HLF 1700

ENGLISH

RETAIN FOR FUTURE USE !

These Operating Instructions must be read and applied by anyone performing work with or on the equipment described.

In particular, it is imperative that all such persons familiarise themselves with the safety instructions.

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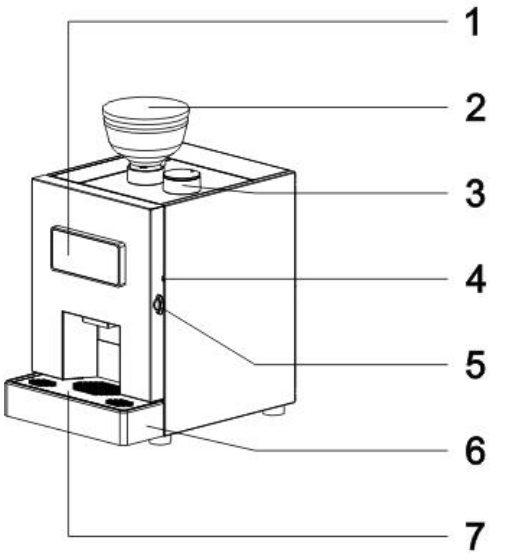
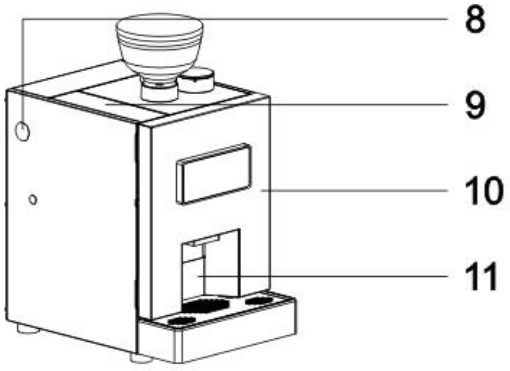
1 User Manual

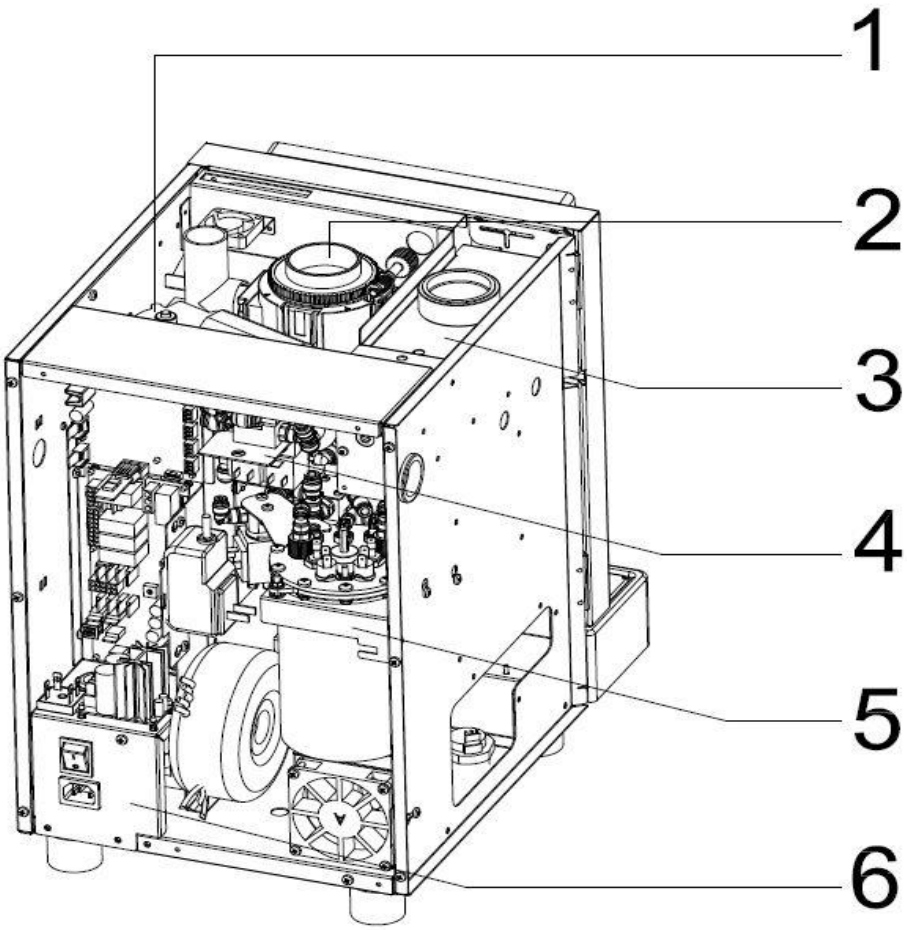
2 Exploded views

2.1 General exploded view



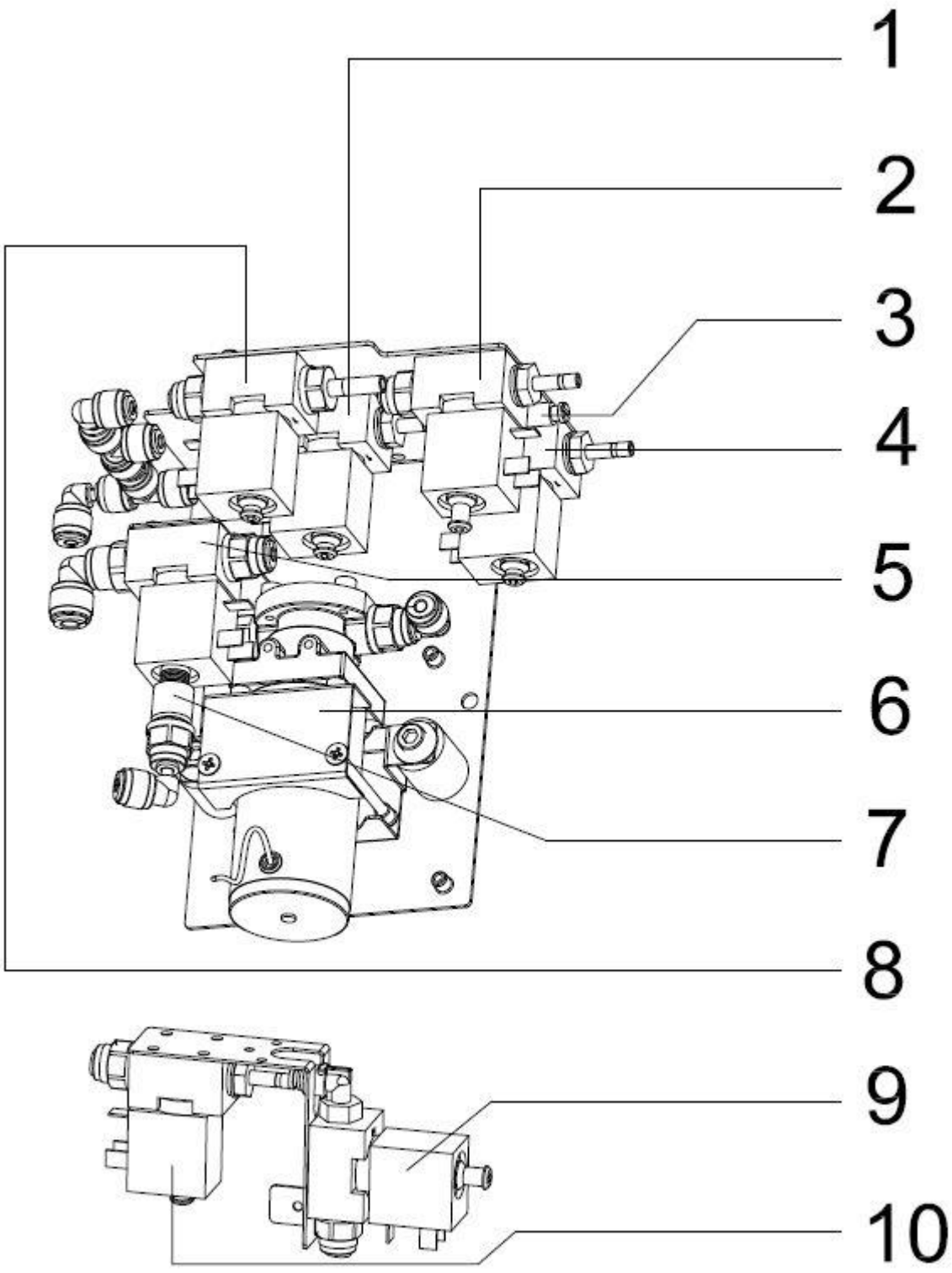


1. Status LED
2. Coffee Bean Hopper
3. Pre-ground coffee chute
4. Milk tube passage hole
5. Key Lock
6. Drip tray
7. Cup holder grid
8. Payment system connection hole
9. Water tank / Soluble top lid
10. Door
11. Cup station



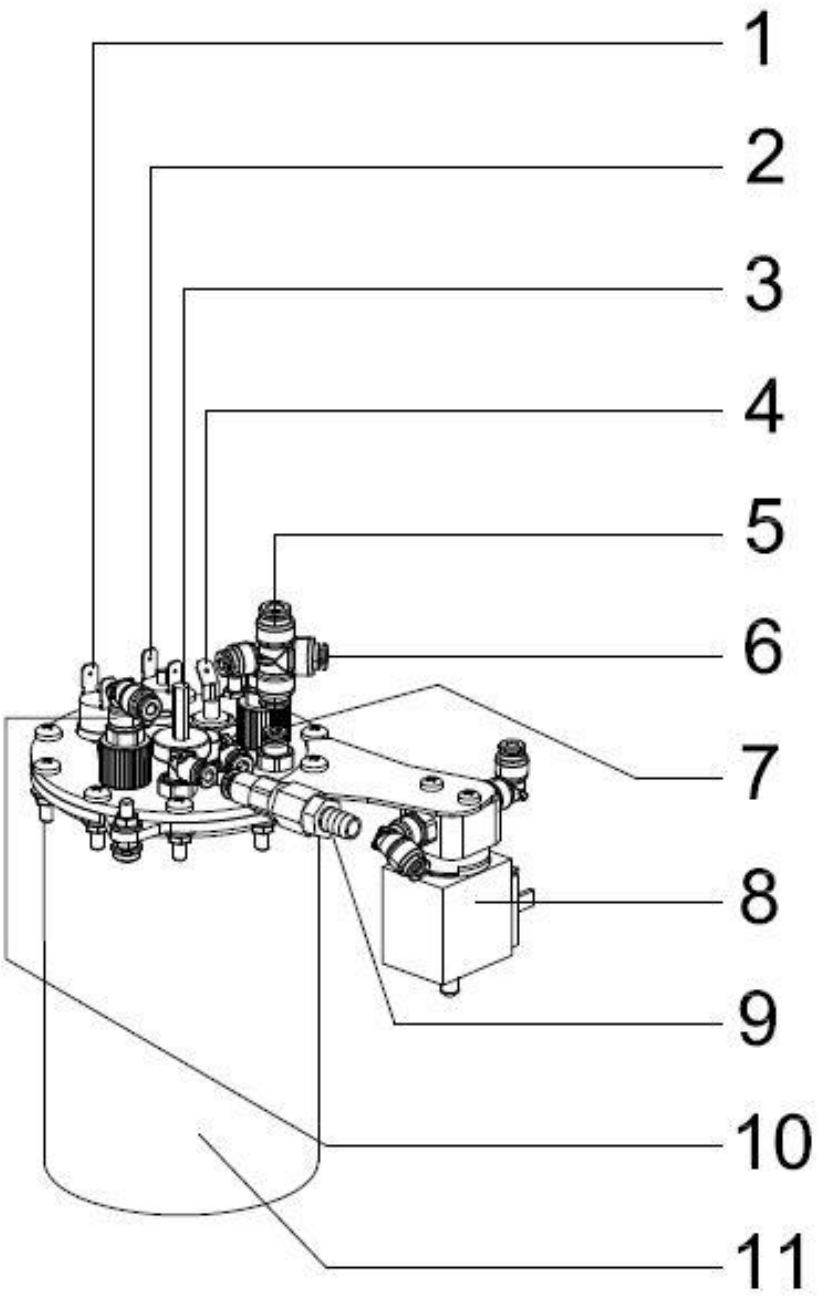
1. Coffee group gearmotor
2. Grinder assembly
3. Detergent Tank / Water tank / Powder canister
4. Output solenoid valves assembly
5. Boiler
6. Power supply assembly

2.2 Fresh milk assembly exploded view



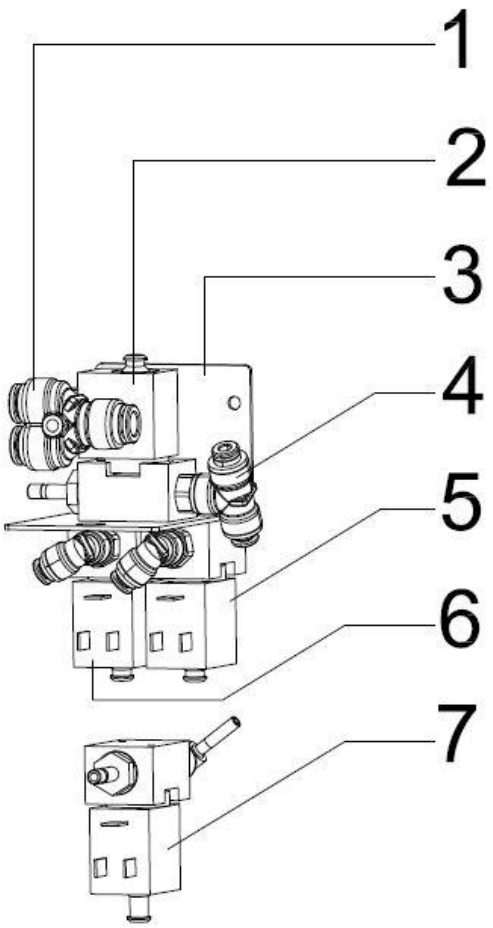
1. Hot milk air valve (2 ways)
2. Hot milk output exchange valve (3 ways)
3. Hot milk air regulator
4. Milk inlet valve (2 ways) – (only if non-Self-Cleaning machine)
5. Water (inlet pipe cleaning) / Hot milk exchange valve (3 ways)
6. Hot milk pump
7. Milk restrictor
8. Milk rinsing valve (2 ways)
9. Milk inlet valve / Detergent inlet valve (3 ways) – (only if Self-Cleaning machine)
10. Milk inlet valve (2 ways) – (only if Self-Cleaning machine)

2.3 Boiler assembly exploded view



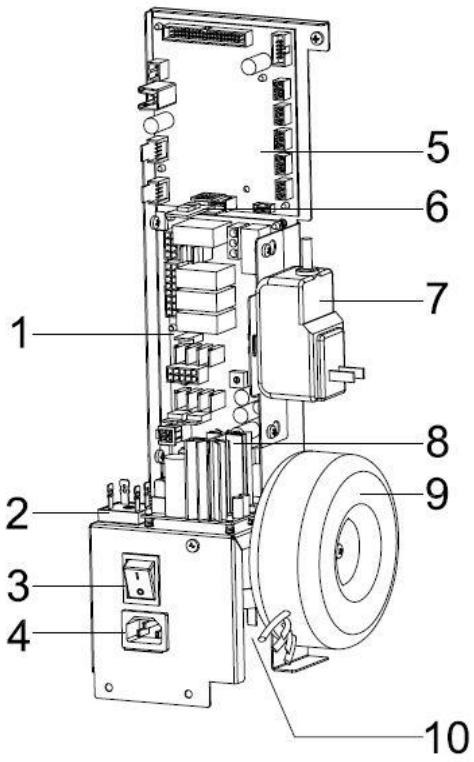
1. Automatic thermostat
2. Manual thermostat
3. Temperature probe
4. Heating element
5. Hot water outlet #1 (Hot water valve / Mixer water valve / Discharge valve)
6. Hot water outlet #2 (Coffee valve)
7. Boiler’s hot water outlet
8. Coffee valve (3 ways)
9. Overpressure valve
10. Milk serpentine
11. Water boiler body

2.4 Output solenoid valves assembly exploded view



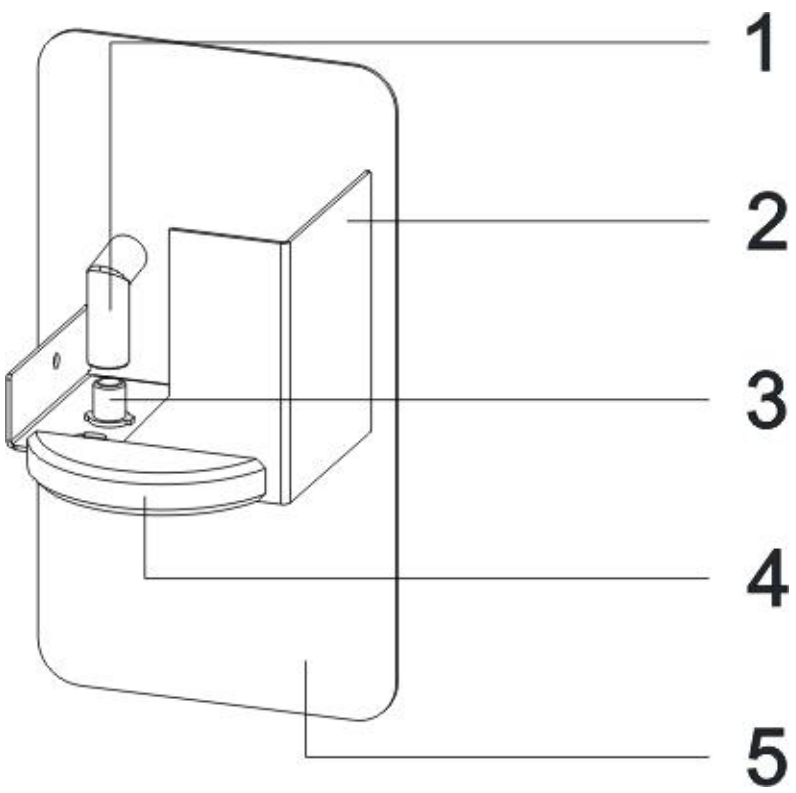
1. Hot water splitter (Y shape quick fitting)
2. Discharging valve (2 ways)
3. Support bracket
4. Discharge valve T shape quick fitting (connects to #5 on par. 2.3)
5. Mixer water valve (2 ways) – Only if machine has the soluble canister
6. Hot water output valve (2 ways)
7. Detergent tank / Clear water valve for milk assembly (3 ways) – Only if Self-Cleaning machine

2.5 Power supply assembly exploded view



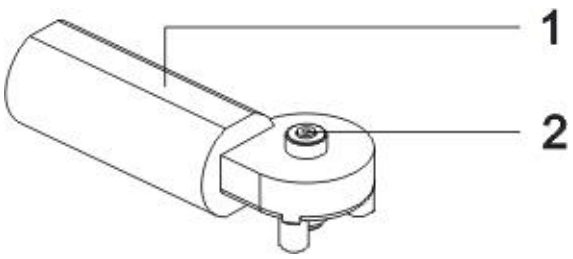
1. Output board
2. Rectifier board
3. Main switch
4. Power cable socket
5. Mother board
6. Bluetooth module (not present if the touch screen is communicating with the usb board)
7. Touch screen power supplier
8. Power stabilizer
9. Toroidal transformer
10. Net filter

2.6 Spouts assembly exploded view



1. Elbow spout
2. Metal bracket spouts cover
3. Spout
4. Spouts assembly adjusting handle
5. Spouts assembly support bracket

2.7 Coffee group gearmotor exploded view



1. Coffee group gearmotor
2. Gearmotor shaft

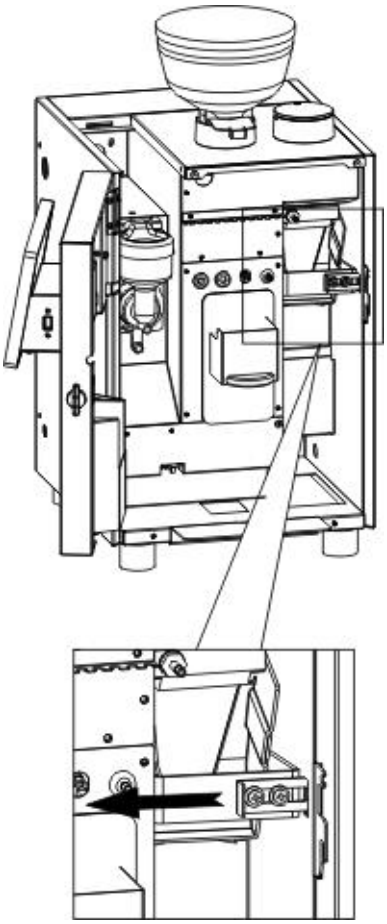
3

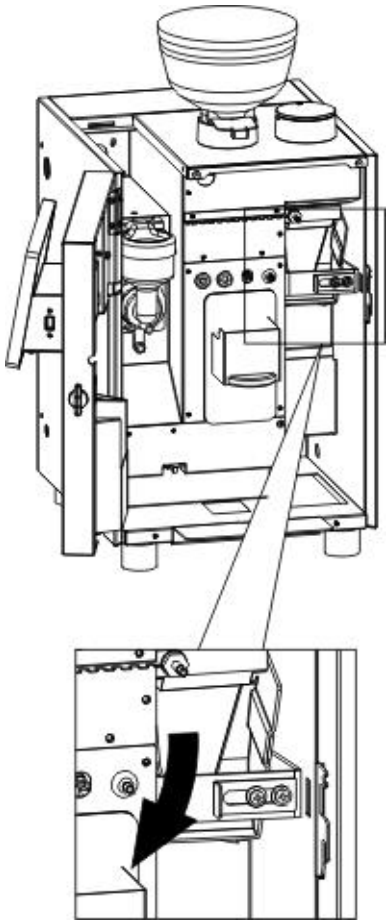
4 Ordinary maintenance

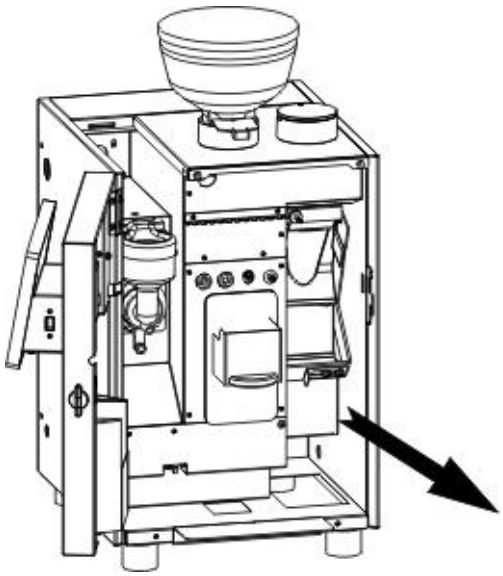
This kind of maintenance has to be considered as a periodical maintenance.

It consists in all those operations to do after an estimated period, according to the factory recommendations.

4.1 Removing the coffee group

Step	Action	Illustration
1	Remove the **drip tray** and the **grounds drawer**. Unlock the blue **coffee group lock lever**.	

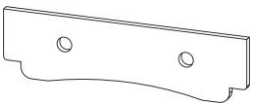
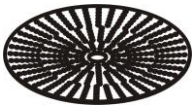
Step	Action	Illustration
2	Turn the **coffee group lever** downward and let the **coffee group** to go down.	

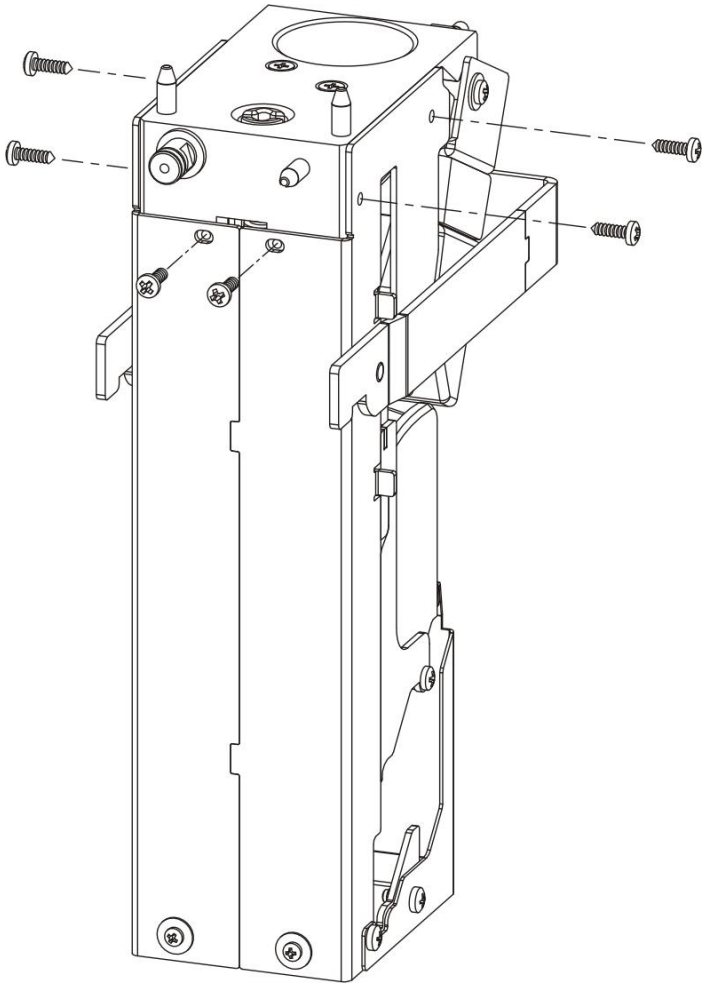
Step	Action	Illustration
3	Pull the **coffee group** toward you and take it off the machine.	

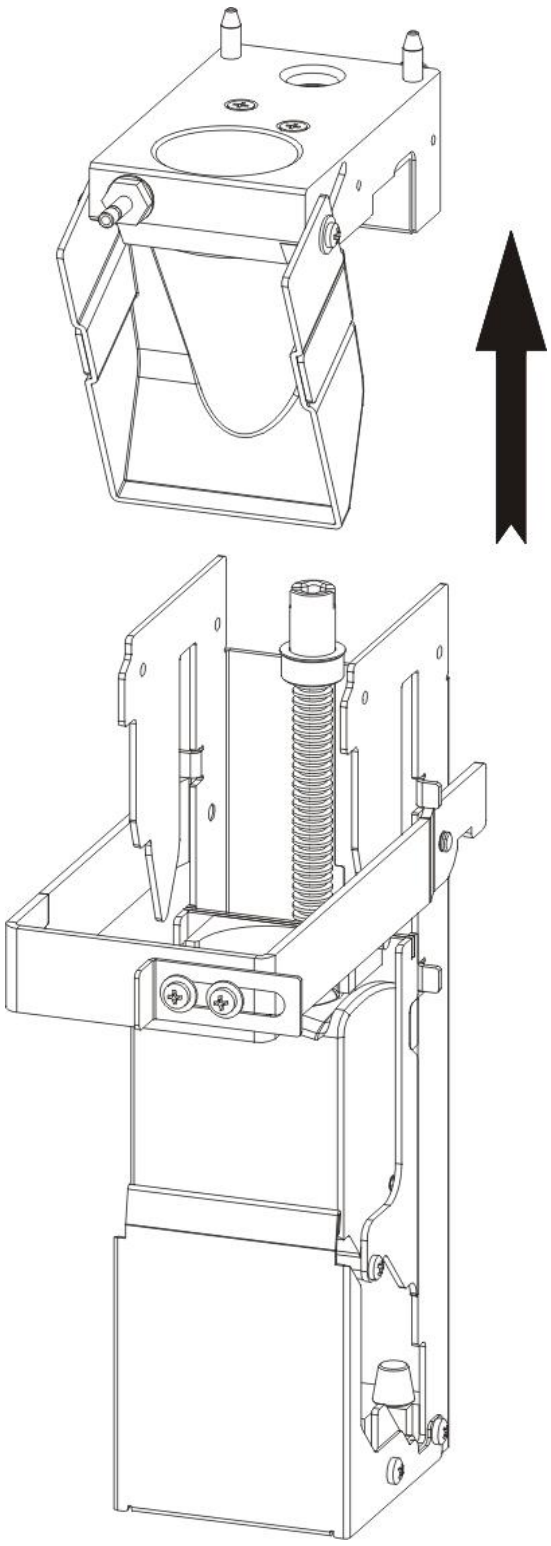
4.2 Sealings and filters replacement (10000 Cycles Kit Installation)

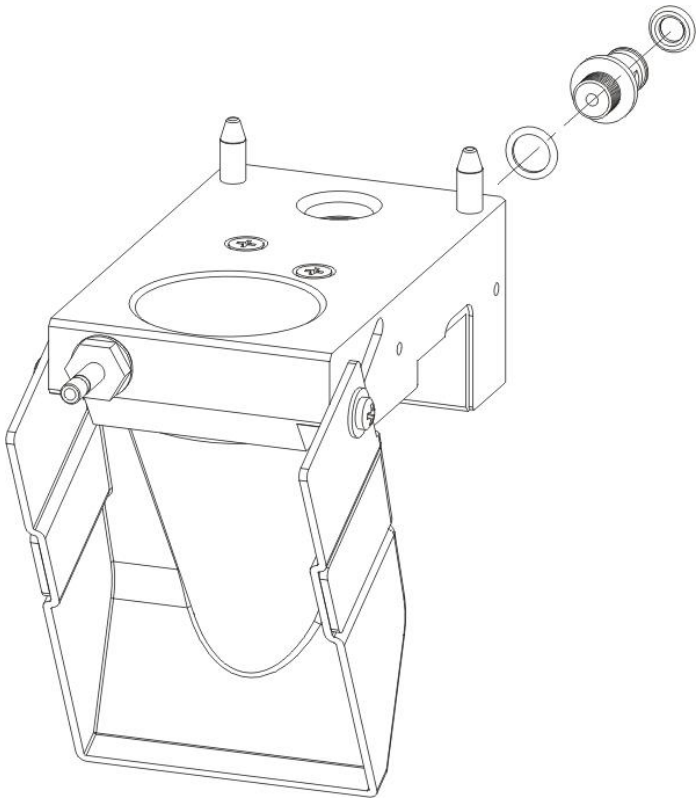
Before to do this operation follow the procedure described on paragraph **4.1 Removing the coffee group**.

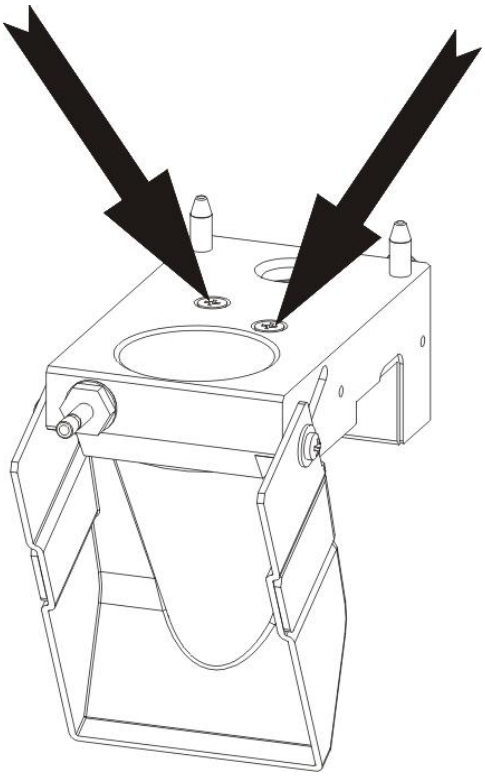
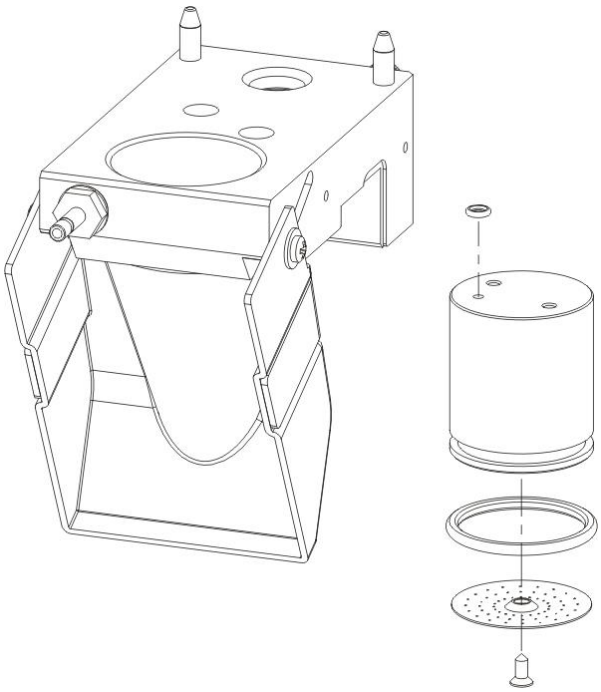
Components required:

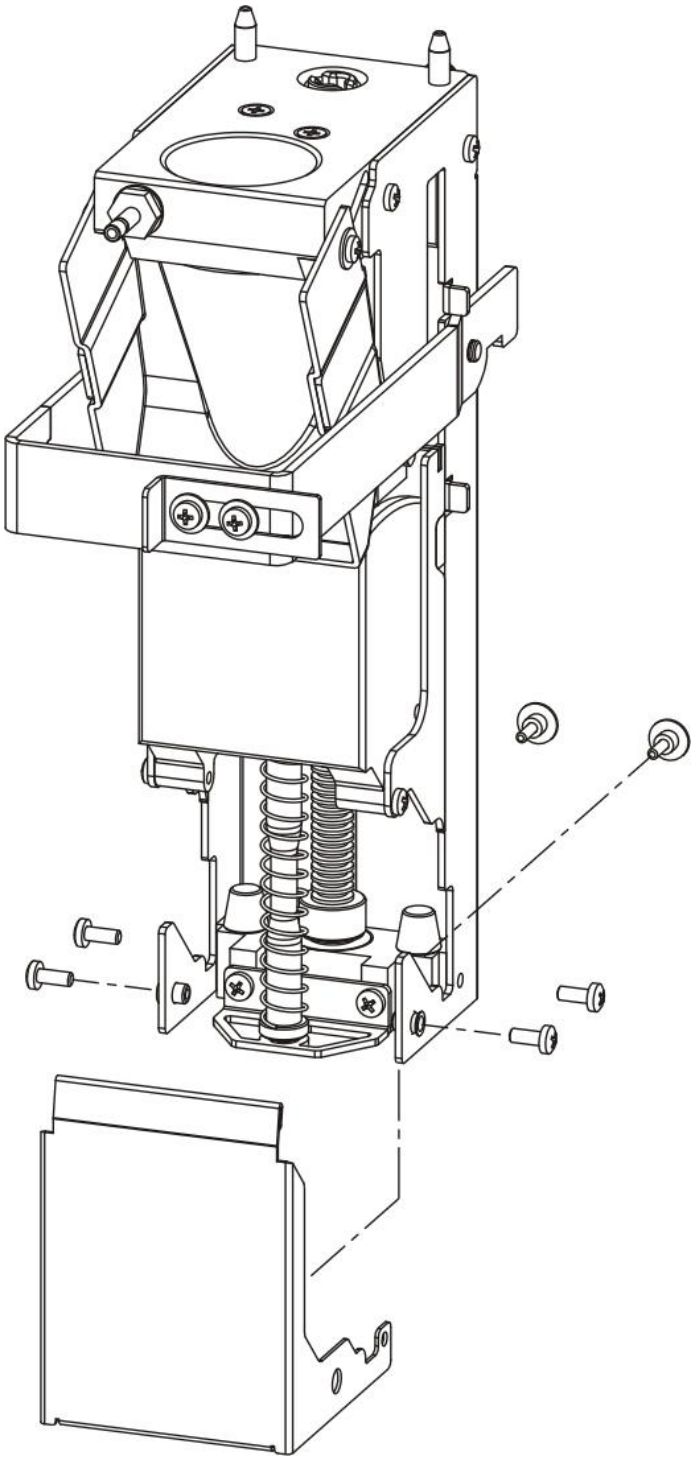
DESCRIPTION	ILLUSTRATION	QUANTITY	NAME
Silicon brush 19 x 70 x 2 mm		1	A
Coffee group filter D.40 mm		2	B
Red silicon O-ring 3024 6,02 X 2,62 mm		2	C
Star silicon gasket		1	D
Red silicon O-ring 03037 9,19 X 2,62 mm		1	E
Red silicon O-ring 04131 32,93 X 3,53 mm		1	F
Red silicon O-ring 2015 3,68 X 1,78 mm		1	G
Red silicon O-ring 2037 9,25 X 1,78 mm		2	H
Silicon lip gasket		1	I
Red silicon O-ring 3150 37,7 X 2,62 mm		1	J

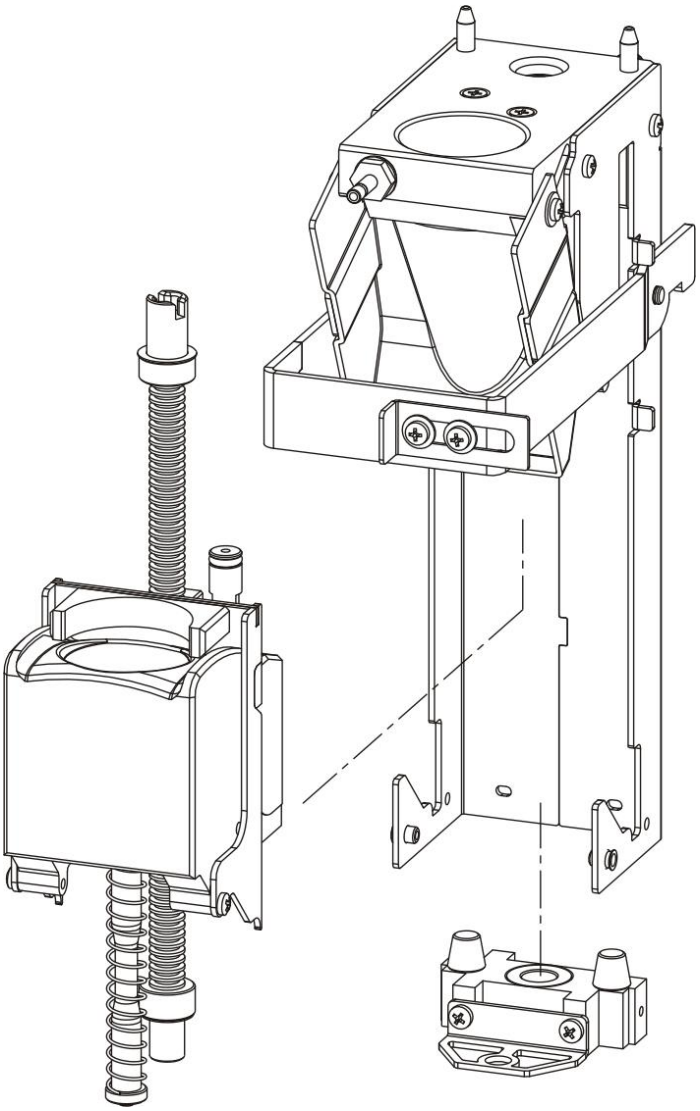
Step	Action	Illustration
1	Remove the 6 screws that hold the **coffee group upper base**.	

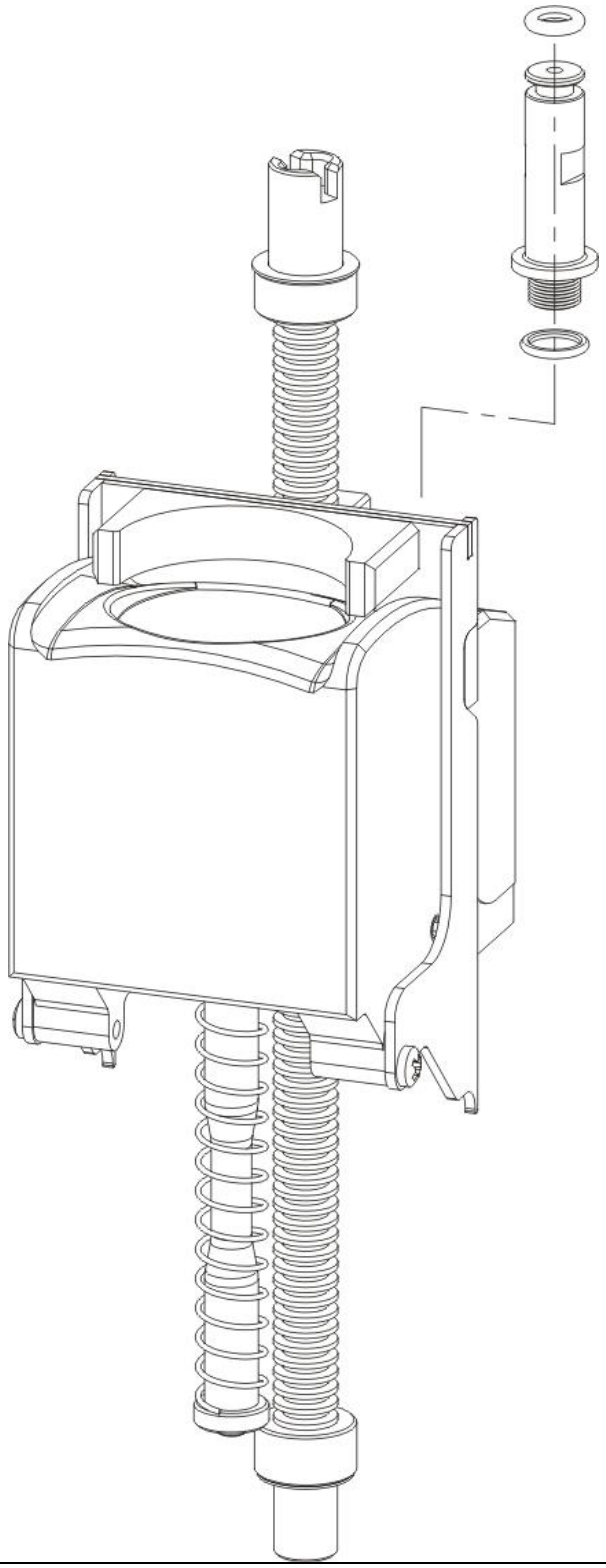
Step	Action	Illustration
2	Take off the **coffee group upper base**.	

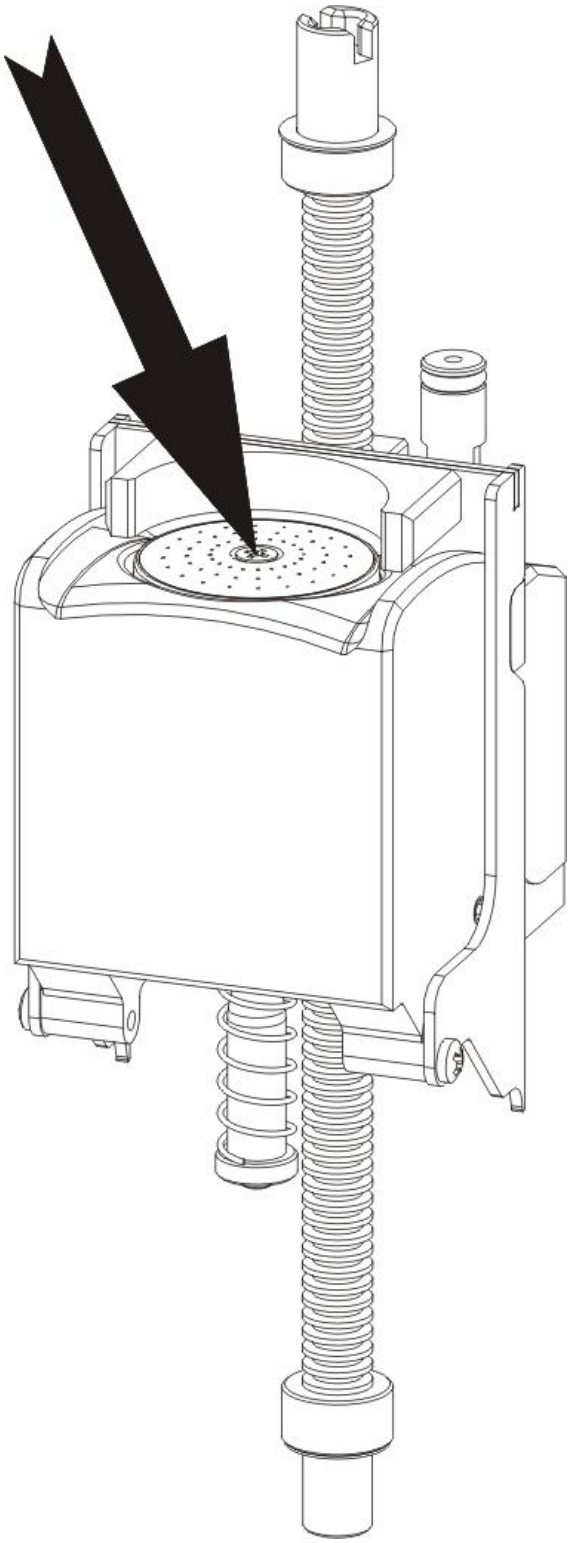
Step	Action	Illustration
3	Unscrew the **coffee group inlet nozzle** and replace the O-Rings **C** and **H**. Put it back.	

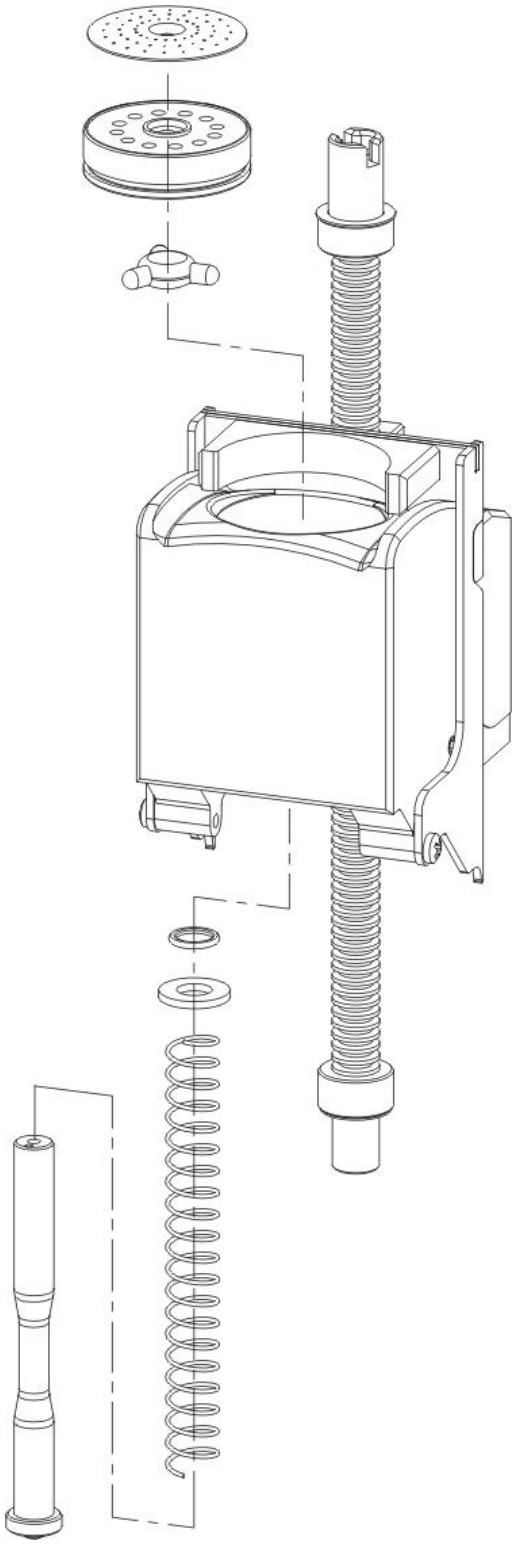
Step	Action	Illustration
4	Remove the 2 screws that hold the **coffee group top piston** and remove it.	
5	Replace: - O-Ring **F** - O-Ring **G** - Filter **B** Put everything back.	

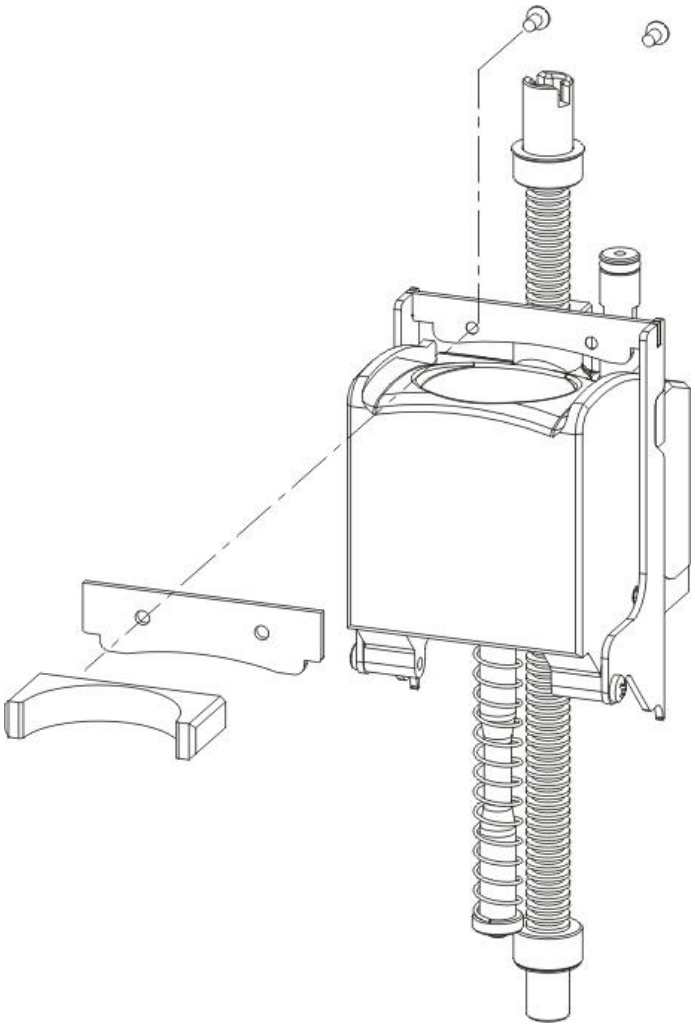
Step	Action	Illustration
6	Remove the 6 screws that hold the **coffee group lower base** and the **cover**.	

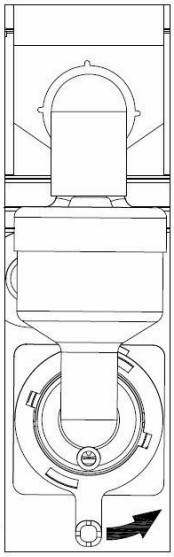
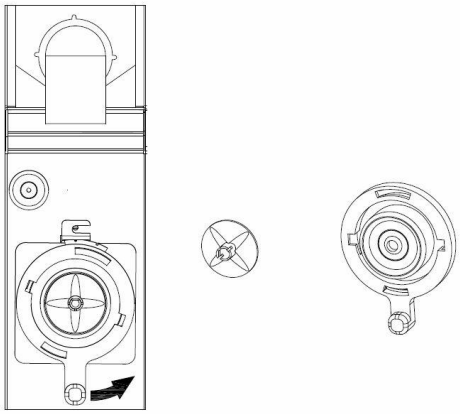
Step	Action	Illustration
7	Take off the **coffee group lower base**. Take off the **coffee group chamber**.	

Step	Action	Illustration
8	Unscrew the **coffee group chamber inlet nozzle** and replace O-Rings **C** and **H**. Put it back.	

Step	Action	Illustration
9	Remove the screw that holds the **coffee group bottom head** to the **coffee group shaft**.	

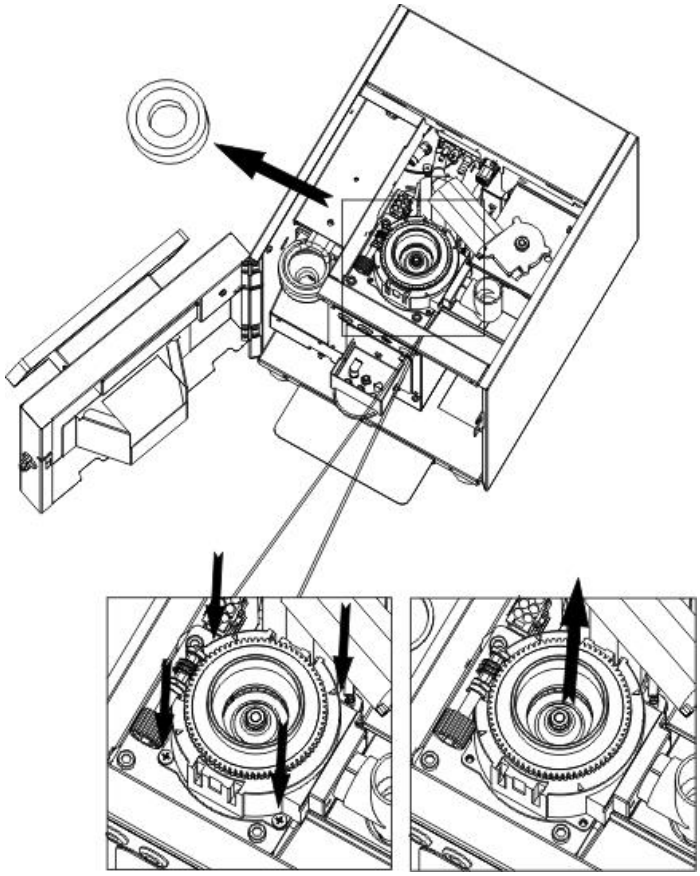
Step	Action	Illustration
10	Remove the **coffee group shaft**. Replace: - filter **B** - gasket **D** - O-Ring **E** Insert the **coffee group shaft** into the **coffee group chamber** and screw back the bottom head.	

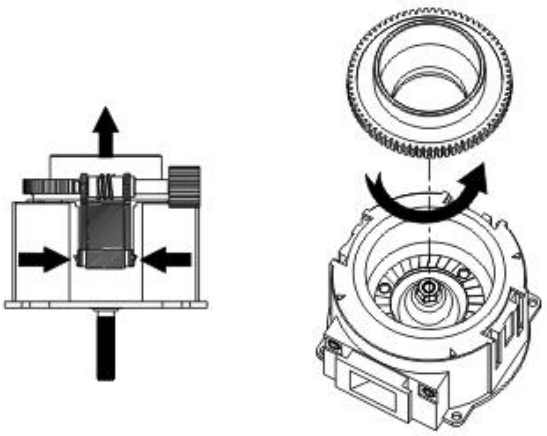
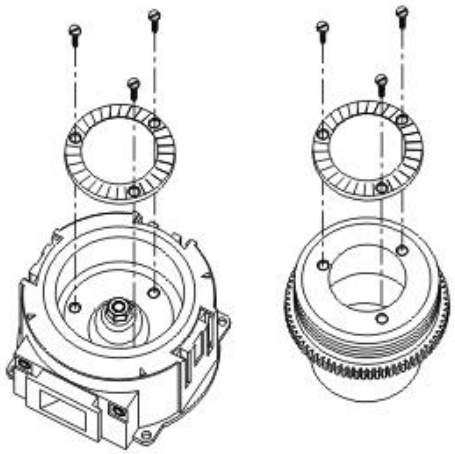
Step	Action	Illustration
11	Remove the 2 screws that hold the **coffee group brush holder** and replace the silicon brush “**A**”. Put back the **coffee group brush holder**. Put everything back.	

Step	Action	Illustration
12	Turn right the **mixing bowl holder** and pull out the **mixing bowl**. Pull out the **mixing blade**.	
13	Turn right the **mixing bowl holder** till the end and pull it out. Replace the lip gasket **I** and the silicon O-ring **J**.	

4.3 Grinder blades replacement

Before to do this operation, follow the procedure described on paragraph **6.1.1 Removing the top lid**.

Step	Action	Illustration
1	Remove the sound proof material by pulling it up from the grinder. Unscrew the 4 screws that hold the **grinder assembly** and lift it up completely.	

Step	Action	Illustration
2	Push both the internal clips of the grinder regulator's plastic support and pull it up. Turn the **grinder head** counter-clockwise until it's completely out of the base.	
3	Unscrew the 3 screws for both **grinder head** and **grinder base** and pull up the blades.	

5

6 Extraordinary maintenance

This kind of maintenance has to be considered in case of faults.

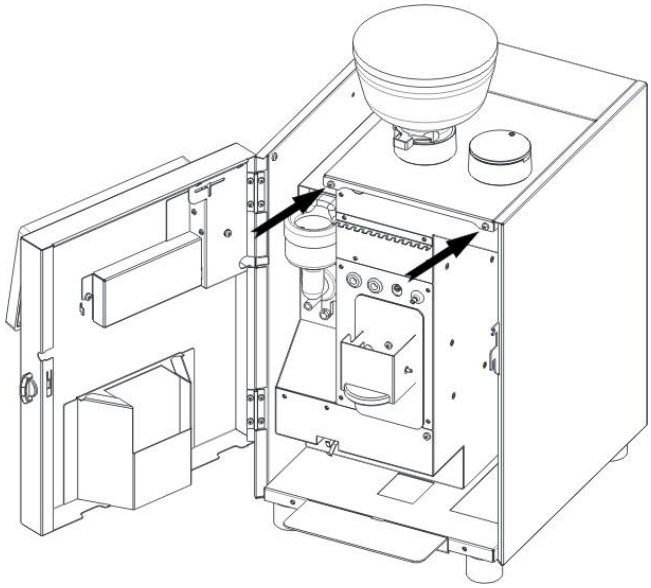
WARNING

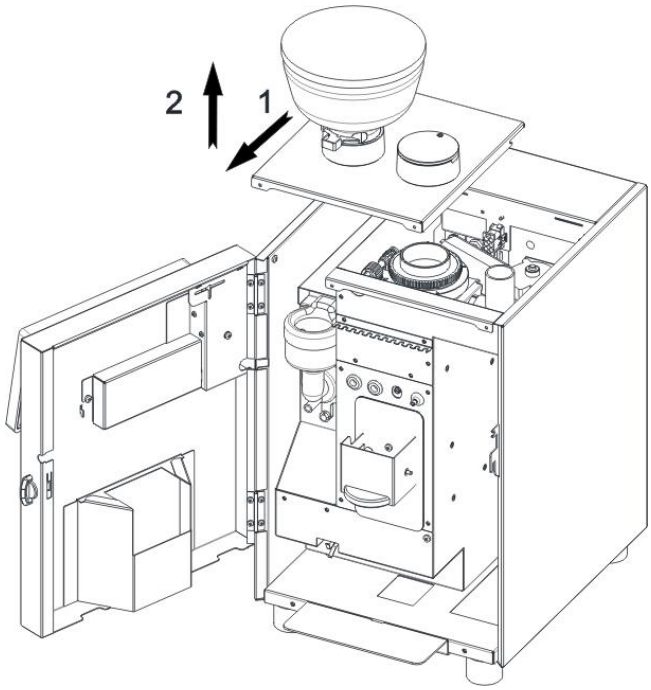
All the operations contained in this chapter has to be performed with the machine switched OFF and the power cord removed.

6.1 Removing the various metal plates

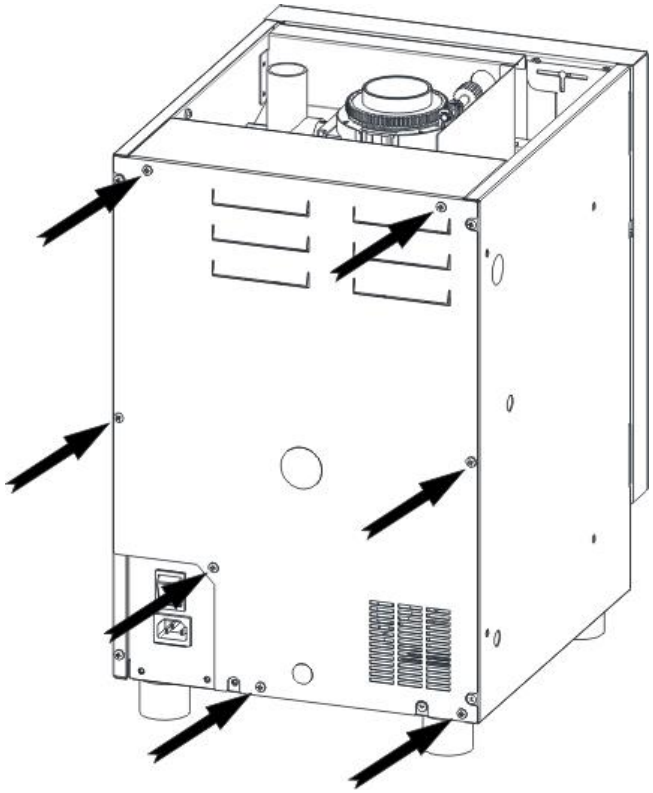
This paragraph shows hot to remove the various machine metal plates to reach the components.

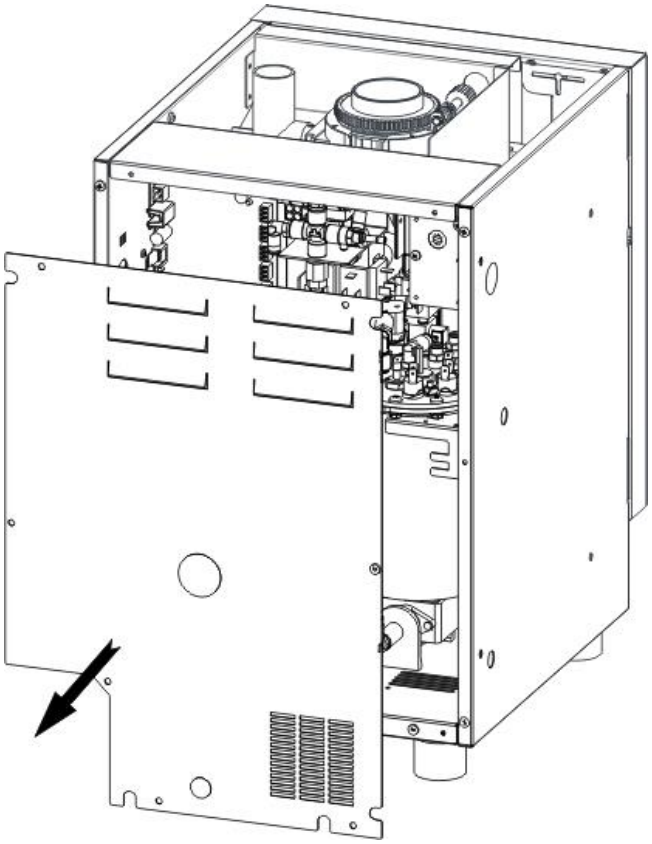
6.1.1 Removing the top lid

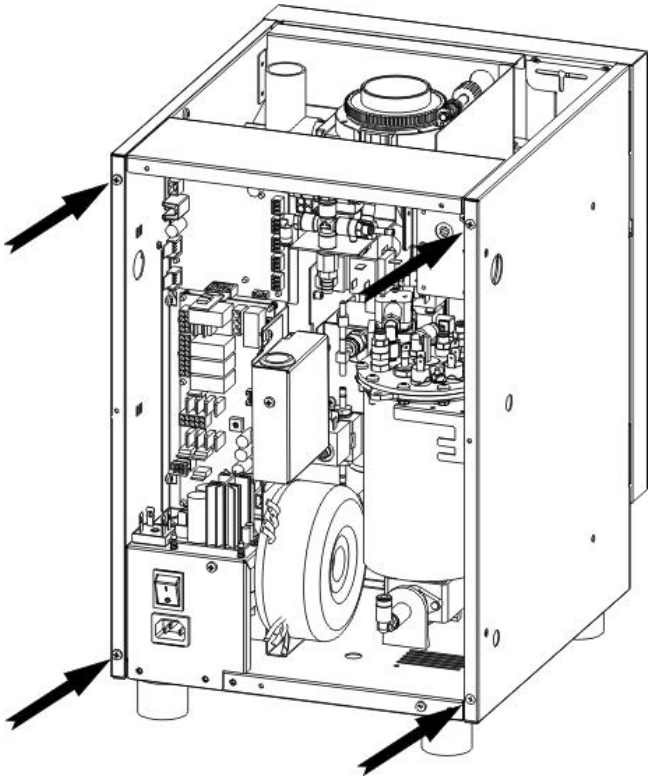
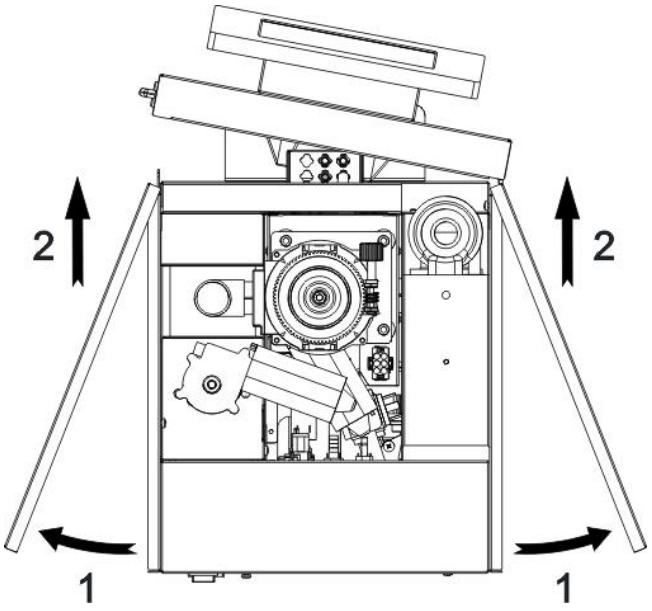
Step	Action	Illustration
1	Remove the 2 screws that hold the **top lid** from the front.	

Step	Action	Illustration
2	Pull the **top lid** towards you and then lift it up.	

6.1.2 Removing the external panels

Step	Action	Illustration
1	Take off the waste drawer. Unscrew the 7 screws that hold the **back panel**.	

2	Pull the **back panel** towards you and disconnect the ground wiring that connects the machine to the panel.	

3	Unscrew the 4 screws that hold the **side panels**.	
4	Slightly open the door. Open the **side panels** and push each one to the front.	

7

8 Removing assemblies

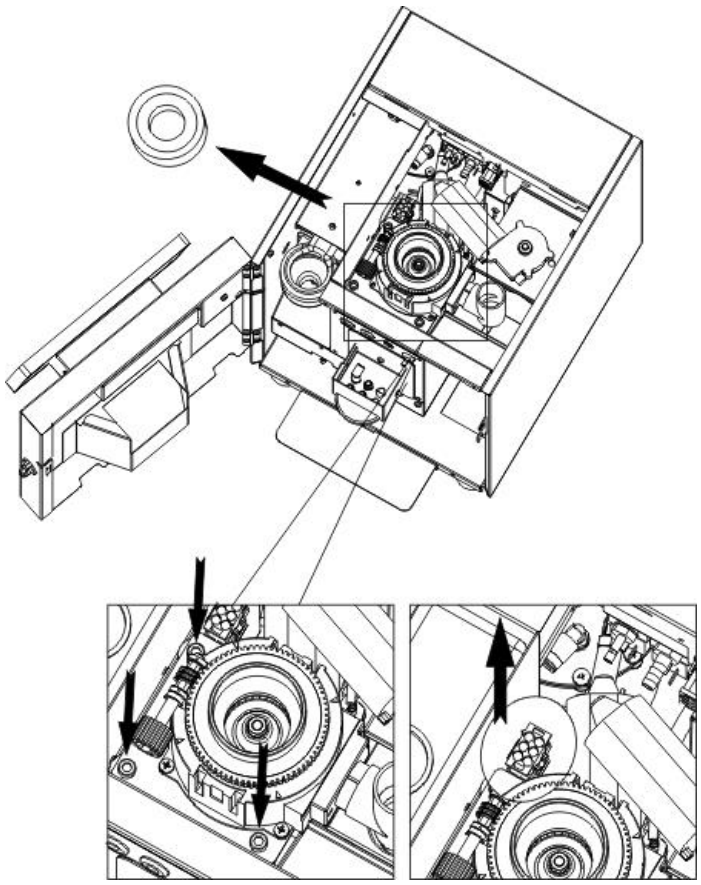
This kind of maintenance has to be considered in case of faults.

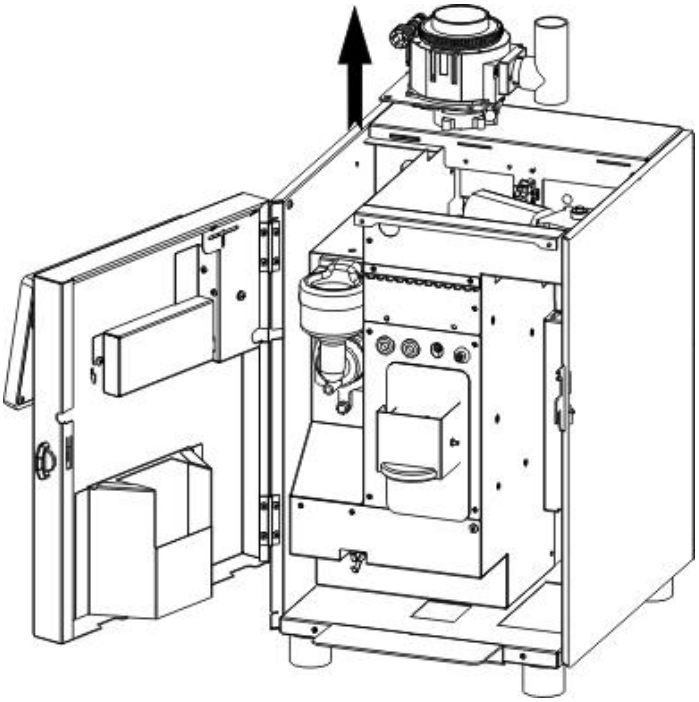
WARNING

All the operations contained in this chapter has to be performed with the machine switched OFF and the power cord removed.

8.1 Removing the grinder motor

Before to do this operation, follow the procedure described on paragraph **6.1.1 Removing the top lid**.

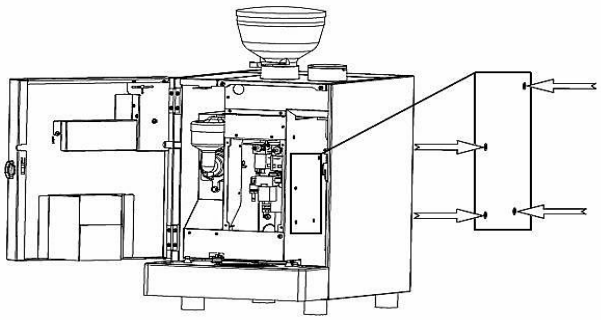
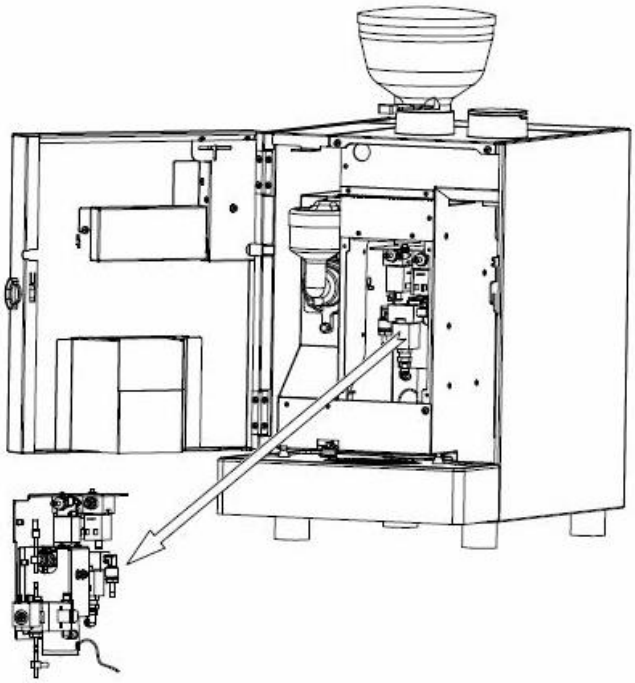
Step	Action	Illustration
1	Remove the sound proof material by pulling it up from the grinder. Remove the screws that hold the **grinder assembly** and pull it up. **Note:** while removing the **grinder assembly**, unplug the cables connected to it.	

2	Pull up the whole grinder assembly and then remove the 3 screws that fixes the grinder motor to the grinder base.	

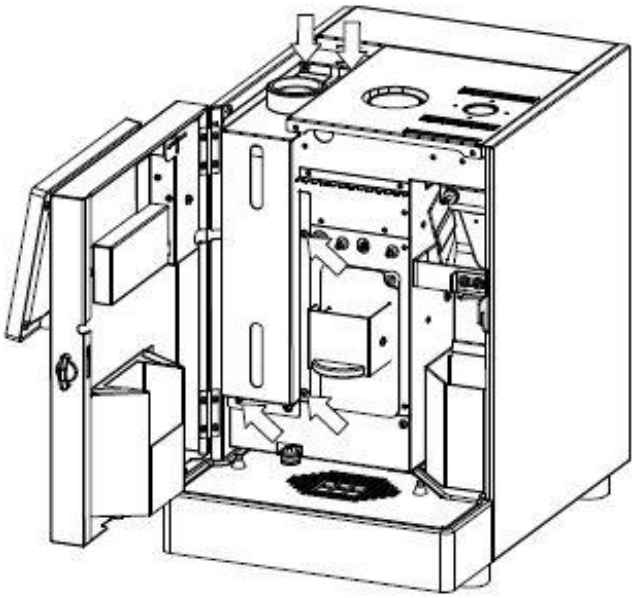
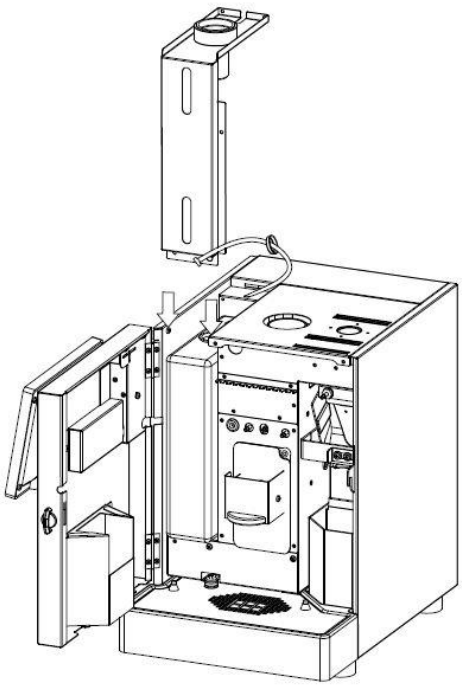
8.2 Removing the milk assembly

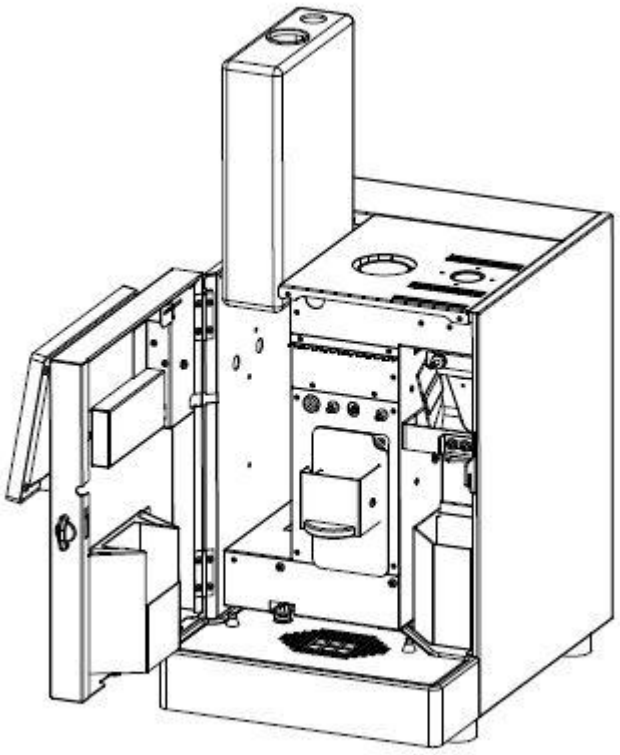
Before to do this operation, follow the procedure described on paragraph **4.1 Removing the coffee group,** paragraph **6.1.2 Removing the external panels** (STEP 1-2) and paragraph **8.13 Removing the drink spouts assembly** (STEP 1-2)**.**

Step	Action	Illustration
1	Disconnect the 8 ways connector of the milk assembly, from the back of the machine (you can unplug the touch screen power supplier first, in order to free up some operative space). Disconnect the small grey tube that is coming in the cleaning valve of the milk assembly, from the back of the machine. Disconnect the tube that is going into the drip tray, from the 3 way milk outlet valve, that can be disconnected from the front. Disconnect the tube from the angled connector that is fixing to the milk restrictor (this operation can be done from the front of the machine, by releasing the connector that is clipped to the milk assembly). In the Self Cleaning version of the machine, also disconnect the tube connected to the 3 way detergent tank valve (position 1 of the valve).	

Step	Action	Illustration
2	Remove the 4 screws that hold the **milk assembly** and hold up the assembly that would fell down otherwise.	
3	Slide out the **milk assembly** to the front, rotating it a bit and disconnecting the last tube from the milk outlet valve.	

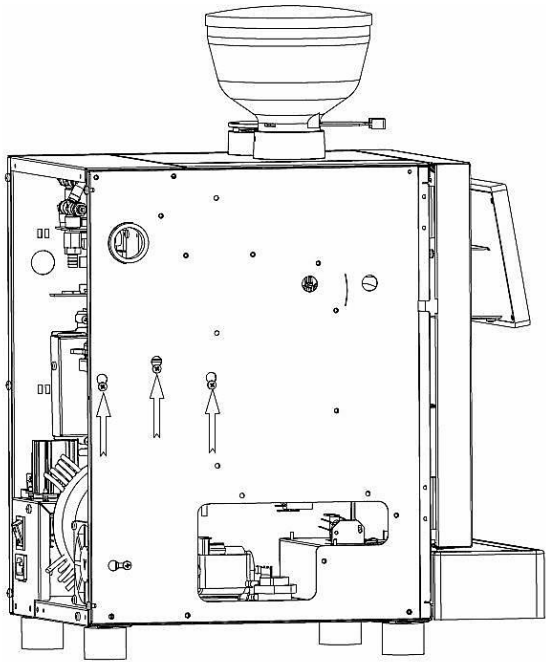
8.3 Removing the detergent tank

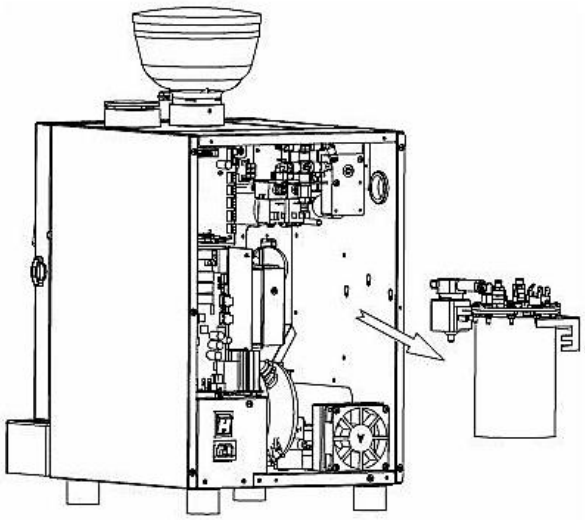
Step	Action	Illustration
1	Open the door and remove the **detergent tank top** lid, by sliding it out to the front of the machine. Remove the 5 screws shown in the picture.	
2	Remove the 2 side screws that are used to fix the **detergent tank** top lid. Remove the **detergent tank** cover by pulling it up. The **detergent tank** is held to its cover from the plastic inlet chute, which is simply engaged to the tank. When pulling up the cover, pay attention and eventually hold the detergent tank from the bottom, as the cover might disengage from the tank.	

	Disconnect the **detergent tank's** plastic lid that is holding the grey tube. Take off the grey tube and take out the **detergent tank**.	
3	Lift up the **detergent tank**.	

8.4 Removing the boiler assembly

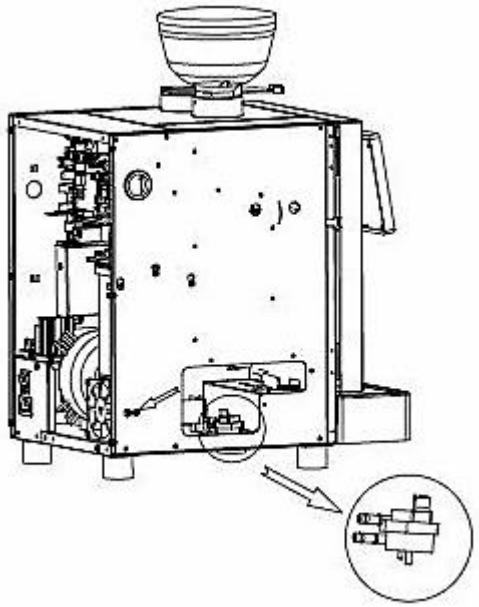
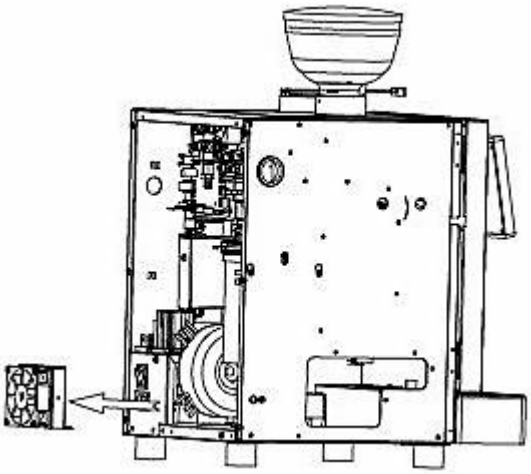
Before to do this operation, follow the procedure described on paragraph **6.1.2 Removing the external panel** and paragraph **10.1 Cooling down**.

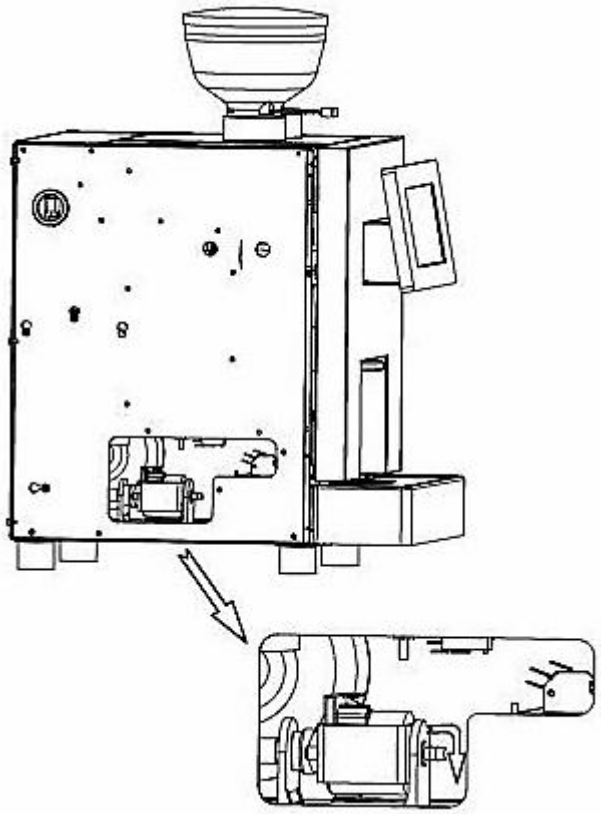
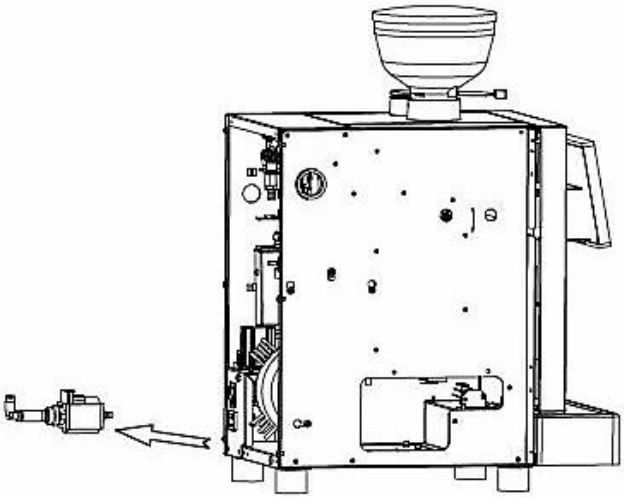
Step	Action	Illustration
1	Loosen the 3 screws that fix the boiler support bracket to the left side panel of the machine.	

Step	Action	Illustration
2	Unplug the temperature probe connector, the ground cable, the wires that are going on the thermostats and the wires that are going on the coffee valve. Unplug the tube on the 3rd way of the coffee valve by removing the metal clip first. Remove the remaining tubes from the top lid of the boiler and the outlet tube of the coffee valve. You can now completely remove the boiler from the machine.	

8.5 Removing the water pump and the flow meter

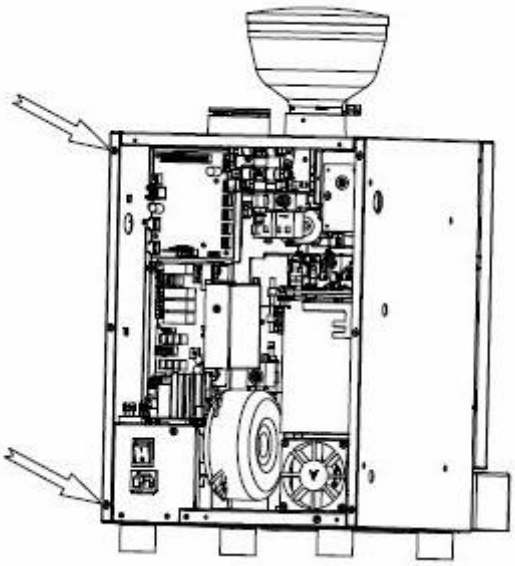
Before to do this operation, follow the procedure described on paragraph **6.1.2 Removing the external panels**.

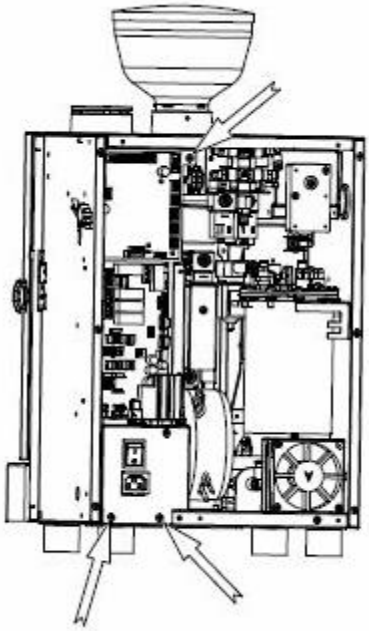
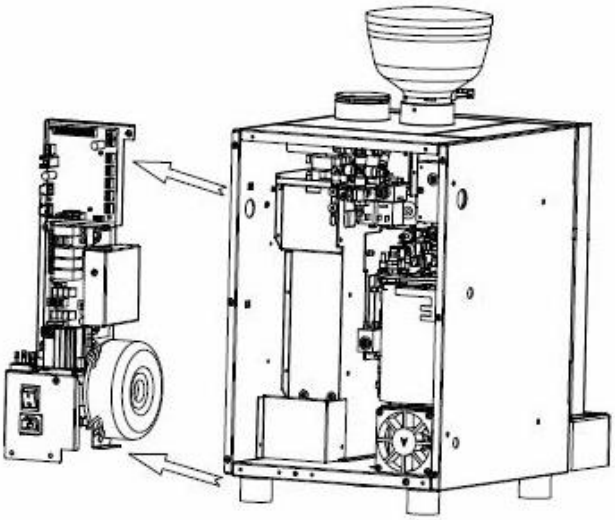
Step	Action	Illustration
1	Loosen the screw that fixes the back fan (if equipped). Disconnect the connector from the top of the flow meter. Disconnect the tubes on the inlet and the outlet lines of the flow meter, from the side of the machine. Lift up the flow meter and disconnect it from the machine.	
2	Disconnect the connector of the fan and also the tube from its back side. Pull out the fan completely from the back of the machine.	

3	Disconnect the electrical connectors and the tubes from the pump. Pull the rubber supports in order to unplug the pump.	
4	The pump can be then disconnected. There is no need to remove the connector on the back of the pump, as shown in the picture.	

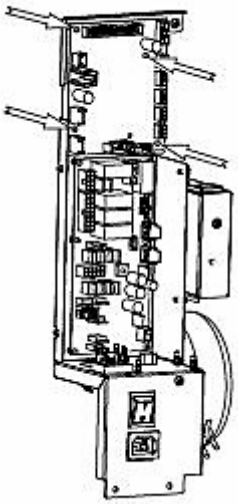
8.6 Removing the power supply assembly

Before to do this operation, follow the procedure described on paragraph **6.1.2 Removing the external panel**.

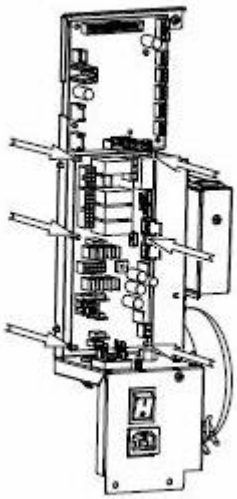
Step	Action	Illustration
1	Remove the 2 screws that fix the machine side panel.	

Step	Action	Illustration
2	Disconnect the coffee group micro switch presence connectors and pull the wires in the machine, so they don't get pinched while removing the power supply assembly. Remove the 3 screws that fix the **power supply assembly**.	
3	Disconnect the connectors and then slide out the whole assembly.	

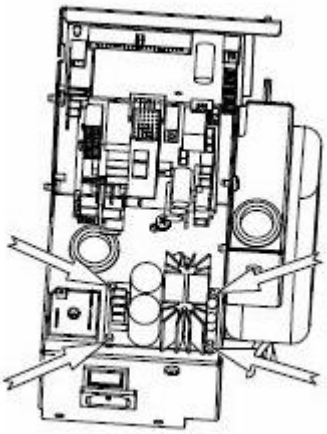
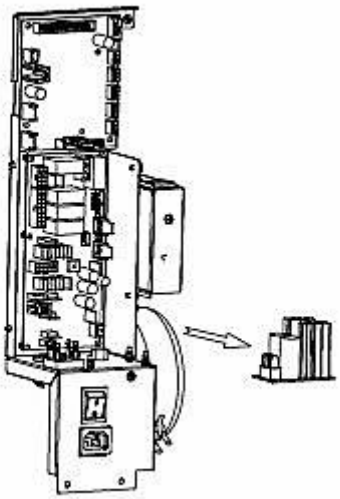
8.7 Removing the mother board

Step	Action	Illustration
1	Unplug all cables attached to the **mother board**. Remove the **mother board** from its plastic fittings.	

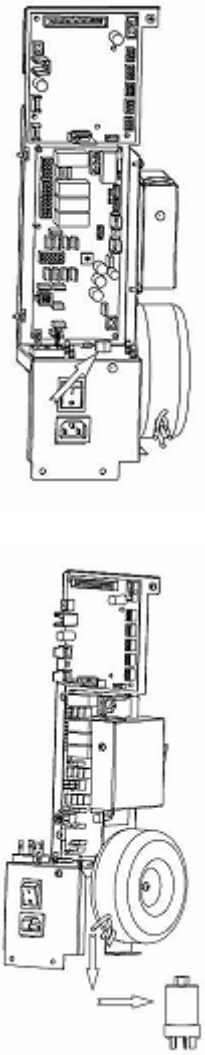
8.8 Removing the output board

Step	Action	Illustration
1	Unplug all cables attached to the **output board**. Remove the **output board** from its plastic fittings.	

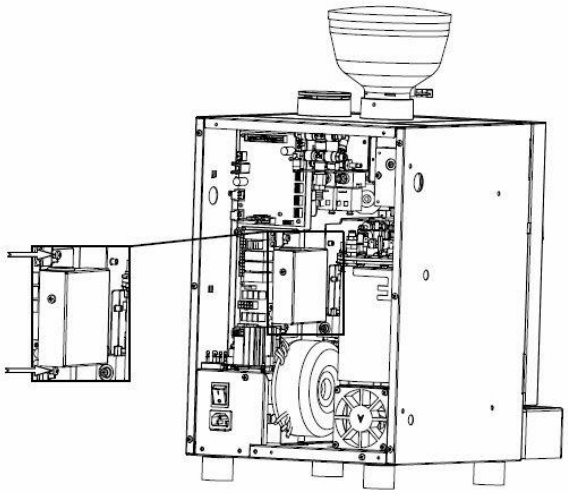
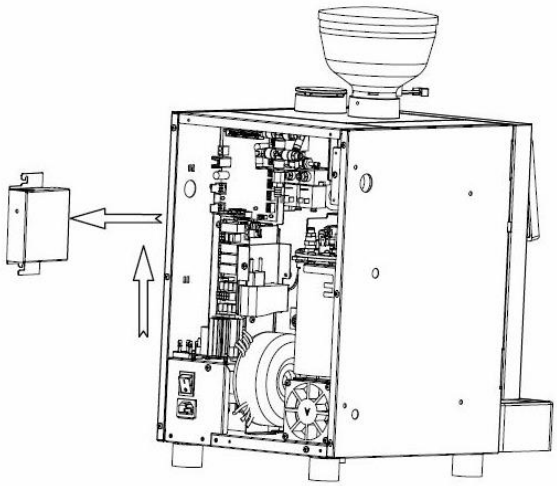
8.9 Removing the power stabilizer board

Step	Action	Illustration
1	Unplug all cables attached to the **power stabilizer**. Remove the **power stabilizer** from its plastic fittings.	 

8.10 Removing the net filter

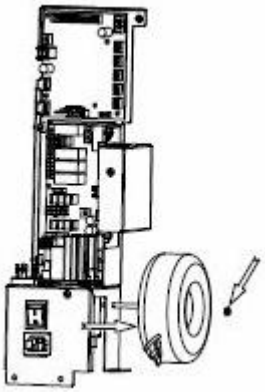
Step	Action	Illustration
1	Remove all the connectors attached to the **net filter**. Remove the nut holding the **net filter** and remove it.	

8.11 Removing the touch screen power supplier

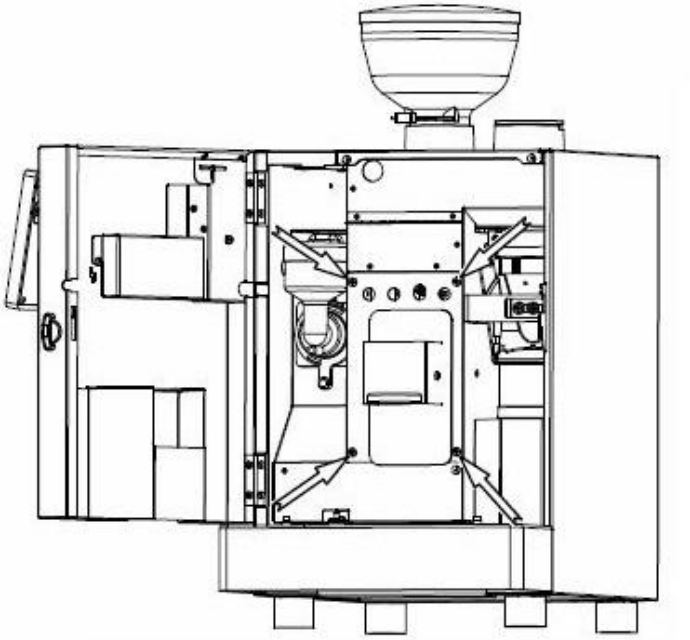
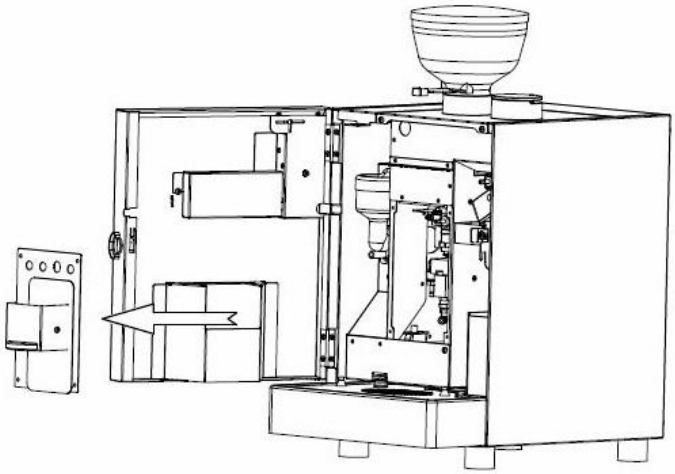
Step	Action	Illustration
1	Unplug the 2 connectors from the **touch screen power supplier**. Follow the black cable from the **touch screen power supplier** and disconnect the female junction. If necessary, free the cable from any plastic bends that are fixing it to the machine wiring. Slightly unscrew the 2 screws fixing the **touch screen power supplier** support bracket and move it up, then pull it out from the side.	 

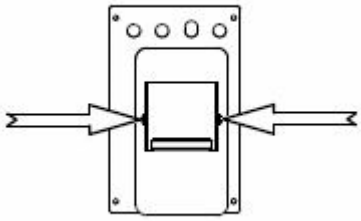
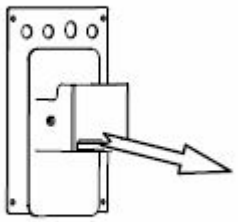
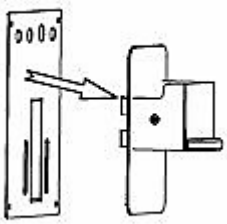
8.12 Removing the transformer

Before to do this operation, follow the procedure described on paragraph **8.6 Removing the power supply** .

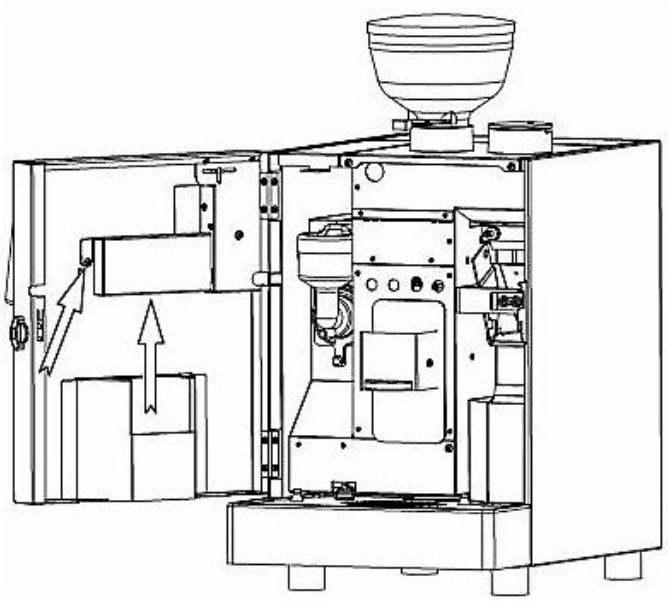
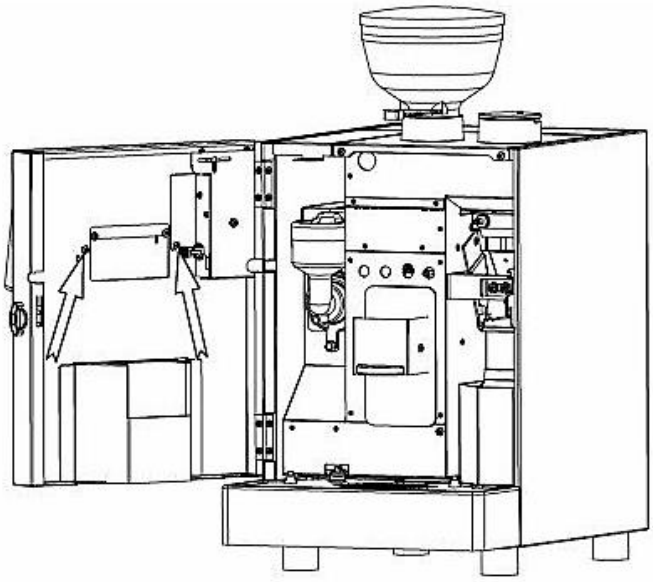
Step	Action	Illustration
1	Unplug the **connectors**. Remove the screw and the washer that hold the **transformer** and take it off.	

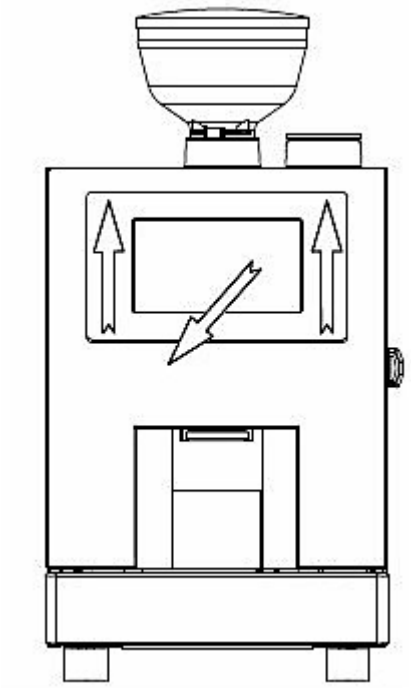
8.13 Removing the drink spouts assembly

Step	Action	Illustration
1	Remove the 4 screws that holds the **spout bracket**.	
2	Disconnect the tubes and pull the **spout bracket** towards you.	

3	Remove the sides screws that fix the drink spouts cover to the moving plate.	
4	Pull the drink spouts cover towards you in order to access the drink spouts.	
5	If you also need to disconnect the bracket from the moving part, just pull the frontal moving part towards you.	

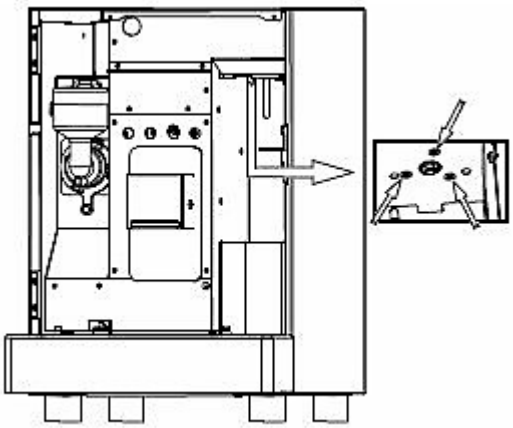
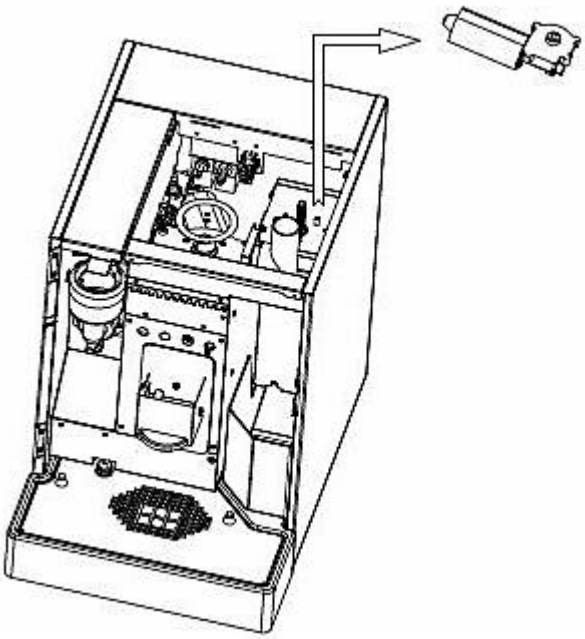
8.14 Removing the touch screen module

Step	Action	Illustration
1	Remove the screw from the cover fixed in the internal part of the door. Lift up the cover and remove it from the machine.	
2	Remove the second and last screw that fixes the **touch screen module** to the machine's door. Remove the power supplier connector placed in the internal part of the door (right side bracket).	

Step	Action	Illustration
3	Lift up the **touch screen module** and then pull it toward you.	

8.15 Removing the coffee group gearmotor

Before to do this operation, follow the procedure described on paragraph **4.1 Removing the coffee group** and paragraph **6.1.1 Removing the top lid.**

Step	Action	Illustration
1	Unplug the **coffee group gearmotor** connector from above. Remove the 3 screws that fix the **coffee group gearmotor**.	
2	Lift up the **coffee group gearmotor** from its bracket.	

9

10 Operations on the hydraulic circuit

All the operations described in this chapter needs to put the machine into safety conditions, to avoid any damage to the component and to the operator.

10.1 Cooling down

The machine MUST BE COLD. If not, the operator must do the following operations first.

- Turn **ON** the option “HEATING CONTROL” inside the “Technician menu” (see paragraph **5.3.6.2** on the **User Manual**);
- Switch **OFF** the machine and unplug the power cord;
- Disconnect the **heating element connectors** from the top of the boiler.
- Put back the power cord and switch **ON** the machine;
- Run a “Whipper Cleaning” (it’s called “Daily Cleaning” on non-fresh milk machines) to cool down the **water boiler**;
- Switch OFF the machine and remove the power cord.

After the above steps, carefully unscrew the boiler temperature probe with a key, in order to release any remaining pressure. Surround the boiler lid surface (around the probe) with a piece of paper before unscrewing the probe, in order to collect any water that would come out.
Secure the probe back again before to take out the boiler.

10.2 Emptying the boiler

Before to do this operation follow the procedure described on paragraph **10.1 Cooling down** and paragraph **6.1.2 Removing the external panel**.

- Put compressed air (1 bar maximum) from the water inlet connector. Water will come out from the water outlet connector.

CAUTION

Don’t connect back the heating element connector previously disconnected from the top of the boiler, during the time the boiler stays empty.

After the maintenance is finished, remember to switch ON the machine and run some “Whipper Cleaning” (“Daily Cleaning” on non-fresh milk machines) routines until water comes out of the drink nozzles, which means the water boiler is completely full of water.

Now the user can switch OFF the machine, connect back the heating element connector and switch back ON the machine.

11

12 Operating the computer software

13

14 Troubleshooting

This troubleshooting helps technician to find the cause of a problem starting from the error message shown by the **touch screen**.

All these error messages has been covered during the HLF Technical Training Course, where we strongly recommended to have a multimeter always available, in order to check possible bad connections.

14.1 E11-DRIP TRAY FULL

Why?

The option **DRIP TRAY SENSOR FLOAT** is active and the **drip tray switch** is engaged.

Cause of fault	**Troubleshooting measure(s)**
The **drip tray** is full of waste water;	Remove the **drip tray**, empty and clean it.
The plastic float is blocked;	Check if the plastic float inside the **drip tray** is free to move.
The **drip tray switch** is damaged or doesn't work;	Turn off the option **DRIP TRAY FLOAT SENSOR** inside the programming, to let the machine working anyway (refer to the user manual); Replace the **drip tray switch**.
The connection is compromised	Check the wires from the **drip tray switch** to the **motherboard** (refer to the **Input/Output** table to understand which input number); Replace the **motherboard**.

14.2 E13-FLOW METER K.O.

Why?

The flow meter is not detecting the water passing through the circuit.

Cause of fault	**Troubleshooting measure(s)**
The message appears during a coffee cycle only, and not during a hot water or soluble drink. No coffee comes out or at least a very poor flow:	
▪ The **coffee group** is dirty;	Launch a **Coffee Group Cleaning Cycle**. Wash the **coffee group** under hot water.
▪ The **grinder** is set too fine;	Move the **grinder blades** to a coarser position.
▪ The **coffee valve** may be blocked by lime scale;	Take it off and clean it or replace it.
▪ The **coffee valve** got fault.	Replace it.
▪ The connection is compromised.	Check the wires from the **coffee valve** to the **output board** (refer to the **Input/Output** table to understand which output number).
The message appears during the dispensing of a specific product, while is not appearing during the dispensing of all the other products; The water for that specific product doesn't come out:	
▪ The **valve** related to the product that fails may be blocked by lime scale;	Take it off and clean it or replace it.
▪ The **valve** related to the product that fails got fault;	Replace it.

Cause of fault	**Troubleshooting measure(s)**
▪ The connection is compromised.	Check the wires from the **valve** related to the product that fails, to the **output board** (refer to the **Input/Output** table to understand which output board and output number).
The message appears during the stand-by:	
▪ The **discharge valve** may be blocked by lime scale;	Take it off and clean it or replace it.
▪ The **discharge valve** doesn't work.	Replace it.
▪ The connection is compromised.	Check the wires from the **discharge valve** to the **output board** (refer to the **Input/Output** table to understand which output number).
The message appears during the dispensing of any product and the water doesn't come out:	
▪ The **air-break** is empty, but no **E-16 CHECK WATER** message appears;	Refer to paragraph **14.4 E16-CHECK WATER**
▪ The **pump** doesn't work:	Check the connection between the **pump** and the **output board** (refer to the **Input/Output** table to understand which output number).
- The **pump** got fault;	Replace it.
- The **output board** got fault.	Replace it.

Cause of fault	**Troubleshooting measure(s)**
▪ The **flow meter** is blocked; The message appears during the dispensing of any product and the water comes out for few seconds, then stops:	Check if the **flow meter** is blocked. If yes, replace it.
▪ The connection is compromised;	Check if the green LED of the **motherboard** blinks while the pump is working. It shouldn't. Check the wires from the **flow meter** to the **motherboard** (refer to the **Input/Output** table to understand which input number).
▪ The **flow meter** got fault.	Replace it.

14.3 E15-COFFEE GROUP OUT

Why?

The **coffee group presence switch** is not engaged.

Cause of fault	**Troubleshooting measure(s)**
The **coffee group** is not in the correct position;	Check the **coffee group**.
The **coffee group presence switch** is damaged or doesn't work;	Replace the **coffee group presence switch**.
The connection is compromised	Check the wires from the **coffee group presence switch** to the **motherboard** (refer to the **Input/Output** table to understand which input number). Replace the **motherboard**.

14.4 E16-CHECK WATER* *only with water kit

Why?

The machine has asked for water inside the **air-break** for more than the time set on the option **FILLING WATER TIMEOUT**.

Cause of fault	Troubleshooting measure(s)
Switch ON the machine and look if the time the air-break needs to fill up completely is too long. If yes, it means the pressure of the plumb circuit is very low;	Raise up the **FILLING WATER TIMEOUT** option.
The machine is not filling water at all, but the LED on the water level board is ON:	
▪ Maybe the overflow system has been engaged because the machine has been moved without draining the **air-break** first;	Follow the procedure at the end of the paragraph.
▪ The **main inlet water valve** is gone.	Replace it.
The machine is filling water, but once reached the shorter probe, it keeps filling all the time. The LED on the water level board is still ON;	
▪ Wrong sensitivity setting;	Check the sensitivity bridge on the water level board. Only position 1 should be activated.
▪ The **air-break probes** are dirty;	Clean them.
▪ The connection is compromised;	Check the connections from the **air-break probes** to the **water level board**.
▪ The **water level board** got fault.	Replace it.

Cause of fault	Troubleshooting measure(s)
The machine is filling water, but once reached the shorter probe, it keeps filling all the time. The LED on the water level board turns OFF once reached the shorter probes;	
▪ The **main inlet water valve** stays open all the time;	Replace it
▪ The **output board** got fault;	Replace it.
▪ The **motherboard** got fault;	Replace it.

How to unblock the main inlet water valve

- Switch OFF the machine;
- Disconnect the water line pipe;
- Disconnect the overflow pipe from the **main inlet water valve** and drain the water inside;
- Switch back ON the machine and wait for the **coffee group** positioning. The **main inlet water valve** opens.
- Switch OFF the machine and connect back the water line pipe and the overflow pipe;
- Switch ON the machine.

14.5 E17-HEATING

Why?

The machine is heating up the **boiler**. Wait for the machine to be ready.

14.6 E18-CLEANING CYCLE REQUIRED

Why?

Or the option **HEATING CONTROL** is active.

Maybe it's the first time the machine is installed and it needs a cleaning cycle in order to fill the **boiler** with water, or somebody has switched ON the **HEATING CONTROL** option.

NOTE

Once the option **HEATING CONTROL** is activated, it can't be turned off from the programming.
Access the cleaning routine and run a **WHIPPER CLEANING**.

14.7 E19-DESCALING REQUIRED

Why?

The number of liters set in the **DESCALING CAPACITY** option has been done and the option **IN-LINE FILTER** is disable.

Clean the water boiler from lime scale by dismounting it from the machine.
After that, go into the programming > **COUNTERS** > **TECHNICAL DATA** and clear the liters counter.

14.8 E23-EMPTY GROUNDS DRAWER

Why?

The number of coffee set in the **MAX NUMBER OF GROUNDS** option menu has been done.

Follow the instruction manual to clear the message.

14.9 E24-DOOR OPEN

Why?

The front door micro switch is not engaged.

Cause of fault	Troubleshooting measure(s)
The **front door** is open;	Close it;
The front door is closed, but the message stays still.	The **front door micro switch** is damaged. Replace it
The connection is compromised	Check the wires from the **front door switch** to the **motherboard** (refer to the **Input/Output** table to understand which input number). Replace the **motherboard**.

14.10 E25-CHECK FILTER

Why?

The number of liters set in the **DESCALING CAPACITY** option has been done and the option **IN-LINE FILTER** is active.

Replace the de-scaling filter with a new one and go into the programming > **COUNTERS** > **TECHNICAL DATA** and clear the liters counter.

14.11 E39-COFFEE GROUP POSITIONING

Why?

The coffee group is moving. Wait for the completion of the movement.

Cause of fault	**Troubleshooting measure(s)**
The message stays still even if the coffee group doesn't move.	Maybe you've just put back the coffee group. Remove the **white door key** and put it back, or close the **front door**.

14.12 E58-BOILER 1 PROBE OVER TEMPERATURE

Why?

The board is measuring a temperature above 120°C

Cause of fault	**Troubleshooting measure(s)**
The temperature probe got fault;	Replace it.

14.13 E59-BOILER 1 PROBE DISCONNECTED

Why?

The board is measuring a temperature below 0°C

Cause of fault	**Troubleshooting measure(s)**
The temperature probe is disconnected; The temperature probe got fault.	Check the connections Replace it.

14.14 E62-CHECK GRINDER 1

Why?

The **grinder** is blocked.

Cause of fault	**Troubleshooting measure(s)**
A harder beans has gone into the grinder.	Move as more as possible the **grinder blades** to the coarse position and run a coffee. Check if it’s time to replace the blades;
The coffee **grinder** is blocked also with the blades totally opened.	Open the **grinder blades** and check if there is something inside.

14.15 E72-CLEAN COFFEE GROUP

Why?

The machine has detected an unusual current consumption of the **coffee group gearmotor**.

Cause of fault	Troubleshooting measure(s)
The **coffee group** is dirty.	Remove the **coffee group** and clean it from the coffee. Put some grease on the main screw and O-Rings.

14.16 E73-FLASH MEMORY ERROR / E102-EEPROM WRITE ERROR MOTHERBOARD

Why?

Error while saving data on the motherboard. Replace it.

14.17 E74-COFFEE GROUP TIMEOUT

Why?

The **coffee group** has taken too much time to finish a positioning than usual.

Cause of fault	Troubleshooting measure(s)
The **coffee group** wasn't in the position the machine expected.	Push on the notification to reset the coffee group.

14.18 E75-COFFEE GROUP MOTOR TIMEOUT

Why?

The **coffee group counter** is no more counting.

Cause of fault	**Troubleshooting measure(s)**
The **coffee group** has suddenly blocked during a movement;	Check that the **coffee group chamber** is not completely on the bottom or on the top of the unit.
The **coffee group** is dirty;	Clean the coffee group.
The **coffee group** is full of coffee puck;	Remove the coffee group and clean it.
The connection is compromised;	Check the connection between the **coffee group motor counter** and the **output board**.
The **motor counter** got fault.	Replace it.

14.19 E100-FLASH WRITE ERROR OUTPUT BOARD 1

Why?

Error while saving data on the output board 1. Replace it.

14.20 E102-EEPROM WRITE ERROR MOTHERBOARD

Why?

Error while saving data on the output board 1 or 2. Replace it.

14.21 E111-OUTPUT BOARD 1 VERSION INCOMPATIBLE

Why?

The motherboard has detected an output board 1 software version that is not compatible to its current version.

Usually the problem happens after a manual motherboard software update, because the motherboard software version becomes more recent while the output board software version is too old to suite the motherboard new features.

NOTE

Normally you shouldn’t need to upgrade a board manually, because everytime a new touch screen software version is installed, the touch screen automatically updates the boards according to its features.

Solution:

Make sure to have all the boards upgraded to the latest versions at the same time.

14.22 E119-CHANGE GIVER INCOMPATIBLE

Why?

The change giver connected to the machine is not compatible to the current machine settings.

Cause of fault	Troubleshooting measure(s)
The base coin of the change giver is different than the one set into the machine.	Check which base coin the change giver uses (refer to the instruction manual of the change giver) and make sure the machine is using the same value.

14.23 E120-CASHLESS DEVICE INCOMPATIBLE

Why?

The cashless device connected to the machine is not compatible to the current machine settings.

Cause of fault	Troubleshooting measure(s)
The base coin of the cashless device is different than the one set into the machine.	Check which base coin the cashless device uses (refer to the instruction manual of the cashless device) and make sure the machine is using the same value.

14.24 E121-BILL VALIDATOR INCOMPATIBLE

Why?

The bill validator connected to the machine is not compatible to the current machine settings.

Cause of fault	Troubleshooting measure(s)
The base coin of the bill validator is different than the one set into the machine.	Check which base coin the bill validator uses (refer to the instruction manual of the bill validator) and make sure the machine is using the same value.

14.25 E122-OUT OF COFFEE GRINDER 1

Why?

1. The **coffee group** has not been able to press the coffee properly.

Cause of fault	Troubleshooting measure(s)
The **beans hopper** is empty or closed;	Re-fill coffee **beans hopper** with fresh coffee beans and open the coffee stopper making sure the safety pin is completely out of the hopper;
The **grinder** runs, but there's not enough coffee inside the **coffee group chamber**;	The blades need to be changed (verify if 20000 cycles are reached) or the ground is too fine. Open the **grinder adjuster**;
The **grinder** runs but no coffee falls inside the **coffee group chamber**.	The coffee is blocked somewhere. Check the **grinder funnel**.

14.26 E124-COFFEE GROUP CLEANING REQUIRED

Why?

The number of coffee set with the option **NUMBER OF COFFEES FOR CLEANING CYCLE** has been reached.

Enter the cleaning routines and run a **Coffee Group Cleaning**.

14.27 E125-NOT CONNECTED

Why?

The **touch screen** is not connected to the **Bluetooth module** installed on the **motherboard**.

Cause of fault	**Troubleshooting measure(s)**
The screen is stucked;	Switch OFF the machine and back ON again.
The Bluetooth device used by the touch screen is not matching the one installed into the machine;	Follow the connection procedure at the end of this paragraph
The **Bluetooth module** got fault.;	Replace it
The **touch screen** got fault.	Replace it.

Bluetooth module connection procedure

Everytime there's the need to replace the **Bluetooth module** or the **touch screen**, the connection must be set up from the beginning.

1. Enter the programming > Settings > BLUETOOTH

2. Press the button **RESET DEVICE LIST** to clear all the devices previously registered. (all the buttons should become unavailable for few seconds)

3. Once the buttons are back available, press **SEARCH**;

4. On the "Bluetooth device search" window Press **SEARCH** again. The touch screen is now searching for any bluetooth device around;

   During the searching, the button **SEARCH** turnes into **STOP**. Once the touch screen has finished the searching it will turn back to **SEARCH** again. (This could take even few minutes);

5. Push on the device that's named with the serial number of the machine (i.e. 140000123) The message **CONNECTING…** will be displayed in yellow;

6. After few seconds the touch screen will ask for a PIN. Put **1234**;

7. In few seconds the message **CONNECTING…** should turn into **CONNECTED** displayed in green;

8. Go all the way back pushing the arrow on the the top left corner.

14.28 E128-CASHLESS 2 MALFUNCTION

Why?

The mobile cashless device is reporting a generic malfunction

Cause of fault	Troubleshooting measure(s)
Generic malfunction of the mobile cashless device.	Check with the Service and Support of the mobile cashless device.

14.29 E129-BOILER HEATING FAILURE

Why?

The boiler has taken more than 5 minutes to reach the temperature set.

Cause of fault	Troubleshooting measure(s)
The communication is compromised.	Check the continuity between the wires that goes on the thermostats from the output board (refer to the **Input/Output** table to understand which output number).
The boiler heating element got fault.	Replace it.
The output board got fault.	Replace it.

14.30 E130-REFUND CASHLESS 1 NOT AVAILABLE

Why?

The cashless device is reporting that it doesn't have the capability to refund money if a transaction goes wrong.

No solutions

14.31 E131-CASHLESS DEVICE 2 INCOMPATIBLE

Why?

The mobile cashless device connected to the machine is not compatible to the current machine settings

Cause:

The base coin of the mobile cashless device is different than the one set into the machine.

Solution:

Check which base coin the mobile cashless device uses (refer to the instruction manual of the mobile cashless device) and make sure the machine is using the same value.

14.32 E132-REFUND CASHLESS 2 NOT AVAILABLE

Why?

The mobile cashless device is reporting that it doesn't have the capability to refund money if a transaction goes wrong.

No solutions

14.33 E133-CASHLESS 1 MALFUNCTION

Why?

The cashless device is reporting a generic malfunction

Cause of fault	Troubleshooting measure(s)
Generic malfunction of the cashless device.	Check with the Service and Support of the cashless device

14.34 E141-FILLING WATER* *only with water kit

Why?

The option **FILLING WATER CONTROL** is active and the machine is filling the **air-break**.

This opton is active by default, because it guarantees that the **air-break** is full of water before to start the dispensing of any drink.

This avoid potential blockage of the milk coil due to a lack of water from the main water line and also makes a possible water line problem more visible.

CAUTION

The decision to switch this option to OFF is completely responsibility of the technician, who must make sure at least to meet the minimum requirements reported on the Instructions Manual of the machine.

14.35 E168-OUTPUT BOARD 1 INCOMPATIBLE

Why?

The machine is detecting that the hardware of the output board 1 is not compatible with the machine.

Cause of fault	**Troubleshooting measure(s)**
The **output board** hardware is not compatible with the machine;	Please check if the boards code, printed on the board's label is 9SSOB0104. If it is different, remove it and replace with one with the right code.
The **output board** got fault .	Replace it.

14.36 E198-REFILL DETERGENT TANK *only Self Cleaning machine

Why?

The machine is detecting that the detergent inside the tank is insufficient.

Cause of fault	Troubleshooting measure(s)
Insufficient level of detergent in the tank.	Fill the detergent tank.
The **detergent tank level sensor** got fault.	Replace it.

14.37 E225-COMMUNICATION ERROR

Why?

The touch screen is not communicating with the machine.

Cause of fault	Troubleshooting measure(s)
The **usb communication board** is faulty.	Replace the board.
The serial cable that connects the **usb communication board** to the motherboard is interrupted.	Replace the serial cable.
The cables and the board are fine but there's no power coming from the motherboard.	Check the main supply to the motherboard, if present change the motherboard.

14.38 E226-USB NOT CONNECTED

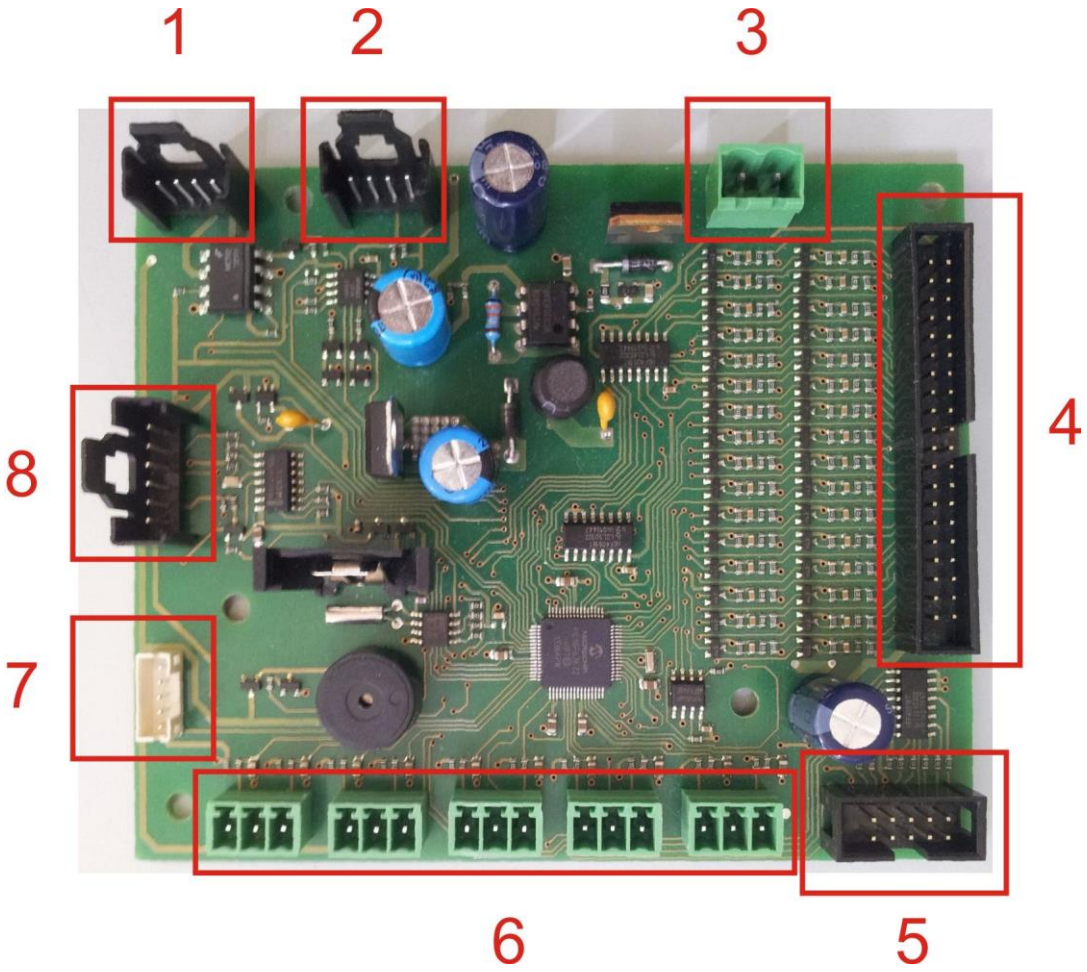
Why?

The touch screen is not connected to the usb communication board.

Cause of fault	Troubleshooting measure(s)
The **usb communication board** is faulty.	Replace the board.
The usb cable that connects the **usb communication board** to the touch screen is interrupted.	Ensure the usb cable is connected to the touch screen's port. Replace the usb cable.
The cable and the board are fine but the error is still showing.	Change the usb port where the usb cable is connected to. Change the touch screen.

15 Electronic boards description

15.1 Mother board

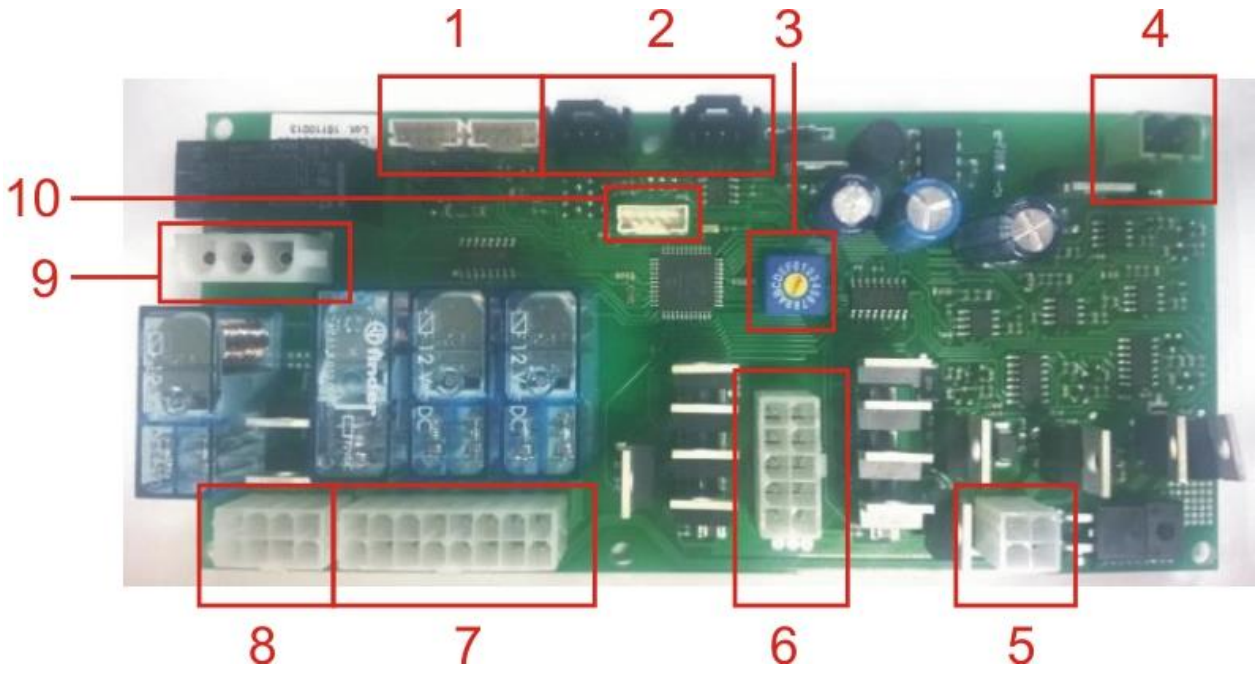


1. Executive / MDB device connector
2. Machine bus connector
3. 24V DC power supply
4. Inputs connector (40 ways connector)
5. Coin mechanism connector
6. Temperature probes connectors (in order from left to right):
    - Connector 1

        1. Boiler temperature probe
        2. Common cable for boiler and coffee group temperature probes
        3. Coffee group temperature probe (not used anymore)

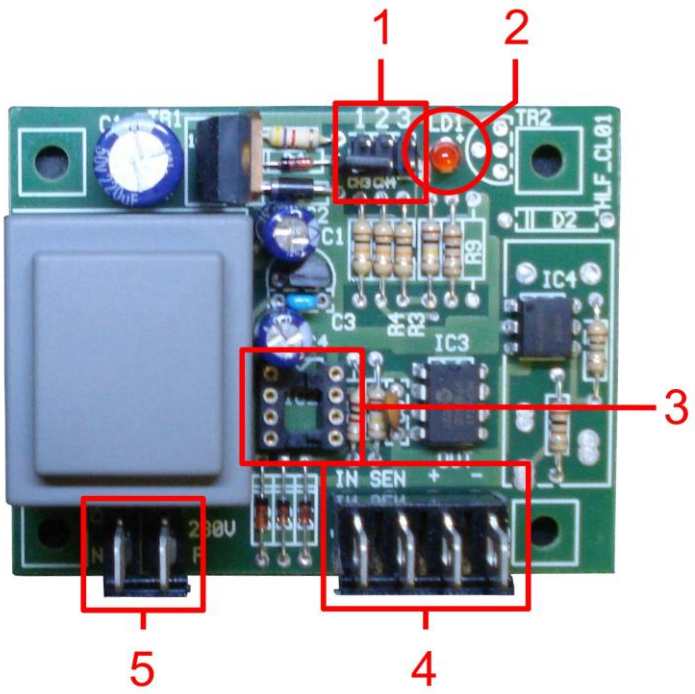
    Remaining connectors are unused
7. Hardware programming (for manufacturer only)
8. Bluetooth module connector

15.2 Output board



1. Counter connectors (the one on the right is the coffee group motor counter one)
2. Machine bus connectors
3. Board number selector
4. 24V DC power supply
5. Outputs connector n°4
6. Outputs connector n°3
7. Outputs connector n°2
8. Outputs connector n°1
9. Heating element connector
10. Hardware programming (for manufacturer only)

15.3 Water level board (external water kit only)



1. Sensibility bridge:
   - None = Minimum sensibility. The board feel the presence even of distilled water;
   - 1 = Independently of the sensibility, when filling, in the moment the water level reaches the maximum, the machine will fill for 2 seconds more (default position for air-break);
   - 2 = Less sensibility than None
   - 3 = Less sensibility than 2 (default position for steam boiler)
   - 2+3 = Less sensibility than 3 (for really hard water)
2. Led: lightened when the water level is below the minimum
3. Water level board microchip socket
4. Inputs connection
5. 230V AC connection

15.4 Power stabilizer

1. 24V DC connection
2. 24V AC connection
3. Ground connection

16 Planning diagram

17 Electric diagram

18 Hydraulic circuit

19 Spare part list