



• **Raman Spectrometers** for QA/QC and R&D Applications

Bruker offers dedicated analytical research and quality control solutions based on Raman spectroscopy.

- Fast, precise and non-destructive micro and macro analysis
- Powerful and easy to use software for data acquisition and processing
- High throughput screening
- Confocal Raman microscopy

The Raman effect is based on the inelastic scattering of monochromatic light with matter. Due to its non-destructive and in-situ characteristic, Raman spectroscopy is a powerful tool for molecular analysis. Raman is ideal for solid and liquid samples, providing important information on molecular structure that can be used to supply accurate identification of unknowns, quantitative and conformational analysis of your samples.

Bruker introduced its Fourier transform (FT) Raman product line shortly after the technique was first reported in late 1980s. Since then, continual hardware and software improvements maintain Bruker's tradition of innovation and excellence for Raman spectroscopy. More recently, Bruker started utilizing dispersive Raman technology combining years of experience to bring innovative solutions to the market.

Today, Bruker offers multi range dispersive and Fourier transform (FT) Raman spectrometers for analytical, research and QC applications.



'Hybrid' Raman microscopy platform combines the best of two worlds, without the sacrifice in performance.



SENTERRA configured as an open architecture microscope.



Analytical research Raman spectrometers can be configured for your demanding needs.

MultiRam

Bruker's MultiRAM is a stand-alone high performance Fourier transform Raman spectrometer. When sample fluorescence is a problem, FT-Raman analysis with near infrared excitation at 1064nm is the only solution. As sample fluorescence can be orders of magnitude more intense than Raman scattering, the presence of fluorescence often precludes observation of Raman scattering. The MultiRAM has a large sample compartment to utilize an extensive range of pre-aligned sampling accessories featuring Bruker's automatic accessory recognition. The new Raman video stage makes Raman analysis a breeze. The MultiRAM can accommodate a second laser and detection system for use with 785nm.

SENTERRA

The SENTERRA combines the sensitivity of the dispersive Raman technology and the wavelength accuracy of the Fourier transform Raman spectroscopy. The SENTERRA is founded upon innovative and patented technology to provide the highest performance available in a compact and flexible platform. This full-featured confocal system can accommodate multiple excitation wavelengths with the highest possible spatial resolution. All the necessary tools for sample visualization and characterization are readily avail-

able. For larger samples the SENTERRA can be configured as an open architecture microscope. Furthermore, fiber optic probes with video option are available for remote sampling.

RAMII

The FT-Raman module RAM II is the first dual channel FT-Raman accessory for combined FT-IR/FT-Raman spectrometers. The module is designed for researchers who are used to the flexibility of switching between different Raman laser wavelengths and do not like to miss the complementary information from the FT-IR. The RAM II module is equipped with standard 1064nm excitation for utmost suppression of fluorescence and optionally with a second excitation line at 785nm.

RamanScopeIII

The RamanScopeIII has been developed taking advantages of the recent improvements in optical microscopy and Bruker's over 15 years of experience in FT-Raman microscopy. It is a powerful, compact, benchtop FT-Raman microscope for non-destructive microanalysis. The RamanScopeIII can be combined with SENTERRA on a 'hybrid' platform.

The 'hybrid' platform enables the use of both FT-Raman microscopy at 1064nm and dispersive Raman microscopy in the visible.



MultiRAM

- Stand-alone FT-Raman Spectrometer
- Can be coupled to FT-RamanScope III
- Stokes shift to 50 cm⁻¹



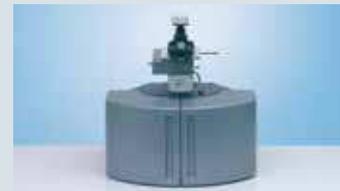
SENTERRA

- Dispersive Raman microscope
- Sure_Cal[®] Automated Calibration
- High precision of <0.1 cm⁻¹



RAMII

- FT-Raman module that can be coupled to FT-IR spectrometers
- 24-bit dynamic range ADC



RamanScopeIII

- FT-Raman microscope
- 'Hybrid' technology
- Minimized fluorescence

Laser safety classification: LASER CLASS 1

Depending on accessories adapted the classification of the Raman spectrometers may equal the classification of the exciting laser and exceed class 1.