



Sediment filtration helps university reduce Legionella risk on the cold water system

Challenge

A Northeast university installed a LiquiTech® Copper-Silver Ionization System on the hot water system at one of their mixed-use buildings in 2014, successfully achieving non-detect Legionella levels.

Due to the mixed-use of the building — lower floors used for dining, banquet, and conference areas and upper floors as patient and family housing for the university's hospital — occupancy fluctuated, and water usage was often low. This created conditions in the cold water system that encouraged Legionella growth, including:

- » Water stagnation, old water age, and low water flow.
- » Accumulation of sediment that can provide food and protection for Legionella and other bacteria.
- » Increased cold water temperatures within the ideal growth range for Legionella.

As a result, the building's cold water system tested positive for Legionella in 2015. The Copper-Silver Ionization System maintained non-detect Legionella levels in the hot water system, despite these unfavorable conditions.

Highlights

- ▶ **Copper-silver ionization on the hot water system** achieved non-detect Legionella levels in 2014.
- ▶ **Fluctuating building occupancy and low water usage** caused Legionella positivity in the cold water system in 2015.
- ▶ **Sediment filtration on the cold water system** achieved non-detect Legionella levels in 2015.

Solution

Having successfully achieved and sustained non-detect Legionella levels in the building's hot water system after installation of a Copper-Silver Ionization System, the university partnered with LiquiTech to develop a solution to control Legionella in the building's cold water system and reduce their risk of disease outbreak.

Because Legionella is more transient and less likely to proliferate or cause disease outbreak in the building's cold water system, a LiquiTech® Sediment Filtration System was installed on the incoming cold water supply to prevent sediment —Legionella's source of food and protection —from entering the building. This multi-barrier solution of copper-silver ionization on the hot water system and sediment filtration on the cold water system allowed the university to effectively control Legionella in the cold water system without incurring unnecessary costs or compromising the hot water system.

In less than a month, the cold water system returned to non-detect Legionella levels.

Results

Despite the unfavorable conditions created by the building's fluctuating occupancy and low water usage, the combination of copper-silver ionization on the hot water system, sediment filtration on the cold water system, and an ongoing service partnership with LiquiTech has helped the university maintain non-detect Legionella levels and provide clean, safe water to occupants.

- » 0% Legionella positivity in the hot water system since 2014 with copper-silver ionization.
- » 0% Legionella positivity in the cold water system since 2015 with sediment filtration.
- » 82% reduction in sediment on the incoming cold water supply with sediment filtration.

Legionella positivity (cold water)



Sediment levels (cold water)

