

*In rural areas across the country, particularly those where residents receive their water from a well, iron has been the predominant problem with the water quality. Several technologies—such as aeration, ozone and chemical feed—exist to combat this problem; however, maintenance issues and noise are complaints dealers often hear from customers when working with these products.*

By Stephanie Harris



Many water treatment professionals who face the problems of iron removal have found themselves in search of a technology that will effectively remove bacterial iron from the water without the common maintenance problems that traditional filtration systems often present. A recent innovation from Water DOG Works, Minnetonka, Minn., just may give dealers their answer. The newly introduced Water Dissolved Oxygen Generator (DOG) Iron Hunter HD works to remove iron from water without the negative side effects by completely oxidizing the iron in the water for total iron removal.

After 43 years in the water treatment business, independent dealer Jack Lorenzen has always had difficulties dealing with problem water, particularly bacterial iron.

“When we start dealing with high quantities of iron, hydrogen sulfide and sulfate-reducing bacteria, these are problems that create difficulties. Traditional filtration systems, while they’re a great improvement, certainly don’t solve the problem and with them go an enormous amount of maintenance problems,” said Lorenzen, president and chief executive officer of Quality Water Services, Inc., Lincoln, Neb., and former Water Quality

Lorenzen came across the Water DOG Iron Hunter HD earlier this year and has been using and installing the product ever since. The result of the technology, he has discovered, is astounding.

#### How it Works

When water comes in from a well source, it goes through the Water DOG system where it is completely oxidized, creating 100% pure oxygen from the water itself. “All the contaminants are precipitated out with that oxidation, and then it goes to the filter and the contaminants are filtered out,” said Rick Anderson, director of sales for Water DOG Works.

The titanium plates of the Water DOG system supersaturate the water with oxygen by creating pure oxygen microbubbles that are 400 times smaller by volume than aeration. The diameter of these bubbles is approximately the size of a human hair, and they remain in the water, enabling them to attach more easily to the iron to create iron oxide for easy filtration. The system works with any sort of filter, whether it be multimedia, grain sand, brine, etc.

“Any kind of filter that you put behind it will work because once you oxidize the iron and sulfate-reducing bacteria, you’re converting it to elemental sulfur,” Lorenzen said. “What you do then is you simply remove it with a filtration system.”

The system is installed in basements, garages or utility rooms—wherever the water comes in to supply a house—and hangs easily on the wall. The unit is approximately 3 ft tall and 3 ft wide. It operates with simple in-and-out plumbing (water in from the supply and out to the filter), a 110-volt connection and

# OXIDATION REVELATION

*New system successfully removes iron from problem water*

Association (WQA) president, 1991-92.

“I’ve discovered that we have to kill or oxidize the bacteria in order to effectively remove it,” he said. “We’ve been doing it successfully with air systems, but one of the major problems we have with these products is complaints from customers about noise from the pumps and equipment. So we’ve been looking for something that is a much simpler, quieter process—yet one that is effective.”

a standard ground fault interrupt outlet. The system has proven to remove 15 ppm of iron at 15 gpm; 2.5 ppm of manganese at 10 gpm; and 2.2 ppm of hydrogen sulfide at 10 gpm.

#### Testing the Waters

At the WQA Aquatech USA show this past March in Orlando, Fla., Lorenzen came across the Water DOG technology and quickly became intrigued

with the concept. After long discussions and a thorough product briefing from the Water DOG staff, Lorenzen was asked if he would be interested in becoming a distributor.

"I said I certainly had an interest, but I like to know if something is going to work," he said. "So before I would commit to becoming a dealer, I wanted an opportunity to install the product and try it myself."

Shortly after, Lorenzen began installing and distributing the system to customers in his area. "The particular rural market that I operate in, we have a very broad problem of iron, iron bacteria and sulfate-reducing bacteria—not in high quantities but in quantities where it's just an absolute nuisance," he said. "We're looking forward to a product that will address that issue and do a very good job without the accompanying complaints and problems with higher maintenance and noise. Our tests so far tell us that this is going to be a very successful product."

Lorenzen's Quality Water Services serves the Lincoln area where residents receive their water from wells. "We have rural water districts here, and one of the largest that we have has an ongoing problem with high manganese,

sulfate-reducing bacteria, iron and very, very hard water," he said.

Lorenzen noted that the water is safe for drinking; however, it is undesirable without some sort of treatment. "We've tried a multitude of filters, but nothing seems to work well unless we get after it with some sort of oxidation process, which is air or ozone," he said. "We're looking forward to the Water DOG with the oxygenated water with microbubbles. It seems to be doing an extremely good job."

While the Iron Hunter is proving to be successful in rural areas of the Midwest, the entire U.S. will benefit from the system, according to Anderson. "Some of the more prevalent areas [that will benefit] are the Midwest, the Northeast, Northwest, Canada and a lot of areas in Texas," Anderson said. "With that said, you could probably say the entire U.S. There are certain pockets all over."

#### Counting the Benefits

Since this past spring, when Lorenzen began installing the Water DOG in the basements and garages of his customers, he has already noticed the benefits this sort of oxidation process has with problem water containing high amounts of iron.

"First, it can be a very effective oxidizer," Lorenzen said. "It's key to have a good oxidation process where you fully precipitate out the contaminants that you're trying to remove."

Lorenzen has also been pleased with the good flow rates that the system provides.

"The third thing that we're really impressed with is that there's no noise," he said. "The system operates with a flow switch; therefore, when there's a flow, the system turns on and treats the water. As soon as the flow's done, it turns off and waits until flow starts again—it's a demand-type system that operates only when flow is called for."

The system is also environmentally friendly because there is no need for chemical use. "You're not putting anything into the water that's bad," Anderson said.

#### Water Revolution

The staff of Water DOG Works believes this technology will be revolutionary to the water treatment market in terms of providing oxidized water that is ready for filtration. "If you look at the ways of doing things in the past, this is probably the GPS and the old way was like a compass," said Scott Stumpf,

director of sales, Water DOG Works.

Based on the benefits of the system that Lorenzen has witnessed and the positive response he has received from customers currently using the system, he believes this product will catch on quickly in the water treatment industry.

"I think the industry is always looking for new and innovative products that can be successfully marketed to solve consumer problems," Lorenzen said. "Consumers are demanding a higher quality of water, and we need to always be looking for products that, with a minimal amount of maintenance, can solve that problem." *wqp*

#### About the Author

Stephanie Harris is managing editor for *Water Quality Products*. She can be reached at 847.391.1007, or by e-mail at [sharris@sgcmail.com](mailto:sharris@sgcmail.com).

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