

100 ID

Handheld Raman Spectrometer



Identify solid or liquid chemical substances in seconds

- The most cost-effective raman solution of its class
- Easy to use and portable for field operations



Environics

WE SENSE & DETECT FOR A SAFER WORLD

100 ID

Handheld Raman Spectrometer



The 100 ID perfectly represents how a complex technology can be made easy to use. As a handheld Raman spectrometer, 100 ID is made for identifying a broad range of chemical compounds such as: explosives, narcotics, hazardous substances, chemical warfare agents (CWA) and pharmaceuticals.

Authorities deal all the time with different and emerging chemical threat scenarios, whether they are accidental or intentional. Hazmat and First Response teams must be equipped with state-of-the-art analytical tools, enabling for constant update and customization. Terrorist and criminal minds might be creative, but authorities should be exquisitely accurate.

KEY FEATURES

- Identification of solid or liquid chemical compounds
- All-in-one solution
- No consumables or factory calibration
- No maintenance costs
- Software updates included
- Updatable and customizable libraries
- Easy to operate and decontaminate

APPLICATIONS

- Law enforcement authorities
- Environmental protection agencies
- CBRNe & Hazmat teams
- Border protection
- First response missions
- Prison smuggling control
- Pharmaceutical industry
- Illegal laboratory substance identification

Low Weight, Safe & Easy to Use

The 100 ID is an easy-to-use, handheld, Raman spectrometer that enables on-the-spot chemical identification on any solid or liquid chemical substance in seconds. As a rugged instrument, its sensitivity is not affected by water or dirt, which makes it reliable even in extreme difficult environments.

The 100 ID's user interface is designed to be used while wearing protective gear, and its straight forward colors and symbols complement the whole ease of use feeling.

Raman Technology

In Raman spectroscopy, sample molecules start to vibrate due to laser illumination. The vibration generates a specific light pattern (spectrum) that can be seen as the chemical fingerprint of the sample. The 100 ID analyses it and compares it to the embedded database/libraries. When a match is found, it is displayed with a confidence level indication.

This technology is suitable for measuring inorganic and organic compounds in liquid or solid form.

Management & Reporting Software

The 100 ID features ChemDash, a management and reporting software. ChemDash allows for management, expansion and custom naming of substance libraries, as well as creation of reports and exportation of measurement for further analysis. Differentiated user accounts can be attributed distinct user privileges to secure chain-of-evidence. Connection can be established either on a PC or In the cloud.

Customizable Libraries

The 100 ID can use validated, data-enriched and complete libraries, such as:

- **Explosives:** Includes military and civilian explosives, IEDs, precursors and oxidants.
- **Narcotics:** Narcotic and psychotropic substances from the UN Yellow and Green lists, including precursors.
- **Hazardous Chemicals:** More than 2 000 substances with GHS symbols, CAS numbers and additional information.
- **Chemical Warfare Agents:** Identification of blister, blood, nerve and choking agents, and their precursors.
- **Pharmaceuticals:** Tailormade library developed for and together with pharmaceutical companies.

In the Field Usage

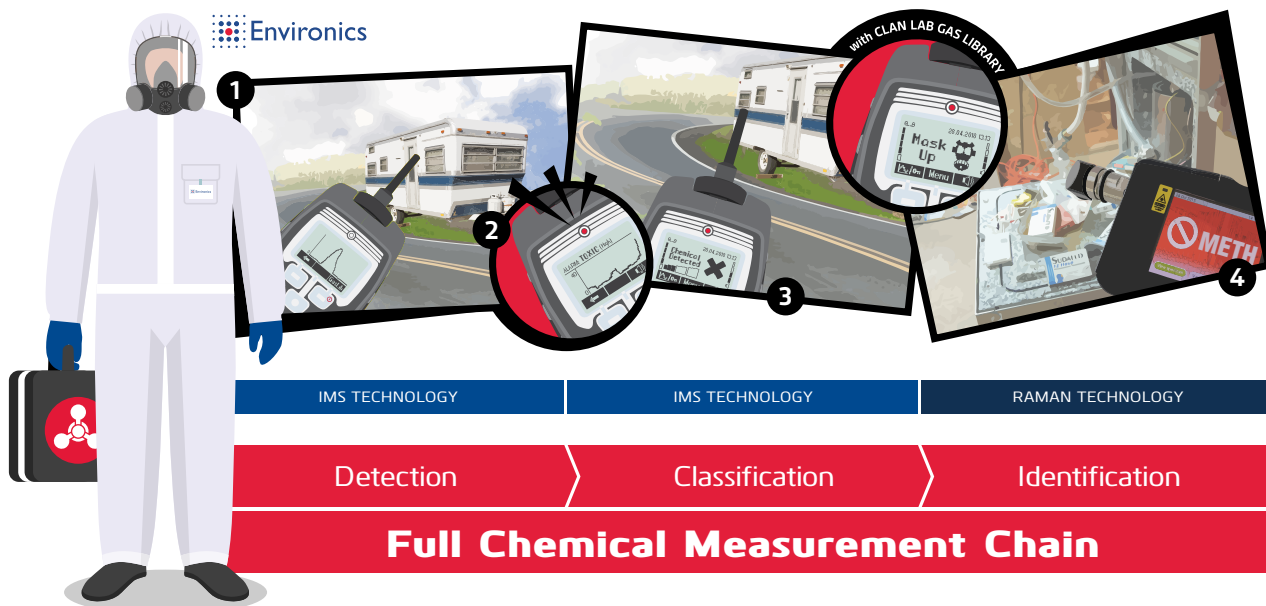
Combining Raman Spectroscopy with IMS (ChemPro100i) immediately delivers the advantage of covering the full chemical measurement chain, for liquid, solid and vapor compounds. 100 ID, based on Raman technology, and suitable for solids and liquids is complemented by ChemPro100i's IMS technology, suitable for gas detection. The data gathered by these two devices helps the responder to reach an educated and accurate conclusion regarding sample content.

In addition, it's also possible to use the Heroin ID Kit tailored for quick identification of heroin, which enhances the capability of 100 ID, as it amplifies the signal of trace materials while reducing fluorescence. The Heroin ID Kit allows for detection of heroin from crude "street quality" samples.

CASE STUDY

Mobile Meth Lab

Envionics



Technical Data

Size	15.8 x 10.1 x 2.9 cm (6.2 x 4.0 x 1.1")
Weight	650 g (1.4 lb)
Available Libraries	Explosives, Narcotics, Hazardous Chemicals, Chemical Warfare Agents, Pharmaceuticals
Laser Excitation Wavelength	785nm
Battery Lifetime	Rechargeable battery, more than 8 hours of typical use Can be extended with standard mobile power banks
Laser Output Power	3 levels available, max 300mW
Max Spectral Range	400 cm ⁻¹ to 2 300 cm ⁻¹
Spectral Resolution	10 cm ⁻¹
Detector Type	Linear CCD Array
Display	3.5" transmissive color TFT with LED backlighting
Temperature (Operating)	-20 °C to +50 °C (-4 °F to 122 °F)
Temperature (Storage)	-30°C to +50 °C (-22 °F to 122 °F)
Memory	100 000 measurements (16 GB)
Data Formats	Text; .txt, .csv, .jcamp
Connectivity	USB 2.0
Start-up Time	Less than 30 sec.
Exposure	Auto-exposure or manual exposure, 0.001 – 60 seconds
MTBF	50 000 h
Relative Humidity	5-90%
Approvals	CE, IEC 60529 IP67, MIL-STD-810G 514.6 (vibration), MIL-STD-810G 516.6 (functional shock)
Software Included	ChemDash

Warranty	Standard 5-year factory warranty
Type of Substances	Solid, liquids, powders and tablets
Analysis of Mixtures	Yes
Delay Function	Yes, 1 second to 15 minutes
Additional Features	User authorisation, Event logging, Scan Time Delay, User-defined libraries, User-added substances
Included Accessories	Instrument, watertight case, shoulder strap, USB cable, laser aperture cap with polystyrene target, sample vials, point-and-shoot adapter, vial holder, 90° angle adapter, attachment point, connection kit with Ethernet and WiFi, AC Adapter 5 VDC/1 A USB for Charging

Optional Accessories

Heroin ID Kit

Size	39 x 44 mm (1.53 x 1.73 ")
Weight	67g (2.36 oz.) 905g (32 oz.) including case and accessories
Included in the package	Adaptor, 5 x sample preparation bottles containing solvent fluid, 5 disposable SERS plates, Allen key for battery exchange, spare LS 14250 battery, quick-start guide
Solvent	Methanol, 3ml / 0.1 fl. oz. (CAS 67-56-1)
Battery type	Primary lithium battery, LS 14250, 3.6 V Primary lithium-thionyl chloride (LiSOCI ₂), High energy density, 1/2 AA-size bobbin ce II
Battery use	Approximately 300 measurements



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