B&W TEK INC.

Your Spectroscopy Partner

SPECTROMETERS | LASERS | TOTAL SOLUTIONS

Raman Solution

i-Raman® EX

1064nm Fiber Optic Raman System

The i-Raman® EX is an extension of our award winning i-Raman portable Raman spectrometer 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 as fine as 9.5cm^{-1} and a spectral coverage range from 250-2500cm^{-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. 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

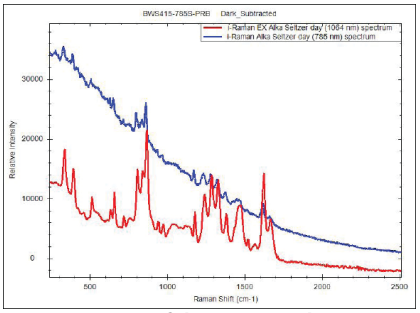
Polymer & Chemical Analysis

Environmental Science

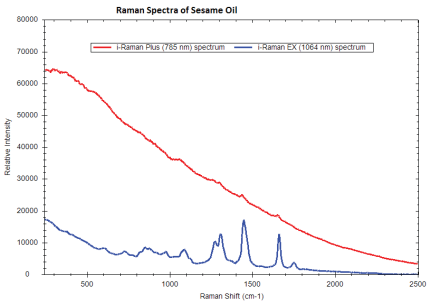
Explosives Detection

Petroleum Analysis

Food & Agriculture



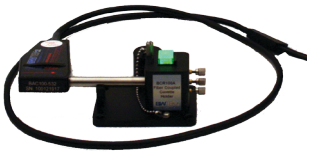
Comparison of the measured spectra of a Alka Seltzer tablet with 785nm and 1064nm Raman system



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	< 450mW	
Laser Power Control†	0 to 100%	
Spectrometer	**Range**	**Resolution***
i-Raman-1064S-05	250cm^{-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 >20 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	6.7 x 13.4 x 11 inch (17 x 34 x 28 cm)	
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 >20 minutes
- Adjustable Laser Power, Up to 450mW
- Deep Cooled InGaAs Array Detector
- Spectral Coverage of 250-2500cm^{-1}
- Resolution of <9.5cm^{-1}

Accessories (Included):

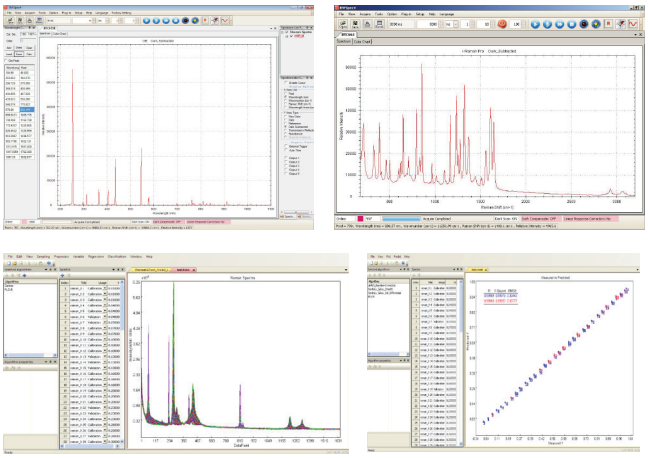
Fiber Optic Raman Probe
Laser Safety Goggles

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.

Built on the proven BWSpec™ platform, BWID™ (optional) is optimized for identification and verification of materials. For industrial Raman applications that require federal compliance: BWID™- Pharma (optional) supports all requirements for FDA 21 CFR Part 11 Compliance.

The most recent addition to B&W Tek's software portfolio is BWIQ™ chemometrics software for use with B&W Tek Raman spectrometers. BWIQ™ is a multivariate analysis software package which can analyze spectral data and discover internal relationships between spectra and response data or spectra and sample classes. By coupling new and transitional chemometric methods such as airPLS baseline correction, with high speed and accurate sparse linear algebra algorithms, BWIQ represents the next generation in speed, accuracy and performance.



Accessories (Optional):

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

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