

# OXYLOCK® ENGINEERING DATA SHEET



## OXYLOCK® OXYGEN ELIMINATION SYSTEM

For Complete Control of Legionella & Biofilm



### 1. PRODUCT DESCRIPTION

OxyLock® is an advanced adsorption-based oxygen removal media designed to eliminate dissolved oxygen (O<sub>2</sub>) from water systems, creating an anoxic environment that prevents biological activity, including Legionella growth and biofilm formation.

The system operates without chemical dosing and provides continuous protection through physical oxygen removal.

### 2. OPERATING PRINCIPLE

- Dissolved oxygen is adsorbed onto high-surface catalytic frameworks
- Internal redox activity enhances oxygen capture
- Water leaving the system is oxygen-depleted (near zero DO)
- Biological processes are stopped due to lack of oxygen

### 3. TECHNICAL SPECIFICATIONS

Parameter	Value
Media Type	Oxygen Adsorption Media
Technology	AOF + COF (Anode/Cathode Organic Frameworks)
Surface Area	~7000 m <sup>2</sup> /m <sup>3</sup>
Function	Oxygen Removal (DO Reduction)
Target DO Level	< 0.1 mg/L
Application	Legionella Control, Biofilm Prevention

### 4. DESIGN PARAMETERS

#### Bed Volume (BV) Operation

- Recommended Flow Rate: 15–30 Bed Volumes/hour
- Minimum Bed Depth: ≥ 800 mm (minimum 80 cm)
- Freeboard: ≥ 50% recommended

Definition: 1 Bed Volume (BV) = Volume of media inside the vessel

Example: 100 L media = 1 BV = 100 L water

### 5. FLOW RATE CALCULATION

Media Volume	15 BV/h	20 BV/h	30 BV/h
50 L	0.75 m <sup>3</sup> /h	1.0 m <sup>3</sup> /h	1.5 m <sup>3</sup> /h
100 L	1.5 m <sup>3</sup> /h	2.0 m <sup>3</sup> /h	3.0 m <sup>3</sup> /h
200 L	3.0 m <sup>3</sup> /h	4.0 m <sup>3</sup> /h	6.0 m <sup>3</sup> /h

### 6. APPLICATIONS

- Hospitals & Healthcare Systems
- Cooling Towers
- Hot Water Systems
- Drinking Water Distribution
- Industrial Process Water
- Boilers & Heating Systems

### 7. UNIQUE BENEFITS

- Creates anoxic passivation across the entire water network
- Provides an instant barrier against Legionella and biofilm growth
- Green alternative to chemical disinfection
- Guarantees clean, safe, Legionella-free water

## OXYLOCK® DOES NOT KILL BACTERIA IT REMOVES THE CONDITIONS REQUIRED FOR LIFE

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