Service
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DELUXE PRESTIGE STYLE

ServiceManual

Rev. 00 September 2017

TYPE	12NC	OLD MACHINE CODE	DESCRIPTION
RI8523/01	886852301010		GAG CAREZZA STY IK 230/WE
RI8525/01	886852501010	10004204	GAG CAREZZA DLX INK 230/SCH WE
RI8525/08	886852508150	10004265	GAG CAREZZA DLX INK 240/UK
RI8525/47	886852547540		GAG CAREZZA DLX IK 120 US
RI8527/01	886852701010	10004202	GAG CAREZZA PRE SS 230/SCH WE

Published by Philips Subject to modification EN 421940000043
2017-SEPTEMBER-18

GAGGIA

GAGGIA CAREZZA

Technical specification	
Power supply and output:	230 V ~ 50 Hz 1900 W - 120V ~ 50 Hz 1300W
Power consumption:	During the heading phase of 8,2A, during the brewing phase 8,5A
Boiler: Stainless steel	230 V ~ 1900 W or 120V ~ 1300W for coffee, hot water and steam dispensing
Safety system:	2 thermostats at 190°C one shot
Temperature monitoring:	(NTC) variable resistor sensor - transmits the value to the electronic card
Pump:	Ulka Type EP5/S GW approx. 13-15 bar with reciprocating piston and thermal switch 100°C 48 W, 230V, 50 Hz or 120V 50 Hz
Overpressure valve:	Opening at approx. 16-18 bar
Size (w x h x d)	210mm x 300mm x 280 mm
Weight	5 kg - 5.8 Kg (data may vary depending on the model)
Power Cord length	80-120 cm
Water tank	1.25 litres - Removable type
Pump pressure	15 bar
Boiler	Stainless steel type
Safety devices	Thermal fuse
Nominal voltage - Power rating – Power supply	Data stored on the below label placed inside the service door

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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)
-	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

1.2. Maintenance Products

12NC Code	Material	Description
-	Thermal paste	Heat resistance > 200°C
996530067222	Descaler	"ACC SAE DECALCIFIER 5 L 1 UNIT"
132253695601	Jar of Grease	"PARALIQ GB 363"
996530045784	Silicone grease	"ACC TUBE FIN FOOD GREASE 2 400 ML"

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.

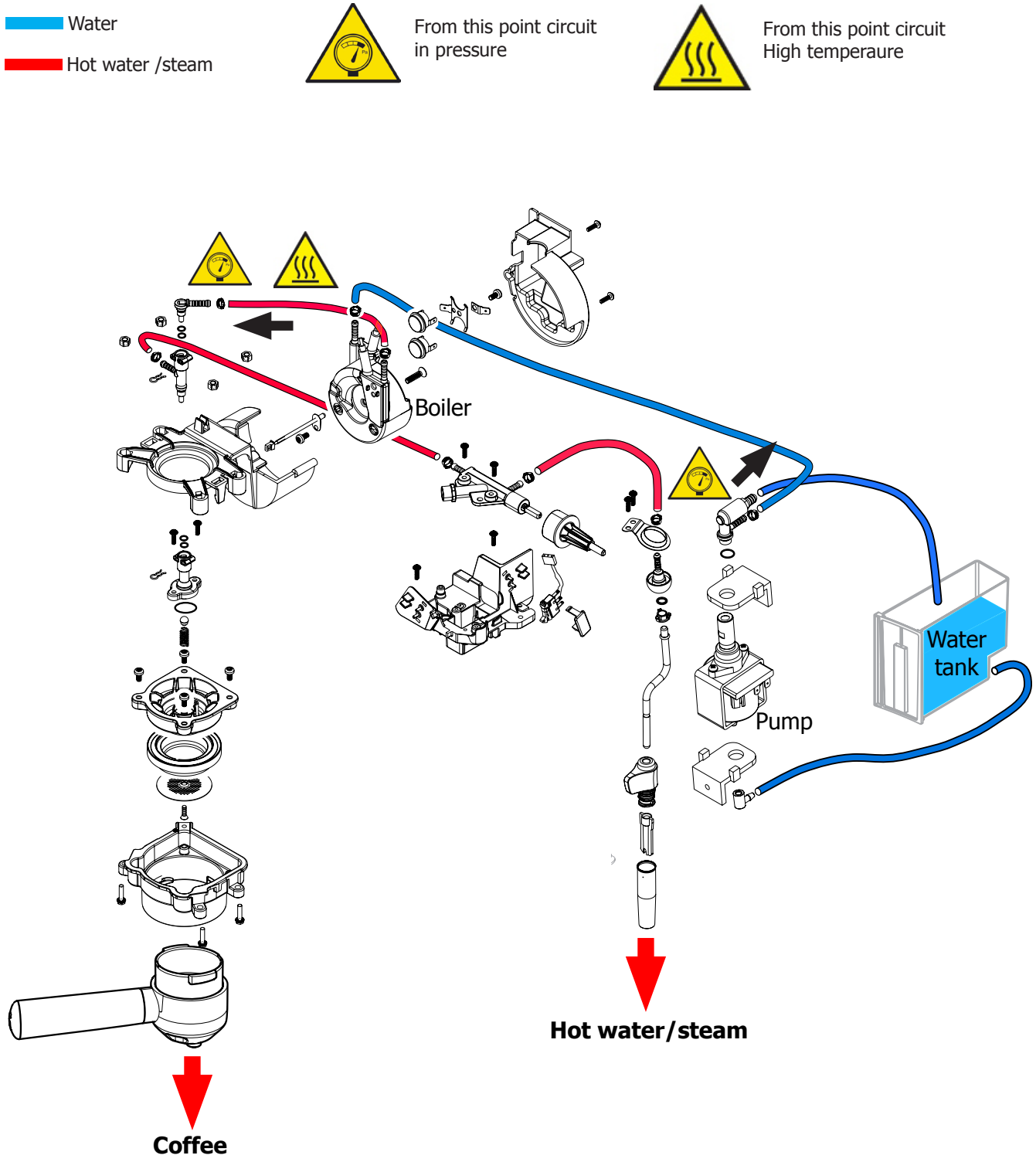
The technicians to operate under safety conditions, needs to:
1. Use personal safety devices;
2. Disconnect the appliance from the power mains before repairing;
3. Before and after repair, it is recommended to perform dielectric strength tests (This domestic appliance is rated as insulation class 1).

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 16/18 bar.

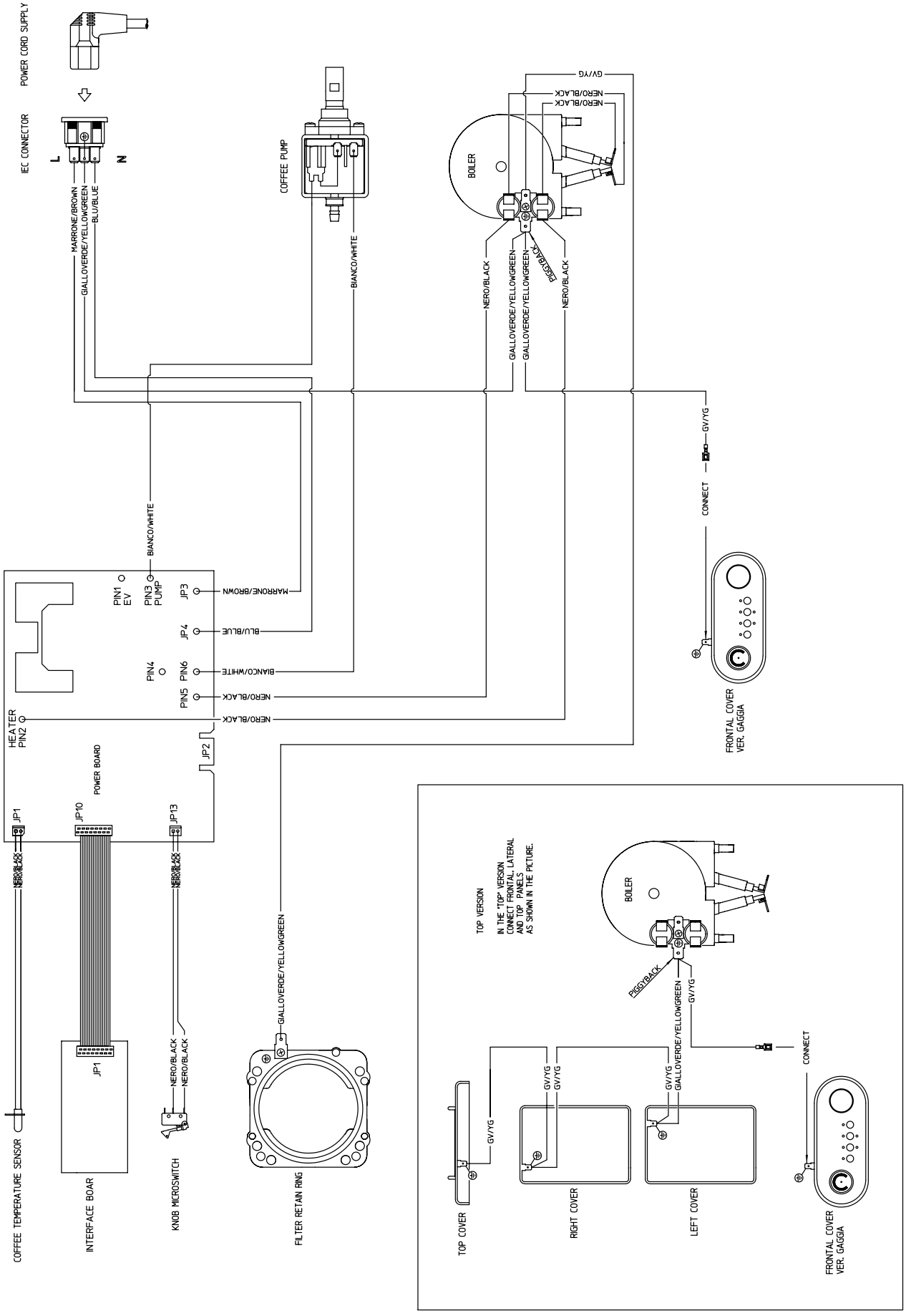
When the machine arrives at the Service Center in descaling mode interrupted, or making Descaling , take EXTREME CARE to avoid any unintentional contacts with the descaler.

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



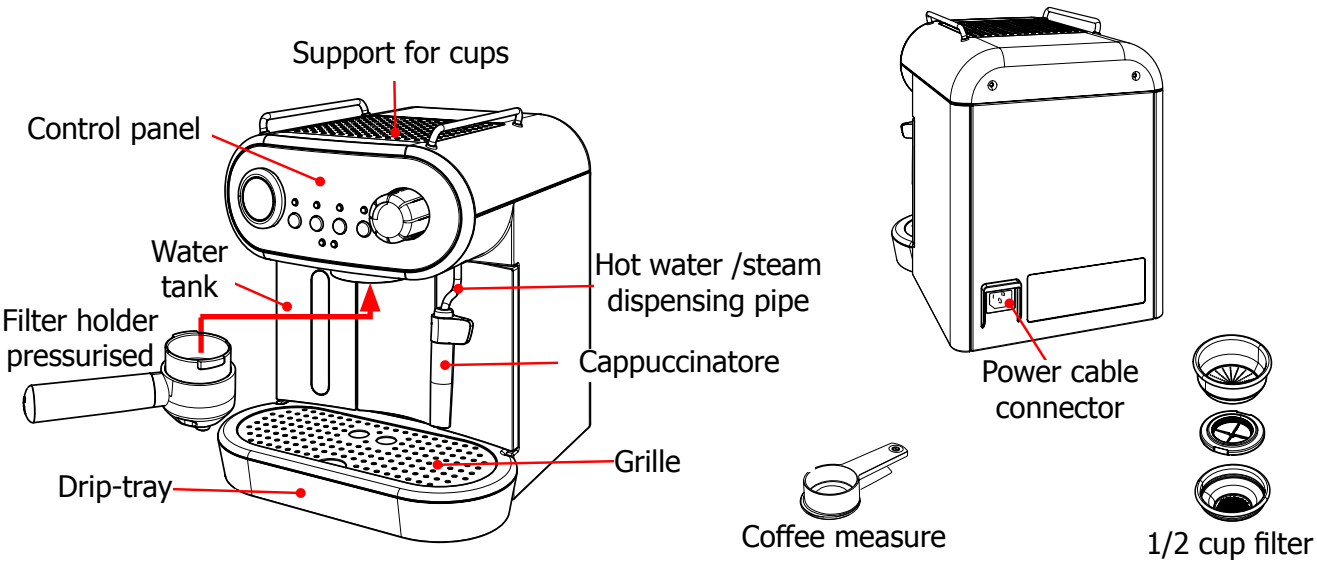
1.5. Electrical diagram



1.6. Service POLICY grid as used for coffee machine

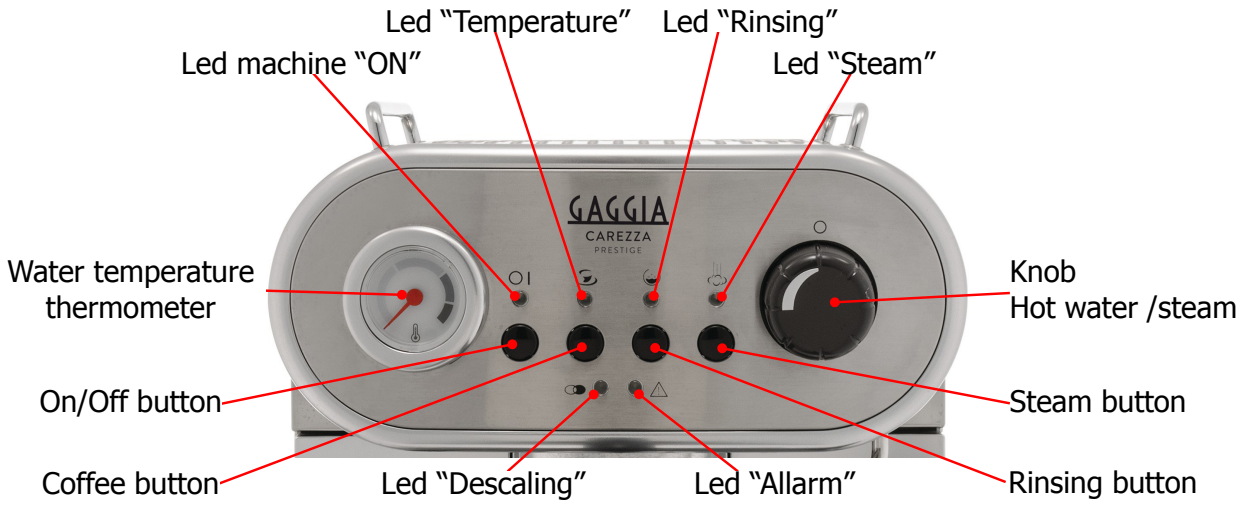
During the repair is always recommended to use, if possible, single parts rather than the correspondent assembly.

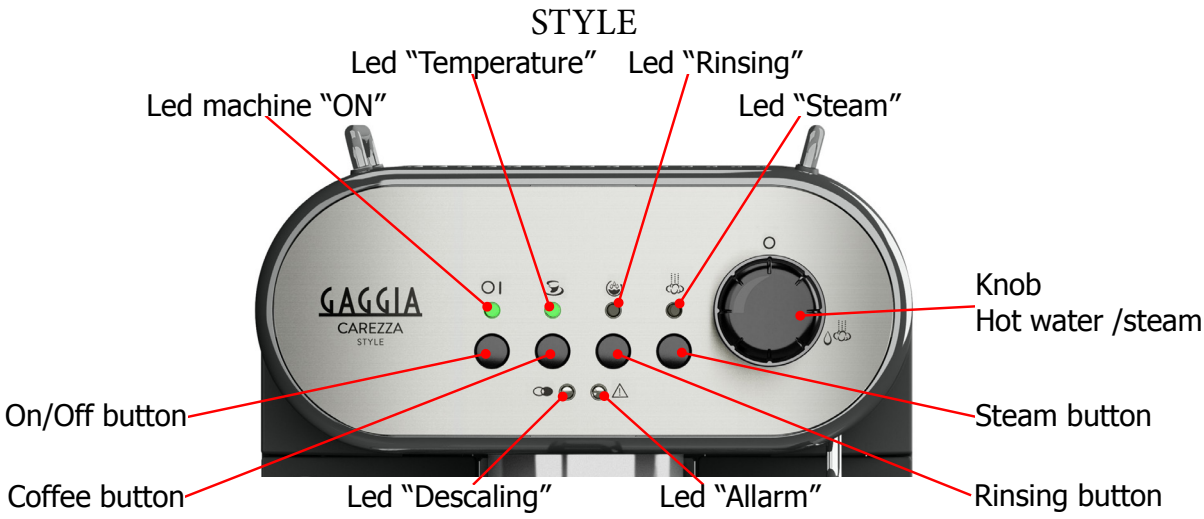
1.7. External machine parts



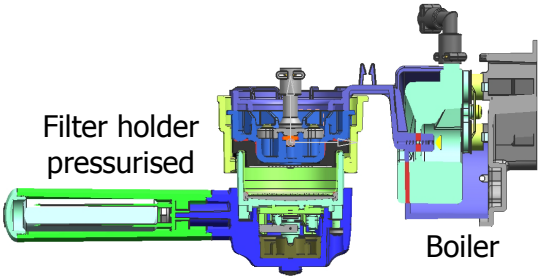
Control Panel

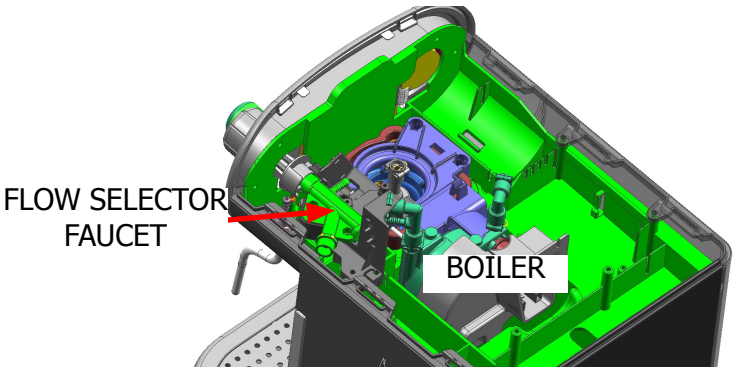
DELUXE-PRESTIGE





1.8. Internal machine parts





CHAPTER 2

TECHNICAL SPECIFICATIONS

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

The below procedure is also contained in the Symptom Cure 97832.

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;

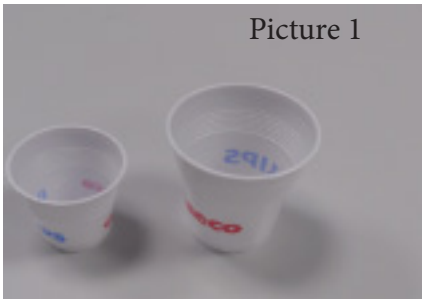
4. Test measurement: from end of dispensing to the end of rotations must be completed within 12 seconds.

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

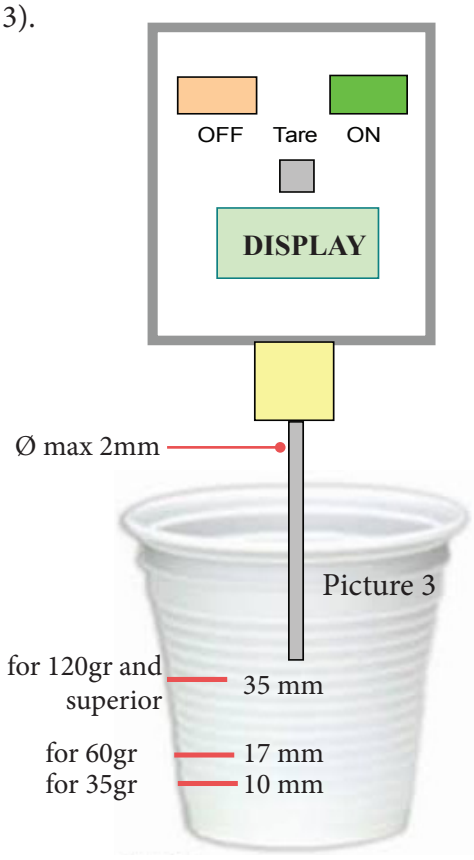
Limits of acceptability
The acceptance limits are divided by features and products and are the following:

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


Picture 1


Picture 2



Picture 3

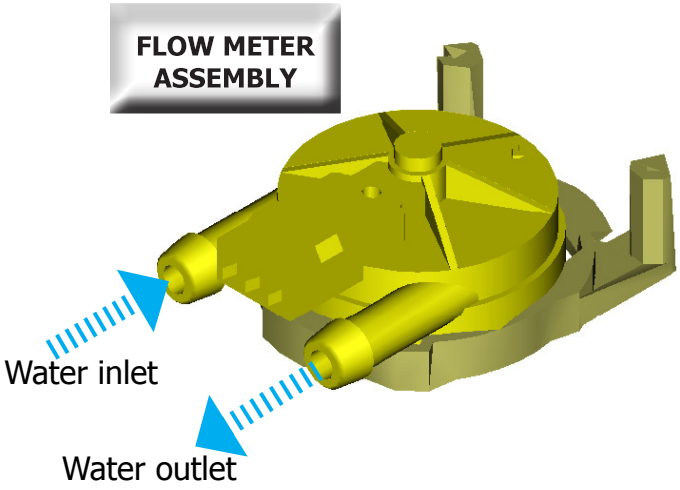
2.2. Descaling frequency

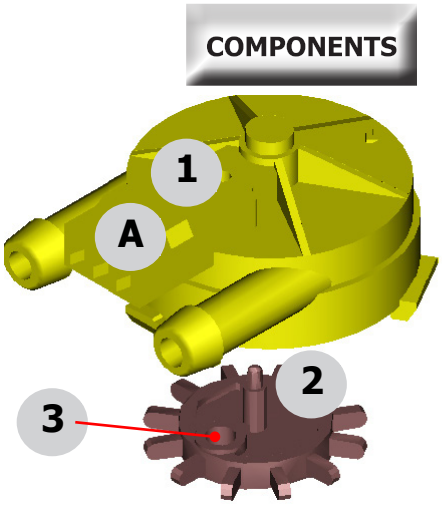
Descaling frequency			
Hardness	**Water hardness**	**Without anti-scale filter**	**With anti-scale filter**
1	Soft (up to 7°dH)	240 litres (480,000 pulses)	480 litres (960,000 pulses)
2	Medium (7° - 14°dH)	120 litres (240,000 pulses)	240 litres (480,000 pulses)
3	Hard (15° - 21°dH)	60 litres (120,000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

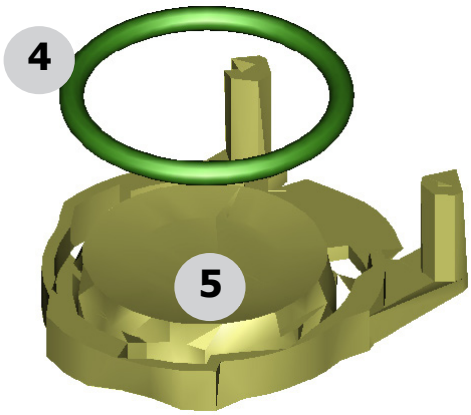
CHAPTER 3

OPERATING LOGIC

3.1. Flow meter.



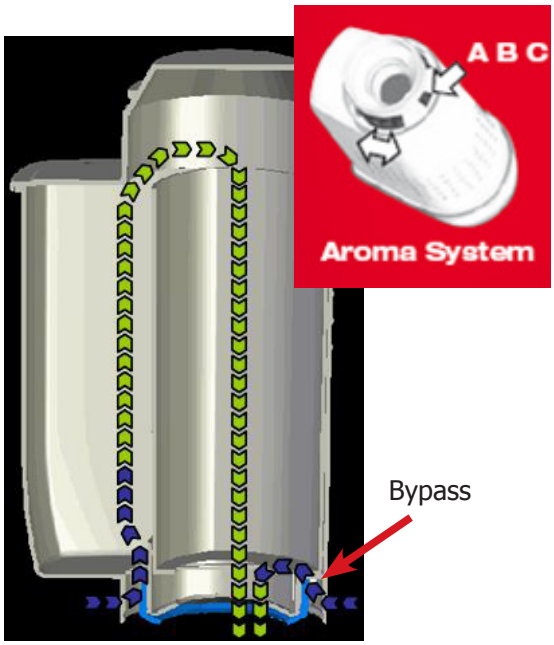




1) upper body
2) flow meter
3) magnet
4) O-ring seal
5) lower body
A) Board

The water enters, hits against the blades of the flow meter, causing it to turn.
The magnet passes beneath the board and transmits the number of revs to it, which in turn transmits it to the main board

3.2. Anti-scale fileter.



Anti-scale filter

Function:
- Reduced limescale deposits that take longer to form.
- Improved water quality.
- Better taste due to ideal water hardness

Descaling duration / efficiency:
- - 10° dH
- 60 litres
- 2 months

To obtain a linear characteristic of its effectiveness, throughout the duration of the descaling process, the water is split according to the degree of hardness in a three-phase by-pass (A, B and C).
See small picture.

CHAPTER 4

TEST MODE

4.1. Test Mode.

ENTER IN TEST MODE:
The entering in Test mode is possible only disconnecting the machine from the main plug, opening the steam knob and pressing the coffee button and the rinsing button at the same time, connecting the machine to the main plug and keep pressed the buttons for 3 seconds.
After 3 seconds the Led Alarm and Led Descale turn on and the thermometer (only Gaggia version)will move to reache the zero to confirm the entering in TEST MODE.

TEST MODE:
At this point at every button presion will be associate the turning on of one Led and the turning on of a load for 3 seconds. In this mode it is possible to do the machine steam out.

- ON/OFF button turn on Heater and Led ON for 3 seconds (only in Gaggia machine).
- Coffee button turn on Led coffee and move the Motor for 3 seconds.
- Rinsing button turn on Led Rinsing and Pump. Pressing again the Rinsing button the pump will turn off.
- Steam button turn on the Led Steam.

STEAM OUT:
- Push contemporarily ON/OFF button and STEAM button will turn on Led ON and the Led Steam.
- Keep the button pressed for 3 seconds.at the end of this time the 2 led will turn off and Led Steam starts blinking indicating that the heater is going in steam temperature.
- During the warming up some water will flows out from the steam tube.
- When the heater reach the steam temperature no more power is given to the heater.
  The Led Steam stop blinking and stays on for 5 seconds to guarantee that the heater is empty of water.
- At the end of the 5 seconds the Led Steam turn off to allow the user to test the next machine.
- At the end of this action the machine is empty and at the first power on, the circuit recharge is needed.

EXIT FROM TEST MODE:
From the test mode is possible to exit only disconnecting the machine from the main plug.

4.2. Causes and solution.

FAULT	POSSIBLE CAUSES	SOLUTION
The machine does not switch on	No power supply	Check the electrical circuit
The machine does not warm up	The thermostats have intervened	Replace the thermostats (if of the One shot type) If they are manual, reset them If they are automatic, they are reset automatically
	The power supply does not reach the boiler	Check the electrical connections
The pump is very noisy	There is no water in the tank The pump has disengaged from the supports The silicone pipe that carries the water from the tank to the pump is pinched or blocked	Fill the tank Insert the pump into the supports once again Check the water circuit
The coffee is too cold	The filter holder is not inserted for the pre-heating process The cups are cold	Run hot water through the filter holder Pre-heat the cups with hot water
The milk does not froth	The milk is not suitable (powdered or skimmed milk) Dirty nozzle or Cappuccino maker	Use whole milk Carefully clean the nozzle or the cappuccino maker with water
The coffee flows too quickly and does not form the cream	Little coffee in the filter holder Grinding level too coarse There is a missing component in the filter holder	Increase the quantity Use a different mixture Verify that all the components are in place and installed correctly
The coffee does not flow or it flows in drops	Grinding level too fine The coffee is pressed too much in the filter holder Too much coffee in the filter holder Blocked water channels Blocked filter in the filter holder	Use a different mixture Agitate the coffee Reduce the amount of coffee Descale the machine Carefully clean the filter
The coffee does not flow from the edges	The filter holder has been inserted incorrectly into the coffee dispensing unit The upper border of the filter holder is dirty The seal of the boiler is dirty or worn Too much coffee in the filter holder	Insert the filter holder correctly Clean the edges of the filter holder Clean or replace the seal Reduce the amount of coffee

P.S.: Refill the water circuit when the machine is first used as well as when the water in the tank finishes.

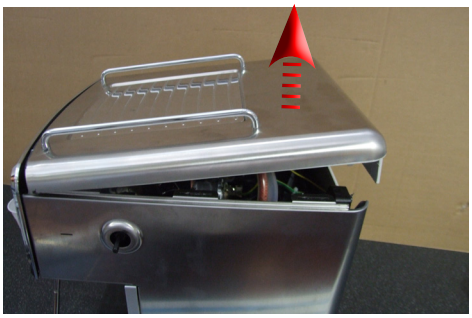
CHAPTER 5

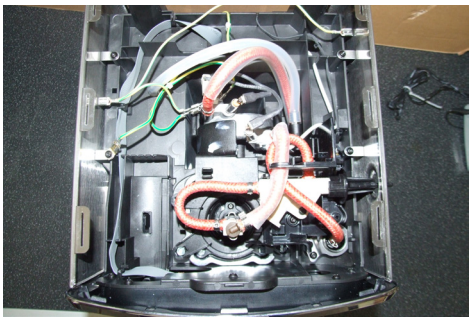
DISASSEMBLY

5.1. Outer Shell

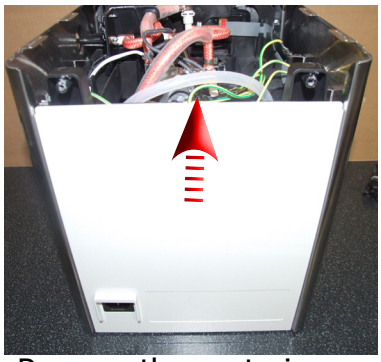
Remove the water tank, the water drip tray, the grille, the steam knob and pannarello.

Upper cover





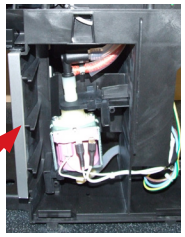
Loosen the screws as shown on the rear part of the machine and lift the cover



Remove the posterior cover lifting it upwards

LEFT and RIGHT side covers

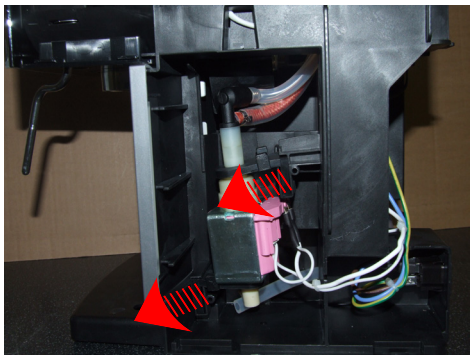
Loosen the screws as shown



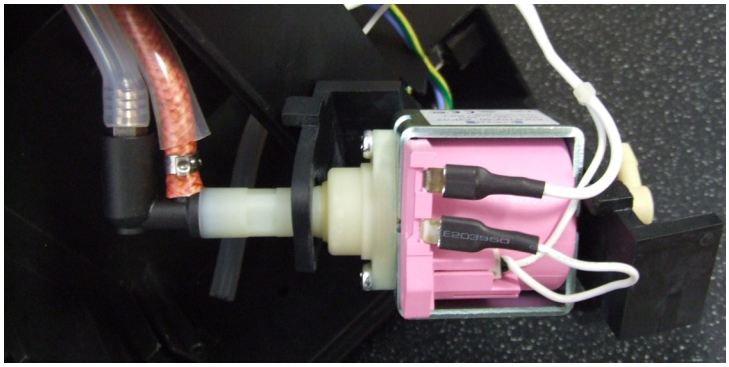
Pump

Remove the covers as in the pictures

5.2. Pump

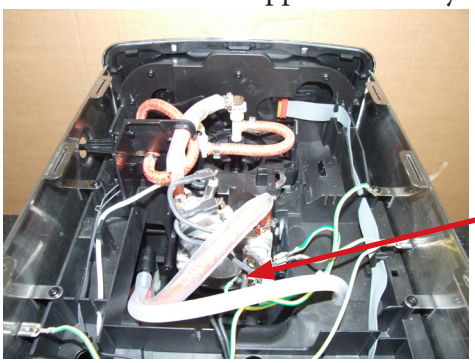


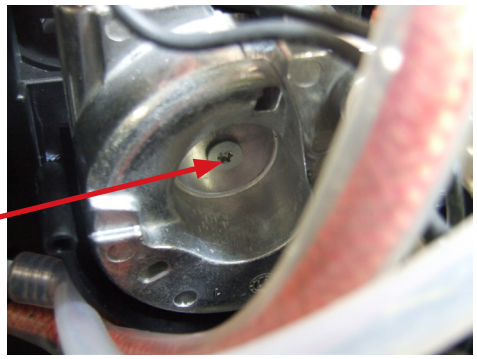
Remove the pump from the supports as the picture



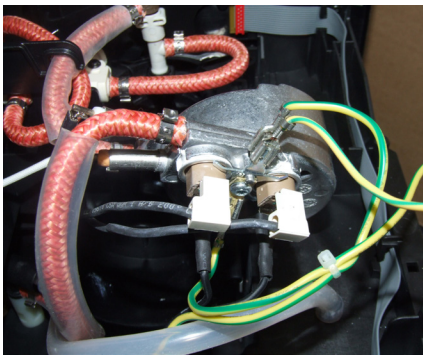
Remove the water and electric connections

5.3. Boiler support assembly



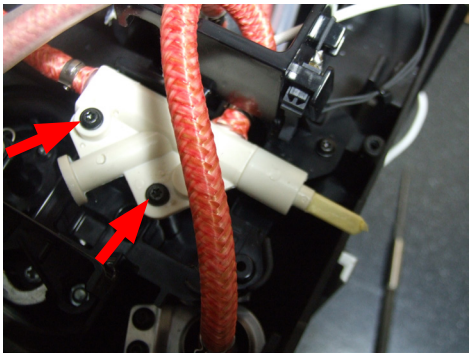


Loosen the screws

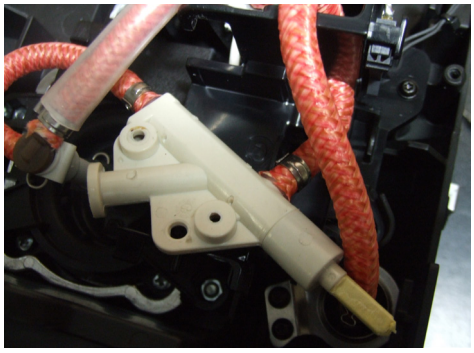


Remove the water and electric connections

5.4. Steam Knob

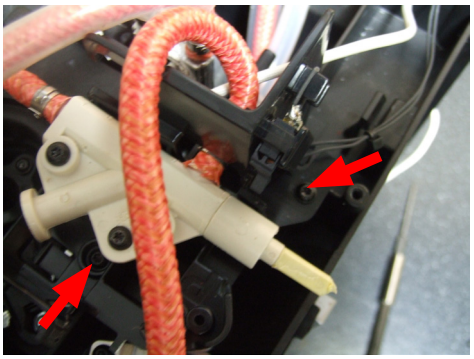


Loosen the screws

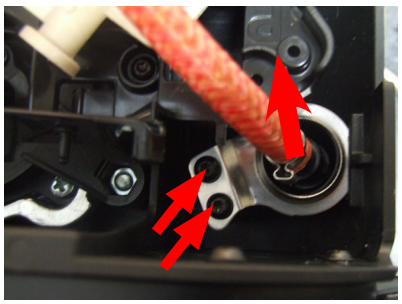


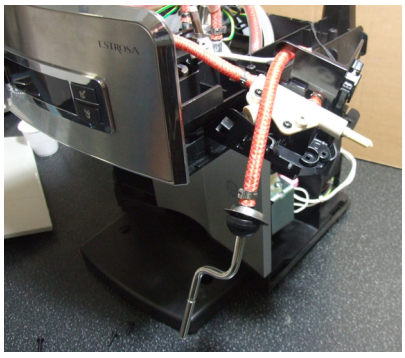
Remove the water connections

5.5. Steam Pipe



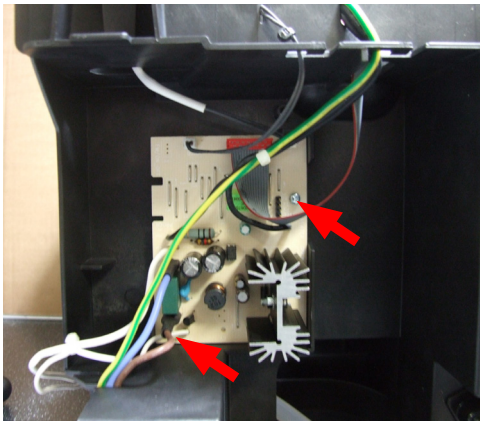
Loosen the screws



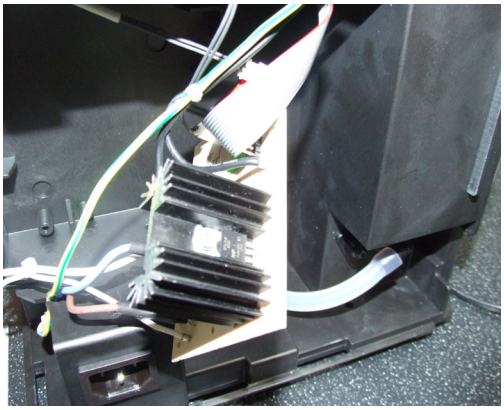


Loosen the screws to remove the steam pipe

5.6. CPU



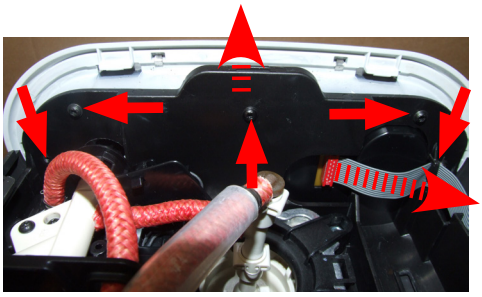
Loosen the screws as shown



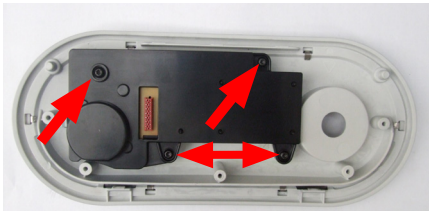
Remove the electric connections

5.7. Keyboard

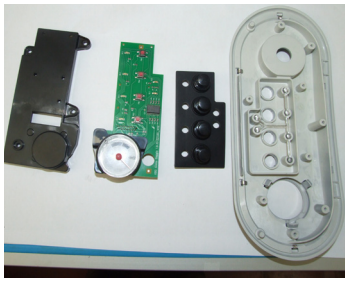
Remove the knob Hot water /steam



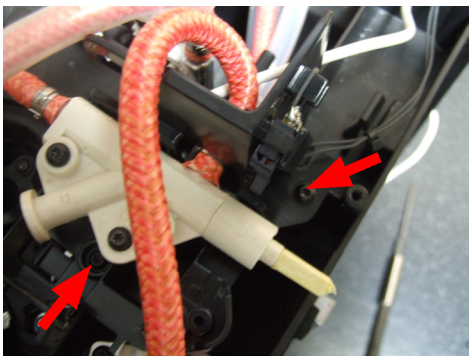
Loosen the screws, the electric connection and remove front panel as shown



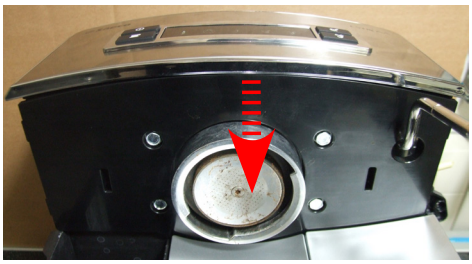
Loosen the screws as shown



5.8. Filterholder locking ring

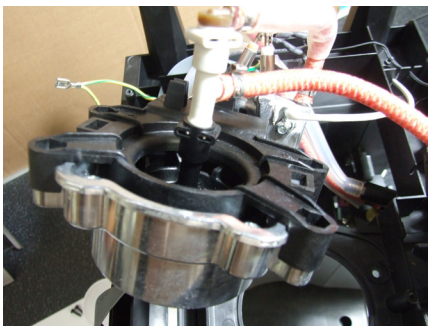


Loosen the screws



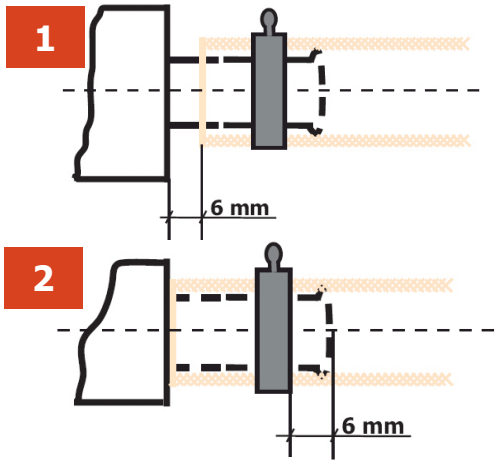
Remove the cover pulling it down

Loosen the bolt



Remove the water connections

5.9. Fitting and removing Oetiker clamps



1) Boiler connection

2) Other connections

Replacing the pipes

1) Use a suitable pair of pliers to remove the clamp (as shown in the picture)

2) Tighten the clamp as shown in the pictures