



# 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.



# **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.

# **Seamless monitoring and control**

The eve® platform software for bioprocesses can easily communicate with the Minitron via Ethernet. This technology gives your 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.

# **Features**

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

### **Drive unit**

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



## Hygiene

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



### **Connections and interfaces**

- Reliable Ethernet interface for connecting eve® or process control systems
- Analogue outputs, Profibus DP and Modbus Gateway as options to connect to existing monitoring and alarm systems
- Pass-through for sensors and cables



# **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



# 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

# **Features**



# **Technical data**

	One unit	Two units
Dimensions (W x D x H)	800 mm x 625 mm x 700 mm	800 mm x 625 mm x 1490 mm
Maximum load	12 kg	24 kg
Volume	9 L	18 L
Maximum working height	173 mm	960 mm
Shaking throw	25 mm / 50 mm	
Rotation speed	25 min <sup>-1</sup> bis 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	
Optional parameters	Ethernet	
Relative humidity (RH)	Up to 85% non-condensing	



Contact us and we'll be happy to advise you.

# **Accessories**

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

## Digital integration into the facility network

- Ethernet interface provides connectivity to eve<sup>®</sup> bioprocess platform software or 3rd party Process Control Systems
- Analogue outputs, Profibus DP and Modbus Gateway

# **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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