

GRANUA®

CONTROLLED-FLOW BATCH REACTOR

The **First Filipino-Owned** Wastewater Treatment Technology to be verified by the DOST-ETV

SMART, SIMPLE & SUSTAINABLE

Strictly Confidential, For Recipient Only

GRANUA®

Controlled-Flow Batch Reactor

Introducing GRANUA®, a game-changing system pioneered and continuously developed by Ariescor Water in 2022 to revolutionize environmental sustainability.

GRANUA® stands as the most compact and advanced high-rate biological system in the Philippines, boasting minimal electricity usage and near-zero chemical dependency, solidifying its position as a leader in eco-conscious solutions. Its small footprint guarantees effortless integration into any environment, outshining the current biological and advanced oxidation technologies while lowering capital and maintenance costs. With its odorless operation, GRANUA® delivers unparalleled convenience and effectiveness.

SYSTEM FEATURES

- Compliance to DENR Administrative Order 2016-08 & 2021-19
- Simplest Wastewater Treatment in the Philippines
- Dramatically Low Footprint (50% reduction in space requirements of SBR, MBBR, and AOP)
- Automated system (does not require trained personnel)
- Excellent Biological Nutrient Removal Technology (BNR)
- Flexible Operation (minimum of 3 hours of treatment per batch)
- Minimal to Zero chemical consumption
- 30%-40% reduction in power consumption
- Possess simultaneous Transfer & Draw system
- Denser and compact sludge, Fastest Settling Time (minimum of 15 minutes)
- Zero Sludge Handling Capability
- Can be incorporated after Septic Tank (Septic Tank serves as Pre-Holding Tank)
- Automated system (does not require trained personnel)
- 3-Year System Warranty

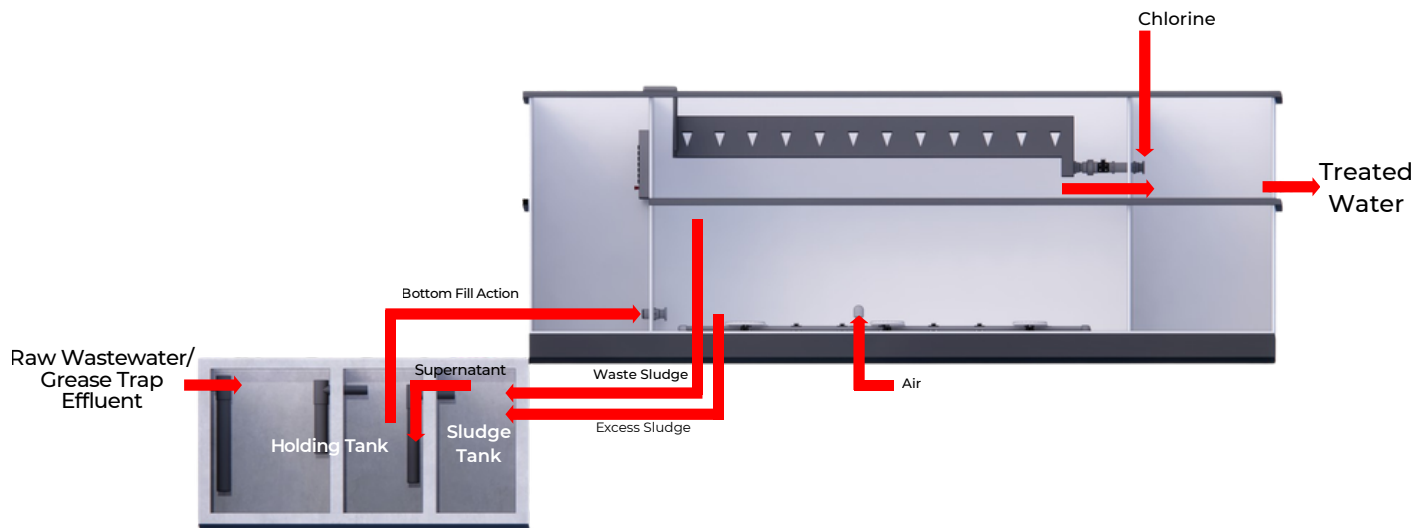
AVAILABLE OPTIONS

- Tank Materials: Concrete, Carbon Steel, Stainless Steel (304/316)
- Construction of Pre-Holding Tank and Sludge Digester Zone
- Septic Tank can be utilized as a Holding Tank and Sludge Digester
- Chlorine, Ozone, or UV for Disinfection
- Oil & Grease Separator/AriescorDAF/ClariDenSR™ as Pre-Treatment for Commercial/Industrial Applications
- Manual/Mechanical/Automated Head Works including Bar Screen, Grit Removal for Municipal and Large Capacity Industrial Wastewater Treatment Plant
- Additional Tertiary Filtration, UF/RO for Water Re-use

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ADVANTAGES OF GRANUA[®] SYSTEM



- Excellent effluent quality
- Excellent sludge compactness which can reduce high capacity and interval of sludge treatment and disposal requirement
- Lowest space requirement compared to the traditional technologies including Conventional Activated Sludge (AAO, MLE), Sequencing Batch Reactor (SBR), Moving Bed Biofilm Reactor (MBBR), and Advance Oxidation Process
- Reduction in chemical dosing through the advanced simultaneous Fill and Decant system aiding the Phosphorus Accumulating Organism (PAO) to thrive and perform a Pure-Biological Nutrient Removal System
- Reliable Technology references all over the Philippines

Item	SBR	AOP	GRANUA [®]
Capital Investment	High	Medium	Low
Operation Cost and Complexity	Medium	Low	Lowest
Footprint	Large Footprint	30% Less	80% Less
Chemical Usage	80-90% less	High usage	90-100% less
Membrane and Filtration Usage	N/A	Included	N/A
Nutrient Removal Efficiency	Requires Coagulant/Filtration for Ammonia & Phosphate Removal	Requires Filtration & RO for Ammonia & Phosphate removal	N/A

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PROJECT HIGHLIGHTS



REFORMISTA PUBLIC MARKET

SEWAGE TREATMENT PLANT

Two-story Granua® system constructed to treat the market's wastewater discharge, providing recycled water for cleaning and augmenting the municipality's fire protection water supply.

Technology: Granua® (BioGraS®)

Application: Public Market

Capacity: 30 CMD (30,000 Liter/Day)

Scope: Design and Build

Location: Limay, Bataan

ENERGY DEVELOPMENT CORPORATION - BAGUIO

SEWAGE TREATMENT PLANT

Construction of a 10 CMD Granua® designed to adapt in Baguio's weather and unique terrain. Designed to provide advanced wastewater treatment for Energy Development Corporation's guest facility.

Technology: Granua® (BioGraS®)

Application: Residential Building (Guest Facility)

Capacity: 10 CMD (10,000 Liter/Day)

Scope: Design and Build

Location: Baguio City, Benguet



CLMC BUILDING

SEWAGE TREATMENT PLANT

Designed to treat 30 m³ of domestic sewage with the new design principle of Granua® to provide the smallest footprint and the lowest-cost sewage treatment plant in the market.

Technology: Granua® (BioGraS®)

Application: Office Building

Capacity: 30 m³/day

Scope: Design and Build

Location: Mandaluyong City

Total Area: 12.6 sqm

PROJECT HIGHLIGHTS



LIMAY DIALYSIS CENTER

SEWAGE TREATMENT PLANT

Constructed to treat sewage for Limay Municipality's Dialysis Center. Using Granua® technology addresses the project location's limited space and offers a simpler treatment process for easier maintenance and automated function.

Technology: Granua® (BioGraS®)

Application: Hospital

Capacity: 20 m³/day

Scope: Design and Build

Location: Limay, Bataan

Total Area: 9 sqm

CITYSCAPE DAGUPAN

SEWAGE TREATMENT PLANT

Built for a commercial complex. The Granua® utilized the existing Septic tank, incorporating its capacity as a Holding Tank and a Sludge Holding Tank.

Technology: Granua® (BioGraS®)

Application: Commercial Complex

Capacity: 10 m³/day

Scope: Design and Build

Location: Dagupan, Pangasinan

Total Area: 5 sqm



ASA COLORS AND CHEMICALS, INC.

SEWAGE TREATMENT PLANT

Designed to treat domestic sewage coming from the chemical production line using the cutting-edge process of Granua® Limited space problem and lack of manpower addresses by BioGraS™ through the hi-tech, automated and simplest operation technology.

Application: Chemical Manufacturing Industry

Capacity: 10 m³/day

Scope: Design and Build

Location: Bocaue, Bulacan

Total Area: 5 sqm



PROJECT HIGHLIGHTS



ELISON HOTEL

SEWAGE TREATMENT PLANT

Erected to treat domestic sewage coming from the hotel rooms and laundry area using the simple process of Granua®.

Technology: Granua® (BioGraS®)

Application: Hotel and Laundry

Capacity: 10 m³/day

Scope: Design and Build

Location: Balanga, Bataan

Total Area: 6 sqm

KUYA J'S RESTAURANT - BACLARAN

SEWAGE TREATMENT PLANT

Designed and commissioned to treat food and commercial wastewater for a limited-space quick-service restaurant. Granua® is used to solve heavy load of parameters with limited spaces that is normally designed with large sizes of tanks.

Technology: Granua® (BioGraS®)

Application: Quick Service Restaurant

Capacity: 10 m³/day

Scope: Design and Build

Location: Baclaran, Manila City

Total Area: 4 sqm



ARAUULLO UNIVERSITY (SOUTH CAMPUS)

SEWAGE TREATMENT PLANT

Designed to treat 15 m³ of domestic sewage with the same design principle of Granua® to provide smallest footprint and Very Low Cost Sewage Treatment Plant in the market. It has an additional Tertiary Treatment System to reuse the water for flushing and landscaping.

Technology: Granua® (BioGraS®)

Application: Education

Capacity: 15 m³/day

Scope: Design and Build

Location: Cabanatuan, Nueva Ecija

Total Area: 10 sqm



Let's Build Something Better



ARIESCOR® WATER
ENGINEERING WATER EVERYWHERE

Phone

(02) 8372 6326
(+63) 917 157 3753

Email

info@ariescorwater.com

Address

Unit L2A #652 Mayon St.
Sta. Mesa Heights Quezon
City, Philippines, 1114

Website

<https://ariescorwater.org/>