

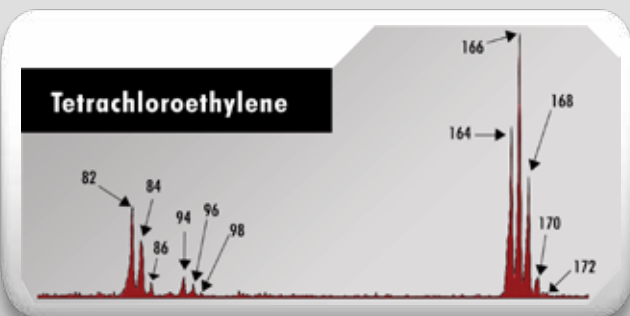
MINIATURE CHEMICAL DETECTOR

1st Detect's Miniature Chemical Detector is an ion trap mass spectrometer for field portable and handheld applications. By leveraging advances in low power electronics and miniaturization technologies developed under the space program, 1st Detect is able to offer a fully functional Miniature Chemical Detector that is significantly smaller and lighter than those currently available. The 1st Detect Miniature Chemical Detector offers the capabilities and performance of a large laboratory mass spectrometer, including a wide mass range, low detection limit, MSⁿ capability and membrane inlet in a low power portable instrument.



SPECIFICATIONS

- **WEIGHT:** <15 lbs (~6.8 kg)
- **MASS RANGE:** 10 – 450 amu
- **CHEMICALS DETECTED:**
 - CWAs: GA, GB, VX, mustards, cyanides
 - Explosives: TATP, PETN, TNT, DNT, RDX
 - TICs per NIJ Guide 100-00 and per ITF-40
 - Contraband: THC, cocaine, amphetamines
- **RESOLUTION:** <1 amu
- **ANALYSIS TIME:** <2 seconds
- **POWER SUPPLY:** 120/240VAC, 24VDC or supplied batteries
- **LOW FALSE ALARM RATE:** True Mass Spec (not IMS) with MSⁿ Capability
- **DEVELOPMENTAL TESTING AND EVALUATION (DT&E) DESIGNATION** from the U.S. Department of Homeland Security



ADVANTAGES

- Higher performance alternative to traditional handheld instruments
- Detect threats at remote and in-field locations
- Small footprint instrument for analysis and detection applications where space is at a premium
- Optional pre-concentrator increases gain by 10³ – 10⁵ for applications where low detection limits are required
- Optional thermal desorber available for particulate and semi-volatile sampling
- Optional liquid sampling inlet available



APPLICATIONS

■ LAW ENFORCEMENT

- Threat detection
- Field analysis of narcotics & suspicious substances

■ SECURITY AND DEFENSE

- Portable CWA/TIC detector
- Detection of IEDs/VBIEDs
- Portal explosive/chemical detector
- Remote/perimeter monitor
- Container and port security

■ FIRST RESPONSE/CRITICAL INFRASTRUCTURE

- Portable Haz-Mat detector
- Contraband/explosive detector
- Public water supply monitoring

■ ENVIRONMENTAL

- Toxic spill & Dump monitoring
- Air quality measurement
- Disaster & Clean-up
- Mitigation & Assurance

FEATURES

1st Detect is able to provide a wide variety of custom products to suit your unique application. Our offerings include, but are not limited to:

- **CUSTOM DETECTION RANGES** - The instrument can be tuned to provide broadband analysis over a wide range or can be optimized for a specific detection range. Applications include peptide analysis and POC Diagnostics.
- **CUSTOM SAMPLE COLLECTION** - 1st Detect's Miniature Chemical Detector can be coupled to a wide variety of sample collection or pre-concentration / separation systems to suit the needs of a particular application.
- **PUMP-LESS SYSTEMS** - For applications that do not require external pumping (e.g., semiconductor process control), we can provide the advanced chemical detection capabilities without the integrated vacuum pumping system.
- **BATTERY OPERATION** - For field portable systems, 1st Detect can offer an integrated rechargeable power source using standard UBI-2590 batteries or standard 12/24 VDC vehicle power.
- **OEM COMPONENT** - For applications where customer packaging is desirable, 1st Detect can provide the core functionality without packaging for integration into customer specific packaging. Applications include customer specified hyphenated systems (e.g., IMS-MS, GC-MS) where a development partner supplies the front-end hardware.

1st Detect is open to a wide variety of business and development relationships to fit your needs including OEM supply agreements, joint-venture partnerships, exclusivity agreements and re-branding supply agreements. For more information on investment, development and supply opportunities please contact:

DR. JAMES WYLDE - *Business Development*
jwylde@1stdetect.com - 972.617.9939

