



Scale Prevention for your Equipment

According to the U.S. Bureau of Standards, $\frac{1}{4}$ " of scale build-up on heating elements or coils requires 55% more energy to attain the same temperature. HYDROBLEND™ is a unique product, which offers unparalleled prevention of scale deposits caused by hard water minerals, as well as corrosion control in water fed equipment.

How it Works:

Heating water causes calcium carbonate (limescale or hardness) to come out of solution and adhere to the inside of your water system as hard water scale deposits. The Hydroblend™ system works by distorting the almost perfect cube shape of the scale. Changing this uniform shape prevents the scale from building up and, over time will remove existing scale in the system. The system will also remove existing scale in the system over time.

When compared to the cost of standard water softening equipment, Hydroblend™ provides effective corrosion controls and scale prevention at a fraction of the cost. Since Hydroblend™ systems work based on water volume, not time, waste is eliminated. When the Hydroblend™ media has dissolved and the cartridge is empty, you simply replace it. One glance at the clear or translucent housing lets you know when a replacement is needed.

Hydroblend™ systems require no electricity, maintenance or guesswork, and eliminate the need for deliming solutions or acid typically used for the

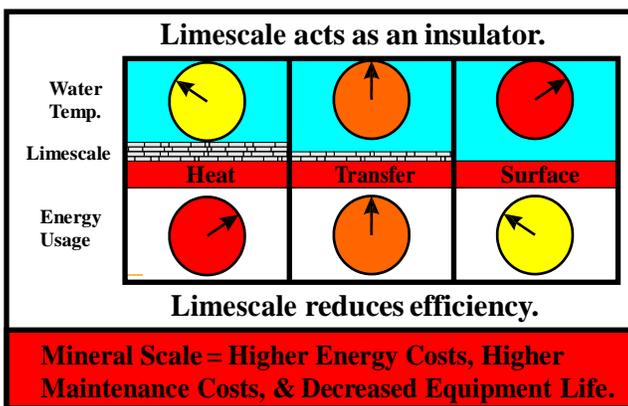
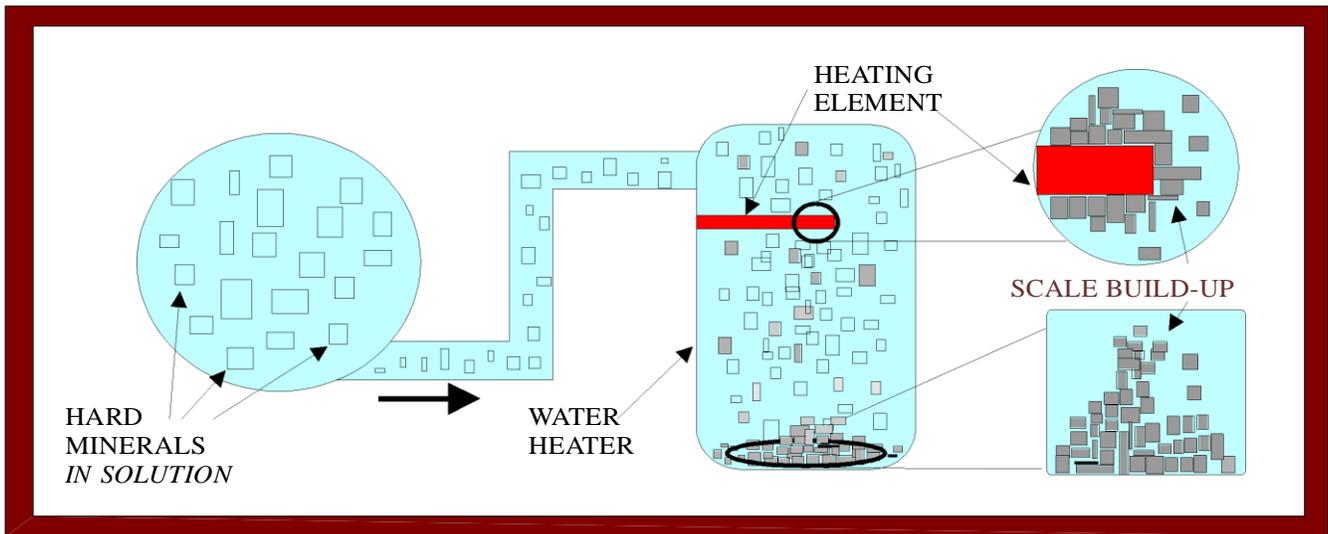
removal of scale build-up. Acid-based products can etch the steel surfaces when contact is made, creating an ideal surface for scale build-up. Not only can they be hazardous, but these solutions require special handling, more storage space, and increased down-time and labor; which increases cost, while decreasing production.

Part No. Description

79945	Scale Inhibitor Unit 3/4" FPT Inlet/Outlet. 40,000 gallons of water treated per cartridge used. Recommended flow rate: 1-20 GPM \$ 400.00 per unit
80121	Replacement cartridge for 79945, Scale Inhibitor Unit. \$ 200.00 per unit

HARD WATER SCALING

Most water supplies contain certain amounts of dissolved minerals. Some of these minerals, like sodium, are very soluble and will remain in solution despite changes in water characteristics like temperature. Other “hard” minerals, calcium and magnesium, are not very soluble in water and have the propensity to precipitate out of solution as hard mineral scale when water characteristics change. Changes such as pressure or temperature allow hard minerals to fall out of solution in the form of hard tenacious mineral scale deposits often referred to as limescale. This occurs most frequently in processes or equipment that heat water.



Mineral scale deposits in water-fed equipment cause many problems. In water heating equipment, scale builds up in layers on heat transfer surfaces, insulating water from efficient heat transfer resulting in higher energy costs. Scale build up also increases maintenance costs and decreases equipment life.

Traditional methods for controlling mineral scale deposits include water softening. Water softening equipment controls hard water scaling by removing scale-causing minerals from the water supply and replacing them with “soft” minerals like sodium that will not form scale deposits. The main drawbacks to water softening include space requirements, initial cost, electrical and drain requirements, and increasing environmental concerns.

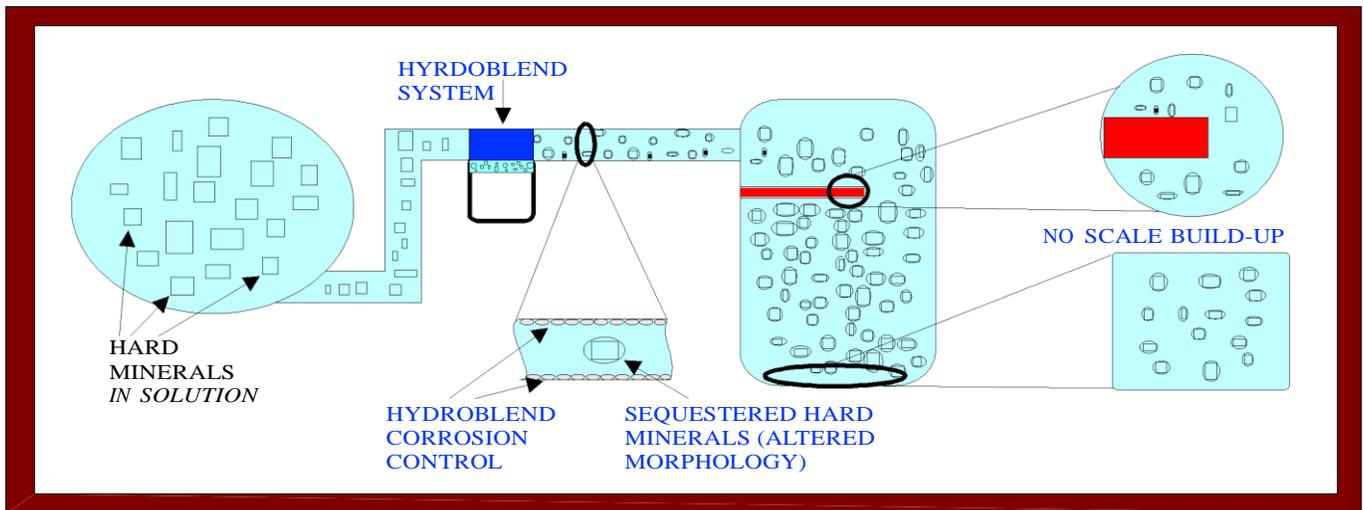
The use of sequestering agents (polyphosphates) is another method of controlling mineral scale deposits. When added to the water supply, these agents bond with scale-causing minerals making them more soluble in water resulting in less mineral scale. This type of water treatment is widely used and effective in cold water applications such as ice machines, but standard polyphosphate treatment has shown little or no effectiveness in controlling mineral scale in high temperature applications (boilers, water heaters, etc.)

HYDROBLEND™ The Proven Solution

Proline Systems can provide HydroBlend™, an NSF approved drinking water additive that effectively controls mineral scale deposits in plumbing systems and water-fed equipment. Unlike standard polyphosphates, HydroBlend is specifically formulated to work in high-temperature / high-hardness environments providing unparalleled mineral scale prevention and corrosion control.

HydroBlend protects equipment by the following processes:

- 1) **HydroBlend sequesters (binds) with scale-causing minerals making them more soluble in water thus reducing the chances of precipitation as hard mineral scale.**
- 2) **In the event that scale causing minerals do precipitate out of solution, HydroBlend prevents mineral scale accumulation by distorting the shape of the scale crystal so that it cannot build up on itself.**
- 3) **By combining with scale-causing minerals, HydroBlend provides corrosion control by forming a protective micro-thin glass-like lining on wetted surfaces acting as a deterrent to corrosion and scale.**
- 4) **Overtime, HydroBlend will also help soften and remove existing mineral scale deposits.**



HydroBlend is utilized in a solid block cartridge form, exposing to the water a predetermined amount of surface area, from which accurate feed rates can be predicted. HydroBlend systems consist of Media Delivery Heads (Flow-Thru or Standard Filter heads) that are paired with various cartridge designs based on water flow rates, line size, and other usage characteristics. Unlike standard polyphosphate treatment, HydroBlend Systems allow various configurations to meet most treatment requirements with the goal of obtaining proper feed rates for desired treatment volumes.

HydroBlend Systems provide effective scale prevention and corrosion control for various applications at a fraction of the cost and maintenance of other technologies. As a ‘threshold treatment’, HydroBlend Systems are sized based on water usage and flow rates, not water hardness, so there is no added expense with harder water. When the cartridge has dissolved, it is replaced. A quick glance at the clear or translucent housing indicates when cartridge replacement is needed - **no electricity, drain lines, maintenance or guess work is required.**

INNOVATIVE SOLUTIONS TO WATER PROBLEMS