

The Integro™



**Prevent & Remove Limescale
Reduce Rust & Corrosion**

[Page 3](#)

What is The Integro™?

[Page 4](#)

How does The Integro™ Work?

[Page 5](#)

The Integro™ or Water Softening?

[Page 6-7](#)

Legionella Prevention

[Page 8](#)

**How The Integro™
Reduces Your Energy Consumption**

[Page 9](#)

Product Specifications/Warranty

What is the Integro™?

The Integro™ is a chemical and maintenance free water restructuring technology that guarantees the prevention and removal of limescale throughout water systems, equipment and appliances.

It is suitable for all environments, from the largest of industrial applications, to commercial facilities and smaller businesses. For anyone who is having to manage the extensive costs and persistent problems caused by hard water, the Integro™ is an excellent solution.

What makes the Integro™ Different?

Water softeners are an effective solution when operating as they should, but they will never prevent all formation of limescale and they do not remove existing build-up.

Not only will the Integro™ prevent the formation of limescale, but unlike a water softener, it will begin removing all historical build-up immediately after installation.

It is the most effective water conditioning system on the market. Unlike other products that have come before, its effectiveness is not limited by conditions such as temperature, pressure, time or distance. The change to the structure of the water is not reversed by equipment such as pumps, and there is no forced precipitation of the scale forming minerals. Simply put, the restructuring of the water is immediate, effective and long lasting.

Why Choose the Integro™?

This unique technology removes any existing scale build-up and prevents all future formation, irrespective of water hardness. The Integro™ restructures water without the use of chemicals and involves no ongoing maintenance. It will improve the operational efficiency of your water systems and decrease your energy consumption. Equipment and appliances will last longer, so you can save money and help sustain the environment by lowering your carbon footprint.

Key Benefits

- 1 Prevent and Remove Limescale – Guaranteed.
- 2 Significantly Reduce Rust & Corrosion.
- 3 Lower Energy Consumption and Costs by up to 40%.
- 4 Reduce Maintenance Costs and Extend Life of Equipment & Appliances.
- 5 Improved Efficiency of Heating and Cooling Equipment.
- 6 Significantly Reduce Waterborne Bacteria, incl. Legionella.
- 7 Lower your Carbon Footprint.
- 8 Reduce Chemical Use.

How does the Integro™ work?

The Integro™ prevents and removes limescale by injecting electrons into the water with sufficient energy to disrupt the bonding which otherwise occurs between different minerals.

The injected electrons and associated energy realign all the different ions in the water so they remain in their neutral form. The ions (typically calcium and magnesium) are therefore unable to bind with other ions to form a crystal and will not precipitate, regardless of temperature or pressure. Since the scale forming ions stay 'in solution', they pass freely through the water system.



The Integro™ is available in sizes from 2" to 30" diameter to meet your requirements.

Did you Know?

Even in soft water areas, limescale forms in heating and hot water systems creating a layer of insulation between the heat source and water, effectively slowing down the heating process and increasing energy consumption!



An Integro™ 4 - Protecting a Hot Water System



The Integro™ or Water Softening?

When it comes to resolving hard water problems there is no such thing as a perfect solution, and so understanding the challenges you are trying to resolve and what your priorities are is critical.

Water Softening

A commonly used solution is water softening (ion exchange). In this case you must ensure they are topped up with salt (which can be costly, both financially and to the environment), switched on & operating effectively and that they are serviced as they get older. Fail to do any of these and you will get limescale throughout your system and equipment. The resulting build-up will not be removed when your softener comes back online and can lead to equipment breakdowns and increased energy costs.

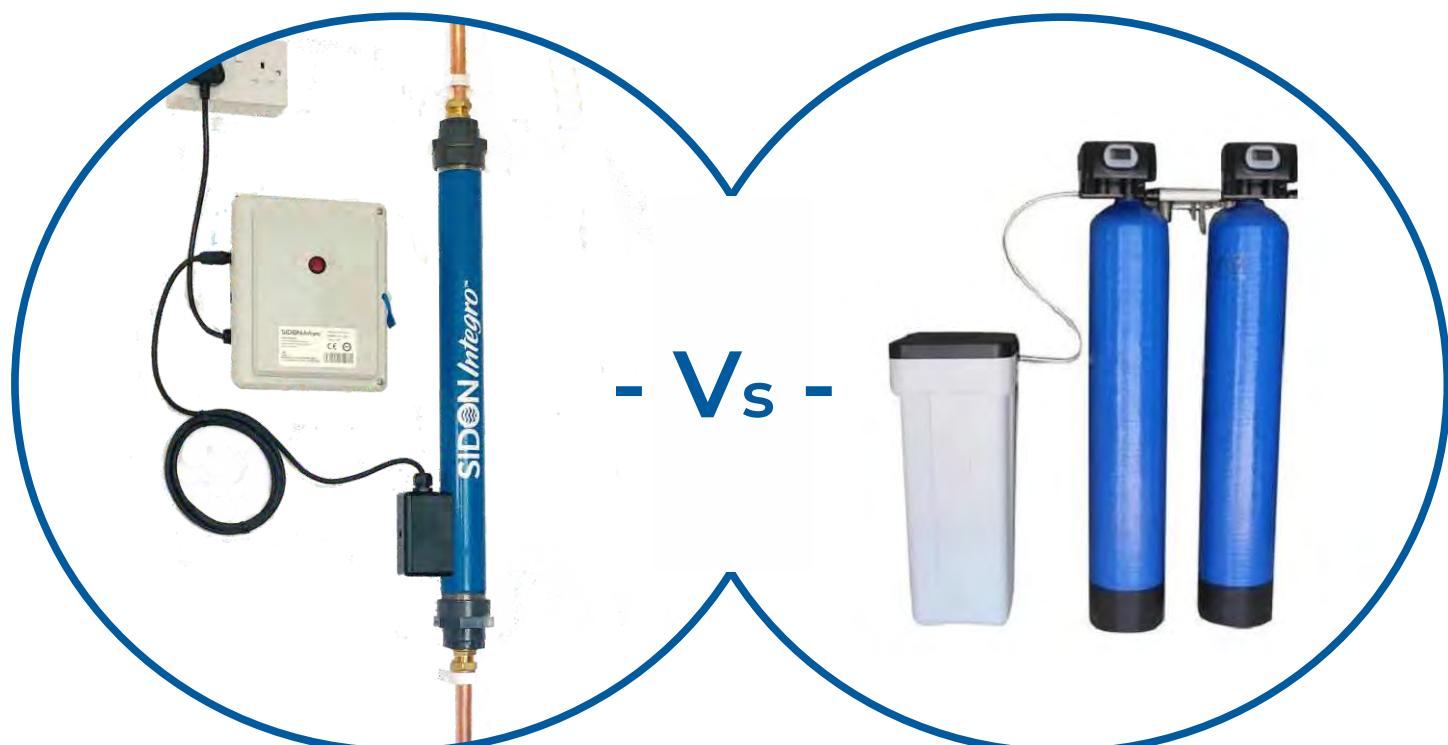
The Integro™

Unlike a softener, the Integro™ does not remove minerals from the water. It restructures them in a way that prevents them from binding to form limescale. In the case of an already scaled up system, the Integro™ will remove the historical build-up over the first couple of months of use, leaving your water system and equipment clean, clear and operating more efficiently. In open-air environments where water is left to evaporate (shower screens, dishwashers, etc) mineral deposits can be easily wiped off without the use of chemicals, making cleaning significantly quicker.

A key feature of the Integro™ is that it will prevent and remove all hard limescale, as well as significantly reducing rust and corrosion, irrespective of water hardness, temperature and pressure.

Summary

The Integro™ can be used as an alternative to, or alongside, water softeners. The key difference is that as well as preventing future limescale build-up, the Integro™ will remove old limescale from your water systems and equipment (something that softeners do not), and this is where the greatest savings and benefits are realised.



Legionella – Prevention is Better than Cure

Sidon Water's Integro Technology prevents Legionella by removing limescale build-up, and the resulting biofilm, throughout your hot and cold water systems. By removing the breeding ground where bacteria would have thrived, you can have confidence that that you are stopping waterborne bacteria in its tracks!

What is Limescale?

Limescale, primarily composed of calcium carbonate (CaCO_3), accumulates within hot water systems, pipes, and appliances. This build-up creates a rough, uneven surface with lots of tiny cracks, holes and fissures which allow bacteria to attach and form biofilms.

Biofilm is a community of living microorganisms, including bacteria, that adhere to a surface in a moist environment and reproduce. They establish this attachment by secreting a sticky, glue-like substance and adhering to the food source, limescale.

What is Biofilm?

What is Legionella?

Legionella is a bacterium that can lead to Legionnaires' disease, a severe and potentially fatal form of pneumonia. People contract Legionnaires' disease by inhaling small droplets of water (aerosols), suspended in the air, that contain Legionella bacteria.

What is the Relationship between Limescale, Biofilm & Legionella?

The perfect breeding ground for Legionella bacteria is the limescale which has formed in pipes and equipment as a result of hardwater minerals precipitating out of solution.

Factors Encouraging Legionella Growth:

- ⌚ Limescale, rich in minerals, is the food source and breeding ground for Legionella.
- ⌚ Legionella bacteria thrive in temperatures between 20-45°C.
- ⌚ Any water within this temperature range allows Legionella to multiply.



With the bacteria present and multiplying, they will form biofilm. With limescale and biofilm now established, in an environment in which it is comfortable and well-fed, Legionella and other bacteria will multiply and thrive.

Prevention is Better than Cure

Chemical dosing, although effective, is costly, time-consuming, and harmful to the environment. Moreover, as limescale accumulates, the problem worsens.

To maintain a Legionella-free water system, it must be free from limescale (including biofilm) and bacteria. Whether it's a cold, hot or process system, controlling scale build-up is essential.

The Integro™ Advantage for Legionella Prevention

The Integro™ will ensure the removal of existing limescale throughout your water systems. It will also offer ongoing prevention of new scale build-up, as well as significant reduction of rust and corrosion.

This is achieved by the Integro™ injecting electrons directly into the water. The electrons disrupt the bonding that would otherwise occur between the scale forming minerals and leave them in their neutral state. Thanks to this effective system, you can mitigate the risks associated with Legionella.

The Integro™ technology is maintenance and chemical free. This means that it is a sustainable and environmentally friendly solution.

What You'll Get

- ✓ Reduced Levels of Legionella
- ✓ Rust and Corrosion Control
- ✓ Reduced Chemical Use
- ✓ Limescale Removal and Prevention
- ✓ Improved Water Quality
- ✓ Significantly Reduced Energy Consumption

Solutions Comparison

	Sidon Integro™	Other Water Conditioning Devices	Water Softening	Reverse Osmosis	Chemical Descaling
Prevents Limescale Build-Up	✓	✓	✓	✓	✗
Removes Existing Scale Build-Up	✓	✓	✗	✗	✓
Maintenance Free	✓	✓	✗	✗	✗
Does Not Require Salt or Chemicals	✓	✓	✗	✓	✗
Reduces Energy Costs	✓	✓	✓	✓	✓
Reduces Legionella	✓	✓	✓	✓	✓

Effective ✓

Partly Effective ✓

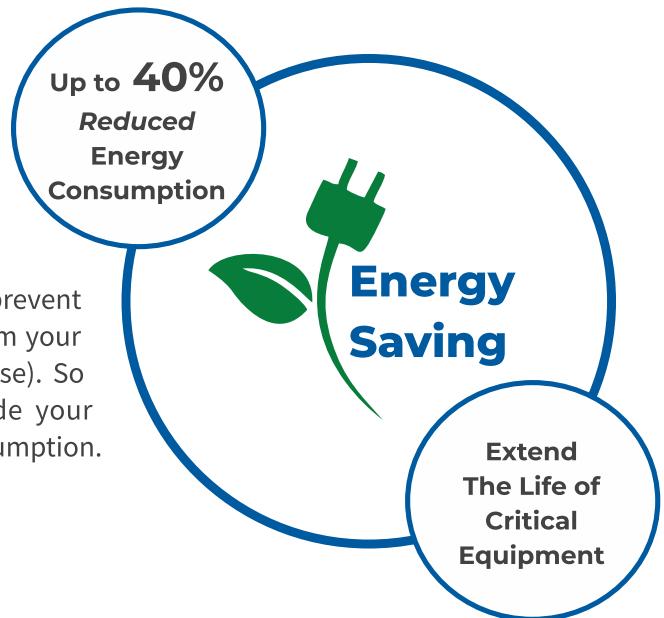
Ineffective ✗

How the Integro™ Reduces Your Energy Consumption

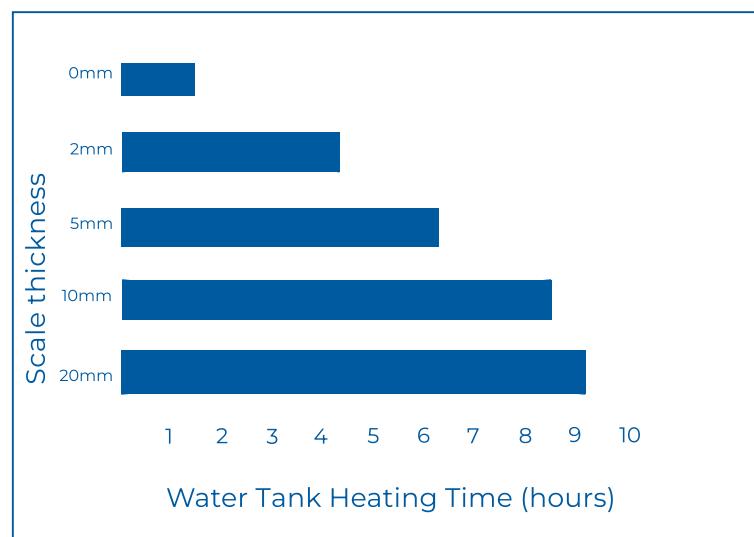
Limescale Build-up Leads to Increased Energy Consumption

Even in soft water areas, limescale forms in heating and hot water systems creating a layer of insulation between the heat source and water, effectively slowing down the heating process and increasing energy consumption.

Unlike a water softener, the Integro™ technology will not only prevent future scale formation but will remove all existing build-up from your water systems and equipment (over the first 1-3 months of use). So whether installed as a standalone system or used alongside your softeners, the Integro™ will significantly reduce your energy consumption.



Effect of Scale on Water Tank Heating Time



- According to the Carbon Trust, just a 1mm layer of limescale on the heating element causes a 7% increase in energy used by your boiler.
- British Water estimate that for every 1.6mm of scale built up in your heating system, there is a 12% loss in heating efficiency.
- 6mm of limescale throughout your pipework and heating system can lead to a staggering 40% increase in energy bills.

The Most Effective Solution on the Market

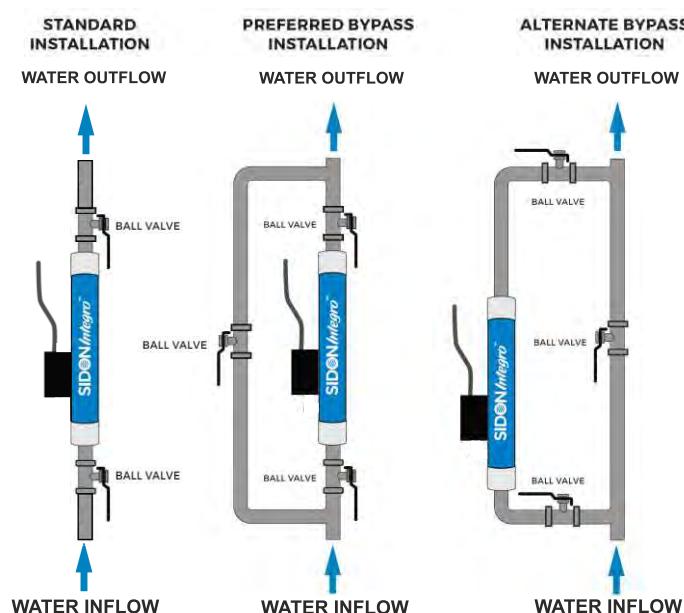
The Integro™ water restructuring technology is quite unique in terms of how it works, thereby offering unparalleled results in this application. Not only will it prevent future limescale formation, but it will remove all historical build-up from your water system and equipment, in turn dramatically lowering your energy consumption.

It is maintenance and chemical free throughout its lifetime, offering an enormous saving in the time, expense, and increased carbon footprint involved in the routine upkeep of other water treatments systems.

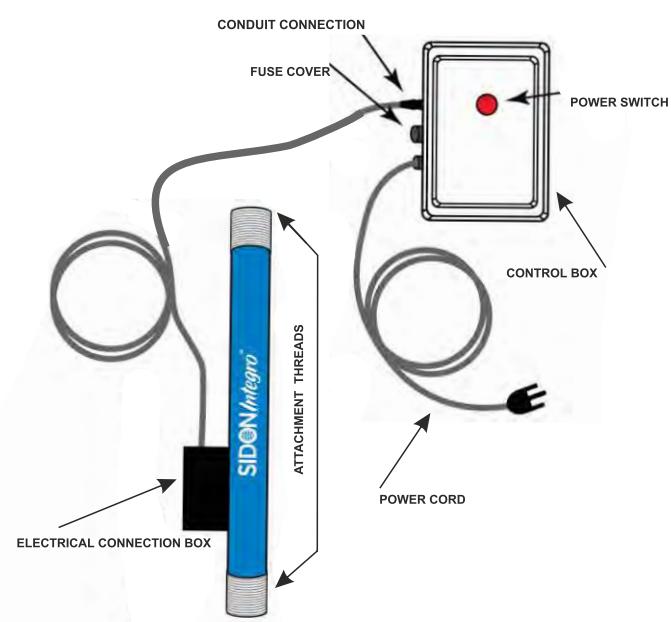
Product Specifications

Model	Diameter of Pipe (NPS inches/mm)	Length of Pipe (mm)	Max. Water (m ³ per minute)	Material (available in 316)	Fitting Type
Integro 2	2 / 50	600	0.40	304 SST	BSP Threaded (Male)
Integro 3	3 / 80	600	0.88	304 SST	NB PN16 Flange
Integro 4	4 / 100	900	1.52	304 SST	NB PN16 Flange
Integro 6	6 / 150	900	3.05	304 SST	NB PN16 Flange
Integro 8	8 / 200	900	6.09	304 SST	NB PN16 Flange
Integro 10	10 / 250	900	9.65	304 SST	NB PN16 Flange

(Figure 1)
Integro™ Pipe Installation Diagram



(Figure 2)
Electrical Connection Diagram



Warranty

Monthly Service Plan users benefit from a Lifetime Warranty for so long as the Service Agreement is in full effect.

Any Integro™ systems that are purchased outright include a 5 year warranty.

Full details of warranty cover can be found on our website.

Integro™ Use and Maintenance

The system requires no ongoing maintenance after installation.

Ask for our Installation & User Guide for more details.

UK CA  MET complies with
UL 61010-1
CSA - C22.2
No. 61010-1

 MADE IN
BRITAIN

