



# Standard Raman System

Fiber-coupled standard Raman System (SRaman) is built with a single narrow bandwidth and frequency stabilized laser with the choice of 488 nm, 514 nm, 532 nm, 785 nm, and 830 nm lasers. SRaman system comes with a research grade high throughput spectrograph and a deep cooled high performance CCD, which provides high resolution and high sensitivity. The fiber optic interface and high collection efficiency probe offer flexibility and convenience. All parts are housed in a single compartment with robust design and no moving parts.

The Standard Raman System can be used in a research laboratory; it can also be easily configured for remote monitoring and control of any combinations of liquids, solids, and gas sample streams through fiber optics and choices of different sampling probes.

With the user-friendly SpectraSoft software, user can control instrument, collect data, and obtain results with a single click.

The Standard Raman System is an ideal tool for on-line monitoring, as well as for R&D in the laboratories. It can also be easily coupled to other instruments and equipment to add Raman measurement capabilities.



## System Benefits:

- High throughput, high sensitivity
- Robust design, no moving parts
- Flexible sampling options
- High value to own

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## Fiber-based Standard Raman System - Features and Specifications:

Item	Description	Features / Specifications
<b>SF18</b>	Lens-based grating spectrograph	<ul style="list-style-type: none"> <li>• 85 mm focal length</li> <li>• Standard coverage (others available upon request): 150 to 4300 <math>\text{cm}^{-1}</math> for 488, 514, and 532 nm laser 100 to 3000 <math>\text{cm}^{-1}</math> for 785 nm laser 100 to 2000 <math>\text{cm}^{-1}</math> for 830 nm laser</li> <li>• All preset, no moving parts</li> </ul>
<b>Detector</b>	TE deep cooled scientific CCD	<ul style="list-style-type: none"> <li>• NIR enhanced front-illuminated sensor with no-etalonging</li> <li>• Peak QE &gt; 55% at 650 nm, best for 532 and 785 nm excitation</li> <li>• Permanent vacuum</li> <li>• Guaranteed TE cooling to <math>-60^{\circ}\text{C}</math> at ambient temperature</li> <li>• 16-bit, 2 MHz and 100 kHz read-out: 3.5 e- rms (typical), 6 e- rms (max) 14 e- rms (typical), 20 e- rms (max) 0.001 e-/p/sec (typical); 0.006 e-/p/sec (max)</li> </ul>
<b>Lasers</b>	488 / 514 / 532 nm 785 / 830 nm	<ul style="list-style-type: none"> <li>• 50 mW (higher power available upon request)</li> <li>• 400 mW multimode frequency stabilized (single mode available upon request)</li> </ul>
<b>Sampling Probe</b>	Choices of probes  Fiber connector	<ul style="list-style-type: none"> <li>• Collinear design/high throughput optics</li> <li>• Built-in laser line clean-up filter</li> <li>• Built-in deep narrow notch filter</li> <li>• &gt; 20 mm working distance</li> <li>• High collection efficiency</li> <li>• No interference from other lights</li> <li>• OD &gt; 6: maximum rejection of Rayleigh scattering and high transmission</li> <li>• Wide coverage from 40 <math>\text{cm}^{-1}</math> to 4400 <math>\text{cm}^{-1}</math></li> <li>• Convenient SMA 905 or FC</li> </ul>
<b>User Interface</b>	Computer Operating System SpectraSoft	<p>PC Windows 7, 64 bit</p> <ul style="list-style-type: none"> <li>• Control of multiplex lasers and laser power, CCD gain and digitization, system calibration</li> <li>• Data processing: proprietary automatic background removal, spectrum averaging, normalization, overlay</li> <li>• Data analysis: peak identification, area, online monitoring</li> </ul>
<b>Physical</b>	Width x Depth x Height	300 mm x 396 mm x 164 mm
<b>Electrical</b>	Input Voltage	100 – 240 V, 50 - 60 Hz

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