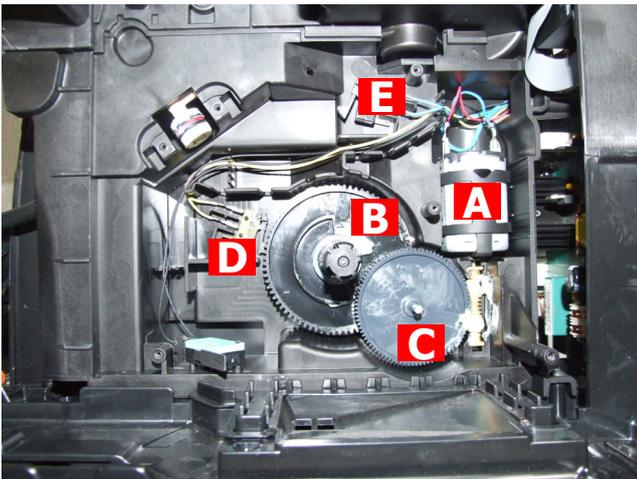
The following are located inside the compartment protected by the casing:
- Electric motor (A) with gears (B) and (C) for transmission and timing of the dispenser.
- Brewing unit present microswitch (E).
- Microswitch (D) detecting brewing unit home and work positions.
- Remove the gear (C) that meshes with the motor transmission shaft.
- Remove the large gear (B).
- Remove the motor (A), complete with transmission shaft.
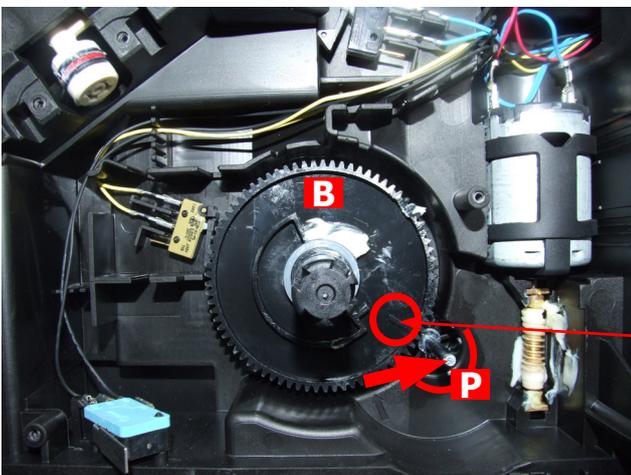
Replace the gear (B), making sure that the imprint of the arrow is aligned with the opening containing the pin (P).
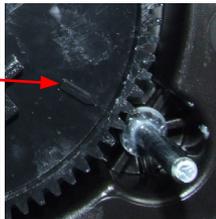
When replacing the motor and the transmission shaft, make sure the guide runners (L) are in the right position.
Grease the shaft thoroughly and evenly.

7.10. Pump
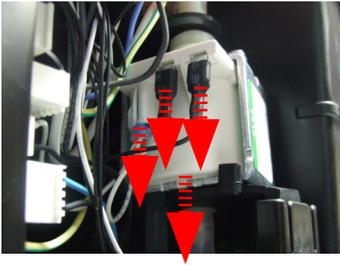
Disconnect the water circuit, electrical and remove the pump from the bottom support

Unscrew the pump from the safety valve and slip off the pump off the upper support

7.11. Flow-meter
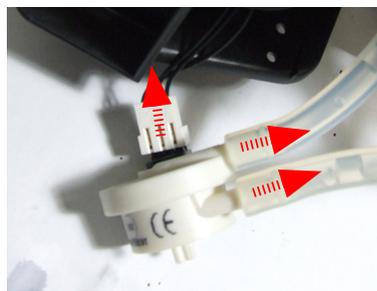
Lift the flow meter out of the casing assembly and remove the electrical and water circuit connections.

7.12. Boiler
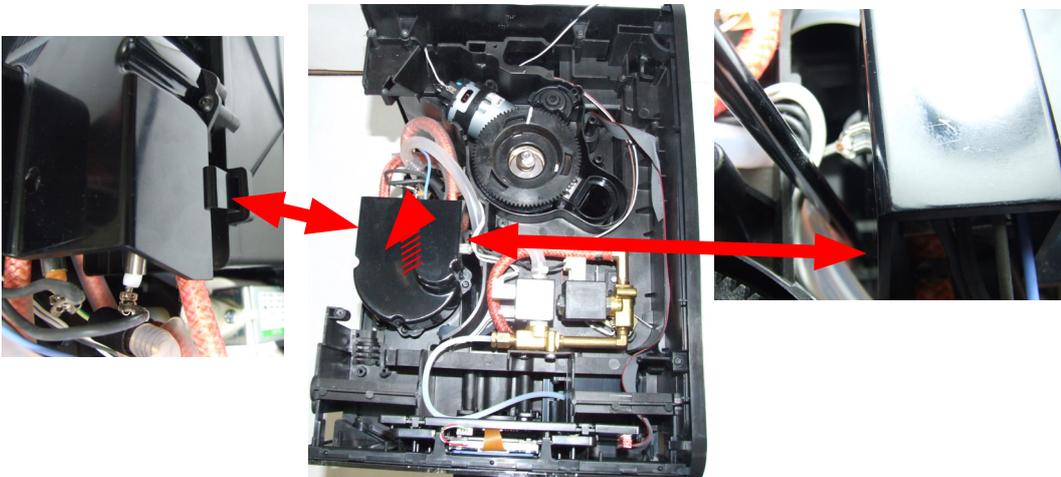
Remove the cover of the boiler by pressing the two sides with the help of a screwdriver
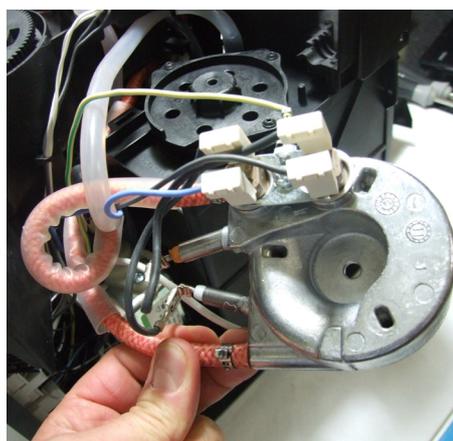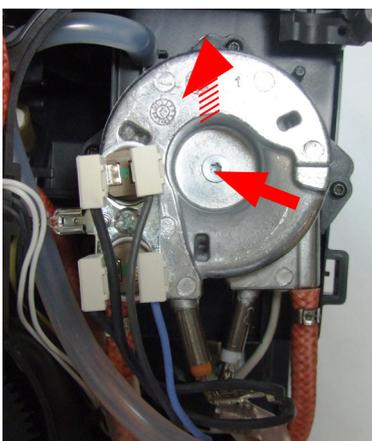
Unscrew the screw shown and remove the electrical and water circuit connections.

7.13. Flow selector faucet
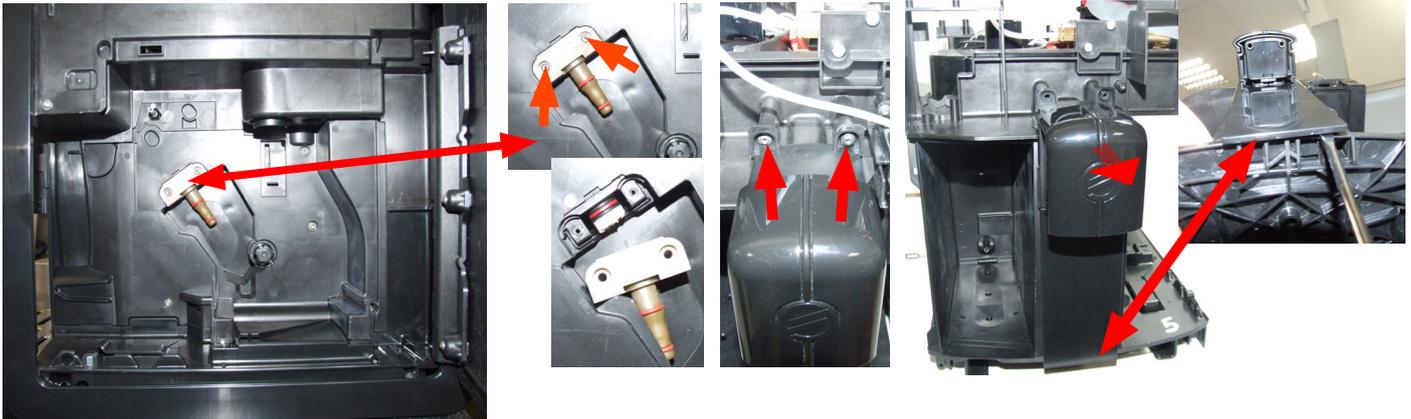
Loosen the screws as illustrated and remove the boiler pin

Loosen the screws and remove the assembly dispenser coffee proceeding as in the picture
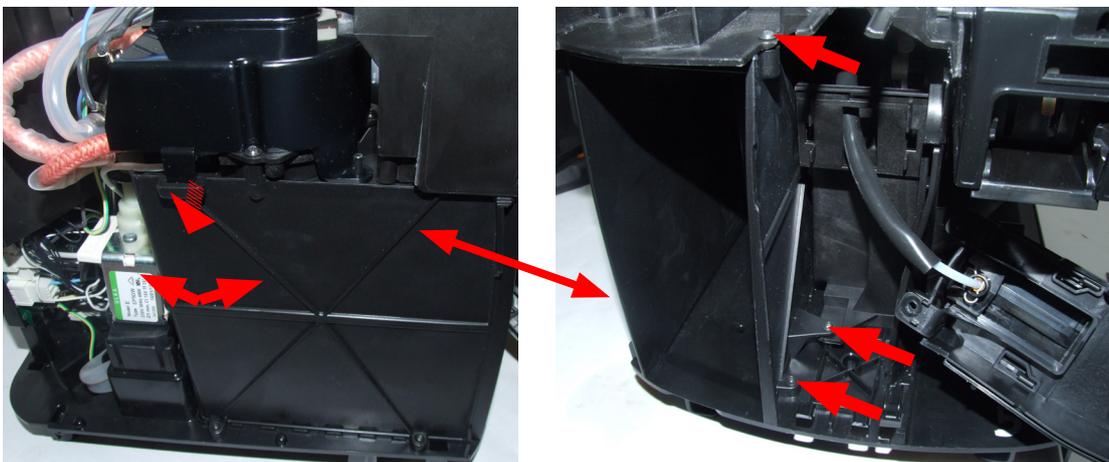
Loosen the screws as illustrated and release the insert in the bottom of the body to obtain easy access for valve disassembly
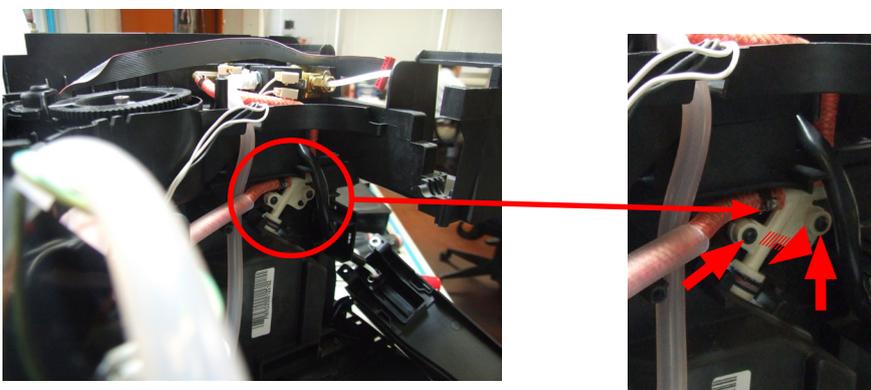

Loosen the screws as illustrated, remove the hydraulic connections and take out the valve

7.14. CPU board
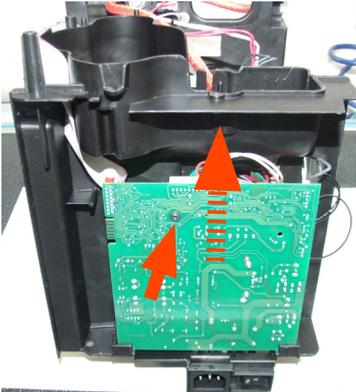
Loosen the screws slide the card off the support and disconnect the electrical connections.

7.15. Programming access for SSC (Saeco Service Center)
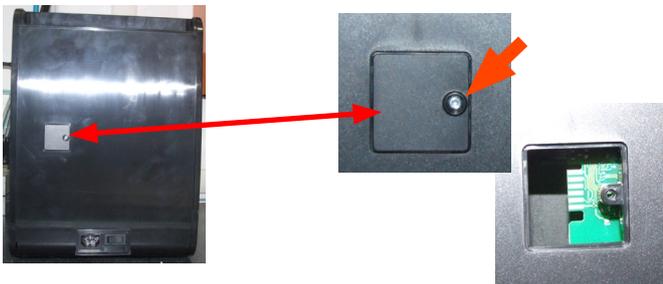
Loosen the screw for remove the cover.

7.16. KYB interface and display

Loosen the screw.
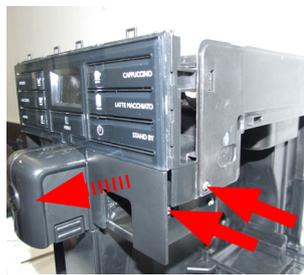
Loosen the screws and remove the cover evidenced. (Moltio One Touch Milk Carafe)

Disconnect the electrical connections. Press to right and left and lift the assembly KYB.


Remuve the covers and loosen the screws evidenced.
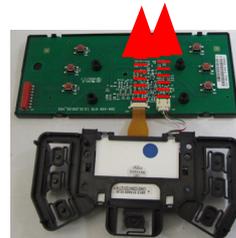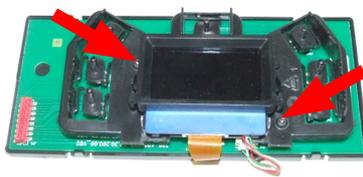
Disconnect the electrical connections evidenced.

7.17. Fitting and removing Oetiker clamps
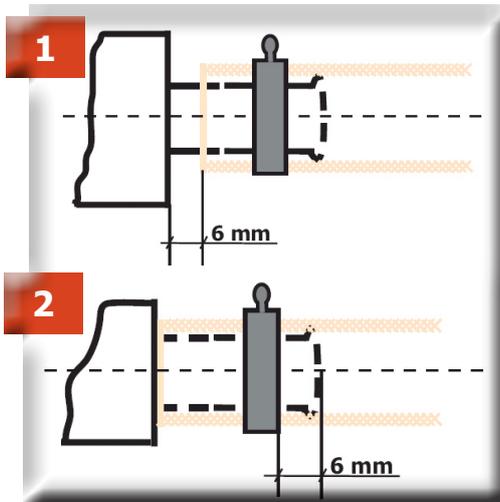
1) Boiler connection.

2) Other connections.

Use a suitable pair of pliers to remove the clamp (as illustrated).

Tighten the clamp as illustrated.

CHAPTER 8

NOTES

CHAPTER 9

WATER CIRCUIT DIAGRAM

Moltio Automatic and Classic

Silicone tube
Tubo silicone

4 bar Valve
Valvola 4 bar

Boiler pin
Perno caldaia

Brew unit
Gruppo caffè

Silicone tube
Tubo silicone

2 way Solenoid valve
Elettrovalvola a due vie

Silicone tube
Tubo silicone

Boiler
Caldaia

Water drain
Scarico acqua

Steam pipe
Tubo vapore

Silicone tube
Tubo silicone

Silicone tube
Tubo silicone

Flow meter
Turbina

Silicone tube
Tubo silicone

Silicone tube
Tubo silicone

Water tank
Serbatoio
acqua

Pump
Pompa

Safety valve
Valvola di sicurezza

Moltio One Touch Milk Carafe

Silicone tube
Tubo silicone

Boiler pin
Perno caldaia

Brew unit
Gruppo caffè

Silicone tube
Tubo silicone

Silicone tube
Tubo silicone

Silicone tube
Tubo silicone

Water drain
Scarico acqua

Assy Solenoid valve
Assieme Elettrovalvole

Silicone tube
Tubo silicone

Boiler
Caldaia

Water drain
Scarico acqua

Silicone tube
Tubo silicone

Silicone tube
Tubo silicone

Connessione
Caraffa

Flow meter
Turbina

Water drain
Scarico acqua

Silicone tube
Tubo silicone

Silicone tube
Tubo silicone

Silicone tube
Tubo silicone

Pump
Pompa

Safety valve
Valvola di sicurezza

Water tank
Serbatoio acqua

CHAPTER 10

ELECTRICAL DIAGRAM

Moltio One Touch Milk Carafe, Automatic and Classic