

High Throughput Raman Probe



Applications

This laser package is designed for OEM Integration and is ideal for:

- High Resolution Raman Spectroscopy
 - Portable Raman
 - Process Raman

Key Features

- High Throughput
- Compact Design
- Removable Fibers
- Configurable Probe tips for both laboratory and immersion applications
- Embedded Teflon standard in shutter for reference measurement.
- Configurable working distance (1.6mm to 20mm).
- Configurable excitation optics of optimizing NA (0.18-0.55) for different excitation fibers.
- Configurable collection optics of optimizing NA (0.18-0.55) for different f# spectrometers.

Standard Wavelengths

532nm	785nm	860/1064nm
638nm	808nm	976nm
680nm	830nm	1064 nm
680/785nm		

Specifications

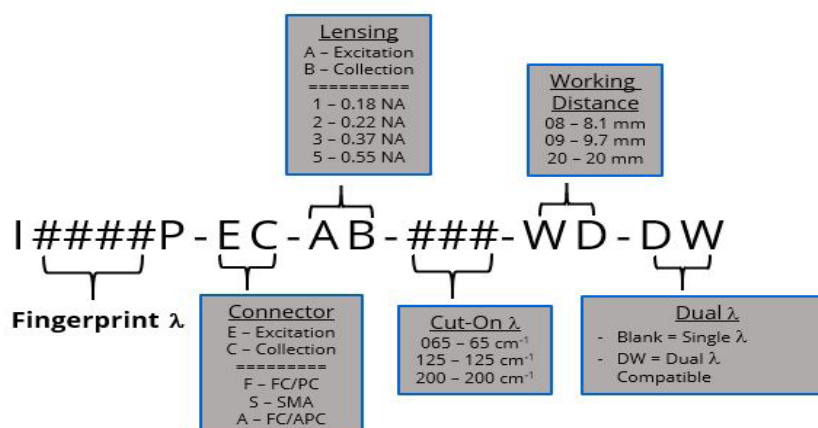


Parameter	Unit
Excitation Fiber	Typically 105 micron, 0.22 NA step index multimode fiber with FC/PC termination. Other fibers available upon request.
Collection Fiber	1.5 m long 200-400 micron, 0.37 multimode with SMA termination (Other fibers available upon request)
Cut-on	65 cm ⁻¹ , 125 cm ⁻¹ or 200 cm ⁻¹
Shaft Material	316L Stainless Steel Standard/Immersion Probes on Request
Fiber Bend Radius	2 Inches
Working Distances	8.1 mm & 9.7mm working distance standard (+/- 0.5mm) - Custom distances available upon request.
Operating Temperature	0 °C to + 50 °C
Storage Temperature	-20 °C to 80 °C
Humidity	0-80% non-condensing

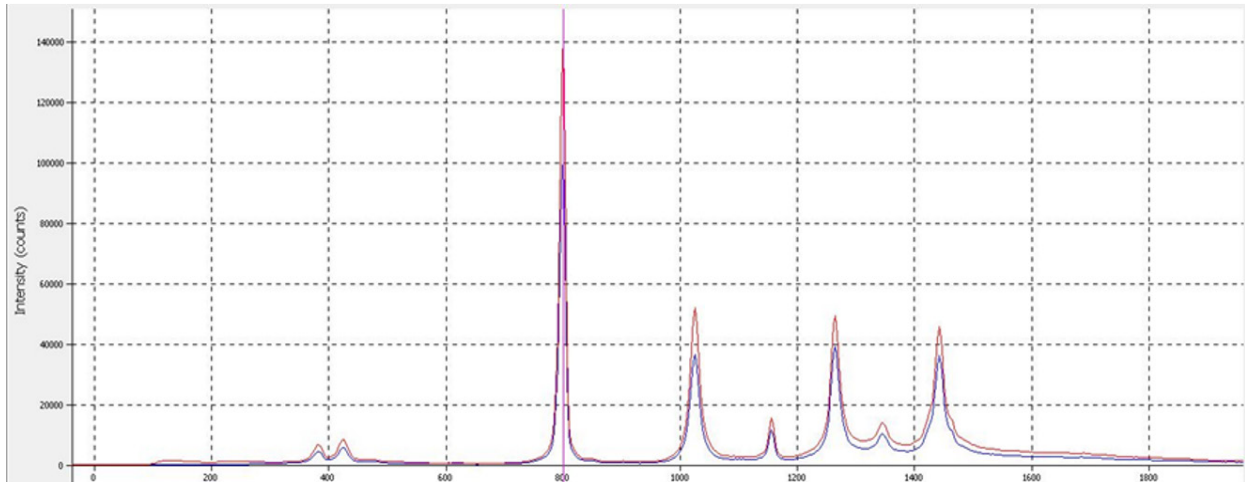
Raman Concatenation

Issues with strong fluorescence limit the use of Raman spectroscopy techniques and often force the use of longer excitation wavelengths to minimize the fluorescence background. The use of longer excitation wavelengths shifts the stretch band of the Raman spectra into low efficiency regions of the detection system and therefore forces the use of expensive deep cooled cameras and/or the sacrifice of long wavenumber spectral information. Raman concatenation is a technique that offers the ability to use longer excitation wavelengths and still collect the entire Raman spectrum without the need for expensive detection systems and/or long integration times, and at no increase in noise. Raman spectra are captured separately from each of the two excitation wavelengths and subsequently concatenated, or stitched together, to provide a single spectral scan encompassing the entire range of data, including the fingerprint and stretch regions. Furthermore, this technique offers both increased selectivity and enhanced discrimination between spectral features in the long wavenumber region of the spectra.

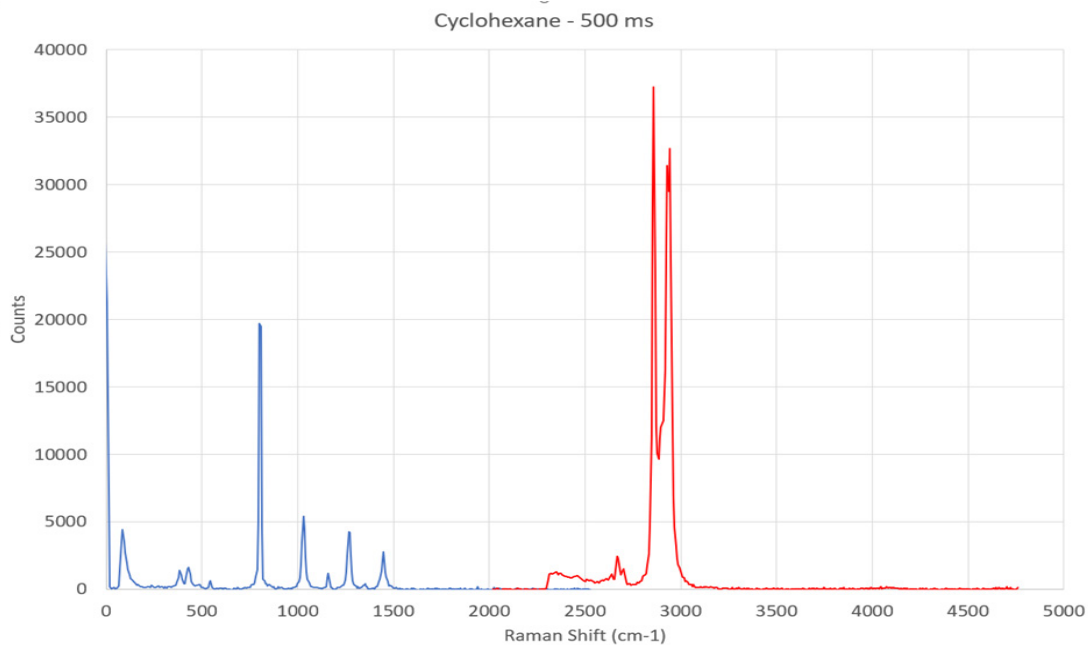
Part Schema



Selected Data



IPS Raman probe is shown in Red leading Raman Probe product shown in blue

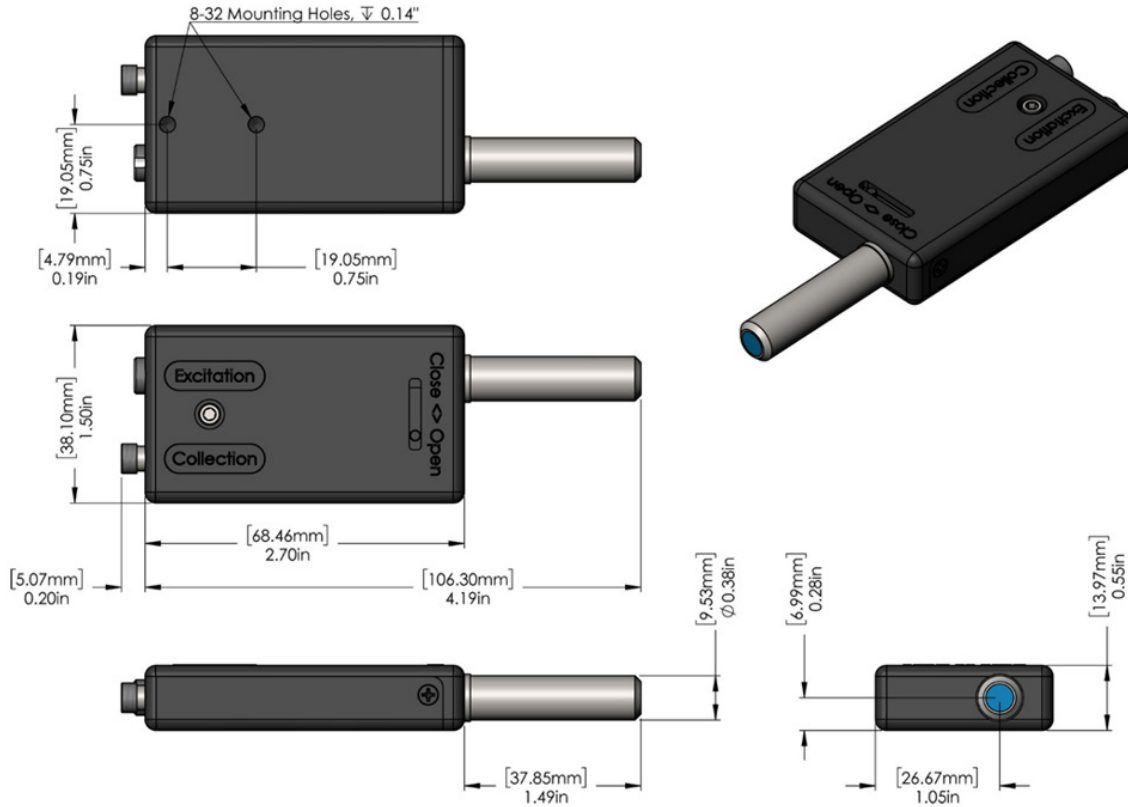


Raman concatenated spectrum (dual wavelength, single spectrometer) of cyclohexane.

Custom Capability

- Multiple excitation wavelengths offered.
- SMA / FC-PC / FC-APC collection and excitation fiber connectors.
- 8.1mm - 20 mm working distances available.
- Multiple cut-on wavelengths offered.
- Multiple excitation and collection numerical aperture collimation optics and fibers available.
- Single and Dual wavelength designs available.
- Immersion Probe Tips Available on Request.

Mechanical Drawings



Operational Notes

- **NOTE**** - Excitation and collection fibers are not included with High Throughput Raman Probe. Customers can order fibers directly from IPS or purchase independently

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