

Professional-grade spectrometer



Article Overview

Professional-grade spectrometers are high-precision instruments used in laboratories and industry to measure light absorption, reflectance, and color with exceptional accuracy and reliability.

Overview

Professional spectrometers are designed for research, quality control, and industrial applications, offering precise measurements across a wide wavelength range. They are used in chemistry, biology, physics, food production, print, packaging, and color-critical industries. Modern devices combine high photometric accuracy, stability, and user-friendly interfaces with advanced features like wireless connectivity, cloud-based data management, and portable form factors .

Key Features

- **Wavelength Range and Accuracy:** High-end lab spectrometers typically cover 350–1020 nm with wavelength accuracy of ± 2 nm and photometric accuracy of ± 0.5 –1%T, ensuring reliable spectral data for rigorous applications .
- **Measurement Modes:** Professional devices often support multiple measurement modes (e.g., M0, M1, M2) and can handle various substrates and lighting conditions .
- **Portability vs. Benchtop:** Portable models like the Nix Spectro 2 and Spectro 1 offer benchtop-level accuracy in handheld designs, ideal for fieldwork or on-site quality control . Benchtop models, such as the Shimadzu UV-1900i Plus or Agilent Cary 3500, provide ultra-fast scanning, high throughput, and compliance features for regulated lab environments

Article Content

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Analytical Instruments

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QE-PRO scientific grade spectrometers

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Professional spectrometer

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