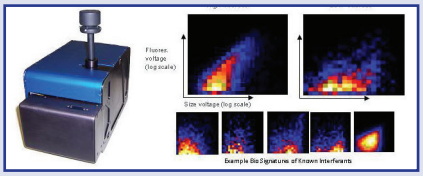
Airogistic, LLC - BioTM-FD

GENERAL DESCRIPTION:



The BIOTM-FD is a laser induced florescence (LIF) detector that continuously analyzes air samples for airborne pathogens. The device is capable of alerting or triggering real-time air sample collection if a known and dangerous pathogen is present. This product is designed to be power efficient and operate as a standalone unit with minimal training or interaction. The detector employs a unique technology for determining the threat level based on characterized signatures of florescence vs. size and the statistical distributions for common pathogens. The system is flexible in that it can be trained to adapt to background particulates, look for new pathogens, and ignore known interferents.

TECHNICAL DESCRIPTION:

The BioTM-FD LIF detector employs a unique design using an air inlet with and integrated aerosol concentrator for enriching the particle stream before interrogating the sampled air. The principle of detection is based on its use of Mie scattering, concurrently examining each particle for the presence of the metabolites NADH and riboflavin, which are necessary intermediates for metabolism of living organisms, such as bacteria and fungi. The detector simultaneously measures particle size and florescence with a single illumination correlating the two resulting signals in real time. The signals generated are processed statistically through maximum likelihood algorithms that compare samples to known bio-agent signatures.

CONTACT INFORMATION

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COST

- $25,000-$50,000/system
- $0.00/analysis

Tier Selection

Final tier assignment is based on overall product score.

Top Tier | Second Tier | Third Tier | Fourth Tier | Bottom Tier

RANKINGS

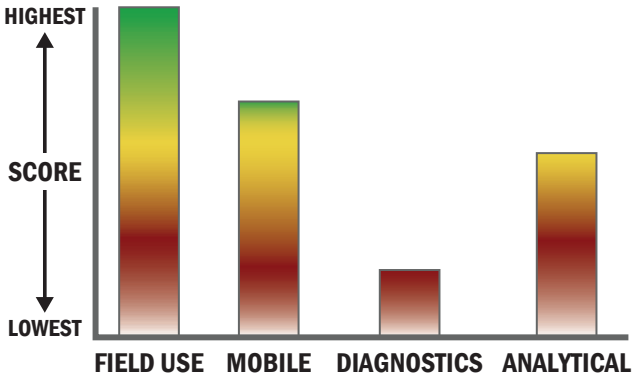
	Biological	Chemical	Radiological
FIELD USE System		N/A	N/A
MOBILE Laboratory		N/A	N/A
DIAGNOSTIC Laboratory		N/A	N/A
ANALYTICAL Laboratory		N/A	N/A

Survey Source

Vendor and Internet Supplied Information

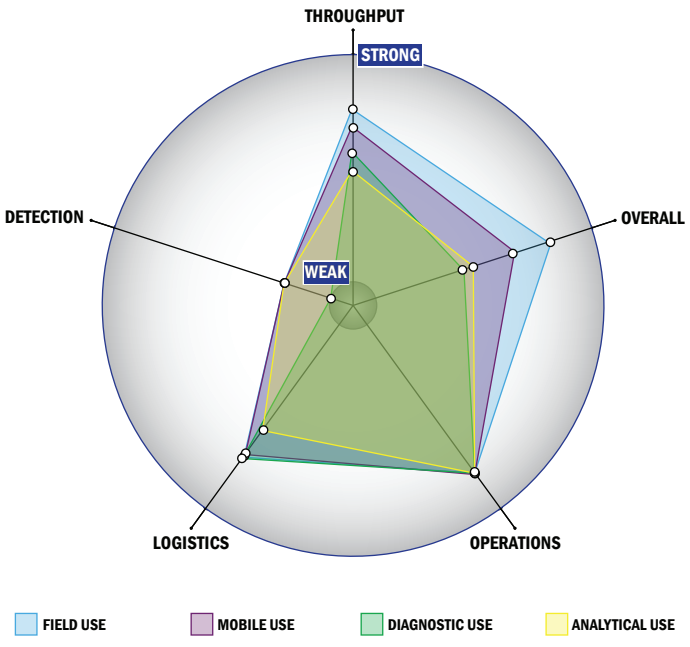
Scoring Analysis

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.



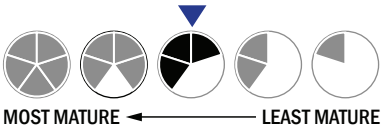
Evaluation Criteria

Throughput:

- 2 minutes or less for detection
- Continuous operation with no defined runs
- Device or system is intended for multiple detection assays
- 0-1 solutions, buffer, eluents, and/or reagents
- 1 component
- 5-10 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 1 and 5 kg
- Wireless and wired connections are available
- System or device has 110V electrical requirement
- 4-8 hours battery life



Operations:

- Can be used from 4 °C to 37 °C
- Performance is not influenced by relative humidity
- Greater than 3 years shelf life
- 5-10 years expected life
- Results can be viewed in real-time
- The system or device is currently fully autonomous
- The system software is open but modification requires licensing
- The system hardware is open but modification requires licensing

Detection:

- Not possible for the system to achieve 510K clearance
- Not possible for the system to achieve FDA approval
- This system does not test liquids
- 1-100 CFU per mL
- Spore lysis not necessary for detection by system