

ENVI BioScout

Bioaerosol Detector with
a 3-in-1 Capability



- 3-in-1 Continuous bioaerosol monitoring
- Sample collection for further BWA analysis
- Robust design for use in demanding environmental conditions

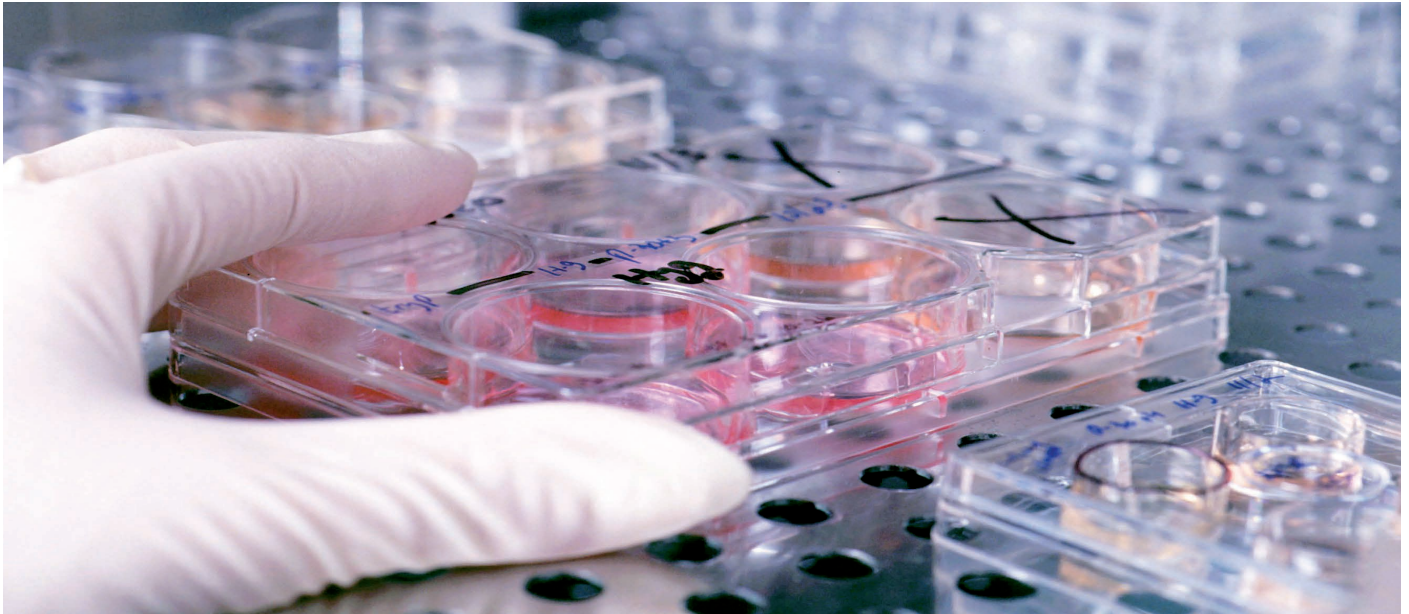


Environics

WE SENSE & DETECT FOR A SAFER WORLD

ENVI BioScout

Bioaerosol Detector with a 3-in-1 Capability



ENVI BioScout provides a robust and sensitive bioaerosol detection solution that continuously monitors and warns for the presence of harmful airborne biological particles and collects air samples for further BWA analysis at the time of a biological alarm.

Intentional releases of aerosolized biological warfare agents are considered as one of the most dreadful scenarios of bioterrorism. To reduce the amount of casualties and fatalities, real-time detection of harmful bioaerosols is an essential step for the whole process of biothreat management: it does not enable only timely warning and protection but further analysis of the released agents and correct medical countermeasures.

KEY FEATURES

- 3-in-1: Continuous bioaerosol monitoring without consumables – alarms to issue early-warning – sample collection for further BWA analysis
- Robust design for use in demanding environmental conditions
- Ease of continuous use and ease of maintenance – low lifecycle costs
- High sensitivity and fast response

APPLICATIONS

- Fixed and mobile CBRN area/building monitoring systems
- Airports, seaports, subways, railway stations
- Governmental buildings, shopping centers, hotels, theatres, concert halls, mail distribution facilities
- Mass event protection
- Critical infrastructure protection
- CBRN recon vehicles (ground, naval)

ENVI BioScout: a Bioaerosol Detector with a 3-in-1 Capability

Biothreat management is challenged by several factors like the ability of biological agents to cause epidemics, illness or death in relatively minor quantities and after long incubation periods. Accurate and reliable bioaerosol detectors forming a strategic architecture can give fast early indication of potentially hazardous biological particles disseminated in ambient air and hence assist to diminish disastrous effects.

Multifunctional Detection

ENVI BioScout combines three functions in a single device: it monitors continuously ambient air, triggers early-warning for detected potential airborne biological threats including bacterial, viral and rickettsial agents and toxins and initiates automatic air sample collection when a biological alarm is issued. ENVI BioScout utilizes proven real-time biodetection technology in which fluorescence and elastic scattering signals from 0.5 – 10 µm airborne particles are excited with a CW laser diode at 405 nm and measured with photomultiplier tubes. The automated bioaerosol sampling is compatible with various standard collection filters and the air samples can be easily retrieved for provisional or confirmatory BWA analysis with PCR/real-time PCR techniques and immunoassays like ENVI Assay System rapid tests.

Ruggedized Solution with Ease of Use and Maintenance

ENVI BioScout is featured with robust construct combined to high sensitivity, good selectivity for intentional bioaerosol releases and fast response according to gathered and analyzed data on detected particles. The device can be adapted to different outdoor and indoor environments through its adjustable, advanced alarm algorithm.

Durability, simple use and maintenance with low lifecycle costs are valued features for a bioaerosol detector operating in demanding conditions in military and civil defence. ENVI BioScout has been designed to meet military standards for environmental requirements, and short-time replacements and preventive maintenance can be performed with basic tools and minimum efforts by end-user's service personnel.

Versatile Device with Modular Design

ENVI BioScout is intended to operate as an integral part of fixed and mobile EnviScreen CBRN Monitoring Systems with Operix and Manifix 2010 softwares, but it is easy to integrate to 3rd party systems as a networked or point-detection solution as well. ENVI BioScout is compatible with various communication methods and its modular design enables broadening of the device capabilities: an additional sample collector, a remote alarm unit, a BWA identifier or other optional modules can be connected to ENVI BioScout through various interface options.



Technical Data

Size	Approx. 570 x 440 x 195 mm (22,4"H x 17,3"W x 7,7"D)
Weight	Approx. 15,7 kg (34,6 lb)
Detection method	UV fluorescence Elastic scattering
Particle size	0,5 – 10 µm
Sensitivity	≤ 100 ACPLA
Response time	< 30 seconds
Air flow rate	2 l/min
Light source	CW laser at 405 nm
Secondary air sampling	Compatible consumables: <ul style="list-style-type: none"> • Disposable 37 mm (1,3") 3-piece filter cassettes • 37 mm (1,3") filters like PTFE and gelatin filters
Data communication	RS-232, RS-485, Ethernet, USB
Power	Input 85 – 264 VAC, 19 – 36 VDC
Power consumption	Typically 50 W
Operating humidity	0 % to 90 % (non-condensing)
Temperature (Operating)	-35 °C to 50 °C (-31°F to 122°F)
Temperature (Storage)	-40 °C to 70 °C (-40°F to 158°F)
Environmental requirements	Designed to meet MIL-STD-810 F Designed to meet MIL-STD-461 E



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