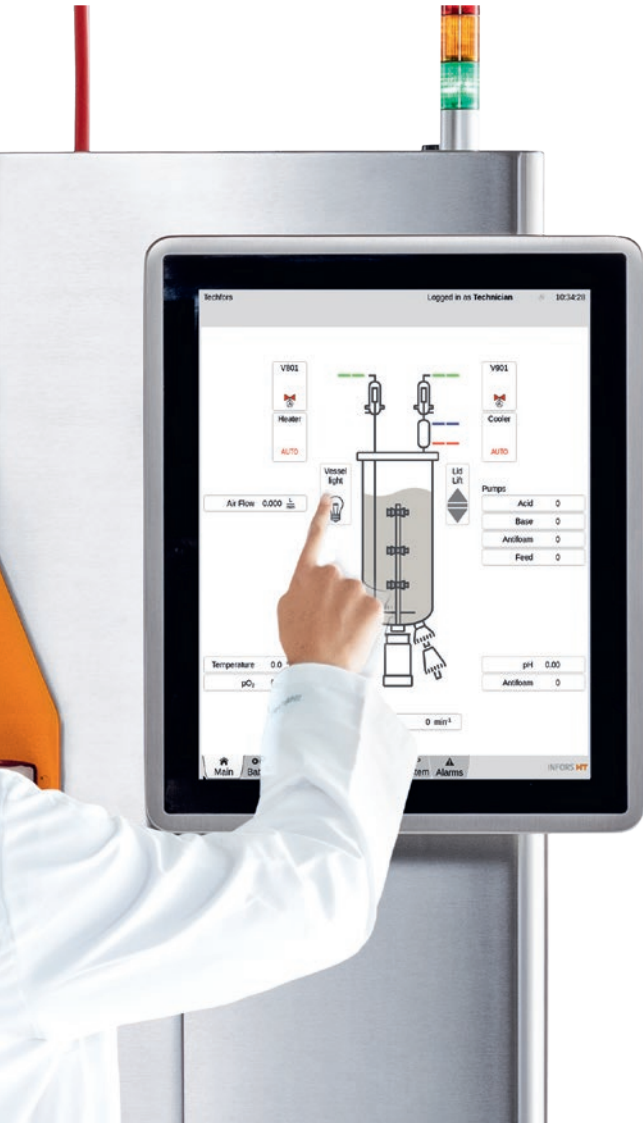




Techfors

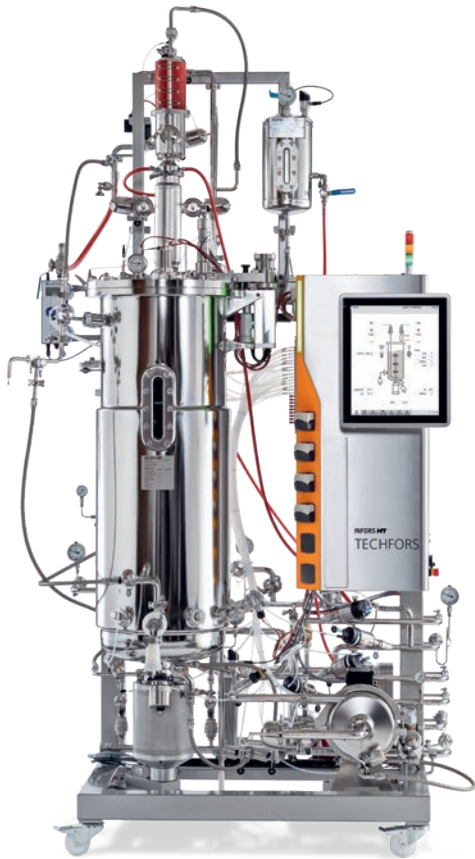
AS INDIVIDUAL AS YOUR NEEDS

INFORS HT	
Fertigungsnummer / Batch	
Produktname / Product	2019
Serial No. / Year of manufacture	2019
Identifikations- und Prüfnr. / Testing agency identification	
CE 0036	
U.1. Nennleistung (kW) / Max. power (kW)	15.5
U.2. Nennleistung (kW) bei 2000 U/min / Max. power (kW) at 2000 rpm	15.5
U.3. Nennleistung (kW) bei 1500 U/min / Max. power (kW) at 1500 rpm	15.5
U.4. Nennleistung (kW) bei 1000 U/min / Max. power (kW) at 1000 rpm	15.5
U.5. Nennleistung (kW) bei 500 U/min / Max. power (kW) at 500 rpm	15.5
U.6. Nennleistung (kW) bei 250 U/min / Max. power (kW) at 250 rpm	15.5
U.7. Nennleistung (kW) bei 150 U/min / Max. power (kW) at 150 rpm	15.5
U.8. Nennleistung (kW) bei 100 U/min / Max. power (kW) at 100 rpm	15.5
U.9. Nennleistung (kW) bei 50 U/min / Max. power (kW) at 50 rpm	15.5
U.10. Nennleistung (kW) bei 25 U/min / Max. power (kW) at 25 rpm	15.5
U.11. Nennleistung (kW) bei 15 U/min / Max. power (kW) at 15 rpm	15.5
U.12. Nennleistung (kW) bei 10 U/min / Max. power (kW) at 10 rpm	15.5
U.13. Nennleistung (kW) bei 5 U/min / Max. power (kW) at 5 rpm	15.5
U.14. Nennleistung (kW) bei 2.5 U/min / Max. power (kW) at 2.5 rpm	15.5
U.15. Nennleistung (kW) bei 1.5 U/min / Max. power (kW) at 1.5 rpm	15.5
U.16. Nennleistung (kW) bei 1.0 U/min / Max. power (kW) at 1.0 rpm	15.5
U.17. Nennleistung (kW) bei 0.5 U/min / Max. power (kW) at 0.5 rpm	15.5
U.18. Nennleistung (kW) bei 0.25 U/min / Max. power (kW) at 0.25 rpm	15.5
U.19. Nennleistung (kW) bei 0.15 U/min / Max. power (kW) at 0.15 rpm	15.5
U.20. Nennleistung (kW) bei 0.10 U/min / Max. power (kW) at 0.10 rpm	15.5
U.21. Nennleistung (kW) bei 0.05 U/min / Max. power (kW) at 0.05 rpm	15.5
U.22. Nennleistung (kW) bei 0.025 U/min / Max. power (kW) at 0.025 rpm	15.5
U.23. Nennleistung (kW) bei 0.015 U/min / Max. power (kW) at 0.015 rpm	15.5
U.24. Nennleistung (kW) bei 0.010 U/min / Max. power (kW) at 0.010 rpm	15.5
U.25. Nennleistung (kW) bei 0.005 U/min / Max. power (kW) at 0.005 rpm	15.5
U.26. Nennleistung (kW) bei 0.0025 U/min / Max. power (kW) at 0.0025 rpm	15.5
U.27. Nennleistung (kW) bei 0.0015 U/min / Max. power (kW) at 0.0015 rpm	15.5
U.28. Nennleistung (kW) bei 0.0010 U/min / Max. power (kW) at 0.0010 rpm	15.5
U.29. Nennleistung (kW) bei 0.0005 U/min / Max. power (kW) at 0.0005 rpm	15.5



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

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

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**
