

FOOD & BEVERAGES



INDUSTRY-SPECIFIC APPLICATIONS FOR UV TECHNOLOGY

APPLICATION: TOC Reduction, Chloramines Reduction, Ozone Reduction, Microbiological Inactivation | **AQUAFINE® UV SYSTEM SERIES:** SwiftBeverage®, OptiVenn®, Logic™ LS HX™, SL™, ChloRid™

Trojan Technologies is committed to providing superior quality and the latest advancements in UV technology for the Food & Beverage industry.

UV Technology

Trojan Technologies offers ultraviolet (UV) validated systems, including lamp, sensor material certification and final assembly testing, carrying the marks of cULus, UL, CE and ANSI/NSF.

Aquafine UV systems are engineered to focus the power of concentrated UV light utilizing one or several specially designed Aquafine Colorguard® UV lamps, recognized in the industry for unsurpassed performance and reliability.

UV technology for water treatment produces no by-products, imparts no taste or color, and treats water to meet the highest standards in a variety of applications.



UV Technology for Food & Beverage

The Food & Beverage market includes diverse industries, such as bottled water, food packaging, crop irrigation, carbonated & non-carbonated beverages, dairy plants, and meat and poultry processors. UV technology has been successfully used in these industries for control of microorganisms. While the most common application for UV light in water treatment is inactivation of microorganisms, the technology can also be utilized in the reduction of TOC (total organic carbon), chlorine/chloramines, and ozone.

Aquafine UV systems are also used to treat any product water used as an ingredient in food or beverage products. Bottled water and product water for concentrates, soft drinks, tea, and beer are commonly treated with Aquafine UV systems.

Heat treatment-pasteurization techniques are efficient in handling low UV transmittance (UVT) or poor quality water, some degree of suspended solids (SS), and total dissolved solids (TDS) and are preferred by many product producers. Compared to the energy demands of pasteurization, UV is more cost effective and efficient, and UV does not change any physical characteristic of the fluid. Most importantly, UV treatment does not promote the generation of by-products, such as Trihalomethanes (THM), which regulatory agencies have classified as carcinogenic at certain levels in drinking water.

Aquafine UV systems can also be used to replace carbon beds, or be used in conjunction with carbon beds to minimize or eliminate chloramines while providing 3 log or greater reduction of organisms. UV offers a cost-effective means for inactivation, while reducing chloramines in the pretreatment phase.

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UV Applications in Food & Beverage

Microbiological Inactivation

This is the most common application of UV light in water treatment. Some typical locations of installation would be: points-of-fill, points-of-rinse, post-carbon filter, pre-membrane filtration or RO (reverse osmosis), post-water, and pre-syrup storage tanks. When installed at the appropriate locations in the treatment process loop, such as downstream of the carbon bed and/or directly upstream of the membrane filtration or RO, a UV system reduces the microbial counts by inactivating microorganisms present in the influent stream.

TOC Reduction

In ultrapure water systems, UV treatment is used for the effective reduction of organics. Reduction of TOC is accomplished by incorporating a UV system appropriately designed, sized, and installed.

Ozone Reduction

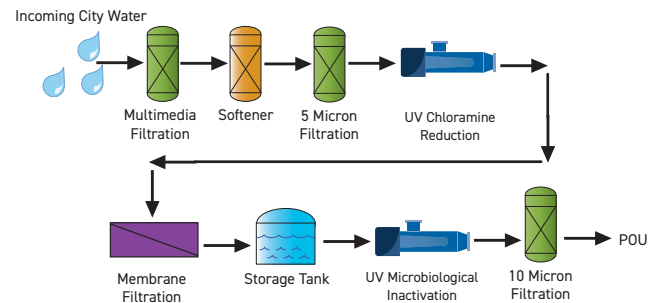
Ozone is commonly used in pre-treatment sanitizing and recirculating. Prior to point-of-use, residual ozone needs to be reduced to ensure the product is not contaminated. Taking into consideration the appropriate variables, a properly sized UV unit can be guaranteed to reduce the ozone to non-detectable limits, ensuring the integrity of the process and the product.

Chloramines Reduction

While the addition of chloramines to municipal water may control microorganism levels, they often have undesirable effects on the degradation of membrane filtration or RO. Trojan Technologies pioneered the technology of chlorine and chloramine reduction utilizing UV light.

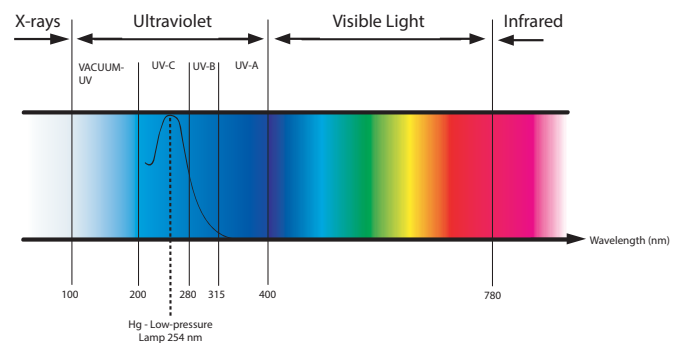
For questions regarding your application needs, please contact your local Authorized Distributor or Trojan Technologies for more information.

Food & Beverages Water Treatment System



Ultraviolet (UV) light is a form of light that is invisible to the human eye. It occupies the portion of the electromagnetic spectrum between X-rays and visible light. A unique characteristic of UV light is that a specific range of its wavelengths, those between 200 and 300 nanometers (billionths of a meter), they are capable of inactivating microorganisms.

ELECTROMAGNETIC SPECTRUM



To learn more about the brands and affiliates of Trojan Technologies, please visit www.trojantechnologies.com