

Raman · portable Micro Raman

Raman Spectrometer--GMD

The **GMD** is designed for macro Raman measurement. It is designed with laser direct input light path, and is available with two excitation wavelengths: 532 nm and 785 nm. The **GMD** includes focus optics, laser temperature stabilizer and high performance CCD detector.

The **GMD** is a portable Raman. The compact size is easy for you to take it from the lab to the field. Vertical or horizontal measuring mode can be changed easily, which makes the **GMD** more flexible.

The **GMD** provides various sample holders, which are suitable for different types of sample, such as cuvette, vial, slide, gem, capillary and SERS chip.



Vial / Cuvette holder

Slide holder

Gem or Diamond holder



Portable Micro Raman--GMDX

GMDX is portable micro Raman . All-in-one compact system includes XYZ three-axis sample stage, ,5 M pixel CCD camera, 10X. Customers can change different magnifications of objective by yourself.

The Laser power of **GMDX** output could be directly controlled by software, 100 mW at 1 mW/step for RGB Lasersystems. In addition, laser power could be reduced by a round continuously variable neutral density filter (O.D 2.0~0.04) that is also controlled by software with high precision.

GMDX can choose different laser wavelengths according to different applications. It could be micro Raman or micro PL, for example, 535~1100nm PL or 79 ~3500 cm^{-1} @532 nm laser. The spot of laser on sample should be 0.3 mm.

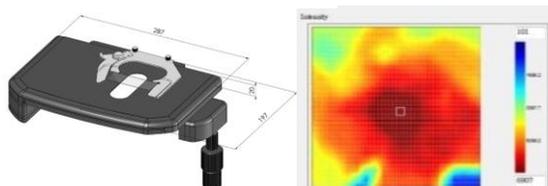
GMDX is extremely versatile for various kinds of samples, such as solid, liquid, powder, thin film, paste, gel, diamond and gem.



Micro Raman Spectrometer--MRI



MRI (Micro Raman Identification) is a compact and modularized micro Raman system whose laser could be easily swapped with other lasers of different wavelengths. Its optical path could also be optimized accordingly by the users without difficulty. This design, granted Taiwan invention patents (I570402, I593953) as well as a US utility patent (US 10,247,674 B2), further enables Raman measurements at flexible angles and in difficult positions.



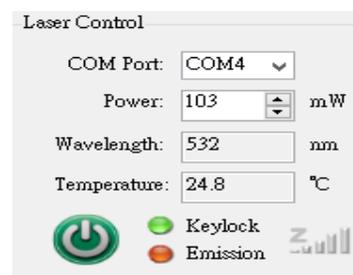
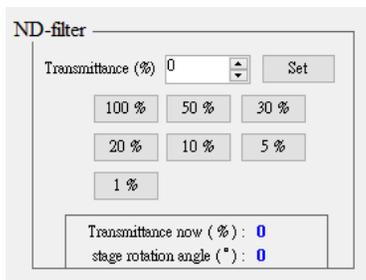
Raman Mapping(Optional)

Advanced Raman mapping feature, with the XY motorized stage

- 75 X 50 mm or 100 X 100 mm
- Resolution 0.01 μm (smallest step size) @XY
- Resolution typical 0,002 μm @Z
- Depend on the weight of sample

Two Ways Controlled the power of Laser (GMDX & MRI)

Laser power output could be directly controlled by software, at 1 mW/step for RGB Lasersystems, one of the major laser brands used in MRID. In addition, laser power could be reduced by a round continuously variable neutral density filter (O.D 2.0~0.04) that is also controlled by software with high precision.



System Specification

Model: GMD · GMDX · MRI

Excitation Source	375 nm (PL)	405 nm (PL)	532 nm			633 nm	785 nm	808 nm
Laser power	50mW	50 Mw	100 mW			40 mW	100 mW	120 mW
PL /nm	395~1100	420~1100	--	--	--	--	--	--
Raman shift/ cm-1	--	--	79~2000	79-3500 186~3500	150~5400	150~3500	150~3600	186~3250
Resolution	~ 1.1nm	~ 1.1 nm	1.3 cm ⁻¹	1.8 cm ⁻¹	4.3 cm ⁻¹	1.7cm ⁻¹	1.7cm ⁻¹	1.7cm ⁻¹

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