

# ElectraFlow HDO-306

## Overhead ESD Ionizer for ESD Mitigation

### Specifications and Instructions for Use

Revision Date: 8.21.23



### PRODUCT OVERVIEW

The Heavy Duty HDO-306 4 fan overhead ESD ionizer provides an ionic output of up to 440 CFM. Its balanced (+/- 5 V) ionic output makes it **the** perfect selection for large static control ESD workbenches, static free work areas, production lines, packaging and more. Unlike many ionizers that require contaminant free air and continual maintenance, the HDO-306's steady-state, self- balancing circuitry continuously adjusts to compensate for emitter point wear, line voltage fluctuations, variations in air particulate and velocity, keeping maintenance to a minimum and performance to a maximum. The HDO-306 is relatively quiet, with fully adjustable airflow, long life tungsten emitters (typical life span 5 plus years) and a casing manufactured of an aluminum alloy with a static dissipative powder coating.

### SPECIFICATIONS

Line Voltage	110V/60Hz standard, 220V/50Hz optional
Current Draw	Max 1.66 Amp (fan high), Min 0.83 Amp (fan low)
Operating Temperature	32° F to 122° F, (0 ~50°c)
Weight	26.5 pounds (12 kg)
Finish and casing material	Powder coated aluminum alloy
Size	46.5" (L) x 6.10" (W) x 4.33" (H) inches
Air volume output	Fan speed 180 to 440 CFM (sum of four fans)
Air coverage	28" x 54" (inches)
Recommended distance from work surface	24" to 54" (inches)

### DECAY TEST RESULTS

Testing Condition, decay time in seconds				
Operating Voltage: 110V/220V, Testing Voltage: 1kV to 100V, Temperature: 72°F				
Distance	300mm	600mm	900mm	1200mm
Left	0.7	2.1	4.9	6.1
Center	0.6	1.9	4.2	5.7
Right	0.7	2.0	4.7	6.0

## INSTRUCTIONS FOR USE:

**Installation:** The HDO-306 is an overhead unit designed to provide ideal coverage for control of electrostatics. Note: Do not insert objects into air intake or outlet grill and do not operate the HDO-306 in inflammable or explosive environments. The HDO-306 ionizer should be affixed 24 to 54 inches above the work surface with center targeted directly over work area. This unit may also be positioned and operated vertically should conditions dictate. Avoid drafty locations such as that caused by air conditioning, heater outlets, etc.



**Attachment to overhead supports:** Mounting to ceilings and shelves; S hooks and chains may be used for mounting the ionizer to structurally sound ceilings or wire shelves. Chains and mounting hardware should have a minimum safe working load of at least 50 pounds. When mounting the unit to ceilings it's important to check state and local codes to insure compliance. The units are typically hung in the same fashion as overhead light fixtures (independently attached to the overhead building superstructure). The attachment of overhead items from suspended ceilings only is typically not compliant with local codes.

Mounting to workbench overhead supports: These ionizers may be mounted to work bench overhead shelves and beams using the supplied [side mounting bracket](#) in conjunction with angle iron, bolt on L brackets etc. These ionizers may be used either horizontally or vertically.

**Electrical Requirements:** The HDO-306 requires 110VAC /60Hz (standard) or 220VAC / 50Hz (optional) power. These units must be grounded. Each unit is supplied with standard US 3 prong male grounded power plug (standard). Do not modify the plug or use an ungrounded 3 prong receptacle. If an extension cord is required use heavy gauge fully grounded cords only.

**Operating Procedure:** Activate the HDO-306 ionizing blower by turning the fan speed knob clockwise. The ionization indicator will illuminate and indicate the presence of ionized air. Airflow speed may easily be adjusted from 25% to 100% output utilizing the fan speed knob. The time required to neutralize electrostatic potential is dependent on the distance of ionizer to work surface, the voltage collected on the insulator and the speed of fans. When used in electronic assembly the ionized air stream should cover as much of the working area as possible. The constant flow of ionized air prevents items from developing an electrostatic potential and neutralizes electrostatic charges present on objects introduced to the airflow.

**Routine Maintenance:** Clean emitter's points as needed. Inspect the points on occasion using a flashlight (and magnifying glass if needed). The points should be sharp and free of carbon build up and residues. To clean the ion emitter points press and turn the emitter cleaner knob (located in the center of each air outlet) clockwise one full turn and release the knob. The emitter points should always be sharp and not rounded at the point. Should these tips become rounded simply replace the emitter ring. **Please Note: The typical emitter life is greater than 5 years.** Replacement emitters rings are easy to install and available from United SCP.

**Testing:** Periodically test the ionic output as indicated by your internal ESD program to ANSI/ESD S 20.20-2021, ANSI/ESD STM3.1 / TR53 (Ionizations Section). Discharge time for this document is now user defined. Should this ionizer exceed an offset voltage of +/- 35 volts contact United SCP.