ART
Aerosol Research & Technology Plus

BioAerosol-to-Liquid Sampler (BALS-100)

The BioAerosol-to-Liquid Sampler (BALS-100) is a new concept device that collects multiple pathogens and viruses floating in the air in liquid form with real-time high-speed using electric features of aerosols. The survivability of collected viruses has improved by up to 3 times and coverage that is about 10 times higher than existing collision-type impactors(28.3lpm).
The collection efficiency of leading brand M-B*nd (USA) offers collection efficiency of 20 L/min while BALS-100 has a collection efficiency that is 6.25 times higher.

New Release! Groundbreaking BioAerosol-to-Liquid Sampler using Electrostatic Dust Collecting Method

- Capable of drawing in up to 250 L/min, enabling immediate access to representative data
- Excellent collection efficiency from nano-sized (nm) particles without damaging test samples
- Recovered liquid samples can be used for antigen-antibody testing (rapid kits) or molecular diagnostics (PCR analysis)

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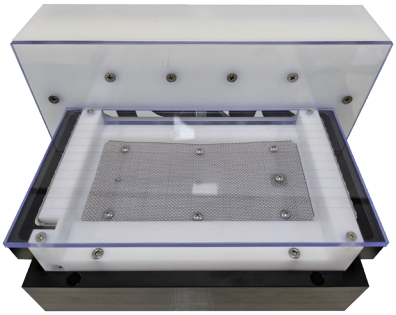
Features and Advantages

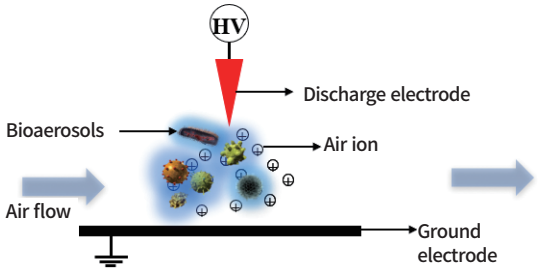
Real-time High-speed Liquid Collection and Data Calculations



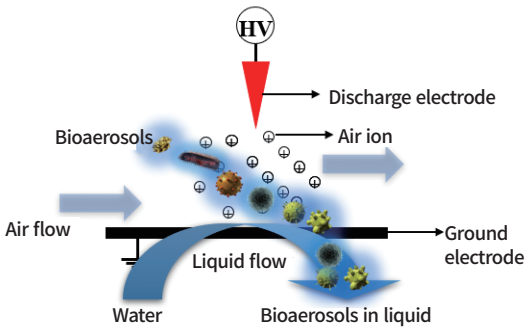
Collision samplers have a low suction flow rate, so it is inconvenient to measure over a long period of time to obtain representative values. Although other companies' products advertise the advantage of a constant flow rate for up to 8 hours, BALS-100 is an innovative product that detects viruses in just 10 minutes.

While existing competitor products generate data by collecting samples and then performing processes such as filtration and centrifugation, BALS-100 collects air using an electrostatic dust collection method at a flow rate of 250 L/min to provide to representative data immediately.

Air Sampling via Electrostatic Precipitation



Step 1 : Charging



Step 2 : Collection

Excellent Collection Efficiency

Conventional collision samplers may have limited efficiency in collecting all types of airborne microorganisms. Some particles may not impact the sampler surface, resulting in under-representation of certain microbial species. The BALS-100 has excellent collection efficiency because it collects samples without damaging them.

Practical Use of Antigen-antibody (Rapid kit) or PCR Analysis

Samples contained in the recovered solution from the Bio Aerosol-to-Liquid Sampler (BALS-100) can be used to measure microorganisms and viruses using antigen-antibody technology or PCR analysis.

High Survival Rate and Coverage

Existing collision samplers have a physical reaction that can occur when a specimen collides with a collection plate, that is, damage to the specimen and redispersion by bouncing off, which can cause problems with specimen viability, defects, or quantity errors.

Additionally, the liquid medium used for impact can dilute the collected samples, and some microorganisms sensitive to the liquid medium may have a reduced survival or recovery rate; this can affect microbial concentration results or bias estimates of microbial diversity.

However, the BALS-100 uses an electrostatic method to collect harmful particles such as viruses and microorganisms in the air, so it has a higher coverage compared to collision-type impactors. The viability of the samples collected is up to three times higher.

Increase User Convenience – Compact size

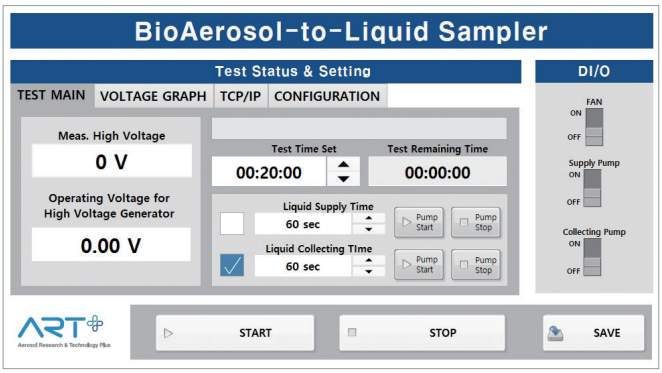
With a built-in computer and touch panel, no other accessories are needed for experiments. All you need is a space of 40cm wide and deep where you want to measure.

NO Pump!
No Aqueous solutions bottle holder!
No PC!
Automatic supply!
Automatic return of aqueous solutions!

Set Test Condition to Suit User Environment

According to the measurement area, users can freely set the test time, solution supply and return time, etc.

User control of time & flow & input voltage!
Stored data wired/wireless transfer!



SPECIFICATIONS

Description	Specification	
Dimension	345 X 335 X 357 ㎜ (WDH, O.D.)	
Control	7” Touchable Panel Computer, Operating Software Program	
	High Voltage Output	13 kV (Positive)
	Supply/Drain	16 ml/min
	Fan Speed	Max. 2,500 RPM (120 mm)
High Voltage Discharge Part	Case	215 X 130 X 80 ㎜ (WDH)
	Case Material	Acetal, PC
	Wire	Tungsten wire 0.04 mm
	Sample Suction Flow	200 L/min (default)
Supply/Return	Aqueous solution bottle size	30 ml
	Peristaltic Pump tube	I.D. 1mm, Connector: 1/8 in
Sample capacity	Bacteria Collection Efficiency	~ 90%
	Virus Collection Efficiency	~ 85%
Other	TCP/IP Communication Function, Wire/Wireless LAN, USB2.0 2EA	
Power Consumption	220 VAC 60 Hz, Max. 1 kW	

*The above specifications are subject to change without prior notice to improve the functionality and performance of the product.

APPLICATIONS

BALS-100 can be used in a variety of environments where viruses and micro-organism may pose a potential hazard.

- Biological research in laboratories
- Food poisoning risk management in food processing plants
- Preventing the spread of contaminated diseases on public transport
- Facilities for vulnerable/sensitive populations such as classrooms and nursing homes
- Epidemic surveys in public buildings
- Environment investigations in industrial work environments
- Pathogen surveillance and infection management in medical facilities
- Indoor air quality research
- Monitoring of Worker Safety Environments in Construction, Wastewater Treatment, and Agricultural Settings.

OTHER RELATED PRODUCTS

ABG-1771A Bacteria Generator

- Generate live condition bacteria aerosol
- Control concentration and size of aerosol
- Generation concentration : > 5 x 10^4 CFU/m^3
- Flow : ≤ 50 L/min

Sales Distributor.