

xCUBIO single

**The World's Most Customizable Set for
Bioreactors and Fermentors with One
Single Autoclavable Vessel**

Unlimited biotech
application options

Unlimited sensor
opportunities

0.5, 1, 2, 5 and 10 litres
jacketed glass vessels

Vessel options: scaled,
airlift, steel, single-wall

Up to 10 independent, internal pumps,
digital or analogue

Up to 12 MFCs with complex gassing regimes – from
bacteria and fungi to cell cultivation

xCUBIO provides the most equipment options among all
bioreactors and fermentors worldwide.



General Parameters

Measures (W x H x D)	640 x 790 x 450 mm; xCUBIO single with 0.5, 1 or 2 litre vessel	
	740 x 790 x 450 mm; xCUBIO single with 5 or 10 litre vessel	
	640 x 660 x 450 mm; xCUBIO single without thermostat	
Materials	Borosilicate glass vessel with double jacket and round bottom	
	Stainless steel head plate with optimized port distribution	
	All parts with media contact are 1.4435/1.4571 stainless steel	
Automation	10"-touchscreen with intuitive menu design, 19" display available	
	Superior trend display with data analysis and visualization capabilities	
	Multiple control, sequencing and export functions (CSV, OPC, VNC, USB)	
	Free choice of sensors, actuators and automation level	
Media Handling	Up to 10 peristaltic pumps	Free sizing of all pumps
	Free pump purpose allocation	Independent drive for each pump
	Digital or analogue drive selection	External pumps from lab to scale
Gas Handling	Up to 12 mass flow controllers	Rotameters for manual flow control
	Up to four gasses	Input pressure reducers
	Complex gassing regimes	High cell density cultivation possible



Example Configuration: Standard Minimal Setup for Microbial Applications with 5 Litre Vessel

Measures (W x H x D)	740 x 790 x 450 mm including thermostat	
Media Handling	4 x peristaltic pumps	3 x digital, 1 x analogue
	For corrective media & harvest/feed	1 x AO for external pump
Gas Handling	1 x MFC for oxygen	1 x magnetic valve for air/nitrogen
	1 x sum flow rotameter	1 x microsparger
Sensors	1 x temperature in medium	1 x pH in medium
	1 x pO ₂ in medium	1 x level or foam
Stirrer	Top drive	Powerful servo drive
	USB record and screenshot export	
	3 x Rushton impellers	Continuous speed control 0...1,200 rpm



Options

Packages	Cell	Extended and sensitive gassing system, ultra-sensitive mixing		
	Algae	The world's smallest tubular glass photobioreactor: xCUBIO phar		
	Sub	Illuminated vessel and tube system, λ-control, gas balancing		
Vessels	Single-use system with disposable vessels and sensors			
	Autoclavable double jacket glass vessels 0.5, 1, 2, 5 or 10 litres			
Media and Gas Handling	Single-wall glass vessels, airlift systems, bubble columns, steel vessels, disposables			
	Flow-chart-specified customization for every biotech demand			
Sensors	pH (2...12)	Temperature (0...130 °C)	Level/foam (on/off)	
	pO ₂ (0...100 %)	pCO ₂ (0...100 %)	Turbidity inline (0...4 CU)	
	Exhaust O ₂ (0...25 Vol.-%)	Exhaust CO ₂ (0...10 Vol.-%)	Turbidity bypass (0...4 CU)	
	Conductivity (0 μS...2 GS)	Redox/ORP (± 1,000 mV)	Pressure (-1...+3 barg)	
	Balances (± 0.001...± 10 g)	Many more! Customize ranges, media, types and scales!		

