

Raman Solution

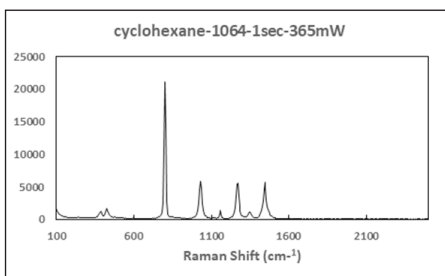


The i-Raman® EX is part of our award-winning line of i-Raman portable Raman spectrometers featuring a 1064 nm version of our patented CleanLaze® excitation laser. Using a high-sensitivity InGaAs array detector with deep TE cooling and high dynamic range and a high-throughput spectrograph design, this portable Raman spectrometer delivers a high signal-to-noise ratio without inducing auto-fluorescence, making it possible to measure a wide range of natural products, biological samples such as cell cultures, and colored samples. The i-Raman EX provides a spectral coverage range from 100-2500 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

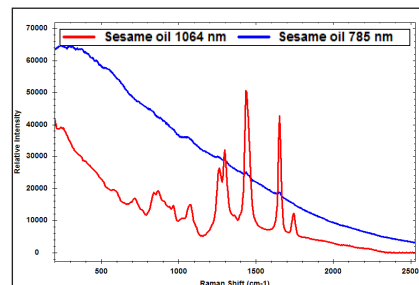
comes equipped with a fiber-optic probe and an XYZ-positioning-stage probe holder. It can be used with a range of sampling accessories to facilitate measurements of samples in many forms. It can be used with our proprietary BWIQ® multivariate analysis software or BWID® identification software. With the i-Raman EX, a high precision qualitative and quantitative Raman solution without fluorescence 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**



Cyclohexane spectrum with 1 second integration time, showing the high throughput and excellent signal-to-noise ratio.



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: BWS485II

Laser	Exiting Probe	At Laser Port
1064nm Excitation	330 mW, nominal	430 mW, nominal
Laser Power Control	0 to 100% (adjustable at 1% increments)	
Spectrometer		
Range	100 cm ⁻¹ - 2500 cm ⁻¹	
Resolution*	< 10 cm ⁻¹ @1296 nm	
Detector		
Detector Type	TE-Cooled InGaAs	
Integration Time	200 μs to 5 minutes	
CCD Cooling Temperature	-15° C ± 2	
Electronics		
Computer Interface	USB 2.0 / 1.1	
Trigger	Yes (Compatible with B&W Tek Probes)	
Power Options		
DC Power Adaptor	Input: 110-240 VAC/ 50-60 Hz Output: 12V DC @ 6.6 Amps	
Battery	Optional	
Physical		
Dimensions	6.7in x 13.4in x 11in (17cm x 34cm x 28cm)	
Weight	Main Unit ~7.6 lbs (~3.4 kg)	
Operating Temperature	0°C - 35°C	
Storage Temperature	-10°C - 60°C	
Humidity	10% - 85%, non-condensing	

*Resolution measured using atomic emission lines. Raman resolution per ASTM E2529-06 (Standard Guide for Testing the Resolution of a Raman Spectrometer) available upon request.

Features:

- High-throughput spectrograph for faster signal collection
- Patented CleanLaze® technology for laser stabilization
- Fiber-optic coupling for convenient sampling
- 1064 nm excitation to minimize fluorescence

Accessories (included):

- Fiber-optic Raman probe
- Laser safety goggles
- Probe holder



Accessories (optional):

- Cuvette holder
- Immersion Raman probe shaft
- Microscope adaptor
- Video microscope
- Raman flow cell
- Enclosure for Raman sampling system
- A range of long-working-distance lenses (up to 6 meters) for stand-off measurement



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 workflows are all at the tips of your fingers.

BWSpec® is B&W Tek's general spectroscopic software for instrument control, data acquisition, including real-time peak analysis and trending. The optional BWID® software is optimized for rapid identification and verification of materials with spectral libraries. For Raman applications in regulated environments, BWID-Pharma software supports requirements for FDA 21 CFR Part 11 Compliance.

B&W Tek's software portfolio also includes BWIQ®, a multivariate software package for qualitative and quantitative analysis of spectral data. BWIQ includes chemometric methods such as Partial Least Squares Regression (PLS), Principal Component Analysis (PCA) and Support Vector Machine (SVM) regression, a full suite of preprocessing tools, and extensive graphics for model interpretation. The BWIQ chemometrics software package is ideal for online use with the i-Raman Series for real-time prediction and offline use for analysis of spectroscopic data.

