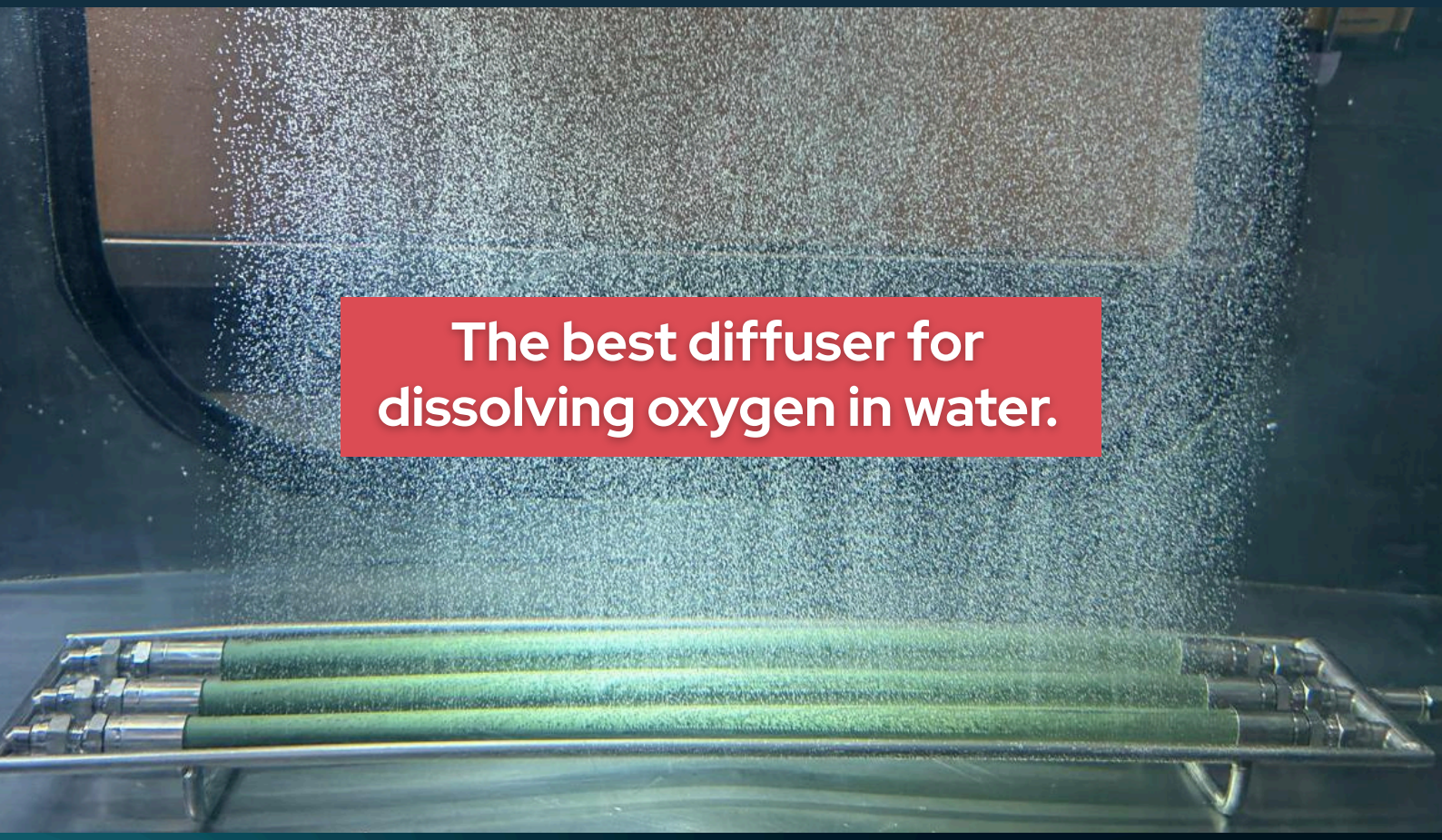
VITADI™ OXIGENATION SYSTEM

Innovation in oxygen transfer for aquaculture



The VitaDi™ oxygenation system is designed to maximize oxygen transfer in Landbased and Sea-based farming sites through high-efficiency, long-lasting micro-perforated diffusers.

It combines stable performance with a modular design adaptable to any aquaculture infrastructure.

MAIN COMPONENTS

- Material: Manufactured in high-durability EPDM with elastic memory, ensuring consistent performance over time.
- Micro-perforations: Calibrated to generate homogeneous micro-bubbles and high oxygen transfer efficiency.
- Service Lifetime: Stable and prolonged, exceeding 5 years.

STRUCTURES AND FRAMES

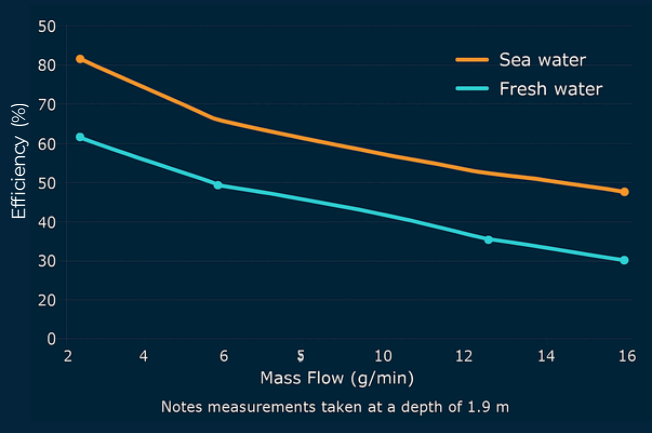
- Stainless steel frames: 304, 316, and 316L
- Modular configuration: Custom-designed length, width, and diffuser density.

MAIN PARAMETERS

Parameter	Value / Range
Delivery flow	Seawater: 12 Lpm/m - 1 kg/h/m at 3 Bar(g)
	Freshwater: 3 Lpm/m - 0.24 kg/h/m at 3 Bar(g)
Operating range	0.5 – 4 Bar
Maximum pressure	20 Bar
Burst pressure	60 Bar
Bubble size	250 µm (depending on model)
O_2 Transfer	High Efficiency (OTE ~ 95%), depending on flow, depth, and medium

SYSTEM PERFORMANCE

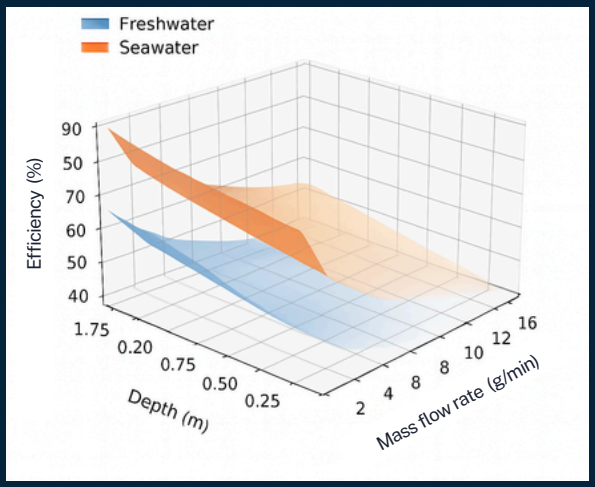
SYSTEM PERFORMANCE TRANSFER EFFICIENCY Freshwater vs. Seawater



Evaluation conditions:
At 1 meter of water column, 15° C.

- Mass flow rate: From 1.000 mg O_2/min up to 7.000 mg O_2 /min

THREE-DIMENSIONAL EFFICIENCY MODEL VITADI™, FRESHWATER AND SEAWATER



PROVEN BENEFITS

- Stable Dissolved Oxygen (DO) increase during critical periods.
- Reduced stress and higher fish yield.
- Improved Feed Conversion Ratio (FCR).
- Reduced oxygen waste due to higher efficiency.

AQUACULTURE APPLICATIONS

Phase	Aplication
Pre-smolt / Nursery	Maintaining DO in high flows and increasing densities.
Sea growing	Support during summer, Harmful Algal Blooms (HABs), stratification, and low oxygen events.
Transport and handling	DO stabilization in trucks and wellboats; treatment baths, vaccination, and harvesting.

VITADI™ SYSTEM ADVANTAGES

Area	Benefits
Efficiency	Finer micro-bubbles → larger contact surface area.
Practical operation	Optimized design to operate at lower pressures while maintaining high transfer efficiency.
Stability	Maintains stable DO in extreme conditions.
Modularity	Adaptable to various cages, densities, and depths.

VALIDATIONS AND TESTING

- Standard Oxygen Transfer Efficiency evaluations. (SOTE).
- Mass Transfer Coefficient evaluations KLa.
- Test bench equipped with high-precision scientific instrumentation and state-of-the-art technology.
- Evaluations strictly adjusted to international protocols.

STANDARDS

ASCE STANDARD
ASCE/EWRI
2-22

ASCE
AMERICAN SOCIETY OF CIVIL ENGINEERS

EWRI
ENVIRONMENTAL & WATER RESOURCES INSTITUTE

GFA
Wasserwirtschaft. Abwasser. Abfall.

INSTALLATION AND OPERATION

Requirements

- Pressurized oxygen line from 1.5 Bar(g).
- In-line connected oxygen source.
- Operational regulation system.

Basics instructions

Install diffusers at the same depth
They must be installed at the same depth and have identical manufacturing characteristics to ensure equitable pressure distribution.

Check pressure
Verify reading instruments frequently. Monitor flow, pressures, and valves as required.

Adjust flow
Adjust the flow rate according to the biomass.

Clean system
Perform manual or chemical cleaning

COMMERCIAL CONTACT

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