

NWS6000 Spectrometer

NWS6000: The High-Resolution Spectrometer You Can Scale

The NWS6000 series offers unmatched flexibility: combine multiple units to cover your precise wavelength range, all while maintaining high spectral resolution. Its long optical path, high-groove density grating, and synchronized multi-channel operation deliver the performance of a large benchtop system in a compact, customizable form factor.

Features

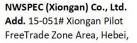
- Ultra-High Resolution: Distinguishes closely spaced wavelengths for detailed spectral analysis.
- Flexible Configuration: Modular design allows customization with different gratings, detectors, and light sources.
- High-Speed Data Acquisition: Captures rapid spectral changes for dynamic measurements.
- Synchronous Control: Precisely coordinates measurements with external devices or events.
- Low Stray Light: Minimizes unwanted light for accurate quantitative analysis, especially with weak signals.
- Low Temperature Drift: Ensures stable and reliable performance under varying temperatures.

Resolution

Wavelength Range	Wavelength Resolution (nm)	¹ 30µn slit	n40µm slit	n50µm slit	n60µm slit	n70µn slit	n100µn slit	n150µn slit	n200µm slit
200-330nm	0.06	0.3	0.45	0.5	0.6	0.7	1.08	1.5	2.2
200-500nm	0.19	0.7	1	1.2	1.4	1.9	2.7	3.85	5.5
380-800nm	0.25	0.9	1.1	1.2	1.85	2	3.5	5.5	7.2
800-900nm	0.07	0.4	0.45	0.5	0.75	0.9	1.3	1.5	2.5

Application

- Laser Peak Detection
- Gas Absorption Detection
- Raman Spectroscopy Applications
- Environmental Monitoring
- Material Composition Analysis





- **Metrology Instrument Applications**
- Metal Composition Analysis
- Biological Research
- Gemstone Identification
- LIBS (Laser-Induced Breakdown Spectroscopy),
- Plasma Emission Detection

Specification

Items Specification

Wavelength Range 200~1100 nm (Depending on model)

Wavelength Resolution Up to 0.03 nm

Up to 0.10 nm FWHM (Depending on model) **Optical Resolution** Adds higher-order diffraction filter (Optional) Higher-Order Diffraction Filter

< 0.1 %

Stray Light Detector

Detector Type Hamamatsu CMOS linear array sensor

Detector Wavelength Range

200~1100 nm **Pixel Count** 2048 pixels Pixel Size 14 μm x 200 μm High Sensitivity 1300 V/(lx*s)

10 MHz Max Speed **Optical Platform**

Optical Path F/4, Symmetrical Crossed Czerny-Turner 100 mm / 110 mm Focal Length

Input Slit Regular 30 µm (Optional)

Optical Fiber SMA905 0.22 NA

Electrical Specification

Signal-to-Noise Ratio Linearity

Integration Time Dynamic Range

AD

Testing Speed 2.8 ms + Integration Time

USB 2.0 / RS232 / RS485 Communication Interface

16-PIN external expansion interface; with **Expansion Interface**

1000:1

> 99.8 %

1000000

0.1 ms - 1 s

Lossless 16-bit

external trigger function

300 mA @ 5 VDC **Power Consumption**

Physical Specification

Supported Systems Windows / Android / Linux / Wince

Dimensions (L x W x H) 157 mm x 110 mm x 50 mm

Weight 1150 a

Fixing/Mounting 3-Direction Standard Mounting Holes