

# AMETEK, Inc. - MICRO-DETECTIVE-HX



**GENERAL DESCRIPTION:**  
 Lightweight, HPGe-based (High Purity Germanium) Portable Hand-Held Radioisotope Identifier. High resolution gamma spectroscopy and neutron detection.

**TECHNICAL DESCRIPTION:**  
 High-resolution, high-purity germanium (HPGe) detector. Mechanically cooled by miniature Stirling-cycle cooler. Internal GM tube provides gamma dose rate. Battery operated.

**CONTACT INFORMATION**  
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**COST**

- \$105,000/system
- N/A/analysis

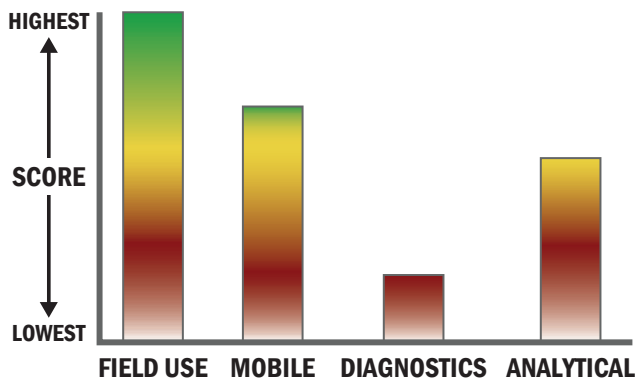
Tier Selection			
Final tier assignment is based on overall product score.			
● Top Tier   ● Second Tier   ○ Third Tier ◐ Fourth Tier   ● Bottom Tier			
RANKINGS			
	Biological	Chemical	Radiological
<b>FIELD USE System</b>	○ N/A	○ N/A	●
<b>MOBILE Laboratory</b>	○ N/A	○ N/A	●
<b>DIAGNOSTIC Laboratory</b>	○ N/A	○ N/A	●
<b>ANALYTICAL Laboratory</b>	○ N/A	○ N/A	●

**Survey Source**  
 Vendor Supplied Information



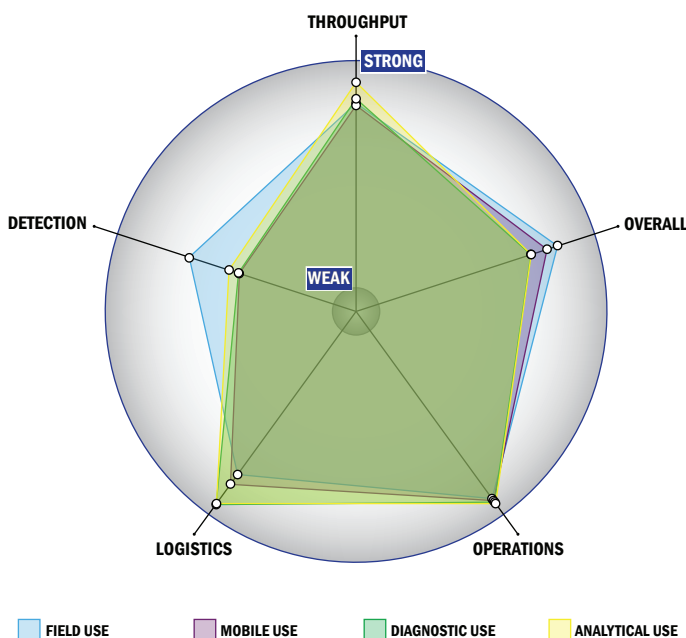
## Scoring Analysis

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.



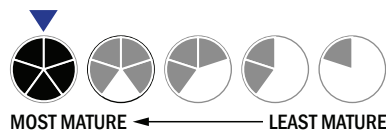
## Evaluation Criteria

### Throughput:

- 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
- 0 components
- Greater than 20 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
- Wireless and wired connections are available
- System or device uses batteries
- 2-4 hours battery life



### Operations:

- Can be used from 4 °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 or device is currently fully autonomous
- The system software is closed and not available for modification
- The system hardware is closed and not available for modification

### Detection:

- Superior specificity. System has a false alarm rate approaching zero (~0%)
- Total dose, dose rate and count rate with simultaneous display readout
- Down to background level radiation for dose rate
- Down to background level radiation for count rate
- System is used for surveying