

Air Shower Pass Through

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Your Comprehensive Equipment Source





Air Shower Pass Through

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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 Pass-Through Air Shower.

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

2.0 Description

Terra Universal's Pass-Through Air Showers offer an effective way to remove surface-deposited particles from large materials as you transfer them into the clean room.

Adjustable nozzles provide concentrated streams of high velocity HEPA-filtered air that lifts off contaminants, which are purged through vents along the bottom of the chamber. Nozzles are arranged uniformly on walls to ensure effective distribution of filtered air. The closed-loop circulation design directs contaminated air downward through grills and hollow walls of the Air Shower and back to the filter, which removes 99.99% of all particles as small as 0.3 microns.

Interlocks — The Air Shower is equipped with electromagnetic interlocks that allow only one door at a time to open, thereby preventing cross-contamination. They automatically release in the event of a power failure.





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3.0 Installation

The pass-through air shower is shipped ready for use.

To begin use of the Air shower pass through you must first secure the unit to the cleanroom using mounting brackets and connect it to a 120/240VAC power supply. Refer to system drawings for specific instructions on mounting your air shower pass through to the cleanroom.

To install the chamber,

1. Make a cut-out in the wall $\frac{1}{2}$ " larger than the height and $\frac{1}{2}$ " larger than the 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).
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.

4.0 Operation

Check the oversized mushroom-head Emergency Stop pushbutton inside the access door to make sure it is not in the depressed position.

Wipe down the Air Shower inside and out with a particle-free cloth.

System Operation

1. After connecting the system to a 240V power supply (see Installation, above), turn system power ON.
2. When the system is first turned on, it will be initialized with the following information:

Door #1: Defined as the entrance.

Door #2: Defined as the exit.

Cycle Time: Default = 30 seconds.

Exit Time: Default = 10 seconds.

The display will read:

F1 START F3 SET SHOWER TIME

F2 LIGHT

SHOWER TIME 30

At this time the Air Shower is in operating mode with the initialized information.



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3. To start or stop the Ceiling Filter Module, press the F1 key. For most effective operation, this filter should remain ON at all times.
4. To turn ON or OFF the two fluorescent lights, press the F2 key.
5. Once the Air Shower is initialized, the interlocks are functional. When you enter (from the exterior door, next to the PLC control panel) and close the door, the Purge Filter Module will begin operation and both doors will lock magnetically for the duration of the purge cycle (30 seconds).

After 30 seconds, the exit door will unlock and the entrance door will remain locked until you exit the Air Lock and the exit door closes

5.0 Programming

To access and change the Purge Cycle Time, press the F3 key.

Press the UP/DOWN key to set shower time in seconds.

F1 BACK TO MAIN 30

Press the UP arrow to increase the digit by one, or the DOWN arrow to decrease the digit by one. Press the left arrow key to move the cursor to the left, and the right arrow key to move the cursor to the right.

After the desired cycle time is entered, press the ENTER key.

Press F1 to return to the main menu.

Emergency Mode

Pressing the oversized mushroom-head pushbutton on the inside of the enclosure will stop the blower motors and disengage the interlocks, allowing either door to be opened.

To return to normal operating mode after pressing an emergency button, simply pull the emergency pushbutton back to its original position.

6.0 Specifications

Specification

Chamber Dimensions :	36"W x 36"D X 48"H
Overall Dimensions:	52"W X 36"D X 78.38"H
Air Velocity:	8000Ft/Min
Filter:	11.5" X 24" X 12" & 27.75" X 13" X 3"
Material:	304/316 Stainless or Powder Coated Steel



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Blower Specs

Manufacturer:	Grainger
Model #	7C447
Power Rating	1HP
Phase	Single
Wheel Diameter	10 9/16"



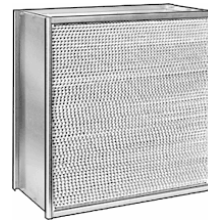
Filters Information

Purge Filter

Manufacturer:	Terra Universal
Model #	2153K75
Dimensions:	24" X 12"

Ceiling Filter

Manufacturer:	Terra Universal
Model #	1681-02
Dimensions:	27.75" X 13" X 3"



7.0 Maintenance

Filter Replacement

Under typical conditions (8 hours of operation per day), filters should be replaced every year.

For optimal operation, the Air Shower should be monitored periodically with an Air Velocity Meter. Air velocity will initially average about 90 feet/minute, measured 6" below the optional ceiling filter, and 8,000 feet/minute, measured at each air nozzle. When either reading drops to below 80% of the initial value, the corresponding HEPA filter is approaching the end of its useful service life and should be replaced.



CAUTION: Because HEPA filter mini-pleats are easily damaged, always handle the filter by the edges. Avoid touching the filter face.

Replacing the Ceiling Modular Filter

From inside the Air Shower, unscrew the 1/4-20 screws that hold the filter support bracket in place. Be careful to support the filter as screws are removed (requires two technicians).

Once all screws are removed, the filter support bracket and filter can be lowered from the Air Shower ceiling and the filter discarded.

Place the replacement filter, gasket side down, against the filter support bracket and reinsert into the Air Shower ceiling. Reattach the bracket screws.

Replacing the Purge Module Filter

Remove the cap nuts that hold the filter chamber cover (located near to top of the left exterior of the Air Showers).

Remove the filter support and filter

Insert the replacement filter, with the gasket side facing in, inside the filter chamber and replace the filter holder. Reattach the cover screws.



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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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*Thank you for ordering from
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