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

785 Raman Spectrometer

1. Description

The NWSPEC 785 Raman Spectrometer utilizes a 785 nm laser as the excitation light source and a fiber optic spectrometer as the Raman signal detection module. Its unique optical design ensures the Raman probe effectively eliminates stray light, resulting in high signal-to-noise ratio (SNR) Raman signals. The Raman probe is connected to the 785 nm laser and spectrometer via optical fibers. The controlling computer is mounted in the upper part of the instrument case. The 785 software allows for laser control, Raman signal detection, database management, and material analysis. The NWSPEC 785 is a compact, user-friendly, high-performance Raman spectrometer suitable for a wide range of non-contact measurements.

2. Applications

• Security screening (e.g., drugs, hazardous materials, and biochemical detection)
• Food/Pharmaceutical identification (e.g., illegal additives, raw pharmaceutical ingredients, counterfeit drugs, herbal medicine composition)
• Gemstone and artifact authentication (e.g., non-destructive analysis of authenticity and age)
• Medical applications (e.g., DNA identification, human metabolites, cancer cell identification)
• Research and development

3. Technical Specifications

Function	Parameter
Excitation Wavelength	785 nm (customizable)
Probe Output Power	0–350 mW
Probe Power Transmission Efficiency	70%–80%
Probe Fiber	1 m armored
Raman Spectral Range	200–3100 cm^{-1}
Spectral Resolution	6 cm^{-1} @ Hg 912 nm
Stray Light	0.31% @ 785 nm
Detector	High-performance detector
Pixel Count	2048
Pixel Size	8 μm × 200 μm
Signal-to-Noise Ratio	440:1 @ Benzonitrile 1000.7 cm^{-1}
AD Conversion Resolution	16 bits
Integration Time	1 ms – 15 min
Power Consumption	12 DCV @ 5A
Dimensions	508 mm × 373 mm × 147 mm
Weight	~6 kg

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Operating Temperature	0°C – 45°C
Storage Temperature	-10°C – 55°C