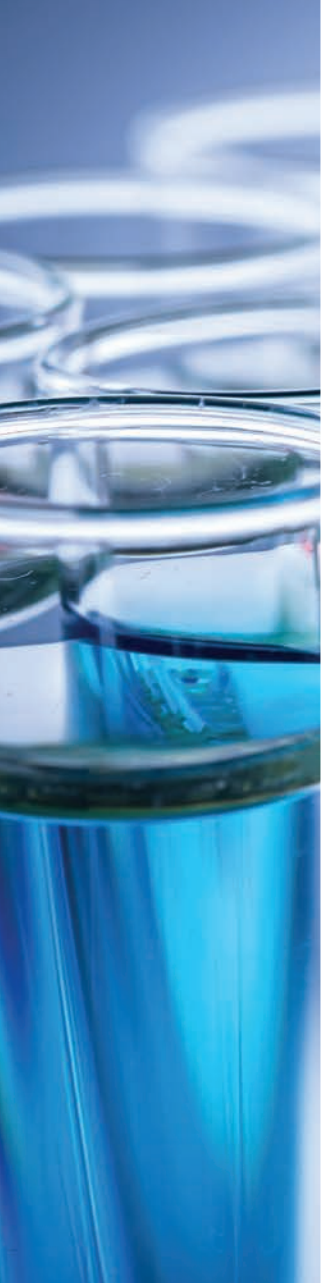


ULTRA CLEAN IONIZATION™

ULTRA-CLEAN ELECTROSTATIC CONTROL

In-Tool and Cleanroom
Life Sciences
Manufacturing

SIMCO ION™
An ITW Company

Simco-Ion, the global leader in ionization solutions in electrostatic and particulate contamination control, is renowned for...

INNOVATION | QUALITY | RELIABILITY | SERVICE

Simco-Ion delivers ULTRA-CLEAN ionization solutions for in-tool and cleanroom applications, offering bars, room systems, overhead blowers, and in-line technologies. ULTRA-CLEAN ionization products meet our customers' ESA (Electrostatic Attraction) airborne particle control requirements, and our clean ionization technology solutions exceed the industry's highest standards for contamination control, maintenance, and safety. We have expertly trained technicians to make 100% certain that cleanroom environments exceed FDA regulations.

MONITORING Particulate Contamination In Medical Devices

Static elimination is a critical aspect of medical device manufacturing as it ensures the safety, reliability, and quality of the device. Implementing static elimination measures can help manufacturers reduce the cost of repairs and replacements due to ESD events, as well as costs associated with cleaning and maintaining equipment.

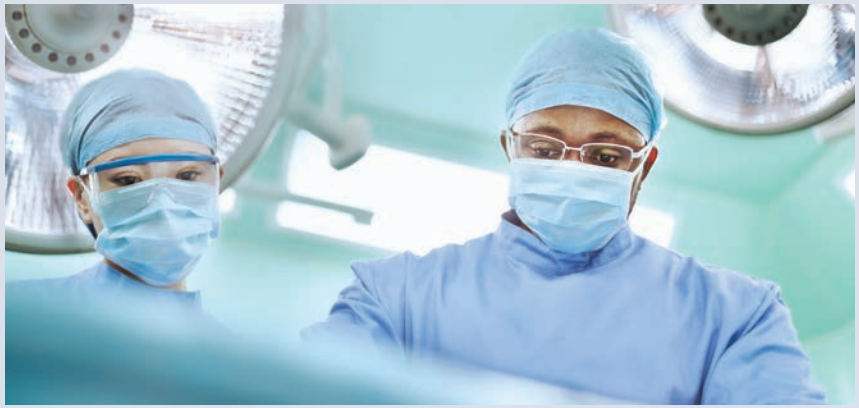
ESSENTIAL REQUIREMENTS

FOR TODAY'S MANUFACTURING INDUSTRIES

Ultra-Clean Environment – In an ultra-clean environment where airborne particle control is critical to eliminate/minimize Electrostatic Attraction (ESA), particulates ultimately may cause contamination, low-quality products, and yield loss.

Voltage Control – Tighter voltage control requirements will eliminate/reduce Electrostatic Discharge (ESD) in the sensitive electronics manufacturing process, causing active device damages. Tight offset voltage with increasingly better decay time protects products/devices from ESD damage and ultra-clean processes.

Monitoring – Meeting Industry 4.0 requirements, monitoring with NOVX Complete Electrostatic Control Management System with active feedback & control enables traceability, compliance, process management, advance notification, and much more.



Requirements – The FDA cleanroom regulations require strict environmental controls, beginning with the planning and construction of the rooms, to achieve clean air standards in cleanrooms. Regulations require a monitoring system for environmental conditions in the cleanroom, which must be a separate, adequately sized room with equipment to control humidity, dust, air pressure, temperature, and microorganisms. Regulations also require an air filtration system, as well as written procedures for preventing contamination and for cleaning and sanitizing all surfaces and equipment.

ULTRA-CLEAN IONIZATION PROTECTION

There are three main factors to consider for any classification of cleanrooms: **airflow**, **employee access**, **surfaces**, and how in-room ionization systems can minimize particulate contamination and electrostatic charge on all production surfaces, on plastic components, and where manufacturing production friction occurs.

1. AIRFLOW

HVAC system regulates temperature and humidity in a cleanroom. HVAC also uses high-efficiency particulate air HEPA filters to remove particles from the space and pressurize the cleanroom when the air pressure in the room is greater than the pressure outside. The contaminated air is pushed out of the room through vents filtered and recirculated cleaner.

2. EMPLOYEE ACCESS

Humans are the biggest culprits for bringing contaminants into a cleanroom. It is essential to train all personnel on cleanroom protocols. Employees should know the proper procedures for entering and exiting the cleanroom in protective clothing and handling equipment in cleanrooms classified as IS0 8 or cleaner.

3. SURFACES

All cleanroom surfaces should be smooth and impervious to microorganisms, compatible with the approved cleaning agents and disinfectants, and have a state-of-the-art cleanroom ionization room system.

Scientific research has demonstrated that failure in electronic devices is often the direct result of electrostatic discharge. Air ionization, “static awareness,” personnel training, and proper grounding techniques can remarkably reduce loss due to ESD and product contamination.

MEDICAL DEVICE MANUFACTURING

CLEANROOM IONIZATION SYSTEM

Model 5515 Room Ionization System protects the cleanroom, gowning room, and entire manufacturing area. The state-of-the-art system comprises ceiling emitters, a controller, and robust software for monitoring capabilities. Digital technology allows each ceiling emitter's parameters, including ion output, ion pulse timing, and digital address, to be individually set at its location. Precision fine-tuning of each ceiling emitter enables the ionization system to achieve maximum performance in any airflow condition and for each application.

Typical Medical applications where ionization and monitoring solutions are essential in improving productivity:

Medical Manufacturing

In Vitro Diagnostics

Cardiology

Implantable Medical Devices

Orthopedics

Diagnostic Imaging

Opthalmics

CONTAMINANT REMOVAL SOLUTIONS

Installing ionization room systems is the best way to ensure your cleanroom meets industry standards. Schedule an on-site visit by a trusted Simco-Ion, Technology account representative and or application engineer who has experience with all classes of cleanrooms in various industries. Your cleanroom is a significant investment. Rely on us to help you protect that investment, your consumers, and the integrity of your product with customer-backed innovation ionization superior results.

Air Ionizing Bar

Digital Ceiling Emitter

In-tool Micro Blower

Benchtop Ionizing Blower

ELECTROSTATIC SENSING & PROCESS MONITORING

Simco-Ion Novx Electrostatic Sensing and Process Monitors, monitor and analyze advanced process environments in the semiconductor, life sciences, flat-panel display, PCB, and electronic assembly industries. Electrostatic discharge (ESD) related events can cause catastrophic and/or latent product damage. There is a need (and increasingly, a requirement) for real-time monitoring, data collection, and status reporting to increase manufacturing yields and to provide historical verification.

SIMCO ION™

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Visit the Resources page for product videos and numerous technical papers.

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