



# NICO NANOBUBBLE GENERATOR FOR STP & WWTP SOLUTIONS

## NICO NANOBUBBLES IN WWTP & STP

**NICO Nanobubble USA** is pioneering the use of Nanobubble technology in Wastewater Treatment Plants (WWTP) and Sewage Treatment Plants (STP). Our innovative approach integrates advanced NICO Nanobubble technology to revolutionize water treatment processes, ensuring greater efficiency, sustainability, and operational excellence. These NICO Nanobubbles exhibit unique properties that make them highly effective in enhancing various treatment processes in WWTP and STP.

### KEY FEATURES OF NICO NANOBUBBLES

**High Surface Area-to-Volume Ratio:** The small size of NICO Nanobubbles provides a significantly larger surface area, promoting more efficient interactions with contaminants.

**Stability:** Unlike larger bubbles that quickly rise and burst, NICO Nanobubbles are stable and remain suspended in water for extended periods allowing prolonged treatment effects.

**Efficient Gas Transfer:** NICO Nanobubbles improve the transfer of gases such as oxygen and ozone into the water, enhancing the availability of these gases for treatment processes.

## BENEFITS OF NICO NANOBUBBLES IN WWTP & STP

### ENHANCED OXIDATION AND TREATMENT EFFICIENCY

**Advanced Oxidation Processes (AOP):** NICO Nanobubbles facilitate the generation of reactive oxygen species (ROS), such as hydroxyl radicals ( $\bullet\text{OH}$ ), which are highly effective in breaking down complex organic pollutants.

**Improved Contaminant Removal:** The increased reactivity and contact area provided by NICO Nanobubbles enhance the degradation of organic and inorganic contaminants, in pharmaceuticals, pesticides, and industrial chemicals sector.

### ENVIRONMENTAL AND ECONOMIC ADVANTAGES

**Reduced Chemical Usage:** By improving the efficiency of oxidation processes, NICO Nanobubbles minimize the need for chemical oxidants and coagulants, leading to cost savings and reduced environmental impact.

**Energy Efficiency:** The enhanced gas transfer and reaction kinetics associated with NICO Nanobubbles result in lower energy consumption compared to traditional aeration and treatment methods.

**Odour Control:** Enhanced oxygenation and aerobic conditions prevent the formation of foul-smelling anaerobic zones, significantly improving odour management in treatment facilities.

### OPERATIONAL IMPROVEMENTS

**Optimized Performance:** NICO Nanobubbles streamline the treatment process, potentially eliminating the need for additional treatment stages and reducing operational complexity.

**Lower Operational Costs:** The combination of reduced chemical usage, lower energy requirements, and improved treatment efficiency leads to significant cost savings for WWTP and STP operations.



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## SEAMLESS INTEGRATION FOR MAXIMUM IMPACT

NICO Nanobubble generators are designed for easy integration into existing WWTP and STP infrastructure. These systems require minimal maintenance and can be installed without major modifications, ensuring a smooth transition and immediate benefits.

### NICO NANOBUBBLE GENERATOR SYSTEMS



*Introducing NICO Nanobubbles into WWTP and STP marks a significant advancement in Wastewater and Sewage Treatment plants. By leveraging the unique properties of Nanobubbles, NICO Nanobubble USA offers a transformative solution that enhances oxidation processes, reduces environmental impact, and optimizes operational performance, paving the way for a more efficient and sustainable future in water treatment industry.*