

CHRIST

Christ Water Technology Group

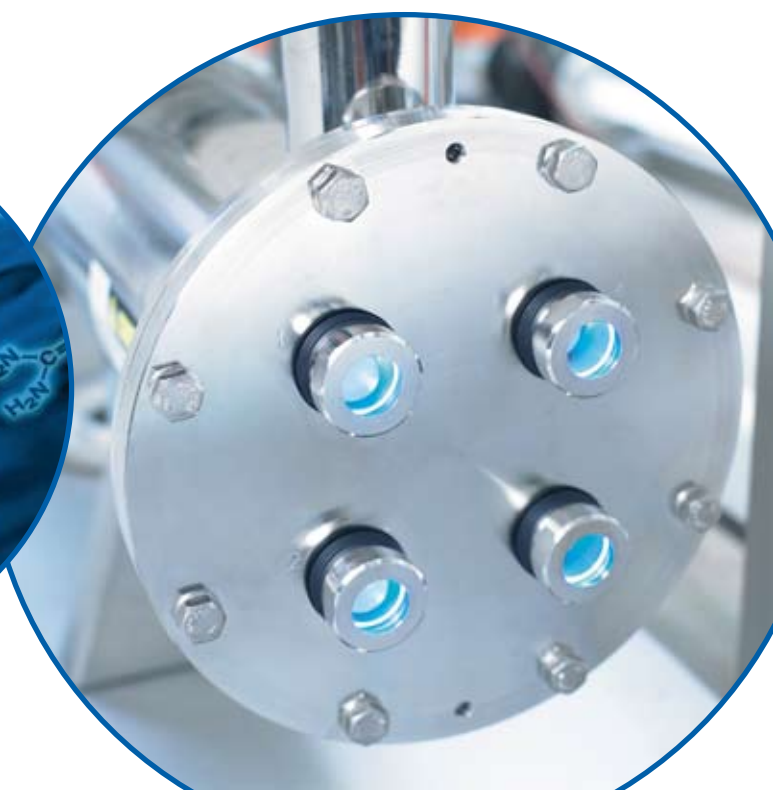
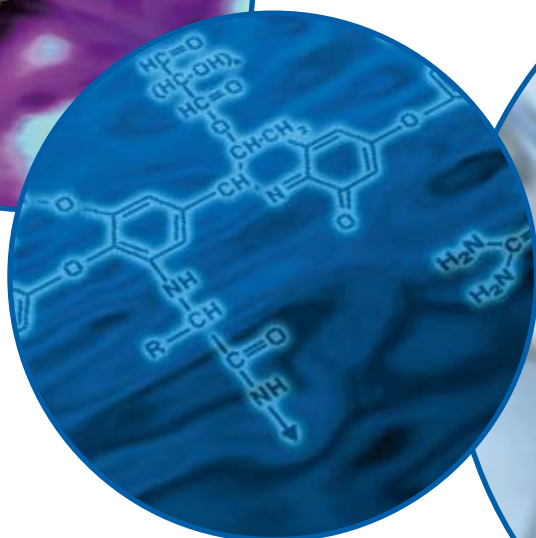
CHRIST LUMOSTIL – The Right UV Choice for Every Application

CHRIST LUMOSTIL UV technology is commonly used today in water treatment and is optimised for different objectives.

UV treatment is mainly used for the following processes:

- Sterilisation
- Ozone elimination
- Degradation of dissolved organic substances

CHRIST is predominantly using energy-saving low-pressure lamps. This type of lamp generates the radiation with a wave length of 254 nm. Radiations between 250 nm and 270 nm damage the DNA (deoxyribonucleic acid) of the micro-organisms containing the genetic information for the biological development. In consequence of this, the micro-organisms may not grow any longer.



The UV sterilisation has the advantage that no chemicals are brought into the water and no undesirable by-products or final products can be produced.

Dissolved ozone in water can be reduced to bivalent oxygen with a wave length of 254 nm. This technology is particularly implemented as standard devices in the pharmaceutical industry. Depending on concentration, higher radiations are necessary for ozone elimination rather than for sterilisation.

Special lamps additionally featuring a radiation with a wave length of 185 nm are used for degradation of dissolved organic substances in ultrapure water. CHRIST UV systems (the LUMOSTIL series) are suitable for all applications of UV technology in water treatment.

A close differentiation of the nominal capacity within a sophisticated modular system permits individual problem solution.

Standard devices are available for the range between 0,5 m³/h and 350 m³/h. LUMOSTIL units feature a technically mature construction of high-quality materials (e.g. electropolished stainless steel) and the result of many years of experience in water treatment. Each LUMOSTIL unit is individually examined and tested. The units are CE mark conform.

Essential advantages for CHRIST LUMOSTIL units are:

- Compact space – saving construction
- Standard stainless steel V4A, electropolished
- Very high efficiency owing to geometric layout of the UV lamps and specific fluid management
- Specific intensity of radiation refers to the expiration of the lamp's life span
- Use of specific silica tubing with highest penetration of UV radiation
- Easy lamp change
- Validated UV lamps available for applications in the pharmaceutical industry
- Single monitoring of the lamps with LED and alarm
- Working hour counter





Where it is necessary and economically justified, a wide range of accessories is available in addition to the standard program:

- Temperature control
- Radiation trap
- UV intensity control
- Tri-clamp connections instead of flanges
- Explosion-proof design (air-blast)
- High-temperature design (for hot water and saturated steam sanitisation)

Whether concerning the manufacturing of semiconductor devices, pharmaceuticals and beverages or the treatment of drinking water, the sterility of the water is important everywhere. LUMOSTIL units produce pure water without any use of chemicals.

Drinking water and refreshment beverages are expected to be bacteriologically clean. This is based on the food regulation. In fact drinking water must always be pure, colourless, odourless and tasteless as well as bacteriologically clean. LUMOSTIL units meet the requirements economically without touching the taste of the products. Sterility is a must for the production of chemicals. LUMOSTIL is a reliable sterilization system in combination with CHRIST STERITRON ozone units. The LUMOSTIL unit not only allows sterilisation but also degradation of ozone below detection limit.

CHRIST LUMOSTIL units meet the GMP regulations and are FDA approved. The sanitary clamp connections satisfy the criteria of USDA 3 A standard. Both, hot water sanitisation (80°C) or saturated steam sterilisation (121°C, 30 minutes) are possible.





Virtually, the rinsing water for the manufacturing of semiconductor devices must be completely free of organic components. Germs may not be found any more. The TOC content is steadily degrading with LUMOSTIL and the polishing mixed-bed ion exchanger in series up to the detection limit with the support of special lamps showing an increased radiation with a wave length of 185 nm.

Combined processes with UV, ozone and other oxidants, well known under the term of Advanced Oxidation Process (AOP), are widely used today with success for degradation of dissolved organic substances with higher concentrations. The treatment of reclaim water is a typical application in the microelectronics industry.

CHRIST – World Class Water Technologies

Please visit www.christwater.com/addresses to find your local CHRIST partner.

Christ Water Technology Group

Hauptstrasse 192
P. O. Box 130
CH-4147 Aesch BL
Switzerland

P +41 61 755 81 11
F +41 61 751 44 85

www.christwater.com
info@christwater.com



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