BioTOWER

Powerful, affordable bioreactors



Single Tower
Run one or more similar reactors at a time.



Multiple Towers
Speed up development with parallel operations.



Glass and pressure reactors

Select reactor/Tower units to suit your budget.

Glass or metal (pressure) reactors of different sizes, all fully automated.

Low-cost Select to suit budget	**1–8** Parallel reactors	**~50 mL–5 L+** Glass reactors	**Up to 10 bar** Pressure reactors	**Per reactor** Mass flow controllers	**Fully** Automated

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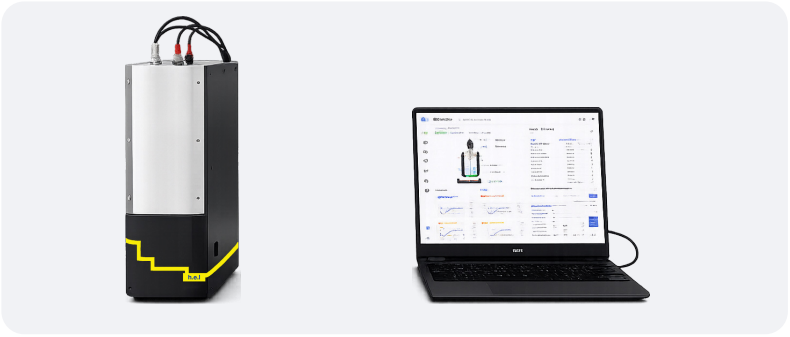
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A low-cost start that grows with your needs

Choose the Towers you need. Add more at any time.

Single Tower and PC based system

An electronics Tower and PC with the features to support a range of sensors and control options to suit your bioprocess. A single Tower and PC runs one or more similar reactors of the size and type selected, and reactor types and sizes can be switched.



Tower and PC

+



Interchangeable reactors

Add Towers as you grow

Multi-Tower based systems

Additional Towers and PCs, selected at the beginning or added later, to end up with a multi-reactor, parallel platform. Anywhere from 2 to 8 parallel reactors are possible.



Example of a three-Tower system

Start with one Tower.

A Tower and PC running one or more reactors: a low-cost way in.

Swap the reactor, not the system.

Glass or pressure reactors of different sizes, on the same Tower.

Add Towers at any time.

Each further Tower adds more parallel reactors, up to 8 in total.

Never start over.

Every Tower is independent, so your first stays part of the system.

Choice of interchangeable reactor systems

Reactors of different sizes are supported by the specified Tower and PC. For example, scale-up studies covering small (~50 to 500 mL), bench-scale (~1 to 5 litres) and larger reactors can be used with the single control system.

Glass reactors

High-pressure reactor



~50–500 mL



~1–5 L



Larger



Up to 10 bar

Sensors and controls



BioVIS cell density

Inline, non-invasive monitoring of total cell growth and biomass: no sampling, less contamination risk, media conserved.



Tandem off-gas analysis

Real-time CO_2 and O_2 analysis for oxygen uptake rate, CO_2 production rate and respiratory quotient.



Gas feeds

Mass flow controllers per reactor, independently configurable, from air and O_2 to H_2, CO, CO_2 and CH_4; DO control to set point; up to 10 bar.



Liquid feeds

Configurable peristaltic or high-pressure pumps for acid/base, antifoam, media and substrate; timed, event-based and continuous feed profiles.



Probes and sampling

Temperature, pH and dissolved oxygen as standard; redox, foam/level and optical density as options. Manual or automated sampling.



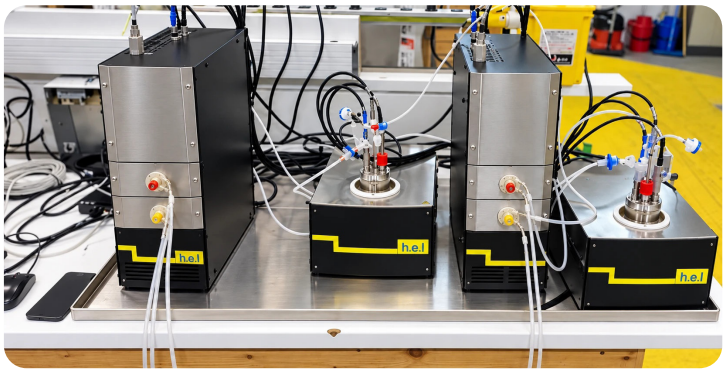
Agitation

Magnetic captive impeller as standard, 250–1500 rpm; overhead mechanical stirring, 20–2000 rpm, as an option.

BioTOWER at work in our clients' labs

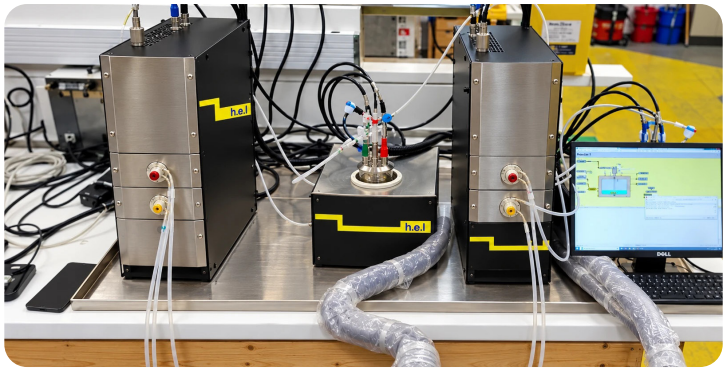
Two Towers, two reactors

Run two reactors side by side, each with its own Tower.



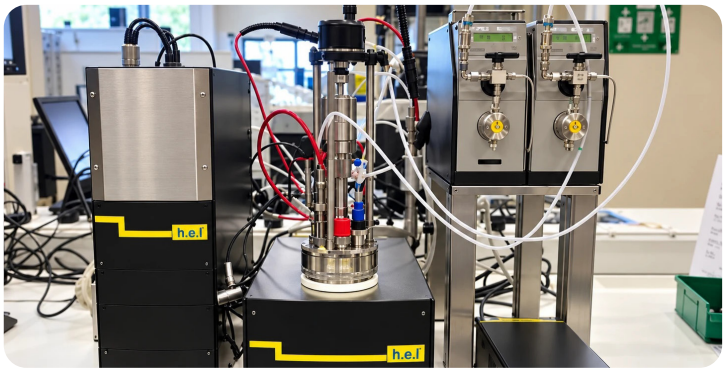
Multi-Tower bench

Towers added as the work grows, on one bench.



High pressure with feed pumps

High-pressure reactor with liquid feed pumps.



Applications

Bioprocess development · Scale-up studies · Parallel bioreactor operation · High-pressure bioprocessing · Gas fermentation

Start small. Grow when you're ready.

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