

Multi Channel Bioreactor RTS-8

Description

RTS-8 uses the patented ReverseSpin® technology. This is an innovative and energy-saving mixing technique that leads to highly efficient mixing and oxygen supply for aerobic cultivation. By rotating the Falcontubes around their own axis and changing the direction of rotation, the cell suspension is optimally mixed.

In combination with near-infrared optics, it is possible to record the kinetics of cell growth non-invasively in real time.

The RTS mixing principle has a number of advantages, such as automatic balancing, defoaming, single use.

One of the most important points, however, is that different temperature support conditions (from 4 to 70°C) and aeration conditions (from anaerobic to aerobic) can be applied to each tube.

Specifications

- Enormous time and resource savings in bioprocesses thanks to the parallel cultivation of eight tubes simultaneously
- Individually controllable bioreactor accelerates the optimization process
- Possibility to cultivate microaerophilic and obligate anaerobic microorganisms (non-strict anaerobic conditions)
- Reverse-Spin® mixing principle enables non-invasive biomass measurement in real time
- Optical near-infrared system enables the recording of cell growth kinetics
- Free software for storing, displaying and analyzing data in real time
- Compact design with low height and small footprint
- Temperature control for bioprocess applications
Active cooling for fast temperature control (e.g. for temperature fluctuation experiments)
- Task profiling for process automation
- Cloud data storage for remote monitoring of the cultivation process



Software

- 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

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

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Technical Data

Order No. RTS-8	103.4050
Light source	Laser
Measurement wavelength (λ)	850 \pm 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)	\pm 0.3
Achievable user calibration measurement error (range 6-50 OD600)	\leq 5%
Achievable user calibration measurement error (range 50-75 OD600)	\leq 10%
Measurement periodicity per hour	1 – 60
Temperature setting range	+15°C bis +60°C
Temperature control range	15°C below ambient up to +60°C
Temperature stability	\pm 0.3°C
Sample temperature accuracy (20°C – 37°C)	\pm 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 sec
Reverse spin time setting range 250–300 rpm	2 – 60 sec
Reverse spin time setting range 300–2700 rpm	0 – 60 sec
Display	LCD
Minimum PC requirements	Intel/AMD Processor, 1 GB RAM, Windows Vista/7/8/8.1/10/11, USB 2.0 port
Dimensions (WxDxH)	350 x 690 x 300 mm
Weight	20 kg
Nominal operating voltage	AC 230 V 50 Hz
Power consumption	3.15 A / 500 W