

## Optimized Photosynthesis by High-Precision Lighting

### New PhotoBioreactor Illuminates Variety of Phototropic Cells with Selective Light Spectra

**Jülich, September 25, 2009** – *Phototrophic organisms ranging from green and red algae, to cyanobacteria, green sulfur bacteria and plant suspensions, can now enjoy optimal lighting conditions in bioreactors.*

Making this possible are LED illuminators from DASGIP, which are integrated in the bioreactor. Creating specific light emissions at 457 nm, 660 nm, 560 nm and 623 nm gives a wide range of phototropic cells exactly the light spectrum they need for optimal production.

By arranging several LEDs in up to four illuminators inside the bioreactor, optimum light conditions for growth and photosynthesis are provided. The spectral composition as well as the light intensity can be predefined and adjusted online with the DASGIP Control Software 4.0.

Users who work with phototropic cells can take advantage of the advanced process control features offered by DASGIP systems: monitoring and control of temperature, pH, dissolved oxygen and redox potential, agitation, gassing with pure and mixed gasses, sampling, fully integrated exhaust gas analysis, monitoring of the optical density and the precise feeding of up to eight different liquids.

The PhotoBioreactor is based on an enhancement of the DASGIP benchtop line of reactors designed for microbiology and cell cultivation applications. They can be transformed into PhotoBioreactors - and back into usual benchtop reactors - in just a few easy steps. That means the PhotoBioreactors fit perfectly in the modular design of the DASGIP systems, which stand out due to their highly-efficient application potential in biotechnology laboratories. In truly parallel operation with up to 16 reactors, the DASGIP system yields reproducible, reliable and easily scalable process results.

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**Please find photo material on our webpage:** <http://www.dasgip.com/press-room/>

**About DASGIP:** DASGIP AG develops and manufactures technologically advanced Parallel Bioreactor Systems for the cultivation of microbial, plant, animal and human cells at bench top scale. Process engineers, scientists and product developers from biotechnological, pharmaceutical and chemical companies as well as research institutions use DASGIP Parallel Bioreactor Systems for their biotechnological processes and benefit from increased productivity, high reproducibility, and ease of scale up, resulting in accelerated product development cycles. DASGIP is located in Juelich (Germany) and Shrewsbury MA (USA)

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