Mira M-3 Handheld Raman Spectrometer

On-site verification of materials in seconds

Metrohm

Mira M-3 – compact, fast, and highly accurate

The Mira M-3 is one of the fastest and most compact handheld Raman spectrometers for material verification and identification in the market. Barely larger than a smart phone and with a weight of just 752 grams, the Mira M-3 enables true single-handed operation and provides highly accurate results in seconds.

The Mira M-3 is fully compliant with FDA 21CFR Part 11 regulations making it the ideal instrument for fast and straightforward verification of raw materials in the pharmaceutical market and other regulated industries.

Flexible: Select your customized Operating Procedure (OP)

Operating Procedures

Create your own unique OPs tailored to your needs. Instrument sampling parameters can be adjusted and locked for each material. The OPs also specify whether you would like to perform material verification, library identification, or both.

Highly accurate: Confidence levels to give you peace of mind

The Mira M-3 uses multivariate probabilistic algorithms to verify the identity of raw materials with the highest level of confidence. This approach is much more accurate and reliable than traditional HQI spectral matching techniques.

Evaluation Type

- **Material Verification with Pass/Fail results**
- **Material Identification based on spectral library searching**

Easy: Follow a straightforward, guided work-flow

Use the integrated barcode scanner of your Mira M-3 to record the sample by name and lot ID.

Barcode Scanning

- **Input a barcode that can be used to automatically record the sample name and lot ID**

Acquisition Parameters

- **Laser Power**
- **Integration Time**
- **Spectral Averaging**
- **Smart Tips**

Fast: Get results in just a few seconds

Press the lens of the Mira M-3 against the sample and measure the sample. The Mira M-3 will give you a straightforward Pass/Fail result in seconds!

Smart sampling attachments for a wide range of different sample

User safety guaranteed

Each Mira M-3 sampling attachment has an embedded «Smart Chip» that electronically pairs each attachment with an individual instrument. The smart chips ensure safe measurements and confirm the correct sampling accessory is used for the OP, dramatically reducing sampling errors. Individual attachments can be specified in each OP to ensure the correct attachment is used for each measurement.

Point-and-shoot attachments

The Mira M-3 comes equipped with two different point-of-contact sampling attachments (Laser Class 3b): a short working distance (SWD) and a long working distance (LWD) point-and-shoot attachment. The SWD lens is primarily used for most routine measurements, while the LWD lens can be used for sampling through thicker barriers such as large glass bottles.

types and enhanced user safety

Tablet Holder

The tablet attachment can be used to acquire data from finished tablets. The tablet holder has the flexibility to accommodate tablets of different sizes and shapes. If the Mira M-3 is configured with the tablet holder attachment, it meets the standards of Laser Class 1, meaning straightforward use without further safety precautions such as protection glasses is possible.

Vial Holder

The vial holder attachment permits the user an easy, convenient way to measure liquid samples, or even powdered samples that are stored in vials. As with the tablet holder attachment, the vial holder provides Class 1 Laser Safety.

ASTM certified calibration standards

The ASTM Raman shift standard allows for accurate wavenumber calibration as defined by USP regulations.

True single-handed operation – just 13.0 cm (h) × 8.5 cm (w) × 4.0 cm (d)

Scale 1:1,6

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Mira M-3 – fully compliant with FDA 21CFR Part 11

The Mira M-3 is fully compliant with FDA 21 CFR Part 11 regulations. It has has numerous security features to exceed regulatory requirements.

- Multilevel access control with unique user login credentials.
  - 3 pre-defined access levels: Administrator, Laboratory Manager, Routine User
  - Optional password aging and complexity requirements.
- Audit trails log every action on the instrument, including who the user was, and reports can easily be generated.
- Secure, electronic records are generated for every measurement on the instrument.
- Records are easily synchronized to a secure database on the PC.

ORS Technology – superior reproducibility of measurements of heterogeneous formulations

Conventional Raman spectrometers use a tightly focused laser beam **(Figure I)**, resulting in a high spectral resolution. However, with the small beam diameter of those spectrometers and the small particle size of many APIs, components in heterogeneous samples can be missed completely. Several spectra have to be gathered at different points on the sample for an accurate, reproducible result.

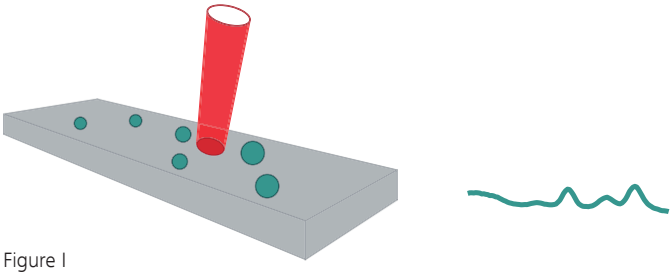

Figure I

The Mira M-3 uses ORS (Orbital Raster Scan) technology **(Figure II)** which scans a larger sample area and is therefore more likely to capture dispersed sample components. Using ORS technology, The Mira M-3 can capture APIs in heterogeneous formulations in a single analysis.

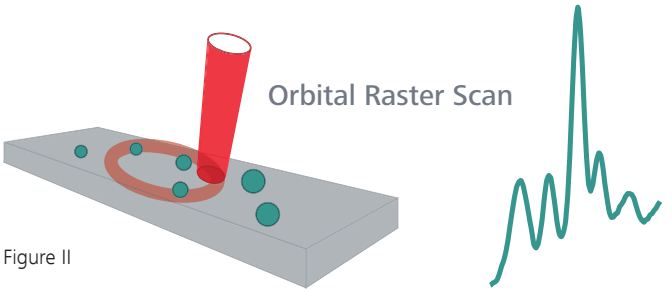

Figure II

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Subject to change
Layout by Ecknauer+Schoch ASW, printed in Switzerland by Metrohm AG, CH-9100 Herisau
8.000.5214EN – 2016-12