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Medical-Biological Research & Technologies

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

Smart Plus Product Class

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

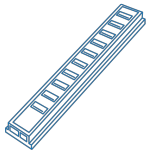
CAT. NUMBER

	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

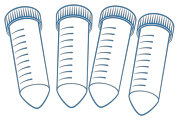
SPECIFICATIONS

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 Vista/7/8/8.1/10/11, USB 2.0 port
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

ACCESSORIES

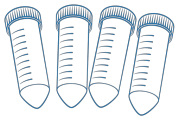


USB 2.0 Hub 10 × ports
BS-010158-BK



TubeSpin® Bioreactor 50 - 20
BS-010158-AK

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



TubeSpin® Bioreactor 50 - 180
BS-010158-CK

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