

## Technical Information

### Beating Scale

#### BEATING SCALE

Scale is the enemy of all Water Boilers and if not dealt with will result in Boiler breakdowns. Half of the UK's water supply is hard water (Scaly) and the other half is soft water. If you are operating in a hard water area you need to take precautions!

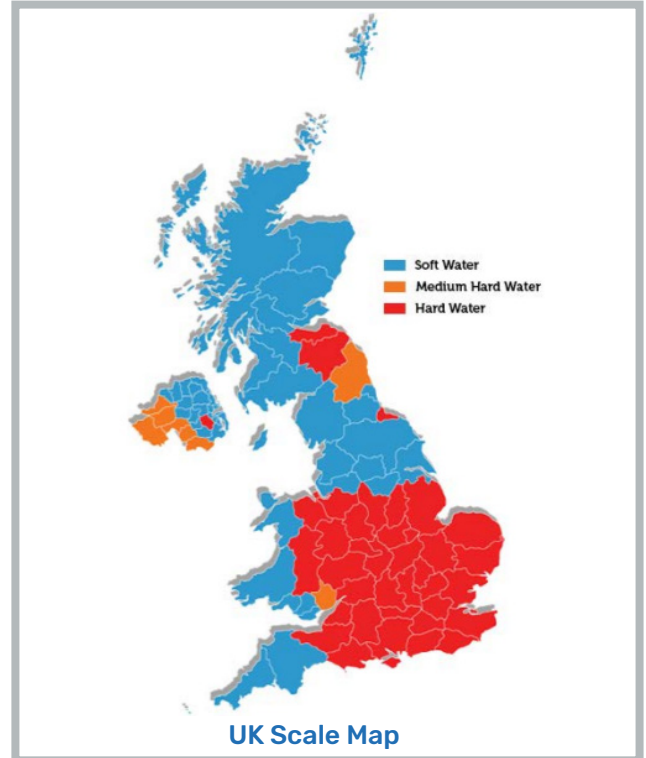
Three factors determine the rate of Scale deposits

1. The temperature of the hot water (the hotter the harder)
2. The hardness of the mains water, which varies across hard water areas
3. The amount of hot water drawn

There are two ways to deal with Scale. One is to regularly descale the Boiler and the other is to protect the Boiler by filtering the incoming water with a proper Scale REDUCTION Filter.

Unfortunately these are more expensive than ordinary Carbon taste and odour Filters, which are often mis-sold as Scale Filters. Beware, they do not work!

To descale the Boiler can be a lengthy operation which involves using a commercially available De-scaling Solution to dissolve the Scale inside the Tank.



#### SCALE FILTERS

The only way to avoid scale on mains fed coolers is to use a resin based scale prevention filter. These are not cheap, and the temptation of using a low cost carbon block filter with siliphos beads is great. Unfortunately our tests have shown that they are not very effective.

A hot tank can scale up in a relatively short time – depending on the water hardness, the hot temperature and with high use. The only option then is to de-scale the hot tank. De-scaling the inaccessible hot tank has to be done “in the dark”.



#### Guidelines of how to de-scale the hot tank in a conventional hot & cold Water Cooler



1. Turn the mains water off (POU cooler) or remove the bottle (bottled cooler)
2. Drain the cold water tank through the taps, and then turn the power to the cooler off at the mains (for manual tap coolers you could turn the power off before draining the cold tank, but you need “power on” if the cooler uses solenoids)
3. Drain the hot tank trough the tank drain tap/plug which is often found at the back of the cooler or for some table top units is found underneath
4. Pour the right concentration of de-scaler into the cold tank and allow it to gravity feed into the hot tank beneath. Make sure the hot tank is full of de-scale solution. De-scaling will generally be accompanied by aggressive foaming which should be visible at the cold tank feed into the hot tank. If de-scaling is complete, the foaming will stop. This can sometimes take up to 30/45 minutes
5. Flush fresh water though the water tanks to remove all traces of the de-scaler
6. Turn the power to the cooler on
7. In some cases a thermal cut out or safety stat, which most boilers have to protect the heating element, may need re-setting or in case it has burned out it may need replacing