

Morpho Detection, LLC - Itemiser DX Desktop Explosives and Narcotics Detection System



GENERAL DESCRIPTION:

The Itemiser DX is a desktop system that detects and identifies microscopic trace particles of explosives or narcotics on persons, places or things. The Itemiser DX is used worldwide by government and commercial entities at personnel, vehicular and cargo checkpoints.



TECHNICAL DESCRIPTION:

Ion Trap Mobility Spectrometry (ITMS). Enhancements to ion mobility spectrometry (IMS) analysis through ITMS technology allow for vast improvements to ionization efficiency, and therefore sensitivity of the detector. ITMS enables extremely low concentrations of electrophilic vapors, such as explosive vapors, to be detected - impossible with traditional IMS.

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	● Bottom Tier	N/A
MOBILE Laboratory	N/A	● Bottom Tier	N/A
DIAGNOSTIC Laboratory	N/A	● Bottom Tier	N/A
ANALYTICAL Laboratory	N/A	● Bottom Tier	N/A

CONTACT INFORMATION

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COST

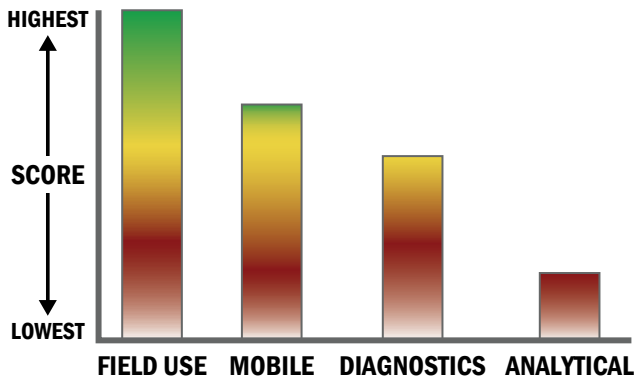
- \$48,000/system
- \$0.13/analysis

Survey Source

Vendor Supplied Information

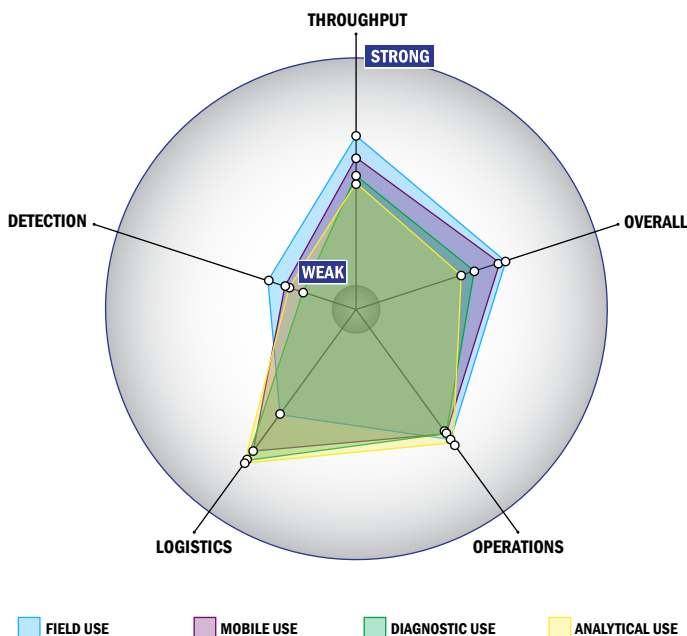
Scoring Analysis

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.



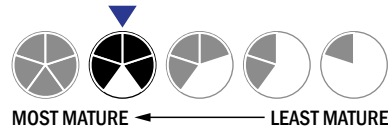
Evaluation Criteria

Throughput:

- 2 minutes or less for detection
- 1 sample, single test/sample per run
- 95-32 samples every 2 hours
- The system or device is currently semi-automated
- Device or system is intended for multiple detection assays
- 0-1 solutions, buffer, eluents, and/or reagents
- 1 component
- Greater than 20 minutes is required for set-up
- 1-2 steps are required for detection

Logistics:

- An afternoon of training and some technical skills required
- Approximately the size of a carry-on luggage suitcase
- Between 25 and 50 kg
- Wired connections are available
- System or device has 110V electrical requirement
- The device is not intended for portable use



Operations:

- Can be used from 4 °C to 37 °C
- Components must be stored at room temperature (27 °C)
- Device or system has peak performance at normal relative humidity conditions
- 5-10 years expected life
- The system is not capable of autonomy
- 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%)