



IMPORTANT SAFETY INSTRUCTIONS READ AND SAVE THESE INSTRUCTIONS

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	 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 Terra Universal's Room-Side Replaceable (RSR) Ducted Filter Module. By studying this document carefully, you can be assured of a long, efficient service life from the unit.

2.0 Operation

Ducted Filter Modules feature either a HEPA or ULPA filter mounted within a white powder-coated steel housing and are designed to be connected to an existing air handler or other air source to provide filtered airflow. Air from the air handler is directed through the filter using a built-in diffuser and internal baffling system, which ensure uniform face velocity. The unit includes a 12"-diameter collar for attachment to the air source, which ultimately determines the flow rate.

3.0 Installation

These units are designed to fit on top of a Terra Laminar Flow Hood or within a standard 2' x 4' ceiling grid. In a Terra Universal ceiling grid, the unit rests on the edges of the ceiling bay; no fasteners are required. For existing ceiling grids, a special frame or fastening method may be required. The housing includes a threaded fixture at each corner to accommodate four eye-bolts (not provided) that can be used to assist in lifting and positioning the unit. After the unit is in position, connect the air handling system to the flange on top of the unit and adjust the airflow to achieve the required air cleanliness levels or air changes per hour.



WARNING:

To reduce the risk of fire, electric shock, or injury to persons, observe the following:

- Use this unit only in the manner intended by the manufacturer. If you have questions, contact the manufacturer.
- Before servicing or cleaning unit, switch power off at service panel and lock the service disconnecting means to prevent power from being switched on accidentally. When the service disconnecting means cannot be locked, securely fasten a prominent warning device, such as a tag, to the service panel.
- Installation work and electrical wiring must be done by qualified person(s) in accordance with all applicable codes and standards, including fire-rated construction.
- When cutting or drilling into a wall or ceiling, do not damage electrical wiring and other hidden utilities.

4.0 Cleaning and Maintenance



WARNING:

Disconnect from power supply before servicing unit. When servicing or replacing either filter, the new filter is to be installed in the same manner as the filter it replaces.

The scheduled maintenance of the unit depends on the installed location and consists of cleaning or changing the pre-filter and the HEPA filter. It is recommended that the pre-filter be inspected and cleaned every three months or sooner depending on the cleanliness of the external environment. The HEPA filter cannot be cleaned and must be replaced when the laminar flow rate falls below 70 feet/min.



5.0 Specifications

Size:	2' x 4'	2' x 3'	2' x 2'
Dimensions:	23.6" x 47.6" x 13"	23.6" x 35.6" x 13"	23.6" x 23.6" x 13"
Weight:	71 lbs.	53 lbs.	44 lbs.
Housing:	White powder coated cold-rolled steel or 304 stainless steel		
Flange:	12" dia. x 2"H		
HEPA Filter:	99.99% efficient on removal of particles 0.3 microns and larger. Resistance at rated flow: 0.45"WG		
ULPA Filter:	99.9995% efficient on removal of particles @ MPPS Resistance at rated flow: 0.65"WG		
Pre-Filter:	20" x 20" x 1" - 30% efficient ASHRAE rated		
Face Grille:	304 stainless steel		
Support:	Threaded screw receptacles for insertion of optional eyebolts		

Specification Notes:

- All FFU data is based on a standalone unit using 1" prefilter and clean filters.
- Data will vary depending on filter media and configurations with other products/systems, such as ductwork or hoods.

6.0 Replacing the Filters

The RSR Ducted Filter Module is designed so that the HEPA or ULPA filter can be replaced from inside the cleanroom without breaching the controlled environment. The filter assembly is separate from the fan module, which stays in place in the ceiling grid. Follow these instructions to replace the filter.

- First, you must remove the stainless steel screen covering the filter that is held in place with friction catches (Photo 1). This screen protects the filter from damage and enhances airflow uniformity.



Photo 1: Friction catches hold the screen to the fan module housing.

- E) Reinstall the stainless steel screen by pushing up on the friction catches until the screen clicks into place.
- F) To replace the pre-filter located at the top of the fan module, slide the old filter out of the two tracks holding it in place on top of the FFU and then slide in the new pre-filter.

- B) Next, rotate the metal tabs that help hold the HEPA filter in place (see Photo 3).



Photo 3: Filter-face grille's metal tabs.

- C) Gently let the used filter drop down, and set aside. The filter assembly is surrounded by a channel containing gel seal. Wipe any residual gel from the knife-edge of the fan module still in the ceiling to prepare for the replacement filter. Position your new filter carefully before pushing into place; the knife-edge of the fan module should be centered in the channel (equal amounts of gel on both sides). Photo 4 shows the gel-filled channel of the RSR filter.

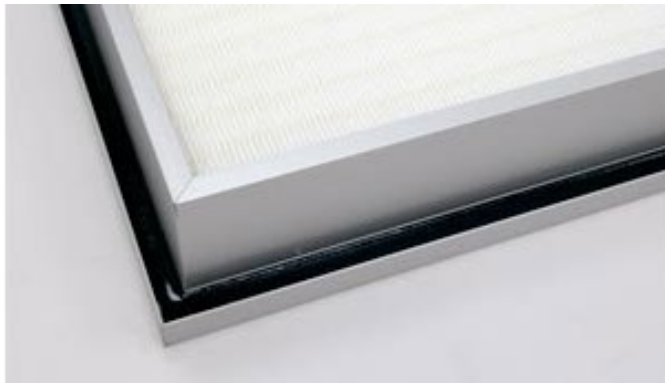


Photo 4: Gel-filled channel of RSR filter.

- D) Rotate the metal tabs so that they lock in the new HEPA filter.

7.0 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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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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