



Water disinfection



Municipal



São Paulo, Brazil

Water Disinfection for ETE Polvilho Wastewater Treatment Station in Brazil

Challenges

As standards for wastewater reuse become stricter, municipalities need effective effluent disinfection treatment systems. The ETE Polvilho wastewater treatment station, operated by Sabesp in the metropolitan region of São Paulo, Brazil, needed to supplement its MBBR (Moving Bed Biofilm Reactor) treatment with additional water disinfection. Following the biological treatment process for the removal of organic matter, nutrients, and pollutants from sanitary sewage using MBBR technology, the effluent still contained microorganisms and bacteria that needed to be eliminated before discharge into the local rivers of Cajamar.

While chlorine plays a significant role in sewage disinfection, it can negatively impact river ecosystems. To remove the need for chlorine dosage, the trend is toward using UV technology. However, current UV solutions in the market feature numerous lamps that consume energy and are complex to replace. The lack of adequate monitoring and control causes inefficient water treatment. Many solutions are based on technologies that cannot address today's complex wastewater treatment challenges.

ETE Polvilho is continually challenged to balance effective wastewater disinfection with minimizing environmental impact and protecting public and employees' health.

The Solution

At the ETE Polvilho wastewater treatment station, two of Atlantium's HOD™ (Hydro-Optic Disinfection) UV OC750 Series systems were installed across two effluent channels to provide efficient, chemical-free disinfection. This setup was designed to accommodate varying flow rates and operational conditions, ensuring consistent treatment performance for the facility.

The HOD UV OC Series offers a low-pressure, high-intensity solution for open-channel wastewater treatment. Building on the proven success of Atlantium's closed-vessel systems deployed worldwide, the OC Series utilizes powerful 1000W lamps to achieve high levels of microbial reduction while minimizing the number of units required.

With a modular design, the OC750 Series systems are easily adapted to a range of flow rates and site configurations. Integrated advanced sensors and precise UV dose control provide real-time monitoring and adjustment, ensuring consistent disinfection performance without the use of chemical products.



Results

The HOD UV OC Series system effectively disinfects wastewater effluent, eliminating microorganisms and bacteria without introducing toxicity into the rivers of Cajamar.

Following the installation of the two OC750 Series systems, the ET Polvilho wastewater treatment station achieved measurable improvements in effluent quality, supporting sustainable, long-term operation and compliance with stringent environmental standards. The OC750 systems consistently deliver high-quality, disinfected water, enhancing the overall performance of the treatment process.



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About us

For more than two decades, Atlantium Technologies has helped to ensure water safety with its innovative HOD™ (Hydro-Optic Disinfection) UV technology and novel approach to performance, monitoring, and control. Atlantium's superior, environmentally friendly water treatment solutions ensure stable, efficient, and dependable production.

With thousands of full-scale installations for leading brands in various industries globally, we're committed to consistently meeting our customers' water quality needs, ensuring pure results.

Pure Performance

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