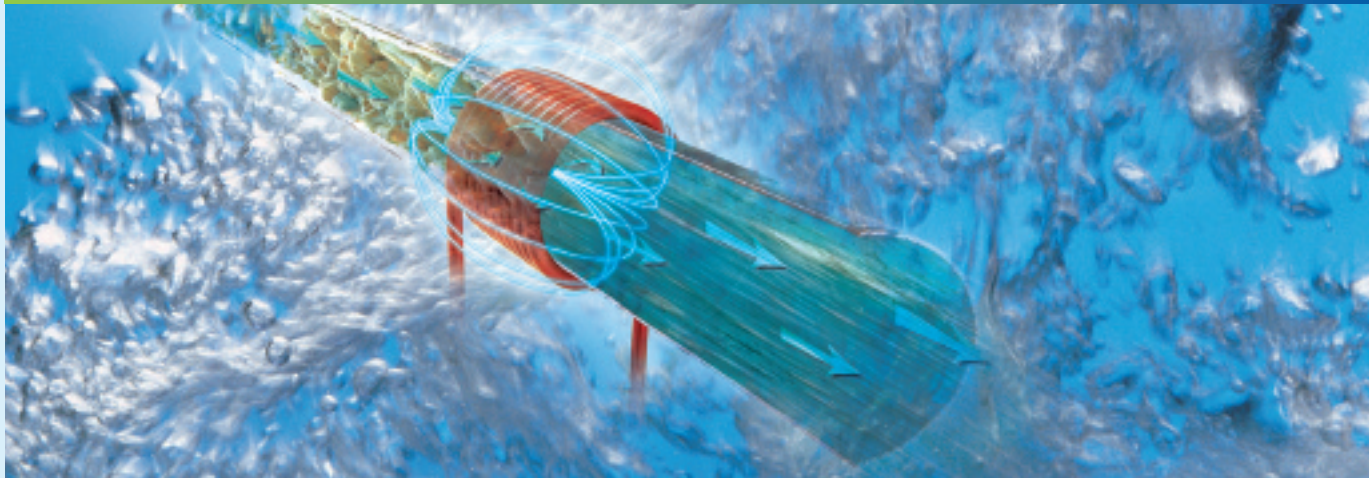




## electronic fluid treatment technology



# Effective Water Descaling Systems

**Proven in Industrial, Commercial, Local/Central Government use since 1989**

Scale reduces thermal efficiency of both heating and cooling systems. Prevention and removal by conventional means using chemical and physical means, is expensive and damaging to equipment and the environment. Electronic scale control, the truly Sustainable method of dealing with the problem, is increasingly being adopted worldwide.

- Longer life for capital equipment
- Reduces maintenance & downtime
- Large energy & water savings
- Protects the entire water system
- Reduces need for chemicals
- Reduces bacteria levels
- Water quality maintained
- Easy to install and relocate
- Any pipe diameter or material
- System able to treat multiple pipes

### Limescale removal and prevention

**Scalewatcher™ ENiGMA** electronic descaling works quickly, simply and effectively to clear out existing scale and inhibits the build up of fresh deposits, enabling users to easily establish the efficacy of this technology for themselves.

### Legionella risk reduction

Bacteria thrive in water systems with scale deposits. Heating water to design temperatures will pasteurise a system. Descaling not only removes the breeding ground but improves heating efficiency allowing pasteurisation.

### Reduced maintenance – longer equipment life

**Scalewatcher™ ENiGMA** systems improve the condition of existing plant and continuously maintain efficiency, thus reducing costly maintenance and downtime. This in turn extends equipment life, sometimes indefinitely, providing an excellent return on investment.

### Sustainability Considerations

A lack of water treatment will greatly increase the waste of energy and water and causes premature failure of water-fed equipment and appliances. Replacements require: the mining of increasingly precious raw materials, processing and manufacturing, transport and storage. The impact on the environment is huge. **Scalewatcher™ ENiGMA** not only addresses these major issues but actually reverses their impact by actually removing existing scale and improving heat transfer.

## Effective Water Descaling Systems

### Description

Applying a low energy, frequency modulated (FM) electric field to water causes calcium bi-carbonate to revert back to its carbonate form. Because resultant crystals form on other ions in the bulk of the water and not onto a system surface, they remain in suspension until discharged to drain. As water is no longer saturated it can achieve what it did underground; it again dissolves calcium it comes in contact with, thereby removing scale deposits in the water system.



Scalewatcher ENiGMA unit

Treatment is applied simply by wrapping a treatment cable around the outside of the pipe to form a coil. The FM signal is generated in an adjacent electronic unit. To see the power of applying low frequencies to water, go online to <http://files.me.com/enigmaetc/xylm1p.mov>

### Typical application sites

Twenty percent of **Scalewatcher™ ENiGMA** successful sites are very large users of water, such as Steel, Paper, Plastic, Rubber, and Food manufacturers, even water supply companies themselves: Southern Water saved £12,000 in just 3 months, switching from chemical treatment.

The remaining eighty percent of users benefitting from removing hard water problems include the Ministry of Defence, (accounting for twenty five percent of SWE total sales), Hospitals, Universities, Schools, Offices, Nursing Homes, Restaurants, Ships (including seawater cooling) and Leisure Centres.

### Treatment of other fluids

Many non-water applications have benefited from treatment, such as milk, ferric aluminium sulphate and zinc phosphate. Also, because of **Scalewatcher™ ENiGMA**'s ability to create coagulation conditions, massive savings can be made in waste water treatment.

### Technical backup and experience

The wide range of applications often calls for ETC equipment to be tailored to a customer's individual needs, e.g. for treatment on other fluids such as ferric aluminium sulphate, zinc phosphate, milk etc...

### Carbon Reduction Commitment (CRC)

By far the greatest benefit we offer our clients is the ability to measure their energy savings. This is achieved by using state of the art data logging and measuring equipment, providing data in meaningful parameters, ie kWhrs or, in the case of gas consumption, cubic metres. This aids the acquisition of funding from within their organisation or from external sources, such as The Carbon Trust.

With the introduction of the CRC, an EU Directive requiring stringent reduction targets to be met, it is even more essential that organisations can both measure and reduce their carbon emissions.

### Guarantee

As well as offering a 1 year Performance Guarantee, following agreement of *criteria for success*, customers now enjoy a 5 year manufacturer's guarantee. In the majority of applications this is 2½ times the pay-back period.

### Partnership Companies

We do not sell our technology through third parties, however we have developed a limited number of partnerships both in the UK and Overseas. We ensure they maintain the same level of service and support as ourselves.

## Proven Performance

Independent University tests have confirmed **Scalewatcher™ ENiGMA**'s ability to both prevent and remove existing scale. Units are used extensively in a wide range of commercial and industrial applications, including the protection of UK Water Companies water treatment plant.

### Independent Evidence

Precipitated calcium -  
Untreated (left) and  
treated (right)



“ A 1mm layer of  
Limescale will cause a 7% increase in  
energy input to the boiler to meet the  
same heat demand ”

The Carbon Trust



Condition of calorifier  
(RAF Odiham), before (left) and  
following 6 months treatment (right)

“ The Electronic Descaling System  
is working way beyond our expectations  
and will in the long term save us costs  
on preventative maintenance, labour and  
downtime. As a company we are thrilled  
with the results ”

Glen Stock from Southern Water



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Scalewatcher™  
**ENiGMA**  
ELECTRONIC WATER DESCALER