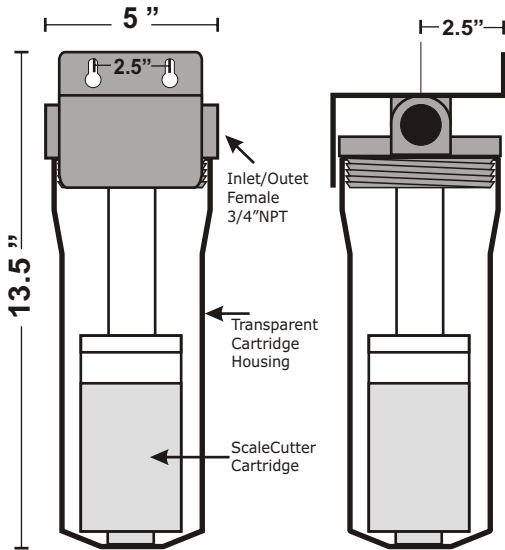


SCALECUTTER



ScaleCutter Installation / Operating Instructions

Unit Description



SFES's ScaleCutter Water Conditioning System is a unique product providing superior limescale prevention and corrosion control. The unit conditions the water resulting in greatly decreased mineral scale adhesion to the inner surface of the heat exchanger

ScaleCutter works by:

- * Keeping scale-causing minerals in solution inhibiting limescale formation.
- * Changes the shape of precipitated limescale preventing accumulation.
- * Coats wetted surfaces with a micro-thin layer that provides corrosion control.
- * Helps soften and remove existing limescale over time.

In many cases, the ScaleCutter Water Conditioning Systems offer many of the same advantages as conventional water softening systems, except at a lower cost with little professional maintenance.

Specifications:

Unit Model #	103000038
Maximum Pressure	125psi
Maximum Inlet Water Temp.	140°F
Inlet/Outlet Connection Size	3/4" Female NPT
Replacement Cartridge #	103000039

The chemical additives contained in Phos-HW are Certified to ANSI/ NSF Standard 60 at a max. use level of 10 mg/L.



PHOS-HW is NSF Certified under Southeastern Filtration & Equipment Systems.

Important Note: Do not install the ScaleCutter unit where it is exposed to direct sunlight. Do not install in unconditioned spaces or outdoors where unit could freeze.

Installations where a recirculating hot water loop is used, the ScaleCutter unit must be installed on the cold water inlet line only.

Prior to Installing System:

1. The ScaleCutter water conditioning system must be installed on a cold-water line prior to the tankless water heater. The unit will treat either the hot side only, or the whole house.
2. Do not install the ScaleCutter in an area where water leakage of the unit or connections will result in damage to the area adjacent to the appliance or to lower floors of the structure. When such locations cannot be avoided, it is recommended that a suitable drain pan, adequately drained, be installed under the ScaleCutter Unit.
3. Determine the flow direction of the incoming water line. The unit is shipped with mounting bracket attached with the inlet port on the left side. If needed, remove and reverse the mounting bracket for right side inlet port configuration.
4. It is recommended that a 3-way by-pass be used on all installations in order to isolate the system for maintenance. The use of unions is also recommended. Refer to bypass diagrams.
5. Observe water pressure. If pressure exceeds 125 psi, use a pressure regulator prior to the system.
6. Securely mount the system using supplied bracket whenever possible.
7. The system must be installed with the cartridge and sump directly below the feed head. Do not install sideways or upside down.
8. Install the system where the housing is in an accessible location for cartridge change. Allow a 2" space under the cartridge housing in order to unscrew it from the head.

Connection and Start- Up:

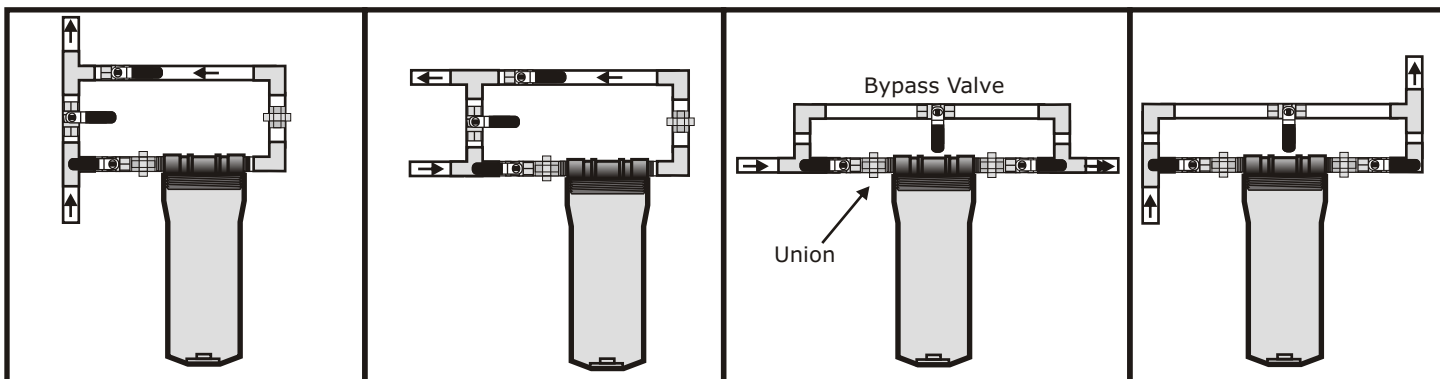
1. Turn off water supply.
2. Use either Teflon tape and/or pipe dope on 3/4" male threaded fittings prior to connecting them to the female threaded ports on the system head. Do not over tighten the fittings into the ports.
3. Do not sweat fittings close to the system head unless precautions are taken against excessive heat.
4. Use a back up next to the head if a compression fitting is used to make inlet/outlet connections.

(Continued on other side)

Connection and Start- Up:

5. If the housing and cartridge were removed during installation, take the filter cartridge and push it up onto the 3/4" stem in the bottom of the head so that it hangs by itself vertically under the head. With care not to bump the cartridge, replace the filter housing on the head by screwing it on. Make sure o-ring is seated correctly in housing, and **hand tighten until snug***, ensuring the bottom of the cartridge is centered..
 6. Once installation is complete, turn on water supply and allow water to enter into the unit. Purge air from the unit by opening water lines, then close lines and check for leaks.
 7. Make sure the bypass valve is in closed position.
- * **Hand tighten housing only. Use Filter Wrench for housing removal only.**

Bypass Configurations

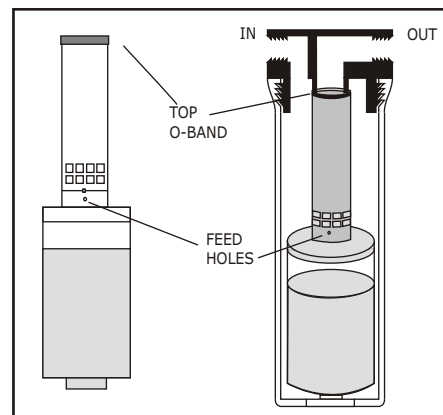


Operation:

Under normal operation, the inlet and outlet valves should be in the open position and the bypass valve closed. The product will dissolve over time and the level of the cartridge will drop. Replace the cartridge when the product level nears the bottom of the cartridge. Cartridge life will vary depending on water usage and cartridge type. Cartridges should last 9-12 months in most residential applications.

Cartridge Replacement:

1. Close inlet valve only. Open water line downstream of system to relieve pressure from the line. Once pressure is released, close the outlet valve, then using the filter wrench, unscrew the housing and remove.
2. Remove the spent cartridge **ensuring that the top o-band does not remain on the stem in the middle of the head.**
3. Take the replacement filter cartridge and push it up onto the 3/4" stem in the bottom of the head so that it hangs by itself vertically under the head. With care not to bump the cartridge, replace the filter housing on the head by screwing it on. Make sure o-ring is seated correctly in housing, and **hand tighten until snug**, ensuring that the bottom of the cartridge is centered.
4. Open outlet valve, then slowly open inlet valve. Purge are from system by opening line downstream of unit, then check the unit for leaks. Ensure bypass is closed. If system leaks, replace o-ring and recheck.



Trouble Shooting:

There are two maintenance requirements for correct system operation. **1) Replace the cartridge when needed.**

2) Ensure that the feed holes on the cartridge are not plugged. In some applications where water hardness and alkalinity are high, feed holes may begin to "weep" a white material from the feed holes. This material may eventually build up and clog the feed holes rendering the system ineffective. There may also be evidence of a harmless white powder-like substance at the bottom of the housing. In such applications, the feed holes on the cartridge will need to be periodically cleaned. **Follow cartridge replacement procedures and clean the feed holes taking care not to tip the cartridge to one side.**

ScaleCutter unit includes:

- (1) Cartridge Housing (inlet/Outlet Head and Transparent Housing w/ O-ring)
- (1) ScaleCutter Water Conditioning Cartridge
- (1) Mounting Bracket w/ 4 Screws
- (1) Filter Housing Wrench
- (1) Installation/Operating Instructions

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