

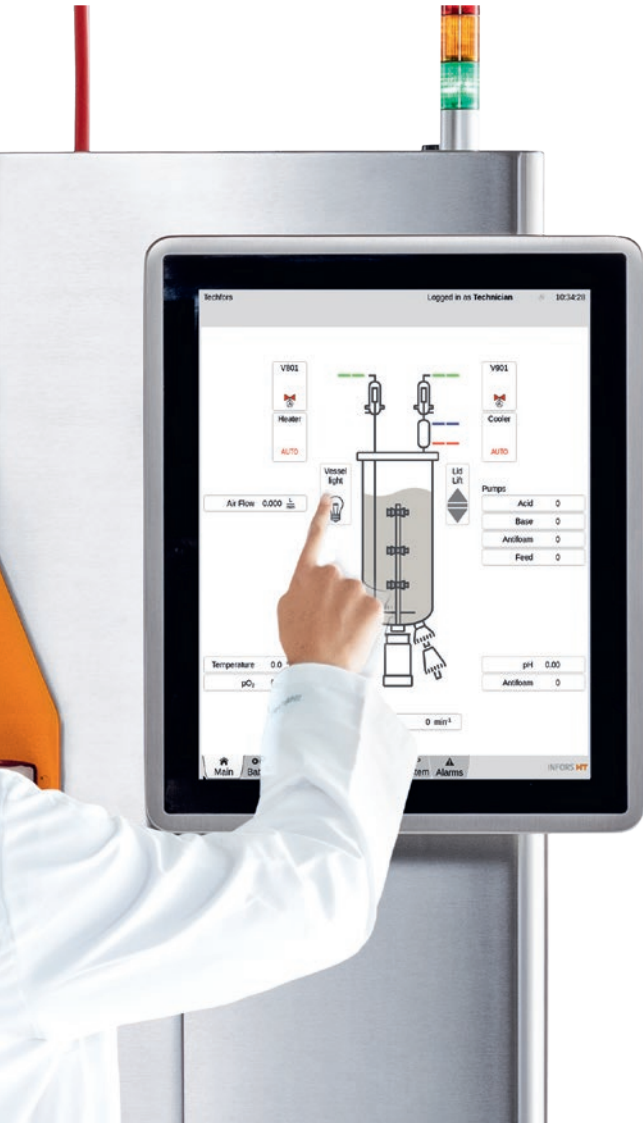
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# Techfors

AS INDIVIDUAL AS YOUR NEEDS

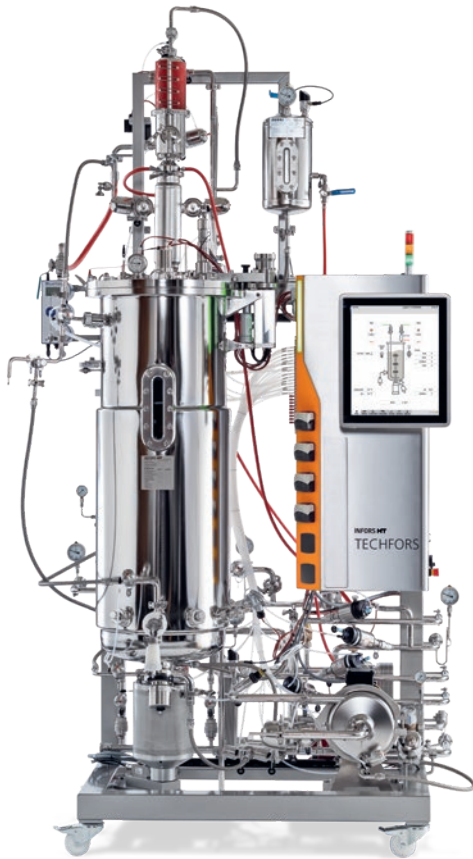
<b>INFORS HT</b> Titer Processor		
Fabriknummer / Typzahl Serial No. / Part of manufacture	120913	2019
Qualifizierung des Prüfabz Testing agency identification		
<b>CE 0036</b>		
02. Nennwertebereich (mL) Max. volume (mL)	0,1-150	0,1-150
03. Nennwertebereich (°C) Min. and max. temperature (°C)	-10/+150	-10/+150
04. Titrationsdauer (min) Titration duration (min)	200	10-5
05. Ausschüttvolumen (mL) Diluting volume (mL)	100	15-5
06. Kanalzahl Channels	1-4024	1-8009



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## 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<sup>®</sup>, 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<sup>®</sup> supports you in all aspects of the bioprocess. From the project, experiment and batch planning to the management of resources and results, eve<sup>®</sup> 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.

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*“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**

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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.

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## 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, pO<sub>2</sub>, 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 pO<sub>2</sub> 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



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# eve<sup>®</sup> – the platform software for bioprocesses

Able to do more than just plan, control and analyze your bioprocesses, eve<sup>®</sup> 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<sup>®</sup> 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

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Contact us for a  
personal consultation.

[www.infors-ht.com/en/techfors](http://www.infors-ht.com/en/techfors)

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# 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



**INFORS HT**

**000 «Диаэм»**

**Москва**

ул. Магаданская, д. 7, к. 3 ■ тел./факс: (495) 745-0508 ■ sales@dia-m.ru

**www.dia-m.ru**

**С.-Петербург**

+7 (812) 372-6040  
spb@dia-m.ru

**Казань**

+7 (843) 210-2080  
kazan@dia-m.ru

**Новосибирск**

+7 (383) 328-0048  
nsk@dia-m.ru

**Ростов-на-Дону**

+7 (863) 303-5500  
rnd@dia-m.ru

**Воронеж**

+7 (473) 232-4412  
vrn@dia-m.ru

**Екатеринбург**

+7 (912) 658-7606  
ekb@dia-m.ru

**Йошкар-Ола**

+7 (927) 880-3676  
nba@dia-m.ru

**Кемерово**

+7 (923) 158-6753  
kemerovo@dia-m.ru

**Красноярск**

+7 (923) 303-0152  
krsk@dia-m.ru

**Армения**

+7 (094) 01-0173  
armenia@dia-m.ru

