

FOR TANK AND TANKLESS WATER HEATERS

PRODUCT GUIDE

# SCALE RX<sup>®</sup>

Ion Polarization **Scale Reduction System**

## 12 YEAR WARRANTY

- Protects against limescale buildup
- Eliminates up to 76% of limescale deposits
- Works on tank and tankless water heaters
- Features patented TGP<sup>®</sup> Technology (Turbulent Galvanic Polarization)
- Saves energy and money
- Available in 3/4" & 1"



AMERICAN  
VALVE<sup>®</sup>  
Swiss  
Aqua  
Technologies<sup>®</sup>



A WATER HEATER'S **ULTIMATE DEFENSE**

## WHAT IS SCALE?

When water comes from areas high in calcium or magnesium carbonate, hard water leaves mineral deposits commonly known as “lime scale” on plumbing components.

## WHY IS IT BAD?

Scale buildup can block pipes and faucet aerators and cause components to fail. It's unsightly, leaves white deposits on clothes and dishes and is a constant nuisance for end-users.

More significantly, scale build-up on water heater elements reduces the overall efficiency and drives up energy bills. Conditioned water saves more than 50% of operating costs over the lifetime of a water heater and help new tank and tankless water heaters to run even more efficiently.\*

## HOW IS SCALE BAD FOR A WATER HEATER?

- Restricts Flow
- Slows Transfer of Heat
- Decreases Efficiency
- Damages Heating Elements
- Decreases Water Pressure

\* Retrieved from Water Quality Association website:  
[www.wqa.org/learn-about-water/perceptible-issues/scale-deposits](http://www.wqa.org/learn-about-water/perceptible-issues/scale-deposits)



Water heater with scale and sediment buildup decreasing the efficiency, water pressure and lifespan of this water heater.



- The most common cause of failure in traditional gas and electric water heaters is **lime scale build-up**.
- During normal operation, especially in hard water areas, minerals in water will accumulate on the **hottest parts** of the water heater.
- Over time scale deposits act as an insulator, causing the water heater to work harder to function. This **reduces** the energy efficiency of the water heater by **up to 50%**.
- This **loss of efficiency** in the heat transfer directly affects heaters ability to heat water to high temperatures in short amounts of time.
- The water heater will **eventually fail** due to this **excessive heat** caused by the insulative properties of scale.

\* Retrieved from Battelle Memorial Institute, Columbus, OH, Study on Benefits of Removing Hardness, 2009.

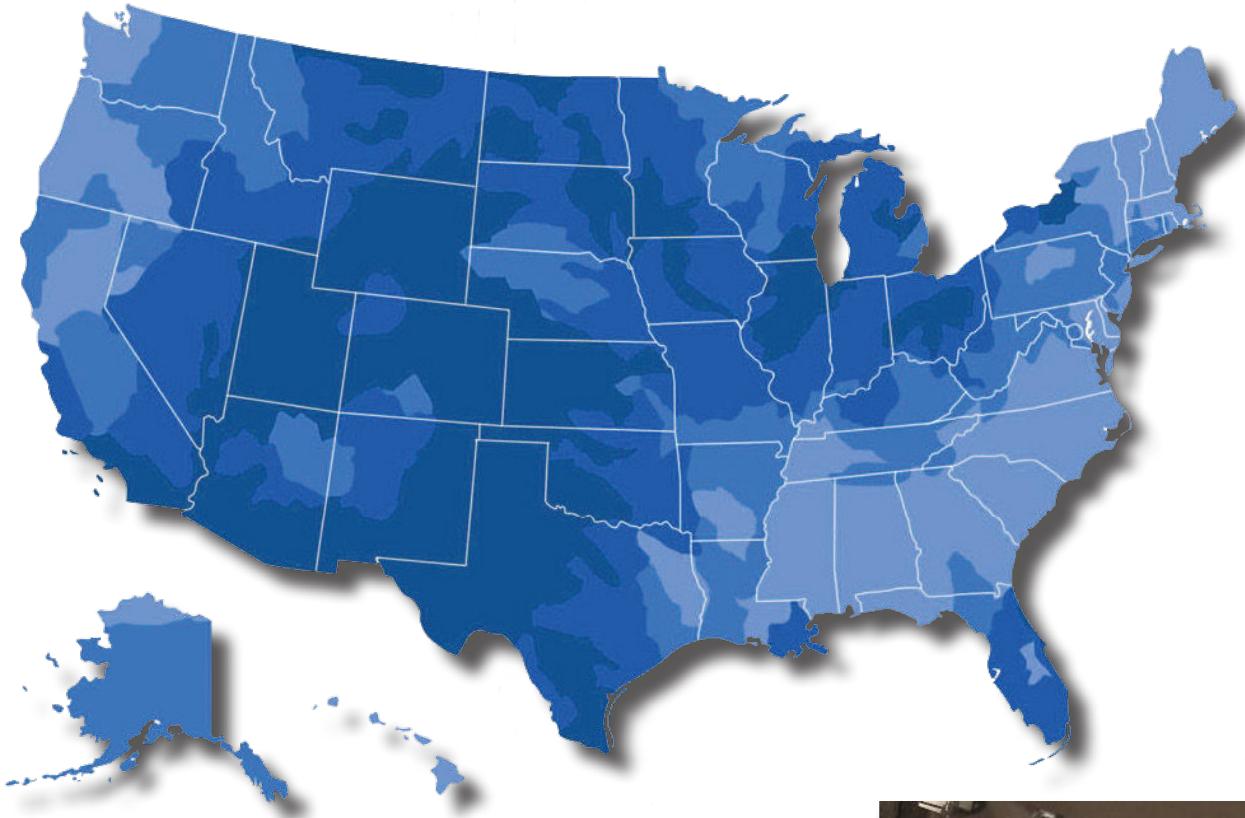
## YOUR BEST DEFENSE AGAINST SCALE

85% of America has some degree of hard water.

ScaleRx<sup>®</sup> is suited for both traditional tank and tankless water heaters in areas with moderate to severe hard water. It's an inexpensive way to protect a water heater investment, easy to install, and a great value.



*A cross-section of built up lime scale on the outlet of a water heater in Northern Illinois.*



### CONCENTRATION OF HARDNESS AS CALCIUM CARBONATE





-  SOFT/SLIGHTLY HARD WATER
-  MODERATELY HARD WATER
-  HARD WATER
-  VERY HARD WATER

Table adapted from and prepared by the United States Geological Survey:  
<https://water.usgs.gov/owq/hardness-alkalinity.html#hardness.html>



*Lime scale buildup on a tankless water heater without ScaleRx<sup>®</sup> protection in Phoenix, Arizona*

# A WATER HEATER'S **ULTIMATE** DEFENSE

## WHAT MAKES SCALERX® BETTER?

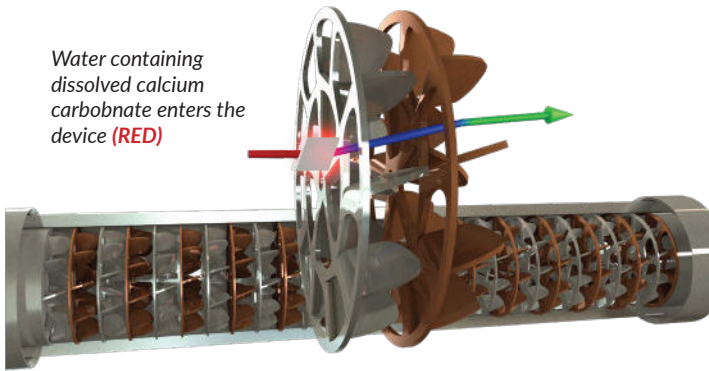
ScaleRx® can be installed on any tank or tankless water heater and connects directly to any ¾" Male NPT Copper, PEX, PVC or CPVC.

Testing conducted by IAPMO shows ScaleRx® to be **76%** effective at removing lime scale deposits on copper heating elements. In side-by-side comparison testing it was **4x** more effective than the leading electronic scale reduction device.

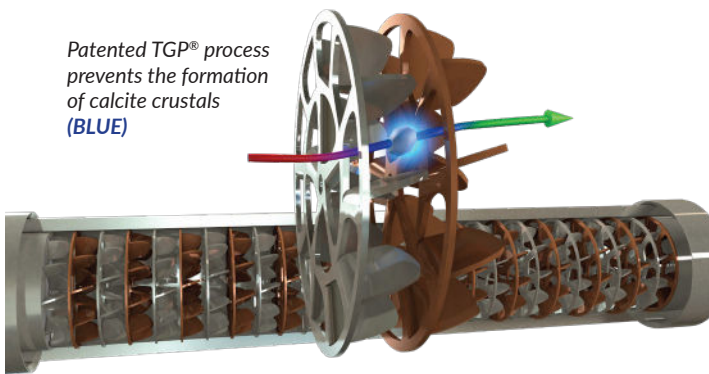
*ScaleRx® is shown here installed on the cold water inlet of both a traditional tank (RIGHT) and a tankless water heater system (LEFT), and horizontally (BOTTOM).*



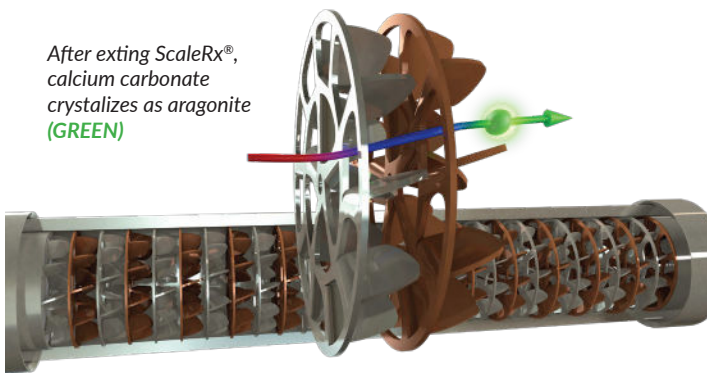
Water containing dissolved calcium carbonate enters the device (RED)



Patented TGP® process prevents the formation of calcite crustals (BLUE)



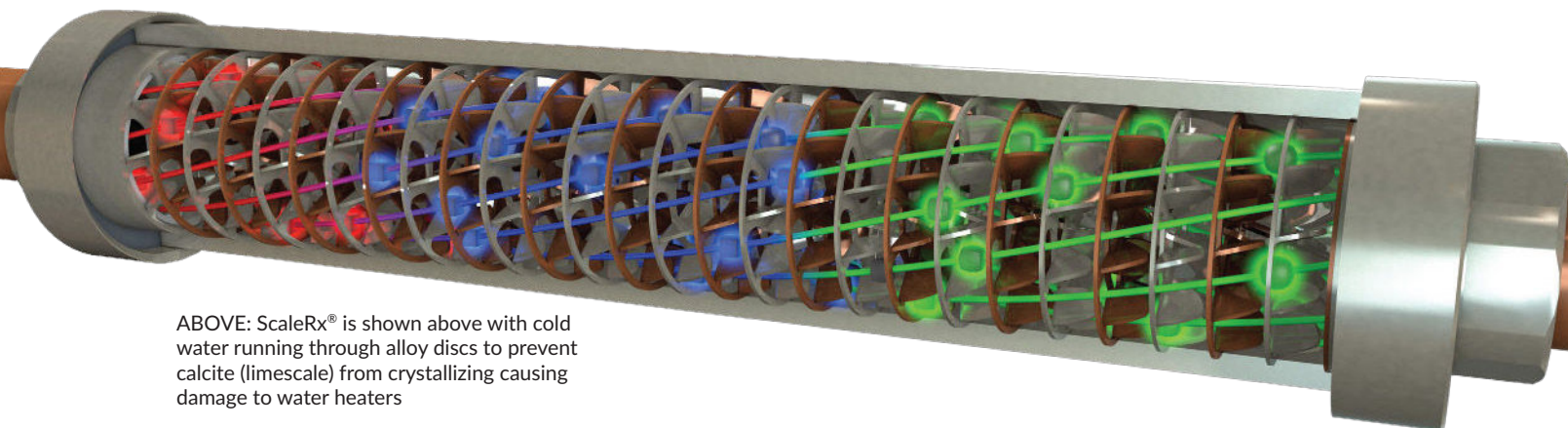
After exiting ScaleRx®, calcium carbonate crystallizes as aragonite (GREEN)



## HOW DOES SCALERX® WORK?

- ScaleRx® effectively disrupts the formation of lime scale as cold water enters a tank or tankless water heater system.
- Cold water enters the ScaleRx® system and flows through a series of discs that generate a small electrical current and turbulent flow.
- The patented TGP™ process effectively prevents the formation of calcite crystals.
- After passing through ScaleRx®, calcium carbonate crystallizes as aragonite, which is less apt to stick to surfaces and flows freely through plumbing systems.

ABOVE: ScaleRx® is shown above with cold water running through alloy discs to prevent calcite (limescale) from crystallizing causing damage to water heaters



## FAQ

### What Kind Of Water Heaters Can It Be Used On?

ScaleRx<sup>®</sup> can be used on any residential water heater — tankless, tank, gas, electric, geothermal, etc.

### How Long Does It Last?

ScaleRx<sup>®</sup> is designed to live as long as any gas or electric water heater and is backed by a 12 year warranty.

### Can I Install It Outside?

Certainly! The outside components are made of durable stainless steel and made to survive in any type of environment inside or outside.

### What Type Of Pipe Do I Need To Use?

ScaleRx<sup>®</sup> can be used with any type of pipe. It connects directly to copper, CPVC, or PVC pipe. Brass or plastic adapters may be used to connect it to any other type of pipe.

### Why Doesn't It Need An External Power Source?

ScaleRx<sup>®</sup> contains turbine-shaped electrodes (not magnets) made of two different alloys. The patented TGP™ (Turbulent Galvanic Polarization) process generates a small electrical current as water flows through.

### How Much Flow Restriction Is There?

ScaleRx<sup>®</sup> doesn't reduce household water pressure, and has less than 1 GPM pressure drop.

- Min./max. Pressure (inlet): 4 psi/145 psi
- Recommended Temperature (Inlet): 40°F to 100°F

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\*3/4" OR 1"  
ACTUAL SIZE

