MX7000 UV/VIS Spectrophotometer

M7 · Double Beam | 1.8 nm Spectral Bandwidth | 190–1100 nm | Built-in Touchscreen Computer

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The MX7000 UV/VIS Spectrophotometer delivers outstanding precision with its 1.8 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 MX7000 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	1.8 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