LAVAZZA BLUE

BEST LAVAZZA ULTIMATE ESPRESSO

COFFEE DISTRIBUTING CORP.

www.cdccoffee.com

LB 2800 - LB 2810

MAINTENANCE MANUAL FOR TECHNICAL ASSISTANCE

MANUAL CODE 10066574 / REL. 0.00 / MARCH 2009

LAVAZZA BLUE

BEST LAVAZZA ULTIMATE ESPRESSO

LB 2800

Machine code
10080022

LB 2810

Machine code
10080005

Manual code
10066574

Rel. 0.00
Edition 03/2009
© Copyright LAVAZZA S.p.A.

LAVAZZA TECHNICAL SERVICE

Tel. 0039.011.2398429
Fax 0039.011.23980466
technicalservice@lavazza.it

Table of contents

1. GENERAL INFORMATION

1.1. Designated personnel

The machine may be operated only by a qualified technician who has read this manual and, moreover who:

- is able to carry out repairs in case of serious malfunction and who has read this manual and all the information relative to safety;
- is able to understand the entire contents of the manual and to correctly interpret the drawings and diagrams;
- has knowledge of the appropriate hygiene, workplace safety, technology and security measures;
- knows how to act in an emergency, where to find the personal protective equipment and knows how to use it.

Attention

The use of the machine by personnel without the prerequisites needed is prohibited.

1.2. Structure of the manual

The technician must carefully read the information in this manual.

1.2.1. Scope and content

This manual can provide the technician with all the information necessary for the maintenance of the machine.

Attention

Before any operation is carried out on the machine, the qualified technician must carefully read the instructions contained in this publication.

If there is any doubt about the correct interpretation of the instructions, contact the manufacturer to obtain the necessary clarification.

Attention

The undertaking of any operation on the machine, without having read and understood the contents of this manual is prohibited.

1.2.2. Users

This manual is designed for technicians qualified for the maintenance of the machine.

The manufacturer is not responsible for damage derived from the failure to follow this rule.

1.2.3. Preservation

In order to be able to guarantee the integrity and utility of this manual the following guidelines should be observed:

- employ this manual in such a way that it remains undamaged and whole;
- do not for any reason, remove, tear, or write over any part of the manual;
- keep the manual in an area protected from humidity and heat, in such a way that the quality and legibility of the publication are not compromised.

Warning

If this manual is damaged or lost, a new copy should be immediately requested from the manufacturer or authorised distributor of the country where the machine is used.

1.2.4. Messages used

Attention

The ATTENTION messages indicate a danger, possibly lethal, for the technician. The operations described after this message must be carried out carefully and safely using the personal protective equipment.

Warning

The WARNING messages are displayed before procedures that, if not observed, could cause damage to the machine.

Environment

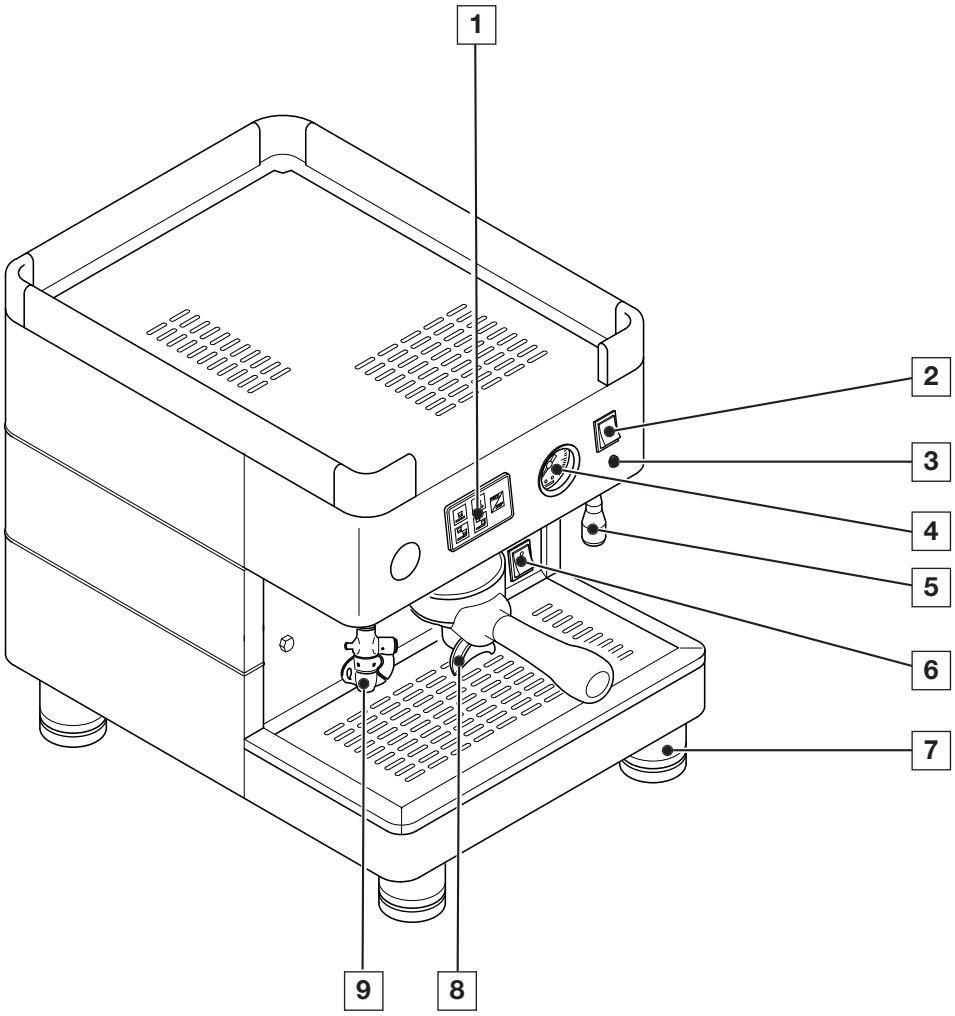
The ENVIRONMENT messages are displayed before procedures that, if not observed, could cause damage to the environment.

Note

The NOTE messages show further information useful for the maintenance technician.

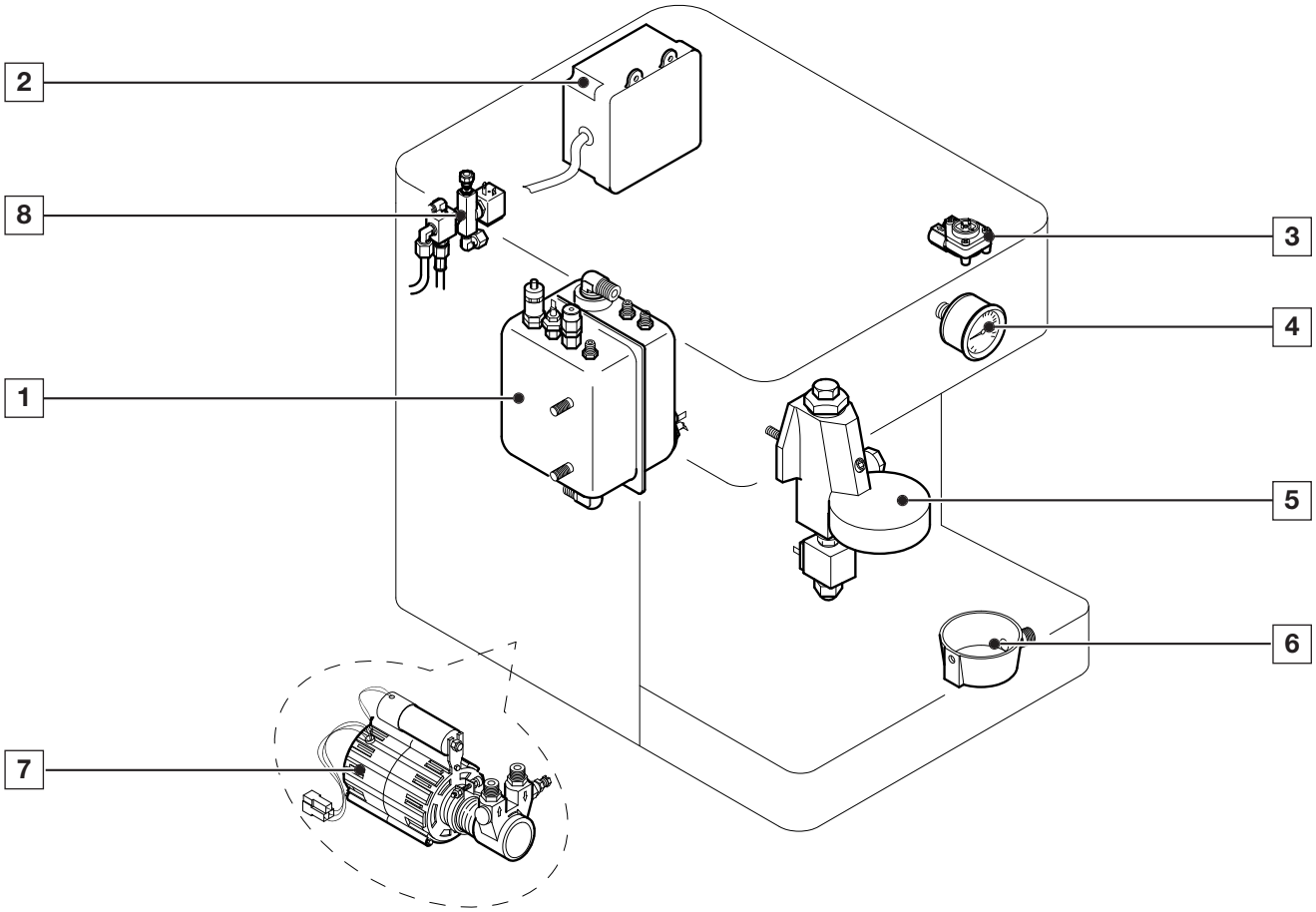
1.2.5. Machine composition

Note: if not expressly indicated in the text, the position numbers of the machine parts are referred to this figure.



1 Push button panel
2 Hot water dispensing push button
3 Boiler heating element indicator light working
4 Boiler pressure gauge
5 Hot water dispensing nozzle
6 Machine main switch
7 Adjustable foot
8 Coffee dispensing spout
9 Cappuccinatore

1.2.6. Internal components

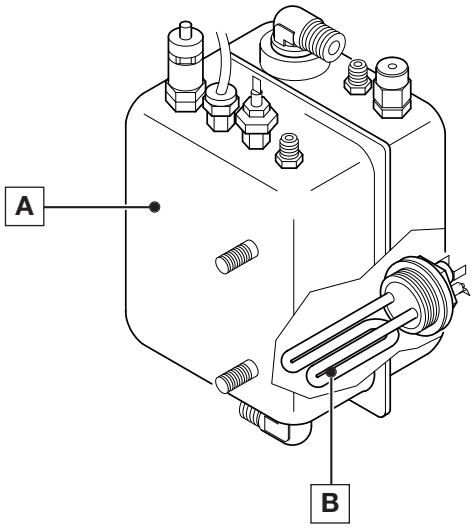


1 Boiler
2 Electronic control unit
3 Volumetric dosing device
4 Boiler pressure gauge
5 Dispensing assembly
6 Drain tub
7 Internal motor pump
8 Cold water mixing tap

1.2.7. Main components

1.2.7.1. Boiler

The boiler is made of steel (**A**), to which is assembled the heat exchanger which in turn is connected to the dispensing group. Water for coffee delivery is taken directly from the heat exchanger.
During delivery, cold water is sent to the inside of the exchanger by means of the pump. Inside the heat exchanger, cold water and the pre-existing hot water are mixed, thus obtaining optimal water temperature for coffee infusion.
The water is heated in the boiler by means of an electrical heating element immerged in the water (**B**).



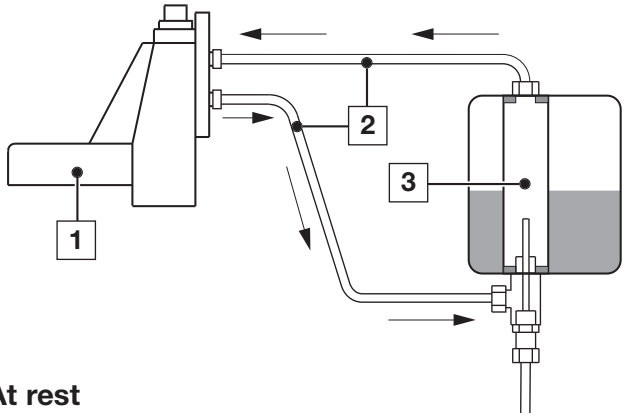
1.2.7.2. Delivery group

The delivery group and the heat exchanger are the fundamental components in obtaining espresso coffee. Specifically, the purpose of the group is to dispense the coffee.

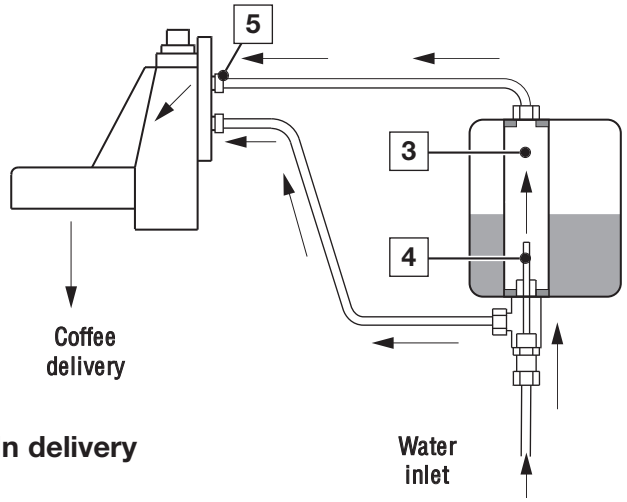
This system includes heating of the dispensing assembly (**1**) through thermosiphon circulation (**2**) connected to the heat exchanger (**3**). The same water is used for dispensing coffee:

- activation of the solenoid valve and the pump allow cold water to enter the exchanger (**3**) through the injector (**4**);
- from the exchanger (**3**) the water is carried to the group duct (**1**) for delivery;
- the pump allows the increase of the pressure of the water flow up to 8-9 bar for delivery.

To increase of decrease the temperature of the coffee in the cup, you must adjust the temperature of the water in the boiler (see related paragraph).



At rest



In delivery

Note

After lowering the temperature of the water in the boiler, if the coffee is still too hot, you will need to insert the choke provided on the upper pipe (5).

1.2.7.3. Automatic Water Entry (A.E.A)

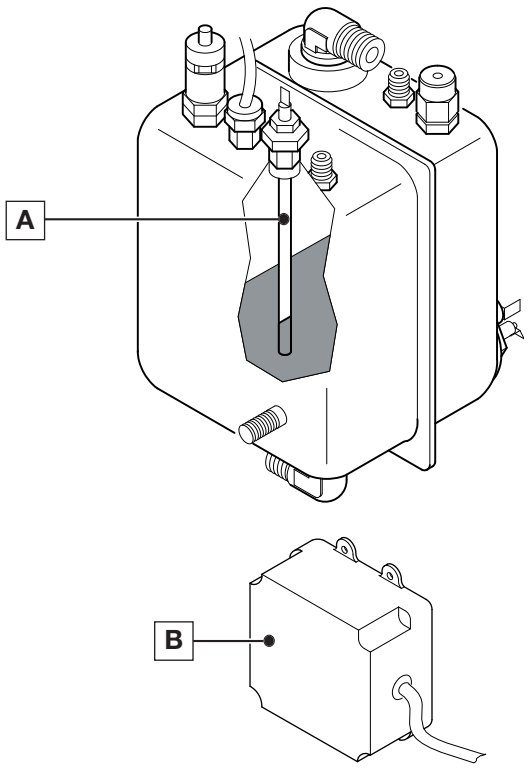
The Automatic Water Entry system is for checking the boiler level.

It is composed of:

- probe inserted in the boiler (**A**), composed of a stainless steel rod;
- electronic control unit (**B**);
- a pump which, along with the AEA solenoid valve, allows water to flow into the boiler.
- AEA solenoid valve.

The electronic control unit controls the level of water in the boiler. When the level drops, the contact with the probe is broken. The control unit sends an impulse to the inlet solenoid valve and to the motor pump, which are activated to restore the normal level of water in the boiler.

To avoid possible flooding due to machine malfunctions or leaks in the hydraulic circuit, the electronic control unit includes a timing device that cuts off automatic filling after a maximum operating time of 120 seconds.

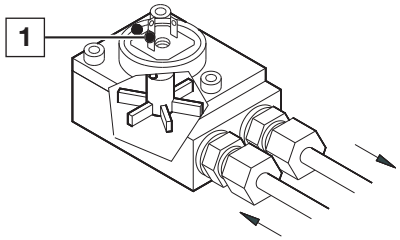


1.2.7.4. Volumetric dosing device

The volumetric dosing device installed on the EVD electronic machines serves the purpose of measuring the quantity of water sent to the espresso delivery group.

The dosing device generates an electrical impulse which is sent to the electronic control unit. This impulse is read by the control unit and memorized during the programming of the dose.

The flashing of the LED (**1**) indicates that the electrical impulse has been sent from the dosing device to the control unit.



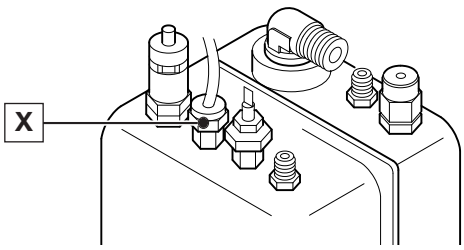
1.2.7.5. Checking boiler temperature/pressure

The temperature (and as a result the pressure) in the boiler is controlled by a special NTC sensor located on the boiler (**X**).

This sensor constantly sends information to the electronic control unit, which in turn activates or deactivates the heating element by means of a power triac.

The default temperature is set in the factory at 120°C.

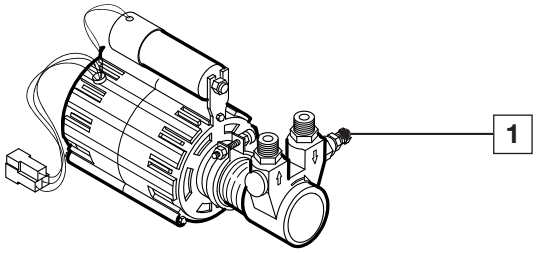
If you want to change this value, you can do so by means of the procedure described in the chapter “Programming of boiler temperature”.



1.2.7.6. Pumping system

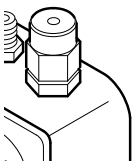
This is a component that feeds the machine, raising the water pressure to 8-9 bar for delivery of the coffee and automatic filling of the boiler.
To adjust operating pressure proceed as follows:

- press a coffee delivery key;
- connect a pressure gauge with an end of scale of more than 9 bar to the connection on the plumbing circuit (see plumbing diagram);
- Adjust the pressure by turning the screw located on the pump (**1**) so as to obtain a pressure of between 8 and 9 bar. Tightening the screw increases the pressure, and loosening it reduces the pressure;
- check the pressure using the pressure gauge.



1.2.7.7. Valve group

The valves are devices whose purpose is to ensure the safety and proper operation of the machine.

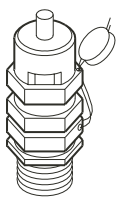


Negative pressure valve

The negative pressure valve eliminates the air in the boiler during the machine's warm-up phases.

Safety or pressure relief valve

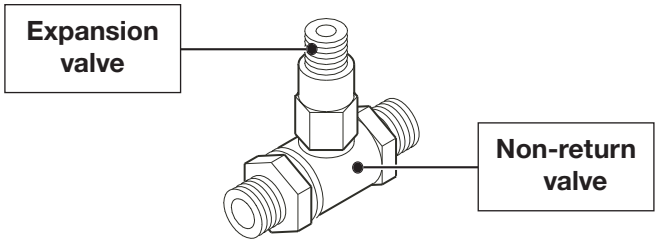
The pressure relief valve guarantees that the pressure in the boiler does not go above 2 bar. If there is a malfunction, the capacity of the valve is such that it can eliminate all the excess pressure from the boiler.



Expansion - non-return valve

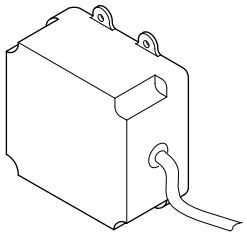
This is a valve consisting of an expansion valve and a non-return valve.

- Expansion valve: the cold water sent from the pump to the heat exchanger is heated.
  This heating causes an increase in the volume of water. To limit pressure increases in the hydraulic circuit, the valve limits the maximum internal pressure of the circuit to 12 bar.
- Non-return valve: its function is that of preventing the backflow of water from the exchanger in the hydraulic circuit.



1.2.7.8. Electronic control unit

Its purpose is to electronically control the coffee dose by means of the water flowing through the dosing device and to check the filling of the water in the boiler.
Furthermore, it also controls operation of the automatic cappuccinatore.
This control unit is set up to be connected to the delivery accounting systems by means of a specific interface device.



1.2.7.9. Softener

Mains water contains insoluble salts, which cause the build-up of lime scale deposits in the boiler and in other parts of the machine. The softener makes it possible to eliminate or substantially reduce the presence of these mineral salts.

Attention

The build-up of lime scale in the hydraulic circuit and boiler inhibit thermal exchange, thus compromising proper operation of the machine. Heavy incrustation in the boiler may cause long machine shutdowns and in any case invalidate any guarantee.

1.2.8. Machine identification data

In the plate the following identification data of the machine are indicated:

- Manufacturer;
- machine name;
- serial number;
- power supply voltage (V) and frequency (Hz);
- power consumption (W);
- water mains pressure (MPa).

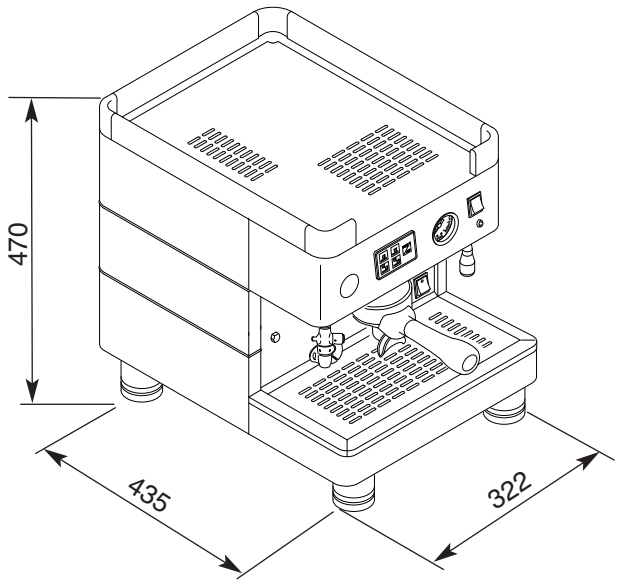
Note

In case of contact with authorized service centres, please indicate the model and serial number.

1.2.9. Technical data

Power supply voltage (V): 120 - 230 - 240
Boiler capacity (lt): 2
Frequency (Hz): 50 / 60
Power (W): model 120V (1270 W)
model 230V (1570 W)
model 240V (1710 W)
Boiler pressure (bar): 1,4 Max
Safety valve calibration (bar): 2
Supply water pressure (bar): 0 - 5 Max
Coffee dispensing pressure (bar): 8 - 9
Net weight (Kg): 31
Operating range: +5 +50 °C

1.2.10. Overall dimensions



2. GENERAL SAFETY RULES

Attention

Read the entire manual carefully and the following general safety rules.

- Power connection should be made in compliance with local standards in force.
- The electric socket connecting the machine should:
  - conform to the type of plug installed on the machine;
  - comply with the data provided on the plate placed on the bottom of the apparatus;
  - be connected to ground.
- The electric parts of the machine must not:
  enter into contact with any type of liquid: danger of electric shock and/or fire;
  - be manipulated by humid or wet hands;
  - be tampered with.
- It is forbidden:
  - To use the machine near flammable substances and/or explosives and/or in an atmosphere with any risk of fire;
  - To use spare parts not advised by the manufacturer;
  - Carry out any type of technical modification not covered in the normal procedures of diagnosis and repair.
- Before carrying out any operation on the machine ensure that the plug is disconnected from the current and that the machine has cooled.
- Maintenance operations on the machine should be carried out by a single person; if a second person must intervene, this person should be advised of the potential hazards relevant to the operation underway.
- In case of fire use carbon dioxide (CO_2) extinguishers. Do not use water or powder extinguishers.

Attention

During the repair of the machine all the normal safety protections, designed to avoid accidents are disabled. Adopt all the measures necessary to avoid accidents.

2.1. Stop functions

To stop the machine turn the main switch to “0” (OFF).

2.2. Safety devices

Note

The machines described in this publication, are designed in compliance with the specific European standards in force and therefore have measures of protection in all the potentially hazardous parts.

A thermal protector avoids any overheating of the boilers.

2.3. Residual risks

This chapter describes possible hazards for the user if the specific safety standards (described in this manual) are not adhered to.

The appliance must be connected to an efficient grounding system

If this is not done, the appliance can be a source of dangerous electrical discharges in that it is no longer able to discharge electricity to earth.

Do not use running water for washing

The use of pressurized water directly on the machine can seriously damage electrical appliances. Never use water jets to wash any part of the appliance.

Use care with the hot water nozzle

When in use, the hot water nozzle gets hot and is therefore a source of potential hazard. Handle this part carefully. Never direct steam or hot water jets directly on parts of the body.

Be careful of the outer surfaces of the delivery group

During normal operation, even the delivery group overheats and thus poses a potential hazard. Be careful not to come into contact with the outer surfaces of the group.

Do not work on the machine when it is supplied with electrical power

Before carrying out any maintenance or repair work on the machine you must turn it off by means of the main network switch or, better yet, disconnecting the connection terminals in the network. Never remove any body panel when the machine is supplied with electrical power.

Never work on the hydraulic system before having emptied it

All work regarding the hydraulic system and the relative boiler are to be avoided when there is still water and pressure in the system. You must therefore empty it in advance by closing the mains tap and running the dispenser group, the hot water nozzle and the cappuccinatore empty for a short time. Turn the machine off When the pressure is zero, completely empty the boiler, unscrewing the special pipe fitting located on the lower part of it.

If the above procedure is not correctly carried out, opening any part of the hydraulic system can cause a sudden outlet of overheated water under pressure.

Use of the appliance

This espresso coffee machine is an appliance for professional use only. Any other type of use is considered incorrect and therefore dangerous. Never allow children or incapacitated persons to use the machine.

Group perforator

Be careful of the tips of the pod perforator located inside the clamping ring of the group.

Attention

Non-observance of the above standards can cause serious harm to people, property or animals.

Never work on the electronic apparatus when the machine is still supplied with electrical energy.

Shut down the machine completely by unplugging it from the mains before carrying out any operation.

Attention

Any operation taken by the technician on the electronics of the machine when the machine is powered, automatically invalidates any guarantee.

The technician should know that the machine is electrically connected and act accordingly.

Attention

Burn danger – During hot water and steam dispensing, do not direct the jets toward others or yourself. Grasp the pipe, exclusively on the relevant protectors (12 and 17).

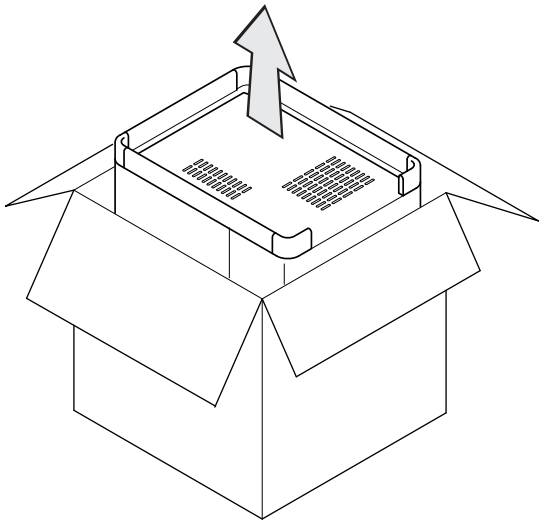
Warning

Do not use any containers that are not suitable for foodstuffs.

3. INSTALLATION

3.1. Unpacking

Open the packaging, taking care not to damage the machine.
Remove the machine protections and the equipment contained in the package. Take the machine out.



3.2. Mounting-Positioning

Warning

It is prohibited to install the machine outside or in places where water or steam jets are used.

Warning

The presence of magnetic fields or proximity with electric machines which generate disturbances, may cause malfunctions in the electronic control of the machine.

Warning

With temperatures approaching 0°C there is the risk of freezing internal parts of the machine which contain water. Do not use the machine under these conditions.

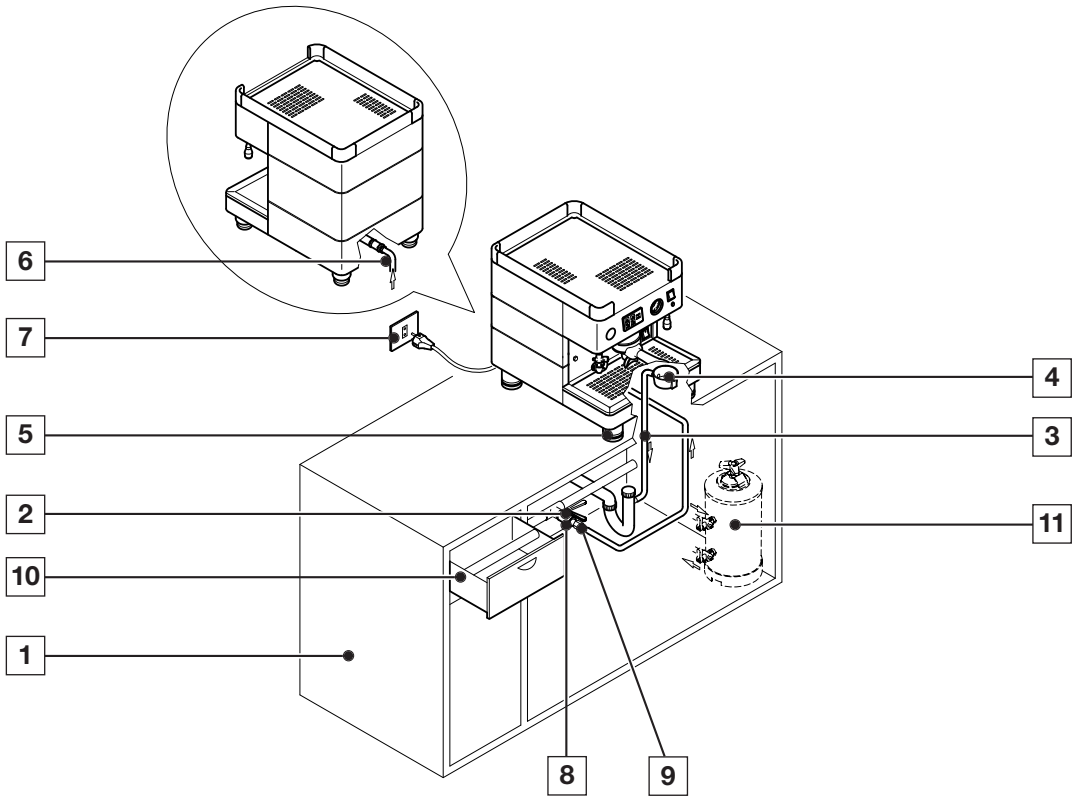
For the correct operation of the machine, the following advice is given:
- environmental temperature: 10°C ÷ 25°C;
- maximum humidity: 65%;
- the area must be ready for the installation of the machine;
- the place where the machine is installed should be flat, solid and still; the surface must not have an inclination of more than 2°;
- the area should be sufficiently illuminated, ventilated, hygienic and equipped with a readily available power outlet.

Attention

Sufficient space must be allowed to access the machine and the plug, to allow the user to move freely and to be able to immediately leave the area in an emergency.

3.3. Positioning

Prepare an ample support base for the machine that is suitable to support its weight (**1**). It is important that all terminals of connections to the water mains (**2**) and to the electrical mains (**7**) are easily reachable and, in any case, in the immediate vicinity of the machine. It is advisable to equip the working base of the machine with a drawer (**10**) for used coffee capsules.



Attention

For correct operation, the machine must rest on a perfectly horizontal surface. Any alignment adjustments of the machine must be done by adjusting the feet (5).

Note

For a correct ergonomic use of the machine, place it on a working surface not lower than one meter from the floor.

Warning

For correct operation, the machine must rest on a perfectly horizontal surface. Any alignment adjustments of the machine must be done by adjusting the feet.

Warning

Check that the surface prepared for the machine installation, has dimensions and sturdiness suitable to safely support the machine.

3.4. Water connection

Inlet and outlet water connections should comply with applicable laws in force in the country where the machine is used.

- connect the water mains (**2**) to the inlet on the back of the machine (**6**) using the hose provided. Then open the tap of the water mains.

- connect the drain tub of the machine (**4**) to the sewer drain (**3**) using the special tube provided. Take care to avoid overly tight bends or kinks, and make sure that there is sufficient inclination for water to flow out of the drain..

Note

All filling connections are 3/8 male gas type. The drain tub is connected with a tube with an internal diameter of 16mm.

Warning

The water mains must provide cold water for human consumption (potable water) at a maximum pressure of 5 bar inclusive If the pressure is greater than 5 bar, connect a pressure reducer upstream from the pump.

Warning

Insert a tap (8) and a non-return valve (9)on the water mains supply so that it will be possible to cut off water flow to the machine.

Connect the water mains (2) directly to the inlet of the machine (6). If you decide to install a water softener (11), connect the water mains (2) to the inlet of the water softener, and the outlet of the water softener to the inlet of the machine (6).

To prevent the water from freezing, install the softener (11), only in rooms with an ambient temperature of more than 5°C.

When connecting the tub of the machine to the sewer drain, avoid overly tight curves or kinks, and make sure that there is sufficient inclination for water to flow out of the drain.

The drain must be connected to an inspectionable siphon that can be periodically cleaned in order to avoid the backflow of unpleasant odours.

To avoid oxidization and damage to the machine over time, do not use iron connections for the hydraulic connections, even if they are galvanized.

Attention

The hydraulic connection must be made in compliance with local national standards.

If an external tank is used, the connection pipe between the machine and the tank must not exceed 150 cm.

For the European Community: for both the hydraulic connection to the water mains as well as the connection to an external tank, a non-return valve (9) must be placed up the line from the machine as set forth by standards EN 1717.

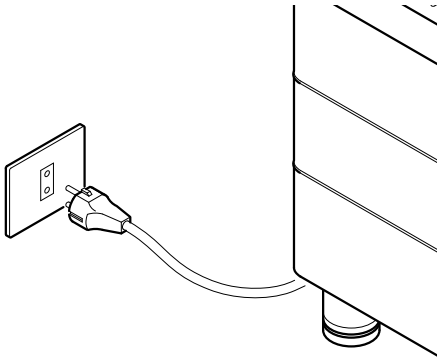
Note

All the machines are equipped with automatic water fi lling, and there is an automatic time control device which allows the boiler to be fi lled with water within a maximum period of time. This function keeps water from coming out of the valve of the boiler (flooding) and keeps the motor pump from overheating.
If the maximum time is not enough for the boiler to fi ll up completely, turn the machine off and then back on, and repeat the operations described above.

3.5. Electrical connection

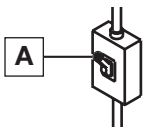
Before using the machine, make sure that the mains voltage corresponds to the information on the data plate of the machine located under the drainage tray.

Plug the machine into the electrical mains.



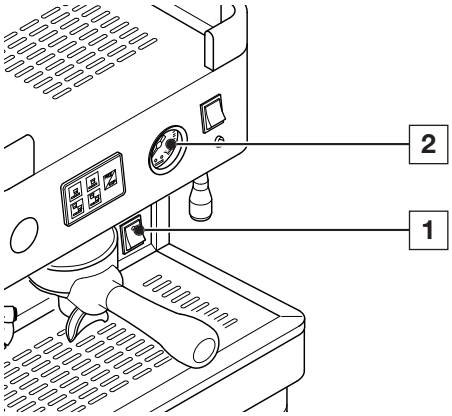
Attention

On the electrical mains, it is advisable to install a main protection switch (A).



3.6. Turning the machine on

Turn the machine on using the main switch (**1**).
Before using the machine, wait for a short time (about 10 min.) until the gauge (**2**) indicates the correct working pressure (1-1.2 bars).



Attention

During the machine's warm-up phase (roughly 20 minutes), the negative pressure valve will release steam for a few seconds until the valve itself closes.

Before using the machine, run deliveries dry with the fi lter holder attached for a few seconds to release any air which may be in the circuit, so that the delivery groups are completely heated.

Before using the machine, dispense a few servings of coffee to check the operating pressure of the machine.

4. HANDLING AND STORAGE

4.1. Handling

During handling and transport, the machine must remain in a vertical position according to the directions on the packaging. Carry out lifting and positioning with care. Do not shake the machine.

Attention

Ensure that nobody is in the vicinity when lifting and handling of the load and, in difficult conditions, appropriate personnel should check the operations.

4.2. Storage

The machine should be stored according to the following conditions:
- minimum temperature: above 4°C;
- maximum temperature: below 40°C;
- maximum humidity: below 95%.

The machine is packaged in cardboard and wood.

Warning

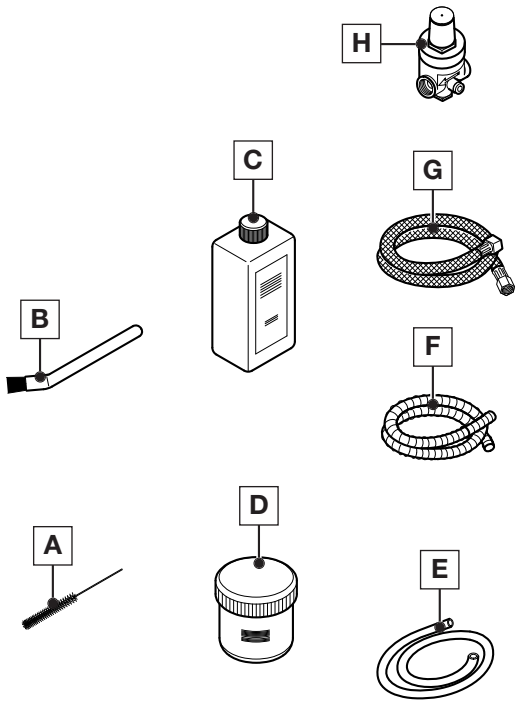
Given the total weight of the package, it is prohibited to stack more than three machines. The machine should be stored, in its original packaging, in a dry and clean place (without humidity or dust).

5. ACCESSORIES INCLUDED

- **Instruction booklet for machine use.**

- **Accessories**

A) Rifle-type brush
B) Brush with bristles
C) Detergent for cappuccinatore
D) Puly caf
E) Silicone pipe
F) Pipe cavoflex
G) Flexible pipe
H) Reducer



6. DISMANTLING

Environment

Disposal of machine components after dismantling, should be carried out with respect for the environment, avoiding pollution of the soil, water and air. Any operation should comply with local legislation in force.

To make the machine unusable, remove the power cord.
Deliver the unserviceable machine to an appropriate collection centre.

Environment

The battery resident in the electronic board should be removed from the equipment prior to disposal. Batteries should be disposed of in a safe manner.

6.1. Instructions for end of life treatment

This product conforms to the EC Directive 2002/96/EC.

The symbol applied on the equipment or on the packaging indicates that, at the end of its life, the machine should not be treated as a generic household waste but should be delivered to an authorised centre for collection of WEEE set up by the Public Administration. Otherwise it could be delivered to the retailer when a new machine is purchased.
The user is responsible for sending the equipment at its end of life to the appropriate collection centres, there is a penalty if current legislation on waste is not followed. Collecting the components of the machine in properly separated fractions will enable recycling, treatment and environmentally friendly disposal and contribute to avoiding possible adverse effects on the environment and on the human health.
For more information regarding available collection systems, contact the local waste disposal service, or the retailer where the equipment has been bought.

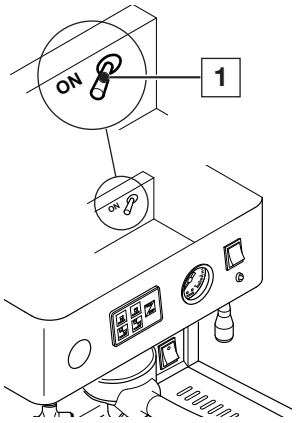
The manufacturer and/or the importer are responsible for the recycling, treatment and disposal in an environmentally safe manner either individually or by joining a collective scheme.

Environment

Disposal of the machine or its components, should be performed in an environmentally sound way and according to the local standards in force.

7. PROGRAMMING

7.1. Programming coffee servings



Place the programming lever (**1**), located under the boiler cover of the machine, in the ON position.

Insert a pod in the filter holder and attach the filter holder to the group, tightening firmly.

Put the coffee cup under the dispensing spout.

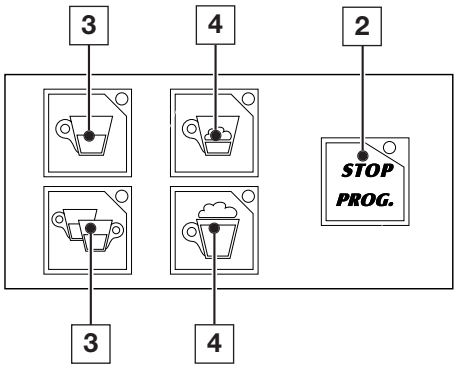
Press the PROG/STOP button (**2**) for about 5 seconds; all the dose button LEDs will come on.

Press the desired dose button (**3**).

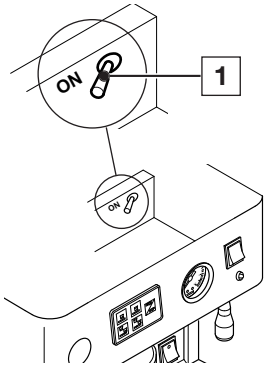
When the desired dose has been attained, confirm by pressing the PROG/STOP button (**2**).

Repeat the operation for the other dose keys.

When finished programming, return the programming lever (**1**) to the OFF position.



7.2. Programming cappuccino doses



Place the programming lever (**1**), located under the boiler cover of the machine, in the ON position.

Insert a pod in the filter holder and attach the filter holder to the group, tightening firmly.

Put the cup under the dispensing spout of the cappuccinatore.

Press the PROG/STOP button (**2**) for about 5 seconds; all the dose button LEDs will come on.

Press the desired cappuccino dose button (**4**).

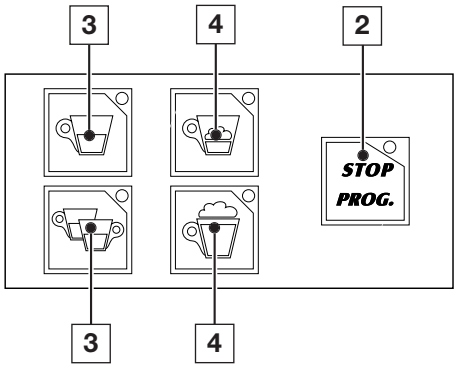
Delivery of coffee will begin; when the desired dose of coffee is attained, confirm by pressing the PROG/STOP button (**2**).

Milk dispensing will start automatically.

When the desired dose of milk has been attained, confirm by pressing the PROG/STOP button (**2**).

Repeat the operation for the other dose button.

When finished programming, return the programming lever (**1**) to the OFF position.



Note

The programming of each dose must be done with a new pod and not with previously used pods.

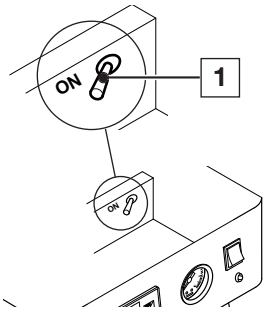
Attention

Programming must be performed by technical staff.

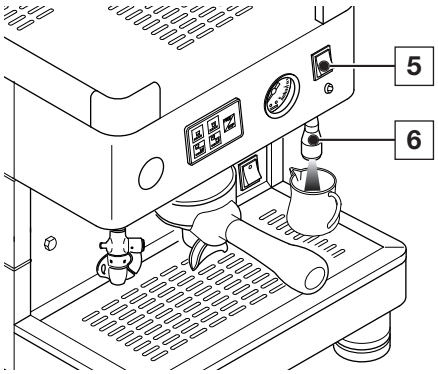
Use caution when accessing the interior of the machine (setting the programming lever) due to the high temperature of some of the components and the present of live voltage.

7.3. Programming hot water doses

Place the programming lever (**1**), located under the upper grille of the machine, in the ON position.



Place the cup under the hot water dispensing nozzle (**6**).

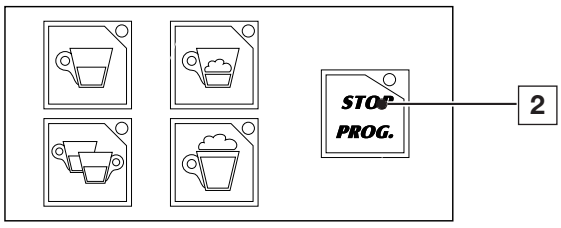


Press the PROG/STOP button (**2**) for about 5 seconds; all the dose button LEDs will come on.

Press the hot water delivery key (**5**).

Upon reaching the desired serving confirm by again pressing the key for water delivery (**5**).

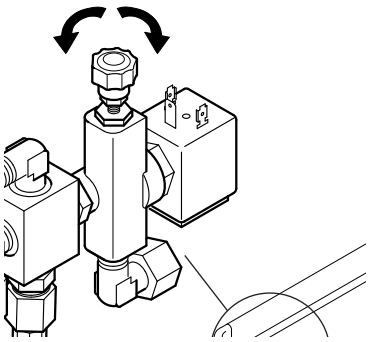
Press the PROG/STOP key (**2**).



Return the programming lever (**1**) to the OFF position.

Note

It is possible to adjust the temperature of the outlet water by means of the mixer tap located inside, at the rear of the machine.
Turn clockwise to decrease the flfl ow of cold water, and anti-clockwise to increase it.



Attention

Programming must be performed by technical staff.

Use caution when accessing the interior of the machine (setting the programming lever) due to the high temperature of some of the components and the present of live voltage.

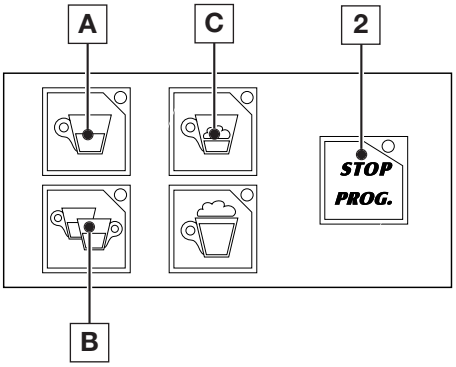
7.4. Coffee-cappuccino programming sequence

The machine allows you to decide which sequence to use when dispensing cappuccino.
In particular, there are three options:

A) Delivery of milk first, then coffee;

B) Delivery of coffee first, then milk;

C) Simultaneous delivery of milk and coffee.

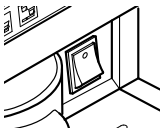


Note

In the simultaneous delivery sequence (c), however, there is always a slight delay in the delivery of the coffee due to the pre-infusion system.

To decide which of the three options to use, proceed as follows:

- Turn the machine off by moving the switch to position 0;



- press and hold the button of the push button panel regarding the desired option (see figure alongside) and simultaneously turn the machine back on: the LED of the button pressed will come on;

- confirm by pressing the PROG/STOP button (**2**).

The machine will now use the set sequence.

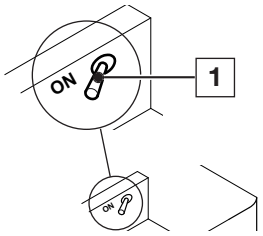
Note

The machine is factory-programmed for simultaneous delivery of milk and coffee (mode c).

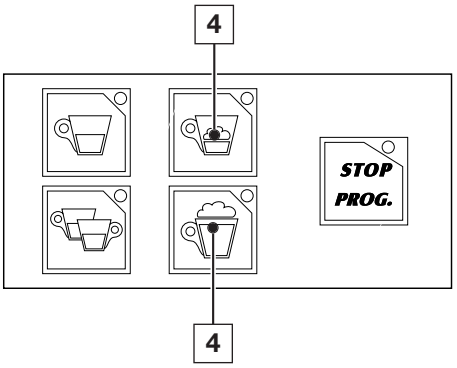
7.5. Loading default data

To reset factory settings:

- Place the programming lever (**1**) located under the upper grille of the machine, in the ON position;



- Turn the machine on by simultaneously pressing and holding the keys (**4**) for at least 5 seconds;



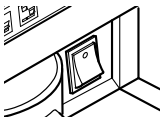
- Confirmation of loading of data is signalled by the LEDs of the two keys;

- Place the programming lever (**1**) located under the upper grille of the machine, in the ON position.

7.6. Programming of boiler temperature

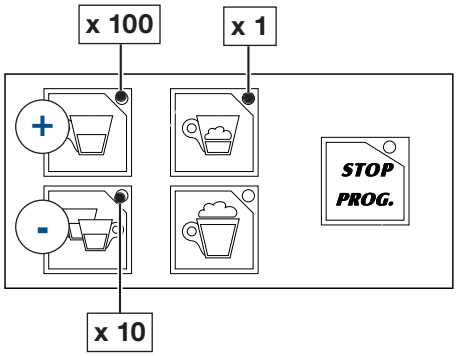
To adjust the temperature of the boiler outlet water, proceed as follows:

- turn the machine off by moving the switch to position 0;



- press and hold the STOP/PROG key of the push button panel and start the machine. At start-up, the LEDs of the dose keys will flash to indicate the currently set temperature (temperature = sum of no. of flashes of each key multiplied by the indicated value);

- to change the temperature, use the dose keys (+ , -) to increase or decrease the temperature by 1°C.



- once you have reached the desired value, confirm by pressing STOP/PROG.
  The LEDs will flash again to indicate the new setting. Then the heating element light will come on and the machine will start operating;

- turn the programming switch to OFF.

Default temperature: 120 °C
Range: 80 - 125 °C
Suggested temperature: 115 °C

Note

If you want to obtain a temperature below the minimum that can be set, you can install in the tube of the dispensing group a choke Ø4 mm, included with the machine (see plumbing diagram at end of booklet).

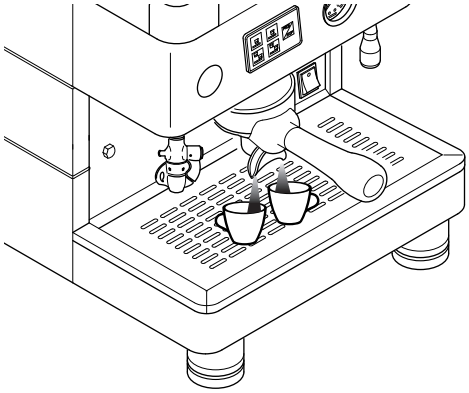
Attention

Programming must be performed by technical staff.

Use caution when accessing the interior of the machine (setting the programming lever) due to the high temperature of some of the components and the present of live voltage.

7.7. Coffee dispensing

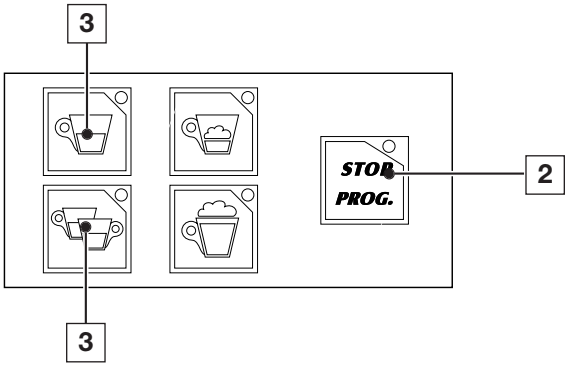
Put the coffee cup under the dispensing spout.



Insert a pod in the filter holder and attach it to the group, tightening firmly.

Press the desired dose button (**3**) and wait for coffee to be delivered (the LED comes on).

To stop the delivery of coffee in advance, press the delivery button again or press the STOP/PROG button (**2**).



Note

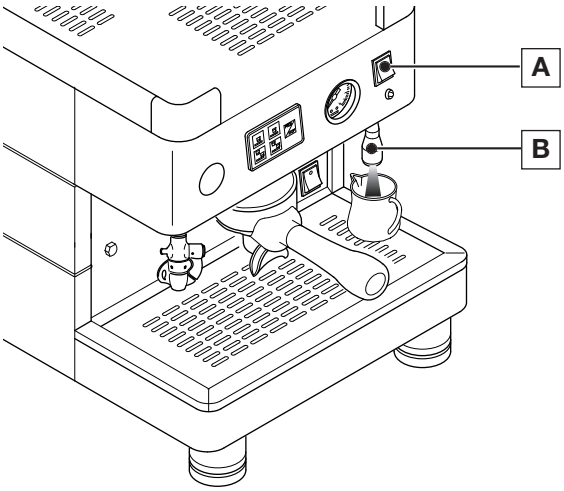
If you decide to dispense manually, you can use the STOP/PROG key (2). Press the key to activate coffee dispensing.
Press again to stop the selection.

7.8. Preparation of hot beverages

Dispensing hot water

Place the jug under the hot water nozzle (**B**).

Press the hot water delivery key (**A**).



Upon reaching the established amount of water, dispensing stops immediately.

Attention

Do not touch the hot water nozzle, it gets very hot.

7.9. Cappuccinatore

Cappuccino preparation

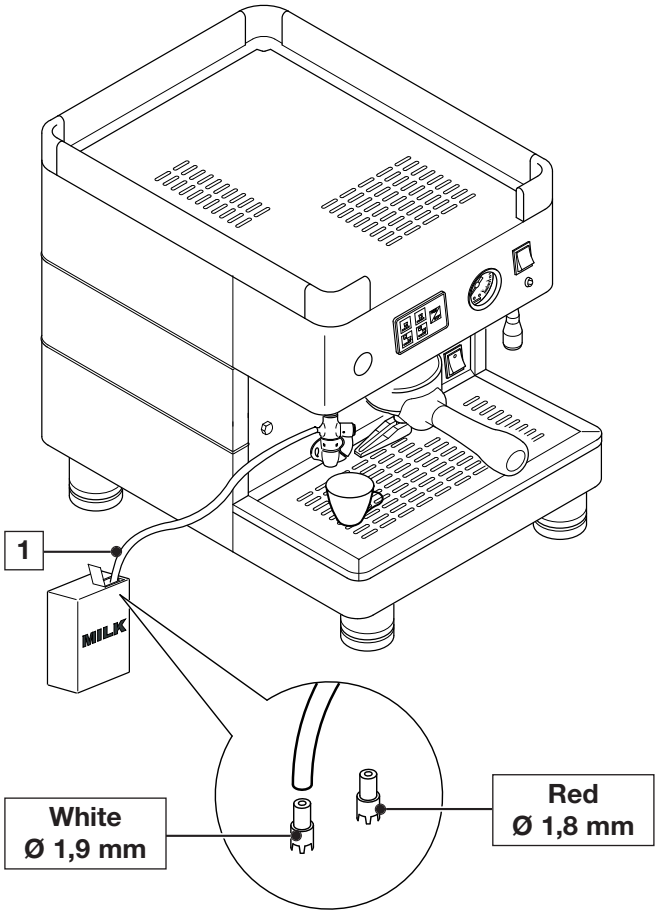
Put the suction tube (**1**) inside the milk.

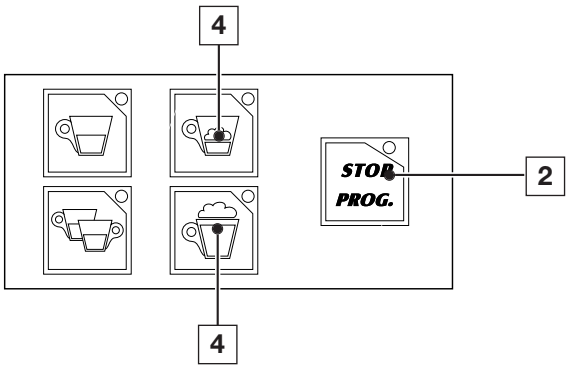
Insert a pod in the filter holder and attach it to the group, tightening firmly.

Put the cup under the dispensing spout of the cappuccinatore and the filter holder.

Press the desired dose button (**4**) and wait for milk and coffee to be delivered (LED comes on).

To stop dispensing in advance, press the key STOP/PROG (**2**).





Note

For proper use of the automatic cappuccinatore, it is advisable always to use the filter holder with the long spout.

To modify the temperature of the milk, install one of the adaptors provided on the suction tube. The table below shows the temperature of outlet milk based on the type of adaptor installed.

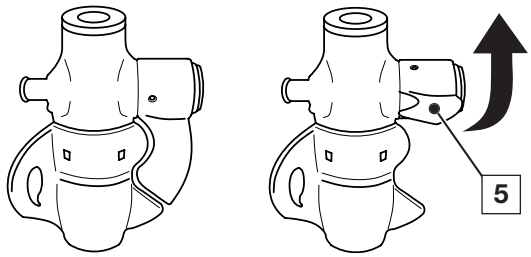
Table of temperatures with and without reductions

(temperatures measured in a pre-heated cup)

Milk temperature	Without use of adaptor	With white adaptor Ø 1,9 mm	With red adaptor Ø 1,8 mm
Temperature ambient 16 °C	55 - 60 °C	60 - 68 °C	68 - 75 °C
Chilled milk 6 °C	48 - 56 °C	58 - 63 °C	63 - 70 °C

Preparation of caffelatte

It is possible to dispense caffelatte (milk without foam) by using the lever (**5**) of the cappuccinatore.



CAPPUCCINO pos. **WARM MILK pos.**

Attention

Be sure the cappuccinatore is kept clean as described in the chapter “Cleaning”.

In versions without connection to the sewer system, remember to empty the drain tray frequently.

8. PROBLEMS, CAUSES AND SOLUTIONS

Below is a list of possible problems with machine function.

PROBLEM	CAUSE	SOLUTION
MACHINE LACKING POWER	1) The machine main switch is in the “0” position 2) The machine switch is defective 3) The mains power supply switch is in the OFF position 4) The connection to the electrical mains is defective	1) Place the machine switch in the “1” position 2) Replace the main switch 3) Place the mains switch in the ON position 4) Check for any defective connections
WATER LACKING IN BOILER	1) The water mains tap is closed 2) The pump filter is clogged 3) The motor pump is disconnected or jammed 4) The water filling solenoid valve is defective 5) The water inlet solenoid valve filter is clogged	1) Open the water mains tap 2) Replace the pump filter 3) Check the motor pump 4) Replace the water filling solenoid valve 5) Clean or replace the filter of the solenoid valve
TOO MUCH WATER IN THE BOILER	1) The solenoid valve of the automatic level device is defective 2) The heat exchanger is perforated 3) The solenoid valve of the automatic level device remains connected	1) Replace the solenoid valve of the automatic level device 2) Replace the boiler. 3) Check the level probe, the earth of the frame and the operation of the electronic control unit

PROBLEM	CAUSE	SOLUTION
SHUTDOWN OF THE ELECTRONIC SYSTEM	1) The control unit fuse is burned out 2) The volumetric dosing device has a contact between the positive pole and earth	1) Replace the main fuse (125 mA) 2) Check the connection of the volumetric dosing device
THE PUMP LEAKS WATER	1) Poor mechanical seal of the shaft or the O-ring seal 2) The inlet and outlet connections are loose 3) The hex nut of the pressure relief valve or the filter is loose 4) The seal or O-ring of the pressure relief valve or the filter is defective.	1) Check the status of the pump and take any corrective action which may be required 2) Tighten the connections 3) Tighten the hex connection of the pressure relief valve and the filter 4) Replace the seal and O-ring. Take care not to change the calibration of the valve
THE MOTOR STOPS SUDDENLY OR THE THERMAL PROTECTOR INTERVENES DUE TO OVERLOAD	1) Lime scale and mineral build-ups in the pump have caused it to jam 2) The pump and the motor are not aligned 3) The motor is defective 4) The motor is connected with a incorrect voltage	1) Check the status of the pump and replace it, if necessary 2) Install the pump-motor joint 3) Replace the motor 4) Ensure that the power supply voltage of the motor is correct
THE CUP IS DIRTY WITH SPLASHED COFFEE	1) Steam pockets in the delivery system 2) Air pockets in the hydraulic circuit 3) The flow reducer of the group is unsuitable	1) Reduce the water temperature 2) Check the cause and eliminate the problem 3) Replace the flow reducer

PROBLEM	CAUSE	SOLUTION
COFFEE IS TOO COLD	1) The electrical heating element is defective 2) The electrical connection is defective 3) Lime scale on heat exchanger and/or heating element 4) The heating element protection thermostat has cut in 5) Lime scale has reduced the circulation of water 6) The delivery group is cold	1) Replace the electrical heating element 2) Check for any defective connections 3) Clean the machine 4) Reset the heating element protection 5) Clean the connections of the exchanger, and clean or replace the two circulation tubes 6) Eliminate air pockets in the hydraulic circuit in the following manner: - disconnect the electrical power supply to the pump - close the mains water tap - perform a dry delivery run for a few minutes - reconnect the electrical power supply to the pump - open the mains water tap - perform delivery until water comes out - wait a few minutes for heating
COFFEE IS TOO HOT	1) The boiler temperature is too high 2) The flow reducer of the group is unsuitable	1) Reduce the temperature in the boiler 2) Replace the injector with one of a smaller diameter

PROBLEM	CAUSE	SOLUTION
COFFEE DISPENSED TOO QUICKLY	1) The diameter of the injector is too large 2) The boiler temperature is too high	1) Replace the injector with one of a smaller diameter 2) Reduce the temperature in the boiler
COFFEE DISPENSED TOO SLOWLY	1) The injector is clogged 2) The delivery group is clogged 3) The filter holder is dirty	1) Replace the injector 2) Check and clean the delivery group 3) Clean and replace the filter holders, if necessary
THE PRESSURE GAUGE INDICATES AN UNACCEPTABLE PRESSURE	1) The pressure gauge is defective 2) Incorrect motor pump calibration.	1) Replace the pressure gauge 2) Adjust the calibration of the motor pump
GROUNDS IN CUP	1) The filter holder is dirty 2) The lower perforator holes are worn 3) The undercup seal is worn 4) The temperature of the delivery water is high	1) Clean the filter holder 2) Replace the lower perforator 3) Replace the seal 4) Check the causes and eliminate the problem
THE PUMP FUNCTIONS BELOW NOMINAL CAPACITY	1) The inlet is clogged, perhaps only partially 2) The pump rotates in the wrong direction 3) The pressure relief valve is not properly calibrated 4) The motor runs at a low RPM 5) The inside of the pump is damaged due to the infiltration of foreign matter	1) Clean the filter holder 2) Check the motor 3) Calibrate the pressure relief valve 4) Check the voltage or replace the motor 5) Replace the pump

PROBLEM	CAUSE	SOLUTION
INCORRECT COFFEE DELIVERY **THE COFFEE DOSE IS NOT MET** **THE LED OF THE DOSE BUTTON FLASHES**	1) The connection of the volumetric dosing device is defective 2) The connection of the electronic control unit is defective 3) The connector of the volumetric dosing device has humidity on it 4) The volumetric dosing device is defective: during delivery the dosing device LED does not flash 5) The non-return valve loses pressure (the dose is too small) 6) The drain valves lose pressure (the dose is too small) 7) Water leakage from the group solenoid valve during coffee delivery or when at rest 8) The volumetric dosing device is partially obstructed	1) Check for proper connection of the volumetric dosing device connector 2) Check for proper connection of the 8-pin connector of the electronic control unit 3) Remove the connector of the volumetric dosing device and thoroughly dry the contacts 4) Replace the heads of the volumetric dosing device or replace the dosing device 5) Check and replace the non-return valve, if necessary 6) Check and replace the drain valves, if necessary 7) Clean and replace the solenoid valve, if necessary 8) Clean or replace the volumetric dosing device
THE PUMP IS NOISY	1) The pump and the motor are not aligned 2) The seal or O-ring of the pressure relief valve or the filter is defective. 3) The joint, the coupling screw or the V-shaped clamp is loose. 4) The inlet is clogged, perhaps only partially 5) The hex nut of the pressure relief valve or the filter is loose	1) Install the pump-motor joint 2) Replace the seal and O-ring. Take care not to change the calibration of the valve 3) Align and tighten the components which are loose 4) Clean the filter holder 5) Tighten the hex connection of the pressure relief valve and the filter

PROBLEM	CAUSE	SOLUTION
NO DISPENSING	1) No water mains 2) Group solenoid valve is defective 3) The pump is jammed 4) The control unit fuse is burned out 5) The injector is clogged 6) The group solenoid valve is clogged or dirty 7) The volumetric dosing device is blocked	1) Check that there is water in the mains 2) Replace the group solenoid valve 3) Replace the pump 4) Replace the solenoid valve protection fuse (1A) 5) Clean or replace the injector 6) Clean or replace the solenoid valve 7) Check/replace the dosing device
WATER LEAKS FROM THE MACHINE	1) The tub does not drain 2) The drain tube is broken or detached or has an obstruction in the water flow 3) Hydraulic leaks in the hydraulic circuit	1) Check the sewer drain 2) Check and restore the connection of the drain tube to the tub 3) Identify and eliminate any hydraulic leaks

9. CHECKS AND MAINTENANCE

To ensure perfect safety and efficiency of the appliance over time, it is necessary to carry out routine, preventive and special maintenance. In particular, **it is advisable to carry out an overall check of the machine at least once a year**.

Weekly checks

Machine

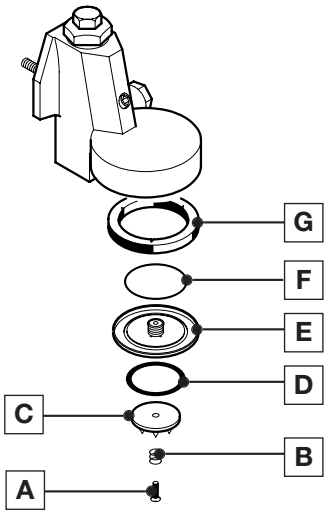
Using the pressure gauge of the machine, check that the pressure in the boiler is about 0.8 - 1.2 bar.

Monthly checks

Perforator and capsule holder gasket

Every 4 months, check and replace some components of the group, if necessary:

- unscrew the screw (**A**);
- unscrew the ring (**E**);
- remove the spring (**B**);
- replace the perforator (**C**);
- replace the seal (**D**);
- replace the seal (**F**);
- replace the undercup seal (**G**).



Warning

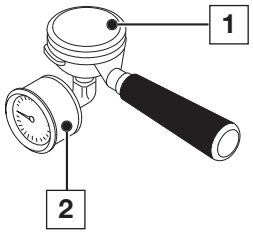
Be sure to use only original spare parts.

Yearly checks

Check correct operation of the drain - non-return valve as follows:

NON-RETURN DRAIN VALVE

- activate the dispenser group for about 30 seconds;
- attach a filter holder (**1**) with pressure gauge (available on request) to the group;
- activate the dispenser group and use the pressure gauge (**2**) to check the increase of pressure up to 8-9 bar
- check the increase of pressure due to the effect of the expansion of the water that has been heated up to a value of about 12 bar. Reaching this value proves correct operation on the valve and the seal of the gaskets and the solenoid valves.



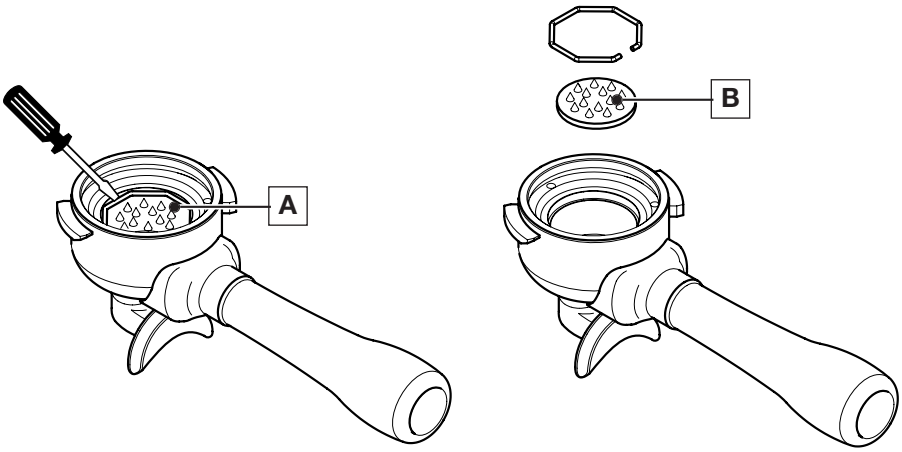
- Check for correct operation of the PRESSURE GAUGE.
- Check for LIME SCALE on the heating element and boiler.
- Check the efficiency of the SOLENOID VALVE of the dispensing group.
- Check for any HYDRAULIC LEAKS at the bench and the efficiency of the drains.

9.1. Replacement of the perforator

With the aid of a small screwdriver, remove the spring that blocks the perforator in the seat of the filter holder (**A**).

Then remove the perforator and replace it with a new one (**B**).

Reposition the spring.



10. CLEANING

For perfect cleaning and efficiency of the appliance, several simple cleaning operations are necessary on the functional parts and accessories as well as the body panels. The indications given here are applicable for normal use of the coffee machine. If the machine is heavily used then cleaning should be performed more frequently. When cleaning, always use cloths that are completely clean and hygienic.

Note

When cleaning, always use cloths that are completely clean and hygienic.

Daily cleaning

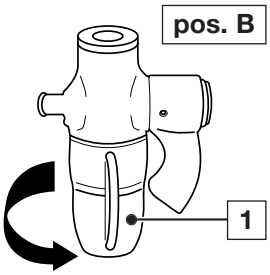
Cappuccinatore

To wash the cappuccinatore, proceed as follows:

- place the programming lever in the OFF position;

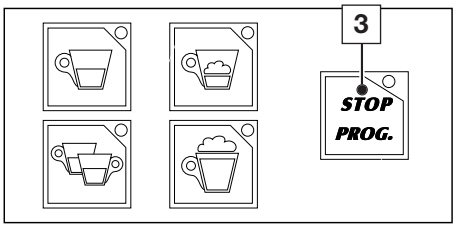
- immerge the milk suction tube in a solution of water and suitable detergent;

- turn the lower body (**1**) 90° to **pos.B** (closure of milk outlet duct);



- press and hold the STOP/PROG key (**3**) for 8 seconds, until the respective LED begins to flash;

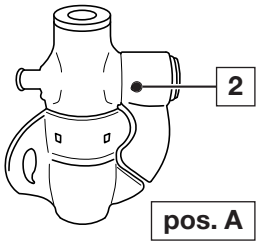
- press the STOP/PROGRAM button (**3**) again and the cappuccinatore will be activated, allowing a cleaning cycle which lasts about 30 seconds;



- at the end of the delivery, immerge the suction tube in cold water and repeat the procedure described above in order to rinse the cappuccinatore of any detergent residue.

- return the lower body to **pos. A**;

- if the air intake hole (**2**) is blocked, clear it gently with a pin.



Body

Clean the panels of the body with a cloth dampened in lukewarm water.
Do not use abrasive detergents which may scratch the surface of the body.

Weekly cleaning

Dispensing unit

Wash the delivery groups as described below:

1) Use the solid filter holder

2) Pour the detergent on the solid filter and attach the filter holder

3) Carry out a series of deliveries until the water comes out clean

4) Remove the filter holder from the unit and carry out at least one delivery so as to eliminate the detergent residue.

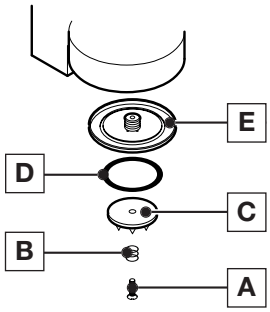
Perforator ring and perforator

From the dispensing group:

Loosen the screw (**A**), and remove the perforator (**C**), and the spring (**B**).

Loosen the ring (**E**) and remove the gasket (**D**).

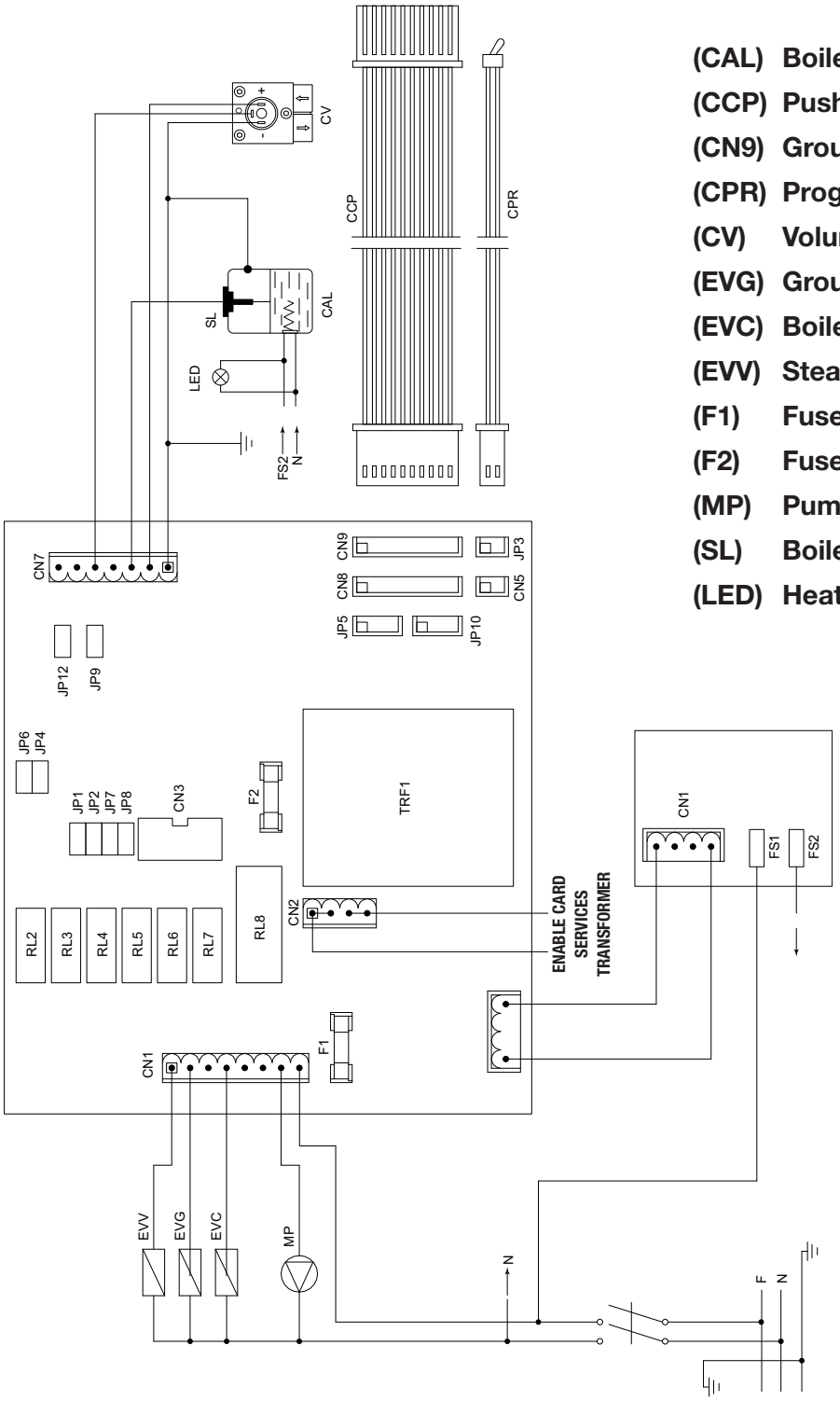
Wash with hot water.



Attention

During cleaning, be careful of the tips of the pod perforator located inside the clamping ring of the group.

11. WIRING DIAGRAM

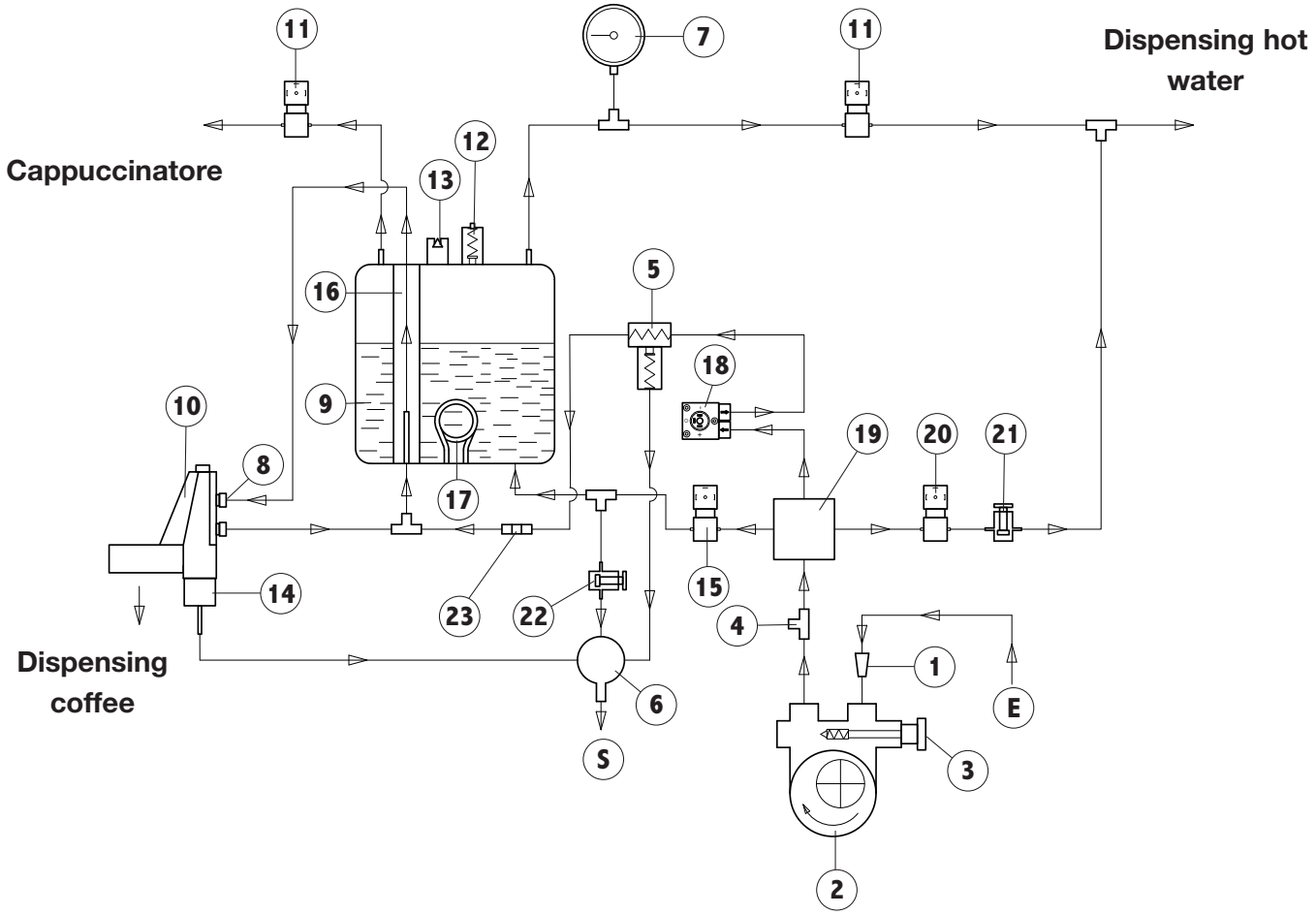


(CAL) Boiler
(CCP) Push button panel connection cable
(CN9) Group connector
(CPR) Programming key
(CV) Volumetric counter
(EVG) Group solenoid valve
(EVC) Boiler filling solenoid valve
(EVV) Steam solenoid valve
(F1) Fuse T10 A
(F2) Fuse T500 mA
(MP) Pump
(SL) Boiler level probe
(LED) Heating element LED indicator

MOBILE JUMPER	INSERTED	NOT INSERTED
JP2	Enable pre-infusion function	
JP3	Programming key	
JP4	AEA + pump combination	Coffee only
JP5	Tea connector key	

MOBILE JUMPER	INSERTED	NOT INSERTED
JP6	tea + pump combination	
JP7	”Continuous” operation	
JP8	Mixed doses	Coffee only
JP9	Enable temperature control	

12. HYDRAULIC DIAGRAM



1) Water inlet filter
2) Built-in motor pump
3) Pump pressure adjustment
4) Plug for pump pressure gauge
5) Discharge + non-return valve
6) Discharge tub
7) Pressure gauge
8) Choke
9) Boiler
10) Dispensing group
11) Steam solenoid valve
12) Safety valve
13) Negative pressure valve
14) Group solenoid valve
15) Automatic Water Entry solenoid valve
16) Coffee heat exchanger
17) Resistance
18) Volumetric dosing device
19) Distribution block
20) Cold water mixing solenoid valve
21) Cold water mixing tap
22) Boiler drain tap
23) Cold choke 0.5mm


LAVAZZA
BLUE
BEST LAVAZZA ULTIMATE ESPRESSO