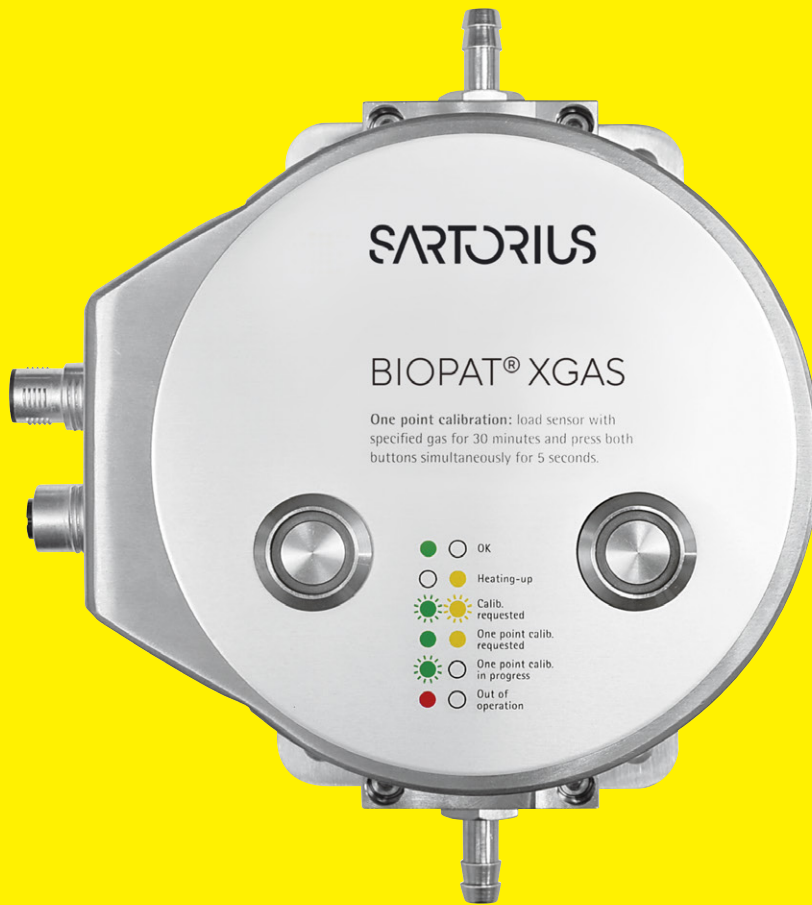


SARTORIUS



BioPAT® Xgas

Online Off-Gas Analysis

Why BioPAT® Xgas is awesome

- Cell activity information
- CO₂ & O₂ exhaust measurement
- Automated control loops
- Early fault detection
- No extra heated exhaust venting



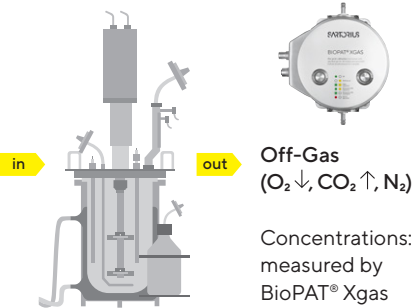
BioPAT® Xgas – Online Off-Gas Analysis

As all living things use O_2 and produce CO_2 the total activity of your cells can be understood from how they are respiring. Therefore, using the combination of as Sartorius Stedim Biostat® bioreactor with mass flow controllers and integrated BioPAT® Xgas you can accurately measure the rate of O_2 uptake (OUR), CO_2 production rate (CPR) and calculate automatically the respiration coefficient (RQ) of your process.

These calculations are performed by BioPAT® MFCS which accounts for the dynamic parameter changes of your process conditions. The sensor itself automatically compensates for pressure and humidity so there is no need to have heated exhaust lines.

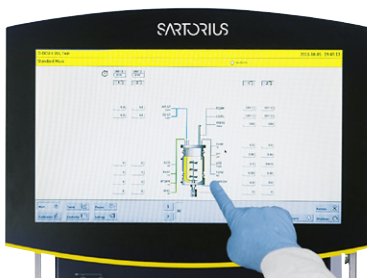
Aeration (O_2 , CO_2 , N_2)

Known or natural gas constituent % Volume: determined by **Mass Flow Controllers (MFC)**



Applicable Fermenters | Bioreactors

Fitted onto the exhaust line of the system after the sterile exhaust filter. Therefore, non-invasive and no risk of contamination of the system.



BioPAT® DCU

- Direct Display of % O_2 | % CO_2 on the DCU display
- **Reduced cabling & multiscreen checking**
- Functional monitoring of dO probe
- **Indicates a potential fault in liquid phase probes**



BioPAT® MFCS

Automatically produced Standard Outputs for process control

- Oxygen uptake rate (OUR)
- Carbon dioxide production rate (CPR | CER)
- Respiratory quotient (RQ)

Unique Feature

No other off-gas analyzer offers this function: Automatic compensation for humidity & pressure variance yields higher precision.

The BioPAT® Xgas fermenter package offers you a powerful process development tool which can reduce your process optimization time by giving clearer online understanding of your cells metabolic activities. Further, with accumulative O₂ uptake or CO₂ production, automated control loops can be established using BioPAT® MFCS S88 recipes which guide your process on a tighter processing pathway giving higher consistency.

The BioPAT® Xgas capability of detecting small changes in the percentage of O₂ and CO₂ offer the ability to detect a fault in dissolved O₂ probes and analyze the efficiency of CO₂ stripping. As all of these items come integrated from Sartorius Stedim Biotech they are all tested and covered by our Extend® service coverage.

Biostat® Range



Biostat® B



Biostat® B-DCU II



Biostat® C Plus (FL)



Biostat® D-DCU



Biostat STR®

Configuration and Connectivity

- Requires 2 analog external inputs on the control tower;
 - 1 for O₂
 - 1 for CO₂

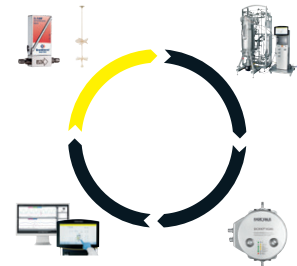
- Sensor size 25 × 25 × 20 cm



BioPAT® MFCS S88 Recipe

- Automatic event based control:
- Adding feeds | induction media
 - Harvest initiation
 - Gas mixing strategies

Metabolic Respiration Control




For complete technical details and to arrange a demonstration please contact your local Sartorius Stedim Account Manager.

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