



**APPLICATION:** TOC Reduction, Chlorine Reduction, Ozone Destruction, Disinfection // **UV SERIES:** TrojanUVLogic™, Optima HX™, SCD H™, ChloRid™, LS HX™

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

### UV Technology

Aquafine 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.

Environmental responsible UV technology for water treatment produces no harmful by-products, imparts no taste or color and disinfects 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. Ultraviolet technology has been successfully used in these related industries for control of pathogen microorganisms. While the most common application for UV light in water treatment is disinfection, the technology can also be utilized in TOC (total organic carbon) reduction, chlorine/chloramines reduction and ozone destruction.

Aquafine UV systems are also used to disinfect 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 disinfected 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. UV is a non-chemical process and does not change any physical characteristic of the fluid, and concerns of chemical handling and cost of removal of chlorine from the water stream are eliminated. Most importantly, UV treatment does not promote the generation of disinfection 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 chlorine and chloramines while providing 3 log or greater reduction of organisms. UV offers a cost effective means for disinfection, while eliminating chlorine and chloramines in the pretreatment phase.

# // FOOD & BEVERAGES

## UV Applications in Food & Beverage

### Disinfection

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, brine solutions, post-carbon filter, pre-membrane filtration or RO (reverse osmosis), post-water and pre-syrup storage tanks. A UV system reduces the microbial counts by destroying bacteria present in the influent stream, 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.

### 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 destruction

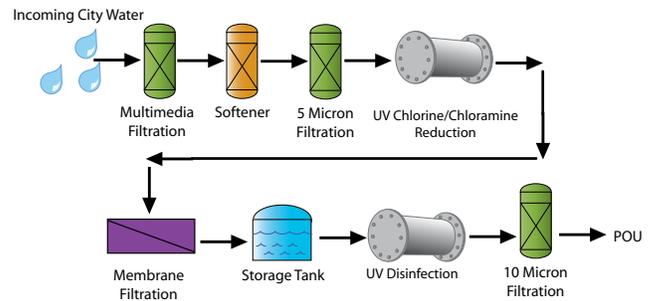
Ozone is commonly used in pre-treatment sanitizing and recirculating. Prior to point-of-use, residual ozone needs to be destroyed to ensure the product is not contaminated. Taking into consideration the appropriate variables, a properly sized UV unit can be guaranteed to destroy the ozone to non-detectable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

### Chlorine/chloramines destruction

While the addition of chlorine and chloramines to municipal water may control bacteria levels, they often have undesirable effects on the degradation of membrane filtration or RO. Popular methods of removal, such as carbon beds or chemical injection have proven to be problematic. Aquafine pioneered the technology of chlorine and chloramine destruction utilizing UV light.

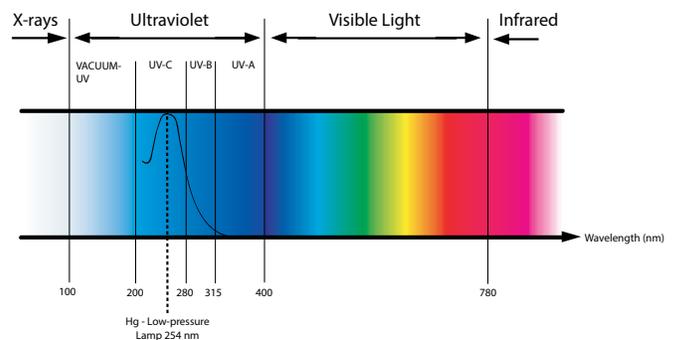
For questions regarding your application needs, please contact your local Authorized Distributor or Aquafine for more information.

## 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), are categorized as germicidal – meaning they are capable of inactivating microorganisms, such as bacteria, viruses and protozoa.

## ELECTROMAGNETIC SPECTRUM



Aquafine is an ISO 9001:2008 certified company. Aquafine equipment performance is guaranteed with the use of genuine OEM replacement parts.

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