

LONDINIUM R

made in england

User manual

Version 1.4

The most recent version of this manual will always be found in the permanent file within the support section of the LONDINIUM Espresso website. If you are unable to locate the permanent file please contact LONDINIUM Espresso and we will add the necessary permissions to your account.

The paper version of this manual is included in the box with the machine as a backup, but may not be the most recent version

Carefully read these instructions in full before assembling the machine

Spring lever coffee machines can cause significant injury if this manual is not read and understood prior to operating the machine

Water and steam from an espresso machine can cause scalding if care is not taken

If you pull the lever arm down without having dosed the portafilter basket with coffee and secured the portafilter to the group the lever arm will fly upwards at great speed if you take your hand off it, and cause serious injury to any part of the body within the arc of travel of the lever arm

Set up your machine when you are able to give the task your undivided attention

At no time should any body panels or other parts (with the exception of the water container and drip tray) be removed, exposing internal components and wires, which may lead to electrocution of the operator or bystanders

Unplug the machine from the electrical socket before cleaning

Treat the machine with respect. Do not use if it has been dropped, vandalised or otherwise damaged. When in doubt, contact Londinium Espresso by live chat (on our website), email, Facetime, Facebook Messenger, WhatsApp, telephone, or text message

Do not allow unqualified persons to tamper with your machine

If the power cord or plug is damaged, it must be replaced by the manufacturer, service agent, or similarly qualified person

This machine is heavy. Take care when lifting and moving. Ask someone to assist you if necessary. Do not drag the machine across a surface as it will likely pull the o-ring seals out of the legs of the machine, and the strong vibrations may shift the settings of components inside the machine

Place the machine on a stable and level surface that is easily capable of supporting the weight of the machine. Do not place the machine on a pedestal table

The machine should not be placed on a surface that is less than 90cm high, unless you are unusually short. Very tall operators, 188cm and above, may wish to place the machine on a surface as high as 120cm off the floor

Do not leave children unsupervised near the machine. Parts of the machine will remain hot for at least an hour after the machine has been turned off

Do not allow children to play with the machine

Turn off the machine at the wall socket when not in use

This machine is intended to be used in a domestic environment

This machine must not be immersed in water

This machine is for indoor use only

Store and use this machine above 5°C

Do not be alarmed if there is water inside the box in which your LONDINIUM espresso machine was transported. Your machine has been fully tested with water before being approved to send to you. We take every effort to remove as much water from the boiler as possible, however a small amount will always remain in the boiler

If the machine is turned upside down during transit any water in the boiler may leak from the anti-vacuum valve on top of the boiler. This in no way affects the correct operation of your machine and does not indicate that it has been damaged in transit.

Hard water/limescale formation

If you have hard water it is essential that you soften the water by a method of your choosing before it enters the boiler of the machine. If limescale forms on your electric jug/kettle or shower rose you need to soften your water or you will cause limescale damage to your LONDINIUM, which is expensive to rectify

The filter supplied with the machine is provided as a convenient solution to protecting your LONDINIUM against limescale formation if you are using hard water but it is likely to become exhausted quickly

There are multiple ways in which you can ensure that hard water does not enter the boiler of your LONDINIUM. The method that you decide upon will usually be a function of what is available in your location, how hard your water is, how much water you are putting through your LONDINIUM, and cost and convenience

Water analysis and treatment is a specialist area but we are willing to support you in any way we can. Posting any questions you have on our LONDINIUM owners forum in the Support section of our website is an effective way to leverage off the experience of other LONDINIUM owners, quite possibly in the same region as you with access to similar solutions; there is no point in re-inventing the wheel

If you are not connected to a town water supply your water treatment needs are likely to be more complex, however you are more likely to be aware of that and have already put the necessary systems in place. Customers using bore water and rain water tanks are likely to have to filter for sediment, and possibly heavy metals, and UV treatment if there is a risk that animals have come into contact with the water

Replacement in tank BWT filter-softener cartridges are available from Londinium Espresso if you are unable to source them locally. We also offer a very good water hardness test kit

Many bottled waters are unsuitable for use in espresso machines. If unsure contact Londinium Espresso prior to using

Remove all protective film before using the machine

WARNING: Ensure that the machine is unplugged from the electrical supply **BEFORE** removing any body panels

Remove the water tank lid and then the water tank, if fitted

The top and side panels are held in place with ball end studs. Remove the top panel first. The panel can be removed by carefully pulling the panel upward. If you are having difficulty carefully insert a sturdy old bread and butter knife or similar into the panel gap and twist the knife (do not lever the knife or you will most likely bend it) to pop the top panel off.

Remove the top, left, right, and back panels from the machine and place them one at a time (so you don't mark them against each other) in a sink of hot water to soften the adhesive backing on the protective film

The back panel is held in place with four phillips head screws which you will need to undo. Lift the drip tray grate out of the drip tray and place it in the sink of hot water to soften the protective wrap before carefully pulling off the wrap in one piece. Then lift the drip tray out of the machine in order to remove the protective film from the drip tray support panel. In order to remove the vapourised protective film from the laser etched logo we recommend the use of WD-40 dewatering oil, or a citrus solvent if you prefer

Remove the red plastic shipping tag from the anti-vac valve

Look inside the machine and locate the c-shaped **red plastic clip** (see image below) that is holding the anti- vacuum valve up in the closed position to ensure any residual water in the boiler does not slop out during transit. Remove this clip by sliding it sideways



If the valve does not fall down into the open position (the adjacent image shows the valve in the open position) with the stainless steel 'E' resting on the brass body of the anti-vac valve, push the wenge handle on the toggle valve for the steam wand off centre in any direction until it locks out in the fully open position and leave it in this open position. The anti-vac valve should now fall down into the open position, if it has not gently push on the brass centre pin of the valve to cause it to fall down into the open position. This is an important step to protect the rotary pump when it performs the initial fill of the boiler

WARNING: DO NOT remove the stainless steel 'E' circlip from the anti-vac valve

Before re-fitting the top panel remove the plastic water tank if you have not already done so as the right angle folds in the top panel that form the tank aperture need to be over the top edges of the black powder coated metal water tank carrier, but not over the top edges of the white plastic water tank

When replacing the top panel take care not to guillotine the clear silicone tubing that drains the drips of water from the expansion valve back into the water tank. It needs to lie in the near right corner of the water tank carrier in the notch provided.

Carefully press the panel down applying pressure directly over the top of where the pins are; the front two first and the rear two last. The panel pins should pop into place if correctly aligned. If any of the pins are reluctant do not force the panel; remove, inspect, realign, and try again

If you intend to use the in tank BWT water softening filter that we supplied, fit the water filter adaptor now to the bottom of the water tank as shown:



Hold the adaptor fitting with the black silicone sleeve facing downwards and **vigorously push and twist** the water filter adaptor onto the mounting point in the bottom of the water tank. Moistening the black silicone sleeve may help

Do not apply Loxeal silicone grease to the black silicone ring in the bottom of the adaptor or you will never get it to grip onto the mounting point in the bottom of the water tank!



Place the plastic water tank back into the water tank carrier, taking care to align the drain valve in the bottom of the water tank with the drain spigot in the water tank carrier, before pushing the water tank firmly down into the water tank carrier and checking that the water tank is sitting level in the water tank carrier

If the water tank is correctly positioned and full of water the top edges of the water tank should be 3-4mm below the imaginary horizontal line formed over the top of the water tank by the top panel

***** Do not put the water filter in the tank yet: first the rotary pump must be primed *****

Fill the water tank with water to the 'Max' mark clearly stamped inside the water tank

Plug the machine into the power supply

Turn the machine on using the toggle switch on the front panel of the machine

The white LED should illuminate immediately, indicating that the machine has power

For about 3 seconds the Gicar electronic control unit (ECU) will perform integrity checks, then the blue light will come on (indicating the level sensor in the boiler has signalled to the ECU that the water level in the boiler is below full) so the ECU opens the inlet solenoid and turns on the pump

The pump will most likely initially sound light and 'airy' as it pulls air and should then quickly make a noticeably deeper tone as it starts to draw water

If the tone of the pump does not change from a light airy sound to the deeper tone within 10 seconds turn the toggle switch off and leave the machine for 30 minutes before trying again. Repeat this process as required until the pump produces the deeper tone indicating that it is drawing water and you see the water level in the tank fall

***** DO NOT leave the pump running for more than 10 seconds making the light airy sound or you will strip the lining of the pump and it will need to be replaced *****

If the pump does not fill the boiler within 30 seconds the protective circuit in the ECU will turn off the pump, prevent the immersion element from turning on, and sound the low water alarm (doo-doo-doo-doo)

If the low water alarm sounds turn the toggle switch off, wait 5 seconds, then turn the toggle switch back on. The white light will illuminate, indicating that the machine is receiving power, the Gicar will perform its system checks for about 3 seconds, and then the blue light will illuminate and the pump will come back on and fill the boiler. When the boiler is full the blue light will go out (solenoid closes, pump off) and the red light will come on (immersion element on)

If the low water alarm were to sound for a second time that would indicate that the flow from the pump was restricted in some way and you should contact LONDINIUM Espresso for assistance

Now that you have the rotary pump pulling water and have filled the boiler you can insert the BWT water softening filter if you have hard water

Soak the BWT filter for 30 minutes in a jug or bowl, inverted so the air is forced out of it. This is to protect the rotary pump from pumping air, which as mentioned above will result in terminal failure of the pump

You will need to hold the filter under the surface of the water for some time initially as it will float until sufficient air has been displaced from inside the filter



Unplug the machine from the electrical wall socket if it is connected, and then gently push the spigot fitting on the bottom of the filter cartridge into the adaptor



The filter-softener cartridge must be replaced regularly. There are two factors that will greatly influence how often you need to replace the filter cartridge. The first is the volume of water that you pull through the filter, and the second is how hard the water is that you are treating; harder waters will drastically reduce the number of litres that the filter can effectively treat. Refer to the instructions supplied with the filter for more information.

Using the machine for the first time

After the pump has filled the boiler with water the immersion element in the boiler will turn on to heat the water in the boiler, which is indicated by the illumination of the red light on the front panel

Wait for the boiler pressure to come up to working pressure, which is factory set to 1.0 bar. This will take between 3 and 4 minutes on a 240V machine

Once up to pressure, the red light will go off. The boiler pressure will slowly fall back to about 0.8 bar, at which point the immersion element will turn back on and raise the boiler pressure back up to 1.0 bar before turning off again

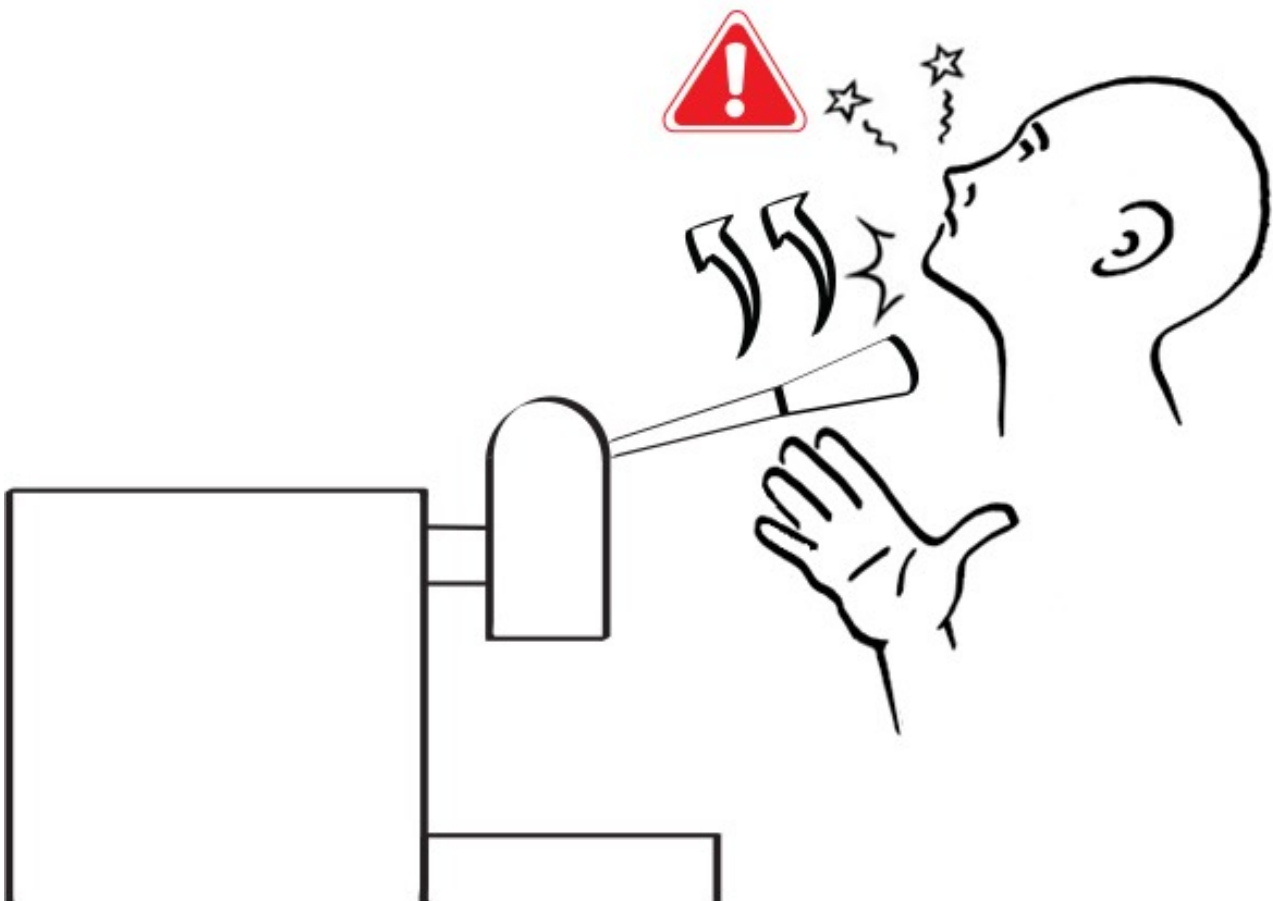
Important safety information

NEVER operate the machine with wet hands

***** When pulling the group lever down DO NOT let the lever go as it will return to its upright position in a rapid and forceful manner which is likely to cause damage to the machine and the user *****

NEVER lean over the lever when pulling the lever down, when the lever is in its locked position, or when releasing the lever from its locked position

Always stand to the side of the lever



When releasing the lever from its locked position ensure you have dry hands and a good grip on the handle, keeping your head to one side, then allow the lever to come off the cam lock and up until the downward travel of the piston is arrested by the brew water being held back by the ground coffee you loaded into the portafilter. At this point you must completely let go of the lever and the spring will slowly force the water through the ground coffee, and the lever will slowly rise to its resting position

If you are unsure about any of the instructions or have any questions about the usage of the machine, contact Londinium Espresso before using the machine

Open the steam wand and leave it open until some steam comes out

Then place a cup, mug, or jug under the hot water tap on the machine, remove hands from the cup, mug, or jug and open the hot water tap and flush some water into the mug, cup, or jug

Finally, pull the lever down until some water comes out of the group then gently ease the lever back up to its resting position

On the LONDINIUM R (& LONDINIUM I, II, and III) the brew temperature is not adjusted by changing the boiler pressure. Please leave the boiler pressure at the factory setting of element off at 1.0 bar as departures from this setting will compromise the performance of the machine

The brew temperature on the LONDINIUM R, I, II, and III is managed by adjusting the pre-infusion pressure. Your LONDINIUM R is supplied with a secondary pressure switch which manages the pre-infusion pressure provided by the rotary pump, mimicking a LONDINIUM I, II, III that is connected to the water mains. The secondary pressure switch is set to 3.5 bar which produces 3.0 bar at the puck, which is optimum for modern lightly roasted single origin speciality coffee. If you prefer to run a dark roast in your LONDINIUM R and find your dark roast lacking in sweetness and tasting burnt then you will need to turn the adjustment screw on the secondary pressure switch in the direction of the (-) arrow and turn it to its minimum setting

The machine needs one hour to attain operating temperature; we recommend the use of a smart timer (Wemo, Eve, etc) so your LONDINIUM R is ready to go when you arrive in your kitchen each morning, along with the ability to control it remotely from your smartphone

WARNING: Failure to vent the steam tube before and after steaming milk could result in milk being sucked into the boiler, which then becomes sour and turns brown giving an obnoxious smell and taste to new milk being heated.

Making coffee

Put ground coffee in the filter holder, for best results use calibrated digital scales able to read in 0.1g increments.

If using a dark roast and the filter basket supplied with the portafilter use a dose of 15 grams and grind relatively coarsely, such that when tamped the ridge in the side wall of the basket to grip onto the retaining wire is still partly visible above the surface of the puck

If using a medium roast and the filter basket supplied with the portafilter use a dose of 16.5 grams and grind finer, such that when tamped the ridge in the side wall of the basket to grip onto the retaining wire is still partly visible above the surface of the puck

If using a light roast and the filter basket supplied with the portafilter use a dose of 18 grams and grind finer still, such that when tamped the ridge in the side wall of the basket to grip onto the retaining wire is still partly visible above the surface of the puck

Use a tamper that fits closely to the inside wall of the portafilter basket

Locate the filter holder into the group. It will fit into the group with the handle to the left of the centreline of the group and should be twisted to the right until the handle is pointing directly at you on the centreline of the group (we refer to this as the 6 o'clock position). The filter holder should now feel secure on the lever group; this is important as the portafilter will fly off spraying hot water and coffee all over you, the machine, and the surrounding area if it is not securely fitted to the bottom of the lever group

If you prefer a pre-heated espresso cup place the cup on the drip tray grate underneath the hot water valve on the left hand side of the machine, remove your hands well away from the cup and fill the cup up to within 10mm of the rim and wait 15 seconds then empty the cup, then dry the cup and place under the filter holder.

***** WARNING: Water and coffee coming from the hot water valve and group is hot. Always take care to avoid scalding*****

Pull the lever handle down firmly as far as it will go and wait 3 to 12 seconds for the first drip to fall in your cup before lifting the lever up out of the cam lock position. When you feel the upward travel of the lever handle arrested as the piston inside the group starts to try and push the brew water through the puck of coffee grounds you can lift your hand off the lever and it will progress upwards itself, driven by the expanding spring: **keep your face well clear of the lever arc of travel by standing to one side of the lever (left or right) at all times or serious injury may result!**

The lighter the roast the longer it will take for the first drip to fall in the cup as you will have ground the coffee finer

As a rule of thumb you are targeting an average delivery rate of coffee from the machine of 1g of espresso per second once the first drop of coffee falls in the bottom of the cup. The term 'average' is important as the rate of extraction will accelerate as the extraction progresses, often starting as a drip, drip, drip before a steady stream of coffee is formed perhaps 5 seconds after the lever is released, and the rate of flow steadily increasing until the end of the extraction

WARNING: If you grind the coffee too fine, or use too much coffee, you will prevent water from flowing through the coffee which will jam the lever. If this occurs, leave the machine for 10 minutes or more. The group will slowly lose pressure. When the lever has returned to the resting position beyond vertical it is safe to remove the portafilter.

NOTE: Ensure the group handle is back to its resting position (beyond vertical) before removing the filter holder.

***** WARNING: If you attempt to remove the portafilter under the pressure of the loaded spring you are likely to suffer burns from sprayed hot water and damage to your machine as the portafilter will be hurled from the group with extreme force, and hot coffee grounds and water at 100C sprayed all over you and the surrounding area *****

Steaming milk

Purge the condensate from the wand by gently pushing the steam valve handle off centre in any direction, then allow the valve to close by springing back to the centre position

We recommend a 300-350mL stainless steel milk jug for home use

Fill 1/3 of a jug with fresh cold milk, then insert the steam tube into the milk with the nozzle 6mm below the surface of the milk

Fully open the steam valve progressively. If you throw the steam valve fully open too quickly you will get bubble bath sized bubbles in your milk and that is an instant fail.

First phase: stretching the milk

As soon as you have fully opened the steam wand into the locked open position place the hand that was opening the steam valve on the side of the milk jug to gauge the temperature of the milk. If you have opened the steam valve quickly enough the side of the milk jug will still feel chilled/cold, then in the space of about 3 seconds you will feel warmth on the side of the milk jug; this is your signal to raise the milk jug up so the tip of the steam wand is about 12mm above the bottom of the milk jug and you are now in the second phase which is simply about raising the temperature of the milk. Keep your hand on the side of the jug and when you think, ow! this is getting hot shut off the steam wand completely with that hand. Wait 1 second for the steam to stop coming out of the wand so it doesn't splatter milk everywhere, then remove the milk jug completely from under the steam wand

WARNING: The steam tube will get hot during use – take care to avoid scalding. Use the rubber protector on the steam tube to move the tube

NOTE: Tapping the jug on a hard surface and swirling the milk inside the jug will remove any large bubbles and improve the consistency of the milk.

Wipe the steam tube with a damp cloth to remove milk residue.

Open the steam valve to clear any remaining milk from the tube/nozzle.

Periodically, remove the nozzle and clean in warm water ensuring the holes are clear. If the holes are blocked, they can be cleared with the prongs provided on the reverse side of your Espazzola group cleaning tool, available from the accessories section of the LONDINIUM Espresso website

Hot water

Place a cup/teapot/jug under the hot water nozzle. Open the hot water valve by pushing the handle off centre in any direction.

WARNING: Do not hold the cup/teapot/jug when dispensing hot water. The water is extremely hot which presents a risk of scalding.

Cleaning

NOTE: The usage of the machine will determine the frequency of cleaning. As a minimum, it is recommended these cleaning procedures are carried out at least once a month.

Wipe the outer case of the machine with a soft damp cloth, DO NOT use a scouring pad or bleach based cleaners as doing so will damage the finish on the panels.

Use the Espazzola group brush after each coffee session to dislodge coffee particles in the group and around the filter holder seal to prevent a build up of coffee

Remove the drip tray and drip tray grid and clean in warm soapy water with a sponge. Do not use a scouring pad or bleach based cleaners as this will damage the surface finish of the parts.

Do not clean plastic parts in a dishwasher. Doing so will damage the parts

The filter holder and filters can be soaked in coffee detergent to prevent build up of coffee residue in the holder which can taint the taste of the coffee. Ensure the filter holders and filters are rinsed in fresh water before use. Do not allow the wenge handles to be immersed in the coffee detergent - rinse the wooden handle off with cold water if this occurs

***** WARNING: Under no circumstances should back flushing the group with a blind filter basket be attempted. Unlike a semi-automatic or automatic coffee machine using a blind filter basket will jam the mechanism and may cause damage or injury in trying to free the mechanism *****

Wooden handles: care and cleaning instructions

The solid wenge handles on your machine have proven themselves to be durable and low maintenance providing a few basic rules are observed

Clean with a soft damp cloth

Never immerse or soak your handles in water

Never clean your wenge portafilter handles in a dishwasher: the detergent will strip all the wax you have built up on the wood and allow hot water into the grain, which will cause it to split irreparably

Avoid splashing cleaning agents on the handles. If contact occurs wash off immediately with cold water under a running tap

Do not clean the wood with a scouring pad

The solid wenge wooden handles have been supplied untreated. As soon as the machine arrives treat all the wenge with a butcher's block wax/conditioner to prevent the wood from drying out

Fitting the plumb-in kit (if purchased)

The instructions below describe how to plumb in the Londinium R using the plumbing kit, which is sold separately

If you are unsure about any of the instructions below, contact Londinium Espresso for advice

***** WARNING: we urge anyone plumbing in any of our espresso machines to fit a leak detection device that offers automative shutoff of the water supply to the machine in the event that a leak is detected. Leaks from espresso machines are not uncommon, but unlike a tank fed machine where the volume of the leak is limited by the capacity of the boiler and water tank, once plumbed a flood of almost unlimited magnitude is possible, which can cause damage to not only your property but also neighbouring properties in a multi-level dwelling*****

WARNING: If you intend to plumb in your machine you must ensure the mains water pressure is at least 3.0 bar (150kPa) at all times and no more than 6 bar (600kPa). If the pressure is above 6 bar (600kPa) a pressure reducing valve must be fitted on the supply line or the inlet solenoid is likely to be destroyed, resulting in a flood

WARNING: Disconnect machine from the mains power supply by removing the power plug from the socket

Remove the water tank and and water tank lid

Remove the top panel

Remove the left side panel when facing the machine as the operator

Locate the 4 screws on that secure the back panel, a phillips head screwdriver will be required to remove the screws

Locate the green and yellow wire and the white wire, which are to be found on the underside of the water tank carrier housing

Disconnect the spade connectors on the ends of these wires from the probes

Take the short piece of wire (100mm long) from the plumbing kit and join the green and yellow stripped wire to the white wire, then slide the clear rubber covers over the connectors

Disconnect the wires providing electricity to the rotary pump and tape them over with electrical tape to ensure they can not create a short circuit within the machine

Remove the clear rubber hose from the pump inlet spigot

Remove the round blanking plate that has been cut in to the base of the chassis, by striking it with a centre punch and hammer

Remove the stainless steel braided pressure hose from the bottom of the manifold, using a second wrench to take the load off the manifold as you do so

Remove the other end of the stainless steel braided pressure hose from the pump outlet

Fit the 1/8" to 3/8" adapter to the bottom of the manifold where you have just removed the pressure hose from, using 2 or 3 drops of Loxeal 55-03 thread sealant to ensure a water tight seal and tighten with a wrench

Feed the stainless steel braided hose through the base of the machine from underneath the chassis and thread onto the 1/8" to 3/8" adapter and tighten the fitting with a spanner

Connect the free end of the stainless steel braided hose to the mains water supply.

Turn the water supply on and check for leaks, and re-check in an hour

Ideally you will now want to re-direct the drain from the expansion valve from the water tank forward into the waste drain under the plumbed out drip tray

Re-fit all body panels in the reverse order they were removed and replace the top panel with the plumbed in version which does not have the tank aperture for cosmetic appeal

The conversion is now complete. Plug the machine in and start-up as normal.

WARNING: Always ensure the water supply is on before use.

Removing shower screen

WARNING: Turn the machine off at the mains and allow to cool for at least an hour before attempting to remove the shower plate mesh

The shower plate mesh is located under on the underside of the group. With use this may become clogged with silicone grease if too much has been used and/or dirty with coffee residue which may taint the taste of freshly brewed coffee or cause the shower screen to be blown off if it is holding back too much water pressure. It may become necessary to remove the shower plate mesh for thorough cleaning or replacement

Use a wide flat bladed screwdriver in the press line on the left and right side of the shower screen to lever the shower screen off the bottom of the group sleeve. If the shower screen proves too difficult to remove using this method you can use a sharp spike or skewer to stab the group seal that is holding the shower screen in place and then carefully twist the spike or skewer to pull the group seal out, at which point the shower screen will also come out

Clean the shower plate mesh. If heavily congealed simply replace the shower screen - they are semi consumable items

Replace the group seal and shower screen as shown

technical specification

Voltage: 230VAC 50Hz (120VAC 60Hz for North American models)

Heating element power rating: 2.3KW (1.4KW for North American models)

Boiler capacity: 2.3L

Boiler safety valve set: 1.6-1.8Bar (160-180kPa)

Boiler steam pressure set: 1 Bar (100kPa)

Water Tank Capacity: 3L

Dry weight: 37Kg

Overall dimensions WxDxH: 330x535x740mm (including group handle)

Max inlet water pressure: 6Bar (600kPa) (plumbed in only)

Min inlet water pressure: 1.5Bar (150kPa) (plumbed in only)

Ambient storage and working temperature: 5°C to 30°C

The 230V power cable on the LONDINIUM R has the following colour coding:

BROWN=LIVE
BLUE=NEUTRAL
GREEN AND YELLOW=EARTH

Made in England

LONDINIUM ESPRESSO

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