

EXPOBAR®

Part No.: I764320_08

DIAMANT *Pro*

USER MANUAL



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Rev. #	Date	TSB#	Description
01	March 08, 2018	None	First draft released for technical review and validation testing.
02	March 13, 2018	None	Update based on Crem Tech. Serv. Dept. review feedback and updated software programming.
03	May 17, 2018	None	Update of User Programming
04	Oct. 10, 2018	None	Updates base on compliance and field test feedback.
05	Oct. 26, 2018	None	Add additional SmartSteamer and SmartTea user instructions.
06	Nov. 23, 2018	None	Change text to match market material for SmartSteam.
07	Nov. 30, 2018	None	Change Coffee dose programming name
08	Feb. 20, 2019	None	Add "Water filter requirements" section.
09			
10			

Explanation of descriptions

There are five different levels of notification intensity within this manual, as identified by the signal terms: DANGER, WARNING, IMPORTANT, NOTE and PRO TIP. The level of risk and importance of the notification is determined by the following definitions. Always observe the warnings to ensure safety and prevent potential injury and product damage.



Important:

Alerts against unsafe practices. Observe *Important* notifications to ensure food safety, prevent possible minor personal injury, or damage to the machine.



WARNING:

Indicates a potentially hazardous situation which, if the **WARNING** is ignored, could result in serious injury or even death.



DANGER:

INDICATES AN IMMINENTLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, WILL LIKELY RESULT IN SERIOUS INJURY AND EVEN DEATH.



Note:

Gives additional information which may be helpful during the operation, routine maintenance, and cleaning of the machine.



Pro Tip:

Gives helpful hints and suggestions from the manufacturer that take the guesswork out of choosing settings and care intervals.

Introduction

Thank you for choosing a Diamant Pro espresso machine. We hope you enjoy it !

- Please read this user manual carefully before using the machine.
- This manual contains important instructions regarding safe intended use of the machine.
- Do not discard this manual, it will be useful for future reference. If damaged or lost, request a new copy from the manufacturer/distributor or download a free PDF copy via:
www.creminternational.com/downloads

General instructions

Note: The manufacturer is not liable for damage to persons or property resulting from failure to follow the instructions, warnings and precautions listed in this manual when installing and using this machine.

- Machine installation and certain maintenance operations should only be performed by qualified service personnel.
- All safety instructions and warnings contained in this manual should be observed at all times to ensure safe installation, use, and maintenance.
- Do not attempt to remove covers or safety shields to access the interior of this machine or make repairs. Repairs should be made by an authorised technician or service centre.
- Owners are liable for ensuring that users have been properly trained to operate the machine and understand the potential risks involved.
- The owner or installer will be liable for all non-authorised modification of the machine. Non-authorised alteration or modification of the machine will immediately void the manufacturer's warranty.
- This manual references the machine at the time of sale. The commercial availability of subsequent versions including modifications, upgrades or adaptations does not oblige the manufacturer to apply any changes to this machine, nor is it obliged to update the documentation supplied.
- The manufacturer reserves the right to withdraw currently available manuals whenever deemed appropriate and reasonable.
- Periodically, some updates and changes may be required for this machine. In this event, a technician will be responsible for ensuring the change is made in accord with manufacturer's specifications.

Intended use

- The coffee machine has been designed and manufactured to make espresso coffee and other hot drinks (e.g., steaming and frothing milk). Do not use it for any other purpose.
- The machine is intended to be used by trained personnel for preparing foodstuffs.
- This machine is not intended for use in industrial kitchens, domestic kitchens, or similar locations.
- The manufacturer will not be held liable for damage to persons or property due to incorrect, improper or negligent use by nonprofessional personnel.
- The A-weighted sound pressure level is below 70 dB.
- To ensure optimal performance, install the machine in a location where these parameters will not be exceeded:
 - Maximum permissible inlet water pressure: 600 KPa (6 Bar)
 - Minimum permissible inlet water pressure: 200 KPa (2 Bar)
 - Maximum inlet water temperature: 40°C
 - Ambient temperature is between +10°C (min.) and +40°C (max.).

Warnings and Precautions

- Install the machine in a horizontal position and away from heat sources and flammable objects.
- This machine should only be installed on a water-resistant work surface that is capable of adequately supporting the machine's weight.
- Place the machine in a location accessible only to personnel trained to operate it.
- Keep all hazardous packaging materials, such as plastic bags, styrofoam, and staples, out of reach of children.
- Plug the machine into a properly installed, earth grounded electrical outlet with line voltage that matches the specifications for the machine.
- Ensure that the power supply voltage does not fluctuate by more than 6%.
- Position the power cable so that users cannot trip over it. Keep the power cable away from sharp edges and heat sources.
- This appliance is not suitable for installation in an area where a pressure washer may be used.
- Do not use the machine outdoors, where it would be exposed to severe weather or extreme temperatures.
- Damaged supply cords to be replaced by the manufacturer, service agent or similarly qualified person to avoid hazard.
- Do not remove or disable any of the mechanical, electrical, or thermal protection safety equipment.
- In case of emergency, (e.g., the machine catches fire or becomes unusually hot or noisy), disconnect the power immediately and turn off the water supply.
- If the machine is not going to be used for an extended period of time, disconnect the power. When disconnecting the power, pull the plug rather than the cable.
- When packed for storage, store the machine in a dry place with an ambient temperature above 5°C. Boxes may be stacked up to three units high of the same model. Do not place other heavy items on top of the box.
- If the machine is likely to be exposed to temperatures below 0°C during handling and transport, make sure that service personnel empty the boiler and water system. (The machine's boiler and water system is empty when delivered from the factory.)
- To ensure fault-free machine operation, only use manufacturer-approved replacement parts and accessories.
- Before performing maintenance and/or moving the machine, disconnect the machine from the power supply and wait for it to cool down.
- Do not place any liquids on the machine.
- This appliance must not be cleaned with a pressure washer.
- Never immerse the machine, plug or power cable in water, as there is a risk of electric shock.
- Do not touch the machine's hot surfaces or dispensing equipment.
- Do not touch the machine if your hands or feet are wet.
- Do not operate the machine if any part except the dispensing equipment is wet.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.
- Children shall not play with the appliance.
- Cleaning and user maintenance shall not be made by children without supervision.
- Do not use the machine if the power cable or plug is damaged, or the machine has been dropped. Contact a service technician for repairs or to ensure that it is safe for use.
- Do not block the vents with rags or other objects.
- Do not insert foreign objects into the vents.
- Check the drain regularly to make sure that waste water is emptying properly.
- The appliance must be connected to a public distribution system having a nominal voltage of 230V line to neutral and a maximum permissible system impedance of $Z_{\max}=0,08 \Omega$.

Packaging

- The machine is shipped in a custom-designed carton which utilizes model-specific polystyrene cushions to protect it from damage.
- The machine's carton features standardized handling symbols to explain proper shipping and storage methods.
- The machine must remain in a horizontal position during the transport. Do not store or handle the machine except on its feet.
- During transport protect the carton and machine from impact drops, crushing, shocks, moisture and exposure to extreme temperature.

Delivery inspection

- Upon receipt and delivery ensure that the machine is in the exact condition described in the enclosed documentation, and that all accessories are included. Missing items should be reported to the manufacturer or dealer immediately.
- Damage caused during transport should be reported to the shipping agent and the machine's distributor immediately.
- Packaging materials are potentially dangerous and should be kept away from children.
- The carton and all packing materials are recyclable and should be returned to a recycling centre for disposal.

Long-term storage requirements

Before storage for a month or more be sure to:

- Perform all weekly and periodic cleaning procedures described in this manual.
- Disconnect and roll up the power cord (this should be performed by a qualified person).
- Disconnect the machine's water inlet hose from the domestic water supply and drain the boilers (this should be performed by a qualified person).
- Clean the drip tray and exterior of the machine to remove any coffee or other residue.
- Cover / re-pack the machine in its original carton and store it in a dry place where it will not be exposed to extreme temperatures or humidity.
- When returning the machine to service after long-term storage, perform all weekly and periodic cleaning procedures and reconnect the water and power supplies (this should be performed by a qualified person) before use.

Machine disposal requirements

If the machine ever needs to be scrapped and disposed of be sure to:








- Disconnect and roll up the power cord (this should be performed by a qualified person).
- Disconnect the machine's water inlet hose from the domestic water supply and drain the boilers (this should be performed by a qualified person).
- Pack up and ship/deliver the machine to a certified recycling centre.



Diamant Pro 2GR machine data

2GR versions	
Compliance codes:	Pending certification
Temperature control system:	PID control
Dispensing control system:	Touchscreen control + individual group programming capability
Steam wand:	2 units (non-SmartSteam versions) 1 unit (SmartSteam-equipped versions)
SmartSteam:	optional
Hot water outlet:	1 unit
Cup warmer:	optional
Boiler system:	1 steam boiler (standard versions) 1 steam boiler + 2 group boilers (optional)
Boiler operating pressure:	0.8 to 1.2 bar
Steam boiler operating volume:	11.5L
Group boiler volume:	1.5L
Power rating:	220-240V 1N~ 3700W 50-60 Hz (Single and Multiboiler) 380-415V 3N~ 4840W 50-60 Hz (Multiboiler 3Ph optional)
Water connection:	3/8" Internal thread
Height, width, depth:	535, 885, 620mm
Machine weight:	1 boiler = 82 Kg 3 boiler = 91.5 Kg
Ambient noise:	< 70 db

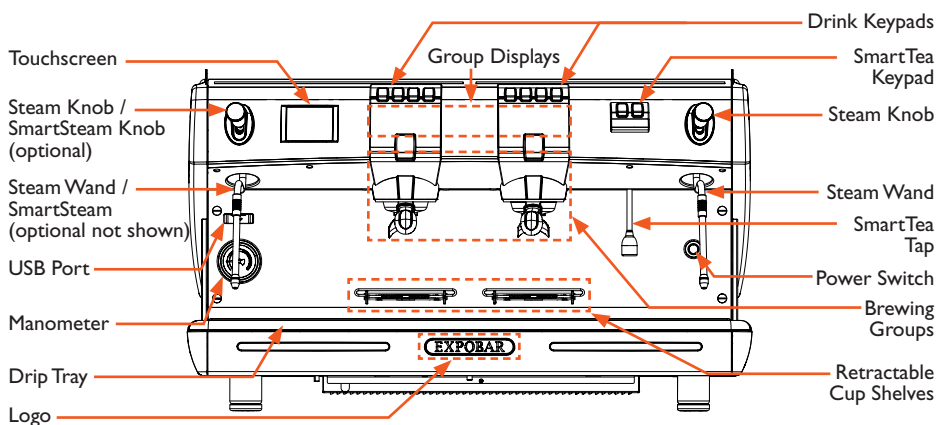
Diamant Pro 2GR versions accessories

Item:	2-spout portafilter	1-spout portafilter	55-cm inlet hose	Blind filter	SmartSteam 1-hole nozzle	SmartSteam Multi-hole nozzle	Drain tube (150 cm)
							
Quantity:	2 units	1 unit	1 unit	3 units	1 unit *	1 unit *	1 unit

TECHNICAL SPECIFICATIONS

DIAMANT *Pro*

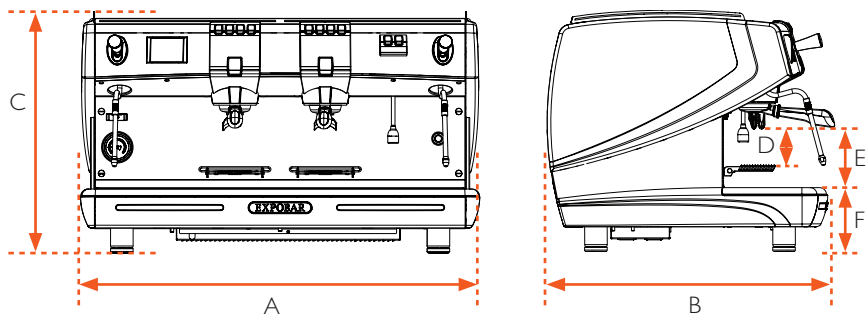
Diamant Pro 2GR versions front view



WARNING!

THE USB PORT SHOULD NOT BE USED AS A CHARGING SOCKET; it is designed to be used by the technical service staff to only perform software updates. Improper use can cause damage to the electronic board.

Diamant Pro 2GR versions external dimensions










Dimension	Length
A	885mm
B	620mm
C	535mm
D	80mm
E	130mm
F	140mm

Diamant Pro 3GR machine data

3GR versions	
Compliance code:	Pending certification
Temperature control system:	PID control
Dispensing control system:	Touchscreen control + individual group programming capability
Steam wand:	2 units (non-SmartSteam versions) 1 unit (SmartSteam-equipped versions)
SmartSteam:	optional
Hot water outlet:	1 unit
Cup warmer:	optional
Boiler system:	1 steam boiler (standard versions) 1 steam boiler + 3 group boilers (optional)
Boiler operating pressure:	0.8 to 1.2 bar
Steam boiler operating volume:	17.5L
Group boiler volume:	1.5L
Power rating:	380-415V 2N~ 4250W 50-60 Hz (Single Boiler) 380-415V 3N~ 6300W 50-60 Hz (Single Boiler with 3Ph optional) 380-415V 3N~ 6420W 50-60 Hz (Multi Boiler)
Water connection:	3/8" Internal thread
Height, width, depth:	535, 1090, 630mm
Machine weight:	1 boiler = 100 Kg 4 boiler = 112.5 Kg
Ambient noise:	< 70 db

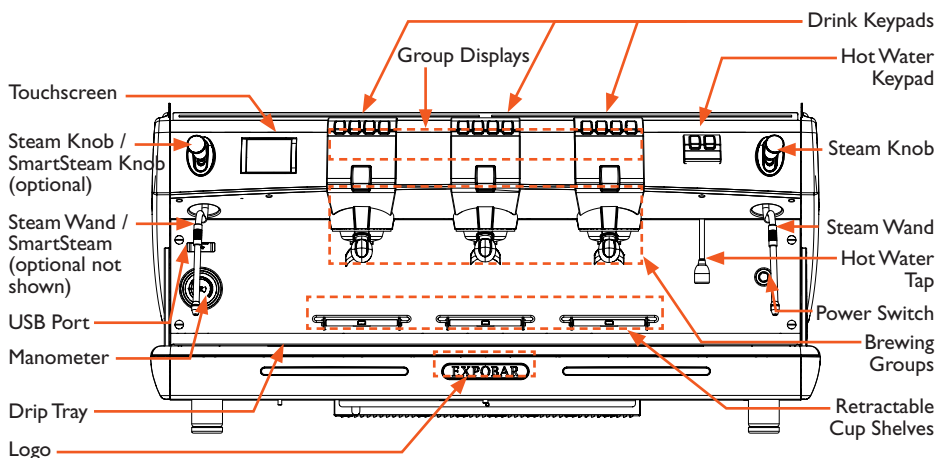
Diamant Pro 3GR versions accessories

Item:	2-spout portafilter	1-spout portafilter	55-cm inlet hose	Blind filter	SmartSteam 1-hole nozzle	SmartSteam Multi-hole nozzle	Drain tube (150 cm)
							
Quantity:	3 units	1 unit	1 unit	3 units	1 unit *	1 unit *	1 unit

TECHNICAL SPECIFICATIONS

DIAMANT *Pro*

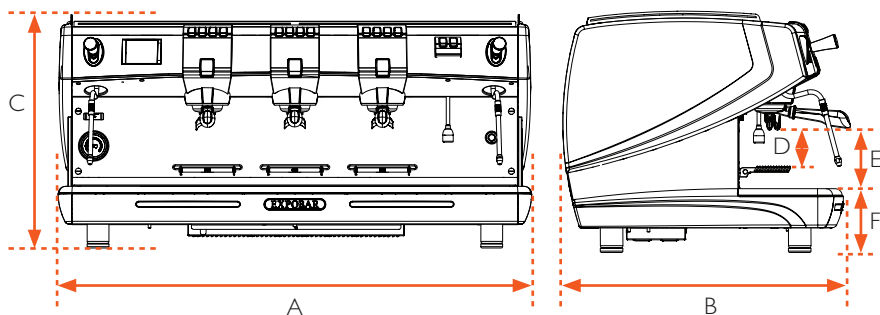
Diamant Pro 3GR versions front view



WARNING!

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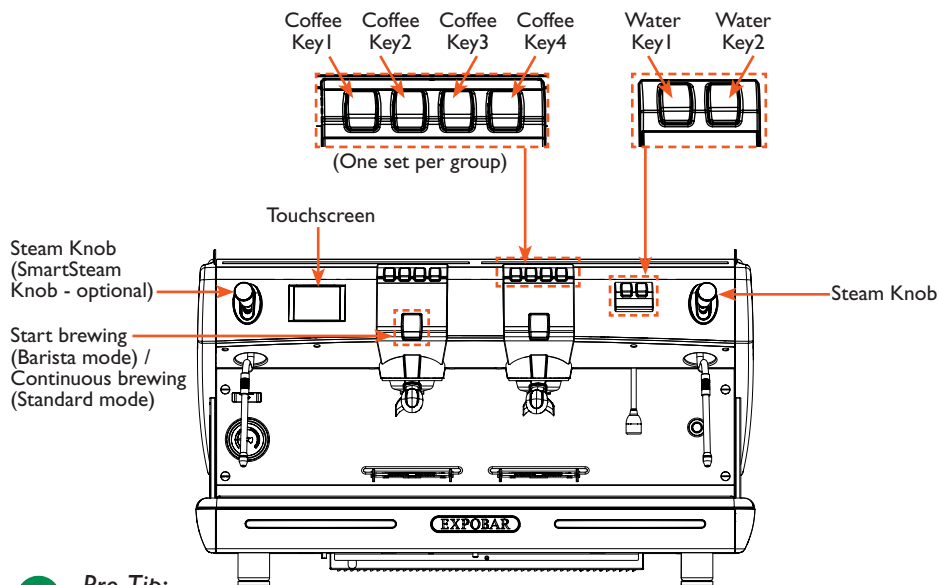
Diamant Pro 3GR versions external dimensions



Dimension	Length
A	1090mm
B	630mm
C	535mm
D	80mm
E	130mm
F	140mm

Machine controls

Diamant Pro features an TFT LCD digital touchscreen display for monitoring machine status and performing user programming and machine adjustments, customization and cleaning along with push buttons at each brewing group for dispensing. Control functions are explained below.



Pro Tip:

All group buttons are fully adjustable via the user programming. See the Dose Programming section for more details.

Touchscreen

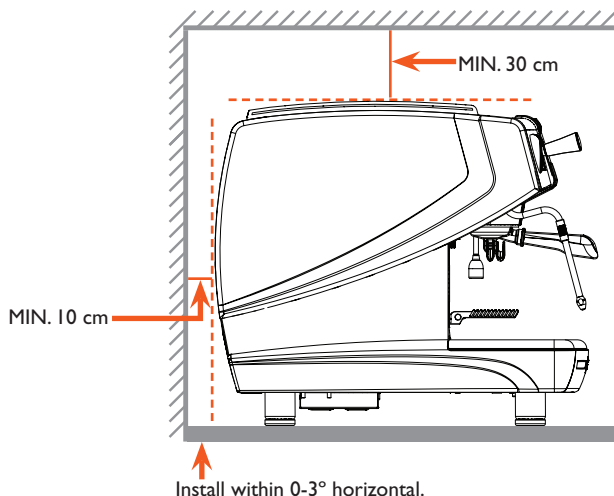
Diamant Pro features an TFT LCD digital touchscreen display for monitoring machine status and performing user programming and machine adjustments, customization and cleaning.



Note:

See the User Programming section for instructions related to programming and customizing the machine's settings via the touchscreen.

Machine positioning



1. Installing the machine in the service area must be performed by a qualified person. As the machine may be quite heavy, at least two strong, capable individuals are recommended to work together to lift and position the machine. Consult the Technical Specifications page for the specific machine model being installed for machine weight and dimensions details. Contact a service technician to do this task if you are not confident about performing the steps below.
2. Position the machine on a level, sturdy, and water-resistant surface approximately 110cm above floor level for ease of access and usage.
3. Adjust the feet to ensure that it dispenses coffee evenly to all cups.
4. Ensure enough free space is available above (>30cm) and behind (>10cm) the machine to ensure easy cleaning and maintenance and adequate ventilation.

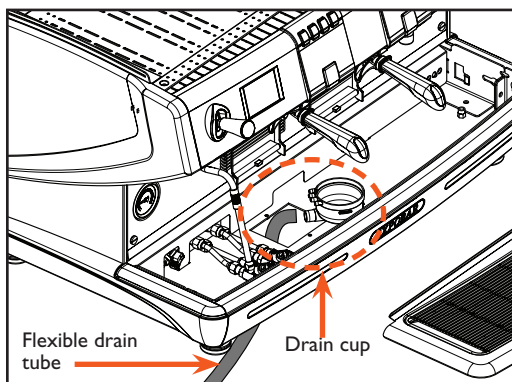


Important:

Leave an air gap of at least 30cm above the machine and 10cm behind it to ensure adequate ventilation. The machine must be installed within 3° of horizontally level front-to-back and side-to-side to ensure proper hydraulic function and drainage. Confirm with a spirit level or digital angle gauge.

Do not install the machine if the machine or installation surface it is wet. Allow it to dry completely and ask a service technician to ensure that none of the electrical components have been affected.

Drain connection checklist



1. Connect one end of the flexible drain tube to the drain cup outlet by inserting it through the access hole in the panel mounted in the bottom of the chassis. (It is located under the drip tray and grill. Contact a service technician to do this task you are unsure how to access this area of the machine.)
2. Connect the other end of the drain tube to the domestic plumbing drainage system in the service area.
3. Replace/reinstall the drip tray and grill.



Pro Tip:

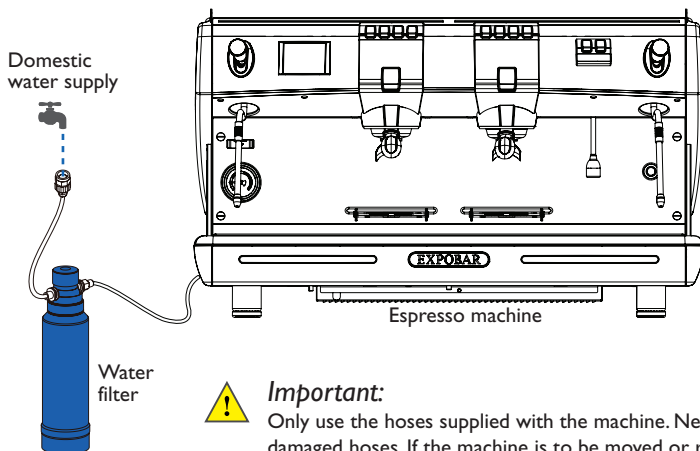
Ensure that the drainage tube is not twisted and that it is below the level of the drain cup to prevent trapping water and other residue in the tube which could mold or produce bad smells.

Water filter requirements

Only use safe drinking water with a hardness rating between 5°fH and 8°fH (French hardness degrees). If the hardness value is below this limit, corrosion of hydraulic components is likely. If the value is higher, lime-scaling inside the boiler will occur. In both cases, the proper function of the machine and quality and taste of the coffee will be negatively affected.

If drinking water is not within the ratings shown above, a water filter must be installed inline ahead of the espresso machine. Failure to install a water filter will result in voiding of the warranty and any damage resulting from limescale buildup will be the responsibility of the owner.

Water connection checklist



Important:

Only use the hoses supplied with the machine. Never reuse damaged hoses. If the machine is to be moved or relocated, replace the hose set with a new parts from the distributor/ manufacture.

1. Connecting the machine to the domestic water supply must be performed by a qualified person. Contact a service technician to do this task you are not confident about performing the steps below.
2. Purge at least 20 liters of water from the domestic water supply before connecting the machine to it to flush out any debris that may be in the plumbing system that would otherwise accumulate inside the boilers.
3. The domestic plumbing system should be fitted with a brass 3/8" NPT male pipe fitting and an in-line shut-off valve. Connect the 180cm water inlet hose included with the machine to the domestic water supply and tighten the line fittings with a wrench to 15 ft. lbs. / 20N-m.
4. Ensure that a water filtration device or system is installed in-line in the domestic water supply ahead the machine to prevent contamination inside the machine's hydraulic system. Contact a service technician to do this task if you are not confident about performing the steps below.
5. Open the water tap and allow the filter to fill (if new/previously unused). Then the machine's steam boiler will begin to fill. Check carefully around the service area for leaks or drips. If leaks/ drips are detected turn off the tap immediately and check/tighten any leaking fittings.
6. If necessary, connect the machine to a water softener to reduce water hardness using the flexible 55cm hose included in the accessory box.

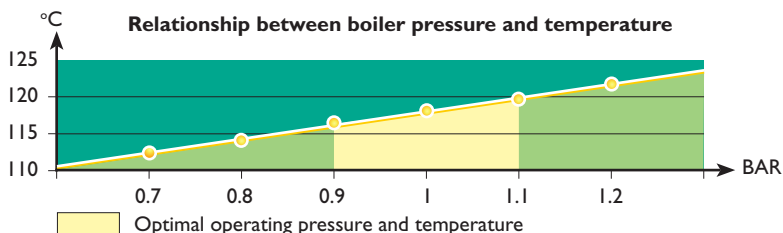


Pro Tip:

Always maintain the water filtration device or system in accordance with the manufacture's specifications. Failure to routinely maintain the filtration device or system will result in limescale build-up inside the machine's hydraulic system which will eventually result in machine failure.

Boiler pressure and temperature information

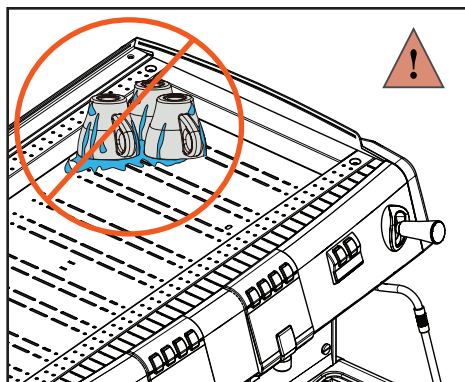
Boiler pressure is directly controlled by water temperature. The steam boiler's optimal temperature operating range is from 116-120°C for milk steaming and brewing results.



Pro Tip:

Significantly exceeding this operating range will result in excessive steam, high energy usage, and milk scorching. Setting the temperature too low will result in poor coffee extraction, slow group boiler heating, and low/no steam.

Machine handling tips



WARNING!

Allowing water to drip into the machine can cause mechanical and electrical damage.

Do not place wet cups directly on the cup shelf. Always thoroughly dry any cups before storing them on the warming shelf.

Electrical connection checklist



DANGER!

If the mains cable or plug is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.



Important:

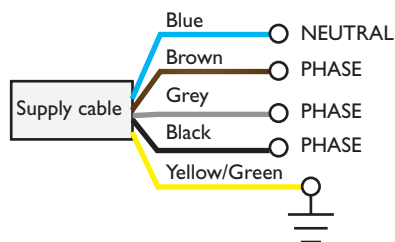
The manufacturer will not be held liable for damage to persons, animals or property resulting from incorrect installation of the coffee machine.

1. The machine should only be connected to the power supply by qualified personnel. The following safety instructions should be obeyed at all times.
2. Ensure that the electrical requirements stated on the TECHNICAL SPECIFICATIONS and on the ratings plate located under the drip tray inside the machine match the specifications of the power supply.
3. Ensure that the domestic electrical supply where the machine is being installed is rated for and able to provide the power required by the machine. Insufficient power supply, wiring, grounding, or insulation can result in overheating and possibility of fire.
4. The coffee machine must be connected to an earth grounded electrical outlet that complies with the regulations in force in the country of installation.
5. Ensure that a circuit breaker engineered for the power consumption of the machine is installed to protect the electrical supply, as specified on the ratings plate located under the drip tray.
6. Never connect the machine to the power supply via extension cords, plug adapters, or shared outlets.

220-240Vac 1Ph+N



380-400Vac 3Ph+N

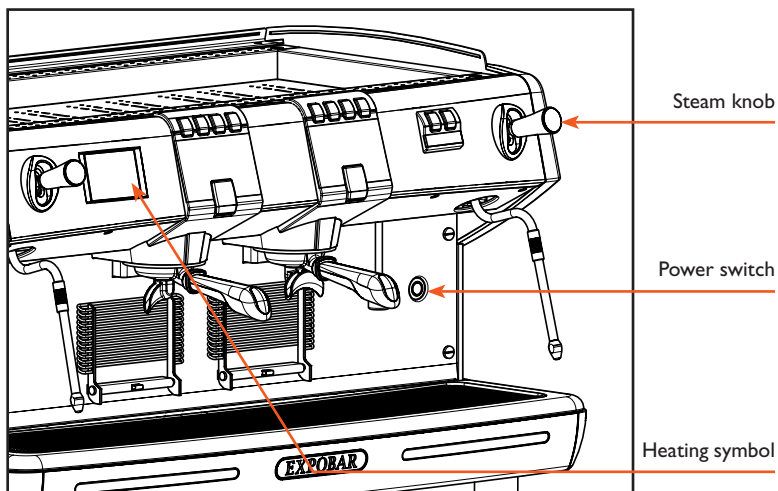


Initial starting procedure



Note:

Remove all protective film during installation before powering the machine ON for the first time. This will prevent the film melting/becoming stuck due to high temperature when the machine is heating up. This step is especially critical for all machine with E-Cup heating system installed.

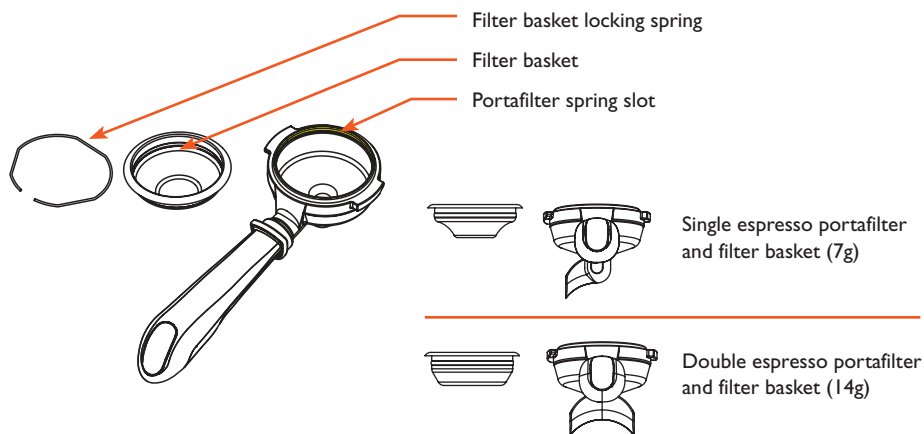


Before using the machine be sure to:

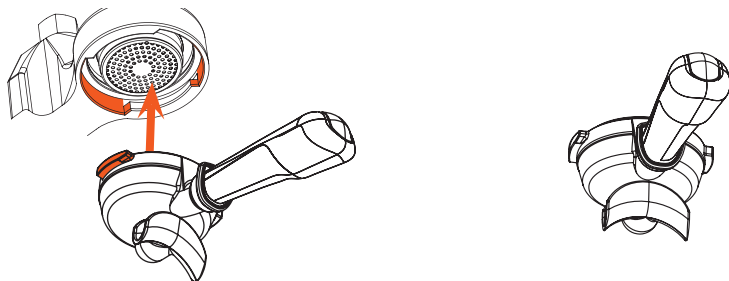
1. Ensure the machine's domestic water supply is opened at the tap.
2. Turn on the main power switch and wait a few minutes for the boiler to heat up.
3. Confirm that the heating icon is illuminated while the boiler is heating.
4. While the machine is heating up, run a drink cycle through each group to bleed air out of the group boilers and to ensure they are working.
5. Open the steam knobs/taps to ensure they are working.

The machine is now ready to use.

The portafilter set



Inserting the portafilter in the group



- Align the portafilter's two flanges with the two slots in the group housing.
- Insert the portafilter and rotate it counterclockwise until the handle is approximately perpendicular to the face of the coffee machine.



Portafilter is not fully inserted.

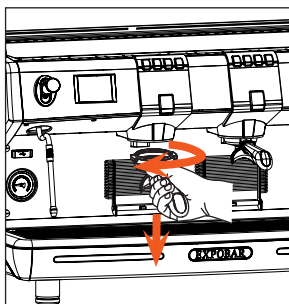


Installed correctly.

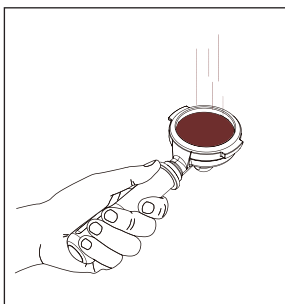


Group gasket is worn out and needs to be replaced.

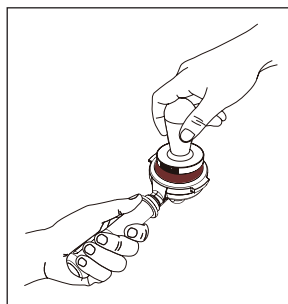
Espresso brewing - Standard Mode



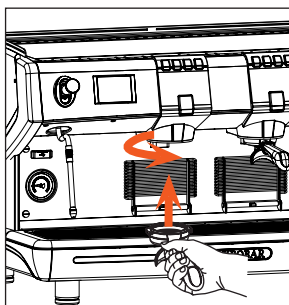
1. Unlock and remove the portafilter from the group head.



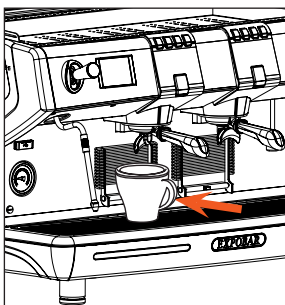
2. Fill the filter basket with espresso-grind coffee (approx. 7g for single or 14g for a double espresso).



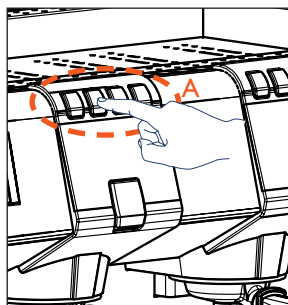
3. Compact the coffee.



4. Insert the filled portafilter into the group head and lock it into the correct position.



5. Place the cup(s) under the portafilter.



6. Select the desired option from the drink button to begin brewing.



WARNING!

Never try to open the portafilter while the machine is in operation! The pressurised hot water could cause scalding or serious injury. After dispensing has finished, wait at least 3 seconds before removing the portafilter.



Note:

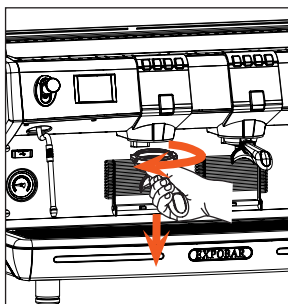
In Standard Mode, brewing begins as start as soon as the drink button is pressed.



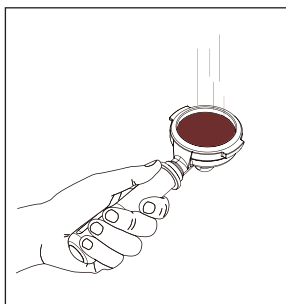
Pro Tip:

When not in use store the portafilter inserted in the group to keep it warm. This is important to maintain optimal brewing temperature while the espresso is dispensing.

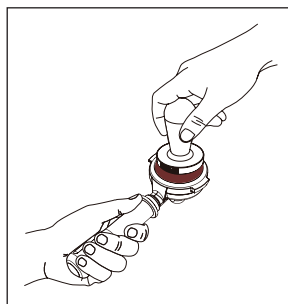
Espresso brewing - Barista mode



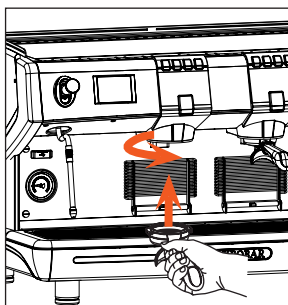
1. Unlock and remove the portafilter from the group head.



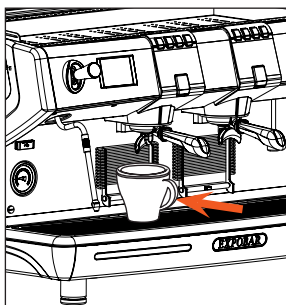
2. Fill the filter basket with espresso-grind coffee (approx. 7g for single or 14g for a double espresso).



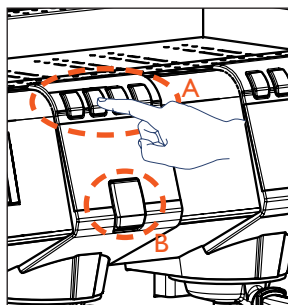
3. Compact the coffee.



4. Insert the filled portafilter into the group head and lock it into the correct position.



5. Place the cup(s) under the portafilter.



6. Select the desired option from the drink buttons (A). Then press the Start button (B) to begin brewing.



WARNING!

Never try to open the portafilter while the machine is in operation! The pressurised hot water could cause scalding or serious injury. After dispensing has finished, wait at least 3 seconds before removing the portafilter.



Note:

In Barista Mode, brewing start as soon as the Start button is pressed.



Pro Tip:

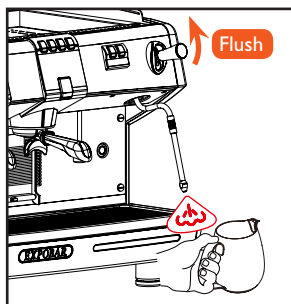
When not in use store the portafilter inserted in the group to keep it warm. This is important to maintain optimal brewing temperature while the espresso is dispensing.



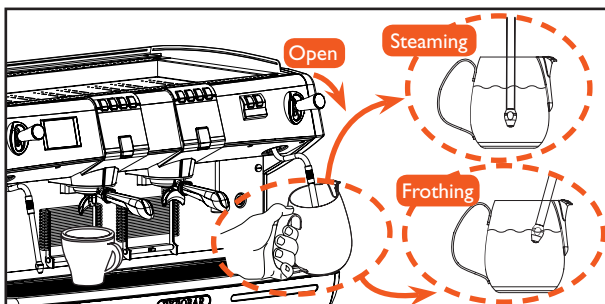
Pro Tip:

After brewing finishes empty the portafilter of used coffee and place it back in the group. Then press the drink button again for a quick two second rinse/flush.

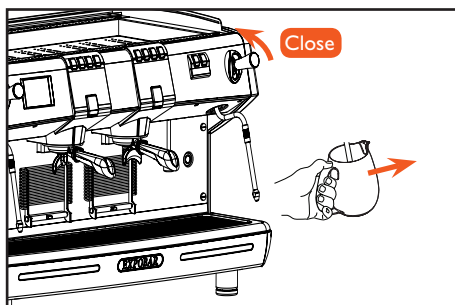
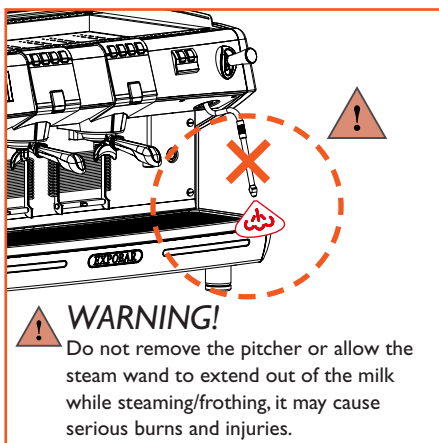
Steaming and frothing milk



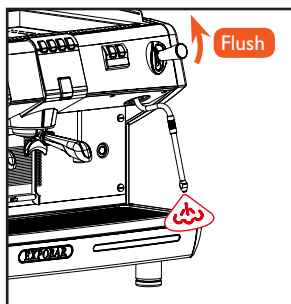
1. Place the steam wand over the drip tray and open the steam knob/handle for a few seconds to allow condensed water to be ejected. Close the steam knob/handle when only steam is coming out.



2. Immerse the steam wand into the milk, making sure the wand tip is submerged. Open the steam knob/handle again to begin steaming or frothing the milk. Always keep the tip of the steam wand submerged in the milk while steaming!

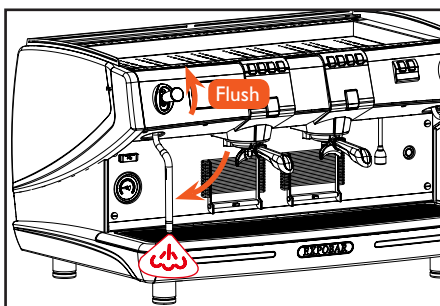


3. Once the milk reaches the desired temperature, close the knob/handle and wait for the steaming to stop, then remove the pitcher.

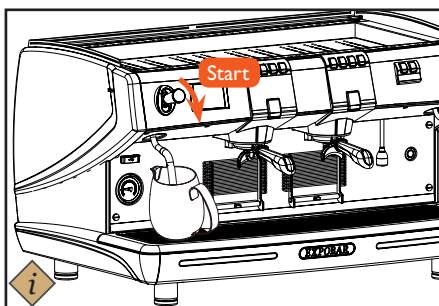


4. After steaming/frothing is finished, position the steam wand over the drip tray and open the steam knob/handle again for a few seconds to purge any milk remaining in the wand. Then wipe down the outside of the steam wand with a damp cloth to prevent nozzle blockage and to keep it clean.

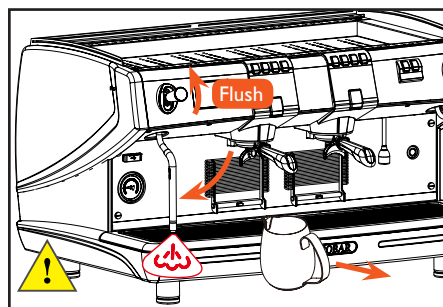
Steaming milk with the SmartSteam



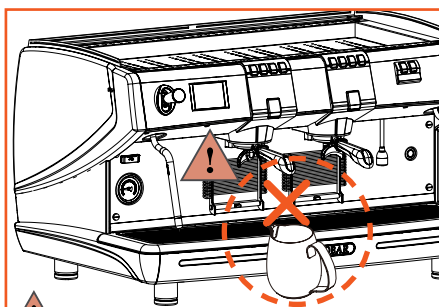
1. Aim the SmartSteam wand down towards the drip tray and tip the handle up to flush the steamer and eject any condensed water inside the system. If you have used your "SmartSteam" system after a long period of inactivity it's recommended to do a long flushing (6 to 10s) before frothing.



2. Place the milk pitcher (approx. 2/3 full of cold milk) on the drip tray with the SmartSteam wand immersed into the milk. Start the SmartSteam by tipping the handle down. It will stop automatically when the programmed temperature is reached.



3. When the steaming is finished, remove the milk pitcher and wipe down the outside of the SmartSteam with a damp cloth to keep it always clean. Afterward, aim the SmartSteam wand down towards the drip tray and tip the handle up (for at least 3 seconds) to flush the steamer and eject any milk that may be in the steam tip



! WARNING!

Do not remove the pitcher or allow the steam wand to extend out of the milk while steaming, it may cause serious burns and injuries.

Note:

If you feel the foam is starting to become too thick you have the option to stop the air pump speed manually by tipping the lever up once to continue steaming without frothing. This will stop the foam from growing, so the milk foam will stay the same as it is.

Important:

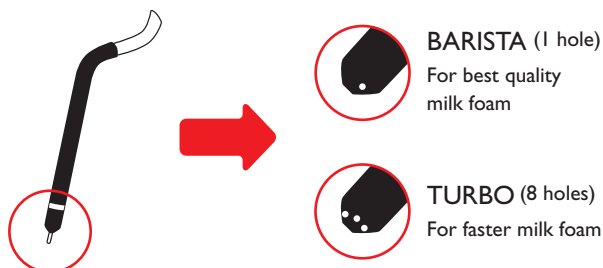
When cleaning the SmartSteam wand NEVER use a scouring pad or abrasive cloth!

Pro Tip:

To create your own perfect milk foam adjust the pump speed and SmartSteam offset settings as outlined in the section "SmartSteam foam setting adjustment" of this manual.

SmartSteam foam setting adjustment

The SmartSteamer includes two separate nozzles:



Recommended Software Settings:



BARISTA NOZZLE (Default)

Pump Speed: 44%

Temp. Offset: 14%

TURBO NOZZLE

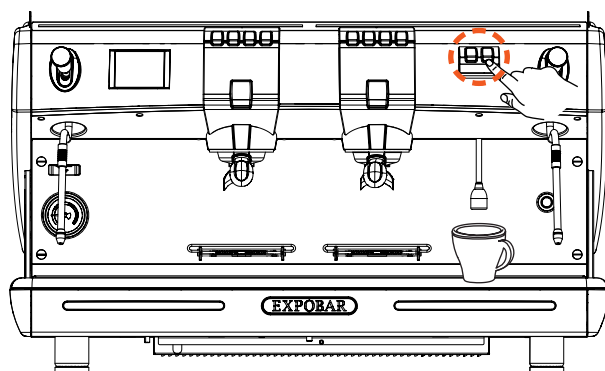
Pump Speed: 65%

Temp. Offset: 0%

Nozzle		Jug Size (ml)	Milk (ml)	Milk Type	Milk Temp. (C)	SmartSteam Temp. (C)	SmartSteam Pump Speed (%)	SmartSteam Temp. Offset (C)
Barista		330-400	175	SemiSkimmed Whole Fresh Whole	6-10	62,0 C	44%	14,0 C
		500-600	275		6-10	62,0 C	44%	14,0 C
Turbo		330-400	175		6-10	62,0 C	75%	0,0 C
		500-600	275		6-10	62,0 C	75%	0,0 C

For a thinner/wetter milk foam reduce the pump speed and/or increase the SmartSteam offset.

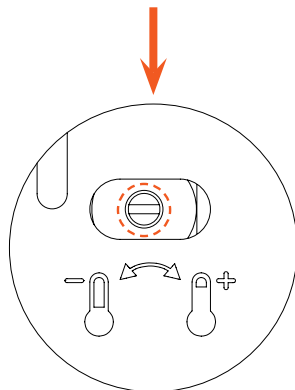
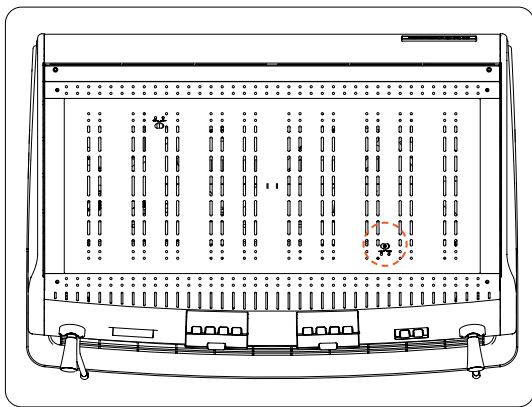
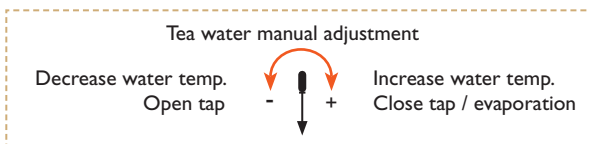
For thicker/drier foam increase the pump speed and/or decrease the SmartSteam offset.

**WARNING!**

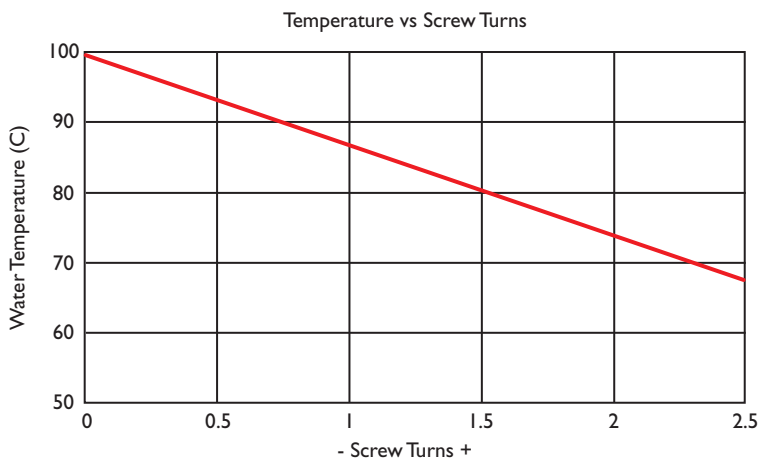
Never place hands and fingers directly under the hot water outlet during dispensing to avoid scalding or serious burns.

1. Place a pitcher (or other heat resistant vessel) under the hot water outlet.
2. Press the desired hot water button to begin dispensing.
3. Hot water dispensing will stop automatically after the programmed dispensing time is reached, or press the button again to stop it manually any time before it finishes.

Adjusting tea water temperature



The Tea Water temperature can be adjusted manually using a flat blade screwdriver inserted into the temperature adjustment screw slot on the top of the machine as shown above.



Cleaning reminders

- To keep the machine looking and working like new, always follow all the cleaning and care instructions provided in this manual.
- For safety always turn the machine off at the main power switch when cleaning the exterior surfaces.
- All exterior surfaces should be cleaned with a damp, lint-free cloth that will not scratch the machine, glass surfaces can be cleaned with a streak-free glass cleaner and a dry cloth.
- Do not use aggressive cleaning detergents, solvents or degreasers. These may damage the plastic and rubber parts, and will leave unwanted residue.

Daily cleaning

At the end of each working day be sure to:

1. Position the steam wand over the drip tray and open the steam lever for one minute to fully flush the wand. Repeat for each steam wand.
2. Place a container under the water outlet and activate the hot water dispensing for a total of 20 seconds to fully flush the tap.
3. Run the Daily flushing cycle for each brewing group. See Daily flushing section for details.
4. Clean the external surfaces of the machine, paying special attention to the glass and stainless steel parts to remove any coffee residue and smudges and fingerprints.

Weekly cleaning

Once per week be sure to:

1. Clean the drain cup by slowly pouring one liter of warm water into it to dissolve and remove any build-up of coffee residue that often accumulates inside the drain cup and tube.
2. Clean the drip tray and the stainless steel insert grid under running water with a brush.
3. Clean the steam wand and the water tap. Be sure that the nozzles are not clogged or partially blocked with milk or other residue. If it's necessary to remove them for cleaning, be careful not to deform or damage any of the components during removal.
4. Run the Weekly cleaning for each brewing group. See Weekly cleaning with espresso machine detergent section for details.

SmartSteam daily cleaning

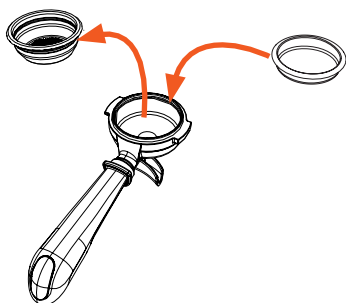
1. Fill the pitcher with water and place on the drip tray with the SmartSteam wand immersed into it.
2. Tip down the handle to start a cycle. It will stop automatically.
3. Remove the pitcher and clean manually the outer surface and corners of the wand with a damp cloth.
4. Aim the SmartSteam wand down towards the drip tray and tip the handle up during 5 seconds to flush the wand.

SmartSteam weekly cleaning

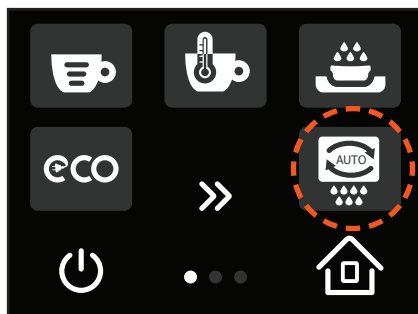
Once per week be sure to:

1. Fill half of the pitcher with water and place on the drip tray with the SmartSteam wand immersed into it.
2. Put one cleaning tablet for milk* into the pitcher.
3. Tip down the handle to start a cycle (the tablet will be dissolved after 1 min). It will stop automatically.
4. Remove the pitcher, clean it and fill it almost totally with new water.
5. Remove the nozzle and put it into the pitcher.
6. Place the pitcher again on the drip tray with the wand immersed into it and tip down the handle to start a new cycle, it will stop automatically.
7. Remove the pitcher and clean manually the outer surface, the threads and the corners of the wand with a damp cloth.
8. Put back the nozzle.
9. Aim the wand down towards the drip tray and tip the handle up during 5 seconds to flush the wand.

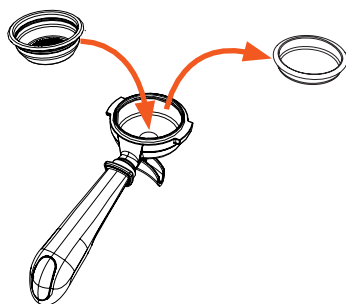
* Part Number 2060024 (Milk Cleaning Tablets).



1. Remove the filter basket and place the blind filter in the portafilter.



2. Enter the User Programming and select the Auto Cleaning cycle on the touchscreen. Rinsing will start and lasts about one minute.



3. After rinsing, remove the blind filter and store it in a safe place for the next usage. Reinstall the filter basket in the portafilter.



WARNING!

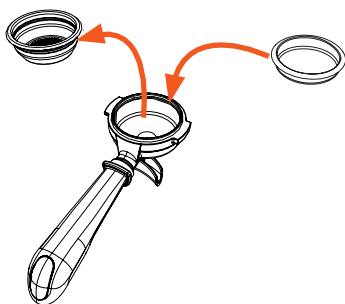
DO NOT OPEN THE GROUP OR REMOVE THE PORTAFILTER UNTIL THE CLEANING HAS FINISHED! THIS WILL RELEASE STEAM AND HOT WATER WHICH COULD RESULT IN BURNS.



Pro Tip:

Run the flushing cycle for each group at the end of each day to prevent coffee residue drying and building up inside the brewing groups.

Weekly cleaning with espresso machine detergent



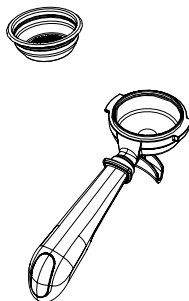
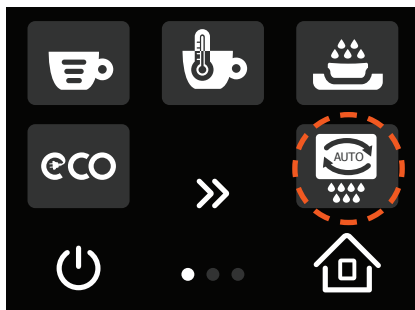
1. Remove the filter basket and place the blind filter in the portafilter.



Professional espresso
cleaning detergent
Part no: 1104162



2. Add 7-10g of espresso machine detergent to the portafilter, then lock the portafilter into the brewing group.



3. Enter the User Programming and select the Auto Cleaning cycle on the touchscreen. Automatic cleaning will start and lasts about one minute.
4. After cleaning, with detergent, the group needs to be flushed. So run the Auto Cleaning cycle two more times to flush out any remaining detergent. Repeat for each group. After cleaning, remove the blind filter and store it in a safe place for the next usage. Reinstall the filter basket in the portafilter.



WARNING!

Do not open the group or remove the portafilter until the cleaning has finished! This will release steam and hot water which could result in burns.

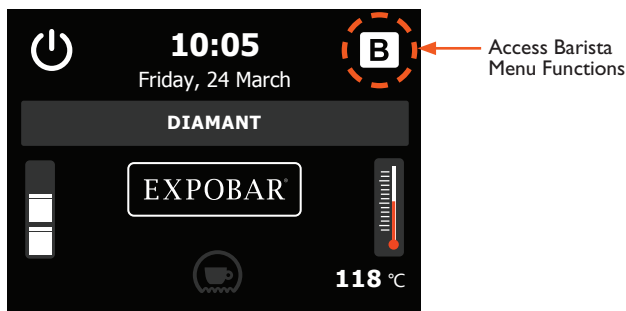


Pro Tip:

Run the cleaning cycle for each group at the end of each week to thoroughly clean the group head, shower plate and portafilter to ensure great coffee taste.

Entering and exiting the user programming menu

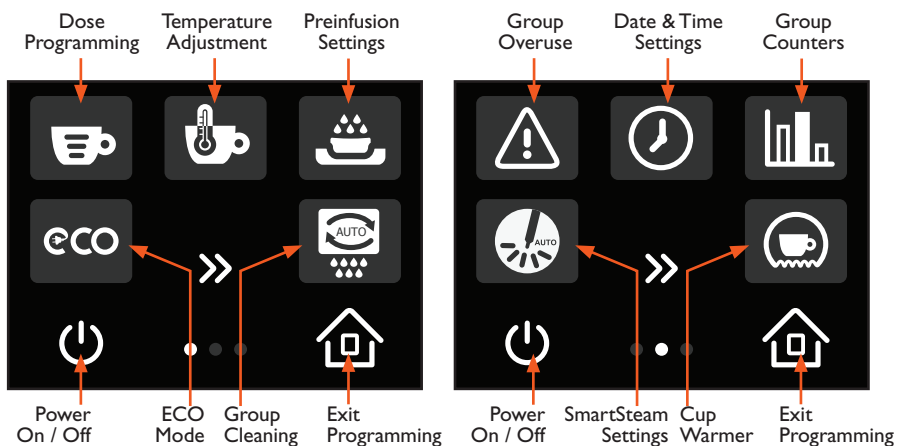
To enter the user programming menu simply press the Barista button:



User programming menu features

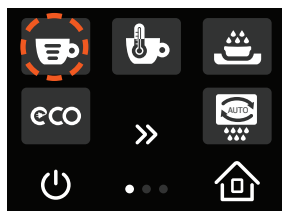
The machine is equipped with a programmable touchscreen interface that allows users to set or adjust the following features and parameters:

- Program dose settings for each brewing button.
- Adjust steam and group boiler temperatures.
- Adjust preinfusion settings.
- Group overuse alert settings.
- Clock settings (adjust time and date).
- Check group counters (volume of water cycled, service intervals, and number of coffees dispensed, etc.).
- ECO settings (activate and deactivate energy saving mode).
- Run automatic cleaning.
- Adjust SmartSteam settings.
- Turn cup warmer on/off.
- Power off/on (without using the main switch).
- Return to user/barista menu.

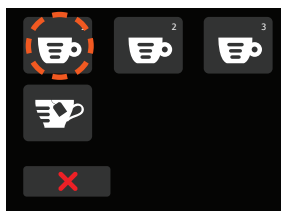


Coffee dose programming

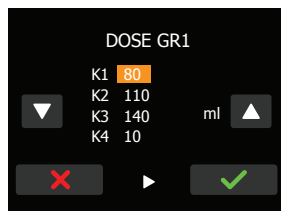
Use the following steps to program the espresso brew dosages for each drink button (each button can be programmed for a different dosing volume if desired):



1. Press the Dose Programming button to enter the programming menu.



2. Select the group to be programmed.



3. The key selected to be programmed will be highlighted in orange. Use the ▲/▼ arrows to adjust the dose volume. Use the ✓ to confirm the new dosage, then use the ► arrow to proceed the next group or the X to exit.



Note:

The factory default brewing dose volumes are as follows:

Coffee Key 1: 80ml, Single espresso

Coffee Key 2: 110ml, Lungo espresso

Coffee Key 3: 140ml, Double espresso

Coffee Key 4: 10ml, Quick flush

Start / Continuous Key: unmetered, continuous flow

For safety and water conservation, all brewing settings have a maximum dispensing time of 3 minutes/500ml.

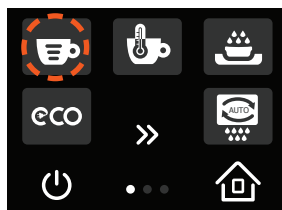


Pro Tip:

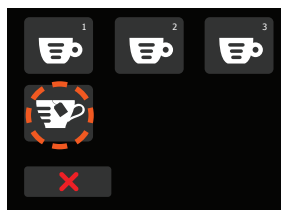
For best results, each drink can be programmed doses manually from the Barista Menu to make fine-tuned adjustments.

SmartTea dose programming

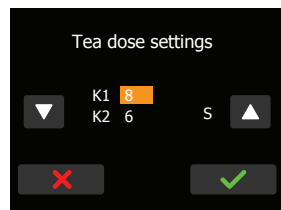
Use the following steps to program dosages for each hot water dispensing button (each button can be programmed for a different dosing time if desired):



1. Press the Dose Programming button to enter the programming menu.



2. Select the Tea key.



3. The key selected to be programmed will be highlighted in orange. Use the ▲/▼ arrows to adjust the dosage time. Use the ✓ to confirm the new dosage, then use the ► arrow to proceed the next group or the X to exit.



Note:

The factory default hot water dispensing time are as follows:

Key 1: 8s

Key 2: 6s

Dose programming (Coffee & Tea) using the touchpad

COFFEE DOSING:

This section explains how to program the doses dispensed automatically by the drink buttons:

1. Keep the continuous button pressed over 8 seconds, all the lights in the keypad will light up and continuous button will flash.
2. Within 30 seconds press any coffee selection that you want to reprogram. Notice that all the lights will turn off except the selection you made and the continuous button.
3. The group begins to dispense espresso, when the desired volume of espresso is reached, press the selection button that is light up to stop dispensing, this volume will now be stored as default.
4. Repeat this process with all the selections that needs to be reprogrammed.

In case you only want to reprogram one of the selections, acts as previously described and only reprogram one selection. The other selections will keep the existing settings.



Important:

Use a porta-filter filled with fresh coffee for every new dose you program.



Note:

Programming any of the options on the left-hand drink buttons (when viewing the machine from the front) automatically sets the dispensing volumes on all of the other drink buttons. This only applies to the left-hand drink buttons. Programming other drink buttons only modifies the option selected.

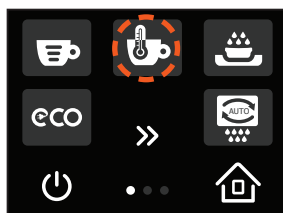
HOT WATER DOSING:

This section explains how to program the doses dispensed automatically by the drink buttons:

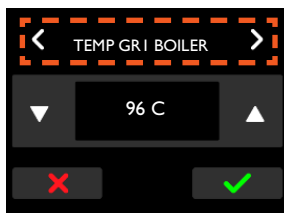
1. Keep the continuous button pressed over 8 seconds, all the lights in the keypad will light up and continuous button will flash.
2. Within 30 seconds press any hot water selection that you want to reprogram.
3. Press the hot water selection button again to stop dispensing, this volume will now be stored as default.
4. Repeat this process with all the selections that needs to be reprogrammed.

Temperature adjustment

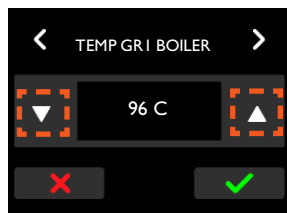
Use the following steps to program to adjust the main steam boiler and individual group boiler temperatures individually to offer customized brewing and milk steaming/frothing:



1. Press the Temperature Adjustment button to enter the programming menu.



2. Use the </> arrows to scroll to the boiler to be programmed.



3. Use the ▲/▼ arrows to adjust the temperature setting. Then use the ✓ to confirm the new temperature. Use the ✕ to exit.

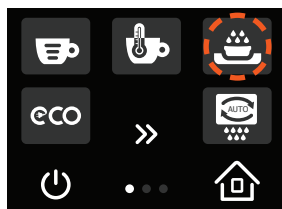


Pro Tip:

Depending on the types/profiles of coffee typically brewed, it may be useful to set each group at a different temperature to extract the very best flavour from each espresso.


Preinfusion settings

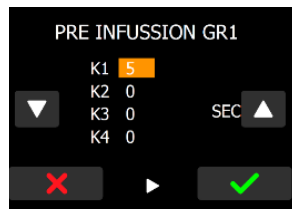
Use the following steps to adjust the preinfusion settings:



1. Press the Preinfusion button to enter the programming menu.



2. Select the group you want to define the time (sec). You can also copy your first selection to the other groups by pressing .



3. Use the Δ/∇ arrows to adjust the time setting. Then use the \checkmark to confirm the new time. Use the \times to exit.

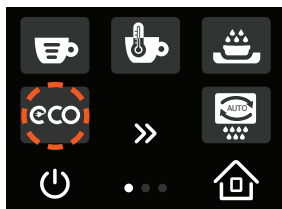


Pro Tip:

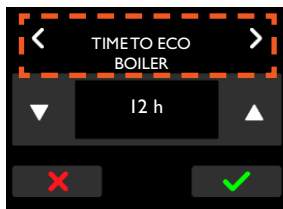
Preinfusion is a useful feature for many roasts of coffee that need just a little more time to “develop” during brewing. Preinfusion moistens the espresso in the portafilter for about one second, then releases pressure for two seconds before beginning the normal brew. To decide if preinfusion is best for your specific coffee roast, it is recommended to do a taste comparison with and without preinfusion, then set up your machine according to what tastes best to you.

ECO mode

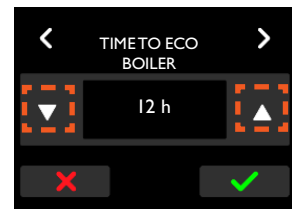
Use the following steps to adjust the ECO settings:



1. Press the ECO Mode button to enter the programming menu.



2. Use the Δ/∇ arrows to scroll to the boiler to be programmed.



3. Use the Δ/∇ arrows to adjust the time setting. Then use the \checkmark to confirm the new time. Use the \times to exit.

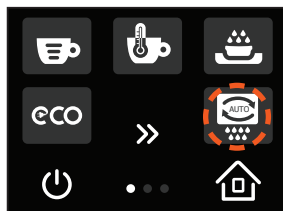


Pro Tip:

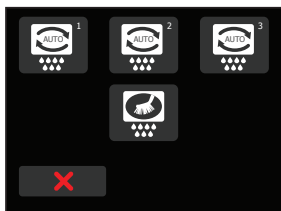
ECO mode reduces the steam and group boiler temperatures to 60°C. This function is recommended during low usage times during the work day since it will reduce energy usage but still allows the machine to heat back up to normal operating temperature with just a few minutes when needed.

Group cleaning

Use the following steps to activate the automatic group cleaning cycle for the brewing groups:



1. Press the Group Cleaning button to enter the programming menu.



2. Select the group to be cleaned, or select the brush button to clean all groups simultaneously. Use the **X** to exit.



Pro Tip:

Optionally, as a time saving step, weekly cleaning with detergent can be done on all groups simultaneously if extra blind filters are purchased for use with the extra groups. Ask your distributor about purchasing extra blind filters if desired.



Note:

Automatic group cleaning with detergent takes approximately four minutes.



WARNING!

THE CLEANING WATER IS VERY HOT! DO NOT PLACE FINGERS OR HANDS UNDER THE GROUP, OPEN THE GROUP OR REMOVE THE PORTAFILTER UNTIL THE CLEANING CYCLE HAS FINISHED TO AVOID SCALDING OR BURNS! WAIT 3-4 SECONDS AFTER DISPENSING HAS FINISHED BEFORE REMOVING THE PORTAFILTER TO ALLOW PRESSURE TO RELEASE.

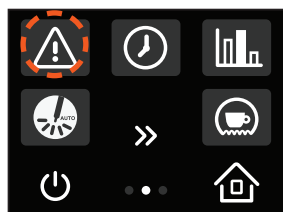


Important:

When using this function to perform the weekly cleaning with espresso machine detergent no water will flow from the group when the portafilter with blind filter is installed, however hot water will still flow from the other groups, so the cleaning with detergent must be repeated separately for each group. It is important to perform two or three more clearings without detergent afterward for each group to ensure all detergent has been flushed out of the group.

Group overuse

Use the following steps to program the group overuse settings:



1. Press the Group Overuse button to enter the programming menu.

Alarms settings:

CLEAN OVERDUE TRIGGER:

Trigger to release the "CLEAN OVERDUE WARNING", in which the machine notifies the user that there hasn't been a proper group cleaning in "x group" in the last 4 to 72h (depends on the parameter specified). Referred to "group cleaning" NOT the SmartSteam.

GROUP OVER USE TRIGGER:

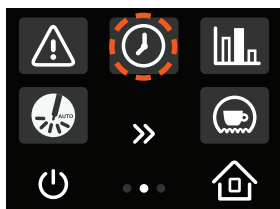
Trigger of the "GROUP OVER USE" alarm in which when it reaches the parameter "MIN COFFEES GR.OVER USE" then it adds all total counters for all groups. If one of the groups is used 1 to 3 times the total counter, then "GROUP OVER USE" alarm is triggered.

MIN COFFEE GROUP MINIMUM:

Minimum number of coffees to define the group overuse (500)

Date and time settings and auto on/off functions

Use the following steps to program the clock and calendar settings and program the daily automatic on/off functions:



1. Press the Dose Programming button to enter the programming menu.

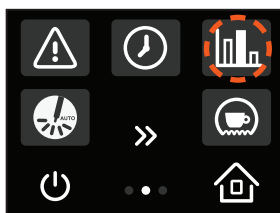


Pro Tip:

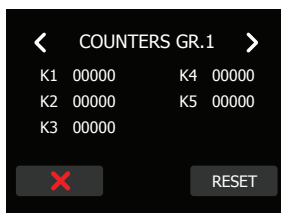
The Auto On/Off function is useful for programming the machine to be warmed up and ready before the first barista arrives at the start of each day, and saves a lot of energy by making sure the machine is shut down automatically at the end of each day.

Group counters

Use the following steps to view the group dispensing counters:



1. Press the Counters button to enter the programming menu.



2. Use the </> arrows to scroll to the group to be viewed. Press RESET to reset the counters to zero, or X to exit.



Pro Tip:

The counters can be useful for calculating the number of coffees dispensed over a day, week or month, which is helpful in calculating business expenses, when machine service is needed, and other important machine related information.

Counters and service alarm resets

Use the following steps to view the alarm programming settings:



- I. Alarms can be enabled and set by the technician to alert the user that maintenance is required at set intervals. Press RESET to cancel and reset the alarm.

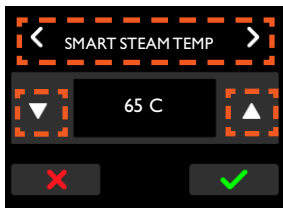
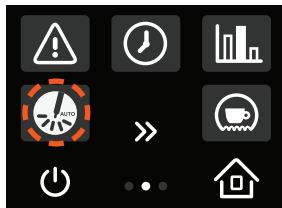


Note:

Alarm counters cannot be reset to zero, as they are the life history of the machine. Resetting the alarm only resets the counter function to begin tracking when the alarm should be activated again in the future.

SmartSteam

Use the following steps to program the SmartSteam settings:



1. Press the SmartSteam button to enter the programming menu.
2. Scroll using the arrows to enter to the following and adjust the following parameters:

SMARTSTEAM TEMPERATURE:

Temperature that the smart steam wand needs to reach before closing steam valve

FLUSH TIME:

Trigger to release auto-cleaning. If the steam wand hasn't been used in the last 5-30 min (as chosen), and the steam wand is in home position, it will start the auto-cleaning cycle. If not the "CLEANING OVERDUE" alarm will be triggered.

SET AUTO FLUSH TIMER:

Time in which the steam valve (not pump) will open to perform auto-cleaning.

SET PUMP SPEED:

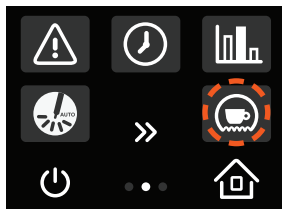
Speed that the peristaltic pump will be using, based in %PWM regulation.

SMARTSTEAM TEMP OFFSET:

Parameter to establish difference between peristaltic pump and steam valve. Peristaltic pump will stop at TSET-ST.OFFSET.

Cup warmer

Use the following steps to program the cup warmer settings:

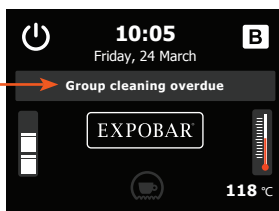


1. Press the Cup Warmer button to enter the programming menu and adjust the temperature you want your cups to be warmed up between: Low, Mid or High

Display messages and alarms

To alert users that routine service of the machine is due or against a situation that could possibly cause damage to the machine, Diamant Pro has the following alerts programmed into its software:

Alarm description



Note:

If one alarm is active, the warning icon (⚠) will be shown in the main display apart from the alarm in the 'Name' field.

If you press on the EXPOBAR logo area (EXPOBAR) on the main display, you will enter the alarm list where you can see the alarms enabled (in case there are more than one at the same time).

Alarms related with grinding

Alarm	Description
GRX: Too fine	When the flowmeter is measuring less than 'fine grinding' setting, this alarm will be released.
GRX: Too coarse	When the flowmeter is measuring less than 'coarse grinding' setting, this alarm will be released.
GRX: Flowmeter blocked	When the flowmeter is measuring 0ml for too long.

Alarms related with boiler filling

Alarm	Description
Filling timeout	If the steam boiler has been filling water for more than 180s, the pump will stop and the display will show the alarm and the level icon (📊) will turn to orange.

Alarms related with SmartSteam functionality

Alarm	Description
Cooler temp recommended	If the SmartSteam temperature probe detects that the milk in the jug is above 10°C the warning will appear and the steaming cycle will not start until cold milk is used. Using warm milk is a food-safety risk and warm milk will not produce high quality foam.
SmartSteam clean due	If the programmed cleaning interval time for the SmartSteam (set at five minutes by default) expires without the barista activating the cleaning cycle manually, the barista must return the SmartSteam to the down position. Then, 30 seconds later the machine will display Steamer cleaning and start the cleaning pulses to flush the steamer.
Flush short, flush again	If the barista attempts at manual flush of the SmartSteam but does not complete the full required flushing time as defined in the programming, a warning will be displayed and the flushing must be run again.

Alarms related with Group use

Alarm	Description
Group cleaning overdue	If the programmed daily cleaning interval time (set at 24 hours from last cleaning by default) expires without the barista activating the cleaning cycle manually, the warning will appear and will remain on screen until the cleaning is completed. See "Group cleaning" section for instructions on how to run the cleaning and reset the alarm.
Group over-use warning	Alarm to notice user that one of the groups is being used excessively comparing to the others. When the total counter (meaning all keys in all groups) reach the "Group overuse minimum" parameter, it will see if one group is being used 1 to 3 times the rest of groups installed. See "Group overuse" section for instructions on how to reset the alarm. To prevent frequent overuse, it is best to rotate using the double and single espresso portafilters between group heads so that all groups get used more equally.

Alarms related with Maintenance

Alarm	Description
Water filter alarm	When the litres counter reaches 90% of 'Water filter' setting, this alarm will be released.
Maintenance alarm	When the services counter reaches the 'Service cycles' setting, this alarm will be released.

Alarms related with sensors malfunction

Alarm	Description
Steam boiler sensor (AL1)	Warn the user the temperature sensor for steam boiler is in short-circuit.
Steam boiler sensor (AL2)	Warn the user the temperature sensor for steam boiler is not connected or is not working properly.
Gr.X: Coffee boiler sensor (AL1)	Warn the user the temperature sensor for GrX coffee boiler is in short-circuit.
Gr.X: Coffee boiler sensor (AL2)	Warn the user the temperature sensor for GrX coffee boiler is not connected or is not working properly.
SmartSteam sensor (AL1)	Warn the user the temperature sensor for SmartSteam steam wand is in short-circuit.
SmartSteam sensor (AL2)	Warn the user the temperature sensor for SmartSteam steam wand is not connected or is not working properly.
Cup warmer sensor (AL1)	Warn the user the temperature sensor for cup warmer is in short-circuit. Don't connect heating element while alarm is activated.
Cup warmer sensor (AL2)	Warn the user the temperature sensor for cup warmer is not connected or is not working properly.

Machine faults

Problem	Possible cause	Solution
The machine does not start up when turned on	The plug is not correctly inserted into the power socket	Check that the plug is correctly inserted and that the power socket is operational.
	The circuit breaker and/or differential are disconnected.	Check that they are connected.
	The cable and/or plug are damaged.	Call service personnel to replace them.
The steam wand does not dispense steam	The steam wand is clogged with dried milk.	Clean the wand and, if necessary, remove the nozzle and unclog it using a pin or needle.
Water is found underneath the machine	The drain tube is blocked with used grounds/rubbish or is pulled off the drain cup.	Clean the drainage tube.

Brewing faults

Problem	Possible cause	Solution
Coffee dispensing is too fast:	The coffee grind is too coarse.	Switch to a finer grind of espresso.
Coffee dispensing is too slow:	The coffee grind is too fine.	Switch to a coarser grind of espresso.

Limescale faults

Problem	Possible cause	Solution
Coffee dispensing temperature is too cold:	Heat-exchanger outlet pipes are clogged with limescale.	Turn off the machine at the switch and contact a technician to make needed repairs.
Brewing groups do not dispense water:	Water system is clogged with limescale.	Turn off the machine at the switch and contact a technician to make needed repairs.

Notes:

For the warranty to be valid the conditions for maintenance must have been followed according to our instructions, proper precaution has been made and warranty claim been issued without delay.

The affected equipment may not be used during awaiting service if there is any risk that the damage or defect would worsen.

The warranty will not cover consumption supplies such as glassware, normal maintenance such as cleaning of filters, contaminations in water, lime, incorrect voltages, pressure or adjustment of water amounts.

The warranty will not cover damages of defects caused by incorrect handling and operation of the appliance.

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