PROENGIN SAS - AP4C- V

GENERAL DESCRIPTION:

AP4C-V is designed for vehicles and is able to detect an extended range of chemicals containing Sulphur, Phosphorus, Arsenic, and/or the HNO chemical signatures. AP4C-V has been designed for use on the field to detect Chemical Warfare Agents and/or TICs. The AP4C-V has the capacity to work in severe environmental conditions and the measurements are unaffected by high humidity levels or by presence of other organic chemicals. The AP4C-V technology allows the simultaneous detection of an unlimited number of gases (identification of the constituting chemical elements).

The response time is among the shortest on the market but what makes the AP4C-V unique is the recovery time after a positive detection. Where other detectors may take long minutes or hours after a positive detection or pollution by chemicals, AP4C-V will be ready after some seconds whatever the level of contamination.

TECHNICAL DESCRIPTION:

AP4C-V detection is based upon Flame Photometry Detection (FPD) of the physical signature of the chemical atoms and bonds within the products and compounds.

AP4C-V burns all gas and particles providing energy to the electrons; that energy is emitted as photons. AP4C-V immediately analyses the photons, looking for Phosphorus, Sulfur, Arsenic or HNO signatures. This technology is sensitive, reliable, and resistant to humidity and temperature. AP4C requires no service and nearly no maintenance. It is able to be operational less than 3 minutes after a positive detection, following NATO requirements. Since FPD is not based on any database but relies upon signature detection, each AP4C-V is able to detect and measure concentration for the full list of agents:

- 33 out of 33 CWA schedule 1 from Chemical Warfare Convention (64 out of 69 all categories)
- 42 more TICs (NATO ITF-25 list)

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

CONTACT INFORMATION

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COST

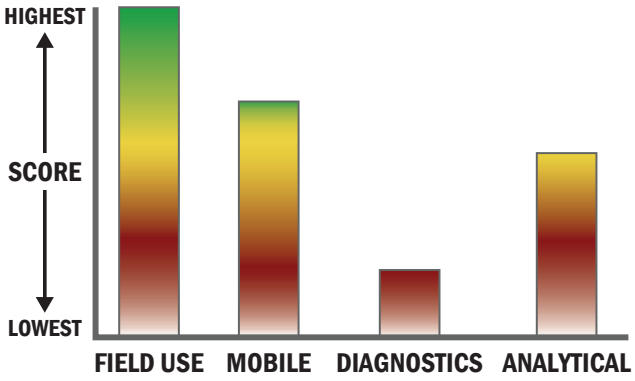
- €30,000/system
- N/A/analysis

Survey Source

Vendor Supplied Information

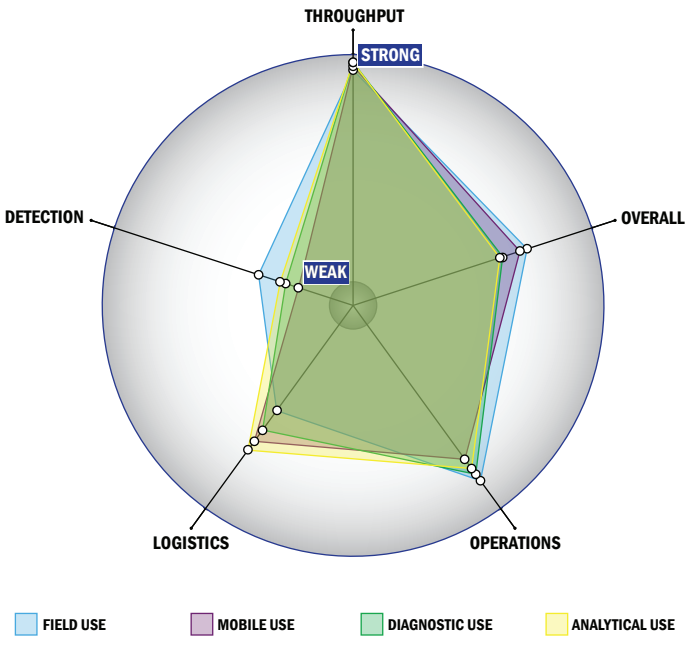
Scoring Analysis

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.



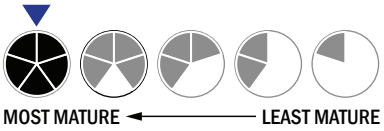
Evaluation Criteria

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
- Less than 5 minutes is required for setup
- Automatic detection

Logistics:

- Very brief (minutes-hours) training and minimal technical skills
- Approximately the size of a toaster
- Between 1 and 5 kg
- Wired connections are available



Operations:

- Can be used from < -21°C to > 42°C (All temperatures)
- Performance is not influenced by relative humidity
- 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:

- 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
- Superior specificity. System has a false alarm rate approaching zero (~0%)
- > $1x10^{-3}$ mg/m^3
- 1 ppb – 1 ppm