



## Features & Benefits

- Treats Flows from 1,000 to 100,000 gpd
- Small Footprint / Compact Design
- Low Maintenance Costs
- Modular Design Enables Phased Construction
- Durable Fiberglass Construction
- Highly Effective Nitrification / Denitrification
- Sealed & Insulated for Seasonal Conditions
- Internal Gravity System
- Treats High Strength Waste
- Fully Automated Control Systems

# BIOCLERE<sup>-OH</sup>

## Wastewater Treatment Systems

### The Bioclere<sup>-OH</sup> Advantage

Bioclere<sup>-OH</sup> is a two-stage hybrid biological treatment process integrating an AquaCELL™ moving bed biofilm reactor (MBBR) with a Bioclere™ trickling filter. The high rate productivity and oxygen transfer efficiency of the MBBR combined with the polishing and clarification capability of the Bioclere makes Bioclere<sup>-OH</sup> ideal for high-performance nitrification and denitrification applications. BOD removal and partial nitrification are accomplished in the MBBR by heterotrophic organisms allowing a robust population of nitrifying organisms to colonize the trickling filter media bed and accomplish complete ammonia-N removal. Bioclere<sup>-OH</sup> is a fixed-film technology offering stability, minimal process control requirements and high-quality effluent.

### Stable & Resilient Process

Bioclere<sup>-OH</sup> can accommodate intermittent flows, extreme temperature variations and fluctuations in organic & nutrient loading. Its two-stage process separates biological trophic levels to enhance treatment and/or handle high strength wastes. Furthermore, Bioclere<sup>-OH</sup> is specifically designed for cost-effective, high-performance ammonia-N, nitrate-N, and total nitrogen removal. Nitrify to < 0.5 mg/l NH<sub>3</sub> and denitrify to < 3 mg/l TN.

### Self-Regulating & Purging Filter

The Bioclere<sup>-OH</sup> MBBR and trickling filter media beds never require replacement or cleaning. The media is constructed of UV resistant durable plastic with > 80% open space giving it an indefinite lifespan without the potential for plugging.

Biomass naturally sloughs off the media and regenerates, eliminating the need to manually clean or backwash the reactors. In addition, biological fixed films are known for their extensive microbial communities that enable efficient digestion and mineralization of sludge.

### Applications Include:

- Residential, municipal, industrial, and commercial
- High strength waste streams
- Roughing reactors
- Nitrification & denitrification
- Retrofits and upgrades
- Sites with limited space and/or aesthetic concerns
- Multiple tank options (modular FRP, concrete)

# BIOCLERE<sup>-OH</sup>



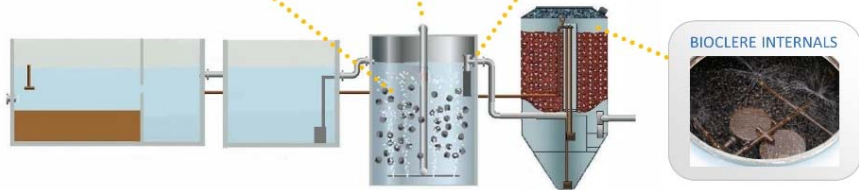
BIOFILM CARRIERS



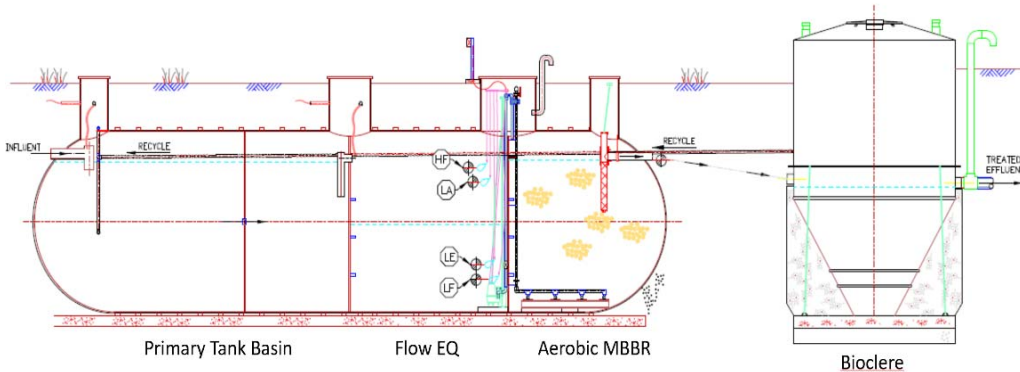
AERATION GRIDS



RETAINING SCREENS



BIOCLERE INTERNALS

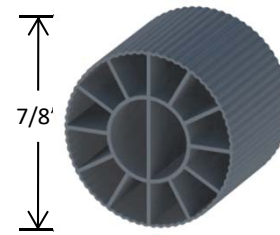


Primary Tank Basin

Flow EQ

Aerobic MBBR

Bioclere

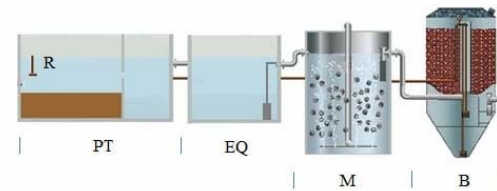


7/8'

**AquaCELL Biofilm Carriers** are constructed of UV resistant HDPE plastic giving them durability and a long life span regardless of the application. Their neutral buoyancy is critical to effective mixing within a reactor and ultimately provides an increase in treatment efficiency. Each carrier has a large internal protected surface area for biological growth. The apertures are engineered to allow for adequate scouring velocities and sloughing before biological plugging occurs.

## BIOCLERE<sup>-OH</sup> PROCESS CONFIGURATIONS

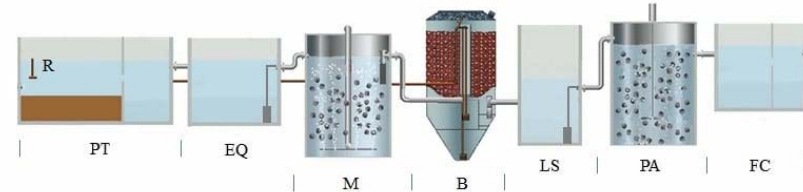
**BIOCLERE<sup>-OH</sup> (MLE)**  
 < 20 mg/l BOD  
 < 20 mg/l TSS  
 < 0.5 mg/l NH<sub>3</sub>-N  
 < 12 mg/l TN



**LEGEND:**

- PT = Primary Tank
- EQ = Flow Equalization
- M = MBBR
- B = Bioclere
- R = Recycle Line
- LS = Lift Station
- PA = Post Anoxic MBBR
- FC = Final Clarifier

**BIOCLERE<sup>-OH</sup> (ENR)**  
 < 20 mg/l BOD  
 < 20 mg/l TSS  
 < 0.5 mg/l NH<sub>3</sub>-N  
 < 3 mg/l TN



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