Spectra Insight

SPECTRA MINI & SPECTRA MAX

HIGH-RESOLUTION HYPERSPECTRAL SCANNERS

Laboratory-Grade Spectral Intelligence for Applications That Demand More.

Powered by
SPECTRA EXPLORER™
Software

SPECTRA MINI

Compact. Precise. Powerful.

The ideal benchtop hyperspectral scanner for small samples, high-magnification analysis, and research applications where every spectral detail matters.

- ✓ 100 x 100 mm scan area
- ✓ 0.1 mm spatial resolution
- ✓ Automated XYZ scanning
- ✓ Up to 2000 wavelength channels
- ✓ As fine as 0.5 nm resolution
- ✓ User-selectable spectrometers
- ✓ Compact footprint for any lab

CHOOSE THE RIGHT << SOLUTION FOR YOUR >> APPLICATION

SPECTRA MAX

Large Area. High Performance.

Engineered for large samples, flat panels, and high-throughput mapping applications that require maximum coverage without sacrificing spectral performance.

- ✓ 15 x 15 in (381 x 381 mm) scan area
- ✓ 0.1 mm spatial resolution
- ✓ Automated XYZ scanning
- ✓ Up to 2000 wavelength channels
- ✓ As fine as 0.5 nm resolution
- ✓ User-selectable spectrometers
- ✓ Large-area precision in one setup

WHY CHOOSE A SCANNER?

Unlike hyperspectral cameras that trade spectral detail for speed, Spectra Mini and Spectra Max deliver laboratory-grade spectral measurements with unmatched resolution, flexibility, and accuracy.

UP TO 2000 WAVELENGTH CHANNELS
Capture more spectral detail than cameras can.

AS FINE AS 0.5 nm RESOLUTION
Reveal subtle features others miss.

WIDE SPECTRAL RANGE OPTIONS
UV to SWIR. Choose the range that fits.

USER-SELECTABLE SPECTROMETERS
Match your application today and upgrade tomorrow.

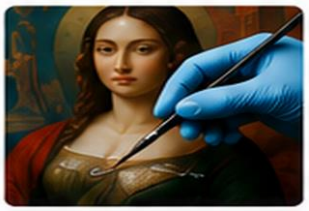
REFERENCE-QUALITY DATA
Build libraries for AI, classification, and discovery.

APPLICATIONS THAT DEMAND HIGH SPECTRAL RESOLUTION

PHARMACEUTICALS
Ingredient ID, coating thickness, polymorph detection, and uniformity analysis.

ADVANCED MATERIALS
Composites, coatings, thin films, polymers, and semiconductor characterization.

GEOLOGY & MINERALOGY
Identify minerals and alteration features with narrow absorption bands.



CULTURAL HERITAGE & ART
Non-destructive pigment ID, layer analysis, and restoration support.

FORENSIC SCIENCE
Fibers, inks, residues, trace evidence, and material differentiation.

SPECTRAL LIBRARIES
Create reference-quality libraries for AI training, classification, and research.

HOW SPECTRA MINI & MAX WORK

From sample placement to spectral intelligence in one integrated workflow

Sample

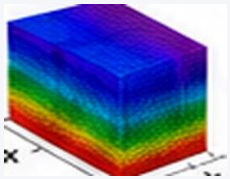
Place your sample on the scanning stage.

XYZ Scanning

Automated XYZ motion captures a spectrum at every point.

Spectrometer

The spectrometer captures light into high-resolution spectral data.



Spectral Cube

Thousands of spectra are combined into a hyperspectral cube.

Spectra Explorer

Analyze, visualize, classify, and extract meaningful insights.

SCANNER ADVANTAGES vs. HYPERSPECTRAL CAMERAS

SCANNERS (SPECTRA MINI & MAX)

- ✓ Up to 2000 wavelength channels
- ✓ As fine as 0.5 nm spectral resolution
- ✓ User-selectable spectrometers
- ✓ Wider UV-SWIR spectral range options
- ✓ Higher signal-to-noise and spectral fidelity
- ✓ Reference-quality measurements for lab, research, and library creation

VS

HYPERSPECTRAL CAMERAS

- × Typically 25-150 spectral bands
- × 3-20 nm typical resolution
- × Fixed spectrometer and range
- × Limited wavelength flexibility
- × Lower SNR and spectral fidelity
- × Optimized for speed, not precision; best for high-speed imaging tasks

THE POWER OF HIGH SPECTRAL RESOLUTION

TYPICAL HYPERSPECTRAL CAMERA (25-150 bands)

Broader bands smooth out narrow features and hide important details.

SPECTRA MINI / MAX (Up to 2000 bands, 0.5 nm resolution)

Fine resolution reveals subtle absorption features others cannot see.

SYSTEM COMPARISON

Choose the architecture that matches your measurement priorities

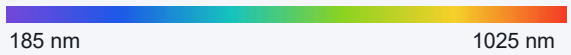
FEATURE	SPECTRA MINI	SPECTRA MAX	HYPERSPECTRAL CAMERAS
Scan Area	100 x 100 mm	15 x 15 in (381 x 381 mm)	Varies (line or snapshot FOV)
Spatial Resolution	0.1 mm (100 µm)	0.1 mm (100 µm)	Typically 0.5-1.0 mm
Motion System	Automated XYZ	Automated XYZ	No motion (camera dependent)
Spectral Channels	Up to 2000	Up to 2000	Typically 25-150
Spectral Resolution	As fine as 0.5 nm	As fine as 0.5 nm	Typically 3-10 nm
Spectral Range (Options)	185-2500 nm+	185-2500 nm+	Fixed at purchase (one range)
Spectrometer	User-selectable (plug-and-play)	User-selectable (plug-and-play)	Built-in, not user-changeable
Flexibility / Upgrade Path	Change spectrometer any time	Change spectrometer any time	Requires new camera system
Best For	Small samples, research, high magnification	Large samples, flat panels, high coverage	High-speed imaging, real-time monitoring
Acquisition Speed	Moderate	Moderate	Fast
Data Output	Hyperspectral cube (X, Y, λ)	Hyperspectral cube (X, Y, λ)	Hyperspectral cube (X, Y, λ)

SPECTRAL CONFIGURATION OPTIONS

All ranges available on Spectra Mini and Spectra Max.

UV / NIR 185-1025 nm

1.3 nm resolution

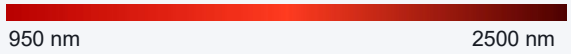


NIR1 950-1700 nm

3.3 nm resolution

NIR2 950-2500 nm

6.25 nm resolution



Additional custom ranges available. Contact us for options.

WHAT'S INCLUDED

- ✓ Spectra Mini or Spectra Max Scanner
- ✓ Automated XYZ Motion System
- ✓ Controller & Electronics
- ✓ Spectra Explorer Software
- ✓ Power Supply & Cables
- ✓ User Manual & Training
- ✓ System Calibration
- ✓ 1-Year Warranty

OPTIONS & ACCESSORIES

Larger scan areas, custom fixtures, spectrometers, database packages, integration support, and more.