

## Buyers Guide to Water Treatment Systems

There are two types of equipment fault that are generally not covered by your manufacturer's guarantee.

- Operator error or customer mis-use
- Damage by limescale.

It's this second cause that is so easily avoided and often overlooked.

For equipment that uses a mains water supply it is vital to understand the condition of your mains water.

Water is commonly classified as hard or soft depending on the type and amount of naturally occurring minerals and salts dissolved in it. The most common ones are calcium and magnesium. When water has a relative high content of dissolved minerals it is described as hard, a low dissolved content is described as soft.

A good resource for more information is the [Drinking Water Inspectorate](#)

When mains water is heated it causes these dissolved minerals to attach themselves to any metal they come into contact with. Eventually they form a hard crust which builds up and is called limescale. We see it every day in our kettles, but don't be misled. Your local water authority does not always supply its water to you from the same location. You may live or work in a soft water area but your water may come from a different part of the country.

Act quickly as limescale can build up on elements and exposed metals very quickly.

A new element can be 30% less efficient in a matter of weeks. That means it uses 30% more electricity to reach the same temperature.

With that extra effort comes metal fatigue and in a short amount of time the heating element can fail. That's not to mention the other critical components in your equipment that come into contact with water.

There are a number of different water treatment systems. From made to measure systems for entire buildings like you find at your local hospital where water quality is critical, to the simple water filter you use at home on your fridge.

### Salt based softener

These are a resin based water softener that uses ordinary granular salt to regenerate. Water passes through the resin and it's the resin that turns the hard water into soft.

But like everything in your kitchen or bar the resin also needs cleaning, this is where the salt comes in and the cleaning is called "The regeneration cycle". It's on the regeneration cycle that there are differences.

### Automatic softeners

These have a high throughput for large water volume appliances such as [pass-through dishwasher](#) and regenerate themselves on an automated timer.

Then there are [manual softeners](#) for smaller outputs or equipment such as small glasswashers. These have to be regenerated manually.

Please see our buyers guide on "[Manual water softener regeneration](#)"

**Caution.** salt based softeners should not be used on any type of drinks or ice machines as they leave the softened water with an increased sodium content. This can be harmful for infants, the elderly and those of us who need a low sodium diet.

The correct filter for drinks and ice machines are the Water Carbon Filter or Scalegard Water Filter.

### Water Carbon Filters

These will remove chlorine and discoloration, but not hardness.

So if the business is located in a soft water area, but there is a wish to make the water taste better for drinking or use in draught soft drinks dispensers, carbon filters are an option.

### Scalegard Water Filters

For the larger units, Calcium Treatment Units. These filters remove water hardness without leaving any increase salt in the water as a result. Suitable for combi-ovens, steamers, icemakers beverage machines and vending machines.

### Reverse Osmosis

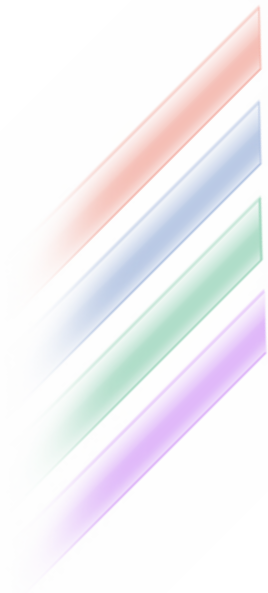
While this sounds like high science, it is in principle a fairly simple water treatment system. The water is forced under pressure through a very thin filtering membrane, like a sieve, which removes not just the harmful limescale but many other trace elements, giving water, which is very pure, but total removal of trace elements may change the flavour of beverages. For use in delivering very pure water or where the water is exceptionally hard.

For a more detailed explanation on water filters please see our buyers guide "[A guide to water filters](#)"

**This is by no means a definitive guide as this is such a large subject however we hope it is of use and interest.**

**This guide has been written by [Advantage Catering Equipment](#).**

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