

Minitron

Maximum performance in minimum space



INFORS HT
Minitron



May be subject to technical amendments.
Images examples only.

www.infors-ht.com

We bring life to your laboratory.

INFORS HT



Two worlds, one philosophy!
 INFORS HT supports the Masoala rain forest project in Zurich zoo. You can find detailed information at www.infors-ht.com.

Cultivating customer visions

INFORS HT is a company of international reputation in the field of biotechnology

Innovative thinking, quality and an understanding of the needs of our partners has secured INFORS HT an unrivalled place amongst manufacturers of bioreactor and shaker equipment. An enthusiasm for experiment and a creative mind has guided the company from its establishment in 1965 through its development to become firmly established as an important player in the field of biotechnology engineering. Independence, a distinctive character and a strong team spirit will continue to serve us well in the future. www.infors-ht.com



About our Quality Label

The Quality Label is INFORS HT's acknowledgment of Switzerland as a centre for research, development and manufacturing. Certified specialists stand for the first-class, tested quality of our shakers and bioreactors in terms of their materials, workmanship, safety and reliability. "Quality – Made in Switzerland" is also our customers' guarantee of straightforward, swift order processing, short delivery periods, and flexible, efficient service in administrative matters too. INFORS HT attaches great importance to fulfilling individual customer needs, as well as to long-term, close and trustful partnerships with purchasers and suppliers alike.

Quality Standards
 • ISO 9001

For process validation to cGMP
 • Documentation
 • IQ
 • OQ
 • FAT & SAT

Minitron at a glance

KEY BENEFITS

- Maximum growth
- Space-saving design
- Minimum CO₂ consumption
- Intuitive operation
- Easy cleaning
- Wireless bioprocess control



Tray with adhesive mat «Sticky Stuff»

Tray with clamps and Ultra-Yield™ Flasks

Touch Controller

Timer

Various base frames

Key technical data*

Minimum dimensions (W x D x H): 800 x 623 x 700 mm (Individual device on rubber feet, without outlet nozzle)
Maximum capacity: 2 x 5 L Erlenmeyer flasks
Maximum expansion: Stackable, up to 2 units
Speed ranges: 20–400 rpm
Temperature range: 5°C above RT up to 65°C (without cooling system); 16°C below RT up to 65°C (with cooling system); minimum 4°C.
Standard parameters: Temperature and speed
Optional parameters: Cooling, CO₂ control, humidification, illumination (on request)

* Technical data are based on a Minitron without options, measured under optimal conditions.

Applications

- Parallel cultivation
- Screening
- Protein expression
- Media development
- Scale-up
- Process development and optimisation
- Biofuels
- Molecular biology (e.g. mini- and maxipreps)

Minitron in detail

The Minitron has the same outstanding characteristics as its big brother, the Multitron, but on a smaller scale. The high incubation chamber of the Minitron holds Erlenmeyer flasks of up to 5 litres. With the proven cooling and CO₂ control options and the Hygienic Direct Steam Humidification, the Minitron can be optimally configured for any particular application. The Iris 6 Parallel Bioprocess Control Software offers the convenience of wireless process data recording and allows the storage of recipes and protocols.



MINITRON FEATURES

Maximum growth

The powerful drive allows shaking speeds of up to 400 rpm, even when units are stacked. When combined with the new Ultra-Yield Flasks™ (Thomson), you get optimum oxygen transfer for maximum growth and high cell densities.

Load capacity

Erlenmeyer flasks	Max. capacity*
50 mL	69
100 mL	46
250 mL	25
500 mL	15
1000 mL	10
2000 mL	6
5000 mL	2

* Technical data are based on a Minitron without options, measured under optimal conditions.

Maximum shaking speed (rpm)

Shaking throw	25 mm	50 mm
Recommended for	All applications	Large flasks (>2 L)
Upper unit	400*	310*
Lower unit	400*	340*
Single machine	400*	340*

* Maximum shaking speeds are based on an optimum load of 9 kg. Additional security for culture vessels required.

Space-saving design

Thanks to its modular design, the Minitron can be operated either on the floor or on a table and even in a stack of two units.

Easy cleaning

The interior has been redesigned on hygienic principles and enables reliable cleaning. The bottom well retains liquid that escapes if a flask breaks, allowing it to be drained off via a nozzle.

May be subject to technical amendments.

MINITRON OPTIONS

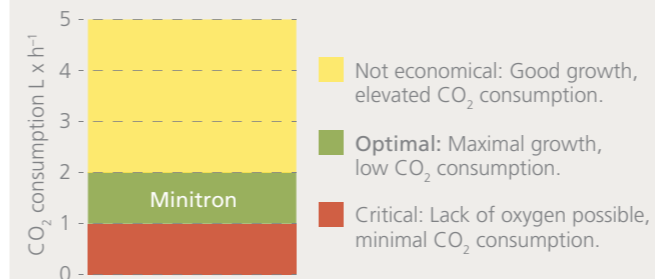
Cooling

If a set point value of less than 5°C above room temperature is required, a cooling system is needed. All INFORS HT cooling options are CFC-free and are automatically activated only as required.

Minimum CO₂ consumption

Electronic regulation of the CO₂ concentration in the incubation chamber is a key element in the cultivation of mammalian cells, as it ensures that the pH value of the culture solution remains stable. The efficient housing seal minimises CO₂ consumption to a level that is comparable to that of static incubators (<2 L x h⁻¹). CO₂ regulation is particularly recommended for the cultivation of mammalian cells or algae.

Optimal oxygen supply in the incubator



The oxygen supply is a critical factor, especially in large culture volumes and high cell densities. If the incubator is sealed too well (CO₂ consumption <1 L x h⁻¹), the exchange of gas with the air will be so severely restricted that lack of oxygen is a real threat. If the CO₂ consumption is in a middle range (1–2 L x h⁻¹), an optimal oxygen supply is guaranteed.

Hygienic Direct Steam Humidification

Hygienic Direct Steam Humidification prevents evaporation/vaporisation from shaker flasks, thereby ensuring a constant culture volume. This means that the osmotic pressure for your culture is kept low even over long incubation periods and with low working volumes (e.g. microtitre plates).

Pass-through for external sensors

A gas-tight side pass-through allows you to lead cables for measurement probes or gas lines into the incubation chamber.



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HIGHLIGHTS

Cell culture special

The Minitron also meets the high requirements of cell culture. In addition to the precise CO₂ control, the Minitron offers uniquely low CO₂ consumption. The Hygienic Direct Steam Humidification allows aseptic humidification. The package is rounded off with an easy-clean interior.



Intuitive operation

The newly designed touch controller has modern sensor keys with a separate display field. The newly developed menu structure has been optimised by usability experts to enable simple, intuitive operation. Numerous features such as the integrated timer and wireless data transmission to the Iris 6 Parallel Bioprocess Control Software ensure added convenience and control.

- Optimal overview
- Precise control and monitoring
- Integrated timer
- Wireless data transmission





eve

Be on top of things.

Join the **NEW** and revolutionary Bioprocess Platform Software.

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Shakers | Bioreactors | Bioprocess Platform Software
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WE BRING LIFE TO YOUR LABORATORY.

Qualification

Compliance with regulatory requirements is becoming a critical issue for more users each year. INFORS HT provides a full qualification service with standard or customised packages to meet this need, e.g., cGMP compliance.

What is available?

The process starts with the Design Qualification and then planning of the production for qualification. Testing occurs at many points in the process and usually ends with a Factory Acceptance Test (FAT).



A package of comprehensive documentation is prepared and shipped with the shaker. Tests for IQ (Installation Qualification) and OQ (Operational Qualification) can then be made using this information. Site Acceptance Test (SAT) is typically carried out to show the equipment meets all necessary requirements.



Our Iris 6 software is compliant with international standards such as FDA 21 CFR Part 11.

An important point to note is that ALL our shaker are manufactured to exactly the same high standards, it is only the amount of testing and documentation which varies.

Comprehensive accessories



The fixed trays with clamps and/or test tube holders allow you to make optimum use of the tray size. The popular «Sticky Stuff» adhesive matting trays fix your culture vessels quickly and simply whilst giving you the maximum flexibility.

The Minitron trays are available in a variety of designs and configurations:

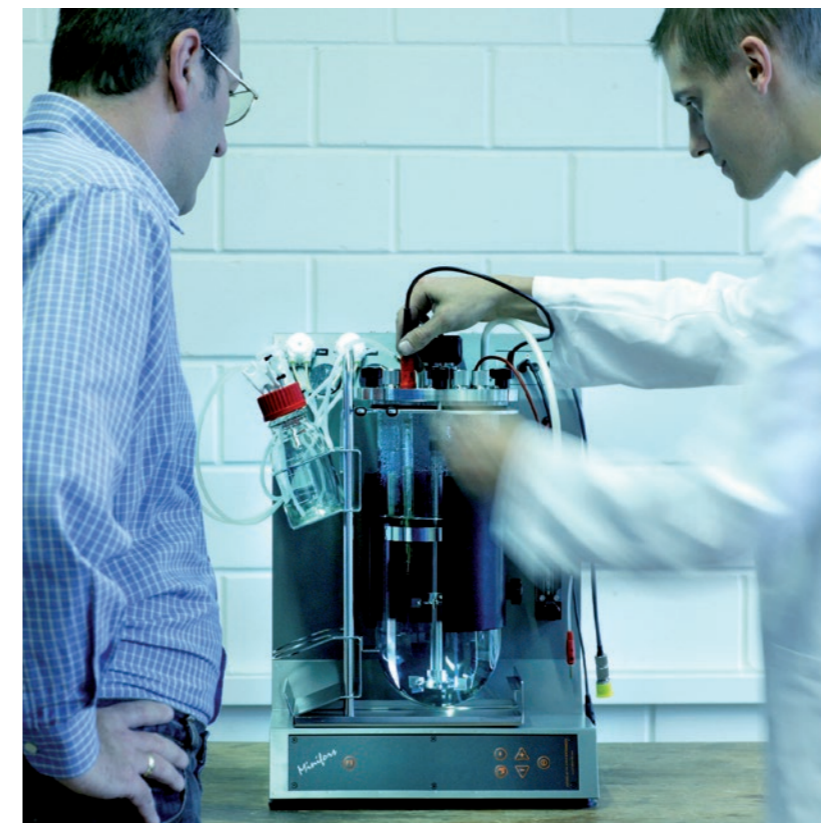
- «Sticky Stuff» adhesive matting tray for ultimate flexibility
- Universal trays for individual configuration
- Fixed configured trays for maximum capacity
- Special trays for microtitre and deep well plates
- Box for microtitre plates

Problems with evaporation? Using the box for microtitre plates in combination with Hygienic Direct Steam Humidification eliminates evaporation losses completely.



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Service and support



At INFORS HT, we are committed to providing the very highest level of customer support and service, based on our principles of customer proximity, expertise and efficiency.

- Close and direct contact with our specialists
- Technical and scientific experts
- Fast responses when you need it

Our high-quality service sets INFORS HT ahead and makes a real difference for our customers. Key services enable our users to get the most from their equipment, quickly and easily.

- Customer support (email, phone, on site)
- Technical solutions for special requests
- Installation and commissioning
- Equipment and application training
- Preventative maintenance

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As unique as your bioprocess!



Multitron Cell



Labfors 5



Techfors

INFORS HT equipment is individually adapted to meet the needs of your bioprocess. Our designers and application experts take the time to configure an optimised solution to your needs in partnership with you. Combined with the INFORS HT Iris 6 bioprocess software, the full potential productivity of your cell culture or microbial fermentation can be successfully unlocked.

From laboratory-scale shaker to pilot-scale bioreactor

As different as these devices are, you will find they have a lot in common:

- Individual configuration for your application
- Simplified handling
- Common operation and control
- Turnkey equipment which is usable "out of the box"
- Exceptional Swiss quality
- Outstanding service and support

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