



Nano Bubble Generator

PATENTED TECHNOLOGY

BioNano International Ltd.

Major applications using our Patented Nano Bubble Technology

Environmental -
Lakes / Reservoirs
water restoration

Environmental -
Remediation, Waste
Water Treatment,
Solid Waste
Management

Environmental -
Rivers clean up

Food
Processing

Aquaculture -
RAS

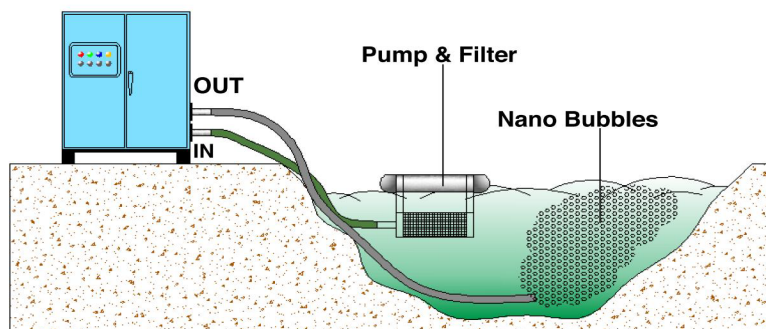
Hydroponics

Aquaculture -
Shrimp

Model	TY-15-2	TY-3-2	TY-75-7
Amounts of Nano Bubbles (Oxygen) - Water	2 m ³ /hr (33.33L/min)	6 m ³ /hr (100L/min)	20 m ³ /hr (333.33L/min)
Fluid Dynamic Parameter	Instant atmospheric pressure of 1000 ATM (14,695.95 PSI) and temperature of 3000 K (2,726.85 degrees Celsius)	Instant atmospheric pressure of 1000 ATM (14,695.95 PSI) and temperature of 3000 K (2,726.85 degrees Celsius)	Instant atmospheric pressure of 1000 ATM (14,695.95 PSI) and temperature of 3000 K (2,726.85 degrees Celsius)
Electric Parameter	1.5 kW (2 hp)	3 kW (4 hp)	7.5 kW (10 hp)
Voltage	380-440VAC 3ϕ4W	380-440VAC 3ϕ4W	380-440VAC 3ϕ4W
Electric Frequency	47-63Hz	47-63Hz	47-63Hz
Physical Dimension	HxLxW 1000*800*600mm	HxLxW 1000*800*600mm	HxLxW 1200*1000*600mm
Weight	162 kg	200 kg	380 kg
Speed of Dialysis	2 m ³ /hr (diffusing into 5-10 cubic meter/hr)	6 m ³ /hr (diffusing into 20-40 cubic meter/hr)	12-24 m ³ /hr (diffusing into 100 cubic meter/hr)
Water Quality Index Improvement	70% - 80%	70% - 80%	70%-80%
Air Sources	Air or Oxygen	Air or Oxygen	Air or Oxygen

Our Patented Solution

- Nano-sized (oxygen) bubbles have high surface to volume ratio
- At optimal size vastly speed up microbial break-down of contamination
- Patented industrial grade machines that make just the right-sized bubbles
- Mobile, reliable, cost-efficient
- Condition for generating Nano Bubbles : Under the atmospheric pressure of 1000 ATM and temperature of 3000 K
- Diameter of each Nano Bubble : Between 50nm ~ 15 µm (80% bubbles ranged between 100 -200nm)
- Amount of Nano Bubbles generated : At least 200,000 per ml
- Characteristic of Nano Bubbles : Due to extremely small size, the Nano Bubbles will diffuse in the water, following Brownian movement in the submerged body of water for a long time
- Dynamic Light Scattering (DLS) is used to measure bubble intensity and size distribution



Benefits of using BioNano's Nano Bubble Generator:

- **Environmental** : Rivers clean up, lakes/reservoirs water restoration, remediation, waste water treatment, solid waste management
- **Aquaculture** : Providing sustainable aquaculture with good water quality
- **Hydroponics** : Absorption of nutrients solutions with enough dissolved oxygen
- **Food processing** : Extend freshness and storage period



BioNano International Ltd.

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MAXIMAL INTER TRADING CO.,LTD
info@maximal.co.th
TEL:0942562564