

Struggling to reduce *Legionella* and meet the ASHRAE 188 Standard?

Silver Bullet™ is your solution.



Silver Bullet™: Effective *Legionella* risk management.

In 1976, the American Legion chose the historic Bellevue Stratford Hotel in Philadelphia to host their national convention. While beautiful, the Bellevue was tragically unsafe: 34 people died and 221 contracted pneumonia from the Bellevue's *Legionella pneumophila*-infested water system. Legionnaires' Disease became a household name and the problem of *Legionella* bacteria in water systems began to be understood.

As seen in the recent outbreak in New York City, Legionnaires' Disease is a potentially fatal form of pneumonia caused by inhaling contaminated water vapor. The less severe form of Legionnaires' Disease is Pontiac Fever, a severe but non-lethal type of pneumonia. According to the CDC, *Legionella* bacteria is prevalent in warm stagnant water and is contracted through airborne water droplets.

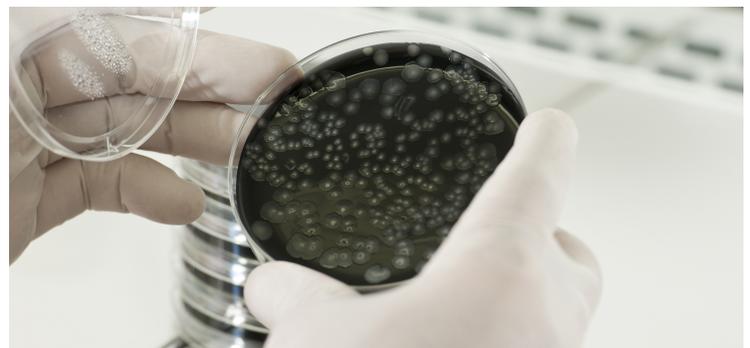


ASHRAE 188 Calls For Greater *Legionella* Efforts

The American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE) recently drafted the final version of Standard Practice 188 for the prevention of *Legionella* in facility water systems. These standards will follow the Water Management Plan and be backed in full force by OSHA.

All parties involved with centralized water systems are expected to follow the 188 standard: owners, designers, construction companies, installers, corporate management, operators and facility managers. The standard provides the minimum *Legionella* risk management requirements for building water systems.

(See www.ashrae.org/standards-research--technology/standards--guidelines for more information).



Legionnaires' Disease Prevention Requirements

Legionnaires' disease is not a communicable disease—it cannot pass from one person to another. It can only be contracted through a *Legionella*-infected water environment. Therefore, the ASHRAE 188 Standard Practice calls for risk management through clean, safe water systems.

OSHA requires that organizations do everything in their power to protect building occupants from known hazards. The new ASHRAE 188 Standard makes it clear that organizations are more likely to be found negligent if analysis can prove that proper and sufficient preventive measures have not been taken. This applies to multi-unit family buildings and all commercial buildings.

ASHRAE and OSHA are making it clear: the burden on the facility is to mitigate risk of waterborne *Legionella* bacteria. This means many facilities need to add an extra preventative measure to their current water treatment system.

Increased Microbiological Control is Needed

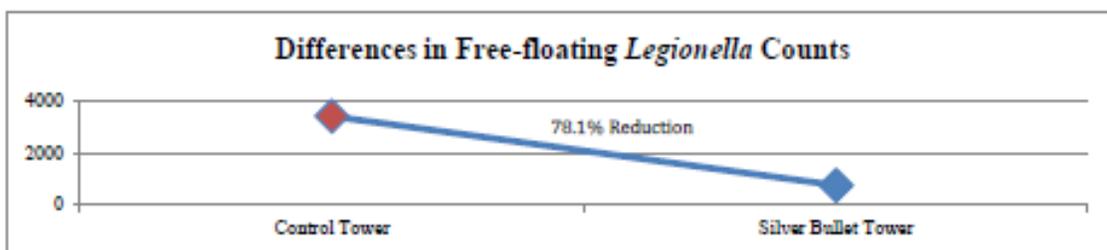
One of the strongest ways to maintain low levels of bacteria—even stronger than chlorine treatment—is through the use of biocide oxidizers known as hydroxyl radicals. Hydroxyl radicals kill bacteria two ways: they rupture cell membranes and they oxidize the DNA within the cell. Effective microbiological control of *Legionella* bacteria uses both methods to increase microbiological control: it kills *Legionella* bacteria before it begins to grow.

Silver Bullet™ Delivers

The Silver Bullet™ Water Treatment System uses Advanced Oxidation Process (AOP), a proprietary technology that creates a processed gas from ambient air injected directly into water. As the gas contacts water, several reactive oxygen species emerge that create a strong microbiological agent that kills *Legionella* bacteria.

Silver Bullet™ is a safe way to reduce and prevent *Legionella* bacteria. In a study by the University of Pittsburgh, Silver Bullet™ reduced free-floating *Legionella* concentration by 78.1%.

Silver Bullet™ increases microbiological control and strengthens your efforts to reduce *Legionella*. It is a perfect add-on to your existing water treatment system. Along with microbiological control, Silver Bullet™ may reduce water consumption, inhibit scaling and help prevent corrosion. Silver Bullet™ may be used in conjunction with your existing water treatment method or as your primary water treatment solution.



No large capital investment. Easy installation. Low maintenance.

The Silver Bullet™ initial installation takes less than a day and can be up and running with no disruption to HVAC or electrical systems. Once the Silver Bullet™ system is installed, it requires very little ongoing maintenance.

Silver Bullet™ is leased monthly from your local Silver Bullet™ dealer and requires no upfront capital investment, only a small one-time installation fee.



Awards and Certifications

Advanced Oxidation Process (AOP) Validation: Validated as an AOP by Dr. Karl Lindens' AOP Laboratory, University of Colorado at Boulder.

2012 Best Venture Award: US Department of Energy's National Renewable Energy Laboratory (NREL).

GSA's Green Proving Ground (GPG): A yearlong study that validates new energy efficient technologies and accelerates them to commercial viability. Silver Bullet is currently under GPG study at the National Water Quality Laboratory in Colorado.

- US patent
- NSF 61-certified
- EPA-registered biocide device
- UL listed
- Manufactured in a ISO 9001:2008 certified facility
- Microbiological control
- Inhibits scaling
- Prevents corrosion
- Typically saves water over traditional water treatment



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