SCR-10X54W-BB20

Installation, Operation and Maintenance Manual

SCR Residential Systems

Chemical Free, Salt Free Scale Prevention

SCR-7X44 SCR-8X44 SCR-9X48 SCR-10X54

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Introduction

The SCR system provides protection from scale formation throughout the home. This system 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.

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

SCR 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 build-up of scale in pipes, water heaters and on fixtures and glass is greatly reduced.

SCR 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, SCR treated water maintains the beneficial essential mineral content of your water and is safe to drink.

SCR 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"

Typical Connection Fittings Г Head Valve ٦ 1" Brass Sweat Fitting 1" PVC Male Elbow Assy. **Optional Connection Fittings (Not Included)** Г ٦ Media Tank or **Structural Tank** Bypass Elbow Assy. Bypass Assy.

System Overview

Equipment Specifications

SCR 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.



An important note about iron, manganese and copper in the water supply.

Iron and Manganese

Just as with conventional water softening media, SCR 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, but 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.

Copper

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



- 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, fluidized 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 the Installer.

The SCR system 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.
- Because the SCR system operates in the UP-Flow mode, the tank connections are opposite of what you're used to.
- Please see the "important note about iron, manganese and copper" above.
- Please see the note about "Using SCR with other water treatment equipment" on the previous page.

Installation

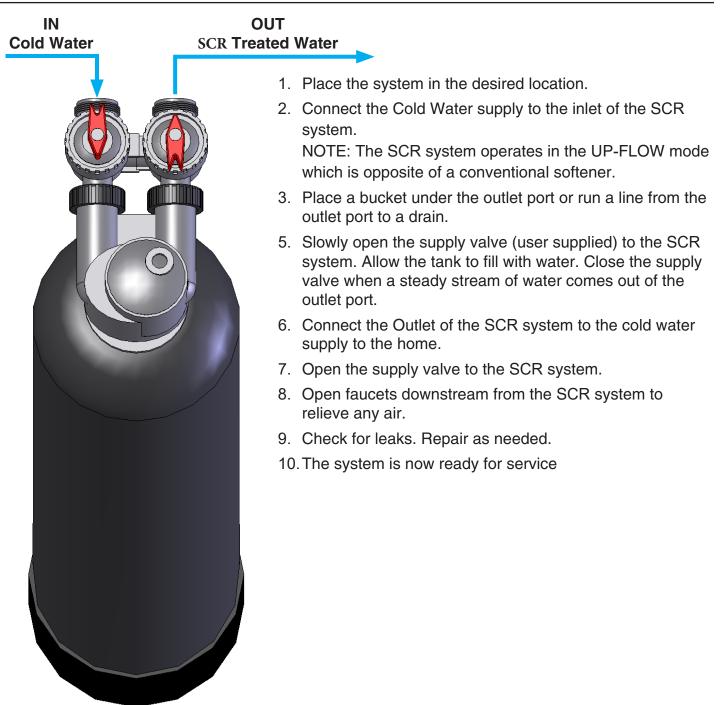


Figure 1. 844 shown with optional bypass assy..

A note to the homeowner

Your SCR system 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 SCR.



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



Dishwasher-Spotting 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. Dishwashing detergents low in phosphates are highly recommended as they are better for the environment and phosphates can cause spotting. 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 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 SCR is removing old scale deposits from your pipes.

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 SCR should keep it clean.

We also recommend that you drain your water heater tank. This should be done 30 to 60 days after SCR 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 SCR 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!

Thank you for choosing SCR conditioning systems for your whole house filtration.