RTS-1, Personal bioreactor

DESCRIPTION

RTS-1 is personal bioreactor which utilize patented Reverse-Spin® technology that applies non-invasive, mechanically driven, low energy consumption, innovative type of agitation where cell suspension is mixed by the singleuse 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.

- Reverse–Spin® mixing principle in 50 ml falcon tubes allows to achieve high ka (h⁻¹) up to 450 which is essential for efficient aerobic cultivation
- 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
- 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
- Connect up to 10 units simultaneously to 1 computer
- 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



CAT. NUMBER

| | Including TPP TubeSpin® Bioreactor vessels 50ml, 20pcs |
|---------------|--------------------------------------------------------|
| 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, 120VAC 60Hz US plug |



Smart Plus

Product Class

SPECIFICATIONS

| Measurement range | 0–10 OD at 10–20ml volume (0–19 OD λ600 nm equivalent) o–8 OD at 20–30ml volume (0–15.2 OD λ600 nm equivalent) |
|---------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Measurement precision | ±0.3 OD |
| Light source | NIR Light diode |
| Measurement wavelength (λ) | 850 nm |
| Measurement periodicity per hour | 1–60 |
| Cultural media volume | 10–30 ml |
| Temperature setting range | +25°C +70°C |
| Temperature control range | 5°C above ambient +70°C |
| Temperature stability | ±0.1°C |
| Display | LCD |
| Speed control range | 50–2,000 rpm |
| Max. number of units connected to the software | 10 |
| 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. |
| Minimum PC requirements | Intel/AMD Processor, 1 GB RAM Windows Vista/7/8/8.1/10/11, USB 2.0 port |
| Optimal PC requirements | Intel/AMD Processor, 3 GB RAM Windows Vista/7/8/8.1/10/11, USB 2.0 port |
| Overall dimensions (W×D×H) | 130 × 212 × 200 mm |
| Weight | 1.7 kg |
| Input current/power consumption | 12 V, 3.3 A / 40 W |
| External power supply | Input AC 100–240 V, 50/60 Hz; Output DC 12 V |









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.