



# BioPAT<sup>®</sup> MFCS

The New Standard  
in Bioprocess  
Data Management

Simplifying Progress

SARTORIUS

# Developed for the Process – Designed for You!

BioPAT® MFCS enables you to incorporate a new standard in bioprocess data management and automation. Its reliable data acquisition, efficient trend monitoring, and advanced recipe control make it an ideal tool for all upstream and downstream processes, no matter if you prefer single-use or reusable systems. The new BioPAT® MFCS is your solution for robust and reproducible processes – all backed by our expertise since 1986.

## Clear Composition and Design

Experience the attractive and modern software design of BioPAT® MFCS. The intuitive workflow facilitates your daily tasks, and its amazingly simple navigation allows rapid access to all process-relevant information.

## Cutting-Edge and Compatible Technology

BioPAT® MFCS is compatible with the latest off-the-shelf hardware and software. Quickly collect your data and store it safely in the searchable SQL-database. You will benefit from high performance, scalability, and high availability.

## Sartorius Service and Support

The Sartorius Service will help you to get the maximum out of your new BioPAT® MFCS. Extensive email support and the possibility to download the most recent version with the latest functionality will ensure reliable operation and easy handling.

## What's New in BioPAT® MFCS 4.9 Version?

- **User Management:**  
Profit from centralized user management with domain connectivity and flexible permission rights configurations
- **SIMCA® and SIMCA®-online Connectivity:**  
Benefit from real time MVDA with dedicated connector (SIM API)
- **32 supported process units**
- **Customized Recipes:**  
Implement fully customized recipes provided by Sartorius leveraging of the expertise of BioPAT® MFCS 4 engineering team
- **Batch Importer:**  
Easy import of BioPAT® MFCS/win 3.1 batches into BioPAT® MFCS 4.9



### 1: Intuitive Navigation

Benefit from easy access to all main operation areas of BioPAT® MFCS.

### 2: Connectivity

Integrate PAT sensors and analyzers via OPC for enhanced process knowledge.

### 3: Quick Overview

Quickly switch between up to 32 units and get all relevant information at a glance.

### 4: Calculation Capabilities

Calculate important bioprocess parameters and non-direct measurable variables with the calculation module.

### 5: Focus on Essentials

Get the right focus for a fast and clear data inspection with the slidable time bar.

### 6: Advanced Charting

Display real-time monitoring of 12 process values and benefit from batch analysis.

### 7: Eye-Opening Performance

Use multi-monitoring access capabilities to boost your productivity.

### 8: Centralized Storage

Enter off-line process data with the sample data module.

### 9: Process Safety

Let the alarm management system take care of process limits.

### 10: Data Integrity and Security

High-quality data collection in a fast, powerful, and searchable SQL-database.



# Turn Advanced Process Strategies into Reality

## Features

- Intuitive, graphically guided configuration
- Drag-and-drop operations and phases
- Sequential, parallel, and repeated execution of phases
- State and time-dependent transitions
- Pre-defined phase types for set-points, feeding profiles, or timers

## Benefits

- Improved batch-to-batch consistency
- Decreased risk of errors
- Minimized number of rejected lots
- Automated processing to free up operator time
- ANSI-88-compliant, standardized automation

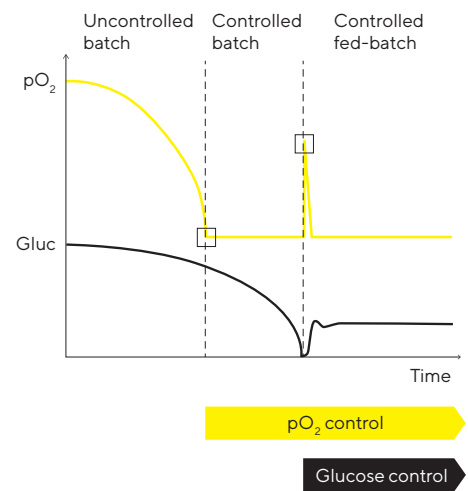
## Application Example

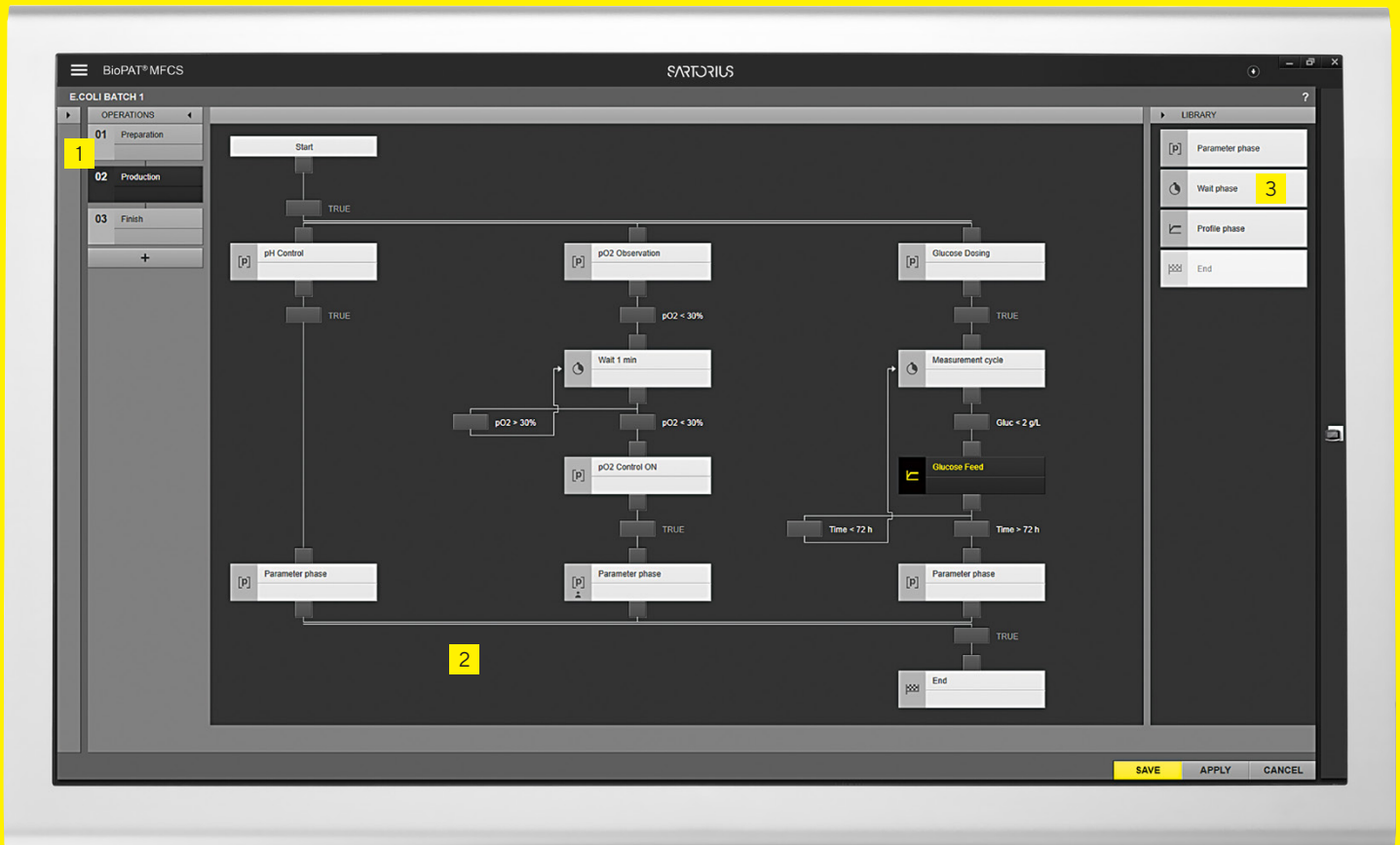
- Event-based activation of control loops
- Automatic batch end detection, e.g., based on  $pO_2$  | off gas measurements
- Implement advanced feeding strategies for fed-batch processes
- Control complex perfusion processes with predefined perfusion recipes

## Customized and Perfusion Recipes for BioPAT® MFCS

Creating recipes is a complex and time-consuming task requiring experienced user that know the process and the specific unit operations capabilities. The BioPAT® MFCS engineering team can support recipe writing or provided template recipes including perfusion leveraging their extensive systems and process experience.

### Automatically Switch Between Process Phases





BioPAT® MFCS Recipe Control Module

### 1: Easy Configuration

Get started immediately, and implement your process strategies.

### 2: Intuitive Use

Clear workflows for maximum productivity.

### 3: Quick Access

Pre-defined functions are right where you need them.

## Extend the Possibilities of BioPAT® MFCS



**Recipe Control Module**  
ANSI-88-compliant batch control for robust process automation



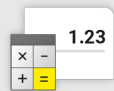
**OPC Server Module**  
Connect BioPAT® MFCS process data and alarms to your historian or MES systems (e.g. SIM API)



**User Management**  
Centralized user management with domain connectivity and flexible permission rights configurations



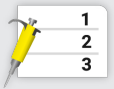
**OPC UA Client Module**  
Connect to Biobrain® and additional equipment, e.g., BioPAT® Trace, BioPAT® Xgas



**Calculation Module**  
Create soft sensors to monitor non-directly-measurable quantities, e.g., OUR, RQ



**Multi User Option**  
Monitor and control your process from up to 30 BioPAT® MFCS clients simultaneously (RDP supported)



**Sample Data Module**  
Integrate and manage off-line sample data

**SIMCA® and SIMCA®-online**  
Real-time MVDA with dedicated connector (SIM API)

## Minimum System Requirements

### Server & Client Stand-alone

#### Installation

4-core 2.5 GHz processor  
8 GB memory (RAM)  
DirectX 10 graphics device (1 GB)  
Network card (1 Gbit)  
50 GB hard disk space  
15.6" monitor (1366 × 768)

## Multi-User Installation

### Client

4-core 2.5 GHz processor  
4 GB memory (RAM)  
DirectX 10 graphics device (1 GB)  
Network card (1 Gbit)  
50 GB hard disk space  
15.6" monitor (1366 × 768)

### Server

8-core 2.5 GHz processor  
16 GB memory (RAM) +  
2 GB per terminal server session  
Network card (1 Gbit)  
250 GB hard disk space RAID 1 or 5

## Supported Operating Systems (64-bit)

Windows® 8.1 Enterprise,  
Pro & University\*  
Windows® 10 Enterprise,  
Pro & University\*  
Windows® Server 2016 | 2019

\* No support for LTSC/LTSB, Home version and versions no longer supported by Microsoft®

## Supported Virtual Environments

VMware® Workstation  
Hyper-V®

## Ordering Information

### Software

BioPAT® MFCS 4      Core Software

### Additional Software Modules and Options for BioPAT® MFCS 4

Recipe Control Module

OPC Client Module

OPC Server Module

Sample Data Module

Calculation Module

Charting Module

Multi-User Option (small and large size)

User Management Module

Microsoft® SQL Server 2019 Standard run time (Server, 64-bit) | University

### Services for BioPAT® MFCS 4

Perfusion Recipe

Customized Recipes (simple, medium, and complex size)

BioPAT® MFCS is available for up to 32 Units.  
Please contact your local sales representative regarding a license for more than 1 unit.

### Upgradable with Upcoming Modules

Additional modules (e.g., 21 CFR Part 11 module) for the adaptation of BioPAT® MFCS to your individual process requirements will be available soon.





Learn more about BioPAT® MFCS by downloading the demo version. Stay up to date about the latest product and security updates by visiting the BioPAT® MFCS website for more information.


🌐 Visit the BioPAT® MFCS website:  
[www.sartorius.com/biopatmfcs](http://www.sartorius.com/biopatmfcs)

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