BIOSTAT STR®
Generation 3
and BIOBRAIN
Automation Platform

Commercial Manufacturing

Simplifying Progress

SARTORIUS

Engineered for Quality and Precision

The BIOSTAT STR® Generation 3 single-use bioreactor system is now powered by BIOBRAIN, the new automation platform with data-driven software and a comprehensive suite of analytical tools. The system easily integrates into your existing process infrastructure and consistently delivers outstanding speed, quality, and productivity up to 2,000 L. The BIOSTAT STR® system supports the intensification of your seed train process. Start working at lower volumes, skip one or two steps in your seed train while still generating an adequate number of cells.

- ✓ Optimize capital costs
- ✓ Reduce operating expenses
- ✓ Enhanced safety and optimized space
- ✓ Improve productivity and ease of use
- ✓ Increase facility throughput

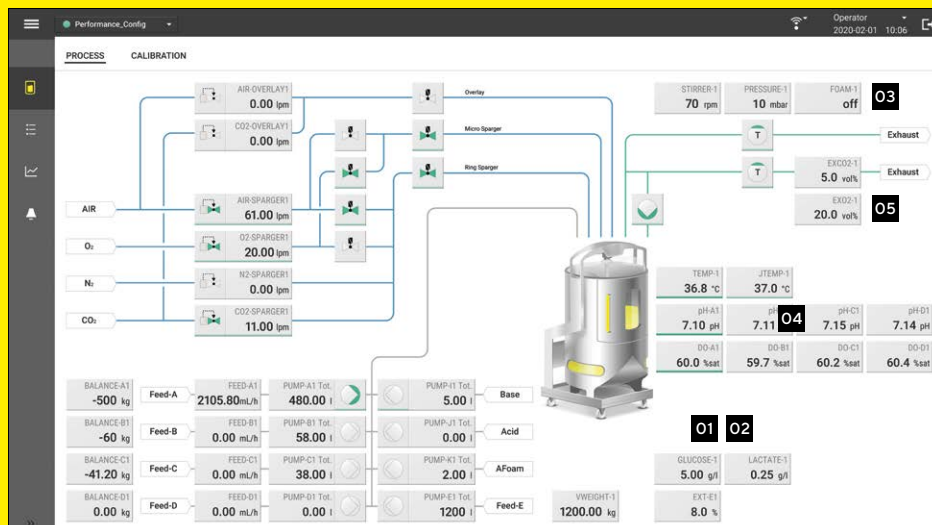## Maximize Quality and Consistency

BIOSTAT STR® system simplifies technology transfer between production scales and ensures consistent quality without surprises and re-optimization.

The Flexsafe STR® bags with optimized resin formulation and minimized additive package lead to cell viability and higher cell densities. The complete control of the raw materials, the extrusion process and the bag assembly guarantee consistent lot-to-lot cell growth performance. The thickness, strength and flexibility of the polyethylene film enhances the mechanical robustness of Flexsafe® bags, making it ideal for all bioprocessing applications.

The Sartorius scaling tool accurately predicts conditions required to scale your process by considering volumes, process parameters, and any constraints to identify those process parameters required to achieve your goals. Our technical support team can assist you with standard operating procedure (SOP) conversion from your existing scale or technology.

The BioPAT® toolbox helps you realize the full potential of intensified processing by improving output through automated feed and bleed, better process visibility, and by reducing risks associated with manual sampling and control.

01 BioPAT® ViaMass
In-line monitoring of viable biomass and automated cell bleed control

02 BioPAT® Trace
On-line monitoring of glucose and lactate and automated feed control

03 BioPAT® Foam
Monitoring of foam level with alarming and interlock functionalities

04 Electrochemical single-use pH sensors

05 BioPAT® Xgas
Oxygen-carbon dioxide sensor featuring automatic compensation of humidity and pressure

BioPAT® Spectro
Unlock the full potential of Raman spectroscopy

Flex Your Production

The BIOSTAT STR® system with a working volume from 12.5 L to 2000 L and BIOBRAIN automation platform provides you the flexibility and power to adapt on-demand.

The fully configurable control tower can be used interchangeably with any bag holder size. The advanced user interface and improved connectivity make bioreactor operation more streamlined. Furthermore, the organizational racks for pumps and balances together with cable and tubing organizers plus flexible document tray fit in perfectly.

Each bioreactor has a fully scalable, stirred-tank design and offers high performance across a range of processes including high-cell density, micro carrier and perfusion. The Flexsafe STR® bags are designed with multiple sparger and impeller options on a magnetically coupled center-line shaft that deliver homogenous mixtures quickly, even at high volumes and low mixing speeds.

On top of that, BIOSTAT STR® supports connection to Repligen's XCell™ ATF cell retention devices to increase the cell density and productivity and enables process intensification.

Attain Operational Excellence

The BIOSTAT STR® system provides different control options to let you choose the best integration into your existing process infrastructure.

- Local management via control tower including BIOBRAIN automation platform with connection to data historians
- Full process management via distributed control systems e.g. Emerson, Siemens or Rockwell

Are you an Emerson DeltaV™ user?
Benefit from the native DeltaV™ solution.

Technical advantages:
- Complete mapping of your BIOSTAT® system
- Full access to all process values and controller parameters
- Sartorius DeltaV™ library to manage sensors, actors and advanced analytics

The integration for native DeltaV™ comes with local support of an experienced project team which provides support from initial design to final installation.

Find out more
For more information, please visit
sartorius.com/biostat-str

BIOSTAT STR® Generation 3 Configurations

Our commerical manufacturing solutions have been predesigned into three configurations with flexible options and easy upgrades. Select the configuration that best fits your current needs and can conveniently adapt to any future requirements.

	Essential	Performance	Performance Plus
Perfusion ready		■	■
Process Analytical Technologies (PAT) Toolbox			
BioPAT® Foam	Optional	Optional	■
BioPAT® Trace		Optional	Optional
BioPAT® ViaMass		Optional	Optional
BioPAT® Xgas		Optional	Optional
BioPAT® Spectro		Optional	Optional
Electrochemical pH sensor	■	■	■
Peripherals			
No. of external pumps	2	4	4
Load cells	■	■	■
Mass flow controller	6	6	6
Flexsafe STR® bags	■	■	■
Sartocheck® bag tester	Optional	Optional	■
Integration Capabilities			
Recipe editing and execution	■	■	■
Local data storage	■	■	■
Native Emerson DeltaV™		■	■
Siemens SIMATIC PCS 7		■	■
Process design support and services		■	■

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