

ESPRESSOMAT



automation 4 espresso

GRUPO 1000 BARCELONA, S.L.U.
C/ Joan Torruella i Urpina 37, Nave 5
08758 Cervelló (Barcelona) - Spain
info@grupo1000.com
Tel. 616 28 77 21

MANUAL FOR INSTALLATION AND MAINTENANCE

Espresso Coffee Machines: **Espressomat H-Series**

Energy, Galaxy, Eccobar, Torino, etc



Model Energy



Model Torino



Model Galaxy



Model Eccobar



Model Venezia

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1- IMPORTANT WARNINGS

IMPORTANT:

Read carefully this instruction manual before you start-up the machine, as it contains important information concerning the security of the installation, the use and the maintenance of the machine.

1.1.- Security advices

- a) Keep this manual close from your working place, so you can take a look at it when necessary.
- b) After unpacking the machine, verify all the accessories are there. Don't let children have access to the packing materials, such as cardboards, staples, etc. as they are compound of material that might damage them.
- c) Before you start the machine up verify that the electrical parameters indicated on the product label correspond to those available in the local.
- d) The installation of the machine must fulfill local security rules and must be carried out by a high qualified technician, who at the same time must be authorized to do the job by the manufacturer.
- e) The manufacturer will not accept any responsibility for personal and material damages or losses caused by an incorrect installation of the machine.
- f) Security of the machine can be only proven if it has been properly connected to a ground point, always done accordingly with effect local rules (see paragraph 4.3).
- g) It is very important that these basic security measures are always verified by a high qualified technician.
- h) The manufacturer will not accept any responsibility for the losses caused by a deficient ground point or for the absence of it. The machine comes perfectly equipped with a proper ground, and all the ground points are indicated in the device.
- i) Verify that the admissible intensity of the electrical installation is enough for the maximum power of the machine, which is always indicated on the product label. In case of doubt, get in contact with a high qualified technician to check if the cable section is enough for the intensity consumption of the machine when working at its maximum power regime.

- j) The way the machine is connected to the electrical net is already set-up. Adaptors should not be used.
- k) In case to use extension cords, these must fulfill local security rules, paying special attention to not overtake its admissible maximum intensity.
- l) This machine must be used only for the purpose it was bought for, i.e. the preparation of coffee drinks, as well as obtaining hot water and steam to heat up milk, shakes or cold water. Any other use must be considered not appropriate and so could be dangerous. The manufacturer will not accept any responsibility for possible personal and material damages or losses caused by an inappropriate use of the machine.
- m) Noise level average is under 70 dB, so as this matter is concerned, the machine does not represent a problem at all for end users. In the contrary, please get in touch with the technician or the manufacturer.
- n) When using the machine, some fundamental security rules must be followed:
- Don't touch the machine with wet wet or humid feet/ hands.
 - Don't use the machine in case you go barefooted.
 - Don't install the machine in places where the cleaning is ade using water streams/jets.
 - Don't pull the electrical cable when disconnecting the machine from the electrical installation.
 - Don't permit the machine to be exposed to climate agents such as rain, ice, sand, etc.
 - Don't expose the machine to extreme temperatures. It can work on the exterior (terraces, etc.) but the maximum air temperature should not exceed the 50°C (122°F) and the minimum should not be lower than 0°C (32°F). Don't let temperatures lower than 0°C (32°F) be in touch with the machine without emptying first the boiler and pipes of water.
 - Don't let any person use the machine if they have not read carefully the user's manual before.
 - Don't let people who might have reduced physical, sensorial or mental capacities, or have no experience with this kind of equipment, use the machine, except in case they have a guidance or supervision from another person who is responsible or has the right knowledge about the machine and its security rules.
 - Moreover, don't let children under 8 years old use or manipulate the machine.
 - Children over 8 years old, people with reduced physical, sensorial or mental capacities and those that have no experience with this kind of equipment, will only be able to use the machine in case they have received a proper training or have the supervision and guidance of a responsible person who has the right knowledge about the machine and its security rules, so they can understand how dangerous a machine can be for them.
 - Moreover, children must be always supervised to make sure they don't play with the machine or do any job in relation to maintenance or cleaning procedures.
 - Don't remove the side panels of the machine to start any maintenance or service operation. Only high qualified and authorized technician can remove the panels and do the job inside the machine.

- o) Before any maintenance or service operation is carried out, make sure the machine is unplugged from the electrical power using the main switchboard installed in your local.
- p) For cleaning procedures, follow the instructions of this manual (see paragraph 3.6).
- q) In case of anomaly or faulty functioning, contact with the authorized technician and unplug the machine before any maintenance operation is being done.
- r) Repairs will be always made by the authorized technician or the manufacturer, using only original spare parts. If these conditions are not fulfilled the machine can become dangerous. The connection to the electrical power must be always carried out through a switch and according to local security rules.
- s) The electrical cable of the machine must be always plugged to a switch that minimum has a 3mm gap between its contactors.
- t) In order to not overheat the electrical cable, make sure the cable is totally extended.
- u) The electrical cable can't be repaired or changed by the end user. If this cable has been damaged, turn off the machine and get immediately in contact with the authorized technician in order to solve the problem and avoid any danger.
- v) Unplug the machine from the electrical net when the device is not going to be used for a long period of time, usually more than 3 days.

To make sure the machine is working properly, it is totally indispensable to fulfill these instructions provided by the manufacturer. In particular, it is important to check all what is related with security.

It is important to not use hands or other nude parts of the body to get in touch with the hot metallic parts of the machine, such as the brewing groups, the water spigot and the steam arms because the hot water and the steam can be very hot and hurt and burn your skin.

The metallic part of the brewing groups, steam wands, and water spigots is very hot when the machine is working at its normal regime, so please be very careful with that. Steam wands must be always handled by its burn protectors and the filter-holders by its black handle.

Make sure the cups are totally dry when placing them on the cup-warmer grill (top of the machine). This will avoid water from getting inside the machine and will allow you to have warm cups much faster.

Only silverware and ceramic cups which are specific for this kind of machines can be placed on the cup-warmer. In case you have doubts, please contact with the seller. Warming any other object is therefore considered not appropriate and dangerous.

1- PRODUCT DESCRIPTION

2.1.- Product features

Espresso machines all made in S/Steel
Removable side panels for service operations
Programmable touch pads for coffee with 5 or 6 Led buttons
Automatic water refill
Electronic boiler level control
Steam and water wands in S/Steel
Compression or lever piston faucets, for steam and water
Built-in professional rotary pumps and motor
Big boilers made in S/Steel
Double probe systems, with heating element protection
Two gauges for control of the pressure in pump and boilers
Water net connection and drainage

2.2.- Technical details

Number of group heads of the machines	1 group, 2 groups or 3 groups
Touchpads/Membranes	1, 2 or 3, with 5 / 6 programable Led boutons
Capacity of the boilers	3L/6L, 12 L or 18L
Power	1.800W, 2.600W/4.500W or 5.000W
Pressure-stats	20 A or 30 A
Boiler pressure	100 kPa (1 Bar)
Pump pressure	900 kPa (9 Bar)
Net water minimum pressure	300 kPa (3 Bar)
Steam wands	1 or 2
Water spigots	1
Water net connection	Thread 3/8"
Filter-holders / handles	1 for 1 Coffee and 1, 2 or 3 for 2 Coffees
Cleaning	Blind filter - with no holes
Water drainage flexible tube	Included / To be connected by the technician
Water inlet pipe	Included / To be connected by the technician
Electrical plug	In option / To be connected by the technician
Water softener	In option / To be connected by the technician
Dimensions	400, 750 or 950 L x 530 D x 500 H (mm)
Weight	40, 55 or 65 kg

3- USER MANUAL

3.1.- Main components: Energy H-Series



- 1) Steam faucet/tap
- 2) Hot water faucet/tap
- 3) Net/Pump pressure gauge
- 4) Touchpad for coffee dosage
- 5) Burn protector
- 6) Steam wand
- 7) Service tray
- 8) Insulating legs
- 9) Coffee filter-holder
- 10) Group head for coffee
- 11) Hot water spigot
- 12) Main switch

3.2.- Preparation and start-up

The machines are manufactured in 1, 2 or 3 group heads, and can be equipped with Basic, Standard or High gamma accessories. They are professional, trustworthy, high performance and efficiency machines.

Before the technician turns on a machine, he must make sure that the socket has a proper ground and that the water inlet pipe and drainage tube have been properly installed. Moreover, the water key must be open to let water in when the machine starts running. The minimum Net pressure is 300 kPa (3 Bar).

Make sure all these preparations and parameters are correct. After this is done, the machine can be plugged to power (1 Phase, 110V or 220/230V depending your case and 50/60Hz) and turned on by the technician. We can also supply 380Volt, and 2 Phases.

When turning on the machine, place the main switch to Position 1. This will permit the machine to start. First thing the machine will do is checking the water level inside the boiler. As it is empty, the machine will start filling the boiler. The Pos. 2 in the main switch makes same function as Pos.1. In case of main Leds, Pos.2 will turn on and off the Leds lights.

If for any reason the boiler does not finish the filling process during 2 minutes, the buttons on the touchpads will blink. If this happens, place the main switch in Pos.0 and start the process again. In order to help the machine filling the boiler, we can open the faucets/taps and press a button on a touchpad to activate the group. This will release possible air accumulated inside the system. Just to know that the machine comes with a electronic level control, so each time the machine detects a lack of water inside the boiler, it will automatically activate the motor-pump and the filling solenoid to refill the boiler.

The machine has been equipped with a double probe system. One probe is to protect the heating element (Security probe) and the other probe is to control the water level inside the boiler (Level probe). First probe will allow the machine to heat the water when it arrives to that minimum level inside the boiler, and the second probe will limit the filling of the boiler, avoiding the boiler from exceeding its water level. Otherwise there would be not enough room for the steam.

Being the boiler filled, the element will keep heating the water during aprox 15 minutes until the steam pressure inside the boiler is 100 kPa (1 Bar), and the temperature of the water reaches aprox the 100°C (212°F).

Now it will be only the pressure-stat the one to run the machine. It will control when the element must turn on and off to heat the water inside the boiler and generate enough steam pressure. So now the machine is ready to start making coffees and getting hot water for tee or steam to froth the milk, shakes, etc.

Once on a while make sure all the parameters are correct: water net pressure must be minimum 300 kPa (3 Bar), boiler pressure 100 kPa (1 Bar) and pump pressure 900 kPa (9 Bar).

If some of these parameters are not correct, please let the technician know so he can adjust them again.

Never open the machine and try to adjust or modify these parameters for yourself!!!

3.3.- Preparation and coffee brewing

When all is ready to work, we recommend to play with the machine. It means taking some water from the groups by pushing on a touchpad button (or the push-button if the machine is semi automatic), as well as getting out some steam and hot water. This will warm the group heads and the wands and so the machine will be ready to make coffees.

When pressing a button from a touch pad, the corresponding green/blue Led will blink showing that the brewing process is working properly.

The touch pad has 4 or 5 programmable buttons (from left to right: 1 short coffee/espresso, 1 long coffee/americano, 2 short coffees/espressos, 2 long coffees/americano) and a fifth button of a **Continuous Brewing** (button with a "C" or "Star" on it). In case of automatic water, use the 6th button for that purpose.

The Continuous Brewing button has 2 main functions:

- 1- It allows the user to make a continuous brewing of coffee.
- 2- It permits the user to enter into the programming mode to control the dosages of each button.

In the first case, the buttons permits a continuous coffee extraction, i.e. it starts when pressing the button and only stops when pressing again. It is very important to read the following warning.

IMPORTANT:

In case to use the "C" button (**Continuous Brewing**) to make coffee, make sure it does not keep activated too long. In fact, 30 seconds are more than enough to make a long coffee (the so-called 'americano' coffee), so we **Strongly recommend to not use it more than 30 straight seconds.**

In case we want to use the "C" button to make several long coffees (with a minimum of 30 seconds each), we should not make more than 30 long coffees/hour, and then let the button rest a minimum of 2 - 5 minutes.

If the "C" button kept activated for a long period of time and with no control of the user, the machine would run out of hot water in the group heads, would be disabled for some time to make coffee again and it would need some time to get back into the proper functioning regime. In addition, letting the "C" button activated for long time would cause severe damages to the machine.

These damages can always vary, but a lack of water coming from the net as a consequence of a wrong use of the "C" button could overheat and damage the pump. And on the contrary, a never ending leak of water coming out from the group heads with no control of the user could cause severe damages and losses to the local, either is a possible flood or sparks as a result of possible contact between water and electricity.

So, just remember to use the "C" button under a strict control of the user.

Advice: It is always preferable to use the 4 provided programmable buttons to make coffee.

In the second case, the Continuous Brewing button permits the user to enter into the programming mode to control the dosages of the 4 programmable buttons. We must follow these steps to program the dosage:

2.1- Press the "C" button on the first touchpad (always starting from left side) and keep it pressed until the buttons of the touch pad blink. *Note: Ask the supplier for the precise programming instructions.*

2.2- Press the dose button you want to adjust (1Short, 1Long, 2Short, 2Long) and the water will start coming out from the group.

2.3- When the volume is what you want the dose to be, press the dose button again and it will keep automatically programmed.

2.4- Repeat steps 2.2 and 2.3 to modify the other dose buttons. (We recommend following this process with the filter holder filled with coffee, to ensure that the final quantity is what you desire to cup to be).

2.5- When finished, press the "C" button to exit the programming mode and turn off the machine to keep the changes. The left touch pad is the master, so if the machine has 2 or 3 groups, the programming will stay the same on the right touch pads. Now you can turn on again the machine. Do the same process on each touch pad in case you want to program different dosages per touch pad.

3.4.- Hot water spigot

Before getting hot water into a cup or a pitcher, it is always convenient to open/activate the hot water faucet/tap for a couple of seconds. This will keep the spigot warm and will avoid the temperature of the water going down when touching the s/steel wand.

3.5.- Steam wand

It is also convenient to get some steam during a couple of seconds, to release any possible water condensation inside the wand and keep it also warm.

3.6.- Cleaning procedures

When finishing the daily work with the machine, remove the filter-holders from the group heads and immerse them into water. This will help you to clean them. Moreover, get some steam through the steam wands and clean any possible rest of milk with a wet cloth.

In addition, get some water from the group heads to clean the shower and avoid coffee rest to get stuck there.

Then you can turn off the machine and open a steam faucet/tap to release steam from the boiler. Also the service tray can now be removed and cleaned.

Finally, you can clean the front and sides of the machine using a wet cloth, and place the cleaned and dry components in the right place. Like this, the machine will be ready to start next day.

3.7.- Water softener (not included)

Ask your technician about water softeners. It is always convenient to use a water softener to prevent future problems. Scale/lime is always the worst enemy of the machines.

The softener extracts the scale from inlet water, avoiding the creation of lime deposits and encrustations, i.e. many problems in the future. There is different types of softeners:

In case to use a salt softener, make sure you fill it with salt at due time or ask your technician to do so. The regeneration is the process through which the softener comes back to its original state by the addition of salt. The presence of salt inside the boiler and pipes as a consequence of the non regeneration nullify any granting of warranty from the factory. (The softener is not included with the machine).

In case to use a cartridge softener, make sure you have the proper replacement ready when it needs to be changed.

3.8.- Alarm signs

The machines are equipped with an alarm. It gets activated if one of the following situations occurs:

- 1- It takes too long to brew the coffee (possible causes: coffee too fine, too much pressure, etc).
- 2- It takes more than 2 minutes to fill the boiler.

When this happens, the touch pads blink and in case the boiler is filling, the filling process also stops...

...so, MAKE SURE THE ALARM IS QUITE, AND ENJOY YOUR MACHINE!

4- INSTRUCTIONS FOR THE TECHNICIAN

4.1.- Description of the internal components

Our qualified technicians know very well the machines and how they work. However, we have prepared an in-person-course for all those that want to extend their knowledge about the machines, their components, how to service, maintain and repair them in place, etc.

4.2.- Positioning of the machine

The machine must be placed in a place that permits the user to work comfortably, and which is dry and flat. It is convenient that the surface inclination does not exceed the 2°. A bigger inclination could cause imbalances on the machine, like different quantities of water coming out from the groups, etc.

4.3.- Connection to water net

As mentioned in paragraph 3.2- , the technician must install the water inlet pipe (metallic flexible pipe) and the drainage tube (grey flexible tube) before the machine is turned on.

Moreover, it is important to verify that the water key is opened and the water pressure has a minimum of 300 kPa (3 Bar), so that the machine works in a proper and comfortable way.

4.4.- Connection to electrical net

Again, as mentioned in paragraph 3.2-, the technician must install the machine to the electrical power supply before the machine is turned on. In case the machine comes without plug (usually it comes without it), the technician will need to install a plug or a multiple connector/strip on the electrical cable.

Moreover, it is important for the technician to verify that the local has a proper ground and connect the machine only to a socket with ground available. The machine comes with a proper ground point and three labels (see the sign below) indicate these ground points in the machine.



4.5.- Security valve

The machine has inside a boiler that permits it to have hot water and steam. This boiler has a security valve installed on the top, which will release steam in case the pressure goes up (more than 1,8 Bar). This is the first security system of the machine, to avoid pressure inside the boiler going up.

4.6.- Vacuum valve

The vacuum valve is also installed on the top of the boiler. It permits the machine to get rid of the vacuum effect that appears inside the boiler after the steam pressure goes down. Doing this way, the suction of liquids by the boiler is eliminated when the machines starts-up again.

4.7.- Expansion valve

This expansion valve (expansion-retention) is the second security system in the machine. This valve is placed under the service tray (see component 7, paragraph 3.1) and permits the machine to retain the water inside the system (retention valve) and at the same time to release water in case the pressure of the pump/system is higher than 1.500 kPa (10,5 Bar). This double security system makes the coffee machines 100% safe for the end user. **IMPORTANT: Under no circumstances must end users manipulate this valve. Only a high qualified technician must have access to it!!!**

4.8.- Water level inside the boiler

The level of water inside the boiler is automatically controlled by the machine. The end user does not need to do anything regarding this matter. He will only see the green light ON when the level is OK and the orange light ON when the machine is filling the boiler.

The red light indicates that the heating is working, so the water is being heated inside the boiler to get the right pressure (100 kPa) to provide the user enough steam to froth the milk, etc.

4.9.- Internal insulation

The machine is equipped with double insulation on its internal wiring, to provide security to technicians when operating or servicing the machine, as well as for end users, etc.

5- PRODUCT CERTIFICATIONS

Having gone through all the necessary tests (*) in the Electrical Test Lab **SGS TECNOS, S.A.U.**, based in Madrid (Spain), we certify that this product fulfills all the requirements in order to be commercialized.

(*) Test of electromagnetic compatibility of emission and immunity (EMC) as per the **Directive EMC 2004/108/CE**, and test of security as per the **Directive DBT 2006/95/CE**.

Fulfillment of the following norms:

Emission: (norms 55014-1, 61000-3-2, 61000-3-3)

Immunity: (norms 55014-2, 61000-4-2/4-4/4-5/4-6/4-11)

Security: Complete tests as per the norms 62233, 60335-2-75 and 60335-1
USA UL/ETL requirements

IMPORTANT:

Any change and/or modification of this product, not previously specified or strictly approved by the manufacturer GRUPO 1000 BARCELONA, S.L.U., can lead to the unfulfillment of the approvals and certifications of this product.

Product marks:

Accordingly to the above described certifications, the product can be marked with the following signs:



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