

Bruker Detection Corporation - RAID-AFM Autonomous Facility Chemical Monitor



GENERAL DESCRIPTION:

Bruker's RAID-AFM is an autonomous facility monitor for dangerous chemical vapors. It continuously operates 24/7/365 with a combined chemical library of chemical warfare agents and toxic industrial chemicals. Its long lasting consumables are rated at no less than 15,000 operating hours. The RAID-AFM chemical detector and identifier is designed to be installed in critical facilities such as subways, government buildings, and other large venues on a permanent basis. It can be networked, has an optional air sampling unit for extended sampling lines, and webserver software for easy installation and operation.



TECHNICAL DESCRIPTION:

Bruker's RAID-AFM is an ion mobility spectrometer using spectral matching software to locate, classify, and identify chemical warfare agents and toxic industrial chemical vapors simultaneously. It has the capability of loading interferent rejection for common cleaners or solvents unique to the detector's location to reduce false alarms. The membrane inlet and special filters protect the system from environmental effects and lend stability to the analytical process.

CONTACT INFORMATION

Bruker Detection Corporation
40 Manning Rd
Billerica, MA 01821
POC: Frank Thibodeau
978-663-3660 x1308
fnt@bdal.com
www.bruker.com/detection

COST

- \$27,500/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
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

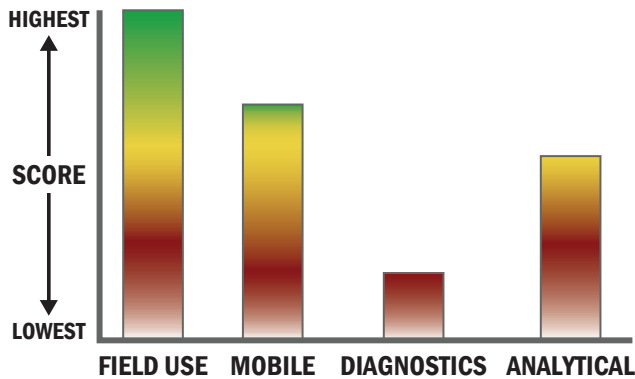
Survey Source

Vendor Supplied Information



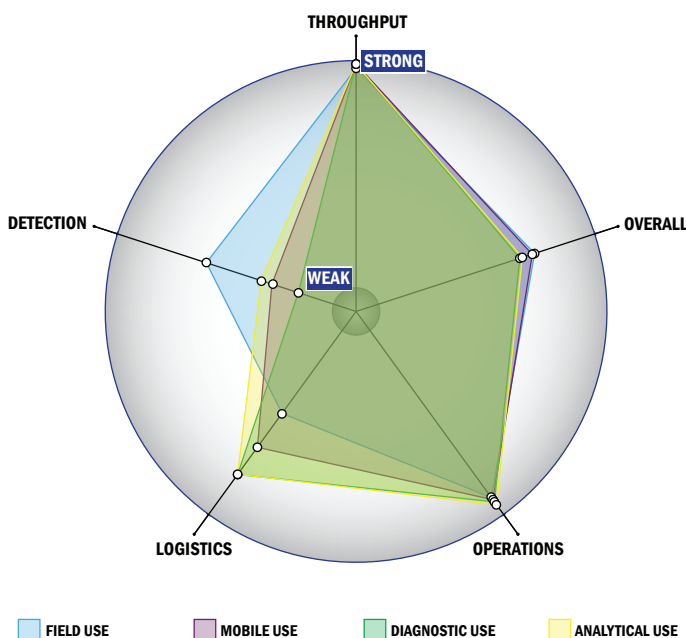
Scoring Analysis

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.



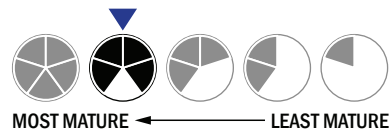
Evaluation Criteria

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
- 0 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 carry-on luggage suitcase
- Between 5 and 25 kg
- Wired connections are available
- System or device has 110V electrical requirement



Operations:

- Can be used from 4 °C to 41 °C
- Performance is not influenced by relative humidity
- Greater than 3 years shelf life
- Greater than 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:

- This system does not test liquids
- Excellent specificity. System has occasional false alarms under certain conditions (<2%)
- $<1 \times 10^{-6}$ mg/m³
- System currently can identify aerosolized chemical agent