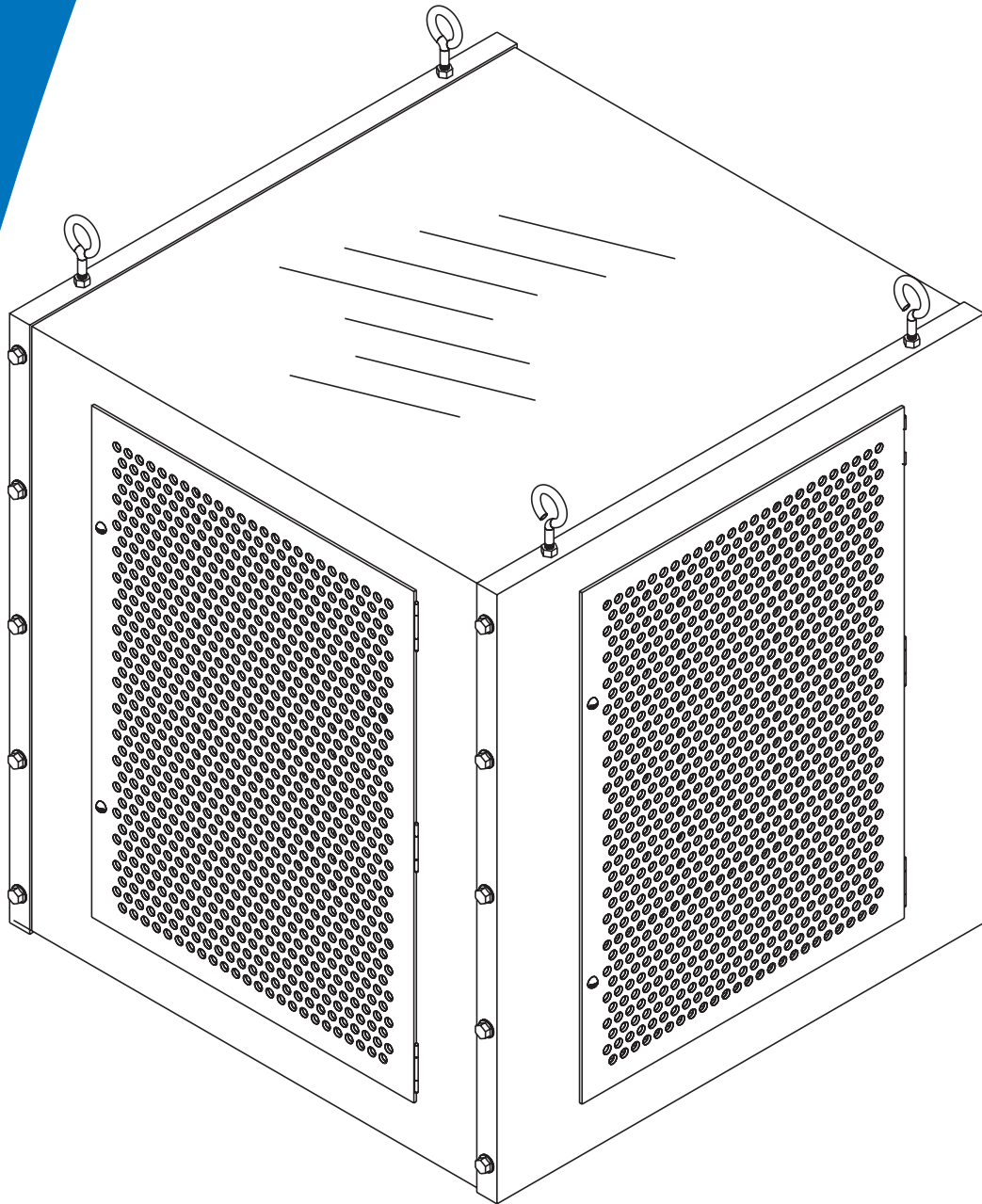




CREATING CLEAN AIR TO BREATHE



OVERALL DIMENSIONS  
24" x 24" x 26"

3000GS  
USER'S MANUAL



**CREATING CLEAN AIR TO BREATHE**

## Welcome

Your purchase of a state of the art Genesis Air system is the first step to breathing clean air. Our powerful GAP air purification method does much more than standard air filtration systems. The GAP technology in each Genesis Air system takes contaminated air and transforms it into high quality clean air through a multi-step technology process.

We thank you for your purchase and are sure you will find your new Genesis Air system to be an invaluable addition. We stand behind our products and are available to answer any of your questions. Please fill out your registration card and send it to us today. If you ever have any questions about your new system or our line of Genesis Air products, please contact us.

Breathe Well,

Genesis Air, Inc.



CREATING CLEAN AIR TO BREATHE

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# THE AIR WE BREATHE



Today, most people spend a growing portion of their time indoors. As much as 80% - 90% of the average American day is spent indoors. Whether we are at home, at work or in social settings, the majority of our time is spent in enclosed areas with limited air circulation. Many people are unaware that their daily habits are exposing them to increased levels of indoor air pollution. In fact, many experts believe that more Americans suffer from the effects of indoor air pollution than outdoor air pollution. For many people that suffer from allergies, asthma or other breathing problems, indoor air pollution is not simply a nuisance, but a threat to their health and well-being.

## Indoor Air Pollution

Indoor air pollution can come from a variety of sources. Some air contaminants are obvious, while others are less-known but equally dangerous. Examples of **short-term effects** of these pollutants include irritation to the eyes, nose and throat, and upper respiratory infections such as bronchitis and pneumonia. Other symptoms can include headaches, nausea, and allergic reactions. Short-term air pollution can also aggravate existing medical conditions such as asthma or emphysema. In London, "The Great Smog Disaster" in 1952, killed four thousand people in a few days due to the high concentrations of pollution.

**Long-term health effects** of indoor air pollution can include chronic respiratory disease, lung cancer, heart disease, and even damage to the brain, nerves, liver, or kidneys. Continual exposure to air pollution affects the lungs of growing children and may aggravate or complicate medical conditions in the elderly.

Sources of indoor air pollution are varied, with some being more obvious than others. Tobacco smoke, cooking and heating appliances, and vapors from building materials, paints, and furniture are some causes of pollution inside buildings.

As these contaminants enter our daily environments, the lack of air circulation leaves them to settle and accumulate. In time, these contaminants could accumulate within a person's body as well as in the ventilation systems.



## Where Conventional Filters Stop

A conventional air filter works by simply trapping air debris and particulate matter in an airstream that are too large to pass through the filter.

While larger particulate matter may be trapped by conventional filters, the smaller and often more harmful matter can easily slip through the existing gaps. Airborne bacteria, molds, pollen, chemical residue and dust mites are just a few examples of the pollutants that are not detained by these filters.

While breathing filtered air is a much healthier alternative to non-filtered air, conventional filters are extremely limited in their effectiveness.

### HEPA Filters

High Efficiency Particulate Arrestance (HEPA) filters fill the gap in collection performance that other conventional filters leave behind. These filters often provide a filtering efficiency of 99.9% since they can remove particles as small as 0.3 microns in diameter. HEPA filters have proven to be very effective in containing contaminants such as lead, asbestos and mold spores. This technology may seem new, but HEPA filtration technology has been in existence since World War II.

HEPA filters are a much better alternative to conventional air filters, but they alone can not be counted on for truly clean air. Although HEPA filters remove many airborne contaminants, their effectiveness varies dramatically depending on the filter's construction, placement, and the amount of air passing through the filter. Moreover, HEPA filters are **not** air purifiers. They trap a portion of the particulate matter and hold it. While some filters may also contain odor-eliminating media such as charcoal, these methods trap odors and fumes instead of eliminating them.

**Genesis Air Systems destroy organic vapors, odors and numerous other contaminants permanently.**

## THE UVGI DIFFERENCE

Ultraviolet Germicidal Irradiation (UVGI) is a process that exposes microorganisms to ultraviolet radiation, typically in the range of 2250-3020 Angstroms.

The use of UVGI for the sterilization of microorganisms has been studied since the 1930's. Microbes are uniquely vulnerable to the effects of light at wavelengths at or near 253.7 nanometers (UV-C germicidal) due to the way this wavelength resonates with a microbe's molecular structure.

Simply put, the quantity of energy UVGI possesses is just the right amount to break organic molecular bonds. When a microbe's bonds begin to break apart, it causes irreparable cellular damage to bacteria, molds, fungi or viruses.



The UVGI process effectively destroys many organic airborne contaminants, including bacteria and viruses, which cannot withstand the concentrated UVGI. This method is as old and natural as the sun itself.

UVGI alone is **not** a complete solution. Although many organic contaminants will be destroyed easily and effectively, pollutants such as particulate matter, smoke and inorganic gases will not be stopped using UVGI.

**Something has to fill the GAP**

# GAP™

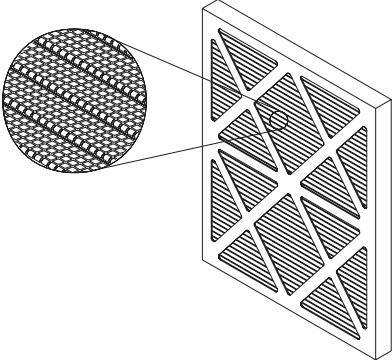
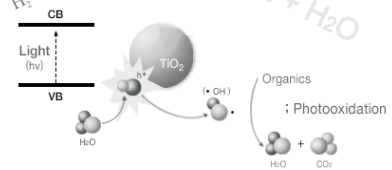
## GENESIS AIR PHOTOCATALYSIS

Genesis Air incorporates a revolutionary technology to clean, deodorize and disinfect the air. This is a three-step synergistic approach to achieve air quality like never before! Our GAP™ technology offers:

- Proven Leading - Edge Technology •
- Rationalized Design For Application-Specific Products •

GAP Does Not Produce Harmful By-Products - There is No Accumulation of Contaminants  
Oxidizes Organic Substances Into Benign Components

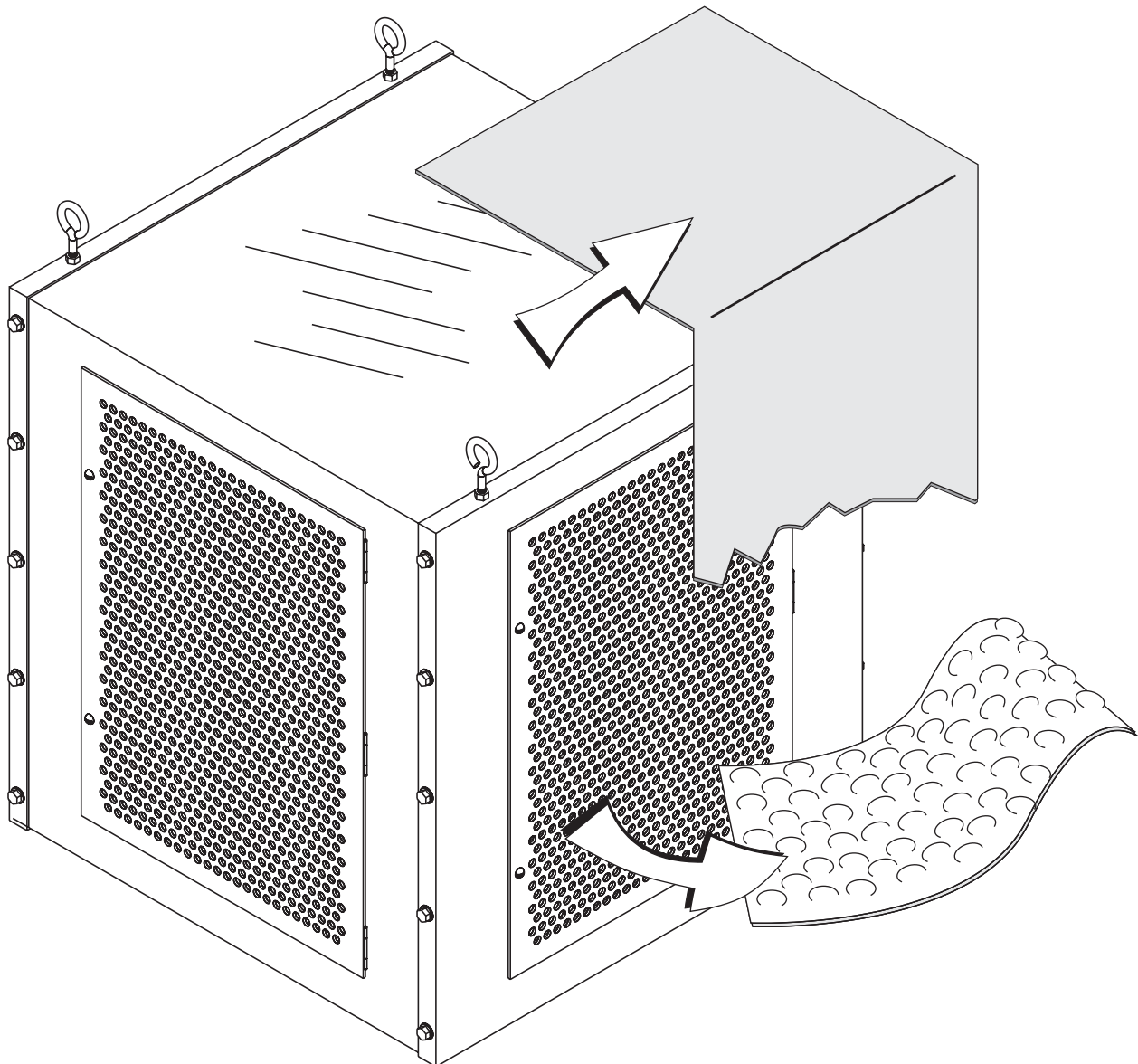
- Value-Priced, Low Maintenance Costs, Long-Lifetime Components •

<b>1 ADVANCED FILTRATION</b>	<b>2 UVGI TECHNOLOGY</b>	<b>3 GENESIS AIR PHOTOCATALYSIS</b>
<p>New, high-efficiency, high-capacity, low resistance particle filter removes most pollen, mold, mildew, ragweed, dust mites, house dust, bacteria, pet dander and many other submicroscopic poisons, allergens and irritants.</p> 	<p>Using 10,000 times the power of the Sun eradicates most airborne bacteria, viruses, mold, spores, and fungi.</p> <p>Ultraviolet light has been used for years in hospitals and critical situations to kill bacteria, virus and other contaminants. Its benefits are proven and well-known. Now Genesis Air Photocatalysis (GAP™) uses ultraviolet germicidal light in a dual role to destroy and neutralize microorganisms and to activate the photocatalyst, which destroys organic compounds and odors.</p>	<p>(GAP™) - Converts and breaks down harmful chemical vapors and odors. Titanium Dioxide in the presence of UV light has a natural purifying effect on organic compounds, odors, and toxic gases of all kinds. Its oxidizing effect converts chemical and biological contaminants into benign elements - carbon dioxide and water vapor.</p> <div style="text-align: center;"> <math display="block">\text{CH}_3\text{CHO} + \text{H}_2\text{O} + \text{CHCl}_3 + (1/2)\text{O}_2 \xrightarrow{\text{UV/TiO}_2} \text{CO}_2 + 3\text{HCl} + \text{CO}_2 + \text{H}_2\text{O}</math>  </div>

Your new Genesis Air 3000GS unit is ready to install right out of the box. Simply remove all protective wrapping and pull away any protective cardboard before proceeding to the next step.

Remove all protective plastic wrap, bubble wrap, foam, tape and cardboard before continuing with the installation. Failure to remove these items could reduce the effectiveness of your 3000GS unit, cause a fire hazard and may void warranties.

**DO NOT** remove any protective tape from the ballast, around the wiring or from the inside of the 3000GS unit. These items - UL tape and electrical ties, are provided for your safety and for the best performance from your 3000GS unit.

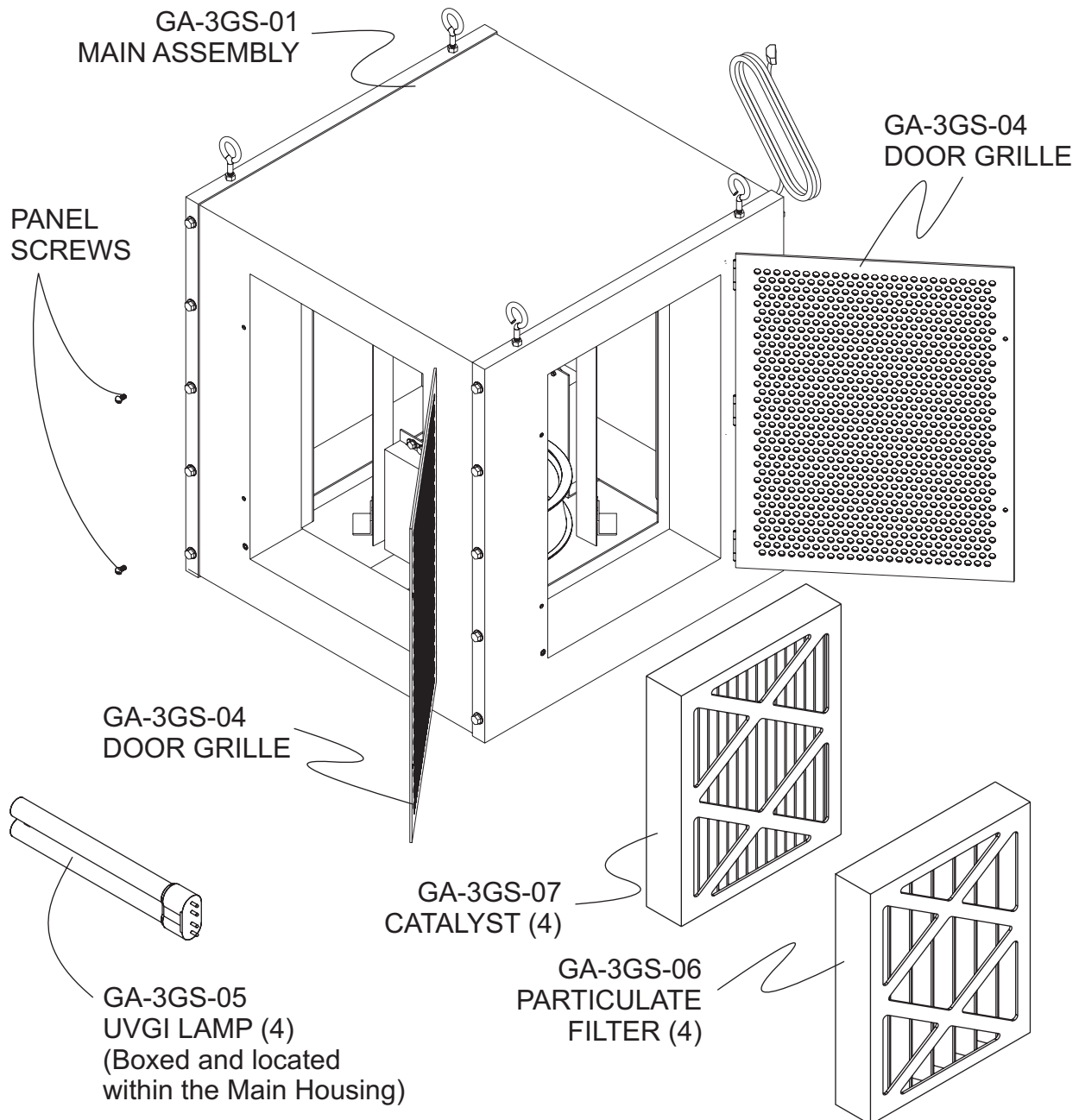




# Installation: Component Checklist

GENESIS AIR

CREATING CLEAN AIR TO BREATHE



Use this checklist to make sure your new Genesis Air 3000GS unit has arrived intact. Please note that the UVGI lamps will not arrive in place. Open the 3000GS unit by throwing the latches on the door grilles and removing the particulate filters and catalysts in order to place the lamps in the interior. Reassemble by following these instructions in reverse order. Remove all packaging before continuing.

**NOTE** - Your 3000GS unit may vary slightly from the unit shown above, however, all components will be essentially the same.

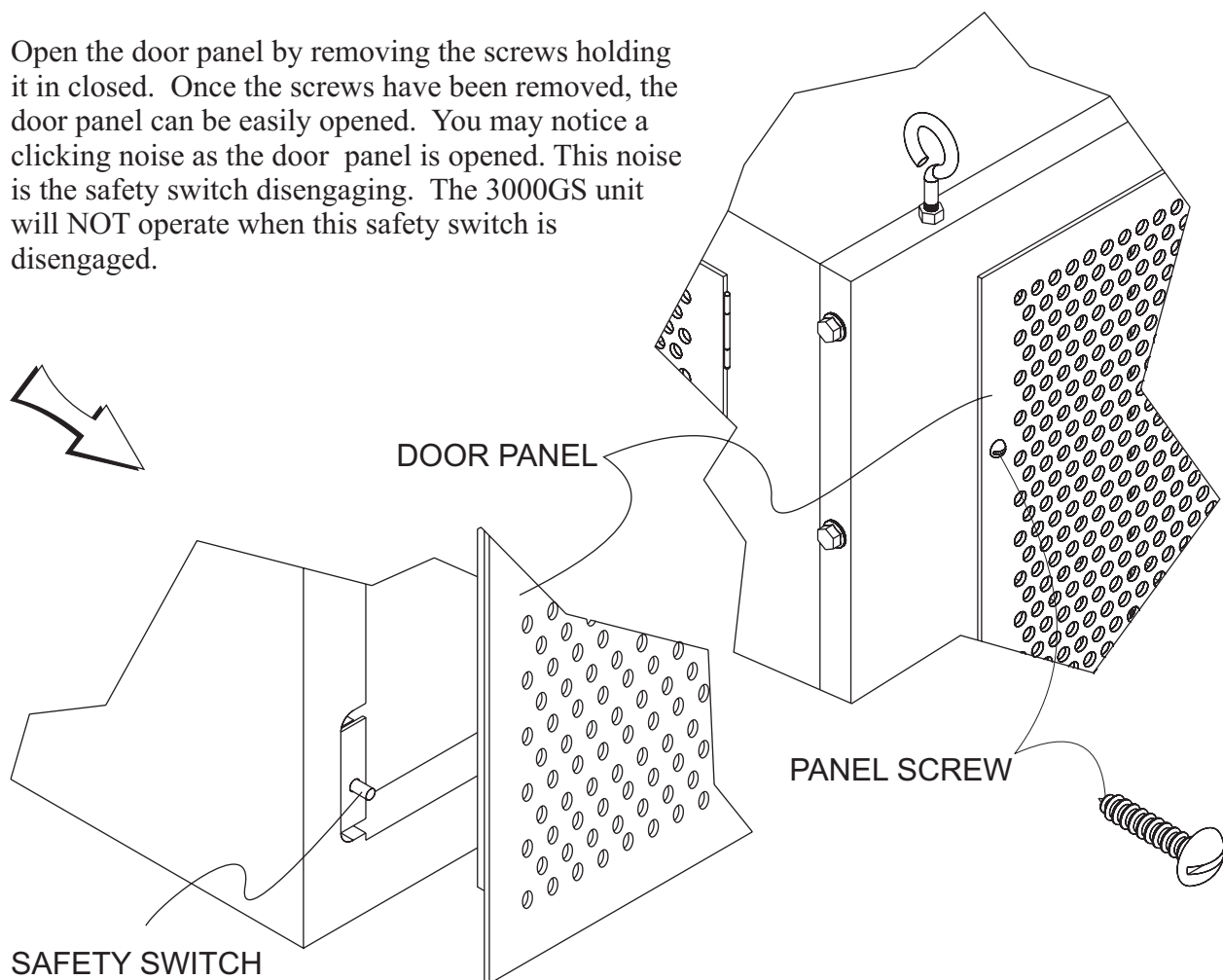
Your Genesis Air 3000GS unit can be installed into a room by using the provided eye-bolts. The 3000GS construction and design allow it to be hung from a ceiling. Mounting the 3000GS unit properly may require additional reinforcement. We recommend that you consult with a certified contractor before installing the 3000GS.

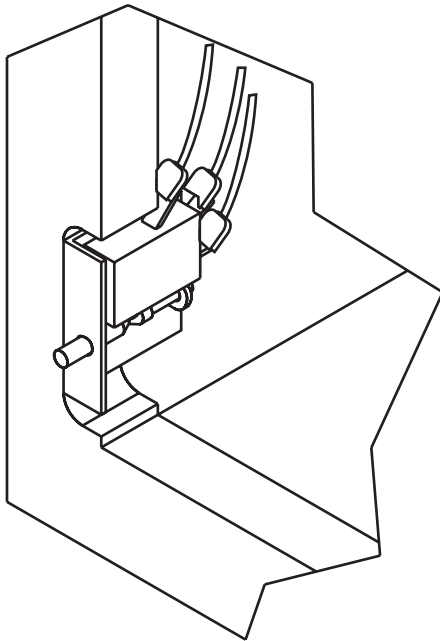
**NOTE:** The UVGI lamps (4) are located within the main assembly. Remove the screws from one of the door panels in order to access the prefilter (grille) and catalyst. Remove the prefilter (grille) and catalyst to access the interior components and UVGI lamps. The UVGI lamps **MUST** all be installed for proper operation and effectiveness.

**\*\*CAUTION\*\***

The Genesis Air 3000GS system must be wired to a standard 120V power supply. **DO NOT** attempt to modify any of the 3000GS unit's electrical components. Modifying any electrical component could result in user injury and/or damage to the 3000GS unit. Genesis Air also highly recommends that all wiring be performed by a certified electrician

Open the door panel by removing the screws holding it in closed. Once the screws have been removed, the door panel can be easily opened. You may notice a clicking noise as the door panel is opened. This noise is the safety switch disengaging. The 3000GS unit will **NOT** operate when this safety switch is disengaged.





## SAFETY SWITCHES

Each 3000GS unit contains four (4) safety switches for your protection. Each of the safety switches is located at the front of each face of the unit, behind the door grilles. These switches will disengage once the door panel screws are removed. Disengaging the switch will completely shut off the power to the unit (blower and lights). These measures are included to prevent accidental exposure to the UVGI lamps if the power is still on when the door grille is opened.

**DO NOT ATTEMPT TO MANUALLY ENGAGE THE SAFETY SWITCH WHILE THE DOOR GRILLES ARE OPEN.**

**NOTE** - Your 3000GS unit may vary slightly from the unit shown above. If this is the case, some of the procedures *may* have to be modified. The process and function of the components, however, will not change.

## CAUTION

Make sure the power is shut off before servicing this unit. Servicing this UVGI fixture without shutting off the power risks potential skin and/or eye exposure. Disconnect the power by turning off the circuit breaker or by completely unplugging the unit. **Turning the 3000GS unit off is not a sufficient precaution!**

## WIRING

Your 3000GS unit is designed to be plugged in to a standard house voltage wall outlet. It may, however, become necessary to change the ballast or perform maintenance work in which the schematic and information below would be beneficial.

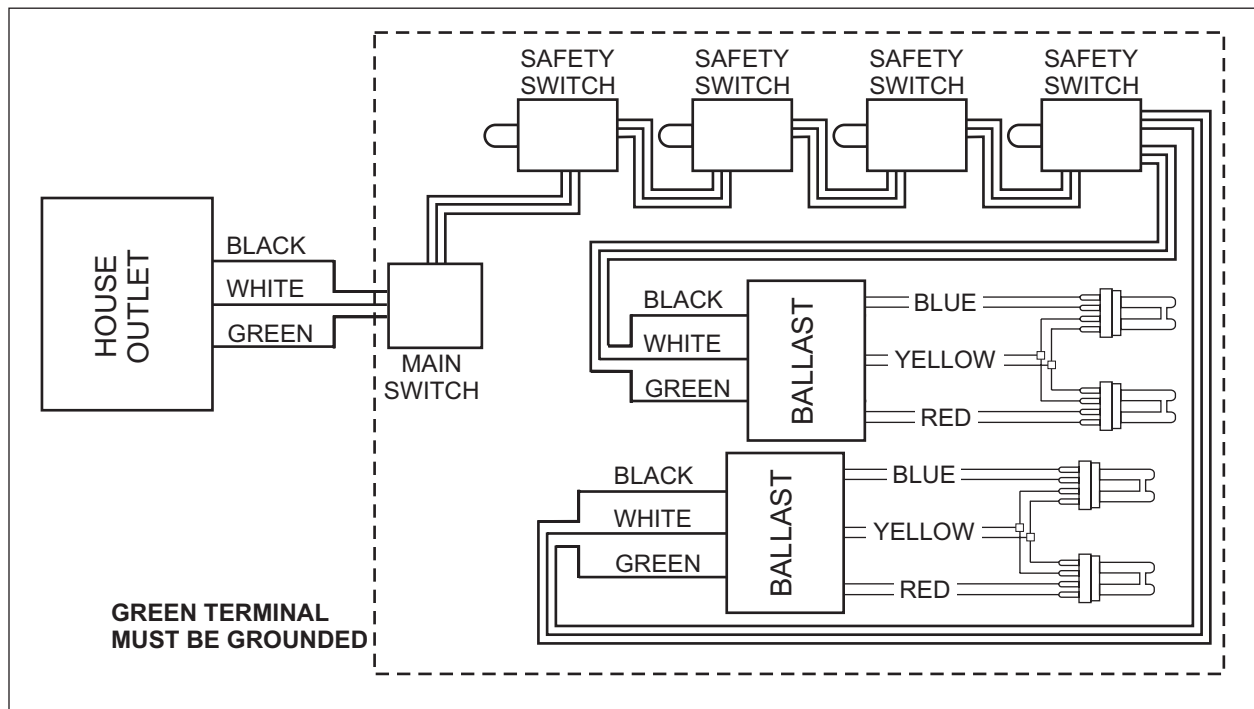
**NOTE:** All electric work should be performed by a licensed electrician. Please contact Genesis Air if you experience an electrical malfunction.

## GENERAL

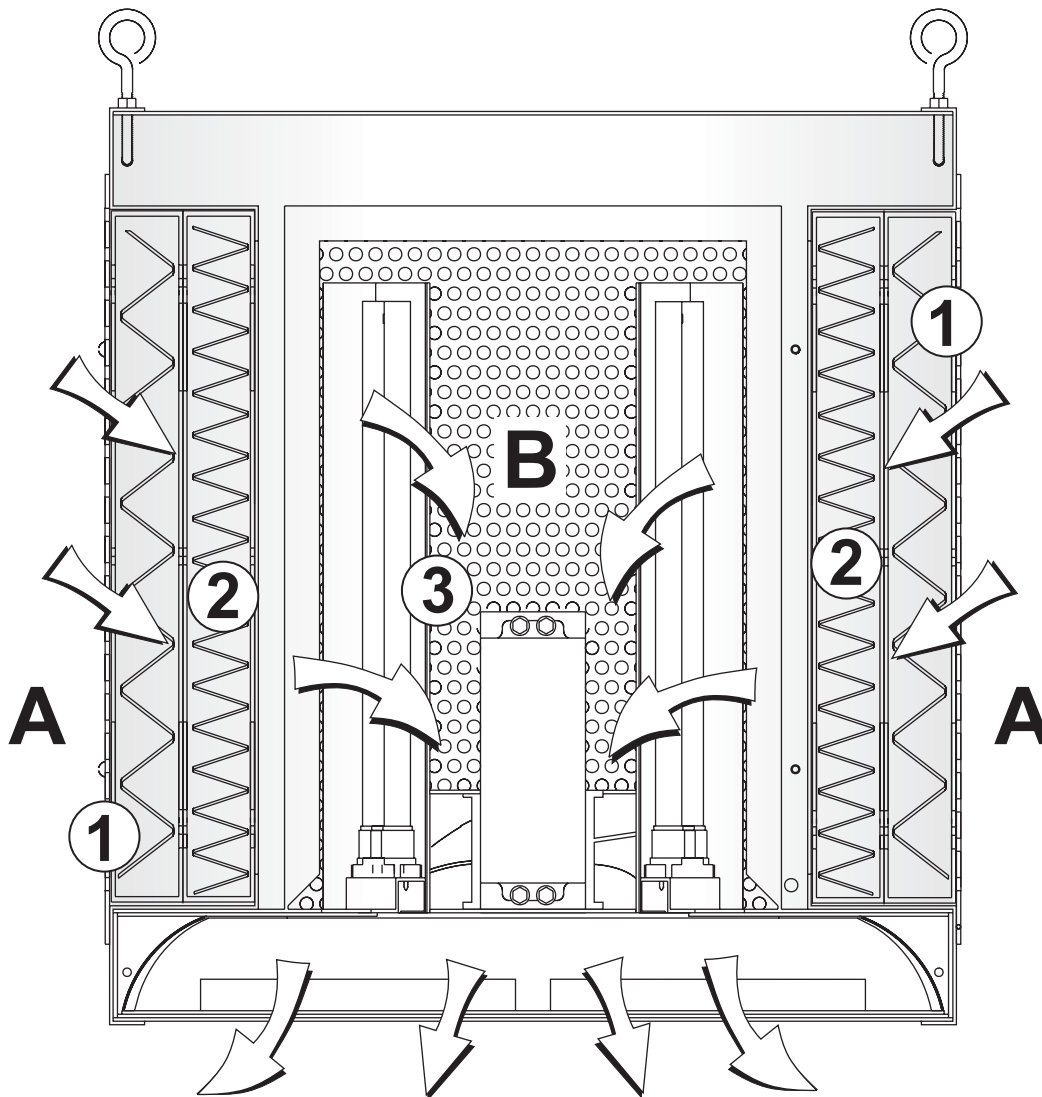
1. To ensure proper installation, read and review these instructions and illustrations thoroughly before beginning.
2. Before starting the installation, disconnect power to the unit by unplugging the unit from the outlet.
3. All electrical connections must be in accordance with local codes, ordinances or the national electrical code.

## WIRING DIAGRAM

THE FOLLOWING DIAGRAM IS FURNISHED FOR REFERENCE.



THESE INSTRUCTIONS **DO NOT** COVER ALL DETAILS OR VARIATIONS IN EQUIPMENT, NOR DO THEY PROVIDE FOR EVERY POSSIBLE CONTINGENCY TO BE MET IN CONNECTION WITH INSTALLATION, OPERATION OR MAINTENANCE. GENESIS AIR STRONGLY ADVISES ALL INSTALLATIONS BE PERFORMED BY A LICENSED ELECTRICIAN TO SATISFY LOCAL CODES..



As air enters the unit (A), it will be passed through the blower into the **GAP**<sup>™</sup> chamber (B) to be processed and purified.

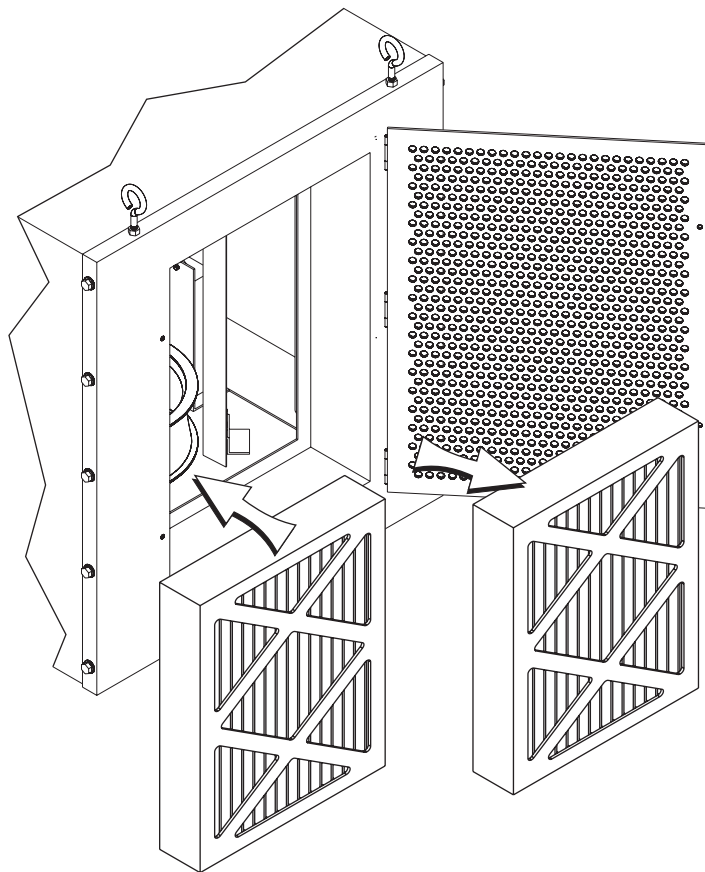
1 - As the air is passed through the particulate filter, larger airborne contaminants are removed from the airstream, allowing the air to pass on.

2 - As the air is passed through the catalyst, the UVGI light will react with it and cause the photocatalysis of organic material that may still be contained in the airstream.

3- As the filtered air is passed through the irradiation chamber, the UVGI light will destroy organic matter in the airstream - including mold, pollen and bacteria.

It will become necessary, from time to time to remove and change or replace the **GAP**™ catalyst. This is an easy process and can be accomplished quickly and efficiently. Open the appropriate door grille by unlatching the grille and slowly opening it. You should hear a small click as the safety switch is released.

Once the door grille has been opened, the **GAP**™ catalyst may be removed from the interior of the 3000GS unit. Pull the particulate filter away carefully and set it aside. Once the catalyst is accessible, it may be removed by pulling it away carefully from the 3000GS unit.



After the used catalyst has been removed, place the replacement catalyst into the main housing by placing it snugly against the foam padding and pressing gently, using even pressure on both sides of the catalyst.

Make sure that the replacement catalyst is properly installed by noting the direction of the airflow on the catalyst housing. There will be an arrow or similar indicator designating the airflow direction. Proper airflow will travel from the particulate filter section of the unit through the catalyst and into the UVGI lamp section.

Replace the particulate filter and properly close and secure the door grille.

**NOTE** - Your 3000GS unit may vary slightly from the unit shown above. If this is the case, some of the procedures *may* have to be modified. The process and function of the components, however, will not change.

## CAUTION

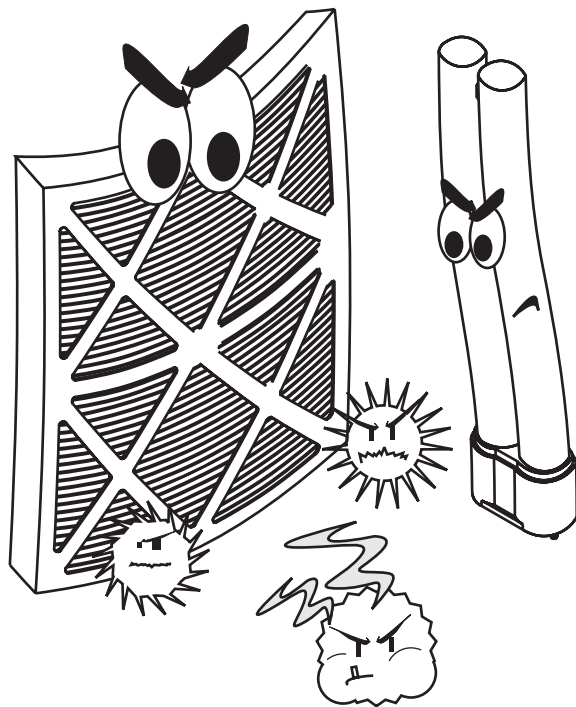
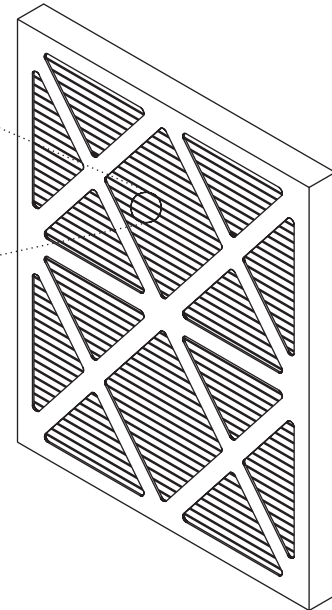
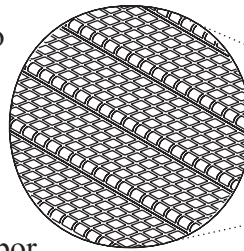
Make sure the power is shut off before servicing this unit. Servicing the UVGI fixture without shutting off the power risks potential dangerous skin and/or eye exposure. Always disconnect the power by unplugging the unit from the wall outlet.

## Changing the Catalyst - cont.

The Genesis Air **GAP**™ catalyst will need to be changed over time, due to the photo-catalyzing properties of the material.

As the catalyst assists in the destruction of harmful and potentially hazardous air contaminants, it chemically changes them to benign substances - carbon and water vapor.

In time, a carbon buildup will accumulate on the catalyst medium and could hamper the effectiveness of your 3000GS unit. Proper maintenance, cleaning and changing of the **GAP**™ catalyst is one of the crucial steps in keeping your 3000GS unit running effectively and efficiently.



## Proper Care and Maintenance

Proper care and maintenance of your Genesis Air 3000GS system will keep it running smoothly and efficiently.

If your 3000GS unit is placed in an area where it will deal with heavy smoking, dust or any high concentration of air contaminants, the unit must be inspected more frequently than average. While it is important to check the lamps and catalyst, the 3000GS's first line of defense is the grille.

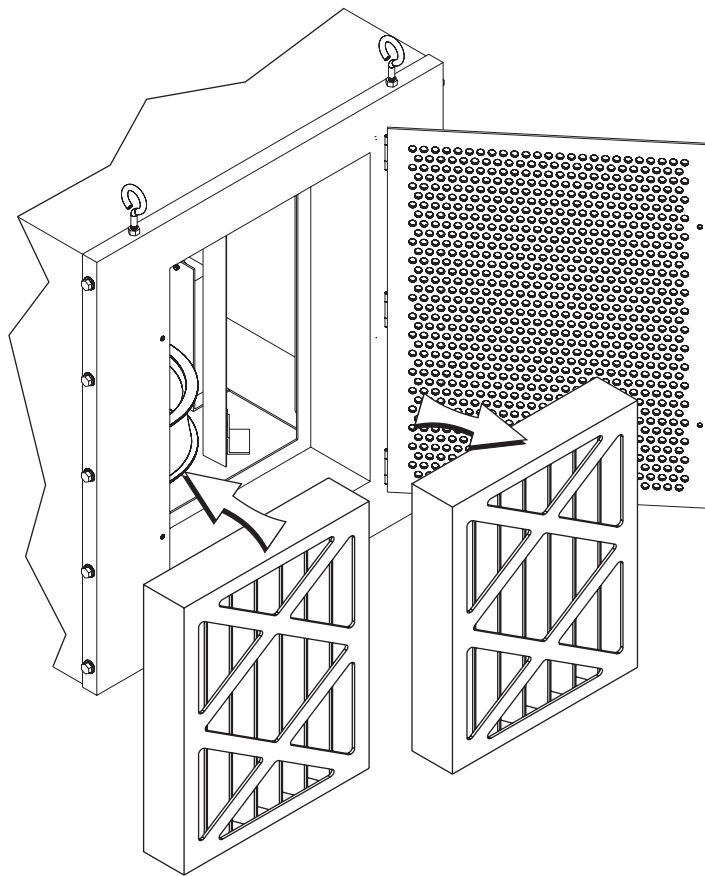
Keeping your 3000GS in good condition will help maximize it's life and efficiency.

## CAUTION

Make sure the power is shut off before servicing this unit. Servicing this UVGI fixture without shutting off the power risks potential dangerous skin and/or eye exposure. Disconnect the power by unplugging the unit from the wall outlet.

Proper maintenance of your Genesis Air 3000GS unit is simple and efficient. There are two basic functions that must be carried out on a regular basis - The inspection and replacement of filter and catalyst media and the inspection and replacement of the UVGI lamp. The frequency of these maintenance procedures depends largely on the amount of pollution encountered in the ambient environment.

Changing the particulate filter is a simple process. To begin, simply follow the instructions outlined in the previous section.



After the used particulate filter has been removed, place a replacement filter into the main housing by placing it snugly against the foam padding.

Make sure that the replacement particulate filter is placed properly by noting the direction of the airflow on the filter frame. There will be an arrow or similar indicator designating the airflow. Proper airflow will travel from the particulate filter section of the unit through the catalyst and into the UVGI lamp section.

Properly close and secure the door grille.

**NOTE** - Your 3000GS unit may vary slightly from the unit shown above. If this is the case, some of the procedures *may* have to be modified. The process and function of the components, however, will not change.

## CAUTION

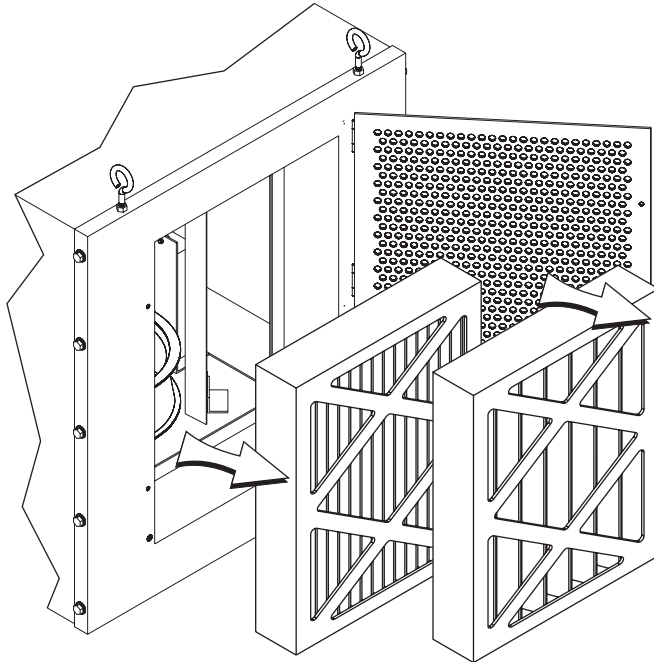
Make sure the power is shut off before servicing this unit. Servicing this UVGI fixture without shutting off the power risks potential dangerous skin and/or eye exposure. Disconnect the power by unplugging the unit from the wall outlet.



Although the UVGI lamps shipped with your 3000GS unit are designed for long life, it may be necessary from time to time to perform maintenance on and possibly replace the lamps. This is an easy process and can be accomplished quickly and efficiently.

Open the door panel by removing the panel screws and opening slowly. You should hear a small click as the safety switch is released.

Once the door panel has been opened, the **GAP**™ catalyst and prefilter / grille may be removed from the unit. With the door panel open, carefully remove the catalyst and prefilter / grille. Set these components aside.



## UGVI

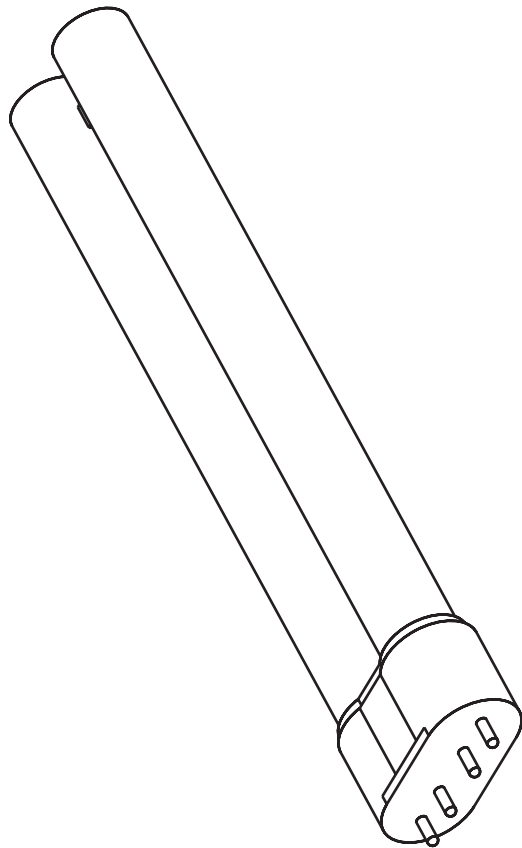
Ultraviolet energy in the "C Band" is an electromagnetic wave form that destroys microorganisms. It is produced when mercury vapors are exposed to high voltage energy called plasma. This plasma is what produces the blue light glowing in our tubes.

### CAUTION

UVGI lamps will be extremely hot to the touch. Allow the lamps to cool before attempting to clean or replace them.

### CAUTION

Make sure the power is shut off before servicing this unit. Servicing this UVGI fixture without shutting off the power risks potential skin and/or eye exposure. Always disconnect the power by unplugging the unit from the wall outlet.



### CAUTION

UVGI lamps will be extremely hot to the touch. Allow the lamps to cool before attempting to clean or replace them.

To ensure effective and safe operation, UVGI fixtures must be inspected on a quarterly basis or more often if indicated by lamp cleanliness or lamp failure due to the operating environment or conditions.

Working UV lamps should never be handled with bare fingers, always wear soft cotton gloves when handling working lamps to prevent oily deposits that decrease lamp efficiency and lamp life.

All UVGI systems must be inactivated prior to maintenance, renovation or repair work, or when accessing ventilation ducts where UVGI systems have been installed.

*If it is not possible to turn the UVGI systems OFF when performing necessary tasks, appropriate personal protective equipment (PPE) must be worn.*

The following procedure must be followed at all times:

Turn OFF power to the 3000GS unit. Depending on the installation, a circuit switch may be used or the power cord must be unplugged.

Verify that the lamps are OFF by observing the fixture from a distance. There should not be a blue glow if the units are OFF.

Open the unit according to the instructions in this manual.

Gently remove the lamps from the unit for cleaning.

Wearing soft cotton gloves and using a cloth dampened with alcohol, clean each lamp and reflector. All dust and other deposits should be removed since they reduce the effectiveness of the UV lamps.

While still wearing cotton gloves to prevent oily deposits, replace the lamp tubes in the unit.

Replace "old" lamps with new lamps if any of the following conditions exists:

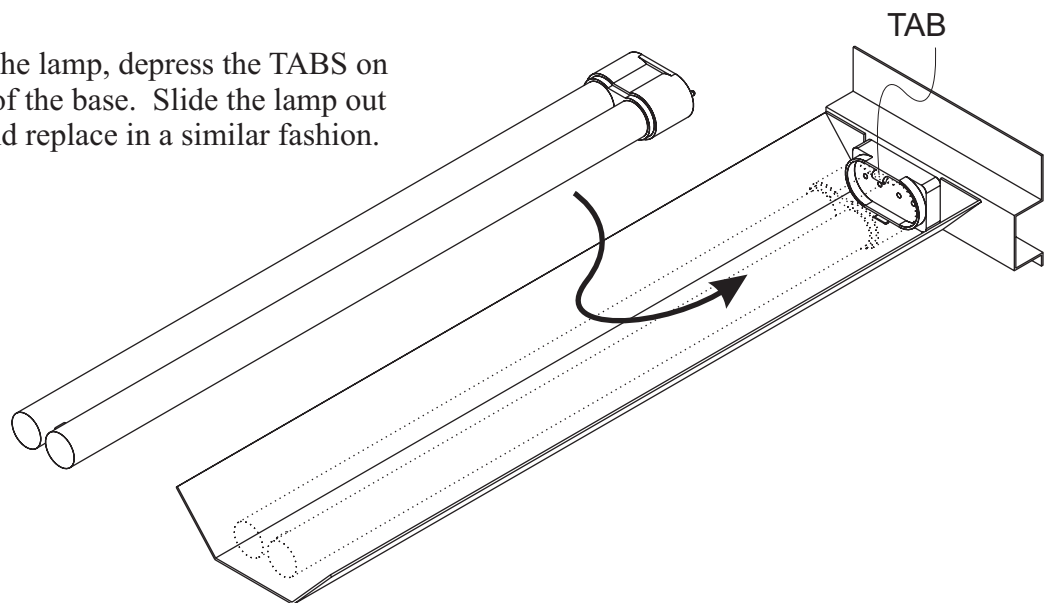
- the manufacturer's expected life rating (typically 9000 burning hours) has been reached;
- the tubes stop glowing;
- the tubes flicker to an objectionable extent; or
- there is a drastic reduction in output measurement from the previous quarterly inspection.

Replace and secure the outlet cover in place once more.

Turn power ON the unit and verify lamp operation.

Document the inspection, cleaning and lamp replacement in the a Preventive Maintenance Record.

To replace the lamp, depress the TABS on either side of the base. Slide the lamp out carefully and replace in a similar fashion.



## Lamp Disposal

In most states, UVGI lamps can be disposed of in the same way as regular or fluorescent light bulbs. While all fluorescent and UVGI lamps contain trace amounts of mercury, the quantities are so minute that disposal is not regulated by federal standards (established by the Environmental Protection Agency (EPA)). Individual states and provinces, however, have also established disposal standards. Please adhere to your local regulations.

## CAUTION

Make sure the power is shut off before servicing this unit. Servicing this UVGI fixture without shutting off the power risks potential dangerous skin and/or eye exposure. Always disconnect the power by unplugging the unit from the wall outlet.

## REPLACEMENT PARTS

Although recurring problems with your 3000GS unit are not expected, at some point, replacement parts may be necessary. These parts are readily available from our warehouse and can be shipped to you promptly. Just contact us with the following information:

- **Replacement Part Number**
- **Quantity Require**
- **3000GS Serial Number**
- **Cause For Replacement (Optional)**

**Pre-Order**

To minimize down-time of your 3000GS unit, you may pre-order replacement lamps before the current lamps go out.

PART NUMBERS	
GA-3GS-01	MAIN ASSEMBLY
GA-3GS-04	DOOR GRILLE
GA-3GS-05	36 WATT UVGI LAMP
GA-3GS-06	PARTICULATE FILTER
GA-3GS-07	CATALYST
GA-3GS-10	BALLAST
GA-3GS-11	BLOWER FAN

## **CONTACT INFORMATION**

We aim to assist our customers with all their needs. If you ever need to contact us, our offices are open Monday through Friday 8am - 5pm (Central Time).

### **Corporate Offices**

GENESIS AIR, INC.  
5202 CR 7350 Suite D  
Lubbock, TX 79424

Phone (806) 745-7000  
Fax (806) 745-9200

### **Company Website**

[www.genesisair.com](http://www.genesisair.com)

### **For Product Literature**

[info@genesisair.com](mailto:info@genesisair.com)

### **For General Assistance**

Visit Our Website

# Maintenance Log



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Maintaining a well-documented log can help keep track of the operation of your 3000GS unit.  
Use to spaces below to document performed maintenance.

DATE	PART(S) SERVICED	DESCRIPTION

**NOTES**

Serial Number

Write your 3000GS serial number in the space above. It may be necessary to have this number available when contacting Genesis Air.

# NOTES





