

# NICO VARUNA NANOBUBBLE SYSTEM ADVANCED OXYGENATION FOR SEWAGE TREATMENT & DRAIN MANAGEMENT

Urban wastewater systems face increasing pressure from rising loads, odor issues, and inefficient treatment processes. The **NICO VARUNA Nanobubble System** delivers a next-generation solution by enhancing oxygen transfer, accelerating pollutant breakdown, and stabilizing biological treatment processes.

## Challenges in Sewage & Drain Systems

Despite existing infrastructure, several issues continue to impact performance:



### Low Oxygen Levels

Inefficient aeration leads to poor biological treatment and slower degradation.



### Foul Odors & Toxic Gases

Anaerobic conditions generate hydrogen sulfide and other harmful gases.



### Sludge Accumulation

Excess organic load leads to sludge buildup and reduced system efficiency.



### Polluted Drains & Flow Issues

Solid waste and organic matter disrupt flow and degrade water quality.

## Key Benefits

Delivering measurable improvements in wastewater and drainage systems:



### Improved Treatment Efficiency

Faster and more effective pollutant removal.



### Cleaner Drains & Reduced Odor

Enhanced flow conditions and healthier urban environments.



### Lower Operational Costs

Reduced energy and maintenance requirements.



### Scalable & Reliable Performance

Suitable for both centralized and decentralized systems.

## Why NICO VARUNA?

NICO VARUNA is engineered for efficient and sustainable sewage management:



### Enhanced Oxygenation & Treatment Efficiency

Improves oxygen transfer, accelerating biological degradation.



### Odor Control & Water Quality Improvement

Reduces foul odors, scum formation, and visible pollutants.



### Optimized Sludge & Energy Performance

Enhances sludge stability while reducing aeration energy demand.



### Sustainable & Chemical-Free Approach

Minimizes reliance on chemicals for treatment.



### Flexible Integration

Easily retrofits into existing infrastructure with minimal changes.

## Key Application Areas



### Municipal Sewage Treatment Plants (STPs)

Improves biological treatment efficiency and overall plant performance.



### Sludge Polishing & Stabilization

Reduces residual organic load and improves sludge handling.



### Sewer Line Oxygenation

Prevents anaerobic conditions and reduces gas formation.



### Open Drain Restoration

Enhances water quality and restores flow conditions.



### Odor Control in Wastewater Systems

Minimizes foul smells through improved oxygenation.



### Decentralized Wastewater Treatment

Enables compact and efficient localized treatment solutions.



ISO Certified Quality Standards



Global Presence



Customizable, Application-Specific Solution

Enhance Water Quality, Reduce Sludge & Improve Biological Treatment Performance.

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