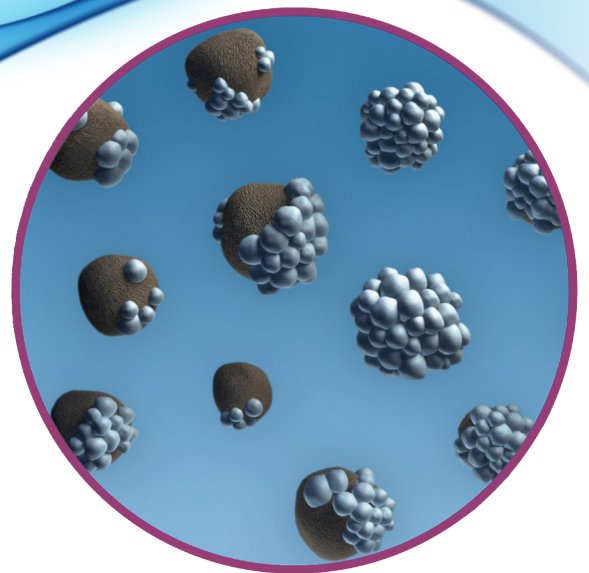




Wave™

Water Treatment Technology



MAKING WATER WORK

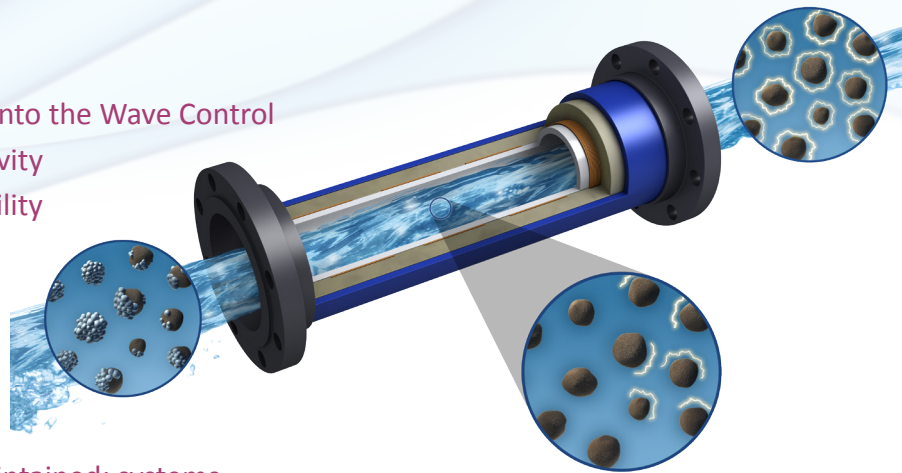
System Stability

Maximizing Cooling System Performance

Cooling Systems use a significant amount of water which requires treatment in order to prevent scale, corrosion, bacteria and fouling. Wave™ water treatment supports stable system operation, as these common problems are under consistent control.

Additionally, since nothing replaces the human touch, routine service by competent water treatment professionals – trained and certified by Griswold Water Systems – is a key component to a smoothly operating cooling system. That's why every Wave™ comes with a year of monthly, onsite service by a GWS trained professional. Our Certified Service Partners (CSP) are closely managed and evaluated on the results of their performance in order to maintain their certification.

- ✔ Certified Service Partners provide monthly monitoring, as well as any supplementary chemical services that may be required.
- ✔ Updated InstAlert 2.0™ is integrated into the Wave Control Panel and uses 3/4G cellular connectivity reporting to service providers and facility operators. This notification of system parameters supports rapid correction in the event of an excursion, avoiding costly upsets.
- ✔ Optimal heat transfer efficiency is maintained: systems are free from scale and bio-film, manual cleanings are minimized, runtime is preserved.
- ✔ AutoSeek™ software allows for field correction if the Wave™ signal is compromised.
- ✔ Advanced system features such as UL approval of all sizes, NEMA 4 ratings, shop-durable construction, power efficiency, and more, contribute to long-term, reliable performance.



"A big part of the success has been Griswold's monthly service and their online monitoring. On a couple of occasions they have called me in the morning to check for a stuck tower float valve before my maintenance men even found it. It's perspectives and paybacks like this that are only realized years later."

John Porto, Florida Production Engineering

Wave™ Water Treatment Technology

Beyond Pulsed Power

Griswold Water Systems uses electrodynamic field generation to create uniquely effective electric fields in the flowing water of a cooling system. This digital technology far surpasses the voltage pulses created by yesterday's circuitry. Our innovative, micro-processor-based Wave™ produces electric fields that are significantly more stable and reliable than previously created using pulsed power. Wave's™ induced signal:

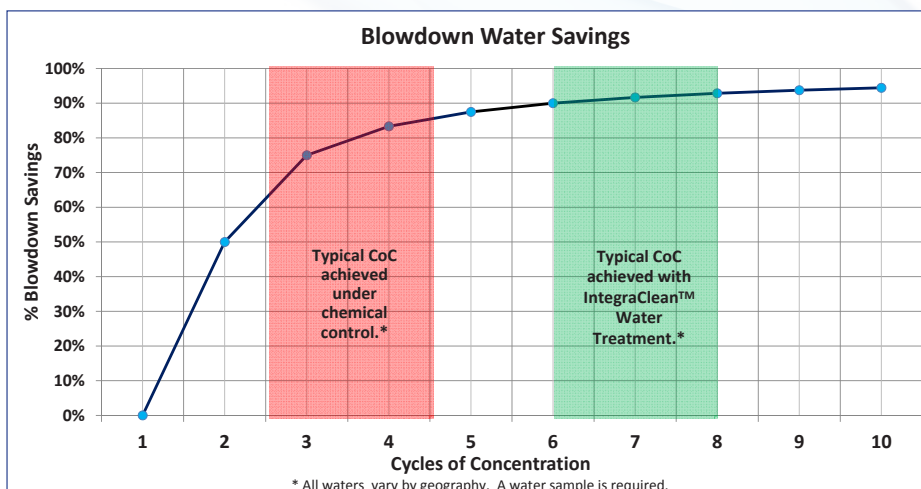


- ✔ Creates stable electric fields that are orders of magnitude more potent than those of other technologies
- ✔ Allows for routine Wave™ application as a low cost side-stream; excellent for retrofit applications
- ✔ Produces never-before-seen excellence in biological control
- ✔ Enables GWS to build a full range of sizes, 2" - 24"

Water Savings

Improving the bottom line

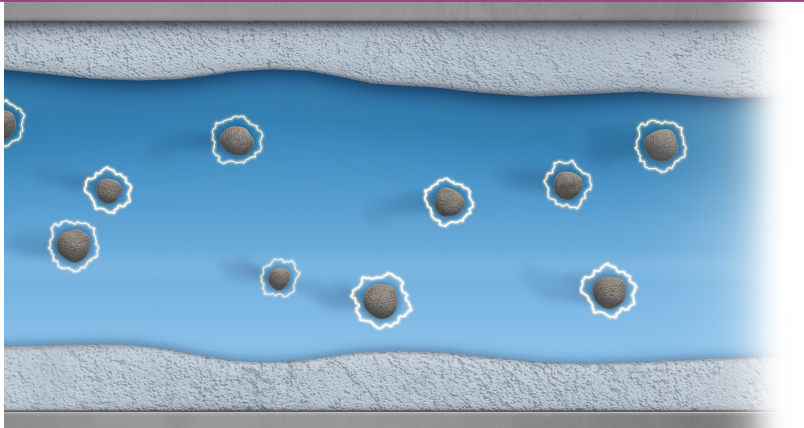
Both make-up and discharge water costs are dramatically reduced with chemical-free Wave™. When Wave™ incorporates GWS solids management as part of IntegraClean™, 6 to 8 Cycles of Concentration is routinely possible. Onsite reuse of chemical-free blowdown further enhances ROI.



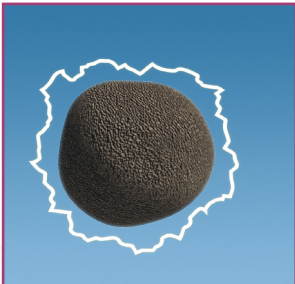
Improving CoC while reducing system upsets supports significant water savings. Blowdown discharge expenses are also cut dramatically.

An Elegant Process

Controlling Scale Through Electrodynamic Fields

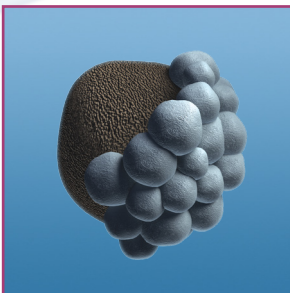


As evaporation causes minerals in the water to reach the point of saturation, and a driving force is created to cause them to come out of solution, CaCO_3 forms scale on the equipment surfaces.



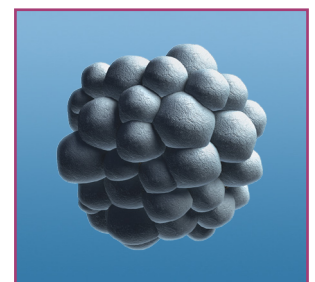
The numerous suspended particles (dirt) present in the system water would be preferred sites for this CaCO_3 precipitation except for a naturally occurring surface charge.

The Wave™ uses digital processors to create powerful electrodynamic fields. The alternating polarity of the fields removes the surface charge on these suspended particles, rendering them electrically neutral.



Without the surface charge, CaCO_3 will plate out around the particles rather than scale on valuable equipment surfaces.

A harmless limestone powder is created. This powder is either removed by centrifugal separation or settles in the basin.



A Green Solution

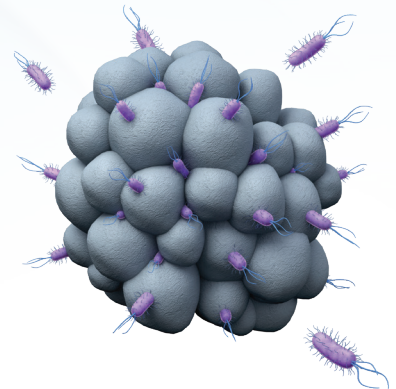
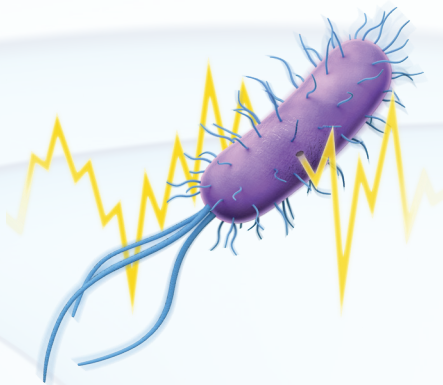
Eliminating Hazardous Biocides



Wave™ provides reliable, consistent Biological Control, often to drinking water standards. This dramatic performance, which exceeds that of toxic biocides, uses these two methods:

Electroporation occurs when the extremely strong Wave™ electric signal strikes a bacterium, damaging its ability to reproduce.

Bacteria are subject to **Encapsulation** as they are drawn into the forming powder. Access to nutrients is limited and their reproduction is prevented.



- ✓ Wave™ water treatment eliminates the use of millions of gallons of hazardous biocides each year.
- ✓ Wave™ use removes the risk of employee exposure to dangerous chemicals.
- ✓ Chemicals cannot become entrained in cooling tower drift nor contaminate discharge water.
- ✓ The absence of any chemicals allows the discharge water to be re-used for other purposes, such as landscaping.
- ✓ Substantial savings in water purchase and discharge costs accompany the knowledge that a facility is contributing to overall sustainability practices.
- ✓ Eligible for LEED points in several ways.

The Griswold Family of Companies

In The Water Business Since 1936

GRISWOLD WATER SYSTEMS | GRISWOLD CONTROLS | CLA-VAL

Our mission is to provide our customers with chemical-free water treatment that will allow their cooling systems to enjoy long term stability and operate in a consistent and reliable way. GWS pledges to guarantee customer satisfaction by:

- Engineering integrated water treatment and filtration products
- Maintaining a high level of applications experience and an in-depth water treatment knowledge base
- Manufacturing the best in shop durable products
- Providing dedicated field service to enhance our customers' enlightened operational practices
- Supplying exemplary electronic monitoring to augment regular human oversight



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