

Scalewatcher™

*Hard water treatment system
for indoor use*

Instructions

Performance guide

Warranties

Specifications



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Congratulations for purchasing an environmentally friendly electronic water conditioner, and thank you for choosing the Scalewatcher™ system to treat your home or swimming pool. Please read this short manual in its entirety for a quick and successful installation.

YOUR BOX CONTAINS:

SCALEWATCHER™ energizing unit

UL approved AC/DC switching power supply

One core signal cable of sufficient length

Six cable ties

Four screws with wall anchors.

Instruction manual

INSTRUCTION MANUAL

INSTALLATION SITE

Locate the incoming water supply and if possible find a straight length of pipe after the water meter (if any) of at least four inches. The pipe can be horizontal, vertical or diagonal. The unit has to be installed indoors. However if there is not enough space in the house for the coil, the coil can be wrapped around the pipe in the open. In that case cover the coil with duct tape to protect it from moisture and rain.

If no electrical outlet is present near the installation site, consult a qualified electrician.

In case the water supply is from a roof tank, install the coil after the tank. The signal coil should not be closer than six inches from any major steel/iron objects, motors and appliances for best performance.

Install the SCALEWATCHER™ System unit upstream of the water softener if you plan to run them together. If you have a whole house water treatment system, install the SCALEWATCHER™ upstream for best results. See also page 6.

DISTANCE BETWEEN COIL AND CONTROL BOX

The new high powered Star units can be mounted 10 to 20 feet away from the coil if necessary.

We include 39 feet of wire with the 3 Star model. It takes about 14 feet for 2x20 wraps of coil on a 1" pipe, which allows for a maximum of 12 feet of cable length (each way) from controller to coil.

With 3 Star units it is acceptable to add another few feet of cable if necessary.

INSTALLING THE COIL

Secure the middle of the cable to the pipe with a cable tie. (Image 1). Make 20 windings with one half of the cable, starting at the vertical arrow of image 2. The horizontal arrow gives the winding direction. Secure the last winding with a cable tie. Start winding the second half of the cable on top of the first layer with 20 windings following the direction of the cable (image 3), in such a way, that when done both cable ends are on opposite sides of the pipe and on one side of the coil. (Image 4). Secure again with a cable tie. Cut the cable to appropriate length to reach the location where you will mount the energizing unit and remove 0.2" of the insulation of both cable ends. Insert the cable ends in the spring connector, polarity is not important.

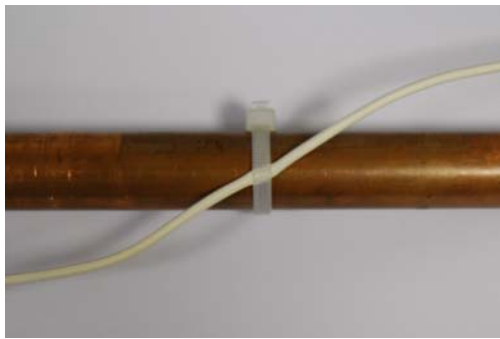


Image 1

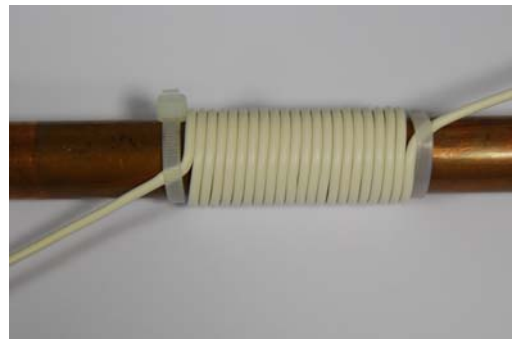


Image 2

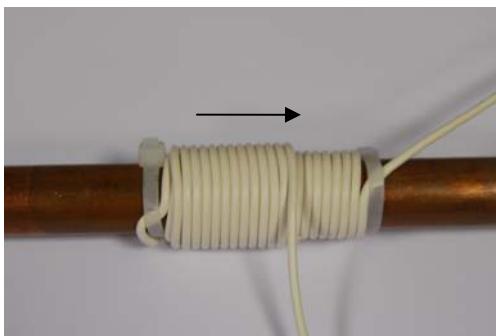


Image 3



Image 4



Completed installation

MOUNTING THE CONTROL BOX

Use the four screws and if necessary the wall anchors to mount the control box to the wall. A screwdriver and a drill are needed. You can mount the unit horizontal or vertical.

PUTTING THE SCALEWATCHER™ INTO OPERATION

Insert the 12VDC plug of the adaptor into the power jack at the side of the SCALEWATCHER™ and connect the adaptor to either 110V or 220 V AC.

The bar graph should start flashing indicating coil connected and correct signal being generated.

The LED's should behave as follows: two bottom lights constantly ON, lights above flashing in a continuous up and down motion.

TROUBLESHOOTING

LED'S fail to light up:

Verify coil connections, verify power supply. If the problem persists contact your supplier

Two bottom LED's flicker instead of cycling up and down:

Unplug the unit, wait a few seconds and plug back on. (This reboots the system).

For any installation questions please contact your supplier.

SCALEWATCHER™ PERFORMANCE GUIDE

The SCALEWATCHER™ hard water conditioner system treats all incoming water as it passes the coil and alters the scaling properties of the dissolved minerals so that it does not adhere to surfaces and form hard scale.

Your SCALEWATCHER™ System will:

1. Prevent any further hard-scale buildup
2. Remove the existing scale that is inside your water system
3. Soften the existing hard scale around taps, basins, toilets, etc.
4. Reduce soap scum and improve the lather of soap
5. Make the water feel softer
6. Reduce the harsh effects of hard water on skin and clothes.

IMPORTANT NOTES

CLEAN AERATOR SCREENS



During the descaling period, some deposits may collect inside the nozzles or aerator screens. Make sure to inspect those places regularly during the initial three months until no more loose scale appears: unscrew, shake loose scale, reinstall.

DRAIN YOUR WATER HEATER

It is recommended to drain the water heater for best results. Drain about 5 gallons (22 liters) of water from the water heater. Do this by connecting a hose to the valve at the bottom and drain into a bucket. Perform this operation once a month for 90 days or until water comes out clear.

OLDER BUILDINGS

In older buildings with existing scale, for some time after installation, the unit will be descaling your water system. This often results in the water appearing to be harder and loose scale particles appearing in places like showerheads and aerator screens. Once interior descaling is complete, your water system will be scale-free and the SCALEWATCHER™ will deliver the best results.

EVAPORATION EFFECT OF TREATED WATER

The calcium hardness previously in solution is now in SUSPENSION in form of a fine invisible powder which flows to the drain. As water evaporates on dishes or sinks, some white spots may become visible in a form of a fine and innocuous powder which will easily wipe away leaving no marks or spotting.

WATER SOFTENERS

Water Softeners often leave deposits inside a water system. Therefore, if a softener is in use, you may want to allow the SCALEWATCHER™ System to remove the deposits before the softener is switched off. In that case, it is strongly recommended to leave the softener and the SCALEWATCHER™ System on, together during four to eight weeks

(depending on water usage and amount of existing deposits). You will notice your softener working more efficiently and using less salt.

TANKLESS WATER HEATERS

Tankless water heaters and radiant heating applications: periodically inspect and clean the sediment filtering screens until no more scale particles are visible.

FREQUENTLY ASKED QUESTIONS

How will you know that the SCALEWATCHER™ system is working?

The amount of time required before you experience the effects of the system varies depending on the amount of water used. Generally, signs of aggressive descaling are seen within one to two weeks.

Note: The system may initially seem to be less than fully effective at times. This is due to the removal of the existing scale, which is brought back into solution briefly creating the effect of increased water hardness. Once the pre existing scale has been removed from the pipes, the full effectiveness of the system will be experienced.

How can I monitor the descaling process?

If your house or building is not new and you have pre existing scale, your descaling process can be easily monitored as follows: Measure the hardness at the incoming hot treated water supply and treated water from a trap being frequently used, immediately after installing the SCALEWATCHER™ system, then in intervals of one to three weeks. Scalewatcher treated water hardness is typically between 5 and 15% higher than the incoming water until the descaling is complete. Thereafter, since the same amount of minerals goes thru, no change in hardness level will be measurable indicating that pre existing scale has been eliminated.

Note: you can do this only if you want to see actual chemical proof of the process. Usually most people are satisfied by watching the external indications: if showerheads and faucets become scale free and aerator screens show no scale, you can safely assume that the SCALEWATCHER™ system has completed the descaling process and is preventing scale buildup inside the entire water system being treated.

What does the SCALEWATCHER™ System do that a water softener does not?

1. It removes scale buildup in hot water heaters, saving energy costs.
2. Saves money by not requiring the purchase or use of salt.
3. Provides salt-free water, a concern for many health-conscious people.
4. Provides environmentally clean water while eliminating the discharge of salt-laden water into the water table as a result of the periodic regeneration cycle of conventional water softeners.
5. Reduces the consumption of detergents.
6. The commercial models provide big savings for commercial users. Apartment buildings and other commercial and industrial users experience savings in energy costs, showerhead replacement and equipment maintenance.

What does a water softener do that a SCALEWATCHER™ System does not?

1. The water softener softens hard water by replacing the calcium and magnesium with sodium.
2. The water softener adds salt in your water and drains damaging chlorides into the environment.
3. The water softener requires that you purchase salt periodically.
4. The softener gives you a silky feeling that you cannot get rid of soap from your body.
5. The water softener makes your skin dry.
6. The water softener requires that you waste water for regeneration.

External Scale Indicators: It is good to use external scale as a tracking reference to determine that the system is working. Areas to identify are:

1. Scale around taps, sinks, etc. will begin to soften, provided that the newly treated water is in regular contact with the area. Once softened, the deposits will disappear on their own, or they can be easily removed using a stiff scouring pad.
2. Surfaces in contact or splashed with water become easier to clean.
3. Scale on showerheads softens and disappears, periodic showerhead cleaning or replacement becomes unnecessary.

INTERNAL SCALE

1. As the heating element inside your hot water system is descaling, water heating will become progressively more efficient. Water will then heat faster saving up to 30% in energy use. You may save additional energy by reducing thermostat settings while still having sufficient hot water.
2. If the water system was severely scaled, an improvement in water flow also may be noticed.

SOAP, SCUM, AND SKIN EFFECTS

You will usually notice:

1. A reduction of around 20% in soap detergents needed.
2. Less scum forms on the bathtub and there is improved soap lather.
3. A great improvement in skin condition for anyone suffering from dry or itchy skin. Even those with normal skin can expect improvements and reduction in the use of hand creams.

TYPICAL USER EXPERIENCES

SOFT WATER FEELING

The treated water is immediately altered and will start dissolving scale buildup in the pipes. The hard scale dissolves one particle at a time, so there are no problems with clogging filters or screens in the plumbing system. If you have never used a water softener before, you will experience a dramatic difference in the “feel” of the water. The water will have a softer feeling and you will notice that your hair is “squeaky clean” after a shampoo. You will experience that SCALEWATCHER™ treated water cleans better.

REVERSE OSMOSIS SYSTEMS

The SCALEWATCHER™ System will gradually clean up scale deposits clogging the Reverse Osmosis membrane resulting in longer lifetime and more efficient drinking water production.

REPLACING A SALT BASED WATER SOFTENER

If you have replaced a salt water softener, you may notice the water becoming harder as the scale begins dissolving. You may wonder, “What have I done here?” Do not worry. This is a consequence of descaling, and the condition will improve daily as the scale is removed. Your plumbing took years to get full of scale. However, it only takes a short time to clean it up. This period may be brief for a newer home, or take several months for older homes with low water usage. We recommend draining your water heater regularly to shorten the descaling process. (The suspended hardness and loosened scale tend to settle down at the bottom and should be removed by draining)

ESPRESSO MACHINES, ELECTRIC KETTLES AND OTHER APPLIANCES WHERE WATER DOES NOT CIRCULATE

SCALEWATCHER™ treated water will show a significant improvement in the scale condition of these appliances as compared with untreated water. However, if compared with salt softened water the results will not be as good, yet, health experts strongly discouraged to drink salt softened water for obvious health reasons.

DISHWASHER

If you use a dishwasher and had pre existing scale, you may notice increased spotting or a white film. This situation will diminish when the descaling of pre existing deposits is completed. If you experience this problem, you can easily solve it with the use of a great product: **Lemishine**, found at your local Target or Wal-Mart, or from www.lemishine.com . You will get sparkling glasses every time, guaranteed. Some people recommend to use one tablespoon of Lemi Shine along with your regular Dishwasher soap or with Cascade Complete (Granular) for picture perfect results.

BATHROOM FIXTURES

You should notice that spots on chrome or stainless fixtures, the toilet bowl, tub, and glass shower stall come off easier with normal cleaning after the first several weeks of use. Another benefit of the SCALEWATCHER™ system is that the naturally present microorganisms causing black mold in the bath area will diminish and then disappear completely.

SCALE IN TOILET BOWLS

To remove pre existent scale, use a **pumice stone** (found at any hardware store) to easily remove white or rust (brown) scale. Work it with confidence; it will not scratch the ceramic.

BACK SPLASHING STAINS

One common problem is existing scale buildup caused by back splashing on faucets and tub/shower enclosures. Since there is not direct water flow across these surfaces,

unlike inside a pipe, the scale can be easily removed manually as it gets softer. After initial cleaning, there will be no new accumulations.

AFTER THE FIRST 90 DAYS

All descaling should be complete and you will be left with:

1. Soft-feeling water from every tap.
2. Clean pipes, faucets and showerheads.
3. Cleaner dishes, sinks, tubs and shower stalls.
4. Savings in energy and detergent expenses.

Check the SCALEWATCHER™ control panel periodically: It is recommended that you verify that the green LED lights on the control panel are on. You should verify this at least twice a year.

The practical ramifications of SCALEWATCHER™ water treatment extend far beyond mere softening. The descaling action can have a huge energy cost reduction impact for residential, commercial and industrial property owners while reducing greenhouse gas emissions. For commercial or industrial models please contact our friendly customer service.

THE SCALEWATCHER™ GUARANTEES

PERFORMANCE GUARANTEE TWELVE MONTHS

The Scalewatcher™ system will prevent or highly reduce accumulation of scale in your pipes, faucets, showerheads, water heaters and other water appliances. If you are not satisfied with the results after SIX MONTHS of continuous use, take the following steps:

- Check that the green LED's of the bar graph are flashing.
- Check that signal coil is correctly wrapped and connected (see installation instructions for details).
- Check that the signal coil is not closer than 6 inch from any major steel/iron objects, motors and appliances.

This guarantee does not include the total elimination of scale in non-free flowing water systems such as steam generators and kettles.

If you are still not satisfied, then contact your supplier, who may be able to advice on an alternative method of installation. You must call or email your supplier before disconnecting the system.

Your supplier may be able to advice on an alternative method of installation. Should he be unable to assist in resolving the problem, then you will be given a REFUND OF 100% OF YOUR PURCHASE PRICE upon return of the unit in good condition including proof of purchase, freight prepaid, within TWELVE MONTHS, but having used the product for at least six months, from the date on which you received the product.

Failure to follow the procedure outlined in our warranty may result in the assessment of a 15% restocking fee.

MANUFACTURER'S GUARANTEE

The manufacturer's guarantee operates for TEN YEARS following the date of purchase. In the unlikely event of SCALEWATCHER™ becoming unserviceable, i.e. the green light fails to illuminate, send the unit back for replacement, quoting date of purchase and serial number. This guarantee does not extend to any other electrical or water appliance or device that may be in use by the user of SCALEWATCHER™ and we accept no liability for the malfunction of any device other than SCALEWATCHER™, which has, either directly or indirectly been sold to the user. SCALEWATCHER™ does not affect the potability or the natural mineral content of the water, as there is nothing in contact with the water. Therefore, we accept no responsibility for water quality.

These guarantees shall only remain valid provided that the product is used for the precise purpose that it was designed and manufactured and provided that it is installed and in strict accordance with the appropriate instructions.

WARNINGS

Do not immerse in water.

Removing the back plate will void the Warranty and Performance Guarantee.

SCALEWATCHER™ treated water reverts to its original state after 48 hours. This means that the water sitting in your water heater for several days will tend to behave as untreated water causing those nasty hard water stains. After the existing water has been replaced by freshly treated water, the anti-scaling effects of SCALEWATCHER™ will be noticeable again. If you plan to keep taking frequent long periods of absence, not using your hot water, we recommend installing a supplemental treatment unit on the outlet of the water heater. Do not dismantle your existing water softener before you are fully satisfied.

Technical specifications

Supply voltage: 110 – 240 VAC + 10 %, 50/60 Hz
Energy consumption Less than 8 Watt/hour
Power supply External Adaptor, UL/CSA approved
Application Voltage 12 VDC
Coil cable 18AWG stranded, White
Maximum Coil Temperature 200 °F
Capable of driving 2 coils double stacked
Output Reading Bar graph
Enclosure material ABS, Grey
Maximum enclosure temperature 166 °F
Minimum enclosure temperature 40 °F
Protection rate Nema 2
Dimension unpacked (LxWxH) 9.5"x6"x1.5"
Dimension packed (LxWxH): 14"x7"x3"
Weight packed Maximum 3.3 lbs

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