MX8000 UV/VIS Spectrophotometer

M8 · Double Beam | 1 nm Spectral Bandwidth | 190–1100 nm | Built-in Touchscreen Computer

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The MX8000 UV/VIS Spectrophotometer delivers outstanding precision with its 1 nm spectral bandwidth and double-beam optical design. Powered by a 1200 l/mm holographic grating, flashing xenon lamp, and a fully integrated 10.1" touchscreen computer, the MX8000 is engineered for demanding research, quality control, and compliance-critical applications requiring reliable, reproducible measurements from 190 to 1100 nm.

Technical Specifications

Parameter	Specification
Optical System	Double Beam
Light Source	Flashing Xenon lamp
Spectral Bandwidth	1 nm
Wavelength Range	190 – 1100 nm
Wavelength Accuracy	±0.3 nm
Wavelength Repeatability	≤0.1 nm
Wavelength Display	0.1 nm
Wavelength Swing Speed	10,000 nm/min
Wavelength Scanning Speed	20 – 3200 nm/min
Photometric Range	-4 ~ 4 A | 0 ~ 400 %T | 0 ~ 9999.9 C
Photometric Accuracy	±0.002 A (0.0–0.5 A) | ±0.004 A (0.5–1 A) | ±0.3 %T (0–100 %T)
Photometric Repeatability	≤0.001 A (0.0–0.5 A) | ≤0.002 A (0.5–1 A) | ≤0.1 %T (0–100 %T)
Noise	≤0.00006 A @ 0.0 A (260 nm, RMS)
Drift	≤0.0005 A/h @ 500 nm (2 hours after preheating)
Baseline Flatness	±0.0008 A (200 – 1000 nm)
Stray Light	≤0.03 %T @340 nm ($NaNO_2$) | ≤0.04 %T @220 nm (NaI) | ≤1 %T @198 nm (KCl)
Measurement Modes	Photometry · Quantitation · Spectrum · Kinetics · Time Scan · Multi Wavelength · DNA/Protein · Custom Method
Detector	Dual silicon photodiode
Sample Holder	10 mm 1-cell holder (5–100 mm accessories compatible)

Display	10.1" IPS Color Capacitive Touchscreen (1280×800, 178° viewing, 16M colors)
Built-in Computer	8 GB RAM / 64 GB SSD
Storage	128 GB built-in; unlimited via USB, SD card, or network storage
Interface	USB-A ×3, USB-B (PC) ×1, RJ-45 (Ethernet) ×1, VGA ×1, HDMI ×1, WIFI optional
Power Supply	100 – 240 V AC, 50/60 Hz, 100 VA
Dimensions	580 (W) × 420 (D) × 235 (H) mm
Weight	17 kg

Software Modules

Module	Description
Quantitation	Single, dual, or three-wavelength and custom methods; establish standard curves from 2–20 samples or manual input; 4 fitting methods (linear through zero, linear, quadratic, cubic); Excel/Word/PDF export.
DNA / Protein	7 built-in methods: 260/280, 260/320, Lowry, UV method, BCA, CBB, Biuret; custom calculations; 1–50 measurement repeats; automatic result distribution map.
Spectrum	Scan speeds: low/medium/high; intervals: 0.1, 0.2, 0.5, 1, 2, 5, 10 nm; A/%T switching; auto peak-find; arithmetic, derivative, area and 3D map processing.
Kinetics	Unlimited scan time; delay time and interval fully customizable; automatic kinetic rate calculation; auto-save and print curves and results.
Time Scan	Unlimited scan time; customizable scan interval; point-by-point (peak) view, mark and select; adaptive coordinates; auto-save and print.
Multi Wavelength	Up to 20 simultaneous wavelengths; custom formula calculation; 1–50 measurement repeats; customizable report layouts; Excel/Word/PDF export.
Performance Verif.	Wavelength accuracy & repeatability; photometric accuracy & repeatability; stray light; resolution; linearity verification — all built-in.
System / Compliance	21 CFR / GLP/GMP compliant; multiple language support; clock & storage management; dark current / wavelength / baseline calibration; online firmware upgrade.

Key Features

- ✓ 1200 l/mm holographic grating with low stray light and optimized double-beam optical system for superior measurement accuracy
- ✓ Strengthened structure design makes the instrument stronger and more durable
- ✓ Patented wavelength driving mechanism (new) for improved wavelength accuracy, repeatability, and reduced noise
- ✓ Built-in computer: 10.1" IPS color LCD touch, capacitive 10-point control, 178° full view, 16M colors, 8 GB / 64 GB SSD
- ✓ Wide sample room accommodates 5–100 mm sample holders and a full range of accessories
- ✓ Self-calibration and preheating upon start-up for consistent, reliable results
- ✓ Powerful measurement and analysis functions; open self-defined measurement methods for scientific research
- ✓ Software fully complies with 21 CFR / Pharmacopoeia requirements; complete GLP/GMP functions for data traceability
- ✓ Multiple interfaces: USB, Ethernet, VGA, HDMI, expandable Bluetooth, WIFI, SD card reader
- ✓ Remote control, data transmission, and sharing via network connection
- ✓ Connect keyboards, mice, scanners, and printers directly to input/output data
- ✓ Open data interface protocols — integrate into your system with minimal development effort
- ✓ PC control via USB using dedicated software
- ✓ Firmware upgradeable via USB storage directly

Applications

Research & Development
Advanced analytical work demanding high spectral resolution and reproducibility

Quality Control
Routine and compliance-driven QC in pharmaceutical, chemical, and materials labs

DNA / Protein Analysis
Nucleic acid and protein quantification with 7 built-in methods

Process Monitoring
Time-scan and kinetics modules for continuous process observation

Material Identification
Full-spectrum scanning and library matching for material characterization

Regulated Environments
21 CFR / GLP/GMP compliance for FDA-regulated and pharmacopoeia workflows