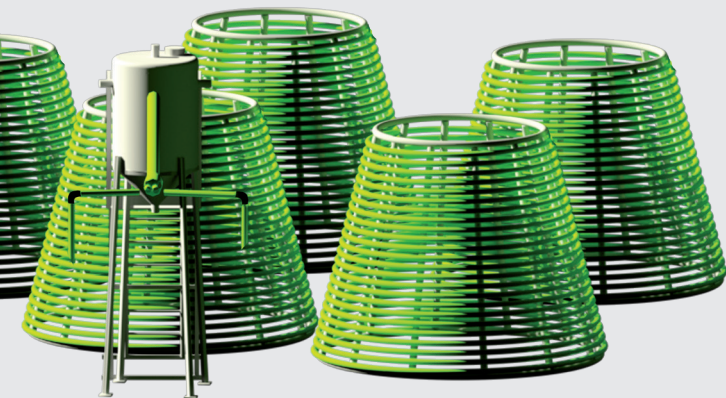


# FEATURES OF THE GICON®-PHOTOBIOREACTOR

- Adaptable geometry ensures ideal light supply at any latitude and light intensity
- Temperature-controlled double chamber system for ideal cultivation parameters
- Food grade suitability, chemical and UV-resistant material with reduced biofouling
- Multi-purpose character for variable production of a wide range of freshwater and marine algae species
- Energy-saving operation through pulse technology
- CIP by pulsation and/or pigging
- Arbitrarily scalable system sizes and multi-product systems due to modular design



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Industrial member of EABA



EUROPEAN ALGAE  
BIOMASS ASSOCIATION  
10 YEARS

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**GICON®**  
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GICON®-Grossmann Ingenieur Consult GmbH is part of the GICON® Group, a group of companies providing independently operating engineering services. The companies together employ about 500 people and draw on the expertise of several thousand projects at home and abroad.

as of 9/2022

**GICON®**  
Großmann Ingenieur Consult GmbH



**GICON®-PHOTOBIOREACTOR**  
GICON®-PBR

Portfolio

# GICON®-PBR

## SMALL SCALE UNITS

## COMMERCIAL PRODUCTION SYSTEMS

The GICON®-PBR is designed as a flexible base module for the stable cultivation of microalgae with defined and high product quality and modular integration in a variety of bio-based processes.

The photobioreactor systems are suitable for the use at any scale: from the arrangement as stand-alone unit up to modular pilot plants for R&D purposes and small scale volume production as well as large-scale production systems for commercial applications. The systems are tailor-made to meet the client's requirements for defined algae biomass and further integration into biotechnological processes.

- Broad field of application
- Biomimetic design and integrated temperature control
- Customizable equipment
  - Optional: lighting, temperature control module
  - Stainless-steel version for special applications
  - Saturated steam disinfection
- Outdoor installation (no green house necessary)
- Symmetrical modular structure
- Adaptable control system
- Integrable into existing biotechnological processes (e. g., integrated cooling circuit, purification of wastewater and gases)

Our partner for the construction of the GICON®-PBR units is Kunststoff-Spranger GmbH.



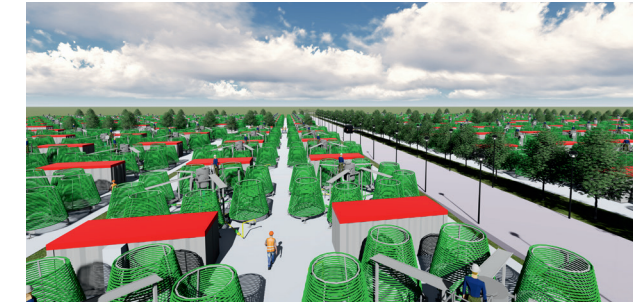
- Available as ready-to-operate system solutions of GICON®-PBR
- R&D applications, inoculation system and small-scale volume production
- Tailor-made process control including fully automated temperature control
- Effective integration in coupling processes
- Modular arrangement up to 25,000 litres



1,000 l cultivation volume



4,000 l cultivation volume



Starting from 25,000 l production volume

Successful realisation requires all process steps:

- Process development of all technical levels (biology, process engineering, process automation, downstream, etc.)
- Plant design, Approval planning, Construction, Commissioning



Result: tailor-made commercial production plants

Concepts for multipliable commercial modules with GICON®-PBR technology and other process solutions