



Disinfection



Biopharma



Israel

Disinfection for Purified Water Loop for Kamada Pharmaceuticals, Israel

The Challenge

Kamada, established in 1990, is a publicly traded biopharmaceutical company based in Israel that produces specialty, life-saving therapeutic biopharmaceutical products using a sophisticated chromatographic purification technology. Kamada's state-of-the-art manufacturing facility contains the most up-to-date equipment for producing pharmaceuticals to the highest standards of quality and safety, and is FDA-compliant. Each step-in manufacturing is meticulously monitored and all processes are carried out according to internationally accepted codes of the US-FDA current Good Manufacturing Practices (cGMP).

Kamada needed a disinfection solution for their Purified Water (PW) loop, which is maintained "cold". They were looking for a system that would continuously maintain microbial integrity according to strict USP-PW criteria (Total Count <100CFU/1ml).

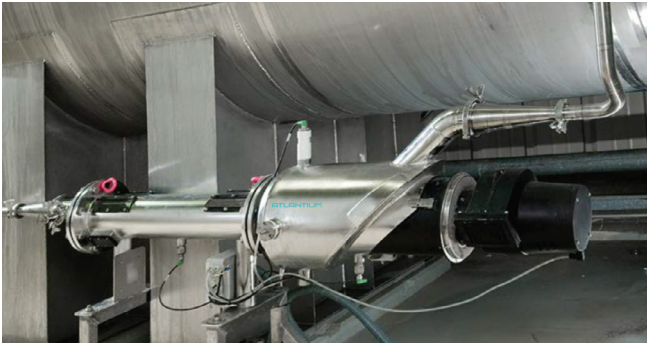
The Solution

An Atlantium HOD™ (Hydro-Optic Disinfection) UV system was installed at the outlet of the PW tank to serve as the primary disinfection barrier, with water circulating through the system at 6m³/hr before reaching the points of use.

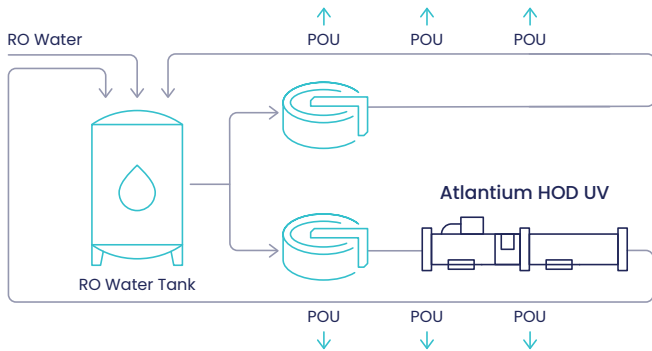
The Atlantium HOD UV system complies with cGMP construction criteria and meets disinfection standards according to US-PW criteria. It is an inline system with small footprint that can be installed vertically or horizontally to provide water disinfection and other applications on-demand.

Atlantium HOD UV systems effectively inactivate pathogens and bacteria. This is achieved by combining ultraviolet water disinfection technology with hydraulic and optic principles. The HOD UV system features the unique Total Internal Reflection (TIR) technology that recycles UV light energy, ensures homogenous UV dose distribution, provides superior power (kW) efficiency compared to traditional UV, and achieves unprecedented micro-organism inactivation.

Medium Pressure UV provides broad-spectrum photons that prevent microorganism repair further down the line, and is efficient in hot and cold water - ideal for the PW loop. Integrated advanced software provides real-time monitoring & control of all mission-critical parameters and automatically adjusts the UV power to continuously maintain the required UV dose. The system maintains real-time logging reports, and regulatory reports are generated at the push of a button.



HOD UV positioned at the outlet of the PW tank (that is fed by post RO water).



Results

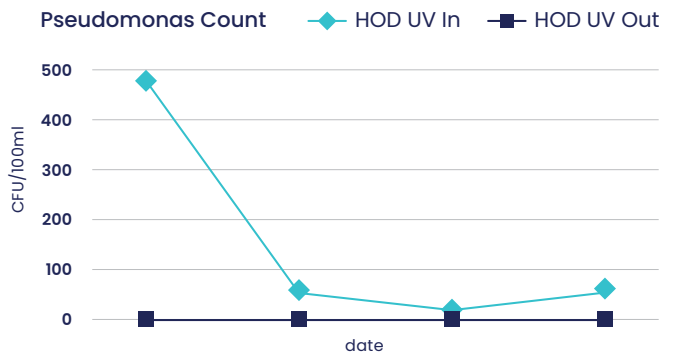
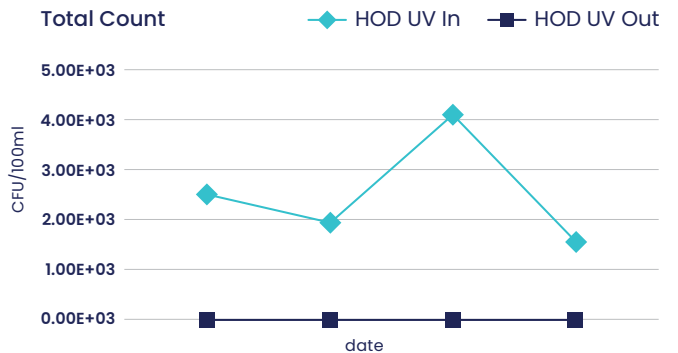
During the first 3 months, Kamada performed validation testing of the system and microbial levels at the system outlet were closely monitored according to USP-WFI microbial standards (total count <10CFU/100ml), which are much stricter than the USP PW daily operational standards (Total Count<100CFU/1ml). The HOD UV system successfully passed validation testing with consistently excellent disinfection results.

Thanks to Atlantium's HOD UV value-added features such as prevention of biofilm formation, Kamada was able to reduce PW loop thermal sanitation from once a week to only three times a year, resulting in significant energy and water reduction.

“The Atlantium HOD UV has over the past four years been providing us with reliable performance and consistently good microbial counts that exceed regulatory requirements. Thanks to the HOD UV's protection and biofilm prevention, we were able to reduce thermal sanitation of the PW loop from once a week to only three times a year, with serious savings in energy, water and time.”

Mr. Yossi Rafailov, Maintenance Engineer, Kamada

Graphs showing the micro results of Atlantium's HOD UV validation tests.



Kamada system data records show that, since the installation, the Atlantium HOD UV has been consistently maintaining exceptional disinfection quality since it was installed with no alerts or irregular microbial counts.

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.