

# xCUBIO single

**The World's Most Customizable Bioreactor for  
Microbial and Cell Culture Applications with one Autoclavable Vessel**

xCUBIO – The flexible  
platform for every bioprocess

Unlimited sensor and  
communication possibilities

Jacketed, single-wall and  
airlift vessels from 0.25 l to 20 l

Up to 10 internal pumps,  
additional external pumps

Customized gassing regimes  
for bacteria, fungi and cell cultivation

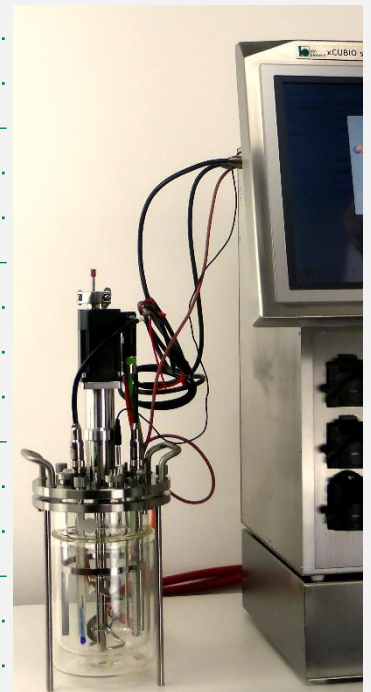
Integration of latest analysis technology like  
glucose control and automated bioprocess sampling

xCUBIO provides the most equipment and  
customization options among all bioreactors worldwide



### General Parameters

Measures (W x H x D)	640 x 780 x 450 mm; xCUBIO single with 0.5, 1 or 2 litre vessel	
	740 x 780 x 450 mm; xCUBIO single with 5 - 10 litre vessel	
	520 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	19"-touchscreen with intuitive menu design	
	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 of every size
Gas Handling	Up to 12 mass flow controllers	Rotameters for manual flow control
	Up to four gasses, more possible	Input pressure reducers
	Complex gassing regimes	High cell density cultivation possible



### Example Configuration: Standard Minimal Setup for Cell Culture Applications with 5 Liter Vessel

Measures (W x H x D)	740 x 790 x 450 mm including thermostat (incl. vessel)	
Media Handling	4 x peristaltic pumps	2 x digital, 2 x analogue
	For corrective media & harvest/feed	1 x interface for external balance
Gas Handling	1 x MFC Air/ and CO <sub>2</sub>	2 x magnetic valve for O <sub>2</sub> and N <sub>2</sub>
	1 x micro sparger with detachable frit	
Sensors	1 x temperature in medium	1 x pH in medium
	1 x pO <sub>2</sub> in medium	1 x level or foam
Stirrer	Top drive	Powerful servo drive
	2 x 3-blade impellers (adjustable angles)	Continuous speed control 0...1,200 rpm



### Options

Packages	Cell Culture	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 jacketed glass vessels 0.5, 1, 2, 5, 10, 15 and 20 litres		
Media and Gas Handling	Single-wall glass vessels, airlift systems, bubble columns, steel vessels, disposables		
	Flow-chart-specified customization for every bioprocess demand		
Sensors	pH (2...12)	Temperature (0...130 °C)	Level/foam (on/off)
	pO <sub>2</sub> (0...300 %)	pCO <sub>2</sub> (0...100 %)	Turbidity inline (0...4 CU)
	Exhaust O <sub>2</sub> (0...25 Vol.-%)	Exhaust CO <sub>2</sub> (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!	

