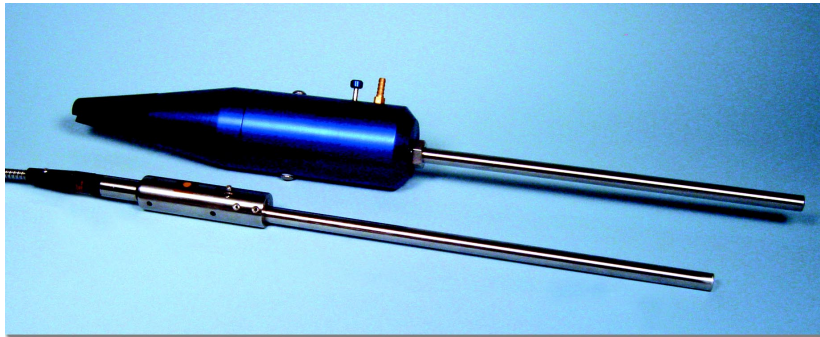




Process RamanProbe™

Monitoring Under Extreme Conditions



The Process RamanProbe combines the best features of optical design and mechanical robustness for laboratory and process monitoring. To protect the optics from extreme heat, the probe body is kept at a distance from the reactor with an extension tube. The tube itself can be interfaced directly into reactors and process lines. With the optional purgeable housing, the probe is suitable for most industrial environments.

The pressure-tight stainless-steel extension tube is equipped with a compression-welded sapphire window at the tip.[†] Either a flat window (with choice of working distance) or a spherical lensed window are available. The spherical lens provides repeatable focus close to the lens face and is recommended for opaque and highly-colored reaction media.

Features and Specifications

Sampling Head	Stainless-steel, 13/16" (206 mm) diameter probe body with stainless-steel extension tube, 3/8" (19.5 mm) diameter x 9.5" (240 mm) length (other sizes upon request).
Spectral Range	250 - 3900 cm ⁻¹ (Stokes), depending upon spectrograph limits
Excitation Wavelengths	514, 532, 632, 670, 785, 830 nm, others available upon request
Working Distance	Factory set focal distance to optimize measurement of specific solution. Choice of flat window with separate lens or integrated spherical lens.
Fiber Configuration	Permanently-aligned combination of two single fibers (100 μm excitation fiber, 200 μm collection fiber) with filtering and steering micro-optics, N.A. 0.22, in stainless-steel jacket Option: fiber sizes ranging from 50 μm to 500 μm
Filter Efficiency	Patented design for complete filtering of the laser line and quartz spectral contributions from both input and output fibers (O.D. > 8 at laser line)
Physical Resistance	Pressure sleeve specified to 3000 psi and up to 500°C. External optics must be maintained below 200°C (purgeable housing sold separately).
Chemical Resistance	316 Stainless-steel sleeve, sapphire window (flat or lensed) and gold seal [†] are resistant to corrosive chemical environments
Cable Length/ Coupling System	5 m steel-jacketed cable (std.), up to 100 m on request, with FC (std.) or SMA 905 connectors
Safety Features	Emission indicator and safety shutter with integrated calibration standard (std.) [†]
Retail Price	\$ 10,200 USD

[†]Patents pending.

Specifications and prices are subject to change without notice.