

# HYDROGEN MINER AQUACULTURE

®

by EMARENA



“The Unicorn Seahorse Polo Club”

™

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EMARENA®

8770 W BRYN MAWR AVE  
STE 1300  
CHICAGO IL 60631

sales @ emarena.com

MMXXIV

Hydrogen Miner® - Aquaculture Series:  
Dead Space Production of Gas by  
A Large Array Of Electrolysis Machines.

Make Oxygen to maintain Aquaculture. Make Ozone with optional  
attachments to treat closed Aquaculture systems.

**High Volume Oxygen Consumers:**

Hydrogen Miner offers Aquaculture benefit in fortification of Oxygen where concentration of Oxygen is neither feasible nor viable. Aquaculture such as fish farming can benefit from high volume Oxygen consumption that Hydrogen Miner has to offer by way of Hydrogen capture.

**Dead Space Oxygen Production:**

Hydrogen Miner offers a solution for "zero parasitic" consumption of environmental gas through dead space electrolysis of water. Such systems offer relief to both over-populated fish farms or high density Cities with multiple populations of free oxygen consumers; where "parasitic consumption" of oxygen is not feasible.

**Ozone Accelerated Waste Treatment by way of Ammonia to Nitrate and then Algae:**

Treatment of Aquaculture and fish farm Ammonia concentrations from fish waste is a challenge. Hydrogen Miner offers opportunity to accelerate conversion of Ammonia to Nitrate by way of Ozone chemistry. Gas diffusion during intermediary water treatment as saturated aqueous ozone offers a pure reaction as opposed to slow, dirty reactions using traditional bubble aeration. The proposed accelerated Ammonia treatment produces Nitrates that may then be used in parallel algaculture. Parallel pathways, seaweed and plant based aquacultures are suggested for removal of such fish farm solute waste.

**Ozone Treatment for Parasite and Organism:**

Aquaculture inhibits parasite infestation potential by way of separation from the open sea but it does not limit introduction nor treat it. Ozone production with Hydrogen Miner attachments offers a means to reduce and neutralize micro-organisms, bacteria and other biologicals. Ozone decays leaving only water.

**Aquaculture Series Empsand as Filtration Material:**

Empsand products may be used in conjunction with Hydrogen Miner for filtration. Empsand particulate has been produced with copper oxide coating onto a core of stainless steel meso-particles. Empsand magnetic susceptibility offers a means to separate or compact filtration media. Particulate subject to abrasion must be compacted or removed from filtration.

**Requirements and Standard Setup:**

A Single, On-Site Cube Container is Suggested.  
Isolated Electrical Room with Variable Voltage Supply 5-50 Volts, 1A/V.  
Venturi or zero back pressure introduction point.  
*As per industrial code: An in house or approved Electrician is required.  
An industrial gas or plumbing specialist may be required.*



HYDROGEN MINER  
SINGLE CELL

**Fee Schedule 2024:**

- 12,500\$USD :: Hydrogen Miner Cell Purchase (pre-order only)
- 2,000\$USD :: Hydrogen Miner [ Aquaculture Unbranded ] Monthly Rental, 12 month minimum.
- 500\$USD/Hr :: Hydrogen Miner Setup cost per hour.
- At Cost\$ :: Incidentals.
- At Cost\$ :: Transport.

**Optional Filter Media Material:**

- 40-15,000\$ per pound :: Empsand Magnetic filtration media.
- \*Made to order and at cost.
- \*Third party sand and particulate filters suggested.

**Scientific Research Options:**

500\$ per hour.

WARRANTY : NO WARRANTY OR CLAIM OF WARRANTY