

11 Technical data

11.1 Power supply

Power supply	100 V to 240 V \pm 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 \times 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	5.4 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 BioPhotometer® D30
English (EN)

11.4 Photometric properties

Measuring principle	Single beam absorption photometer with reference beam
Light source	Xenon flash lamp
Monochromator	Holographic aberration-corrected concave grating
Beam receiver	CMOS photodiodes
Wavelengths	230 nm, 260 nm, 280 nm, 320 nm, 340 nm, 405 nm, 490 nm, 562 nm, 595 nm, 600 nm
Wavelength selection	Method-dependent, freely selectable
Spectral bandwidth	≤ 4 nm
Systematic wavelength error	±1 nm
Random wavelength error	≤ 0.5 nm
Photometric measuring range	0 A to 3.0 A at 260 nm
Reading accuracy	$\Delta A = 0.001$
Random photometric error	≤ 0.002 at A = 0 ≤ 0.005 (0.5 %) at A = 1
Systematic photometric error	±1 % at A = 1
Stray light component	< 0.05 %

11.5 Additional 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
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, restricted scan (absorbance wavelength spectrum) Additional, method-dependent data (ratio, 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 RS 232 serial port: for DPU-414 thermal printer RJ45 Ethernet interface: for connecting to a network 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"> • Absorbance measurements • Transmission measurement on a wavelength • Nucleic acids and proteins, OD600 • Methods with evaluation via factor, standard and standard series
Method-dependent evaluation	<p>Absorbance, concentration via factor and standard. Concentration via standard series:</p> <ul style="list-style-type: none"> • Linear regression • Nonlinear regression (2nd and 3rd degree polynoms) • Spline evaluation • Linear interpolation (point-to-point evaluation) <p>Additional data for nucleic acids: ratios 260/280 and 260/230; molar concentration, total yield</p>
Method memory	>100 method programs
Measured value memory and calibration memory	<p>Memory for >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>