

SCALEBLASTER[®]

WATER CONDITIONER

Salt-Free Solution to Hard Water

SB-MAX Pro Series

Residential Use • Indoor/Outdoor Installation

Installation & Operation Manual



A. Identify The SB-MAX Pro Series Components

Your ScaleBlaster SB-MAX Pro Series unit includes the following components:

1.



One (1) SB-MAX Pro Series power unit that works on 115VAC or 230VAC automatically. If 230VAC is desired, replace plug. This unit comes with a 5 foot power cord.

2.



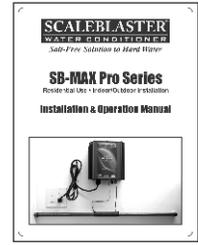
Signal Cable (52') and four (4) nylon cable ties

3.



Warranty Card

4.



Installation & Operation Manual

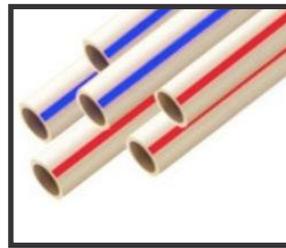
The ScaleBlaster SB-MAX Pro Series unit can be installed on the following types of pipe:



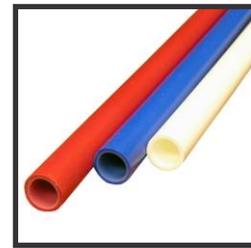
All types of Copper Pipe



All types of PVC Pipe



All types of CPVC Pipe



All types of PEX Pipe



Galvanized pipe:

If you have galvanized pipe (with magnetic characteristics) on the area you intend on wrapping the coil at, you will need to replace a small section of the pipe with PVC or copper. Simply cut out about 12 inches of pipe and replace it with the PVC or copper. This will be on the incoming line entering the house. You do not have to worry about replacing the rest of the pipe in the house – only replace the galvanized pipe in the area of where the signal cable will get wrapped. The descaling process will work at this point forward and the galvanized pipe will get descaled downstream.

DO NOT INSTALL ON GALVANIZED PIPE THAT HAS MAGNETIC CHARACTERISTICS

Sizing the proper model



The SB-MAX Pro Series is designed for indoor or outdoor installation

There are two other main items to consider when sizing the proper ScaleBlaster model:

- Water hardness level** - The SB-MAX Pro Series will handle water hardness levels over 20 gpg (grains per gallon) or 342 ppm (parts per million).
- Size of house** - The SB-MAX Pro Series will generally handle large homes up to 5,000 sq. ft. in size and homes with pressure tanks. For homes over 5,000 sq. ft., an additional unit may be required. Contact your dealer for more details

How can I test my water hardness level?

A simple calcium hardness water test will give the reading instantly. All pool stores will do this free of charge.

I just installed ScaleBlaster and was wondering when I can expect results?

To realize the full benefits of ScaleBlaster, please allow up to a couple months. The descaling process does not happen overnight. This is why we offer a full 90-day money-back guarantee. If you ever have any questions on the installation, please do not hesitate to contact our customer service department. You can email us photos of the installation for analysis if you have any questions. Depending on the

circumstances, you may notice more soap lather, a softer feeling on your skin and hair, increased water pressure and "hotter" water. This means your water heater will be working much more efficiently now.

Will ScaleBlaster lower the water hardness level and the total dissolved solids (TDS) in the water?

No, the water hardness level and TDS will remain the same. ScaleBlaster is a water conditioner –not a water softener. Water softeners remove calcium from the water, ScaleBlaster does not. Calcium is good for our metabolism, so why remove it?

Where does the scale go when it is removed?

ScaleBlaster dissolves the scale - molecule by molecule right back into the water – where it used to be, so the process is gradual. In a worst case scenario, your aerators may clog up a little in the showerhead or faucets. Simply clean them out and it should not be a reoccurring problem.

Will ScaleBlaster remove scale buildup in the pipe that is already there?

Yes, over time it will. Depending on how much water the household uses and how bad the scaling is, the process takes about 3 months to fully descale the pipes.

B. Site Survey - determining the best location for install

There are several factors that go into determining the best location for the installation of *ScaleBlaster*.

The installation involves mounting the ScaleBlaster power box on a wall and wrapping a signal cable around the outside of the incoming pipeline and connecting it to the power box.

1. Locate the incoming main waterline going to the house

The most desirable place to install the unit is on the main cold water pipe entering the house after the shutoff valve. Install the signal cable on the pipe that is as close to the house as possible and before it splits off at the water heater. **The pipe can be copper, PVC, CPVC or PEX and the unit can be installed on a horizontal or vertical pipe.**



If you cannot access the main waterline before it splits

You will need to follow the main cold water pipe as far back as possible from the water heater and install the **ScaleBlaster** unit there. It is possible not all of the water will be treated, but you will be treating the hot water pipe, which is the main cause of limescale formation. Some older homes built on slabs may have this issue.



Well water / Pressure tanks

For customers with a private well, the best place to install the **ScaleBlaster** unit is **AFTER** the pressure tank. If that is not possible, you can still install the unit before the pressure tank, but risk diminished results downstream of the pressure tank.

Softener Loop

You can install the **ScaleBlaster** unit on the water softener loop, but if there are other options, install it elsewhere. Water that is going to the kitchen faucet and to the outside spigots may not be fully treated.



Installing ScaleBlaster with other water purification equipment including water softeners

For best results, we recommend installing **ScaleBlaster** **AFTER** any household filtration or water purification equipment – including water softeners – that treats the entire house. Under-the-counter or kitchen filtration systems do not fall under this category. You can keep the water softener on if you like and have **ScaleBlaster** work in conjunction with it, or simply turn the water softener off and put into the bypass mode. If you do not have the room to install **ScaleBlaster** after the water filtration or purification equipment, you can still install it before the equipment if needed.



My house has both galvanized pipe and PVC pipe in it. Will ScaleBlaster still work?

Yes, we are only concerned about the location where you wrap the coil at. The same thing can be said if you have galvanized and copper pipe. If the location where you want to wrap the pipe is galvanized, you will need to replace a small section of 12 inches with copper or PVC pipe. The descaling process will work downstream on all types of pipe after the signal cable location.

Does ScaleBlaster work better on copper pipe, PVC, or CPVC pipe?

ScaleBlaster will work on all of the above mentioned types of pipe equally as well as the others.

Will a protective cover placed over the signal cable interfere with the signal in anyway?

No, as long as it is a non-magnetic cover.

Can ScaleBlaster be installed in the attic where it gets very hot in the summertime?

We recommend the average air temperature to operate ScaleBlaster at 32 to 122 degrees F. The unit will operate at temperatures below and over those numbers, but not for long periods of time. The unit should be installed in an area that is ventilated.

Is the signal cable a special wire? How can I get a replacement signal cable?

Yes, the signal cable is a special wire and is not readily found in hardware stores. You can purchase additional signal cable wire packages from ScaleBlaster, which includes the zip ties. However, if you need a short-term replacement, an 18-gauge, tin coated stranded copper wire will work.

My electrical outlet is more than 5 feet away from the only place I can mount the power box. Is there anything I can do without having to add another outlet?

You can plug the ScaleBlaster unit into an extension cord if needed. Our ScaleBlaster units are UL and CUL approved.

B. Site Survey (continued)

2. Locating a place to install the power unit

The power unit should be mounted on a wall or other solid surface within five (5) feet from an electrical outlet and within ten (10) feet from where the pipe will be wrapped and in a well ventilated area. We recommend the average air temperature to operate ScaleBlaster at 32 to 122 degrees F.

Can be installed on a horizontal or vertical pipe.

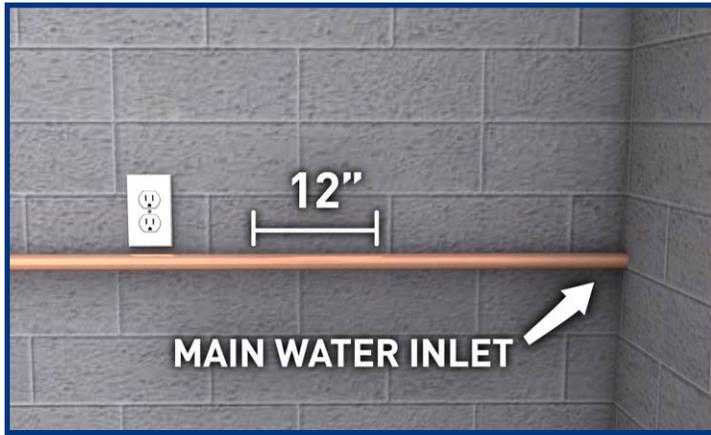
Always keep these wires from touching one another as much as possible.



Install power unit in a well ventilated area.

3. Locate a place to wrap the signal cable

Once the main water inlet pipe to the house is located, identify a section of pipe that is at most, 12-inches straight, (can be a horizontal or vertical pipe) and as far away as possible from tees, elbows, couplings, valves and curved pipe. If this is not possible you can still install the equipment, but for best results make sure the area where the coil being wrapped is at least straight.



Can I wrap the signal cable wires on a main water pipe underground?

Yes. Sometimes older homes built on slabs have little exposed pipe and this is an option. Installing the signal cable underground is not problem at all. The SB-MAX Pro Series is weatherproof and can be installed indoors or outdoors

The area I want to install the signal cable has a coupling in the middle of it. How much of an issue will I have on the effectiveness of the product?

We do not recommend installing the signal cable over a coupling. The wraps must be flush, and evenly

against one another. Adding additional pipe to the installation area would be the best option.

Can ScaleBlaster be installed in a well pump house?

Yes. Install the signal cable after the pump for best results.

I am planning to install the SB-MAX Pro Series power box and do not have much space. Can it be installed vertically or horizontally?

It does not matter, either way is fine. We do ask that the area is ventilated and not in a hot enclosed area over 122 degrees F.

Can I install the power box right next to the water pipe and where the coil is going? I know it has to be within ten feet, but can I put it within a foot?

Yes, that is fine.

Can I install ScaleBlaster on two lines – I have one going to my house and one for the yard and barn?

No, you cannot install ScaleBlaster on two lines. The signal is only strong enough to treat one line and one building the size noted.

C. Mounting the Power Unit

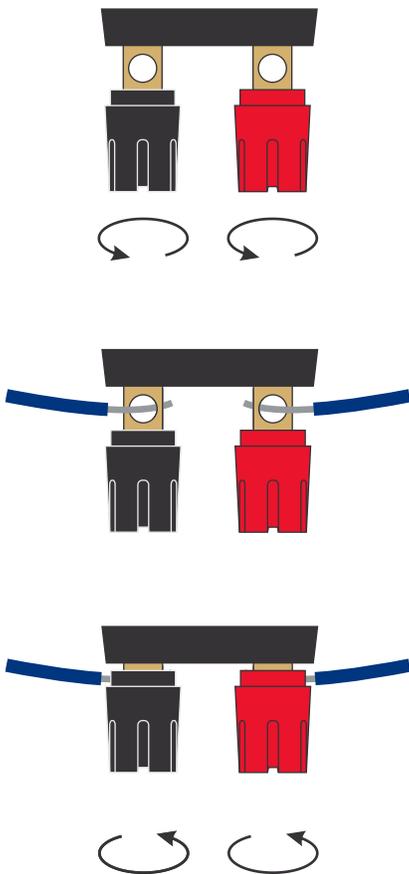
The unit can be mounted indoors or outdoors in an upright vertical position on a wall or other non-enclosed area, where it is well ventilated. **NOTICE: If mounting the power unit outside, it must be kept out of the direct sunlight.** We recommend the average air temperature to operate ScaleBlaster at 32 to 122 degrees F.

The picture to the far right shows the location of the mounting holes. The installer will need to supply the mounting screws for the type of surface the unit will be mounted on.



D. Installing the Signal Cable

Once the power box has been mounted, you can now install the signal cable. Insert the pre-stripped end of the signal cable into one of the two signal terminal posts and tighten. Follow instruction on how to wrap pipe with wire on next two pages (pages 6 &7).



pre-stripped end

Twist down terminal post to see hole to put wire in, put stripped wire in hole (making sure the two bare wires do not touch) then twist terminal post up to tighten.



The signal cable can be wrapped on a horizontal or vertical pipe.

Please explain what you mean by “as far away as possible” from tees, elbows, couplings, valves and curved pipe when wrapping the signal cable? I do not have much room to wrap the coil.

For the very best results, the less turbulence in the water is desired. By saying “as far away as possible” we prefer it to be a few inches away, if possible, but if there is no room to wrap the coil you can still wrap the coil next to the tee, elbow, or coupling. Just make sure it is not on curved pipe and wrapped over a coupling or valve, as all the wrappings need to be the same size or diameter and flush against one another.

Can I extend the ten foot limit on the length of the signal cable from the coil to the power box?

No, you cannot extend it. The ten feet of wire is the limit we allow from going from the signal coil to the power box. You will need to get the power box location and the coil wrapping location within 10 feet of each other.

Can I install ScaleBlaster on a copper pipe that is painted?

Yes. There will be no issues if the pipe is painted or not.

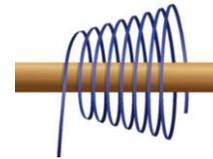
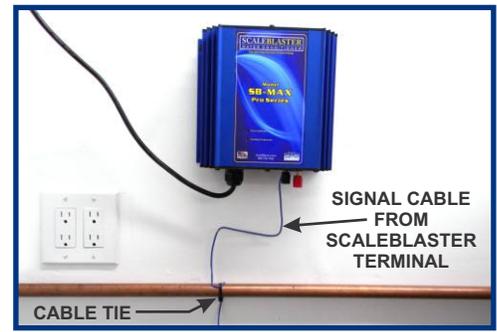
My house is on a slab. There is only 3 inches of pipe before it does a 90° into the pressure regulator. Can I mount it here? Install ScaleBlaster after the pressure regulator.

I do not have 12 inches of straight pipe so I plan on re-piping the line at the water heater, but this line only controls water going into the heater. Is this OK?

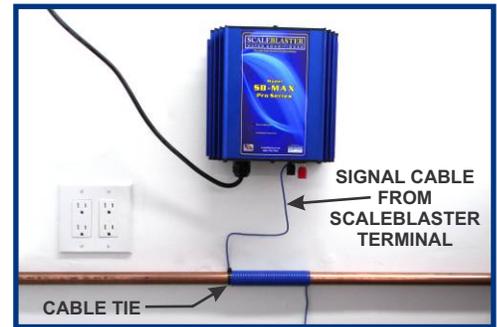
Yes, it is OK. You will be descaling the hot water lines, where the majority of the scaling issues take place.

E. Wrapping the Signal Cable

1. After you have inserted the pre-stripped end of the signal cable into one of the two terminal posts and tightened it, route the signal cable to the inlet pipe. Hold the cable parallel and next to the pipe.
2. Strap on one of the cable ties tightly around the pipe so that the signal cable is secured to the pipe.
3. Wrap the loose end of the signal cable securely around the pipe – in any one direction.
4. The number of wraps is determined by referring to the **Charts A or B**. **Chart A** is for copper pipe, and **Chart B** is for PVC, CPVC or PEX pipe.
5. Make sure the wraps are flush against one another, wrapped tightly and not overlapping. **THIS IS EXTREMELY IMPORTANT!** Continue until you reach the recommended number of wraps.
6. On all copper pipe installations, you will be wrapping the pipe twice. **YOU MUST KEEP THE SECOND WRAPPING IN THE SAME DIRECTION AS THE FIRST AROUND THE PIPE.**



Wrap the loose end of the signal cable securely around the pipe – in any one direction.



Make sure the wraps are flush against one another, wrapped tightly and not overlapping, except for the second layer that is required on all copper pipe.

Chart A

Chart B

COPPER Pipe Wrap Requirement SB-MAX Pro Series				
Outside Diameter	NPS Pipe Size*	Layers / Wraps	Total Wraps	Coil Length
5/8"	1/2"	Double** / 50 wraps x 2	100	5.8"
7/8"	3/4"	Double** / 50 wraps x 2	100	5.8"
1 1/8"	1"	Double** / 45 wraps x 2	90	5.2"
1 3/8"	1 1/4"	Double** / 40 wraps x 2	80	4.6"
1 5/8"	1 1/2"	Double** / 35 wraps x 2	70	4.0"

* inside dimensions of pipe

**** Example - Double/50 wraps x 2 is a total of 100 wraps. 50 wraps on first layer and 50 on second layer.**

PVC, CPVC or PEX Pipe Wrap Requirement SB-MAX Pro Series				
Outside Diameter	NPS Pipe Size*	Layers / Wraps	Total Wraps	Coil Length
.840"	1/2"	Double** / 38 wraps x 2	76	4.4"
1.050"	3/4"	Single / 70 wraps	70	8.1"
1.315"	1"	Single / 57 wraps	57	6.6"
1.660"	1 1/4"	Single / 50 wraps	50	5.8"
1.900"	1 1/2"	Single / 40 wraps	40	4.6"

* inside dimensions of pipe

**** Example - Double/38 wraps x 2 is a total of 76 wraps. 38 wraps on first layer and 38 on second layer.**

Never under-wrap or over-wrap the coil.

I just completed the wrapping of the coil and have a lot of leftover signal cable wire. Did I do this correctly?

Having extra wire is expected. We always supply extra wire to handle the various pipe sizes and allowing up to ten feet of wire (in each direction) of where the signal cable is wrapped and the power box is mounted.

The manual says I need to wrap the pipe 50 times. I don't have room for that many. Is this OK?

If you have no other possible options, wrap the coil as many times as you can. You might have slightly diminished results, but you should still be quite

satisfied with ScaleBlaster. Remember, you do have a 90-day money back guarantee if not satisfied. If at all possible, do try to obtain the required numbers of wraps, and to never overwrap it either.

I have room to wrap the coil more times than you recommend. Can I go ahead and do this and expect even better results?

Absolutely not! Going over the recommended amount will actually diminish the strength of the signal. The amount of wrappings we recommend will give you the optimal signal strength possible.

Does ScaleBlaster work on other applications besides houses?

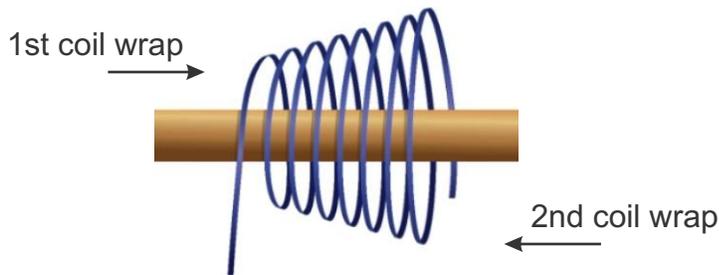
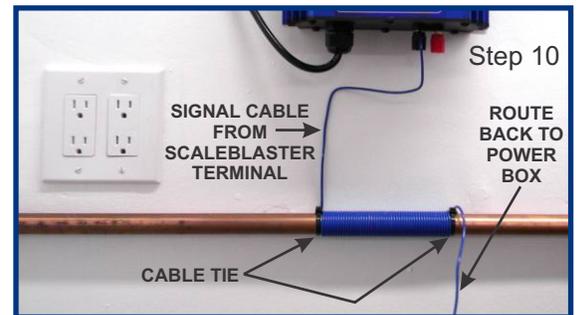
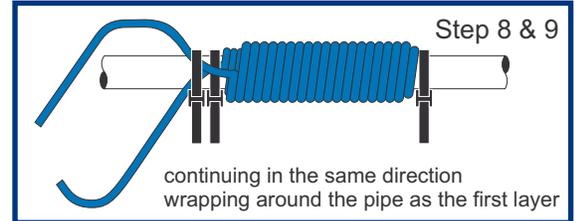
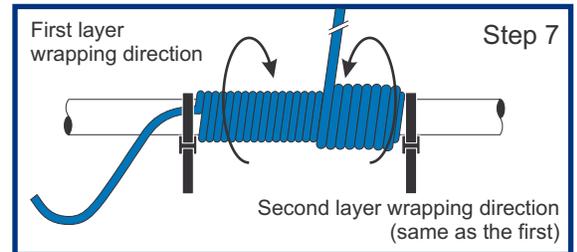
Yes. ScaleBlaster works on hundreds of applications in the commercial and industrial fields where limescale formation is an issue. There are several models that can handle up to 48" pipe. Units have been in use in over 70 countries since 1995. Many of the world's largest companies use our equipment. Applications include power plants, cooling towers, boilers, wastewater treatment plants, cruise ships, hotels, agriculture, military plants, health care facilities, condos and much more.

Is ScaleBlaster supposed to run all the time?

Yes, unless you are gone for long periods of time, such as a second home and want to unplug it. It is entirely up to you.

E. Wrapping the Signal Cable (continued)

- Once the first layer of wrapping is completed, strap on a second cable tie at the end of the wrappings, securing the signal cable tightly and in place on the pipe. Never overwrap the amount of wrappings required.
- Continue the wrapping around the pipe and go right over the top of the first layer - *continuing in the same direction around the pipe as the first layer* – clockwise or counterclockwise. This second layer must also be tight and touching the prior wrap. The total number of wraps would be **DOUBLE** the amount shown on the chart. **** For example, if the number of required wrappings is “Double 50 wraps”, there would be a total of 100 wraps.**
- If a second wrapping of signal cable was installed, a third cable tie will be needed to be strapped on to secure the additional wrap of signal cable added on. This can go alongside the first cable tie.
- Route the loose end of the signal cable back to the power box. Trim excess cable to length.
- Carefully strip the outer plastic shield from the end of the signal cable leaving 1/4” to 3/8” of bare cable. Twist the bare cable and insert the end in the other terminal post hole located on the bottom of the power unit and twist to tighten. Then gently tug the wire to insure it is locked into place.
- Try to keep the incoming and outgoing signal cable wires that are going from the power box to the pipe from touching each other as much as possible.



When wrapping on copper pipe, make sure the coils are always wrapped **around the pipe** in the same direction.

I left for the holidays and came back and noticed my water did not feel the same as before. Did I do something wrong?

ScaleBlaster will hold a charge to the water for about 110-hours. Once you use up the existing water in the water heater, you will be back to normal. This will not affect the preventative maintenance of ScaleBlaster.

How much electricity does ScaleBlaster use a year?

ScaleBlaster will use about 15 watts of electricity – about that of a nightlight. Depending on the cost per kWh, the average house would use about \$8.76 a year in electricity.

Does ScaleBlaster help with rust stains?

We get many people who claim ScaleBlaster helps out on rust stains, but have no scientific proof that it does. If the stain is part of a calcium/magnesium deposit, it will go away when the calcium/magnesium is dissolved.

Does ScaleBlaster work with high iron or sulfur content? Will it get rid of the “rotten egg” smell?

ScaleBlaster will not affect iron or sulfur in the water, nor will levels of iron or sulfur affect the unit from working. It will not remove iron or sulfur from the water. While we get many people who claim it got rid of their “rotten egg” smell, we have no scientific proof of this.

Does ScaleBlaster remove or kill bacteria?

ScaleBlaster does not kill bacteria, but it does remove the main breeding ground for bacteria – limescale formation in the pipes. When the scale is removed, so is the breeding ground for bacteria.

Does ScaleBlaster affect the taste of water?

ScaleBlaster will not remove anything from the water. We only affect the calcium and magnesium molecules. ScaleBlaster will not remove chlorine from the water. We do however, get many compliments that the water taste better – perhaps from the breeding ground of bacteria being removed. Again, there is no scientific proof of this.

F. Activating the System

There are two indicator lights located on the unit.

The “**Power Indicator**” light will activate when the unit is plugged in an electrical outlet.

If the “**Power Indicator**” light fails to come on, check power source first. If power is going to the electrical outlet and the light still does not come on, contact **Clearwater Enviro Technologies at 800-756-7946** or email us at *ScaleBlaster.com – customer service*.

The “**Scanning Frequencies**” light will activate when the signal cable is installed and connected to the terminal posts. The “**Power Indicator**” light must be on also.

If the “**Scanning Frequencies**” light fails to come on, check all connections including those going to the terminal post. If the light still does not come on, contact *Clearwater Enviro Technologies* or *ScaleBlaster*.

Power Indicator

Scanning Frequencies



G. 10-Year Warranty

The **SB-MAX Pro Series** unit comes with a **10-year warranty** to be free from defects in material and workmanship under normal use from the date of purchase. Please fill out the warranty card and return to the manufacturer or you can register online by visiting scaleblaster.com.

Unit is not designed to be opened. Do not attempt to open as circuitry will be deactivated. Warranty void if unit is opened.



H. Enjoying the ScaleBlaster system

The best feature of **ScaleBlaster** is that there is no maintenance required. No salt to add, no chemicals, no batteries to change, no moving parts or costly repairs. Best of all, you are protecting your home, your body and our environment! Please allow up to 90-days to realize full benefits. **Remember – this is not a water softener, but a water conditioner.** We do not remove calcium from the water by adding salt and discharging it into our water stream, polluting our environment. Calcium is good for you. Why remove it?

Initial descaling of the pipes and equipment may make things worse for a while, especially in the dishwasher and aerators. This is normal, and means our system is working. Simply clean out the screen or aerators. With dishwashers, we recommend cutting back on soap usage (unless you have been using a water softener). In 2010, manufacturers of dishwasher soap detergents cut back on phosphates resulting in an increase in spotting and cloudiness. We recommend using **Cascade Action Pacs with Dawn** or **Cascade All-in-one Actions Pacs** for best results.

We also recommend **Lemi-Shine** or simply add white vinegar in the rinse cycle.

- After the first 90 days, we strongly recommend you drain out your water heater. -
You will be amazed at what **ScaleBlaster** has cleaned out of your pipes!

I. Product Support

If you have any questions regarding the installation or the product performance, please contact us directly via email at info@scaleblaster.com or by calling at 1-800-756-7946 or 727-562-5186 - anytime M-F, 8am-5pm Eastern.

SCALEBLASTER
WATER CONDITIONER

Salt-Free Solution to Hard Water



Manufactured by

CLEAR
WATER
ENVIRO TECHNOLOGIES

Established 1989

Phone: **800-756-7946** or **727-562-5186**
ScaleBlaster.com