

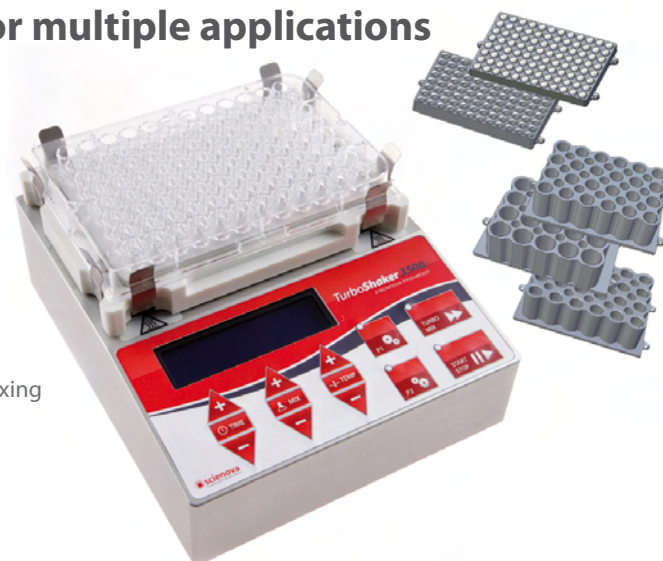
# TurboShaker 3500 rpm

## The worldwide fastest thermoshaker for multiple applications

For MICROPLATES, TUBES and GLASS VIALS

### Highlights:

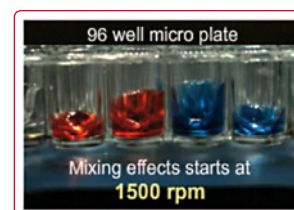
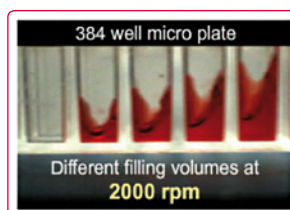
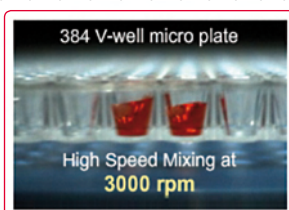
- Thermoshaker for microplates, tubes, and glass vials
- Fast shaking and mixing up to **3,500 rpm**
- Fast and high-precision heating from ambient to **99°C**
- **3D-Shake-Control**: efficient and very fast controlled orbital mixing movements, eliminating any need for centrifugation after mixing
- **Anti-Spill Technology**: Perfectly controlled 3-dimensional mixing prevents spilling and lid wetting
- Highly accurate processing and **Anti-Vibration Technology** eliminate vibrations for a relaxed working environment
- **Reproducible** results by defined process parameters
- 2 **programmable** soft keys
- Integrated **vortex** and **short mix** functions
- **Very small**, light, efficient and quiet



Heatable up to 99°C      Vibration-Free  
Smallest Housing  
**Constant** mixing Orbit      **3,500 rpm**

### Introduction:

- The ultra-flat micro thermoshaker with patented 3D-Shake-Control and Anti-Vibration technology supports accurate and efficient mixing and temperature control on the microliter scale of a wide range of SBS-sized 96-, 384-, and 1536-well microplates, tubes, and glass vials.
- The vibration-free shaking movements are remote controlled from 200 to 3,500 rpm.
- A large surface of specialized heating element results in an even heat output at temperatures between ambient and 99°C.
- By combining the mixing operation with the incubation phase, reaction process times and operator workload are reduced and efficiency of many procedures is increased, resulting in a higher throughput.
- Exchangeable heating adapter modules for special kinds of tubes, vials, and microplates with different bottom geometries ensure effective heat transfer and the flexibility to adapt to your particular application.
- The variable mixing speed up to 3,500 rpm combined with the soft start function allows gentle to vigorous mixing.
- Shaking and temperature control can be configured for continuous or timed operation with buzzer and automatic switch-off.
- The high speed TurboShaker is designed for easy operation. Mixing speed, temperature and time are indicated on the double spaced display for both set and actual values.
- Temperatures are selectable from ambient temperature to 99°C in steps of 0.1°C. The temperature regulation accuracy is better than  $\pm 0.1^\circ\text{C}$  with a uniformity of temperature distribution better than  $\pm 1.0^\circ\text{C}$  at 95°C across the heating surface.



The selection of the optimal frequency for mixing of microplates should always depending on the size of the wells and the volume per well. In this way optimum results can be achieved with a minimum of process time and losses of samples.



## Technical Specifications:

### Adapter Plates

Microplates	96-, 384-, and 1536-well microplates / deep well plates / PCR plates
Tubes	0.2 / 0.5 / 1.5 and 2.0 ml standard tubes
Glass vials	2.0 and 4.0 ml glass vials

### Temperature

Temperature regulation range	ambient to 99°C
Temperature setting	0.1°C increment / adjustable from 0°C to 99°C
Temperature regulation accuracy	±0.1°C
Temperature accuracy	±0.5°C at 45°C / ±0.7°C at 75°C / ±1.0°C at 95°C
Heat-up time	ca. 7°C/min / ca. 10 min from ambient to 95°C

### Mixing

Mixing frequency	200 to 3,500 rpm (microplates) / 200 to 1,800 rpm (tubes, glass vials)
Mixing orbit	constant 2 mm
Speed setting resolution	50 rpm increments
Mixing regulation accuracy	± 25 rpm
Short-Mix function	Yes

### Timer

Timer setting	1 min - 99 h / with automatic switch to stand-by
Timer setting resolution   Readability	1 min   Minutes, Seconds
Continuous working   Audible Alarm	Yes   Yes

### Programming

Programs stored   Definable buttons	2   P1 and P2
Individual program capacity   Internal memory	3 steps   Yes

### Display

Display	2 x 16 digits LCD-display with backlight (blue)
Target values / Actual values	Time, Mixing frequency, Temperature

### Electrical

Controller	Micro controller
Power switch	Yes
Operating Voltages	24 V DC input / 100 Watt
Power supply	External power supply unit / 100-240 V AC, 50-60 Hz

### Properties

Housing Material	Aluminum anodized
Environment operating range	+5°C to 45°C (80 % max. relative humidity)
Dimensions (W x D x H)	142 mm x 170 mm x 80 mm (5.59 in x 6.69 in x 3.14 inches)
Weight	2.7 kg (5.95 lbs)

## Ordering Information:

**Made in Germany**

Cat. No.	Description	Cat. No.	Description
70001	TurboShaker 3500	70002	Microplate adapter - Flat bottom
		70003	Microplate adapter - 96 well round bottom, universal
		70004	Microplate adapter - 96 well standard PCR plate, universal
		70005	Microplate adapter - 384 well standard PCR plate, universal
		70006	Adapter - 24 x 2.0 ml or 15 x 0.5 ml tubes
		70007	Adapter - 24 x 1.5 ml or 15 x 0.5 ml tubes
		70008	Adapter - 40 x 0.5 ml or 28 x 0.2 ml tubes
		70009	Adapter - 96 x 0.2 ml tubes
		70010	Adapter - 24 x 2.0 ml glass vials
		70011	Adapter - 20 x 4.0 ml glass vials
		*customized adapters are available on request	