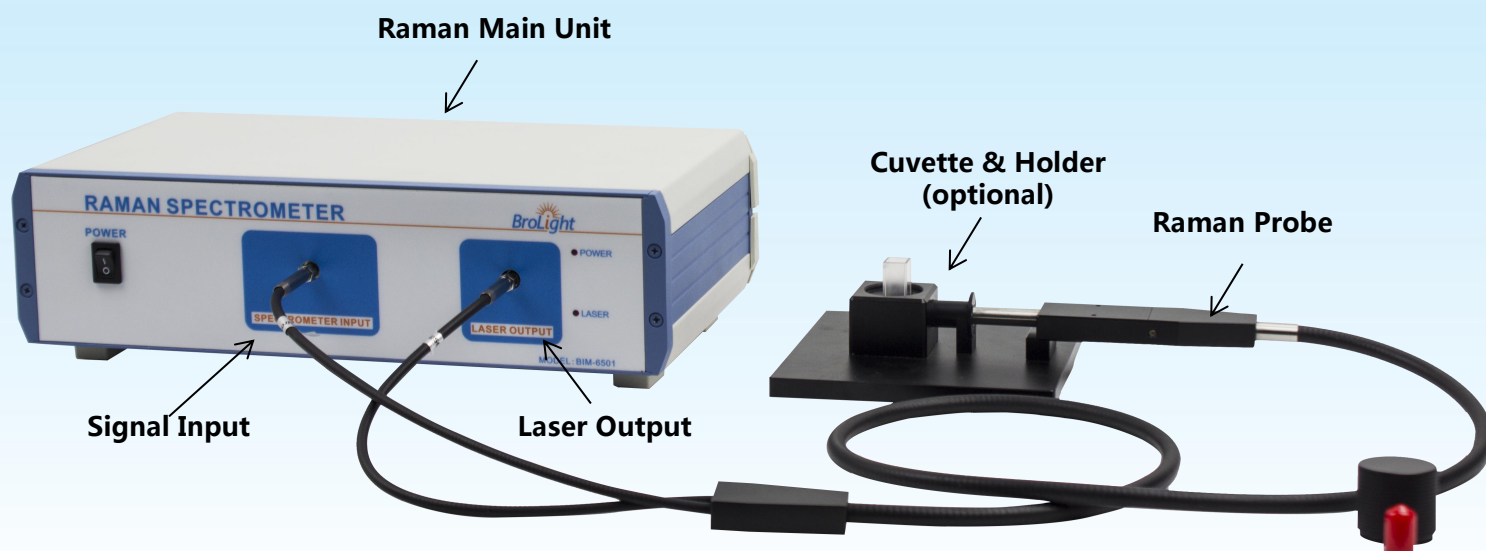


# BRS-532 Portable 532 Raman Spectrometer



## Overview

Raman spectroscopy is the "fingerprint spectrum" of molecular vibration. Different material molecules have different vibration frequencies, so they are often used as an important basis for material identification.

Raman technology has many unique advantages over traditional infrared and chemical methods. First, Raman scattering of water is very weak, so Raman spectroscopy is an ideal tool for studying biological samples and chemical compounds in aqueous solution. Second, Raman's peaks are sharp and clear, and are more suitable for quantitative research, database search, and qualitative analysis using differential analysis. Third, Raman can cover about 4000 wavenumber intervals at the same time, and can analyze organic matter and inorganic matter. If the infrared technology covers the same intervals must change gratings, beam splitters, filters, and detectors. Fourth, samples (solid, liquid, gas) for Raman measurements no need to be pretreated, and with advantages of no contact, lossless, real-time and testing materials through transparent packaging.

The BRS-532 series Raman spectrometers are equipped with a narrow linewidth low power laser with an excitation wavelength of 532 nm. The spectral range is up to  $4000\text{ cm}^{-1}$  and the spectral resolution is up to  $8\text{ cm}^{-1}$ . According to the intensity of the Raman spectrum, different sensitivity specifications can be selected, which are BRS-532-01 universal type and BRS-532-02 high sensitive type. The instrument is stable in performance, easy to carry, and supports OEM customization and secondary development, providing a great convenience for laboratory and on-site Raman detection.

## Features

- Wider range, up to  $4000\text{ cm}^{-1}$
- High resolution, up to less than  $8\text{ cm}^{-1}$
- Laser power is adjustable for different samples
- Portable and ease to use
- Sampling accessories are optional, such as cuvette holder
- Support OEM and customization

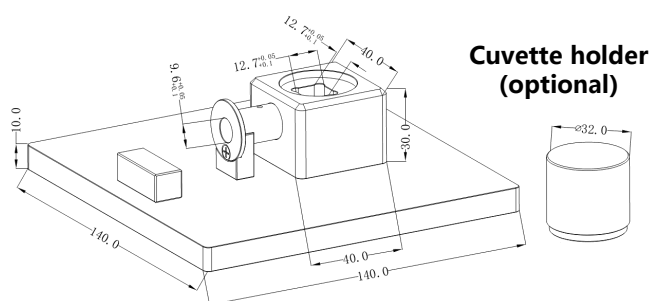
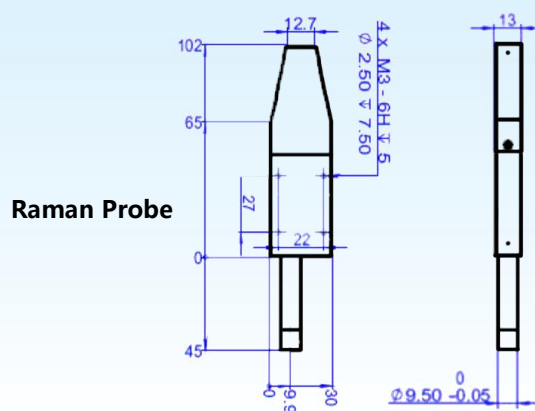
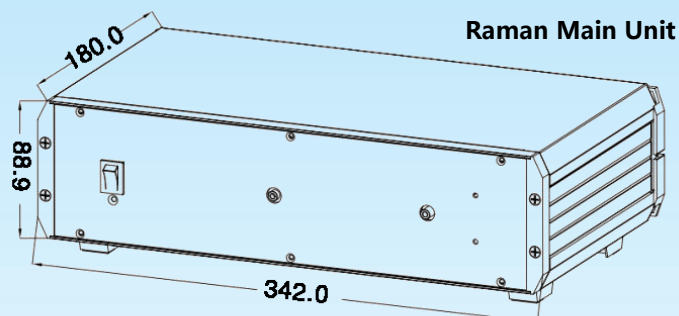
## Applications

- Food safety
- Jewelry appraisal
- Chemicals, explosive materials and drug identification
- Biomedical testing
- Customs verification
- Other applications where Raman is required.

## Specifications

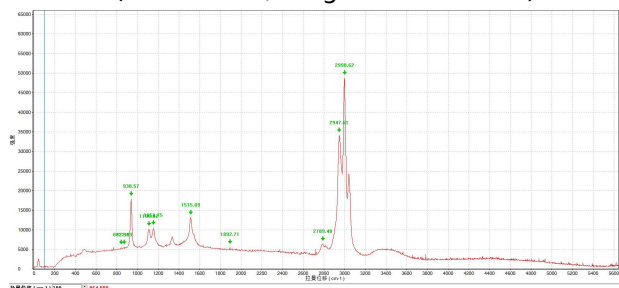
Model	BRS-532-01	BRS-532-02
Range	100cm <sup>-1</sup> -4000cm <sup>-1</sup>	100cm <sup>-1</sup> -4000cm <sup>-1</sup>
Resolution	< 10cm <sup>-1</sup>	< 8cm <sup>-1</sup>
Laser	532nm±0.5nm Line width < 0.1nm	532nm±0.5nm Line width < 0.1nm
Laser Power	0-50mW adjustable	0-50mW adjustable
Laser output port	FC	FC
Probe focal length	7.5mm	7.5mm
Detector	Hamamatsu S11639 2048 Line array CMOS	Hamamatsu S11510 Area array back-thinned CCD
Signal to noise ratio	600:1 full range	800:1 full range
Integration time	0.5ms -10s	1ms-10s
Signal input port	SMA905	SMA905
Power adapter	100-240v AC, 50/60Hz	100-240v AC, 50/60Hz
Size	342×180×89mm	342×180×89mm
Weight	2.45kg	2.65kg
Signal output	USB2.0, 12Mbps	USB2.0, 12Mbps
Operating temperature	0°C -45°C (25°C recommend)	0°C -45°C (25°C recommend)
Humidity	5%-80%	5%-80%

## Dimensions

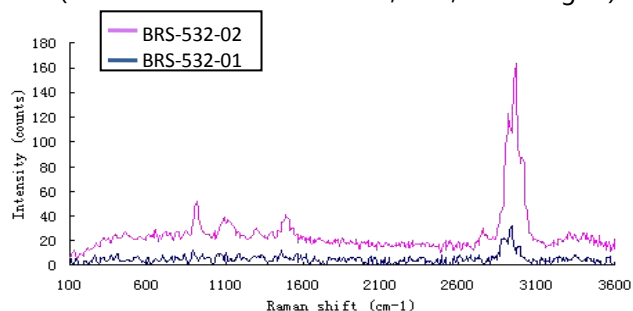


## Testing Data

532nm Raman spectroscopy of Alcohol  
(BRS-532-01, integration time is 2s)



532nm Raman spectroscopy of Alcohol  
(BRS-532-01 VS BRS-532-02, 2ms, 50 averages)



## Order Information

Model	Description
BRS-532-01	Portable universal 532 Raman spectrometer, using line array detector
BRS-532-02	Portable high sensitivity 532 Raman spectrometer, using area array detector
Optional accessories	
BIM-6322	Cuvette holder
BIM-6301-Q10	Cuvette, 10mm

## Packing List

Raman main unit x 1, Raman probe x 1, USB cable x 1,  
Power adapter x 1, CD (software & manual) x 1,  
Calibration report x 1