



SCALERX® SCALE PREVENTION SYSTEMS

INSTALLATION, OPERATION, & MAINTENANCE GUIDE

GENERAL INFORMATION

American Valve's ScaleRx® Ion Polarization Scale Prevention systems are designed to treat water with elevated levels of dissolved calcium carbonate or magnesium carbonate to prevent the formation of calcite crystals on downstream components. ScaleRx® devices are uni-directional, and intended for installation on the ambient temperature inlet side of a water system.

American Valve Inc. assumes no liability for any damages or injuries resulting from non-compliance with installation instructions or standard good practices when installing, operating, or maintaining the devices, even if not explicitly mentioned in this document.

This document covers the following model families:

ScaleRx®

ScaleRx Whole Home

ScaleRx Redline

MATERIAL COMPATIBILITY

ScaleRx® devices are manufactured from 304 stainless steel, and are suitable for direct connection to a broad range of common pipe materials, including but not limited to plastics, copper-based alloys, and other stainless steels. Connection to anodic metals such as zinc should be made with dielectric unions to prevent galvanic corrosion to surrounding pipes. Internal components are constructed of corrosion-resistant plastics, copper-based and zinc-based alloys. Details of the materials used for each model are listed in the specific model's technical sheet. Please refer to your local water authority for compatibility with stainless steel products. American Valve cannot be held responsible for failures caused by the quality of the water in combination with an unsuitable material chosen for the application.

PRESSURE & TEMPERATURE RATINGS

Specific information on pressure and temperature ratings of each ScaleRx® model are provided in the American Valve technical sheets, those can be obtained through American Valve's website or by contacting American Valve. All contact information is provided in the last page of these instructions.

The operative conditions given in the technical sheets are intended for non-shock operating conditions. Applications subject to water hammer, impacts, stress loads, corrosive or erosive external environmental elements, or the transport of fluids with abrasive properties should be avoided.

INSTALLATION

Prior to installation, confirm that the ScaleRx® unit is suitable for the pressures, temperatures, operating fluids and environment in which it will be installed. It is the responsibility of the installer and/or of the facility designer to ensure that the application does not exceed the limits of pressure and temperature of the device and is carried out in accordance with local current laws and regulations.

ScaleRx® devices can be installed vertically, horizontally, or at an angle. They can be installed indoors or outdoors. Special consideration must be given to prevent water from freezing inside the device, either by insulating or draining the line when freezing conditions exist.

ScaleRx® can become clogged if the incoming water contains sediment or debris. We recommend using a filter with a minimum of 50 microns to remove large particles upstream of the ScaleRx® device.

Observe the flow direction indicator arrow on ScaleRx® and ensure it is oriented correctly.

Pipe ends should be void of any burrs and not protrude inside the bore or obstruct any part of the flow. Lines should be flushed after installation or after performing maintenance on the system.

Do not subject the unit to any twisting, bending or tension. Pipe brackets or supports should be installed at a distance suitable to properly support the device and piping. Do not to overload the ScaleRx® device with any additional stress.

THREADED CONNECTIONS

ScaleRx® shall be installed on pipes using a sealant suitable for the application and the expected type of fluid. ScaleRx® devices with threaded connections are female NPT (tapered) threads.

- All connecting threads shall be in accordance with the applicable standard requirements (please refer to the technical sheet). Pipe threads must be free of damage that could impair the connections.
- Additional stresses on the ScaleRx® unit's body to cap connection must be avoided during installation. Always use a wrench to grasp the hexagon/octagon portion of device end while attaching to the pipe. In order to avoid additional stress on the device, be careful not to tighten the pipe at an excessive distance from the threaded area.
- Avoid over-insertion of male threaded fittings into the device. This could result in damage to the device, or exert undue stress on the body, leading to failure.
- For pipe sizes 1" NPT and smaller, wrap thread sealant tape in a clockwise motion while keeping the tape at the bottom of the thread. If the tape is the same width as the pipe diameter, you will need to wrap the threads in a straight pattern three (3) to five (5) times. For sizes 1 ¼ inch through 2 inch, when the tape width is smaller than the pipe size, you will wrap four (4) to five (5) times starting at the end of the threads and working up.
- Check for leaks after turning on the water supply. Small drips can usually be eliminated by tightening the fitting another ¼ turn into the ScaleRx® device.

FLANGED CONNECTIONS

After inspecting the device, attention should be given to the flange face surfaces. ScaleRx® Redline devices have class 150 raised flange faces. Be sure to use an appropriate gasket for the two flange mating surfaces.

Flange misalignment, unsupported pipes, and excessive flange bolt torque are the most frequent causes of failure in piping systems.

SHARK BITE® CONNECTIONS

ScaleRx® Whole Home devices are supplied with Shark Bite® fittings to be used with copper K,L & M hard drawn tubing, copper tube sized (CTS) CPVC pipe, and PEX A,B & C tubing (ASTM F876 & F877). A required support insert for PEX installations is built into the fittings. Shark Bite® fittings are NOT suitable for service on PEX tubing with an oxygen barrier on the outer layer or PEX-AL-PEX tubing.

- To ensure proper installation and operation, a minimum distance of 5 pipe diameters is required between any solder connections and a Shark Bite® joint. Extreme care should be taken to ensure that any heat applied to nearby fittings does not reach the Shark Bite® joint. It is preferable to perform all solder connections first, allowing the pipe to cool completely before installing any Shark Bite® joint. A minimum of 2 pipe diameters spacing is recommended between any Shark Bite® joints to ensure proper sealing and the ability to remove the fitting.
- Using an appropriate pipe cutting tool, ensure that the pipe is cut square free from burrs or rough edges.
- Ensure that the pipe is perfectly round and there are no scratches, gouges or any form of damage on the circumference of the tubing within 1 inch of the cut ends. Damage in this area may cause leakage. Lightly sand the outside pipe edge to protect the o-ring seal from damage during installation.
- Using a straight pushing movement, push the tubing fully into the fitting and ensure that it is engaged properly. Note: The tubing must be pushed completely inside the fitting and fully engage the metal teeth as well as the O-Ring seal to obtain a proper joint.
- Rotate the ScaleRx® device with Shark Bite® fittings attached to the desired orientation.
- To remove the fitting, use only a Shark Bite® removal tool, available in most home centers and hardware stores. Push the removal tool against the exposed plastic collar of the fitting to release the tubing.

USE AND MAINTENANCE

ScaleRx® doesn't require any maintenance. Over time you may notice existing scale begin to break up and flush through piping outlets.

ScaleRx® works by causing calcium carbonate to crystalize as aragonite instead of calcite. While aragonite does not readily adhere to surfaces, some particles could accumulate around areas of flow restriction, such as faucet aerators. This debris is harmless and can be flushed or rinsed out.

While ScaleRx® has been shown to prevent up to 76% of scale deposits, some calcite deposits could still form, especially on hot surfaces.

American Valve bears no responsibility for improper use, tampering, modification, or disassembly of its products.

CAUTION: **RISK OF WATER DAMAGE.** ScaleRx® should be installed by a licensed professional



CAUTION: **RISK OF WATER DAMAGE.** DO NOT OVERTIGHTEN or damage could occur and cause a leak.

