



Nelsen Scale Prevention Systems

Many municipal and well water supplies contain hardness minerals such as calcium and magnesium. These minerals form a scale and create problems in water heaters, washing machines, dishwashers, coffee makers, humidifiers and plumbing systems. Nelsen Scale Prevention Systems are designed to eliminate these problems providing your family with a refreshing difference, saving you money now and in the years ahead.

NELSEN SCALE PREVENTION SYSTEMS feature FILTERSORB® SP3 Technology. This technology transforms the calcium and magnesium carbonate (temporary hardness) in the water into mechanically stable and heat resistant calcite crystals (nanometer size) which no longer cause lime deposits. The calcium and magnesium crystals are rinsed away.

NELSEN™
WATER SOLUTIONS
Since 1954

GREEN TECHNOLOGY

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WATER SOFTENING VS. SCALE PREVEN



Calcium Scale Buildup on Pipes and Hardware

Calcium Scale is a hard thick coating or covering of calcium carbonate ($CaCO_3$) that forms on heating elements and in pipes and hardware of plumbing systems. As the calcium rich water enters into the home, the carbonic acid/calcium equilibrium becomes interrupted within the pipes. Because the hydrogen carbonate (Ca (HCO_3)2) is a very weak chemical compound, temperature increases or movement cause the compound to breakdown and parts of the calcium (Ca_2), magnesium (Mg_2) and bicarbonate (HCO_3) are no longer dissolved and attach to the surfaces of pipes, heaters, and hardware. Over time, the scale compounds and is very difficult and costly to remove.



Effects of Calcium in Your Water

The negative effect of calcium is that it creates scale on pipes, hardware, and surfaces. This leads to high energy costs for heaters and expensive repairs for ice machines, coffee machines, and other appliances. The scale also may breed bacteria.

The positive effect of calcium enriched water is a health benefit and an important nutrient needed to help prevent or minimize diseases such as heart disease. Ideally, consumable water should contain adequate amounts of calcium and magnesium which are both found in hard water.

The Nelsen Scale Prevention System is a maintenance-free system that does not require electricity, cost for salt, costs for water or any other regeneration material.

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NELSEN WATER SOLUTIONS Since 1954

SALT-FREE WATER CONDITIONERS

The Nelsen Water Treatment Solutions salt-free water conditioner features Filtersorb SP3 media. The media takes advantage of a technology in which the chemical structure of scale forming minerals is changed. Calcium and Magnesium hardness is transformed into non-soluble micro crystals. This technology is so effective that it requires a contact time of only seconds.

The media is used in an up-flow system with no back-washing necessary, therefore only an in-out head is needed. FilterSorb SP3 transforms the dissolved calcium carbonate (temporary hardness) into non-charged, neutral chemical bonds. The bonds are completely stable and can't attach to any surfaces, so the chemical bonds are just rinsed away by the water flow.

The size of the bonds is so small, in the range of nano-meters, they can only be seen with a microscope. Therefore the effect is the same as if the water was free of temporary hardness (calcium carbonate). The media is used to clean pipes from already existing scale and to help protect pipes and hardware from scale.



FILTERSORB SP3 BENEFITS

ENVIRONMENTALLY FRIENDLY GREEN TECHNOLOGY

- No Chemicals
- No Salt
- No Added Sodium to the Water
- No Maintenance
- No Water Waste

NO CHANGE IN TDS*: FilterSorb SP3 does not take out or add anything to the water. There is no ion-exchange chemistry (water softening) used, so TDS remains unchanged before and after the treatment.

NO CHANGE TO pH: The pH of the water remains the same making treated water suitable for most applications where corrosion is a concern.

RICH MINERALS PRESERVED: FilterSorb SP3 does not add Sodium or other chemicals to the water, it simply converts the Calcium and Magnesium contents of water.

DE-SCALING: FilterSorb SP3 prevents scale formation in water pipes and appliances. It also helps reduce the previously formed scale.

The FilterSorb SP3 media has been tested and meets NSF 61 standard. This is an independent test standard for health effects that was performed by the WQA, Water Quality Association.

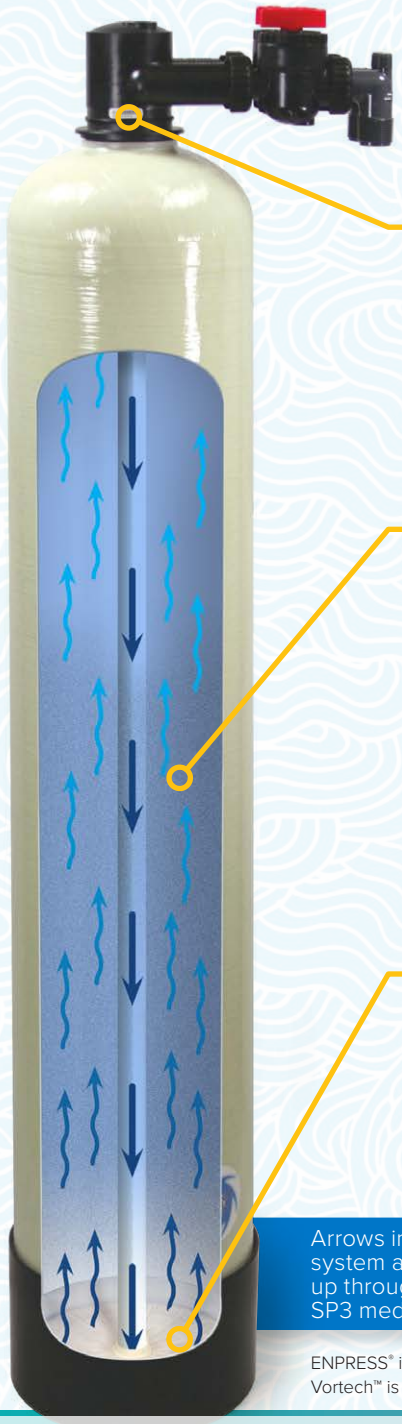
*TDS-Total Dissolved Solids is any organic matter or inorganic salts that are dissolved in a water with no distinction to beneficial or harmful.

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System Specifications

Specifications	08x44	09x48	10x54	12x52	13x54
Inlet/Outlet Connection	3/4" - 1-1/4"				
Temperature	41° - 149° F				
pH	6.5 - 8.5				
Hardness / Iron	up to 100 grains / Less than 0.3 mg/l (ppm)				
Water Pressure	15 -100 psi				
Maximum Service Flow (gpm)*	10	12	15	20	25
Filtersorb SP3 Media (Liters)	3	4	4.5	6.5	7.5
Overall System Height	49-3/8"	53-3/8"	59-1/2"	57-7/8"	59-1/2"
Overall System Depth	14-1/4"	14-5/8"	15-1/4"	16-1/4"	16-3/4"
Overall System Width	8-1/2"	9-3/8"	10-5/8"	12-5/8"	13-5/8"

*Service flow rate with a maximum hardness of 25 grains per gallon.



CUT-AWAY OF A NELSEN SCALE PREVENTION SYSTEM

In/Out Tank Head

- Non-Electric System saves energy
- Maintenance Free - System operates in Up-Flow configuration with no backwash or regeneration necessary

Media Bed

- FilterSorb SP3 is certified under ANSI/NSF 61 from WQA, USA
- Uniform bead size and distribution for optimum flow rates
- Leaves in beneficial minerals
- Water flows down the center tube and flows up through the media bed for maximum contact time

Enpress® Vortech™ Distribution System

- Delivers evenly distributed and high quality flows
- Large surface area of plate yields lower pressure drop over time

Arrows indicate water flow - Water enters the system and flows down the center tube and up through the bottom plate and though the SP3 media.

Nelsen Corporation is the largest family-owned manufacturer/distributor of water treatment products in the United States. Headquartered in Akron, Ohio with additional distribution centers in Arizona, Texas, Florida, and Wisconsin, our company has seen substantial growth over the years. Since 1954 Nelsen Corporation has remained committed to the professional water treatment dealer, their customers and the communities that they serve. More than 70 years of experience in water treatment have been incorporated into our systems yielding the very best equipment for your family or your business.

Ready for Scale Reduction in your Home? Contact:

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