



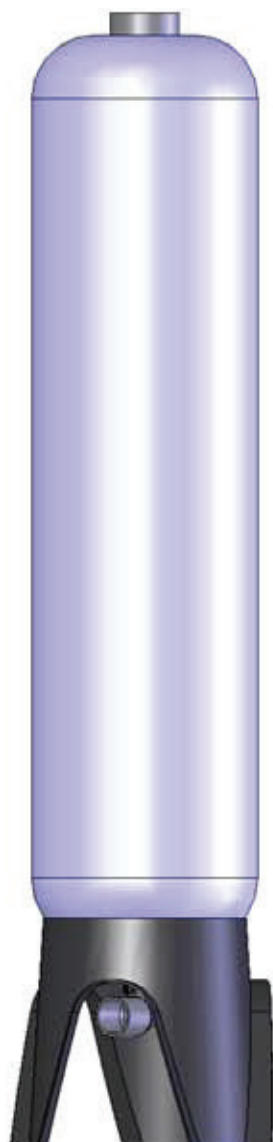
Installation, Operation and Maintenance Manual

ScaleStop Commercial Systems Chemical Free, Salt Free Scale Prevention

NSS-1465C

NSS-1665C

Important note: If NEW copper pipe is used from the incoming main, you should run in bypass for 30 days. New copper pipe leaches copper which coats and damages the media.



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Table of Contents

Introduction..... 3

System Overview..... 4

Equipment Specifications..... 5

Cautions..... 6

Installation..... 7

Start-Up..... 8

Warranty..... 9 / 10



Introduction

The ScaleStop system provides protection from scale formation on internal and external plumbing surfaces. The ScaleStop system can be installed at the point of entry to a building to treat both hot and cold water, or it can be located directly before a water heater, boiler, or other water using device that requires protection from hard water.

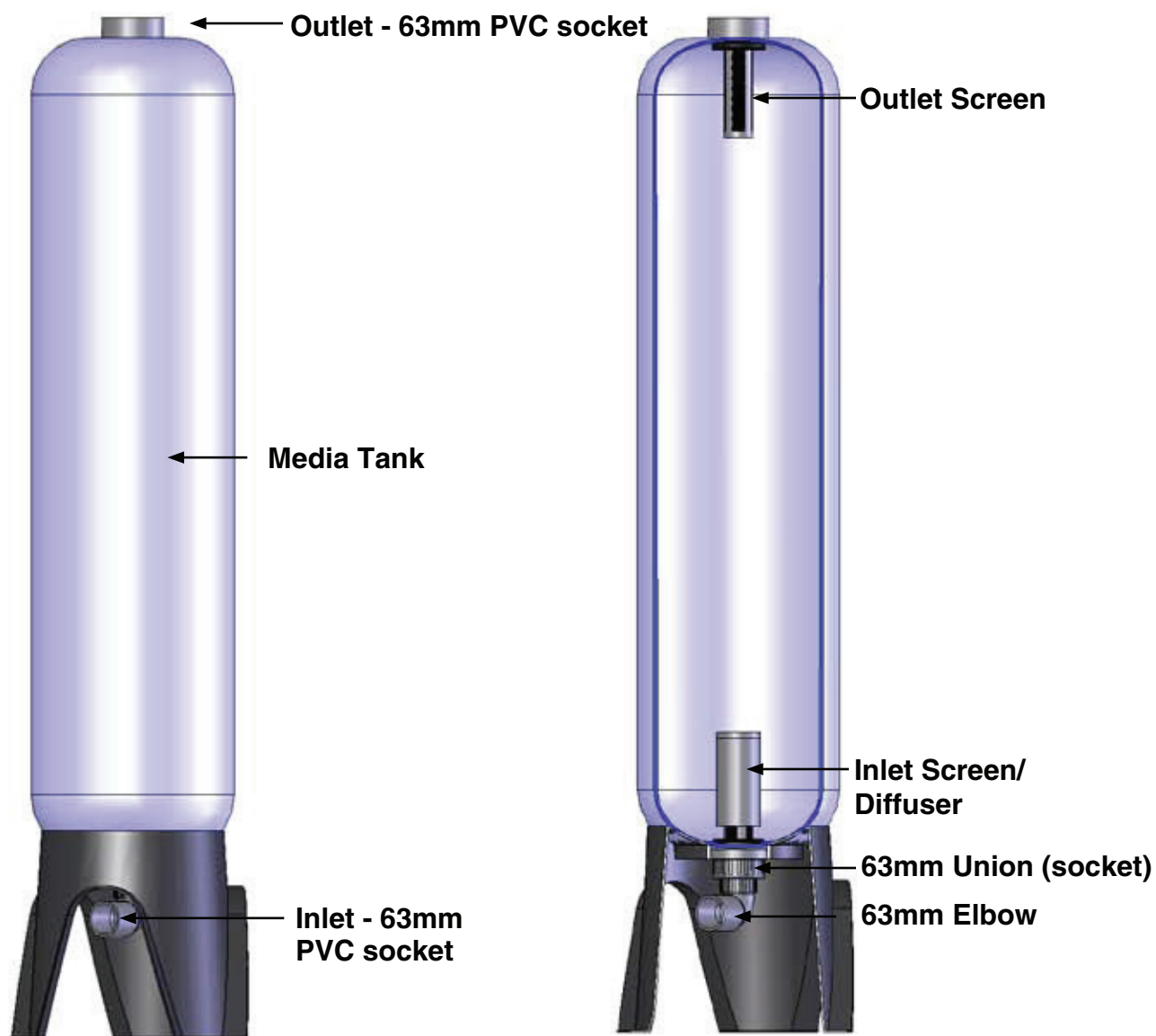
ScaleStop prevents scale by transforming the normal dissolved hardness minerals into undissolved crystal microparticles. These crystals stay suspended in the water and have a greatly reduced ability to react and attach to surfaces like dissolved hardness does. Therefore the problem of internal build-up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

ScaleStop is not a water softener – Water treatment chemistry (e.g. antiscalants, sequestrants, etc.) will most likely have to be changed to be compatible with ScaleStop treated water. Laundry and ware-washing chemistry will likewise require adjustments.

ScaleStop Benefits.

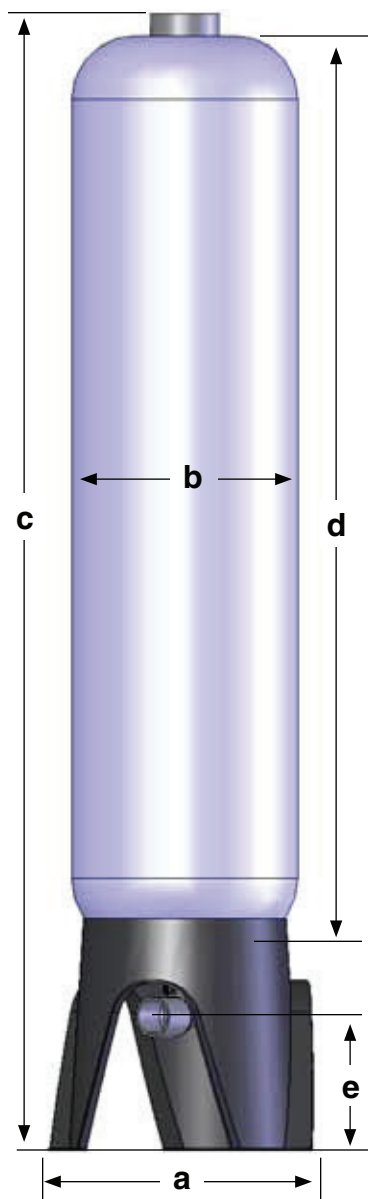
- Chemical Free Scale Prevention. Cost savings and environmental benefits.
- Virtually Maintenance Free. No salt bags or other chemicals to buy, transport and store.
- No Electricity, no wastewater, completely self-contained.
- Improves the efficiency of water-using appliances.
- Simple installation – no electrical and drain hookup.
- Safe for landscaping and lawn watering. No need for costly bypass plumbing.
- Compatible with all on-site and community wastewater treatment systems.
- Not subject to water softener restrictions and “bans”.
- Scalestop treated water has no added sodium, is safe to drink and is well suited for use in food and beverage preparation.
- Scalestop has drinking water safety certifications NSF61 and BS6920 plus WRAS approval.

System Overview



Equipment Specifications

ScaleStop 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 Connection | 63mm PVC Union with Socket. |
| Outlet Connection | 63mm PVC Socket |
| Temperature | 4° - 44°C |
| 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 | 1 bar min. 6.8 bar max |

Mechanical Specs.

| | 1465 | 1665 |
|---------------------|------|------|
| Dry Weight (kg) | | |
| Service Weight (kg) | 159 | 191 |

Dimensions (nominal - inches)

| | | |
|----|-------|-------|
| a | 17 | 17 |
| b | 14 | 16 |
| c* | 79 | 79 |
| d | 65 | 65 |
| e* | 10.25 | 10.50 |

* The overall height and the height of the inlet fitting varies due to material variations and assembly tolerances. Please allow additional clearance above the tank for making connections.

Maximum Service Flow (lpm) vs. Water Temperature

Continuous Duty Systems:

| System | 4°C | 7°C | 10°C | 13°C | 16°C | 18°C | 21°C |
|--------|-----|-----|------|------|------|------|------|
| 14-65 | 182 | 200 | 218 | 227 | 227 | 227 | 227 |
| 16-65 | 205 | 232 | 255 | 268 | 286 | 314 | 341 |

Intermittent Duty Systems:

| | |
|-------|-----------------------------|
| 14-65 | 227 LPM at all temperatures |
| 16-65 | 341 LPM at all temperatures |

* Intermittent duty is defined as less than 2 hours of Maximum Flow per 24 hour period. Higher Flow rates can be achieved by combining systems in an array.

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

Iron and Manganese

Just as with conventional water softening media, ScaleStop 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 ScaleStop 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 ScaleStop system 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, fluidised 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.



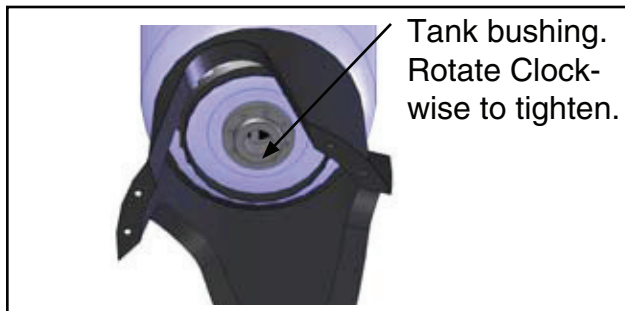
Notes to the Installer.

The ScaleStop 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 fluidise.
- 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 ScaleStop 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 ScaleStop with other water treatment equipment" on the previous page.

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

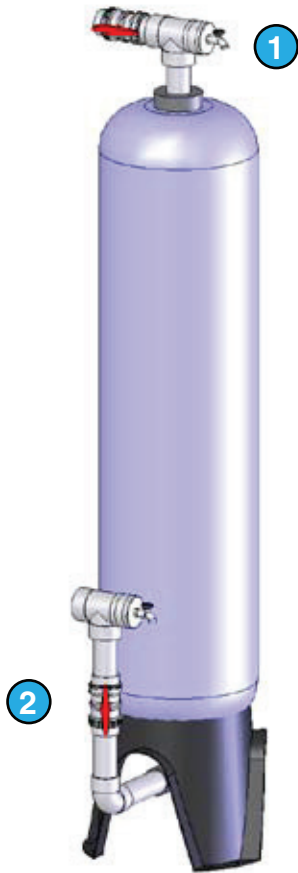


Support the Piping



The full weight of the piping and valves must be supported by unistrut, pipe hangers or other means. The tank connections can not 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 bibb 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 tap downstream from the ScaleStop system to relieve any air.
4. Check for leaks. Repair as needed.
5. The system is now ready for service



LIMITED WARRANTY

Warranty Period

- The Tank is warranted to be free of defects in materials and workmanship for 10 years from the date of original installation.
- The Head is warranted to be free of defects in materials and workmanship for 5 years from date of original installation
- The ScaleStop media is warranted for performance for a period of 3 years from the date of the original installation.

Conditions

1. The ScaleStop system must be installed and serviced by an authorised distributor, or other suitably qualified individual or company.
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 incoming water pressures not to exceed 6.8 bar and temperatures not to exceed 44 degrees C.
5. Scale Stop systems must be bypassed for 30 days if NEW copper pipe is used on the supply side.
6. Water supply must not exceed 3.0-PPM chlorine. For water supply exceeding 3.0 PPM chlorine, pretreatment is required. (Please consult installer for pre treatment recommendations.)
7. Information, including model number and date of installation, must be provided for any claims pertaining to equipment in warranty.
8. Defective parts are subject to inspection by either Scale Stop UK and or approved installer before final commitment of warranty adjustment is made.
9. Scale Stop UK reserves the right to make changes or substitutions in parts or equipment with material of equal quality or value and of then current production.

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 labour charges, if any.

Our obligation under this warranty with respect to the Scale Stop media will be limited to furnishing a replacement for the media within two 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 labour charges, if any. Damage to the media due to copper, chlorine other oxidisers or fouling or any other operation outside the limits under Specifications is not covered by this warranty.

Scale Stop UK shall not be liable for freight, handling or labour charges, or consequential damages.



Using ScaleStop with other water treatment equipment.

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

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

Warranty Registration

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

It is important to register the warranty for your new system, so that we have all the information we need to help you quickly in the unlikely event that you experience a problem.

Please register your warranty within 30 days of installation

Your warranty terms and conditions are in the installation manual supplied with your product. Your warranty is a free period of cover and does not affect your statutory rights in any way. Remember, your product only has a free period of cover if it is registered.

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