

MIRA XTR Technical Specifications

SAFER, SIMPLER, SMALLER RAMAN

MIRA XTR is the best solution for fast and easy, non-destructive, fluorescence-free identification of materials at the point of contact.



Simple Analysis

XTR is designed for non-technical users: interlocking Smart Attachments automatically determine test parameters and a guided workflow reduces testing to a few simple actions. Color-coded results include essential information such as common names and hazard details for every situation.

Application and Capabilities

Reduce lab wait times- for both quality control of materials and presumptive testing of illicit unknowns. Discriminate low quality polymers to prevent contamination of the production process. Determine synthetic routes to illicit products, explosives, and CWAs.

Safe Sampling

Identify materials on a surface, in a bottle, through a container, or even across a room. MIRA XTR featuring Orbital Raster Scan™ technology enables safe analysis of almost anything, even sensitive samples. With the stand-off attachment, MIRA XTR can scan potentially deadly materials from 2 meters away.

Unparalleled Material Detection

Metrohm offers comprehensive, up-to-date, high-resolution spectral libraries for more accurate and precise answers. That white powder... is it fentanyl? is it coffee creamer?... XTR can identify a full spectrum of over 16,200 materials and substances.

In-Field Solution

Our pocket-sized Raman solution can be fitted with a PowerPack for over 8 uninterrupted hours in the field. Integrate MIRA XTR with MIRA Cal Mobile App to take pictures, add notes, and more. Share data from your phone for instant risk management or support.

Fluorescence Rejection

Patent pending eXTRaction technology pulls the Raman data out of fluorescent backgrounds. From polymers and strongly colored materials to heavily cut street samples and plasticized explosives, XTR can provide instant identification.



OPERATING SPECIFICATIONS

Mode of Operation	Handheld Raman Robot-Mounted
Technique	XTR Algorithm Orbital Raster Scan (ORS™) technology
Laser (Excitation) Wavelength	785 nm ± 0.5 nm
Laser Output Power	≤ 100 mW, 50 mW at sample 5 adjustable laser powers down to 10 mW
Wavenumber Range	400 – 2,300 cm ⁻¹
Spectral Resolution	8 to 10 cm ⁻¹ (FWHM) across range
Library	Over 20,000 entries available
Collection Optics	5 mm working distance 0.04 mm spot size 2.5 mm raster size
Exposure	Automatic modes (100 ms minimum)
Operating Temperature	-20 to +50 °C
Storage Temperature	-20 to +70 °C
Laser Class	Class 3B
Dimensions	W 88.2 mm (3.47 in) D 45.3 mm (1.78 in) H 125.5 mm (4.94 in)
Weight	705 g (1.55 lbs)
Display	3.7" TFT LCD color touch screen High visibility Glove compatible HazMaster G3 color-coded results
Connectivity	USB, Bluetooth
Ruggedness	MIL-STD-810G IP67
Battery Power	2 AA Batteries (Lithium ion) ≥ 4 hours Hot Zone swappable PowerPack ≥ 8 hours

ACCESSORIES

Intelligent Universal Attachment (iUA)	Identify unknowns. Each of the three positions indicates the ideal purpose, i.e. surface, bag, or bottle.
Right-Angle Attachment	Lay system down for full contact, handsfree analysis.
Vial Holder	Identify powders or liquids in a vial.
SERS Attachment	Detect trace materials like narcotics in street mixtures or residues on a surface.
Autofocus Standoff Attachment (AFSO)	Measure potentially hazardous materials from up to two meters away.
Contact Ball Probe Attachment	Identify unknowns in hard to reach places by contact or immersion.
Tablet Holder	Securely analyze tablets under ideal conditions.
Raman Libraries	Polymers Fragrances & Flavors Inorganics Organics Dyes, Pigments, & Stains Illicit & General Chemicals Explosives CWA SERS