



RFS 100/S FT-Raman Spectrometer

Flexible, rapid scanning spectrometer for FT-Raman applications in the analytical and research laboratory. Equipped with a fast PC-based data system for signal processing and spectrometer control and an extensive analytical software package. The instrument is equipped for the collection of Raman spectra in the near infrared at 1.06 μm excitation. Optionally the instrument can be configured with a second measurement channel for a further excitation line.

Performance:

Spectral range:	3,500 - 70 cm^{-1} Stokes shift 2,000 - 100 cm^{-1} anti-Stokes shift
Resolution:	Better than 1 cm^{-1} ,
Wavenumber accuracy:	Better than 0.01 cm^{-1}
Photometric accuracy:	0.1 % T

Optical system:

Design:	Compact, sealed and desiccated optics housing, purgeable
Excitation laser:	Integrated air-cooled diode pumped Nd:YAG laser, 500 mW, polarized, computer controlled laser power option: 1500 mW, Nd:YAG laser
Further sources:	White light source for Raman background correction, built-in alignment and calibration source
Interferometer:	Proprietary vibration insensitive interferometer, permanently aligned
Scanner:	Mechanical, frictionless bearing (no compressed air required), 8 selectable mirror velocities
Aperture ratio:	f/4
Sample compartment:	Attached to the front of the spectrometer, access from three sides, 90 deg. and 180 deg. collection optics standard, servo-assisted sample positioning (z-axis)
Laser exit port:	Optional fiber optic output port for excitation laser
Signal input port:	Optional fiber optic input port for Raman signal

Detectors: High sensitive InGaAs detector (room temperature)
Options ultra high sensitive Ge detector (liquid nitrogen cooled), Ge diode for calibration control

Electronics:

Automation: Remote control of alignment and calibration source, optionally remote control of 16 apertures, alternative laser source, alternative detection system

A/D converter: 16 bit, 100 kHz A/D converter

AQP: Independent acquisition processor for fast FT, 4 Mbyte RAM

Data system: PC-data system, see separate data sheet

Dimensions:

Optics bench: 700 x 800 x 242 mm (w x d x h)

Weight (optics bench): 40 kp

Power requirements: Optics bench: 110/220 V, 50/60 Hz, 100 W
PC data system: 110/220 V, 50/60 Hz, 300 W

Software:

Spectroscopic software: Analytical software package OPUS/IR, icon based operation FT-Raman starter library with 250 spectra