SIMCO ION™
An ITW Company

IONIZATION SOLUTIONS

Ionizing Air Blower

Endstat 2020

User's Manual

About Simco-Ion

Simco-Ion develops, manufactures, and markets system solutions to manage electrostatic charge. As the world's largest provider of electrostatics management products and services, Simco-Ion improves its customers' business results by providing a total solution to their electrostatic discharge and electromagnetic interference challenges. Simco-Ion Technology Group is a division of Illinois Tool Works (ITW), located in Alameda, California. For more information about Simco-Ion visit www.simco-ion.com or call 800-367-2452. Simco-Ion is ISO 9001 and ANSI ESD S20.20 certified.

Important Safety Information

Carefully read the following safety information before installing or operating the equipment. Failure to follow these safety warnings could result in damage to your ionization system and/or voiding the product warranty.

- ☑ Make sure the unit is grounded before operating. If an extension cord is needed, use only extension cords providing a 3-prong (grounded) socket. Connect the unit only to an appropriate, properly wired (grounded) line voltage outlet.
- ☑ Do not insert objects through the unit's intake or outlet grilles while in operation. Damage to the ionizer and/or personal injury may result.
- ☑ Keep the unit dry. Do not operate the unit in flammable or explosive atmospheres.
- ☑ Internal repairs or servicing must be done by qualified personnel.

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Description

1.1 Endstat 2020 Ionizing Air Blower

The Simco-Ion Endstat 2020 ionized air blower produces airflow enriched with positive and negative air ions. Directing the ionized airflow on an object that has an electrostatic charge will neutralize the charge. Surfaces with negative charge will draw positive ions and surfaces with positive charge will draw negative ions. The air ions act as charge carriers, neutralizing the surface.

The Endstat 2020 is a portable ionized air blower. It uses a two speed fan to provide airflow. Ionization is produced using an AC corona discharge ionizer and AC high voltage transformer. AC ionization technology provides for economical, reliable static control.

The Endstat 2020 is designed for electronics and manufacturing environments. It can be used with sensitive electronic components or where materials are difficult to work with due to electrostatic charge. Used with sensitive electronic components, the Endstat 2020 helps to eliminate damaging ESD events. Used in manufacturing, the Endstat 2020 reduces or eliminates troublesome electrostatic attraction (ESA).

1.2 Features

- Small and portable
- Easy to install and operate
- Two speed fan
- Built-in ion emitter cleaner
- Durable electrically grounded metal enclosure

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Installation

2.1 Unpacking

Carefully remove the equipment from the carton and inspect the contents.

Caution:	If any damage has occurred during shipment, notify the local carrier at once. A report should also be forwarded to Simcolon.

2.2 Installing

The Endstat 2020 ionizer is designed for temporary or permanent operation. Typically, the unit should be positioned such that there is good airflow provided to the critical area. Generally this requires that the unit be within 36” inches of the intended target. The stand provided can be used in permanent operation by bolting it to a sturdy flat surface such as a work surface, wall or shelf. The unit can be mounted horizontally if required.

2.3 Electrical Connections

Line voltage is provided to the Endstat 2020 using a standard line cord with a universal IEC320 connector. There are different models available for different line voltages. All units require electrical grounding for safe operation. Plug the line cord into a 3-terminal grounded receptacle. If an extension cord is necessary, use only a 3-wire extension cord that provides proper grounding.

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Operation

Activate the Endstat 2020 by setting the power switch to the on ("I") position. The power switch will illuminate indicating the unit is on. Fan speed may be set to high ("▲") or low ("▼") using the switch on the front of the unit. The ionized airflow may be directed up or down by loosening the lock knobs on the side of the unit and tilting the unit in its stand. Then retighten the lock knobs.

The Endstat 2020 produces an ionized air stream that covers a targeted area; the ionized air must be directed at the target area in order to eliminate the static electricity. The time required to neutralize a static charge on an item in the target area depends on several factors. Two important factors are; distance to ionizer and air velocity. Air ions constantly "neutralize" each other. Positive and negative ions are electrostatically attracted to each other. When they contact, the charge transfers and the ions "recombine". With high air velocity, the air ions travel further before they "recombine". Set the fan speed to high if possible to provide more rapid static neutralization. For fast neutralizing, the Endstat 2020 should be as close to the target area as practical.

When using the Endstat 2020 in an electronics assembly area, the ionized air stream should cover as much of the work area as possible. Charged items introduced into the work area will be neutralized and will remain neutral while in the ionized air stream.

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Maintenance

4.1 Cleaning & Balance Adjustments

The Endstat 2020 The Endstat 2020 has been designed with low maintenance in mind. The only regular maintenance suggested is emitter point cleaning, ion balance checking and ion output testing. Emitter point cleaning takes only seconds with the built-in point cleaner. Scheduled checking of the ion balance and output should be considered to assure quality audit requirements.

4.2 Emitter Cleaning

To clean ion emitters, locate the emitter cleaner knob at the center of the outlet grille and fully turn the knob counter-clockwise until it stops, then release. The spring loaded emitter cleaning brush will return to its parking spot, having cleaned the ion emitters. It is not necessary to turn the unit off when cleaning the emitters. Recommended frequency of emitter point cleaning is every 160 hours of operation (weekly for 24hr/day operation, monthly for 8 hr/ day operation).

4.3 Air Inlet and Outlet Cleaning

The air inlet grille on the rear of the unit and the ionized air outlet should remain clean to prevent restriction of air flow. They can be cleaned with a soft brush or vacuum.

4.4 Ion Balance & Output Check

To test the unit for ion output, the use of a Charged Plate Monitor (CPM) is recommended. Offset voltage and discharge times can be measured and checked against the Ion Balance and Ion Output tables in Section 4, Specifications.

If a charged plate monitor is not available, periodic verification instrumentation may be used but if periodic verification instruments are used it will be necessary to get baseline data using the chosen periodic verification instrument when the ionizer is new.

If just a static meter, such as a Simco handheld electrostatic locator is available, ion output may be checked with the following procedure. Take a piece of plastic rub it with cloth until a static charge can be read with the static meter. Turn on the Endstat 2020 and hold the plastic 1 foot (300 mm) away from the ionized air outlet for 5 seconds. The plastic should indicate no significant charge on the static meter, verifying ion output.

If no instrumentation is available, ion output can be verified with the following procedure. Dispense about a 10 inch (250 mm) length of Scotch® brand (or equivalent) transparent tape. Approach the non-adhesive side of the tape with your free hand and note the electrostatic attraction of the tape to your hand. Pass the tape through the ionized air stream approximately 1 foot (300 mm) from the unit and again approach the non-adhesive side of the tape with your free hand. If the tape has been neutralized, verifying ion output, it will not attract.

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Specifications

Input Voltage	120 VAC, 60 Hz, 0.4A; 230 VAC, 50 Hz, 0.2A fan high			
Discharge	12" (305 mm)	24" (610 mm)	36" (915 mm)	48" (1220 mm)
Fan High	2.5	5	7.5	10
Fan Low	5	7.5	10	15
Balance	0 ±15V (nominal)			
Operating Env.	Temperature 50-95°F (10-35°C); humidity 30-60% RH (non-condensing)			
Airflow Volume	Fan high: 100 cfm (2.8m^3/min); fan low: 50 cfm (1.4m^3/min)			
Audible Noise	55 dBA max @ 39" (1m); high fan speed, measured perpendicular to air outlet			
Connector	IEC320			
Switch	On/off switch front panel (with power on indication light)			
Fan Speed	Two speed, switch on front panel			
Emitters	Stainless Steel			
Emitter Cleaner	Manual (knob actuated), nylon brush			
Stand	Non-conductive, non-staining polymer			
Enclosure	Formed Steel, Enamel			
Dimensions	5.7W x 8.2H x 3.7D in. (145 x 210 x 95 mm)			
Weight	7 lb (3.2 kg)			
Warranty	Two year limited warranty			

Offset voltage and discharge time determined as per ANSI/ESD STM3.1 using 6" x 6", 20 pF plate (Charged Plate Monitor). Discharge times are in seconds from 1000 volts to 100 volts.

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Warranty & Service

Simco-Ion provides a limited warranty for the Endstat 2020 Ionizing Blower. New products manufactured or sold by Simco-Ion are guaranteed to be free from defects in material or workmanship for a period of two (2) years from date of initial shipment. Simco-Ion liability under its new product warranty is limited to servicing (evaluating, repairing, or replacing) any unit returned to Simco-Ion that has not been subjected to misuse, neglect, lack of routine maintenance, repair, alteration, or accident. In no event shall Simco-Ion be liable for collateral or consequential damages. Consumable items such as, but not exclusive to, emitter points, emitter wires, batteries, filters, fuses or light bulbs are only covered under this warranty if found defective as received with the new product.

To obtain service under this warranty, please contact Simco-Ion Technical Support at techsupport@simco-ion.com or (510) 217-0470.

Notes

Notes

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