Inficon - HAPSITE ER Chemical Identification System

GENERAL DESCRIPTION:

The HAPSITE ER was designed for portable use with positive identification of VOC's, SVOC's, including TIC's, TIM's, and CWA at very low concentrations in minutes. Uses include emergency response, environmental characterization, monitoring and cleanup, industrial hygiene, vapor intrusion, and other applications requiring low concentrations identification and detection of VOC's and SVOC's.

TECHNICAL DESCRIPTION:

The HAPSITE ER uses Gas Chromatography and quadrupole Mass Spectrometer (GC/MS) technology to provide qualitative and quantitative laboratory quality results in the field in less than 10 minutes. The system is capable of testing liquid, solid, or gas phase samples using a variety of accessories: hand held Sample Probe, Headspace Sampling System, Thermal Desorption Sampling System, Solid Phase Micro Extraction, or SituProbe (for analysis of drinking water).

CONTACT INFORMATION

Inficon
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COST

- $123,485/system
- $2.83/analysis

Tier Selection

Final tier assignment is based on overall product score.

- ● Top Tier
- ◐ Second Tier
- ○ Third Tier
- ◐ Fourth Tier
- ● Bottom Tier

RANKINGS

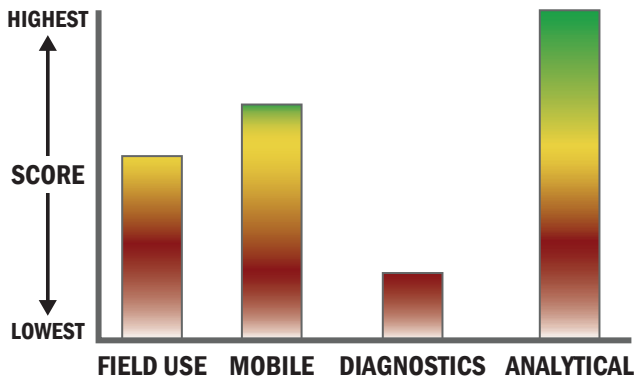|	Biological	Chemical	Radiological
FIELD USE System	N/A	◐	N/A
MOBILE Laboratory	N/A	●	N/A
DIAGNOSTIC Laboratory	N/A	●	N/A
ANALYTICAL Laboratory	N/A	●	N/A

Notes

In wide use with U.S. first responders.

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.
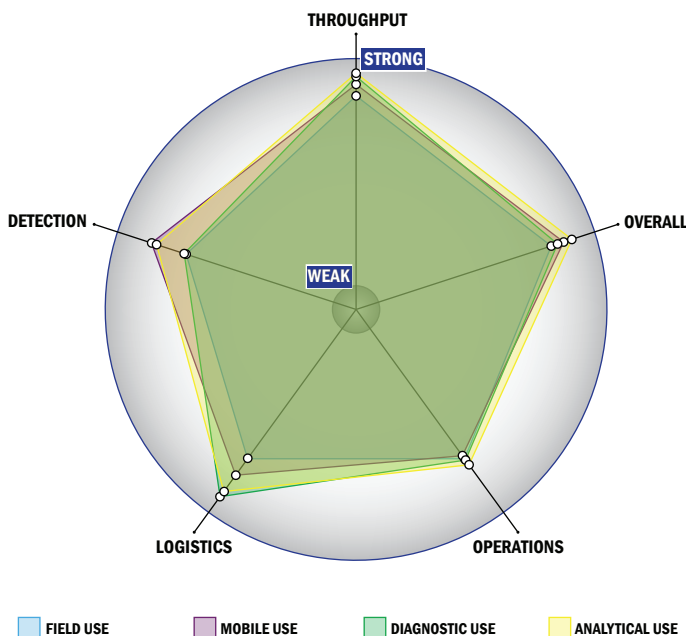

Evaluation Criteria

Throughput:
- Detection is instantaneous
- Continuous operation with no defined runs
- System is continuous and provides real time analysis with no defined tests/samples
- 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
- 2 components
- 5-10 minutes is required for set-up
- Automatic detection

Logistics:
- An afternoon of training and some technical skills required
- Approximately the size of a carry-on luggage suitcase
- Between 5 and 25 kg
- Wireless and wired connections are available
- System or device uses batteries
- 2-4 hours battery life

MOST MATURE ◄─── LEAST MATURE
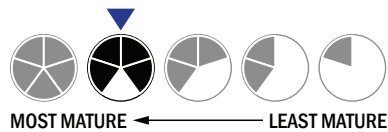
Operations:
- Can be used from 4°C to 41°C
- Components must be stored at room temperature (27°C)
- Performance is not influenced by relative humidity
- Between 1 to 3 years shelf life
- 5-10 years expected life
- Results can be viewed in real-time
- The system is not capable of autonomy
- The system software is closed and not available for modification
- The system hardware is closed and not available for modification

Detection:
- Less than 10 µL
- Superior specificity. System has a false alarm rate approaching zero (~0%)
- $1x10^{-4} - 1x10^{-3}$ mg/m^3
- <1 ppb
- System currently can identify aerosolized chemical agent
- System currently can identify liquid chemical agent

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