

# Ionization

## Ionizers for General Electronics & Backend Applications

- IN TOOL
- TEST, ASSEMBLY & PACKAGING

# Solutions

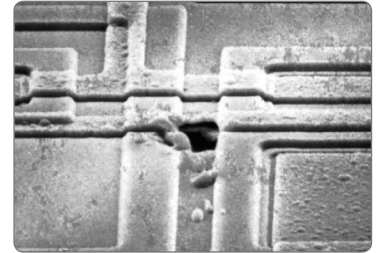
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## Static Charge in Final Manufacturing

The final phases of electronics manufacturing in the semiconductor, pharmaceutical, and electronics packaging industries face yield loss problems due to static charge. Static charge is caused primarily by the contact and separation of dissimilar materials. The electrostatic discharge (ESD) of voltages cause instant or latent defects on finished wafers when they are removed from film, on dies when removed from wafers, on chips when they are handled with packaging, on finished dies when they are handled

for final testing, and on circuit board assemblies during final electronic assembly and test. Robotic and manual workstations also face ESD problems from human movement around packaged components. Keeping components and sub-assemblies safe from static charge is just as important as protecting them during their manufacture.



ESD damage

# Ionizers for General Electronics Manufacturing

Air ionization maintains the integrity of components and subassemblies by neutralizing static charge generated during the manufacturing process or during transport to final test and assembly. Our line of ionizers are specially suited for final manufacturing applications, from point of use ionizing air guns to benchtop and overhead ionizing blowers and point of use ionizers that fit inside crowded tools. Simco-Ion has been the recognized leader in general electronic static charge elimination for over thirty years.

## Ionization for Every Process

### Inside Tools

Inside tools for processes such as wafer mounting, die attachment, wire bonding, and testing and finishing, small ionizers must be able to integrate seamlessly. The Point-of-Use Ionizing Blower Model 6422e-AC with automatic emitter point cleaner easily mounts in confined spaces and has a very small footprint. Facility Monitoring System (FMS) notification connection makes the blower part of the overall system. The slightly larger Model 6432e has a tool mounting bracket or



Model 6422e-AC (left) blower is ideal for in-tool confined spaces. Model 6432e blower may be used inside tools or at a workstation.



benchtop stand. The Air Ionizing Cartridge Model 6110/6110A features is a compact, rugged ionizer that can be used either for in-line

ionization or as an ionizing blow-off gun. Used for in-line applications, the cartridge is connected via compressed air source. Model 6110A version features an internal airflow sensor for use as an airgun (with connection to a kit).

The 5822i Critical Environment Blower offers  $\pm 5V$  balance performance for assembling and handling static-sensitive devices or where static charge must be tightly controlled.



**Typical final manufacturing applications where ionization improves productivity:**

- Wafer probe
- Back grinding
- Wafer mount
- Die attach/bonding
- Wire bonding
- Molding
- Sealing
- Lead plating
- Packaging
- Final test & inspection

**General Purpose**

The Top Gun™ Ionizing Air Gun is a high performance ionizing air gun designed for electronics applications. Balanced to  $0 \pm 15V$ , the Top Gun features high blow-off force to provide efficient cleaning and rapid static charge decay. A filter at the exit of the gun ensures that the air is clean.

The AirForce Blow-Off Gun Model 6115 supplies point of use ionization. Lightweight and ergonomic, the gun hose moves with the operator and doesn't take up valuable workspace. Strong blow-off power effectively removes particle contamination while being rated for use in ISO Cleanliness Class 4 environments.

The orION™ Ionizing Air Nozzle been designed for use in fixed applications on manufacturing lines, equipment, and tool applications in the telecommunications, consumer electronics, semiconductor and medical device manufacturing industries.

The minION™ Ionizing Blower has been designed to control electrostatic charges in sensitive electronics assembly and automated tool applications requiring stable operation with fast discharge time performance.

The AeroStat® PC Ionizing Air Blower provides localized coverage with superior charge decay efficiency. The AeroStat PC is designed to provide ionization to a benchtop work area..

**Mini-environments & Workbenches**

The Ionizing AeroBar™ Model 5685 features a unique aerodynamic design that ionizes a local area without disrupting laminar flow. Ideal in 12-24" distance applications with laminar air flow.

The AeroStat® Guardian Overhead Ionizer provides fast static discharge over an entire work surface. It has adjustable air volume from 150-300 CFM. Equipped with task lighting, an ionization indicator light, and an integrated heater, the Guardian offers user friendly operation while effectively protecting even the most sensitive components from ESD damage using AC technology.

The AeroStat XC2 provides extended coverage for a large surface area with industry-leading performance and advanced features.



Model 6110/6110A  
Air Cartridge



Top Gun Ionizing Air Gun



Model 6115 AirForce  
Blow-Off Gun



orION Ionizing Air  
Nozzle



minION Ionizing Blower



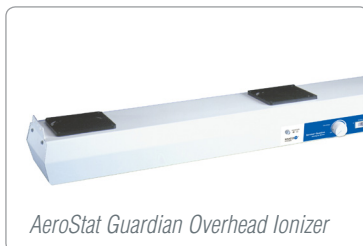
AeroStat PC Ionizing Air Blower



AeroStat XC2 Ionizing Air Blower



Model 5685 Ionizing AeroBar



AeroStat Guardian Overhead Ionizer



## Innovation and Expertise

Innovative technology, a large patent portfolio, and significant contributions to setting industry-standard guidelines has made Simco-Ion the leader in static control. Our experienced application engineers can assess problem areas in your facility and recommend solutions that fit your application. Contact us for a free static audit.

## Further Information

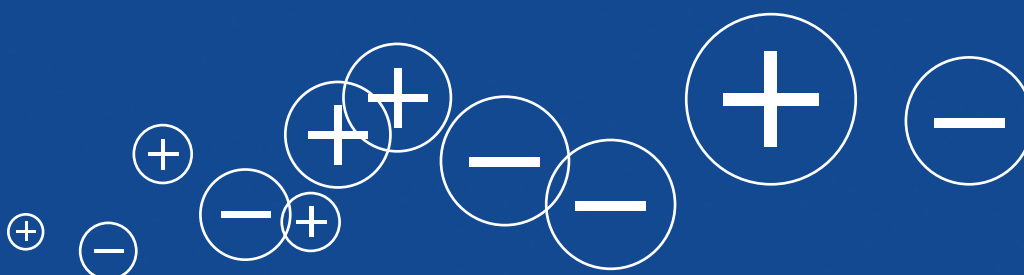
Education about the effects of static charge has always been a key component of our business.

Visit our web site at [www.simco-ion.com](http://www.simco-ion.com) to download general technical notes, technical articles and papers on ionization, and data sheets for all the products mentioned in this brochure.



### Simco-Ion

*Technology Group*  
1601 Harbor Bay Parkway., Ste 150  
Alameda, CA 94502  
Tel: 510.217.0600  
Tel: 800.367.2452 (in USA)



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