

By Jerry Horner

Without a significant technological advance in regeneration techniques or a completely different type of exchange mechanism, automatic water softeners will continue to encounter more restrictions and opposition from municipalities. This is primarily driven by growers and other entities interested in water reclamation and reuse. The increased chloride and total dissolved solids load generated by automatic regenerating softeners greatly hinders the ability of wastewater facilities to provide an effluent that is suitable for its primary customers. As population and subsequent water demands increase, the pressures to make the most of our limited water supply are exacerbated. As water conditioning professionals, this is our “rock.”

Our “hard place” is consumers’ desire for water softening products and determining how to best fulfill what is for some an essential need. There is a tremendous demand for soft water that transcends the simple money-saving aspects of the product. Industrial, commercial and residential users may have somewhat varying reasons for using soft water, but they all seek to obtain actual or aesthetic benefits. Whether it is scale prevention, pretreatment for other conditioning methods or just that silky feeling after bathing, soft water is a product that is highly sought after by consumers. The question at hand is how to best satisfy their wide range of water conditioning demands in an economical and environmentally responsible manner.

The list of soft water retractors continues to grow despite the concerted efforts of dedicated professionals providing options

and answers to a myriad of objections. Water softeners are seen as an enemy of the environment, spewing salt and wastewater at unconscionable rates while providing only perceived value to upscale residential users. As an industry, we are partly to blame for this skewed perception. For decades, companies with a financial incentive have unnecessarily set systems at inordinately high brine settings in order to sell more salt. For a relatively small gain, more efficient meter-initiated or twin-alternating systems are avoided in lieu of lower cost time clock-initiated units.

There are cases where a poorly sized automatic softener regenerating daily at 15 lb per cu ft could be replaced with a twin-alternating, meter-initiated system regenerating at 6 lb per cu ft. Properly configured softeners can drastically cut salt usage, usually with no deleterious

effect to the performance. Despite warning signs, oblivious dealers continue to sell and install systems that are not sized or set up for efficient operation.

Pros & Cons

Water softeners, like any other consumer product, have both positive and negative aspects. Automobiles are probably the most hated—and loved—machine on the planet, with big oil companies as the evil enablers. However, without automobiles and big oil, world economies and living standards would literally collapse. I am confident that in the near future we will find a better way to fulfill our automotive fuel needs. Likewise, I am optimistic that a new discovery will make softening tasks more environmentally friendly. But until then, we must do the best job possible with our current technologies.

Softeners provide indispensable benefits to industrial and commercial users. Scale prevention and the related lower energy demands are rarely considered when discussing water softeners. How about the decreased landfill demands as a result of water-using machinery and appliances lasting longer? We can all recite many actual soft water benefits, but the most important may be tougher to quantify.

Residential water softener users like to hear that they achieve long-term savings due to lower soap and chemical needs. Keeping piping systems and water-using appliances free from damaging hard water scale is a nice selling point as well. However, if this was all there was to soft water, our job would be far more difficult when selling to potential residential customers.

Soft water has a unique quality that is a result of the chemical removal of the hardness minerals. Bathing in soft water leaves your skin and hair feeling silky and moist. Some soft water users complain about this aspect, describing the feeling as being slippery. Some are unable to rinse the soap off. However, most partakers of soft water love the luxurious soft feeling, and this is what keeps so many water treatment professionals in business. Scale prevention, appliance protection, chemical savings, aesthetic perceptions and environmental concerns are some of the many points to consider when applying a water-conditioning solution. Deciphering



between a rock & a hard place

Consumers continue to demand soft water as water softeners face opposition from municipalities

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imagination at work

a customer's expectations and needs will help you ascertain if an alternative solution is appropriate for the application in question.

For those applications where a traditional automatic water softener is not an option, there are many water-conditioning choices available that provide similar or expanded benefits. A portable

exchange water softener offers advantages such as no onsite salt or regenerant waste requirements. These systems regenerate at a central plant where the process can be more efficient. Regeneration plants are expensive to construct and operate and may suffer from extreme regulatory scrutiny. Portable exchange service requires regular replacement of the

service tank. Access to the equipment and other related inconveniences must be considered. Because of the intense capital, labor and transportation requirements, the end user cost is typically higher than automatic regenerating systems.

There are filtration media that claim to have superior scale prevention capabilities while not requiring any kind of

regeneration. It is natural to be skeptical, but let's not dismiss these without a fair hearing. It is in our interest to find real solutions that can work without flooding the resin with a highly concentrated solution of sodium chloride. These non-chemical systems may employ a type of resin material that is designed to crystallize the hardness minerals. The hardness is not removed but rather prevented from attaching to water-contacting surfaces. The hardness is still measurable and the end user will not have the silky or slippery feel. This may not be the ultimate answer, but it can be one option for meeting the requirements of specific conditioning challenges

Many applications will derive tremendous benefit from a simple carbon filter. Granular-activated carbon may be the simplest, most versatile form of filtration available. These systems can effectively tackle a wide range of contaminant concerns with relatively low equipment and maintenance costs. While never widely accepted, a magnetic device may be combined with the carbon system to help alleviate scale concerns. There are a multitude of magnetic, electronic and other similar devices that make scale prevention claims. Most have little or no third-party validation but rely heavily on anecdotal evidence.

Major criminal convictions are often made using only circumstantial evidence, so let's not ignore the evidence without at least an obligatory examination. My own personal experience has been that residential applications with very hard water, or those that are accustomed to soft water, will not find these combination magnetic systems satisfactory. Those that are on moderately hard water influent supplies and are not attached to the soft-water feel can derive great benefit and satisfaction from these low-maintenance systems.

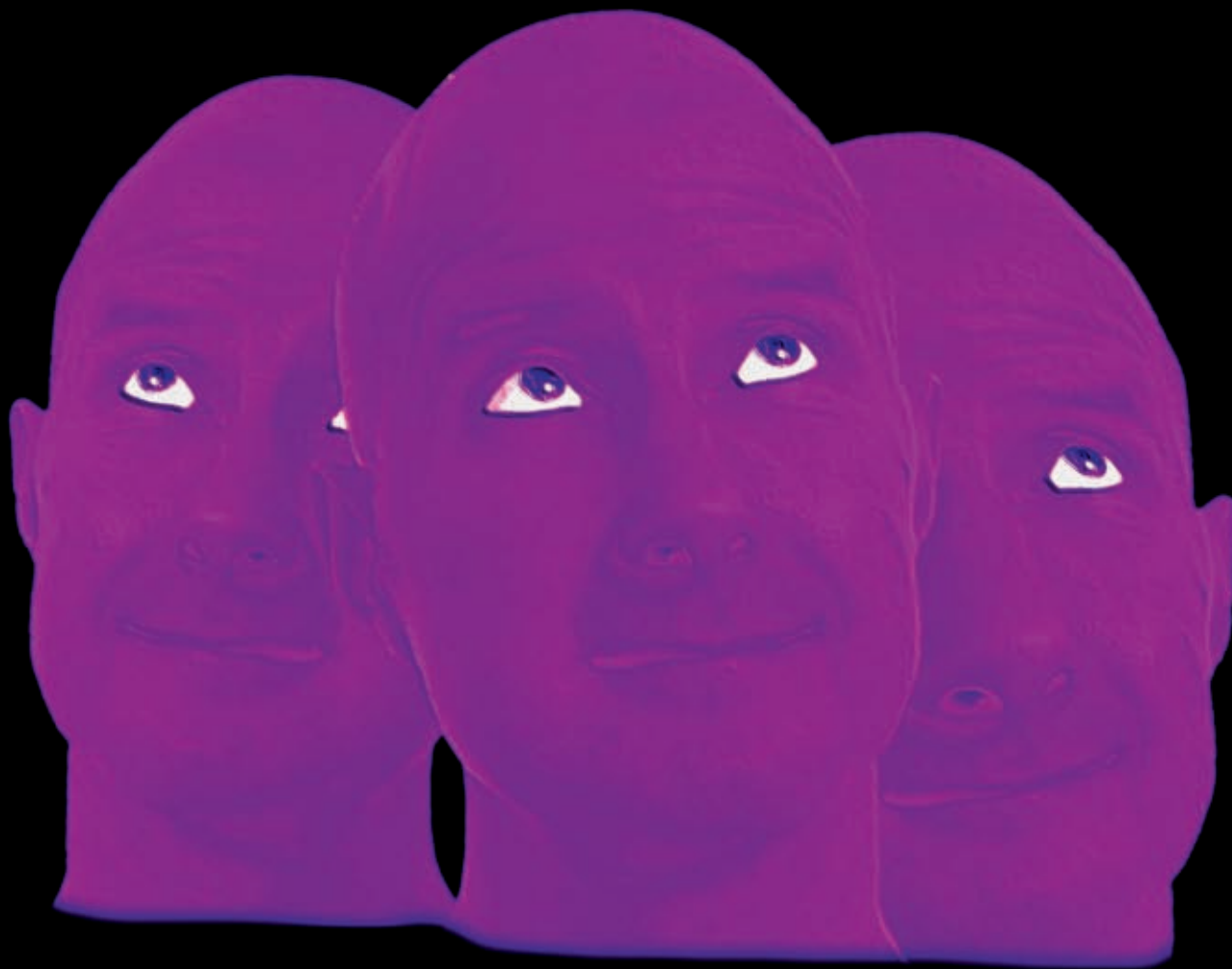
You need not be stuck between the proverbial rock and hard place. By preparing for rain, even a small dealer need not be afraid of facing the giants. Step out and proactively find solutions that will withstand government regulations, benefit the community and fit your customers' needs. *wqp*

About the Author

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