

## Biostat® CT

## Benchtop in-situ sterilizable lab-fermentor

### “Ready to use”

### Automatic in-situ sterilization

### Digital measurement and control

### Interchangeable culture vessels

### “Open frame” design

The Biostat® CT is the benchtop version of the Biostat® C. This compact in-situ sterilizable fermentor system is available with a choice of either 2l or 5l working volume culture vessels.

The Biostat® CT is ready to use upon delivery with probes, built-in pumps, vessel with drive, digital measurement and control as well as connections to external systems.

The bioprocess capabilities of the Biostat® CT include batch,

fed-batch and continuous processes alike.

Accessories for cell culture applications are available on request.

As with all Biostat® fermentors and bioreactors, a modular design concept is applied to the Biostat® CT. It consists of the culture vessel, the supply unit and a digital control unit.

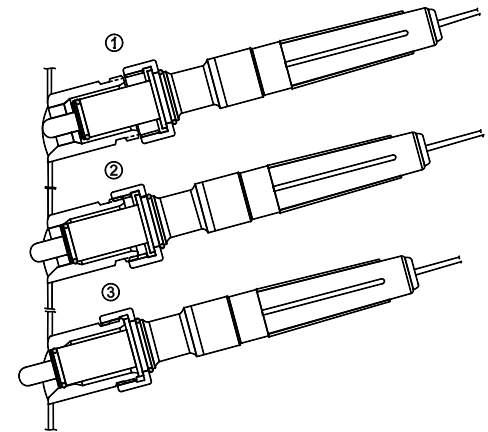
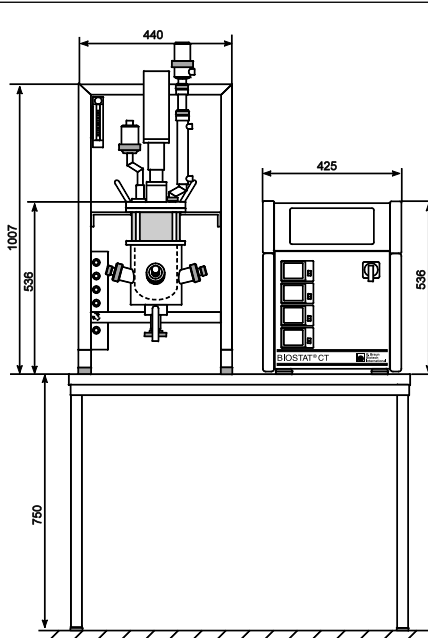
The open frame design of the supply unit provides ready

access and ease of maintenance for all process piping and actuators.

The vessels are part stainless steel and part glass. The stainless steel lower section accommodates standard process sensors. The 2:1 ratio (height : diameter) vessels are interchangeable.

The servomotor of the top-drive agitator is used to maximize performance and to keep removal simple.

- New: “*BBI Safety-Ports*”
- Includes massflow controller
- Multiple cascade controller for pO<sub>2</sub>
- Choice of electrical or steam heating system
- Integrated RS 422 host interface



- ① Insertion of electrode
- ② Tightening
- ③ Operating position

The control unit of the Biostat® CT includes four configurable peristaltic pumps and a powerful digital measurement and control system.

The control hardware is based on our proven DFC (Digital Fermenter Control) circuit board. This microprocessor system is specially designed for bioprocess (fermentation/cell culture) automation. The DFC contains the measurement amplifiers and actuator signal outputs. This approach yields high reliability.

The functionality of the software includes process measurements, automatic calibration routines as well as multiple control loops. The multiphase cascade controller for dissolved oxygen, the two substrate controllers with setpoint profile, and on-line pH recalibration are examples of the system's software.

The ergonomically designed user interface, combined with a proven, function-oriented menu structure, ensures user-friendly operation with minimal training. Easy to learn operation is important in both aca-

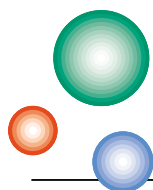
demical and industrial operating environments.

The software has been developed under a quality control system which follows the GAMP (Good Automated Manufacturing Practice) guidelines. This helps guarantee consistency throughout the software's lifecycle. We are continually adding new features.

The 25 mm “*BBI Safety-Ports*”, the built-in mass flow aeration controller and the software functionality are key features of the unit.

Additional features, like an RS 422 serial interface port for host computer connection, spare analog inputs for external process signals and connections for two variable speed external pumps contribute to the performance of this compact fermentor.

For cGMP production environments B. Braun Biotech can optionally provide validation support. Similar to custom systems, we can provide support for the required qualifications (IQ/OQ Tests) and documentation tasks related to the Biostat® CT.



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**B. Braun  
Biotech  
International**

Schwarzenberger Weg 73-79 · D-34212 Melsungen  
Tel. +49 (5661) 71-34 00  
Fax +49 (5661) 71-37 02  
e-mail [bbi.info@bbraun.com](mailto:bbi.info@bbraun.com)  
<http://www.bbrawbiotech.com>