



**TERRA UNIVERSAL.COM**

**Critical Environment Solutions**

# Quick-Start Operation Guide 1800-07

## Pass-Through Chamber



### Other Critical Environment Solutions:

Particle Filtration (HEPA, ULPA, Nano) • Humidification/Dehumidification • Low/High Temperature  
Vacuum Control • Laminar Flow Control • Static Neutralization • Dissipative Materials • Chemical Vapor Removal  
Nitrogen & Clean Dry Air Generation • Antimicrobial Treatments • Process Gas Conditioning • Radiation Containment  
Cytotoxin Control • Ultra-clean Materials • UV Sterilization • Ergonomics • Vibration Isolation

Custom Design and Manufacturing





### 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. The information presented here is subject to change without notice.

### 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:

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

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

## Introduction

This manual provides information on operating and maintaining your Terra Pass-Through Chamber. By studying it carefully, you can be assured of a long, efficient service life from the unit.

## Installation

1. Make a cut-out in the wall 1/2" larger than the height and width of the Pass-Through. The perimeter of this opening should be lined with a rigid support material (wood or metal).
2. Insert the Pass-Through into the wall from the "clean" side until the welded mounted bracket is flush with the "clean" side wall. Secure the unit to the wall (through the screw holes provided on each edge of the framing bracket; select mounting screws compatible with your wall type).

**Important Note:** Review "Door Alignment" procedure below if your chamber doors are larger than 24" wide.

3. To secure the "dirty room" side of the Pass-Through, slide the remaining framing bracket onto the unit with the horizontal flange pointing into the wall. Slide this flange into the wall (between the wall perimeter lining and the Pass-Through) and secure the frame flush against the wall with user-supplied fasteners.
4. Make sure that the control cord is connected between the optional blower unit and the Pass-Through, and insert the power cord into the blower unit. Connect the power cord to a 110VAC, 60Hz power supply.

## Door Alignment

Pass-through chambers being installed in a cleanroom wall should be carefully aligned to ensure proper latch and interlock operation.

1. Align Pass-Through Chamber so that the front door catch is centered in the corresponding catch (see photo). To align the chamber, you may need to shim one corner before bolting the mounting brackets to the wall.
2. Large chambers may include support frames with leveling feet. The feet adjacent to the cleanroom wall should be adjusted to support the chamber once the cleanroom door has been properly aligned.



Door Latch Too High



Door Latch Too Low



Door Latch Correctly Centered



3. Repeat this procedure for the opposite (i.e., non-cleanroom) door. Raise or lower the chamber corners until the latch engages the center of the catch. Then adjust the support frame leveling feet to retain this alignment. If your installation includes support brackets, mount these to the chamber and the wall to retain correct door alignment (see illustration).

## Optional Air Shower Operation

The stainless steel Pass-Through is equipped with interlocks to prevent the opening of both doors simultaneously. When one door is open, the other cannot be opened until the first one is closed. This contamination protection is accomplished with a mechanical locking mechanism.

**WARNING!!!:** To prevent damage, the closed door should not be forced open. Neither door should ever be cleaned with alcohol or other strong cleaning agent, or streaking will result.

In practice, parts are introduced from the "dirty" side into the pass-through, and the "dirty" side door is closed.

The air shower starts as soon as the door is closed, drawing clean air from the "clean room" side, directing it through the nozzle located on the ceiling of the Pass-Through, and venting it through the perforated ducts located on the "dirty" side. The shower continues to run for 30 seconds after the door is closed. This time delay is set at the factory and can be changed for longer or shorter times. To change the factory settings, remove the top cover of the blower module, and adjust the timer potentiometer to the desired setting (the potentiometer is scaled in seconds).

While the shower is on, a red indicator light blinks on the clean room side to indicate operation. When the air shower completes its cycle, the red light goes off and a green light illuminates to indicate that it is safe to open the door on the clean room side. The Pass-Through functions in the same way when parts are moved from the clean room, except that in this case the operator on the "dirty" side can open the door at any time during the blower cycle to remove the parts.

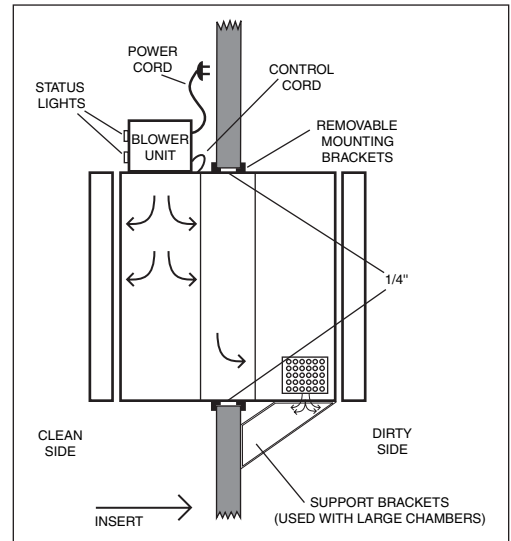
## Optional Sliding Door Pass-Throughs

This Clean Room Pass-Through features counterweighted access doors equipped with interlocks to prevent the opening of both doors simultaneously. When one door is open, the other cannot be opened until the first one is closed. This contamination protection is accomplished with a spring-loaded mechanical locking mechanism.

## Installation

1. Make a cut-out in the wall 1/2" larger than the height and width of the Pass-Through. The perimeter of this opening should be lined with a rigid support material (wood or metal).
2. Before installing the Pass-Through in the wall, you must first remove the sliding door assembly from the "dirty" side of the pass-through. To remove this assembly:
  - A. Close the access door on the clean room side of the unit (this is the side that features mounting holes along the vertical edges of the rails). Make sure that the door slides all the way down into the bottom "U" channel.
  - B. Remove the rear rail assembly by opening the "dirty" side door and removing the screws from inside the chamber. There are five screws vertically arranged on each side of the chamber, and five along the bottom edge. Once the rear rail assembly is removed, you will be able to observe how the spring-loaded interlock mechanism operates. Be careful not to interfere with this mechanism as you install the unit in the wall.
3. Install the pass-through in the wall by sliding it in from the "clean" side. The front rail assembly should fit flush against the clean room wall.
4. Anchor the pass-through to the wall by using the appropriate wall fasteners for your application (fasteners will depend on the type of wall in your facility). There are six 3/8" holes arranged vertically along each edge of the front rail assembly for this purpose. Fasteners should be tightened so that the rails seal tightly against the wall, eliminating gaps where particles could collect.

**NOTE:** Before tightening, center the pass-through chamber in the cut-out (leaving a 1/8" gap between chamber and wall cut-out) to allow positioning of the mounting frame brackets along each edge of the chamber on the "dirty" side of the wall.





5. Install the top edge facade plate to cover the top gap between the chamber and the wall on the clean side of the wall. Slide the edge plate flush against the top edge of the chamber and attach with appropriate fasteners (this plate has three #10 screw holes for this purpose).
6. Attach the mounting frame brackets on the "gray" side of the wall to cover the gaps between the edge of the chamber and the wall cut-out. For each bracket, one flange should fit inside the gap, one should fit snugly against the wall, and the other should fit snugly against the chamber. Attach each bracket to the wall. Your Clean Room Pass-Through is now installed.

## Warranty

**Products Manufactured by Terra:** Terra Universal, Inc., warrants products which it manufactures to be free from defects for a period of 90 days for parts and labor. Terra's sole responsibility is to repair or replace, at its option, any part of the product which 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 which 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 which 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.

**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 30 days of receipt of the product or at the time the customer became aware or should have become aware of the failure. 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!***