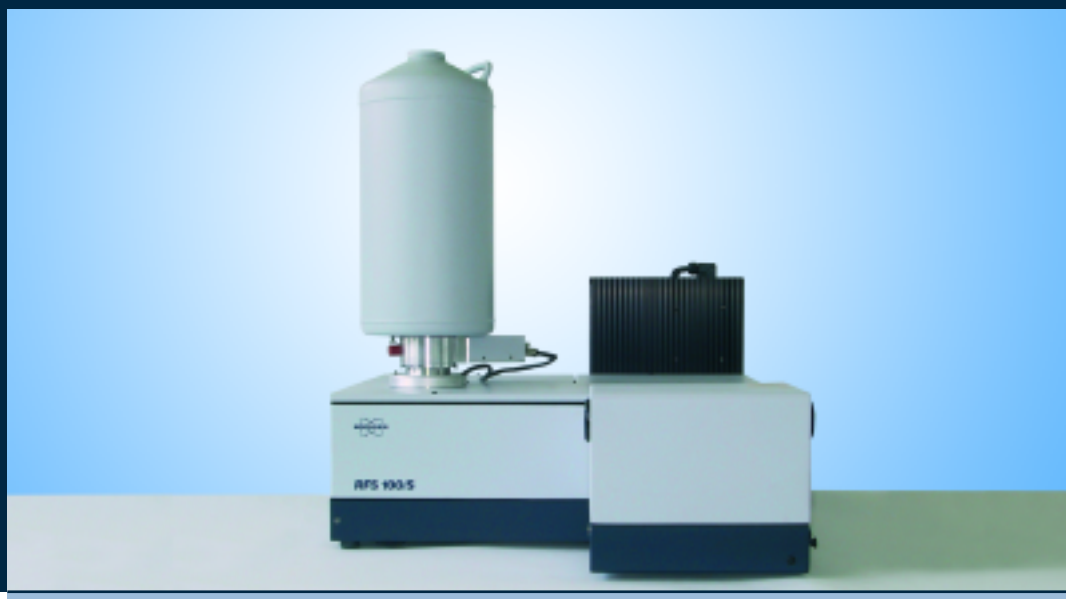
RFS 100/S

thinkforward

Bruker Optics *RFS 100/S* is a high performance stand-alone FT-Raman spectrometer, with easy and flexible sampling options, including FT-Raman microscopy.



***RFS 100/S* FT-Raman Spectrometer**

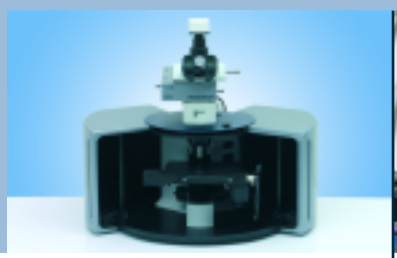
- Unparalleled flexibility, sensitivity and ease-of use
- DSP electronics
- Gold-coated optics for the highest throughput
- Dual laser/detector option
- Various sampling accessories
- 21 CFR Part 11 compliance

Bruker Optics added FT-Raman capabilities to its product line shortly after the technique was first reported in late 1980s. Since then, continual hardware and software improvements, as well as the development of a variety of sampling accessories, maintain Bruker Optics' tradition of innovation and excellence in scientific instrumentation.

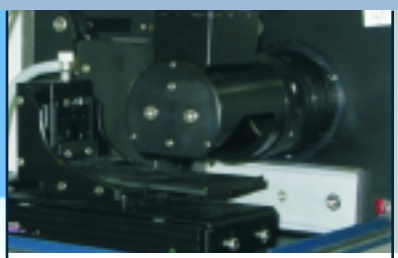
Bruker Optics' *RFS 100/S* spectrometer is a stand-alone high performance Fourier transform Raman spectrometer. When sample fluorescence is a problem, 1064 nm FT-Raman analysis with near infrared excitation is frequently the only solution. As sample fluorescence can be orders of magnitude more intense than Raman scattering, the presence of fluorescence often precludes observation of Raman scattering.

The *RFS 100/S* has a large sample compartment to utilize an extensive range of pre-aligned sampling accessories that are designed to accommodate all types of sample formats; from powders to liquids in vials. Bruker Optics offers various accessories to enhance the performance of the RFS 100/S, including the *RamanScopeIII* FT-Raman microscope for micro-analysis.

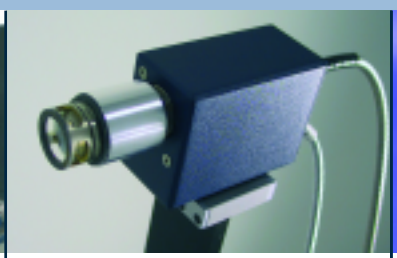
The intuitive, easy-to-use *OPUS* software controls all data collection and manipulation functions for the RFS 100/S. The real time spectrum display permits software control of the analysis conditions, including optimization of the laser power and sample position.



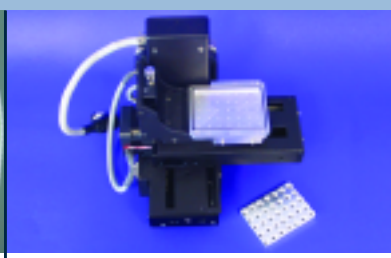
The *RamanScopeIII* microscope can be coupled to the *RFS 100/S* for micro-analysis.



The horizontal video sample stage provides convenient sample handling and visualization.



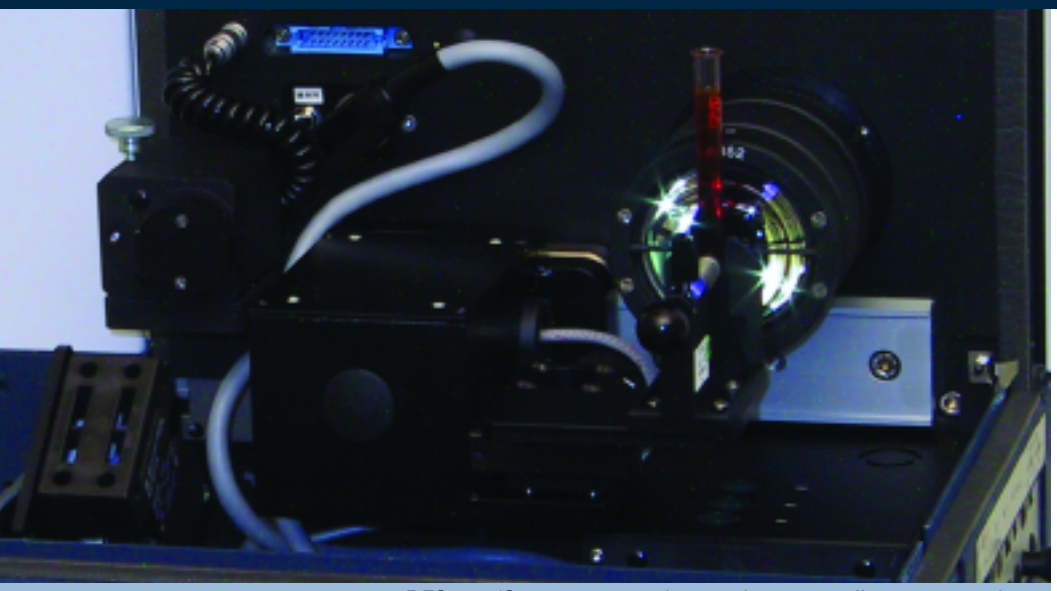
RamProbe is ideal for non-contact remote sampling and reaction monitoring.



Automated *49x* sample changer offers high sample throughput with small amount of samples.

FT-Raman

www.brukeroptics.com/raman



RFS 100/S can accomodate various sampling accessories

RFS 100/S

High Performance

Combine advanced digital electronics with Bruker Optics' high quality optics and you have the ultimate in a high performance FT-Raman system. The heart of the *RFS 100/S* is Bruker Optics' patented interferometer with gold coated optics and permanent *RockSolid*™ alignment which provides the superb stability and throughput required for demanding emission experiments such as Raman. DSP electronics provide precise scanner control and allow for a variety of scanning methods, including step scan.

Sampling Flexibility

For ultimate flexibility, the RFS 100/S can accommodate a second laser and detection system, automated polarization accessory, and two-fiber optic coupling ports. Other standard features include easy switch between 90° and 180° scattering geometry, defocusing optics (necessary for colored samples which can heat by the laser beam), motorized sample stage for optimizing the sample position, and a white light source to correct the spectra for instrument response.

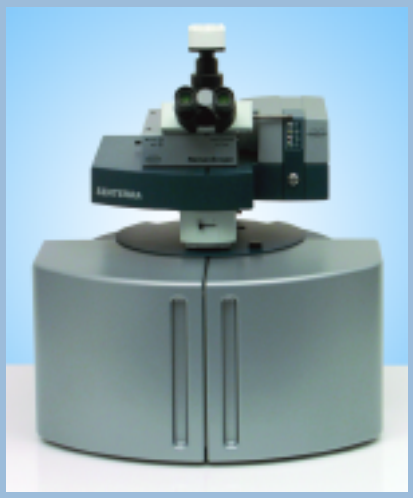
The *RFS 100/S* utilizes various sampling accessories, including a motorized sample stage for high sample throughput, low and high temperature stage and a Raman long path cell for liquids.

Sensitivity and Stability

The standard *RFS 100/S* configuration provides a spectral range of 3600 – 50 cm^{-1} (Stokes shift) and anti-Stokes shift from –100 – -2000 cm^{-1}. Equipped with a broad-range quartz (or CaF_2) beamsplitter, Bruker Optics' patented frictionless interferometer with its *RockSolid*™ alignment provides high sensitivity and stability. The standard diode-pumped, air-cooled Nd:YAG laser source is controlled completely through software.

The system can be equipped with either or both an InGaAs detector and a proprietary high-sensitivity Ge diode. High throughput optics and Bruker Optics' unique liquid nitrogen cooled Germanium detector offers ultra-low signal detection with minimal noise assuring excellent sensitivity. The long hold time of the refrigerant provides hassle free operation for an entire week.

Raman Microscopy



RamanScopeIII allows to generate FT-Raman spectra of samples down to the µm size range. This microscope is attached to the right side of any Bruker Optics FT-Raman systems.

The *RamanScopeIII* can also be coupled with the innovative *SENTERRA* grating based dispersive Raman microscope. This unique combination offers novel analysis capabilities for full spectroscopic characterization utilizing excitation wavelengths from 1064 nm to 532 nm on a single spot. The combined system of the *RamanScopeIII* and *SENTERRA* can be configured with up to 4 different excitation wavelengths (e.g. 1064 nm, 785 nm, 633 nm and 532 nm).

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