PRASINOS TECH
INNOVATIONS

INNOVATING TODAY | SUSTAINING TOMORROW



THE ADVANCE NANOBUBBLE GENERATOR

ADVANCED NANO TECHNOLOGY FOR A SUSTAINABLE FUTURE

GREEN TECHNOLOGY
Eco-friendly solutions for a cleaner tomorrow

CHEMICAL-FREE PROCESS
Purity through nanobubble technology

CIRCULAR ECONOMY
Resource-efficient and sustainable

POLLUTION REDUCTION
Improves water quality naturally

WATER MANAGEMENT & RECYCLING
Optimize usage, preserve future

Smarter Water. Cleaner Environment. Better Tomorrow.

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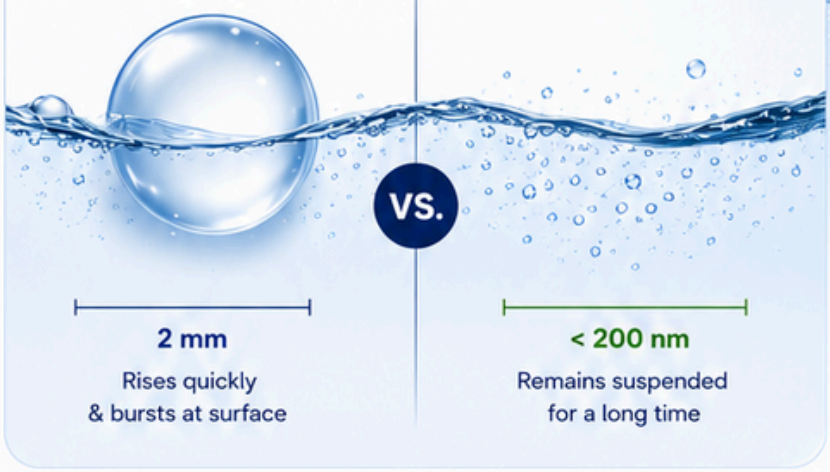
WHAT ARE NANO-BUBBLES?

Tiny bubble, Extraordinary Performance

Nanobubbles are ultrafine gas bubbles, typically **less than 200 nanometers (0.2 micron)** in diameter. Unlike conventional bubbles that quickly rise and burst at the water surface, nanobubbles remain suspended in water for extended periods due to their neutral buoyancy and unique surface properties.

Their extremely small size provides a **very high surface area**, resulting in exceptional gas transfer efficiency and enhanced interaction with water and contaminants.

SIZE MATTERS



WHY ARE NANO-BUBBLES DIFFERENT?

ULTRA-SMALL SIZE (<200 NM)
Millions of nanobubbles can exist in just a single millliter of water.

LONG RESIDENCE TIME
Remain stable in water for days to months instead of seconds.

HIGH OXYGEN TRANSFER EFFICIENCY
Dissolve oxygen or ozone into water far more efficiently than conventional aeration.

LARGE SURFACE AREA
Enhances oxidation, biological activity, and mass transfer.

NEGATIVE SURFACE CHARGE (ZETA POTENTIAL)
Improves stability and promotes interaction with suspended particles.

SELF-COLLAPSE ENERGY RELEASE
Bubble collapse generates localized energy that enhances treatment efficiency.

KEY ADVANTAGES

- Up to 90% gas transfer efficiency
- Increased dissolved oxygen levels
- Reduced chemical consumption
- Enhanced biological treatment
- Improved oxidation performance
- Energy-efficient operation
- Chemical-free water treatment
- Supports sustainable water management

APPLICATIONS



NANOBUBBLE STRUCTURE



Nanobubbles are gas bubbles **smaller than 200 nanometers,** surrounded by a water layer with a negative surface charge, ensuring long-term stability in water.

NANOCAV AQUA®

Advanced Nanobubble Generator

High-efficiency gas transfer through advanced hydrodynamic cavitation



ABOUT NANOCAV AQUA®

NanoCav Aqua® systems utilize advanced hydrodynamic cavitation to harness high-velocity flow and rapid pressure fluctuations, generating intense micro-scale energy fields within the fluid. This enables efficient mixing, breakdown of suspended solids, and infusion of gases at the nano scale.

The process facilitates the instantaneous formation of nanobubbles, delivering high oxygen transfer efficiencies and allowing faster achievement of desired dissolved gas levels while reducing gas consumption and processing time.

Owing to their extremely small size and high surface area, nanobubbles provide superior gas–liquid interaction, remain stably suspended without rapid rise or coalescence, and ensure uniform distribution of dissolved gases throughout the system.

This results in enhanced process efficiency, improved homogeneity, and sustained oxygen availability across applications including wastewater treatment, aquaculture, agriculture, and industrial systems.

KEY FEATURES

ENERGY EFFICIENT

Optimized hydrodynamics for superior energy efficiency with no moving parts.

UNMATCHED NANOBUBBLE INFUSION

Achieves infusion capabilities below 100 nanometers. 10-nanometer bubbles generate over 1 trillion nanobubbles per mL.

GREAT PERFORMANCE

Ensures 100% gas infusion in a single pass at 0.5% gas-to-water flow. Infuse any gas into any liquid.

PLUG & PLAY DESIGN

Factory-tested, skid-mounted systems for quick installation and immediate operation.

RELIABLE & LOW MAINTENANCE

Static design eliminates mechanical wear and ensures long-term, uninterrupted performance.

UNIFORM DISTRIBUTION

Nanobubbles remain stably suspended for uniform gas distribution and enhanced process efficiency.

HOW IT WORKS

1. WATER + GAS

Air / Oxygen / Ozone introduced into water

2. HYDRODYNAMIC CAVITATION

High-velocity flow and rapid pressure fluctuations create intense micro-scale energy

3. BILLIONS OF NANOBUBBLES

Instantaneous generation of nanobubbles < 100 nm in size

4. ENHANCED OXYGEN TRANSFER EFFICIENCY

Superior gas–liquid interaction for higher DO levels and better process performance

AVAILABLE IN AIR · O_2 OXYGEN · O_3 OZONE · CUSTOM CONFIGURATIONS

PERFORMANCE COMPARISON

Nanobubble Technology vs Conventional Systems

NanoCav Aqua® systems deliver significantly higher efficiency, lower operating costs, and superior outcomes across a wide range of applications.



PARAMETER	CONVENTIONAL SYSTEMS (AERATORS / DIFFUSERS / MIXING)	NANOBUBBLE SYSTEMS (NANOCAV AQUA®)	ADVANTAGE WITH NANOBUBBLES
Oxygen Transfer Efficiency (OTE)	20 – 55% (Fine bubble baseline)	80 – 90%	↑ Up to 2X higher
Oxygen Transfer Rate (OTR)	1.5 – 3.0 kg O_2/kWh	2.8 – 4.5 kg O_2/kWh	↑ Up to 50% higher
Gas Retention Time	Seconds (Rapid rise & escape)	Hours to days (Stable suspension)	↑ Much longer retention
Dissolved Oxygen Distribution	Non-uniform, localized zones	Uniform across entire volume	↑ Consistent DO
Energy Consumption	0.30 – 0.80 kW/kg O_2	0.20 – 0.40 kW/kg O_2	↓ 15 – 35% lower
Energy Savings	Baseline	15 – 35% lower	↓ Significant savings
Chemical Usage	Required for oxidation / disinfection	Up to 30 – 50% reduction	↓ Lower chemical cost
Alpha Factor (Wastewater)	0.4 – 0.8	0.75 – 0.95	↑ Higher treatment capacity
Sludge Reduction (WWTP)	Limited	10 – 25% reduction (Improved biodegradation)	↑ Lower sludge handling
Aquaculture DO Stability	Fluctuations common	Stable DO (+20 – 40% improvement)	↓ Better water quality
Fish / Shrimp Growth Rate	Baseline	20 – 40% improvement	↑ Higher productivity
Agriculture Yield Impact	Minimal	15 – 35% yield improvement (Crop dependent)	↑ Higher crop yield
Root Zone Oxygenation	Limited	Improved oxygen diffusion in soil-water systems	↑ Healthier root environment
Maintenance Frequency	6 – 18 months (Fouling, clogging)	18 – 36 months (Low fouling)	↑ Less maintenance
Efficiency Loss Over Time	20 – 40% / year (Diffuser fouling)	< 5 – 10% / year	↑ Sustained performance
System Scalability	Moderate	High (Pilot → Large-scale)	↑ Easily scalable

ⓘ Performance values may vary based on application, system design, water quality, and operating conditions.

IDEAL FOR

- Municipal Wastewater Treatment (STP/ETP)
- Lakes & River Rejuvenation
- Aquaculture & Fisheries
- Agriculture & Irrigation
- Industrial Process Water
- Food & Beverage Industry

PRODUCT SPECIFICATIONS

NCV AQUA® PULSE SERIES

Advanced nanobubble technology for efficient water restoration and revitalization.



TECHNICAL SPECIFICATIONS – NCV AQUA® PULSE SERIES

Model Name	Pulse-5	Pulse-10	Pulse-15	Pulse-20	Pulse-30	Pulse-50	Pulse-75	Pulse-100
Water Flow Rate (m^3/h)	3–5	8–11	12–15	20–25	30–40	42–55	65–80	85–110
Operating Pressure (kg/cm^2)	10.4–8.5	11.1–8.7	15.2–14.2	14.2–12.4	6.7–4.7	8.1–6.2	8–6.1	8.6–6.6
Pump Power (kW)	2.2	4	11	15	11	15	22	30
Gas Type	Air/O_2/O_3	Air/O_2/O_3	Air/O_2/O_3	Air/O_2/O_3	Air/O_2/O_3	Air/O_2/O_3	Air/O_2/O_3	Air/O_2/O_3
Gas Flow Rate (LPM)	5	5	10	15	15	20	30	40
Power Supply	415 V AC 50 Hz	415 V AC 50 Hz	415 V AC 50 Hz	415 V AC 50 Hz	415 V AC 50 Hz	415 V AC 50 Hz	415 V AC 50 Hz	415 V AC 50 Hz

Specifications are subject to change without prior notice.
Performance may vary based on application, water quality and operating conditions.

PRODUCT SPECIFICATIONS

NCV AQUA®
BOOST SERIES



TECHNICAL SPECIFICATIONS – NCV AQUA® BOOST SERIES

Model Name	Boost-2	Boost-5	Boost-10	Boost-15	Boost-20	Boost-25
Water Flow Rate (m^3/h)	1–2	4–7	8–10	12–15	16–20	25–30
Operating Pressure (kg/cm^2)	5–4.2	4.5–2.6	3.4–2.6	3.9–3.1	4.3–3.6	3.75–2.8
Pump Power (kW)	0.75	1.1	1.5	2.4	4	4.4
Gas Type	Air/O_2/O_3	Air/O_2/O_3	Air/O_2/O_3	Air/O_2/O_3	Air/O_2/O_3	Air/O_2/O_3
Gas Flow Rate (LPM)	5	10	10–12	15	20	30
Power Supply	415 V AC 50 Hz	415 V AC 50 Hz	415 V AC 50 Hz	415 V AC 50 Hz	415 V AC 50 Hz	415 V AC 50 Hz

Specifications are subject to change without prior notice.
Performance may vary based on application, water quality and operating conditions.

PRODUCT SPECIFICATIONS

NCV AQUA RESTORE SERIES

Advanced nanobubble technology for efficient water restoration and revitalization.



TECHNICAL SPECIFICATIONS – NCV AQUA RESTORE SERIES

PARAMETER	Aqua Restore-20	Aqua Restore-30	Aqua Restore-50	Aqua Restore-75	Aqua Restore-100	Aqua Restore-150	Aqua Restore-200	Aqua Restore-250
Water Flow Rate (m^3/h)	20–28	32–40	42–55	65–80	85–110	120–150	165–180	200–250
Operating Pressure (kg/cm^2)	14.2–10.2	8.1–5.7	8.1–6.2	8–6.1	8.6–6.6	8.1–6.85	7.9–6.8	9.3–8.1
Pump Power (kW)	15	11	15	22	30	45	55	75
Gas Type	$Air/O_2/O_3$	$Air/O_2/O_3$	$Air/O_2/O_3$	$Air/O_2/O_3$	$Air/O_2/O_3$	$Air/O_2/O_3$	$Air/O_2/O_3$	$Air/O_2/O_3$
Gas Flow Rate (LPM)	5	10	10–12	15	20	30	40	50
Power Supply	415 V AC 50 Hz	415 V AC 50 Hz	415 V AC 50 Hz	415 V AC 50 Hz	415 V AC 50 Hz	415 V AC 50 Hz	415 V AC 50 Hz	415 V AC 50 Hz

Specifications are subject to change without prior notice.
Performance may vary based on application, water quality and operating conditions.

PRODUCT SPECIFICATIONS

NCV AQUA® PURE SERIES

High performance nanobubble technology for superior water treatment and purification.



TECHNICAL SPECIFICATIONS – NCV AQUA® PURE SERIES

Model Name	Pure-2	Pure-5	Pure-10	Pure-15	Pure-20	Pure-30	Pure-50
Water Flow Rate (m^3/h)	2–3	4–7	8–10	15–18	18–22	25–35	40–50
Operating Pressure (kg/cm^2)	6.7–5.5	9.5–5.8	11.1–9.2	14.2–12.8	14.9–13.3	8.1–5.9	8.4–7.1
Pump Power (kW)	1.1	2.2	4	11	15	11	15
Gas Type	Air/O_2/O_3	Air/O_2/O_3	Air/O_2/O_3	Air/O_2/O_3	Air/O_2/O_3	Air/O_2/O_3	Air/O_2/O_3
Gas Flow Rate (LPM)	5	10	10–12	15	20	20	25
Power Supply	415 V AC 50 Hz	415 V AC 50 Hz	415 V AC 50 Hz	415 V AC 50 Hz	415 V AC 50 Hz	415 V AC 50 Hz	415 V AC 50 Hz

Specifications are subject to change without prior notice.
Performance may vary based on application, water quality and operating conditions.

OUR INSTALLATIONS

NanoCav Nanobubble Generator

Delivering Measurable Impact Across Diverse Applications

- Enhanced Oxygenation & Water Quality
- Reduced Chemical Usage & Sludge
- Operational Efficiency & Cost Savings
- Reliable Performance & Compliance
- Sustainable & Environment Friendly Solutions

OUR KEY INSTALLATIONS

1. AQUACULTURE (RAS) FARM



In conventional RAS farms, unstable dissolved oxygen levels, high disease risk, and the need for continuous water exchange result in poor water quality and high costs.

KEY OUTCOMES

- 20–25% increase in fish weight
- 1.5 times higher feed conversion ratio
- 15–20% increase in survival rate

2. AQUACULTURE (OPEN POND)



Applied in open ponds to enhance dissolved oxygen levels, improve water quality, and promote healthier aquatic life for higher productivity.

KEY OUTCOMES

- Improved DO levels and water quality
- Enhanced microbial activity and sludge degradation
- Better growth and higher yield

3. OPEN FIELD (AGRICULTURE)



Applied in open field farming to enhance crop productivity and soil health using oxygen nanobubble infused water.

KEY OUTCOMES

- Higher yield and improved crop quality
- Reduced pesticide usage and disease incidence
- Stronger root development and nutrient absorption

4. HYDROPONIC FARM (LETTUCE LEAF)



Enhanced oxygenation and water circulation using nanobubble technology for healthier plants and higher productivity.

KEY OUTCOMES

- Higher yield with improved quality
- Reduced disease incidence and healthier plants
- Lower pesticide usage leading to cost savings

OUR INSTALLATIONS

NanoCav Nanobubble Generator

Driving Cleaner Water Across Diverse Industries

- Enhanced Oxygenation & Water Quality
- Reduced Chemical Usage & Sludge
- Operational Efficiency & Cost Savings
- Reliable Performance & Compliance
- Sustainable & Environment Friendly Solutions

OUR KEY INSTALLATIONS

1 SEWAGE TREATMENT PLANT (STP)



Installed at a Sewage Treatment Plant to enhance dissolved oxygen levels and improve biological treatment efficiency.

- Improved DO levels and aeration efficiency
- Enhanced microbial activity and sludge degradation
- Better water quality with reduced operational cost

2 TEXTILE EFFLUENT TREATMENT PLANT (ETP)



Deployed in a Textile ETP to break down complex dyes, reduce COD, and improve overall effluent quality.

- Significant reduction in COD, colour, and TDS
- Lower chemical consumption and sludge generation
- Efficient treatment with reduced cycle time

3 PHARMA EFFLUENT TREATMENT PLANT (ETP)



Used in a Pharmaceutical ETP to handle high-strength organic waste containing APIs, solvents, and other contaminants.

- High removal of COD, BOD, and TDS
- Effective degradation of complex organic compounds
- Reliable performance with consistent water quality

4 DYE INDUSTRY EFFLUENT TREATMENT



Applied in Dye Industry effluent to remove colour, reduce organic load, and improve discharge quality.

- Efficient colour removal and COD reduction
- Lower reliance on chemicals and cost-effective operation
- Treated water suitable for safe discharge / reuse

REAL IMPACT. SUSTAINABLE FUTURE.

Across diverse industries, the NanoCav Nanobubble Generator enhances treatment efficiency, reduces environmental impact, and supports sustainable operations.

PRASINOS TECH INNOVATIONS

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PRASINOS TECH INNOVATIONS

Innovating Today • Sustaining Tomorrow

Prasinos Tech Innovations Pvt. Ltd. is a clean-tech company committed to solving water and wastewater challenges through advanced, sustainable, and energy-efficient technologies. Our indigenous innovations are designed to deliver superior performance with lower operational cost and minimal environmental impact.

INNOVATIVE TECHNOLOGIES
Patented solutions for real-world water and wastewater problems

PROVEN PERFORMANCE
High efficiency, energy savings & durable systems

SUSTAINABLE IMPACT
Environment-friendly processes for a cleaner tomorrow

TRUSTED BY LEADERS
Serving corporates, organizations & municipalities

OUR CORE TECHNOLOGIES

NANOBUBBLE TECHNOLOGY



High-efficiency oxygen transfer for superior biological performance and reduced energy consumption.

OZONE SYSTEMS



Powerful oxidation and disinfection for safe, chemical-free water.

CAVITATION AIR FLOTATION (CAF)



Efficient solid-liquid separation with enhanced flotation and sludge thickening.

ULTRASONIC ALGAE CONTROL



Effective, eco-friendly solution to control algae growth in water bodies and systems.

ROTOR- STATOR CAVITATION REACTORS



Advanced cavitation for better mixing, oxidation and process intensification.

APPLICATION AREAS

- Municipal Wastewater Treatment
- Industrial Effluent Treatment
- Lakes, Ponds & Water Bodies
- Aquaculture & Fisheries
- Food & Beverage Industry
- Agriculture

KEY ACHIEVEMENTS

10+ Patents

30+ Research Publications

40+ Nanobubble Systems Deployed

Pan India Installations Across Various Sectors

Clean-Tech Startup Recognized by DPIIT, Govt. of India

Trusted by Leading Corporates, Organizations & Municipalities

WHY PRASINOS?

- Indigenous, patented technologies
- High efficiency & low energy consumption
- Custom engineered solutions
- Strong R&D and technical expertise
- End-to-end support – from design to commissioning & after-sales

AWARDS & RECOGNITIONS

Clean Tech Excellence Award — Great Companies International Women Entrepreneur — 2025

Top Dynamic Companies — Featured by Forbes India — 2025

Entrepreneurship Winner — TiE Hyderabad – Women Competition — 2025

Promising Start-up List — Featured as TiE Top 50 — 2024

Global Business Excellence Award — MSME Global Golden Business Excellence Award — 2024

Global Sustainability and Innovations Award — Recognised by EveryThingAboutWater — 2026

Woman-Owned Business Award — COWE India Excellence Award — 2025

Wastewater Innovations List — Recognised as Top 10 — 2025

Most Innovative Start-ups — Recognised as Top 15 — 2025

Global Business Excellence — Excellence Award — 2024

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SASIL

Successfully deployed across municipal, industrial, research, pharmaceutical, textile, aquaculture, and water infrastructure sectors.

LET'S BUILD SMARTER WATER SOLUTIONS TOGETHER

Whether you're planning a new installation or upgrading an existing treatment system, our engineering team is ready to help.

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