

## RTS-1, Personal bioreactor

### DESCRIPTION

**RTS-1** is personal bioreactor which provides “Reverse-Spin” type of agitation and logging of microbial growth in 50 ml tubes in real time.

Features:

- Innovative mixing due to reverse spinning of the sample around its own axis
- Due to innovative mixing technology it is possible to measure optical density of the probe in real time
- Software has been developed to store, display and analyse the data in real time
- **RTS-1** is compact device with low profile and small footprint for personal application
- Temperature control allows to use **RTS-1** as an incubator, e.g. for cell growth
- The ability to change parameters such as temperature, RPM and “Reverse-Spin” frequency, allows to achieve consistency and reproducibility of results
- Programmable Cycling/profiling of cultivation parameters such as temperature, RPM, “Reverse-Spin” frequency
- The ability to remotely monitor the process of cultivation while home or using a mobile phone

See the Reverse-Spin® Technology — Innovative Principle of Microbial Cultivation in the download section

Software features:

- Real-Time cell growth logging
- 3D graphical representation of OD or growth rate over time over unit
- Pause option
- Save/Load option
- Report option: PDF and Excel
- Connect up to 12 units simultaneously
- Remote monitoring option (requires internet connection)
- Cycling/Profiling options
- User calibration options for any microorganism

Typical applications:

- Bacterial cultivation with real time growth kinetics
- Strain screening
- Temperature stress and fluctuation experiments
- Media screening and optimization
- Synthetic and systems biology
- Inhibition and toxicity tests
- Strain quality control

### SPECIFICATION

Measurement range	0–10 OD at 10–20ml volume (0–24 OD $\lambda$ 600 nm equivalent) 0–8 OD at 20–30ml volume (0–19 OD $\lambda$ 600 nm equivalent)
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### CAT. NR.

	RTS-1, incl. software pack and external power supply unit
BS-010158-A04	230VAC 50/60Hz Euro plug
BS-010158-A05	230VAC 50/60Hz UK plug
BS-010158-A03	230VAC 50/60Hz AU plug
BS-010158-A02	100VAC 50/60Hz US plug
BS-010158-A02	120VAC 60Hz US plug
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BS-010158-AK	50 ml tubes with membrane filter TubeSpin® Bioreactor 50, TPP® 20 pcs.
BS-010158-BK	USB 2.0 Hub 10 x ports

## RTS-1, Personal bioreactor

Measurement wavelength ( $\lambda$ )	850 nm
Measurement Precision	$\pm 0.3$ OD
Light source	NIR Light diode
Measurement periodicity per hour	1-60
Cultural media volume	10-30 ml
Type of tube for aerobic cultivation	50 ml tube with membrane filter (TubeSpin® Bioreactor 50, TPP®)*
Type of tube for anaerobic cultivation	50 ml tube with membrane filter (TubeSpin® Bioreactor 50, TPP®)*  * — it is also possible to use other manufacturer tubes of the same type, e.g. Corning® 50ml Mini Bioreactor, but the device rotor must be modified. It is possible to request this modif.
Temperature setting range	+25°C ... +70°C
Temperature control range	5°C above ambient ... +70°C
Temperature stability	$\pm 0.1$ °C
Speed control range	50-2,000 rpm
Max. number of units connected to the software	12
Display	LCD
Minimum PC requirements	Intel/AMD Processor, 1 GB RAM Windows XP*/Vista/7/8/8.1, USB 2.0 port
Optimal PC requirements	Intel/AMD Processor, 3 GB RAM Windows XP*/Vista/7/8/8.1, USB 2.0 port  * not guaranteed because OS not supported by producer
Overall dimensions (WxDxH)	130 × 212 × 200 mm
Weight	1.5 kg
Input current/power consumption	12 V DC, 3.3 A / 40 W
External power supply	Input AC 100-240 V 50/60 Hz, Output DC 12 V