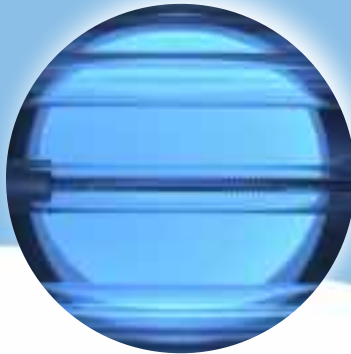
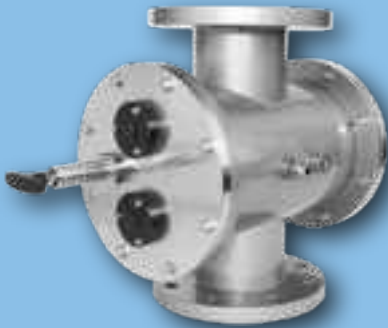
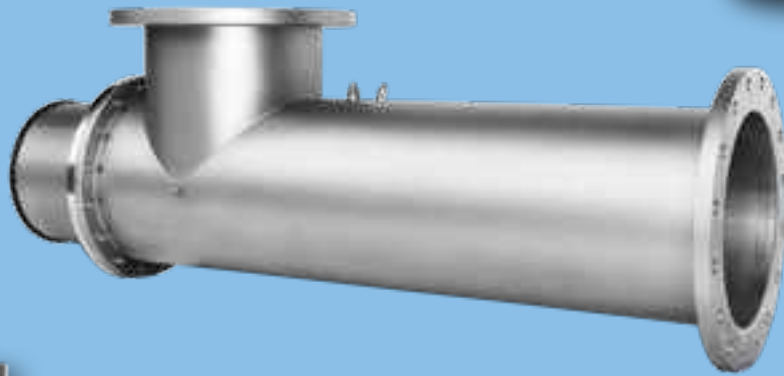
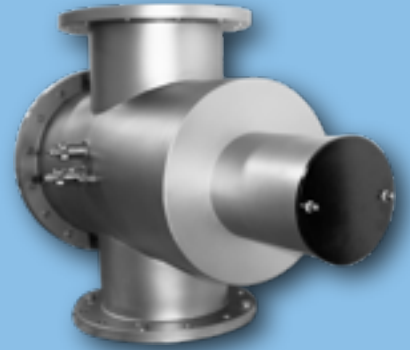


INSITEK

C O N T R O L

accuracy determines results

bestUV systems



best  UV

bestUV systems

Validated, CFD-optimised, chemical-free water treatment

Sources for naturally clean water are becoming increasingly rare, making it one of the world's most valuable resources. More and more communities and companies have to reuse water. Without proper disinfection, reused water is likely to contain dangerous pathogens, including chlorine-resistant pathogens such as Cryptosporidium and Giardia.

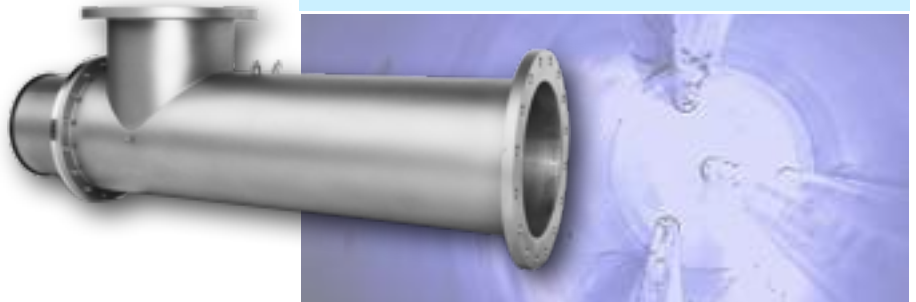
Disinfection using ultraviolet (UV) light is a proven, chemical-free, environmentally friendly and sustainable method for killing pathogens and food-spoiling microorganisms.

The challenge is designing the most effective UV disinfection system for a specific application. At bestUV, that is what we do best. We specialize in providing the optimal solutions for the toughest water disinfection challenges.

Always the right solution for your application

BestUV carefully considers the practical situation, target organisms, and site-specific properties of your application to provide the right solution.

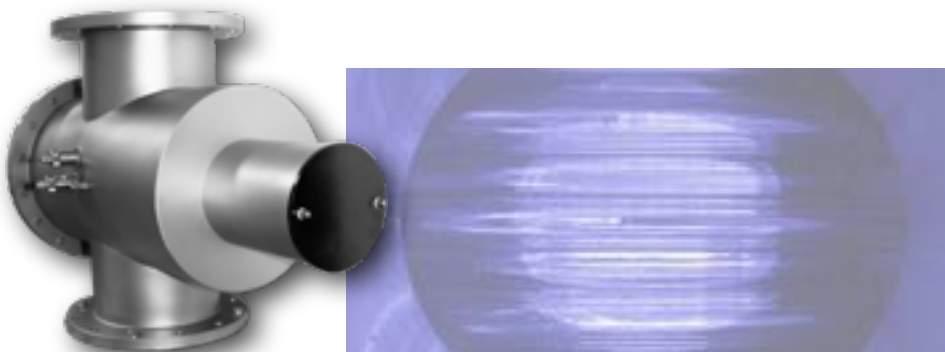
Solutions may include:



Compact L-shape UV system with the highest UV density low-pressure (LP) lamps



Compact-sized with the strongest medium-pressure (MP) UV lamps and connections 'in-one-line'



Unique compact UV system with 'state-of-the-art' low-pressure (LP) lamps in a perpendicular position

Why is bestUV best for you?

Know-how

BestUV offers UV disinfection experts with tremendous knowledge of the microbiological, chemical, technical and electrical factors that must be addressed when designing an effective and efficient UV disinfection system.

Site-specific design

Whether it is a new or existing site, bestUV will custom design a system ideal for your installation.

Computational fluid dynamics design

All bestUV systems are designed using computational fluid dynamics (CFD) and validated with biosimetric tests, so you know your system works and your water is safe.

Best lamp technology

BestUV can design your system to include low-pressure (LP) or medium-pressure (MP) UV lamps.

Wide range of water quantity and quality

BestUV offers a wide range of systems to address a variety of water quantities and water qualities.

Reliable components

All bestUV components - UV lamps, quartz sleeves, ballasts, UV sensors, cleaning devices, PLCs, and controllers - have been thoroughly tested and used in thousands of installations.

Cleaning devices

All bestUV systems can be equipped with integrated cleaning devices operated by hand or motor. Cleaning devices maintain the UV system in top condition.

Factory tests

Prior to bestUV's systems leaving the factory, the UV chamber and cabinets are thoroughly, hydraulically and electrically tested. BestUV experts also pre-program all site-specific settings into the controller.

Local service

BestUV systems are serviced by a network of certified service companies with the on-call support of bestUV experts.

Spare parts

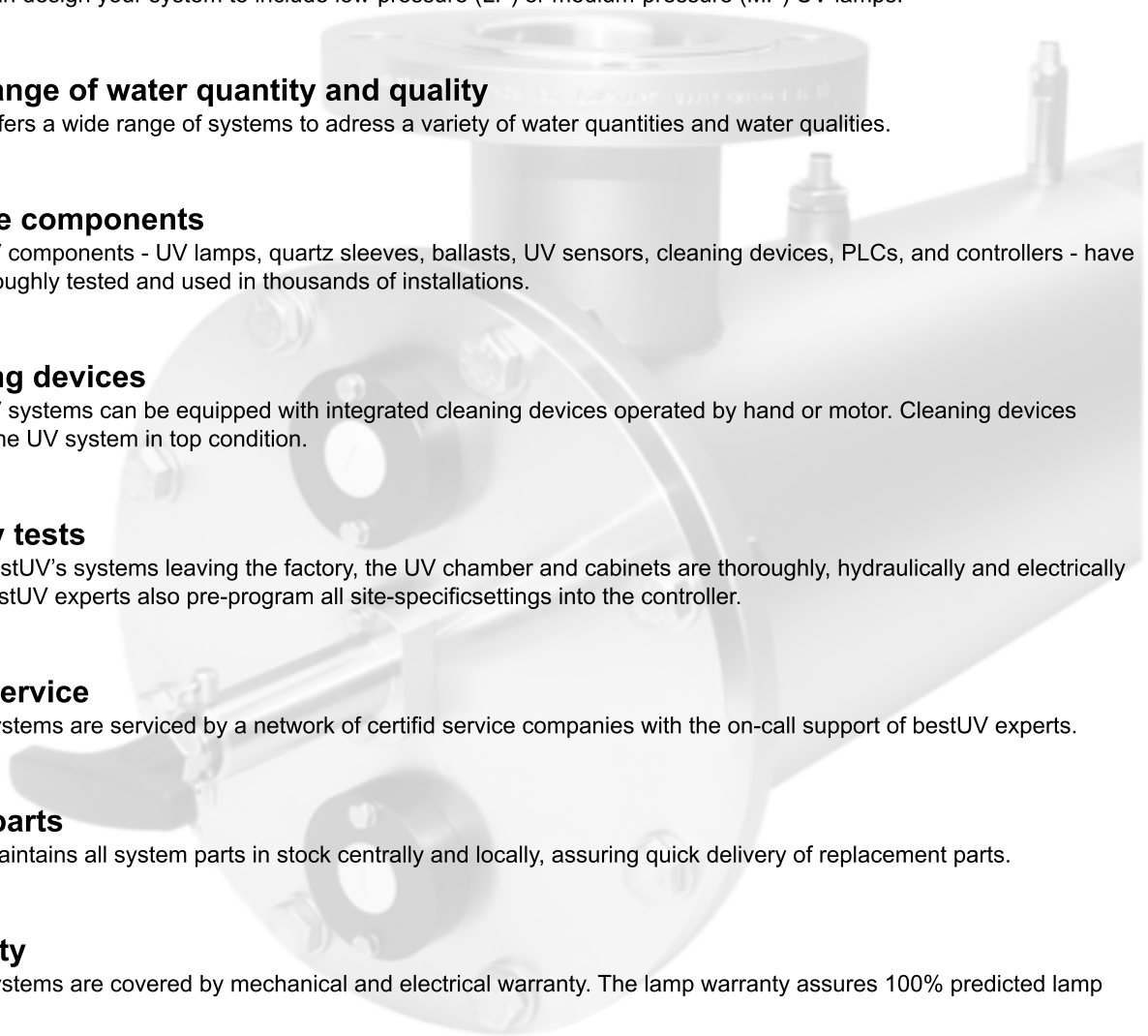
BestUV maintains all system parts in stock centrally and locally, assuring quick delivery of replacement parts.

Warranty

BestUV systems are covered by mechanical and electrical warranty. The lamp warranty assures 100% predicted lamp life.

CE-conformity and machine directives

BestUV sells and installs only UV systems that are constructed according to latest CE-conformity and machine directives.



Key components

Irradiation chamber

A robust stainless steel 316L chamber contains the UV lamps and UV sensor.



Wiper construction

UV-resistant materials clean without scratching the quartz sleeves

Cleaning device

Automatic or manual cleaning device cleans quartz sleeves online without interruption



! Integrated UV sensor

An integrated, absolute calibrated UV sensor provides continuous control of the lamps

BestUV system control center

The PLC-based Lambda controller monitors and controls the UV system. SCADA communication via MODBUS is available for remote monitoring, control and dose pacing! !



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! ! !

! UV lamps and quartz sleeves

The UV lamps are protected by high-grade quartz sleeves, transmitting the highest amount of UV light into the passing water

! ! ! ! !

! Temperature control

! An adjustable detector continuously measures and displays the water temperature

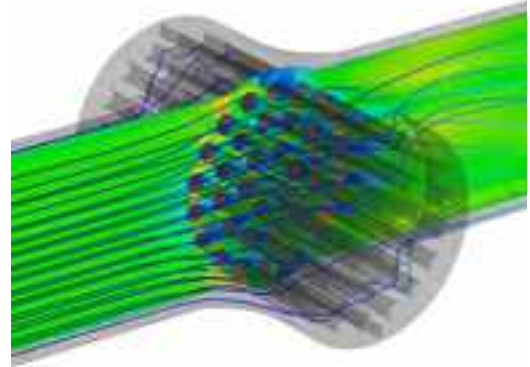
Bioassay validated systems

Validation according to the protocols of the Austrian Institute of Technology (AIT), Önorm M 5873-1:2001

Type approval according to Norwegian Institute for Public Health (NIPH), Liste B

Performance data generated from actual field and bioassay testing

System testing combines validation and performance testing with Computational Fluid Dynamics (CFD)



Three 'bestUV fows'

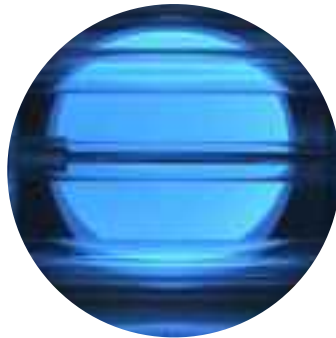
'Longitudinal flw'!!

!

'Perpendicular flw' !

!

! 'Mixed flw'



Compact footprint

Most compact low-pressure (LP) UV systems in the market

Compact footprint **minimizes the installation costs**

'In-one-line' design is ideal for **retrofits in tight spaces**

UV lamps and quartz sleeves are **easy to service**

Low headloss, 'in-one-line' design eliminates the need for extra pumping capacity



Low- and medium-pressure UV lamps

Experts in low-pressure (LP) UV lamps

Compact LP lamps with highest UV density in the market

Experts in medium-pressure (MP) UV lamps

Compact MP lamps with widest power range in the market

Stability

BestUV lamps are selected on UV output, efficiency, lamp life, low aging and stability

Testing

Each UV lamp is tested before delivery



Photobiology and photochemistry

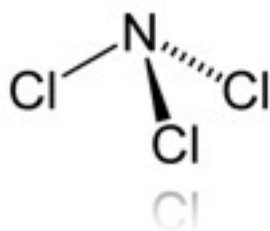
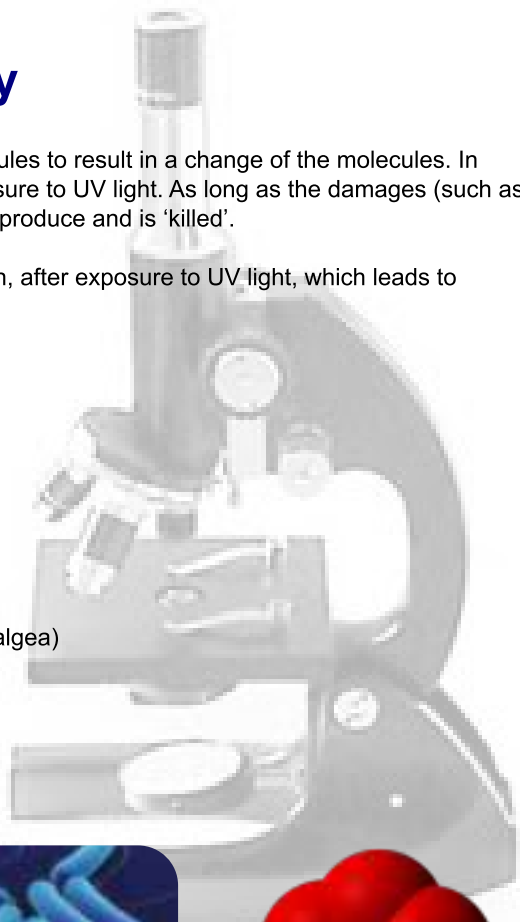
The energy (photons) of UV light must be absorbed by the target molecules to result in a change of the molecules. In microorganisms a.o. the genetic molecule DNA is 'damaged' after exposure to UV light. As long as the damages (such as thymine-dimers) remain present in the DNA, a microorganism cannot reproduce and is 'killed'.

Chemical bonds of other harmful (in)organic molecules are broken down, after exposure to UV light, which leads to photodissociation of the molecule into harmless reaction products.

Targets

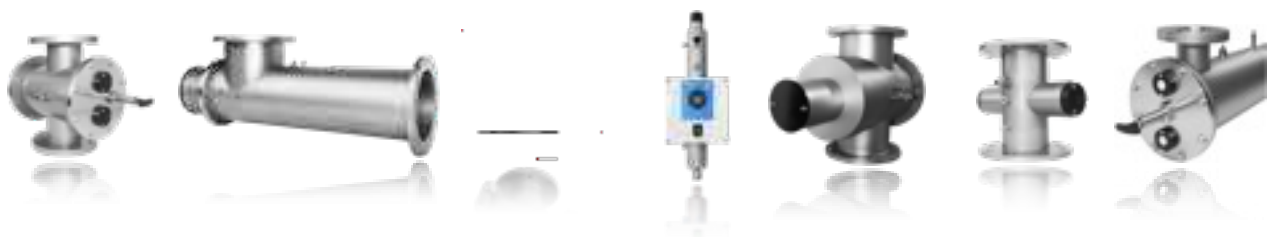
BestUV water treatment systems target:

- microorganisms (bacteria, viruses, moulds, yeasts, protozoa, spores, algae)
- disinfectants (chlorine, ozone)
- oxidants (hydrogenperoxide)
- disinfection by-products (chloramines, trichloramine)
- (in)organic matter (NDMA, TOC)



Systems and markets

MARKETS	ALFALINE UV	BETALINE UV	BETALINE-E UV	GAMMALINE UV	DELTALINE UV	KAPPALINE UV	PHILINE UV	SIGMALINE UV
Drinking water, small		•	•	•			•	
Drinking water, large	•	•	•			•	•	
Drinking water certifi			•			•	•	
Ballast water					•			
Pharmaceuticals		•	•					
Horticulture					•			
Aquaculture	•	•						
Pools, private				•				•
Pools, public	•							•
Beverage	•	•	•			•		
Maritime		•	•	•		•	•	
Wastewater, small		•	•		•			
Wastewater, large			•		•	•		
Aquarium, zoo	•	•	•					
Food	•	•	•			•		
Breweries	•	•	•			•		
Fountains	•	•	•					



Materials

BestUV's experts select system materials based on water characteristics, such as corrosive or non-corrosive. Materials include: stainless steel, stainless steel electropolished, coated stainless steel and UV-resistant materials.





bestUV Supplier South Africa

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