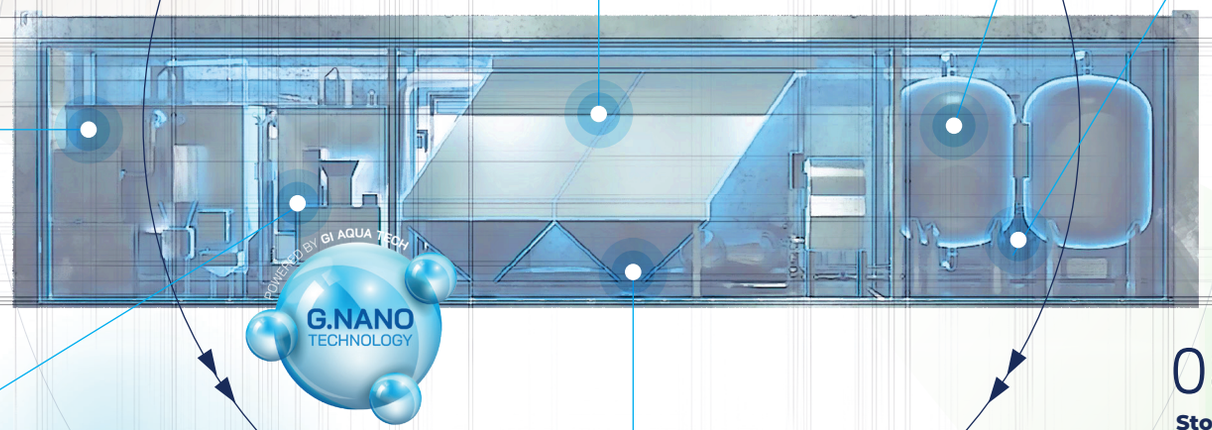
Wastewater Treatment with

G.NANO Technology

Wastewater treatment is essential for removing pollutants to ensure that water can be safely discharged into natural environments or reused. However, traditional treatment methods—whether physical, chemical, or biological—are increasingly inadequate in meeting the demands of modern wastewater management.

G.NANO Technology: GI AQUA TECH has pioneered the use of nanotechnology in wastewater treatment, successfully transforming this innovative approach into practical, commercially viable solutions. The G.NANO Technology replaces the need for traditional biological systems, offering a more efficient and versatile treatment process.

GI AQUA TECH'S TREATMENT PROCESS



01 **Pumping from Equalization Tank:**
The process begins by pumping wastewater from the balancing/ equalization tank using submersible pumps.

02 **Primary Treatment in Reactor 1:**
Wastewater is transferred into Reactor 1, where GI Aqua Tech's proprietary G.NANO solution is injected. This smart chemical destabilizes suspended solids and binds with pollutants.

03 **Enhanced Reaction in Reactor 2:**
The G.NANO-infused water moves to Reactor 2 for further treatment. This secondary reaction phase enhances the removal of dissolved contaminants and optimizes the breakdown of complex pollutants.

04 **High-Rate Clarification:**
Water is then directed to a high-rate GNANO clarifier, which separates solids from the liquid stream. This step rapidly isolates sludge from the treated water.

05 Sludge+

Sludge Handling with Sludge Plus:
Separated sludge is treated using the innovative Sludge Plus solution, which transforms waste sludge into valuable byproducts.

06 **Multi-Media Filtration Stage:**
Following clarification, water is pumped through multi-media filters using high-pressure booster pumps. These filters remove residual fine particles, delivering polished water ready for final disinfection or direct reuse.

07 **Disinfection via UV:**
The filtered water undergoes disinfection through ultraviolet (UV) treatment. This step effectively eliminates any remaining pathogens.

08 **Storage and Reuse:**
Finally, the treated water is stored in a dedicated make-up tank, ready for reuse or environmentally safe discharge. This closed-loop system supports sustainable water management and enables compliance with the highest

Advantages of G-NANO Technology:

Cost-Effective:
Reduces capital and operational costs by up to 40% compared to traditional systems.

Energy-Efficient:
Operates with a low carbon footprint and maintains efficiency across various conditions.

Sustainable:
Produces reclaimable sludge for reuse, supporting sustainable wastewater management.

Regulatory Compliance:
Easily adapts to regulatory changes, ensuring consistent compliance.

Efficient Pollutant Removal:
Uses readily available nanoscale materials for effective pollutant reduction and high-quality treated water output.

The G-NANO system is a superior solution for modern wastewater treatment, offering a blend of advanced technology, cost savings, and environmental responsibility. Its ability to perform consistently under varying conditions and its focus on sustainability make it an ideal choice for industries looking to upgrade their wastewater management practices.

Learn about our latest products and the research pipeline, connect with us via: