

Needle Raman Fiber Probe

art photonics Needle Raman Fiber Optic Probe uses only one fiber for laser excitation and collection of the scattered signal. This enables a complete match of illuminated and detected areas providing maximum efficiency for this innovative probe design.-

Unique metal-coated fibers ensure almost no laser-induced fluorescence within the fiber material.

The distal end of the probe consists a thin, rigid needle with customizable tip shape to enable optimal optical and physical characteristics for any application.

The probe's design allows for full- or partial sterilization or single use - disposable solutions.

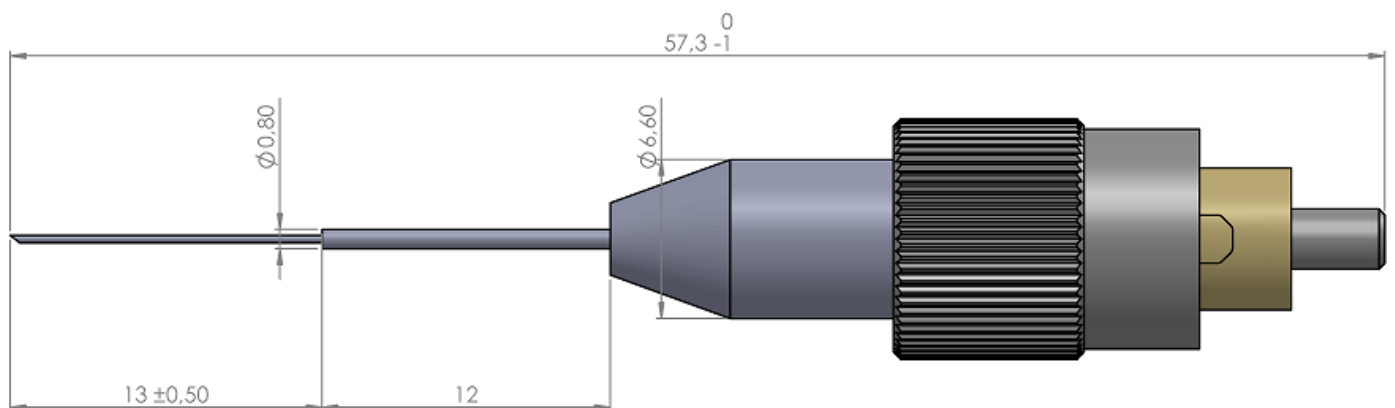


Applications:

- ✓ Medical Research and Analysis
- ✓ *In Vivo* Tissue Measurements
- ✓ Analytical Characterization
- ✓ Biopharmaceutical Analysis

Features:

- ✓ Single fiber to deliver laser excitation and collect scattered signal
- ✓ Metal-coated fibers ensure almost no laser-induced fluorescence of fiber
- ✓ Partial and complete sterilization or single use disposable solutions



Schematic of Needle Raman Fiber Probe



Specifications

Raman Shift Range $>2000\text{cm}^{-1}$
 ($<6000\text{cm}^{-1}$ with background signal from fused silica)
 No filtering at the distal end

Single Fiber for Excitation & Collection
 NIR105/125 or NIR200/220 Aluminum coated
 NA = 0.22 ± 0.02

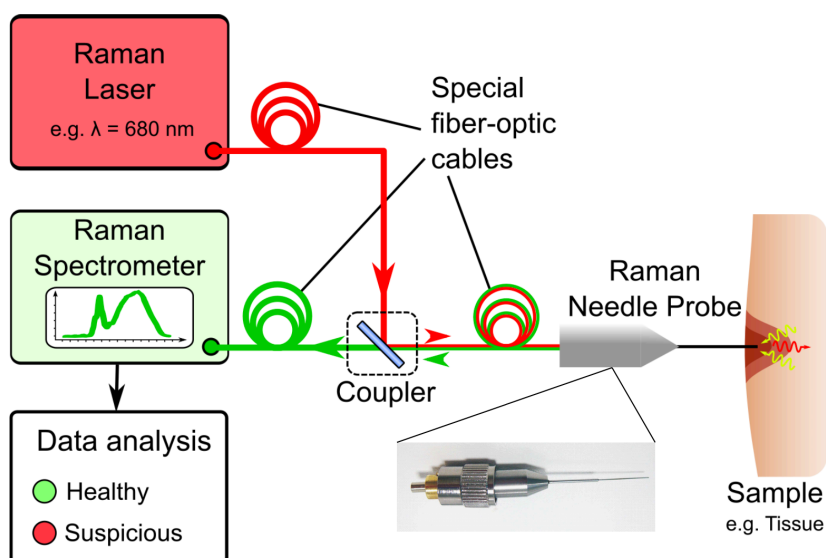
Needle Size OD 0.3mm for 105 μm fiber and OD 0.5mm for 200 μm fiber and $12\pm 2\text{mm}$ length

Needle Shape Flat, Angled

Handle OD 2-10mm, length 30-100mm

Connector FC/PC, SMA

Optional 2m long flexible fiber-optic cable from handle to the connector



Schematic illustrating application of Needle Raman Fiber Probe