

# Raman fiber probe



**FlexiSpec®** product line includes high sensitivity Raman fiber optic probes to be used with any Raman spectrometer.

Raman probes are available in two options – single and multi-wavelength excitation. Our Raman probe allows to analyze spectra in fingerprint (FP, 800-1800  $\text{cm}^{-1}$ ) and high wavenumber (HWN, 2800-3800  $\text{cm}^{-1}$ ) spectral ranges using different lasers.

Process-interfaces like Swagelok and any flanges are available for **FlexiSpec®** Raman fiber optic probes to enable reaction monitoring in lab, pilot plant and run automated process control.

## Applications:

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

## Features:

- ✓ In-line Raman spectroscopy
- ✓ Single-wavelength excitation(532 and 785nm)
- ✓ Designed for industrial applications in harsh environment
- ✓ Compatible with all Raman spectrometers

## Specifications:

Excitation Wavelength	Single-wavelength excitation: 532 and 785 nm Multi-wavelength excitation: 630-785nm
Laser Spot at the sample	Collimated beam OD ~ 3mm or Focused beam OD ~ 0.2mm
Spectral Working Range	Single-wavelength: from 100 cm <sup>-1</sup> for 785 nm laser Multi-wavelength: from 300 cm <sup>-1</sup> for 785 nm laser
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 C-plane AR coated
Lens Material	Fused Silica AR coated
Window Sealing Material	Epoxy, Gold, PTFE, Brazing
Probe Shaft & Body Material	Stainless Steel
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

