

# RTS-1 and RTS-1C, Personal bioreactors



Product video is available on the website



Innovative Mixing Technology:  
**Reverse-Spin®**

## SPECIFICATIONS

Measurement range	0–10 OD <sub>850</sub> at 10–20ml volume (0–24 OD <sub>600</sub> ) 0–8 OD <sub>850</sub> at 20–30ml volume (0–19 OD <sub>600</sub> )
Measurement Wavelength (λ)	850 nm
Measurement Precision	±0.3 OD <sub>850</sub>
Light source	NIR Light diode
Measurement periodicity per hour	1–60
Cultural media volume	10–30 ml
Type of tube for aerobic and anaerobic cultivation: 50 ml tube with membrane filter (TubeSpin® Bioreactor 50, TPP®)*	
for <b>RTS-1</b> (heating only):	
Temperature setting range	+25°C ... +70°C
Temperature control range	5°C above ambient ... +70°C
for <b>RTS-1C</b> (with cooling):	
Temperature setting range	+4°C ... +70°C
Temperature control range	15°C below ambient ... +70°C
Stability	±0.1°C
Speed control range	50–2,000 rpm
Max. number of units connected to the software	12 (recommended)
Display	LCD
Minimum PC requirements	Intel/AMD Processor, 1 GB RAM, Windows XP**/Vista/7/8/8.1, 2.0 USB port
Optimal PC requirements	Intel/AMD Processor, 3 GB RAM, Windows XP**/Vista/7/8/8.1, 2.0 USB port
Overall dimensions (W×D×H)	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

## FEATURES

- **RTS-1** and **RTS-1C** are personal bioreactors which provide "Reverse-Spin" type of agitation and logging of microbial growth in 50 ml tubes in real time.
- 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** and **RTS-1C** are compact devices with low profile and small footprint for personal application
- Temperature control allows to use **RTS-1** and **RTS-1C** as an incubators, e.g. for cell growth
- **RTS-1C** has a function of active cooling and temperature profiling via software
- The ability to change parameters such as temperature, RPM and "Reverse-Spin" frequency, allows to achieve consistency and reproducibility of the 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

\* — 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 specific modification.

\*\* — Not guaranteed because OS not supported by producer

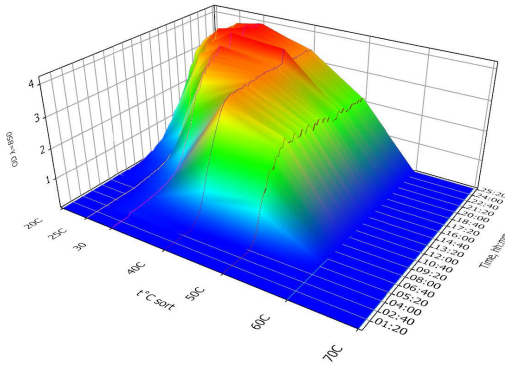
# RTS-1 and RTS-1C, Personal bioreactors

The dependence of the growth kinetics of *E. coli* BL21 at different temperatures in the 3D format. The experiment was conducted on 7 RTS-1C in parallel.

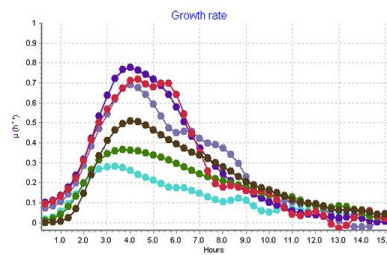
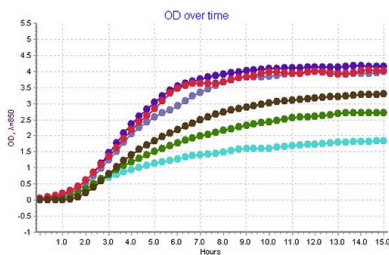


### SOFTWARE FEATURES:

- 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 manual calibration options for any microorganism

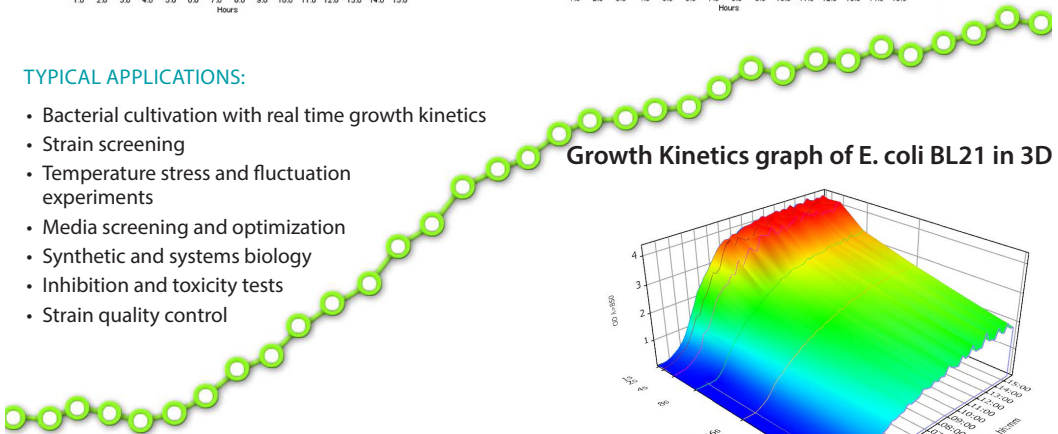


## Growth Kinetics and Growth Rate graphs of *E. coli* BL21

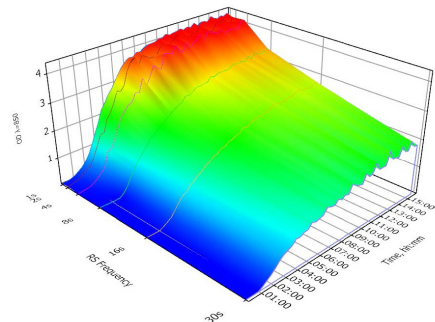


### TYPICAL APPLICATIONS:

- 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



Growth Kinetics graph of *E. coli* BL21 in 3D



### ORDERING INFORMATION:

RTS-1C including TubeSpin® Bioreactor 50, TPP®, 20 pcs.

RTS-1 including TubeSpin® Bioreactor 50, TPP®, 20 pcs.

#### Optional accessories:

TubeSpin® Bioreactor 50, TPP®, 20 pcs.

TubeSpin® Bioreactor 50, TPP®, 180 pcs.

USB 2.0 Hub 10 × ports

Cat. number

BS-010160-A04

BS-010158-A04

BS-010158-AK

BS-010158-CK

BS-010158-BK

