SPECTRA SOLUTIONS, INC.
Innovation through Spectroscopy

Raman Monitoring Systems (RAMS™)

- **High throughput VPH grating spectrograph**
- **Rack mountable housing**
- **Can monitor up to 6 different probes simultaneously**
- **Each probe is connected to its own laser**

Our Raman monitoring systems (RAMS™) is a single or multi-probe input Raman instrument that is capable of real-time, simultaneous measurements of multiple fiber optic probes (up to 6 channels).

- **A high throughput volume phase holographic grating spectrograph** with a **2-dimensional TE-cooled CCD detector** is employed for detection.
- **A linear fiber optic array bundle mounted parallel to the slit direction** is coupled into the spectrograph entrance aperture to allow multiple probe coupling.
- **Multiple tracks are setup with the 2-dimensional CCD chip corresponding** to the positions of the individual fiber in the imaged linear fiber optic array.
- The multiple tracks allow the implementation of **multiple probe simultaneous measurements.**
- For the RAMS™ multichannel version, **each channel has a dedicated laser for Raman excitation.**

FEATURES

- The RAMS™ instrument can be controlled with our **SpectraSoft data acquisition software.**
- With the **chemometrics plug-in software, SpectraChem, implemented with SpectraSoft,** the RAMS™ instrument can be used for on-line process monitoring applications.
- Different types of probes are available for use with the RAMS™ instruments including **high pressure, vacuum and high temperature** Raman immersion probes.

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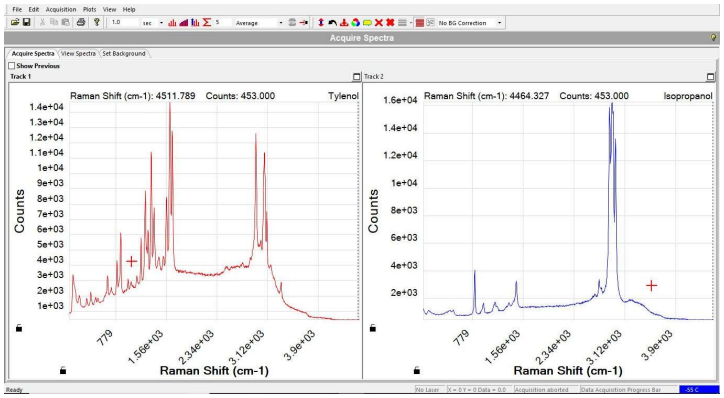
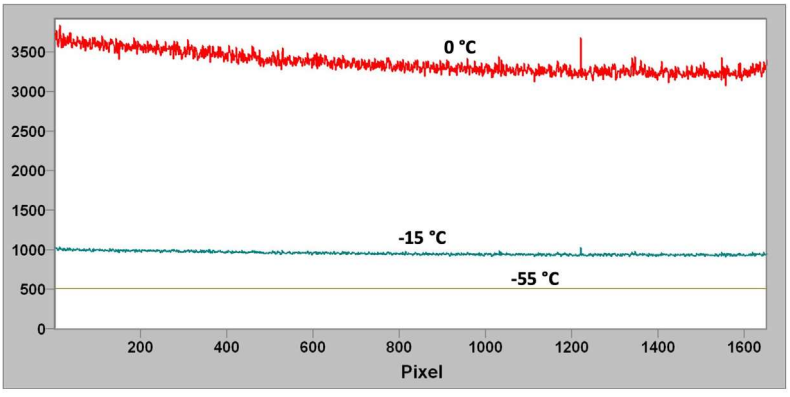
Specifications

Excitation Wavelength	532 nm, 671 nm, and 785 nm
Raman Shift Range	532 nm: 150-4100 cm^{-1}; 671 nm: 150-4000 cm^{-1}; 785 nm: 150-3000 cm^{-1}
Laser Power	200 mW (532 nm and 671 nm), 490 mW (785 nm)
Fiber Input	100 µm with FC connector for laser, 200 µm with FC connector for collection
Spectrograph	High throughput VPH grating with F2 optics
Detector	Andor IVAC CCD, 1650 x 200 active pixels (16 x 16 µm pixel size)
CCD TE Cooling	-60 °C at ambient (25 °C)
Power Input	90-264 VAC
Communication	USB
Software	SpectraSoft data acquisition software included, SpectraChem plug in software for process applications also available
Computer and Operating Software Requirements	Windows 7 64-bit or later, Intel Core i3 or comparable processor, 4GB of memory & 100MB of free hard drive space
Instrument Housing	19” Rackmount housing, 4U for single channel and 6U for multiple channels
Coupling System	FC Connector
Dimensions & Weight	6.97"x19.00"x10.43", 21 lbs
Part Number	RAMS-532, RAMS-671, RAMS-785



Simultaneous analysis of 2 samples with separate Raman probes



Dark current at different CCD cooling temperatures, 1 s integration

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