Laboratory Equipment - Double Beam UV Visible Spectrophotometer

SP7000 Series Double Beam UV Visible Spectrophotometer



Features and Advantages:

- High - resolution C - T structure monochromator, excellent stability,reproducibility, and accuracy.
- Advanced ARM microcomputer technology, superior electronic circuits and signal processing. Data stored in the instrument can be exported via USB drive, and the software supports one - click upgrades and Bluetooth printing, among other data output options.
- Integrated aviation - grade aluminum alloy base plate and precision - machined mirror holder to ensure long - term optical stability.
- Seven - inch color LCD touchscreen display with a user - friendly navigation interface. The interface offers clear operating commands and special features to prevent user errors, eliminating the need to consult the user manual. The instrument can be operated via both touchscreen and buttons, even while wearing gloves.
- Stringent manufacturing processes with 32 quality control points to ensure durability and robustness in every unit.
- Large internal memory for storing extensive test data.
- Key components such as deuterium lamp, tungsten lamp, photodetectors, precision lead screws, etc., are sourced from reputable international brands to guarantee instrument reliability.
- Four - slot adjustable manual sample rack with a range of 10 - 50mm cuvette length, accommodating various cuvette sizes for testing requirements.
- Independently designed deuterium lamp and tungsten lamp replacement windows with a flange - style positioning structure for easy replacement.

Product Functions:

- Absorbance Measurement: You can perform absorbance or transmittance measurements of samples within the rangeof 190 - 1100nm, selecting single - point test wavelengths and methods as needed. Alternatively, you can directly read sample concentrations by inputting standard sample concentrations or concentration factors.
- Quantitative Measurement: Measure the concentration of unknown solution solutions using known parameter factors or by automatically creating standard solution curves. The instrument supports first - order zero crossing, second - order, and third - order curve fitting, as well as single - wavelength correction, dual - wavelength correction, and the optional three - point method. Standard curves can be stored and retrieved.
- Qualitative Measurement: Define the wavelength range, scan intervals, and measure absorbance, transmittance, reflectance, and energy of solid or liquid samples at intervals. You can also overlay, zoom, smooth, filter, detect peaks and valleys, save, print, and perform other actions on previously measured spectra.
- Time Measurement: Time measurement, also known as kinetic measurement, scans samples at time intervals for absorbance or transmittance at specified wavelengths. You can also calculate concentration from absorbance using concentration factors. Enzyme kinetics reaction rate calculations are also supported. Various spectral processing methods such as stalling, smoothing, filtering, peak valley detection, and differentiation are available
- DNA/ Protein Measurement: Primarily measures absorbance at 260nm/280nm/230nm/320nm to calcu.late DNA and protein concentrations and ratios using predefined formulas.
- Multi - wavelength Measurement: Configure multiple test wavelengths for measuring absorbance or transmittance of samples, with support for setting N test wavelengths.
- GLP General Laboratory Practice: Verify wavelength accuracy, photometric accuracy, and stray light, and provide validation data storage, export, and print.
- Additional Features: Accumulated run time.s for deuterium and tungsten lamps, independent on/off control for deuterium and tungsten lamps, wavelength selection for UV and visible light switching, language selection,
- wavelength auto - calibration, Bluetooth functionality, and more.
- Optional PC Control Software Package Functions: Quantitative measurement, qualitative measurement, time measurement, DNA/protein measurement, multi - wavelength measurement, 3D graphical analysis, spectral overlay analysis, and more.

Technical Specifications

Mode	AE-SP7000 (VIS)	AE-SP7000 (UV)
Optical System	Double - beam; with 1200lines/mm grating	
Wavelength range (nm)	320 - 1100	190 - 1100
Spectral Bandwidth (nm)	1.8	
Wavelength Accuracy (nm)	±0.3	
Wavelength Repeatability (nm)	≤0.1	
Transmittance Accuracy (%T)	≤0.1	
Stray Light (%T)	≤0.05 @360nm	≤0.03 @220nm @ 360nm
Noise (%T)	0%≤0.05; 100%≤0.1	
Drift (t/Abs)	≤0.001	
Baseline fitness (Abs)	±0.001	
Spectral Range	0 - 20%T, - 3.010 - 3A, 0-9999C (0-9999F)	
Test Mode	Abs Trans Reflectance Energy	
Light Source	Tungsten lamp & Deuterium lamp	
Monitor	7" LCD with touch panel	
Language	Chinese, English, Russia, Spanish	
Data Output	U Disk, Bluetooth, Uploaded to PC by USB port	
Data Format	CSV	
Sample Holder	10 - 50mm adjustable	
Power Supply	AC90 - 250V/50 - 60Hz	
Size (L×W×H)mm	475×330×210	
Weight (kg)	12	13