INFICON, Inc. - MicroFID II Flame Ionization Detector

GENERAL DESCRIPTION:

MicroFID II is a portable flame ionization detector (FID) that detects total volatile organic compounds (TVOCs). It is designed for emergency response both in industrial settings and in the field.

TECHNICAL DESCRIPTION:

MicroFID II uses flame ionization detection (FID) to measure total volatile organic compounds (TVOCs) in air at part per million (ppm) or part per billion (ppb) levels. When the DataFID hydrogen flame is ignited, the internal pump draws in air through the inlet, which provides the oxygen necessary for combustion. When the proper hydrogen-to-air ratio is present in the combustion chamber, a glow plug will automatically ignite the flame. TVOCs are ionized when the sample passes through the flame. These ionized molecules are subjected to a continuous electric field; the ions moving in this electric field generate a current that is proportional to the concentration of the ionized molecules in the combustion chamber. An electrometer circuit converts this current to a voltage which is sent to the microprocessor.

CONTACT INFORMATION

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COST

• $11,495/system
• <$1.00/analysis

Tier Selection

Final tier assignment is based on overall product score.

🟢 Top Tier   🟢 Second Tier   ⚪ Third Tier
🔴 Fourth Tier   🔴 Bottom Tier

RANKINGS

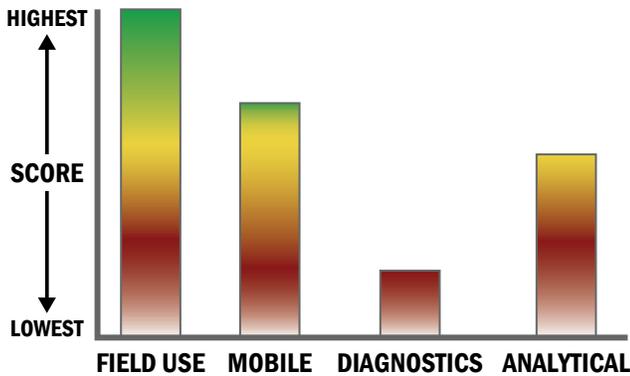|	Biological	Chemical	Radiological
FIELD USE System	N/A	Third Tier	N/A
MOBILE Laboratory	N/A	Bottom Tier	N/A
DIAGNOSTIC Laboratory	N/A	Bottom Tier	N/A
ANALYTICAL Laboratory	N/A	Bottom Tier	N/A

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.
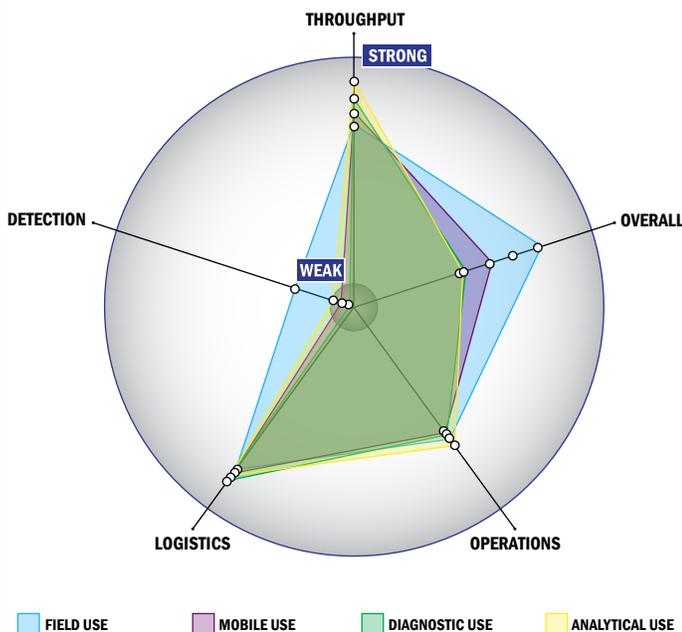

Evaluation Criteria

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
- 1 component
- Greater than 20 minutes is required for set-up
- Automatic 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
- 4–8 Hours battery life

MOST MATURE ← LEAST MATURE
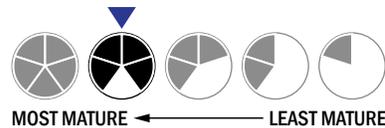
Operations:
- Can be used from 4°C to 41°C
- Components must be stored at room temperature (27°C)
- Device or system has peak performance at normal relative humidity conditions
- 5-10 years expected life
- Results can be viewed in real-time
- The system is not capable of autonomy
- The system software is closed and not available for modification
- The system hardware is closed and not available for modification

Detection:
- Not possible for the system to achieve 510K clearance
- Not possible for the system to achieve FDA approval
- This system does not test liquids
- Superior specificity. System has a false alarm rate approaching zero (~0%)