

TECHNOLOGY

BRC REACTOR INTERNAL SCHEME:



BIOBOB



▶ A device for cell immobilization used as biomass support in biological systems for wastewater treatment.



High hydrodynamic capacity
Bed porosity above 70%, eliminating the need for backwashing

High durability and long lifespan
Systems operating with Biobob® since 2008

High affinity and surface area
Enabling elevated biomass concentration in reactors

- ▶ **Applications:**
- Fixed-bed reactors (FBR)
 - Moving-bed reactors (MBBR/IFAS)
 - Decentralized Solutions
 - Industry and Sanitation Projects
 - Unifam

To learn more and discover our success stories, visit:



www.tigre.com.br/en/tigre-waters-and-effluents



TAE – Tigre Water and Effluents

Solutions that ensure efficiency in cost and water use.

MARKET SEGMENT

DECENTRALIZED SOLUTIONS

Portfolio of modular sanitation stations with flow rates of up to 50 l/s. Solutions with low footprint, community-friendly (no noise or odor), and lower total cost of Implementation and Operation.



SINGLE-FAMILY SOLUTION

Single-family station for regions or isolated communities where the sewage network does not reach due to technical or economic reasons. Product with high environmental performance, easy installation and maintenance, and low operating cost.

PROJECTS FOR INDUSTRY AND SANITATION

Engineering and construction of water, wastewater, and reuse treatment plants focused on the food, beverage, pulp/paper, chemical, petrochemical, and metallurgy sectors.

With Tigre Water and Effluents, your project can only benefit. Check it out:

- ▶ **BEST PAYBACK**
We guarantee the best balance between investment and operating costs.
- ▶ **SECURITY**
Assurance of water availability and quality throughout the year, reducing dependence on external sources.
- ▶ **SUSTAINABILITY**
Reduced impact on water resource use and strengthened positioning of the enterprise.
- ▶ **WIDE PORTFOLIO**
From large projects to residences, we have solutions tailored to your challenge.
- ▶ **PROVEN SOLUTION**
TAE – Tigre Water and Effluents solutions are all proven and tested in the market. Discover our success stories.
- ▶ **PERSONALIZED SERVICE**
Specialized team dedicated to supporting the project from start to finish, with multiple communication channels and visibility of project status.



DECENTRALIZED SOLUTIONS



- ▶ MODULARITY**
 Installation of capacity suited to the current concession needs, with the possibility of future expansion and upgrades through process automation and monitoring of treated effluent quality.
- ▶ COMPACT INSTALLATION**
 Requires 60% less area compared to other systems, with no odor, no noise, lower community resistance, and reduced installation area costs.
- ▶ BETTER ENVIRONMENTAL AND ECONOMIC PERFORMANCE**
 Technology that provides high efficiency (removal of organic matter and nutrients) combined with low costs (energy and sludge). This ensures the best Total Cost of Ownership (TCO).
- ▶ OPERATIONAL SAFETY**
 Robust and stable process using biomass support, increasing the station's capacity for organic matter and nitrogen removal, greater resilience (load shocks), and operational simplicity (mobile operation).

SINGLE-FAMILY SOLUTION

▶ DECENTRALIZATION CONCEPT

TRADITIONAL MODEL



Includes a collection network in all residences, sending sewage to a pumping station and subsequent treatment at a municipal WWTP.

DECENTRALIZED MODEL



Includes one station per residence with discharge, eliminating the need for a network and pumping station.

PROJECTS FOR INDUSTRY AND SANITATION



- ▶ CUSTOMIZATION**
 TAE adapts 100% to your needs, combining advanced technologies in physical-chemical, biological, and tertiary processes through membranes to develop and implement an effective and definitive solution.
- ▶ BEST PAYBACK**
 We guarantee the best balance between investment and operating costs, minimizing energy use, chemical products, and sludge generation to deliver a fast return on investment.
- ▶ PROVEN SOLUTION**
 We have a strong track record of supply and recognition in the markets where we operate, ensuring investment security and delivery quality.
- ▶ ENVIRONMENTAL PERFORMANCE**
 Full compliance with the strictest environmental requirements, with the added benefit of generating reuse water, reducing water consumption indicators, and effectively supporting care for the region's watershed.

INDIVIDUAL SEWAGE SYSTEM THAT ELIMINATES THE NEED FOR A NETWORK



- ▶ SUPERIOR ENVIRONMENTAL PERFORMANCE**
 Aerobic biological treatment with activated sludge. The only compact solution on the market with aerobic sewage treatment, delivering high-quality effluent with removal of organic matter and nutrients.
- ▶ COMPACT INSTALLATION**
 Occupies reduced area and includes all treatment stages in a single piece of equipment with simplified installation.
- ▶ ECONOMY IN INSTALLATION AND USE**
 Connection cost is lower than a network, enabling expansion of sanitation coverage. Simple and reduced operation and maintenance, low sludge generation, annual cleaning only, and low energy consumption (average 35W/H).
- ▶ ACCESSIBILITY**
 Enables sewage treatment in places without network access. Capacity of up to 800 l/day in a single unit, or can be combined to serve multiple families.