



# OxyShark® Fixed-Film Bioreactor, Employing Plug-Flow Hydraulics

## Reduce Wastewater Treatment, Operations and Maintenance Costs

OxyShark® is a patented multi-celled, fixed-film bioreactor, utilizing plug-flow hydraulics capable of handling low-flow and high-flow applications. To meet the unique needs of customer applications, our team designs each OxyShark® system to the specifications of the individual installation site and discharge permit requirements.

The OxyShark® wastewater treatment process is a high-rate, biological process that reduces the organic strength of the water by passing it through thousands of square feet of media, where beneficial bacteria consume waste materials in the water. A highly effective system for meeting discharge permit conditions and/or reuse requirements.



TREAT AND DISCHARGE OR REUSE VALUABLE WATER RESOURCES



Modular Low-Flow System Design

## Benefits of OxyShark® System

### Plug-Flow to Increase Efficiency

OxyShark® utilizes a plug-flow process to increase overall system efficiency and reduce system footprint. Wastewater moves through the plug-flow reactor increasing the rate of contaminant removal after which treated effluent may be reused, sent to a publicly owned treatment works (POTW) or discharged in compliance with permit specifications.

### Adaptive, Intelligent Media

OxyShark® houses natural beneficial waste-devouring bacteria on “media fill.” Attached to this media, the bacteria can withstand damaging chemicals like chlorine bleach without killing the entire population. Unlike suspended growth systems, OxyShark® remains functional.

### The Oxygen Difference

Unlike traditional wastewater treatment systems that use only ambient air, OxyShark® treats with an air and/or high-purity oxygen combination. This process allows for a higher rate of removal within a smaller footprint. This innovative design makes OxyShark® a more versatile, efficient and less space-restrictive alternative to traditional systems that use only ambient air.



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Flow and strength of wastewater determine system construction materials. Concrete, modular aluminum or field-assembled metal tanks with liners are available, depending on the application.

## Key Applications



### High Flow

100,000 + GALLONS PER DAY (GPD) FLOW RATE

- Food Processing Facilities
- Breweries
- Seafood Processing/Packaging
- Pharmaceutical Production
- Domestic/Municipal Sewage



### Low Flow

3,000 - 100,000 GALLONS PER DAY (GPD) FLOW RATE

- Car Washes
- Landfill Condensate/Leachate
- Medical/Pharmaceutical Production
- Small Food Processing Facilities
- Decentralized Domestic Sewage

And, many other uses where bio-degradable wastewater requires treatment

REMOVING  
UP TO **97%**  
of biologically, degradable  
CONTAMINANTS

**BOD, COD, AMMONIA,  
OILS, GREASES, VOCs**