

# Raman Probe

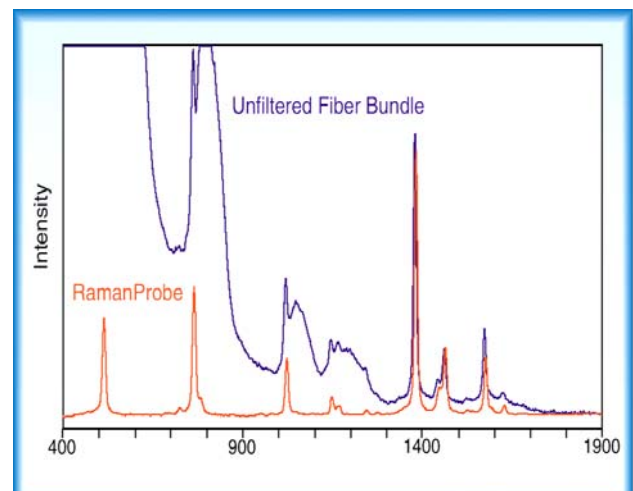
- Coaxial design
- Compact, rugged, versatile
- Sampling made simple
- Cost effective design
- Analyze solids, liquids, and gasses
- Patented background-free design



Available in lengths from a few feet to 100 meters, the Raman Probe is ideal for both research and industrial uses. A multitude of applications can be addressed with a choice of working distances and excitation wavelength ranges.

Quartz fiber optics can efficiently transmit a Raman excitation laser over many hundreds of meters. They can also give rise to their own Raman spectral features and fluorescence background signals that become superimposed over the desired sample spectrum. The difficulty in developing a Raman fiber optic probe lies in removing these extraneous features without increasing the size of the sampling probe.

The optimized probe design efficiently filters background signals while retaining throughput and minimizing probe size. Many fiber-optic probes do not adequately filter quartz spectral features making them particularly undesirable for applications requiring longer fiber lengths. The Raman Probe's patented design consists of an innovative arrangement of two single fiber-optic cables, filters, and alignment free micro-optics. The Rayleigh filtering efficiency is greater than  $10^8$ , enabling the Raman Probe to be used without additional filtering. In fact, adding any laser, spectrograph, and detector head turns a Raman Probe into a complete Raman spectrometer system.

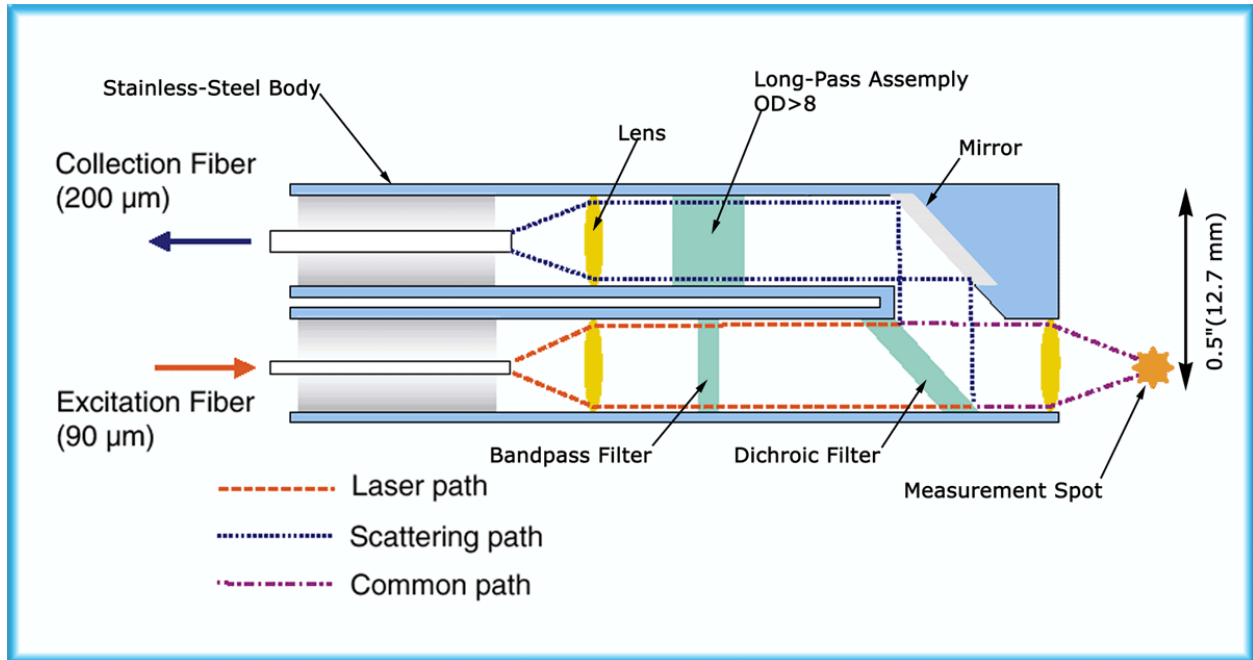


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## Advantages of Coaxial Probe Design

- Optical filters in the collimated beam path of the collection and excitation fibers eliminate fiber background
- No "cross talk" between excitation and collection fibers
- Coaxial design ensures maximum overlap between excitation and collection fibers
- Focused beam allows sampling through glass



## Specifications:

Excitation Wavelengths	514, 532, 632, and 785 nm; others available upon request
Sampling Head	Stainless-steel, cylindrical probe head, 12.7 mm diameter (0.5") x 76 mm length (4")
Working Distance	5 mm (std.) up to 12.5 mm
Fiber Configuration	Permanently aligned combination of two single fibers (90 micron excitation, 200 micron collection) with filtering and steering micro-optics; N.A. 0.22
Filter Efficiency	Patented design to filter quartz spectral contributions from both input and output fibers (O.D. > 8 at laser line)

## Part Number

**RPS-1000**

Control Development, Inc., reserves the right to change specifications without notice.

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