



NobleLight®

UV light helps meet EU Bathing Water Directive requirements

To sustainably improve the water quality of the Isar River, wastewater treatment plants rely on UV disinfection technology from Excelitas Noblelight. Before the treated water is discharged into the river, UV light reliably reduces the microbial load by inactivating bacteria and other microorganisms. This ensures that bathing-water quality standards are consistently met — and swimming in the Isar remains possible.



FEATURES

- Reliable, chemical-free process
- Bacteria cannot develop resistance
- Effective against chlorine-resistant parasite

TECHNICAL DATA

- High-performance UV lamps operating at a wavelength of around 254 nanometers

As part of the “Clean Isar” project, numerous wastewater treatment plants in Bavaria rely on ultraviolet light to disinfect wastewater. As an alternative to conventional methods such as chlorination or ozone treatment, UV disinfection is becoming increasingly important. It stands out for its high effectiveness, cost efficiency, and environmentally friendly operation.

After treatment at the wastewater facility, municipal wastewater is discharged back into the natural water cycle — into rivers, lakes, and coastal waters. The City of Munich aimed to significantly reduce the microbial load of the discharged wastewater in order to ensure hygienic water quality in the Isar during the bathing season, in line with the strict EU Bathing Water Directive.

Powerful UV lamps are typically used, installed in large-scale water reactors. As the treated wastewater flows through these reactors, it is exposed to UV light at a wavelength of around 254 nanometers. The UV radiation is absorbed by the DNA of microorganisms and damages their genetic material, preventing them from reproducing.

This process reliably inactivates pathogens such as bacteria, viruses, fungi, parasites, and other microorganisms within seconds. Even chlorine-resistant parasites like Giardia and Cryptosporidium are effectively neutralized. Another advantage: microorganisms cannot develop resistance to UV light. And because the entire disinfection process works without chemicals, it produces no chemical residues — a key contribution to the long-term protection of natural waters.

