

BioReactors

HEL BioXplorer 100

The Mini-Bioreactor System For Rapid Parallel Bioprocessing



Rapid screening and evaluation of a wide range of fermentation conditions and cell line/strain development

BioXplorer 100

The BioXplorer 100 is a high throughput, bioprocess screening system designed for fermentation working volumes of just 20ml to 150ml in blocks of 8 individually controlled bioreactors.

Blocks can be combined to give even larger number of parallel reactors.

The BioXplorer 100 boosts productivity and enables rapid screening, process development and full DoE experiments to be performed efficiently.

The modular design and extensive list of options means the BioXplorer 100 can be adapted to any application including microbial fermentation, C1 Gas fermentation and cell culture.

- | Fully automated, high information content screening tool ideal for DOE studies
- | Most compact system for optimised use of bench space
- | Highly cost effective system for scalable, rapid, high throughput bioprocessing
- | Ideal for cell line/strain screening, media optimisation and small scale process development
- | Suitable for robotic integration
- | Choice of reactor sizes and types including elevated pressure design (5 bar or 10 bar options)



Features

System

- | Parallel processing of up to 8 independent reactors. Up to 48 reactors can be controlled from a single PC
- | Individual temperature and agitation control
- | Proprietary mechanical, independent stirring design allows small volume processing and achieve high gas uptake.
- | Integrated liquid and gas feeds with options for gas mixing.
- | Control of all parameters including pH, DO, and options for OD, foam detection and level.
- | Optional Integrated exhaust gas analysis (OUR/CER)



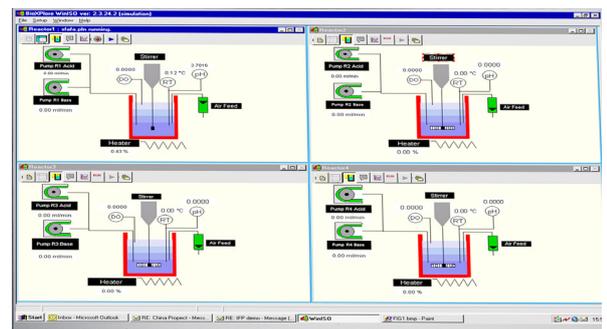
Bioreactors

- | Reusable Glass or stainless steel reactors for standard or elevated pressure fermentations.
- | Specially designed headplates to accommodate all probes and resources used at larger scale
- | Working volumes from 20 ml to 150 ml thereby significantly reducing reagent costs
- | Designed to be geometrically similar to larger scale



Software

- | Multi reactor control software with unlimited step recipe planning. Plans can be changed online at any time without process interruption
- | Start and stop reactors individually or simultaneously
- | Manage which parameters are logged and recorded with customisable tabular and graphical displays
- | Export data functions and integration with in-house electronic lab notebooks and record keeping systems
- | DoE and QbD package integration



Specifications

	BioXplorer 100	BioXplorer 400
Parallel Bioreactors	8 or more	4 or more
Vessels	Glass Stainless Steel	Glass Stainless Steel
Working Volumes	20 to 150 ml	20 to 150 ml 50 to 400 ml
Stirring Speed	50 - 1000 RPM*	50 - 1500 RPM*
Impellers	Ruston Marine Pitched	Ruston Marine Pitched
Stirring Drive	Magnetic drive	Magnetic drive Overhead drive
Temp. Range	-20 to 200 °C**	-20 to 200 °C**
Temp. Control	Integrated, individual electrical heating in the block, software controlled	Integrated, individual electrical heating in the block, software controlled
Applications	Mammalian Microbial Gas Fermentation	Mammalian Microbial Gas Fermentation
pH Control	Acid/base liquid feed; Gas addition	Acid/base liquid feed; Gas addition
Liquid Feeds	Optional anti-foam; substrate feeds	Optional anti-foam; substrate feeds
OD Measurement	Optional	Optional
Gas Mixing	Air, N ₂ , O ₂ , CO, CH ₄ and CO ₂	Air, N ₂ , O ₂ , CO, CH ₄ and CO ₂
Max Pressure	Up to 10 Bar with stainless steel vessels	Up to 10 Bar with stainless steel vessels

*Speeds depend on stirrer drive, media properties and aeration rate.

**Sub-ambient cooling requires optional cooling module.

About HEL

HEL is an international company that specialises in chemical reactors, bioreactors and related data/logging tools for process R&D in the pharmaceutical, fine chemical, biotechnology and petrochemical industries. Established in 1987 and with the clients worldwide our key strengths are:

Knowledgeable staff – highly qualified and experienced chemical engineers and chemists

Quality – underpinned by ISO9001 certification for over 16 years

Service – choice of service contracts backed by an established culture of unmatched client support

Range of products – both of-the-shelf and custom designs, manual and fully automated controls, low and high pressure/temperature applications, single and parallel/multi-vessel products

HEL Ltd // UK

HEL Inc // US

HEL China // Beijing

HEL Germany // Hamburg

HEL India // Thane

HEL Italia // Milan

HEL Russia // Moscow

e: marketing@helgroup.com

e: marketing@hel-inc.com

e: info@helchina.com

e: dach@helgroup.com

e: info@helindia.com

e: helitalia@helgroup.com

e: marketing@helgroup.com

t: +44 20 8736 0640

t: +1 609 912 1551

t: +86 10 8210 1033

t: +44 20 8736 0640

t: +91 22 4153 3317

t: +44 20 8736 0640

t: +44 20 8736 0640