

RTS-8, Personal multi-channel bioreactor with non-invasive real time OD measurement

DESCRIPTION

RTS-8 is a personal bioreactor that utilizes patented Reverse-Spin® technology that applies non-invasive, mechanically driven, low energy consumption, innovative type of agitation where cell suspension is mixed by the single-use falcon bioreactor tube rotation around its axis with a change of direction of rotation motion resulting in highly efficient mixing and oxygenation for aerobic cultivation. Combined with a near-infrared optical system it is possible to register cell growth kinetics non-invasively in real time.

FEATURES

- Parallel cultivation of 8 tube bioreactors enables to save time and resources for bioprocess optimization
- Individually controlled bioreactor accelerates optimization process
- Possibility to cultivate microaerophilic and obligate anaerobic microorganisms (not strict anaerobic conditions)
- Reverse-Spin® mixing principle enables non-invasive biomass measurement in real time
- Near-infrared optical system makes it possible to register cell growth kinetics
- Free of charge software for storage, demonstration and analysis of data in real time
- Compact design with low profile and small footprint for personal application
- Individual temperature control for bioprocess applications
- Active cooling for rapid temperature control, e.g. for temperature fluctuation experiments
- Task profiling for process automatization
- Cloud data storage to remotely monitor the process of cultivation while at home or using a mobile phone

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
- Remote monitoring option (requires internet connection)
- Cycling/Profiling options
- User manual calibration possibility for most cells

TYPICAL APPLICATIONS

- Fermentation real time growth kinetics
- Clone candidate screening
- Protein expression
- Temperature stress and fluctuation experiments
- Media screening and optimization
- Growth characterization
- Inhibition and toxicity tests
- Strain quality control
- Initial bioprocess optimization studies



CAT. NUMBER

| | |
|---------------|--|
| | Including TPP TubeSpin® Bioreactor vessels 50ml, 20pcs |
| | Calibration E.coli |
| BS-010168-A01 | 230VAC 50Hz Euro plug |
| BS-010168-A04 | 230VAC 50Hz UK plug |
| BS-010168-A03 | 120VAC 50/60Hz US plug |
| BS-010168-A05 | 230VAC 50/60Hz AU plug |
| | Calibration S.Cerevisiae - optional |
| BS-010168-A09 | 230VAC 50/60Hz Euro plug |
| BS-010168-A07 | 230VAC 50/60Hz UK plug |
| BS-010168-A08 | 120VAC 50/60Hz US plug |
| BS-010168-A06 | 230VAC 50/60Hz AU plug |
| | Calibration E.coli and S.Cerevisiae - optional |
| BS-010168-A10 | 230VAC 50/60Hz Euro plug |

SPECIFICATIONS

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|---|--|
| Light source | Laser |
| Measurement wavelength (λ) | 850 ± 15 nm |
| Measurement range | 0-100 OD600 |
| E.coli factory calibration measurement range | 0-50 OD600 |
| S.cerevisiae factory calibration measurement range | 0-75 OD600 |
| Achievable user calibration measurement error (range 0.1-6 OD600) | ± 0.3 |
| Achievable user calibration measurement error (range 6-50 OD600) | ≤ 5% |
| Achievable user calibration measurement error (range 50-75 OD600) | ≤ 10% |
| Measurement periodicity per hour | 1-60 |
| Temperature setting range | +15°C ... +60°C |
| Temperature control range | +15 °C below ambient ... +60 °C |
| Temperature stability | ±0.3 °C |
| Sample temperature accuracy (20°C – 37°C) | ±1 °C |
| Tube sockets | 8 |
| Sample working volume range | 3–50 ml |
| Speed control range | 150–2700 rpm |
| Reverse spin time setting range 150-250 rpm | 0 s |
| Reverse spin time setting range 250–300 rpm | 2-60 s |
| Reverse spin time setting range 300–2700 rpm | 0-60 s |
| Display | LCD |
| Minimum PC requirements | Intel/AMD Processor, 1 GB RAM, Windows 10/11, USB 2.0 port |
| Overall dimensions (W×D×H) | 350 x 690 x 300 mm |
| Weight | 20 kg |
| Nominal operating voltage | AC 230 V, 50 Hz |
| Power consumption | 3.15 A / 500 W |

ACCESSORIES



USB 2.0 Hub 10 × ports
BS-010158-BK



TubeSpin® Bioreactor 50 - 20
BS-010158-AK



TubeSpin® Bioreactor 50 - 180
BS-010158-CK

50 ml tubes with membrane
filter TPP TubeSpin®
Bioreactor 50, 20 pcs.

50 ml tubes with membrane
filter TPP TubeSpin®
Bioreactor 50, 180 pcs.