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Bench Top Ionizer Installation, Operation and Maintenance



Made in the
United States of America



Figure 1. Trustat Bench Top Ionizer

Description

The Trustat Bench Top Ionizer is a compact (8.5" high x 6.0" wide x 2.6" deep) ionizer used for neutralizing electrostatic charges on insulators and ungrounded conductors in a 12" x 24" coverage area. Its discharge times (< 2 seconds at 12") and ± 25 Volt offset voltage meet the required limits of ANSI/ESD S20.20 and ESD TR53. The Trustat Bench Top Ionizer operates on pulse DC. Pulse DC systems consist of separate negative and positive ion emitters connected by a pair of high-voltage cables to their respective high-voltage power supplies. The two polarities alternately pulse on and off to limit ion recombination. The ionizer's one speed fan (77 CFM) produces consistent performance within the coverage area. The Trustat Bench Top Ionizer features a powder coated steel enclosure.

The Trustat Bench Top Ionizer is available in two models:

Item	Voltage
04622	120 VAC
04623*	220 VAC

*Power cords are not packaged with the 04623 ionizer and must be purchased separately. They are available as EMIT item numbers 50545 (Europe) and 50546 (UK/Asia).

Packaging

- 1 Trustat Bench Top Ionizer
- 1 Power Cord, North America (04622 only)
- 1 Emitter Point Cleaner Pack
- 1 Certificate of Calibration

Features and Components



Figure 2. Trustat Bench Top Ionizer features and components

A. Power Switch: Toggle the switch up to turn the ionizer ON. Toggle the switch down to turn the ionizer OFF.

B. Balance Adjustment: Remove the cap to expose the balance offset voltage adjustment potentiometer. Turn the potentiometer clockwise for positive adjustment. Turn the potentiometer counter-clockwise for negative adjustment.

C. Rate Adjustment: Remove the cap to expose the rate adjustment potentiometer. The rate or pulse frequency can be adjusted down to one pulse per second or up to 20 pulses per second. Turn the potentiometer clockwise to increase the rate. Turn the potentiometer counter-clockwise to decrease the rate.

D. Power LED: Illuminates blue when the ionizer is powered ON.

E. Pulse Rate LEDs: Illuminates red when positive ions are emitted and green when negative ions are emitted.

Installation

Place the unit at a desired location where the airflow will not be restricted. Ensure that the power switch is set to OFF. Connect the ionizer's power cord into an appropriate AC power source.

Operation

1. Position the ionizer so that maximum airflow is directed towards the items or area to be neutralized.
2. Turn the unit ON. The power LED will illuminate and remain solid. The pulse rate LEDs will blink during normal operation.



Figure 3. Using the Trustat Bench Top Ionizer at a workstation

Maintenance

CLEANING THE EMITTER POINTS

Shifts in offset voltage (balance) are often caused by particle build-up on the ionizer's emitter points. To maintain optimum neutralization efficiency and operation, cleaning should be performed on a regular basis.

Use the Desco [60506](#) Emitter Point Cleaners or a swab dampened with Isopropyl alcohol to clean the ionizer's emitter points.

1. **Turn the unit OFF and unplug the power cord.**
2. Open the rear screen by loosening the screw and swinging the grill to one side.



Figure 4. Opening the Trustat Bench Top Ionizer's rear screen in order to access the emitter points

3. Clean the emitter points using the included Emitter Point Cleaners or a swab dampened with Isopropyl alcohol.
4. Reattach the rear screen.
5. Plug in the power cord and turn the unit ON.
6. Verify the performance of the ionizer by using a charged plate analyzer or ionization test kit.

The emitter points should not require replacement during the life of the unit with normal handling. If necessary, Desco [60507](#) Replacement Emitter Points are available for purchase.

Compliance Verification

Compliance Verification should be per ESD TR53. Offset voltage (balance) and both polarity's discharge time should be checked on every ionizer periodically using an Ionization Test Kit or a Charged Plate Analyzer. Clean the emitter points (with electrical power off), adjust offset voltage (balance) to zero and then re-test for offset voltage (balance) and discharge times recording the measurements.

Accessories

60509 IONIZER MOTION SENSOR

Desco offers the [60509](#) Desco Ionizer Motion Sensor as an accessory for your Trustat Bench Top Ionizer. Use it to activate your ionizer when an operator is present and deactivate it when the workstation is vacant. The Ionizer Motion Sensor conserves energy and reduces ionizer maintenance.

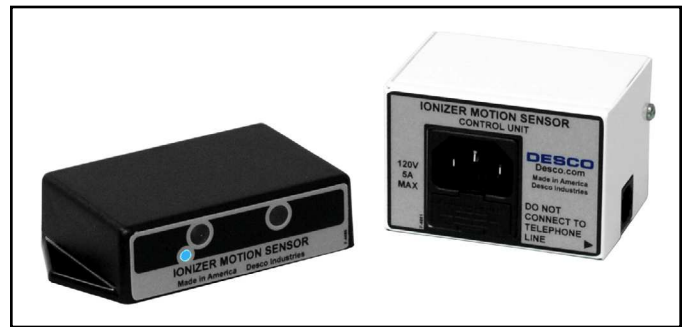


Figure 5. Desco [60509](#) Ionizer Motion Sensor

Neutralization (Discharge) Times

All time measurements are in seconds.

NOTE: Discharge times in seconds are representative only and are not a guarantee. Discharge times are actual measurements recorded in a factory ambient environment.

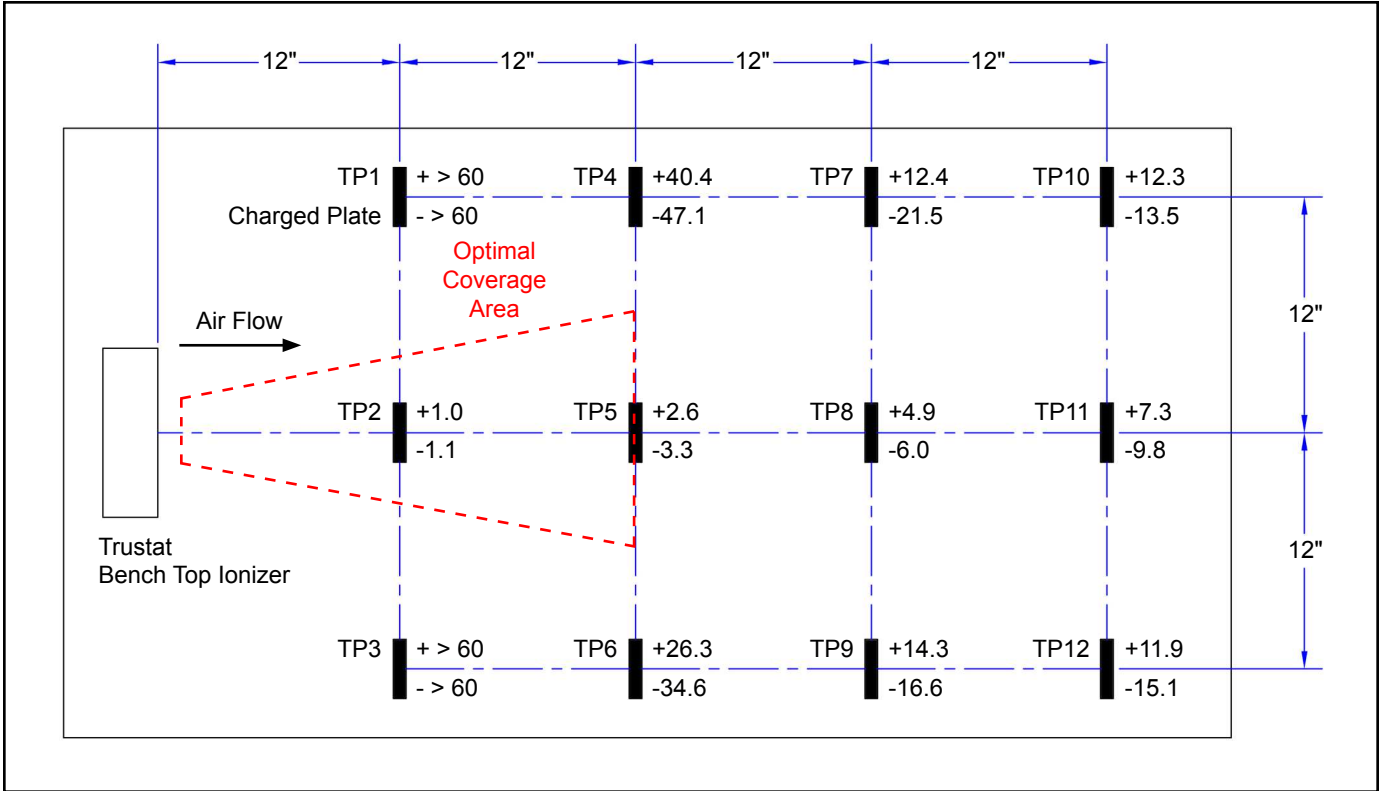


Figure 6. Neutralization (Discharge) Times at 120VAC / 220VAC, 60Hz input

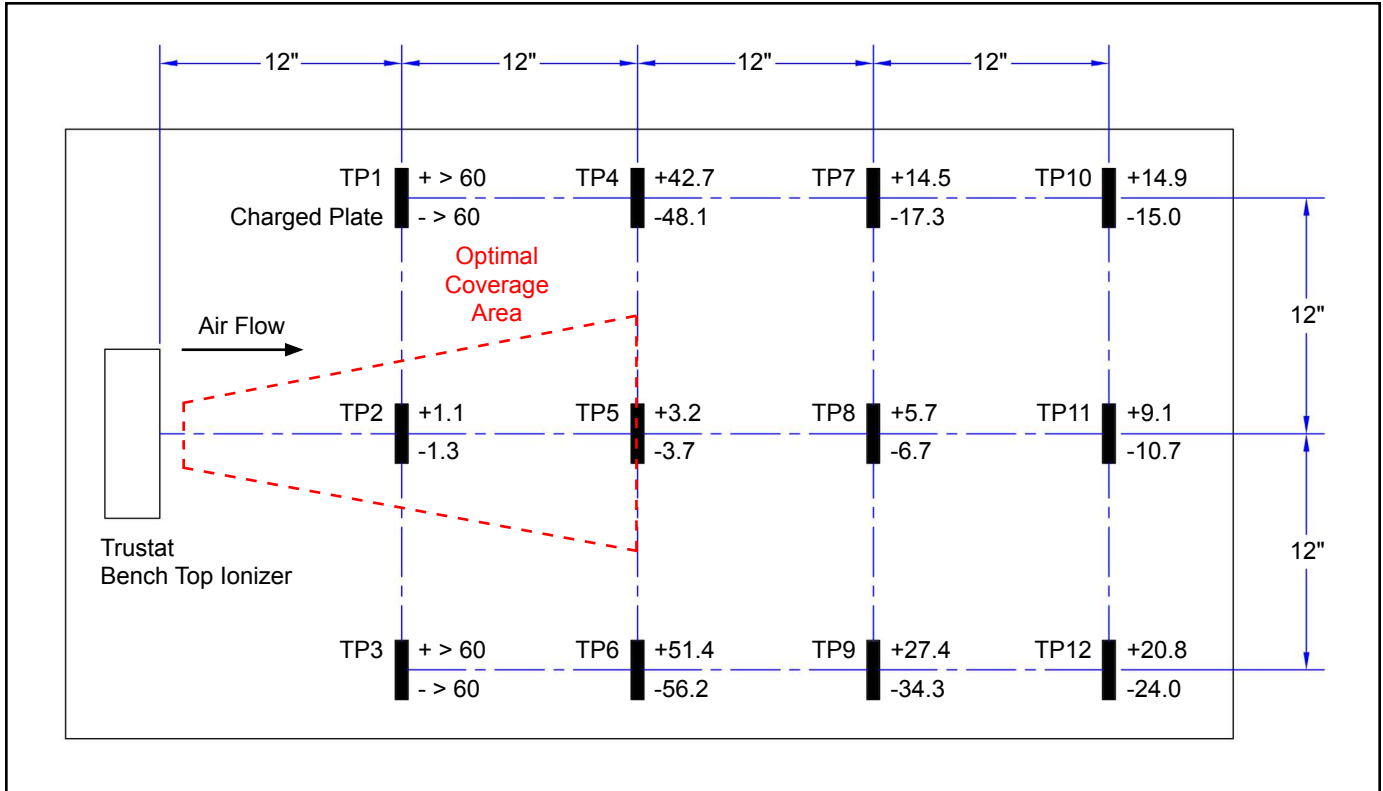


Figure 7. Neutralization (Discharge) Times at 100VAC, 50Hz input

Specifications

Air Flow

One speed fan (77 CFM)

Balance (offset voltage) at 12" in front of ionizer

±10 Volts Typical
 ±25 Volts Maximum
 (Temperature Range: 65°F to 80°F, RH: 15% to 65%)

Chassis

Powder coated steel

Dimensions

8.5" x 6.0" x 2.6"
 (22 cm x 15 cm x 7 cm)

Emitter Points

.050" diameter
 Made of pure tungsten for improved mechanical strength and ionization stability.

High Voltage Power Supply

5.5kV DC nominal

Input Power

AC line power
 100/120 VAC - 50/60Hz (04622)
 220/230 VAC - 50/60Hz (04623)**

**IEC C14 style inlet

Power Usage

15 Watts

Ion Emission

Pulse DC

Ozone

< 0.05 ppm

Weight

3.6 lbs (1.6 kg)

Limited Warranty, Warranty Exclusions, Limit of Liability and RMA Request Instructions

See [Desco Terms and Conditions](#)