

NEW!



## Light Up Your Day

The new Eppendorf BioSpectrometer – simply spectacular!

**eppendorf**

# Simply spectacular!

## Eppendorf BioSpectrometer

Eppendorf's new BioSpectrometer redefines the benchmark for spectrometry in modern laboratories. Never before has Eppendorf had such a small device with such a wide range of applications along with simple operation and high capability and accuracy.

Measure and record UV/Vis spectral ranges or just measure individual wavelengths from 200 nm to 830 nm. The freely selectable wavelengths provide maximum flexibility for all current and future applications.

The BioSpectrometer software is based on an operation concept which has been awarded for its innovative technology and user-friendly design.

### Feel safe

The optimized menu navigation of the BioSpectrometer guides you through the individual methods, step by step. All required entries are visible, so that no data will be omitted. In addition, a help box will explain the operational sequences in the individual steps.

● With the Eppendorf SpectraZoom method you can analyze and process curve sections in detail view directly on the instrument display.



## Eppendorf BioSpectrometer

### You determine the speed

In addition to pre-programmed methods for standard measurements you can also store your own methods. Frequently used methods can be saved separately for quick access. The integrated software reduces the programming work to a minimum and enables a quick start.

The new Eppendorf BioSpectrometers – simply spectacular!

You can find further information at [www.eppendorf.de/biospectrometer](http://www.eppendorf.de/biospectrometer)

● Select the method, insert the sample, start measuring – done!  
This is how easy and quick highly accurate measuring can be.



# A shining example

## Eppendorf BioSpectrometer basic

The Eppendorf BioSpectrometer basic provides a wide range of methods for many different applications in molecular biology, cell biology and biochemical applications.

### Keep track of everything

The small and lightweight BioSpectrometer basic is easy to operate with its integrated 5.7 inch colour display in combination with the keys of the device. Integrated data processing options like the Eppendorf SpectraZoom® method enable basic data processing directly on the device.

If you want to transfer your measured data to a PC, you can connect the device directly to a PC without any additional software or transfer the data via USB stick.

### Examples for applications

- Extinction measurement for one or several wavelengths
- Recording of wavelength scans
- Methods with analysis via factor, standard or standard series
- Two-wavelength method with subtraction and division analysis
- Concentration via standard series (including linear and non-linear regression, linear interpolation)

### Product characteristics

- UV/Vis spectral range from 200 nm to 830 nm
- Xenon flash lamp with extra long life
- Pre-programmed methods for a quick start
- Guided software sequence to minimize errors
- Direct operation on the device, no PC required
- Measuring results (>1.000) can be saved directly on the device
- Integrated data processing option for specific methods



# The measurable advantage



## Eppendorf BioSpectrometer kinetic

In addition to the BioSpectrometer basic, the BioSpectrometer kinetic has a cuvette shaft that can be temperature controlled. This means that you can determine enzyme and substrate kinetics directly in the device without any additional accessories.

### Stay flexible

The temperature of the cuvette shaft can be freely selected between +20 °C and +42 °C, in 0.1 °C increments. Thermoregulation via an integrated Peltier element ensures very accurate temperature control, even over a longer period.

The BioSpectrometer kinetic software provides pre-programmed and freely programmable kinetics methods as well.

### Examples for applications

- All options of the BioSpectrometer basic (refer to page 4)
- Kinetics method: end point, two-point and linear regression
- Substrate and enzyme kinetics determination

### Product characteristics

- All options of the BioSpectrometer basic (refer to page 4)
- Temperature-controlled cuvette shaft (adjustment range +20 °C to +42 °C, in 0.1°C increments)
- Pre-programmed and freely programmable kinetics methods
- Retrospective modification of the time window for regression analysis



# Excellently transparent

## Cuvettes

### Cuvettes

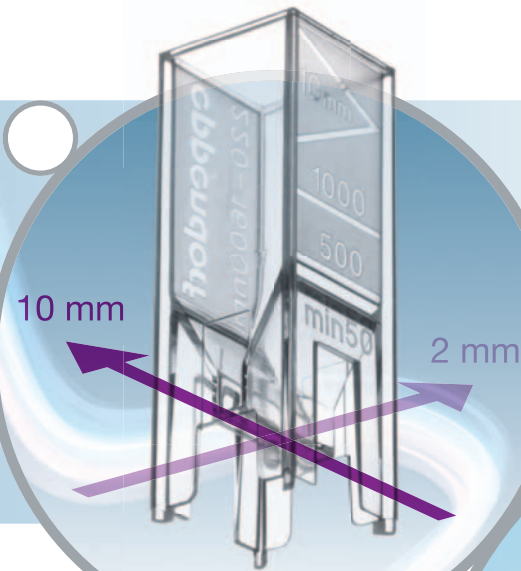
Apart from standard cuvettes such as the Eppendorf UVette, you can also use special microliter measuring cells for the quantifying of minute volumes. This does not only extend the Eppendorf BioSpectrometer's wide spectrum of methods, but also the concentration and volume range that can be measured.

### UVette

The patented\* Eppendorf UVette is a fully UV-transparent single use cuvette made from clear plastic, with a light transmission between 220 nm and 1,600 nm. Its unique shape enables measuring with two different optical paths, with a minimum volume of 50 µL. To cater to different requirements in the laboratory, the UVette is available in two purity grades and packaging sizes.

### Typical applications for the UVette

- UV/Vis measurements in the range from 220 to 1,600 nm
- Determining DNA/RNA purity and concentration
- Measuring the labeling efficiency for Microarray applications (FOI), refer to Application Note No. 188
- Determining proteins (A280, BCA, Lowry etc.)



You can find further  
[www.eppendorf.com/UVette](http://www.eppendorf.com/UVette)

\* U.S. Patent No. 6,249,345.

# Be better, stay better

## BioSpectrometer accessories

### BioSpectrometer Reference filter set

The secondary UV/Vis reference filter set is for checking photometric and wavelength systematic errors in accordance with NIST (National Institute of Standards and Technology, Gaithersburg MD, USA). It can be used both with the BioSpectrometer basic and the BioSpectrometer kinetic.

Find out more about our maintenance programs at  
[www.eppendorf.com/epservices](http://www.eppendorf.com/epservices)



### Product characteristics of the reference filter set

- Filters can be traced back to NIST
- Program for photometer test is pre-programmed in the device
- Checking wavelength systematic error and precision
- Checking photometric systematic error and precision



### Hellma® TrayCell

Hellma Analytics, one of the leading manufacturers of high-precision optical products, provides this patented\*1 microliter measuring cell for measurements with low sample volumes. The optical path selection for the different optical path lengths of the TrayCell is pre-programmed in the integrated software of the Eppendorf BioSpectrometer.

This product is available from Hellma GmbH & Co. KG. You can find detailed information at  
[www.hellma-analytics.com/traycell](http://www.hellma-analytics.com/traycell)

\*1 US Patent No. 7,688,429

## Technical specifications

	BioSpectrometer® basic	BioSpectrometer® kinetic
<b>Optical system</b>	Absorption single-beam spectrophotometer with reference beam	Absorption single-beam spectrophotometer with reference beam
<b>Light source</b>	Xenon flash lamp	Xenon flash lamp
<b>Cuvette shaft temperature control</b>	–	20 °C to 42 °C smallest increment: 0,1 °C
<b>Wavelengths</b>	200 nm to 830 nm smallest increment: 1 nm	200 nm to 830 nm smallest increment: 1 nm
<b>Spectral band width</b>	≤ 4 nm	≤ 4 nm
<b>Photometric measuring range</b>	0 A to 3,0 A at 260 nm	0 A to 3.0 A at 260 nm
<b>Random error</b>	≤ 0.002 if A = 0 ≤ 0.005 (0.5 %) if A = 1	≤ 0.002 if A = 0 ≤ 0.005 (0.5 %) if A = 1
<b>Systematic error</b>	± 1 % if A = 1	± 1 % if A = 1
<b>Methods</b>	<ul style="list-style-type: none"> <li>– Extinction measurements with one or several wavelengths, wavelength scans</li> <li>– Nucleic acids and proteins, OD600, dye methods (parallel measuring of biomolecule and dye marking), calculating the FOI</li> <li>– Methods with analysis via factor, standard and standard series</li> <li>– Two-wavelength method with subtractions and division analysis</li> </ul>	<ul style="list-style-type: none"> <li>– Extinction measurements with one or several wavelengths, wavelength scans</li> <li>– Nucleic acids and proteins, OD600, dye methods (parallel measuring of biomolecule and dye marking), calculating the FOI</li> <li>– Methods with analysis via factor, standard and standard series</li> <li>– Two-wavelength method with subtraction and division analysis</li> <li>– <b>Kinetics method:</b> End point, two-point, linear regression</li> </ul>
<b>Dimensions (W × D × H)</b>	295 mm × 400 mm × 150 mm	295 mm × 400 mm × 150 mm
<b>Weight</b>	5.4 kg	5.5 kg
<b>Display</b>	VGA TFT-Display 5.7"	VGA TFT-Display 5.7"
<b>Languages for accompanying texts</b>	English, French, Spanish, Italian, German	English, French, Spanish, Italian, German

## Ordering Information

Description	Order number (international)	Order number (North America)
<b>BioSpectrometer® basic</b> 230 V/50–60 Hz, mains plug for Europe, other mains connection options available 120 V/50–60 Hz, mains plug for North America	6135 000.009 6135 000.017	– 6135000017
<b>BioSpectrometer® kinetic</b> 230 V/50–60 Hz, mains plug for Europe, other mains connection options available 120 V/50–60 Hz, mains plug for North America	6136 000.002 6136 000.010	– 6136000010
<b>BioSpectrometer® Reference filter set</b> Secondary UV/Vis reference filter set for checking the photometric and wavelength systematic errors (in accordance with NIST)	6135 928.001	6135928001
<b>UVette®</b> , 220 nm–1,600 nm, Original Eppendorf plastic cuvette, individually packaged, certified PCR-clean and protein-free, box of 80	0030 106.300	952010051
<b>UVette® Routine pack</b> , 220 nm–1,600 nm, Eppendorf Quality purity grade, resealable box of 200	0030 106.318	952010069
<b>Cuvette stand for UVette</b> , for 16 cuvettes	4308 078.006	940001102

You can find further information at [www.eppendorf.de/biospectrometer](http://www.eppendorf.de/biospectrometer)

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