

manual

modbar av - espresso system

Modbar AV is an elegant espresso machine which hides the complexity of the traditional machine under the counter.

It exists for the barista, the visionary and the dreamer who wants to redefine the aesthetics of the coffee space, while still requiring the quality, consistency and reliability of a proven industry leader.



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Operating Manual V1.1 - 09/2020
MAN.21.1.01

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Original instructions verified by the
manufacturer.



Scan QR Code to view the complete
Software Programming Guide available on
the modbar website International or US &
Canada.

Printed on recycled paper.

certifications available:



Intertek



1. General Warnings and Safety Specifications

▲ WARNING ▲
This machine is for professional use only and should be installed in locations where its use and maintenance is restricted to trained personnel. Children are forbidden to operate or play with the machine.

▲ WARNING ▲
The Espresso Tap must be placed in a horizontal position on a counter higher than 80 cm from the ground.

▲ WARNING ▲
This machine is not suitable for outdoor use. Jets of water should not be used to clean the machine, nor should it be placed where water jets are used.

▲ WARNING ▲
As already mentioned in the preceding notes, the manufacturer shall not be held responsible for damage to objects, animals and/or people whenever the machine has not been installed according to the instructions contained in this manual, and is not used to do what it was designed for (i.e. preparing coffee and hot drinks).

1) Important safeguards

- The weighted sound pressure level of the machine is lower than 70dBA.
- Use, cleaning and maintenance of this coffee machine are realized by people (including

children more than 8 years of age) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, as long as they have been given supervision or instructions concerning the use of the appliance by a person responsible for their safety and if they understand dangers.

- Children should be supervised to ensure that they do not play with the appliance.
- Keep the appliance and its cord out of the reach of children less than 8 years of age.

2) This operating manual is an integral and essential part of the product and

must be supplied to users. Users are asked to read the enclosed warnings and cautions carefully, as they provide valuable information concerning safety during installation, operation and maintenance. This manual must be kept in a safe place and be available for consultation to new and experienced users alike.

3) Ensure product's integrity by inspecting the packaging, making sure it presents no signs of damage which might have affected the enclosed machine.

4) Check the machine's integrity after having carefully removed the packaging.

Note: In case of doubt, do not go on any further and contact your

dealer or retailer immediately. They will send out specialized personnel authorized to perform service on the espresso machine.

5) Packaging (boxes, plastic bags, foam parts and whatever else) must not be left around within easy reach of children, due to the potential danger it represents, nor be discarded in the environment.

6) Check to see that data on the rating plate corresponds to those of the main electrical supply which the machine will be hooked up to.

7) The equipment must be installed to comply with the applicable federal, state or local electrical and plumbing codes. The installation also must comply to the manufacturer's instructions,

and must be performed by qualified and authorized personnel.

8) Incorrect installation may cause for injury/damages to people, animals or objects, for which the manufacturer shall not be held responsible.

9) Safe electrical operation of this device will be achieved only when the connection to the power outlet has been completed correctly and in observance of all local, national, and international electrical codes and safety regulations, and particularly by grounding the unit. Make sure grounding has been done properly as it represents a fundamental safety requirement. Ensure qualified personnel check

such connection.

10) Furthermore, you must ensure that the capacity of the available electrical system is suitable for the maximum power consumption indicated on the espresso machine.

11) We do not recommend using adapters, multiple plugs and/or extension cords. If you cannot avoid using them, make sure that they are exclusively of the kind which conforms to local, national, and international electrical codes and safety regulations, being careful not to exceed the power and current ratings indicated on such adapters and extension cords.

12) This device must be used exclusively for the functions it has been designed and built

for. Any other application is inappropriate and dangerous.

The manufacturer shall not be held responsible for any damages caused by improper and/or irrational use.

This machine should not be installed in kitchens.

13) Using any electrical device requires that certain fundamental rules be observed. In particular:

- do not touch the device with wet or humid hands and feet;
- do not use the device while having no shoes on your feet;
- do not use extension cords in bath or shower rooms;
- do not unplug the device from the power outlet by pulling on the power supply cable;

- do not expose the device to atmospheric agents (rain, sun, etc.);
- do not allow children or untrained people to use this device;
- do not clean the control panel with a wet cloth since it is not watertight.

14) Before carrying out any maintenance and/or cleaning operations, turn the main switch, which is located on the front left of the machine, to the “0” or “OFF” position, and disconnect the machine from the electrical network by unplugging the cord or by switching off the relative circuit breaker. For any cleaning operation, follow exclusively the instructions contained in this manual.

15) In case the machine is operating in a faulty manner or breaks down, disconnect it from the electrical network (as described in the preceding point) and close the water supply valve. Do not attempt to repair it. Contact a qualified and authorized professional to perform any repair. Any repairs must be performed exclusively by the manufacturer or by an authorized centre using only original parts. Non compliance with the above could compromise the safe operation of the machine.

16) You should plan to make use of an omnipolar connector during installation, as required by local, national, and international electrical codes and regulations.

17) In order to avoid dangerous overheating problems, it is recommended that the power supply cable be fully unfurled.

18) Do not obstruct air intake and exhaust grilles and, in particular, do not cover the cup warmer tray with cloths or other items.

19) The machine's power supply cable must not be replaced by users. In case the power supply cable becomes damaged, shut off the machine and disconnect the machine from the electrical network by switching off the relative circuit breaker and close off the water supply; to replace the power supply cord, contact qualified professionals exclusively.

20) These instructions are also

available in an alternative format on a website

<https://modbar.com/support/>

21) The machine should be placed on a flat counter and must be placed in settings with the following temperatures:

Minimum room temperature: 5°C/41°F;

Maximum room temperature: 32°C/89°F.

22) Check the package to make sure that the following accessories are included:

- a number of 1-dose and 2-dose portafilters corresponding to the number of groups;
- replacement 1-dose and 2-dose filters (one of each);
- 1 tamper;
- 1 blind filter;
- cleaning detergent, for the

groups;

- 3 stainless steel braided hoses for water connections;
- 1,5 mt of reinforced plastic tubing for drainage;
- 1 hose clamp.

23) If the machine has been temporarily housed in settings with a room temperature of less 0°C/32°F, the machine must be placed in a warmer environment in order to gradually defrost the hydraulic system prior to use.

24) Water pressure supply must be between 0,2 and 0,6 MPa.

The maximum inlet water pressure shall be at least 1,0 MPa (Denmark, Norway, Sweden).

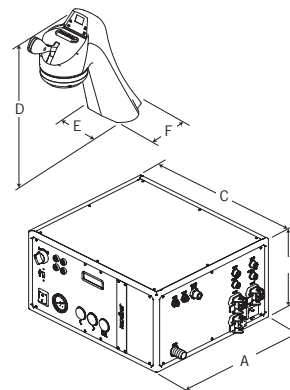
25) The machine is intended to be permanently connected to fixed wiring, and it is

mandatory that a residual current device (RCD) with a rated residual operating current not exceeding 30mA is installed.

26) This machine is designed only for preparing coffee and hot drinks.

27) Any modification to the equipment is prohibited; the manufacturer cannot be held liable for damage to property, animals, and/or persons if the equipment undergoes technical and aesthetic changes, changes in performance and characteristics, and in general is tampered with in one or more of its constituent components.

28) Dimensions and weights common to all machines



A [mm]	356	D [mm]	316
B [mm]	203	E [mm]	137
C [mm]	406	F [mm]	115
WEIGHT _{Module} [kg]	18	WEIGHT _{Tap} [kg]	10,5

2. Definition of Available Models

This operating manual refers exclusively to the following models, of our own manufacture:

MODBAR AV, Espresso System

Legend

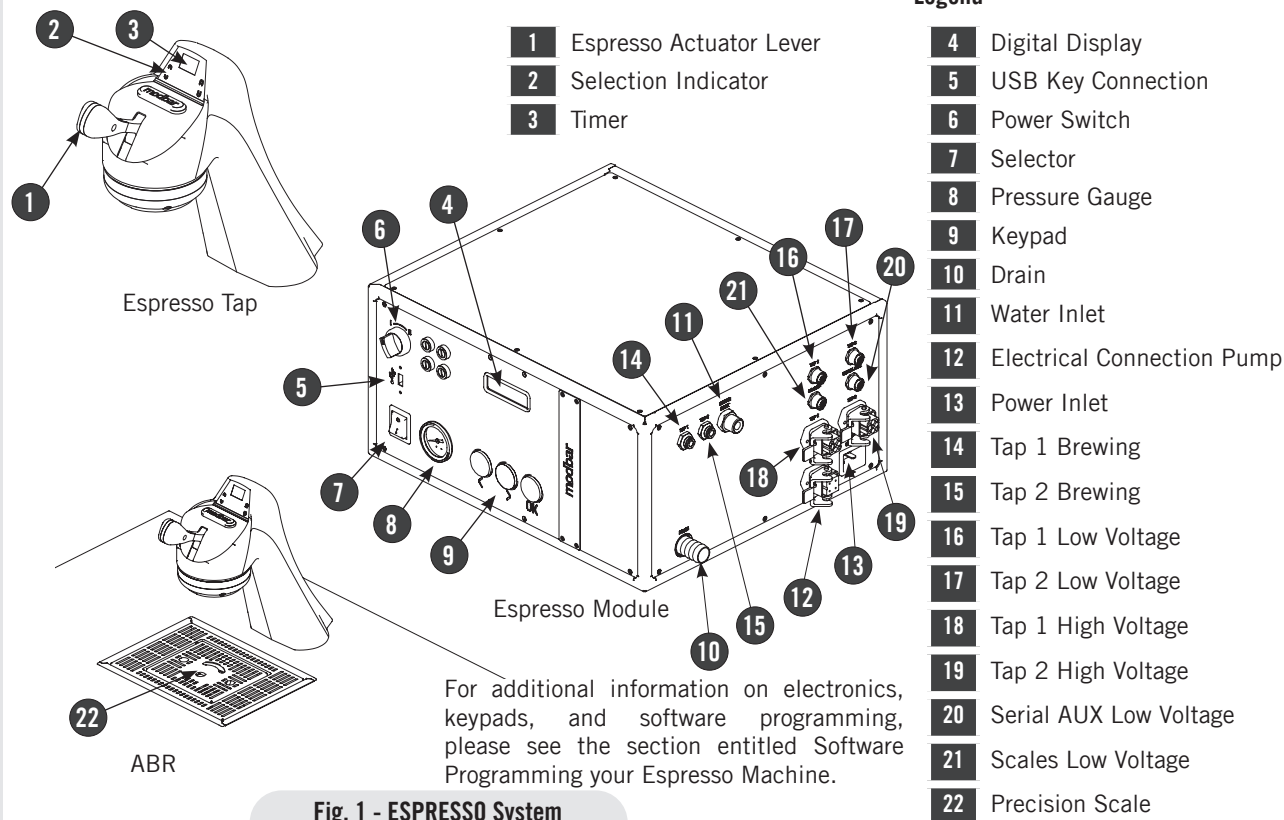


Fig. 1 - ESPRESSO System

This operating manual refers exclusively to the following models, of our own manufacture:
MODBAR AV 1 group, Espresso System

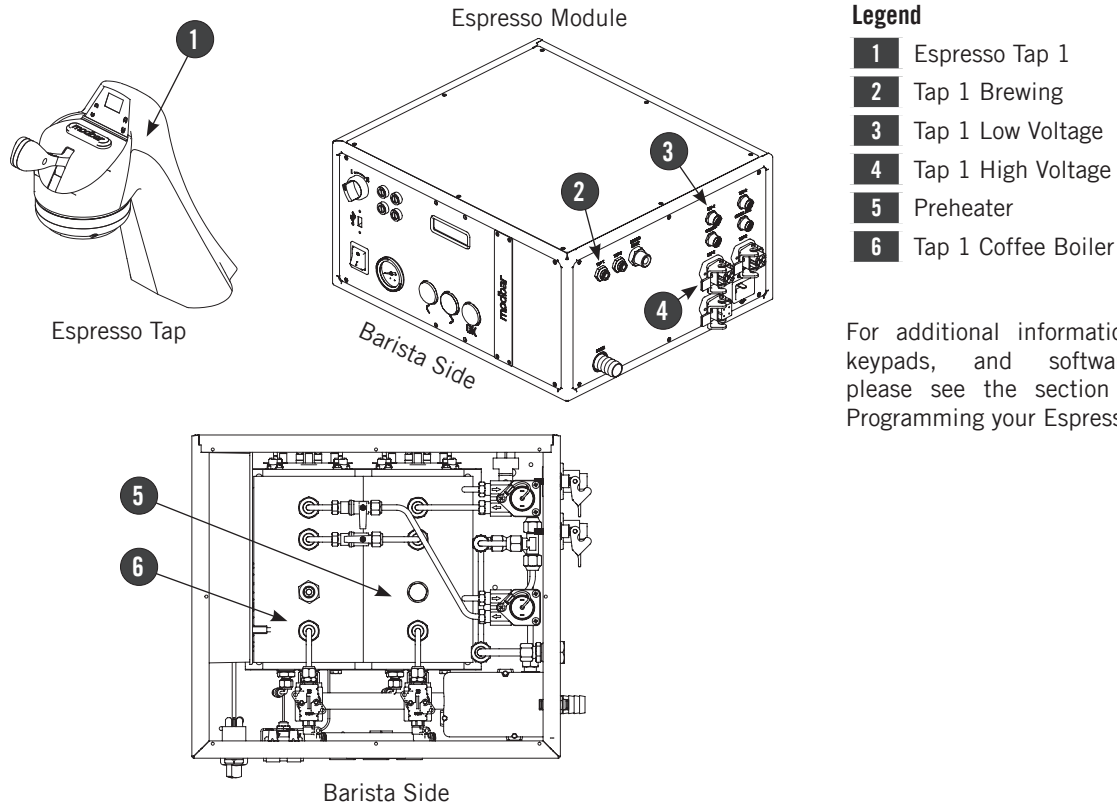
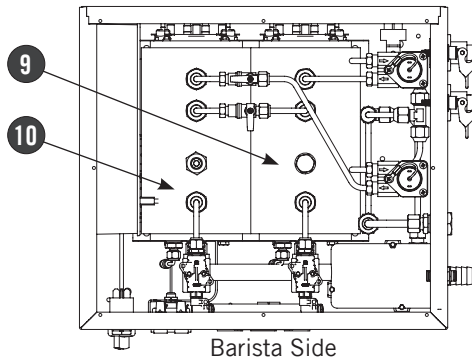
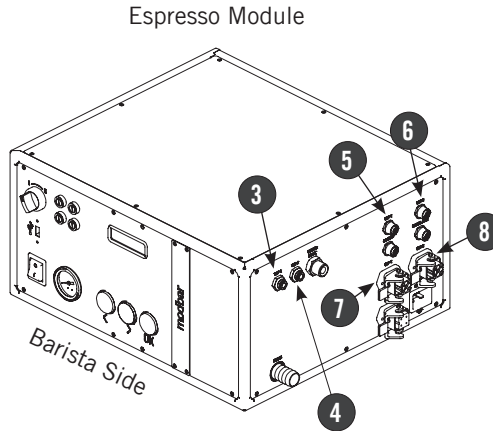
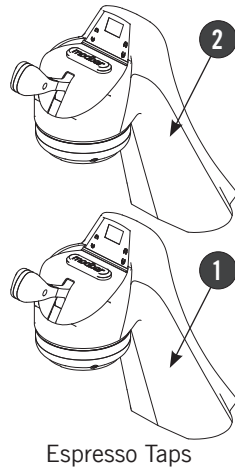


Fig. 1a - ESPRESSO System 1 group

This operating manual refers exclusively to the following models, of our own manufacture:
MODBAR AV 2 groups, Espresso System



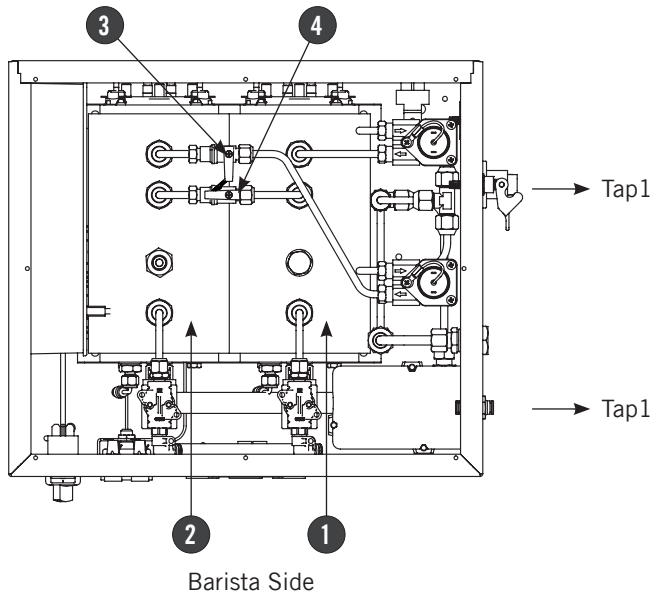
Legend

- 1** Espresso Tap 1
- 2** Espresso Tap 2
- 3** Tap 1 Brewing
- 4** Tap 2 Brewing
- 5** Tap 1 Low Voltage
- 6** Tap 2 Low Voltage
- 7** Tap 1 High Voltage
- 8** Tap 2 High Voltage
- 9** Tap 2 Coffee Boiler
- 10** Tap 1 Coffee Boiler

For additional information on electronics, keypads, and software programming, please see the section entitled Software Programming your Espresso Machine.

Fig. 1b - ESPRESSO System 2 groups

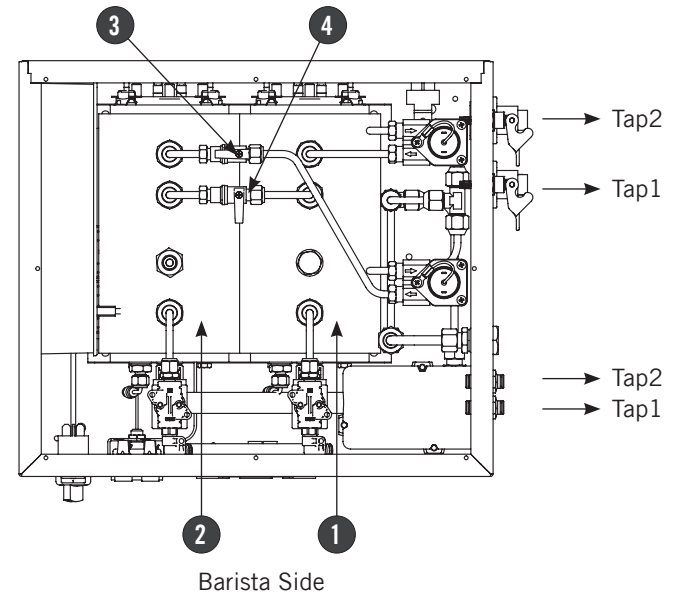
Configuration with two boilers and one tap.



Legend

- 1 Preheater
- 2 Tap 1 Coffee Boiler
- 3 Ball Valve - Position "CLOSED"
- 4 Ball Valve - Position "OPEN"

Configuration with two boilers and two tap.



Legend

- 1 Tap 2 Coffee Boiler
- 2 Tap 1 Coffee Boiler
- 3 Ball Valve - Position "OPEN"
- 4 Ball Valve - Position "CLOSED"

Fig. 1c - ESPRESSO System
1 Tap or 2 Tap

1) General Description

The machine is built in 1 and 2 coffee group versions and is essentially composed of the following parts:

- Inlet and outlet boilers if one group machine or boiler 1 / boilers 2 if two groups machine;
- Brewing tap(s);
- Water pump.

2) Description of the various parts

• Coffee Boilers

The Coffee Boiler consists of a cylindrical tank made of AISI 300 series stainless steel. Each unit is subjected to a hydraulic test, at a pressure of 18 bar, and has an operating pressure of 9 bar. The following, is the effective volumes:

2 coffee boilers 1.4 liters each

Covers are welded at either end of the cylindrical tank and on one of them there is a housing for the water heating elements. The temperature of the coffee boiler is maintained by an electronic temperature controller (PID capable) with an accuracy of 0.2°C.

It consists of AISI 300 stainless steel tubes. Heating is accomplished through an immersion-type plated heating element.

- Operating temperature 95°C (adjustable), controlled automatically by an electronic temperature controller with an accuracy of 0.2 °C. Operating pressure of 9 bar.

- Pressure is displayed through a pressure gauge with a scale from 0 to 18 bar.
- Safety device, based on an expansion type mechanical valve, with counteracting spring adjusted to 13 bar.
- Testing: Hydraulic test at 18 bar performed on ready-to-use small boilers, at our factory.

• Brewing groups

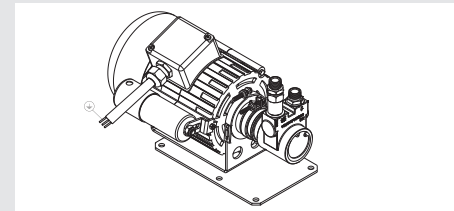
They consist of a precision casting made of stainless steel. The brewing group accepts the portafilter used to hold the ground coffee; the espresso flows through the brewing group, through the portafilter basket, through the portafilter spout, and into the cup(s) after the brewing lever has been actuated.

• Exterior cover



The exterior consists of painted and stainless sheet steel panels. To provide good aesthetics, to optimize ergonomics for the operator and to reduce the chance of damage to a minimum.

• Water pump



The rotary vane pump, is installed on the water supply tubing and is set up to operate anytime the coffee groups are activated.



• Machine ETL plate:

modbar modular brewing systems		SERIAL #: PR000000	
MODEL: Espresso AV System	MFG. DATE: 11/21/2017		
208 Vac / 13,1A / 2,733W / 60hz. / 1-Phase			
220-240 Vac / 14,2A / 3,264W / 60hz. / 1-Phase			
CAPACITY: 2.8L	MAX. PRESSURE: 217,5 PSI		
WATER SUPPLY: 1-GAL. / MINUTE MIN 35 PSI - MAX 70 PSI	READ OPERATING MANUAL BEFORE USING THIS EQUIPMENT		
CONFORMS TO UL STD 197 CERTIFIED TO CSA STD C22.2 NO.109			 MADE IN ITALY


• Machine CE plate:

modbar modular brewing systems		SERIAL #: PR000000	
MODEL: Espresso AV System	MFG. DATE: 01/15/2018		
220-240 V / 50/60Hz			
11.6A / 2676W (1TAP) 14A / 3227W (2TAP)			
CAPACITY: 2.8L	MAX. PRESSURE: 1.5 MPa		
WATER SUPPLY: 3.8 l/min MIN 0.24 MPa - MAX 0.6 MPa	READ OPERATING MANUAL BEFORE USING THIS EQUIPMENT		
CONFORMS TO UL STD 197 CERTIFIED TO CSA STD C22.2 NO.109 Via La Torre 14H - 50038 Scarperia e San Piero (Florence)			 MADE IN ITALY

3. Installation

MODEL/SERIES	BOILER GROUP	V/Hz	RATED POWER (W)	RATED INPUT (A)	MODULE WATTAGE	TAP WATTAGE	TOTAL WATTAGE	POWER CORD SIZE (mm ²)
MODBAR AV	2 BOILER 1GR	AC220-240V/50-60Hz AC208/60Hz	2682,5 2252,5	11,7 10,8	2131,5 1801	551 451,5	2682,5 2252,5	SEE ELECTRICAL CONNECTIONS FOR DETAILS
MODEL/SERIES	BOILER GROUP	V/Hz	RATED POWER (W)	RATED INPUT (A)	MODULE WATTAGE	TAP WATTAGE	TOTAL WATTAGE	POWER CORD SIZE (mm ²)
MODBAR AV	2 BOILER 2GR	AC220-240V/50-60Hz AC208/60Hz	3233,5 2703	11 13	2131,5 1801	1102 902	3233,5 2703	SEE ELECTRICAL CONNECTIONS FOR DETAILS

POWER CORD:
3 X WIRES 1 X BLUE (NEUTRAL)
220V 1 X BROWN (PHASE)
 1 X YELLOW & GREEN (GROUND)



WARNING

THE DETAILS ON THE LEFT DESCRIBE HOW TO CONNECT EACH WIRE TO THE PLUG. RESPECT ALSO THE LOCAL SAFETY REGULATIONS.

WARNING

In order to prevent cracks or leakage: do not store or install the Coffee machine in places where in boiler or hydraulicsystem to freeze.

WARNING

For the connection of the machine, it must be provided a suitable disconnection device near the installation, so that in case of trip, it is possible to operate the device near the machine.

WARNING

Installation on the counter with scales:
The thickness of the counter must be between 20mm and 100mm.

WARNING

Replace fuses with the same size, type and rating. e.g. F1 = 2A, 250V

WARNING

This machine should not be installed in kitchens.

WARNING

Installation on the counter:
For cutting the counter refer to cutting template placed inside the package.

Recommended Clearances

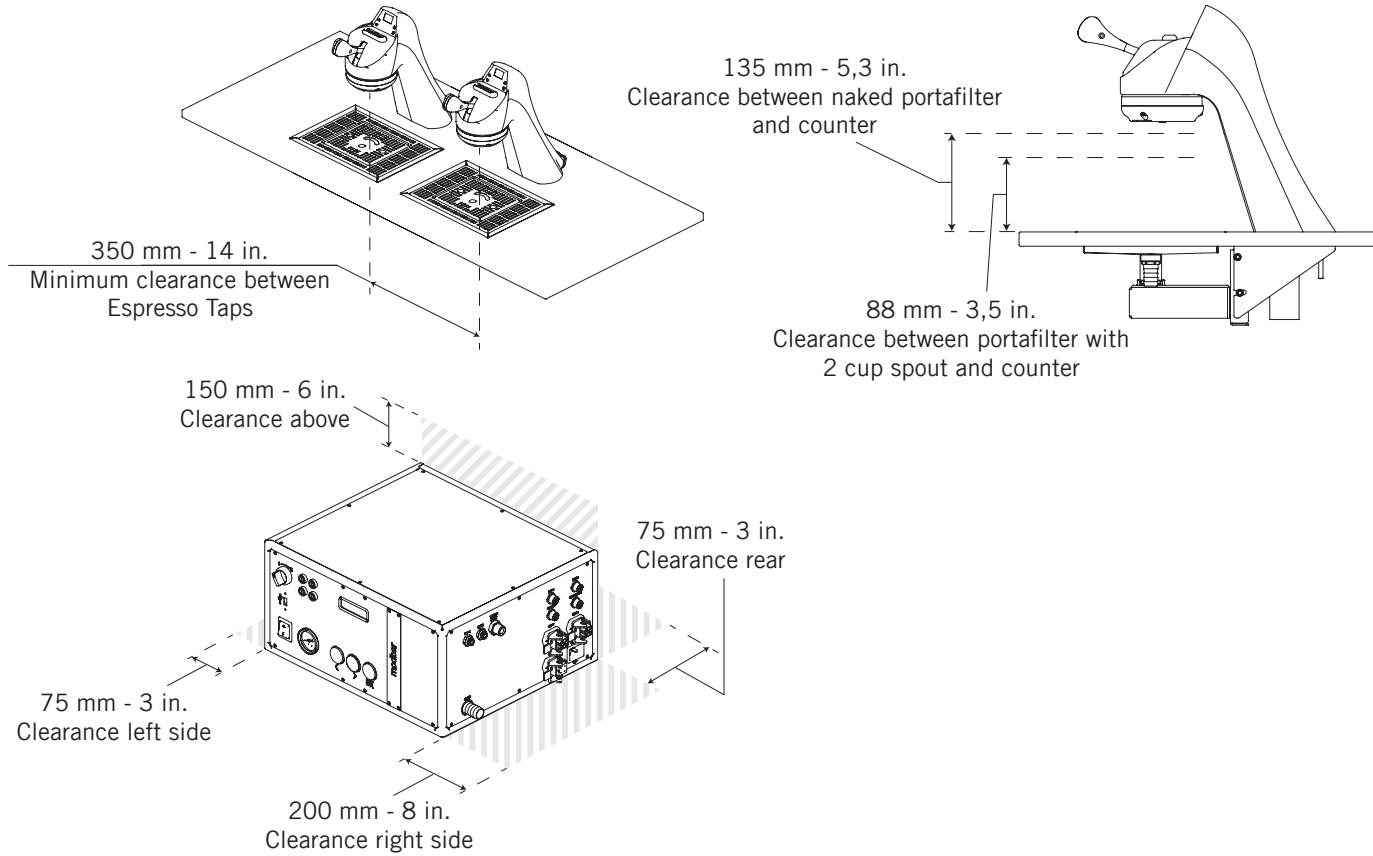


Fig. 2 - Installation guide

▲ WARNING ▲

The machine is intended to be permanently connected to fixed wiring, and it is mandatory that a residual current device (RCD) with a rated residual operating current not exceeding 30mA is installed.

▲ WARNING ▲

The Coffee Boiler contain water at elevated temperature. Water temperature over 125°F / 52°C can cause severe burns instantly or death from scalding (Coffee Boiler 207°F/97°C)

▲ WARNING ▲

Disconnect from power supply before the connection with the water pump.

▲ WARNING ▲

At each installation, the machine should be equipped with a new set of tubes for plumbing and related gaskets.

▲ WARNING ▲

Water pressure supply must be between 0,2 and 0,6 MPa if sufficient pressure is not available we suggest that an additional water supply system is used.

▲ WARNING ▲

Before making any electrical connections make sure that the two strain relief connectors are firmly secured to the body of the machine in order to prevent inadvertent stress on the power cables.

▲ WARNING ▲

Hazardous voltage disconnect from power supply before servicing.

▲ WARNING ▲

The motor pump must be situated close to the machine in an accessible place for maintenance but not for accidental interference and where there is an optimal air circulation.

▲ WARNING ▲

The manufacturer declines any responsibility for any event leading to liability suits whenever grounding has not been completed according to current local, national, and international regulations and electrical codes, or other electrical parts have been connected improperly.

WARNING

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or with lack of experience and knowledge, unless they have been given supervision or instruction concerning the use of the appliance by a person responsible for their safety.

WARNING

- U.S.A. and CANADA only - Do not connect to a circuit operating at more than 150V to ground on each leg.

WARNING

This machine is not suitable for outdoor use. Jets of water should not be used to clean the machine, nor should it be placed where water jets are used.

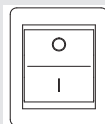
Note:

- The drinking water mains valve and the circuit breakers for the electrical system need to be located in the most convenient position for the operator to access them easily and quickly.

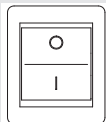
1) Power Switch Function

The two-position power switch on the Modbar module front panel has two separate functions: ON and OFF.

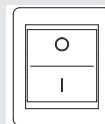
0 - Off: In this position, the module is in the off position.



I - Standby Mode: In this position, the module is in standby mode. When in standby mode, all operations function as normal, but no power is applied to the heating elements. This mode is used for priming the system upon installation, and can also be useful for some diagnostic applications.



II - Operating Mode: In this position, the module is in operating mode. Power is applied to the heating elements, and all functions operate as normal.

**2) Installation guide**

Upon installation, the Modbar module must be primed before use. This is accomplished by the following steps.

- Ensure that filtered water is supplied to the module.
- Ensure that the power switch is in the off position.
- Ensure that the module power cable is plugged into its appropriate power source.
- Turn the power switch counter-clockwise to place it in standby mode.
- Actuate the tap handle in manual mode, as described in the "Dispensing Operations" section of this guide.
- After water begins to pour from the tap (This may take some time on a new system) allow water to flow for at least 30 seconds to ensure that the system is primed.
- At this point, it is safe to turn the switch clockwise into operating mode.

3) General Use

During general use, the module is already primed, and it is not necessary to prime the system. To start the module, follow these steps:

- Ensure that filtered water is supplied to the module.
- From the off position, turn the power

switch clockwise to place it into operating mode.

- At this point, the elements will begin to heat. When each heat zone reaches set temperature, the module is ready for use.

4) Accessories

In order to proceed with installation, it is necessary that the following are available:

- Pipes carrying drinking water with a 3/8" G (BSP) end connection; (3/8"

Compression for USA and Canada)

- Electrical Supply according to the specification of the espresso machine purchased:
- Single/Three phase 220VAC - 50/60 Hz electrical connection with ground, protected socket and approved interlock switch
- Single phase 200VAC - 50/60 Hz electrical connection with ground, protected socket and approved interlock

switch

- Waste water drain system.

5) Water test kit

In order to enable you to check if your water supply is within the suggested ranges, La Marzocco machines will be equipped with two units of a quick water test kit (see image below) including 6 test-strips and instruction cards.

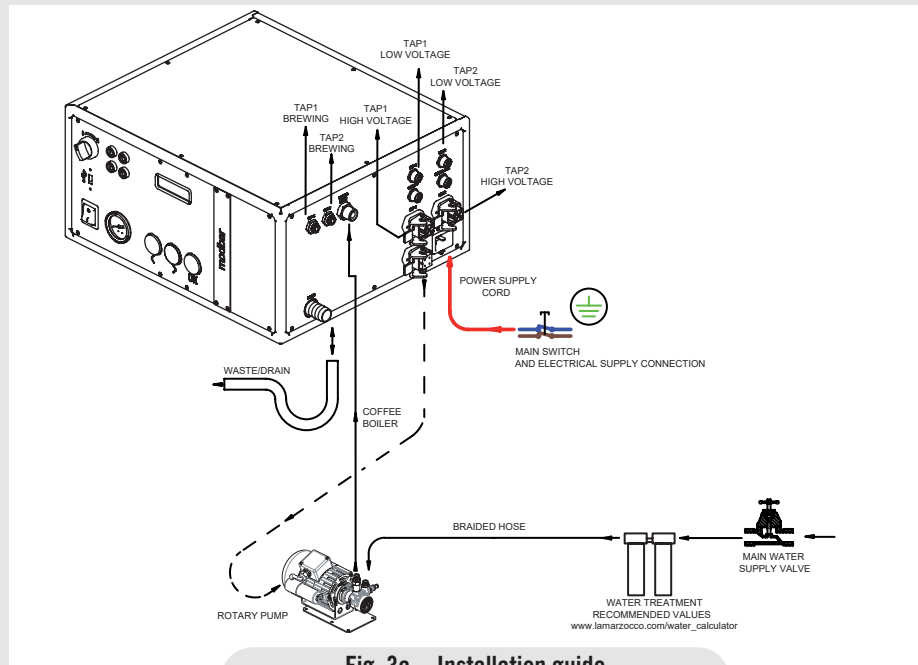
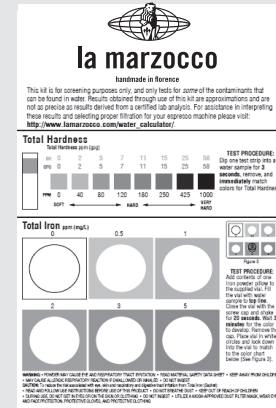


Fig. 3a - Installation guide



The parameters that you can measure are Total Hardness, Total Iron, Free Chlorine, Total Chlorine, pH & Total Alkalinity, Chlorides.

Ideally, you should perform a test on the water BEFORE the water treatment system and again AFTER the water system in order to verify if this is actually matching our suggested ranges.

Once the test has been performed, learn

which treatment system is most appropriate for your particular water supply by filling out the online water calculator on our website: LA MARZOCCO WATER CALCULATOR (http://www.lamarzocco.com/water_calculator/).

6) Water supply connection

In order to connect the machine up to the water mains proceed according to the indications given in the chapter about Installation and in compliance with any

local/national safety standards of the location in which the machine is being installed.

The equipment is to be installed with adequate backflow protection to comply with applicable federal, state, and local codes.

To guarantee a correct and safe functioning of the machine and to maintain an adequate performance level and a high quality of the beverages being brewed it

is important that the incoming water be of a hardness greater than 7°f (70ppm, 4°d) and less than 10°f (100ppm, 6°d), pH should be between 6.5 and 8.5 and the quantity of chlorides be less than 30mg/l. Respecting these values allows the machine to operate at maximum efficiency. If these parameters are not present, a specific filtration device should be installed, while always adhering to the local national standards in place regarding potable water.

Then connect the inlet of the water filter/softener (if present) to the drinking water supply using one of the supplied stainless steel braided hoses. Before connecting the filter to the water pump, flush the water supply line and the filtration system in order to eliminate any residual particles which could otherwise get stuck in taps or valves thus preventing them from working properly. Connect the water supply connection of the espresso machine to the water pump outlet using one of the supplied stainless steel braided hoses. Then connect the water pump inlet to the water filter/softener outlet (if present).

Note: The water pump is a differential pressure volumetric pump and has been designed to be used exclusively with cold water. Make sure that water is always present while the pump is operating, otherwise air can be introduced into the brew boiler causing an undesirable condition and the pump can be damaged.

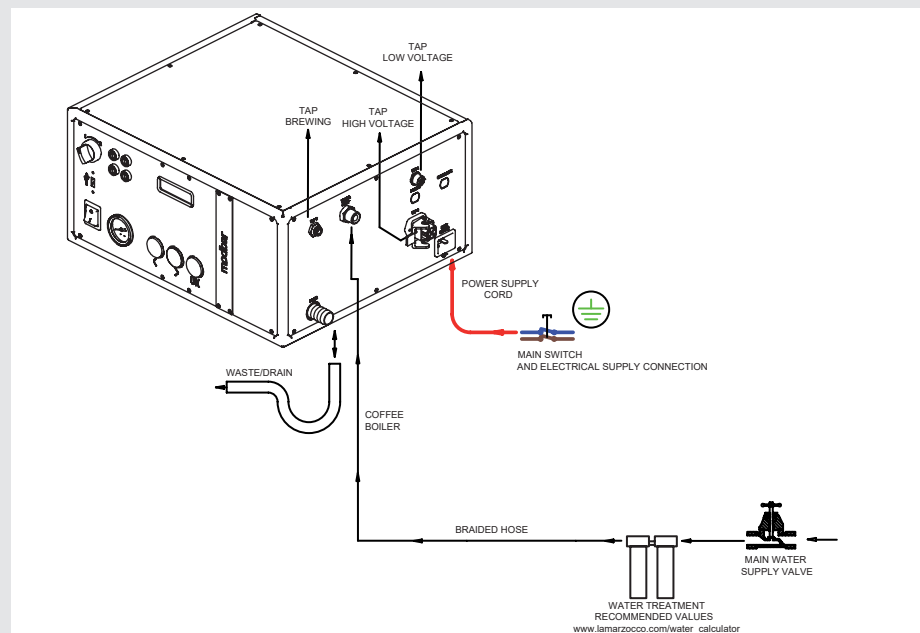


Fig. 3b - Installation guide

7) Electrical connections

a) Power supply cord

• This is the main power supply cable that provides power to the entire espresso machine. There are different types of cable based upon the electrical requirements of the espresso machine purchased:

- 200/220VAC 1 Phase 3-core cable with 4/6/10mm² cross section, secured to espresso machine via a strain relief connector

b) Water pump motor power cord

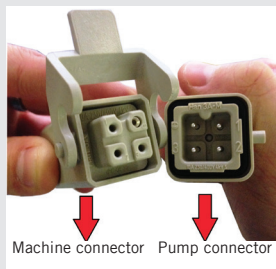
This is the power supply for the water pump motor. The internal electronics will switch the pump motor on when needed.

- 3-core cable with 1.5 mm² cross section or 3-core AWG 16 (for UL version) secured to espresso machine via a strain relief connector.

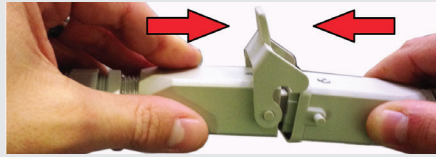
c) Quick connection between the water pump and the espresso coffee machine

The electrical connection must be made through the use of the connectors, as shown in the following figures:

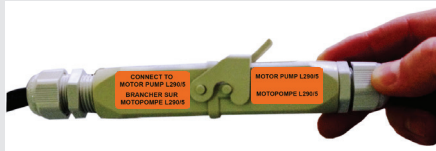
- View of the connectors;



- Cable connection;



- Cable tightening;



8) Waste water drain connection

The espresso machine drain is to be connected by means of the included reinforced plastic tubing. Connect one end of the reinforced plastic tubing to the drain hose connection on the left side of the espresso machine, secure with included hose clamp. Connect the other end to a suitable waste water collection system.

In case such a system is not available, drained liquids may be collected in a suitable bucket and any necessary drain pipe extensions shall be made using steel-lined PVC tubing and suitable hose clamps.

Water specifications table

		Min.	Max.
T.D.S.	ppm	90	150
Total Hardness	ppm	70	100
Total Iron (Fe ⁺² /Fe ⁺³)	ppm	0	0,02
Free Chlorine (Cl ₂)	ppm	0	0,05
Total Chlorine (Cl ₂)	ppm	0	0,1
pH	value	6,5	8,5
Alkalinity	ppm	40	80
Chloride (Cl ⁻)	ppm	not more	30

N.B.: Test water quality (the warranty is void if water parameters are not within the range specified in the section “installation”)

4. Machine Operation and Coffee Preparation

CAUTION

Never remove the filter holder when water is being delivered. This operation can be extremely dangerous since the high pressure built-up inside the blind filter would spray out hot and slightly caustic water, which may cause severe burns. The Coffee Boiler contains water at elevated temperature. Water temperature over 125°F / 52°C can cause severe burns instantly or death from scalding.

WARNING

The machine must not be dipped in, nor splashed with, water in order to clean it. For cleaning operations, please follow the instructions listed below very carefully.

WARNING

This machine is designed only for preparing coffee and hot drinks.

IMPORTANT

To improve the flavor of the espresso, the temperature of the water in the coffee boiler and therefore of the groups may eventually be raised or lowered via the digital display (please consult the Software Programming Manual for detailed instructions).

1) Starting the espresso machine

a) Filling the boilers with water

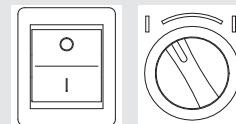
Once the installation procedures have been completed, it is necessary to fill the boiler tanks with water. Complete the following procedure to properly fill the boiler tanks:

• Coffee boiler

The water flows inside the coffee boiler directly, as soon as the water system and purifier taps (if present) are opened. Since the inflow of water will compress the air in the boiler, it will be necessary to remove or “bleed” the air from the coffee boilers. All air must be removed in order to completely “saturate” the coffee boiler/group assemblies.

To remove the air from the boiler, or “bleed

the groups”, it will be necessary to activate the tap lever until water flows from the group with the module in stand by mode (main switch in position I, selector in position I):



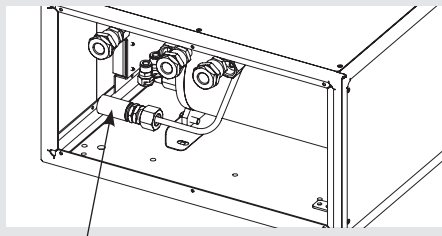
Repeat this procedure on all tap(s).

The installation is now complete and the espresso machine should be heating to operating temperatures.

2) Waiting for the Espresso Machine to Heat to Operating Temperature

During this time, it may happen that the pointer of the coffee boiler pressure reaches as high as 14-15 bar. This may happen anytime that the heating element is in the “on” condition. In this case, it is necessary to adjust the expansion valve (see the picture below about expansion valve) in such a way that the pressure never exceeds 13 bar.

In normal operating conditions, the coffee boiler pressure gauge, while brewing, can read anywhere from 0-12 bar when brewing.



Expansion Valve

3) Brewing after first installation

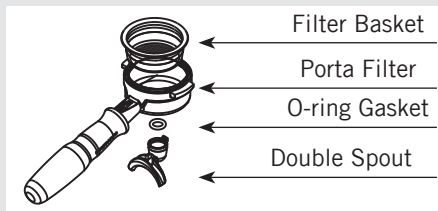
Once the first installation procedures are finished, before proceeding with brewing coffee, please follow these steps:

- Engage the portafilters by inserting them into each group, brew water through each group for at least two minutes.
- At least 1 liter for a 1/2 group machine

4) Installing the portafilters

Install the portafilter(s) by inserting them into the group and rotate the handle from left to right. When the portafilters are inserted properly, you can activate the lever to start the flow of water through the portafilter. You should allow hot water to pass through the empty portafilter(s) for a few seconds each time, in order to preheat the portafilter.

Note: It is important to leave the portafilters installed in the espresso machine when not in use. The portafilter must remain heated for the brew process to function correctly.



5) Brewing coffee

Now you can brew an espresso. Disengage one of the portafilters, fill the filter with ground coffee, tamp the ground coffee with the tamper supplied (exerting a force of 20 kg) and re-engage the portafilter to the group. Use the tap lever to begin the brewing process.

Note: Some baristas believe it is important to press the brewing device prior to installing the portafilter to allow the water to flush any remaining coffee oils and particles from the group. Some also flush just after brewing coffee for the same reason. Please experiment to find the best possible procedure for you.

6) Water pump

Whenever you are brewing coffee, and you can adjust the pump pressure by turning the by-pass screw (below the plug located on the side to which the pump power supply is connected) clockwise to increase and counter-clockwise to reduce pressure. Adjust pressure only when at least one group is brewing coffee.

Note: When the heating element in the coffee boiler is energized, the water will expand increasing the start-up pressure. Once the maximum pressure is reached, the expansion (safety) valve should start working by discharging a few drops of water, in order to prevent such pressure from exceeding 11-12 bar.

In case the pressure exceeds 12 bar, you must adjust the expansion valve by unscrewing the cap slightly. If this is not sufficient, remove the valve and clear away any calcium deposits. This remedy is valid also in case the valve remains open in the drain position (i.e. the pressure cannot increase to 8 bar approx.).

7) General notes for coffee preparation

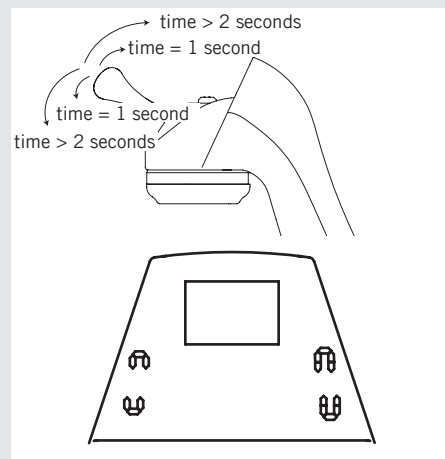
The portafilters must remain heated since they are at the lowest position of the group itself, and they are partially isolated due to the rubber gasket between them. This can be accomplished by leaving the portafilters installed in the machine when not in use. The portafilters may also be actively heated. This procedure may be carried out by brewing some hot water through the portafilter then turning off the water flow, before making coffee.

We recommend removing the spent coffee puck directly after brewing.

The size of the coffee granules is extremely important in preparing a good cup of coffee, other than the type of coffee mix used, quite obviously. The ideal grinding can be determined by making various

coffees using the amount of ground coffee that you would normally use for each cup (we recommend at least 6-7g). The best grinding is that which allows coffee to flow out from the filter holder spouts neither too slowly (drop by drop) nor too quickly (quick light brown flow). A general rule is that a double dose should dispense approximately 25cc or 2 fluid oz. of espresso in approximately 25 seconds.

8) Dispensing Operations



The Modbar espresso tap is able to command multiple functions using a single handle.

We do this by momentarily moving the tap handle in either the up or down position. It is possible to set four distinct operations

between seven available operations by the module keypad.

Short up

The tap handle is raised and immediately allowed to return to the resting position

Short down

The tap handle is lowered and immediately allowed to return to the resting position

Long up

The tap handle is raised and held for 2 seconds before being allowed to return to the resting position

Long down

The tap handle is lowered and held for 2 seconds before being allowed to return to the resting position

Seven operations available:

- Dose 1;
- Dose 2;
- Dose 3;
- Dose 4;
- Continuous Operations;
- Rinsing;
- Cleaning cycle.

Volumetric Operations (Dose 1, Dose 2, Dose 3, Dose 4)

Volumetric mode dispenses water until a preset amount of water is delivered, at which point the machine automatically ends the extraction.

Any movement (up or down) of the handle to cease dispensing.

Continuous Operations

Continuous mode dispenses water until the barista terminates the extraction by again momentarily moving the tap handle.

Rinsing

This operation activates the rinse cycle.

Cleaning cycle

The Modbar also has integrated cleaning/back flushing cycle functionality built in.

5. Maintenance and Periodic Cleaning Operations

▲ WARNING ▲
Jets of water should not be used to clean the machine, nor should it be placed where water jets are used.

▲ WARNING ▲
The machine must be installed so that qualified technical personnel can easily access it for eventual maintenance.

▲ WARNING ▲
Do not remove the filter holder while relative group is brewing hot liquids.
The Coffee Boiler contains water at elevated temperature. Water temperature over 125°F / 52°C can cause severe burns instantly or death from scalding.

▲ WARNING ▲
This machine is for professional use only and should be installed in locations where its use and maintenance is restricted to trained personnel.

▲ WARNING ▲
The machine must not be dipped in, nor splashed with, water in order to clean it. For cleaning operations, please follow the instructions listed below very carefully.

▲ WARNING ▲
If the above-mentioned instructions are not adhered to the manufacturer cannot be held responsible for damage to persons or things.

▲ WARNING ▲
The machine is intended to be permanently connected to fixed wiring, and it is advisable that a residual current device (RCD) with a rated residual operating current not exceeding 30mA is installed.

▲ WARNING ▲
In order to prevent cracks or leakage: do not store or install the coffee machine in places where temperature may cause water in boiler or hydraulic system to freeze.

General service/maintenance safety guidelines

- Before performing any maintenance and/or cleaning operations, turn the main power switch to the OFF position and disconnect the machine from the power source by unplugging the cord or by switching off the relative circuit breaker. For any cleaning operations, follow exclusively the instructions contained in the manual.
- Always use care when performing maintenance, as the equipment may

be hot. We recommend allowing the equipment to fully cool before performing any maintenance procedures.

1) Cleaning groups and drain wells

- Put a tablespoon of detergent powder for coffee machines into the blind filter, supplied with the machine, and tighten it onto the group you want to clean by using a normal filter holder.
- Move the Tap Lever on the chosen position for cleaning and cycle will be activated on each group.
- Rinse the group using a normal filter by running hot water through it several times.

2) Cleaning filters

- Put 2 or 3 teaspoons of detergent powder for coffee machines in about 1/2 a litre of water inside a heat-resistant container and boil.
- Dip filters in the boiled solution and leave them fully submerged for about 30 minutes.
- Rinse thoroughly with clean water and run hot water through one group several times with the filters in place.
- Make one cup of coffee and discard in order to remove any unpleasant flavor.

3) Cleaning filter holders (portafilters)

Using the proper cleaning tool (brush) wash the filter holders under hot water,

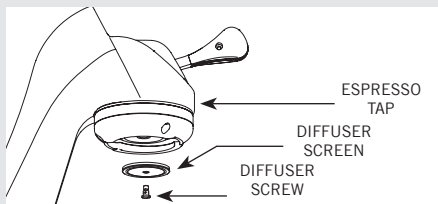
a neutral detergent may also be used. For extraordinary cleaning see the Portafilter Manual.

4) Cleaning the drain collector

Remove the drain tray grill at least twice a week and clean.
Remove the drain box cover panel once a week and clean. Inspect and clean also the drain box and remove any leftover grounds.

5) Cleaning the body

Wipe the surfaces with a soft, non abrasive cloth in the direction of the glazing marks, if any. Do not use any alcohol or solvents whatsoever on painted or imprinted parts in order not to damage them.



6) Cleaning the diffuser screen

- Due to filter holder discharge operations (subsequent to coffee brewing), a certain amount of coffee grounds may slowly build-up on and obstruct, even partially, the diffuser screen. To clean it, you must first remove it by unscrewing the diffuser screw.

- Put 2 or 3 teaspoons of cleaning detergent for coffee machines in about 1/2 a litre of water inside a heat-resistant container and boil.

- Place the diffuser screen(s) and diffuser screw(s) in the solution and leave them fully submerged for about 30 minutes. Rinse thoroughly with clean water. Install and run hot water through each group several times with the screen installed.

7) Water Filter/Softener

Please see the documentation accompanying the water filter/softener for proper operating and cleaning instructions.

8) Back flushing

Back flushing must be performed on a regular basis to ensure the proper function and cleanliness of the espresso system. We recommend following this procedure on a nightly basis.

- Put one scoop of detergent Puro Caff into a blind filter, and insert it into the group to be cleaned. (Use the amount of detergent recommended on the package)
- Activate the cleaning cycle by toggling the handle on the assigned position.
- The tap screen will display “@@”. During this time it will automatically cycle the pump on and off per a typical cleaning cycle.
- When finished, run a steady stream of

water through the brewhead.

- Re-insert the the blind filter and run the automatic cleaning cycle once more, this time removing the filter during the pauses, dumping water from the filter and re-inserting the filter before the cycle re-engages the flow of water. (If water begins to flow before you have a chance to insert the filter, wait until the cycle pauses again to avoid the risk of being splashed and burned by hot water)
- Discard the first shot of espresso before resuming normal service to “season” the brewhead.

IMPORTANT

If the machine has not been used for more than 8 hours or, in any case, after long periods of being idle, in order to use the machine to its full potential it is necessary to perform some cleaning cycles before brewing beverages as follows:

- **Groups:** with the portafilters engaged in the groups brew water through each for at least two minutes

If the machine is not going to be used for long periods of time, it is advisable to follow these safety indications:

- Disconnect the machine from the water mains or interrupt the water connection via a mains tap.
- Disconnect the machine from the electrical mains.

6. De-commissioning and Demolition

1) De-commissioning and demolition

Start by setting the main switch to the “0” or OFF position.

Disconnecting from the power outlet

Disconnect the espresso machine from the electrical network by switching off the associated circuit breaker or circuit protection device. Remove the power supply cord from the power connection. Remove the Pump Motor Power Cord from the water pump motor.

Disconnecting from the water system

Shut off the water supply by closing the specific tap located upstream of the water filter/softener inlet. Disconnect the water pipe at the water filter/softener inlet.

Remove the hose connecting the espresso machine to the water pump. Remove the reinforced plastic tubing on the drain connection.

At this point, the machine may be removed from the bar, being very careful not to drop it or squash your fingers.

The machine is made out of various materials and therefore, if you do not intend to put it back in service, it must be taken to a special disposal company which will select the materials which can be recycled and discard the others.

Current regulations make it illegal to discard such machine by leaving it on public grounds or on any private property.

Recycling notice: Warning for the protection of the environment:

Used Electrical and electronic waste contains hazardous but also valuable and scarce materials which should be recovered and recycled properly. We kindly ask that you contribute to the protection of the environment and natural resources by delivering used equipment to the relevant recycling locations if such locations are available in your country.



7. Mandatory Maintenance and Check-up Operations

These operations are in addition to the Maintenance and Periodic Cleaning Operations as specified in Chapter 6.

The following maintenance and check-up operations could be carried out by a qualified technician.

The time required for the periodic maintenance is determined by the quantity of daily work and/or coffee consumption.

N.B. These periodic maintenance operations are not covered by warranty.

EVERY THREE/FOUR MONTHS

- Replace group gaskets
- Replace diffuser screens
- Check brew temperature
- Check brew pressure
- Check/note water hardness
(Water quality must be within the range of parameters specified in the chapter on Installation, otherwise warranty is voided)
- Inspect solenoid valve (s)
- Inspect plumbing for leaks or clogs
- Check all switches for proper operation
- Check filter baskets

EVERY YEAR (in addition to the above)

- Replace portafilter baskets
- Inspect electrical wiring condition
- Inspect boilers safety switches
- Inspect electrical wiring condition
- Remove and clean/inspect boiler temperature probes
- Accurate control of the tightness at 2,4Nm of each cable on the terminal block.

EVERY 3 YEARS (in addition to the above)

- Check the condition of the inside of boilers and if necessary rinse out with a proper cleaning product allowed for food and beverage appliances.

8. Precision Scale

1) Use precautions

The weighing system in static conditions (*) has a rated accuracy of $\pm 0.5g$.

For correct operation, make sure that:

- Maintenance is performed properly, by an authorized person and in the manner prescribed in this manual;
- Please use the machine according to the instructions specified in this manual;
- Please make sure the machine is installed on a level and firm counter;
- Please make sure the power supply is stable and without electrical noises.

The weighing stage is a inherently delicate, in fact it is affected by:

- Vibration of the bench caused for example by other devices;
- Machine vibrations caused, for example, by the use of the adjacent group.

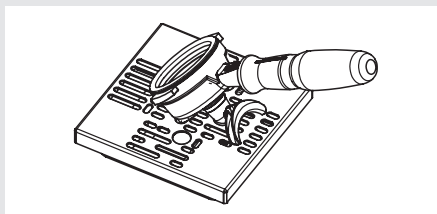
(*) Static weighing means weighing an object whose weight is fixed during the entire weighing.

The machine is not a weighing device certified for legal weighing.

- The weighing system is a precision device that requires a lot of caution in terms of use, cleaning and maintenance.

- Should the main grid or tray be removed, ensure not to hit the load cells during the disassembly and reassembly operations.

- To proceed with the weighing of the filter holder either empty or filled with coffee powder, place it as shown below:



For two Taps with precision scales users only:

- Use only original La Marzocco filters and filter holders, identified by the following symbol:



- Use only filter holders with double spout;

- Do not place on the scale objects weighing more than 1kg;

- Never load more than 1 kg, to prevent any damage to the scales;

- Use the high precision scale with care, avoid shocks, falling objects and sudden load peaks;

- Any object to be weighed must be placed correctly on the scales grid.

2) Cleaning

- The cleaning of the "individual grids" must be performed with care, without overloading the cells;

- For proper weighing of the filter holder, make sure the grid is clean and dry;

- To avoid contact with dirt before placing the filter holder, clean and dry the grid;

- Please be careful during the cleaning procedures to avoid the water dripping on the scale and its electrical components.



