LAVAZZA BLUE

BEST LAVAZZA ULTIMATE ESPRESSO

LB 2800-2801-2810-2811

MAINTENANCE MANUAL FOR TECHNICAL ASSISTANCE

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LB 2800

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10080022

LB 2801

Machine code
110080118

LB 2810

Machine code
10080005

LB 2811

Machine code
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www.absoluteaftersales.it

Tel. 0039.011.2348429
Fax 0039.011.23480466
technicalservice@lavazza.it

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1. GENERAL INFORMATION

1.1. Structure of the manual

Before any operation is carried out on the machine,the maintenance technician must carefully read the instructions contained in this publication. The undertaking of any operation on the machine, without having read and understood the contents of this manual is prohibited. If there is any doubt about the correct interpretation of the instructions, contact Lavazza in order to obtain the necessary clarification.

1.1.1. Scope and content

This manual contains all the information necessary for the maintenance of the machine, safety instructions, troubleshooting and diagrams.

Lavazza reserves the right to modify features of equipments presented in this publication without prior notice; it also declines any responsibilities for possible inaccurancies due to misprint.
It is recommended that the Internet site of the Lavazza Technical Service be checked (at the following address http://ts.inlavazza.it) to ensure that your manual is the most recent version available and otherwise to download an updated copy.

1.1.2. Messages used

Attention

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

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

Environment

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

Note

NOTE messages show further information useful for the maintenance technician.

1.1.3. Users

This manual is designed for technicians qualified to maintain the machine. Lavazza is not responsible for damage derived from the failure to follow these rules.

1.1.4. 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;
- keep the manual close at hand for maintenance staff.

Warning

If this manual is damaged or lost, it is possible to download another copy from the Lavazza Technical Service site at the following address: http://ts.inlavazza.it.

1.2. Designated personnel

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

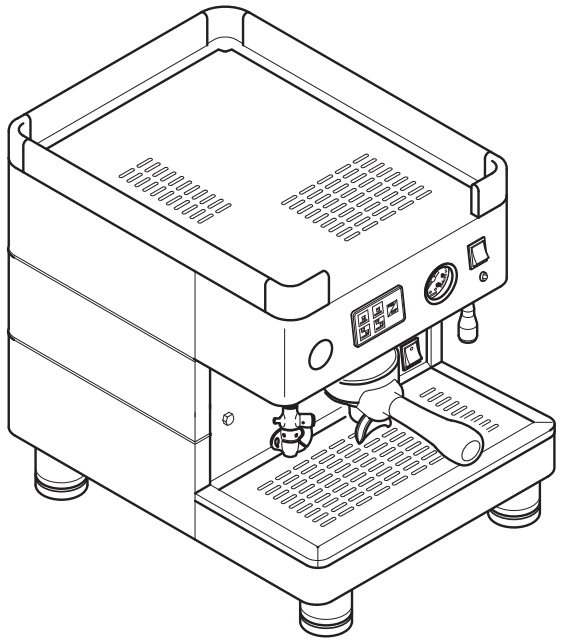
- has specific experience in the maintenance of professional coffee machines;
- is able to carry out repairs in case of serious malfunction of the machine / machines shown in this manual;
- is able to understand the technical contents of the manual and to correctly interpret drawings and diagrams and has knowledge of the safety information described below;
- 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.

1.3. Machine composition

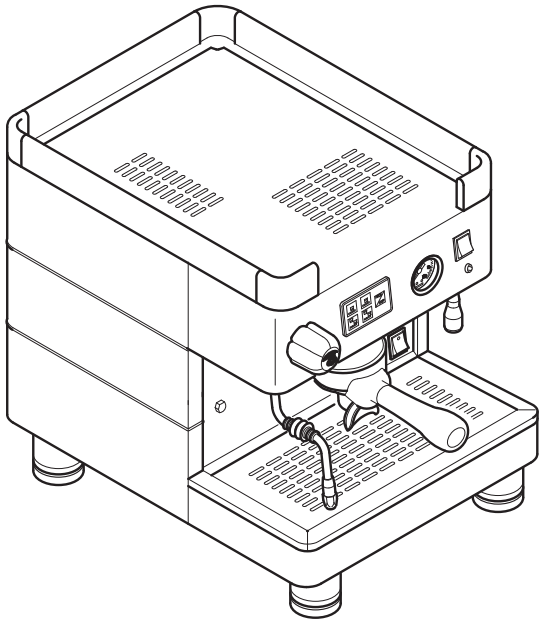
If not expressly indicated in the text, the position numbers of the machine components refer to figures in the chapters 1.3.5. External components and 1.3.6 Internal components.

1.3.1. Models

LB 2800 - LB 2810



LB 2801 - LB 2811



1.3.2. Identification data

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

- manufacturer;
- machine model;
- serial number;
- Lavazza's product code;
- date of manufacture;
- power supply voltage (V) and frequency (Hz);
- absorbed power (W);
- water mains pressure (MPa).

1.3.3. Overall dimensions and weight

Depth: 435 mm
Width: 322 mm
Height: 470 mm
Weight: 31 kg

1.3.4. Technical specifications

Power supply frequency: 50/60
Boiler capacity (litres): 2
Boiler pressure (bar): 1,4 max
Safety valve calibration (bar): 2
Supply water pressure (bar): 0 - 5 max
Coffee brewing pressure (bar): 8 - 9 max

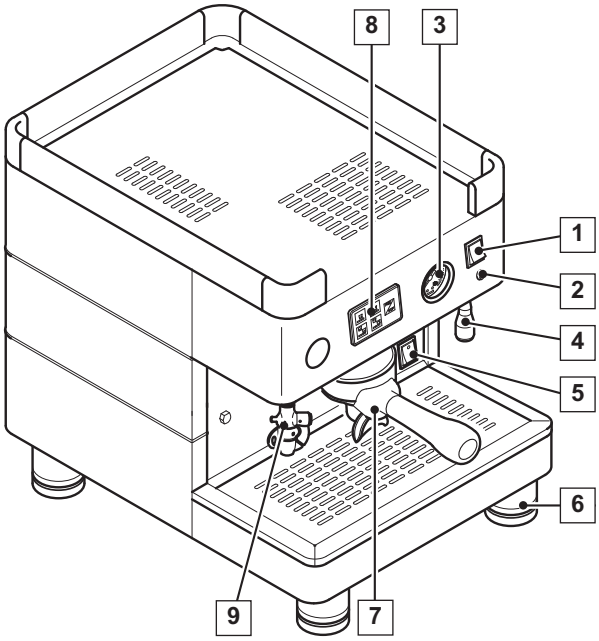
LB 2800 - LB 2810
Power supply voltage (V): 230
Power consumption (W): 1700

LB 2801 - LB 2811
Power supply voltage (V): 120
Power consumption (W): 1350

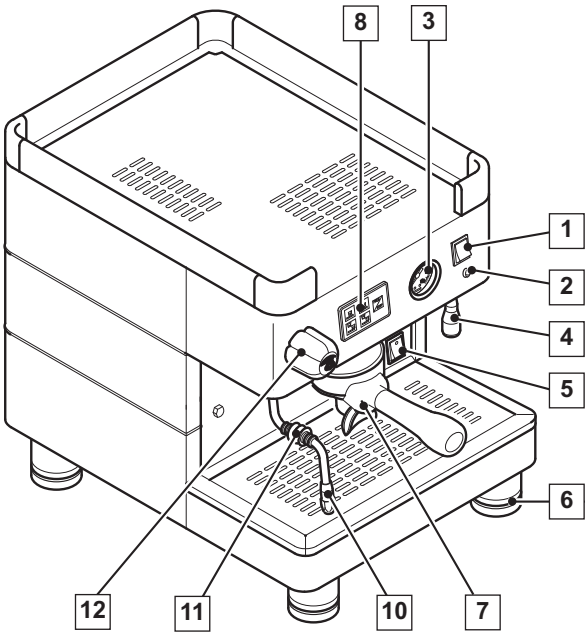
1.3.5. External components

1) Hot water dispensing key
2) Pilot light for boiler heater on
3) Boiler pressure gauge
4) Hot water pipe
5) On/off switch
6) Adjustable foot
7) Coffee spout
8) Keyboard
9) Cappuccinatore
10) Steam pipe
11) Rubber piece
12) Steam knob

LB 2800 - LB 2810

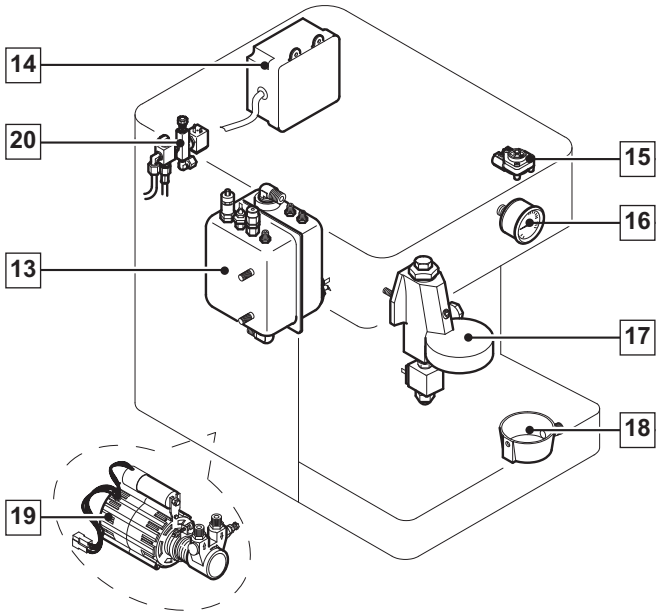


LB 2801 - LB 2811



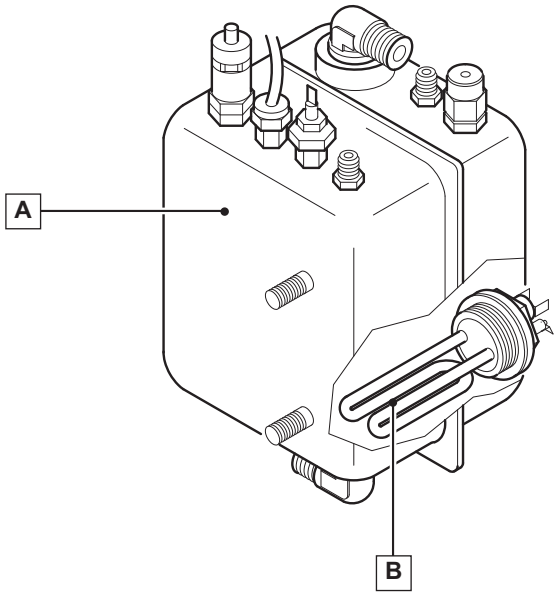
1.3.6. Internal components

13) Boiler
14) Control unit
15) Flowmeter
16) Boiler pressure gauge
17) Brewing unit
18) Drain tray
19) Internal power pump
20) Cold water mixer valve



1.3.6.1. Boiler

The boiler (A) is constructed of steel. A heat exchanger connected to the brewing unit is attached to the boiler. Water for coffee brewing is taken directly from the heat exchanger. During brewing, cold water is sent inside of the exchanger by 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 into the boiler by an electrical heating element immersed in the water (B).



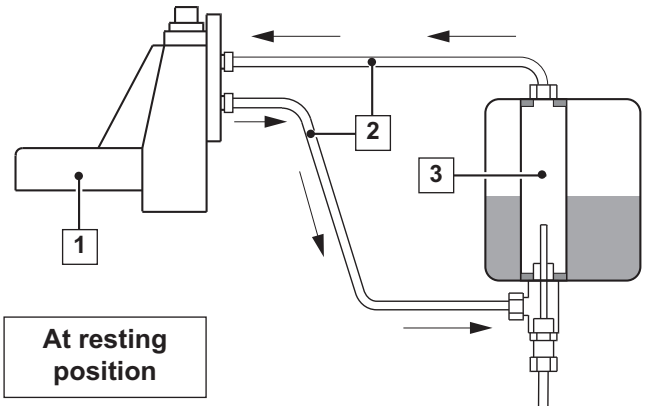
1.3.6.2. Brewing unit

The brewing unit and the heat exchanger are fundamental components to obtain espresso coffee.

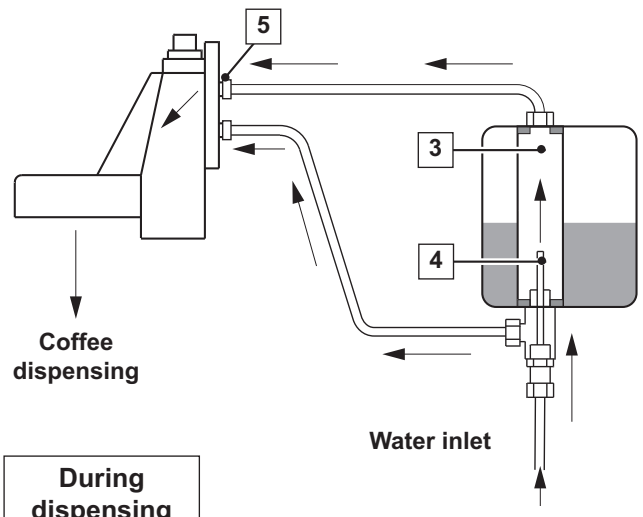
Specifically the function of the unit is coffee dispensing. In this system the brewing unit (1) is heated by a thermosiphon circuit (2) connected to the heat exchanger (3). The same water is used for coffee brewing:

- activation of the solenoid valve and the pump allows cold water to enter the exchanger (3) via the injector (4);
- heated water is carried to the unit (1) for brewing from the exchanger (3);
- the pump allows water pressure to be increased up to 8-9 bar for brewing.

In order to increase or decrease the temperature of the coffee in the cup, water temperature in the boiler must be changed (see section 6.3.11).



At resting position



During dispensing

Note

If the water temperature in the boiler is decreased but the coffee is still too hot, the reducer (5) supplied with the machine must be put on the pipe.

1.3.6.3. Automatic water entry system (A.E.A)

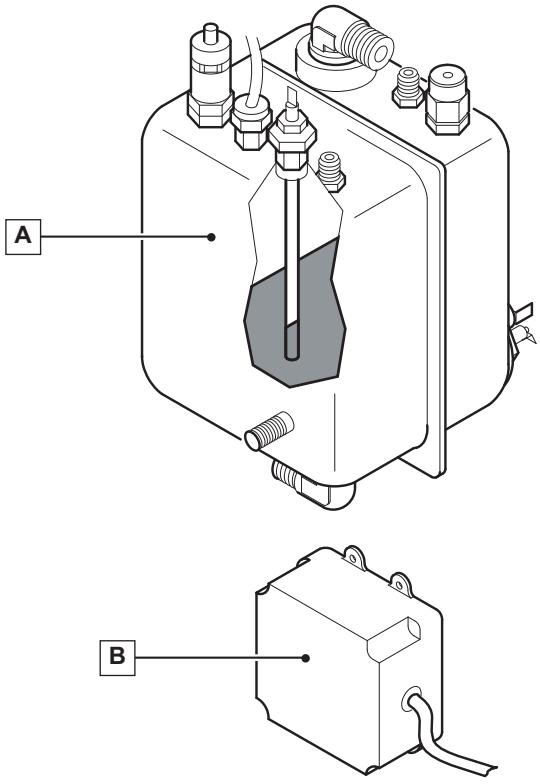
The automatic water entry system checks the water level in the boiler.

The system is composed of:

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

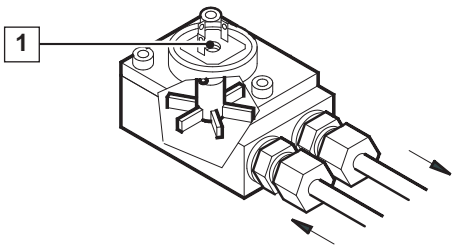
The electronic control unit controls the level of the water in the boiler.
When this level drops the contact with the probe is interrupted; the control unit sends an impulse to the inlet solenoid valve and the power pump, which restore the normal level of water in the boiler.

To avoid possible flooding due to machine malfunctions or leaks in the water circuit, the electronic control unit is equipped with a timing device that cuts off the automatic filling after a maximum period of 120 seconds.



1.3.6.4. Flowmeter

The flowmeter installed on the EVD electronic machines, measures the quantity of water sent to the brewing unit for espresso brewing.
The flowmeter generates an electric 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 flowmeter to the control unit.



1.3.6.5. Boiler temperature and pressure control

The flowmeter installed on the EVD electronic machines, measures the quantity of water sent to the brewing unit for espresso brewing.
The flowmeter generates an electric impulse which is sent to the electronic control unit.
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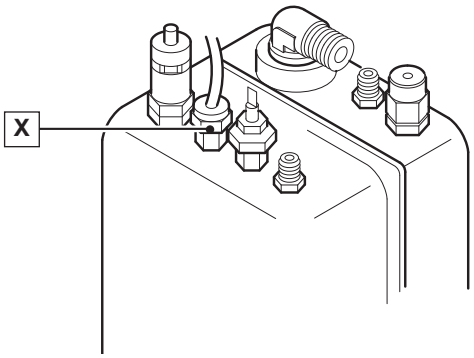
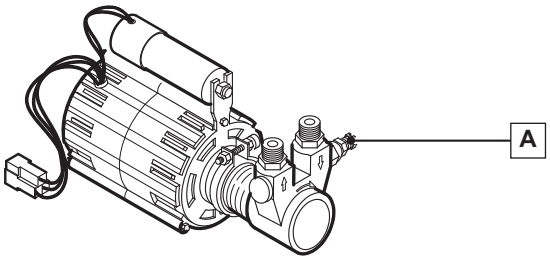


1.3.6.6. Pumping system

It is the component that feeds the machine, raising the water pressure to 8-9 bars for coffee brewing and automatic filling of the boiler.
To set the pressure rating, proceed as follows:

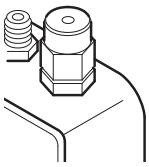
- select a coffee dispensing key;
- connect a pressure gauge, with bottom scale greater than 9 bars, to the specific fitting on the water circuit (see the hydraulic diagram);
- set the pressure by using the pressure adjusting screw located in the pump (A) in such a way as to reach a value between 8 and 9 bars: turning clockwise the pressure increases, turning anticlockwise the pressure decreases;
- check the pressure on the pressure gauge.



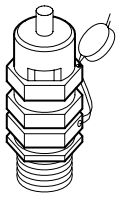
1.3.6.7. Valve group

The valves serve to ensure safety and proper machine operation.

Safety valve
The safety valve serves to eliminate the air in the boiler during the heating of the machine.

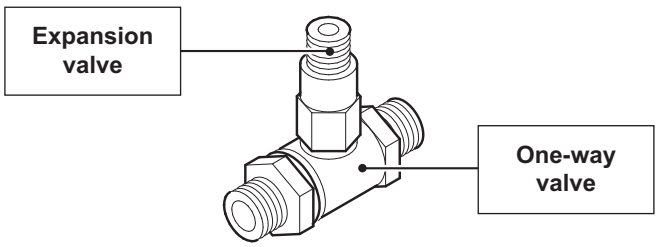


Pressure relief valve
The pressure relief valve ensures that the pressure in the boiler doesn't exceed 2.2 bars. In case of a malfunction, the capacity of the valve is likely to eliminate all the excess pressure in the boiler.



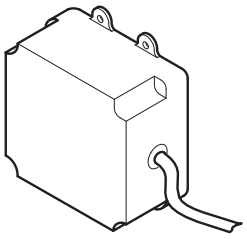
Expansion – one-way valve
This device consists of an expansion valve and a one-way valve.

Expansion valve: the cold water sent from the pump to the heat exchangers is heated. This heating causes an increase in the volume of the water. To limit pressure increases in the hydraulic circuit, the valve limits the maximum internal pressure in the circuit to 12 bars.
one-way valve: its function is to prevent the backflow of the water from the exchangers to the hydraulic circuit.



1.3.6.8. Electronic control unit

This unit electronically controls the coffee dose via the water flow in the flowmeter and the boiler water filling. It also manages the operation of the automatic cappuccinatore. This control unit can be connected to counter systems of the dispensing cycles via a special interface device.



1.3.6.9. Softener

Tap water contains insoluble salts, which causes build-up of lime scale in the boiler and in other parts of the machine. The softener eliminates or greatly reduces the presence of these mineral salts.

Attention

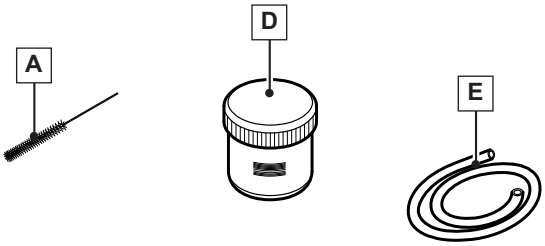
The lime scale build-up in the water circuit and boiler prevents the heat exchange and affects the efficient working of the machine. If the boiler is encrusted with lime scale this may stop the machine for long periods and therefore void any guarantee.

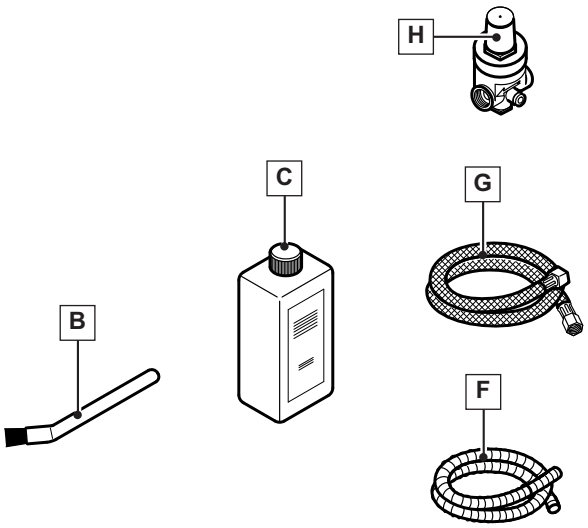
1.3.7. List of the accessories supplied with the machine

Booklet: instructions for using the machine.

Accessories:

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





2. GENERAL SAFETY STANDARD

Attention

Failure to comply with basic safety rules and precautions could cause accidents during machine operation and maintenance. During the repair of the machine all the measures necessary to prevent accident must be used.

The main safety precautions that should be used when operating the machine are described below. Lavazza does not foresee every possible situation that could be potentially dangerous. Warnings in this manual are not exhaustive. If tools, procedures, working methods or techniques not expressly recommended are used, make sure that there is no risk of personal injury or injury for other people.
Adjustments, specifications and illustrations in this manual are based on information available at the moment of the editing and therefore can change anytime. These modifications affect maintenance operations to be carried out. Ensure that the updated version of the present manual is being used.

Power connection must be made in compliance with the CEI EN 60335-1 and local safety standards in force.

The electric socket connecting the machine must:
- conform with the type of plug installed on the machine, if it is present;
- be sized in order to comply with the data provided on the plate on the bottom of the appliance;
- be connected to ground system, efficient and in accordance with the law.

Before carrying out any operation on the machine ensure that the plug is disconnected from the current and that the machine is cool.
In order to avoid any electric shocks, electrical parts and surrounding components must not:
- enter into contact with any type of liquid;
- 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 unoriginal spare parts;
- to carry out any type of technical modification not covered in the normal procedures of diagnosis and repair.

In case of fire, use carbon dioxide (CO_2). Extinguishers. Do not use water or powder extinguishers.

If an operation or intervention not foreseen should be carried out, following a different procedure than that indicated in the manual, please contact Lavazza technical service before starting.

Structural damage, modifications, tampering, alterations or improper repairs could compromise the safety of the machine.

⚠ 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.

2.1. Stop functions

La macchina si arresta portando l'interruttore generale su "0" (OFF).

2.2. Safety devices

The machine/s described in this publication, are designed in compliance with the specific standards in force (CEI EN 60335-1) and therefore have measures of protection in all the potentially hazardous parts.

A thermal protector avoids any overheating of the boiler.

A 150°C safety valve ensures that the pressure in the boiler does not exceed 2 bars.

⚠ Attention

Do not change, eliminate or by-pass the safety devices in order to not cause serious risks to health and safety.

2.3. Residual risks

The careful hazardous analysis performed, has allowed most of the risks connected with operating and maintenance machine conditions to be eliminated. Lavazza reminds the user that the instructions, procedures and recommendations contained in this manual should be strictly followed, and comply with the safety rules in force, including the use of provided protection devices, both integrated in the machine and individual.

This chapter illustrates the risks that the user may incur if he does not comply with the specific safety rules as described in this booklet.

- La machine must be connected to an earthed installation.
  If it is not done, the appliance can become a source of dangerous electrical discharges as it is no longer able to discharge electricity to earth.

- Be careful with the hot water and steam pipes (only LB2801 and LB2811 models).
  During use the hot water pipe may overheat, thus becoming a source of danger.
  Handle these parts carefully .

- Never direct steam or hot water jets directly on parts of the body.

- Be careful with the outer surfaces of the brewing unit.
  During normal operation, the brewing unit also overheats, thus becoming a source of potential hazard. Be careful not to come into contact with the outer surfaces of the brewing unit.

- Do not work on the machine when it is powered.
  Before carry out any operations on the machine, disconnect it from the electrical network.

- Do not use water jets for washing any part of the appliance because running water can seriously damage electrical and electronic components.

- Never work on the hydraulic system before having emptied it.
  All operations regarding the hydraulic system and its boiler have to be avoided when there is still water and pressure in the system. You must therefore empty it beforehand, closing the mains tap and dry-running the brewing unit, hot water pipe, cappuccinatore or steam pipe for a short time .

  Switch the machine off.
  When the pressure is at zero, completely empty the boiler, by opening the specific valve located on the lower part of it. If the above procedure is not correctly

carried out, the opening of any part of the hydraulic circuit can cause a sudden outlet of overheat water under pressure.

- Be careful with the tips of the capsule perforator located inside the clamping ring of the group.

- This machine is an appliance for espresso coffee dispensing. Any other type of use is considered incorrect and therefore dangerous.

Attention

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

3. HANDLING AND STORAGE

3.1. Movimentazione

During handling the machine must be treated according to the rules in force concerning health and safety on working places.

During handling and transport, the machine must remain in a vertical position according to the directions and symbols on the packaging. Carry out lifting and positioning with care. Do not shake the machine. For occasional transport use the original packaging, which will contain and protect the machine.

3.2. 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 polystyrene. Check the maximum number of containers that can be stacked on the packaging.

4. DISMANTLING AND DISPOSAL

4.1. Instruction for end of life treatment

This product conforms to art. 13 of the Decree Law No. 151 of July 25th, 2005, “Implementation of Directives 2002/95/EC, 2002/96/CE and 2003/108/CE, regarding the restriction of the use of certain hazardous substances in electrical and electronic equipment and disposal of waste electrical and electronic equipment”.

The crossed-out wheeled bin symbol displayed on the appliance and/or the packaging indicates that at the end of its life, the product should not be treated as a generic household waste but should be delivered to an authorised local recycling centre of WEEE. 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 health and favours the re-use and/or re-cycling of materials which make up the machine.

Environment

INFORMATION FOR USERS OF PROFESSIONAL APPLIANCES. The separate collection of this appliance, at the end of its life, is organised and managed by the producer. The user who wants to dispose of this appliance must contact the producer and follow the system to collect the appliance separately at the end of its useful life.

Environment

INFORMATION FOR USERS OF HOUSEHOLD APPLIANCES. At the end of the useful life of the appliance, the user must send it to a WEEE waste collection centre or to the retailer when purchasing a new similar appliance, on a one-to one basis. In both cases make the machine unusable cutting the power cord.

An appropriate separate collection of the appliance for re-cycling and disposal compatible with the environment contributes to preventing any possible negative effects on the environment and health and favours the re-use and/or recycling of materials which make up the machine.
Unlawful disposal of this product involves the application of administrative sanctions in compliance with Legislative Decree no. 152/2006 and subsequent modifications.

5. INSTALLATION AND START UP

5.1. Unpacking

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

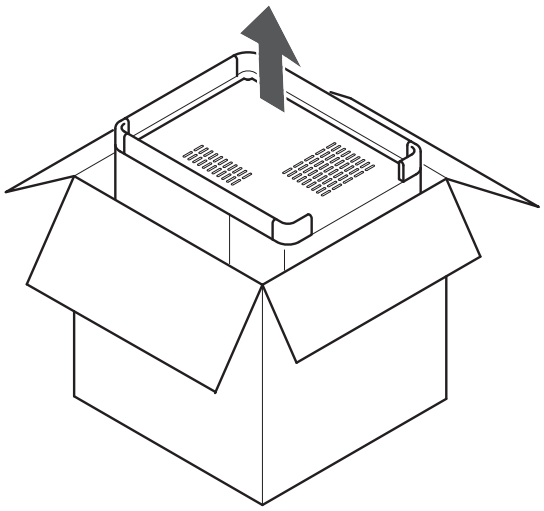
Environment

Components of the packing must be separated according to the materials with which they are com-

posed and disposed of according to the waste collection and disposal regulation in force.

5.2. Positioning

For a correct ergonomic use of the machine, place it on a stable and perfectly horizontal surface, away from water source, flames and heat. The area should be sufficiently illuminated, ventilated, hygienic, not corrosive and/or explosive and equipped with a power outlet readily reached with the supplied power cord. Also make sure that the place where the machine is installed has dimensions and sturdiness suitable to safely support it.



For the correct operation of the machine the following advice is given:
- room temperature: 10°C ÷ 25°C;
- maximum humidity: 65%.

Warning

The machine is not suitable for outdoor installation, and should not be exposed to weather.

Warning

The presence of magnetic fields or proximity of 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.

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.

Prepare a support base that is suitable to support its weight (1); It is important that all the terminal connections to the water (2) and electrical mains (7) are easily reachable and, in any case, close to the machine.
It is recommended to equip the working base of the machine with a drawer (10) to collect the used coffee capsules.

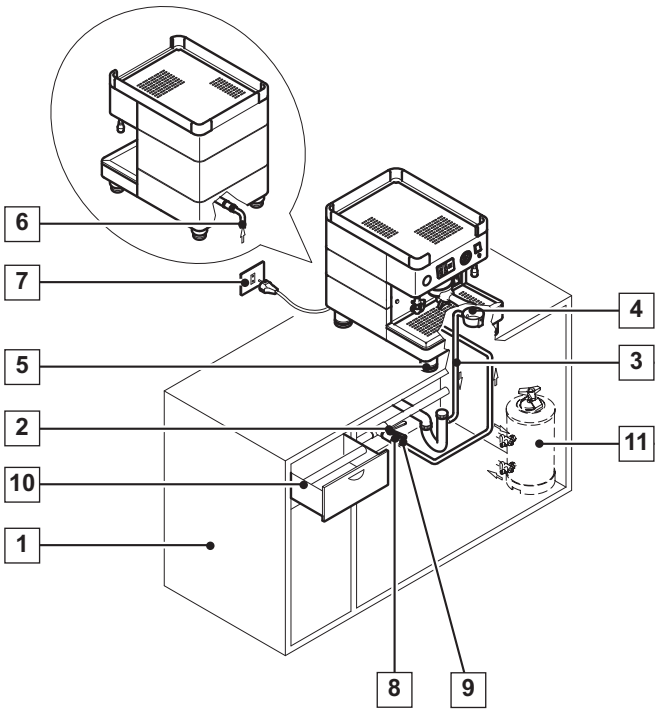
Attention

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

5.3. Water connection

Warning

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 which is on the back of the machine (6) using the flexible pipe provided. Then open the water mains valve.

Connect the drain tray of the machine (4) to the sewer drain (3) using the special pipe provided. Take care to avoid tight bends or kinks and keeping a sufficient inclination for drain water evacuation.

Note

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

Warning

The water mains must provide cold water for human consumption (drinking water) at a pressure between 1.5 and 5 bar. If the pressure is greater than 5 bar, connect a pressure reducer upstream from the pump.

Place a tap (8) and a one-way valve (9)) on the water mains so that it will be possible to cut off the water to the machine.

Connect the water mains (2) directly to the machine inlet (6); if you want to install a softener (11), connect the water mains (2) to the softener inlet and the softener outlet to the machine entry (6).

To prevent the water from freezing, install a softener (11) only where the room temperature is more than 5°C.

When connecting the machine cup to the sewer drain tray to the sewer drain, avoid tight curves or kinks and make sure that there is a 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 oxidation and damage to the machine over time, do not use iron fittings for the hydraulic connection, even if they are zinc plated.

Attention

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

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 hydraulic connection to the water mains as well as the connection to the external tank, a one-way valve (9) must be placed upstream of the machine as indicated by the standards EN. 1717.

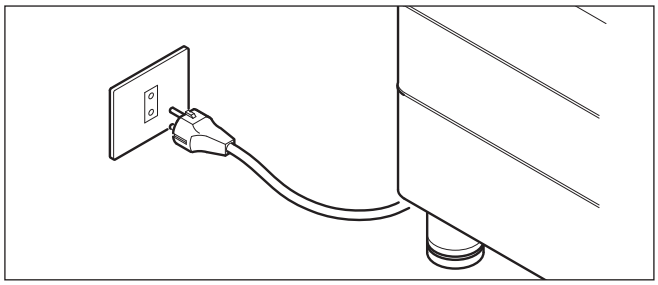
Note

All the machines are equipped with an automatic water filling with a time control device which allows the boiler to be filled with water within a maximum period of time. This function keeps water from coming out of the boiler valve (flooding) and prevents the overheating of the power pump. If the period of time does not last enough to fill up the boiler completely, switch the machine off and on again and repeat the above mentioned operations.

5.4. Electric connection

Before using the machine, ensure that the network power comply with the data provided on the plate placed under the drain tray.

Connect the machine plug to the electric network.

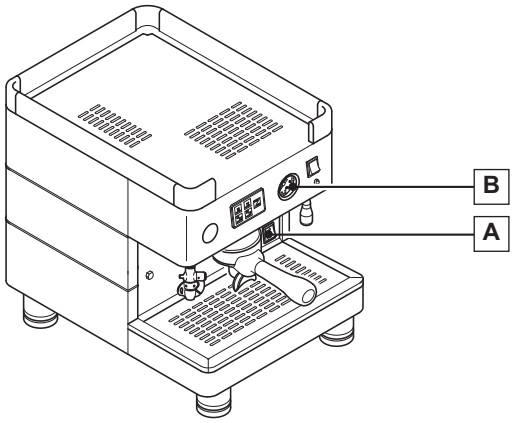


Attention

It is recommended to install a protection switch.

5.5. Start procedures

Switch the machine on using the main switch (A).
Before using the machine, wait for (10 minutes) or until the pressure gauge (B) shows the good working pressure (1-1,2 bar).



Attention

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

Before using the machine, carry out some dry cycles with the capsule holders attached for a few seconds, to release any air which may be in the circuit, so that the brewing units are completely heated.

Before using the machine dispense few coffees to check the operating pressure of the machine.

6. RECOMMENDED TOOLS

SET OF FIXED KEYS

SET OF ALLEN KEYS

SET OF FLAT TYPE SCREWDRIVERS
Measures of specific screwdriver: 1.6x10

SET OF PHILIPS SCREWDRIVERS

STANDARD PLIERS

LONG NOSE PLIERS

INCLINED NOSE PLIERS

DIGITAL MULTIMETER

DIGITAL THERMOMETER

7. CONFIGURATION

7.1. Machine alarms

The pilot light of the key dose is flashing: abnormal or absent reading of the dose during dispensing.

LEDS of the keyboard are flashing: the Time-out device is activated.

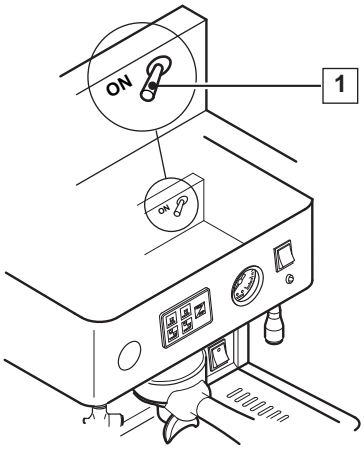
7.2. Programming

Attention

Machine programming must be carried out by technical staff. Be careful when accessing the inside of the machine (programming lever set) the temperature of some components is very high and there are powered parts.

7.2.1. Programming of coffee doses

Put the programming lever (1), situated under the machine boiler cover, to the ON position.



Insert a capsule into the capsule holder, attach the capsule-holder to the brewing unit and tighten it firmly.

Place the cup under the dispensing spout.

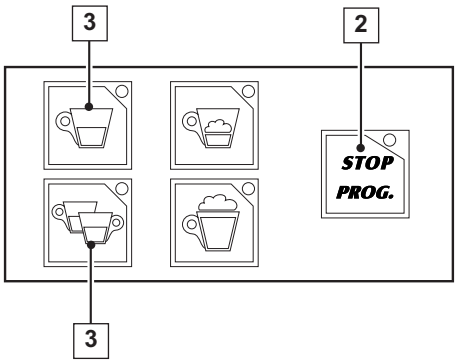
Press the PROG/STOP key (2) for at least 5 seconds: all the LEDs of the dose keys light up.

Press the desired dose key (3).

When the desired dose is reached it by pressing the PROG/STOP key (2).

Repeat this operation for the other dose key.

When the programming is completed, place the programming lever (1) to the OFF position.



7.2.2. Programming of cappuccino doses (only LB 2800-LB 2810 models)

Put the programming lever (1), situated under the machine boiler cover, to the ON position.

Insert a capsule into the capsule holder, attach the capsule-holder to the brewing unit and tighten it firmly.

Place the cup under the cappuccinatore dispensing spout.

Immerse the suction pipe in the milk.

Press the PROG/STOP key (2) for at least 5 seconds: all the LEDs of the dose keys light up.

Press the desired cappuccino dose key (4).

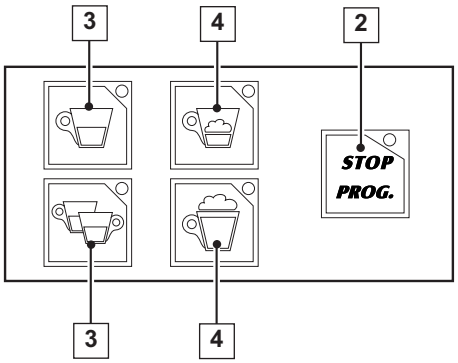
Coffee brewing will start, when the desired dose of coffee is reached, confirm it by pressing the PROG/STOP key (2).

Milk dispensing will start automatically.

When the desired dose of milk is reached, confirm it by pressing the PROG/STOP key (2).

Repeat this operation for the other dose key.

When the programming is completed, place the programming lever (1) to the OFF position.



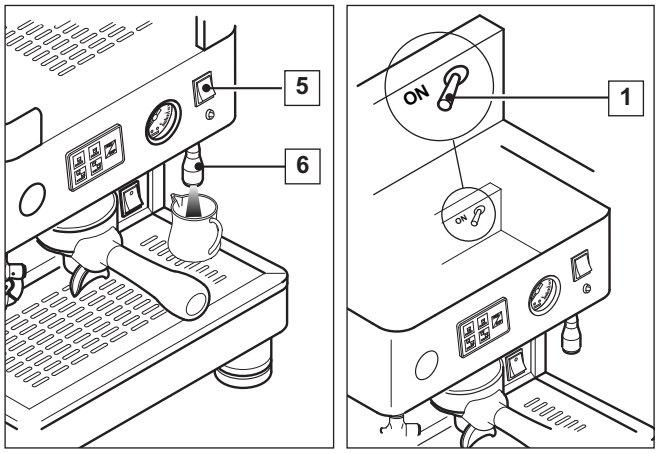
Note

Each dose should be programmed using a new capsule and not one previously used.

7.2.3. Hot water dispensing

Put the programming lever (1), situated under the machine boiler cover, to the ON position.

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



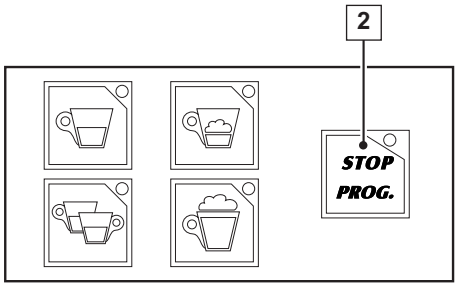
Press the PROG/STOP key (2) for at least 5 seconds: all the LEDs of the dose keys light up.

Press the hot water key (5).

When the desired dose is reached confirm it by pressing the key (5) again.

Press the PROG/STOP key (2).

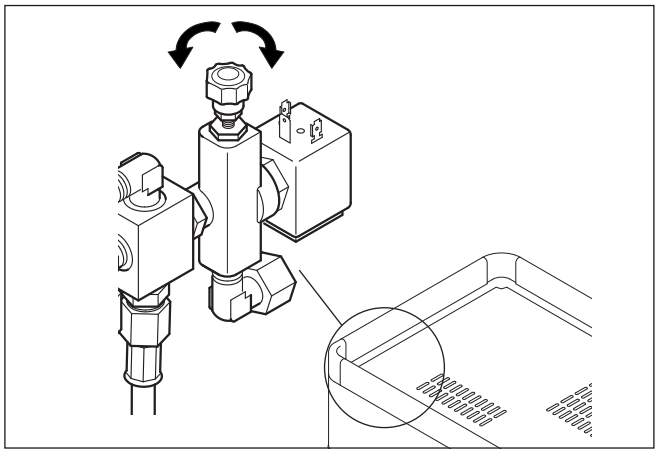
When the programming is completed, place the programming lever (1) to the OFF position.



Note

The temperature of the dispensed hot water can be changed by using the mixer tap situated inside, on the back of the machine.

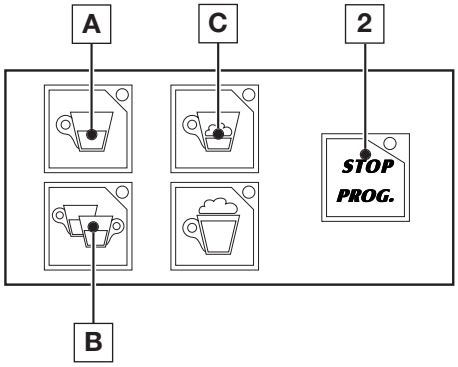
Turn it clockwise to reduce and anticlockwise to increase cold water .



7.2.4. Programming of coffee-cappuccino sequence (only LB 2800-LB 2810 models)

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

A) dispensing of milk first, then coffee;
B) dispensing of coffee first, then milk;
C) simultaneous dispensing of milk and coffee.



Note

In the simultaneous dispensing sequence (C option), however there is always a slight delay in coffee dispensing due to the pre-infusion system.

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

- switch the machine off, putting the switch to the “0” position;
- keep pressed the key of the desired option on the keyboard and at the same time switch the machine on again: the LED of the pressed key lights up;

- confirm it by pressing the PROG/STOP key (2).

The machine will now use the set sequence.

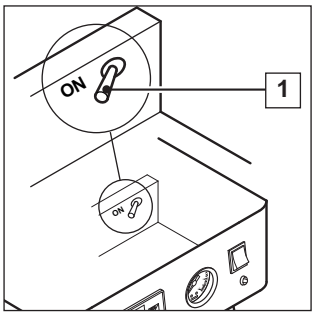
Note

The default setting of the machine is the simultaneous dispensing of milk and coffee (C option).

7.2.5. Loading of default data

To restore the factory settings proceed as follows:

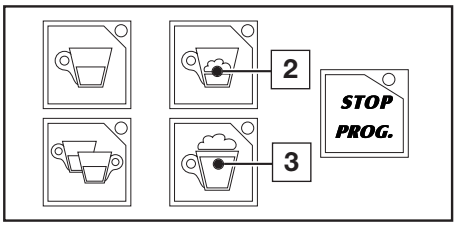
- put the programming lever (1), situated under the machine upper grid, to the ON position;



- turn the machine on, keeping keys (2) and (3) pressed for at least 5 seconds at the same time;

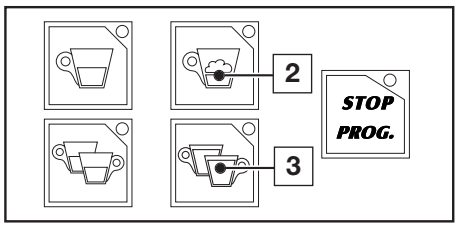
LB 2800

LB 2810



LB 2801

LB 2811



- the LEDs of the two keys light up to confirm the default data loading;

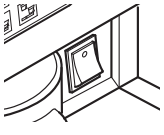
- Put the programming lever (1), situated under the machine upper grid, to the OFF position.

7.2.6. Boiler temperature programming

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

- switch the machine off, putting the switch to the “0” position;

- put the programming lever (1), situated under the machine upper grid, to the ON position;

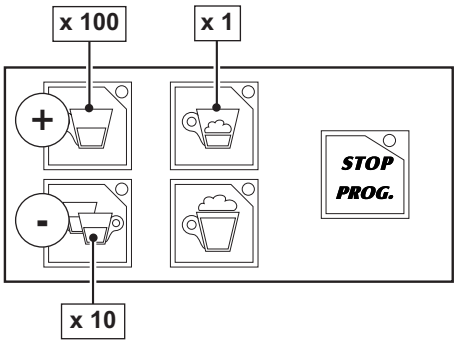


- turn the machine on, keeping the STOP/PROG key pressed until the LEDs of the keyboard light up;

- the flashing modes of the LEDs indicate the current temperature set: temperature = the sum of the flashes of every dose key, multiplied by the indicated value (see figure);

- using (+) and (-) keys it is possible to change the temperature value: each keystroke corresponds to the increase or decrease of one temperature unit (1° C);

- when the desired temperature value is reached, confirm it by pressing the STOP/PROG key : the LEDs flash again to indicate the new value has been set;



- the pilot light of the heating element lights up automatically to indicate that the machine is now operating regularly;

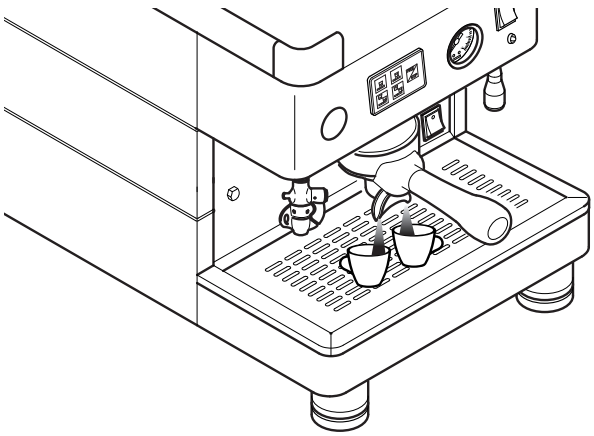
- When the programming is completed, turn the programming lever (1) to the OFF position.

Note

In order to obtain a temperature lower than the minimum value set, the reducer of Ø 4 mm, supplied with the machine, must be installed in the brewing unit pipe (see the hydraulic diagram).

7.2.7. Dispensing coffee

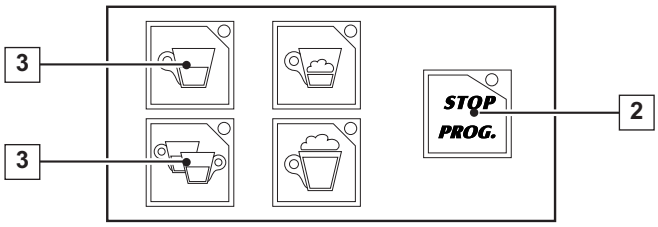
Place the cup under the dispensing spout.



Insert a capsule into the capsule holder, attach the capsule-holder to the brewing unit and tighten it firmly.

Press the desired dose key (3): wait for coffee dispensing to be completed (the LED lights up).

To stop coffee dispensing in advance press the same dispensing key or the STOP/PROG key (2) again.



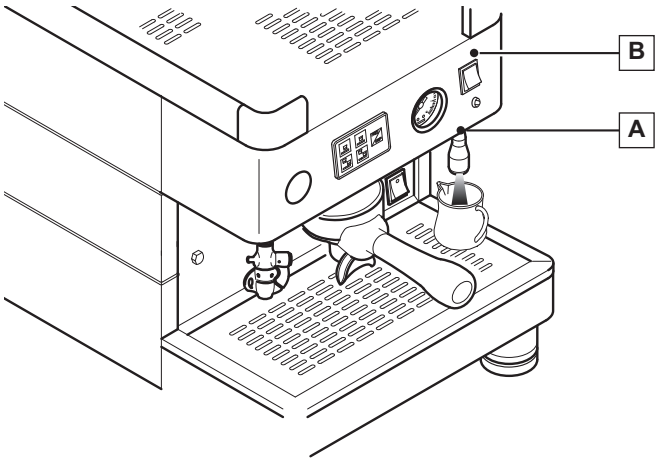
Note

In order to dispense coffee manually, the STOP/PROG key (2) should be used. Press this key to start coffee dispensing and press it again to stop.

7.2.8. Preparation of hot drinks

Dispensing hot water
Place the jug under the hot water nozzle (A).

Press the hot water key (B).



When the set quantity of water is reached, dispensing stops automatically.

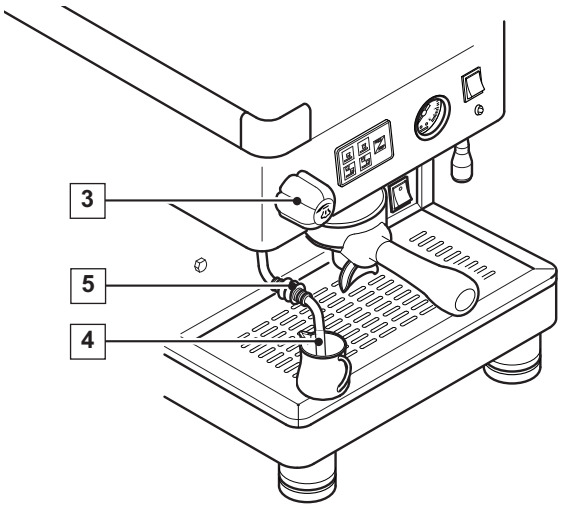
Attention

Do not touch the hot water pipe because it is a component which reaches high temperatures.

Dispensing steam (only LB 2801-LB 2811 models)
Immerse the steam nozzle (4) in the liquid to be heated.

Turn the steam knob anticlockwise (3).

To stop steam dispensing, turn the knob (3) clockwise.



Attention

Before using the steam to warm drinks or froth the milk, it is necessary to dispense steam to completely discharge the condensation.

Attention

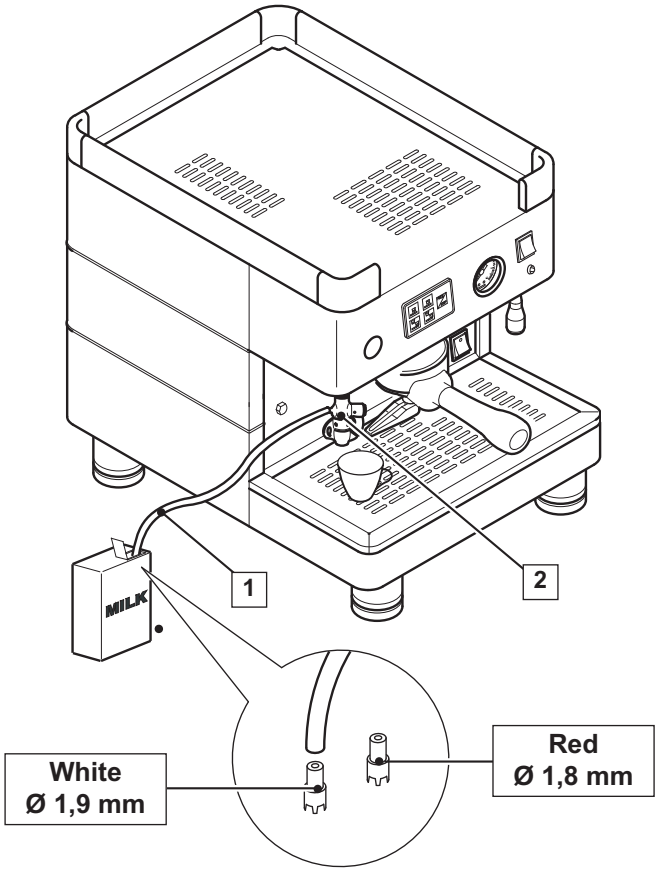
Handle the steam pipe carefully using the rubber piece (5) and do not touch the hot water pipe because they are components which can reach high temperatures.

7.2.9. Cappuccinatore (only LB 2800-LB 2810 models)

Preparing cappuccino
Immerse the suction pipe (1) in the milk.

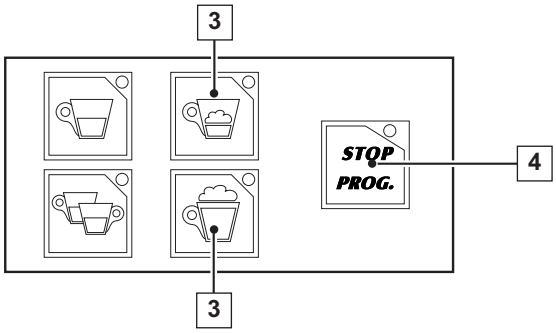
Insert a capsule into the capsule holder, attach the capsule-holder to the brewing unit and tighten it firmly.

Place the cup under the spout of the cappuccinatore (2) and the capsule-holder.



Press the desired dose key (3): wait for milk and coffee dispensing to be completed (the LED lights up)

To stop dispensing in advance press the STOP/PROG key (4).



Note

For proper use of the automatic cappuccinatore, always use the capsule-holder with the long spout.

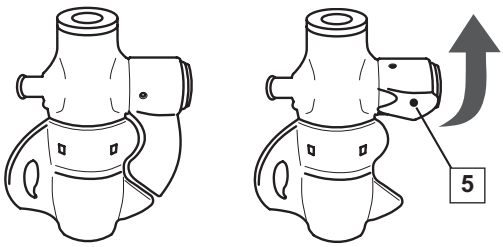
To change the milk temperature, install one of the supplied reducers on the suction pipe. In the chart below milk temperatures related to the installed reducer are indicated.

Temperature chart with and without flow reducers
(temperatures detected in a pre-heated cup)

Milk temperature	Without reducer	With WHITE reducer 1,9 mm	With RED reducer 1,8 mm
Ambient temperature 16°C	55 - 60°C	60 - 68°C	68 - 75°C
Refrigerated milk 6°C	48 - 56°C	58 - 63°C	63 - 70°C

7.2.10. Preparing coffee with milk

It is possible to dispense coffee with milk (not frothing milk) using the cappuccinatore lever (5).



CAPPUCCINO position | **HOT MILK position**

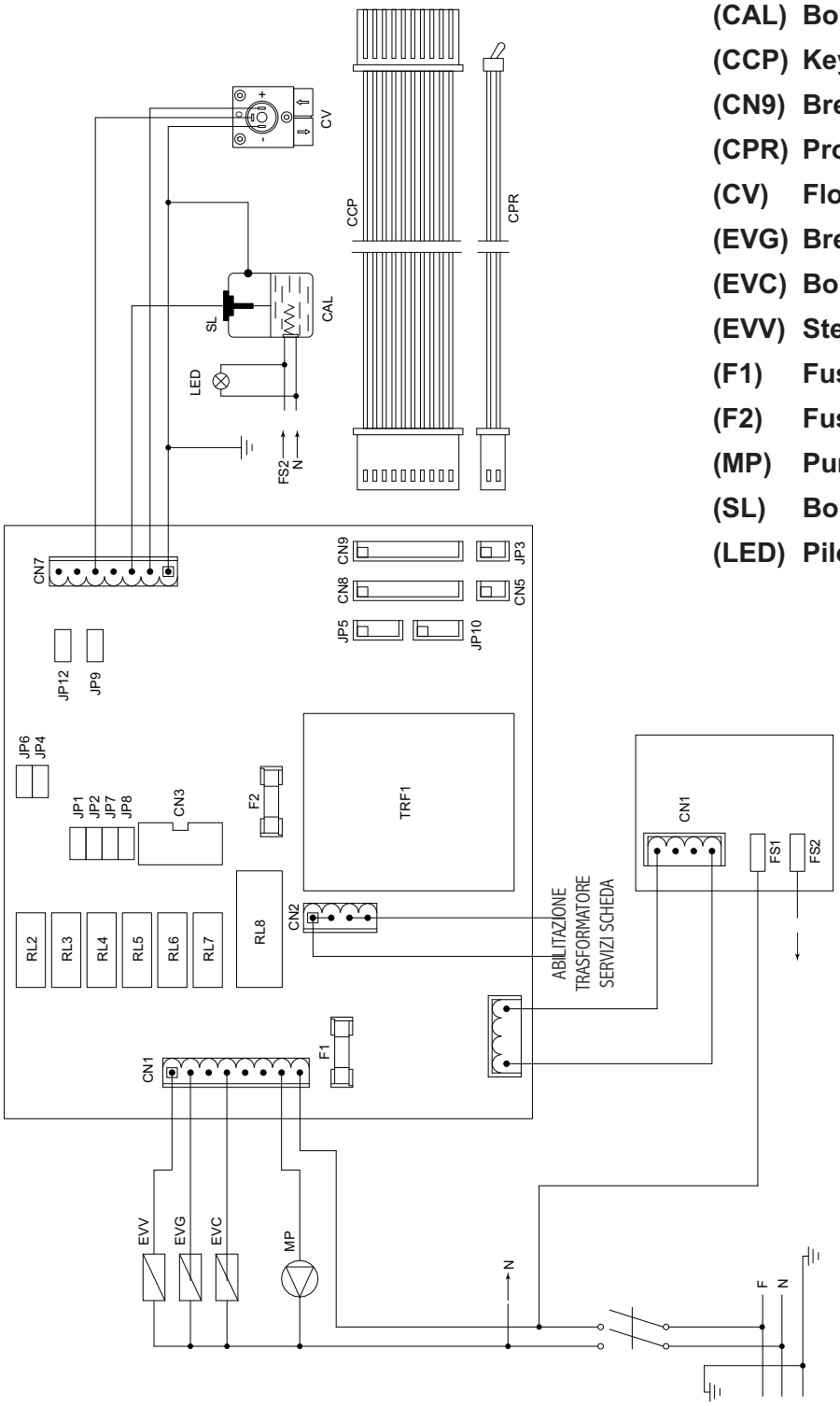
Attention

It is recommended to keep the cappuccinatore constantly clean (see section 9.3).

For the machine models without connection to sewer drain, remember to empty the drain tray frequently.

8. DIAGRAMS

8.1. Electrical diagram

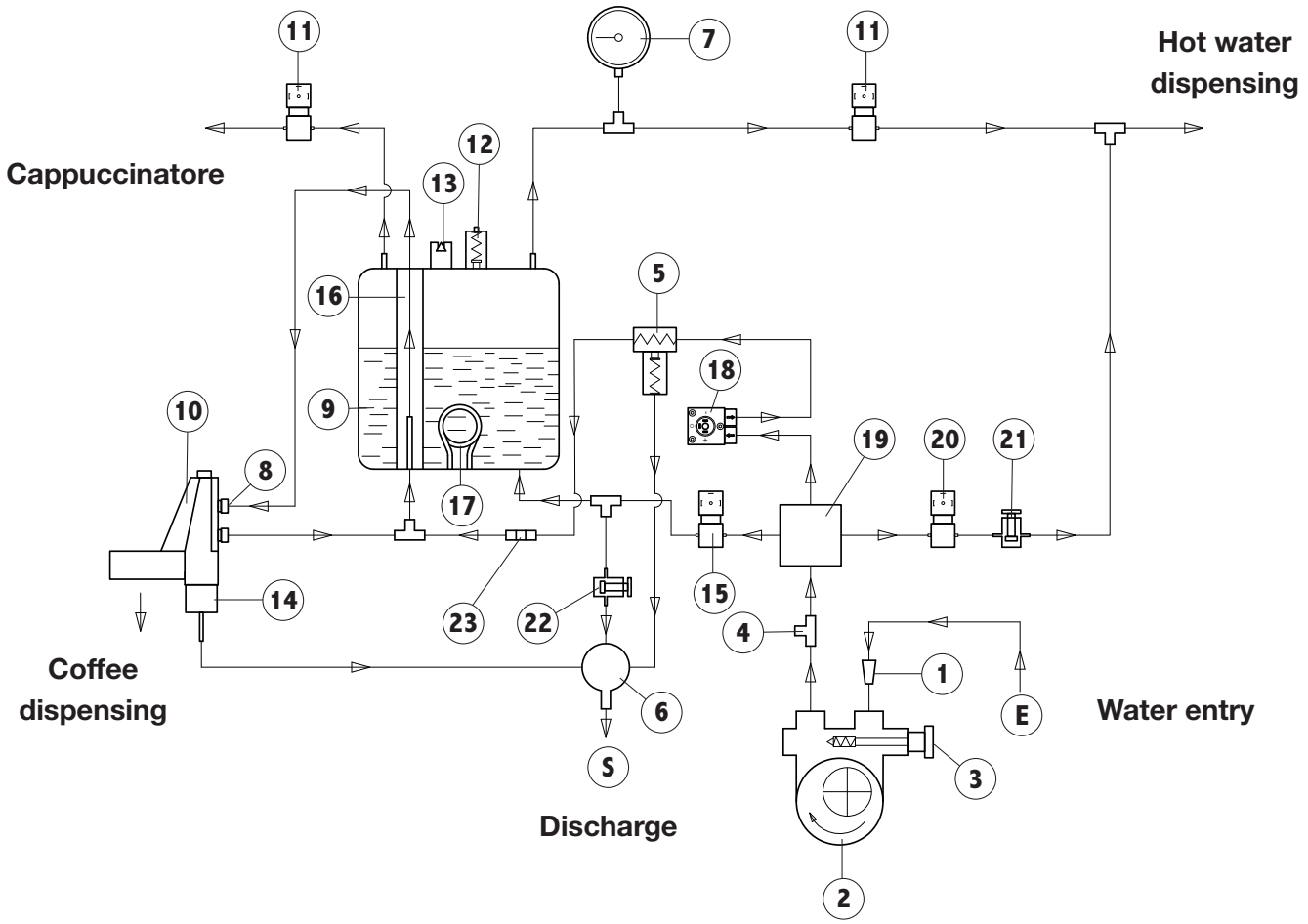


(CAL) Boiler
(CCP) Keyboard connection cable
(CN9) Brewing unit connector
(CPR) Programming key
(CV) Flowmeter
(EVG) Brewing unit solenoid valve
(EVC) Boiler filling solenoid valve
(EVV) Steam solenoid valve
(F1) Fuse T10 A
(F2) Fuse T500 mA
(MP) Pump
(SL) Boiler lever probe
(LED) Pilot light of heating element

MOBILE JUMPER	INSERTED	NOT INSERTED
JP2	Pre-infusion function enabled	
JP3	Programming key	
JP4	AEA +pump coupling	Coffee only.
JP5	Tea key connector	

MOBILE JUMPER	INSERTED	NOT INSERTED
JP6	Tea +pump coupling	
JP7	“Continuous cycle” operation	
JP8	Mixed doses	Coffee only.
JP9	Temperature control enabled	

8.2. Hydraulic diagram



1) Water entry filter
2) Built-in power pump
3) Adjusting screw of pump pressure
4) Pump pressure gauge cap
5) Discharge + one-way valve
6) Drain tray
7) Pressure gauge
8) Reducer
9) Boiler
10) Brewing unit
11) Steam solenoid valve
12) Safety valve
13) Anti-vacuum valve
14) Brewing unit solenoid valve
15) Solenoid valve of Automatic Water Entry system
16) Coffee exchanger
17) Heating element
18) Flowmeter
19) Directional valve
20) Cold water mixing solenoid valve
21) Cold water mixing tap
22) Boiler discharge tap
23) Flow reducer 0,5 mm

9. INSPECTIONS AND MAINTENANCE

9.1. Periodical inspections

Every week check the boiler pressure using the machine pressure gauge.

Note

The boiler pressure must be 0.8-1.2 bar.

Every four months check the gaskets of the brewing unit (for brewing unit disassembling see the section 9.2.1).

Every year check the correct operation of the discharge-on-way valve (for checking procedure see the section 9.2.2.).

Every year check the correct operation of the pressure gauge.

Every year check for possible lime scale build up on the heating element and boiler.

Every year check the efficiency of the solenoid valve of the brewing unit.

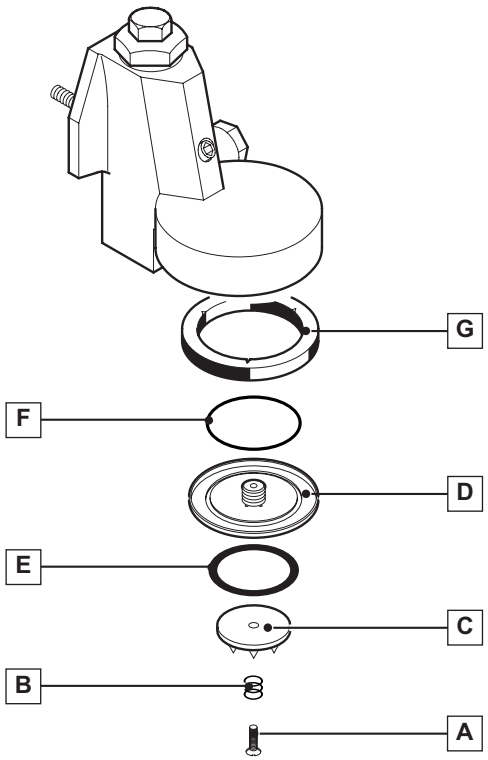
Every year check for possible water leaks on the bench and the condition of the discharge devices.

9.2. Routine and supplementary maintenance

9.2.1. Brewing unit

To replace the brewing unit components proceed as follows:

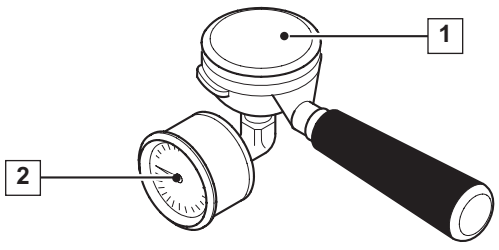
- loosen the screw (A);
- remove the spring (B);
- replace the perforator (C), if damaged, (not compliant dispensing);
- loosen the ring (D);
- replace the gasket (E);
- replace the gasket (F);
- replace the internal gasket (G).



9.2.2. Discharge-one-way valve

Check the discharge one-way valve as follows:

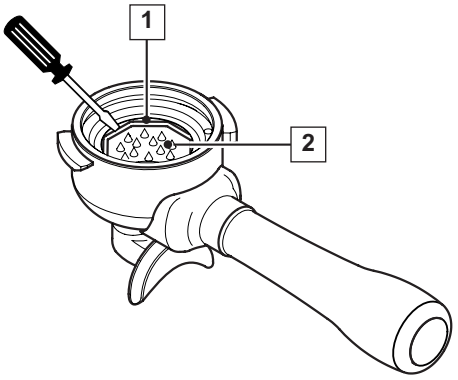
- activate the brewing unit for at least 30 seconds;
- attach a capsule-holder (1) with pressure gauge (available on demand) to the brewing unit;
- activate the brewing unit and check the pressure increase until 8-9 bars via the pressure gauge (2);
- check the pressure increase due to the expansion effect of the heated water until approximately 12 bar: when this value is reached there is the confirmation of the correct operation of the valve and the sealing of the gaskets and solenoid valves.

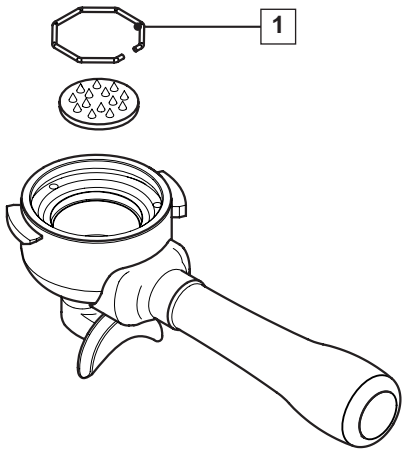


9.2.3. Replacing the perforator

To replace the perforator proceed as follows:

- with a small screwdriver, remove the spring (1) that blocks the perforator (2) in the capsule-holder seat;
- remove the perforator (2) and replace it with a new one;
- place the spring (1) back into position.





9.3. Cleaning

For perfect cleaning and efficiency of the appliance, several simple daily cleaning operations are necessary on the functional parts and accessories as well as the body panels. These operations must be carried out by the user.
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.
It is recommended to always carry out cleaning with completely clean and hygienic cloths.

Warning

Cleaning must be always carried out with completely clean and hygienic cloths.

Attention

During cleaning, be careful with the tips of the capsule perforator located inside the clamping ring of the unit.

9.3.1. Cappuccinatore (only LB 2800 - LB 2810 models)

Clean the cappuccinatore several times during the day in case of a continuous use of the machine.

Attention

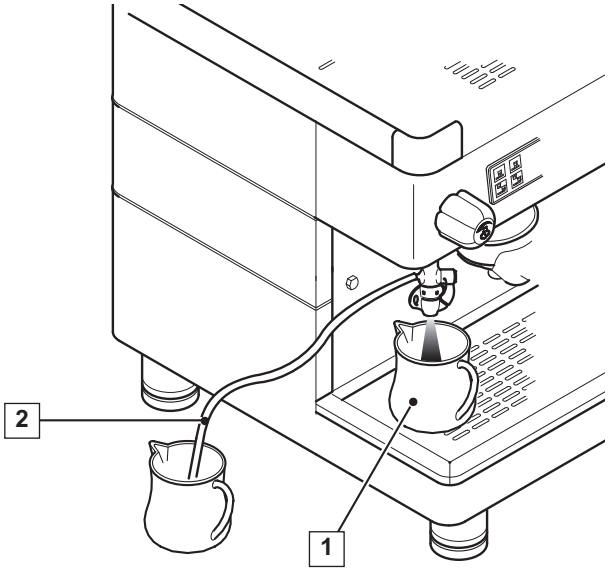
Clean the cappuccinatore after any use, to prevent any operation failure and ensure the hygiene of the system. Do not detach the cappuccinatore from the steam pipe.

To keep the cappuccinatore clean and efficient carry out the following procedure that does not include the disassembly of the cappuccinatore from the steam pipe.

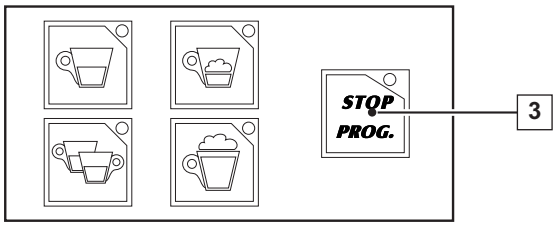
A) Place the programming lever to the OFF position.

B) Put a large jug under the cappuccinatore (1).

C) Immerse the milk suction pipe (2) into a solution composed of 500 ml of water and detergent for cappuccinatore following the manufacturer's instructions.



D) Keep the STOP/PROG key pressed (3) for 8 seconds, until the corresponding LED lights up;

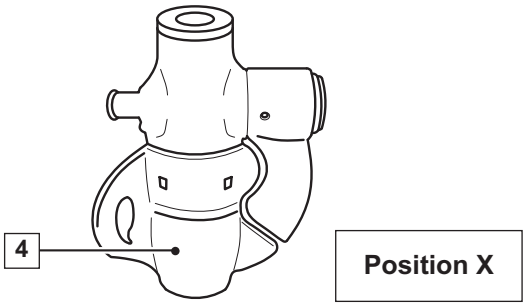


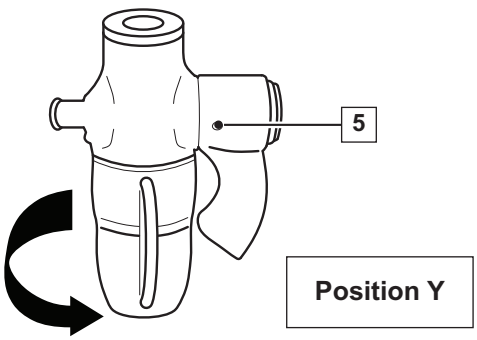
E) To activate the cleaning cycle which has a duration of about 30 seconds, press the STOP/PROG key (3) again: the cappuccinatore will start drawing the detergent from the pipe and dispensing it from the cappuccinatore.

F) Repeat operations on items (D) and (E) until the solution is finished.

G) To eliminate all the detergent residue, immerse the suction pipe into 2 litres of water and carry out cleaning cycles as described on items (D) and (E) until the water is finished.

H) For a complete and hygienic cleaning of the system, turn 90 degrees the lower body (4) to the position (Y) (closure of the milk pipe).





I) Carry out the cleaning cycle of 30 seconds as described on items (D) and (E): take care to the steam that runs out from pipe at a very high temperature.

L) Place the lower body (4) back to the position (X).

M) If the air inlet hole is clogged (5), clear it with a needle carefully.

9.3.2. Capsule-holder

Clean the capsule-holders in hot water daily. Leave them immersed in hot water overnight so that the fatty coffee deposits can dissolve.
Then rinse them.

Warning

If the capsule holders are not daily cleaned the quality of the dispensed coffee and the correct operation of the capsule holder may decline.

Immerse the capsule holders in hot water for at least 10 minutes with proper detergent (see spare parts).
Then rinse with water.

9.3.3. Steam pipe (only LB 2800 - LB 2810 models)

Keep the steam pipe constantly clean using a cloth dampened in lukewarm water.

9.3.4. Body

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

9.3.5. Steam pipe end (only LB 2800 – LB 2810 models)

Check and clean the ends of the pipe, clearing out the exit holes with a small needle weekly.

9.3.6. Brewing unit

Wash the brewing unit weekly as described below:

- use the blind filter holder;
- pour the detergent (see spare parts) on the blind filter and attach the capsule-holder;
- carry out dispensing cycles until the water comes out clean;
- remove the capsule-holders from the brewing unit and carry out at least one dispensing so as to eliminate the detergent residue.

10. TROUBLESHOOTING

10.1. Signalling and solutions to the most common problems

PROBLEM	CAUSE	SOLUTION
No electrical power on the machine.	The on/off switch is placed to “0” position.	Place the on/off switch to “I” position.
	The on/off switch is damaged.	Replace the on/off switch.
	The network switch is placed to OFF position.	Place the network switch to ON position.
	The connection to the electrical network is defective.	Check for possible connection defects.
No water in the boiler.	The valve of the water mains is closed.	Open the water mains valve.
	The pump filter is clogged.	Replace the pump filter.
	The power pump is disconnected or blocked.	Check the power pump.
	The water inlet solenoid valve is damaged.	Replace the water inlet solenoid valve.
	The filter of the water inlet solenoid valve is clogged.	Clean or replace the solenoid valve filter.
Too much water in the boiler.	The solenoid valve of the automatic level device is damaged.	Replace the solenoid valve of the automatic level device.
	The heat exchanger is perforated.	Replace the boiler.
	The solenoid valve of the automatic level device remains connected.	Check the level probe, the earth of the frame and the operation of the electronic control unit.
The machine does not dispense.	No water mains.	Check that there is water in the mains.
	The solenoid valve of the brewing unit is defective.	Replace the solenoid valve of the brewing unit.
	The pump is jammed.	Replace the pump.
	The fuse of the control unit is burnt out.	Replace the solenoid valve protection fuse (1A).
	The injector is clogged.	Clean or replace the injector.
	The brewing unit solenoid valve is clogged or dirty.	Clean or replace the solenoid valve.
	The flowmeter is jammed.	Check/replace the flowmeter.

PROBLEM	CAUSE	SOLUTION
Water leaks from the machine.	The drain tray does not discharge.	Check the sewer drain.
	The drain pipe is broken or detached or clogged.	Check and restore the connection of the drain pipe to the drain tray.
	Water leaks in the hydraulic circuit.	Check and eliminate any hydraulic leaks.
Coffee is cold.	The heating element is damaged.	Replace the electrical heating element.
	The electrical connection is defective.	Check for possible defects on the connection.
	Lime scale on the exchangers and/or the heating element.	Clean the machine.
	The thermostat to protect the heating element is trigged.	Reset the heating element protection.
	Lime scale has reduced the water circulation.	Clean the connectors of the exchanger, clean or replace the two circulation pipes.
	The brewing unit is cold.	Eliminate air pockets in the hydraulic circuit as follows: - electrically disconnect the pump - close the water tap of the softener - dry running the machine for a few minutes - electrically connect the pump again - open the water mains valve - carry out brewing until the water comes out - wait a few minutes for heating.

PROBLEM	CAUSE	SOLUTION
Coffee is too hot.	The boiler temperature is too high.	Reduce the temperature in the boiler.
	The flow reducer of the brewing unit is not suitable.	Replace the reducer with one of a smaller diameter.
Coffee is dispensed too quickly.	The diameter of the injector is too large.	Replace the injector with one of a smaller diameter.
	The boiler temperature is too high.	Reduce the temperature in the boiler.
Coffee is dispensed too slowly.	The injector of the brewing unit is clogged.	Replace the brewing unit injector.
	The brewing unit is clogged.	Controllare e pulire il gruppo erogazione.
	The capsule-holder is dirty.	Check and clean the brewing unit.
	Lower perforators are dirty.	Clean and replace the perforators, if necessary.
The pressure gauge indicates an unacceptable pressure.	The pressure gauge is defective.	Replace the pressure gauge.
	The boiler calibration is incorrect.	Adjust the calibration of the boiler.
Grounds in cup.	The capsule-holder is dirty.	Clean the capsule-holder.
	The lower perforator holes are worn.	Replace the lower perforator.
	The internal gasket is worn.	Reduce the boiler temperature.
	The temperature of the dispensed water is high.	Replace the reducer with one of a smaller diameter.

PROBLEM	CAUSE	SOLUTION
Unacceptable coffee dispensing. The coffee dose is not met. The LED of the dose key flashes.	The connection of the flowmeter is defective.	Check for proper connection of the flowmeter.
	The connection of the electronic control unit is defective.	Check for proper connection of the 8-pin connector of the electronic control unit.
	The connector of the flowmeter has humidity on it.	Remove the connector of the flowmeter and dry the contacts.
	The flowmeter is defective: during brewing the flowmeter LED does not flash.	Replace the heads of the flowmeter or the whole flowmeter.
	The one-way valve loses pressure (the dose is too small).	Check and replace the one-way valve, if necessary.
	The discharge valves lose pressure (the dose is too small).	Check and replace the discharge valves.
	Water leakage from the unit solenoid valve during coffee brewing or when at resting position.	Clean and replace the solenoid valve, if necessary.
	The flowmeter is partially clogged.	Clean or replace the flowmeter.
The LEDs of the keyboard flash. After a few minutes the automatic filling of water stops.	Time-out device is activated.	Turn the machine off and then back on.
	No water in mains.	Open the water mains tap.
	Some of the pipes in the circuit are clogged.	Check and replace the defective pipes.
	The probe and/or the earth are disconnected.	Check and restore the connections.
Shut down of the electronic system.	The control unit fuse is burnt out.	Replace the main fuse (125 mA).
	The flowmeter has a contact between the positive pole and the earth.	Check the connection of the flowmeter.

PROBLEM	CAUSE	SOLUTION
The pump leaks water.	Poor mechanical seal of the shaft or the O-Ring.	Check the pump and take any corrective actions.
	The inlet and outlet connections are loose.	Tighten the connectors.
	the hexagonal nut of the pressure relief valve or the filter are loose.	Tighten the hex connection of the pressure relief valve or the filter.
	The gasket or the O-Ring of the pressure relief valve of the filter are defective.	Replace the gasket and the O-Ring, take care not to change the calibration of the pump.
The motor stops suddenly or the thermal protector is activated due to an overload.	Lime scale and mineral build-ups in the pump have caused it to jam.	Check the pump and replace it, if necessary.
	The pump and the motor are not aligned.	Install the pump-motor joint.
	The motor is defective.	Replace the motor.
	The motor is connected with an incorrect voltage.	Ensure that the power supply voltage of the motor is correct.
The pump works below the nominal capacity.	The inlet is clogged even partially.	Clean the pump filter.
	The pump rotates in the wrong direction.	Check the motor.
	The pump is not properly calibrated.	Calibrate the pump.
	The motor runs at a low RPM.	Check the voltage or replace the motor.
	The inside of the pump is damaged due to the infiltration of foreign matter.	Replace the pump.
The pump is noisy.	The pump and the motor are not aligned.	Install the pump-motor joint.
	The gasket or the o-ring of the pressure adjusting screw or the filter is defective.	Replace the gasket and the o-ring, take care not to change the calibration of the pump.
	The joint, the coupling screw or the V-shaped clamp, are loose.	Align and tighten the components which are loose.
	The inlet is clogged even partially.	Clean the pump filter.
	The hex nut of the pressure adjusting screw or the filter are loose.	Tighten the hex connection of the pressure adjusting screw and the filter.

PROBLEM	CAUSE	SOLUTION
The cup is dirty with splashed coffee.	Steam pockets during brewing.	Reduce the water temperature.
	Air pockets in the hydraulic circuit.	Tighten fittings or connectors which are loose.
	The flow reducer of the brewing unit is unsuitable.	Replace the flow reducer.