



Clean Water Made Easy

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Scale Stopper Plus Installation & Start-Up Guide

Thank you for purchasing a Clean Water System! With proper installation and a little routine maintenance your system will be providing scale free water for many years.

Please review this start-up guide entirely before beginning to install your system, and follow the steps outlined for best results.

Also comes with a whole house chlorine removal system:



Questions?

Call us toll-free: 1-888-600-5426 or 1-831-462-8500

Email us: support@cleanwaterstore.com

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How Your Conditioner Works

Scale Stopper Plus reduces or eliminates scale formation on internal and external plumbing surfaces as well as reducing spotting and streaking normally associated with hard water.

Scale Stopper Plus prevents scale by transforming the normal dissolved hardness minerals into undissolved crystal micro-particles. These crystals stay suspended in the water and have a greatly reduced ability to react and attach to surfaces like dissolved hardness does. Therefore the problem of internal buildup of scale in pipes, water heaters and on fixtures and glass is greatly reduced.

Scale Stopper Plus is not a water softener – **Low or phosphate-free cleaning products are recommended to achieve optimum results.** Modern surfactant or detergent based, liquid soaps are preferred over old-fashioned caustic solid soaps.

Unlike softened water, Scale Stopper Plus treated water maintains the beneficial essential mineral content of your water and is safe to drink.

Scale-Stopper Benefits

- Chemical Free Scale Prevention. Cost savings and environmental benefits.
- Virtually Maintenance Free. No salt bags or other chemicals to buy, transport and store.
- No Electricity, no wastewater, completely self-contained.
- Beneficial minerals retained for more healthful drinking water.
- Improves the efficiency of water-using appliances.
- Simple installation – no electrical and drain hookup
- Safe for landscaping and lawn watering. No need to costly bypass plumbing
- Compatible with all on-site and community wastewater treatment systems
- Not subject to water softener restrictions and “bans”

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Pre-Installation

1. Make sure you have received all the parts before beginning installation.
2. If you are going to be turning off the water to the house and you have an electric water heater, shut off the power to the water heater before beginning installation in case water heater is accidentally drained.
3. Pick a suitable location for your filter system on a dry level spot where it won't be exposed to freezing temperatures. A minimum of 20 PSI is required. Maximum pressure is 90 PSI.
4. After the system is installed and running, your water may be discolored, or full of sediment or rust, particularly if this is older or corroded piping. This typically clears up over a day or two.

Cautions

- Do not let the system freeze. Damage to the tank may result.
- System must be operated in a vertical position. Do not lay it down during operation. The system may be placed in any position for shipping and installation but must be operated in the vertical position.
- A bypass valve should be installed on every system to facilitate installation and service.
- Observe all local plumbing and building codes when installing the system.

Water Quality Requirements

Just as with conventional water conditioning media, Scale Stopper Plus needs to be protected from excess levels of contaminants, reducing its effectiveness over time. Public water supplies rarely, if ever, present a problem, but if the water supply is from a private well, confirm that the levels are within the acceptable concentrations.

1. Iron (Fe) and manganese (Mn) are less than 0.3 mg/L and 0.05 mg/L respectively.
2. Copper should be less than 1.3 mg/L.
3. Phosphates should be less than 1 mg/L.
4. The water should be free of hydrocarbons, oils, and lubricants and should be removed through pre-treatment.
5. The water should be free of hydrogen sulfide, a dissolved gas that smells of rotten eggs

Notes To The Installer

The Scale Stopper Plus system differs from a conventional softener or media filter in a number of key respects.

1. The system is light and only partially filled with media. This is normal as the media will expand once water is added to the system. The UP-flow operation of the system requires a lot of freeboard to allow the bed to fully fluidize.

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2. The system has no under-bed so you can tip the system over without any fear of upsetting the media. This makes transportation and installation much easier than conventional systems.
3. Be sure to install the Inlet piping to the UPFLOW INLET, labeled on top of the Scale Stopper valve.
4. Please see the note about using Scale Stopper Plus with other water treatment equipment in Step 1 on in the Installation Section.

Installation of Your System Into Copper or Metal Piping Systems

If your new filter system is to be installed in a metal (conductive) plumbing system, i.e. copper or galvanized steel pipe, the plastic components of the system will interrupt the electrical continuity of the plumbing system.

As a result any stray currents from improperly grounded appliances downstream or potential galvanic activity in the plumbing system can no longer ground through the contiguous metal plumbing.

Some homes may have been built in accordance with building codes, which encouraged the grounding of electrical appliances through the plumbing system.

Consequently, the installation of a bypass consisting of the same material as the existing plumbing, or a grounded "jumper wire" bridging the equipment and reestablishing the contiguous conductive nature of the plumbing system should be installed prior to your systems use.

This is simple and easy step to take if you are installing your water treatment system into copper piping. A simple ground jumper wire with a pipe clamp can be purchased at any Home Center, or hardware store etc for a few dollars.

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Fig. 1: Recommended Installation for **City Water** with the Scale Stopper last in treatment chain, after recommended carbon filter (remove chlorine prior to Scale Stopper is preferred)

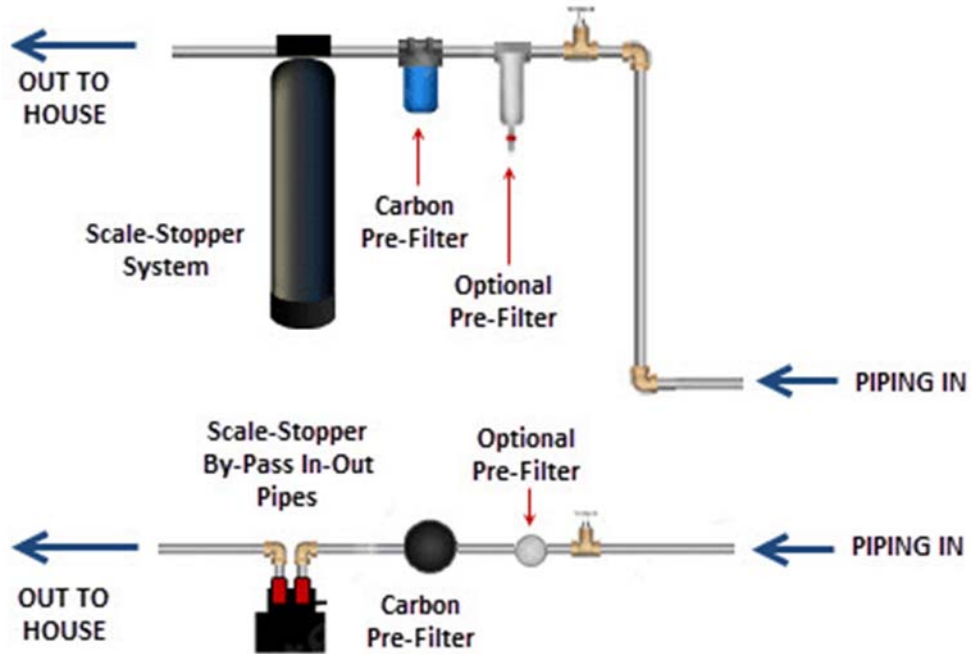
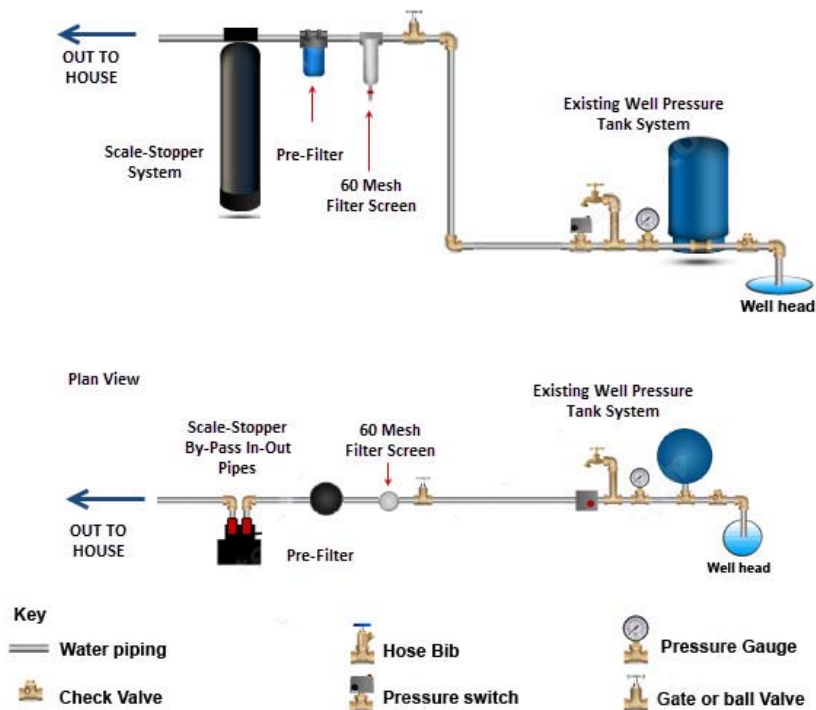


Fig. 2: Recommended Installation for **Well Water** with the Scale Stopper last in treatment chain, after recommended pre-filter.



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Equipment Specifications

Next-Scale Stopper Plus systems are complete, self-contained, loaded with media and ready to use. A simple inlet and outlet connection is all that is required for installation. Please review operating pressures, temperatures and water chemistry limitations to ensure compatibility.

Specifications

Inlet/Outlet Connection	3/4" - 1.25" (multiple options)
Temperature	40° - 110°F
pH	6.5 to 8.5
Ferrous Iron, Max*	0.3 mg/L
Manganese, Max*	0.05 mg/L
Copper, Max*	1.3 mg/L
Water Pressure	15 min., 100 max (PSI)

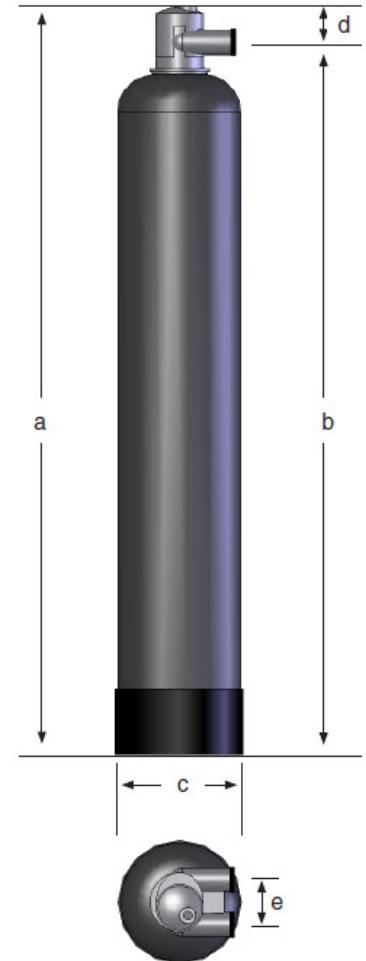
* See note about Iron, Manganese and Copper on the next page.

Mechanical Specs.

	744	844	948	1054	1252
Max Service Flow (gpm)	10	12	16	20	30
Dry Weight (lbs)	22	25	29	35	43
Service Weight (lbs)	80	97	129	168	235

Dimensions (nominal - inches)

	744	844	948	1054	1252
a	48.5	48.5	52.5	59.5	56.5
b	46	46	48	57	54
c	7	8	9	10	12
d	2.5	2.5	2.5	2.5	2.5
e	3.0	3.0	3.0	3.0	3.0



Best Practices for Piping Installation

1. Due to the unique properties of Scale Stopper Plus, there are some unique requirements for using Scale Stopper Plus in conjunction with filtration or other forms of water treatment. **Scale Stopper Plus must be the last stage in the treatment chain. Do not install any filters after Scale Stopper Plus, yet install the Scale Stopper before any equipment that requires scale prevention** (Figures 1 & 2). POU filters, e.g. carbon or RO are exempt from this requirement. Do not apply phosphate or any other anti-scalant either before or after Scale Stopper Plus.
2. The carbon filter needs to be rinsed of fines before putting the Scale Stopper in service position. Leave the valve in bypass and run water through carbon filter and then discharge through a nearby hose bib or say the bathtub or laundry sink until the water runs clear and not inky from the black carbon fines. **This is very important so as not to foul the scale stopper media with carbon fines**
3. Unscrew by hand the valve from top of tank if it was shipped screwed on. Place distributor tube in tank if not already inside tank. If not already done, make sure blue cap is on top of distributor tube, or wrap the top of distributor tube with electrical or duct tape. The idea is we do not want any media to go down the distributor tube.

Plug or tape top of distributor tube when adding media to prevent media from entering. Remove when finished.



4. Next, add all the Scale Stopper media using the funnel, making sure that none goes down the distributor tube.
5. Remove cap or tape from top of distributor tube. Be careful not to pull up distributor tube when removing cap or tape.
6. Attach plastic top screen to the under-side of the valve. It is a funnel-shaped plastic screen that snaps on to the control valve and prevents media from entering the conditioned water.

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- NOTE Regarding Teflon tape and pipe sealants: It is OK to use Teflon tape and pipe sealant on the water pipe connector threads, where you attach your pipes or plumbing to the valve. DO NOT USE any Teflon tape or pipe joint compound on the tank itself or on the threads where the valve threads into the tank.
- Install the valve on to the top of the filter tank by hand, do not over-tighten. Tighten with hands, there is no need for a pipe wrench or other wrench.
- Make sure to connect the IN pipe to the Scale Stopper Plus **upflow inlet** and the OUT pipe to the outlet (labeled as downflow inlet, see Fig 1 below). As you face the Scale Stopper Plus system, if it is oriented with the bypass up along the wall, the upflow inlet will be on the left so that the water enters on the left and exits on the right (Fig.1 below).

Fig. 3 Upflow Inlet Orientation



- Make sure there is a working gate or ball valve before the Scale Stopper Plus and also one after as shown in Fig 2. The pressure gauges are optional and perhaps not necessary but a hose bib (which is a faucet that you can attach a garden hose to) is strongly recommended after the conditioner and before the second ball valve. This makes it easy to rinse your new conditioner on start-up and gives you a place to test the water before it enters your household plumbing.

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11. If you will be using copper piping, do not sweat the copper pipe directly on to the bypass. Avoid heating up the CWS Time Clock control valve plastic with the torch. Copper usually originates from new copper plumbing upstream of the Scale Stopper Plus system. If this condition exists, we recommend waiting 3-4 weeks before placing the system in operation. This will allow the copper surfaces to be fully flushed and develop a natural protective surface. To further minimize any problem with excess copper the plumbers should be advised to avoid applying excess flux on the inner surfaces of the pipe and to use a low-corrosivity water soluble flux listed under the ASTM B813 standard. Once the plumbing connections are complete, place the Scale Stopper Plus system in bypass prior to following the startup procedure and flush the plumbing for at least 10 minutes.
12. You do not need unions to install your Scale Stopper Plus. If you need to remove it, the Scale Stopper Plus has quick-release couplings that make it easy to put the conditioner on by-pass and remove the filter system from the piping.

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Assembly and Installation Instructions

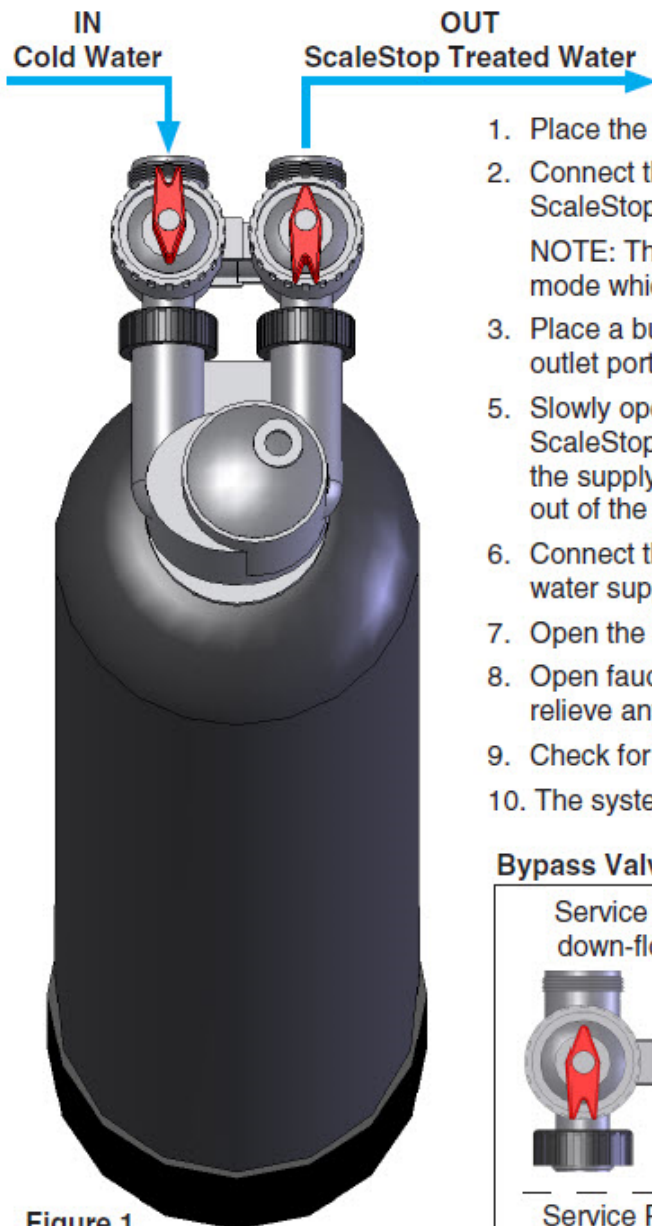
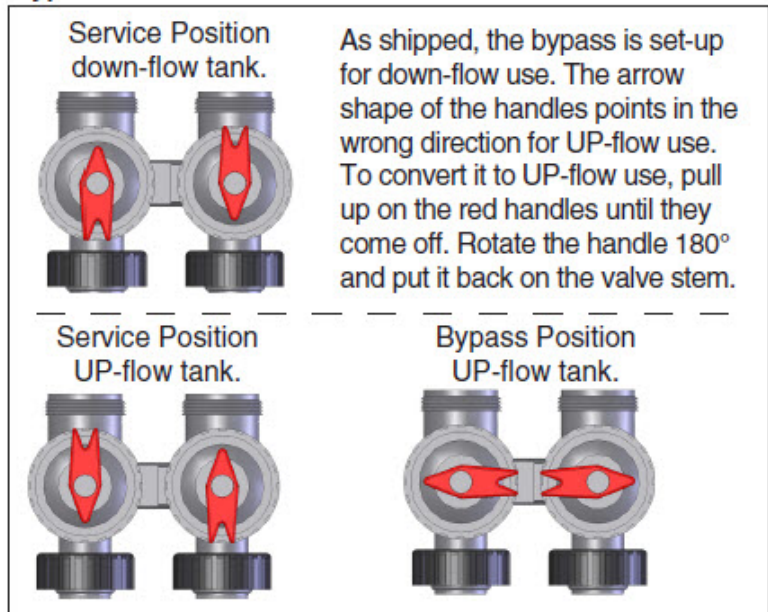


Figure 1.
844 shown with optional
bypass assy..

1. Place the system in the desired location.
2. Connect the Cold Water supply to the inlet of the ScaleStop system.
NOTE: The ScaleStop system operates in the UPFLOW mode which is opposite of a conventional softener.
3. Place a bucket under the outlet port or run a line from the outlet port to a drain.
5. Slowly open the supply valve (user supplied) to the ScaleStop system. Allow the tank to fill with water. Close the supply valve when a steady stream of water comes out of the outlet port.
6. Connect the Outlet of the ScaleStop system to the cold water supply to the home.
7. Open the supply valve to the ScaleStop system.
8. Open faucets downstream from the ScaleStop system to relieve any air.
9. Check for leaks. Repair as needed.
10. The system is now ready for service

Bypass Valve Modification



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Things to Watch for During the First 30-90 Days:

- Faucet aerators and drains may plug occasionally as old scale is removed from your plumbing system and water heater. You may also see milky water while the descaling is taking place. This is simply an increase in the calcium in the water because Scale Stopper Plus is removing old scale deposits from your pipes.
- If you have a dishwasher, the Scale Stopper generally removes mineral hardness from solution and forms micro crystals; it does not physically remove the natural minerals from the water. Harsh chemicals, specifically acidic (low pH) detergents or rinse agents, can re-dissolve these crystals, and still cause staining. Also, dishwashers are supplied by the hot water side of a building's plumbing system, **so for the first few weeks, the water hardness inside the dishwasher will be higher than normal**. For both of these reasons, you will have to adjust the combination and amounts of detergents and rinse agents. Gel packs offer a great alternative since they contain detergents and rinse agents in just the right amounts. Lemi-Shine Rinse Agent is a dishwasher detergent that works well with the Scale Stopper.
- If you have glass shower doors, years of untreated hardness can etch the surface of your glass allowing for soap scum and minerals to get stuck in your glass. We recommend cleaning the glass surface thoroughly with a de-scaling cleaner such as CLR then applying a few coatings of Rain-X to seal the pores on the glass surface. This process will fill the pores in the glass and allow the water to bead.

What to Do If Your Filter Tank Does Not Sit Level on the Floor

Your black filter tank base is not glued to the bottom of your tank. Occasionally tank bases will become crooked during shipment. If you find that that your tank does not sit level on the floor, you can easily adjust it by holding the empty tank and rapping it on a concrete or solid floor once or twice in order to level it.

Good Practices:

If your dishwasher is severely coated with scale at the time of installation, we recommend that you purchase a product like Jet-Dry Dishwasher cleaner to accelerate the cleaning. After this initial cleaning Scale Stopper Plus should keep it clean.

We also recommend that you drain your water heater tank. This should be done 30 to 60 days after Scale Stopper Plus is installed, and again in one year. This is a good practice that can dramatically increase the life of your water heating appliance. If you have an electric "tank type" water heater, for optimum results and higher efficiency, we recommend you change the heating elements to a "low watt density" model. Please insure that the watt density is specified at less than 70 watts per square inch, and is compatible with the brand you own. If you can only change one heating element, change the lower unit which operates most of the time. One example is available at Home Depot (SKU # 258184). The Scale Stopper Plus will help keep the tank and heating elements free of scale and operating at peak efficiency. Please follow the manufacturer's instructions when draining or servicing the tank!