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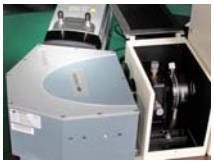
Micro Raman Spectrometer

EGR-100/300



The EGR-100 Micro Raman system offers an excellent cost performance ratio and despite its compact size (only 60cm width x 40 cm depth and only 25kg*), the EGR-100 delivers performance equal to much larger Raman spectrometers.

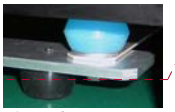
The EGR-100 is fitted with an exceptional anti-vibration mechanism, the detector is a thermoelectric cooled CCD (down to -70 deg C). The advanced compact 532nm green laser is built into the optical bench and a mechanical interlock guarantees user safety**.

*Outline size

**This instrument is in "class 1 laser" category. JIS C 6802: 2005

〔 Features 〕

- Compact, light weight and low price but with exceptional performance
- Anti vibration microscopic system
- Compact spectrograph with advanced thermoelectric cooled CCD detector and high throughput optical system
- Advanced compact green laser (mechanical safety interlock)
- Optional horizontal irradiation of laser light and polarization measurement



Anti-vibration system

〔 Use 〕

- Analysis of micro samples
- Forensic analysis of micro foreign material
- Structural analysis of DLC
- Structural analyses of polymer
- Liquid analysis
- Structural analysis using polarimetry (option)

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コメントの追加 [1]: monochromator
光学系をここでは、spectroscope としておりますが、monochromato や spectrograph など、適切の言葉に置き換えてください。

コメントの追加 [2]: check this translation for technical correctness この翻訳ですが、水平照射に vertial を訳者が使いましたが、horizontal が適切でしょうか?

コメントの追加 [3]: High molecular weight or complex structure, not sure which?
ここでは、訳者より上記にありますように、どちらが適切がわかりませんでしたので、適切な方を選択して下さい。

Photoscience Micro Raman Spectrometer **EGR-100**

[Example of Raman measurement]

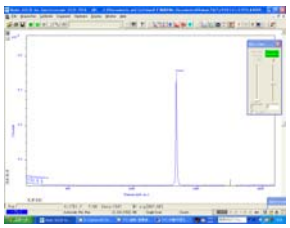
<Measurement conditions> Laser 532nm, output 9mW (sample position) and object lens ×100 (NA/0.8), 100 μm slit width (band width approximately 0.7nm: approximately 24cm-1)

★Artifical diamond crystal

Green spot in the center is the laser light

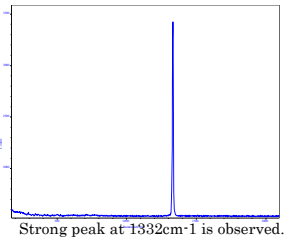
For observation of the entire sample, a low magnification ratio lens ×5 is used.

[Measurement display of Andor CCD]



1 second measurement time

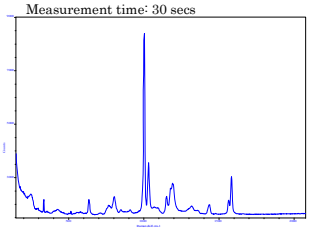
[Raman spectrum of diamond]



Strong peak at 1332cm-1 is observed.

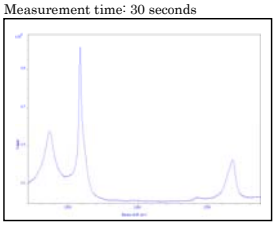
★Polystyrene board

Measurement time: 30 secs

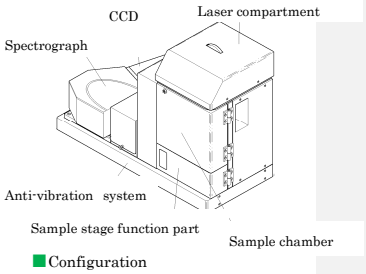


★Carbon ('HB' pencil lead with combination of nano- diamond)

Measurement time: 30 seconds



In addition to the D and G bands, secondary Raman scattering peaks DR2 and G' are also observed on the high wavenumber side.



■Configuration

Specifications	**EGR-100** ※Product specification are subject to change without notice (2010. 4)
Excitation Laser	532nm green laser 55mW type (various laser enabled)
Sample chamber and sample stage	Sample stage: XYZ micro-pitch mechanism by micrometer
Objective lens system	Objective lens: ×100, ×50, ×20, ×5 turret fitted as standard
Sample observation	Sample observation and the laser irradiation position verification by CCD camera
Laser irradiation system	Vertical irradiation (backscatter optical measurement) Horizontal irradiation (90° scattered light measurement: Option)
Spectrograph	ANDOR corporation, Shamrock SR16 (Focal length 163mm and F/3.6) (standard)
Detector	Standard: ANDOR corporation DV401-F1 type CCD (Various CCD options)
PC for control and data processing	Laptop PC; OS: WindowsXP® or Vista® (2 or more USB terminals required)
Software	CCD control software and spectrum data processing software
Instrument dimensions and weight	Approx. 600(W)×400(D)×470(H) excluding projections, Approx. 25kg (Spectroscope approx. 3.5kg and CCD approx. 2.5kg)
Power source and power consumption	AC100V 50/60Hz ; Approx. 270W (max)

Manufacturer

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