Bench Top Ionizer
Installation, Operation and Maintenance

The Trustat Bench Top Ionizer is available in two models:

<table>
<thead>
<tr>
<th>Item</th>
<th>Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>04622</td>
<td>120 VAC</td>
</tr>
<tr>
<td>04623*</td>
<td>220 VAC</td>
</tr>
</tbody>
</table>

*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

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.
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 2. Trustat Bench Top Ionizer features and components*

*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](image)

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](image)
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