

Virsa™ Raman Analyser

**Laboratory-grade Raman performance
in a portable unit**

Flexible remote sampling

with fibre-optic probes

Fluorescence avoidance

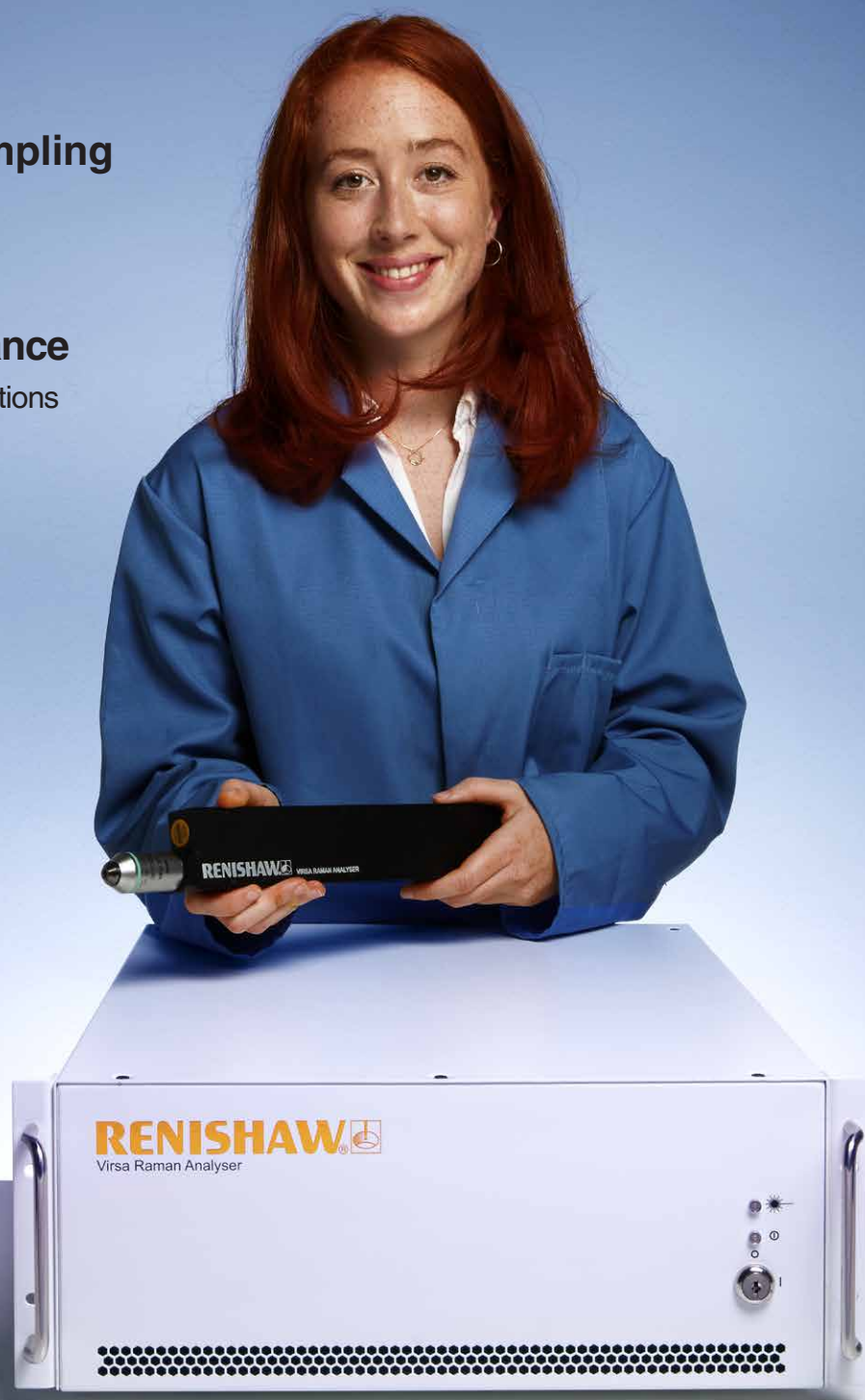
with dual laser wavelength options

**Rapid microscopic
analysis**

with high resolution video-
equipped probes

**Precise probe
positioning**

with motorised, encoded
three-axis stage



Fibre-optic flexibility with research-grade performance

Be flexible

It is not always possible or convenient to extract samples and transport them back to the lab. The Virsa Raman Analyser is the ideal instrument for analysing samples *in situ*, whether for quality control on the factory floor or in-field analysis of large, delicate, immovable samples. The Virsa package comes with five metres of fibre-optic cabling as standard (with increased lengths available as options) providing maximum flexibility to analyse your samples.

Be confident in your data

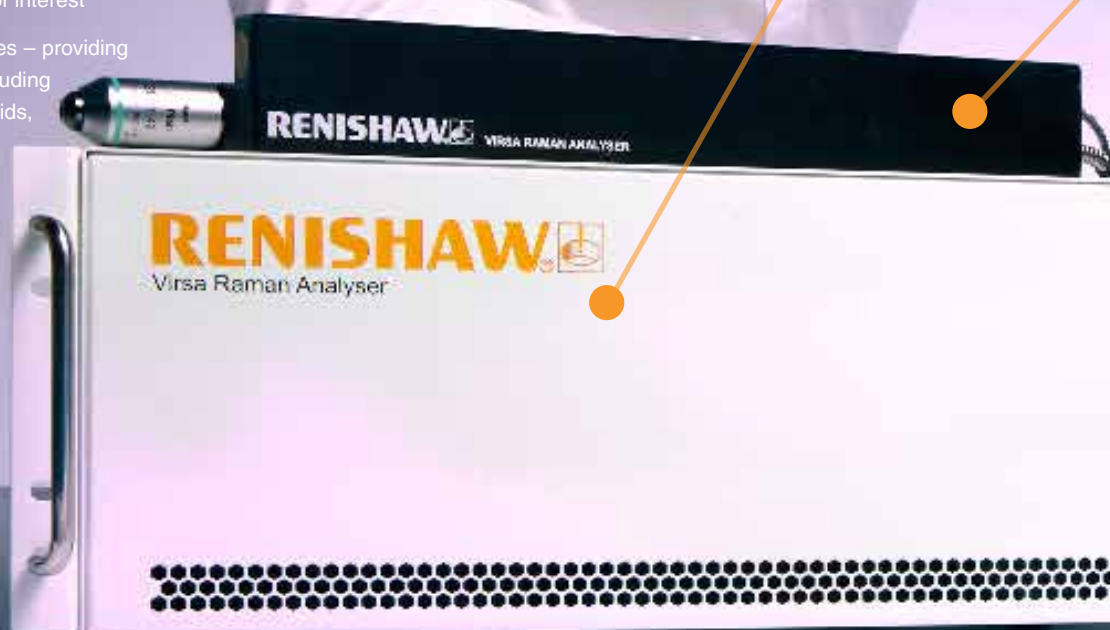
Avoid fluorescence with multiple excitation options. Switch between wavelengths at the click of a button, with no need to reposition your sample.

When details count, the Virsa Raman Analyser delivers. Get rapid, precise microscopic analysis with confocal Raman sampling, achieving better than 1 μm spatial Raman resolution. You can be sure not to miss a thing.

Always come prepared

The Virsa Raman Analyser supports a range of probes so you always have the right tool for the job:

- Bulk analysis probes – rapidly analyse homogeneous samples
- High spatial resolution probes – analyse fine structure in heterogeneous samples
- Use the optional video viewer to easily find and focus on the region of interest
- Selected third-party probes – providing flexibility in sampling, including immersion probes for liquids, high pressure and/or temperature probes



Virsa Raman Analyser

Spectrometer with one or two internal lasers (532 nm and/or 785 nm). Can be mounted in a 19" rack.

One or more Virsa fibre-optic probes

VRP10 for general and bulk sampling.
VRP20C for high-spatial-resolution confocal measurements.

Options:

- Stack two probes and share a common objective lens
- Add a video viewer for accurate focusing and positioning
- Use a multiple lens turret

Other probes are available to meet your requirements, such as an immersion probe for sampling liquids.

Sampling options

SB100 computer controlled, motorised, three-axis probe positioner:

- Enables accurate positioning and sample mapping to micrometer precision
- Probe can be mounted either vertically or horizontally
- Can be combined with the video viewer and VRP20C confocal probe for making high-spatial resolution measurements

Other custom options are available. Please contact us with your specific requirements.



Virsa specifications

Feature	Specification	Feature	Specification
Analyser		Fibre-optic probe (VRP20C - 532 nm)	
Excitation wavelengths	532 nm and / or 785 nm	Spatial resolution, lateral ^[4]	< 1 µm
Laser power (532 nm)	50 mW	Spatial resolution, axial ^[4]	< 2 µm
Laser power (785 nm)	120 mW	Dimensions ^[5]	382 mm × 55 mm × 23.5 mm
Spectral range (Raman)	50 cm ⁻¹ to 4000 cm ⁻¹ (532 nm)	Cable length ^[6]	5 m
Spectral resolution ^[1]	< 2.5 cm ⁻¹	System	
Spectral dispersion ^[2]	< 1.5 cm ⁻¹ / pixel (532 nm) < 1 cm ⁻¹ / pixel (785 nm)	Power needed ^[7]	100 V AC to 200 V AC, 50 Hz to 60 Hz, 160 W
Mass	16 kg	Laser class ^[8]	3B
Data collection speed	> 1500 spectra / s	Operating humidity	0% RH to 70% RH (non-condensing)
Detector pixels	1024 × 256	Operating temperature	15 °C to 25 °C
Detector pixel size	26 µm × 26 µm	Standards	CE marked
Detector operating temperature	-70 °C	Warranty	12 months standard, extended warranty and service packages available
Detector cooling	Thermo-electric	Fibre-optic coupling	FC/PC
Dark noise	0.03 e ⁻ pixel ⁻¹ s ⁻¹	Connection to computer	USB 3
Dimensions ^[3]	543 mm × 436 mm × 178 mm	Computer	
Number of concurrent probes supported	4	Operating system	Microsoft® Windows 10

Notes:

^[1] Measured using neon lines in the Raman spectral range (FWHM)

^[2] Measured at 1500 cm⁻¹

^[3] Excluding 19" rack mount handles

^[4] Using the confocal probe and a 100× microscope objective lens

^[5] Excluding objective lens and its mount

^[6] Other options available. Please contact Renishaw for details

^[7] Battery powered portable options available

^[8] IEC 60825-1:2014