

**ДИА•М**  
современная лаборатория

# Minitron

SMALL SCALE – BIG RESULTS

INFORS **HT**

## This is Minitron

An all-round genius in a small space. In terms of capacity, the Minitron is the little sister of the Multitron incubation shaker, but it offers the same variety of application possibilities for microbial, animal, and plant cell cultures.



### Space-saving

The practical design and compact dimensions of the Minitron make it ideal for use in even the smallest of laboratories. The Minitron can be operated stacked in two units and as a single device, it even fits on a laboratory bench.

### Perfect conditions for cultivation

The Minitron offers homogeneous conditions for reproducible results. Thanks to the ingenious design, the precise CO<sub>2</sub> regulation works with unparalleled efficiency. The meticulous sealing of the housing minimizes CO<sub>2</sub> consumption to a standard comparable to static incubators.

### Nothing's impossible

From standard experiments with microorganisms to complex cultivations of animal and plant cells, the Minitron has been designed to perform a comprehensive range of applications. Each Minitron is configured to your exact needs whilst the design ensures for a straightforward upgrade if required.

### Seamless monitoring and control

The eve® platform software for bioprocesses can easily communicate with the Minitron via Ethernet. This technology gives you the freedom to monitor the cultures in the incubation shaker and control the device from anywhere via web interface. In addition, you can generate individual reports and document your processes in compliance with GMP.



Our quality mark refers to Switzerland as a center for research, development, and manufacturing. Experts guarantee the tested top quality of our shakers and bioreactors with regard to materials, processing, safety, and reliability.

## Sample configurations



### Microorganisms

Maximum oxygenation even with maximum load stacked in two units

- Shaking throw of either 25 or 50 mm for optimal mixing, achieving comparable results in a range of vessels from microtiter plates to 5 L shake flasks
- High shaking speeds of up to 400 min<sup>-1</sup> for the best possible oxygenation

### Cell cultures

Optimal conditions for mammalian and insect cells

- Active CO<sub>2</sub> regulation
- Hygienic direct steam humidification limits evaporation effects
- Meticulously sealed housing ensures low CO<sub>2</sub> consumption

### Phototrophic organisms

Sunlight in the shaker with a high degree of uniformity

- Energy-saving, warm white LED lighting
- Light intensity up to 200 μmol m<sup>-2</sup> s<sup>-1</sup>
- Even light distribution throughout the tray
- Simulation of day-night cycles or targeted induction – easy to perform with eve®

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## Features

The Minitron can be used for cultivating microorganisms as well as cell cultures and is appropriately equipped for every area of application.

### Technical refinements make everyday laboratory work easier

#### Drive unit

- Quiet, even and reliable for every load
- Dynamic equilibration ensures no manual adjustment is necessary
- Handling errors eliminated
- Easy to clean



#### Connections and interfaces

- Reliable Ethernet interface for connecting eve®
- Analogue outputs as an option connect to existing monitoring and alarm systems
- Pass-through for sensors and cables



#### Hygiene

- Easy-to-clean interior with rounded corners
- Base tray to retain liquid in the event of broken flasks
- Optional hygienic direct steam humidification



#### Temperature regulation

- Precise regulation ensures homogeneous conditions for all batches
- Connection to existing laboratory cooling system possible
- Optionally integrated cooling for best use of space
- Excellent insulation ensures low energy consumption



## Features



### Technical data

	One unit	Two units
Dimensions (W x D x H)	800 x 623 x 700 mm	800 x 652 x 1490 mm
Maximum load	12 kg	24 kg
Volume	9 L	18 L
Maximum working height	173 mm	960 mm
Number of batches	105	210
Shaking throw		25 mm / 50 mm
Rotation speed		25 – 400 min <sup>-1</sup>
Temperature range	5 °C above ambient temperature to 65 °C; 16 °C below AT to 65 °C with cooling; minimum temperature 4 °C	
Standard parameters	Temperature, rotation speed, timer	
Optional parameters	Cooling, CO <sub>2</sub> regulation, humidification, light intensity	
Interface	Ethernet	
Relative humidity (RH)	Up to 85% non-condensing	



Contact us for a  
personal consultation.

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



For automation, safety and flexibility, as well as requirements in the GMP environment.

### eve®: The platform software for bioprocesses

- Monitoring of process parameters as well as door movements from any location via an intuitive web interface
- Set alarm parameters easily
- Customizable batch reports
- Configuration of automated batch strategies
- Safety settings for data access
- Validation according to FDA 21 CFR part 11 and EU Annex 11 possible

### LIS (Liquid Injection System)

- Automatic feeding of liquids in shake flasks with programmable control unit
- Suitable for various media, for example, sugar solutions, alcohols, or suspensions
- Predefined or freely configurable feed profiles

### CGQ (Cell Growth Quantifier)

- Non-invasive online measurement of biomass using sensor and associated software
- Screening according to the optimal culture conditions in up to 16 shake flasks simultaneously

### Qualification and process validation

- Design qualification
- Installation qualification
- Function qualification
- Factory Acceptance Test (FAT)
- Site Acceptance Test (SAT)
- Software validation for eve®

### Trays

- Corrosion-resistant, anodized aluminum
- Can be loaded with a variety of retaining brackets, test tube holders, and adhesive matting
- Can be sterilized in the autoclave
- Special design for 96-well plates

### Sticky Stuff adhesive matting

- Compatible with all vessels that have a flat base
- Reliable fixation even at high shaking speeds and temperatures
- Long lifespan
- Easy to clean and regenerate with water

### Clamps

- Stainless steel retaining brackets can be screwed on to universal trays
- For Erlenmeyer and Fernbach flasks
- Special holders upon request

### Test tube holders

- Foam rubber perforated inserts ensure a reliable hold and prevent rattling noises
- Test tubes can be incubated in a vertical position or at an adjustable angle
- Compatible with universal and Sticky Stuff trays

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