

BioAerosol-to-Liquid Samper (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 Samper
using Electrostatic Dust Collecting Method***

Incredible Sampling Speed and Collection Efficiency!

Virus Collection Efficiency 85%,

Bacteria Collection Efficiency 90% Recorded

Nano-size(nm) Particle Measurement



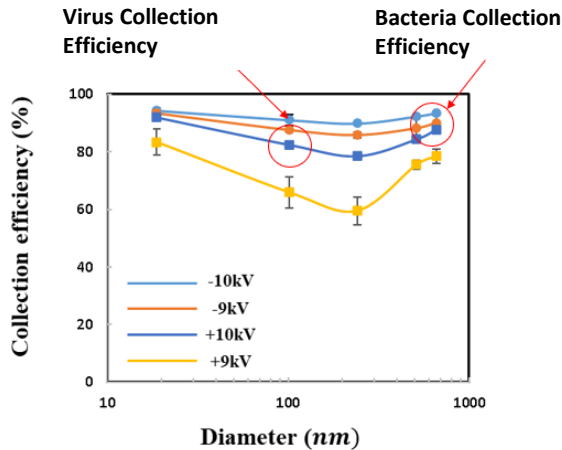
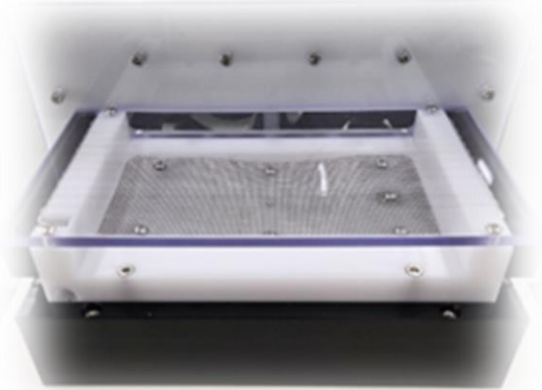
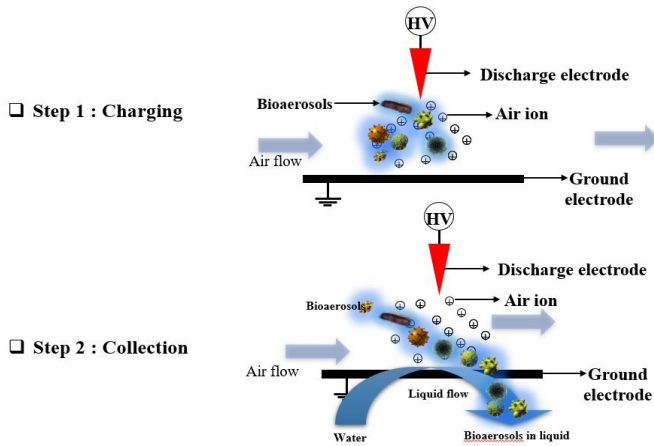
- ✓ **Real-time High-speed Liquid Collection and Data Calculations**
- ✓ **Excellent Collection Efficiency from Nano size(nm)**
- ✓ **Practical Use of Antigen-antibody (Rapid kit) or PCR Analysis**
- ✓ **High Survival Rate and Coverage in Collection Solution**
- ✓ **Compact Size**
- ✓ **Set Test Condition to Suit User Environment**

❖ Features and Advantages

Real-time High-speed Liquid Collection and Data Calculations

Collision-type samplers have a small suction flow rate, so it is inconvenient to measure over a long period of time to collect representative values. Although other companies' products promote 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 produce data by collecting samples and then performing processes such as filtration and centrifugation, BALS-100 collects air using an electrostatic dust collection method at 250 L/min flow rate to provide representative data right away.

Air Sampling via Electrostatic Precipitation

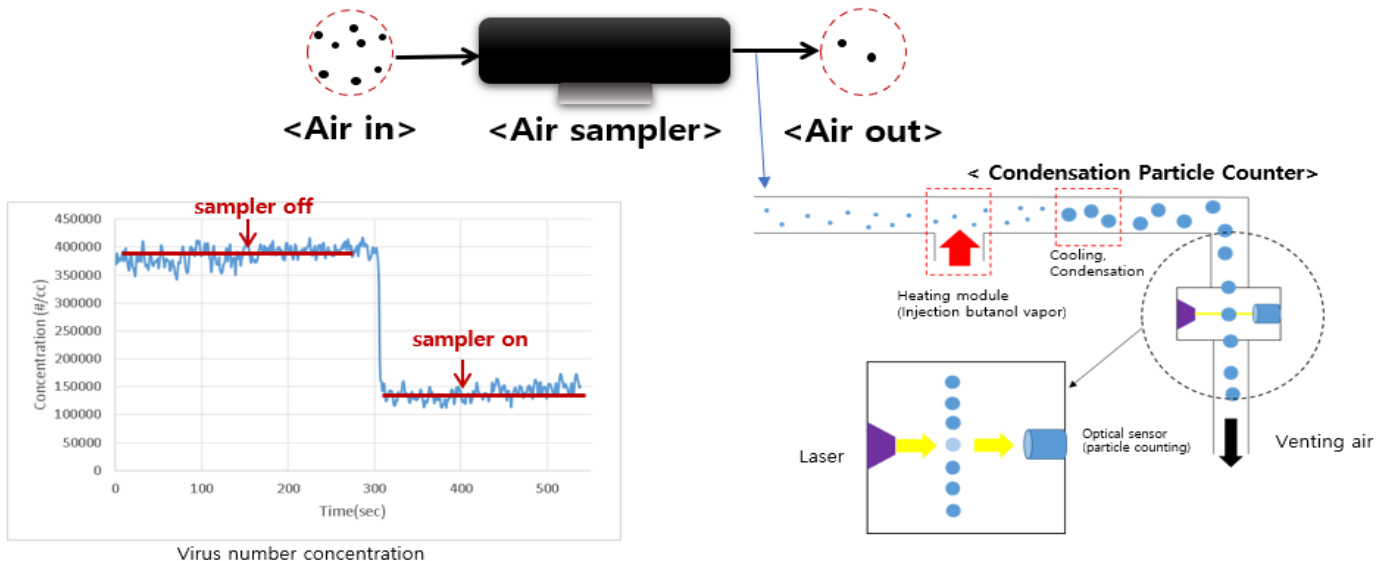


*Experimental Conditions : 20~25°C, 40~50% RH

Excellent Collection Efficiency

Conventional collision-type 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. BALS-100 boasts excellent collection efficiency because it collects test specimens without damaging them.

The experimental data on the left is the result of an experiment under the condition of 20ml collection liquid, 250lpm air flow rate, and 40 min. sampling time. It shows excellent collection efficiency of 90% for bacteria and 85% for virus.





❖ Features and Advantages

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

Samples contained in the recovered solution of 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-type samplers exhibit a physical reaction that can occur when a test object collides with a collection plate, that is, damage to the test object and redispersion by bouncing off, which may cause problems in the viability of the test object, defects, or quantity errors. Additionally, the liquid medium used for impact may dilute the collected samples, and some microorganisms sensitive to the liquid medium may show reduced survival or recovery rate; thus affecting the results of concentration of microorganisms or biasing estimates of microbial diversity.

However, BALS-100 uses an electrostatic method to collect harmful particles such as viruses and microorganisms in the air, so it has higher coverage compared to collision type impactors. The viability of collected samples can be confirmed to be improved by up to 3 times.



Increase User Convenience – Compact size

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

Pump NO! Aqueous solutions bottle bracket NO! PC NO!

Automatic supply! Automatic Aqueous solution return!

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.

Time & Flow & Input Voltage User Control!

Saved Data Wired/Wireless Transfer!

BioAerosol-to-Liquid Sampler

Test Status & Setting				DI/O	
TEST MAIN	VOLTAGE GRAPH	TCP/IP	CONFIGURATION	FAN	Collecting Pump
Meas. High Voltage 0 V	Operating Voltage for High Voltage Generator 0.00 V	Test Time Set 00:20:00	Test Remaining Time 00:00:00	ON OFF	ON OFF
		Liquid Supply Time <input type="checkbox"/> 60 sec	<input type="button" value="Pump Start"/> <input type="button" value="Pump Stop"/>	Supply Pump ON OFF	
		<input checked="" type="checkbox"/> Liquid Collecting Time 60 sec	<input type="button" value="Pump Start"/> <input type="button" value="Pump Stop"/>		

ART
Aerosol Research & Technology Plus

❖ SPECIFICATIONS

Description	Specification	
Dimension	340 X 330 X 360 mm (WDH, O.D.)	
	7" Touchable Panel Computer, Operating Software Program	
Control	High Voltage Output	0~10kV (Positive)
	Supply/Drain	16ml/min
	Fan Speed	Max. 2500RPM (120mm)
High Voltage Discharge Part	Case	215 X 130 X 80 mm (WDH)
	Case Material	Stainless Steel & electrolytic polishing
	Wire	Tungsten wire 20 um
	Sample Suction Flow	250 L/min (1.63 m/s) (Nominal)
Supply/Return	Aqueous solution bottle size	20ml
	Peristaltic Pump tube	I.D. 1mm, Connector: 1/8in
Sample capacity	Bacteria Collection Efficiency	90 %
	Virus Collection Efficiency	85%
	Concentration ratio	Approx. 4.0×10^5
Other	TCP/IP Communication Function, Wire/Wireless LAN, USB2.0 2EA	
Power Consumption	220 VAC 60 Hz, Max. 1 kW	
Consumables	Aqueous solution bottle, Cooling Fan, Pump, High voltage wire, Tube	

*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 microorganism may pose a potential hazard.

- Biology research in laboratories
- Risk management of food poisoning in food processing plants
- Prevent spread of contaminant diseases in public transportations
- Facilities for vulnerable/sensitive populations such as classrooms and nursing homes
- Epidemic investigations in public buildings
- Environment investigations in industrial work environments
- Management of pathogen monitoring and infections in medical facilities
- Indoor air quality research
- Monitor workers' safety and environment in construction sites, sewage treatment facilities, agricultural environments, etc.

❖ OTHER RELATED PRODUCTS

BADD-10 BioAerosol Detection Device

- Collection Efficiency : > 90 % (@ > 1 μ m)
- Microorganism rate of return : Approx. 82 %
- Sampling Flow : 15 L/min

ABG-1771A Bacteria Generator

- Generate live condition bacteria aerosol
- Control concentration and size of aerosol
- Generation concentration : > 5×10^4 CFU/m³
- Flow : ≤ 50 lpm

Sales Distributor

