agion®

The Only Controlled Ag Delivery Technology In The Industry

Agion® Antimicrobial For Filter Media

Agion is added to filter media to control bacteria growth, resulting in multiple benefits such as:

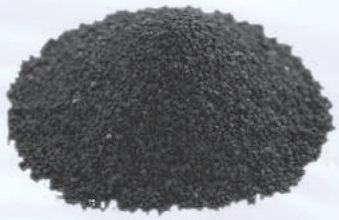
- Reduce pressure drop caused by biofilm formation on the media
- Reduce effluent bacteria from carbon pre-filters in RO filtration systems
- Reduce downstream contamination of distribution systems such as brewing and beverage lines, and storage reservoirs

Carbon Block

Agion powder is blended with powdered activated carbon and polymer binder to homogeneously integrate the antimicrobial throughout the carbon block.

Granular Activated Carbon Media

A proprietary process is used to bond Agion powder to GAC particles to provide antimicrobial protection throughout the filter



Pleated Nonwoven Media

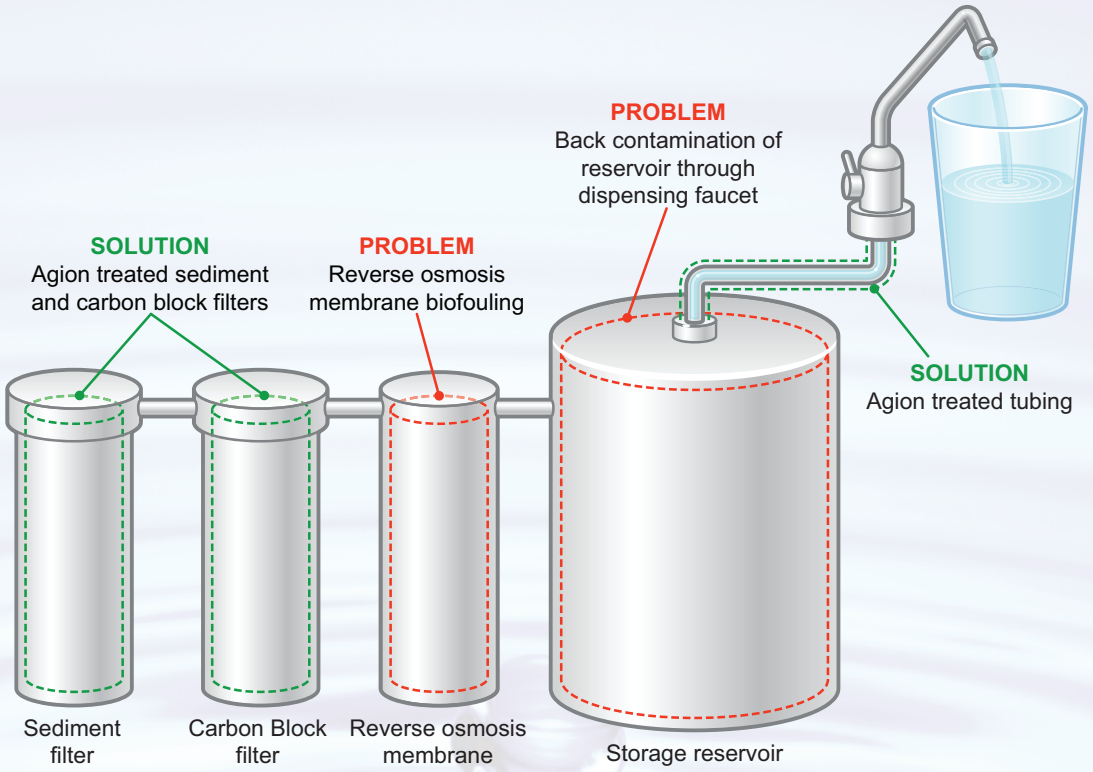
Agion powder is compounded into the polymer that is used to manufacture the nonwoven, such as a spunbond process, so is built into the structure of the filter media.

Melt Blown Cartridge

Agion antimicrobial can be compounded into the polymer used to make melt blown cartridges. The Agion powder becomes an integral part of the melt blown fibers, providing antimicrobial protection throughout the filter.

Others dissolve – Agion delivers

RO Drinking Water System

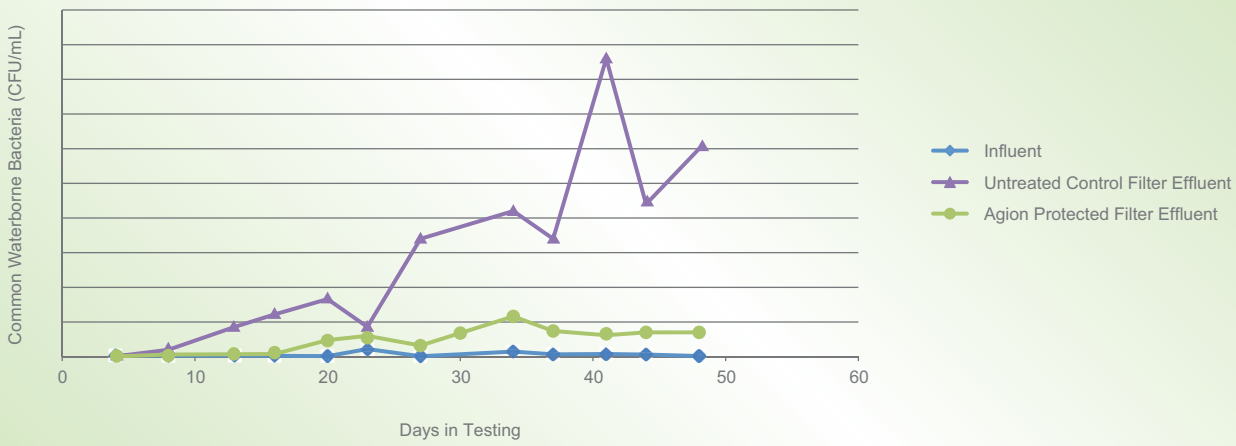


THE PROBLEM:

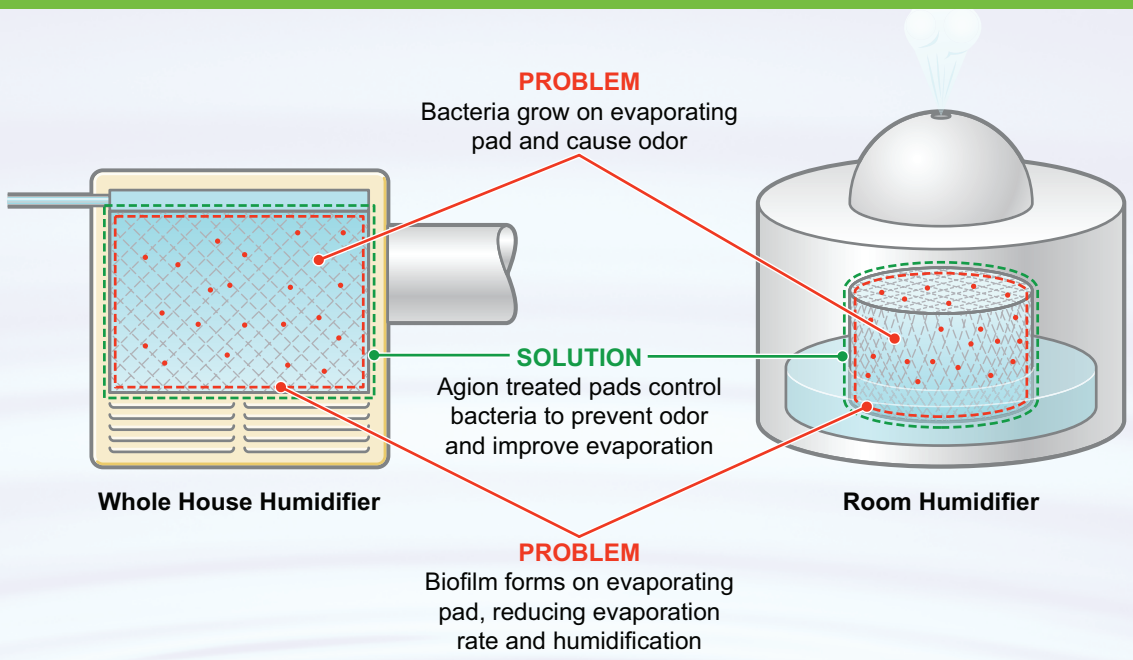
- Increased pressure drop and reduced water flow
- Amplification of bacteria into the RO membrane
- Bacteria can spread from faucet end throughout the system
- Bacteria can affect taste

THE AGION® ANTIMICROBIAL SOLUTION:

- Inhibits growth of bacteria on filter media
- Reduces bacteria in the filter, lowering the amount of bacteria flow to the RO membrane that contribute to fouling
- Easily incorporated into the polymer used to make pleated or melt blown filters
- Blended with carbon block materials before molding / extrusion
- Inhibits the growth of bacteria when incorporated into tubing



Humidifier

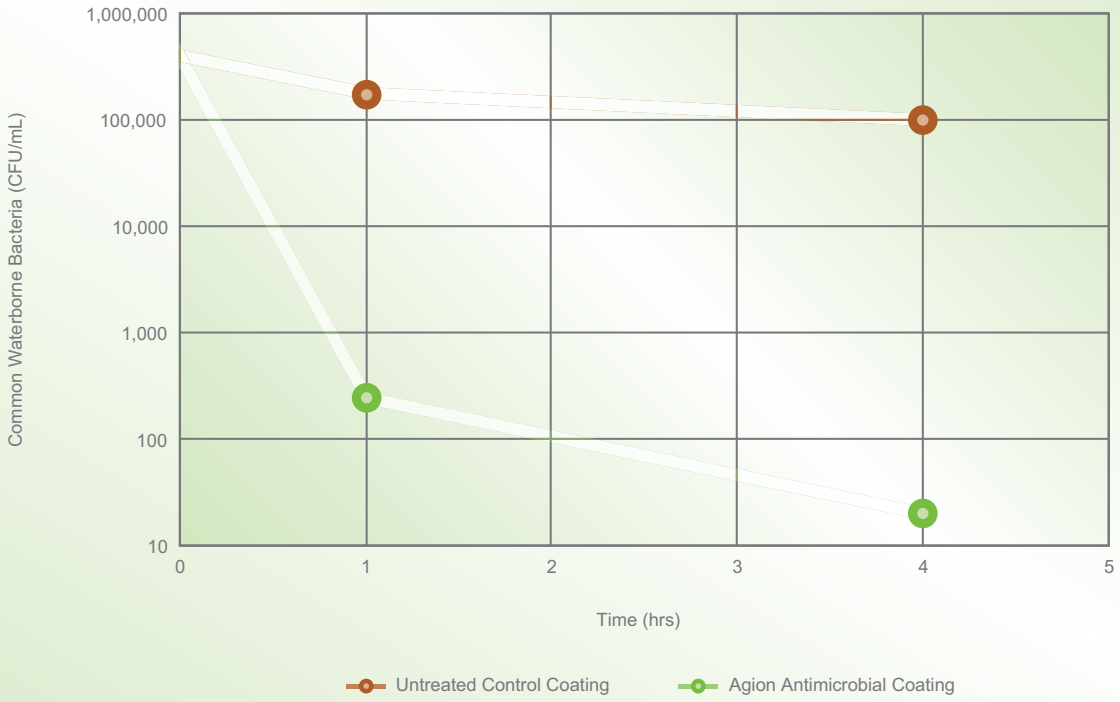


THE PROBLEM:

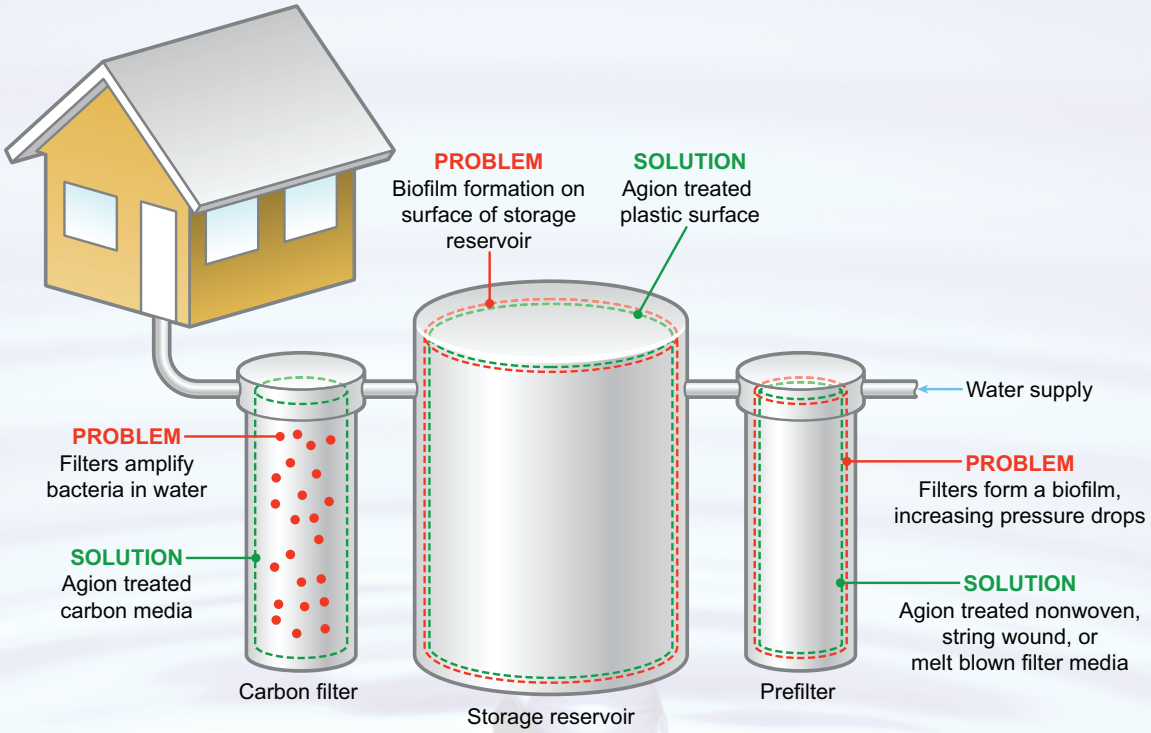
- Consistent moisture leads to bacteria growth
- Bacteria causes undesired odors
- Reduced evaporation rate

THE AGION® ANTIMICROBIAL SOLUTION:

- Agion® can be applied to the pads during manufacturing to inhibit the growth of bacteria and maintain high efficiency in evaporation.
- Results in longer life of the pad



Water Storage and Dispensing



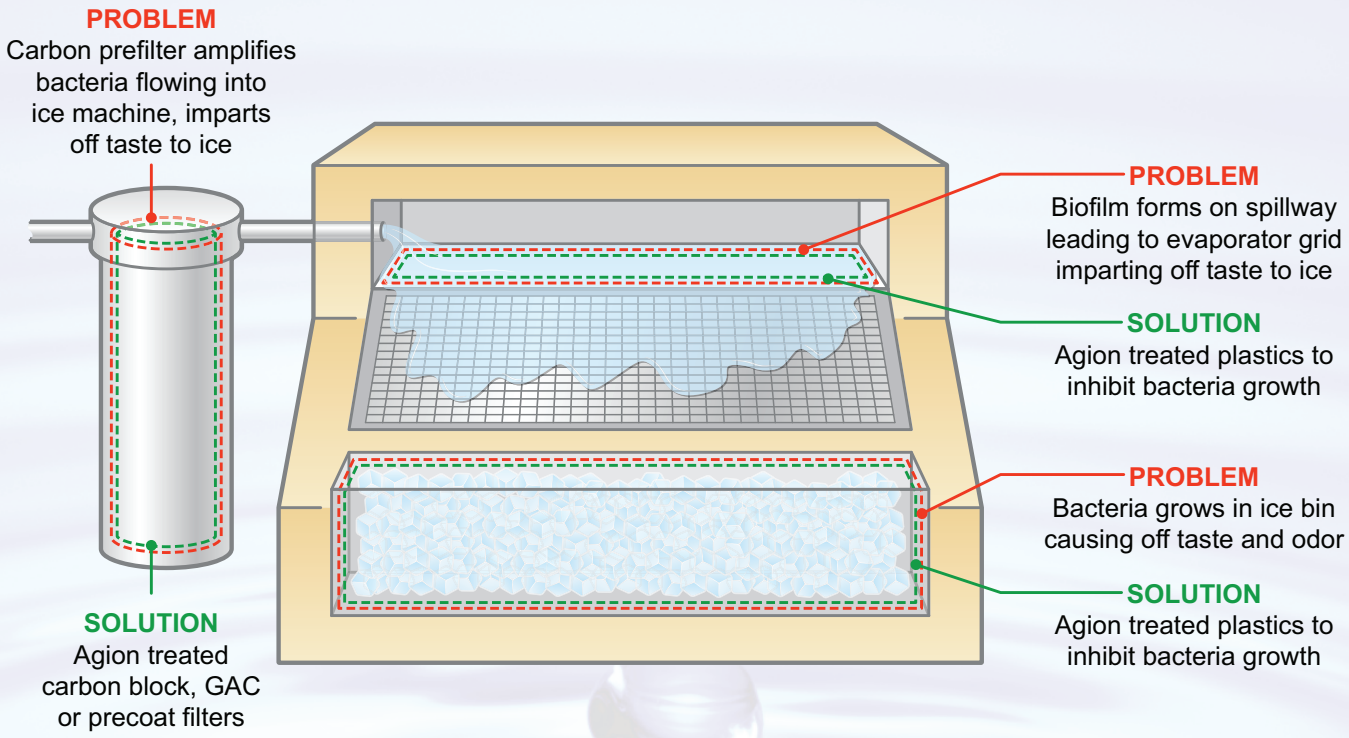
THE PROBLEM:

- Increased pressure drop and reduced water flow
- Increased bacteria levels in effluent from the carbon filter

THE AGION® ANTIMICROBIAL SOLUTION:

- Inhibits growth of bacteria on the media
- Reduces bacteria in the filter, lowering the concentration of bacteria in the filter effluent to downstream surfaces
- Easily incorporated into the polymer used to make pleated or melt blown filters

Ice Machine

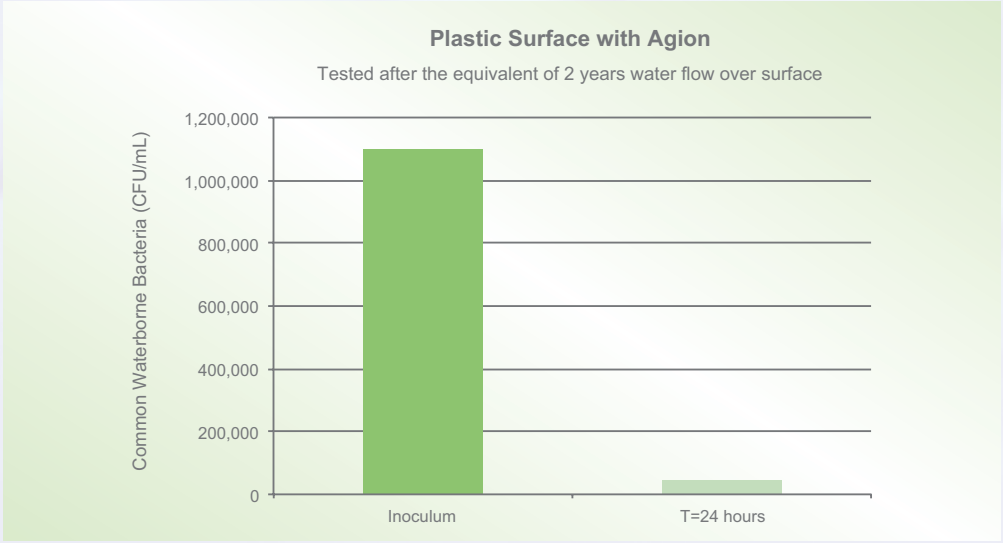


THE PROBLEM:

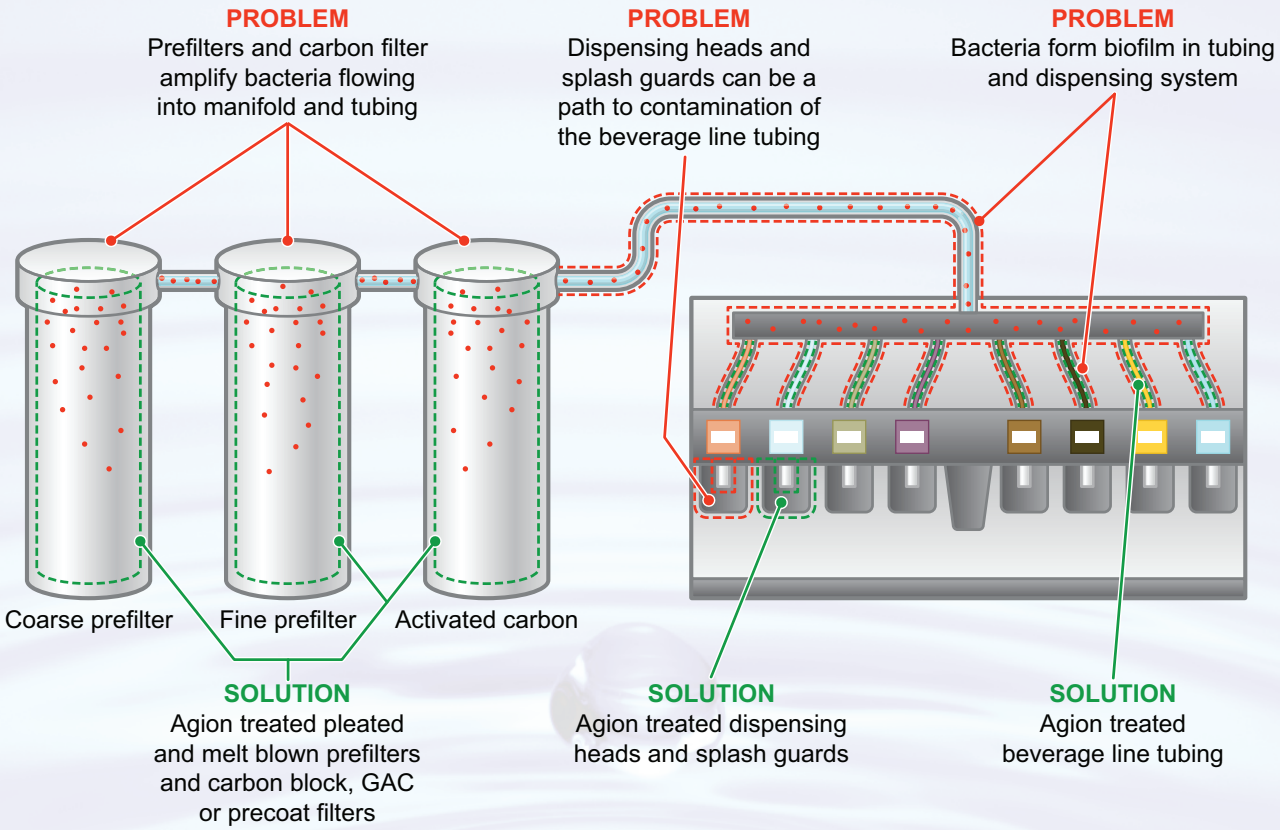
- Increased bacteria levels in effluent from the carbon filter
- Biofilm can develop on the spillway
- Bacteria can affect taste

THE AGION® ANTIMICROBIAL SOLUTION:

- Inhibits growth of bacteria on filter media
- Reduces the number of bacteria in the effluent that can grow on downstream surfaces
- Treating the spillway inhibits the growth of bacteria on the surface that the water flows on prior to freezing
- Easily incorporated into the polymer used to make pleated or melt blown filters, and carbon blocks



Beverage Systems

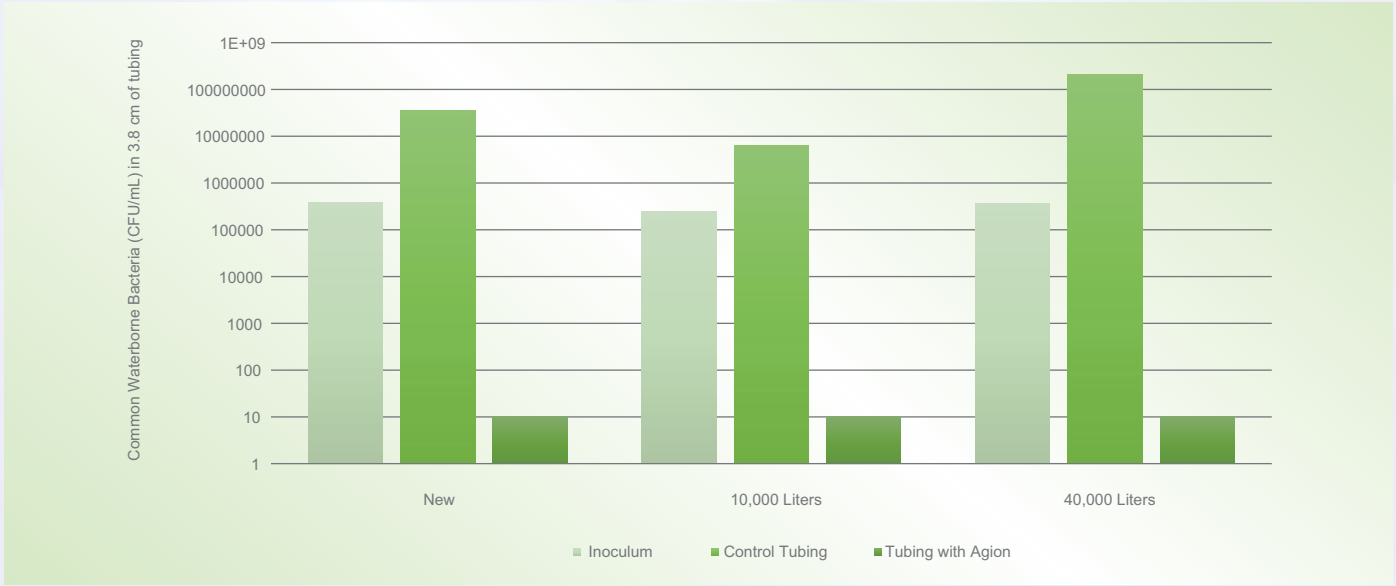


THE PROBLEM:

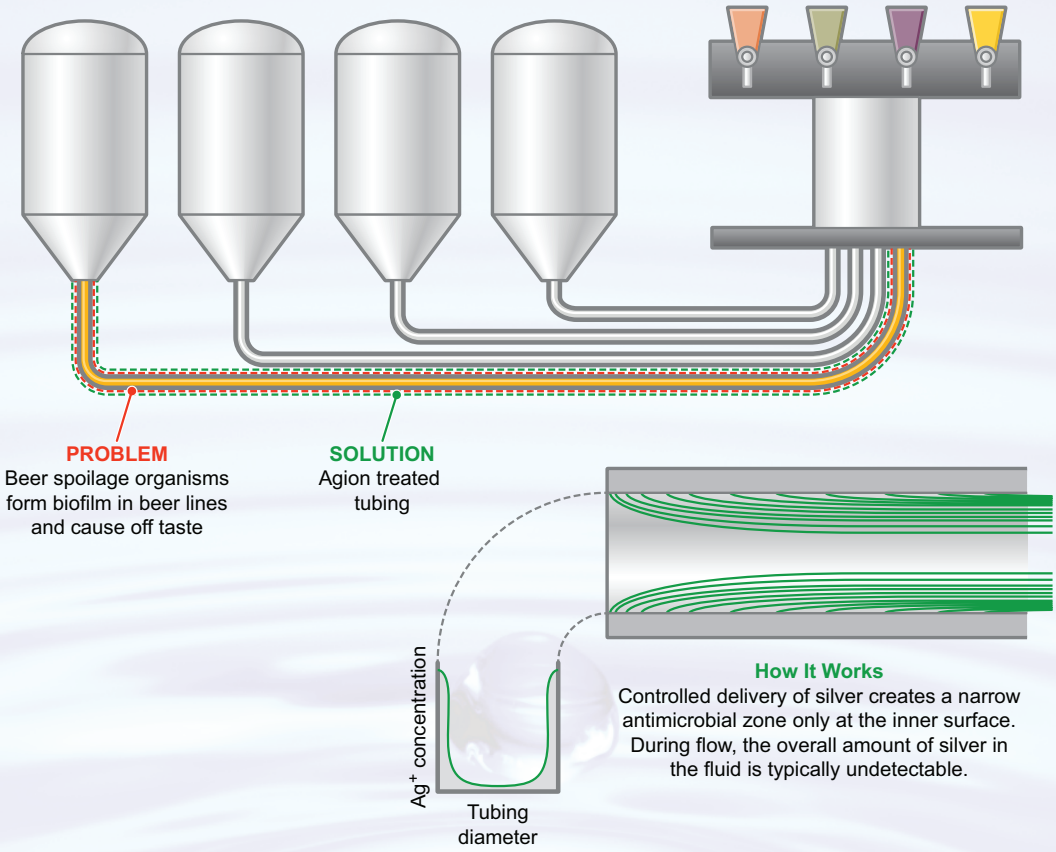
- Increased pressure drop and reduced water flow
- Increased bacteria levels in effluent from the carbon filter
- Biofilm in the tubing
- Increased maintenance costs

THE AGION® ANTIMICROBIAL SOLUTION:

- Inhibits growth of bacteria on filter media
- Agion in the filters and tubing inhibits bacteria growth throughout the system to the dispensing heads



Brewing



THE PROBLEM:

- Bacteria can colonize the inner surface of beer lines
- The bacteria can migrate through the lines to the bottling operation and taps, impacting taste

THE AGION® ANTIMICROBIAL SOLUTION:

- Agion® can be incorporated into the tubing during the extrusion process to inhibit the growth and migration of bacteria on the surface of beer lines

Proven Performance Against Beer Spoilage Organisms

Acetobacter lovaniensis

This acetic acid bacterium occurs in the early stages of biofilm formation. In wort and beer with high oxygen content. Acetic acid bacteria can proliferate and cause an acetic-off flavor. It is commonly found on fruits, flowers, vinegars and in fermented foods and drinks.

Wickerhamomyces anomalus (formerly Pichia anomala)

This organism is frequently associated with spoilage or processing of food and grain products, and is widespread among many production steps of alcoholic beverages. It belongs to the group of slow fermenting. In carbonated beverages, it can be responsible for solvent-like off flavors. This bacteria was detected in the brewing environment, and is proven to be a contributor to biofilm formation.

Lactobacillus brevis

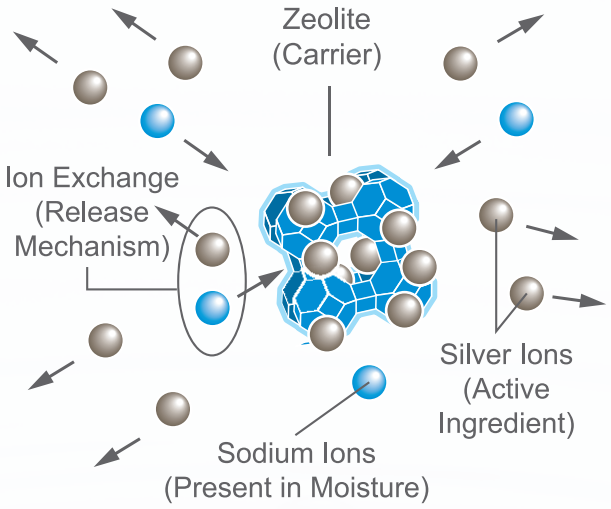
This is, by far, the most frequently detected microorganism in beer. It is classified as an obligate beer spoiler, which means it tolerates all selective characteristics of beer and deteriorates it by haze, acid formation and off flavors.

The referenced testing was performed at the Research Center Weihenstephan for Brewing and Food Technology

How Agion® Antimicrobial Works

Agion® Antimicrobial is a “smart” technology that utilizes a controlled delivery system to maintain long-lasting efficacy.

When moisture is present, the conditions for bacteria growth become ideal. This is when the Agion Antimicrobial goes to work



The silver ions exchange with ions in the moisture, typically sodium and potassium resulting in an efficient release of the bacteria-fighting silver

Regulatory Approvals

As a proven solution for the global drinking water market, our Agion technology has accumulated several approvals and certifications that speak to its effectiveness, reliability and safety. Our Approvals include:

- NSF 51
- USDA list of non-food compounds, as maintained by NSF
- EFSA – European Food Safety Authority
- Registered for indirect food contact by the EPA and FDA
- Article 95 listing under the BPR for product type 4 (food and feed areas)

Our Partners

PENTAIR

OMNIPURE FILTER COMPANY

ENPRESS LLC Where Innovation Flows™

EVERPURE WATER YOU CAN TRUST.

Ice-O-Matic

Scotsman

AHLSTROM

ARGONIDE ADVANCED FILTRATION SYSTEMS

Clean Water Starts With A Clean Delivery System

The Agion® Antimicrobial is presently registered by the United States Environmental Protection Agency as a preservative and bacteriostatic agent for use in treated articles under 40 CFR 152.25a. This technical data is provided to substantiate the efficacy of the antimicrobial compound. However, the data are not intended to support or endorse public health claims for treated articles.

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