

# Filtration/Recirculating Glove Box

© Copyright 2017 Terra Universal Inc. All rights reserved. • Revised May 2017



Your Comprehensive  
Equipment Source





## Proprietary Notice

This manual pertains to proprietary devices manufactured by Terra Universal, Inc. Neither this document nor any portion of it may be reproduced in any way without prior written permission from Terra Universal.

Terra Universal makes no warranties applying to information contained in this manual or its suitability for any implied or inferred purpose. Terra Universal shall not be held liable for any errors this manual contains or for any damages that result from its use.

## 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 Filtration/Recirculation Chamber.

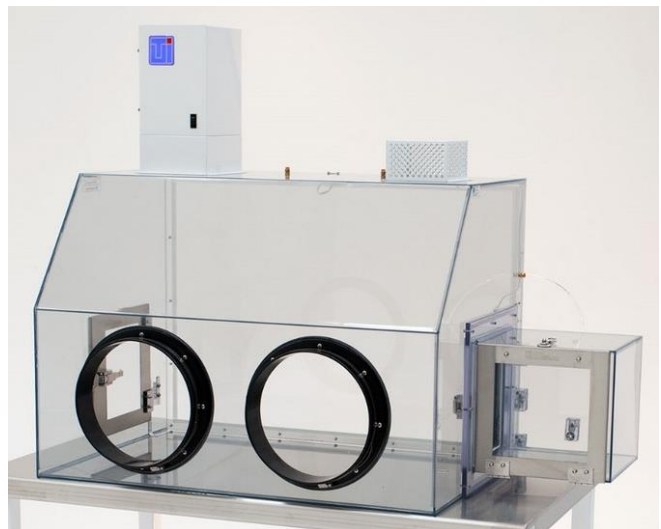
By studying this document carefully, you can be assured of a long, efficient service life from your system.

## 2.0 Description

Terra Universal's Filtration/Recirculation Chamber allow continuous filtering of process gas or exhaust. Two configurations are available, either of which can be installed on any standard Terra Universal plastic or stainless steel glove box.

### Closed-Loop Filtration Module (for Continuous Recirculation)

This configuration includes a 460-CFM impeller blower, mounted in an acrylic or stainless steel housing that draws air into the glove box through an inlet ULPA filter (rated 99.999% efficient @ 0.12 micron particles). This filter removes particulates, aerosols, spores and other contaminants to ensure a clean process environment. A four-position PVC diverter valve lets you determine the percentage of fresh make-up air entering the chamber: either 100% (no recirculation); 0% (complete recirculation); or 50% (half fresh, half recirculated). Pipes are 2" diameter PVC (other sizes and materials are available).



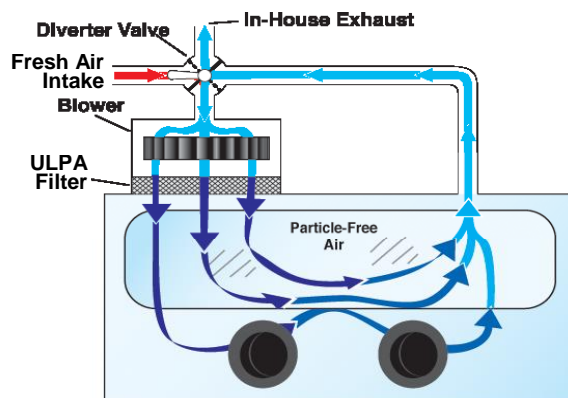
*Open-Loop Filtration Glovebox shown. A single pass of air enters the chamber via an ULPA filter, and exits through a second ULPA filter.*



# Filtration/Recirculating Glove Box

## Open-Loop Filtration Module (for Indoor Release of Process Gas)

This configuration includes a 460-CFM impeller, mounted in an acrylic or stainless steel housing that draws air into the glove box through an inlet ULPA filter (rated 99.999% efficient @ 0.12 micron particles). This filter removes particulates, aerosols, spores and other contaminants to ensure a clean process environment. An ULPA exhaust filter removes contaminants from the outflowing air to ensure that air exiting the system is safe for indoor release. Both filters are enclosed in a disposable acrylic housing to ensure safe handling during change-out.



**Closed - Loop Filtration Module**

## 3.0 Installation

Before installation and operation, carefully unpack the glove box and remove it from the crate. Check for signs of damage or missing parts (report damage to the shipping company immediately).

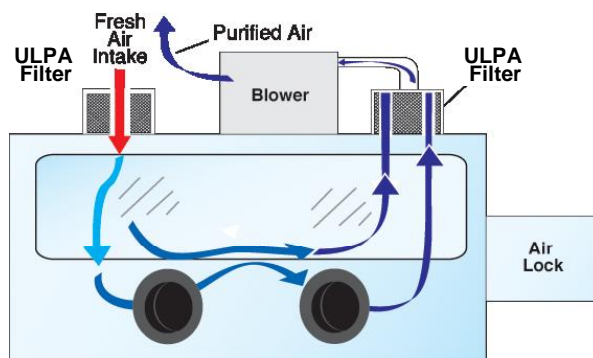
The glove box (and frame, if included) should be installed on a sturdy, level surface. Wipe down all surfaces with a particle-free cloth.



**CAUTION:** Never use alcohol or other cleaning agents on acrylic surfaces.

## 4.0 Maintenance

The only maintenance typically required by these systems is an occasional filter change. Filters retain their efficiency as they pick up particles, but the resulting increase in backpressure causes noisier blower operation. To replace the filter of the Closed-Loop system, simply remove the screws that hold the filter/blower housing to the top of the glove box and lift to expose the filter. Replace with a part number 1685-81, ULPA filter.



**Open - Loop Filtration Module**

The ULPA filters (part number 1685-81) on the Open-Loop Filtration Module are enclosed in an acrylic housing to minimize contact with potentially harmful powders that might collect in the filter medium. Both filter modules are attached to the glove box by means of removable screws. The inlet filter module must be detached from the PVC blower piping before it can be replaced.

For complete information on Terra Universal glove boxes, refer to Operating Manual No. 1800-13 (for Stainless Steel Glove Boxes) and 1800-42 (for Polymer Glove Boxes).



## **5.0 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.

**Products Manufactured by Others:** Terra Universal, Inc., warrants that, to the best of its ability, Terra's representations of products that are manufactured by others reflect the manufacturer's representations, subject to change without notice. Sole warranty for these products is the original manufacturer's warranty that is passed forward to the purchaser and constitutes the customer's sole remedy for these products. Detailed warranties for distributed products are available through Terra sales representatives.

**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](http://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.

**All Claims:** Terra Universal expressly disclaims all other warranties, expressed or implied or implied by statute, including the warranties of merchantability or fitness for intended use. Terra Universal is not responsible for consequential or incidental damages arising out of the purchase or use of the products supplied by Terra Universal. Terra Universal is not liable for damage to facilities, other equipment, products, property or personnel of others, or of their agents, suppliers, or affiliated parties, which is caused or alleged to have been caused by products supplied by Terra Universal. In any event or series of events, Terra Universal's total liability for any and all damages whatsoever is limited to the lesser of the actual damages or the original invoice cost of the items alleged to have caused the damage. The customer's sole and exclusive remedy for any cause of action whatsoever is repair or replacement of the non-conforming products or refund of the actual purchase price, at the sole option of Terra Universal. All claims must be made in writing within 90 days of the date the product was shipped. Any claims not made within this time limit shall be deemed waived by the customer. Terra Universal is not responsible for any additional costs of repair caused by poor packaging or in-shipment damage during return.

**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  
Terra Universal!***