



CHOOSING AN EVERPURE FILTER FOR YOUR HOME COFFEE MACHINE

Water filtration is an all too often-overlooked but important factor to be considered when you are looking to invest in a new home Coffee machine. 90% of an espresso Coffee is made up of water, so its chemistry has a huge impact on the overall quality of your coffee experience. The quality of your incoming water can also prove to be the difference between having your espresso machine work for a few months or flawlessly for years and years to come.

When selecting a water filter for your home coffee machine, there are six key components of filter performance to be considered to protect your machine and maintain the cup quality. The hierarchy of importance with each of these components will differ from location to location, depending on your water source. The key components are:

1. Sediment Reduction – The removal of small particles such as dirt, sand, grit, rust and other particulate matter found in mains water supplies helps to protect your Coffee machine's ports, jets, and flow pathways. It also prevents the boiler from accumulating sediment which can form a sludge build up within the base of the boiler, as well as acting as a catalyst for unwanted scale development.

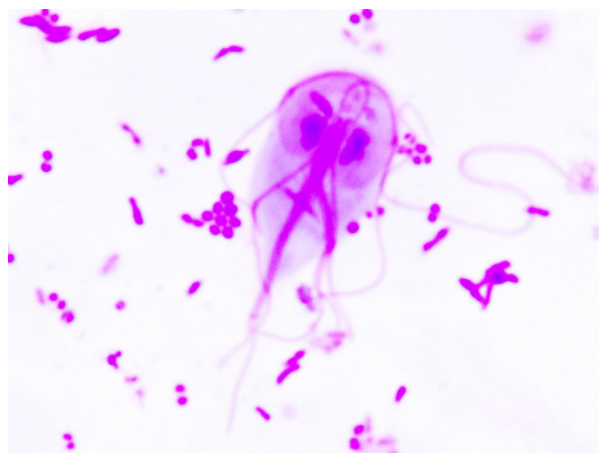


2. Cyst protection

Cryptosporidium and Giardia are parasites that exist generally in rivers and lakes. These parasites can cause severe intestinal illnesses with life long side effects. In Australian municipal water supplies these parasites are rare, though they have been known to infiltrate Sydney's main drinking water reservoir on a number of occasions, leading to a full scale boil water alerts for homes without sufficient protection.

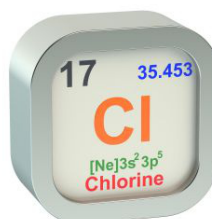
Giardia lives in the intestines of infected humans and other animals, individuals of which become infected by ingesting or coming into contact with contaminated food, soil, or water tainted by the faeces of an infected carrier.

Cryptosporidium is typically an acute, short-term infection, although it can be recurrent through reinfection in immunocompetent hosts, and become severe or life-threatening in immunocompromised individuals. In humans, it remains in the lower intestine and may remain for up to five weeks. The parasite is transmitted by environmentally hardy Cysts.



Cyst rated filters afford the protection needed to prevent these parasites from entering your water source and your intestinal tract. This means that even if a boil water alert were called, you could drink the water straight from your faucet without concern.

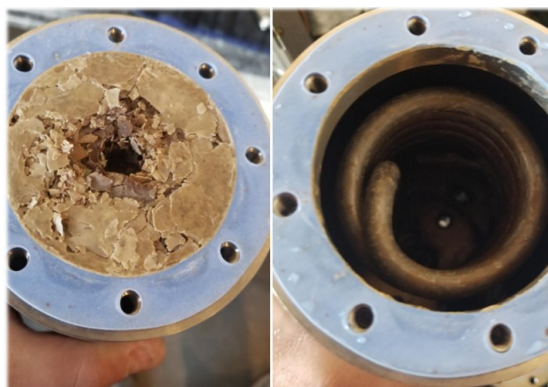
3. Chemical Reduction – The reduction of chemicals, in particular chlorine which can significantly affect the taste of espresso is essential to creating a quality cup of coffee and will allow for the natural aromas and tastes from your coffee to fully develop. These chemicals can also have a detrimental effect on stainless steel boilers when heated.



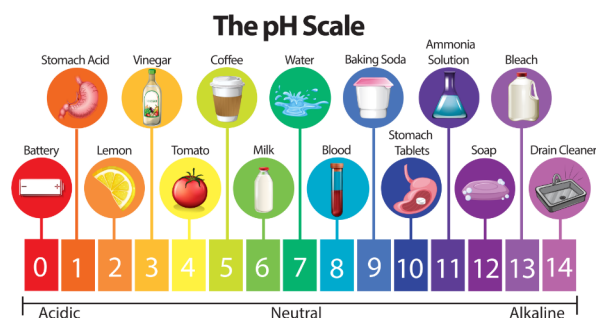


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3. Total Hardness (TH) management – TH refers to the presence of calcium and magnesium salts within a water source. Calcium and magnesium salts can precipitate to form scale, which is exacerbated when water containing these elements is heated. It is this scale that coats boiler surfaces elements, valves, solenoids, and water flow paths within a Coffee machine. The build-up of these elements can adversely affect the temperature, pressure, steam performance, flow rate, and aesthetics of the water within your machine. Whilst scale can be reduced by chemically “descaling” the machine, minimising the accumulation of scale before it becomes an issue with the use of appropriate filtration will dramatically slow the rate of accumulation within your machine.



4. pH- Ideally, the pH of your water should be as close to pH neutral (7) as possible. The pH is of major importance in determining the overall corrosivity of your water source. As a general rule, the lower the pH level, the higher the level of corrosion potential exists.



5. Total Dissolved Solids (TDS) is the total measurement of all of the dissolved materials, including metals, salts and minerals within your water source. A reading of over 250ppm could mean that you may require an alternative filter solution such as Reverse Osmosis System. In general, though, R/O systems are not recommended for use with home espresso machines. This is largely due to the fact that R/O in the wrong environment can deplete your water source of essential minerals and Espresso machines rely on water conductivity to sense the presence of water. R/O systems may be appropriate in some situations where extremely hard water is present, but only after discussion with a coffee water specialist.

Whilst most filtration systems and cartridges can reduce the presence of sediment and chemicals quite successfully, it is the scale management aspect of the three components that creates the biggest challenge. The introduction of an independent water softening device or the use of a filtration product that is capable of all three actions can significantly improve your overall water quality and the richness of the cup.

Water softening filters and systems utilise Ion exchange resins to prevent the formation of scale issues. The process of ion exchange involves swapping magnesium, and calcium ions for sodium ions, which are best suited for areas with hardness levels at 50 ppm or above. But... what if your hardness levels are between 13 ppm (Melbourne) and 60 ppm (Sydney)? or alternatively you don't want to lower the Calcium and Magnesium levels for cup tasting / profiling purposes? Scale inhibitors could be the answer you are looking for.

Scale inhibitors such as Siliphos are often used in the treatment of scale control. Owing to its phosphate and silicate content Siliphos also inhibits corrosion by forming a thin protective layer on metal surfaces. Generally, a Siliphos concentration of 2-3 ppm is sufficient to achieve this protection. The key advantage of using an inhibitor as opposed to a softener is the fact that an inhibitor does not demineralize your water. This allows the beneficial hard water minerals such as calcium and magnesium currently in your water are not removed but are unable to bind together and attach to your pipes, solenoid valves and boilers but are available to build coffee flavour with in the cup.



Specifications – The Filter systems presented in this information are designed to work for an average of 12-months in a home situation. This is based on a TH range between 0 and 50 ppm and a TDS of under 150ppm.



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How do I find out my TH and TDS?

This information is freely available from your water authority – they usually have it on their website or just call and ask for the most recent results. Alternatively, Bombora supplies provide a number of products that will allow you to test your water at home with ease. Please refer to the water testing link below for more important information regarding water testing.

[Water Testing - An Overview](#)



My water is not that hard, do I still need a filter that softens the water?

The 'heating and cooling' of water is what primarily facilitates scale forming deposits to occur. Home use machines are generally turned on and off more often than commercial machines, making them more prone to scale development (even in relatively soft water areas). Smaller boilers can also accentuate this further. A good combination scale inhibiting system can minimise the effects of low-level TH to make the issue of scale manageable.

Filtration Solution options – low level TDS and TH

These solutions are recommended to suit locations with a relatively low-level TDS and TH. TDS(<150ppm) and hardness (TH <50 ppm) reading. These locations will be predominantly located on the East coast of Australia.



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EPHK1

The EPHK1 uses the latest Carbon technology from Pentair – Fibredyne to provide clean, crisp, Cyst rated drinking water with scale inhibition properties to protect household appliances such as espresso machines, irons, kettles and steamers. with the inclusion of a tee off and isolation valve to connect up your espresso machine for direct plumbing.



System Features:

- The Four stage High capacity (56,781 litre) Everpure 4FC-S Fibredyne filter for effective sediment, Parasitic cyst, chemical reduction and scale inhibition.
- DIY install kit - includes all fittings included for standard install (suits any cold-water connection, mixer tap or dishwasher).
- Quality Designer Goose Neck Faucet for easy use and long life.
- Multifunction Pressure Limiting T Valve for easy installation & protection.
- Brass Tee with built-in isolation tap for direct connection to your machine.
- 10 test strips to monitor filter performance in the reduction of TH.
- Filter suitable for 12 months for most household installations.
- Fits in with most mixer or dishwasher taps(cold).



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EPHK2

The EPHK2 uses the latest Carbon technology from Pentair – Fibredyne to provide clean drinking water with scale inhibition properties to protect household appliances such as espresso machines, irons, kettles and steamers. The 5-micron sediment filter included is best suited to tackle areas of high sediment where filter life and capacity are key.



System Features:

- The Three stage Medium capacity (22,712 litre) Everpure 2FC5-S Fibredyne filter for effective sediment, chemical reduction and scale inhibition.
- DIY install kit - includes all fittings included for standard install (suits any [cold water connection, mixer tap or dishwasher).
- Quality Designer Goose Neck Faucet for easy use and long life.
- Multifunction Pressure Limiting T Valve for easy installation & protection.
- 10 test strips to monitor filter performance in the reduction of TH.
- Filter suitable for 12 months for most household installations.
- Fits in with most mixer or dishwasher taps (cold).



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EPHK3

The EPHK3 uses the latest Carbon technology from Pentair – Fibredyne to provide clean, crisp, Cyst rated drinking water with scale inhibition properties to protect household appliances such as espresso machines, irons, kettles and steamers. The Sub micron filter included is best suited to tackle areas of low sediment where Parasitic Cyst and premium Chlorine removal is required.



System Features:

- The Four stage medium capacity (22,712 litre) Everpure 2FC-S Fibredyne filter for effective sediment, Parasitic cyst, chemical reduction and scale inhibition.
- DIY install kit - includes all fittings included for standard install (suits any cold-water connection, mixer tap or dishwasher).
- Quality Designer Goose Neck Faucet for easy use and long life.
- Multifunction Pressure Limiting T Valve for easy installation & protection.
- 10 test strips to monitor filter performance in the reduction of TH.
- Filter suitable for 12 months for most household installations.
- Fits in with most mixer or dishwasher taps (cold).