

CELL GROWTH QUANTIFIER BioR (CGQ BioR)

# Biomass Monitoring for Bioreactors



## Bioreactor Challenges

### No biomass monitoring

- Forces researchers to accept “black box” bioreactors with limited bioprocess understanding

### Disadvantageous biomass sampling

- Requires hours of manual, hands-on time for offline OD measurements
- Results in growth curve estimates and missed metabolic events

### Invasive biomass probe

- Blocks port of bioreactor
- Expensive
- Often only fits one vessel size



## What Our Customers Say

“The CGQ BioR system provides precise growth curves with a very dense sampling interval, freeing my time for tasks with higher added value.”

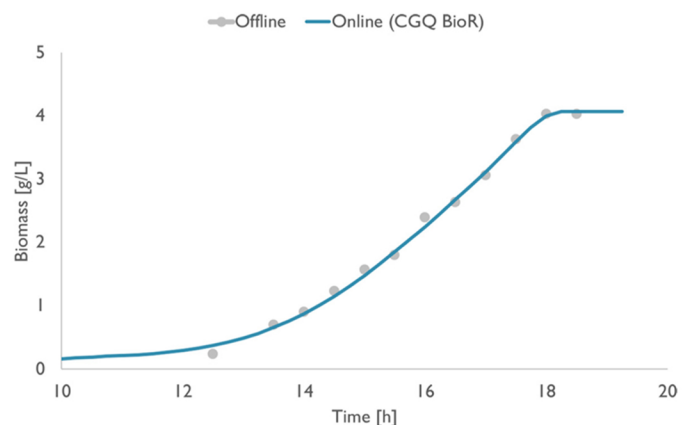
- Dipl. Ing. Andreas Hoffmann (Technical University Dresden)

## Key Features

- Automated, online, non-invasive biomass monitoring in up to 64 bioreactors in parallel
- 2 measurement modes for high and low biomass concentrations
- Powerful software for experiment control and advanced data analytics

## Benefits

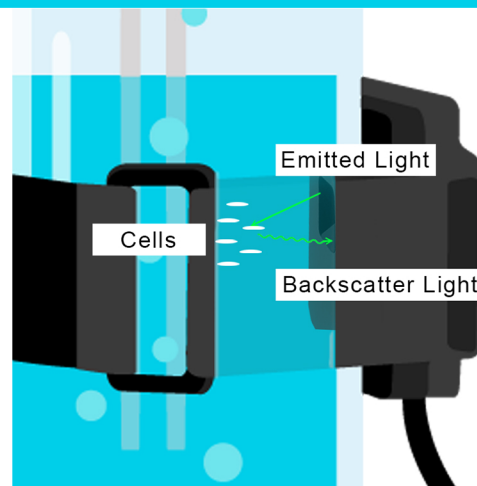
- Generate high resolution growth curves
- Save hours of manual, hands-on time required for offline OD measurements
- Free up bioreactor port space
- Cost-effective
- Plug-and-Play: No cleaning/sterilization required
- Actionable insights: Detect and react to real-time data right away



## How It Works

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

The backscatter signal can be correlated with other parameters such as OD or Cell Dry-Weight. The two measurement modes allow for monitoring of low and high cell densities.



## Compatible With Your...

### Bioprocess

#### ✓ For a broad variety of microbial organisms

- Bacteria and yeasts
- Anaerobic organisms
- Thermophile organisms
- Phototrophic organisms
- Filamentous organisms

### Lab Infrastructure

#### ✓ For different bioreactor types

- Single-jacket
- Double-jacket and more

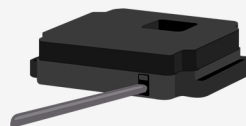
#### ✓ For different bioreactor sizes

- Microbioreactors
- Benchtop
- Production scale

### Applications

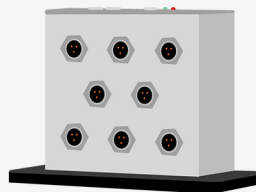
- ✓ Screening
- ✓ Strain development
- ✓ Media optimization
- ✓ Growth characterization

## Components



### CGQ BioR Sensor

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



### CGQ Base Station

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



### CGQuant Software

Analyzes and visualizes the biomass data from all monitored bioreactors.



## Want To See Data For Your Organism?

**Contact Us**