



BIOREACTORS

5 L Bioreactor



Automated, Robust and User Friendly

Our innovative fully automated and autoclavable laboratory bioreactor is designed for R&D and process development. It has a robust design, yet it is compact and ergonomic. The vessel is mounted between a jacketed base and a non-welded lid.

PERFORMANCE

Rotation Speed Range (RPM)	up to 1300
Temperature Range	5-60°C

WARRANTY

Parts	2 years
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Autoclavable
Sampling
Port



Novel
Magnetically
Coupled Drive



Intuitive
15" Touch
Screen

Technical Specifications

5 L BIOREACTOR		
MODEL	BIOREACTOR 5.1 (FOR MICROBIOLOGY)	BIOREACTOR 5.2 (FOR CELL CULTURES)
VESSEL		
Total Volume (L)	6.2	
Working Volume (L)	2 – 4.5	
Inside Diameter/Inside Height (mm)	150 / 350	
Ports	Mixer drive; pH, DO, T, foam, liquid level sensors; tree needle port for acid base and anti-foam agent addition; chemo-stat tubes for level control and addition of bioreactor feed solutions; aseptic pierceable membrane port; in-let gas port (0.2 µm filter added); exhaust gas port (0.2 µm filter added); 2 spare ports/ The ports are 4x10 mm, 4 x 7.5 mm – 7x12 mm (PG 13.5 mm)	
Sampling	Double walled base ensuring bioreactor thermostating. Autoclavable aseptic sampler	
AERATION		
Control	Rotameters (2), TMFC (option)	
Gas Supply	Air and oxygen	Air/Carbon dioxide + Oxygen, N ₂ (option) Air/Carbon dioxide in headspace
Flow Range, L/min	0.5 -8.6	0.1 - 2
Sparger	Ring	Microsparger
Filters	D50 mm 0.2 µm PTFE	
Exhaust gas condenser	Cooling from water – line or chiller	
MIXING		
Drive	Top magnetic coupling	
Rotation Speed Range (rpm)	40 – 1300	40 – 500
Mixer (Impellers)	2 rushton turbines	2 pitched blade impellers
CONTROL		
Controller	Siemens Simatic S7 - 1500	
Operator panel	Touch screen Beetrionics, 15TS7, 15"	
pH	Built-in thermostat. Control range: from 5°C via coolant to 60°C. Accuracy:(measurement) +/- 0.1°C, (control) +/- 0.2°C	
pO ₂	Hamilton sensors	Hamilton sensors (different options, including Arc).
Foam	Conductivity sensor	Option
Overpressure (option)	The control range 0-1 bar, measuring accuracy +/- 0.02 bar, control accuracy +/- 0.04 bar	
Feeding	0.02 - 40 ml/min according to adjusted profile	
Peristaltic Pumps	4 built-in peristaltic pumps. External pump (option)	
Communication and data exchange	Ethernet connection to LAN or WAN for remote maintenance or OPC; WiFi connection (VNC server) for smart phones and tablets	
Dimensions (mm)	930 (W) x 800(H) x 600(D)	
Autoclaving space required (mm)	590 (H) x 270 (D)	
Optional sensors	Culture turbidity (optical density), culture permittivity (viable cell density), conductivity, methanol/ethanol, off-gas analysis (Oxygen, Carbon dioxide, CH ₄), etc.	
Fed-batch control (option)	Model based fed-batch control, using supplement PC program (based on Matlab or Python), and connected with SCADA trough OPC server.	