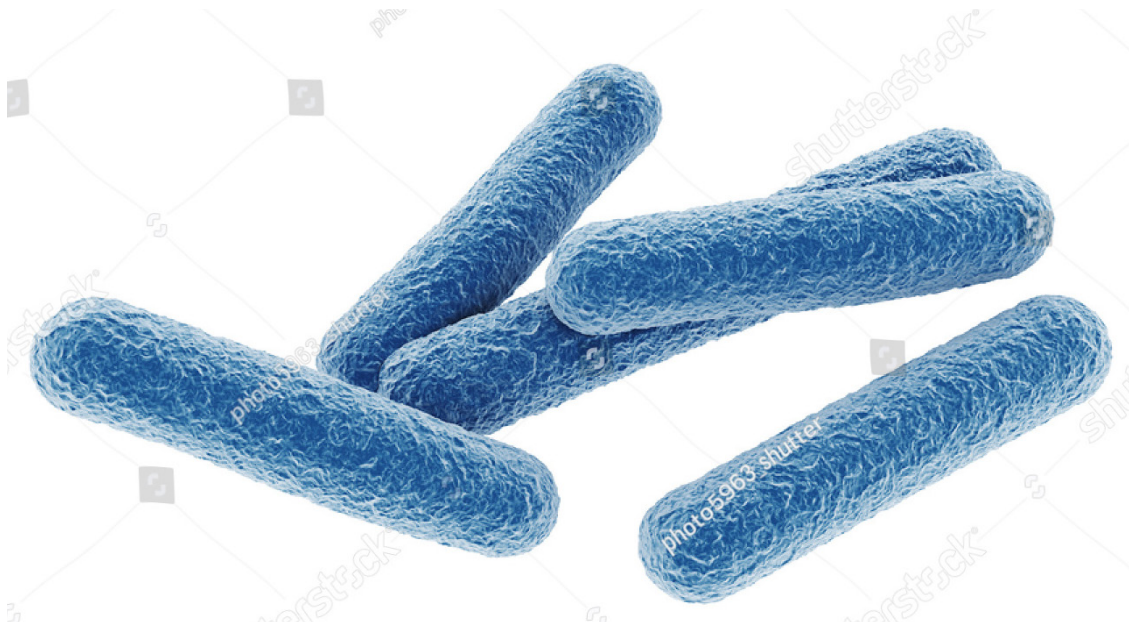


# 11 Personal bioreactors



## **Personal bioreactors**

RTS-1 personal bioreactor

RTS-1C personal bioreactor with temperature control

# RTS-1 and RTS-1C personal bioreactors

Compact and efficient personal bioreactors providing patented “Reverse-Spin®” type agitation and logging of microbial growth, in 50 ml tubes, in real time.

- Temperature setting range: -1 +25 to 70°C (RTS-1) +4 to +70 °C (RTS-1C)
- Speed control range: 50 – 2,000rpm (increment 10rpm)
- Temperature control allows use as an incubator (RTS-1C)
- Compact device with low profile and small footprint
- Connect up to 12 units simultaneously
- Ability to monitor the process of cultivation



**3D graphical representation** of OD or growth rate over time over unit.

**Active cooling and temperature profiling** via software (RTS-1C only).

**Programmable cycling/ profiling** of cultivation parameters such as temperature, RPM, “Reverse-Spin” frequency.



**Real-Time cell growth logging.**

**Innovative mixing** due to reverse spinning of the sample around its own axis.



**Compact, sturdy construction** with a low profile and small footprint - fits neatly into the workplace.

**Easy-to-read LCD screen** displaying temperature, RPM and time.

## 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

## Personal bioreactors - Technical specifications

		Personal bioreactor	Personal bioreactor with cooling
		RTS-1	RTS-1C
			
Dimensions	h x d x w mm	200 x 212 x 130	200 x 212 x 130
Theoretically possible measurement range in OD <sub>850</sub> , at 10 ml working volume*: Rod shaped bacteria Yeast		0-25 (0-45.6 OD <sub>800</sub> equivalent**) 0-50 (0-75 OD <sub>800</sub> equivalent)	
E.coli BL21 Factory calibration measurement range, in OD <sub>850</sub> : at 10-20 ml volume at 20-30 ml volume		0 – 10 OD (0 – 19 OD <sub>800</sub> equivalent) 0 – 8 OD (0 – 15.2 OD <sub>800</sub> equivalent)	
Measurement wavelength (λ)	nm	850 ± 15	
Factory calibration measurement precision		±0.3 OD <sub>850</sub>	
Mass transfer coefficient k <sub>a</sub>	(h <sup>-1</sup> )	Up to 350 ± 26 h <sup>-1</sup> at 5ml	
Light source		LED (NIR Light diode)	
Real time measurement	(minutes)	1-60	
Temperature setting range	°C	+25 to 70 (increment 0.1°C)	+4 to +70 (increment 0.1°C)
Bottom control range point	°C	Ambient +5	Ambient -15
Top control range point	°C	70	
Temperature stability	°C	±0.1	
Sample temperature accuracy: 20 °C - 45°C < 20°C > 45°C		± 1 ± 2 ± 3	
Sample temperature heating/cooling rate	°C/min	0.7	
Sample volume	ml	5 – 30	
Speed control range	rpm	50 – 2,000 (increment 10 rpm)	
Speed control precision	rpm	±15	
Reverse Spin Time	(seconds)	1- 60 (increment 1s)	
Display		LCD	
Minimum PC requirements		Intel/AMD Processor, 1 GB RAM, Windows XP***/Vista/7/8/8.1/10, 2.0 USB port	
Optimal PC requirements		Intel/AMD Processor, 3 GB RAM, Windows 7/8/8.1/10, 2.0 USB port	
Power consumption	W	40 (3.3A)	60 (5A)
Input voltage	V dc	12	
Nominal operating voltage	V	120 - 230 (50/60Hz)	
Weight	kg	1.7	2.2

\* – Highest k<sub>L</sub>a (h<sup>-1</sup>) is achieved at 5 ml working volume which is optimal for aerobic cultivation

\*\* – 850 to OD<sub>600</sub> vary between strains and phases of growth

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

## Options and accessories

		RTS-1	RTS-1C
• = optional			
50TUB20	20x 50 ml tubes with membrane filter TubeSpin® Bioreactor 50, TPP®	•	•
50TUB180	180x 50 ml tubes with membrane filter TubeSpin® Bioreactor 50, TPP®	•	•
USB10	USB 2.0 Hub 10 × ports	•	•



Thank you for reading this data sheet.

For pricing or for further information, please contact us at our UK Office, using the details below.



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Please note - Product designs and specifications are subject to change without notice. The user is responsible for determining the suitability of this product.