

WhisperFlow® Portable HEPA Filtration System

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Your Comprehensive
Equipment Source







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1. Safety

Proprietary Notice <p>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.</p> <p>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.</p>	Safety Notice <p>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.</p> <div><p>CAUTION</p><p>Cautions are used when failure to observe instructions could result in significant damage to equipment.</p></div> <div><p>WARNING</p><p>Warnings are used when failure to observe instructions or precautions could result in injury or death.</p></div>
The information presented here is subject to change without notice.	

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

- Do not use this unit for anything other than the intended manner of the manufacturer. Contact the manufacturer for additional clarification.
- Before servicing the unit, or replacing a filter, switch power to OFF at the service panel and lock it to prevent accidental power activation. When the panel cannot be locked, securely fasten a prominent warning device, such as a tag, to the service panel.
- Check the electronically communicated motor unit's supply cord for damage, if it is damaged it must be replaced by the manufacturer, its service agent, or similarly qualified persons to avoid a hazard.
- Qualified person(s) must install the unit and configure the electrical wiring adhering to all applicable codes and standards, including fire-rated construction.
- If unit includes UV lamps, use UV radiation protective measures for personnel during service. Eye damage may result from direct exposure to the UV light.

Critical Operation Conditions



CAUTION

- The filter media is extremely sensitive and can damage easily. The screen only protects against an accidental 'touch' of the filter media. Avoid touching and damaging the HEPA filter because the warranty will void.
- Never place anything on the filter. Always place filter on its side to avoid damage.



2. General Information

The WhisperFlow® portable HEPA filtration system is a mobile, self-contained, hospital-grade air purifier designed to easily convert any room to a negative pressure isolation room to meet OSHA and CDC TB guidelines. This medical grade air filtration system can be configured for either recirculation or exhaust. For recirculation, the HEPA-filtered air will circulate in the confined areas; for safe exhaust a flange adapter can be attached to the top of the unit for duct connection. Air filtration systems are crucial in the fight against illnesses such as SARS-CoV-2 virus (COVID-19). HEPA filters reduce the number of microscopic droplets and particles in the air that can carry pathogens, to improve cleanliness and safety of air in places it is needed most. The unit is quiet and has a low vibration HEPA filter system at only 43 dBA measured 30 in. from the unit.



Figure 1: Portable HEPA filter system



Figure 2: Portable HEPA filter system connected to a flange adapter



3. Operation

For installation, plug in the portable HEPA filter system into a power receptacle. The HEPA filter is 99.97% efficient at 0.3µm particle diameter. The system includes four swivel casters and variable speed dial that simplifies air balancing.

For negative pressure, simply connect flexible ducting to the top exhaust port to direct exhaust airflow to a ventilation system. Ducting the outlet to a ventilation system creates a negative pressure environment isolation room, suitable for use with patients known or suspected of having infectious diseases.

For recirculation, room air and airborne contaminants are drawn through intake grille at the bottom, and purified air is discharged from the exhaust grille at the top to generate a sweeping, low-to-high air circulation pattern to optimize clean breathing zone for patient and zone.

The filtration system's powerful blower can deliver 800 CFM to provide a large number of room air changes per hour to minimize the spread of airborne diseases to patients and health care workers. The system uses a lightweight, forward-curved fan powered by a 120V/60Hz motor. The filters are leak tested in accordance with IEST standards and meet UL 900.

One way to measure ventilation is to determine how often the air in a space is completely replaced. This is called Air Changes per Hour (ACH). In a 900 sq.ft. (30-foot by 30-foot by 9-foot high) room with 25 people in it, the air can be replaced roughly every 10 minutes, which equals an ACH of 6. Higher ACH lowers the risk of disease spreading through the air.

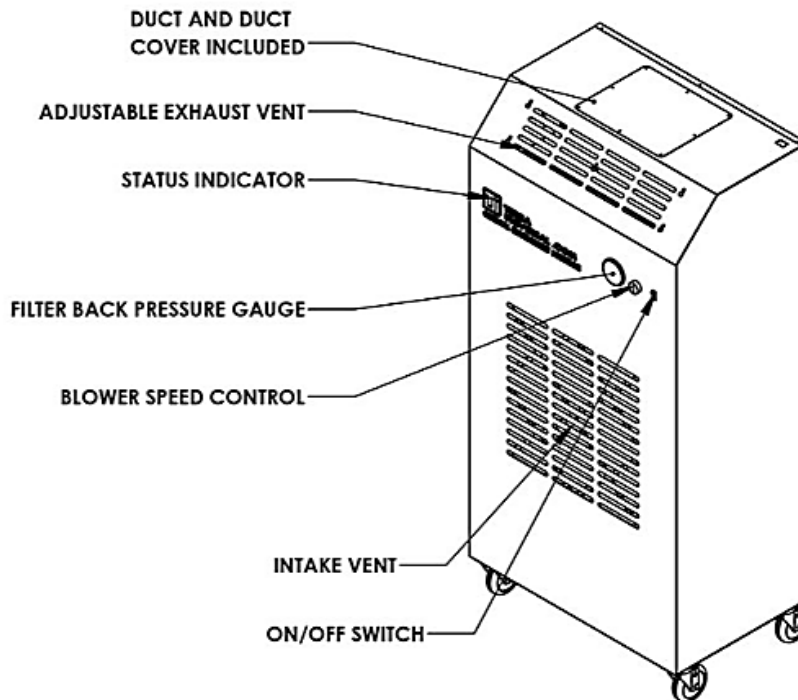


Figure 1: Portable HEPA filter features



3.1 Specifications

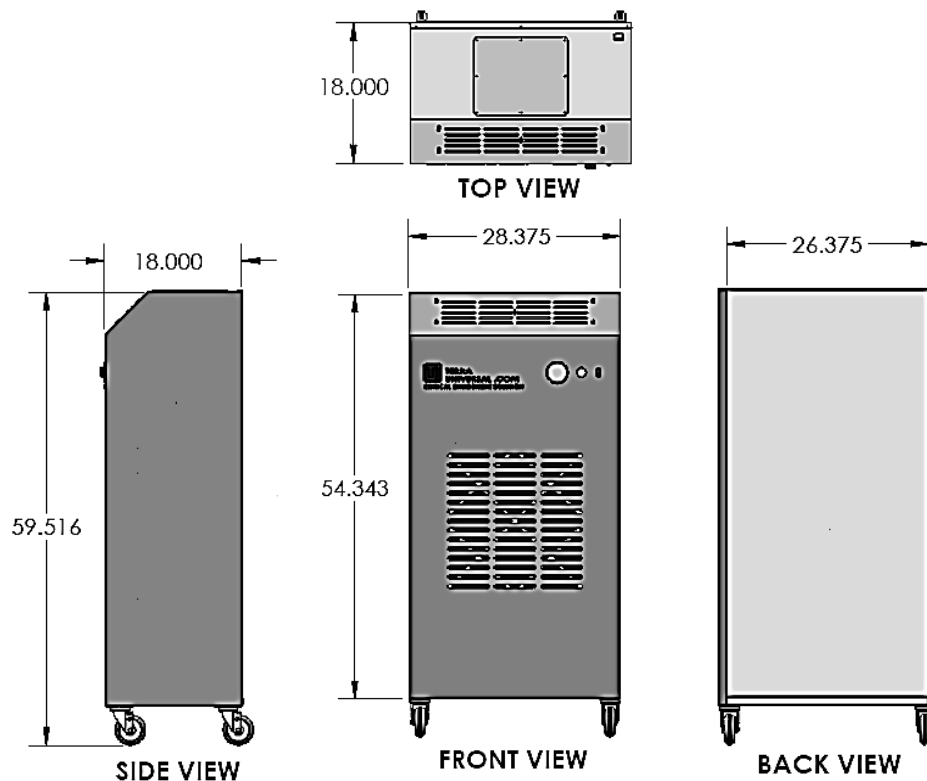
Product Dimensions				
Active Filter Area (sq. ft.)	W (in)	L (in)	H (in)	Weight (lbs.)
7.1	28.5"	18"	59.5"	81

Performance Data			
Max CFM	Watts @ Max CFM	Watts @ 630 CFM	Sound (dB) @ 30 in.
800	350	180	43

Electrical Data			
Motor HP	Voltage	Full Load Amps	Frequency (Hz)
1/3	120 V	3.8	50/60

3.2 Fan Filter Unit

The Smart® WhisperFlow® has an electronically commutated (EC) brushless motor that allows for quiet, energy-efficient operation and infinitely variable speed control. The wide range is ideal for applications involving high static pressure. This unit includes an internal microprocessor that can be incorporated into Building Management Systems (BMS) to allow remote monitoring and control. The EC motor offers high performance, low energy consumption and low noise levels (40 dB) with forward-curved centrifugal fans. These units comply with Title 24 and ErP 2015 Directive. There are permanently-lubricated bearings for long service life and a forward-curved blower wheel that is factory balanced. The FFU uses FDA-approved Acrylic Urethane sealant and fire retardant phosphorus free polyurethane sealant.

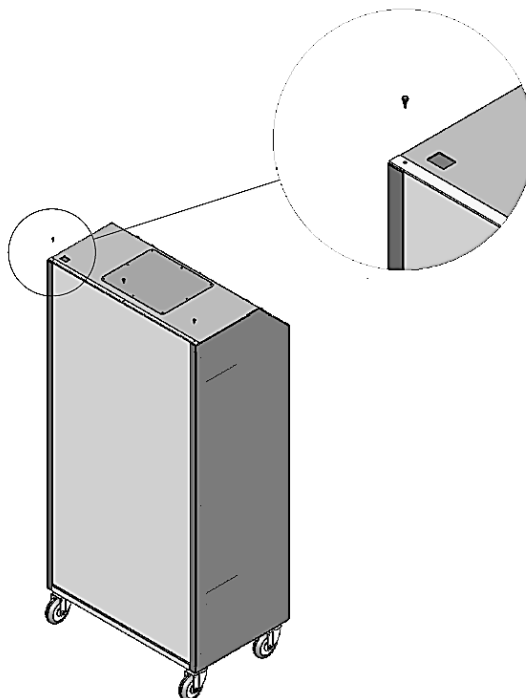




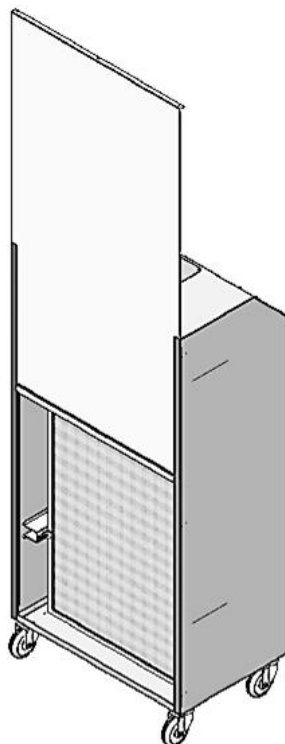
4. Maintenance

4.1 Filter Replacement

Step 1: Remove the screws from the body and the back panel.

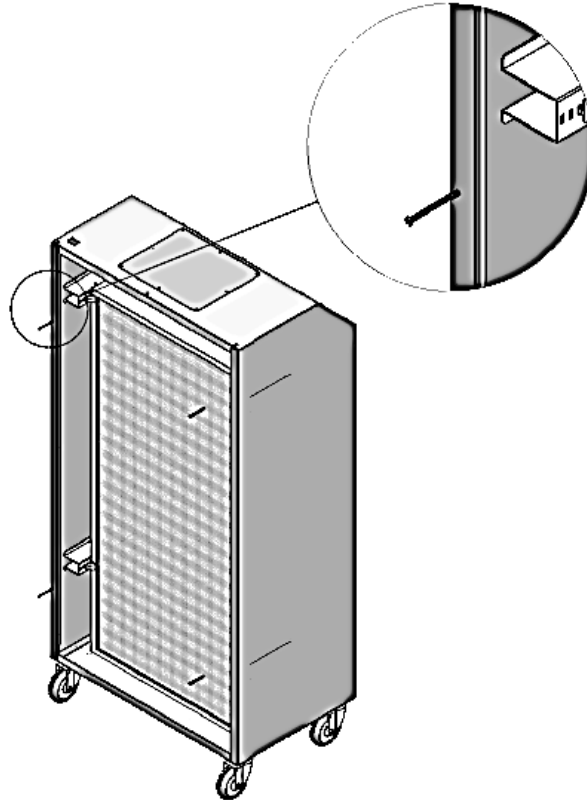


Step 2: Remove the back panel from the body.

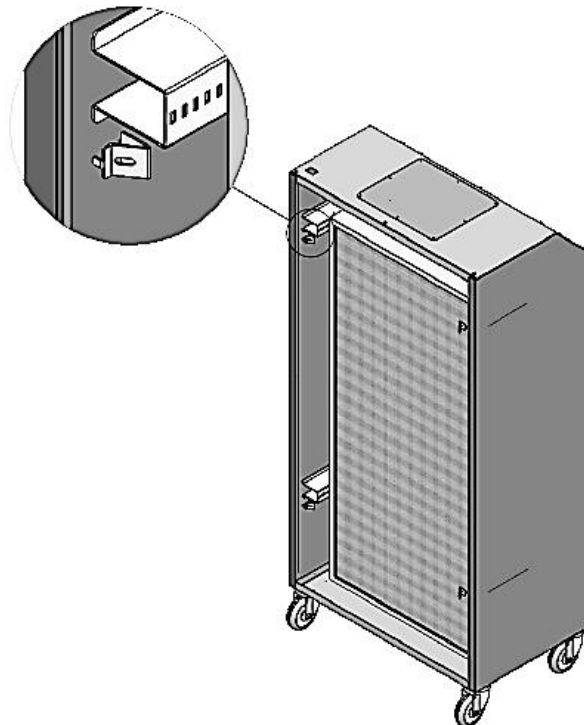




Step 3: Remove the screws from the clip holding the fan filter unit in place.

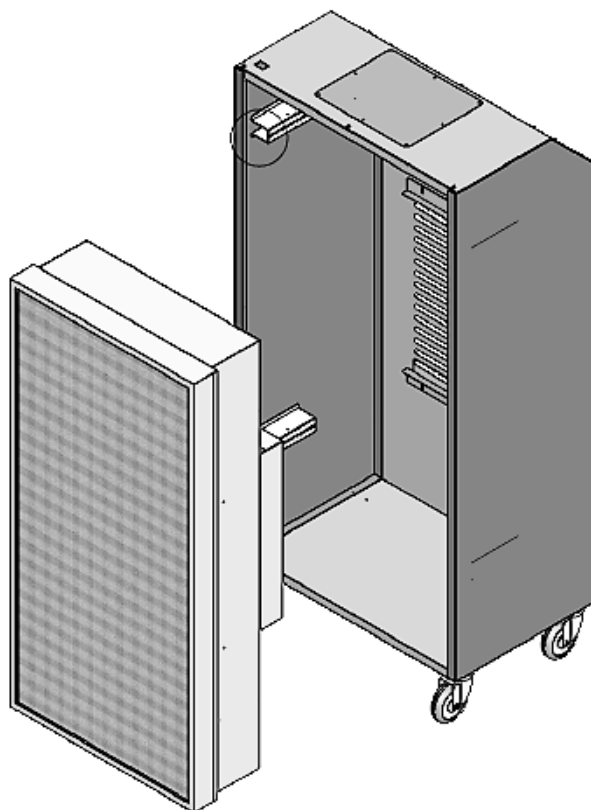


Step 4: Remove the clip from the holder.

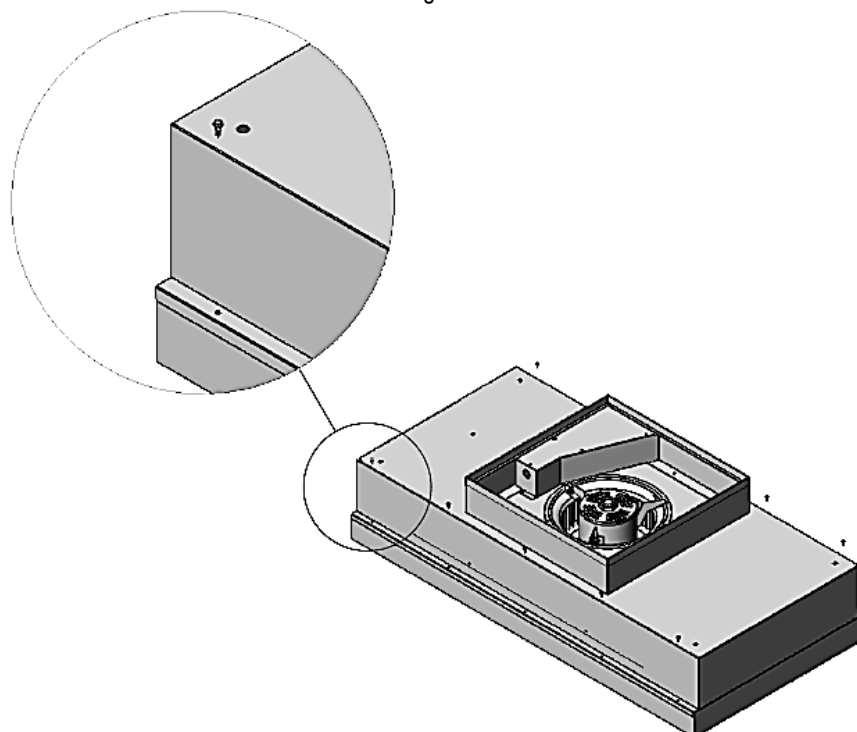




Step 5: Remove the FFU from the unit.

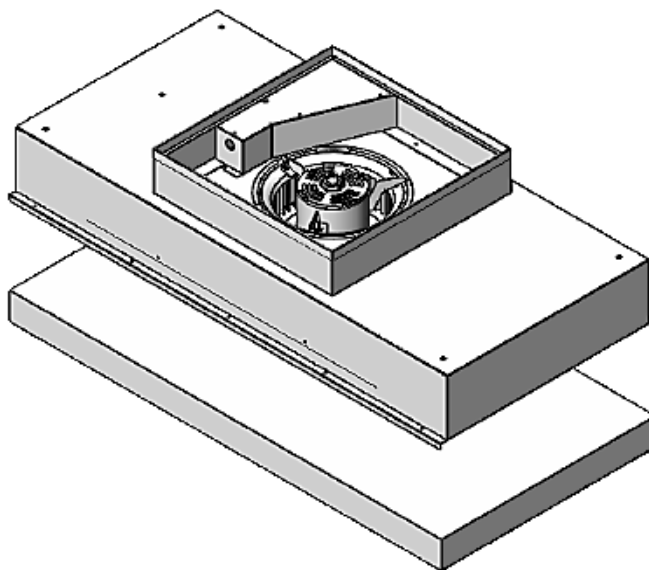


Step 6: Remove the screws from the FFU housing and filter.





Step 7: Remove the filter from the housing and replace it with the new filter.





5. Trouble Shooting

Low Air Velocity

1. Check the prefilter; clean or replace if dirty.
2. Adjust the fan speed to a higher output.
3. Verify the power output for voltage, amperage, and distribution frequency
4. Replace HEPA/ULPA filter if air velocity does not change.

High Air Velocity

1. Adjust the fan speed to a lower output.

6. Testing

WhisperFlow® fan filter units are thoroughly tested at the factory before shipment. All filters are tested with properly calibrated equipment to IEST-RP-00034 and all filters are UL 900 recognized.

However, because of the rigors of shipping, Terra Universal encourages re-test after installation. Terra Universal recommends that the customer contact an independent organization, with technicians trained and experienced in performance evaluation and maintenance of clean air equipment.



7. Replacement Orders

Provide sales associate with pertinent information, such as serial number, model number and date, for replacement parts or a new portable HEPA filtration system. The label is located on the back of the unit.

Order Number: _____

Serial Number: _____

Unit Model Number: _____

Date: _____

8. Replacement Parts



Top Side Replaceable Filter			
Nominal Unit Size (ft.)	Filter	Frame Material	Part Number
2' x 4' (Top Side Replaceable)	HEPA	Aluminum	6601-25



9. 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. This limited warranty covers parts and labor, but not transportation and insurance charges. 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. Repairs may be completed by 3rd party service agents approved by Terra Universal. Terra Universal reserves the rights to limit this warranty based on a service agent's travel, working hours, the site's entry restrictions and unobstructed access to serviceable components of the product. 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, 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.

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!*