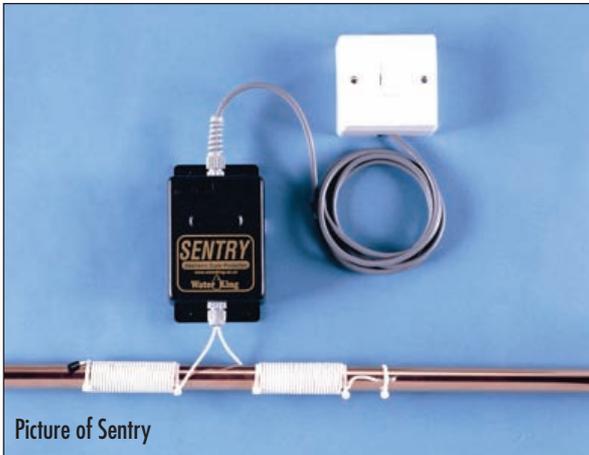


# DON'T GET LEFT OUT IN THE COLD!



Picture of Sentry

## The Water-King Sentry

- \* **Reduced Call-outs and boiler failures**
- \* **Proven history with RSL's**
- \* **25 year design life**
- \* **12 year extended guarantee**
- \* **Simple to install, easy to retrofit**
- \* **Energy saving & proven to partially soften hot water**
- \* **Removes Existing Scale!**

Many RSL's remain unaware of the energy conservation requirements of The Domestic Heating Compliance Guide (DHCG) even three years after it was published alongside the new Part L regulations. Included within the DHCG is a requirement to treat water in hard water areas to reduce energy losses caused by limescale in domestic hot water generators. Many RSL's already specify a physical water conditioner (PWC) but most don't bother or leave it to the plumber to decide. A PWC is no longer an optional extra and many RSL's are wasting money on ineffective treatment systems.

Most PWC's fall into two categories differentiated by the mechanism employed to inhibit scale encrustation.

Many PWC's release zinc into the hard water generating zinc hydroxide which acts as a seed upon which the scale forms in suspension. Most of the more effective 'in line' magnetic PWC's incorporate a zinc anode which corrodes into the water. Such units can be very effective in preventing scale and are generally cheap and easy to fit. However they often suffer from a relatively short life, two or three years, due to "Passivity" or the anode being exhausted, performance falls off and scaling of the heating system recurs. For many house builders and developers their main concern is getting through the guarantee period with as little cost as possible, so a short term solution is perfectly acceptable for them. But where does this leave RSL's and housing associations? Surprisingly, many are prepared to accept

cheaper products installed by a house developer not appreciating that these products have a relatively short life.

For those with an interest in long term sustainability, reduced call outs and reduction in full life costing a more suitable option is available. Unlike in line magnets, the Water-King electronic water conditioner works by transmitting a signal into the water causing an electro-chemical change to certain salts, turning them into nucleation seeds for scale to form upon. Of all the electronic and electromagnetic water conditioners available, only Water-King has been proven by independent laboratory testing to partially soften hot water, a unique manifestation of its effectiveness. Water-King also removes existing scale from a system, it actually cleans out an old system reducing the need for refurbishment. It has a design life of 25 years and offers much more cost effective treatment than larger alternatives! The Sentry has been designed with the specific needs of RSL's in mind. It is compact, almost tamper proof and automatically resets itself so it never needs any monitoring.

Many Housing Associations are already experiencing the benefits of fitting Water-King. Rooftop HA has been fitting Water-King for many years in all its replacement heating projects and reports that it has never had a failure in a property where a Water-King is fitted. Other housing associations such as Hanover and The Guinness Trust have evaluated Water-King and retro-fitted them in many of their sites, thus significantly alleviating their maintenance problems.

Correctly located and installed, the Water-King will provide effective, maintenance free protection against limescale for the life of the heating system. To prove it really is the 'fit and forget' way to comply with the DHCG, Lifescience Products can offer an extended 12 year warranty to RSL's and Housing Associations. Surely the benefits outweigh the small additional cost over an inline system that has a shorter life, can't treat existing scale and doesn't have any softening effect?

For further information or advice please contact: Jonny Seccombe or Darren Stacey on 01608 811707 or sales@lifescience.co.uk

## Continued Professional Development

Lifescience Products are the specialists in physical water treatment and have conducted a considerable amount of original research in the field. Some of this is published but much of it unpublished. Our face to face presentation gives us the opportunity to talk frankly about the best (and worst) of this technology and where it can be used effectively. It provides all the information a consultant or RSL needs to specify with confidence and contractors to install correctly.

Lifescience is the only CIBSE and CIPHE accredited provider of CPD in the field of physical water conditioning. For further information and to arrange a date, please contact Jonny Seccombe or Darren Stacey on 01608 811707 or sales@lifescience.co.uk



What is the main chemical constituent of Hard Water?

Is it:-

- A. Calcium
- B. Calcium Carbonate
- C. Calcium Bicarbonate
- D. Calcium Chloride



Can you answer this question, the first slide of the CPD?  
Most people get it wrong!  
To check the correct answer, call our technical hotline.

# UK LEADS THE WORLD IN PHYSICAL WATER TREATMENT

Now that Part L has highlighted the energy losses associated with limescale in hot water generators, the treatment of hard water is no longer an optional extra. Water softeners may still be a "luxury" item of plant but an effective physical water conditioner is actually a necessity. The UK is the first country in the world to legislate in this significant area of energy conservation. Fortunately, the UK also leads the world in the development of new technologies for water treatment.

The mechanisms of physical water conditioners are less understood than conventional softeners but experience in the UK has highlighted a number of key factors that can either enhance or reduce performance. Passivity is now recognised as a major problem with corrosion inducing systems while pumps, cisterns and water heater design all have a major bearing on where water conditioners are located and how effective they are going to be. Many experts subscribe to the tactical approach of locating a water conditioner as close as possible to where the scale is forming. This thinking is replacing the traditional approach of using one big expensive piece of equipment located on the cold inlet to the building.



The iconic "Gherkin" at 20 St Mary Axe in the City of London has sixty six point of use water heaters, each protected from limescale by a Water-King Sentry physical water conditioner.

## REVISED WATER-KING SPECIFIERS GUIDE PUBLISHED

Lifescience Products has revised the widely used Water-King Specifiers Guide. It offers expert technical advice, installation guides and product information in a concise and easy to use leaflet. The Specifiers Guide is a must have item for consultants and contractors involved in specifying or installing hot water systems. You can phone us at 01608 811707 to mail you a copy or download it directly from our website at [www.lifescience.co.uk](http://www.lifescience.co.uk).

Cisterns, booster sets, circulation pumps and water heaters all have an influence over water conditioner performance. To choose

the correct unit and to specify where it is to be installed it is important to have a schematic drawing of the domestic water services with line sizes, and to know what type of water heater is to be used.

Whether it's advice on schematics, technical queries or problem sites, let us do the hard work for you. We are able to accept schematic drawings in CAD or PDF files or by post, and can give an instant response.

To get your copy of the Specifiers Guide, call the Technical Hotline or download it from our website.

Specifiers Guide

Water Treatment

Water Conditioner & Electronic Water Softener

**Introduction**

Water-King is a non-invasive water conditioner that inhibits scale formation, removes existing scale deposits and partially softens hot water. It requires no plumbing and there is no need for ongoing maintenance nor servicing.

**The technology explained**

Water-King uses pre-programmed micro-chips to transmit pulses of electrical charge into the water at varying frequencies and amplitudes. These "signals" cause some of the salts in the water to form sub-microscopic clusters. When the water is then heated, the clusters act as nucleation seeds upon which the calcium carbonate (limescale) precipitates. Instead of the hard encrustations on pipes and heating elements that normally occur when water is heated, the precipitation takes the form of tiny calcium carbonate crystals that float suspended in the water. These invisible fine crystals are carried away with the flowing water.

**Applications**

Field trials conducted over the past fifteen years have demonstrated the effectiveness of Water-King in most applications where conventional water softeners would normally be used. Water-King is less expensive to install and maintain than ion exchange softeners. In larger applications it is also less expensive and simpler to install than inline magnetic and electro magnetic systems. Water-King requires very little space, no special plumbing, no water connection nor access for the supply of salt and it's storage. There is no head loss nor any additional corrosion problems.

**How Is the Water Softened Without Removing the Calcium?**

The clusters created by Water-King simulate the conversion of more of the dissolved calcium bicarbonate in the water into crystals in suspension than would otherwise occur. The resulting hot water, with low calcium bicarbonate, is now chemically softer. Water-King is the only electronic device of its kind that has been proven by independent laboratory tests to produce softer water.

**Drinking Water**

Unlike ion exchange softened water, where minerals are removed and replaced by sodium, Water-King treated water is suitable for drinking. There is no need for a separate drinking water supply, no health risks and no salt effluent. The problems of head loss and increased corrosion do not occur.

**Removal of Existing Scale Deposits**

Water-King is very effective at removing existing scale deposits from water heaters, calorifiers and pipes. Descaling occurs within a few weeks. The scale breaks away in small plates as it looses adhesion to the surface that it is encrusting. In existing systems that are already badly scaled it may be worth considering fitting a filter unit to hot flow from the water heaters to protect blending valves and other appliances.

**Lifecycle Costs**

Running costs of all units is less than £15.00 per annum. The design life is in excess of 25 years with a 5-year manufacturer's warranty. Water-King has a no quibble 100-day money-back satisfaction guarantee, which is extendable, subject to negotiation.

WK1

SENTRY

WK2

WK3

WK4