

StaticClean Hurricane 300B

Balanced Ionizing Air Blower



The H300B (Hurricane 300B) extended-range ionizing blower is designed to cover a wide target area up to 10' away and may be used in web applications, especially those in which it is not feasible to mount ionizing-electrodes (static) bars in close proximity to the web. The H300B also includes proprietary ion-emissions balancing circuitry and construction (patent pending) to minimize or null the electric potential on the target, making it a good choice for more sensitive applications such as some medical or electronics products.

The blower motor 3-speed selector switch provides a range of air velocity and delivery rate from the dual centrifugal fans, with low emissions to eliminate conductive interference with other electronic equipment.

Balance Adjustment

Early-life balance: An adjustment located on the bottom panel of the blower provides compensation for early-life drift of ionizing electrode efficiency. Adjustments should be performed with a clean (or cleaned) unit under application conditions and settings (e.g. fan speed), with user-interface adjustment set from "0" to "5" (potentiometer shaft rotated fully counterclockwise to halfway-clockwise).

User-interface balance: An adjustment located on the user-interface panel of the blower provides compensation for later-life drift of ionizing electrode efficiency. This adjustment should be performed once bottom-panel potentiometer position is at zero-scale (fully clockwise, from bottom).

General Guidelines

- Keep the unit clean and free of water, oil, grease and other contaminants that may cause short circuits, reduced efficiency, and shortening of 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 blowing out with a compressed air gun) once each month is adequate.

Specifications: Hurricane 300B

Input: 120 V, 60 Hz, 0.8A
 Size: 16½" w x 10½" h x 14½" d
 Weight: 17½ lb
 Air Delivery: 100 to 300 cfm
 Effective Coverage: 2' x 10' area
 Voltage Offset¹ (after full balance adjustment): ±10V @ 1' (fan speed MEDIUM)

Discharge Times¹
 (5000V...500V,
 long-term balance
 set to minimum
 compensation):

Distance	Fan Low	Fan Medium	Fan High
1 ft	0.6 sec	0.5 sec	0.5 sec
2 ft	1.3 sec	1.2 sec	1.0 sec
3 ft	2.3 sec	1.9 sec	1.7 sec
4 ft	3.2 sec	2.6 sec	2.3 sec

Discharge Times²
 (1000V...100V,
 long-term balance
 set to minimum
 compensation):

Distance	Fan Low	Fan Medium	Fan High
1 ft	0.7 sec	0.6 sec	0.5 sec
2 ft	1.3 sec	1.1 sec	0.9 sec
3 ft	1.7 sec	1.5 sec	1.3 sec
4 ft	2.2 sec	1.8 sec	1.6 sec

Notes 1,2: per ANSI/ESD STM 3.1



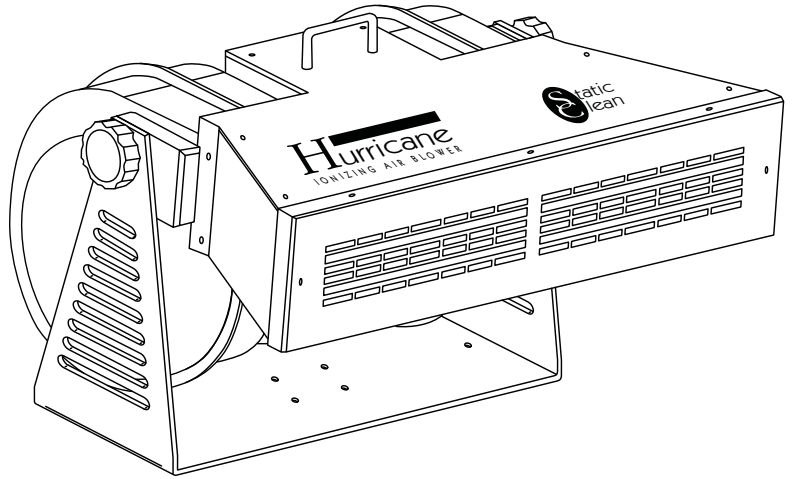
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Installation

Initial Setup and Positioning

Proper location and positioning of the H300B 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 rewind 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)

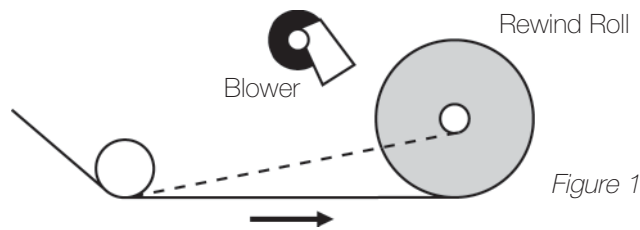


Figure 1

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)

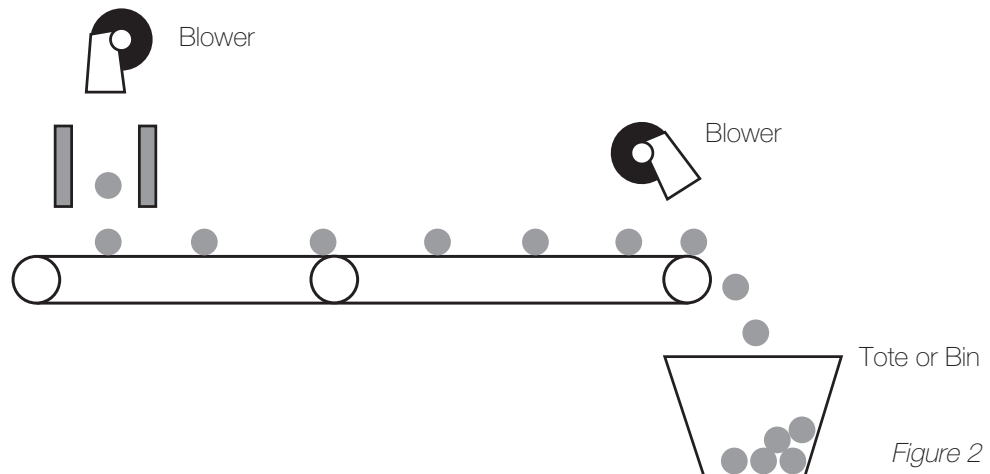


Figure 2

Balanced Ionizing Air Blower

For Operator Safety and Best Performance

- The H300B must be properly grounded to reduce risk of electric shock. It comes equipped with a detachable 3-conductor power cord with a grounding wire and 3-terminal plug. It is essential to the performance of the H300B and to the safety of the operator that this or any other power cord applied be used with compatible 3-terminal power outlet, both of which must include grounding. Do not alter the plug of any power cord to be used with the power outlet. Hardwired installations must include a grounding conductor terminated to electrical earth.
- 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 H300B 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 H300B 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 H300B is within two to four feet.
- As long as the ionized air flow from the H300B is blowing directly on the target material or parts, it will operate efficiently above, below, or on either side of the target. Keeping the ionizing points facing downward when possible will minimize contamination and prevent falling foreign matter from collecting on them.
- A universal bracket and mounting hardware is provided with the H300B.

Maintenance

WARNING: The H300B generates high voltage internally. Be sure unit is powered off whenever cleaning or servicing.

RISK OF ELECTRIC SHOCK: These servicing instructions are for use by qualified personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless qualified to do so.

The H300B requires little attention after it has been properly placed and installed. Although the internal power supply delivers 7500 V_{AC}, 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 H300B 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 H300B 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 H300B. Running the H300B 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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Troubleshooting

The Hurricane 300B 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 300B 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 300B?
- 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 H300B chassis?
- Is there power at the outlet?
- Does the power being supplied match the power requirements on the nameplate?
- Is the H300B 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?

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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