

Smiths Detection - Lightweight Chemical Detector (LCD) 3.3



GENERAL DESCRIPTION:

Based on leading IMS technology, the LCD 3.3 is a light and versatile chemical warfare agent (CWA) and toxic industrial chemical (TIC) detector. LCD 3.3 is an advanced warning device, that alarms to gas and vapour threats detected and identified at or below immediately dangerous to life and health (IDLH) levels, by determining the agent or type, class, concentration and dosage of chemical exposure. It can also be used as a screening and survey device.



TECHNICAL DESCRIPTION:

LCD 3.3 employs ion mobility spectrometry technology.

CONTACT INFORMATION

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COST

N/A

Tier Selection

Final tier assignment is based on overall product score.

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

RANKINGS

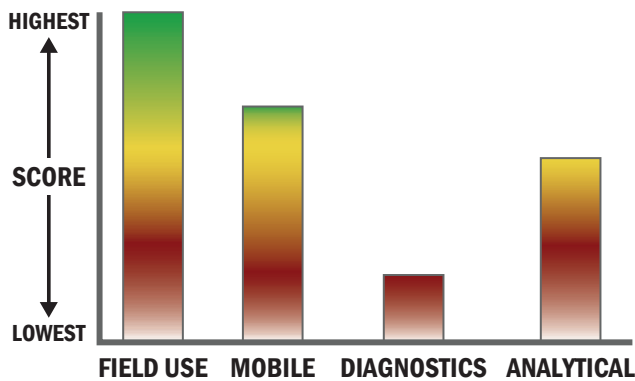
| | Biological | Chemical | Radiological |
|------------------------------|------------|--------------------------------------|--------------|
| FIELD USE System | N/A | ● | N/A |
| MOBILE Laboratory | N/A | ● | N/A |
| DIAGNOSTIC Laboratory | N/A | ● | N/A |
| ANALYTICAL Laboratory | N/A | ● | N/A |

Survey Source

Vendor Supplied Information

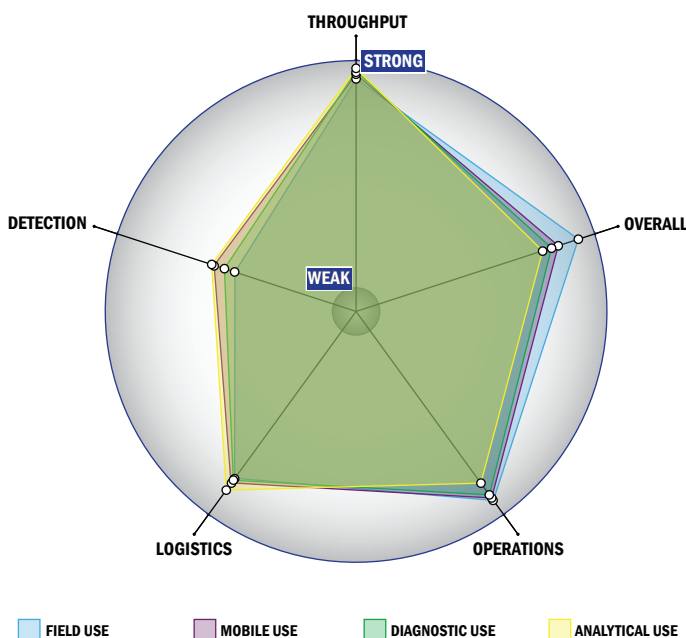
Scoring Analysis

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.



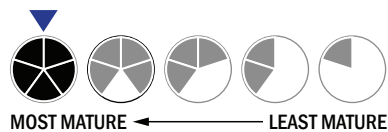
Evaluation Criteria

Throughput:

- 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
- Less than 5 minutes is required for set-up
- Automatic detection

Logistics:

- Very brief (minutes-hours) training and minimal technical skills
- Approximately the size of a soda can
- Less than 1 kg
- Wired connections are available
- System or device uses batteries
- 4-8 hours battery life



Operations:

- Can be used from -21°C to 42°C (All temperatures)
- Performance is not influenced by relative humidity
- Greater than 3 years shelf life
- Greater than 10 years expected life
- Results cannot 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:

- Possible the system could receive 510K clearance, no current efforts at this time
- Possible the system could receive FDA approval, no current efforts at this time
- Less than 10 μL
- Excellent specificity. System has occasional false alarms under certain conditions ($<2\%$)
- $> 1 \times 10^{-3} \text{ mg/m}^3$
- 1 ppb-1 ppm
- System currently can identify aerosolized chemical agent
- Possible the system could identify liquid chemical agent

