

■ THE SOFTWARE-FIRST BIOREACTOR

Bioreactica

Small Scale Laboratory Bioreactor

The bioreactor designed around its software. Set up in an hour. Calibrate in minutes. Run from any browser. Unlimited users — zero license fees.



WORKING VOLUME

2 – 10 L

VESSEL Ø × H

240 × 382 mm

AGITATION

0–2000 RPM

CONTROL

Linux SCADA

Built around the software you'll actually use.

Most lab-scale bioreactors trap your data and your team behind clunky desktop apps and per-seat licenses. We started Bioreactica to flip that. The vessel is rigorous, the sensors are premium — but the real product is BioCore, a browser-native SCADA platform that any researcher in your lab can open, calibrate and run.



01

One-hour setup

Plug-and-play sensors are auto-recognised. No drivers, no config files — power on, calibrate, run.

02

Browser-native control

10.1" QLED touchscreen on the unit, plus secure remote access from any browser over VPN.

03

Unlimited users

No license fees, no per-seat charges. Your whole team — students, PIs, operators — collaborates on every run.

04

Easy calibration

Guided sensor calibration, automatic peripheral detection, and user-scriptable automation built in.

A multidisciplinary Hungarian start-up.

At Bioreactica we believe breakthrough science shouldn't be held back by rigid software or overly complex hardware. Our team was born from a shared frustration with the status quo of lab-scale fermentation: systems that are hard to scale, expensive to maintain, and trapped behind proprietary software walls. We are a collective of economists, software developers, biotechnologists and hardware architects, headquartered in Hungary. We combined years of hands-on bioreactor work with deep industrial-engineering experience to build a system that puts the focus back on the science.

THE BIOTECHNOLOGIST

Hardware that respects the biology — premium sensors and modular vessel design.

THE ENGINEER

Plug-and-play infrastructure. From crate to first run in under one hour.

THE DEVELOPER

No clunky installs. Browser-native control with auto-detected peripherals.

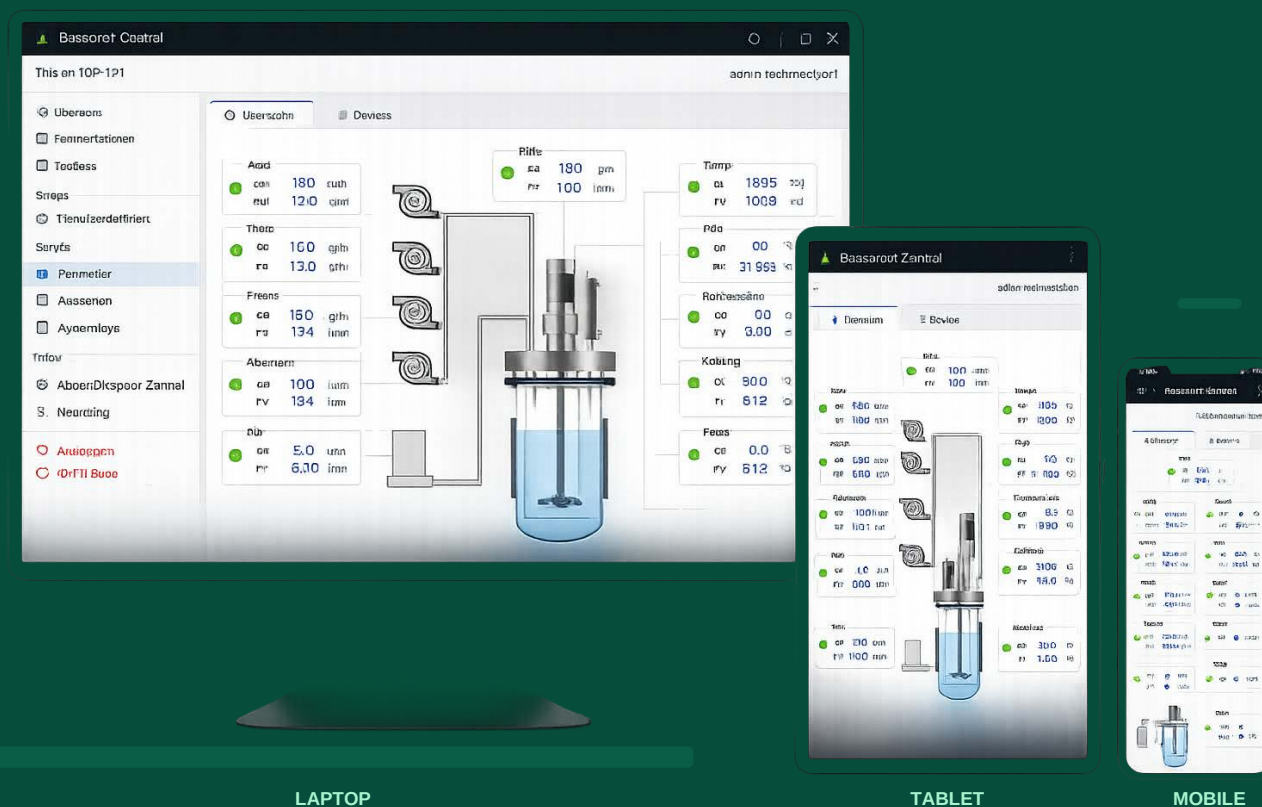
THE ECONOMIST

No license fees. Unlimited users. Collaboration without financial barriers.

BioCore.

Open a browser. Run a fermentation.

BioCore is our user-friendly SCADA platform for monitoring, controlling and recording lab fermentations. It auto-detects connected peripherals — sensors, balances, auxiliaries — and supports flexible user scripting for advanced automation.



LAPTOP

TABLET

MOBILE

BioCore runs in any modern browser — desktop, tablet or phone

AUTO-DETECT

Peripherals on plug-in

SECURE REMOTE

Browser access via VPN

USER SCRIPTING

Automate any protocol

NO LICENSE FEE

Unlimited users

Autoclavable. Modular. Built for complex fermentations.

BioReactica is a series of autoclavable borosilicate-glass bioreactors spanning small-scale working volumes from 2 L up to 10 L. Vessels feature a 1:2 aspect ratio, top-stir servo drive with PID control, and are designed for easy maintenance — washing, autoclaving and re-assembly are streamlined. High customisability and reliability for complex fermentations — both microbial and cell-culture applications on the same hardware platform.

AVAILABLE SIZES

MODEL	TOTAL VOL.	WORKING VOL.	OVERALL Ø×H	STERILIZATION Ø×H
BioReactica QF-3	3 L	2.1 L	130 × 255 mm	205 × 440 mm
BioReactica QF-5	5 L	3.5 L	160 × 285 mm	250 × 488 mm
BioReactica QF-7	7 L	5.5 L	160 × 355 mm	250 × 560 mm
BioReactica QF-15	15 L	10 L	240 × 382.5 mm	360 × 588 mm

HARDWARE HIGHLIGHTS

10.1" QLED touchscreen Capacitive multi-touch on-unit display	pH/pO2 Hamilton sensors Digital, factory-calibrated probes	MFC Bronkhorst gas control Digital mass-flow controllers
2000 Servo agitator Brushless DC, 0–2000 rpm range	6×2 Twin propeller Double-layer 6-blade impeller	O2/CO2 Off-gas sensors Built-in dissolved O2 and CO2
4× Peristaltic pumps High-precision dosing channels	°C Jacketed vessel External chiller for tight control	GMP GMP / ASME / BPE Compliant build & documentation

FERMENTATION MODES

BATCH Closed-system runs	FED-BATCH Controlled substrate feed	CONTINUOUS Steady-state cultivation
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Full system specification

BioReactica Small Scale · Microbiology (MO) and Cell-Culture (CC) configurations

AREA	PARAMETER	MICROBIOLOGY (MO)	CELL CULTURES (CC)
System	Model	BioReactica Small Scale	BioReactica Small Scale
Vessel	Total / working volume	3 – 15 L / 2.1 – 10 L	3 – 15 L / 2.1 – 10 L
	Dimensions Ø × H	130–240 × 255–382 mm	130–240 × 255–382 mm
	Material	Borosilicate glass	Borosilicate glass
	Aspect ratio	1 : 2.0	1 : 2.0
	Compliance	GMP · ASME · BPE	GMP · ASME · BPE
Aeration	Flow control	Digital MFC (Bronkhorst)	Digital MFC (Bronkhorst)
	Gas supply	Air, O2	Air, O2, N2, CO2 + headspace
	Flow range	0.1 – 25 L/min	0.1 – 25 L/min
	Sparger	Ring sparger	Microsparger
Mixing	Drive	Top servo, magnetic coupling	Top servo, magnetic coupling
	Speed range	20 – 2000 rpm · BLDC PID	20 – 2000 rpm · BLDC PID
	Agitator	2× Rushton / 6-blade propeller	2× pitched-blade impellers
	Exhaust condenser	Yes (316 SS)	Yes (316 SS)
Control	Controller	Linux process controller (PLC)	Linux process controller (PLC)
	Operator panel	10.1" QLED touch	10.1" QLED touch
	Temperature	Ambient +5 °C – 80 °C	Ambient +5 °C – 80 °C
	Temp accuracy	PT100 · ±0.1 °C	PT100 · ±0.1 °C
	pH sensor	Hamilton Arc · 0–14 ±0.01	Hamilton Arc · 0–14 ±0.01
	pO2 sensor	Hamilton · 0–200% ±1%	Hamilton · 0–200% ±1%
	Foam / level	Stainless probe, PID	Conductivity sensor (opt.)
	Cell density	Hamilton Dencytee (opt.)	Hamilton Dencytee (opt.)
Pumps	Peristaltic	4 built-in · 0–200 rpm	4 built-in · 0–200 rpm
Off-gas	O2 sensor	LOX-O2-F UV Flux 25%	LOX-O2-F UV Flux 25%
	CO2 sensor	SprintIR-R 5/20/100%	SprintIR-R 5/20/100%
System	Power	220 V · 50 Hz · 10 A	220 V · 50 Hz · 10 A

Bioreactica

The software-first small-scale bioreactor.

Designed, engineered and assembled in Hungary.

GET IN TOUCH

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Hungary



MADE IN
HUNGARY