

HEALTHY HOME AIR PURIFICATION SYSTEM

MODELS:
TRIO 1200 & TRIO 2000



INSTALLATION AND OPERATION



Table of Contents


Installation & Maintenance Instructions

Air Purification System Table of Contents

| | |
|--|-------|
| Important Safety Instructions | 1 |
| Specifications | 2 |
| Operation | 2 - 4 |
| Cycle Times | 4 |
| Cost of Operation per Month | 4 |
| Service. | 4 - 6 |
| Changing Filter | 4 |
| Changing UVC Lamps | 5 |
| Tracking filter and UV Lamp Service Time | 6 |
| Installation | 7 - 8 |
| Performance Data | 9 |
| Electrical Schematic | 10 |
| Product Label Placement | 10 |
| Parts List | 11 |
| Warranty | 12 |

IMPORTANT SAFETY INSTRUCTIONS

Before installing the Trio 1200/2000 Healthy Home Air Purification System, inspect for any signs of damage. During handling and installation, take care to protect the catalytic honeycomb side of the product from physical damage, as the aluminum-titanium core is very soft and can be easily damaged.

 **WARNING** - Always unplug the power cord from the Trio 1200/2000 Healthy Home Air Purification System when changing the filter or UVC germicidal lamps. Never look into an illuminated ultraviolet lamp without proper eye protection as severe damage to the eyes can result. This product is rated for standard ambient air temperatures during heating and air-conditioning functions and not rated for elevated air temperatures in excess of 125 degrees Fahrenheit.

Do not attempt to clean the catalytic honeycomb core with cleaning solutions. The catalyst is radiated with short wave ultraviolet light during period of non-air flow and is self-cleaning. If there is build up blocking the catalytic cells, sit the unit on end, on a flat surface, with electrical enclosure facing up. Use low-pressure, compressed air to blow the surface of the catalytic cells free of blockage.

Do not install insulation within 76MM or 3 inches of Luminaries.

Access for service is required when mounting above ceilings or behind walls.

Do not install in a position where the interior model can gravity fall from an elevated position and cause injury to the people or equipment below.

Use a qualified installer/technician when installing this system. Installation shall meet all applicable local/state codes.

SPECIFICATIONS

Model Trio 1200:

(Capacity 1-1/2 to 3.0 tons)
MFG: Field Controls
Model: Trio 1200
Power: 120V/60 Hz .6 Amps 49.2 Watts
Fuse: Replace only with AGC-2 fuse
Application: 3 Ton Drive Air Handler / Furnace
Max Face Velocity: 500 FPM
Max Air Flow: 1200 CFM
Service: UVC Lamps - 1 year / Filter – 6/12 months
Replace: UVC germicidal lamps with Part# 22LAMP
Replace: Filter with Part# TrioRM13-1625 MERV13
U.V. Range: 254 NM (germicidal)
Catalyst: Metal Oxides 56 Sq. Feet
Weight: 23 LBS
Dimensions: 17" H x 25" W x 10" D

Model Trio 2000:

(Capacity 3.5 to 5.0 tons)
MFG: Field Controls
Model: Trio 2000
Power: 120V/60 Hz .6 Amps 49.2 Watts
Fuse: Replace only with AGC-2 fuse
Application: 5 Ton Drive Air Handler / Furnace
Max Face Velocity: 625 FPM
Max Air Flow: 2000 CFM
Service: UVC Lamps - 1 year / Filter – 6/12 months
Replace: UVC germicidal lamps with Part# 22LAMP
Replace: Filter with Part# TrioRM13-2025 MERV13
U.V. Range: 254 NM (germicidal)
Catalyst: Metal Oxides 70 Sq. Feet
Weight: 26 LBS
Dimensions: 21" H x 25" W x 10" D

OPERATION

The Trio 1200/2000 Healthy Home Purification System installs in the air-inlet side of any heating and airconditioning system up to five tons in size. Only operation of the air-handler fan unit is required for air purification and sterilization to take place.

NOTE: The UVC germicidal lamps are wired to operate continuously. This feature allows the catalyst to burn off surface impurities, cleaning and reactivating itself during periods of non-use or no airflow. The cost of operation is less than .07 cents per day. See operating cost section.

The Trio 1200/2000 air purification system combines three unique technologies to protect people against indoor air pollutants. Photo catalytic technology (PCO) combined with high efficiency electro-statically super charged MERV13 particulate filter and UVC germicidal light quickly reduces and eliminated toxic gas-phase chemicals, lung damaging dust and airborne germs from the living environment.

Many new homes have smart programmable thermostats that allow for automatic operation of the air-handler fan unit when there is no demand for heating or air conditioning. It is important that the TRIO 1200/2000 Healthy Home Purification System is operating at least 20-30 minutes per hour (24) hours per day to remove toxic materials from the indoor environment.

The length of operation depends on the location of the home or office in relation to point source pollution such as refineries, processing plants, automobile traffic and areas that produce high levels of pollen. Individuals that are sensitive to mold spores, dust mites, chemicals or have respiratory problems such as asthma, emphysema, and chronic allergies should extend the run time to (40) minutes or more per hour.

AIR CYCLES PER HOUR

(Based on 3000 sq. ft.)

Fan unit on for 10 minutes per hour Air cycled(1) ----- times per hour
Fan unit on for 15 minutes per hour Air cycled(1.3) ----- times per hour
Fan unit on for 20 minutes per hour Air cycled(1.75) ---- times per hour
Fan unit on for 30 minutes per hour Air cycled(2.62) ---- times per hour

AIR CYCLES PER DAY

| | |
|-------------------------------------|------------------------------------|
| Fan unit on for 10 minutes per hour | Air cycled(24) ----- times per day |
| Fan unit on for 15 minutes per hour | Air cycled(31) ----- times per day |
| Fan unit on for 20 minutes per hour | Air cycled(42) ----- times per day |
| Fan unit on for 30 minutes per hour | Air cycled(63) ----- times per day |

NOTE: In the event, the existing thermostat does not have the capability to operate the air-handler fan unit independently of a demand for heating or air-conditioning, it is highly recommended to install the Field Controls Healthy Home System Control Plus (HHSC+) programmable ventilation system.

This device is simply wired in parallel with the existing thermostat and can be programmed to turn on the air handler fan unit for any desired interval. A memory tracks the time the fan unit operates every hour and only cycles the fan unit that hour if normal requirements for heating and air conditioning have not cycled the fan unit long enough to meet air purification requirements.

COST OF CONTINUOUS (24) HR PER DAY OPERATION PER MONTH

| | | | |
|---|------------|------------|------------|
| Electricity cost per kilowatt hour | .06 kw hr. | .08 kw hr. | .10 kw hr. |
| TRIO (32.25 kw hours) cost per month | \$1.93 | \$2.58 | \$3.22 |

During periods where the fan unit is being operated for the sole purpose of air purification, usually during the spring and fall season when there is no requirement for heating or cooling, the cost of running a 1/2 horsepower fan unit will add approximately \$5.36 per month to the normal operating cost. However, this cost is easily offset in savings on medication, doctors office visits, mechanical maintenance and cleaning of fan units, refrigeration coils, dirty air ducts and last but not least, less house cleaning.

SERVICE

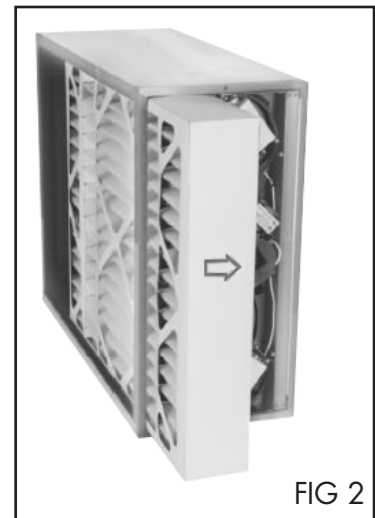
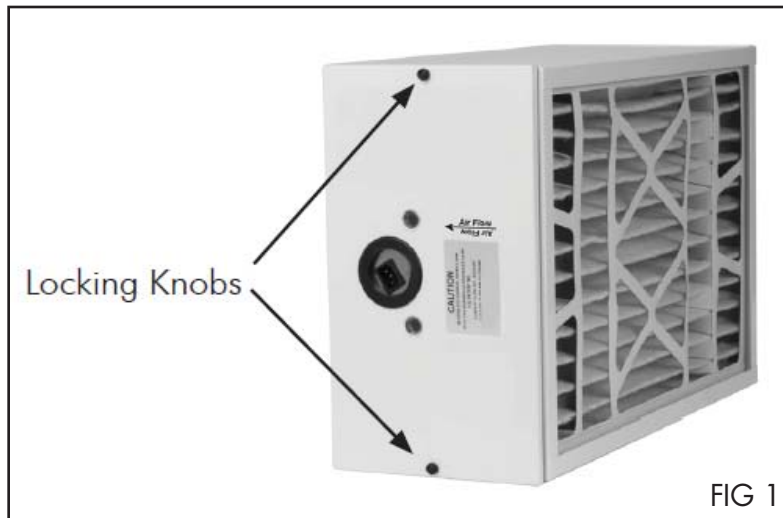
The Trio 1200/2000 Healthy Home Purification System has serviceable components.

MERV13 Filter. change every (6 to 12) months .

UVC germicidal Lamps change every (12) months .

CHANGING THE PARTICULATE REMOVAL CARTRIDGE (FILTER)

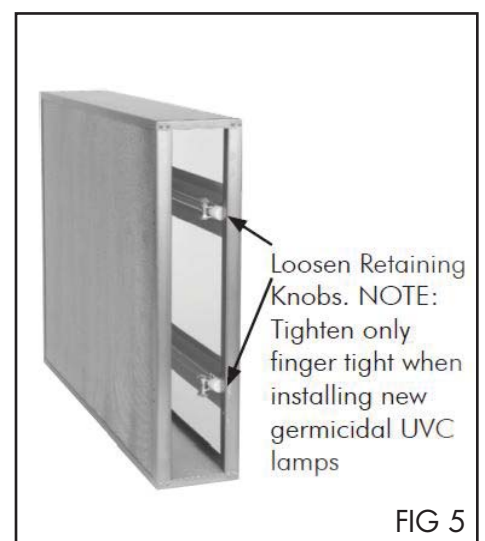
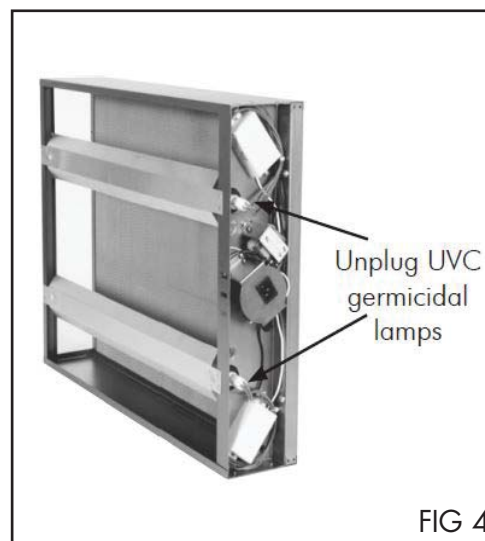
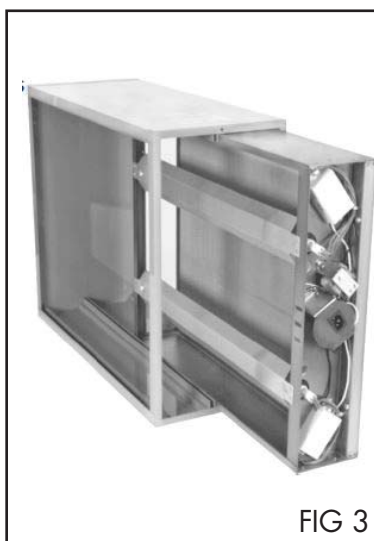
1. Unplug the power cord from the Trio 1200/2000 Healthy Home Purification System. Unscrew the two locking knobs and remove the door. (Fig. 1)
2. Remove old filter cartridge and replace with new filter. Make sure airflow arrow on filter is pointing to the inside of module. (Fig. 2)



CHANGING THE UVC GERMICIDAL LAMPS

1. Unplug the power cord from the Trio 1200/2000 Healthy Home Purification System. Unscrew the two locking knobs and remove the door. (Fig. 3)
2. Remove Photocatalytic module. (Fig. 4)
3. Unplug UVC germicidal lamps, loosen retaining knobs, and remove UVC germicidal lamps. (Fig. 5, 6)
4. Replace UVC germicidal lamps re-tension retaining knobs, and replace plug-ins.
5. Replace Photocatalytic module and filter, secure door and re-insert power cord, check view ports to ensure lamp illumination.

NOTE: Ensure filter and photocatalytic module are installed in proper air flow sequence.





TRACKING FILTER AND UV LAMP SERVICE TIME

Under normal conditions, the Filter should be changed out every 180 days. Under normal conditions, the UV Lamp should be changed out every 365 days. Contact your local Field Service Contractor or Distributor for replacement parts. Replacement part numbers are provided in parts list section of this manual.

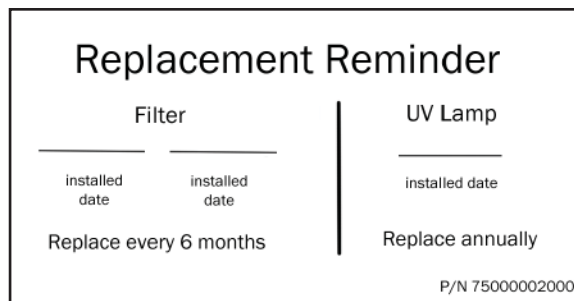
There are several ways to track the remaining useful life of media Filter and UV Lamp:

1. Use Field Controls Healthy Home iAQ APP on a smart device
2. Use Field Controls Healthy Home System Control Plus (HHSC+) device
3. Use Field Controls Manual Tracking Filter/Lamp Sticker

Healthy Home iAQ APP  on a smart device will automatically alert the homeowner when either the filter or UV lamp should be replaced. This app can be configured to notify the homeowner by email or by visual notification thru the smart device. An optional feature of this APP can be configured to notify your HVAC contractor. Refer to Field Controls Healthy Home iAQ APP – Filter and UV Lamp Tracking instruction sheet (doc: 78010001000). This document is available on the Field Controls Web Site (www.FieldControls.com). The Healthy Home iAQ APP is a free download from Apple Store or Google play for your mobile device. Search Healthy Home iAQ. 

Healthy Home System Control Plus (HHSC+) will automatically alert the homeowner via HHSC+ status LED will turn red and display on the screen to replace the HVAC filter and/or UV Lamp. The Filter and UV Lamp replacement period is adjustable on HHSC+ device. Refer to Field Controls Healthy Home System Control Plus instruction sheet (doc: 46633800) for additional information. This document is available on the Field Controls Web Site (www.FieldControls.com). The HHSC+ can be purchased separately. Contact your local contractor.

Manual Tracking Filter/Lamp Sticker (p/n: 75000002000) can be manually installed on the door of the Trio1200/2000 unit by the homeowner or contractor. The sticker is designed to handle two Filter replacements to every one UV Lamp replacement. The replacement dates must be manually written on the sticker by the homeowner or HVAC contractor. The filter/lamp replacement sticker can be purchased from Field Controls as a separate item.



FOR REPLACEMENT OF FILTER AND UVC GERMICIDAL LAMPS

Contact your local HVAC contractor

INSTALLATION

Make sure to install the Trio 1200/2000 Healthy Home Purification System so that the inlet or return air enters the side containing the MERV13 particulate reduction cartridge first.

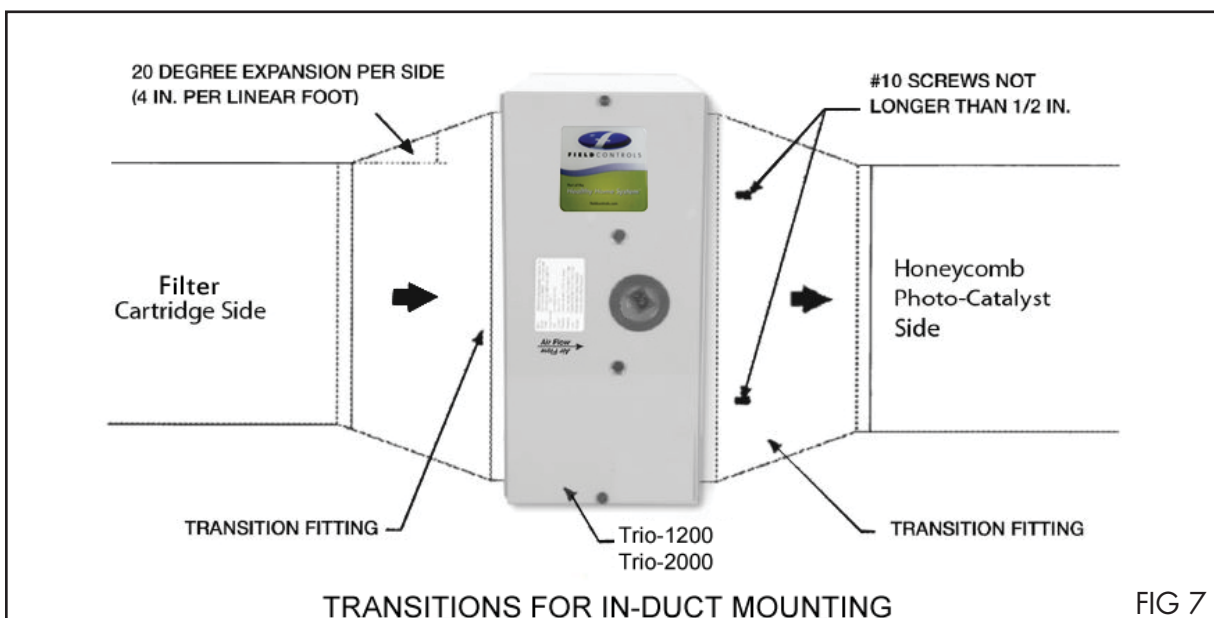


TYPICAL VERTICAL AND HORIZONTAL INSTALLATION

1. Unscrew the two locking knobs and remove the inside module from the outer case.
2. Take care not to bend or distort the outer metal enclosure.
3. Mount the outer case to the support plenum.

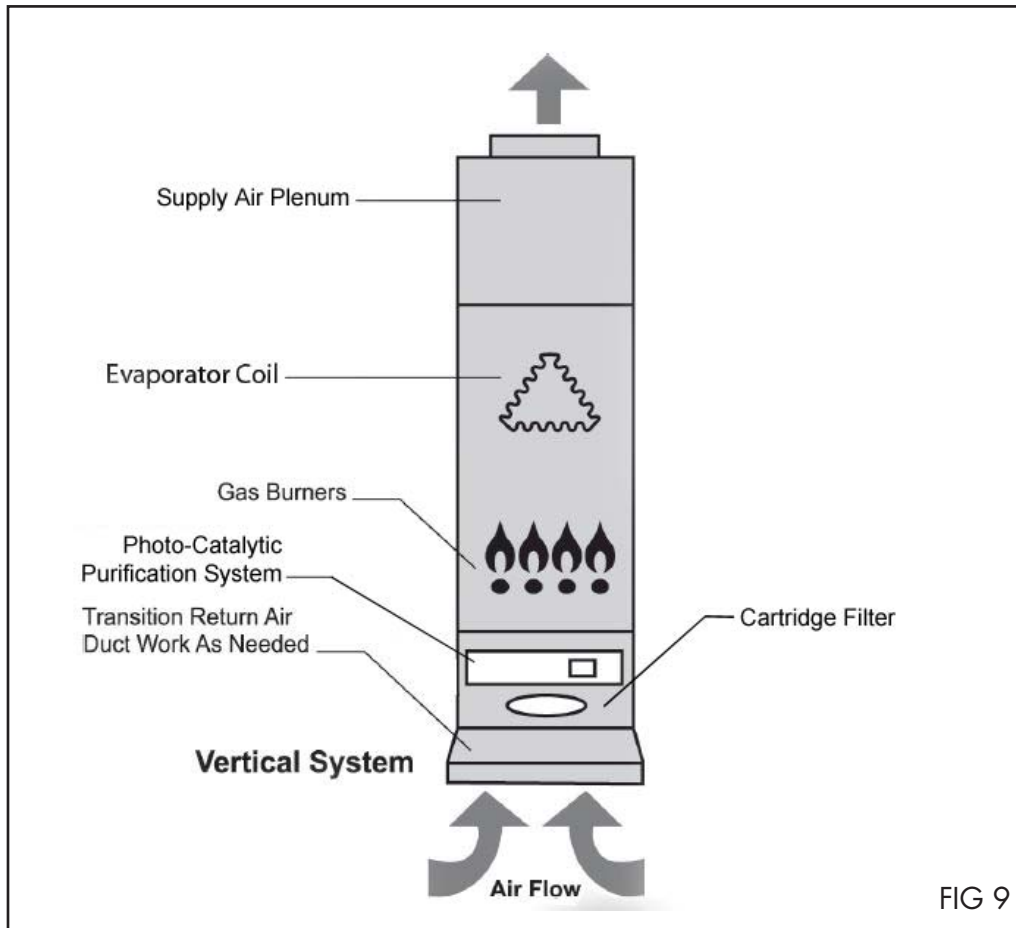
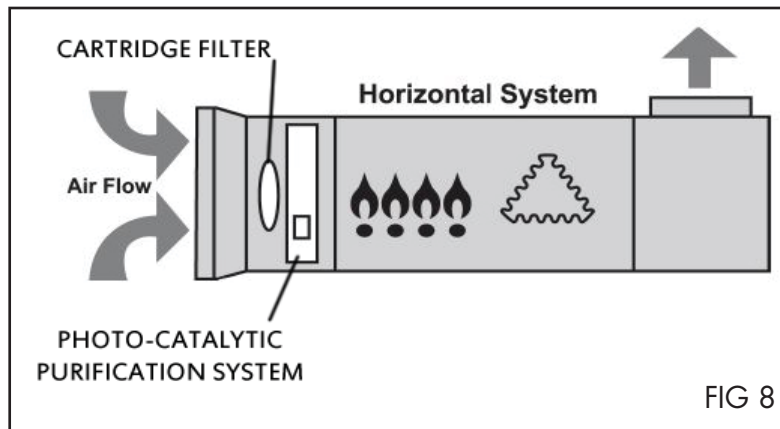
NOTE: Do not use a screw length that will extend into or penetrate the inside module containing the TiO₂ catalyst or filter cartridge.

4. In some cases the foot print of the air handler may be larger or smaller than the outer enclosure of the Trio Unit. A metal adapter plate of 18 ga. metal should be fabricated to make a suitable transition. (Fig. 7)



TRANSITIONS FOR IN-DUCT MOUNTING

FIG 7



5. Seal all seams with an approved air duct sealant between the air handler and the outlet side of the Trio1200/2000 so that there can be no air bypassing the system.
6. Attach the air handler to the outlet side of the Trio 1200/2000 and fasten with #10 x 3/8 self-drilling sheet metal screws.

NOTE: Only 1/2 inch of clearance has been provided between the outer and inner case.

7. Slide the inner module into the outer encasement and tighten locking knobs finger tight. Make sure the inner module will freely slide in and out of the outside enclosure.
8. Plug in the power cord to any 120vac outlet and check both sight ports to make sure both lamps are illuminated. Ultraviolet lamps must remain on at all times regardless of thermostat or HHSC Control settings.
9. Set the thermostat or the HHSC+ Control to operate the fan unit for at least 20-30 minutes every hour. If air quality problems persist after one week, increase the fan unit operating time by (5) minute intervals.

PERFORMANCE DATA

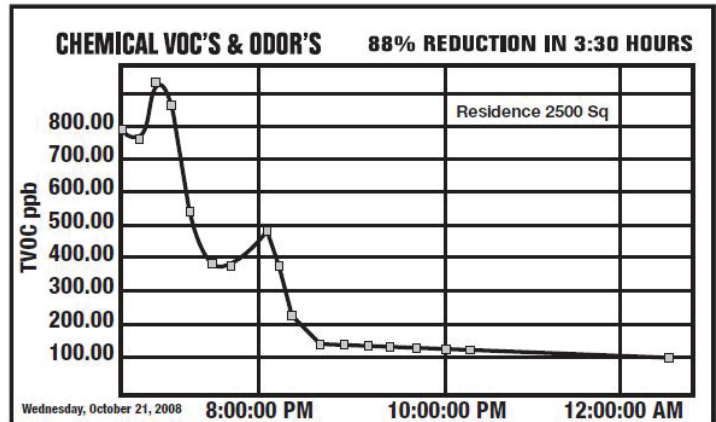
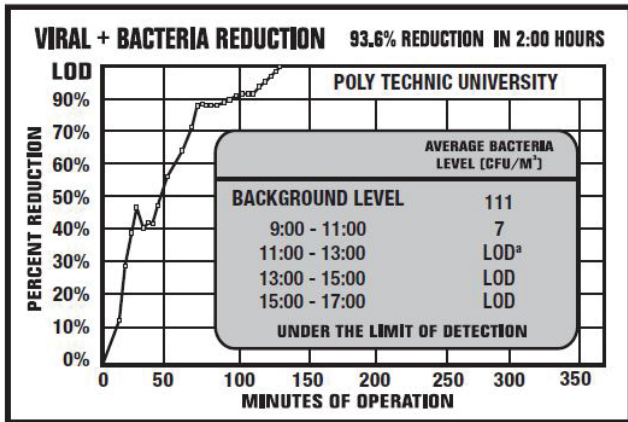
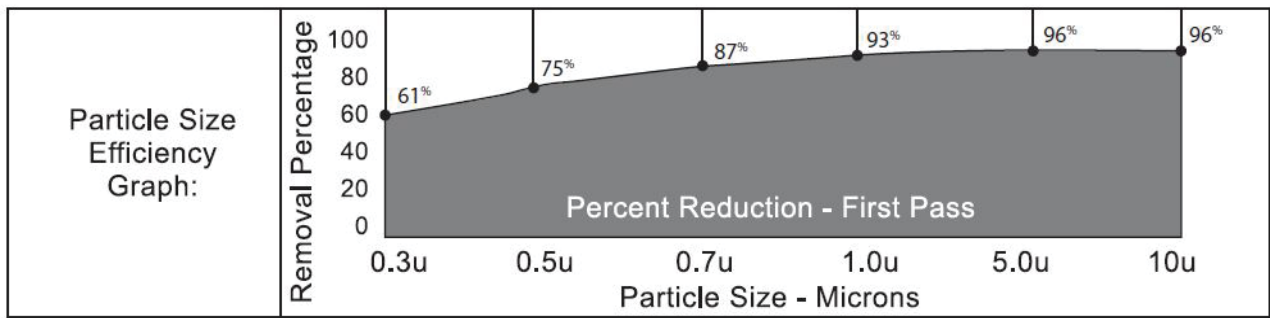
TRIO PERFORMANCE DATA AND APPROVALS:

For Trio 1200 1^{1/2} - 3 Ton Drive Systems

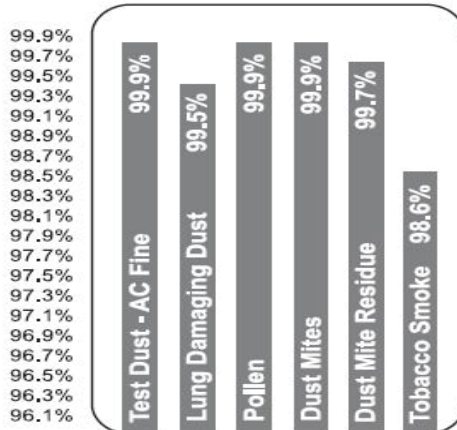
| Air Flow & Resistance Data At MERV13: | Air Flow (cfm) | Resistance (in w.g.) | Air Velocity (fpm) |
|---------------------------------------|----------------|----------------------|--------------------|
| | 400 | 0.09 | 144 |
| | 800 | 0.18 | 288 |
| | 1200 | 0.30 | 433 |
| | 1600 | 0.38 | 577 |

For Trio 2000 3^{1/2} - 5 Ton Drive Systems

| Air Flow & Resistance Data At MERV13: | Air Flow (cfm) | Resistance (in w.g.) | Air Velocity (fpm) |
|---------------------------------------|----------------|----------------------|--------------------|
| | 1000 | 0.18 | 288 |
| | 1500 | 0.30 | 432 |
| | 2000 | 0.38 | 576 |
| | 2500 | 0.50 | 720 |



Removal Efficiency Of Typical Allergens



Designed in accordance with UL 1598 and CAN/CSA C22.2

WIRING DIAGRAM

MODEL Trio 1200 & Trio 2000

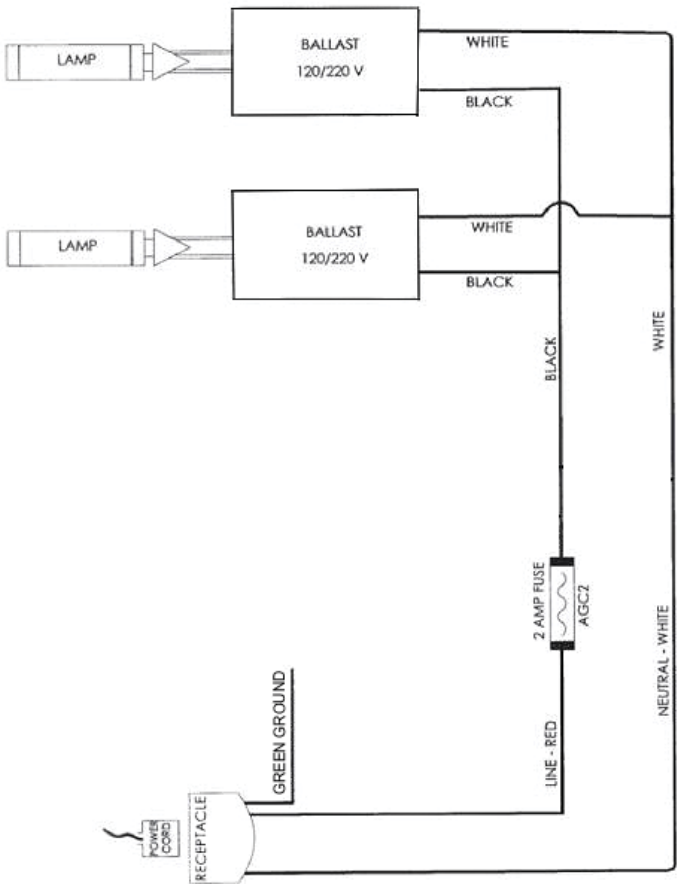
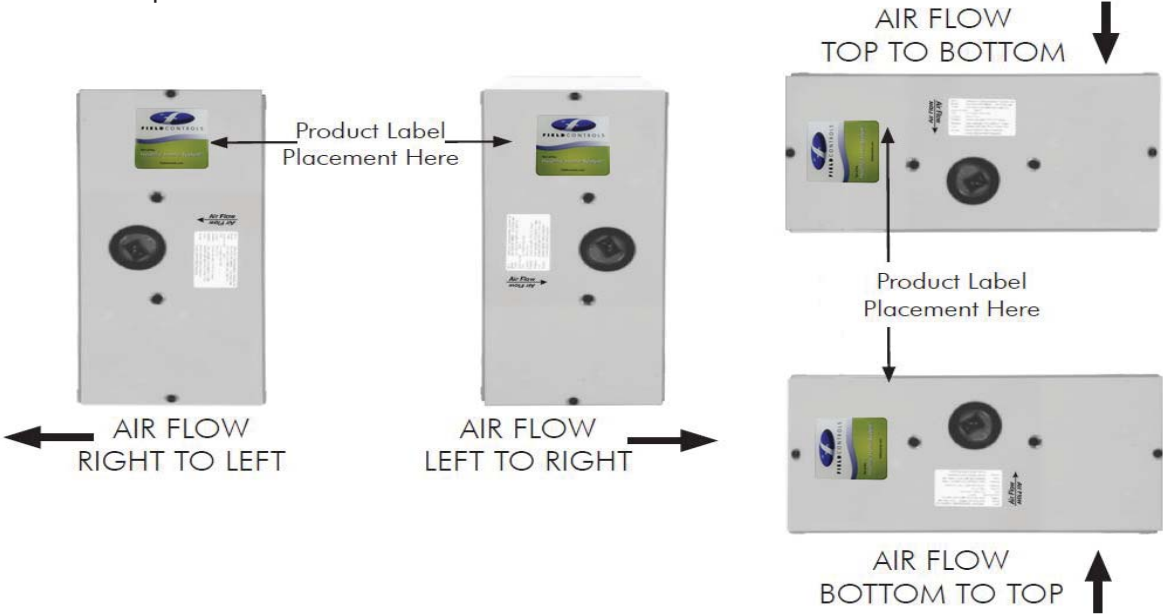


FIG 10 - Electrical Diagram

PRODUCT LABEL PLACEMENT

Label is shipped in bagged parts separately and should be placed on unit as noted below.

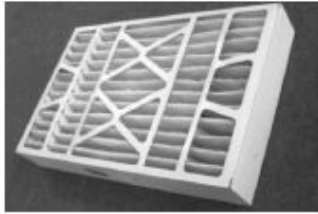


Trio 1200 / 2000 HEALTHY HOME AIR PURIFICATION SYSTEM PARTS LIST



Replacement UVC germicidal Lamp (2 Required)
for Trio 1200 and Trio 2000

Part Number
46636400 22LAMP



Replacement MERV13 High Efficiency Filter Cartridge

for Trio 1200

Part Number
46636600 TrioRM13-1625

for Trio 2000

46636500 TrioRM13-2025



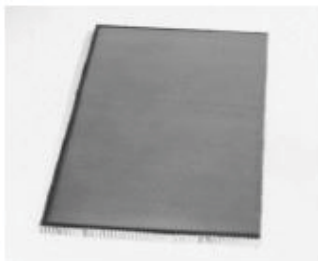
Electronic UVC Lamp Ballast
for Trio 1200 and Trio 2000

Part Number
46636900 BL014



12 Volt Transformer
for Trio 1200 and Trio 2000*

Part Number
46637000 BL007



TiO₂ Anatase PCO Honeycomb Catalyst
for Trio 1200

Part Number
46638300 AL004

for Trio2000

46638400 AL006

* Denotes transformer installed on product shipped prior to 2016.

WARRANTY

For warranty information about this or any Field Controls product, visit:
www.fieldcontrols.com



FIELD CONTROLS

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www.fieldcontrols.com