SPECTRA SOLUTIONS, INC.
Innovation through Spectroscopy

General Purpose Raman Probe

- Ideal for laboratory Raman analysis
- High collection efficiency and effective laser line filtering
- Customizable optical fiber cable and focusing lens shaft
- Low Cost - $2850

High throughput optics and a backscattering probe optical design are incorporated into our compact Raman probes, resulting in a highly efficient probe for Raman measurements. The probes are ideal for Raman measurements of various samples including solids, liquids and gases. Raman probes are available in various laser excitation wavelengths in the visible to the near-infrared. Narrow bandwidth bandpass filter is utilized in the excitation optical train to filter out unwanted silica background generated by the excitation laser in the optical fiber. High Rayleigh rejection long-pass edge blocking filter (optical density $>10^{-6}$) is also incorporated in the collection optical train to prevent the laser line from being transmitted into the collection optical fiber.

The general purpose Raman probe is a low-cost Raman probe that is ideal for routine laboratory Raman measurement applications. It can be used for Raman measurements of all types of samples and can be used through glass and plastic containers. The probe body is encased in a hard anodized aluminum housing. The focusing lens is housed in a removable stainless steel tube allowing the flexibility of using different focal length lens. The optical fibers are also removable allowing the user the flexibility of using the proper fiber core optimized for a specific Raman instrument.

Specifications:

Excitation Wavelength	514, 532, 633, 670, 671, 785, 808 nm. Other wavelengths available
Spectral Range	100-4000 cm^{-1} (The ultimate range is spectrograph/detector dependent.)
Focal Length	9 mm standard (12,15, & 18 mm optional). Note: Probe efficiency decreases with increasing focal length)
Spot Diameter at the Sample	100 microns for standard fiber (fiber core dependent)
Beam Diameter	excitation fiber core dependent
Working Distance	7 mm for standard lens
Numerical Aperture	0.22 with standard lens
Probe Body Dimensions	2.25" L x 0.96" W x 0.58" H
Probe Body Material	hard anodized aluminum
Probe Shaft Dimensions	3/8" diameter x 2" length (custom lengths available)
Probe Shaft Material	316 stainless steel
Filter Efficiency	O.D >6 at laser wavelength
Operating Temperature	0-85 ºC
Operating Pressure	15 psi
Fiber Configuration	100/100 micron core standard, custom optical fiber cores available
Fiber Optic Cable	3 m reinforced polymer cable standard, custom lengths and stainless steel armor cable optional
Coupling System	FC connector standard, SMA connector also available
Part Number	SPS-R

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