

Disinfection &  
Dechlorination



Industrial



Texas, US

# UV Disinfection & Dechlorination at Cottonseed Processing Facility in Texas, US

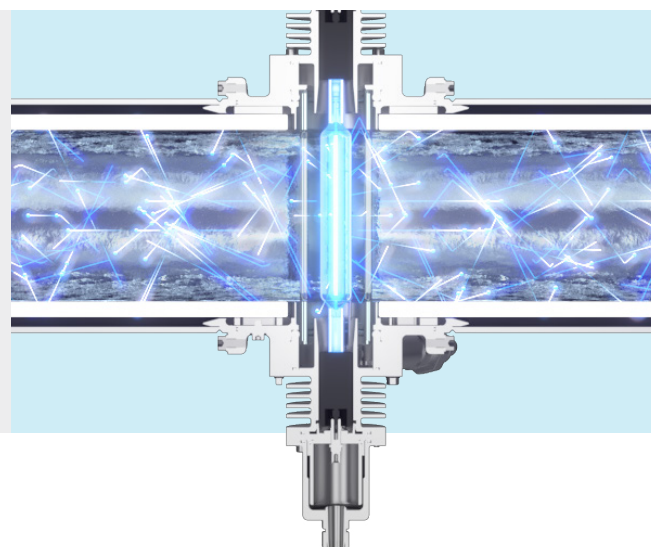
## Preventing RO Biofouling in Boiler Feed Water

The Archer Daniels Midland Company (ADM) requires full-scale nonchemical disinfection and dechlorination treatment of RO feedwater to the boiler which supports their cottonseed processing facility in Lubbock, Texas. The boiler relies on RO membrane filtration to provide high-purity feed water. However, the presence of biofouling can result in frequent membrane maintenance and replacement, leading the company to install a system to prevent this from occurring.

## The Solution

To prevent biofouling, the company purchased and installed the HOD™ (Hydro-Optic Disinfection) UV technology in May 2016 to disinfect and dechlorinate water prior to entering the 50 MW packaged power plant's newly commissioned RO system in order to protect the membrane elements from biological fouling and oxidation from chlorine. ADM selected Atlantium's RZ163-12 with a flow rate of 30 gpm (6.8 m<sup>3</sup>/hr) to treat municipal water with 4 ppm chloramines.

**Atlantium HOD systems** combine 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.



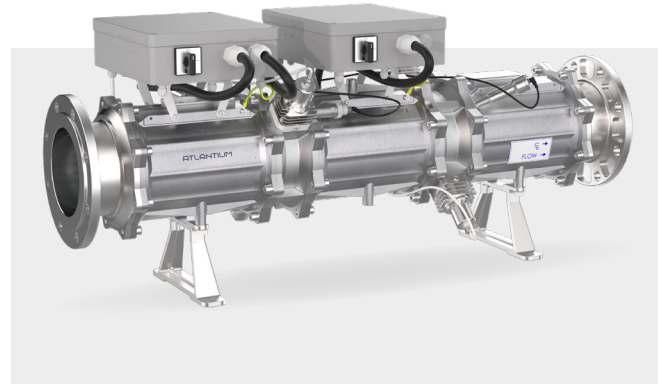
## Results

“The HOD UV technology is unique in its ability to disinfect and dechlorinate in a single, chemical-free process.

“The HOD system decomposes free chlorine and significantly reduces combined chlorine oxidants in process water to protect RO membranes. Additionally, the HOD technology provides disinfection to reduce the membrane biofouling potential by eliminating anaerobic and aerobic bacterial growth.

The combination helps us to maintain high uptime on the RO and, in turn, the integrity of the boiler feedwater.”

**Mark Carroll**, Water Resource Engineer,  
Archer Daniels Midland.



## 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