

Raman Solution **i-Raman® EX**

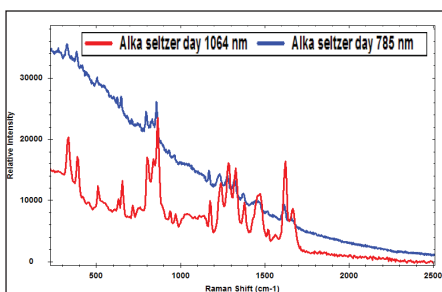
1064nm Fiber Optic Raman System



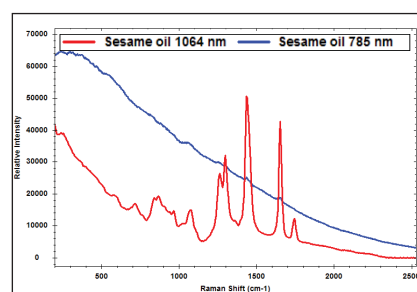
The i-Raman® EX is part of our award winning line of i-Raman portable Raman spectrometers featuring a 1064nm version of our patented CleanLaze® excitation laser. Using a high sensitivity InGaAs array detector with deep TE cooling and high dynamic range, this portable Raman spectrometer delivers a high signal to noise ratio without inducing auto-fluorescence, making it possible to measure a wide range of biological samples. The i-Raman EX provides spectral resolution of 9.5cm^{-1} and a spectral coverage range from $100\text{-}2500\text{cm}^{-1}$, enabling you to measure the entire fingerprint region. The system's small footprint, lightweight design, and low power consumption provide research-grade Raman capabilities anywhere. The i-Raman EX comes standard with a fiber optic probe, and can be used with an XYZ positioning stage probe holder, a cuvette holder, and our proprietary BWIQ multivariate analysis software or BWID identification software. With the i-Raman EX, a high precision qualitative and quantitative Raman solution is at your fingertips.

Applications:

- Forensic Analysis, Including Narcotics
- Bioscience & Biomedical Diagnostics
- Chemical Warfare Agent Detection
- Pharmaceutical Material Analysis
- Polymer & Chemical Analysis
- Environmental Science
- Explosives Detection
- Petroleum Analysis
- Food & Agriculture



Comparison of the measured spectra of a Alka Seltzer tablet with 785nm and 1064nm Raman system



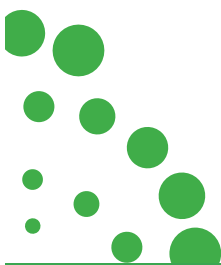
Comparison of the measured spectra of sesame oil with 785nm and 1064nm Raman system

Comprehensive:

Our comprehensive package of sampling accessories for measuring solid and liquid samples provide you the utmost utility right out of the box.

Quantitative:

Our state of the art BWIQ® quantitative Raman analysis software package provides an intuitive user interface, intelligent algorithms, and efficient matrix calculation power, making it easy to use by both expert and novice users.



Specifications:

Laser		
1064nm Excitation	>430mW at laser port (499 mW max)	
Laser Power Control ^f	0 to 100%	
Spectrometer		
Range	Resolution [*]	
i-Raman-1064S-05	100cm ⁻¹ - 2500cm ⁻¹ ~ 9.5cm ⁻¹ @ 1296nm	
Detector		
Detector Type	TE Cooled InGaAs	
Dynamic Range	> 100,000:1	
Digitization Resolution	16-bit or 65,535:1	
Integration Time	200 μs to >30 minutes	
Pixel Number	512	
Effective Pixel Size	25μm x 250μm	
CCD Cooling Temperature	-20°C	
Electronics		
Computer Interface	USB 2.0 / 1.1	
Trigger	Yes (Compatible with BWTek Probes)	
Power Options		
DC Power Adaptor	12V DC @ 6.6 Amps	
Battery	Optional	
Physical		
Dimensions	6.7in x 13.4in x 1.1in (17cm x 34cm x 2.8cm)	
Weight	Main Unit ~7.6 lbs	
Operating Temperature	0°C - 35°C	
Storage Temperature	-10°C - 60°C	
Humidity	10% - 85%	

**Typical resolution measured using pen lamp emission*

Features:

- Patented CleanLaze[®] Technology for Laser Stabilization
- Fiber Optic Coupling for Convenient Sampling
- 1064nm Excitation to Minimize Fluorescence
- Integration Time 0.2ms to 30 minutes
- Adjustable Laser Power, Up to 450mW
- Deep Cooled InGaAs Array Detector
- Spectral Coverage of 100-2500cm⁻¹
- Resolution of ~9.5cm⁻¹

Accessories (Included):

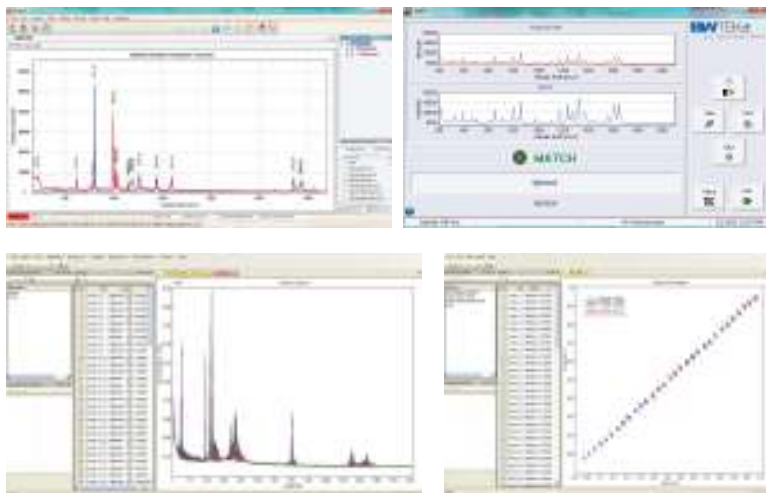
Fiber Optic Raman Probe
Laser Safety Goggles

Software:

B&W Tek offers comprehensive software packages that provide solutions for Raman application needs. Powerful calculations, easy data management, and user friendly, easy-to-follow work flow are all at the tips of your fingers.

BWSpec[®] is the foundation for all B&W Tek software platforms and provided with every Raman spectrometer. Built on the proven BWSpec[®] platform, BWID[®] (optional) is optimized for rapid identification and verification of materials. For industrial Raman applications that require federal compliance: BWID[®]- Pharma supports all requirements for FDA 21 CFR Part 11 Compliance.

B&W Tek's software portfolio also includes BWIQ[®], a multivariate software package for analysis of spectral data including exploratory and qualitative analysis, and quantitative regression methods. BWIQ[®] combines traditional chemometric methods such as Partial Least Squares Regression (PLS) and Principal Component Analysis (PCA) with new methods such as B&W Tek's proprietary adaptive iteratively reweighted Penalized Least Squares (airPLS) algorithm for automatic baseline correction and Support Vector Machine (SVM) algorithms for non-linear datasets. The BWIQ[®] chemometrics software package is ideal for online use with the i-Raman[®] Series for real-time prediction and offline use with high resolution spectroscopic data.



Accessories (Optional):

Cuvette Holders
Probe Holders
Immersion Raman Probe Shaft
Microscope Adaptor
Video Microscope
Raman Flow Cells

