

liqui-CSI COPPER-SILVER IONIZATION

An EPA Registered Solution for
Killing *Legionella*

WHY COPPER-SILVER?

LiquiTech® copper-silver ionization (CSI) is the most effective technology for the systemic eradication of *Legionella* in potable water systems. In field evaluations, CSI has yielded superior results in a wide range of water conditions and temperatures, and is backed by over 100 independent research studies.

CSI introduces copper and silver ions to travel throughout the plumbing infrastructure and attack *Legionella* circulating downstream. Unlike chemical treatments, it does not require consumables that are unsafe for handling, and causes no damage to the plumbing environment. The ions introduced into the water supply are also safe for human consumption.

BENEFITS

- ✓ **Do No Harm: Safe and non-toxic**
No hazardous handling concerns, and will not harm your pipes or environment
- ✓ **Most Effective Technology**
With CSI, pathogens are killed rather than suppressed like with most chemical solutions
- ✓ **Low consumable cost**
No expensive and hazardous chemicals to store or handle
- ✓ **Turnkey maintenance services**
Based on unique facility needs and requirements



The Most Effective Technology

Proven to be effective regardless of water temperature, distance and time. Can take less than 48 hours to eradicate *Legionella*. Efficacy is maintained no matter the length and complexity of the plumbing system and residual is sustained for long periods of time, unlike chemical applications which can dissipate quickly.



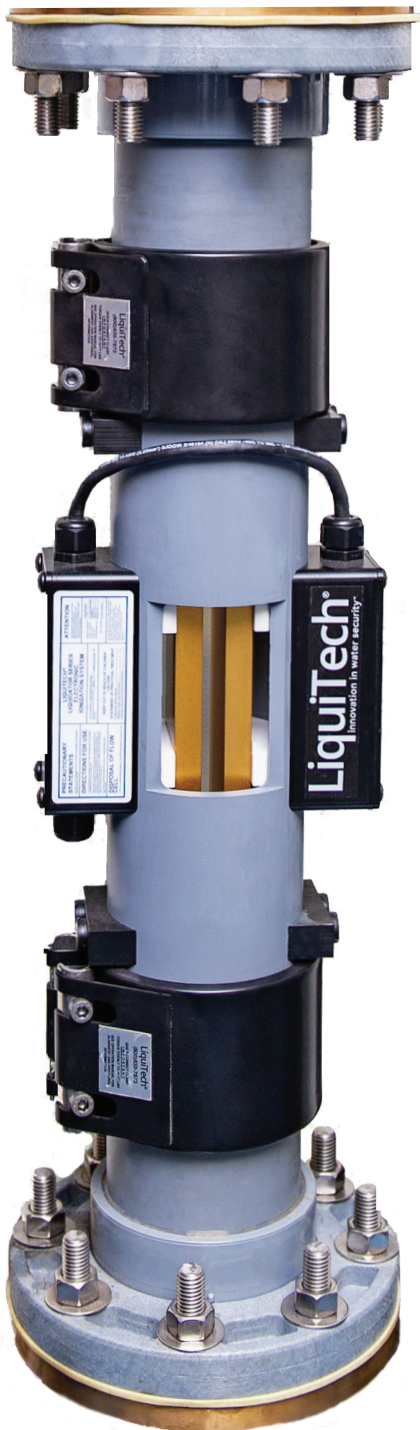
Validated Eradication

- ✓ NSF standard 61 certified, ETL/UL and CE approved
- ✓ EPA-registered solution for killing *Legionella* in drinking water with both the federal and state EPA in all 50 states



Remote Engineering Management Systems (liqui-net)

Supervisory control with real-time system diagnostics and alarm notification ensures highest system efficacy



liqui-CSI HOW IT WORKS

The ions produced by the LiquiTech ionization process are cationic, surface-active, and a potent biocide. The treatment action is attributable to the positively charged copper and silver ions forming electrostatic bonds with negatively charged sites on micro-organism cell walls.

These electrostatic bonds create stresses that lead to distorted cell wall permeability, disrupting the intake of life-sustaining nutrients, and ultimately leading to cell lysis. Bacteria are killed, rather than merely suppressed as is the case with alternative Legionella treatment methods. The accurate dose-rate control system maintains precise ion levels, providing residual protection and prevention of recontamination.

STEP 1

Water passes through the flow cell chamber

STEP 2

A direct current is applied across the electrodes, creating positively charged copper silver ions

STEP 3

The ions seek out bacteria throughout the plumbing system, providing ongoing disinfection

TECHNICAL SPECIFICATIONS

The flow cells, which house the copper silver electrodes, are manufactured using high-temperature, high-pressure, schedule 80 CPVC. Electrode spacers are fabricated from DuPont PBT polyester resin. For ease of installation, periodic cleaning and inspection, the flow cells are supplied with LiquiTech quick-connect stainless steel clamps.

Flow cells are available in various sizes and configurations depending upon the application. Standard 150-pound flanges with 304 stainless steel nuts, bolts and washers are also available. The entire system, electronic control unit, flow cells and interconnecting wire are ETL (UL-979 Water Treatment Appliances; UL-508 Industrial Control Equipment; and UL-1081 Swimming Pool Pumps, Filters and Chlorinators), and CSA C22.2 (No. 14 Industrial Control Equipment; No. 108 Liquid Pumps; and No. 68 Motor Operated Appliances) certified. All LiquiTech flow cell wetted parts are NSF Standard 61 certified.



Materials

Schedule 80 CPVC (all models).

Installation

Vertically. Rack mount and pre-plumbed configurations available.

Connection

Quick-connect, powder-coated 304 stainless steel clamp connections standard. Must be tightened to torque of 10 ft. lbs.; torque wrench and 6mm hex bit provided with system purchase.