

NANOBUBBLE SOLUTIONS FOR WASTEWATER TREATMENT



Moleaer nanobubble generators are the ultimate gas transfer solution to easily and cost effectively enhance any treatment process. From increased flotation of solids to oxidation of iron and sulfides, or simply the need to get more oxygen or gas into solution, Moleaer's nanobubble generators offer low-cost and easy-to-implement process enhancements for a variety of water and wastewater treatment applications.

Wastewater Treatment Applications

Flotation	<ul style="list-style-type: none"> • DAFs
Oxidation	<ul style="list-style-type: none"> • Odors • Metals • Scale
Biological Aeration	<ul style="list-style-type: none"> • Supplemental Aeration • MBRs • Package Treatment Facilities
Gas Transfer	<ul style="list-style-type: none"> • Algae Management • Reaeration • pH Control

Benefits

- **Increased** Treatment Capacity
- **Improved** Performance
- **Elevated** Oxygen Transfer Efficiency
- **Easy** to Install and Maintain
- **Chemical** Free Solution

Proven Results



Client: Dairy DAF
Type: Dissolved Air Flotation (DAF)
Unit Type: 200 XTB
Installed: April 2018
Benefits: 89.6% Reduction in BOD5 99.7% Reduction in TSS
Daily Flow: 187,000 GPD (gallons per day)
DAF Capacity: 10,000 gallons



Client: Municipal Lake
Type: Surface Water Management – Urban Recreational Lake
Unit Type: 3x 150 NEO with Onboard O2
Installed: August 2020
Benefits: 95%+ Reduction of hypolimnetic orthophosphate, 5 PPM increase in hypolimnetic DO
Lake Size: 10 acre-ft, 3.26M gallons



Client: Brewery MBR
Type: Membrane Bioreactor (MBR)
Unit Type: 2 x 200 GPM
Installed: September 2017
Benefits: Eliminated foaming in reactors, increased treatment capacity by 35%, reduced CIP Frequency
Capacity: 36,000 gallons



NEO NANOBUBBLE GENERATOR



Available in multiple flow rates.

Features & Benefits:

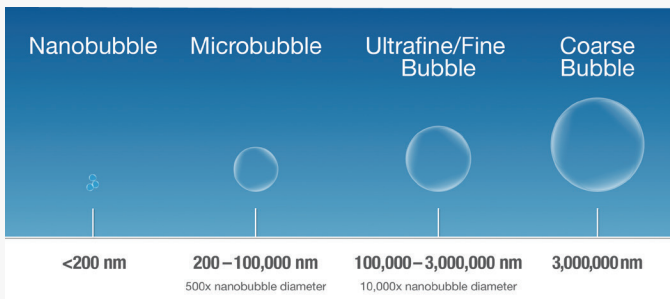
- 100nm size bubbles exhibiting neutral buoyancy
- >85% standard oxygen transfer efficiency (SOTE)
- Smallest size bubbles creating 400x the interfacial surface area compared to microbubbles
- Nanobubbles stay suspended in water after solution reaches gas saturation

Nanobubbles

Moleaer's Nanobubble Generators produce billions of nanobubbles, each less than 100nm in diameter. Bubbles of this size exhibit extraordinary properties including neutral buoyancy, a strong negative surface charge, and an enormous surface area per unit volume. As a result, nanobubbles are an incredibly efficient gas transfer mechanism for a variety of water and wastewater applications.

- **Highest Oxygen Transfer Efficiency**
- **Neutrally Buoyant**
- **Longer Oxygen Retention**
- **Increased Surface Area**
- **Negative Surface Charge**

Bubble Size



Oxygen Transfer Efficiency

