

Scalewatcher[®] Nano

Hard Water Treatment system
Owner's Manual

English

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

YOUR BOX CONTAINS:

- Scalewatcher Nano energizing unit
- UL/CSA approved AC/DC switching power supply
- One core signal cable of sufficient length
- Four cable ties
- Two screws with wall anchors
- Instruction manual

TOOLS NEEDED:

- Phillips screwdriver
- Pliers
- Wire stripper
- Drill

INSTRUCTION MANUAL

INSTALLATION

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 (10 cm). The pipe can be horizontal, vertical or diagonal. The unit has to be installed inside. 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 duck 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 (15 cm) from any major steel/iron objects, motors and appliances for best performance.

Install the Scalewatcher Nano 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 Nano upstream for best results. See also "Water Softeners".

Pipe material

The coil can be installed on any pipe material including copper, PVC, steel, galvanized, lead and fibrocement. When the option is available, wrap the coil on PVC, as the electric fields can be more effective in plastic than in metal pipes.

Installing the coil

Unroll the cable and secure the middle of the cable to the pipe with a cable tie. **Do not cut the cable in half!** (Image 1). Make 18 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 18 windings going back, 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" (0.5 cm) of the insulation of both cable ends. Insert the cable ends in the spring connector, polarity is not important.

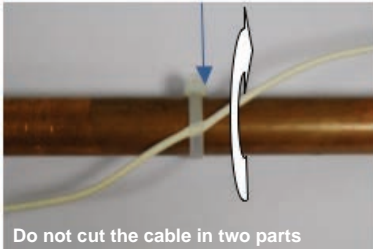


Image 1

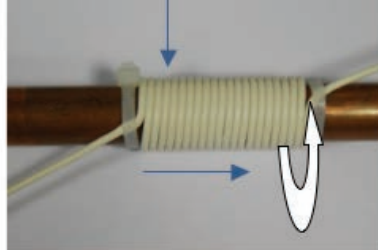


Image 2

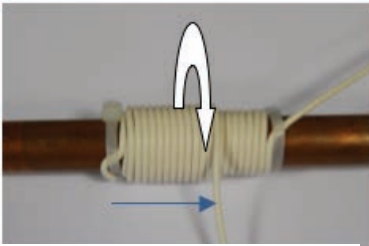


Image 4



Example of wrong wrapping

Mounting the control box

Use the two 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 Nano into operation

Insert the 12VDC plug of the adaptor into the power jack at the bottom of the Scalewatcher Nano and connect the adaptor to either 110V or 220 V AC. After about seven seconds the unit starts working.

The Red light and the Green light should show.

The Red light indicates "Power present", the Green light indicates "Coil connected and signal being generated".

For any installation questions please contact your supplier.

TROUBLESHOOTING

The two LED'S fail to light up

Verify mains connection. If a multi meter is available measure the mains voltage. Meter on AC 250 V. If normal voltage present inform your supplier and ask for replacement.

Only the Red LED shows

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

Is the signal cable connected properly? If the Green light does not show, inform your supplier as the output signal may be absent or too low. It is also possible that the Green LED is defective and the correct output signal is being generated.

Only the Green LED shows

The Red LED is defective. As the correct signal is being generated there is no urgency to replace the unit.

SCALEWATCHER NANO PERFORMANCE GUIDE

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

Your Scalewatcher Nano System will:

- Prevent any further hard-scale buildup
- Remove the existing scale that is inside your water system
- Soften the existing hard scale around taps, basins, toilets, etc.
- Reduce soap scum and improve the lather of soap
- Make the water feel softer
- 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 Nano will deliver the best results.

Evaporation

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 Nano 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 Nano 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 Nano 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.

What does the Scalewatcher Nano System do that a water softener does not?

- It removes scale buildup in hot water heaters, saving energy costs.
- Saves money by not requiring the purchase or use of salt.
- Provides salt-free water, a concern for many health-conscious people.
- 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.
- Reduces the consumption of detergents.
- 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 Nano System does not?

- The water softener softens hard water by replacing the calcium and magnesium with sodium.
- The water softener adds salt in your water and drains damaging chlorides into the environment.
- The water softener requires that you purchase salt periodically.
- The softener gives you a silky feeling that you cannot get rid of soap from your body.
- The water softener makes your skin dry.
- 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:
- 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.
- Surfaces in contact or splashed with water become easier to clean.
- Scale on showerheads softens and disappears, periodic showerhead cleaning or replacement becomes unnecessary.

Internal Scale:

- 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.
- 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:

- A reduction of around 20% in soap detergents needed.
- Less scum forms on the bathtub and there is improved soap lather.
- 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 Nano treated water cleans better.

Reverse Osmosis Systems

The Scalewatcher Nano 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 Nano 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 replaced a salt-water softener, you may notice increased spotting. This situation will diminish to the residual level of calcium present in your water supply when the descaling is finished. Our customers report excellent results with the use of rinsing agent, when spotting is still present.

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 Nano 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.

After the First 90 Days.

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

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

Check the Scalewatcher Nano control panel periodically: It is recommended that you verify that the green LED light on the control panel is on. You should verify this at least twice a year.

The practical ramifications of Scalewatcher Nano 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 NANO GUARANTEES

Performance guarantee 90 days plus 30 days.

The Scalewatcher Nano 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 THREE MONTHS of continuous use, take the following steps:

- Check that the green LED is illuminated,
- 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 (15 cm) 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 advise 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 90 days or no longer than FOUR MONTHS from the date on which you received the product. You must call or email your supplier before disconnecting the system.

The manufacturer's guarantee operates for two years following the date of purchase. In the unlikely event of Scalewatcher Nano 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 Nano and we accept no liability for the malfunction of any device other than Scalewatcher Nano, which has, either directly or indirectly been sold to the user. Scalewatcher Nano 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.

Do not shorten the low voltage power cord of the adapter. It will make the two years manufacturers guarantee and the three months performance guarantee void.

WARNINGS

- Do not immerse in water.
- Removing the back plate will void the Warranty and Performance Guarantee.
- Only use the original type of adapter when defective. Never bypass.
- Scalewatcher Nano 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 Nano 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.
- Never install the Scalewatcher Nano in direct sunlight.
- Only install indoors.

TECHNICAL SPECIFICATIONS

Supply voltage	110-240 V + 20 %, 50/60 Hz
Power consumption	4 Watt
Application Voltage	12 V DC
Coil cable	1 mm ² /18 AWG, White
Maximum Coil Temperature	176 °F (80 °C)
Capable of driving	One coil double layer
Enclosure material	Polysterol (Grey)
Maximum ambient temperature	122 °F (50 °C)
Minimum ambient temperature	14 °F (-10 °C)
Protection rate	NEMA2 (IP54 indoor use)
Weight unpacked	3.9 OZ (110 Gram)
Weight packed	13 ½ OZ (378 Gram)
Dimension unpacked	4.9"x2.8"x1.5" (125x72x37 mm)
Dimension packed	9.3"x5.2"x2" (236 x133 x50 mm)