

Disinfection



Swimming Pools



Tel Aviv, Israel

Safeguarding Pool Water Quality with Advanced HOD™ UV: Hashmonaim Country Club

Background

The aquatic and recreational industry faces significant challenges in maintaining water quality that meets both regulatory standards and customer satisfaction. A major concern is the formation of chloramines, which lead to unpleasant odors, health risks, and corrosion to the infrastructure. Traditional chlorine-based disinfection methods often fail to address these issues, especially when it comes to eliminating resistant microorganisms like cryptosporidium and breaking down combined chlorine (chloramines).

Current solutions in the industry, while effective to a degree, often come with environmental and operational drawbacks. Chlorination, for example, requires regular chemical dosing, which not only raises operational costs but also contributes to environmental pollution through chlorine by-products.

Regulatory landscape:

In Israel, the Ministry of Health (MOH) mandates strict requirements for the treatment of water in hydrotherapy and infant pools, focusing on both microbial disinfection and the decomposition of bound chlorine.

The use of medium-pressure (MP) UV systems, capable of delivering a UV dose of 60 mJ/cm², is recommended for these applications due to their effectiveness in breaking down all forms of chloramines, including the most problematic trichloramine.

The Challenge

Hashmonaim Country Club owned by the Tel Aviv Municipality, is an indoor facility which had faced challenges in maintaining regulatory water quality standards. The facility must comply with MOH regulations, particularly in their hydrotherapy and infant pools. However, traditional chlorination methods had proven inadequate in reducing trichloramine levels, leading to customer complaints about strong chlorine odors, eye irritation, and respiratory issues. The club also required effective disinfection of the pool water, particularly against chlorine-resistant microorganisms like cryptosporidium. The existing system, while somewhat effective, was energy-intensive and required frequent maintenance.

This prompted the country club to seek a more effective solution to improve water quality, reduce maintenance costs, and enhance their overall customer experience.

The Solution

In July 2024, Atlantium, in collaboration with its distributor, Hydropharm, installed five advanced HOD™ (Hydro-Optic Disinfection) UV systems at the country club to address these challenges. The systems were strategically placed after filtration and before the addition of residual chlorine, ensuring optimal water treatment.

Results

Since the installation of the HOD UV systems, the Hashmonaim Country Club has seen a dramatic

9-fold ↓ reduction in bound chlorine levels.

“The Atlantium system has had a noticeable impact on both the environment and customer satisfaction! The significant reduction in chlorine odor, along with improved air and water quality, enhances the customer experience. The added protection that the system provides against pathogens like *Cryptosporidium* and *Legionella* is crucial in facilities with water sources, pools, or spas, offering an additional level of safety and comfort for everyone involved. These types of improvements not only protect infrastructure but also promote a healthier and more pleasant environment. Such an upgrade clearly reflects a commitment to quality and customer care.”

Aviv Aizenberg

Operations Manager, Hashmonaim Country Club



Atlantium’s 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 microorganism inactivation.

Atlantium’s HOD UV systems are particularly advantageous for higher flow rates (above 100 m³/h), where they outperform competitors by offering ease of installation, single-lamp operation, low power consumption, and a lower dose value – up to half that of the competing systems.

Hashmonaim Country Club installed 3 RS series systems and 2 RZ series systems in their facility, according to the following specifications:

Pool/Facility	Volume (m ³)	Max Flow Rate (m ³ /hr)
Educational Pool	150	38
Main Pool	560	150
Infant Pool	16	18
Jacuzzi (7-person)	9.86	75
Jacuzzi (11-person)	16.4	130

Key Features and Benefits of the MP HOD UV systems:

3-log Reduction of Cryptosporidium	99.9% inactivation of chlorine-resistant microorganism.
Bound Chlorine Decomposition	Breaks down trichloramine, reducing odor and health risks
Energy Efficiency	Uses one UV lamp per unit, lowering power and costs

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.

