Aerolith

In-Line Nanobubble generator

NanoKriti
NANOBUBBLE TECHNOLOGY

Aerolith is an in-line nanobubble generator engineered to produce nanobubbles directly within flowing water lines using ambient air or any gas source. Aerolith delivers gas-rich water in real-time, without the need for storage tanks, holding systems, or chemical additives.
Its energy-efficient, chemical-free operation makes Aerolith ideal for decentralized systems, modern irrigation networks, and continuous-flow applications across agriculture, aquaculture, wastewater treatment, and environmental restoration.







What are nanobubbles?

Nanobubbles are extremely small bubbles, and their extremely small size gives them unique properties such as high gas–liquid mass transfer, excellent stability, neutral buoyancy, surface charge, deep penetration, and strong carrying capacity.
These properties include prolonged stability in water, efficient gas transfer, neutral buoyancy, surface charge interactions, deep penetration, and enhanced carrying capacity.
As a result, nanobubbles provide a highly effective way to improve oxygen availability, optimize water conditions, and enhance process performance across multiple industries.

Why Aerolith

Aerolith is designed to make nanobubble technology simple, reliable, and easy to integrate into real-world systems.
Its inline design generates nanobubbles directly within flowing water lines, enabling continuous operation without storage tanks, chemical additives, or complex infrastructure.

Distinct Features

- Customizable gas input (Oxygen, Air, Ozone)
- ~80 nm mean nanobubble diameter
- 75–80% Transfer Efficiency
- >1×10^8 Nanobubbles / ml
- Plug-and-play installation
- Easy operation & low maintenance
- Proven results across multiple sectors
- Compact & Modular Design

Available Models

- Aerolith 3
- Aerolith 3A
- Aerolith 4
- Aerolith 5

Applications

- Agriculture & Hydroponics
- Industrial Processes
- Lakes & pond rejuvenation
- Aquaculture & fisheries
- Food & beverage processing
- Reservoir oxygenation

About us

Nanokriti is an IIT Ropar deep-tech company founded in 2022. Our team of professors, researchers, and engineers brings over 8 years of expertise in nanobubble technology, supported by 30+ research publications.

We design and manufacture advanced nanobubble generators using our patented, cost-efficient technology, delivering high-performance solutions across aquaculture, agriculture, water treatment, and environmental restoration.

Technical Specifications:-

Parameter	Aerolith 3	Aerolith 3A	Aerolith 4	Aerolith 5
Water flow (m³/hr)	10–20	20-50	50-80	80-120
Gas Source	Off Board, Customizable	Off Board, Customizable	Off Board, Customizable	Off Board, Customizable
Inlet/Outlet Size (Inch)	3"	3"	4"	5"
Gas flow (LPM)	0–5	0–10	0–15	0–20
Gas pressure (bar)	1.5–4	1.5–4	2–4	2–4
Material of Construction	SS304 / SS316 / PVC / HDPE	SS304 / SS316 / PVC / HDPE	SS304 / SS316 / PVC / HDPE	SS304 / SS316 / PVC / HDPE
Nanobubble Concentration (bubbles/ml)	3x10^8	3x10^8	3x10^8	3x10^8
Dimensions (H × W × L, ft)	4 × 1.25 × 1 ft	4 × 1.25 × 1 ft	4 × 1.25 × 1 ft	4 × 1.25 × 1 ft

***Specifications may change due to constant improvements*
***System size and capacity are customizable based on project requirements and scale of operation.*

CONTACT US
Nanokriti Nanobubble Technology Pvt. Ltd. IIT Ropar
nanokriti@gmail.com
310, Top Floor, M. Visvesvaraya Block, TBIF, IIT Ropar, Rupnagar, Punjab, 140001
+91 80763-67365/ +91 76268-59736
LinkedIn: Nanokriti Nanobubble Technologies, IIT Ropar
www.nanokriti.com