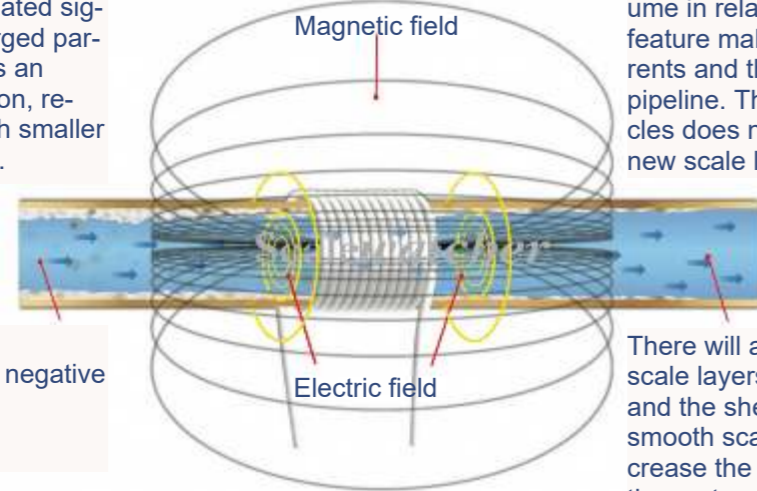


## How does it work?

The electronic unit works by inducing a complex modulated signal which agitates the charged particles in the water. This has an influence on initial nucleation, resulting in more crystals with smaller size and rounded surfaces.



Particles and dissolved minerals with positive and negative charges.

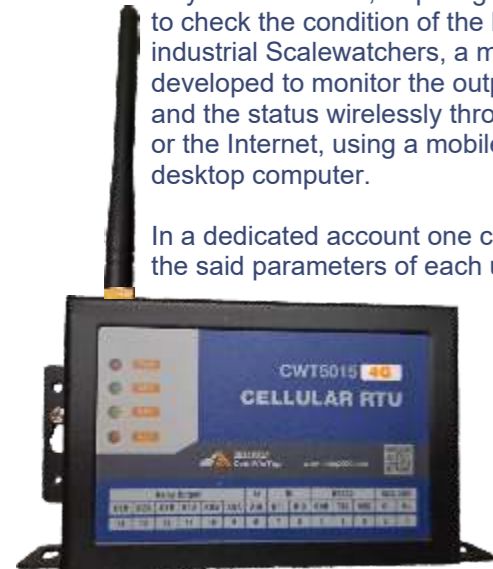
This treatment creates idiomorphic, scattered crystals, which do not form matted structures. They have a rotundas shape, which means that they have a larger volume in relation to a smaller surface. This feature makes them sensitive to water currents and they are easily flushed out of the pipeline. The deficit of active scaling particles does not only prevent formation of new scale layers.

There will also be a slow reduction of old scale layers due to the law of mass action and the shear force of the flowing water. A smooth scale reduction will slowly increase the pipe capacity and so makes the system functioning more efficient."

### Optional wireless remote alarm

For installations in remote areas or in cases where there are many units installed, requiring manpower to check the condition of the heavy industrial Scalewatchers, a method was developed to monitor the output current and the status wirelessly through SMS or the Internet, using a mobile phone or desktop computer.

In a dedicated account one can monitor the said parameters of each unit.



An alarm will be made visible or audible on the occurrence of "No Power" or "Output Current out of Limits".

Pipes with a diameter of up to 120" ( 3 m) can be treated with the Industrial series.

### Technical Specifications

#### Components:

Each model comprises of a Scalewatcher unit, signal cable, ties, plugs and clear instructions.

#### Power:

Units can be connected to either 110 VAC or 230 VAC 50/60 Hz. Optional: 3 phase, solar power or 24 Volt direct current.

#### Materials:

Electronics hermetically sealed. Enclosures are made of aluminum (IE series) or stainless steel.

#### Controls & Indicators:

All units have digital displays showing correct operation, cable connected and self test.

#### Reliability:

Only high quality electronic components are utilized, including a custom designed chip (IC) controlling signal generation processing.

#### Safety:

The Scalewatcher conforms to electrical safety Standards and is EC certified. The electronics are sealed with resin for durability. The output is safe to both personnel and sensitive equipment. There is no electrical contact between pipe and coil. The low output voltage is non hazardous.

Your supplier:





# Scalewatcher® Industrial

The intelligent alternative for hard water treatment in Industry

## The most important benefits:

- Maintenance free operation
- Low operation costs
- Completely non invasive, no shut down of production process necessary
- Saves on water, fuel and energy consumption
- Short term payback of investment
- Production levels will rise
- Environmentally friendly.

## HARD WATER...

### THE PROBLEMS



Scaling costs companies each year millions in down time, lost production, early replacement of capital equipment and increased energy usage. Companies are under increasing pressure not only to cut costs and become more efficient, but to do so in environmentally friendly ways. Compounding this problem is the public's increasing focus on environmental concerns and the ever-expanding government legislation in this area.

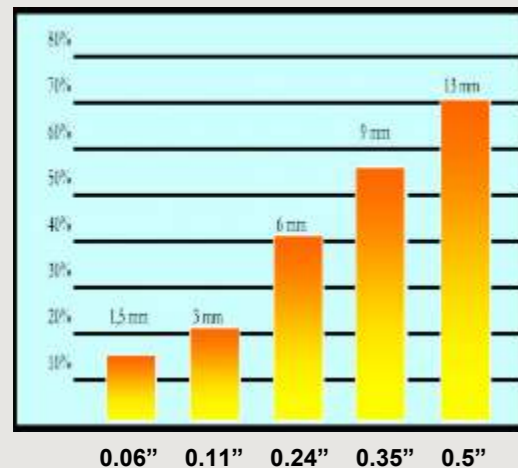
### THE SOLUTION

To aid in the solution of this dilemma, Scalewatcher systems have been developed from many years of experience in treating scaling problems throughout the world. They are specifically designed to provide today's industry with an effective proactive and environmentally friendly alternative to chemical scale build-up prevention or mechanical de-scaling. Companies find that solving their scaling problems with a Scalewatcher provides the benefits of scale prevention and reduction of old scale layers without the disadvantages of traditional methods. In addition to preventing scale build-up in boilers and cooling towers, Scalewatcher has also eliminated scaling problems in compressors, water-fed plant and machinery, steam ovens, de-inking plants, liquor lines of paper mills, condensers and air conditioning plants. Lime scale, gypsum and bacterial scaling are examples of deposits which have been treated. The Scalewatcher can be installed and removed from a system without opening the pipe. Making installation, operation and testing very easy.



#### The cost of scale build-up

Percentage increase in fuel costs due to scale build-up in an average water system.



#### Heating scale wastes money.

A scale layer on flame pipes of a steam boiler will increase fuel consumption.



## Field reports show Other benefits & savings

- It reduces the use of chemicals.
- The treatment reduces corrosion.
- Rust in iron pipes will be converted to Magnetite.
- Slime (biofilm) in heat exchangers or cooling towers will disappear.
- Surface tension of water will decrease.
- Minute traces of H<sub>2</sub>O<sub>2</sub> may form.
- May inhibit algae grow.

**On energy:**  
Hot water boilers  
Steam boilers  
Chillers  
Heat exchangers

**On water:**  
Cooling towers  
Sprinkler systems  
Steam boilers

## Tested & proven

We started as the pioneering market leaders in electronic water conditioners for home and industry back in 1989. Since then numerous units have been installed in the following Industrial sectors with good performance.

Paper manufacturers - Steel manufacturers - Food and beverage - Chemical Industry - Sugar refineries - Oil production - Waste water treatment - Slaughter houses - Power plants - Cement plants - Cable factories - Plastic molding - Textile factories - Municipal water suppliers - Large buildings - Shipping.

### Protect equipment - Reduce maintenance & down time- Prevent & eliminate scale

Water heaters - Evaporative coolers - Reverse osmosis systems - Pumps - Valves - Boilers - Radiators - Irrigation & Misting systems - Heat exchangers - Pipe lines - Municipalities - Oil coolers - Cooling pads - Chillers - Flame pipes - Aerators - Oil pipe lines - Condensers - Centrifuges - Belt presses - Zebra mussels - Scrubbers - Compressors.

### QUALITY SERVICE - BACKUP & EXPERIENCE

Effectively developing and supporting new technology calls for an understanding of the application. Scalewatcher's success stems from its commitment to the elimination of scale since 1989. More importantly, this experience was gained by working directly with customers from all sectors of industry. Many of the applications often required Scalewatcher units to be tailored to the customers individual needs, e.g. the safe use in explosive atmospheres, or for treatment of fluid streams containing alternate mineral ions such as ferric aluminum, sulfate, calcium oxalate, silicates, seawater etc...



Savings will be beyond imagination when Governments enforce this type of water treatment.



*The preferred solution to hard water and corrosion problems.*