

**CELL GROWTH QUANTIFIER (CGQ)**

# Biomass Monitoring For Shake Flasks



## Shake Flask Challenges

### No Biomass Monitoring

- Forces researchers to accept under-sampled experiments and “black box” shake flasks with limited bioprocess understanding

### Disadvantageous Biomass Sampling

- Requires hours of manual, hands-on-time for offline OD sampling
- Causes process interruption, risk of contamination, and loss of culture volume
- Results in rough growth curve estimates



## What Our Customers Say

“The CGQ provided accurate growth curves with very dense sampling intervals and gave us the opportunity to identify differences in growth behaviors.”

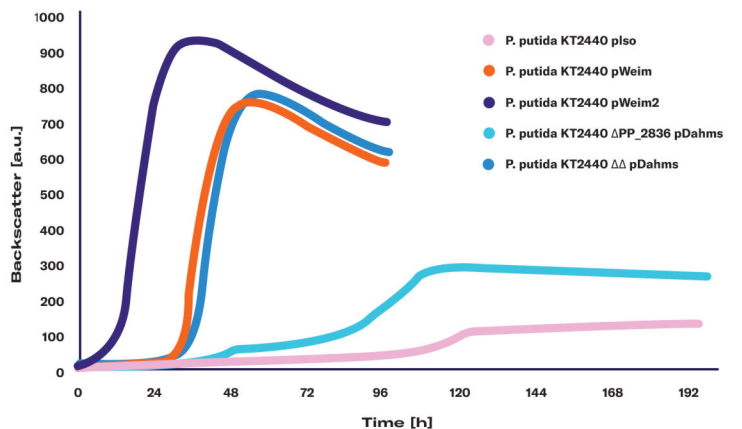
- Prof. Dr. Lars Blank (RWTH Aachen)

## Key Features

- Automated, online, non-invasive biomass monitoring in up to 64 flasks in parallel
- Monitoring of additional parameters: Local temperature and shaking speed for every flask
- Powerful DOTS Software for easy sensor handling and real-time data visualization

## Benefits

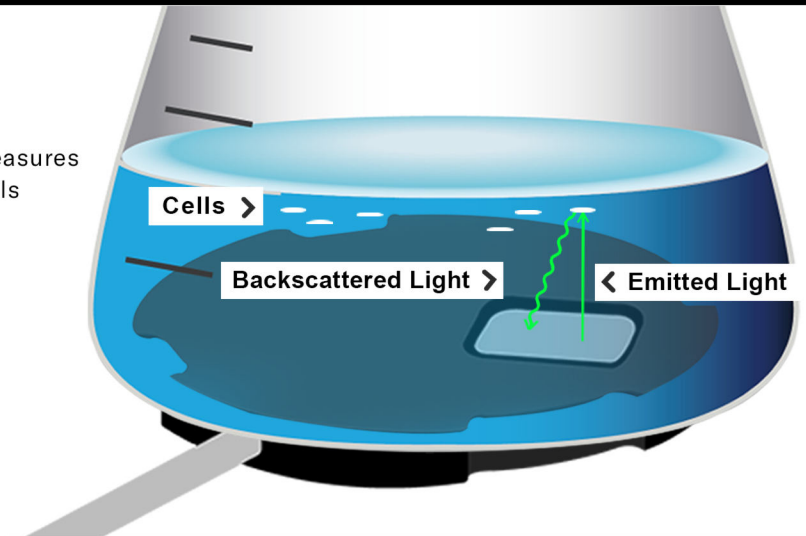
- Generate high resolution growth curves
- Save hours of manual, hands-on time required for offline OD measurements
- Actionable insights: Detect and react to real-time data right away



## How It Works

The CGQ Sensor emits light into the shake flask and measures the amount of light that is scattered back. The more cells that are in the flask, the more light is scattered back.

The backscatter signal can be correlated with other parameters such as OD or Cell Dry Weight.



## Compatible With Your...

### Bioprocess

- ✓ For a broad variety of microbial organisms
  - Bacteria and yeasts
  - Anaerobic organisms
  - Thermophilic organisms
  - Phototrophic organisms
  - Filamentous organisms

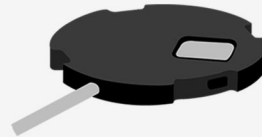
### Lab Infrastructure

- ✓ For different vessel types:
  - Shake flasks
  - Serum bottles and more
- ✓ Shake flask sizes from 100 mL - 5000 mL
- ✓ For all incubation shakers
  - Clamps
  - Sticky Stuff

### Applications

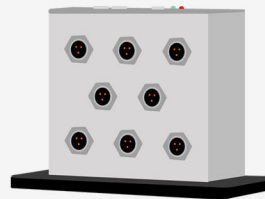
- ✓ Growth characterization
- ✓ Screening
  - Strain development
  - Media optimization
- ✓ Pre-culture monitoring
- ✓ Quality control

### Components



#### CGQ Sensor

Measures biomass non-invasively through the glass wall of the flask.



#### CGQ Base Station

Provides sensors with electricity and collects data from all connected sensors.



#### DOTS Software

Powerful software for easy sensor handling and real-time data visualization.



## Want To Connect The DOTS In Your Bioprocessing?

Contact Us