NWSPEC (Xiongan) Co., Ltd.
Add. 15-051# Xiongan Pilot Free Trade Zone Area, Hebei, China

Microdrop2000 UV-Vis Spectrophotometer

Description

The MicroDrop 2000 is a self-developed UV-Vis spectrophotometer designed for high precision and reproducibility across a wavelength range of 190–1100 nm. Requiring only 1–2 µL of sample per measurement, it enables rapid and reliable analysis without the need for cuvettes. The instrument supports a wide range of applications.

Key Features

Stand-alone touchscreen operation — No external computer required, saving valuable bench space.

Dual measurement modes — Supports both microvolume (pedestal) and standard cuvette formats.

Full-spectrum range — Measures continuously from 190 to 1100 nm with <1.8nm spectral resolution.

Wide detection range — dsDNA quantification from 2 ng/µL to 37,500 ng/µL

Precision light source — Xenon flash lamp combined with a 2048- element linear CCD array and advanced software ensures high accuracy and reproducibility.

Minimal sample volume — Requires only 0.5–2 µL for rapid measurement of nucleic acid and protein concentration and purity.

Multi-application versatility — Enables measurement of nucleic acids, proteins (A280 and colorimetric assays), cell cultures (OD600), and custom kinetics.

Rapid measurement cycle — Provides results in under 4 seconds in pedestal mode and cuvette mode.

Compact and portable design — Lightweight and space-saving footprint for easy placement and mobility in the lab.

Flexible output options — Export results in multiple file formats for streamlined data management and reporting.

Sample retention system — Magnetic light-blocking cap and patented design minimize evaporation and ambient light interference during microvolume analysis.

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Applications

Nucleic acid analysis: Accurate quantification of concentration and purity
Protein analysis: Determination of various protein concentrations using multiple assay methods
Cell and bacterial growth monitoring: OD measurements for culture density assessment
Full-spectrum scanning: Routine UV-Vis spectral analysis across the entire range

Technical Specifications

Parameter	Specification
Minimum Sample Size	1–2 µL
Software Compatibility	Linux
Wavelength Range	190–1100 nm
Measurement Time	<4 seconds (pedestal & cuvette modes)
Light Source	Xenon flash lamp
Detector	2048-element CMOS
Pathlength Auto Adjustment	0.02 mm, 0.2 mm, 1 mm
Connectivity	USB cable to PC for data/software communication
Wavelength Accuracy	±1 nm
Spectral Resolution	≤1.8 nm FWHM at Hg 254 nm
Absorbance Precision	0.002 AU at 1 mm path; absorbance accuracy ±2% (≈ 1% CV)
Absorbance Range	0.002–750 AU (10 mm equivalent); accuracy 3% at 0.97 AU (302 nm)
Pedestal Material	303 stainless steel and quartz fiber