



Installation manual Spiritello single group espresso machine

(Original instructions)

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CONTENTS

INTRODUCTION	2
Precaution	2
SAFETY.....	2
Parts identification	4
Installation summary.....	5
Water requirements.....	6
Water supply (when connected to water mains)	6
Waste/drain	6
Electric mains	6
Normal vs limited peak power	6
Single-phase machine	6
Connect	8
Tank or mains?	8
Fill tank	8
Remove tank	8
Connect to water mains (when appropriate)	9
Connect to drain/waste (when appropriate)	11
Connect electric mains	12
First use.....	13
Fill	13
Heat up	14
Adjust mix-water temperature.....	15
Hand over machine	16
Maintenance	17
Contact information	17



INTRODUCTION

This document is the installation manual for the Spiritello espresso machine (in this document referred to as 'espresso machine'). This document informs the user about the safe and correct installation of the espresso machine.

This document is intended for the installer of the espresso machine.

Precaution

Hot surfaces!

Parts of the machine will be hot when the machine is turned ON.

- The cup tray reaches temperatures up to 65°C.
- The metal groups are intended to radiate heat and can reach a set-temperature of up to 99°C.

Hot water and/or steam!

When the machine is heated up, hot water and steam can escape from various parts of the machine upon manipulation of a corresponding interface (valve, switch, touch-button, ...).

- Activating the group will lead to water being dispensed with a temperature of up to 99°C.
- Activating the mix-water dispense will lead to water flowing with high temperature (85-99°C).
- Activating the mix-water dispense can lead to overheated water (steam) being dispensed when the cold-water addition is not set correctly.
- Opening the steam tap will start steam escaping from the steam wand-tips, the steam can reach temperatures up to 130°C.

SAFETY

2.1 INTENDED USE

The espresso machine is:

- Intended for the extraction of espresso from ground coffee by use of a filter holder.
- Intended for indoor use only.
- Intended for use in environments with temperatures between 10 – 30 °C (50 – 86 °F).
- Intended as a stand-alone counter top espresso machine and is not intended for use in a cabinet.

Any other use of the espresso machine then described above is considered misuse and can lead to physical injury, product damage, and/or a void warranty.

2.2 SAFETY WARNING AND REGULATIONS

WARNING

Risk of physical injury

- Always read and understand the (safety) instructions in this manual using the espresso machine. Not following the (safety) instruction in this manual is considered misuse and can lead to physical injury.
- Always place the espresso machine on its rubber feet in horizontal position on a sturdy and flat surface.
- Never use the espresso machine when (parts of) the espresso machine is/ are damaged. Always contact your sales representative for advice.
- The espresso machine must only be installed in locations where it can be overseen by trained personnel.



Risk of fire

- The mains electricity the espresso machine is connected to must include a residual-current-circuit-breaker of 3 - 30 mA.

Risk of electrocution

- Always check the power cable of the espresso machine for damage. Never connect the espresso machine to the mains power when the power cable is damaged. Always have the damaged power cable replaced by an authorised electrician or service engineer.
- Never spill water on the power cable and power plug. Getting the power plug wet can lead to short circuiting or electrocution. Always be aware of the location of the power cable and power plug in the event of a spill.



CAUTION

Risk of physical injury

- Always lift the espresso machine with at least two persons. The espresso machine is very heavy and lead to back injury when lifted alone. Never lift the espresso machine by yourself.
- Parts of the espresso machine will remain hot a long time after the machine has been switched OFF. Do not touch hot parts, until the espresso machine has cooled down.
- Always make sure there is sufficient water flow to the filter holder and that you properly fill the filter holder with ground coffee. If there is no water flow and/or the filter holder is not inserted or inserted without coffee grounds, the group lever will forcefully move back to the upwards position due to the lack of back pressure. This unexpected movement can lead to physical injury to the user. When in doubt, always hold the lever and guide it back, making sure the lever is in its final upward position before letting go of the lever.

NOTICE

Risk of product damage

- Always lift the espresso machine by the legs of the espresso machine. Lifting the espresso machine by any other parts can result in the parts being damaged. Never lift the espresso machine from any other parts.
- Always use the included new hoses when preparing for installing the espresso machine. Old hoses can be damaged, and lead to leakage, or product damage.
- When connected to water mains, water pressure should be in the range 0.1-0.5 MPa. When mains pressure is higher than 0.5 MPa a suitable pressure regulator must be installed between water mains and the espresso machine.
- Always install a leak prevention system when the espresso machine is connected to the water mains. An unattended leak can cause serious damage to the premises.
- Never clean the espresso machine with a water jet. The power can force the water to find its way to electrical components and lead to short-circuiting. Always clean the entire espresso machine after each use with a damp cloth.
- Do not submerge the espresso machine. Only the removable drip tray and filter holder can be submerged during cleaning.
- Always keep the machine at ECO or ON mode to prevent freezing of water inside the machine, when ambient temperature falls below 5 °C (41 °F). If the espresso machine and/or the pump are exposed to freezing conditions, ask a qualified technician to start the appliance.
- Use, cleaning, and maintenance of the espresso machine shall never be done by children without supervision.



Parts identification

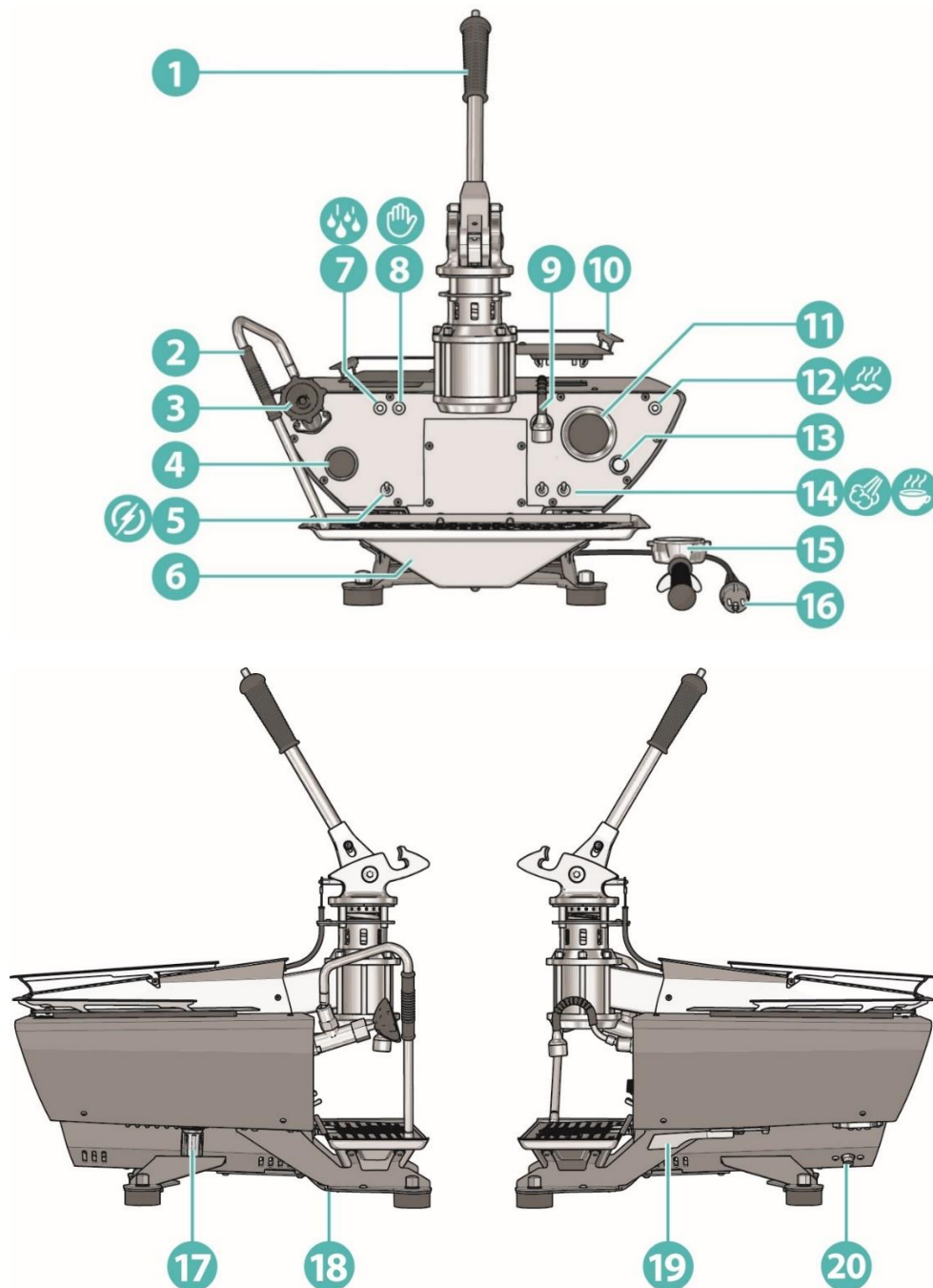


Figure 1. Showing the main operational parts of the Spiritello.

- | | |
|---|------------------------------------|
| 1. Group lever | 11. Display |
| 2. Steam wand | 12. Hot water button (mix-water) |
| 3. Steam valve | 13. Encoder knob |
| 4. Brew pressure gauge | 14. Heat switches steam and coffee |
| 5. Main power switch | 15. Filter holder |
| 6. Removable drip-tray | 16. Power plug ¹ |
| 7. Flush button | 17. Pressure reducer |
| 8. Relief button | 18. Drain connection |
| 9. Hot water spout | 19. Side panel lever |
| 10. Removable cup tray (water tank lid) | 20. Water mains connection |

¹The espresso machine comes with either an European Schuko power plug or without a power plug. See chapter **Connect electric mains** for more information.



See [pre-installation guide](#) for information about dimensions, location requirements, etc..

Installation summary

1. Mount lever-release pin and lever on group.
2. Check wiring of wall socket.
3. Plug machine to electric mains.
4. Fill water tank with water (or connect to mains), switch machine ON with heating circuits OFF.
5. Change water feed to MAINS in settings menu when appropriate.
6. When set to TANK: top-up water tank (it will get empty during filling the machine).
7. Run cold machine, check for leaks.
8. Switch heating circuits ON.
9. (Install and adjust grinder).
10. Adjust TIME/DAY (and perhaps Celsius – Fahrenheit)
11. Check main functions of machine.
12. Brew first coffee.
13. Check/adjust hot water temperature.
14. Write machine number, installation date and other specifics in Service record.

When installed by third party: transfer machine to owner/user

15. Explain main features to new user(s) and manager.
16. Show User manual (on website).



Water requirements

Be aware that bottled water or water taken directly from water mains may be harmful for the machine. See the pre-installation guide for water quality requirements.

Water supply (when connected to water mains)

Rated pressure: 0.3-1.0 MPa (3-10 bar)
Rated flow: minimum 2 Liter/minute

The machine can be fed by permanent connection to the water mains (see page 8) or from the incorporated tank. With permanent connection, the water supply should be able to deliver a minimum amount of 2 Liters per minute in the range 0.3-1.0 MPa (3-10 bar).

Notes!

Not included in the shipment are supplies to make the connection between the water-tap and the water treatment system.
National rules/regulations may apply when the appliance is connected to the water mains.

Waste/drain

The appliance can be used with or without permanent connection to the sewer. When the drip-tray is draining into the sewer, the connecting hose should slope down the entire way and the end should be above water-level at the sewer side. The sewer should have a water-lock to prevent smelly odours.

Electric mains

Rated voltage: ~230V, 50 / 60Hz

Peak power: 2500W; 10.9 Amp (@230Vac).
In limited peak power setting this can be reduced to max. 2050W, 8.9 Amp.

⚠ Danger

If the supply cord or the pump connection cord is damaged it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

To avoid unintended dangerous situations the electric supply should be able to safely deliver 10.9 Amp even when the machine is set to limited peak power.

The appliance is to be supplied through a residual current device (RCD) having a rated residual operating current not exceeding 30mA.

The range in which the machine can function safely is 210-240Vac. Electric mains can be connected in two ways to the machine (1-phase with neutral or 2-phase without neutral). Check if the electric mains of the location matches the configuration of the machine.

Normal vs limited peak power

The machine can be set to limited peak-power. In limited peak power, one of the heating spirals in the steam boiler will not be active when the coffee boiler is heating. This reduces peak power by 450W (~2 Amp) but will increase heating-up time of the steam boiler. Once the machine is warm, there will be no significant difference between the 2 settings.

Single-phase machine

This single-phase machine must be connected to (see

~230V; P-N-E	2N~230V; 2P-N-E, split-phase
--------------	------------------------------

Figure 2):

1. P-N-E: single Phase + Neutral + Earth (1 live, 1 neutral and Earth), or
2. 2P-E: split Phase + Earth (2 lives and Earth, no neutral).

Note that the 2P-E configuration does NOT make use of the neutral wire of the electric mains. The tension between the phase and neutral (P-N-E power) or the tension between the two phases (2P-E



LOCATION REQUIREMENTS

power) should be within the range 220-240Vac.

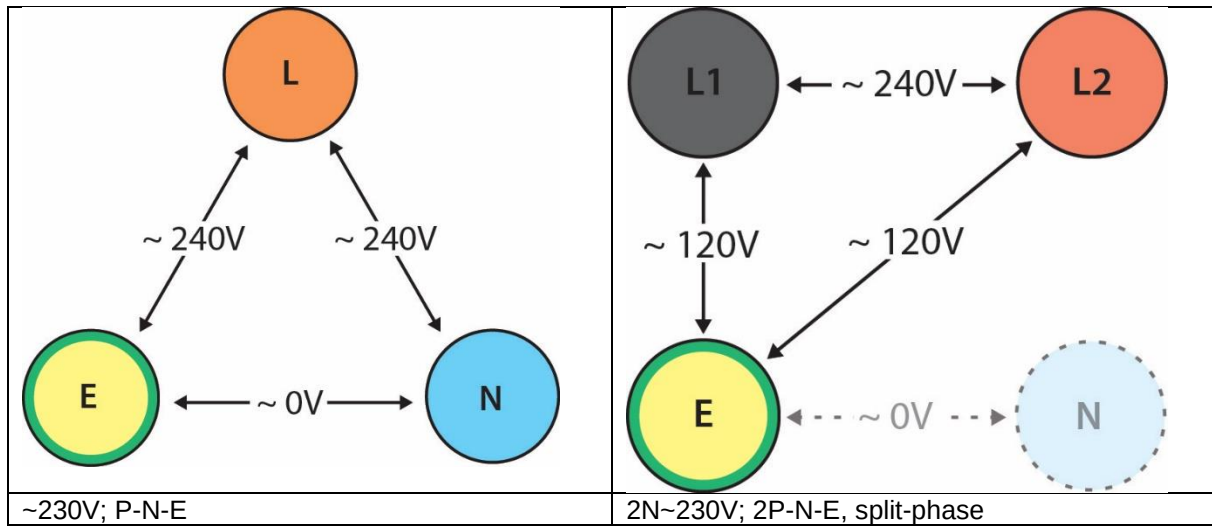


Figure 2. At left P-N-E, at right 2P-N-E. The machine can make use of L1 and L2 plus E (without N) of the right electric mains configuration. Peak current is 11A.

Check electric power (tension; Volts) of all the contacts where the supply cable of the machine will be connected to. The electric power should match with the set-up of the machine ordered. Mismatching electric power connections may lead to costly repairs.

Note!

National rules/regulations may apply when the appliance is connected to the electric mains.



Connect

Tank or mains?

Factory setting of the machine will be that water is taken from the internal water tank. When you want to connect the machine to water mains, you must change a physical and software setting at the machine, see section “connect to water mains” below.

Fill tank

You can fill the tank by lifting the cup tray from the right body panel and then pour water from a bottle or jug into the tank. Make sure the water quality meets the requirements (see [pre-installation manual](#)).

Note!

It is advised to empty, rinse and re-fill the tank every day. DO NOT clean the tank in the dish-washer.

Remove tank

1. Remove the cup tray of the right body panel.
2. Remove the body panel: push the lever just below the panel towards the centre of the machine (approx. 2 cm, 1”), the lower part of the panel shifts outwards
3. Then gently move the exterior side of the panel up and away from the machine. The body panel can now be laid aside.

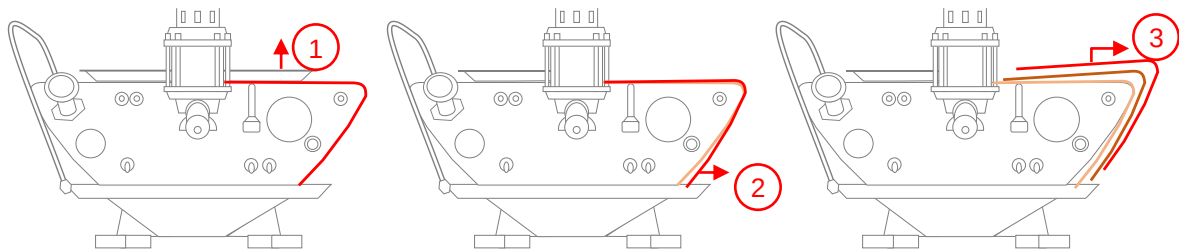


Figure 3. Remove the right hand side panel in 3 steps to be able to remove the tank from the machine.

4. Lift the tank out of the machine and remove the lid from the tank.
5. Wash and rinse the tank with fresh water, dry the outside, remount the lid and replace into the machine. Make sure the water outlet connects to the receptacle and push the tank firmly down.
6. Replace the side panel: hook upper section into position first, then push complete panel inwards.
7. Fill the tank but keep below the max-level (approx. 3.5 litres).

Connect to water mains (when appropriate)

Rated pressure: 0.1-0.6 MPa (1-6 bar)
 Rated flow: minimum 2 Liter/minute

The machine is equipped with a non-return valve that prevents water flowing back to the water mains.

Notes!

When installing a new machine, always use new water supply hoses.
 Do not re-use old, or previously used, hoses.

- Remove right side panel and tank and then turn water feed valve from TANK to MAINS (see Figure 4).

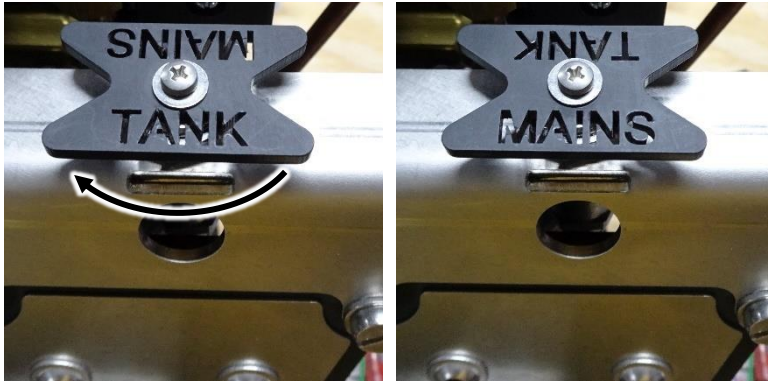


Figure 4. Change feed-valve position from TANK to MAINS.

- Connect water tap to the inlet of the water treatment system with a suitable new hose (not included).
 - Make sure the water treatment system has been flushed according to the manufacturers specifications.
 - Close water mains.
 - Connect the water-feed hose supplied to the water treatment system and plug the other side (push-in connector) into the machine (see Figure 5).
 - Open water mains.
- As there now is water mains pressure onto the machine, the coffee boiler will start to fill while compressing the air inside the coffee system.

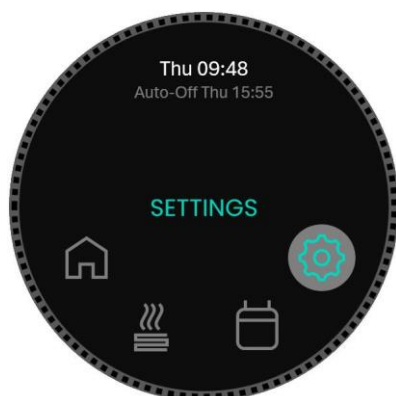


Figure 5. $\varnothing=8\text{mm}$ push-in water mains connection at the back right of the machine and reinforced hose with push-in adapter.

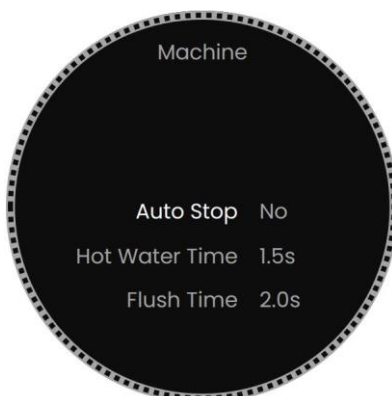
After turning the machine ON you must check (in SETTINGS – MACHINE) if the machine is set to function with water-mains.



CONNECT



Go to settings



Go to Machine



Go to Water Feed



Change to Mains

Note!

National rules/regulations may apply when the appliance is connected to the water mains.



Connect to drain/waste (when appropriate)

- The opening in the drip-tray is closed with a plug. To mount the drain hose, this plug must be removed first. When the plug starts to rotate in the tube, push out from inside.



Figure 6. Drip tray upside down showing the plug left and plug removed right.

- After removing the plug, push the silicone hose on the short tube at the back of the drip tray.
- Position the drip-tray on the machine while guiding the drain hose underneath the frame of the machine.
- Lead the drain hose to the waste of the location (with water lock!). To prevent clogging and/or pinching, make sure the hoses slope down all the way between the machine and the waste and make sure the hoses do not make a sharp bend or are led over a sharp angle.
- The drain runs off best when the end of the hose is above water-level in the water lock.

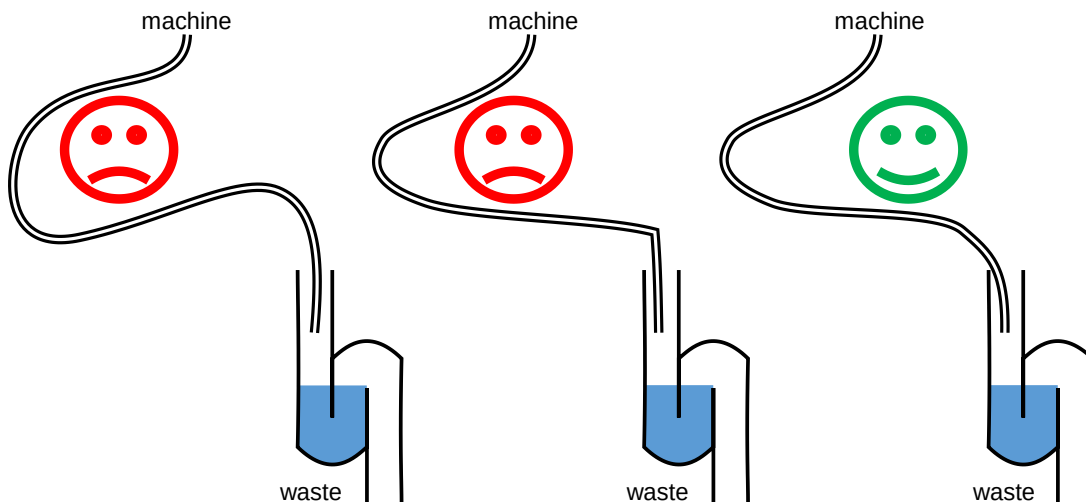


Figure 7. The drain hoses should not slope up (left) or make a sharp bend (centre) and end above water level in the waste.



Connect electric mains

Rated voltage: ~230V, 50 / 60Hz

Rated power: max. 10.9 Amp (230V)

The appliance is to be supplied through a residual current device (RCD) having a rated residual operating current not exceeding 30mA.

Normally the mains cable will have a so-called type F SHUKO plug moulded to it. When needed, this plug can be cut from the cable and replaced with a plug that is compatible with local electric mains.

Check electric power (tension; Volts) of the contacts where the supply cable of the machine will be connected to.

⚠ Danger

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

When you do not use a plug but make a direct connection the wall-box:

- Disconnect electric power in the fuse box of the building
- Check if all switches on the machine are in the OFF position (toggle-lever pointing down).
- Mount the cable directly into the wall connection box.

Yellow with Green stripe	Brown	Blue
Protective Earth (PE)	Phase (P) = Live	Neutral (N)

- Re-establish electric power in the fuse box.

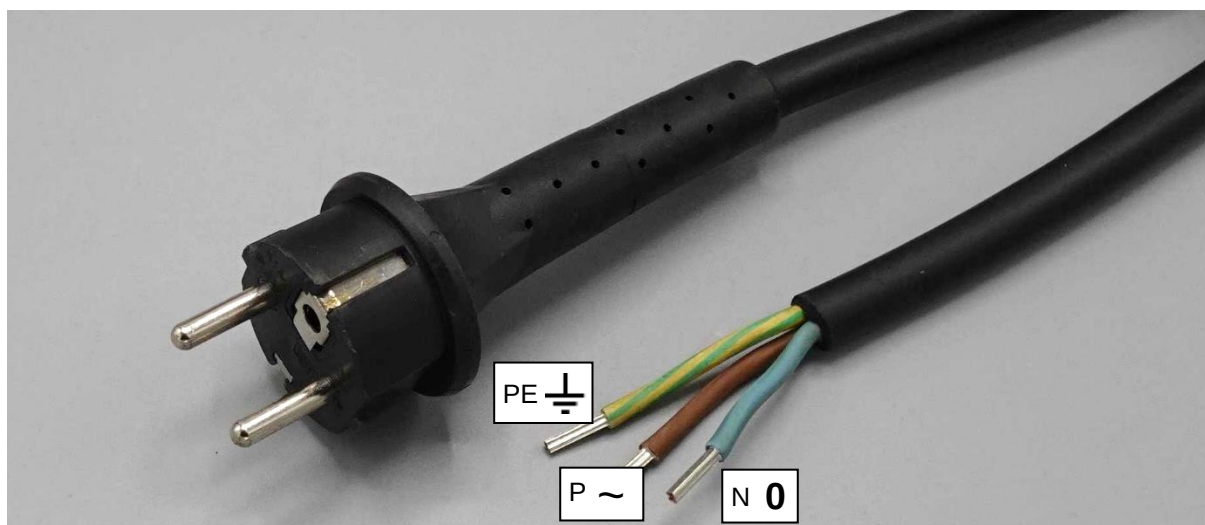


Figure 8. Left: 230Vac 16A, type F Shuko plug on mains cable, right: mains cable with stripped leads and ferrules.



First use

Fill

1. (Verify that both HEAT switches are in the OFF position: toggle-levers pointing down.)
2. With the water-mains open or water tank filled with fresh water and electric mains connected, turn the main switch ON (left hand side switch, toggle-lever up). The display will show a start-up screen with software-version information and then change to a screen with warning that the (steam-) boiler is empty (see fig. A).
3. Despite this warning, the steam boiler will start to fill with pump active. Listen if you can hear water flowing into the steam boiler. If you do not hear water flowing, there may be a blockage in the fill-system that has to be resolved before continuing.
4. When feeding the machine from tank, the tank may run empty (see fig. B), top up the tank.
5. During filling, safety-level in the steam boiler should be reached and the warning in the display will disappear (fig. C). Since the heat switches are in the OFF position, the boilers will not heat up yet.
6. Press the flush button until water runs from the group. When the machine is fed from tank, top up the water level up to MAX again.
7. When the filling stops after 2-3 minutes, the steam boiler is filled up to operational level.
8. Re-check if water is flowing from the group upon flushing. When the machine is fed from tank, top up the water level to MAX again.
9. Press the mix-water button to see if water is flowing from the spout (this will be at very low flowrate as there is no steam pressure and thus no hot water yet).
10. Check the machine for leaks.
11. Short-press the encoder, select the HOME icon (fig. D) and short-press the encoder again to show the home screen again (fig. C) or turn to go to another menu (fig. E), press to enter the menu and turn to an item of choice (fig. F).



fig. A



fig. B



fig. C

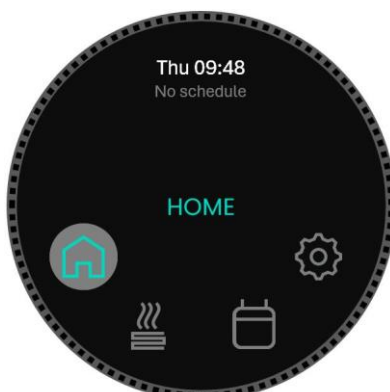


fig. D

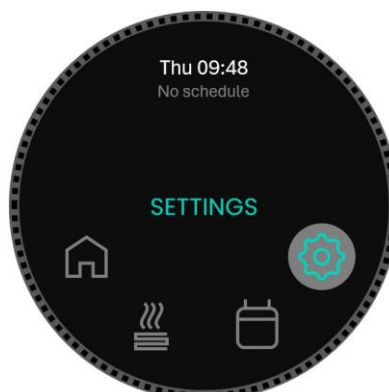


fig. E

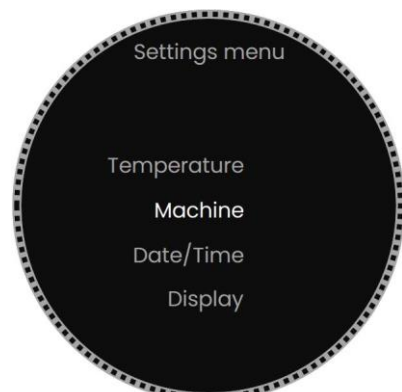


fig. F

Heat up

1. Make sure the boilers are properly filled with water.
2. Switch both heat switches ON (toggle-levers up). This allows power to be fed onto the SSR's in the machine.
3. Heating up from 20°C to operational temperature will take about 15 minutes (longer at reduced peak power), during this heat-up:
Check expansion pressure: Make sure that the group is filled with water (activate the group and check if water flows from the group immediately). Mount blind filter, "flush" the group (to fill the blind filter with water) and then pull the lever into locking position. Pressure will rise to pressure reducer setting quickly and then very slowly rise to a maximum pressure: the expansion pressure. The cold water heating up is expanding which leads to increasing pressure until the expansion valve starts to spill drops of water into the drain. The expansion pressure should be in the range 11-14 bar.
4. This would be a good moment to set/adjust a few parameters in the controller:
 Short-press the encoder and then choose:
5. SETTINGS (fig. G) to adjust machine settings and parameter values (°C or °F, Hot Water Time, ...)
6. SCHEDULE (fig. H) to program heating mode (ON-ECO-OFF) settings per (week-) day
7. HEATING (fig. J) to instantly change heating mode (ON-ECO-OFF)
8. Check on the display if the machine has warmed up to operational temperature (93°C/199°F for coffee boiler, 130°C/266°F for steam boiler).
9. Check the operational features of the machine:
 - a. Fully open the steam tap for 10 seconds to release the remaining air above the water level.
 - b. Shortly press the mix water button switch. Wait 15 seconds and then collect mix-water in a (plastic) cup to measure the temperature. When needed, adjust the temperature by changing the amount of cold-water addition on the mix-block, see Figure 9.
 - c. Without portafilter mounted, flush the group by shortly pressing the flush button switch.
 - d. Brew a first coffee to test functioning of pressure reducer setting. This first coffee will probably not be very tasty as the grinder may need adjustment. Press the relief button switch near the end of this brew to check the relief function.
 - e. With adjusted grinder-setting and coffee-bed preparation check the pressure-reducer setting again, adjust when necessary.
10. Check the machine for leaks.
11. Fill out the machine number and installation date on a service record (see [Figure 10](#)) and keep this with the machine.

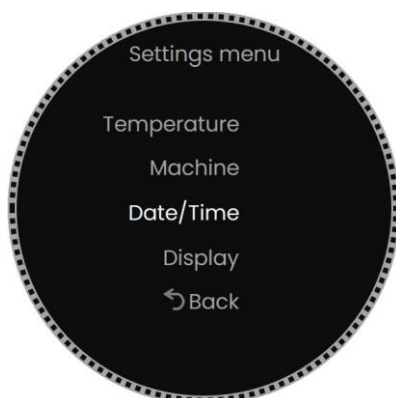


fig. G

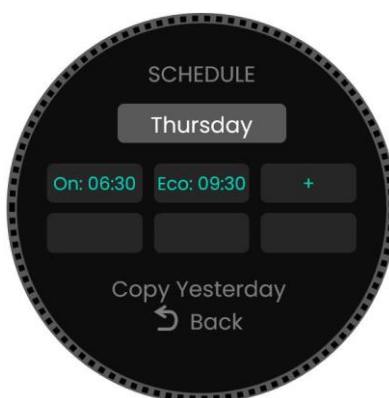


fig. H



fig. J



Adjust mix-water temperature

Mix water temperature depends on:

1. steam boiler temperature (and thus steam pressure)
2. cold water temperature
3. cold water pressure (water mains or pump pressure)
4. orifice of cold water addition
5. temperature of the fill/mix-block

Although steam boiler temperature and pump pressure can be adjusted, they are supposed to be rather constant once the machine has been set-up. Cold water temperature can change for example by season (water mains temperature) or amount of time the machine has been ON (water tank temperature). The fill/mix-block inside the machine has an adjusting-screw to adjust the orifice of the cold water addition. The screw can be accessed using a slender screw-driver without removing the left hand side panel (see Figure 9₁ left).

The temperature of the manifold changes during use of the machine and this variation cannot be compensated for. For that reason we suggest to measure the mix-water temperature of a second dispense (appr. 100 ml) very shortly after a first dispense (100 ml) of mix-water.

- Remove the left cup tray.
- Use a slender screw driver to change the amount of cold water addition and thus mix-water temperature.
- Remount the left cup tray when done.

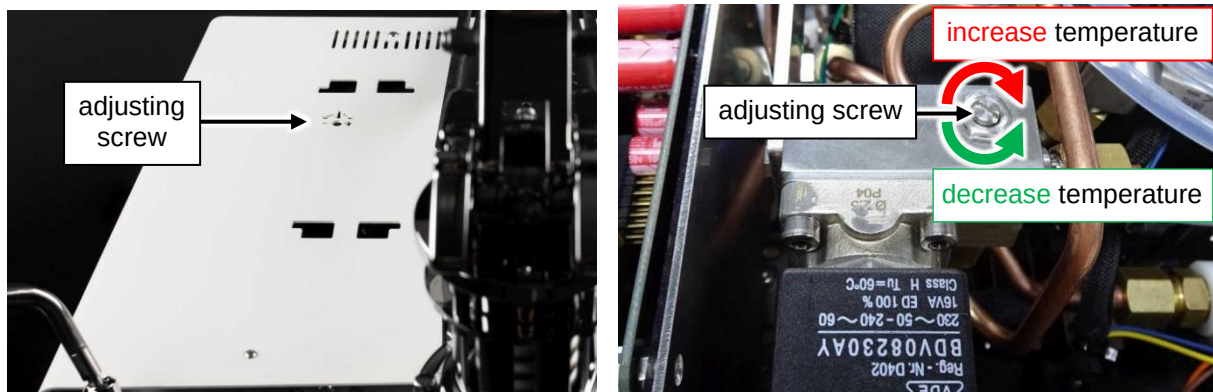


Figure 9. Adjusting mix-water temperature. Right photo (taken from side with panel removed) shows the adjusting screw on the fill/mix-block that can be accessed without removing the side panel.



Hand over machine

USER MANUAL – maintenance and service

Service Record
(machine number: T 2 0305 0524, installation date: 25 / 06 / 2024)

Date	Technician	Task	Comments
25/6/24	Rumba Espresso Service	installation	group restrictor size: <u>n.a. (Idro)</u> BWT bestmax By-pass 30%

Figure 10. Print service record and fill out installation data. Keep this with the machine.

TIP

Print the service record pages from the User manual (see [Figure 10](#)).

For distributors:

Explain the new owner/user the most important functions of the machine. This should at least include:

1. Inform the user about the danger of the Idrocompresso lever, when there is no back pressure.
2. Change heating mode from ON to ECO to OFF.
3. Explain profits of ECO w.r.t. OFF.
4. Show how to enter the menu and:
 - a. how to change temperature settings
 - b. what is possible in SCHEDULE
 - c. how to adjust present time/date
5. Convince the new owner of the importance of water quality and (when appropriate) regular checking of the water treatment system.
6. Explain the owner about maintenance, preventative service and emergency repairs.
7. Tell the owner/user what to do when there seems to be a malfunction:
 - a. see user manual for checks that should be performed by the barista/owner before calling for help
8. Illustrate that filling out the maintenance history/service record helps to solve problems when a malfunction occurs.
9. Direct the owner/users to the User manual on our website.

urge the owner/users to read the user manual.

Maintenance

⚠ Warning!

Maintenance on the machine should be done by a qualified technician. Parts of the machine can reach a temperature of close to 130 °C (266 °F). The steam/hot water boiler contains water and pressurised steam of 130 °C at 1.7 Bar overpressure (266 °F at 25 PSI), temperature and pressure in the coffee system may reach up to 99 °C at 12 Bar overpressure (210 °F at 175 PSI).

When servicing the machine it is sometimes necessary to keep the machine connected to the AC power outlet and the machine switched “on”. In both cases there is a possibility that you touch a live wire.

☠ Danger

We cannot be held responsible for damage and/or injuries resulting from actions performed on our machines by non-qualified personnel.

Any qualified technician working on the machine is urged to thoroughly read the latest edition of the “Technical manual” which can be obtained via:

support@keesvanderwesten.com

When seeking contact with the e-mail address above, please forward the model and serial number of the machine in question.

Contact information

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Email support@keesvanderwesten.com

Website www.keesvanderwesten.com

Ordering replacement parts

Order spare parts via:

spareparts@keesvanderwesten.com

Please supply machine details (model and serial number) and full contact information when ordering.

