SCALEPRO™

MINERAL SCALE REDUCTION SYSTEM

TECHNICAL MANUAL

TABLE OF CONTENTS

SCALEPRO™ TECHNICAL MANUAL

SCALE PRO DOES IT BEST!

Scale Pro is a compact, state-of-the art, microprocessor controlled device that is installed on the incoming water line of a home, business or large facility to eliminate scale and corrosion in the entire facility.

For over 20 years, water system operators have used electronic signals to reduce hard water scale build-up in pipes, valves and appliances.

Introduction: ScalePro the Preferred Anti-Scale Water Treatment System

Today residential home owners, commercial factories, and industrial plants all have their choice of many types of anti-scale systems. ScalePro was designed to send AM radio wave signals that cripple the adhesive properties of Calcium Carbonate and Silica creating smooth molecules so that they don't adhere to pipes or worse, to each other, the primary scale growth source. ScalePro makes the minerals in water form fine silt that will not stick to itself or to surfaces so that the deposits that form, rinse or wipe off without any chemicals. ScalePro uses a series of signal bands, each emitting a different variable square wave AM radio frequency depending on the size of the pipe. Results can be seen in days where new scale deposits stop growing and weeks and months later as the process slowly breaks existing scale down to silt particles. Water heaters, dishwashers, washing machines, fixtures, cooling towers, spas, swimming pools, eventually clear of scale and work efficiently again.

Inside this manual you will learn how the ScalePro System is a preferred anti-scale product for businesses, industry, and homeowners throughout the world.

ScalePro is a U.S.A manufactured product and has a lifetime warranty.

MADE IN USA

Scale And Corrosion – What Is It?

Scale is the effect of dissolved minerals naturally occurring in water that precipitate out as insoluble solids, primarily Calcium Carbonate and Silica when something changes the solubility of these minerals in the water. The two most common causes for precipitation are temperature change and evaporation of the water which concentrates the minerals. When these minerals combine, they form low density crystals with many tentacles, like snowflakes, that easily stick to surfaces and to other crystals in the form of hard water scale. Calcium Carbonate found in water forms scale that builds up in pipes, valves, and pumps, reducing flow and costing more energy to move the water through the restriction. Liken it to your arteries. Too much fatty food and your arteries and veins build-up with cholesterol and harden. This is not a good thing for you, nor is the build-up of scale good for your water pipes, water heaters, appliances, machinery, etc.

All ground water contains minerals that can form scale. Mineral content is primarily measured in hardness units-the measure of Calcium dissolved in the water. The harder the water, the more scale will be formed. Hard water is high in dissolved minerals. The whole of the United States has various levels of hard water. (Go to USGS.gov to learn more about the quality of water in your region of the U.S.)

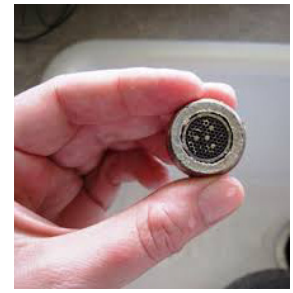
Scale is the effect of dissolved minerals naturally occurring in water that precipitate out as insoluble solids, primarily Calcium Carbonate and Silica when something changes the solubility of these minerals in the water.

All ground water contains minerals that can form scale. Mineral content is primarily measured in hardness units-the measure of Calcium dissolved in the water. The harder the water, the more scale will be formed.

Scale Formation

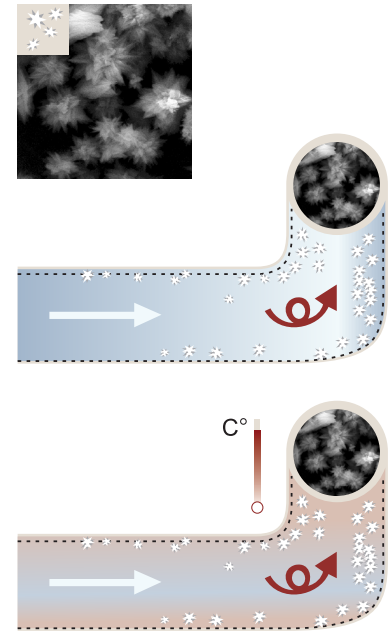
Water contains minerals that are beneficial to life. Whenever untreated water comes through the pipes, the minerals are dissolved in the water. When something changes the solubility of the minerals in the water such as evaporation or temperature change, the minerals combine into solid crystals that cannot re-dissolve into the water. Their structure is like a 3-D snowflake. Jagged mineral crystals adhere to pipes and cause damage to equipment. What is necessary to combat this situation is to change the formation of the crystals. When the crystal structure is changed from jagged and low density, to smooth and compact, scale crystals cannot stick to each other nor to pipes and fixtures and water flows easily through the piping system.






Water Pressure And Heat - The Ultimate Nemesis

Other factors come into play with regard to scale including changes in water pressure due to bends in the pipe or wherever there is an intersection. A drop in water pressure forms an opportunity for scale to form deposits of scale in the pipe. A peculiar feature of Calcium Carbonate solubility in water is that it reduces with increasing temperature, opposite of other materials. However, scale formation on heating elements is caused by boiling the water away leaving the minerals nowhere else to go but to stick to the heater.



Hard Water

The simple definition of water hardness is the amount of dissolved Calcium in the water. Hard water is high in dissolved minerals, primarily Calcium. When washing your hands with very soft water, you may have felt like there was a film or residue left on your hands. Very soft water doesn't rinse the soap off your hands so they feel soapy even after long rinsing. The Calcium in hard water breaks the surface tension of the soap or detergent such that it doesn't lather or feel soapy. When using hard water, more soap or detergent is needed to get things clean, be it your hands, hair or laundry.

The residue that you might notice on glasses or your shower door and the scale that forms around sink drains or faucets is a result of the scale build-up that has formed due to the deposits of Calcium Carbonate. Scale reduces the life of equipment, raises the costs of heating water, lowers the efficiency of electric water heaters, and clogs pipes.

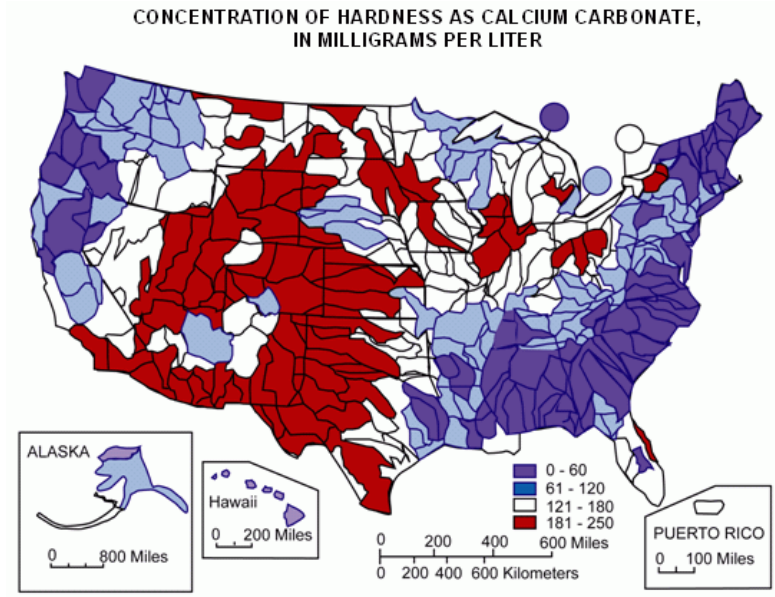
According to the United State Geological Survey 89.3% of US homes have hard water. Over 85% of Canada has hard water.

Map and citation provided by United State Geological Survey web site: water.usgs.gov

To convert from mg/liter (parts per million or ppm) to Grains (per gallon) hardness, divide by 17.1. For example, water at 110 ppm / 17.1 = 6.4 grains hardness.

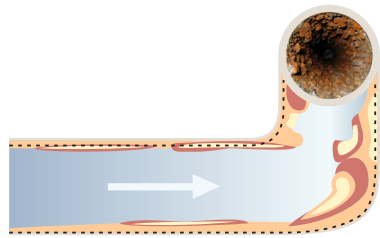
Water Hardness Classifications

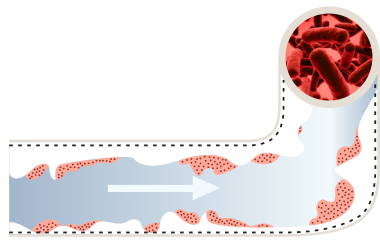
Water Hardness	PPM (parts per million – mg/l)	GPG Grains per gallon (US)
Very soft	1-70	1.0-4.2
Soft	71-125	4.3-7.2
Medium Hard	126-250	7.3-14.6
Very Hard	251-500	14.7-29
Extremely Hard	501 and more	30 and more



Mean hardness as calcium carbonate at NASQAN water-monitoring sites during the 1975 water year. Colors represent streamflow from the hydrologic-unit area. Map edited by USEPA, 2005. Modified from Briggs and others, 1977.

One Thing Leads To Another... And Another





- Scale reduces the life of equipment
- Scale negatively impacts heat transfer and causes beverage and ice making problems
- Scale makes unsightly 'floaties' in beverages with ice
- Scale can result in unattractive looking fixtures
- Scale can cause decreased flow in pipes and problems with valves
- Scale requires higher consumption of soap and detergent in dishwashers and laundries
- Scale can make it harder to clean clothes and leaves a film when bathing
- Scale clogs pipes
- Clogged pipes means less water pressure
- Rust can occur which can lead to corrosion
- Scale forms an ideal bacterial breeding ground
- Blocked water flow causes appliances to falter and malfunction and repairs may be needed, which leads to money down the drain due to high maintenance costs
- Higher costs arise due to blocked pipes and inefficiency in appliance performance
- Scaled heating elements lead to higher energy costs due to the extra energy needed trying to make the appliance/equipment work
- Scale dulls kitchen and bathroom surfaces which leads to aggressive or harsh cleaning agents to shine faucets and drains. These chemicals are not good for our environment
- Scale forms on cooling tower media and condensers reducing heat transfer and system performance

More Scale Problems – Rust - It's Not Just A Color

Calcium Carbonate is the main component of scale. If you think that scale is white, think again. It can be, but it can also turn brown, or 'rusty' due to oxidized iron particles building up that imbed in the scale. Brown scale deposits are more undesirable than white. If the appearance isn't nasty enough, it adheres to pipes causing pitting or corrosion.

Other Side Effects – Bacterial Growth

Scale deposits are a perfect breeding ground for all kinds or micro-organisms and bacteria. Since the deposits are rough and jagged like a lava bed, rather than long and smooth like cylinders, they provide a perfect environment inside the crevices for bacterial growth. Calcium Carbonate (hard water scale) deposits are porous and they create surfaces and pores for mold and bacteria to attach and grow.

Water treated with ScalePro slowly breaks the attaching abilities of the scale that is already in the pipe and the scale deposit will eventually let go of other scale molecules and pipe surfaces where it cannot reattach and it is flushed out of the system. If black mold or bacteria is attached to the scale, it gets flushed out too when the scale lets go. This is also true of black spots on silicone caulking. They are usually bacteria growing on the almost invisible scale deposit on the caulking.

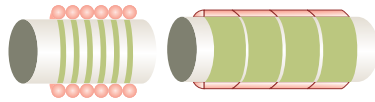
The Scalepro Way – The Very Best Way To Remove And Prevent Scale Build-Up

ScalePro's compact state of the art microprocessor controlled device is an eco-friendly water treatment system that is installed on incoming water lines of a home or facility. ScalePro produces a continuously varying electronic AM radio signal that is customized for the size of the pipe it is installed on. It works on every pipe material, plastic or metal. The signals allow Calcium Carbonate and Silica scale molecules to form into fine, dense, smooth crystals when they precipitate out of the solution. This way they cannot stick or adhere to each other, nor do they attach to surfaces.

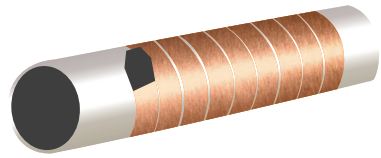
Scalepro –
A Revolutionary Electronic Water Treatment Technology

ScalePro treats the water by inducing an electric field of radio waves with a continuously changing frequency. This affects the initial stage of Calcium Carbonate crystal growth in the water, resulting in a smaller crystalline structure with reduced ability to adhere to the inside of pipes, heating elements and other surfaces shower doors, and dishes. The Calcium Carbonate fails to bond to the surfaces maximizing the flow of the water, it is flushed away from the facility in the waste water stream. Existing scale deposits are also affected and more easily removed by the force of the water flow removing old scale layers.

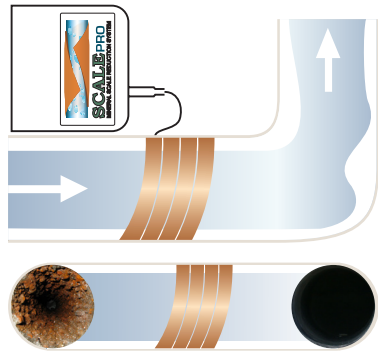
How it Works



ScalePro operates with copper bands that vary in width (depending on the size of the pipe) to completely cover the pipe surface area providing a greater efficacy than other cable or coil brands on the market. (Cables or coils are smaller in surface area and do not cover the majority of the pipe, making them less effective than ScalePro). These copper bands are the conduit for sending the radio frequency signals through the pipe and into the water. ScalePro signal bands create the largest treatment field of any electronic scale reduction system on the market. No other system comes close.



ScalePro's electronic signals set up a field transmitted from the copper signal bands through the pipe and into the water where it modifies the Calcium Carbonate and Silica crystal nuclei. The nuclei upon which the crystals start growing are tiny and have charged surfaces in their natural condition within the water. When they pass through the field, the nuclei encounter forces that modify the electrical charge. This charge alters the growth rate and growth pattern of the crystals.



The signals render the crystals unable to stick to surfaces and also reduces their ability to attach themselves to other crystals in the form of scale. Existing scale begins to soften and is gradually dissolved into the water. Crystals of Calcium Carbonate and Silica are also mechanically separated from the scale they were bonded to so they can flow out of the system in the water.

Another source of very difficult to remove scale is Silica in the water stream. ScalePro's electronic treatment for Calcium Carbonate also affects Silica where it doesn't produce scale deposits on heating elements, fixtures, glass walls, pool walls, and cooling towers. Users who use salt-based softeners are able to protect from Calcium Carbonate scale, but salt softeners do nothing for Silica scale prevention. ScalePro does. ScalePro is effective, even on salt softened systems, in preventing Silica scale build up on glass walls, showers, pool walls, water features, and boilers. ScalePro cleans boilers and water heaters greatly increasing their life.

ScalePro Offers:

- Patented-pending technology
- Made in USA
- Lifetime Warranty
- Reduction in bacteria that tends to breed in scale deposits
- Healthy minerals remain in the water
- Chemical and salt-free solutions for problem scale build-up
- Pipes and fixtures over time become and remain scale-free
- Showerheads and faucets no longer clog up
- Also treats Silica (SiO2) scale
- Installation is simple and easy
- Works on all piping material
- Reduces energy consumption because heating elements are clean and scale-free
- Water filters and Reverse Osmosis membranes work more efficiently
- Lengthens the life of water heaters, dishwashers and washing machines
- Eats away existing scale
- Professional solution for plumbers and water specialists

Energy saving

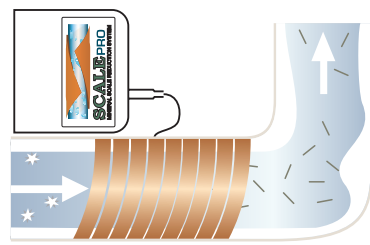
Scalepro Technology – What Makes It The Best?

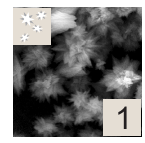
ScalePro's patent-pending high-tech electronics generate low-tech AM radio frequency waves sent through the Copper Signal Bands which emit a custom continuously changing electronic signal that alters the molecular structure of Calcium Carbonate. It's simple and effective. This affects the initial state of Calcium Carbonate and Silica crystal growth in the water, resulting in smaller crystalline structures with reduced ability to adhere to the inside of pipes, heating elements and other surfaces such as fixtures, shower doors, and dishes. The Calcium Carbonate fails to bond to surfaces and using the flow of the water, it is flushed away from the home or facility in the waste water stream. Existing scale deposits are also affected and more easily removed by the force of the water flow removing old scale layers and eventually scale deposits will be removed from the pipes.

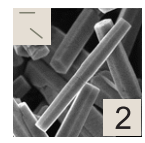
ScalePro engineers analyzed the electronic signal wave shapes and frequencies that are most effective in creating the crystal structure of scale molecules desired with low adhesion properties and high density. The signals have the sharpest square wave hammer effect on mineral ions possible. The way the signals are delivered ensures the largest treatment field in the industry, the strongest treatment field in the industry, and the best treatment technology. The signals are created with ultra high speed microprocessor electronics that are state of the art. The signals are protected such that the unit cannot be damaged by reverse polarity, plugging the wrong signal band in to the unit, or having no signal bands plugged in with power supplied. It is operator proof.

The treatment field is largest and strongest because of the signal bands. ScalePro uses thicker copper in the bands so that the signal at the last end of the band is as strong as the signal at the beginning of the band. ScalePro uses wider bands, 25% wider than competitors who use flat copper and infinitely wider than competitors who use round wire for their bands. And ScalePro uses the longest signal bands in the industry, some as long as 42 feet.

ScalePro changes the frequency of every signal band continuously. For a large unit with 10 signal bands, each pair of signal bands emits a different frequency range and even a different repeat pattern of the frequencies. Some of the signal bands treat water near the inside diameter of the pipe while other bands treat water near the center of the pipe. All of these variables have been optimized by ScalePro engineers and every ScalePro product is performance tested for every signal port.







The blue LED signal that shines through the enclosure lid can only be lit if all signal band ports are sending out the proper signals. That is why the only verification that the unit is properly working is to see the blue LED flash off briefly every 10 seconds or so. If the LED doesn't shine, the unit is not working properly. If the LED doesn't flash off, the unit is not working properly.

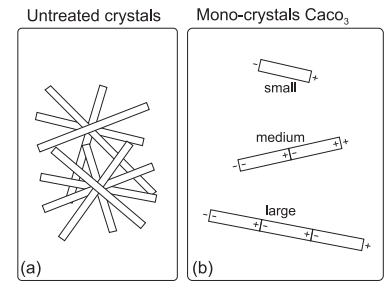
Bacterial Breeding Ground Disappears

Once the ScalePro device is placed on the water piping system, over time the scale will be removed, and thus eliminate the breeding ground for bacteria.

Corrosion – Not On Scalepro's Watch

Once the scale has been removed, ScalePro produces a protective metal Carbonate layer. It consists of Copper Carbonate, Iron Carbonate or Zinc Carbonate and settles on all metal surfaces. It protects the pipe from aggressive substances that stick to the pipe which can lead to corrosion.

External Factors And Influence On Treatment



Reforming the mineral crystals in water is influenced by many factors that need to be considered when choosing a water treatment system. Mono-crystals will do whatever they can to revert back to their old selves if there is too much time, distance and if the water is too cold.

When the minerals are treated by the ScalePro unit and their electrical properties are changed, it's important that this treatment last as long as possible. The longer the minerals remain in the water, the more they want to revert back to their natural charge state. If the scale particles are formed soon after treatment, they will form crystals that do not have adhesive properties. Obviously the stronger the treatment, the longer it will last. In warm water, (more than 30 degrees C or 86 degrees F), the treatment effect can last up to 7 days. In cold water, (below 15 degrees C or 63 degrees F), the effect only lasts 1 to 2 days. The better the electronic treatment, the longer it takes before the crystals begin forming larger sizes with more tentacles.

Does Distance Play a Role in the Life duration of the Newly Shaped Crystal?

Yes, it does and so does the complexity of the piping, the number of divisions, intersections and variations of pipe diameters and the existence of pumps all have some influence on the crystal's life. If the crystals pass through a turbulent section or a bend in the pipe, the growth of the mono-crystal is promoted and helps to extend its treatment duration.

Water Temperature, Pressure and Type of Heating Also Plays a Role

Warm water above 30C/86F has a positive effect on the growth of mono-crystals however, extreme heat such as a heating element surface temperature of above 95C (203F) can change the treatment outcome. This is because as the temperature approaches boiling, the scale crystals are left on the surface of the heating element as the liquid water turns to steam. They have nowhere else to go.

Keep in mind that high pressures such as boilers and steamers may affect the outcome of electronic scale treatment. This is because these devices run under pressure to create a higher boiling point so the minerals precipitate and form scale crystals at higher temperatures.

Water Composition Can Affect Treatment

Iron (Fe)

Iron is naturally found in water. Very high iron content is typically found in water wells which then often cause problems with rust. If the Iron content reaches more than 1 mg/l (1ppm) it will have a negative effect on the performance of ScalePro. Iron blocks the electronic signals produced by ScalePro so the Iron must be removed prior to the ScalePro unit. Iron concentration can be reduced below 1 ppm by using an iron filter available at most pump suppliers. This will ensure that ScalePro reaches its full potential.

Manganese (Mn)

High Manganese content can be found in water wells which contributes to rust colored stains. If the Manganese content reaches more than 0.1 mg/l (0.1ppm) it will have a negative effect on ScalePro by blocking some of the signals from the unit. This requires pretreatment with a Manganese filter.

Salts – (CL, PO, NO3, SO4)

Sea water contains high levels of both Calcium and Carbonate so it has the same scale issues as fresh water. ScalePro works as well on sea water as it does on fresh water.

Calcium (Ca)

When large amounts of Calcium are present in the water, scale deposits accumulate. Using ScalePro has treated cases with water hardness of 1000 ppm (59 grains hardness), or more.

Compare Products: Salt Water Softeners, Magnetic vs. ScalePro

Water softeners

Salt water softening systems have been around for a long time and they do the job of preventing Calcium Carbonate scale. They have no effect on Silica scale prevention, however. Here are the problems associated with water softeners: Salt-based water softeners use salt and chemicals to treat the water and reduce hardness. They exchange the minerals (primarily Calcium ions) with twice as many Sodium ions. It softens water but it greatly increases the sodium content of the water which can cause ill health effects and can be a threat to the environment.

Water softeners are expensive and sometimes require professionals to do the installation. They need to be regularly refilled with salt, backwashed, and routine maintenance needs to be performed on the valves and measuring station. They require large amounts of salt and enormous amounts of extra water – up to 30-80 gallons per backwash to operate. The salt water softener solution for hard water is both costly and labor intensive.

There are health issues for babies, children, and the elderly and those on salt-restricted diets. Sodium is known to increase blood pressure by constricting blood vessels. Softeners are very effective in removing, or at least reducing, the amount of Calcium and Magnesium in the water. But Calcium is a required mineral in diets so using salt soft water may require supplementing with other Calcium sources. Most softeners are installed only on the hot water side of the plumbing system. This allows the cold water to be un-softened water for drinking and cooking. Bypassing the cold water tap for the kitchen prevents minerals from being removed. The problem with that scenario is that only part of the water system is protected from scale formation.

Check with your local municipality before installing a salt water softener as local and federal governments are starting to ban the installation and use of salt-water softeners. California was the first state to ban salt-water softeners due to the environmental impact it was having during the drought. 25 communities have recently restricted or banned the installation and use of this type of softener. Other states like Texas are following suit. Keep in mind that there is a finite amount of fresh water on earth and every drop that has salt added to it is no longer fresh water.

Magnetic Systems

Electromagnetic-based water treatment systems produce a magnetic field. So do permanent magnet devices. Both are on the market. These devices have a completely different treatment method than ScalePro. They have had limited success in the field.

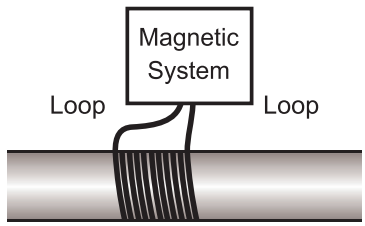
Magnets do not penetrate through metal very well. Most distributors installing this type of system will insist on installing plastic pipes where the unit would be placed. Though magnetism is a powerful force and can be attributed to positive effects on organisms; magnets also attract metallic objects no matter their size. When the electromagnetic cables are placed on a piping system they of course become magnetic. All the magnetic particles in the water become firmly connected to the inside of the pipe. This happens on plastic or metal piping. As time passes (a short duration), the inside of the pipe becomes filled with metal-dirt-particle that becomes a perfect breeding ground for bacteria and other substances. Manufacturers of these devices recommend turning the unit off and flushing the pipes every six months as a solution to this problem.

Additionally, the complex electric impulse field only works if the water inside the pipe flows by the magnetic field at the correct speed (velocity). If the speed is correct the impulse is created. If the speed of the water is too fast or too slow, the impulses are not generated or they are generated incorrectly.

Contrast this to ScalePro where there is always an electrical impulse. Remember ScalePro works with an electronic control unit that produces the impulse signals that are transferred to the copper bands that are connected to the piping system. This insures that all water gets fully treated, all the time.

Most electromagnetic units have a plastic box where there are cables emerging. The electronics in the box produce electricity which runs in the electric cables and comes back in a loop. The difference in the ScalePro method is that the copper bands do not loop back to the box. They end on the pipe.

ScalePro is a totally electronic water treatment system. It uses no chemicals or salt. It is dependable, environmentally friendly and completely stops the formation of hard water scale, without the drawbacks of magnetism. The annual energy consumption is minimal.



ScalePro - Home, Industrial, and Commercial Applications

Home Use

Preserve the value of your home or facility by using ScalePro Water Treatment System. Scale eventually builds Calcium Carbonate (hardness) deposits on pipes, heating elements, plumbing fixtures such as toilet bowls, dishwashers, faucets and glass showers when left untreated. ScalePro's electronic impulses take away that adhesive power of the particulate so it is simply washed away with the water. The build-up process is reversed and the piping system is clean once again. ScalePro prevents pitting and corrosion which can compromise the integrity of the piping system.

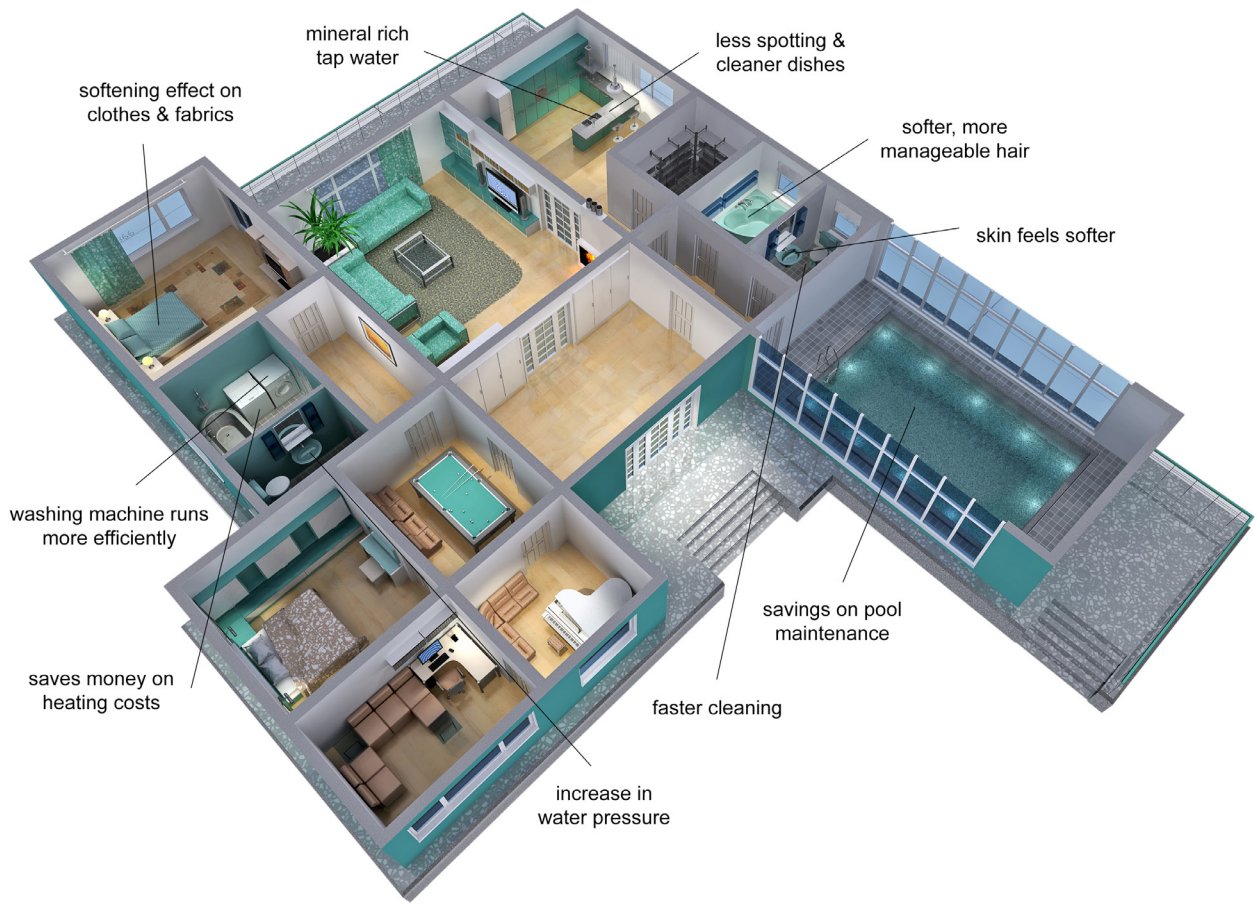
ScalePro is the money-saving, time-saving, hassle-free scale prevention choice for your home, business, factory, restaurant, car wash, swimming pool, or industrial complex.

ScalePro

- Easy to install, no plumbing required
- Maintenance-free
- Lifetime Warranty
- Reduces bacteria that can breed in scale deposits
- Healthy minerals remain in the water
- Showerheads and faucets no longer clog
- Also treats Silica (Si02) scale
- Works on all pipe materials
- Reduces energy consumption because heating elements are clean
- Water filters and Reverse Osmosis membranes work more efficiently
- Improves water heater efficiency and extends the time between service calls
- Lengthens the life of dishwashers, and washing machines

Home Use Cont.

- Reduce the amount of detergent or cleaning solution by 25% or more
- Promotes softer water, hair becomes shinier and skin will feel smoother
- No magnets – Signals are all square wave AM radio frequency
- Eats away existing scale
- Professional solution for plumbers and water specialists
- Environmentally friendly
- Garden sprinklers work like new again – nozzles stay free of scale longer and stuck heads unstick
- Plants have less scale spots on the leaves and they look healthier
- Will protect against corrosion and pitting
- Minimizes rust that imbeds in scale deposits
- Water flows freely again as normal water pressure returns
- Drinking water is mineral rich for a healthy diet and can provide the best tasting water possible
- Protects swimming pool equipment that is prone to scale deposits, making cleaning much easier



- Circulation pumps last longer, sand filters need less changing, reduce the amount of chlorine
- Pools are easier to clean as the scale on the water line is looser and easier to wipe away
- Hot tubs, covers and tiles on the floor or walls will show less hard scale stains
- Reduces scale deposits on pipes and valves
- Protects hot water tanks and vacuum tubes and keeps the systems from over-heating
- No more need to circulate acids
- Protects solar water heaters, saves on energy, cleaning and repairs – extends the life of the equipment
- In salt water softeners ScalePro will decrease the amount of salt needed and maintenance intervals will be extended with fewer malfunctions on backwash valves, etc.
- Reduce running costs by eliminating salt softeners and save as much as $100-$200 per year
- Reduce the amount of water wasted using a salt softener. 30-80 gallons of water are wasted each time the softener is backwashed.

ScalePro Saves Money

From the time ScalePro is installed it begins working to de-scale the inside of pipes, equipment, and fixtures. It will protect the whole piping system in your home or business, reducing already existing deposits and preventing future ones from growing. It goes to work 24/7, protecting washing machines, water heaters, dishwashers, and heating systems. Maintenance costs and repairs will be reduced, filters, shower heads, toilet bowls and tiles stay clean. You will save money on detergents, rinse aids, and fabric softeners.

ScalePro is easily installed without the need for a plumber. See instructions on page: 36 or visit www.scale-pro.com for more detailed information and a video of installation.

By installing ScalePro you will increase the value of your home because your home is scale free. ScalePro is a maintenance-free water treatment that conditions all the water running in your home or plant.

Commercial and Large Buildings, Restaurants, Bars, and Fast Food

Hard Water Scale: A Visible and Hidden Problem in Restaurants and Commercial Buildings

Managing a large building demands constant observation of all technical and mechanical equipment, sanitary stations, outdoor areas, kitchen equipment, boilers, etc. Mineral scale build-up negatively impacts many aspects of the operation of restaurants and kitchens. The obvious impact of scale is visible as unsightly residue on kitchen and bathroom surfaces, equipment, dishes, glassware, etc. The hidden impact of scale can actually be more dramatic and costly long term such as build-up in pipes, grease traps, dishwashers, ice machines, water heaters, etc., as well as requiring more special soaps and detergents.

ScalePro Benefits

- Reduction of scale deposits in the piping system
- Less time and effort to maintain buildings and facilities
- More efficient water heaters and boilers - less energy required
- More efficient ice makers - scale doesn't impede heat transfer

- Ice doesn't contain floaties that are visible in the bottom of beverages
- Bread warmers and humidifiers require less maintenance
- Machinery and equipment perform more reliably e.g.,
- kitchens, cooling towers, heating systems, etc.
- Easier and faster cleaning times for kitchens and bathrooms
- Filters, shower heads and basins stay cleaner
- Considerable savings on cleaning agents
- Food and beverages keep their natural taste

ScalePro dissolves already existing deposits in the piping system. The scale build-up process is reversed and the pipe gradually becomes clean again. This take-out process will not congest pipes or drains because the treated crystals are microscopic and wash away in the water.

- ScalePro stops scaling in pipes and appliances
- ScalePro gently sanitizes the piping system
- ScalePro protects again

Cooling Tower Treatment Product Series

Discover the maintenance-free, safe and environmentally technology for preventing scale in cooling towers and related systems.

Mineral scale build-up is the enemy of residential, commercial and industrial water systems. In cooling towers, mineral scale deposits form on the media where water is cooled and evaporates and is present in makeup water. Scale builds in the cooling tower nozzles, recirculation plumbing, recirculation pumps, tower basin, and other connective elements in the system and tower itself.

The build-up of scale impedes performance of the system, decreasing heat transfer efficiency and capacity of the system. Scale formation can also become a breeding ground for dangerous bacteria, including Legionella. Left untreated, scale can shorten the lifetime of the tower, increase costs for water and energy, and actually render a cooling tower inoperable.

REDUCE SCALE BUILDUP *SAVE MONEY AND ENERGY*

ScalePro's advanced system emits custom electronic signals that break down particles, thus reducing their size and their ability to crystallize and adhere to surfaces. This prevents scale from building and helps increase water flow breaking down deposits that already exist.

ScalePro Benefits

- Eliminates or significantly reduces de-scaling chemicals
- Eliminates labor to do chemical descaling
- Reduces downtime for chemical descaling
- Maximizes and increases life of production equipment
- Lengthens maintenance schedules
- More efficient use of energy consumption
- Easier and less-frequent cleaning process
- No production loss during installation
- Fast return on investment – typically under 1 year payback

Industrial Applications

- Cooling Towers
- Heat Exchangers
- Chillers
- Refrigeration Systems
- Vacuum Pumps and Valves
- Grinders and Mixers
- Condensers
- Industrial Ovens and Presses
- Food Processing

Pools, Spas, Water Parks

Mineral scale build-up negatively impacts the operations of pools, spas, water parks or any facility with water features. The unsightly white reside on walking surfaces and pool walls is difficult and costly to remove with chemicals or scrubbing. Swimming pools are half-open loop systems which suffer constant water loss as the pool water evaporates. The hidden impact of scale can actually be costlier long term, as it builds up in pipes, valves, heaters and boilers, and sprinkler systems, reducing water flow and heat transfer efficiency.

Maintenance managers are looking for a more efficient way to eliminate scale than using chemicals, salt softeners (that are ineffective on Silica scale), and mechanical means. These methods are costly, messy and are only temporary solutions to scale build-up.

ScalePro treats water electronically, preventing scale from forming. ScalePro emits custom AM radio signals that keep scale particles from being able to adhere to surfaces or to other scale particles. The Calcium Carbonate stays in the water and flows out the drain. Treated water begins to break down scale deposits that are already in the system.

ScalePro Benefits

- Reduction of scale deposits at the water line in pool walls
- Reduction of scale deposits on decks and tile walkways
- Reduction of scale in the piping system
- Longer Life and improved performance of filters and pumps
- Extensive reduction of cleaning effort
- Savings in cleaning agents and chlorine
- Heaters, boilers, and heat exchangers operate more efficiently
- Reduction of chemicals that control bacteria and pH-levels
- Reduction of biofilm that grows on scale

Snow Production

ScalePro improves the quality of water and maximizes snow production. The quality of the snow is largely dependent on the quality of the water. ScalePro's technology treats the minerals so that they don't negatively impede the way water freezes. It changes the typical crystal structure of ice from a disordered clutter to well aligned mono-crystals. Water droplets are finer, and encourages better snow production and a snow crystal that lasts longer.

Snowmaking the ScalePro Way

ScalePro improves the quality of water and maximizes snow production. The quality of the snow is largely dependent on the quality of the water. ScalePro's technology treats the minerals so that they don't negatively impede the way water freezes. It changes the typical crystal structure of ice from a disordered clutter to well aligned mono-crystals. Water droplets are finer, and encourages better snow production and a snow crystal that lasts longer.

- Water surface tension decreases by 15-20%
- Snow and ice crystals are more stable and produce mono-crystal nuclei in the water
- Finer mist and pulverization with finer water droplets
- ScalePro prevents scale build-up in the pipe and nozzles
- Improve Snow Production
- ScalePro improves snow structure, water content, density, temperature and grain size
- Prevents scaling of the cannon's spray nozzles
- Maximizes production output with less water loss
- Finer snow crystals with a decrease of diameter (-20%) and a decrease of volume (-45%)
- Finer water droplets freeze earlier in the process
- Snow contains less unfrozen water and the snow is dryer
- Smaller and dryer crystals have a lower temperature of approximately -2.5%C -4.5%F

On the Ski Slope

- Snow production is possible with a higher temperature
- Produces dryer snow for a better skiing experience
- More compact slopes and less icing
- Finer crystals reflect more sunrays and therefore last longer in sunlight
- Rain water penetration is minimized
- Warm-air infiltration is minimized

ScalePro technology is based on the principle of physical water treatment. Special electronic impulses change the crystallization of the water minerals. This minimizes the adhesive properties of the scale particles and at the same time, produces ice mono-crystals that are ideal cores for snow crystal formation.

Hospitals, Medical Facilities, Clinics

Hard Water Scale: A Systemic Problem for Hospital Operations

Hard water scale negatively impacts everything related to water use in hospitals and medical facilities. Hard water scale is formed when pure water evaporates leaving the minerals in the water, such as Calcium Carbonate and Silica, to deposit and stick to surfaces where the water dries. Without treatment, hard water scale build-up decreases heating efficiency and thus increases energy and water costs. Scale is also unsightly, particularly in medical facilities where the public expects ultra-cleanliness. Scale is very porous and therefore is a breeding ground for harmful bacteria such as those that cause Legionnaires' Disease.

Traditional salt water softeners adversely affect the water quality by removing beneficial Calcium and replacing it with Sodium. The cost of salt and the cost of maintenance on the softener can be completely eliminated with ScalePro.

ScalePro Benefits

- Longer life of appliances and equipment
- More sanitary environment for patients and staff
- Reduced cleaning and maintenance costs of equipment
- Patients suffering from eczema will notice an improvement in the texture of their skin
- Less detergents and soaps will be needed
- Reduction of chemical and salt costs
- Chlorine and ammonia will have a more moderate odor

Examples of Applications

- Hospitals and Clinics
- Nursing Homes and Assisted Living Homes
- Dental Offices
- Rehabilitation Centers
- Spas and Wellness Centers
- Spas and Wellness Centers
- Pharmaceutical Factories
- Post-Operative Care Facilities

Hotels, Restaurants and Casinos

Scale: A Persistent Challenge for Hotels and Restaurants

Mineral scale build-up negatively impacts many aspects of the operations of hotels, restaurants, casinos, long term living complexes, etc. The obvious impact of scale is visible as unsightly residue on sinks, showers, pools, spas, kitchen equipment, shrubs, flowers and grass. The hidden impact of scale can actually be more dramatic and costly long-term such as build-up in pipes, water heaters, boilers, appliances and sprinkler or irrigation systems.

Facility managers are well aware of the problem of scale. Common ways to solve scale issues include water softeners and chemicals. These treatment methods are not without their downsides: messy and hazardous, high cost of chemicals and salt, related corrosion issues, repeated high maintenance costs, etc.

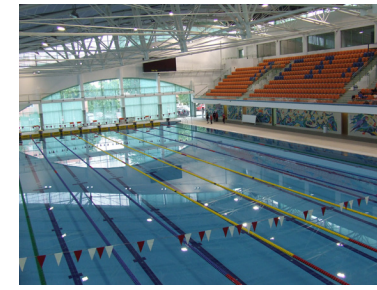
ScalePro Benefits

- Reduces scale deposits in the piping system
- Improves performance and extends life of appliances, particularly water heaters
- Reduces labor and cleaning costs
- Reduction in maintenance visits for water heaters, washing and dishwashing machines
- Savings on soap and other cleaning agents
- Softer towels and bed linens

Examples of Application

- Hotels and Resorts
- Restaurants and Professional Kitchens
- Wellness Centers
- Swimming Pools
- Food Processing
- Cooling Towers
- Golf Courses
- Camping Grounds
- Sport Facilities

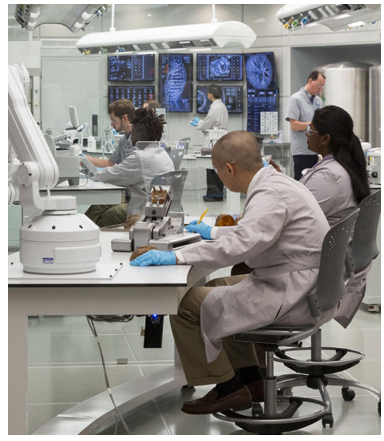





Colleges Schools, Training Centers

Hard Water Scale: A Challenging Hazard to Address and Manage

Hard water scale build-up negatively impacts the operations of colleges and schools. The obvious impact of scale is visible as unsightly residue on kitchen and bathroom surfaces, pools, cafeteria equipment, dishes, glassware, etc. These scale deposits can be more dramatic and costly long term as build-up in pipes boilers, water tanks, chillers, dishwashers, ice machines, and showerheads, etc.



Hard water scale forms when pure water evaporates leaving the minerals (such as Calcium Carbonate and Silica) in the water, on surfaces where the water dries. Left untreated hard water scale build-up decreases heating efficiency, thus increasing energy, and water use costs. It also reduces the life expectancy of appliances and capital assets such as cooling towers, air conditioners and boilers.

When it comes to managing the physical operation of a college or school campus, this problem can be complex, and time consuming in terms of labor and expense.

ScalePro Benefits

- Reduction of scale deposit in the piping system
- Less time and effort maintenaning buildings and facilities
- Machinery and equipment performs reliably
- Energy savings by not having heating elements coated in scale
- Faster and easier cleaning of kitchens and bathrooms
- Filters, shower heads and basins stay cleaner
- Considerable savings on cleaning agents
- Cleaner sprinkler heads for irrigation of landscapes
- Food and beverages keep their natural taste

Examples of Applications

- Building Maintenance
- Dormitories
- Kitchens and Restaurants
- Sport facilities and locker rooms
- Swimming pools
- Science laboratories
- Gardening, Landscape and Greenhouses

Agriculture, Nurseries, Wineries, Farming and Poultry

Environmentally Friendly ScalePro Maximizes Efficient Use of Water

Our natural resources, water in particular, are often mismanaged. When hard water is used to irrigate crops, (corn, soy-beans, fruit, nuts, and other vegetables), scale deposits form on the plant leaves which can obstruct the sunlight, thus hindering the process of photosynthesis and slowing the growth cycle of the plant. Scale can also act as a magnifying glass with its crystal like makeup and can burn plants. Residual nitrates are left behind when using salt based ion exchangers, thus compromising ground water. Traditional water softeners have a negative effect on our environment, they are just not the most responsible method to get the job done. ScalePro offers the best chemical-free solution for meeting EPA water guidelines.

ScalePro lowers the surface tension of the water making it easier for plants to absorb. It is not only effective in the case of irrigation, but also in providing fresh water to livestock and poultry. Maintenance of water using equipment, cleaning nozzles and pipes etc. is easier without scale, reducing labor costs and water costs. Additionally, bacteria will not be able to accumulate and thrive in this host-free environment.

Poultry Farms including:

- Incubators stay clean and humidifier systems operate better
- Improvement of cooled refrigeration equipment
- Cleaner drinking cones and cooling panels
- Nipple drinkers, bell drinkers and spray nozzles stay clean and clear of build-up
- Decrease in bacteria and algae levels
- Decrease of poultry leg infections

Examples

- Irrigation Fields and Sprinklers that don't restrict or plug
- Water Feeders for Animals
- Organic Food Plants
- Livestock Ranching
- Green Houses
- Vineyards
- Fruit and Vegetable Plantations

Water treatment for Maritime Applications:

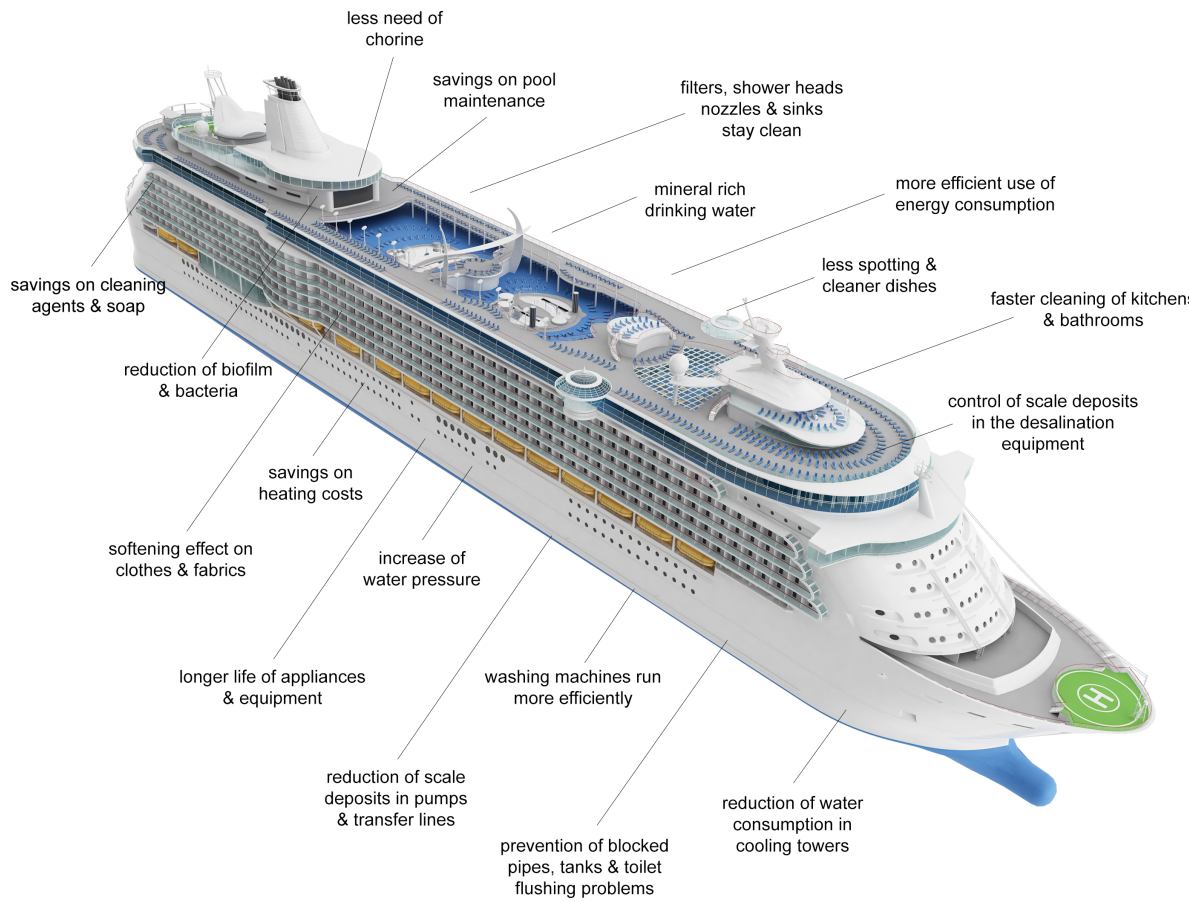
Ships carry a lot of machinery and equipment that come in contact with water. Scale deposits in the piping system can cause fatal damage to engines and turbines. Keeping water on board the ship in bathrooms, kitchens and swimming pools in clean condition is essential to the health of passengers and the longevity of machinery.

Benefits to using ScalePro:

- Reduce scale deposits in the whole piping system
- Minimizes overall operating costs and maintenance
- Maximizes life of appliances and equipment
- Reduces bacterial growth and biofilm
- No need for aggressive chemicals or salt
- pH levels remain unchanged – preventing corrosion
- ScalePro is effective in low-flow areas
- Reduces hot water energy consumption

Examples:

- Cruise Ships
- Cargo Ships
- Military Vessels
- Science and Research Ships
- Merchant Ships
- Yachts
- Ferries



Commercial and Industrial Savings Potential

ScalePro's environmentally friendly electronic water treatment system will save time and money from the day of installation. The return on investment is listed below.

Savings for Large Buildings

- Pipes and appliance stay cleaner
- Heating systems operate more efficiently
- Cleaning costs are reduced
- Less maintenance and repairs on equipment
- Reduced costs on salt and chemicals
- It is common to see ScalePro payback in less than 1 year.

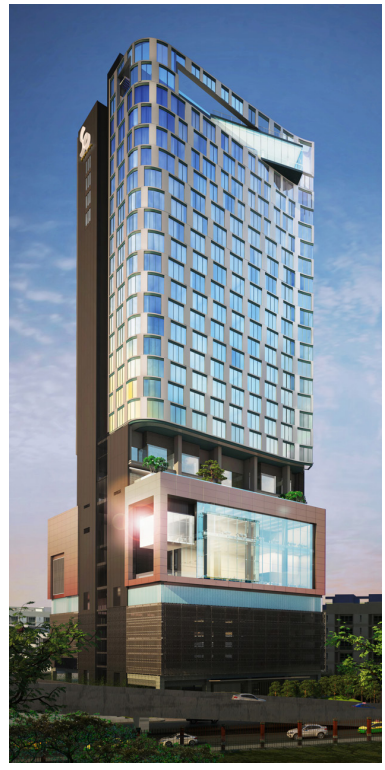
Increase the Efficiency of Heating Systems

When water is heated in a water heater or with a tank-less water heater, shard water always leads to scale deposits on the heating elements. This layer inevitably causes a great reduction in the capability of the heat to transfer. A scale deposit of only 2mm (~0.078 inches) can lead to an **energy loss of more than 15%**. The increase in heating time leads to a significant rise in energy consumption. Heating elements that cannot transfer the heat they generate as fast as they create it, overheat and burn out quickly.

Hotel Operation Cost Saving Factors

Saving potential for hotels includes:

- Number of rooms
- Number of bathrooms/toilets
- Size and number of restaurant kitchens
- Size of pool and spa areas
- Daily laundry volume
- Type and dimensions of heating systems
- Number of cooling towers and dimensions
- Garden and landscaping areas that need irrigation
- Daily consumption of water



Savings on Equipment

Water softeners are costly to maintain and require hundreds of gallons of water to operate. Every time the softener resin needs to be backwashed, many gallons of water are flushed down the drain. ScalePro improves the performance and efficiency of machines that function with water, saving hundreds of dollars in repairs, chemicals, water, and maintenance.

Typical Money-Saving Areas

- Scaling inside machines is minimized
- If additives are used, they are often more effective and last longer
- Machines can run longer before needing to be serviced
- Cleaning parts becomes easier and less costly
- Repairs are minimized and there is less need to replace individual parts
- Tanks that carry water or other liquids need less maintenance and cleaning. Service time results in fewer production breakdowns.
- Bacterial and biofilm growth is reduced requiring less control measures and chemicals to combat the issue

Heating Water - Solar or Standard Systems

Scale settles on heating elements and heat exchanges when the water is boiled away. It may seem that if the heating element is below the water line, the water never boils away, but as the water absorbs the heat from the element, small water vapor bubbles form on the heating element. There is no Calcium in those bubbles. Where did it go? It has nowhere to go but onto the hot element, forming a hard sticking scale deposit. Within seconds, another bubble forms and more Calcium Carbonate is forced to precipitate out onto the element, but this time, it sticks to the first scale deposit. Quickly it builds up thick enough that the heater cannot rid itself of the heat it is making. It has no option but to keep making heat until it gets so hot that it eventually burns out.

This occurs in gas, oil, electric or solar heating technologies. The loss of energy due to less efficient or blocked heat transfer is tremendous and the heat transmission coefficient decreases. ScalePro reduces scaling and water tanks in the primary and secondary circuits will need less cleaning. The frequency of cleaning periods is extended. ScalePro is effective on all types of exchangers: tube bundle heat exchangers, spiral tube heat exchangers, plate heat exchangers, ripped recuperators, etc.

Home and Building Settings

Regulations for water temperature in houses and buildings state that the warm water pipe shall not carry water hotter than 64C (147F). Any temperature above this would create a risk of serious burn. Furthermore, the water should be heated to meet a minimum of 60C (140F) to control Legionella. **Therefore: water is normally heated to 60-64C (140-147F)**

Standard Water Heaters: electric, gas, oil (with a tank)

Standard water heaters operate with a heating element temperature above the boiling point which is 100 degrees C, 212F. When hard water scale builds up on the element, heat cannot be transferred as fast as it is created. This is what burns them out. Without scale build-up, the water is slowly and economically heated in a tank where the water is stored for usage. Once highly scaled, heating element peak temperatures greatly exceed boiling temperatures.

Instant (on-demand) water heaters: electric, gas, oil

On-demand water heaters do not have a tank. They quickly heat the water from cold-to-warm/hot, the moment warm water is needed. The cold water needs to be heated within a few seconds which demands higher heating element temperatures. These instant water heaters operate with higher heating element temperatures than 95C (203F).

As a rule of thumb for water heater systems is: *If the heating element surface temperature is less than 95C (203F) because of no scale buildup, heat generated will be efficient. ScalePro ensures no scale build- up in tankless water heaters*. Most tankless heater manufacturers require twice annual acid wash of the boiler assembly. This requires an expensive service call twice a year. ScalePro eliminates the need for this acid wash by keeping the boiler free of scale without chemicals. No manufacturer will support electronic scale treatment in lieu of a service call because the service call keeps the manufacturer's customers, the plumbers, employed. However, if a ScalePro is installed on a tankless heater, to gain confidence, proceed with the next acid wash service and watch the result in the form of no scale in the acid.

Think about this. If the tankless heater starts scaling right after acid wash and still operates a year later, imagine how efficient it would be if it was clean the entire year. There is no damage to the metals in the boiler, efficiency is higher, and there is no restriction in flow rate ever.

At home the ScalePro water treatment is highly recommended even if you operate a water heater with a heating element temperature above 95C (203F). ScalePro will be effective in all areas where water is piped. In the water heater, scale on the heating element will be eliminated.

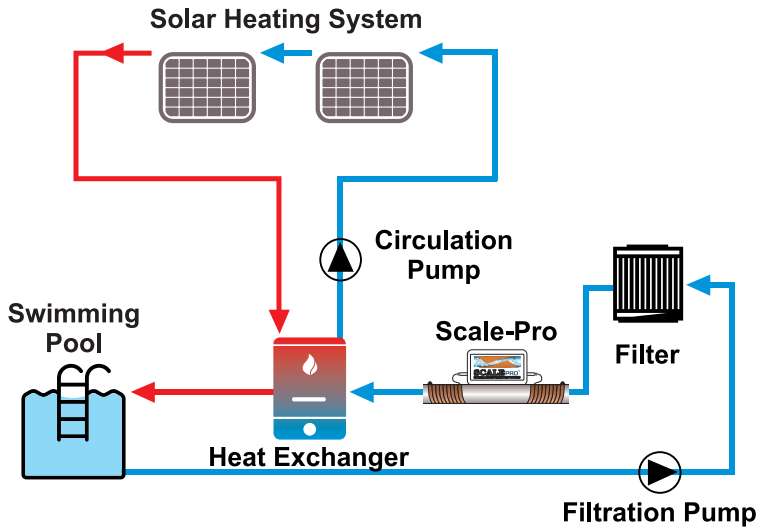
For factories that operate on a large scale and have large water heating systems that have to be cleaned frequently by professional services, the scaling on the walls will be reduced significantly. Maintenance intervals will be reduced. And any scale that has formed will be easily removed. The use of chemicals can be reduced or even discontinued.

For professional kitchens and food processing industries that operate grease separators, ScalePro will improve the handling of grease traps in two ways: 1. grease that is collected on top forms fewer clusters and is more homogenous which makes it easier to pump it into an external tank. 2. ScalePro prevents the remaining water from scaling in the tank and pipes. Valves and pumps stay cleaner.

In professional kitchens, restaurants and hotels, ice machines consume high amounts of energy. The ice cube's quality largely depends on the water quality which is improved when ScalePro is installed. Ice machines build less deposits during production which keeps machines running faster and more smoothly. The elimination of "floaties" in beverages when scale from ice swims around in the bottom of the glass helps give the customer confidence in the cleanliness of the kitchen.

Solar Water Heating

The use of solar powered water heaters has increased in recent years. Depending on location, it can be a great choice and alternative to traditional heating methods. They utilize sustainable resources, help the environment and save money. In order to ensure the effective performance of these eco-friendly heating systems, engineers recommend the use of anti-scale products. When there is an increase in water temperature or pressure, scale has a tendency to form, leaving deposits on the tubes and heat exchangers, collectors and tanks. The scale prevents heat from transferring efficiently, therefore the working capacity of the system is reduced, increasing your back-up energy bill. ScalePro is the answer for this chal

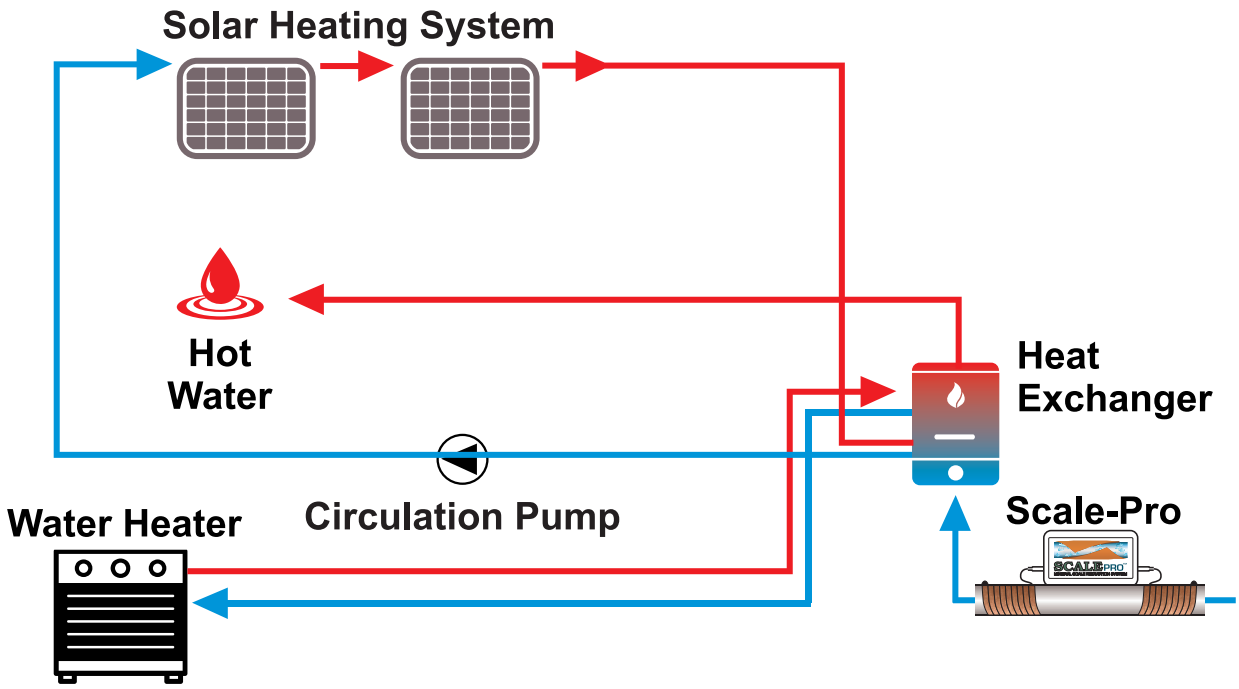


lenge as it will reduce scaling and effectively dissolve existing deposits in the solar water heating system.

Solar water heating systems have become so popular that they can now be found in private homes, green buildings, factories and farms, apartment buildings hotels and resorts, universities swimming pools, and sports complexes.

ScalePro Benefits with Solar Heating Systems

- Cleaner heat exchangers and distributor pipes
- Reduces scale build-up in collectors
- Protects hot water tanks and vacuum tubes
- Protects system from over-heating
- No need to add circulate acids
- pH levels remain unchanged, preventing corrosion
- Reduces malfunctioning of valves in primary circuits
- Fewer maintenance calls are required for equipment



Installing ScalePro

When choosing a ScalePro unit the diameter of the pipe will tell you what size of unit you need for your water treatment equipment.

ScalePro electronic impulse system treats the water as it flows by. It is important to submit the right impulse strength everywhere in the pipe so that all the water is treated correctly. The impulse should not be too weak. This will ensure that the same strength of impulse is present throughout each individual pipe diameter. The impulse needs to reach equally to the outside rim of the pipe as well as to the center. Two small units do not equal a bigger unit. Do not combine units.

ScalePro Unit Sizes

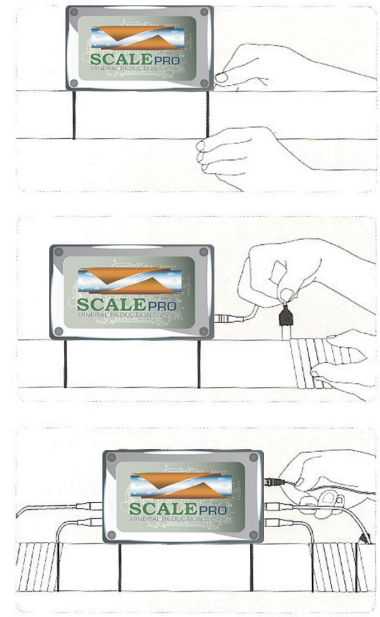
ScalePro Model	Pipe Size	GPM	Electrical	Signal Band	Band Length	Band Width	Pipe Length
SP – 100	1.5 inch 40mm	14	120 VAC 6 Watts	1 pair	2 feet	½ inch	10 inches
SP – 200	2 inch 50 mm	25	120 VAC 6 Watts	2 pairs	3 feet	½ inch	16 inches
SP – 300	3 inch 80 mm	56	120 VAC 6 Watts	2 pairs	5 feet	1 inch	26 inches
SP – 400	4 inch 100 mm	120	120 VAC 6 Watts	3 pairs	6 feet	1 inch	36 inches
SP – 600	6 inch 150 mm	450	120 VAC 6 Watts	4 pairs	9 feet	1 inch	66 inches
SP – 812	8-12 inch 300 mm	1600	120 VAC 6 Watts	4 pairs	25 feet	1 inch	99 inches
SP – 2000	14-20 inch 500 mm	2800	120 VAC 12 Watts	5 pairs	42 feet	1 inch	124 inches
SP – 3000	16-30 inch 770 mm	5700	120 VAC 12 Watts	5 pairs	42 feet	2 inch	204 inches

Six Easy Steps for Home Use

1. If the pipe is insulated, remove the insulation for the pipe length required.
2. Attach the device to the water inlet pipe to the facility with wire ties.
3. Wrap the copper signal bands tightly around the pipe. Tape each end securely.
4. Plug the signal bands into the device.
5. Provide power to the wall charger and plug it into the unit.
6. Replace the insulation.

The blue light indicates that ScalePro is working. It flashes off briefly every 10 seconds.

Installing into buildings, commercial, or industrial, the installation is the same - just a larger
unit is necessary with more signal bands



Factors That Might Influence the Installation Location

- Insulation material should be dismantled before the installation of a ScalePro device. After installing, it is recommended to replace the material as an additional protection for the impulse bands and the device.
- Regarding filters, it is important to install the device after the filter.
- If the pipe that ScalePro is installed on is carrying hot water, check that the pipe's outside temperature does not exceed 150C (300F). Temperatures above this may harm the insulation of the copper impulse bands. ScalePro can supply special signal bands for these applications.
- Outdoor installation settings require a weather tight enclosure. ScalePro can provide this protective NEMA 4 protective enclosure. Solar panels that run on 24 V can easily be installed in any outdoor scenario. They are backed up by a battery to secure a full 24-hour power cycle.

Water Hardness Classifications

Water Hardness	PPM (parts per million – mg/l)	GPG Grains per gallon (US)
Very soft	1-70	1.0-4.2
Soft	71-125	4.3-7.2
Medium Hard	126-250	7.3-14.6
Very Hard	251-500	14.7-29
Extremely Hard	501 and more	30 and more

FAQs – Frequently Asked Questions

Q: How long does it take for a non-plumber to install ScalePro?
A: Installation is done by:

1. Attaching the controller to the water pipe to the facility with the wire ties
2. Wrapping the signal bands tightly around the pipe with a tiny gap between them, then taping them securely on both ends. This keeps the bands as close to the water as possible.
3. Then, plug the signal bands into the controller and
4. Plug the 24VDC power supply into the controller and then connect the power supply to any electrical outlet.
5. The blue light indicates ScalePro is working. It flashes off briefly every 10 seconds.
6. The installation takes 3-4 minutes for Model 100, and 30 minutes for Model 600.

Q: What maintenance is required for ScalePro?
A: Absolutely none. Occasionally check that power is still on and the blue light flashes every 10 seconds. Confirm that the wraps are still tight around the pipe. If they come loose, the signals are not transmitted as well to the water in the pipe.

Q: Are there any harmful effect of the electric signal to people or animals?
A: The signals are very low power radio signals in the VHF range (bottom of the AM scale on the radio). There is no harmful effect to people or animals. VHF radio frequencies are everywhere all the time.

Q: If ScalePro makes Calcium unable to stick to pipes, where does it go?
A: The dissolved and un-dissolved Calcium stays in the water and is eventually consumed by drinking or flowing down a drain.

Q: Is the Calcium harmful in the drain?
A: No. It is already in the water from the source and it wasn't harmful to be sold to you from the water district. It surely isn't harmful to be re-accepted by the utility in the drain.

Q: Why do you say there will be less bacteria in my water system using ScalePro?
A: Calcium Carbonate (hard water scale) deposits are porous and they create surfaces and pores for mold and bacteria to attach and grow. Water treated with ScalePro slowly breaks the attaching abilities of the scale that is already in the pipes, and the scale deposits eventually releases the other scale molecules and pipe surfaces where it cannot reattach, and it is flushed out of the system. If black mold or bacteria is attached to the scale, it gets flushed out too when the scale lets go.

Q: How long will I see plugged faucet screens and shower heads after I install ScalePro?
A: The answer depends upon how badly scaled your system is and how much water you flow through it. The more treated water flows through the more it can act on old scale. Some very old steel pipe facilities see chunks of scale break free for 6 months after installation of ScalePro while the flow rate doubles or triples. But most installations have the build-up of scale removed in 3-4 months. It is faster with plastic pipes. Dishwashers clean up in a few weeks.

Q: What will all the scale removed do to drinking water?
A: Some "purified" drinking water bottlers use a process called deionization. This process removes all the Calcium and other ionic impurities. The "purified" water must have certain minerals put back into the water to make it taste good. One of these minerals is Calcium. As large chunks of scale break free in pipes and fixtures, they typically get stopped in faucets and shower heads by mechanical strainers and must be removed if they slow the flow rate. In hoses and large valves, they are not stopped and simply flow through. Once the scale deposits are cleaned out of the piping system, they do not form again and the plugging of faucets and shower heads ceases. This usually takes a few weeks.

Q: Why do clothes, skin, and hair feel softer?
A: Untreated water contains Calcium Carbonate that is able to stick to surfaces. Skin, hair, and fabric have fibers with lots of surface area where this mineral can adhere. Though you will never have scale thick enough to see on your clothing or skin, having no minerals makes these fibrous items feel softer, particularly hair.

Q: How long should my water heater last using ScalePro?
A: Water with 15 grains of hardness typically allows water heaters 15 years or more to plug with scale. 45 grain hardness water regions get 5-10 years from water heaters. Many areas of the world have to replace water heaters every 2-3 years due to scale build-up. Plumbers claim it takes two men to carry out an old water heater, but only one to carry in the new one. The reason is the weight of all the scale in the bottom that was created by boiling the water on the surface of the heating element creating scale on the element thick enough to reduce the effectiveness of the heater. When the water heater calls for more heat, the expanding element cracks the thick scale deposit off and it falls to the bottom of the tank. This cracked off scale can get as deep as a foot or more in the bottom of the water heater tank reducing the ability of the heater to catch up. Eventually the cold water is so far removed from the element that the element overheats and burns out. This happens to gas fired water heaters as well where the burner cannot get the heat into the water as fast as it is created and the burner fails.

This cracked off scale can get as deep as a foot or more in the bottom of the water heater tank reducing the ability of the heater to catch up. Eventually the cold water is so far removed from the element that the element overheats and burns out. This happens to gas fired water heaters as well where the burner cannot get the heat into the water as fast as it is created and the burner fails.

Using ScalePro, hard water scale cannot form on the heating element and therefore the scale can't break free and lay in the bottom of the tank. This allows the cold water entering the water heater to have perfect access to the element or burner and it allows the element to be able to release its heat as fast as it creates it. This extends the life of the element 3-4 times and doesn't allow scale to build-up in the bottom of the tank. Water heaters should last 20 years.

Q: Will ScalePro lower my energy bill?
A: If scale is not allowed to form in pipes and on fixtures and heating elements, the amount of energy required to heat water in water heaters, dishwashers, and boilers is reduced by not heating through scale deposits. Efficient heat transfer from heating elements to water reduces the total energy required to do the job. Customers have reported setting their water heaters at a lower temperature when ScalePro has de-scaled their system. Others who pump from wells have seen the flow rate increase enough that they can set their system pressure at a lower setting, reducing energy demand. Saving $10 to $20 per month on energy is not uncommon for the ScalePro residential applications.

Lifetime Warranty, Refunds, and Return Policy

LIFETIME WARRANTY

ScalePro products must be installed by factory certified technician to activate the warranty. ScalePro warrants all ScalePro products to be free of defects for the life of the product. If at any time a customer wants to repair or replace a ScalePro product because of perceived product performance, ScalePro, or its representative, will verify proper installation and verify new scale is forming. If a warranty claim is substantiated, the customer pays for return shipping to factory and ScalePro will either repair or replace the product at no charge and pay return shipping to customer.

In the event of product damage caused by the customer, ScalePro will repair or replace the product at its discretion and charge the customer a small repair fee that depends upon the amount of damage. Damage can be from physically crushing the product, tearing the signal bands from the connectors, getting the electronics wet inside the enclosure, or improperly shorting out the power supply. ScalePro is not responsible for customer-caused damage to ScalePro products.

If the customer wants to return any ScalePro product for a refund, returns will not be accepted until sufficient use time has occurred to make certain functional proof is real. This time period is 6 months. After 6 months of use and prior to 12 months of use, if a customer wants to return a product, the unit is properly installed and there is evidence of scale formation, ScalePro will offer a full refund, less shipping cost when the product is returned. If the product was purchased through a ScalePro dealer, the refund will be to the dealer in the amount paid for the product. ScalePro will encourage its dealers to honor this refund policy.

REFUNDS

Once your return is received and inspected, we will send you an email to notify you that we have received your returned item. If you are approved, then your refund will be processed, and a credit will automatically be applied to your credit card or original method of payment.

SHIPPING:

To return your product, you should mail your product to:
ScalePro
3102 E Trent Ave, #208
Spokane, WA 99202

You will be responsible for paying for your own shipping costs for returning your item. Shipping costs are non-refundable. Depending on where you live, the time it may take for your exchanged product to reach you, may vary. If you are shipping an item over $75, you should consider using a track-able shipping service or purchasing shipping insurance. We don't guarantee that we will receive your returned item.

Contact Us

SCALEPRO™

3102 E Trent Ave, #208
Spokane, WA 99202 USA

sales@scale-pro.com
Toll Free: 866-961-8349

Notes

Notes

Notes

Notes