



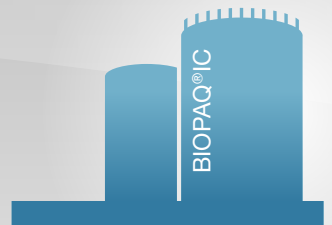
## BIOPAQ<sup>®</sup>IC

### Anaerobic industrial effluent treatment

With anaerobic effluent treatment almost every industry can decrease (production) costs and meet tighter discharge limits.

# In-house anaerobic solutions

Anaerobic effluent treatment is considered to be a cost-effective way to treat industrial wastewater and to comply with effluent discharge limits. The BIOPAQ®IC (Internal Circulation) is the number one proven technology, worldwide recognized as the most efficient way to clean industrial wastewater and produce biogas at the same time.



The BIOPAC®IC reactor was developed by Paques, in cooperation with universities, research institutes and customers. Fundamental and applied research into biological, physical and mechanical aspects of the system resulted in a wide range of IC's, which enables Paques to provide every customer with a tailor made wastewater treatment system that meets all the client's requirements.

## About BIOPAQ®IC

- Proven technology, > 25 years operational experience
- 1000 BIOPAQ® references worldwide
- Continuous innovation
- Available for all kinds of industries
- Small footprint, also applicable in urban area
- Production of 'green' energy-rich biogas
- A complete range of standardised concepts
- Tailor made solutions (indoor/outdoor)
- Worldwide availability

# BIOPAQ<sup>®</sup>IC

## Characteristics of the BIOPAQ<sup>®</sup>IC

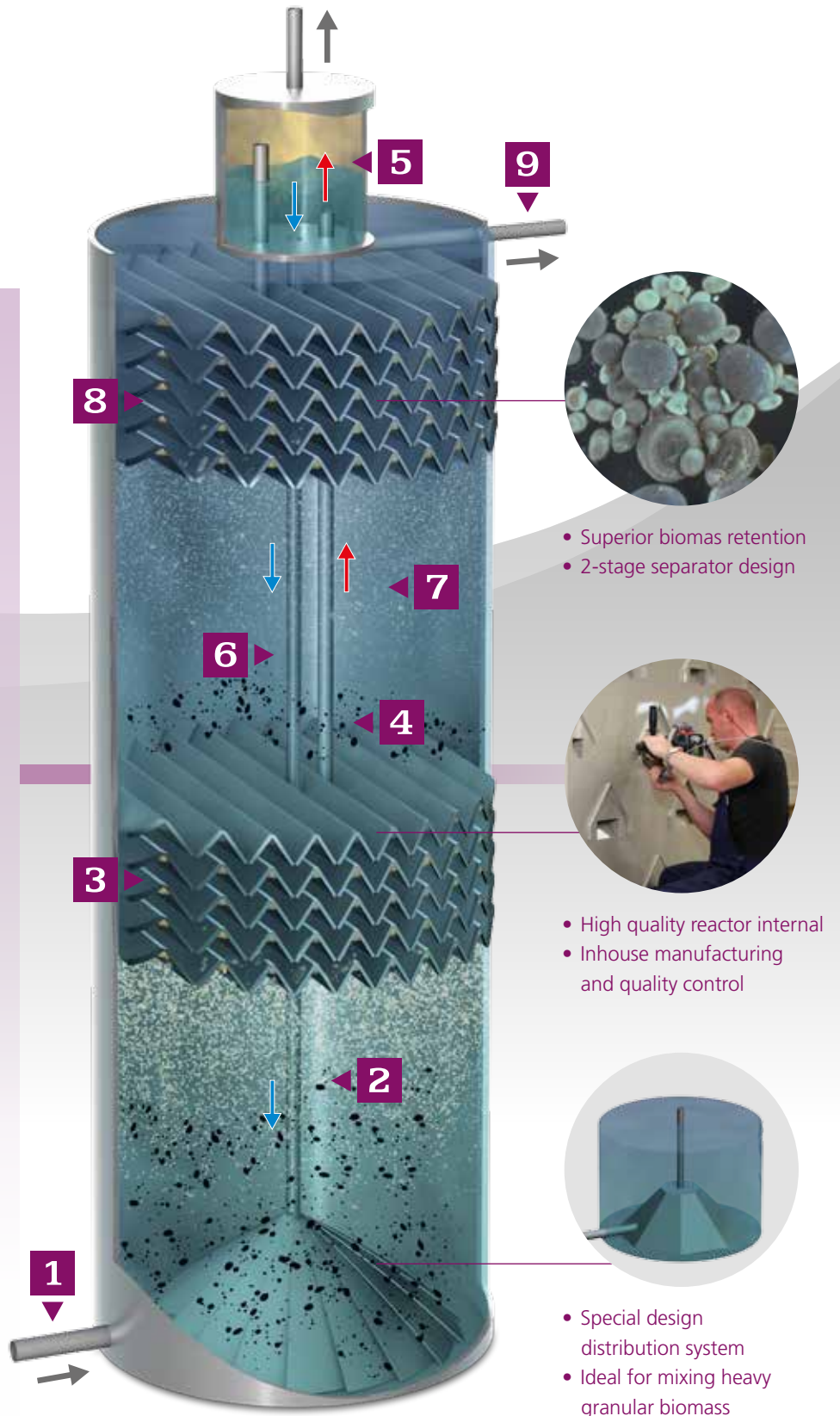
- Suitable for urban environments
- Meeting stringent and rural site conditions
- Vertical tank, wide range reactor sizes
- Reliable, self-regulating system, internal circulation system

- 2-stage separator design
- Minimised neutralisation costs
- Consistent effluent qualities
- Compact reactor

- Robust system
- Handling high loading variations
- Fast, accelerated start-up

### BIOPAQ<sup>®</sup>IC, how it works

- 1** Industrial wastewater enters the reactor and is mixed with the granular anaerobic biomass in the distribution system
- 2** Organic components are converted into methane (biogas)
- 3** Biogas is collected in the lower phase separator, generating a 'gas lift'
- 4** The water is forced upwards in the riser
- 5** Gas leaves the reactor in the liquid/gas separator
- 6** Water returns through the downer into the distribution system. Hence the name: Internal Circulation
- 7** The effluent is polished in the second, upper compartment
- 8** The biogas from the second compartment is collected in the upper phase separator
- 9** Effluent exits the reactor



- Superior biomass retention
- 2-stage separator design

- High quality reactor internal
- Inhouse manufacturing and quality control

- Special design distribution system
- Ideal for mixing heavy granular biomass





## Paques: leading in biological wastewater and gas treatment

Paques has over 30 years experience in helping industries and municipalities to reduce their water and carbon footprints and reclaim valuable resources. The cost-effective effluent purification systems produce energy from wastewater, whilst purifying the water and facilitating water reuse. Since 1980, Paques realised more than 1800

references worldwide. Besides the headquarters in The Netherlands, Paques has subsidiaries and/or production locations in China, Brazil, United States of America, India and Malaysia. In many other countries, the company is represented by licensed partners. This ensures local presence and the best service for clients worldwide.

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