NWSPEC (Xiongan) Co., Ltd.
Add. 15-051# Xiongan Pilot Free

532 Mobile Raman Spectrometer

Overview

It uses a stable 532 nm excitation laser and grating-based spectrograph with a high-performance cooled CMOS detector to deliver high sensitivity and spectral stability. Built into a rugged portable chassis, this instrument offers rapid non-contact Raman detection with exceptional S/N, thermal stability, and compact portability.

Key Features

- • Stable and efficient laser design — Thermal management and semiconductor cooling combined with constant-current laser drive ensure stable power output over long periods.
- • High coupling and low background — Optimized fiber-coupled optics minimize stray light and maximize Raman signal collection efficiency.
- • Rugged and compact enclosure — Combines laser, spectrometer, and fiber probe into a suitcase-sized housing for field-ready operation and easy deployment.

Applications

Ideal for testing a wide range of materials in safety, law enforcement, pharmaceutical QC, customs inspection, food adulteration detection, jewelry authentication, herbal ingredients, and more.

Technical Specifications

Parameter	Specification
Excitation Wavelength	532 nm (±1 nm, ≤0.2 nm linewidth)
Laser Output Power	0- 50 mW (adjustable)
Probe Transmission Efficiency	60%–70%
Fiber	1 m armored fiber
Raman Spectral Range	**200–4000 cm^{-1} (filter dependent)**
Spectral Resolution	~8 cm^{-1} @ 579nm (Hg)
Stray Light Suppression	~0.29% @ 532 nm
Detector	High-performance cooled CMOS
Pixel Count	2048
Pixel Size	~8 µm × 200 µm
Signal-to-Noise Ratio	~440:1 @ 1000.7 cm^{-1} (benzonitrile)
A/D Conversion Resolution	16-bit
Integration Time	1 ms – 15 min
Power Supply	12 VDC @ 5 A
Dimensions	508 × 373 × 147 mm

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Weight	~6 kg
Operating Temperature	0 °C – 45 °C
Storage Temperature	-10 °C – 55 °C