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Персональные биореакторы RTS



Personal Bioreactors

Personal bioreactors

RTS-1 personal bioreactor

RTS-1C personal bioreactor with cooling

RTS-1 and RTS-1C

Personal bioreactors

Compact and efficient personal bioreactors providing innovative “Reverse-Spin®” technology, to give unique non-invasive type agitation and to register cell growth kinetics in real time.

Multi-use with four instruments in one unit - measuring, mixing, thermostating, data logging and analysis

Temperature setting range: +25 to 70°C (RTS-1) +4 to +70 °C (RTS-1C)

Speed control range: 50 – 2000rpm (increment 10rpm)

Temperature control allows use as an incubator

Compact device with low profile and small footprint

Connect up to 12 units simultaneously

Ability to monitor the process of cultivation



Real-time cell growth logging.

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

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

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

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

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

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

2 year warranty



Made in Europe

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

| | |   | |
|---|---|---|----------------------------------|
| | | RTS-1 | RTS-1C |
| | | Personal bioreactor | Personal bioreactor with cooling |
| Dimensions | h x d x w mm | 200 x 212 x 130 | 200 x 212 x 130 |
| Theoretical measurement range in OD ⁸⁵⁰ , at 10ml working volume*: | Rod shaped bacteria (e.g. <i>E.coli</i>) | 0-25 (0-45.6 OD600 equivalent**) | |
| | Yeast (e.g. <i>P.pastoris</i>) | 0-50 (0-75 OD600 equivalent) | |
| E. coli/BL21 factory calibration measurement range, in OD850: | at 10-20 ml volume | 0 - 10 OD (0 - 19 OD600 equivalent) | |
| | at 20-30 ml volume | 0 - 8 OD (0 - 15.2 OD600 equivalent) | |
| Measurement wavelength (λ) | nm | 850 ± 15 | |
| Factory calibration measurement precision | | ±0.3 OD 850 | |
| Mass transfer coefficient kLa | (h ⁻¹) | Up to 350 ± 26 h ⁻¹ 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 | ± 1 | |
| | < 20°C | ± 2 | |
| | > 45°C | ± 3 | |
| Sample temperature heating/cooling rate | °C/min | 0.7 | |
| Sample volume | ml | 5 - 30 | |
| Speed control range | rpm | 50 - 2000 (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 | |
| External power supply | V | 100 - 240 (50/60Hz); output DC 12V | |
| Weight | kg | 1.7 | 2.2 |

* Highest k_{La} (h⁻¹) is achieved at 5 ml working volume which is optimal for aerobic cultivation.

** OD⁸⁵⁰ to OD⁶⁰⁰ vary between strains and phases of growth.

*** Not guaranteed because OS not supported by producer.

Personal Bioreactors

Options and accessories

| | | RTS-1 | RTS-1C |
|----------|--|-------|--------|
| 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 | • | • |



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