Life Sciences

Industry Specific Applications for UV Technology

Aquafine has the largest installed base of applications in the Life Sciences industry, meeting the demands of USP and WFI applications.

APPLICATIONS | TOC Reduction, Chlorine Reduction, Ozone Destruction, Disinfection

UV SERIES | TrojanUVLogic, Optima HX, SCD H, ChloRid, CSL

UV TECHNOLOGY FOR LIFE SCIENCES

For 60 years Aquafine has been successfully serving the diverse Life Sciences industries. Aquafine ultraviolet (UV) units are reliable, deliver consistent performance and therefore have become the brand of choice of WFI (Water-For-Injection) & USP (United States Pharmacopoeia) systems. Our value added products and services are found in both the pre-treatment and process areas of the water system. While commonly found in disinfection and ozone destruction applications, our low-pressure (LP), low-pressure high-output (LPHO) and amalgam systems can be found in TOC (total organic carbon) reduction and chlorine/chloramines destruction applications as well. ChloRid®, our newest series for chlorine/chloramines destruction equipment, utilizes medium-pressure (MP) technology with a reduced footprint and provides efficiency in both dosage and cost.

The use of UV technology for water treatment has several inherent advantages. Nothing is "added" by UV light to the water stream such as color, odor, flavor, chemicals or harmful by-products, by only applying energy to the water stream in the form of UV light, UV technology is a fast, efficient, cost effective and environmentally responsible solution.

Aquafine offers validated systems, providing UV lamp and NIST traceable UV sensor validation with certificates, as well as Bioassay amalgam technology. All systems comply with cGMP and FDA requirements and sanitary connections conform to DIN and USDA 3A standards. Select models carry the marks of cULus, CE and ANSI/NSF and can be mounted horizontally or vertically, or in skid mounted systems, maximizing installation flexibility and preserving floor space.

With Life Sciences UV system designs unparalleled in performance, Aquafine is committed to providing superior quality and the latest advancements in UV technology.

Regulations place not only a responsibility on the process design engineers, but also on manufacturers of water treatment systems. Aquafine equipment can supply your pretreatment or process stream with consistent and reliable dosage levels needed to meet the USP or WFI specifications.

UV TECHNOLOGY

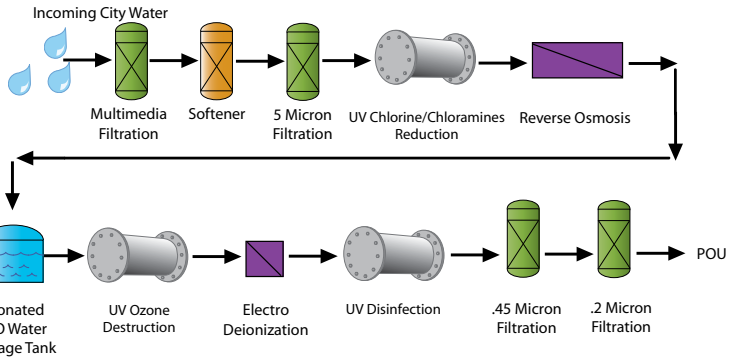
Aquafine UV systems are engineered to focus on the power of concentrated UV light utilizing one or several specially designed Aquafine Colorguard UV lamps, recognized in the industry for unsurpassed performance and reliability.

Aside from being environmentally responsible, UV technology for water treatment produces no harmful by-products, imparts no taste or color and yet disinfects water to meet the highest standards in a variety of applications.

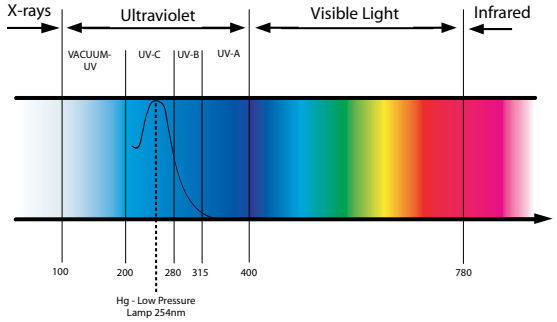
Aquafine®

60 Years of Pure Quality

LIFE SCIENCES WATER TREATMENT SYSTEM



Ultraviolet light is invisible to the human eye, but a highly effective, chemical-free way of inactivating microorganisms and reducing chemical compounds present in the water.



UV Applications for Life Sciences

DISINFECTION

This is the most common application of UV light in water treatment. A pharmaceutical water system could have several locations where UV equipment would be installed. Some typical locations of installation would be post-carbon filter and pre-RO (reverse osmosis). When installed downstream of the carbon bed and/or directly upstream of the RO unit, a UV system can significantly reduce the microbial counts by destroying at least 99.9% of the bacteria present in the influent stream. Disinfection is also recommended for the process distribution loop and pre storage tank.

TOC REDUCTION

The USP 31 regulations require an upper limit of 500ppb for TOC for both USP Purified Water as well as for WFI. Aquafine uses a powerful 185nm wavelength appropriately sized and designed to meet this application.

OZONE DESTRUCTION

Ozone is commonly used in the pretreatment area of a water system, as well as for sanitizing process and re-circulating systems. Prior to the point-of-use, the residual ozone needs to be destroyed to ensure the process water is not compromised. Because it is a non-chemical, fast acting mechanism, UV technology is the preferred method for this application. After considering the appropriate variables, a properly sized UV unit can be guaranteed to destroy the ozone to non-detectable limits, insuring the integrity of the process and the product. A dosage of 90 mJ/cm^2 is recommended for destruction of ozone residuals of 1.0ppm.

CHLORINE/CHLORAMINES DESTRUCTION

While the addition of chlorine and chloramines to city water may control bacteria levels, they have undesirable effects on the degradation of membrane filtration or RO. But popular methods of removal, such as carbon beds or chemical injection, have proven to be problematic. Sodium metabisulfite involves replacing one chemical with another and creates food for micro-organisms, while carbon beds can be inefficient, vulnerable to channeling and provide breeding grounds for micro-organisms. Aquafine Corporation pioneered the technology of chlorine and chloramines destruction utilizing UV light in the pre-membrane filtration or RO make-up water stream.

Aquafine®

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Aquafine equipment performance is guaranteed with the use of genuine OEM replacement parts.

ISO 9001:2000 Certified