

Morpho Detection, Inc. - Hardened MobileTrace



GENERAL DESCRIPTION:

Trace contraband detection system designed for the challenging environments in which you work. It has been tested to military and government standards and has expanded capabilities for detecting chemical warfare agents (CWAs) and toxic industrial chemicals (TICs).



- Detects CWAs, TICs, explosives, precursors, narcotics and taggants.
- Designed for challenging environments: extreme temperature, dust, moisture, salt fog, and rain. Drop- and vibration-tested.
- Physical shock- and vibration-resistant
- Temperatures range: -20 °C to 55 °C (-4 °F to 131 °F). Humidity range: 0-95% rH noncondensing
- CWAs library: blood, blister, nerve
- TICs library: including chlorides, cyanides, acids and ammonias
- Lightweight. Two batteries for up to six hours of operation. Internal back up batteries for “hot swap” ability.
- False alarm rates <2%
- Results verified at third-party laboratories
- Daylight readable touch screen (800 NIT)
- Simple user interface and intuitive menus
- Phone, e-mail, and field service engineer technical support and troubleshooting 24/7
- Ergonomically designed

TECHNICAL DESCRIPTION:

Ion Trap Mobility Spectrometry (ITMS™): ionizes and identifies contraband particles/vapors based their unique times-of-flight in an electric field. ITMS™ enables extremely low concentrations of electrophilic vapors to be trapped/detected. Simultaneous dual-mode detection allows analysis of both positive/negative ions in a single sample allowing detection/identification of a greater range of explosive types. A semi-permeable membrane excludes dust and dirt increasing sensitivity facilitating operation in environments with high traffic, humidity or contamination.

CONTACT INFORMATION

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 800-433-5346
www.morpho.com/detection

COST

- \$39,500/system
- \$0.21/analysis

Tier Selection

Final tier assignment is based on overall product score.

- Top Tier
- ◐ Second Tier
- Third Tier
- ◑ Fourth Tier
- Bottom Tier

RANKINGS

| | Biological | Chemical | Radiological |
|------------------------------|------------|----------|--------------|
| FIELD USE System | N/A | ◐ | N/A |
| MOBILE Laboratory | N/A | ◐ | N/A |
| DIAGNOSTIC Laboratory | N/A | ○ | N/A |
| ANALYTICAL Laboratory | N/A | ◐ | N/A |

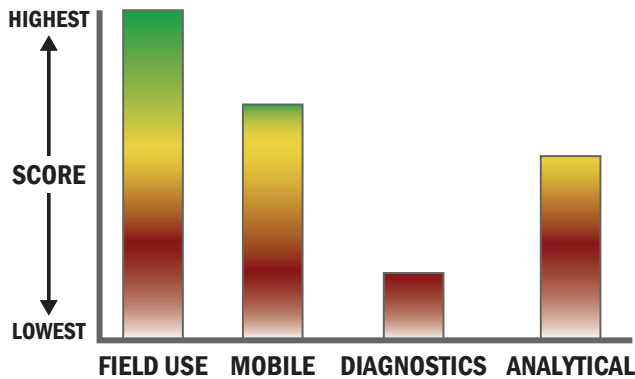
Survey Source

Vendor Supplied Information



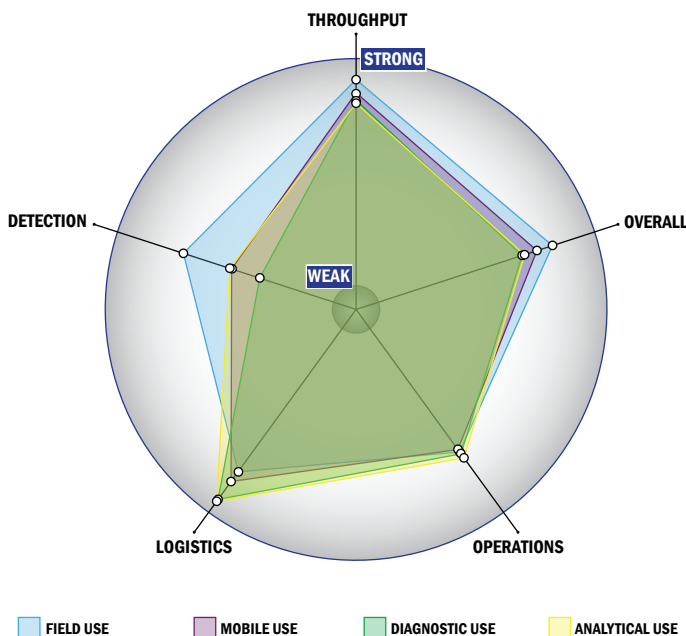
Scoring Analysis

System scores are compared across the four scenarios and ranked from highest to lowest.



Impact Chart

The Impact Chart is a spider graph representing specific categories and designed to give the reader a visual depiction of how a particular system is expected to operate across the four different scenarios. The score for each of the seven categories is presented as the percentage of the total possible score. Higher category scores extend the spokes of a graphic toward the outer edge of the chart. The area graphed for each of the four scenarios relates to how well the system performed in that scenario. Graphics for each of the four scenarios are super-imposed for ease of comparison.



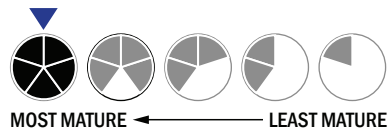
Evaluation Criteria

Throughput:

- 2 minutes or less for detection
- Continuous operation with no defined runs
- 349-96 samples every 2 hours
- The system or device is currently fully automated
- Device or system is intended for multiple detection assays
- 0-1 solutions, buffer, eluents, and/or reagents
- 0 components
- Less than 5 minutes is required for set-up
- 1-2 steps are required for detection

Logistics:

- Very brief (minutes-hours) training and minimal technical skills
- Approximately the size of a toaster
- Between 5 and 25 kg
- Wired connections are available
- System or device uses batteries
- 4-8 hours battery life



Operations:

- Can be used from -21 °C to 41 °C
- Performance is not influenced by relative humidity
- 5-10 years expected life
- Results can be viewed in real-time
- The system could be adapted to a fully autonomous system with some effort
- The system software is closed and not available for modification
- The system hardware is closed and not available for modification

Detection:

- This system does not test liquids
- Excellent specificity. System has occasional false alarms under certain conditions (<2%)
- < 1x10⁻⁶ mg/m³
- System currently can identify aerosolized chemical agent
- Possible system could identify liquid chemical agent