



Installation, Operation and Maintenance Manual

ScaleSolver™ Residential System
Chemical Free, Salt Free, Scale Prevention

Model: SS-7722LE 2"



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Residential - Version 10.17.2013

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INTRODUCTION

The LifeSource ScaleSolver™ provides protection from scale formation throughout the home. The ScaleSolver™ can be installed at the point of entry to treat your entire home, both hot and cold water, or it can be located directly before a water heater or other device (e.g. sauna, etc) that requires protection from hard water.

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

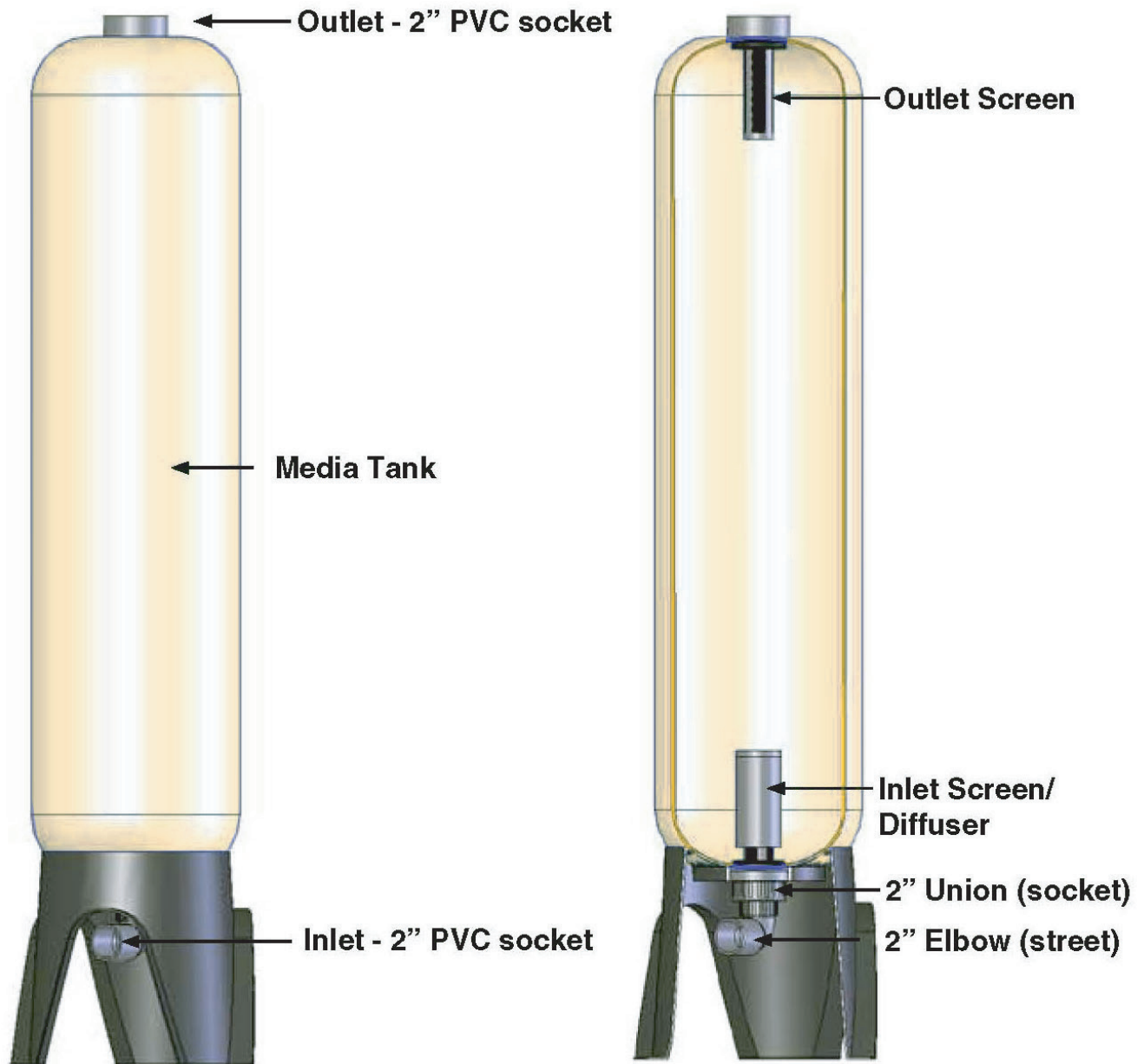
ScaleSolver™ is not a water softener. Low or phosphate-free cleaning products are recommended to achieve optimum results. Modern surfactant or detergent based, liquid soaps are preferred over common caustic solid soaps.

Unlike softened water, ScaleSolver™ treated water maintains the beneficial, essential mineral content of your water and is safe to drink.

ScaleSolver™ Benefits

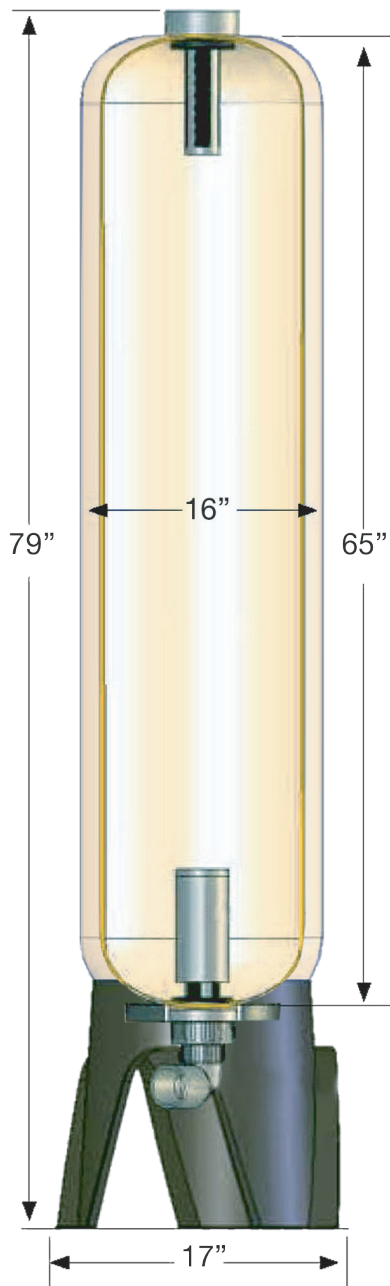
- Chemical free scale prevention. Cost savings and environmental benefits.
- Virtually maintenance free. No salt bags or other chemicals to buy, transport and store.
- No electricity, no wastewater, completely self-contained.
- Beneficial minerals retained for more healthful drinking water.
- Improves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

SCALESOLVER™ OVERVIEW



EQUIPMENT SPECIFICATIONS

The ScaleSolver™ SS-7722LE is 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.



Template Assisted Crystallization is a registered trademark of Next Filtration Technologies, Inc.

PowerTAC™ Physical Properties

Template Assisted Crystallization Composition - Specially treated polymer

Operating Conditions

Can be used in continuous or intermittent operation. Install on cold water supply only. No backwash required.

Water Chemistry Specifications

- pH 6.5 to 8.5
- Max. Hardness 75 grains (1300 ppm CaCO₃)
- Temperature 40 to 110° F
- Max. Chlorine <3 ppm
- Max. Iron, ferrous 0.3 mg/l
- Max. Manganese 0.05 mg/l
- Max. Copper 1.3 mg/l
- Oil & H₂S Remove pre ScaleSolver™
- Polyphosphates Remove pre ScaleSolver™

Specifications

- Max Dimensions 79" x 17"
- Max. Flow Rate 75 gpm
- Max. Temperature 100 °F (37.8° C)
- Max. Pressure 90 psi
- Inlet Connection 2" PVC Union with Socket
- Outlet Connection 2" PVC Socket
- Service Weight (Wet) 420lbs.

Using ScaleSolver™ with other water treatment equipment

Due to the unique properties of ScaleSolver™, there are some unique requirements for using ScaleSolver™ in conjunction with filtration or other forms of water treatment.

1. ScaleSolver™ must be the last stage in the treatment chain. Do not install any filters after ScaleSolver™ or before any devices for which scale prevention is required. POU filters, e.g. carbon or R.O. are exempt from this requirement.
2. Do not apply phosphate or any other antiscalant either before or after ScaleSolver™.



IMPORTANT NOTES: Iron, Manganese and Copper in the Water Supply

Iron and Manganese

Just as with conventional water softening media, ScaleSolver™ needs to be protected from excess levels of certain metals that can easily coat the active surface, reducing its effectiveness over time. Public water supplies rarely, if ever, present a problem, however if the water supply is from a private well confirm that the levels of iron (Fe) and manganese (Mn) are less than 0.3 mg/L and 0.05 mg/L respectively. Copper should be less than 1.3 mg/L.

New Copper Pipes

Copper in the system usually originates from new copper plumbing upstream of the ScaleSolver™ 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 ScaleSolver™ in bypass prior to following the startup procedure and flush the plumbing for at least 10 minutes.



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.
- Place the system on a smooth, level surface. Because the system operates in an UP-Flow, fluidize bed mode, having a level surface is more important than with a softener or media filter.
- 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.



NOTES TO INSTALLER

The ScaleSolver™ differs from a conventional softener or media filter in a number of key respects.

- The system is light and only partially filled with media. This is normal. The UP-flow operation of the system requires a lot of freeboard to allow the bed to fully fluidize.
- The system has no underbed so you can tip the system over without any fear of upsetting the media. This makes transportation and installation much easier than conventional systems.
- **Please see the “important note about iron, manganese and copper” above.**
- **Please see the note about “Using ScaleSolver™ with other water treatment equipment” on the previous page.**

A NOTE TO THE HOMEOWNER

Your ScaleSolver™ will improve the properties of water throughout your home. Here are some things to expect and some recommendations for maximizing the benefits and your enjoyment of ScaleSolver™.



Sinks and fixtures - reduced water spots. If water is allowed to evaporate off a surface, small spots may be left behind. If wiped off frequently, the spots should not require any more than a wet cloth or sponge to remove. No harsh chemicals should be required as is with typical hard water spots.



Dishwasher-Spots on dishes and on the surface of the dishwasher should be greatly reduced. We recommend that you immediately reduce the amount of dishwashing detergent by approximately 50% as compared to hard water use. Dish-washing detergents low in phosphates, are highly recommended as they are better for the environment and phosphates can cause water spots. The use of a rinse aid may be advised.



Shower doors and tiles should have reduced spotting. When water evaporates off a surface, small spots may be left behind. These spots should be easy to remove with a damp cloth or sponge. In very hard water areas, treating the shower glass with Rain-X 2 in 1 glass cleaner, or equivalent, will further reduce cleaning requirements.

In the bath you should notice that soaps and shampoos lather more than with un-treated water. Soaps and shampoos will also rinse off much easier and faster than they would with traditional soft water. We recommend the use of modern soaps for the best results.

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
- You may also see milky water while the descaling is taking place. This is simply an increase in the calcium in the water because ScaleSolver™ is removing old scale deposits from your pipes.

Good Practices:

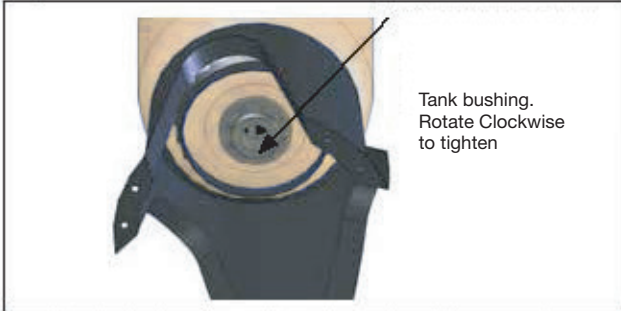
If a dishwasher is severely coated with scale at the time of installation, we recommend the use of a product like Jet-Dry Dishwasher cleaner or Citric Acid - Sour Salt to accelerate the cleaning. After this initial cleaning, ScaleSolver™ should keep it clean.

We also recommend draining your water heater tank. This should be done 30 to 60 days after ScaleSolver™ is installed and again in one year. This is a good practice that can dramatically increase the life of water heating appliances. If an electric “tank type” water heater is being used, for optimum results and higher efficiency, we recommend changing 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 use. If only one heating element can be changed, we recommend changing the lower unit which operates most of the time. The ScaleSolver™ 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!

INSTALLATION

Tighten the Tank Bushings



Lay the tank down and check the bushings on the inlet and outlet (bottom and top) of the tank. It is common for them to loosen during shipment. Tighten the bushings with a strap wrench as needed.

Install the Tank Fittings



Connect the Union fitting to the inlet bushing (bottom).

Install Piping



Connect the inlet and outlet plumbing according to your preferences and any applicable local codes. Include sample/drain ports with hose bibb connections on the the inlet and outlet piping to facilitate startup and service.



IMPORTANT NOTES!

NOTE: We recommend the installation of a dual-union ball-valve on the inlet and outlet to isolate the tank for servicing.

NOTE: A full bypass should be installed so that the full service flow can be routed around the system as needed for servicing.

NOTE: The ScaleSolver™ system operates in the UPFLOW mode which is opposite of a conventional softener. The inlet is on the bottom, the outlet on the top.

NOTE: Schedule 80 nipples recommended for inlet & outlet.

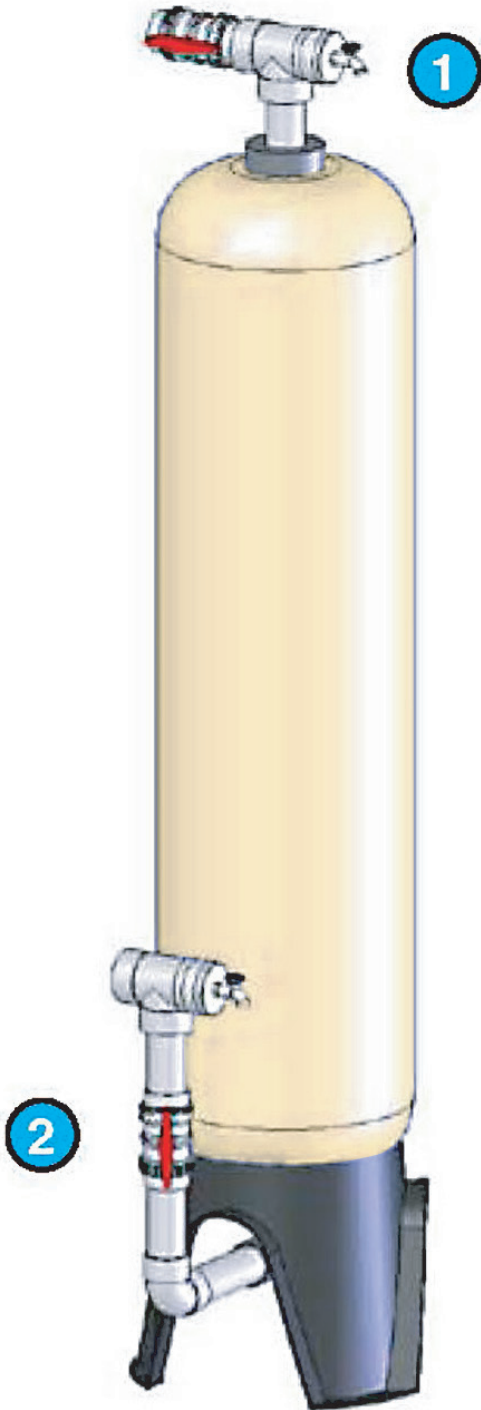


SUPPORT THE PIPING



The full weight of the piping and valves must be supported by unistrut, pipe hangers or other means. The tank connections cannot support the weight of the piping. This photo from a multi-tank system installation shows properly supported piping.

START-UP



1. Connect a hose to the hose bib on the outlet of the tank. Run the hose to a drain.

2. Slowly/partially open the supply water ball valve. Allow the tank to slowly fill with water. When a steady stream of water appears at the drain, close the supply valve.

3. Open the inlet and outlet valves on the system. Transfer the bypass valves from Bypass to the Service position. Open a nearby faucet downstream from the ScaleSolver™ system to relieve any air.

4. Check for leaks. Repair as needed.

5. The system is now ready for service.

LIMITED WARRANTY

LifeSource Water Systems, Inc. warrants the ScaleSolver™ system as follows:

- The Tank is warranted to be free of defects in materials and workmanship for one year from the date of original installation.
- The ScaleSolver™ PowerTAC™ media is warranted for performance for a period of three years from the date of the original installation.

CONDITIONS

1. The ScaleSolver™ must be installed and serviced by an authorized LifeSource Water Systems, Inc. dealer, or other entity approved by LifeSource Water.
2. Any component failure must not result from abuse, fire, freezing or other acts of nature, violence, or improper installation.
3. Equipment must be installed and operated in compliance with the local plumbing codes, and on an approved water supply.
4. Equipment is limited to use at water pressures not to exceed 100 PSI and temperatures not to exceed 110 degrees F.
5. Water supply must not exceed 3.0-PPM chlorine. For water supply exceeding 3.0 PPM chlorine, a LifeSource whole house water filter is recommended.
6. Information, including model number, serial number, and date of installation, must be provided for any claims pertaining to equipment in warranty.
7. Defective parts are subject to inspection by either LifeSource Water Systems, Inc. or any authorized representative before final commitment of warranty adjustment is made.
8. LifeSource Water, Systems Inc. reserves the right to make changes or substitutions in parts or equipment with material of equal quality or value.

LIMITATIONS

Our obligation under this warranty, with respect to the tank or valve, is limited to furnishing a replacement for, or at our option, repairing any part or parts to our satisfaction that prove defective within the warranty period stated above. Such replacement parts will be delivered to the owner F.O.B. nearest factory, at no cost, excluding freight and local labor charges, if any.

Our obligation under this warranty, with respect to the ScaleSolver™ media, will be limited to furnishing a replacement for the media within three years from date of original installation. Such replacement media will be delivered to the owner F.O.B. nearest factory, at no cost, excluding freight and local labor charges, if any. Damage to the media due to chlorine, other oxidizers or fouling or any other operation outside of the limits shown under Specifications, is not covered by this warranty.

LifeSource Water Systems, Inc. shall not be liable for freight, handling or labor charges, or consequential damages.

WARRANTY REGISTRATION

We appreciate your purchase of the chemical-free ScaleSolver™, scale control system. Under proper conditions you will have years of trouble-free performance from this product.

The laws of the United States do not require consumers to return warranty cards or registration cards to be covered by an implied warranty, however, you must keep a copy of your receipt.

At LifeSource Water we support your rights as a consumer. We hope you will take the time to fill out the warranty registration below in order to insure that we have documentation showing that you have purchased the system and that it was installed by a qualified technician. The information provided will be kept in strict confidence and will never be available to marketing companies.

Please detach the section below, fill out the limited information and send it to:

LifeSource Water Systems, Inc.
Warranty Registration
523 S. Fair Oaks Ave.
Pasadena, CA 91105

Owner's Name: _____

Address: _____

Phone: _____ Email: _____

Model Number: _____

Installation Date: _____

Installer or Dealer Name: _____

Installer or Dealer Contact Number: _____