Vltus

Small scale, Custom gas nanobubble generator

NanoKriti
NANOBUBBLE TECHNOLOGY

Nanokriti's Vitus Nanobubble Generator Series is a compact, high-efficiency gas-to-liquid mixing system designed for diverse applications, including dissolved air flotation (DAF), chemical and pharmaceutical processing, industrial wastewater treatment, and precision agriculture. It produces ultra-fine, stable nanobubbles using air, oxygen, or other gases, significantly improving mass transfer, accelerating reaction rates, and enhancing solid–liquid separation, all without the use of chemicals.



What are nanobubbles?

Nanobubbles are extremely small bubbles, less than 200 nanometers in diameter. 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 characteristics make nanobubbles highly effective and applicable across diverse domains.

Distinct Features

- Variable gas source
- ~80 nm mean nanobubble diameter
- 75–80% Oxygen Transfer Efficiency (OTE)
- >1×10^8 Nanobubbles / ml
- Plug-and-play installation
- Easy operation & low maintenance
- Proven results across multiple sectors

Benefits

- High gas Transfer Efficiency
- Energy Efficient
- Compact & Space-Saving
- Versatile Across Water Types

Applications

- Gas–Liquid Mixing in Process Industries
- Dissolved Air Flotation (DAF)
- Research Labs & Pilot Plants
- Food & Beverage Production
- Hydroponics, Aeroponics & Vertical Farming
- Chemical & Pharmaceutical Manufacturing
- Ornamental Ponds, Aquariums & Small Water Bodies

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: N Series Nanobubble Generator

Parameter	Vitus N	Vitus N Plus+
Flow Rate (m3/hr)	1	3
Power (kW)	0.7	0.7
Voltage / Phase / Frequency	220V / Single / 50 Hz	220V / Single / 50 Hz
Gas Source	External pressurized gas from cylinder or compressors	External pressurized gas from cylinder or compressors
Gas flow (LPM)	0–3	0–5
Gas pressure (bar)	2.5–4	2.5–4
Compatible Gases	Air, Oxygen, Ozone, Nitrogen, Carbon Dioxide (any cylindered gas)	Air, Oxygen, Ozone, Nitrogen, Carbon Dioxide (any cylindered gas)
Suction / Discharge (inch)	1 / 1	1 / 1
Dimensions (H × W × L, ft)	2 × 1.5 × 2	2 × 1.5 × 2

Technical Specifications: C Series Nanobubble Generator

Parameter	Vitus C	Vitus C Plus+
Flow Rate (m3/hr)	1	3
Power (kW)	0.7	0.7
Voltage / Phase / Frequency	220V / Single / 50 Hz	220V / Single / 50 Hz
Gas Source	External pressurized gas from cylinder or compressors	External pressurized gas from cylinder or compressors
Gas flow (LPM)	0–1	0-2
Gas pressure (bar)	2.5–4	2.5–4
Compatible Gases	Air, Oxygen, Ozone, Nitrogen, Carbon Dioxide (any cylindered gas)	Air, Oxygen, Ozone, Nitrogen, Carbon Dioxide (any cylindered gas)
Suction / Discharge (inch)	1 / 1	1 / 1
Dimensions (H × W × L, ft)	2 × 1.5 × 2	2 × 1.5 × 2

***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