

## 11 Technical data

### 11.1 Power supply

Power supply	100 V to 240 V ±10 %, 50 Hz to 60 Hz
Overvoltage category	II
Degree of pollution	2
Power consumption	Maximum power consumption according to name plate: 25 W Approx. 15 W during operation Approx. 5 W with the display dimmed
Permitted mains interruption	Approx. 10 ms at 90 V Approx. 20 ms at 230 V
Protection class	I
Fuses	T 2.5 A/250 V, 5 mm × 20 mm (2 pcs.)

### 11.2 Ambient conditions

Operation	Ambient temperature: 15°C to 35°C Rel. humidity: 25% to 70% Air pressure: 86 kPa to 106 kPa
Air pressure	Use up to an altitude of 2000 m above MSL

Do not expose to direct sunlight.

### 11.3 Weight/dimensions

Weight	5 kg
Dimensions	Width: 295 mm Depth: 400 mm Height: 150 mm
Space required	Width: 500 mm (with thermal printer: 750 mm) Depth: 500 mm

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Eppendorf BioSpectrometer® basic  
English (EN)

**11.4 Photometric properties**

Measuring principle	Single beam absorption spectrophotometer with reference beam
Light source	Xenon flash lamp
Monochromator	Holographic aberration-corrected concave grating
Beam receiver	CMOS photodiode array
Wavelengths	200 nm to 830 nm
Wavelength selection	Method-dependent, freely selectable
Spectral bandwidth	$\leq 4$ nm
Smallest step size	1 nm
Systematic wavelength error	$\pm 1$ nm
Random wavelength error	$\leq 0.5$ nm
Photometric measuring range	0 A to 3.0 A at 260 nm
Reading accuracy	$\Delta A = 0.001$
Random photometric error	$\leq 0.002$ at $A = 0$ $\leq 0.005$ (0.5 %) at $A = 1$
Systematic photometric error	$\pm 1$ % at $A = 1$
Stray light component	$< 0.05$ %

## 11.5 Further technical parameters

Cuvette material	For measurements in the UV: Quartz glass or UV transparent plastic (Eppendorf UVette, 220 nm to 1600 nm) For measurements in the visible range: Glass or plastic
Cuvette shaft	12.5 mm × 12.5 mm, untempered
Overall cuvette height	Min. 36 mm
Height of the light beam in the cuvette	8.5 mm
Keyboard	22 foil keys 6 foil keys as softkeys
Result output	Absorbance, transmission, concentration, scan (absorbance wavelength spectrum) Additional, method-dependent data (ratio, FOI, background absorbances)
Display	VGA TFT display 5.7"
Operator guidance language	English, French, Spanish, Italian, German, Japanese
Interfaces	USB master: for USB stick and DPU-S445 thermal printer USB slave: for connecting to a PC Serial RS 232 port: for DPU-414 thermal printer RJ45 Ethernet interface: for connecting to a PC Connected devices must meet the safety requirements specified in IEC 60950-1.

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**11.6 Application parameters**

Methods	<p>Preprogrammed and freely programmable methods for all measuring and evaluation procedures:</p> <ul style="list-style-type: none"> <li>• Absorbance measurements with one or more wavelengths, scans</li> <li>• Transmission measurement on a wavelength</li> <li>• Nucleic acids and proteins, OD600, dye methods (parallel measurement of biomolecule and dye marking)</li> <li>• Methods with evaluation via factor, standard and standard series</li> <li>• Dual wavelength procedure with subtraction and division evaluation</li> </ul>
Method-dependent evaluation	<p>Absorbance, concentration via factor and standard. Concentration via standard series:</p> <ul style="list-style-type: none"> <li>• Linear regression</li> <li>• Nonlinear regression (2nd and 3rd degree polynoms)</li> <li>• Spline evaluation</li> <li>• Linear interpolation (point-to-point evaluation)</li> </ul> <p>Absorbance calculations via subtraction and division Additional data for nucleic acids: ratios 260/280 and 260/230; molar concentration, total yield Additional data for dye methods: FOI (frequency of incorporation, labeling density) Scans: zoom, peak evaluation</p>
Method memory	>100 method programs
Measured value memory and calibration memory	<p>Memory for &gt;1 000 results with all data of the results evaluation and standard evaluation, sample number, sample name, date and used parameter set of the method program. (The number of saved results depends on the number of saved methods.)</p>