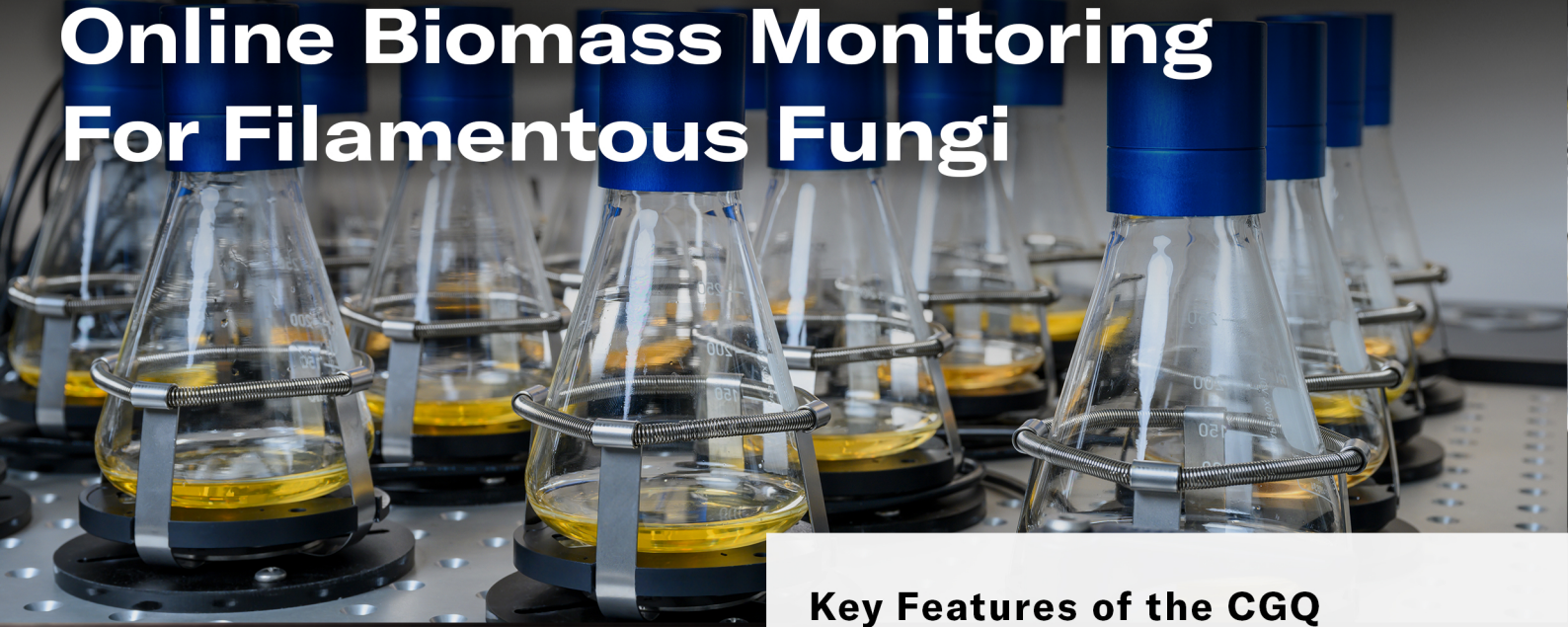


Online Biomass Monitoring For Filamentous Fungi



Filamentous Fungi Challenges

Non-homogenous Liquid Cultures

- Complex morphologies (e.g., pellets) prevent common optical measurements
- Cell dry weight measurements are invasive, time-consuming and only deliver limited data points

Disadvantageous Biomass Sampling

- Requires hours of manual, hands-on time
- Causes process interruption, risk of contamination, and loss of culture volume



Read the Publication

From the working group of Professor Hubertus Haas: Bauer et al., 2022. "Online biomass monitoring enables characterization of the growth pattern of *Aspergillus fumigatus* in liquid shake conditions."

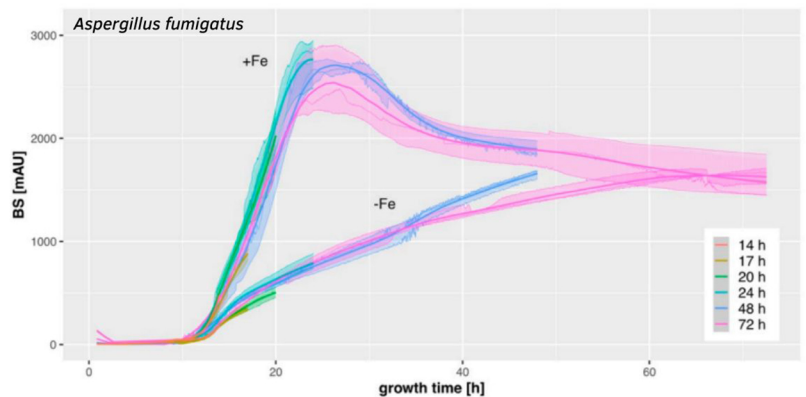


Key Features of the CGQ

- Automated, online, non-invasive biomass monitoring through the glass wall of your shake flask
- High raw data density delivers a complete image of the liquid in one data point
- Powerful DOTS Software for easy sensor handling and real-time data visualization

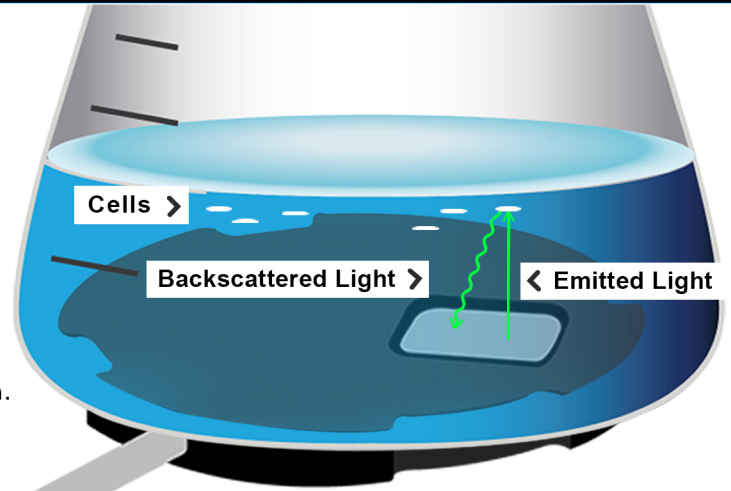
Benefits

- Irregular signals due to e.g., pellet formation are equaled out
- Continuous growth curves characterize the growth behavior of filamentous fungi species
- Save hours of manual, hands-on time required for cell dry weight determinations



How It Works

The CGQ emits light into the cultivation and measures the amount of light that is scattered back. The more cells present in the culture, the more light is scattered back, increasing the signal which is digitally collected as a backscatter reading. This process happens very fast with a dynamic measurement frequency of >500 kHz. That means that up to a million backscatter readings are collected within one measurement cycle (1-2 seconds), representing a full image of the cultivation.



Compatible With Your...

Bioprocess

- ✓ For a broad variety of microorganisms, including filamentous fungi species

Tested with:

- *Aspergillus niger/ fumigatus*
- *Neurospora crassa*
- *Trichoderma reesei*
- *Penicillium sp.*
- *Fusarium solani*
- And more!

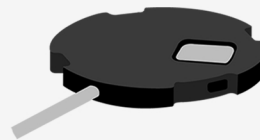
Lab Infrastructure

- ✓ 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

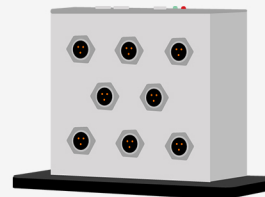
- ✓ Growth characterization
- ✓ Screening
 - Strain development
 - Media optimization
- ✓ Pre-culture monitoring
- ✓ Quality control

Components



CGQ Sensor

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



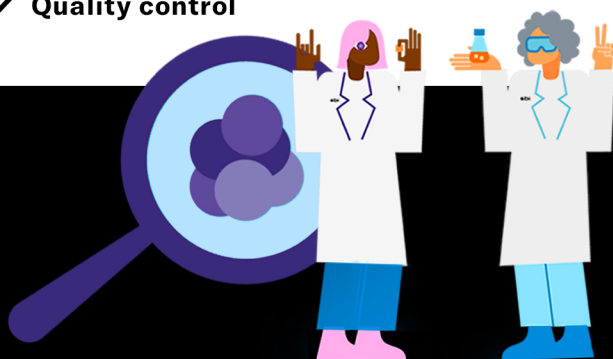
CGQ Hub

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