

FLIR Systems, Inc. - BioCapture 650



GENERAL DESCRIPTION:

The BioCapture 650 Air Sampler collects aerosolized biological particles in the 1-10 micron diameter range including bacteria, viral particles and toxins and concentrates them into a buffer solution, maximizing the viability of these airborne particles.



The sampler uses a disposable collection cartridge that houses the fluidics and sample fluid. Single-button operation, LCD and LEDs allow for ease of use in MOPP-IV personal protection clothing. The unit has flexible sampling times. After collection, sample is automatically deposited in an easily removed sample vial for subsequent analysis by PCR, hand-held assays, and other methods.

TECHNICAL DESCRIPTION:

The BioCapture collects airborne particles utilizing FLIR patented rotating impactor technology. A rotating impactor/impeller captures particles in a water-based collection fluid that circulates through the collection zone. Manifold geometries that allow the air to be exhausted separately from the particle laden liquid have been optimized for minimum evaporation and maximum flow rate. The motor and control systems have been optimized for high impeller revolution rate and low power consumption while maintaining excellent reliability.

CONTACT INFORMATION

FLIR Systems, Inc.
27700 SW Parkway Ave.
Wilsonville, OR 97070

COST

- \$10,088/system
- \$71/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

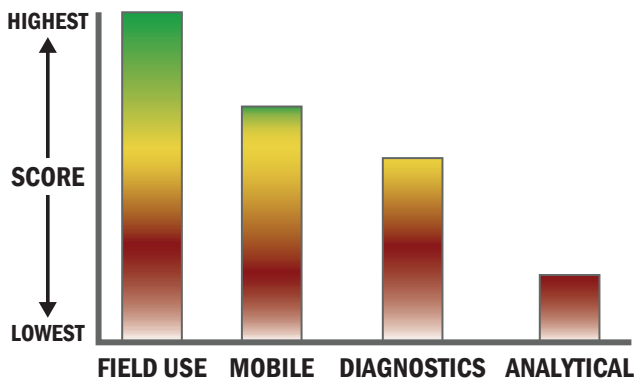
Survey Source

Vendor Supplied Information



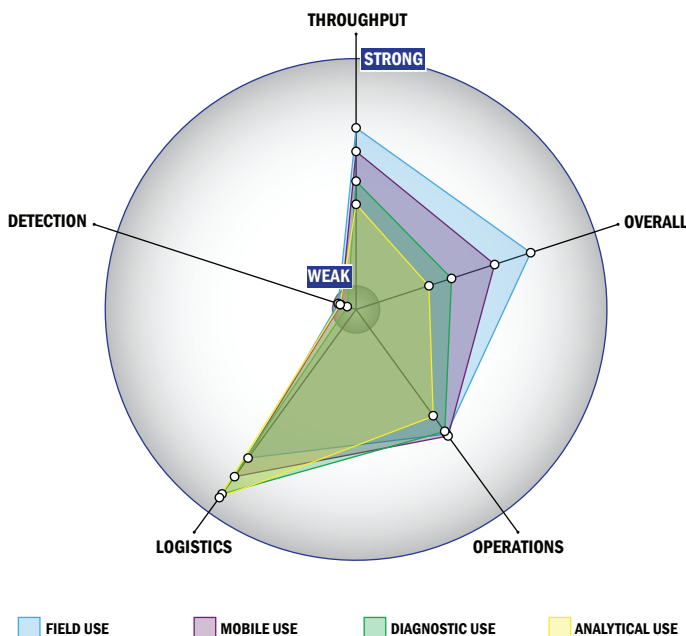
Scoring Analysis

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.



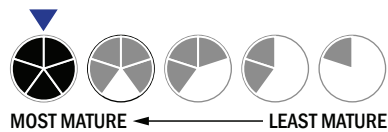
Evaluation Criteria

Throughput:

- 1 sample, <10 tests/sample per run
- Less than 32 samples every 2 hours
- The system or device is currently fully automated
- Device or system is designed for a single use
- 2 solutions, buffer, eluents, and/or reagents
- 1 component
- No set-up of the system is required
- 3-5 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
- This system is not capable of transmitting data
- 1-2 hours battery life



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
- Between 1 to 3 years shelf life
- Greater than 10 years expected life
- The system could be adapted to a fully autonomous system with some effort
- 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