Techfors
AS INDIVIDUAL AS YOUR NEEDS

www.infors-HT.com/en/techfors

We bring life to your laboratory.
This is Techfors

The Techfors pilot bioreactor offers a customized solution for bioprocesses on a production scale. The user interface is consistently workflow-oriented and therefore makes operating the Techfors absolute child’s play. With the aid of the bioprocess software eve®, complex bioprocesses can be controlled, monitored, analyzed and documented in a GMP-regulated environment.

Successful bioprocesses begin with professional planning

This is why we work together with you to define an individual profile of requirements for each Techfors. Of course, our experts incorporate their technical knowledge from over 250 previous installations and support you from planning to commissioning.

Upgrades? Any time!

The modular structure of the Techfors makes it possible. Even after commissioning, your bioreactor can be supplemented with other options, sensors or analytical instruments. For validated installations, you also receive the corresponding change and supplemental documentation, upon request.

Precise process control

The bioprocess software eve® supports you in all aspects of the bioprocess. From the project, experiment and batch planning to the management of resources and results, eve® is web-based. Therefore, your bioprocess data are available to you directly via the browser – also on multiple devices.

Reliable process automation

The automation solution is a critical factor in fermentation processes. With standardized CIP/SIP processes and individual control strategies, you set the course for consistent, reproducible results in the fermentation process.

“The Techfors bioreactor proves to be a powerful tool for our fermentation assays. Its versatile and intuitive design makes it a real pleasure to work with.”

Dr Maria Ester Lucca – Microbial Biotechnology, Proimi, Argentina

At the heart of our quality label is Switzerland – a centre of research, development and manufacturing, where experts guarantee the top-notch quality of the materials, workmanship, safety and reliability that characterize our shakers and bioreactors.
Features

There are virtually no limits since each pilot bioreactor model is built according to your requirements. You determine the requirements – we implement them following a thorough examination based on our modular platform.

High-quality components according to industry standards

**Stainless steel vessel**
- Working volume up to 660 L
- Double jacket made of 316L stainless steel
- Optionally with single or double mechanical seal
- Can be individually configured with a selection of different stirrers, spargers and special accessories
- Individually configurable number of ports for sensors (antifoam, optical density, pH, pO₂, redox, conductivity, viable cell density, etc.)
- Device can be easily moved using stable wheels (up to 300 L)

**High-performance pumps**
- The basic set-up includes four Easy-Load precision pumps per culture vessel (optionally two additional pumps)
- Gravimetric feeding possible (with external balance)
- Profile-based control of the pump speed (via eve®)

**Gassing**
- Customer-specific gassing via rotameter or mass flow controller
- Freely configurable serial or parallel cascades for pO₂ control using stirrer speed, gassing rate, gas composition and pressure, among others
- Can be expanded at any time

**Sensors**
- Optional use of digital (Modbus) and analogue sensors
- Product calibration of the pH sensor for reliable measurements during lengthy bioprocesses
- Additional sensors and actuators can be connected as needed

**Cleaning & sterilization**
- Fully automatic sterilization system (SIP)
- Sterilization of all parts in contact with the product
- Integrated cleaning-in-place system (optional)

**Validation & qualification**
- FDA compliance is taken into account
- Based on GMP standards
- Qualification options: IQ/OQ/FAT/SAT
eve® – the platform software for bioprocesses

Able to do more than just plan, control and analyze your bioprocesses, eve® software integrates workflows, devices, bioprocess information and big data in a platform that lets you organize your bioprocesses in the cloud.

Digitize your bioprocesses

eve® provides you with an overview of your projects which you can carry out efficiently thanks to the comprehensive options for monitoring and analysis.

The big-data-compliant platform software for comprehensive management of bioprocesses
- Planning, control and analysis of bioprocesses
- Integrates workflows, devices and bioprocess information
- Web-based project organization
- Communication using the latest OPC UA standard
- Synchronization of process-related events such as sampling or inoculation

Technical specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vessel</td>
<td>up to 1000 L</td>
</tr>
<tr>
<td>Working volume</td>
<td>up to 660 L</td>
</tr>
<tr>
<td>Dimensions</td>
<td>(W x D x H): depending on specification</td>
</tr>
<tr>
<td>Drive unit</td>
<td>depending on specification</td>
</tr>
<tr>
<td>Temperature</td>
<td>up to 79 °C for temperature control; up to 125 °C for sterilisation</td>
</tr>
<tr>
<td>Gassing per culture vessel</td>
<td>depending on specification</td>
</tr>
<tr>
<td>Pump speed per culture vessel</td>
<td>3 fixed, 1 variable, optional 2 additional</td>
</tr>
<tr>
<td>Ports per culture vessel</td>
<td>depending on specification</td>
</tr>
<tr>
<td>Connectivity</td>
<td>OPC XML DA via Ethernet</td>
</tr>
<tr>
<td>Sterilization</td>
<td>sterilization-in-place</td>
</tr>
</tbody>
</table>

Contact us for a personal consultation.

www.infors-HT.com/en/techfors
Your specialist for customized pilot bioreactors

For more than 50 years, INFORS HT have implemented customized solutions based on our standardized, intelligent platform. Our highly trained team carries out every task, from the production of individual components to planning, manufacture and commissioning of customized pilot bioreactors.

From planning to installation

Our qualified project directors and engineers support you from planning to commissioning and ensure that your project will run smoothly. Long-standing customers rely on our prompt service. We are available to help you at all times after completion of the project.

What we offer:
• Design and project support
• Construction
• Production
• Commissioning
• Servicing

Validation & qualification

We are pleased to answer all of your questions regarding qualification and validation. We also provide you with all of the necessary documents for commissioning.

Qualification options:
• Installation qualification (IQ)
• Operational qualification (OQ)
• Factory acceptance test (FAT)
• Site acceptance test (SAT)

Infors AG is fully certified according to the latest ISO:9001 standard.

“We build every Techfors specifically for you, so that it meets 100% of your requirements.”

Raphaël Boillat – area sales manager

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