**Important Safety Instructions**

Read and save these instructions.

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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.

- **WARNING**: Cautions are used when failure to observe instructions could result in significant damage to equipment.
- **CAUTION**: Warnings are used when failure to observe instructions or precautions could result in injury or death.

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**1.0 Introduction**

This manual provides information on installing and operating Terra Universal's Fan/Filter Unit. By studying this document carefully, you can be assured of a long, efficient service life from the unit.

The Fan/Filter unit provides a steady laminar flow stream of HEPA filtered air to the area below the mounted unit.

**2.0 Operation**

The unit consists of a ¼ HP, thermally protected, three speed capacitor-run motor driving a forward-curved centrifugal blower. Air is drawn into the unit through a pleated 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.

Prior to providing power to the unit, check that no damage has occurred during shipping. This can be accomplished via a visual check to make sure there are no visible dents or penetrations. If the unit is intact, remove the pre-filter and manually rotate the fan wheel to make sure it is not in contact with any stationary parts and that there are no visible loose screws or bolts obstructing the wheel's rotation. Once visual inspection is completed, connect the 4-pin power plug to the unit, set the speed switch to the desired position (units are shipped from the factory with the speed switch set to medium), and turn on the external power switch. With power applied, the fan will rotate, and filtered air will exit the HEPA filter.

**3.0 Installation**

The Fan/Filter unit is designed to fit on top of a Terra Laminar Flow Hood or standard clean room ceiling grid. It includes a threaded fixture at each corner to accommodate four eye-bolts (not provided) that can be used to connect the unit to the ceiling grid. It is recommended that the pre-filter and the HEPA filter 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. The Fan/Filter unit is connected from the ceiling grid. Place the unit on a flat work surface and remove the 10 sheet-metal screws that hold the HEPA filter to the case. Replace the filter with a new one, carefully handling edges only, and secure it to the case with the same screws before placing it back onto the ceiling grid.

**4.0 Start up**

**WARNING:** Keep unit disconnected from power supply during inspection.

Prior to providing power to the unit, check that no damage has occurred during shipping. This can be accomplished via a visual check to make sure there are no visible dents or penetrations. If the unit is intact, remove the pre-filter and manually rotate the fan wheel to

**5.0 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.

**6.0 Specifications**

- **Dimensions**: 23.625" x 47.625" x 12.671"
- **Housing**: White powder coated cold-rolled steel or 304 stainless steel
- **HEPA Filter**: 99.99% efficient on removal of particles 0.3 microns and larger
- **Pre-Filter**: 20" x 20" x 1" - 30% efficient ASHRAE rated
- **Blower**: Forward-curved centrifugal type factory balanced. Entire motor/blower assembly is removable from top of housing for service.
- **Motor**: ¼ HP Direct drive, energy efficient. Permanent split capacitor type. Thermally protected with automatic overload reset.
- **Electrical**: Motor wiring will be run to a 3-speed motor switch (low-medium-high) and separate on/off switch. Motor nameplate FLA is 4.2.
- **Power Cord**: None supplied
- **Face Grille**: Perforated anodized aluminum or 304 stainless steel
- **Noise Level**: 49 dBA (measured at 30" from filter face)
- **Weight**: 71 lbs. shipping weight

**Power Options**

- ¾ HP motor with voltage of 120/115/208V or 240/1/60Hz
- 3 HP motor with voltage of 208V or 230/1/60Hz
- 5 HP motor with voltage of 208/230/460V or 208/1/60Hz

**Power Specifications**

- High Speed: 4.3 Run Amps, 2417 Medium Speed, 3393 Low Speed
- Medium Speed: 3.5 Run Amps, 2417 Medium Speed, 3393 Low Speed
- Low Speed: 3.3 Run Amps, 2417 Medium Speed, 3393 Low Speed

**Air Speed**

- Flow (CFM): 808 (6" below filter face), 717 Medium Speed, 654 (6" below filter face)
- Velocity (fps): 115 (6" below filter face), 102 Medium Speed, 93 (6" below filter face)

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