

Fiber Optic Raman Probe



FlexiSpec®

Ball lens sealed at sensing tip of 3mm dia. shaft

Optical filters deposited on fiber ends by patented process

Metal coated fibers used to block cross-talk and suppress fluorescence from polymer jacket

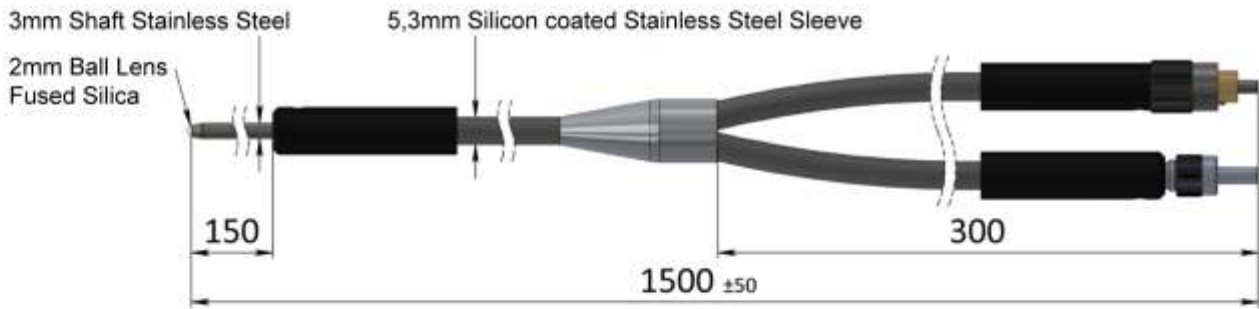
Compact immersible probe with high S/N to use for in-situ real-time contact analysis of liquids, tissues and powders

Multilayer filters design for laser excitation in a broad range of wavelength 690-785nm

Ball-lens Raman fiber-optic probe is a new addition to art photonics' FlexiSpec® product line. The technology of direct deposition of the dielectric filters at the fiber end faces enables miniaturization of the fiber-optic probe head without compromising its performance. It makes possible to develop a cost-effective Raman probe for endoscopic and other applications. The fiber optic Raman probe is produced for multiwave excitation in the range 690-785nm, e.g. @785nm – "Finger print" spectral range with fluorescence reduction, and @690nm – "High wavenumber" spectral range for conventional Raman spectrometers.

Applications:

- Biomedical
- Biotechnology
- Material Analysis
- Food and Drink
- Chemical
- Pharmaceutical
- Petrochemical
- R & D



1x 9 Fiber bundle
Dielectric filters
for excitation and
detection channels
directly deposited
on fiber ends.



1x Excitation Fiber
NIR200/ 220/AL/FC/PC

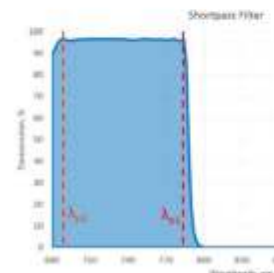
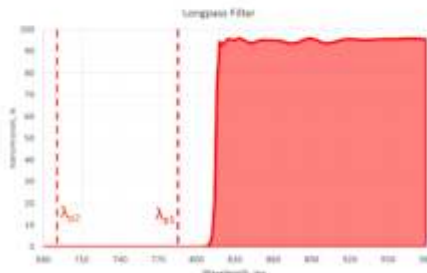
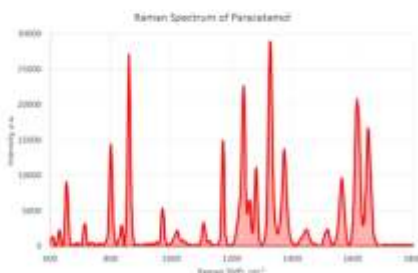


9x Detection Fiber
NIR200/ 220/AL
SMA905 (line bundle)



Specification

Laser Wavelength:	690-785nm
Available Spectral Range:	2000-3800 cm^{-1} (690nm), 200-2000 cm^{-1} (785nm),
Fibers	1+ 9 (one excitation & 9 collection fibers with 200 μm core dia.)
Long-pass filter transmission range	810-950nm (>90%)
Long-pass filter blocking range	690-800nm (OD>6)
Short-pass filter transmission range	690-790nm (>90%)
Short-pass filter blocking range:	810-950nm (OD>6)
Ball Lens	2mm diameter silica
Total Length	1.5m
Shaft (needle) Length	150mm
Shaft (needle) Diameter	3mm
Length of Legs	0.3m
Minimal Bending Radius	130mm
Input / Output Connectors	Excitation – FC/PC; Detection – SMA905
Shaft	Stainless Steel
Protective tubing	Silicon coated Stainless Steel Conduit
Temperature range	-40 to 150°C
Pressure limits	0-7 Bar (100 PSI)



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