Raman fiber probe

art photonics
broad spectra fiber solutions



FlexiSpec® product line includes the high sensitivity Raman fiber optic probe to be used with any Raman spectrometer.
Available in two options – multi-wavelength excitation (630-785 nm) and single-wavelength excitation (532 and 785 nm), these fiber probes have a bifurcated design, connecting the probe to both a laser and a spectrometer. Our Raman probe allows to analyze spectra in fingerprint (FP, 800-1800 cm^{-1}) and high wavenumber (HWVN, 2800-3800 cm^{-1}) spectral ranges using different lasers.
FlexiSpec® Raman fiber optic probes are compatible with process-interfaces to be cleanable and to enable reaction monitoring in lab, pilot plant and run full automated process control.

Applications:

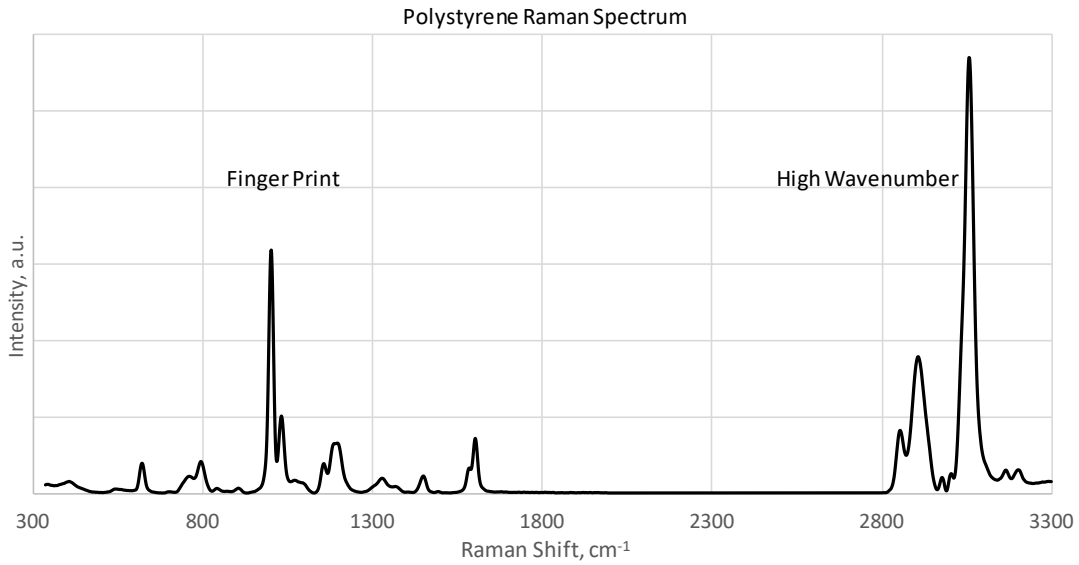
- ✔ Reaction monitoring in real time
- ✔ Process Analytical Technologies (PAT)
- ✔ Analytical Characterization
- ✔ Biopharmaceutical Analysis
- ✔ Biofuel Development & Production

Features:

- ✔ On-line Raman spectroscopy
- ✔ Multi-wavelength excitation (630-785 nm)
- ✔ Flexible and robust for industrial applications in harsh environment
- ✔ Compatible with all fiber optic spectrometers

Specifications:

Excitation Wavelength	630-785 nm "Multi-wavelength excitation" (ideal for use with dual-lasers, e.g., 680 + 785 nm) – Standard. Single-wavelength excitation: 532 and 785 nm Standard. *other configurations on request: 405, 473, 488, 514, 532, 633, 670, 780, 785, 830, 1064 nm*
Laser Spot at the sample	collimated beam (OD ~ 3 mm) or focused beam (OD ~ 0.2 mm) *other configurations on request*
Spectral Range Cut-Off	805 nm (300 cm-1 for 785 nm laser) – for Multi-wavelength 792 nm (100 cm-1 for 785 nm laser) – for Single-wavelength
Filter Efficiency	Optical Density > 6 for Laser rejection Transmission > 95% for Raman shift
Laser Transmission	> 80%
Fiber type	Laser - NIR105/125 NA=0.22 Detector - NIR200/220 NA=0.22
Window Material	Sapphire AR coated
Lens Material	Fused Silica AR coated
Window Sealing Material	Epoxy glue
Probe Shaft & Body Material	Stainless Steel
Sealing Material	FPM (Viton)
Shaft Size	OD = 12 mm, length = 200±5mm OD = 6 mm, length = 100±5mm
Fiber Length	1.2m + 2 legs of 0.5m each
Total Length (shaft + fiber)	2.00 ± 0.05m
Input / Output Connectors	FC/PC or SMA905
Protection	Liquid Tight Protection (LTP)
Operating Temperatures	from -20°C to 200°C (up to 300°C on request)
Pressure (max)	100 Bar



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