

# BIOPAQ®UP

The next generation UASB reactor

Cost-effective solution for treating concentrated wastewater, ensuring high biomass retention and efficient biogas recovery.





# Sustainable and Efficient Anaerobic Wastewater Treatment

BIOPAQ®UP is a flexible solution for anaerobic effluent treatment at low total cost of ownership. It is applicable to a broad range of waste waters and is specifically suitable to treat concentrated waste water with COD measuring 2,000 to 30,000 mg/l.

This system stands out thanks to its highly effective separator design, which ensures very efficient biogas collection and optimal biomass retention. The modular separator can be mounted in any new or existing tank (welded steel, bolted steel, concrete or GRP).

BIOPAQ®UP is Paques' best solution for:

- Any industry with waste water containing high concentrations of soluble organic pollutants
- Clients with a need for upgrading their existing water treatment installation

## **BIOPAQ®UP:** **The next generation UASB reactor**

Same reliability as UASB, but more versatile design:

- Modular design to fit in any tank geometry and tank material.
- Applicable over a wide range of wastewater flowrates and concentrations.
- Ability to re-use existing tanks.
- No odour and GHG emission due to closed reactor design.
- High quality internals made in our in-house workshops.
- Over 40 years of experience in anaerobic wastewater treatment.

## Characteristics of BIOPAQ®UP

### 1. Economical solution

- Discharge costs are considerably reduced, in most cases 80-90%
- Energy can be generated from the produced biogas
- The separator can be mounted in any new or existing tank; welded steel, bolted steel, concrete or GRP
- Mounting of the separator is independent of tank wall
- Highly effective separator prevents washout of valuable biomass
- Compact reactor design
- Production of valuable biomass instead of excess sludge

### 2. Stable operation

- The simple and robust influent distribution system is proven to be effective at more than 500 references worldwide
- Fluctuating loads and flows can easily be handled
- The distribution system, together with effluent recirculation, ensures optimal mixing of biomass and waste water
- No odour emission due to closed reactor design

### 3. Reliable supplier

- Over 40 years of experience in industrial waste water treatment to accommodate the needs of each client
- Proven reliability with more than 1000 industrial anaerobic plants
- Technical and performance guarantees
- Additional sustainable technologies available, for example aerobic post treatment, removal of nitrogen and phosphorous compounds, and biogas desulphurisation

### 4. Fast delivery

- Short lead times due to in-house production of standardized internals
- Guaranteed seed biomass delivery

### 5. Long lifetime

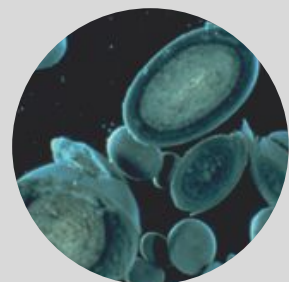
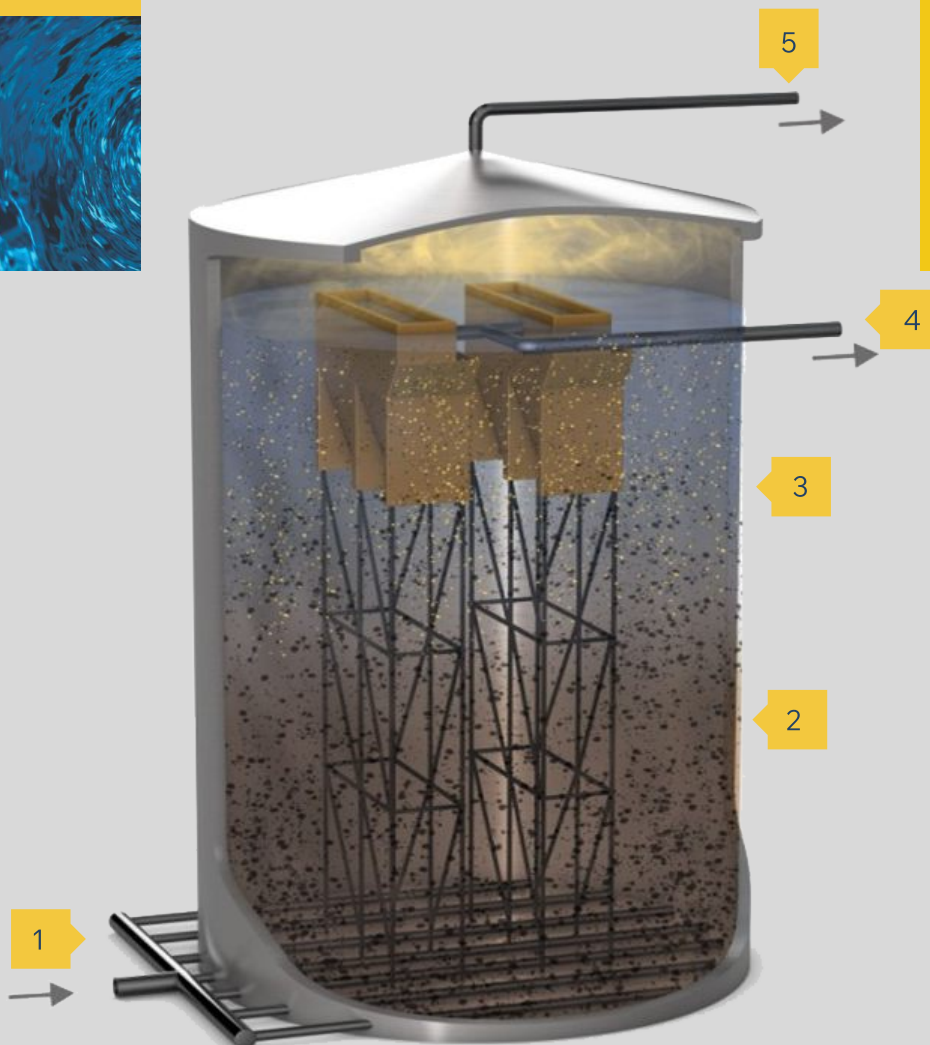
- Lifetime indication of the propylene separator material is 20 years
- Production according to high standards (ISO 9001)
- Qualified, experienced welders



BIOPAQ®UP Reactor

### How BIOPAQ®UP works

1. Industrial wastewater enters the reactor
2. Production of valuable biomass
3. Recirculation flow
4. Effluent exits the reactor
5. Biogas leaves the reactor





## Together, we're leading the biotech revolution in wastewater and biogas

We are a leading force in biotech wastewater and biogas, driven by a community of scientists, problem solvers, application specialists and exceptional people who all believe in one thing: That protecting the world's water and resources is vital if we are to preserve our planet for generations to come.

Since we founded our company, we've pioneered and developed biotech solutions proven to help our customers' effectively and sustainably treat wastewater and generate biofuel to power their operations.

It's safe to say we've grown from our humble beginnings in Balk—to an international powerhouse with more than 3,300 installs in over 60 countries. Our expertise and technologies are trusted by many the world's most trusted companies.

Whether in brewing, pulp & paper, chemicals or food—we create partnerships that help businesses maximise their resources while reducing their impact.

Our unique blend of expertise, trusted technologies, and global network enables us to guide and empower our customers with solutions proven to help them meet their sustainability goals. By continuing to reinvent, refine, and renovate our technologies we can help protect the planet, communities and best serve our customers.

The world's resources are finite—but our potential is limitless. By working together—we can create a cleaner, more circular future that works for everyone.

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Dubai

Chennai

Shanghai

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