SPECORD PLUS Series
UV/Vis Spectrophotometer

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General

- UV/Vis Spectrophotometer series for reliable, user-friendly, and flexible analysis
- 4 models tailored to meet individual needs
- Optimal combination of instrument, software, and accessories for a wide range of applications
- Unique and performance-enhancing accessories to maximize productivity

Optical system

Spectrometer type	▪ Monochromator with imaging grating and aspheric quartz coated optics ▪ Internal holmium oxide filter
Detector	▪ Two silicon photo diode detectors ▪ Cooled by Peltier element for SPECORD 210 and 250 PLUS
Sample position	▪ Designated sample position for turbid samples ▪ Wide range of accessories for optimized solid, liquid, and gas sample positioning
Light source	▪ Combination of halogen and deuterium lamp ▪ Lamp change can be set to occur between 300 and 450 nm

Models

SPECORD PLUS Series	SPECORD 50 PLUS	SPECORD 200 PLUS	SPECORD 210 PLUS	SPECORD 250 PLUS
Optical design	Double beam spectrophotometer with Split Beam Technology	Double beam spectrophotometer with fixed spectral bandwidth	Double beam spectrophotometer with variable spectral bandwidth	Double beam spectrophotometer with variable spectral bandwidth and double monochromator
Sample compartment dimensions	364 x 185 x 200 mm (W x D x H)			
Instrument dimensions	590 x 690 x 290 mm (W x D x H)			
Instrument weight	21 kg	22 kg	22 kg	23 kg

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Technical specifications

All data can be checked within the scope of the validation of the instruments.

SPECORD PLUS Series	SPECORD 50 PLUS	SPECORD 200 PLUS	SPECORD 210 PLUS	SPECORD 250 PLUS
Mode	Energy, absorption, transmission, reflectance			
Wavelength range	190–1100 nm	190–1100 nm	185–1200 nm	190–1100 nm
Photometric display range of the software	-9–9 A			
Photometric measuring range	-3–3 A			
Spectral bandwidth	1.4 nm	1.4 nm	variable 0.2, 0.5, 1, 2, 4 nm	variable 0.2, 0.5, 1, 2, 4 nm
Spectral resolution capability Toluene/Hexane at 20–25 °C	1.6–1.8	1.6–1.8	2.3–2.5	2.3–2.5
Wavelength accuracy (Deuterium line at 656.1 nm)	±0.1 nm			
Wavelength accuracy (at 360.9 nm with holmium oxide filter) *	±0.5 nm			
Wavelength reproducibility (at 360.9 nm with holmium oxide filter, RMS) *	≤0.02 nm			
Zero point of transmission	±0.05 %T (200–1000 nm; Slit 1.4 nm)	±0.05 %T (200–1000 nm; Slit 1.4 nm)	±0.05 %T (190–1150 nm; Slit 2 nm)	±0.05 %T (200–1000 nm; Slit 2 nm)
Photometric accuracy Vis (at 546 nm with neutral glass filter Hellma® F4) *	±0.003 A			
Photometric accuracy UV (potassium dichromate) *	±0.010 A			
Photometric reproducibility (at 546 nm with neutral glass filter Hellma® F4, RMS) *	≤0.0005 A			
Stray light 198 nm (KCl) **: 220 nm (NaI): 240 nm (NaI): 340 nm ($NaNO_2$):	 ≤0.3 %T ≤0.03 %T ≤0.03 %T ≤0.02 %T	 ≤0.3 %T ≤0.03 %T ≤0.03 %T ≤0.02 %T	 ≤0.3 %T ≤0.03 %T ≤0.03 %T ≤0.01 %T	 ≤0.03 %T ≤0.005 %T ≤0.005 %T ≤0.005 %T
Baseline noise at 500 nm (RMS)	≤0.0001 A			

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Baseline deviation	±0.0005 A (200–1000 nm; Slit 1.4 nm)	±0.0005 A (200–1000 nm; Slit 1.4 nm)	±0.0005 A (190–1150 nm; Slit 2 nm)	±0.0005 A (200–1000 nm; Slit 2 nm)
Long-term stability at 500 nm	±0.0005 A/h			
Registration speed	Up to 12000 nm/min			
Minimum integration time	0.001 s			
Minimum data interval	0.02 nm			

* Taking into account the tolerances of the applied standards
** Merck® 1.08164.0001

Additional technical data

SPECORD PLUS Series	SPECORD 50 PLUS	SPECORD 200 PLUS	SPECORD 210 PLUS	SPECORD 250 PLUS
Instrument operation	15–35 °C, rel. Humidity max. 90 % at 30 °C			
Instrument electrical requirements	85–264 V/AC, 50–60 Hz			
Technical standards	▪ Tested and designed to be compliant with the legal requirements for laboratory instrumentation and developed and produced in compliance with ISO 9001 ▪ SPECORD PLUS series instruments are certified to comply with the requirements of the EMC standards and bear the CE Mark			

Control and data evaluation

Software	▪ ASpect UV ▪ Multilingual software in 11 languages ▪ FDA 21 CFR Part 11 software module (optional) ▪ Validation software modules – USP, Eur. Ph. and Analytik Jena specifications (optional)
Computer requirements	▪ Operating system: Windows 11 (32-Bit or 64-Bit) ▪ RAM: min. 8 GB ▪ Memory: min. 256 GB, SSD recommended ▪ Graphic resolution: min. 1280 x 1024 px. ▪ 2x USB 2.0

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