TERRA UNIVERSAL.COM
Critical Environment Solutions



*Quick-Start Operating Guide* *Document No. 1800-39*

# Ionizing Modules for Terra Desiccators

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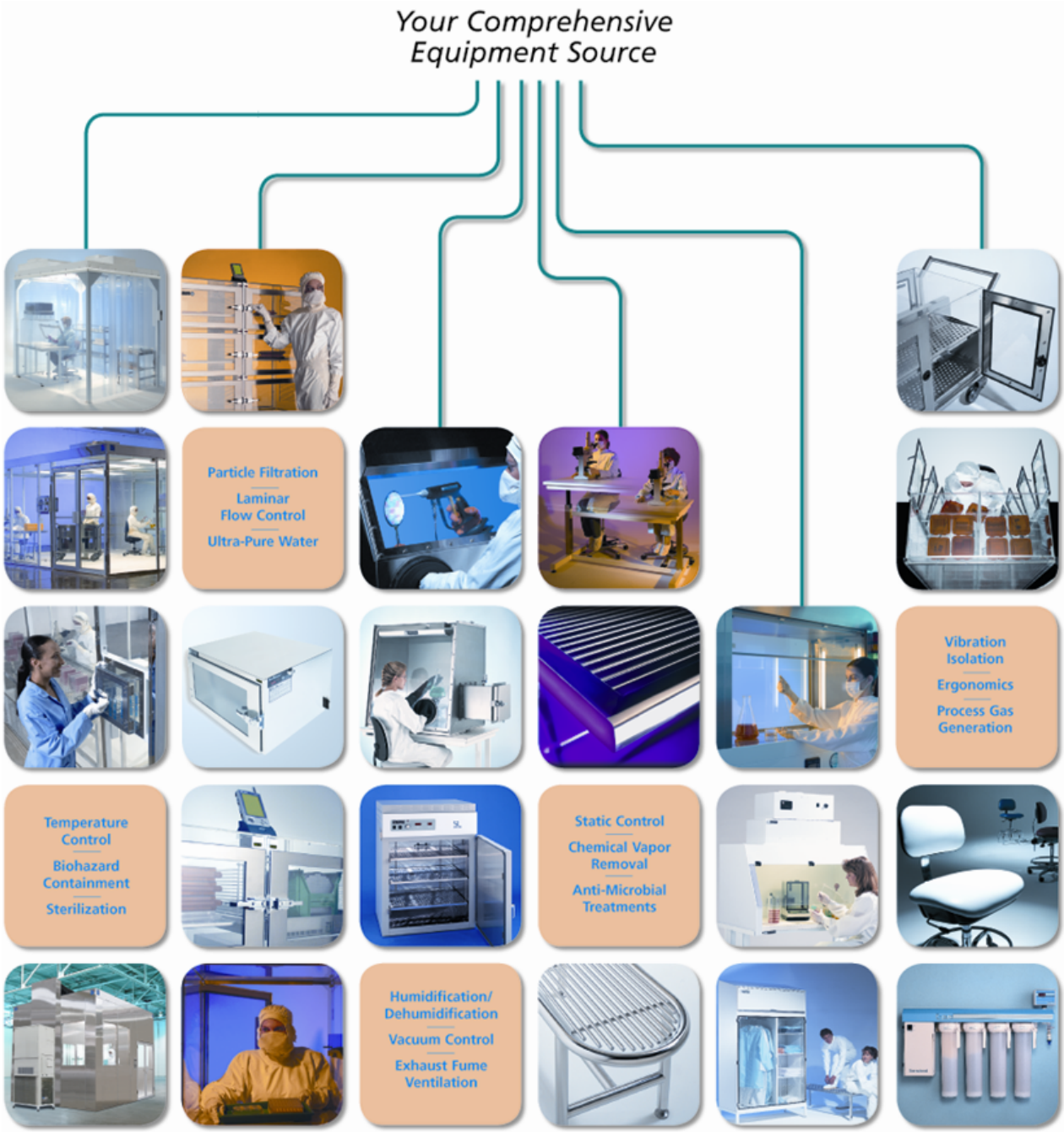


*Terra Universal, Inc. • TerraUniversal.com • 800 S. Raymond Ave. • Fullerton, CA 92831 • TEL: (714) 578-6000 • FAX: (714) 578-6020*

*Quick-Start Operating Guide*

# Ionizing Modules for Terra Desiccators

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### Safety Notice

A thorough familiarity with all operating guidelines is essential to safe operation of the product. Failure to observe safety precautions could result in poor performance, damage to the system or other property, or serious bodily injury or death.

The following symbols are intended to call your attention to two levels of hazard involved in operation:

CAUTION — **Cautions are used when failure to observe instructions could result in significant damage to equipment.**

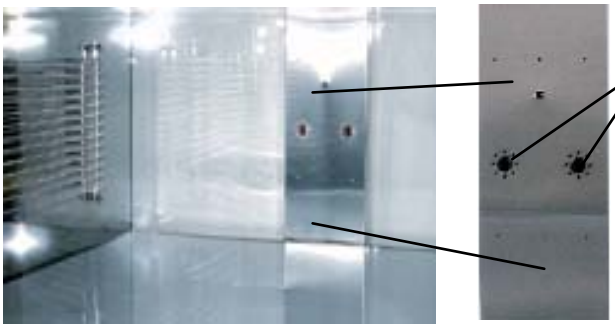
WARNING — **Warnings are used when failure to observe instructions or precautions could result in injury or death.**

The information presented here is subject to change without notice.

## 1.0 Introduction

This manual provides information on installing and operating your Terra Universal Ionizing Module.

By studying this document carefully, you can be assured of a long, efficient service life from your system.




## 2.0 Description

Terra's Desiccator Ionizing Module incorporates pairs of ion emitters in each desiccator chamber that generate a balanced stream of positive and negative ions to safely neutralize static charges on surfaces sensitive to electro-static discharge. This module is designed for installation in a pressurized (purged) cabinet. The purge gas distributes the positive and negative up to 48" from the emitter tips (see "Specifications" for static decay rates).

Because the Ionizing Module operates at low voltage (24 VAC), it is safe to operate and generates minimal RFI/EMI. The stainless steel case contains the low-voltage power supply and titanium emitters, which can be replaced in a matter of minutes.

**Note:** Refer to QuickStart document No. 1800-45 for ionizing equipment used for hoods, modular cleanrooms, and glove boxes.

## 3.0 Installation

Carefully unpack your desiccator cabinet (refer to separate QuickStart for desiccator set-up). Report any shipping damage immediately to the freight company.

The Ionization Module is installed in the desiccator plenum chamber before shipping. Use the low-voltage connector and power cable included to connect the Module to the power transformer. Then connect the transformer to the appropriate power supply (120VAC or 240VAC). A single transformer provides ample power for up to 20 emitter pairs.

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Once connected to power, the Module immediately emits balanced streams of positive and negative ions through each emitter pair. For effective ion distribution, make sure that the bar is installed in a gas flow of at least 50 feet/minute.

## 4.0 Maintenance

The Ionizing Module requires little maintenance beyond occasional cleaning. Frequency of cleaning depends on the cleanliness of air in the immediate vicinity of the Module.

If deposits are observed on the emitter tips,

1. Disconnect from system power.

2. Use a cleanroom swab moistened with a cleaning solution of 50% isopropyl alcohol and 50% de-ionized water to remove deposits from the emitter points.

3. If deposits cannot be removed, or if the tips appear worn or bent, the Ionizing Module may not discharge surfaces with optimal efficiency. In this case, replace the tips. Use a pencil eraser or needle-nosed pliers to remove the old tip. Insert the new tip and gently press until it seats against the connector; no twisting is necessary.

| | Cat. # |
|---|---|
| **Replacement Titanium Emitters** | **2005-45** |

The emitter housing may be cleaned using alcohol or other mild detergent and de-ionized water.

## 5.0 Specifications

| | |
|---|---|
| Emitter Points: | Replaceable machined titanium, 3-year estimated life (field replaceable) |
| Input Power: | 24 VAC – order transformer separately: No. 2005-09A (110VAC) or No. 2005-09A-220 (220VAC)* |
| Emitter output: | 2,000 V (one each positive and negative); ± 50 V charge balance |
| Power Indicator: | Red LED |
| Ion Emission: | Steady-state DC, 104mA current draw (44" model) |
| Air flow: | 50 fpm (.030 m/s) minimum required at bar for proper operation |
| Static Decay Time: | Discharge times directly under the IonBar™ average 28 seconds (from ± 1,000 volts to 100 volts), measured in a 4-foot laminar flow hood with air speed of 90 feet/minute. |
| **Power Transformer*** | |
| Input Power: | 120 VAC, 50/60Hz or 220VAC, 50 Hz |
| Output Power: | 24 VAC, 1.0 Amp – drives up to 20 emitter pairs (low-voltage telephone cable, not furnished, is required to interconnect IonBars) |
| Dimensions: | 2.75" x 3" x 1.75" |
| Weight: | 1 lb. |

- Power transformer included with Ionizing Fan Filter Unit and Glove Box Ionizing Module

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## 6.0 Warranty

**Products Manufactured by Terra:** Terra Universal, Inc., warrants products that it manufactures to be free from defects for a period of 12 months for parts and 90 days for labor, commencing from the date of shipment. Terra's sole responsibility is to repair or replace, at its option, any part of the product that proves defective or malfunctioning during this time limit. In some cases, components incorporated in Terra Universal products are covered by additional warranties from component manufacturers; obtain specific information from Terra sales representatives. This warranty is void if the equipment is abused or modified by the customer, is operated outside Terra's operating instructions or specifications, or is used in any application other than that for which it is specified. This warranty does not include routine maintenance or service procedures, breakage of quartz baths after 60 days, shipping damage, nor damage from misuse, intentional or unintentional abuse, neglect, natural disasters, or acts of God.

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**Freight Shortage or Damage:** Upon receipt of any equipment from Terra Universal, Inc., customer shall immediately unpack and inspect for damage or shortage. The customer shall not accept a damaged package or a short shipment until the carrier makes a "damage or shortage" notation on both the carrier's and customer's copy of the freight bill or delivery receipt. Service title passes when the shipment is loaded, so customer is responsible for filing and collecting a freight claim. Any replacement products must be ordered and paid for separately. For Terra's "Policy and Procedures for Returning Goods," see Terra's Internet site: www.TerraUniversal.com.

Generally, customers can improve the chance of collecting on a freight claim by following these procedures: 1) formally requesting that the carrier inspect the shipment immediately upon suspecting damage or shortage to verify condition; 2) notifying the carrier upon discovery of concealed damage and requesting an inspection within 15 days of receipt, both in person or phone and following up via mail; 3) keeping the shipment as intact as possible, including retaining original packaging materials and keeping the product as close to the original receiving location as possible; 4) holding salvage for disposition by the carrier.

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**Warranty Returns:** All warranty returns must be authorized in advance by Terra Universal and approved under an RMA. Unless approved in advance for good reason, all returns must be in original condition, including all manuals, and must be packaged in original packaging materials. All returned goods are to be shipped to Terra Universal, freight prepaid at customer's expense. See Terra's "Policy and Procedure for Returned Goods."

***Thank you for ordering from***
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