

Chemical-Free, Energy-Free, Maintenance-Free.

Saving Energy with Magnation Water Technologies

Treating water to reduce the buildup of calcium and other mineral scaling on equipment and pipes, as well as enhancing water flow... which means less power needed.

One of the most common, but rarely identified, causes of unnecessary expenditure of energy, is mineral scale buildup in pipes and irrigation systems from the effects of hard water. Calcium and magnesium ions in ground-water create chemical reactions that produce insoluble mineral deposits. Typically, water from deep wells and underground aquifers have been exposed to various layers of rock, and will be “hard” because of the minerals it comes in contact with. What does the accumulation of mineral deposits in pipes, water pumps, cooling systems and the like have to do with power consumption?

Quite a lot, actually.

Scale buildup can lead to the breakdown of a variety of equipment and channels through which water passes. Because scaling reduces water flow, it can dramatically affect water pressure and flow velocity, plus create flow blockages, among other results that hinder energy conservation. In terms of residential energy usage, as water flow is impeded, appliances such as dishwashers, coffeemakers, washing machines are going to require more energy to work efficiently. For landscaping, industrial applications and farming, the heightened costs of energy due to mineral build up in pipes, irrigation equipment and cooling mechanisms, can add up to a major increase in power bills and additional money spent on replacing equipment.

Eliminate scale — Prevent future buildup — Conserve energy

Traditionally, the effects of hard water have been addressed in various ways. One common solution is to use a product like CLR (calcium, lime, rust remover) that creates a chemical reaction and dissolves the buildup. However it can be toxic, corrosive and gives off hazardous fumes. Additionally, it is typically not strong enough to tackle heavier mineral deposits and larger industrial or farm equipment and pipes. What is needed is a powerful, non-toxic solution, and due to the ingenuity and perseverance of a few market innovators, there is a now a “non-traditional” solution that is gaining recognition and acceptance. More and more industrial, irrigation and agriculture managers are turning to this extremely effective way to treat water before it flows through pipes and irrigation equipment. They are finding that, by using this system, scale and mineral residue is dramatically lessened, therefore the need to spend money on power and equipment replacement is greatly reduced. The system is called Magnation Water Technologies, and evidence is mounting that supports the company’s claims that this is a simple, chemical-free, and low cost solution to eliminating and preventing scale build-up.





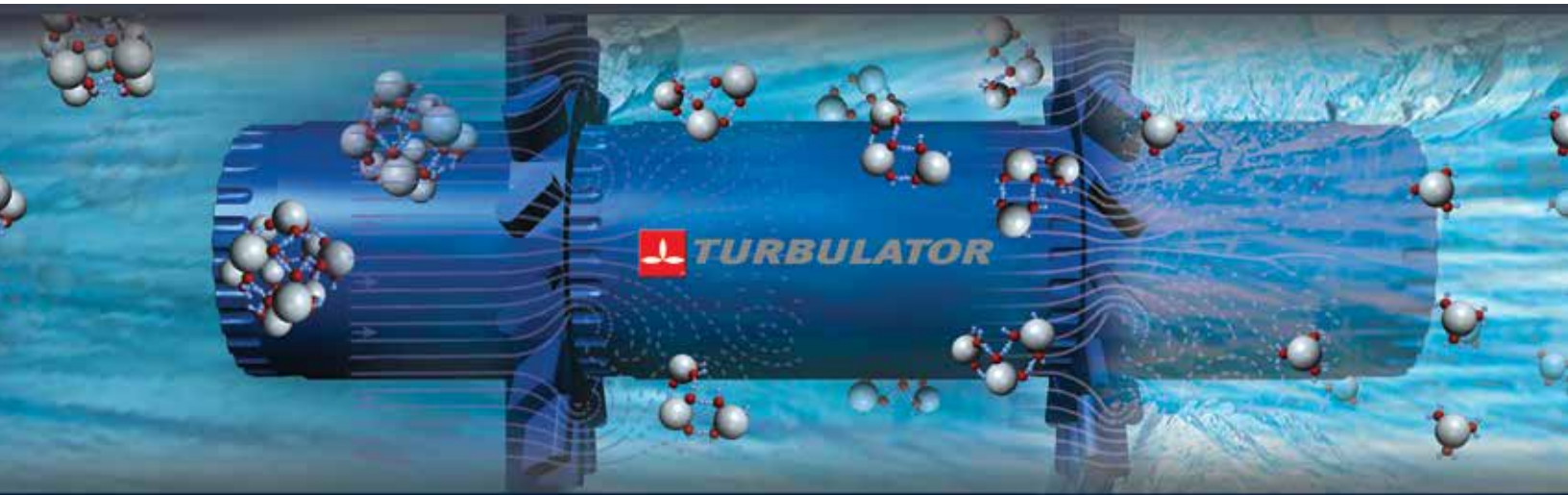
According to Lee Fintel, owner of Fintel Farms in Superior, Nebraska, it didn't take long to convince him that Magnation was indeed a revolutionary approach to his scaling problems: "I purchased my first Magnation water treatment unit in January, 2013 at the Power Farming Show in Lincoln Nebraska. When I got home, I immediately installed the home unit for use in my farm apartment. The water for that apartment was always HARD well water. What I immediately noticed during my first shower, after installing the Magnation device, was that I suddenly had soft water. I couldn't hold on to the soap the water was so soft! It was plainly obvious, without even doing a formal test, that my water was dramatically different than before.

"Also, I have a wash bay in my farm shop, and prior to installing this Magnation device for the water in my shop, when I would wash off the equipment, it would always dry with terrible water spots on it from the calcium deposits in our water. Now, with Magnation, when I wash my equipment—I can let it sun dry outside in 100 degree weather in the afternoon in July—and there won't be a single water spot on the equipment!"

Many other Magnation customers have attested to a clear reduction of scaling, which results in 10% to 13.5% less energy usage. The Magnation system reduces viscosity and friction from the buildup of minerals that interferes with water flow, increases permeability for well drilling, and reduces/eliminates the need for harmful chemicals.

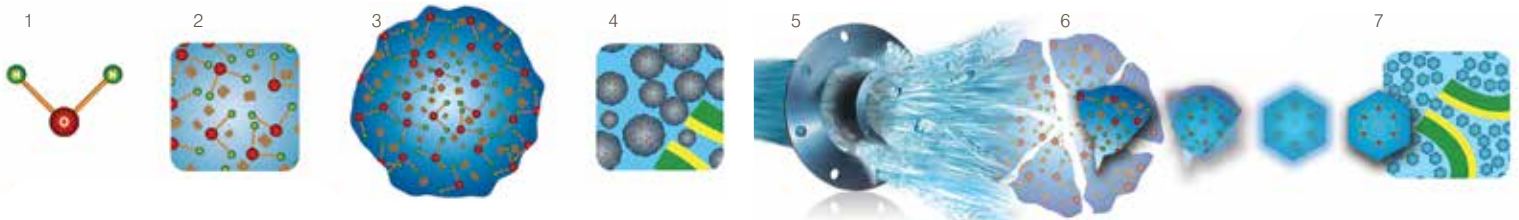
Several years ago, the Marin City, CA Fire Department conducted a controlled study, testing the Magnation treatment. The results indicated that using Magnation resulted in increased water flow, from 450 gallons per minute to 510 gallons per minute—approximately a 13.3% improved flow. The study also showed that using Magnation decreased pump intake pressure from 100 to 90 psi, decreased pump discharge pressure from 130 to 120 psi, and decreased pump work rate from 700 to 600 psi.





Magnation Creates Exceptional Water Quality

As water passes through the custom-engineered Magnation units, magnetic fields created by the system energize and transform the moving water into a vortical flow (like a cyclone). This causes the water's molecular structure to bust apart into smaller clusters while held in suspension, and ions in the water to be invigorated and biologically activated. The process prevents larger clusters from forming, turning hard and problematic water into softer, oxygenated water, thereby controlling and eliminating mineral scale buildup.



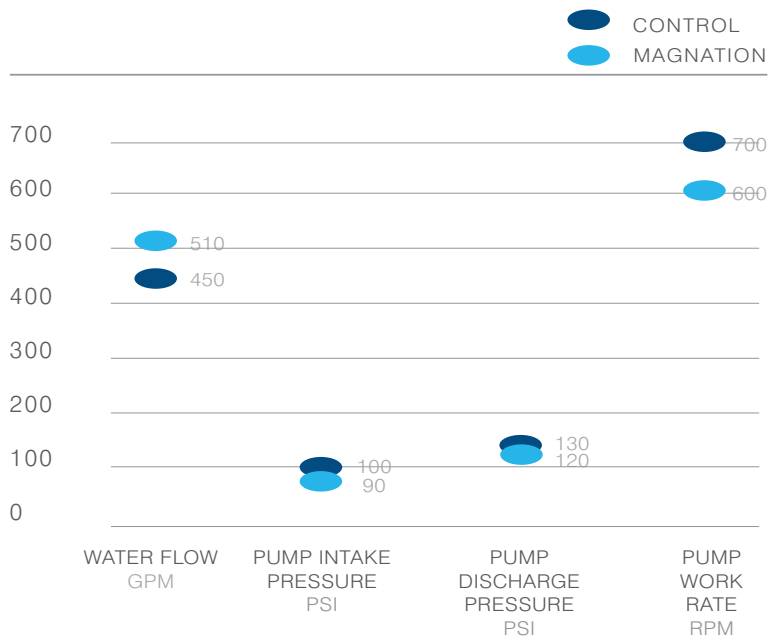
Magnation Process Explained

Water molecules (1), bond together with minerals (2), to form water molecule clusters (3). Many are too large to enter the cell (4). The Magnation Process (5), breaks apart clusters (6) into smaller, more bioavailable clusters with less surface tension (7).

Today, energy efficiency is a top priority for individuals, companies, agriculture, municipalities and industry. It is our collective responsibility, for today and future generations, to conduct the necessary due diligence and investigate innovations that will potentially help to conserve power and decrease energy costs. Magnation Water Technologies is one very viable solution. It is evident that this company has been dedicated to addressing environmental issues, saving water and energy, and empowering people and businesses to adopt greener and healthier lifestyles with its highly effective, unique and sustainable water treatment.

Improved Flow With Less Energy Comparison Study

CONDUCTED BY MARIN COUNTY FIRE DEPT, CA, 2009



Controlled study shows Magnation's water technology increased the water flow from 450 gallons per minute to 510 gpm—about 13.3% improved flow. It also decreased its pump intake pressure from 100 to 90 psi, pump discharge pressure from 130 to 120 psi, and the pump work rate from 700 to 600 psi. Nozzle pressure remained constant at 80psi.

Energy Consumption Increases with Scale

US DEPT. OF ENERGY, 1998. FEDERAL TECHNOLOGY ALERT. DOE/EE-0162, U.S. DOE PACIFIC NORTHWEST NATIONAL LABORATORY "NON-CHEMICAL TECHNOLOGIES FOR SCALE AND HARDNESS CONTROL"



- $1/32$ " scale = 8.5% increased energy consumption
- $1/16$ " scale = 12.4% increased energy consumption
- $1/8$ " scale = 25% increased energy consumption
- $1/4$ " scale = 40% increased energy consumption



NASA Corrosion Study

NASA tested magnetically treated water against chemically treated water for corrosion rates of steel. Reported results were corrosion rates of 0.0 mils per year recorded for the magnetic treatment. Corrosion rates of 1 to 50 mils per year using chemical inhibitors were recorded, with 4 mils per year considered to be acceptable.

— National Aeronautics and Space Administration NASA,
David E. Kuivinen, Lewis Research Center, Cleveland, OH

Testimonials From Magnation Customers

"I put one of the Magnation units on my domestic well. I was amazed at its ability to eliminate my hard water deposits and the stains on my faucets are gone. I am very well pleased with the outcome."

- Dean Johnson, Kimberly, Idaho

"We use evaporative coolers in this part of the country, in middle of the season we have to always clean the scale off the pads; this year was spotless, clearest water, absolutely absent of scale—using substantially less water with our micro sprinklers on our pecan trees. My wife is very happy with her flower garden and the Magnation Systems we've purchased. We're recommending Magnation to our family and friends. I just thought I'd call and tell you that."

~ Mike Peschka, Anthony, New Mexico

"We've noticed significant reduction in scale in our cooling tower and much more uniform mist in our cooler using Magnation systems."

~ AJ Ochoa, Othella, Washington

"With Magnation, I saved \$9,000 alone by using 30% less insecticides due to better solvency of my water, gained an extra zone due to the increase in my water flow as my pressure increased from 20 psi to 25 psi, the spray out of my wheat sprayer came out consistently the size of a pin head without any drops."

~ Bryan Noland, Palisades, Colorado

"My pivot is 12 miles from our pump. After installing the Magnation system, our 250 gpms went up to 285 gpms."

~ Gale Schaffer, Albion, Nebraska

"We're getting good results, our pressure dropped by 10 pounds, we used 25% less water and we're getting softer water in the house."

~ Brad Simon, Hoxie, Kansas

"We've noticed a 5 pound drop in pressure and increase in our water flow."

~ Grant Ashcraft, Sugar City, Idaho

"Our scale was way down on our lines and we didn't have to clean or change any of our emitters; the hardness of our water home went down from 40 to 4."

- Paul Johl, Peach Grower, Yuba City, California

"We had electrical savings, and our wells with the Magnation systems didn't run out like the wells without the Magnation system."

-Tom Law, Cold Springs, Texas

"Due to better soil penetration and water retention in the soil, we've cut back water use by 30% while improving the quality of our grapes. We've also seen significantly less puddling and scaling, too."

~ Mark Merritt & John Zaninovich, Porterville, CA

"I've been using the Magnation unit on my sprinkler and sprayer; I'm not seeing the calcium deposit buildup on my sprinkler."

- Anson Pansner, Oklahoma Panhandle & SW Kansas

"I like what I'm seeing at home, with removal of scale in the pipes and what the Magnation unit is doing with our water hardness. I'm putting it on my pivot."

~ Steve Nelson, Sloan, Iowa

"We saw improvement in infiltration despite our high calcium and sodium, and improvement in water flow."

~ Keith Nickerson, Howe, Idaho

"Magnation claims that it will 'reduce friction loss in your pipes' so I tested to see if it was true. In my 24 years of tending this golf course, I knew that we had dry areas that appeared every summer because of poor sprinkler coverage. Not anymore."

It's hard to measure the improvement with a percentage, but many of the dry areas we struggled with every summer, that required hand watering, totally disappeared."

~ Dean Piller, Golf Course Superintendent,

Vancouver Island, BC

