Installation / Operation / Maintenance

StaticControls

Hurricane 300
Hurricane 300-230
Ionizing Air Blower

Contact and separation creates static electricity which can cause materials like paper, plastic, textiles, and other non-conductive materials to randomly attract to or repel from themselves or their surroundings. In a manufacturing environment, the results of uncontrolled static electricity are lost production, poor quality, and hazards to plant and personnel.

Static electricity can be controlled with active and passive static bars,rods, and brushes which must be installed close to the material to be neutralized. Depending upon the type and manufacturer of such devices, distances between them and the material to be neutralized range from a few inches to almost touching the material.

Sometimes physical restrictions or the application itself prohibits the installation of static neutralizing equipment so close to the material. In that case, air is used to propel the static neutralizing "ionization" through distances of several feet. The *Static Clean* Hurricane 300 does just that. The Hurricane 300 Air Ionizing Blower is a ruggedly built, AC powered, extended range, self-contained, static neutralizing device designed to meet the challenges of hard to solve static problems. A variable speed control allows the operator to adjust the dual blowers so that bi-polar ionization formed at the face of the unit is propelled effectively to distances up to ten feet.

General Guidelines

- Make sure that the line voltage used to supply power to the Hurricane 300 is correct. It is essential to the performance of the unit and to the safety of the operator that the unit be properly grounded. Proper grounding is accomplished by inserting the line cord provided into a mating receptacle equipped with a known, properly connected ground. CAUTION: DO NOT REMOVE THE GROUND PRONG FROM THE LINE CORD!

- Overall, keep the unit clean and free of water, oil, grease and other contaminants that may cause the unit to short circuit, reduce efficiency, and shorten the useful life of the unit.

- Clean the ionizing points routinely for optimum performance. CAUTION: TURN THE POWER OFF BEFORE BRUSH CLEANING THE EMITTER POINTS. The length of time between routine cleaning will vary according to the cleanliness of the environment. In most applications, a quick brushing (or blow out with a compressed air gun) once each month is adequate.

Specifications

Power Requirements:	
H300	120 V, 60 Hz, 1PH
H300-230	230V, 50Hz, 1PH
	2.0 Amp (fan speed high)
Size:	16 3/8"w x 9 3/4"h x 13 1/4"d
Weight:	18.2 lbs.
Air Volume Output:	
H300	variable 110–300 cfm
H300-230	variable 90- 240 cfm
Effective Coverage:	2' x 10' area
Discharge Time:	0.5 seconds at 1'; fan speed high (decay 5000 V to 500 V, 20 pf plate)
Certification:	
H300	UL, CUL & CE
H300-230	CE

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11/05

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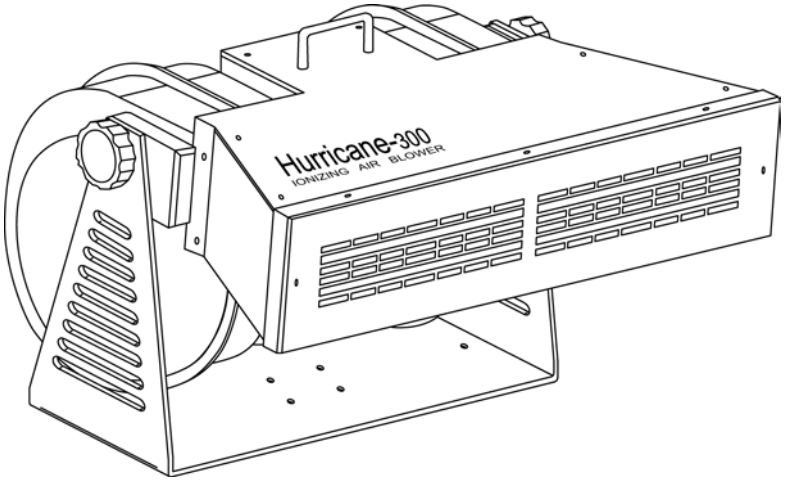
Hurricane 300 & Hurricane 300-230

Installation



Initial set-up and Positioning

Proper location and positioning of the Hurricane 300 is essential to satisfactory performance and to the life of the equipment. Because each application is somewhat unique, careful thought should be given to Establish the best location and installation.

Most of the time, the best place to install any type of static control equipment is immediately ahead of the problem. For example, if an operator is getting shocked from a rewound roll, then the ionizer should be placed so that the last thing the material passes before it winds onto the roll is the ionizer. The advantage of the Hurricane Air Ionizing Blower is that (unlike a static bar that must be mounted within inches of the material) it can effectively neutralize an electrostatically charged material from a distance of several feet. This means that the material will be in the effective range of a properly mounted Hurricane from the time it starts winding until it is fully wound. *(See Figure #1)*

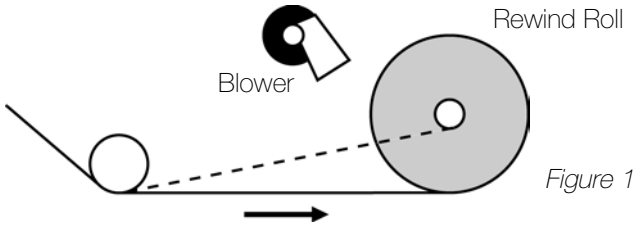


Figure 1

Another example would be neutralizing plastic parts as they exit a plastic injection mold and are conveyed to a container/tote. Keeping parts neutralized through this process will prevent them from re-attracting to the mold cavity; prevent them from attracting air borne contamination; allow them to fall freely from the conveyor and into the container, and prevent annoying, uncomfortable shocks to operators. *(See Figure #2)*

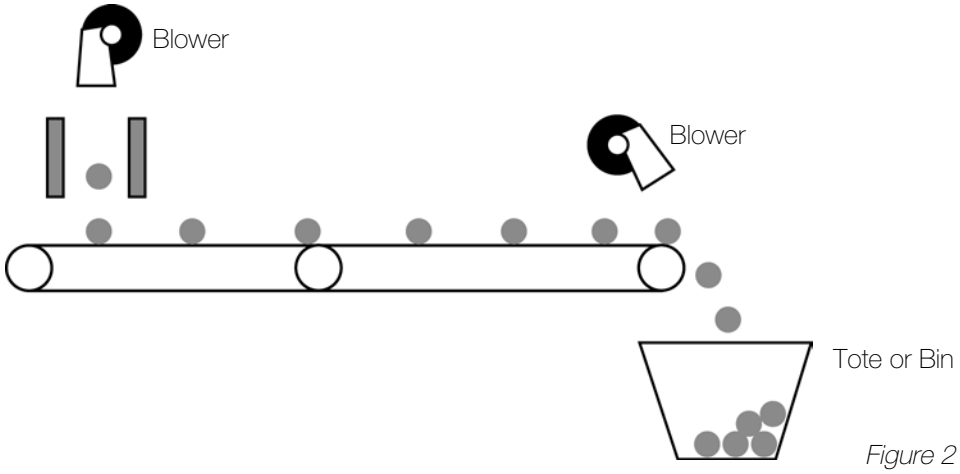


Figure 2

Ionizing Air Blower

To Achieve Best Results

- The Hurricane 300 must be properly grounded. It comes equipped with a UL-approved detachable line cord with a three-prong plug on one end and a three-prong receptacle on the other end. It is essential to the performance of the Hurricane 300 and to the safety of the operator that the third prong (ground) never be removed and that the three prong plug be inserted only into a properly wired and grounded three prong receptacle.

- Metal or other conductive materials (too close to the material to be neutralized) act as a sink for static neutralizing ions stealing them from the electrostatically charged material for which they are intended. Be sure that the material to be neutralized is not in contact with another surface. Direct the ionized air toward the material or parts just before or just after they come in contact with a background surface. As much as possible, the material or parts should be in free air to achieve maximum neutralizing results from Ionizers.

- The Hurricane 300 is an extended range air ionizer. It is capable of neutralizing electrostatically charged materials as distant as ten feet. However, the closer it is to the charged material, the faster the charge will be neutralized. If the charged parts are stationary, and the length of time required to neutralize them is of no consequence, then the Hurricane 300 could be sufficiently effective mounted at a distance of ten feet from the material. If the material were passing by the Ionizer at 1000 feet per minute, then it would be virtually ineffective from ten feet. On average, the most effective range for the Hurricane 300 is within two to four feet.

- The Hurricane 300 will operate efficiently above, below, or on either side of the material. Keeping the ionizing points facing downward will minimize contamination and falling foreign matter from collecting on them.

- A universal bracket and mounting hardware is provided with the Hurricane 300.

Maintenance

CAUTION: THE HURRICANE 300 USES HIGH VOLTAGE AND LOW CURRENT TO CREATE AIR IONIZATION. BE SURE TO TURN POWER OFF WHENEVER CLEANING OR SERVICING THE UNIT. ONLY CERTIFIED ELECTRICIANS AND QUALIFIED TECHNICIANS SHOULD ATTEMPT TO SERVICE AND MAINTAIN THE HURRICANE 300.

The Hurricane 300 requires little attention after it has been properly placed and installed. Although the internal power supply delivers 5300 volts, the ionizing points are connected through a resistor which renders the points shockless.This means that there is so little energy (current) available at the points that if an operator should accidentally touch them he or she would scarcely feel a tingle. However, use caution whenever the points are exposed; they are sharp and can cause pinpricks and scratches if mishandled.

The Hurricane 300 is designed to be rugged, dependable and trouble free. It can tolerate some contamination build-up without consequence but excessive contamination will reduce the efficiency. Periodic cleaning with the brush provided or with a compressed air blow-off gun will keep the Hurricane 300 performing at peak efficiency. Usually, in the average manufacturing environment, a quick once a month cleaning is sufficient (more often in a dirty environment, less often in a clean one).

Do not use a brush with metal bristles. Shedding metal bristles trapped in the unit's circuitry will lead to a short circuit condition and ultimate failure.

To help keep the ionizing emitter assembly free from contamination, a simple (to remove and replace) foam filter is installed on the intake side of each blower fan. Cleaning or replacing the filters should be included in the routine maintenance of the Hurricane 300. Running the Hurricane 300 over an extended period of time with clogged filters will cause the blower motor to labor unnecessarily and shorten the life of the unit.

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Trouble shooting

The Hurricane 300 is designed to neutralize static electricity by creating a field of positive and negative ions. When the electrostatically charged material is exposed to the field of bi-polar, ionized air, the material will attract the polarity required and become neutralized. If static electricity is the cause of a process problem, the problem can be brought under control, most of the time, with the proper choice, installation and use of Ionization equipment. If you find the Hurricane 300 does not significantly reduce or eliminate the problem, after it has been properly installed, please check the following:

- Is the female end of the line cord properly secured into the receptacle on the Hurricane 300?
- Is the fuse OK? (It is located on the receptacle at the female end of the line cord)
- Is the three-prong male end plugged securely into a proper mating receptacle with ground?
- Is there continuity between the known ground and the Hurricane 300 chassis?
- Is there power at the outlet?
- Does the power being supplied match the power requirements on the nameplate?
- Is the Hurricane 300 properly placed and secure?
- Is there free air (and no background surface) surrounding the charged material as described earlier?
- Are the foam filters (on the inlet of the blower fans) clogged or is the airflow restricted in any way?
- For a 230, 50Hz Hurricane 300 Blower, you will likely have to cut the three prong plug and install a male plug to mate with the local receptacle

Call *Static Clean International* and speak with one of the customer service or technical field representatives for further assistance. (781) 229-7799

About Static Clean International

At *Static Clean*, we've been providing Static and Contamination Control Solutions to clients worldwide since 1973. We capitalize upon this wealth of experience to service our customers in a variety of ways. Whatever their needs, our comprehensive approach to controlling static / contamination translates into a much lower total cost of ownership solution for them.

Industrial Applications

For our customers, we provide a line of Static and Contamination Control industrial products including static bars, power supplies, ionizers and WebVacs that we manufacture ourselves. These exceptional products address a host of common process problems including mis-feeds, poor lamination, jogging and stacking problems, shock to operators, jammed injection molds, particle contamination, fires and explosions.

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