

NanoRam®

Handheld Raman Spectrometer



The NanoRam® is the state-of-the-art compact handheld Raman analyzer designed for use by non-specialists, and easily operates single-handedly. It allows rapid development of libraries and methods for material identification and verification within cGMP compliant facilities, whether in the lab, the warehouse, the loading dock or the field.

Raman spectroscopy is an approved method by US Pharmacopeia, European Pharmacopeia, Pharmacopeia of the People's Republic of China and is a well-recognized method for compliance with the PICS GMP guide to provide 100% assurance of the identity of each container of starting material. The NanoRam is fully compliant with all governing regulations including 21 CFR Part 11 and Part 1040.10. B&W Tek offers a wide variety of services including assistance with method and/or new library development and other services such as support with IQ/OQ/PQ validation.

Intuitive Software – a user-friendly tool for both technical & non-technical users to make their job easier

Versatility – measure a variety of samples in a variety of environments and packaging with just one unit

Data Reproducibility – superior hardware ensures that results are consistent and reliable

Performance – robust multivariate algorithms guarantee accuracy when testing and identifying materials

Applications:

Incoming Material Identification

Unknown Substance Investigation

At-line Sampling & Final Inspection

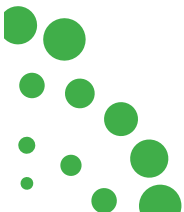
Nondestructive Counterfeit Detection

Features:

- High-Brightness Touch Screen Display
- Embedded 2 Dimensional Barcode Scanner
- Batch Mode Option for Large Volume Operation
- IP-64 Dust Tight and Splash Proof Rated Housing
- Sampling Accessories for Almost Any Environment
- Intuitive Software for Technical & Non-technical Users
- Wi-Fi & Ethernet Communication for Data Sync & Management

Why Choose Raman?

- High Selectivity with No Sample Preparation Required
- Measure through Plastic, Glass, & Quartz Packaging
- Samples can be Solid or Liquid, Transparent or Opaque



Specifications:

Excitation Wavelength	785nm
Laser Output Power	300mW Max Adjustable in 10% Increments
Spectral Range	176cm ⁻¹ to 2900cm ⁻¹
Spectral Resolution	~ 9cm ⁻¹ @ 912nm
Detector Type	TE Cooled Linear CCD Array
Display	High Brightness OLED Touch Screen
Bar Code Reader	Linear and 2D Standards
Software	NanoRam® OS (Embedded), NanoRam® ID (PC)
Data Formats	.txt, .csv, .spc
Connectivity	Ethernet, WiFi
Battery	Rechargeable Li-ion, >5 hrs Operation
AC Adapter	Output: DC 12V, 2A Minimum
Weight	~2.5 lbs (~1.2 kg)
Size	8.8in x 3.9in x 2.0in (22cm x 10cm x 5cm)
Operating Temperature	-20°C to +40°C
Storage Temperature	-30°C to +60°C

Sampling Accessories

Easy Transition Between Sample Types

The NanoRam includes a variety of sampling accessories to assist you in the measurement of various materials in the form of liquids, gels, powders, or solids under both lab and demanding environmental conditions. The NanoRam is designed to facilitate fast and convenient transitions between sample adaptors.

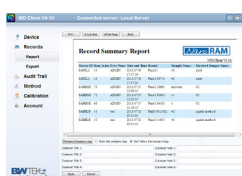
The NanoRam comes standard with the point and shoot, vial holder, and bottle adaptor accessories. Additionally, right angle, tablet holder, and immersion shaft accessories are available to facilitate even more sampling situations. These accessories allow you to measure through plastic and glass containers, take in situ measurements of liquids and powders, and measure larger containers only accessible from the top. More details about individual accessories are available upon request.



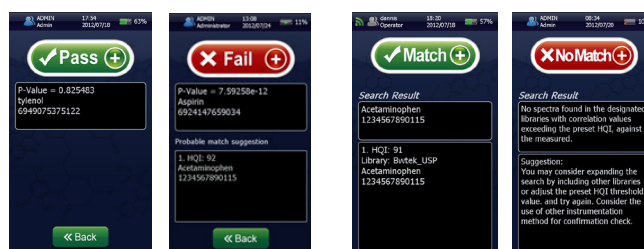
Software

State of the Art Identification Software

The NanoRam comes standard with B&W Tek's proprietary NanoRam OS software installed within the unit, which allows for identification and verification, library and method development, and data storage/ transfer. The NanoRam ID software is designed for use on PCs for data and methods management, allowing customers to export data and generate reports. The NanoRam ID and NanoRam OS software packages are 21CFR part 11 compliant with available IQ/OQ validation documentation for pharmaceutical customers.



Additionally, the NanoRam provides secure Wi-Fi and Ethernet synchronization capabilities with network terminals in order to optimize time and resources. NanoRam OS is capable of real time data and report transfers in order to centralize information (such as libraries, method development and final reports) in general servers.



Identification

Investigation