



HOD™ UV Disinfection Solution for Dairy (PMO)

HOD UV for Pasteurized Equivalent Water

Atlantium's HOD™ (Hydro-Optic Disinfection) UV technology is a proven, chemical-free solution for producing pasteurized equivalent water (PEW) in dairy processing. Validated to meet the rigorous 186 mJ/cm² UV dose formerly recognized under the FDA Pasteurized Milk Ordinance (PMO), our technology has been installed in over 200 dairy facilities across the U.S., all operating at this safe UV dose to ensure robust microbial prevention, an added layer of protection and peace of mind.

In light of recent regulatory updates permitting the replacement of pasteurization with UV treatment at a lower 40 mJ/cm² threshold, Atlantium continues to support dairies with a broader safety margin—backed by real-world performance. This approach enables dairies to confidently address potential risks in source water while upholding the highest standards of water quality, sustainability, and operational efficiency. While Atlantium can also offer the 40 mJ/cm² solution in accordance with the revised guidelines, we strongly recommend—based on more than 10 years of experience—adopting the higher UV dose to provide the necessary layer of safety and enhanced resilience in these critical applications.

Validated to FDA Pasteurized Milk Ordinance (PMO) and Food Safety Modernization Act (FSMA) criteria for pasteurized equivalent water, coliform-free water, and Condensate of Whey (COW) water reuse, we take water safety to new and higher levels, compared to other UV systems or chemicals.

Chemical-Free Water Disinfection

Atlantium HOD UV enables full microbial inactivation without chemicals. It is effective against all microorganisms that typically challenge dairy production including chlorine-resistant pseudomonas strains, listeria, salmonella, viruses, Cryptosporidium and other spore formers, molds and algae. Used for continuous product water disinfection and process water including rinse / push water and CIP applications.

Water Reuse

Atlantium HOD UV complies with PMO Grade A rules for treating water for reuse, enabling you to avoid wastewater surcharges. COW water treated with Atlantium HOD UV maintains microbial integrity and is safe to recycle for sanitation and flushing processes. Even spores and heat resistant microbes can't infiltrate the production line.

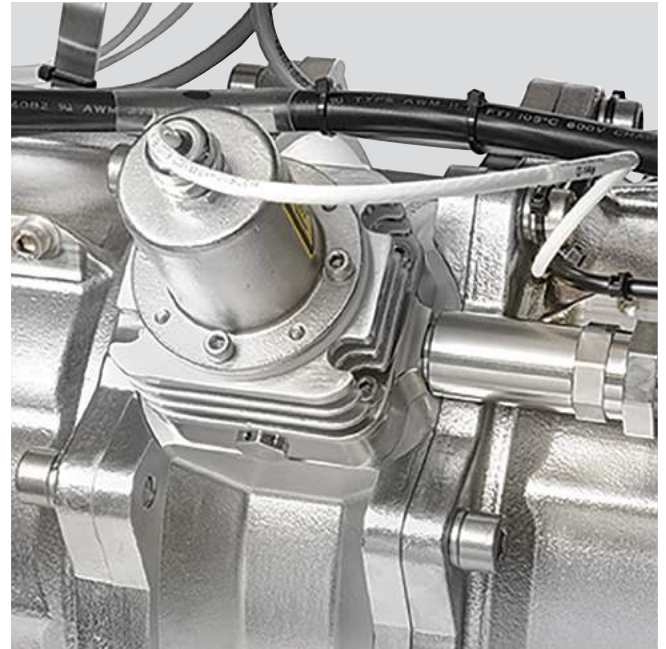
Every day, our HOD UV technology makes over

40,000,000

gallons of PMO compliant pasteurized equivalent water (PEW)

Delivering pure performance to **over 200** dairies

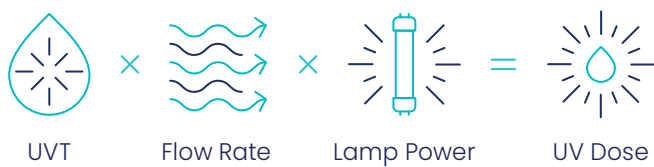
HOD™ UV Technology Overview



Real-Time Monitoring & Response to Changing Water Conditions

The UV Dose depends on three parameters:
UVT, flow rate, lamp power.

Direct and accurate monitoring of each of these parameters individually is crucial for reliable and accurate UV Dose delivery.



Integrated Water Quality Monitoring

- Integrated UV transmittance (UVT) sensor on each HOD UV system
- Continuously monitors UVT
- Optimizes system performance for actual, not estimated, UVT levels

Accurate Lamp Performance Monitoring

- Dedicated lamp output sensor per lamp provides monitoring of each individual lamp's performance
- Ensures delivery of the required UV dose at all times
- Continuous adjustment of lamp power according to changing production variables such as flow rate and water UVT parameters individually is crucial for reliable and accurate UV Dose delivery.





Real-Time Performance Data

- The most advanced operation module in the market
- Elaborate information about each individual lamp
- Configure output signals, operation modes and alarms
- User-based authorization management system
- Complete integration with control SCADA system

Superior Power Efficiency

Total Internal Reflection (TIR) uses fiber-optic principles of recycling UV photons in the disinfection chamber to achieve higher UV dose levels with minimum kW consumption.

Medium Pressure Lamps

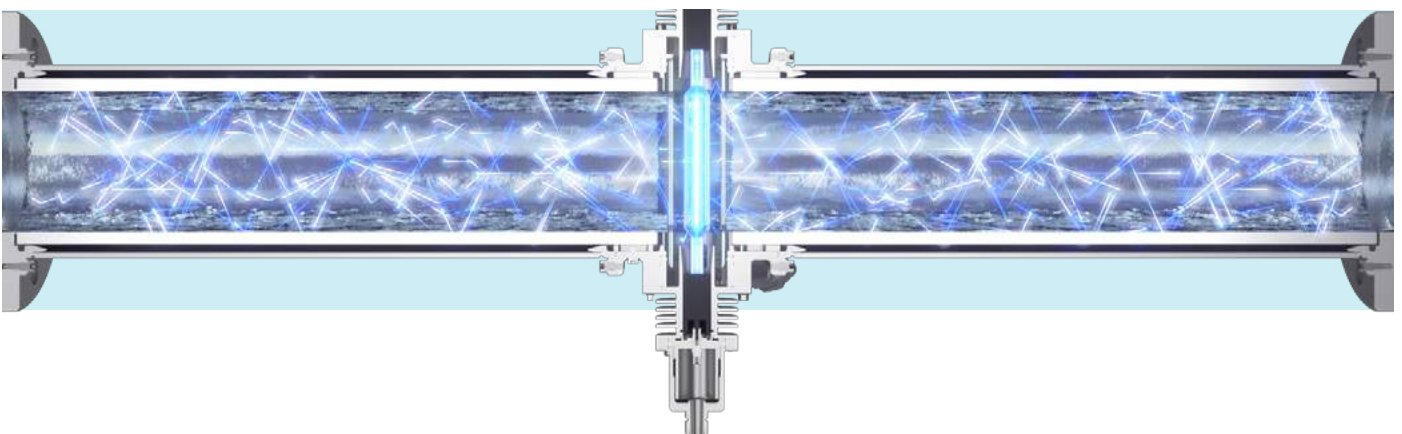
The advantage of the wide germicidal wavelength

The spectral sensitivity of microorganisms to wavelengths between 200-400nm is by now an established fact.

Medium pressure lamps emit a broad germicidal spectrum providing complete protection against a wide variety of microorganisms while using minimal amount of lamps.

Why low amount of lamps is so important?

- Accurate monitoring (enables a sensor per lamp)
- Reduced maintenance
- Recycles UV light energy using Total Internal Reflection (TIR)
- Offers most advanced system geometry with optimized hydraulic and optics
- Ensures homogenous UV dose distribution





No Quartz Sleeve Replacement

The HOD UV systems use a high grade silica quartz sleeve five times thicker than those used in conventional UV systems, and does not require periodical replacement.

Quick and Easy Lamp Replacement

Lamp replacement does not require draining the system or depressurization and can be safely performed during system operation!

Modular Design Enables Maximum Flexibility

HOD UV systems' core "building blocks" include a lamp and pipe section and independent ballast unit. Sections are added together according to the application and desired UV dose. Each section can operate independently from the rest of the sections.

This unique configuration allows for maximum flexibility in sizing, maintenance and operation:

- Overcomes space and head-loss limitations
- Allows for lamp replacement while system is in operation
- Increase capacity by adding more sections; no need to replace entire system

