

BioSpot-GEM™ Bioaerosol Sampler



The BioSpot-GEM™ bioaerosol sampler, provides **fast and easy**, yet **high efficiency** collection of bioaerosol particles directly onto a **swab**. **Designed for field applications**, the BioSpot-GEM sampler is **portable** and easy to use. Environmental and IAQ professionals can effectively sample the air for pathogens with the same confidence as a scientific aerosol research expert.

High quality particle sampling onto a swab

Collects 10nm to 10µm particle sizes with equal effectiveness

Concentrated, contamination free collection

Small, lightweight and quiet operation

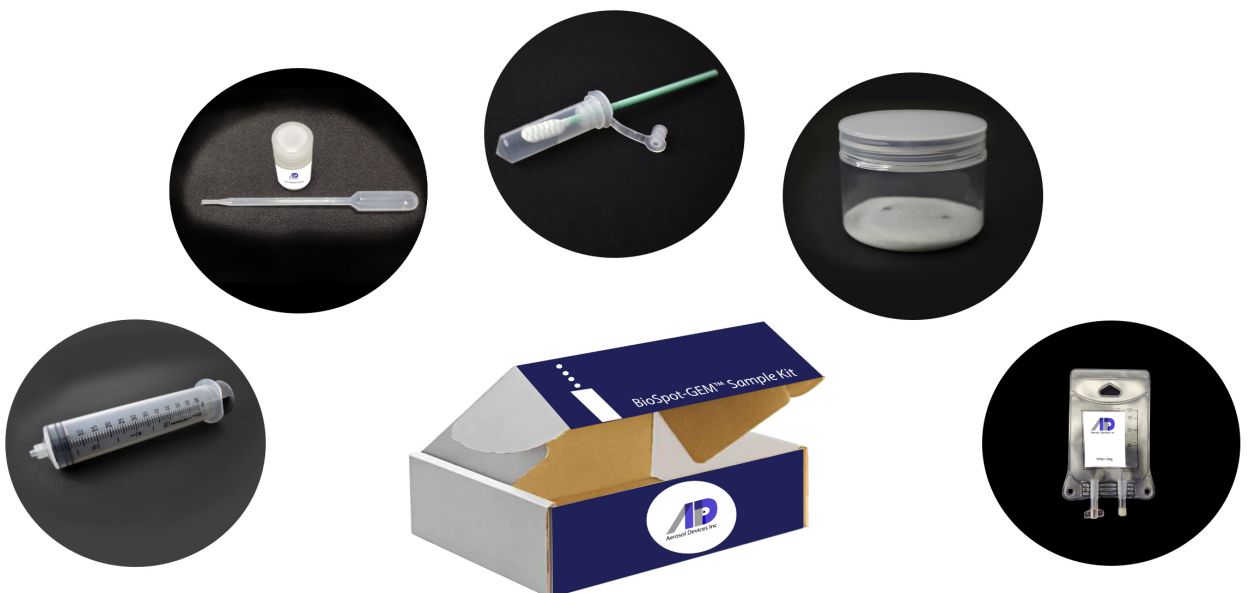
Samples directly onto stabilizer (patent pending) for instant DNA/RNA preservation

Analysis compatible with virus/microbial testing methods, such as PCR and sequencing



- **Collects viruses, bacteria, fungal spores, toxins, proteins, allergens**
- **Non-invasive collection of particles from exhaled breath**
- **Infectious disease surveillance and IAQ mitigation assurance**
- **Suitable for all indoor public, industrial, medical and agricultural environments**

The BioSpot-GEM sampler includes a starter sample kit for immediate use (8 samples). Kits and individual accessories are available at aerosoldevices.com/store.



Specifications

Particle Size Range	<10nm to 10µm
Collection Substrate	Sterilized commercial swab
Collection Efficiency	>95%
Maximum Particle Concentration	Zero to 10 ⁵ particles/cm ³
Condensing Fluid	Water, distilled or cleaner
Sample Flow Rate	1.2 L/min
Sampled Aerosol Conditions	Non-corrosive 0 – 40 degrees C
Sample Method	Sterile swab can be pretreated with genomic preservative
Sample Duration	2 preset options user selectable from 1 minute to 24 hours
Controls	3-position dial for setup and sample start duration (2 preset times)
Status Indicator Lights	4 color LED indicating warm up/ready (yellow), sampling/setup (green), standby/off (blue), error (red). See manual for details.
Communications	USB serial communications for setting sample time options; output for sampling parameters and instrument status Firmware updatable with flash drive
Environmental Operating Conditions	10 – 35 degrees C 10 – 95% RH, non-condensing
Sample Inlet	10mm OD SS tube
Sample line cleaning	Ozone, alcohol rinse, hydrogen peroxide
Instrument Decontamination	Recommend vaporized hydrogen peroxide
Power	90-240 VAC/50-60 Hz; power supply output voltage is 12.0 V DC and output current is TBD (maximum)
Noise	Quiet for unobtrusive sampling
Case Dimensions	9.5" H x 8.4" W x 8.0" D (24.1 cm x 21.3 cm x 20.3cm)
Weight	10 lbs (4.5kg)

Aerosol particle collector technology is licensed from Aerosol Dynamics Inc. with US Patents 6,712,881; 7,736,421; 8,801,838; 9,658,139; 9,821,263; German Patent 10392241; Chinese Patent 201180052428.5 and Japanese Patent 5908475. Other patents pending.

Specifications are subject to change without notice.



The Condensation Growth Tube method

A laminar-flow condensation growth tube (CGT) encapsulates airborne particles into liquid droplets and gently deposits the droplets onto surface. This technique substantially improves the efficiency and quality of collection of bioaerosols (<10nm to 10µm) sampling directly onto a sterile stabilized swab.

Whereas other techniques suffer from desiccation, mechanical stress, thermal stress and re-aerosolization, the BioSpot-GEM sampler is quiet and efficiently and safely collects particles in public settings without distraction. For more information see our video at <http://aerosoldevices.com>

Aerosol Devices Inc - Fort Collins, CO, USA

We are a team of engineers and scientists passionate about revolutionizing aerosol science. Our founders, Ms Pat Keady and Dr Susanne Hering, are leaders in the aerosol measurement field: both are past presidents of Association for Aerosol Research (AAAR) and have authored numerous patents and published works, including the patented condensation growth tube (CGT) used in our devices.

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