

QE *Pro* Raman+ Spectrometers



High Sensitivity Raman for Low Limits of Detection

QE *Pro* Raman+ spectrometers provide low limits of detection for trace level materials identification in setups using Raman excitation lasers ranging from 532 nm to 1064 nm. Optical advancements have unlocked 3x sensitivity improvement and expanded spectral coverage compared with previous modular Raman spectrometers.

The ability to distinguish sharp peaks from weak Raman spectral signatures makes QE *Pro* Raman+ ideal for analysis of pharma ingredients, identification of organic materials and chemicals, and detection of illicit drugs and pesticides.

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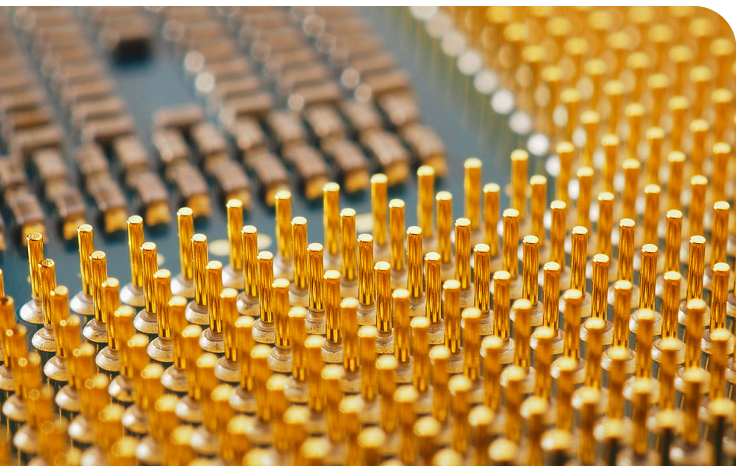
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At a Glance

Wavelength range: configuration-dependent

Resolution: configuration-dependent

Integration time: 8 ms-60 minutes

Dynamic range (single scan): 85000:1

Signal to Noise Ratio (single scan): 1000:1

Onboard memory: stores up to 15,000 spectra

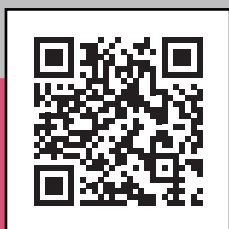
Connectors: USB; SMA 905; RS-232

Temperature (operation): 0 °C to 50 °C

Temperature (storage): -30 °C - 70 °C

Dimensions: 182 mm x 110 mm x 47 mm

Weight: 1.15 kg; power supply 0.45 kg



For more information on the QE Pro Raman+, please contact an Ocean Optics Application Scientist today.

QE Pro Raman+ Setups

The QE Pro Raman+ can be used with Raman lasers, probes, SERS substrates and sample holders as a complete system.

- Detect weaker, elusive Raman signatures
- 3x sensitivity improvement enables faster measurements
- Low noise electronics and detector cooling push limits of detection even lower

Raman Excitation Wavelength	Raman Shift	Resolution	Example Applications
532 nm	4429 cm ⁻¹	23 cm ⁻¹	Inorganic materials analysis
638 nm	2820 cm ⁻¹	12 cm ⁻¹	Biomedical applications, trace analysis of pesticides and explosives
785 nm	3002 cm ⁻¹	14 cm ⁻¹	General purpose use, chemical identification, organics analysis
830 nm	2311 cm ⁻¹	13 cm ⁻¹	Biochemical analysis, applications requiring suppression of fluorescence signal
1064 nm	2400 cm ⁻¹	15 cm ⁻¹	Pigment-rich materials and tissue analysis

Note: Although these units all start at 0 cm⁻¹ wavenumbers, the total Raman shift depends on the Raman probe and laser that are used. A typical starting point for such setups is 150 cm⁻¹, which relates to the width of the laser line filter used in the probe.

Example Applications

QE Pro Raman+ is an excellent choice for challenging applications across research and industry:

- Materials analysis of chemicals, pharmaceuticals, and food and beverages
- Trace level detection of illicit drugs and explosives
- QA/QC for industrial process monitoring
- Pesticide detection with surface enhanced Raman spectroscopy (SERS)