

miniBRx™ 0.25

Single use mini-bioreactors for

- Cell culture process development / characterization / optimization studies
- Scale-down modeling and DOE/QbD experiments
- High throughput perfusion based process development
- Microcarrier based Adherent cell processing



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SPECIFICATIONS

General Specifications

Docking Stations

Size (L x W x H)	900 mm x 583 mm x 542 mm
Weight	80 KG
Material	Stainless steel, AISI 316L EN 10020 1.4301
Power Supply	100-240 V, 50 – 60 Hz
Display	Touch screen, 19", capacitive, Resolution: 85 dpi
SCADA/interface	21 CFR part 11 / USB, Ethernet
Regulatory compliances	CE, RoHS, OSHA

Facility and Utility Requirements

Gas Supply (Moisture, oil & dust-free)

Air	1.5 bar
O2	1.5 bar
Co2	1.5 bar
N2	1.5 bar

Water supply

Water	Optional
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Environmental Requirements

Ambient temperature	25°C
Relative humidity range	Less than 65%

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SPECIFICATIONS

Process Control | Sensors

Sensor Measurement Range Display Accuracy	
Temperature	Pt100 0-150°C (temperature control 30-40°C) 0.1°C
Dissolved oxygen, single-use	Optical 0-100 % 0.1 %
pH, single-use	Optical 5.5 - 8.5 pH 0.1 pH
Level	Electrical conductive, SS, insulated (optional)
pCO ₂	Optical 8 - 180 mmHg pCO ₂ 1.2 mmHg (optional)
Glucose	Enzymatic sensor 0 - 40 g/L 0.01 g/L (optional)
Lactate	Enzymatic sensor 0-10 g/L 0.01 g/L (optional)
Biomass	Capacitance 0-400 e6 cells/mL 0.01 e6 cells/mL (optional)
Load cells	Optional
Pressure	Single-use up to 75 psi (5.2 bar) 2% or less (optional)
Exhaust Gas analyzer	Optional

Aeration Module

Type of Sparger	Open Pipe / Ring/Micro (sintered)
Outlet to culture vessel	Hose barbs for tubing's with Ø internal = 2.4 mm (0.09")
Module	Additive flow 4-gas (Air, O ₂ , N ₂ , CO ₂) aeration module
Gas outlets	2 nos : Sparger and Overlay
Max. total flow	Up to 2 lpm per gassing line
Gas switching valves sparger to o/L	Optional
Mass flow controllers	Up to 5 / Brx
Solenoid valves	Up to 6 / Brx

Agitation module

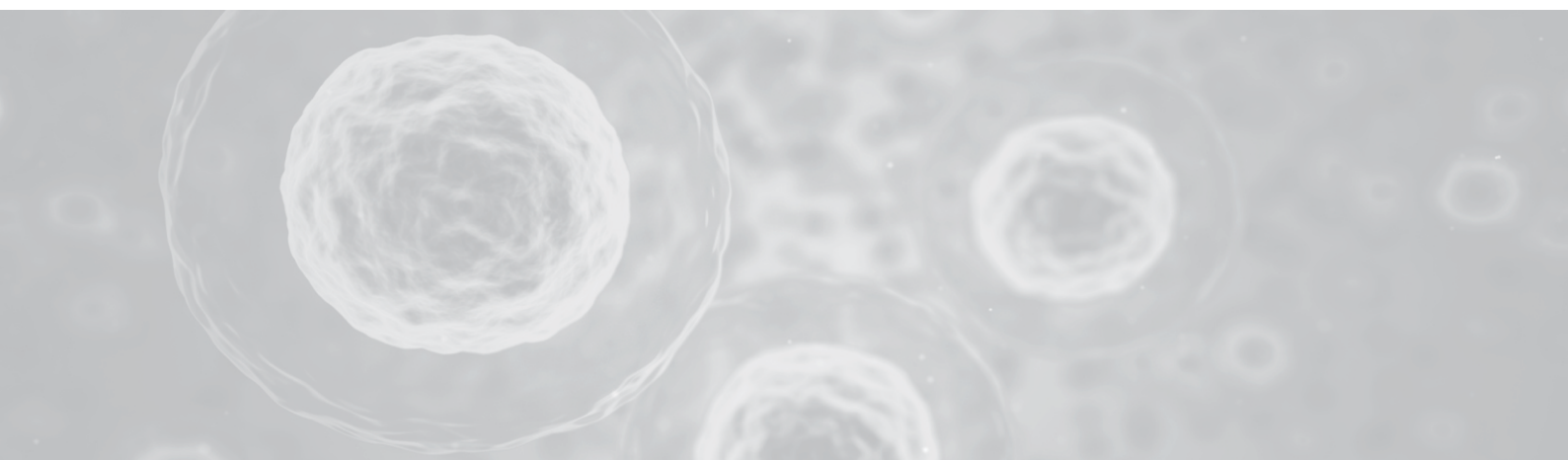
Max. stirrer speed	800 RPM
Motor (Overhead drive)	Servo with Gearbox, magnetic coupling, Power:100 W
Impellers	3 blade, Pitched blade Segmented, Customizable

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SPECIFICATIONS

Process Control | Sensors

Pump module	
Built-in pumps	Peristaltic, 6 no's per Vessel
Tubing size	Tubing wall thickness 1.6 mm
Fixed speed pumps	6 No's per BRx up to 100ml/min
Variable speed pumps	1 No's (Optional)
Temperature Control Module	
Heating Element	Flexible silicon heating blanket , Power: 70W
Temperature control	up to 50°C, Heater integrated pt100 sensor
Sampling System	
Sampling port	Needle-free syringe sampling port
Process control software	
Instrumentation	IPC/industrial-PC operating software
Controls	Advance process controls for pH, Temp.,DO,Perfusion etc
Alarms	Alarm management system, interlock system
Perfusion	Integrated perfusion controller (optional)
Integration	Secure integration into company networks (optional)
Compliances	CSV (Computer System Validation) , 21 CFR part 11,GAMP5



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Culture Vessel Specifications

Material of Construction	PET(Polyethylene terephthalate), Silicon
Regulatory Compliance	Biocompatible, USP <87> <88>
	Animal-derived component (TSE-BSE) free
Production area	Class-8 clean room environment according to ISO 14644-1
Sterility	As per USP <71>, Gamma Irradiated
Endotoxins	As per USP <85>
Physicochemical compliances	As per USP <71>
SUB Integrity test	Validated pressure decay method
Regulatory compliance	CE, RoHS, OSHA

Vessel Configurations

Total Volume	360 ml
Max Working Volume	250 ml
Min Working Volume	150 ml
h/D	1.8
Aeration	Overlay & Sparger (Open Pipe / Ring/Micro)
Fluid ports	Media, Inoculum, Feed, Glucose, Base, Antifoam, Harvest Sampling port
Tubing size and end connectors	Silicon/C-Flex, CPC quick connectors/Luer. (Customizable)
Vent Filters	Sparger Gas-In, Overlay Gas-In, Exhaust gas out
Sensors and probes	Temperature from top side, pH & DO at bottom

Perfusion Integration

HF-TFF	>100 cm ²
Pore Size	0.2 / 0.45 microns
MOC	PES
End Connections	Luers/ CPC
Perfusion Pump	Integrated low-shear Perfusion Pump

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SPECIFICATIONS

Documentation and other services

Commissioning Support	DQ, FAT, IQ, OQ & PQ
	GMP documentation assistance
Consultation	Client specific Process consultation and contract services
Training	Scheduled on-site operator training

Ordering information

miniBRx™ System Components

Controller unit (up to 16 BRx)	Order no: 470200.CT.250
Docking station (04 X BRx)	Order no: 470200DS.04.250

miniBRx™ Single-Use Vessel

miniBRx 0.25L (Set of 4 SUBs)	Order no: 510101.S4
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Contact

OmniBRx Biotechnologies Pvt. Ltd.

INDIA

33, Sector - 3, Akshar Industrial Park ,
Opp. Zydus Cadila (Moraiya Plant),
Changodar, Ahmedabad - 382210,
Gujarat - India.

+91 771 8843943

info@omnibrx.com

www.omnibrx.com

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