

# RTS-8, Multi-channel Bioreactor with non-invasive real time cell concentration 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

## SPECIFICATIONS

Light source	Laser
Measurement wavelength (λ)	850 ± 15 nm
Measurement range	0-100 OD600
E.coli factory calibration measurement range	0-50 OD600
P.pastoris factory calibration measurement range	0-100 OD600
Achievable user calibration measurement error (range 0.1-3 OD600)	± 0.3
Achievable user calibration measurement error (range 3-100 OD600)	≤ 15%
Measurement periodicity per hour	1-60
Temperature setting range	+15°C ... +60°C
Temperature control range	+15 °C below ambient ... +60 °C
Temperature stability	±0.1 °C
Sample temperature accuracy (20°C – 37°C)	±1 °C
Tube sockets	8
Sample working volume range	3–50 ml
Speed control range	50–2700 rpm
Display	LCD
Dimensions (W×D×H)	350 × 690 × 300 mm
Weight	20 kg
Nominal operating voltage	AC 230 V, 50 Hz
Power consumption	3.15 A / 500 W