



NobleLight®

Chemical-Free Water Treatment at Copenhagen Zoo

Modern UVC Technology for Optimal Water Quality and Animal Welfare

At Copenhagen Zoo, a modern UVC water treatment system ensures the hygienic quality of an approximately 600 m³ freshwater habitat for hippos, including indoor and outdoor pools. For reliable water disinfection, specialist ULTRAQUA relies on high-performance UVC light sources from Excelitas Noblelight.



FEATURES

- Reliable chemical-free process
- No disinfection by-products – odor and taste remain unchanged
- High efficiency – fewer lamps required for system design

TECHNICAL DATA

- 600 m³ water volume
- Flow rates of 30–700 m³/h, depending on the system
- 16,000-hour lamp lifetime
- 90% UV output after 16,000 hours

Disinfection – Without Chemicals

High-energy UVC radiation at 254 nm reliably inactivates bacteria, viruses, and fungi – without the use of chemicals and without the formation of disinfection by-products.

This makes the technology particularly suitable for applications where high water quality needs to be combined with an environment that is as natural as possible. Since the smell, taste, and water composition remain largely unchanged by UV treatment, chemical-free water treatment helps maintain a natural habitat for the animals and supports their well-being. The UV reactors used achieve flow rates of 30 to 700 m³/h. Optimized water flow reduces deposits on the lamp sleeves and enables reliable treatment even with elevated suspended solids content.

Long-Lasting UVC Technology for Reduced Maintenance

The system uses high-performance low-pressure amalgam lamps. Thanks to a special Longlife coating, the lamps achieve a service life of up to 16,000 operating hours – approximately twice as long as conventional UV lamps, which typically operate for around 8,000 hours.

Even after 16,000 operating hours, up to 90% of the original UVC output remains available. This reduces the need for lamp replacements and extends maintenance intervals. At the same time, the high lamp efficiency offers the potential to reduce energy, component, and operating costs.

The Result

Excelitas Noblelight UVC technology enables reliable, chemical-free water treatment while providing high energy and operational efficiency

