

Minitron®

The small, stackable incubator shaker with magnetic drive



INFORS HT

The Minitron is the small „Allround“ machine in a new generation of incubator shakers; the „Mini“ part only describing its small space requirements

The downwards-opening front door provides unique advantages in terms of



## Utilisation and saving of space.

Despite its relatively small footprint, the Minitron is ideal for virtually any application.

It provides– as well as the room for the shaking mechanism for a tray of 475 x 420 mm – enough space for the addition of cooling, humidity, illumination and CO<sub>2</sub>-gassing options.

The possibility of stacking one unit on top of another is a big advantage – and naturally they can be separated into separate machines again.

## Control technology

Modern micro-processor technology and PID-control ensure exact maintenance of the required operating conditions. Decades of experience with magnetic drive have produced a new development with a guaranteed seal between the incubation chamber and the area containing the drive components.

## Comfort

In common with the other members of the family, Unitron® and Multitron® the door pulls downwards to provide a practical area for the removable tray. This allows comfortable access to the tray contents—even to items at the back—without complete removal of the tray.

Set points and timer functions, such as day/night cycling and temperature profiles, are programmed using the responsive operating panel. Simple operation and virtually silent running guarantee a pleasant working environment in the laboratory.

Due to the knee-high position of the operating panel on the bottom deck of a stacked system, parameters can be set up with the minimum of effort and bending. By pulling the tray onto the downwards opening door, flasks can be effortlessly reached without having to „duck and dive“

## Good Access

## Simple to operate

## Stackable

## Limitation of damage due to flasks breaking



## A drive concept with positive side effects.

The shaker drive is uniquely distinguished due to the magnetic coupling and the hermetic separation of the motor from the incubation chamber, which is fundamentally different to conventional shakers. Based on good experience with the Unitron® and Multitron® we have done away with the usual arrangement of bearings. Therefore, the floor of the chamber is free of both bearings and eccenters.



„in a downpour“  
Testing the seal

## Temperature control

The temperature regulated air is distributed evenly over the entire shaker tray, entry of air from the top of the machine guaranteeing even circulation throughout the shaker load. Because of the outstanding quality of its insulation, the housing of the Minitron is an important factor in precise control of the temperature.

There is a choice of cooling between a cooling coil with a magnetic valve and connections for an external chiller, or an integrated cooling system which uses environmentally-friendly refrigerant. To minimise the chance of contamination of the compressor with dirt, the cooling unit is mounted in the top of the housing rather than under the incubation chamber.

## Even temperature distribution

## Operational security

By virtue of the excellent sealing of the magnetic drive and electronics, the dreaded problems of flask breakage are finally answered and cleaning of the machine reduced. The bottom of the chamber is easy to clean and can even be rinsed with water.

Additional protection for the culture is provided by an over-temperature cut-off switch and a potential-free alarm output from the interface. It is a given that the unit will re-start automatically after a power failure and return to the original set point values.

## Main advantages of this drive

- Minimal heat generation.
- Practically friction-free and so is suitable for clean room applications.
- Maintenance free

## Capacity

Eg. Erlenmeyer flasks

100ml	250ml	500ml	1000ml	2000ml	5000ml
44	24	15	8	6	3

## Dimensions

Single unit  
Stacked 2-deck with base

Width cm	Depth cm	Height cm
80	67	73
80	67	158

## Technical Data

Shaker speed range	20 – 400 RPM
Throw	∅ 25 or 50 mm
Accuracy	± 1% of the max. speed
Temperature range	5 °C above RT to 60 °C
With cooling	Approx. 15 °C under RT
Accuracy (at the Pt-100)	± 0,2 °C
Air circulation	Approx. 100 m³/h
Weight without cooling	Approx. 75 kg
Weight with cooling	Approx. 90 kg
Interface	RS 232, bi-directional
Power	115/230 V ± 10%, 50/60 Hz

## Accessories and Options

The standard configuration for Minitron includes the Shaker mechanism, heating and timer functions.

Optionally:

- Table clamps, test tube holders, etc.
- Cooling
- Daylight and Photosynthesis lights
- Humidification
- CO<sub>2</sub>-Gassing
- Gassing nozzle
- Various sorts of matting
- Shelf for static incubation of eg. Petri dishes.

## Validation

We offer a qualification service for your process validation needs:

- Documentation
- IQ in house and on-site
- OQ in house and on site

## For shakers and fermenters.



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