

Water Treatment: The Coffee Lover's Guide



UK Water Hardness Map

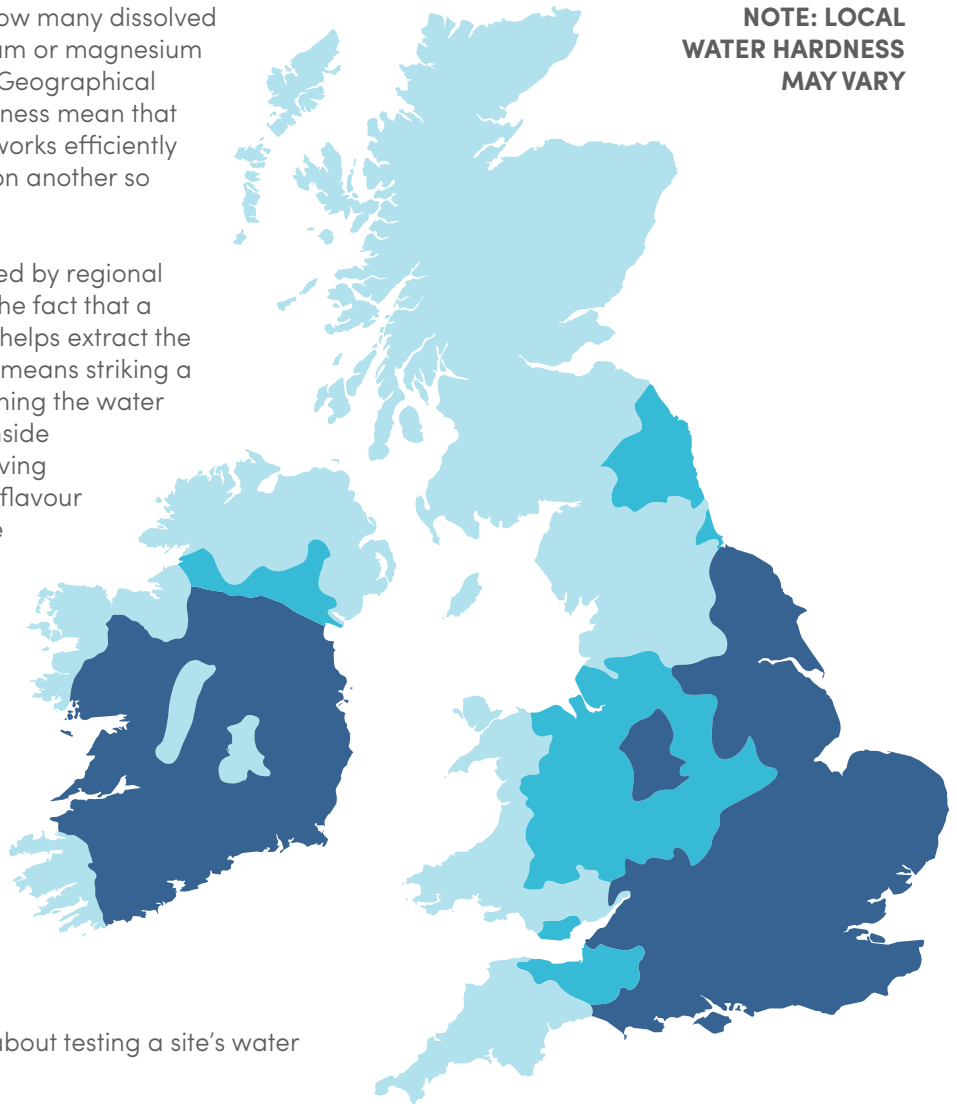
Water's hardness is determined by how many dissolved minerals it contains – the more calcium or magnesium your water contains, the harder it is. Geographical differences in the level of water hardness mean that coffee / espresso equipment which works efficiently on one site might experience issues on another so there is no 'off the peg' solution.




Coffee applications are easily affected by regional variations in water hardness due to the fact that a certain amount of hardness actually helps extract the flavour from your coffee beans. This means striking a very delicate balance between softening the water enough to prevent scale formation inside expensive coffee equipment and leaving enough hard minerals behind to aid flavour extraction and create the best coffee possible.

Though the UK Water Hardness Map (right) can give you an idea of how hard your water is, water type can differ widely within a comparatively small geographical area. In Lancashire, for example water type varies town to town with pockets of both soft and hard water. As such we would always recommend testing the water before specifying any water treatment equipment.

For more information on how to go about testing a site's water type, please contact us.

**NOTE: LOCAL
WATER HARDNESS
MAY VARY**



	Hard to very hard Above 250ppm as calcium carbonate equivalent		Medium to hard 150 – 250ppm as calcium carbonate equivalent		Soft to moderately soft 0 – 150ppm as calcium carbonate equivalent
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Conserv
75E



MRS-225
& 350



MRS-600
HE



Claris
Prime



Claris
Ultra



7CC-BW



What Do Our Customers Think?

Water treatment gives you the opportunity to control the hard minerals that affect the flavour of coffee whilst reverse osmosis (R.O.) allows operators to remove the hard minerals entirely. A blending valve fitted to some R.O. systems then allows a variable amount of mineral-containing water to be mixed back in, allowing operators to effectively tailor their water to obtain the optimum amount of coffee absorption and the best, most balanced flavour. The ability to obtain the correct water profile in this way is quite a new development in the coffee market but what do those who've used the system think?

Having had the system for two years, I can confidently recommend the Everpure MRS-600HE-II RO system. Although there was a capital investment required, my ongoing costs have reduced and I have increased flexibility in obtaining the right blend of minerals to get the best flavour from my roast.

Edward Grace, Beanberry Coffee Company

I submitted an enquiry through Aqua Cure's website and they got back to me really quickly. Adam helped me identify the best product for my application and there was no hard-sell or pressure, just helpful advice. Install day was very straight-forward and Aqua Cure were always available if I needed any support. Since then the Everpure CONSERV 75E has enabled me to fine tune my feed water TDS [total dissolved solids] levels leading to a noticeable improvement in the flavour of the coffee we produce.

Robin San, Coffee Geek and Friends

Aqua Cure offered technical advice throughout the installation and have stayed in touch with continued support with fittings, valves, tubing and any other items we need. In the 8 months since we installed the Everpure MRS-225, it has reduced running costs and has enabled us to finely control the TDS of our feed water, improving the quality of our end product. As a business in a known hard water area the ability to tailor our feed water has been invaluable.

Dean Mackay, Curious Roo Coffee Roasters

Consistency: A Champion's View



Dale Harris: World Barista Champion 2017

2017 World Barista Champion Dale Harris chatted to us about the Pentair Everpure Claris Ultra system.

Dale Harris will be familiar to those in the coffee industry as Director of Wholesale for Has Bean Coffee Ltd and also as World Barista Champion in 2017. He talked to Aqua Cure about his experiences using the cartridge based Claris Ultra system.

Dale said he'd been using "Claris Ultra and the Claris Ultra head" for around "90%" of machine installations. The Claris Ultra "has been beneficial" and since he moved to the system he's found that in terms of product water, "the pH has been more consistent". "We do installations all over the country", he told Aqua Cure "and had some issue with pH, especially where we had filters in sequence. The Claris Ultra helped with that. The Claris Ultra was a good step forward from what we were using previously."

The Claris Ultra was a good step forward from what we were using previously."

He also addressed the filter's impact on flavour and was keen to stress that "we intentionally set them [coffee machines] up with that in mind". He also stressed the importance of "testing regularly so we can see when things begin to change."

Dale won the World Barista Championship in 2017. What were his coffees judged on? "Mostly for flavour" he told us. So did Pentair products make a difference? "Quality of water has a huge impact, different filter brands control that in different ways. Pentair offers consistency whether across sites in the UK or even Seoul [where the Barista Championships were held] which helps with important factors such as flavour descriptors."

**Better Water
for a Great Taste**



SUITABLE FOR UP TO
100
ESPRESSO SHOTS
PER HOUR*



PENTAIR

EVERPURE®

Conserv® 75E

High Efficiency Reverse Osmosis System

The Everpure® Conserv® 75E is a solution that brings the benefits of reverse osmosis (R.O.) water to coffee applications. It combines a carbon filter, scale inhibition, calcite feeder and blending to create the right balance of minerals to prevent both corrosion and scale formation, differentiating it from conventional R.O. systems.

It is a reliable, simple to install and easy to operate solution that requires cartridge changes only once a year.

The system helps users meet equipment manufacturers' water specification requirements, maintaining warranty compliance, reducing premature warranty claims, increasing equipment life, and ensuring customer satisfaction.

SMALL
FOOTPRINT

UP TO
50%
RECOVERY RATE

BETTER
TASTE

SCALE AND
CORROSION
PROTECTION

Key Information



**191 LITRES OF WATER
PER DAY**



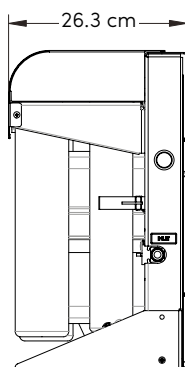
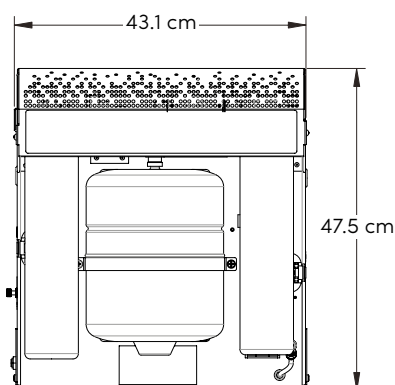
**UP TO 100 ESPRESSO SHOTS
PER HOUR***



**BLENDING VALVE FOR MINERAL BALANCE
ADJUSTMENT**



**EXCELLENT WATER RECOVERY
RATE OF UP TO 50%**



Compact design allows for countertop or under counter installation.

One centralised unit that only requires 1 service per year regardless of area of installation and equipment manufacturer.

Protects against taste and odour causing contaminants while removing dirt, particulates and dissolved minerals.

NSF/ANSI Standard 58 certified to reduce cysts such as Cryptosporidium and Giardia by mechanical means.

Daily Production Rate
191 Lpd

Service Flow Rate
1.9 L @ 3.4 - 5.8 bar

Inlet/Outlet Connection
3/8" OD John Guest® fitting

Wastewater Connection
1/4" OD John Guest® fitting

Operating Pressure Requirements
2.7 - 5.8 bar, non-shock

Maximum Operating Pressure
8.6 bar

Inlet Temperature
0 - 37.7°C

Inlet TDS
1,000 ppm maximum

Storage Tank Capacity
7.6 L tank
3.8 L effective/usable capacity

Overall Dimensions
47.5 cm (h) x 43.1 cm (w) x 26.3 cm (d)

Operating Weight
24.04 kgs

*Espresso shots per hour based on a typical 100ml shot (50ml shot, 50ml group head purge) and a standard system setup.

Better Water
for a Great Taste



SUITABLE FOR UP TO
230 – 355
ESPRESSO SHOTS
PER HOUR*



MRS-350BL



EVERPURE®

MRS-225 & 350

Configurable Reverse Osmosis Systems

The Everpure® MRS-225 and 350 are high performance wall mounted reverse osmosis systems which can produce either 852 litres (MRS-225) or 1,325 litres (MRS-350) of recipe quality water per day.

Available in 2 versatile configurations:

BL Models:

Include an adjustable blend valve to allow for custom tailoring of dissolved mineral content in the treated water.

CC Models:

Introduce a controlled amount of hardness minerals back into the product water.

WALL
MOUNTED

UP TO
35%
RECOVERY RATE

BETTER
TASTE

SCALE AND
CORROSION
PROTECTION

Key Information



**852 - 1,325 LITRES OF WATER
PER DAY**



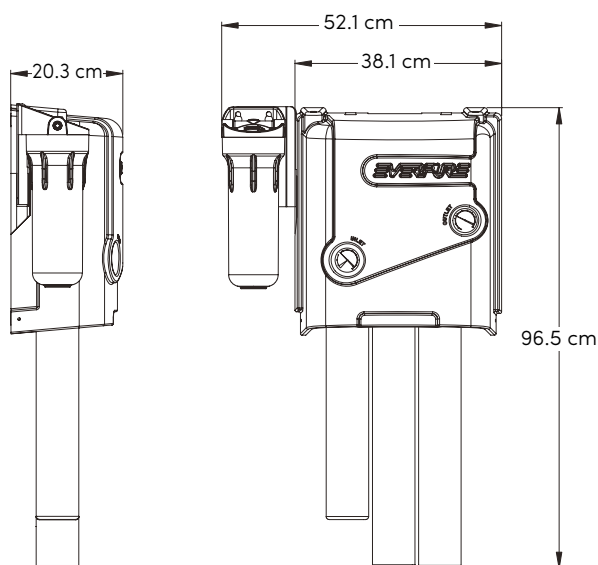
**UP TO 230 - 355 ESPRESSO SHOTS
PER HOUR***



**BLENDING VALVE FOR MINERAL BALANCE
ADJUSTMENT ON BL MODELS**



**EXCELLENT WATER RECOVERY
RATE OF UP TO 35%**



Versatile system available in 2 configurations and with an optional pre-filter.

Filter cartridges require replacement every 6 months and membrane cartridges every 24 months.

Reduces chlorine taste and odour and other offensive contaminants that can adversely affect taste of water and coffee.

Wall-mount design allows flexible installation.

Daily Production Rate
852 - 1,325 Lpd

Service Flow Rate
Dependant on water pressure in storage tank and line size(s) to equipment

Inlet/Outlet Connection
3/8" OD tube connection

Wastewater Connection
1/4" OD tube connection

Operating Pressure Requirements
1.72 - 5.52 bar, non-shock

Maximum Static Pressure Requirements
6.89 bar

Inlet Temperature
4 - 38°C

Inlet TDS
1,500 ppm maximum

Overall Dimensions
96.5 cm (h) x 38.1 cm (w) x 20.3 cm (d),
52.1 cm wide with optional pre-filter

Operating Weight
15.9 kgs (excludes external storage tank/s)

*Espresso shots per hour based on a typical 100ml shot (50ml shot, 50ml group head purge) and a standard system setup.

**Better Water
for a Great Taste**



SUITABLE FOR UP TO
735
ESPRESSO SHOTS
PER HOUR*



EVERPURE®

MRS-600 HE

High Output Reverse Osmosis System

The Everpure® MRS-600 HE is a high output reverse osmosis system which has an average water recovery rate of 78%. Its high recovery R.O. technology yields significant savings in water and sewer charges with a minimal environmental footprint.

With a 2,271 litre per day production rate and tailored blending process for removing just the right amount of dissolved solids from the feed water, the MRS-600 HE is for production on a large scale.

**WALL
MOUNTED**

**UP TO
78%
RECOVERY RATE**

**BETTER
TASTE**

**SCALE AND
CORROSION
PROTECTION**

Key Information



2,271 LITRES OF WATER
PER DAY



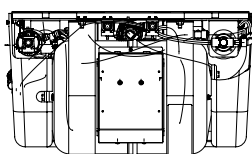
UP TO **735 ESPRESSO SHOTS**
PER HOUR*



BLENDING VALVE FOR **MINERAL BALANCE**
ADJUSTMENT



EXCEPTIONAL **WATER RECOVERY**
RATE OF UP TO **78%**

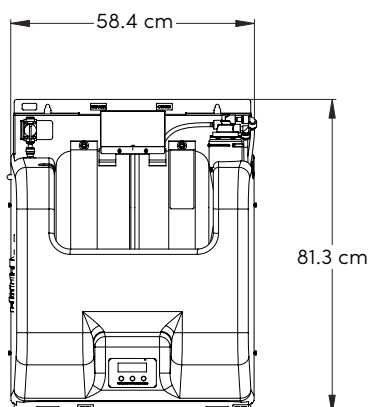
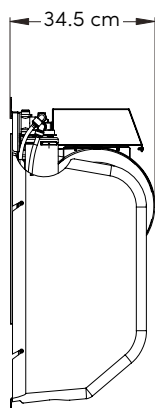


High output system with average recovery of 78%, which equates to approximately 1/4 cup of water for each cup of water dispensed.

Filter cartridges require replacement every 6 months and membrane cartridges every 12 months.

Reduces chlorine taste and odour and other offensive contaminants that can adversely affect taste of water and coffee.

Wall-mount design allows flexible installation.



Daily Production Rate
2,271 Lpd

Service Flow Rate
Dependant on water pressure in storage tank and line size(s) to equipment

Inlet/Outlet Connection
3/8" OD tube connection

Wastewater Connection
3/8" OD tube connection

Operating Pressure Requirements
1.72 - 5.52 bar, non-shock. Pressure below 3.45 bar may affect blend system performance.

Minimum Static Pressure Requirements
6.89 bar, non-shock

Inlet Temperature
4.4 - 38°C

Inlet TDS
1,000 ppm maximum

Overall Dimensions
81.3 cm (h) x 58.4 cm (w) x 34.5 cm (d)

Operating Weight
40.8 kgs (excludes external storage tank/s)

*Espresso shots per hour based on a typical 100ml shot (50ml shot, 50ml group head purge) and a standard system setup.

Cartridge Systems

We also offer a range of cartridge based solutions which are especially suited to coffee applications.

claris | ultra

claris[™] | prime

7CC-BW



Claris Ultra & DuoBlend Head - Hard / Medium Hard Water

Used by some of the worlds leading coffee houses, the Pentair Everpure® Claris Ultra range is designed to help find the best balance between protecting equipment and achieving the desired quality of brewed coffee and espresso by consistently maintaining an acceptable acidity level.

Available in 6 sizes with incremental capacities suitable for low to very hard water areas and for small to high volume operations. With a large capacity to cartridge size ratio and the ability to be mounted horizontally or vertically, the Claris Ultra range is ideal for installations where limited space is available. The Claris Ultra and Claris Prime use the unique Claris DuoBlend head, which features a bypass valve for tailored filtration.

Description	Height - Ex. Head (mm)	Height - Inc. Head (mm)	Diameter (mm)	Capacity (Litres)*
Claris Ultra 170	245	295	94	1,700
Claris Ultra 250	315	365	94	2,500
Claris Ultra 500	426	476	94	4,200
Claris Ultra 1000	360	410	136	8,500
Claris Ultra 1500	471	521	136	12,100
Claris Ultra 2000	471	521	175	20,000

*Capacity based on influent water hardness of 180ppm with standard bypass settings.

Claris Prime - Problem Water

An adjustable ion selective filter which offers tailored reduction of TDS to protect equipment from scale and mineral induced corrosion in areas with high chloride and sulphate content in the feed water.

Description	Height - Ex. Head (mm)	Height - Inc. Head (mm)	Diameter (mm)	Capacity (Litres)*
Claris Prime	475	525	175	4,750

*Capacity based on influent water TDS of 150-300ppm, hardness of 180ppm and chloride of 60ppm with standard bypass settings.

7CC-BW Remineralising Cartridge - Soft Water

If you're in a soft water area, you may need to add minerals to your feed water to extract the best flavour from your coffee beans. The Pentair Everpure® 7CC-BW Cartridge increases water hardness by introducing a small amount of calcium carbonate minerals into low hardness / TDS waters*. This cartridge requires a BW filter head.

*For best results the 7CC-BW should be used in conjunction with a chlorine reduction filter.

Reverse Osmosis System Selector

Reverse osmosis systems are an ideal water treatment solution for coffee and espresso machines but selecting the right one for your requirements can be difficult. For this reason we've put together a handy system selector table which outlines the main details of each system we recommend for use with espresso machines.

Please note: The systems below require an incoming water pressure of 2.75 bar. If your water pressure is below 2.75 bar, please call us to find out about our Shurflo water boost system.

Model	Espresso Shots Per Hour ¹	Blend Valve	Calcite Feeder	Storage Tank	Installation	Dimensions	Page
 Conserv®	100	✓	✓	Built-In Additional Tank Available	Countertop or Under Counter	47.5 cm (h) x 43.1 cm (w) x 26.3 cm (d)	4-5
 MRS-225 Range	230	Model Dependant	Model Dependant	Optional (Recommended)	Wall Mount	96.5 cm (h) x 38.1 cm (w) x 20.3 cm (d) 52.1 cm wide with optional pre-filter	6-7
 MRS-350 Range	355	Model Dependant	Model Dependant	Optional (Recommended)	Wall Mount	96.5 cm (h) x 38.1 cm (w) x 20.3 cm (d) 52.1 cm wide with optional pre-filter	6-7
 MRS-600 HE	735	✓	✓	Built-In Additional Tank Available	Wall Mount	81.3 cm (h) x 58.4 cm (w) x 34.5 cm (d)	8-9

The 4 reverse osmosis systems above are the key systems we recommend for most installs but we understand that at some locations, install space will be at a premium and the systems above will simply be too large to be a viable solution.

Luckily for those installs where there is less space to work with, we offer a number of compact cartridge based solutions that are especially suited to coffee.

Model	Suited To ²	Page
Claris Ultra	Hard / Medium Water Areas (150ppm and above)	10
Claris Prime	Hard / Medium Water Areas (150ppm and above)	10
7CC-BW	Soft Water Areas (Below 70ppm)	10

1 - Espresso shots per hour based on a typical 100ml shot (50ml shot, 50ml group head purge) and a standard system setup.
2 - Hard water = 150ppm and above. Soft water = below 150ppm.



AUTHORISED DISTRIBUTOR



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WATER PURITY EXPERTS