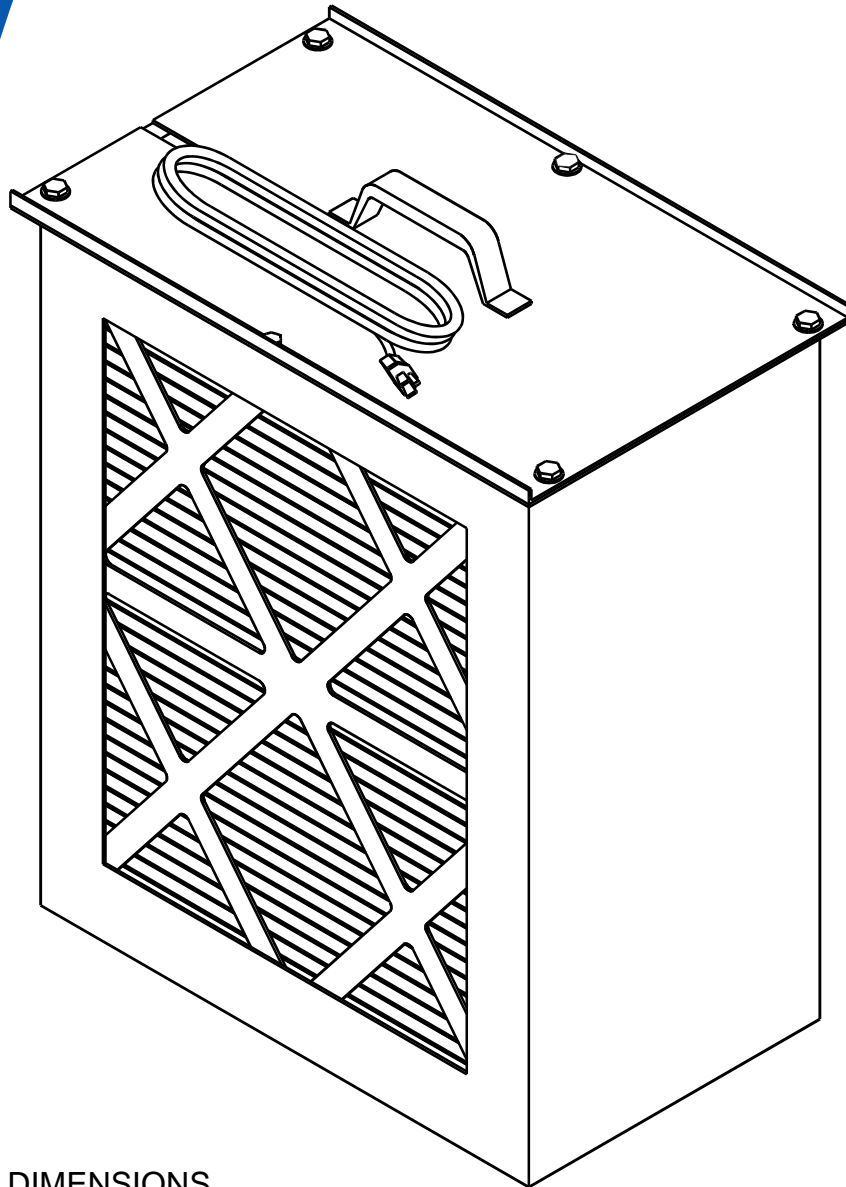


New
2005
Model

Features
PureVOLT™
and G.A.P.™
Technology!



CREATING CLEAN AIR TO BREATHE



OVERALL DIMENSIONS
21 3/8" x 13 1/4" x 27 1/4"

2000WO
Under Furnace Unit
USER'S MANUAL



CREATING CLEAN AIR TO BREATHE

Welcome!

Your purchase of a state of the art Genesis Air system is the first step in breathing new air! Our powerful G.A.P. air purification method does much more than standard air filtration systems. The G.A.P. technology in each Genesis Air system takes contaminated air and literally 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. We urge you to fill out your registration card and send it to us today! If you ever have any questions about your new system or about our line of Genesis Air products, please contact us at your earliest convenience.

Breathe Well.

Genesis Air, Inc.



CREATING CLEAN AIR TO BREATHE

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THE AIR WE BREATHE



Most people are spending 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 Americans 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 Americans that suffer from allergies, asthma or other breathing troubles, indoor air pollution is not a nuisance, but a threat to their health and well-being.

Where Does Indoor Pollution Come From?

Indoor air pollution can come from a variety of sources. Some air contaminants are obvious, while others are less-known but equally dangerous threats to your health. Examples of **short-term effects** 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 aggravate the medical conditions of individuals with asthma and emphysema. In the great "Smog Disaster" in London in 1952, four thousand people died in a few days due to the high concentrations of pollution.

Long-term health effects 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.

The 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, furniture, etc. cause 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 in more than just ventilation systems, these contaminants left to settle could accumulate within a person's body.



Where Conventional Filters Stop

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 one of these conventional filters, the smaller and often more harmful matter can easily slip through the gaps that exist in these filters. Airborne bacteria, molds, pollen, chemical residue and dust mites are just a few examples of the pollutants that are not detained.

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

What About 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.

Although these air filters are a much better alternative to conventional air filters, they alone can not be counted on for truly clean air. Though HEPA technology may seem new to some, HEPA filtration technology has been in existence since World War Two! Moreover, although HEPA filters remove many airborne contaminants, their effectiveness can vary dramatically depending on the filter's construction, placement and amount of air passing through the filter. Moreover, HEPA filters are **not** air purifiers. They, at best, trap a portion of the particulate matter and hold it. Some filters may also contain odor-eliminating media such as charcoal - but even these methods trap odors and fumes instead of eliminating them.

Genesis Air Systems will actually 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.

Putting it simply, the quantity of energy UVGI possesses is just the right amount of energy 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.

With 11 watts of output per lamp, the UVGI intensity is 125 microwatts per cubic centimeter within 12 inches of each lamp. Most central AC systems up to 5 tons require two lamps, which give an effective UVGI intensity inside the air handler of approximately 250 microwatts. Larger systems require additional lamps to maintain the required UVGI intensity levels.

In simple terms - the UVGI process will effectively destroy many organic airborne contaminants including bacteria and viruses which don't stand a chance against concentrated UVGI. It's a method that's as old and natural as the sun itself.

There is just one catch - UVGI alone is **not** a perfect method. Although many organic contaminants can be destroyed easily and effectively, pollutants such as particulate matter, smoke and inorganic gases won't be stopped with UVGI.



Once again, something's got to fill the GAP.

G.A.P.TM

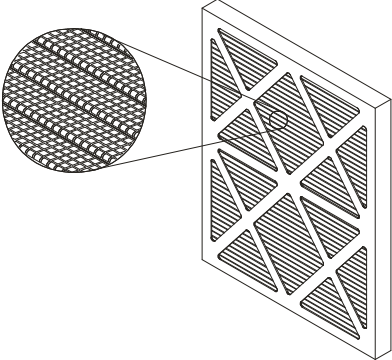
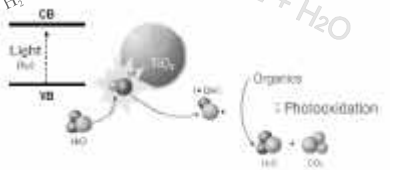
GENESIS AIR PHOTOCATALYSIS

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 G.A.P.TM technology offers:

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

G.A.P. Does Not Produce Harmful By-Products - There is No Accumulation of Contaminants
Oxidizes Organic Substances Into Benign Components

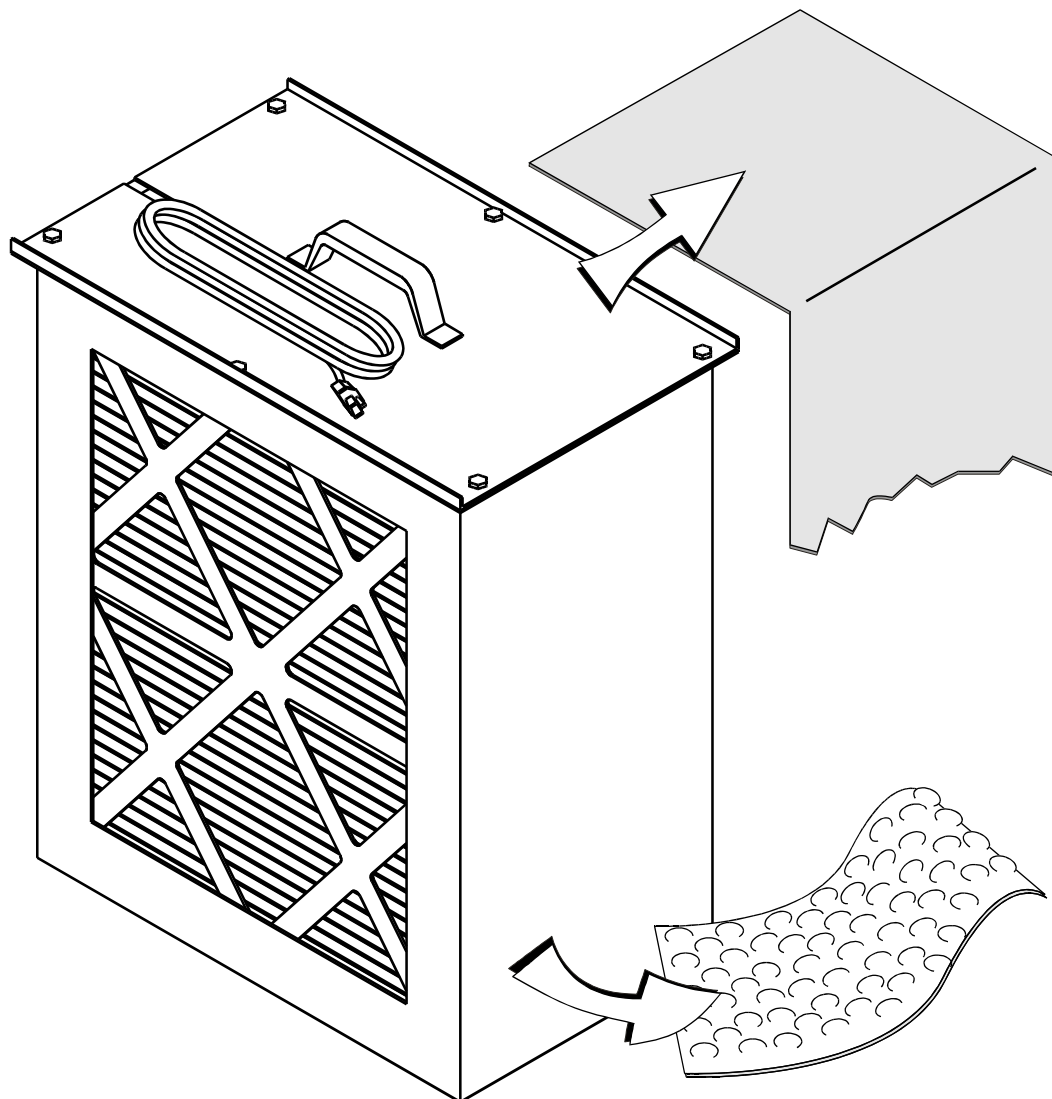
- Value-Priced, Low Maintenance Costs, Long-Lifetime Components •

1 ADVANCED FILTRATION	2 UVGI TECHNOLOGY	3 GENESIS AIR PHOTOCATALYSIS
<p>Removes even particles you can't see. 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>10,000 times the power of the Sun, eradicate most airborne bacteria, viruses, mold, spores, and fungi. 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 (GAPTM) 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>(GAPTM) - 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> $\text{CH}_3\text{CHO} + \text{H}_2\text{O} + \text{CHCl}_3 + (1/2)\text{O}_2 \xrightarrow{\text{UV}} \text{CO}_2 + 3\text{HCl}$ 

Your new Genesis Air 2000WO unit is ready to use or install right out of the box! Simply take the unit out of the box, remove all protective wrapping and pull away any protective cardboard before proceeding to the next step!

DO - Remove all protective plastic wrap, packing bubbles, foam, tape and cardboard before continuing with the installation. Failure to remove these items could reduce the effectiveness of your 2000WO unit, cause a hazard or fire and may void warranties.

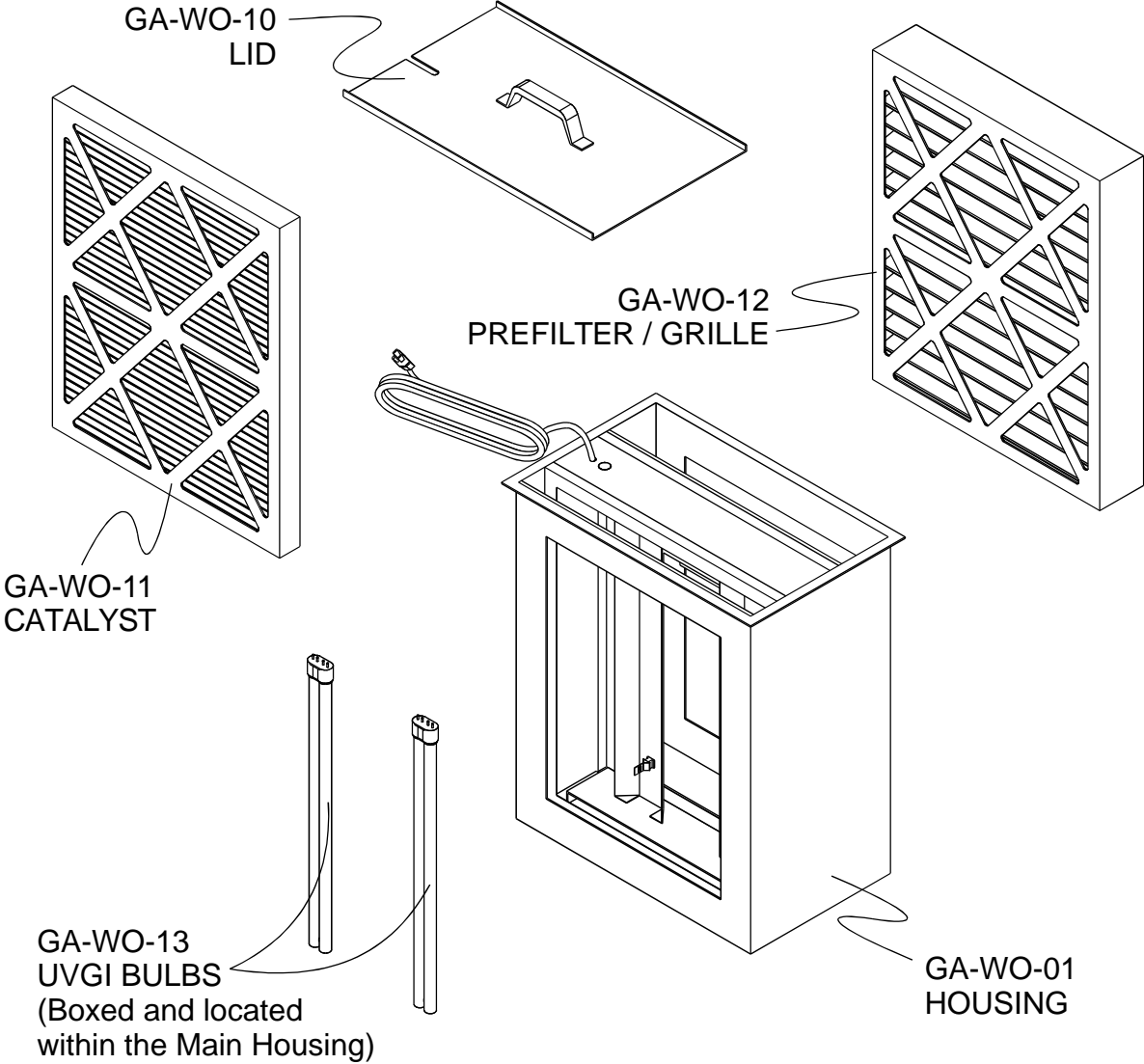
DO NOT - Do not remove any protective or aluminum tape from the ballast, around the wiring or from the inside of the 2000WO unit. These items - UL tape, electrical ties, etc.. are provided for your safety and for the best performance from your 2000WO unit.



Installation: Component Checklist

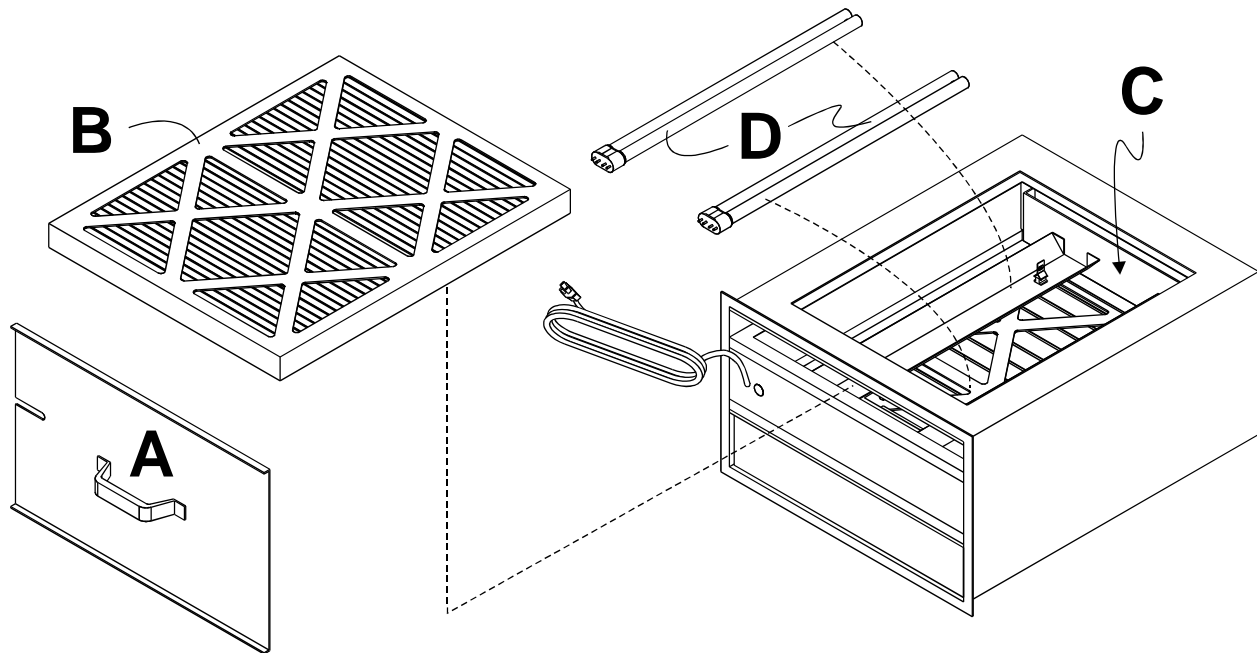


CREATING CLEAN AIR TO BREATHE



Use this checklist to make sure your new Genesis Air 2000WO unit arrived intact. Please note that the UVGI bulb will not arrive installed. Open the 2000WO unit by removing the screws on the lid and removing the catalyst. Once the catalyst has been removed, the bulbs can be removed and installed. Make sure to remove all packaging before continuing.

NOTE - Your 2000WO may vary slightly from the unit shown above, however, all components will be essentially the same.



DO NOT PLUG IN THE 2000WO UNIT UNTIL IT HAS BEEN SET UP COMPLETELY AND IS IN PLACE UNDER THE FURNACE.

The Genesis Air 2000WO unit is designed to be used as a standalone under-furnace unit. The 2000WO system must be plugged into a standard wall outlet to function.

NOTE: The UVGI bulbs are located within the main housing. Remove the lid (A) by undoing the screws located at the top of the unit. Second, remove the catalyst (B) by gently pulling it out evenly from both ends. Removing the catalyst allows access to the inside of the main housing area (C) and the bulbs. Remove the bulbs (D) from the packaging and install the UVGI bulbs. For instructions on bulb installation and replacement, see the 'Replcing Bulbs' section of this manual. The UVGI bulbs **MUST** be installed for proper operation and effectiveness. After installing the bulbs, gently re-insert the catalyst and secure the lid once more. **DO NOT OVERTIGHTEN SCREWS.**

Place the 2000WO unit beneath the furnace before connecting the power cord. The power cord must be firmly plugged in, using a standard (120V) wall outlet before operating the 2000WO unit. Plugging in the 2000WO unit at this point will activate the unit and begin the cleaning process.

****CAUTION****

When using your Genesis Air 2000WO system, it must be plugged into a standard 120V grounded outlet. **DO NOT** attempt to modify any electrical components or the plug itself. Modifying any of the electrical components could result in user injury and/or damage to the 2000WO unit.

NOTE - Your 2000WO 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.

WIRING

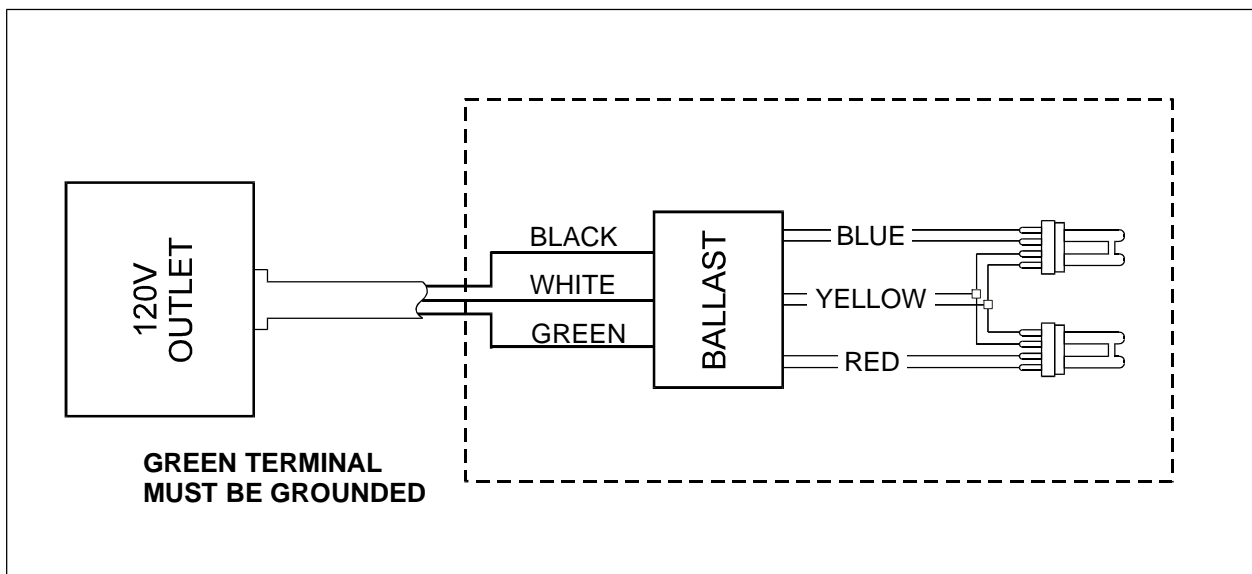
Your 2000WO unit is designed to be plugged in to a standard 120V wall outlet. It may, however, become necessary to change the ballast or perform maintenance work in which the schematic and information below would be beneficial.

GENERAL

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

WIRING DIAGRAM

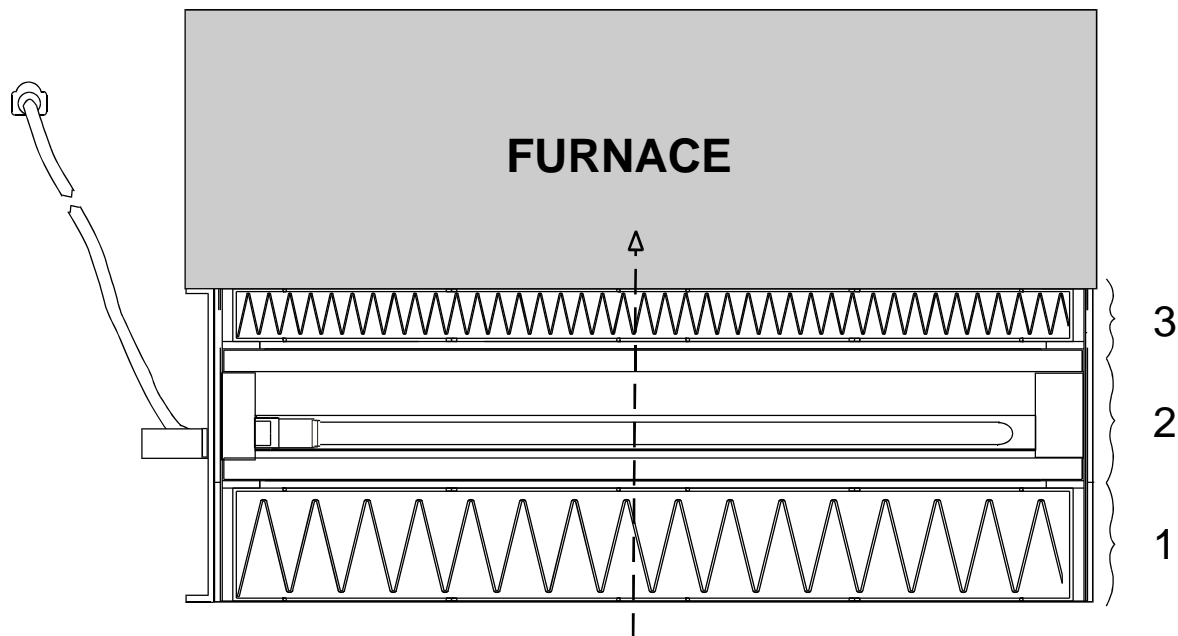
THE FOLLOWING DIAGRAM IS FURNISHED FOR REFERENCE.



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..

UNDER-FURNACE SYSTEM

Once the Genesis Air 2000WO unit has been properly installed, it is ready to be used. The 2000WO unit is a standalone unit that will work without any outside assistance, simply plug it in and the 2000WO does the rest!.



The 2000WO unit is designed to filter and clean air before it enters the furnace. It does exactly that by using an innovative **GAP**™ system.

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

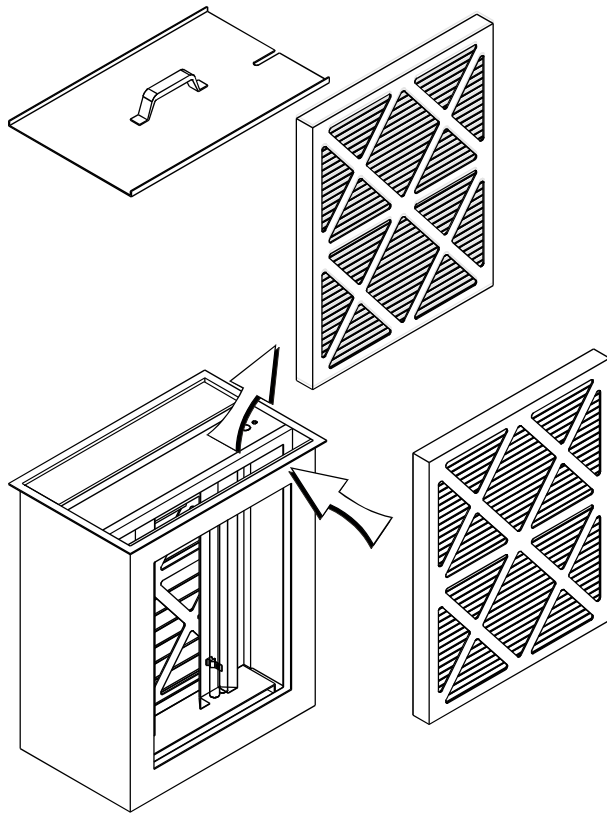
2- As the filtered air is passed through the irradiation chamber, the UVGI light will destroy any organic matter in the airstream - including mold, pollen and bacteria.

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

It will become necessary, from time to time to remove and change or replace the **G.A.P.**™ catalyst. This is an easy process and can be accomplished quickly and efficiently.

Remove the lid by loosening the screws and slowly pulling the lid away from the unit. You may hear a small “click” as the safety switch is released. Be sure that the power cord is not caught in the lid.

Once the lid has been removed, the **G.A.P.**™ catalyst may be removed from the housing. Put the lid aside and carefully remove the catalyst. Remove the catalyst by pulling gently from both ends in a straight line. If there are any snags, work them out slowly with your fingertips.



After the used catalyst has been removed, it can be replaced. Place a replacement catalyst into the main housing by placing it snugly against the foam padding and pressing gently, with even pressure on both sides of the catalyst.

Make sure that the replacement catalyst is placed properly by noting the direction of the airflow on the catalyst housing. There will be an arrow or similar indicator designating the airflow. Proper airflow will travel from the prefilter / grille section of the unit through the UVGI bulb section and out through the catalyst.

Replace the lid and properly secure it in place once more, being careful not to snag the power cord.

NOTE - Your 2000WO 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!

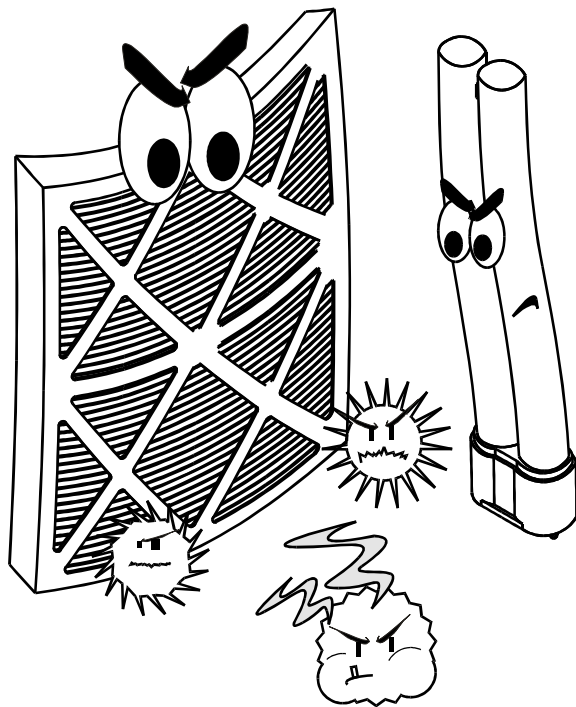
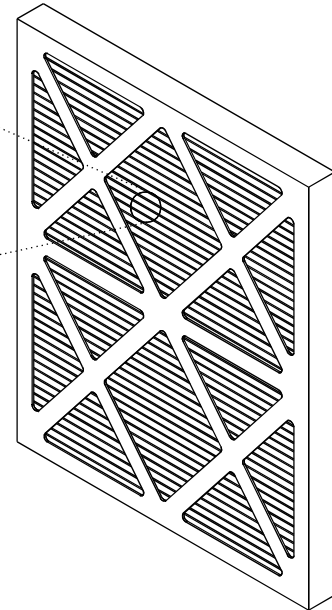
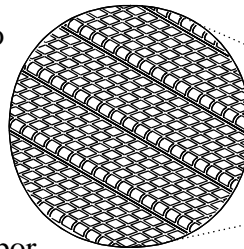
Make sure the power is shut off before servicing this unit. Servicing this UVGI fixture without shutting off the power risks potential skin and/or eye exposure. Disconnect the power by unplugging the unit from the wall outlet!

Changing the Catalyst - cont..

The Genesis Air **G.A.P.**™ catalyst will need to be changed in time, due to the photo-catalyzing properties of the material.

As the catalyst assists in the destruction of harmful and potentially hazardous air contaminants, they are chemically changed to benign substances - carbon and water vapor.

In time, this carbon buildup will accumulate on the catalyst medium and could hamper the effectiveness of your 2000WO unit. Proper maintenance, cleaning and changing of the **G.A.P.**™ catalyst is one of the crucial steps in keeping your 2000WO unit running effectively and efficiently.



Keep It Clean!

Proper care and maintenance of your Genesis Air 2000WO system will keep it running smoothly and efficiently.

If your 2000WO unit is placed in an area where it is likely to 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 bulbs and catalyst, remember that the 2000WO's first line of defense is the grille!

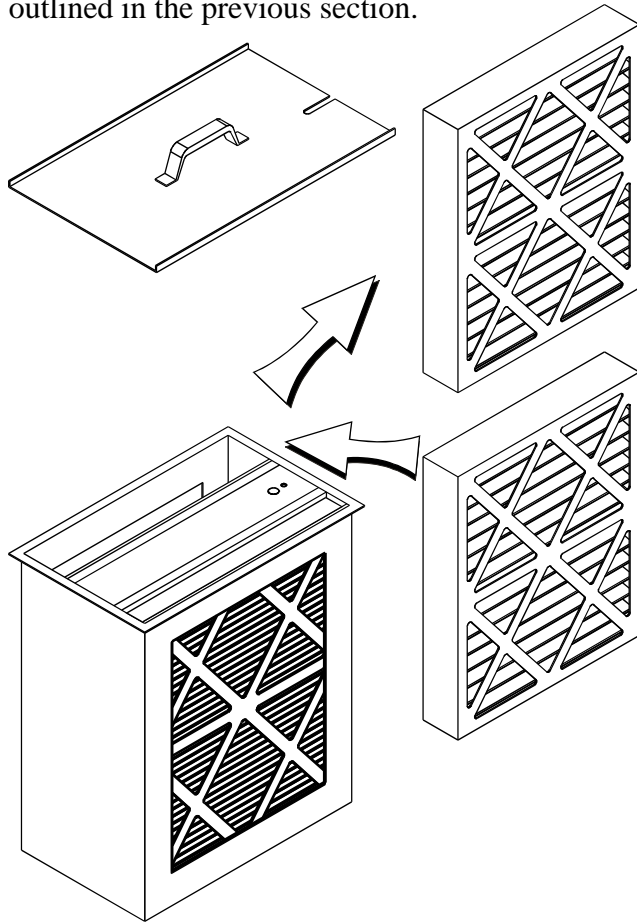
Keeping your 2000WO in good condition will help maximize its life and efficiency.

CAUTION!

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

Proper maintenance of your Genesis Air 2000WO 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 bulb. The frequency of these maintenance procedures depends largely on the amount of pollution encountered in the ambient environment.

Changing the prefilter / grille is a simple process. To begin, simply follow the instructions outlined in the previous section.



After the used prefilter / grille has been removed, it can be replaced. Place a replacement prefilter / grille into the main housing by placing it snugly against the foam padding. Press gently but firmly, keeping an even pressure on both sides of the prefilter / grille.

Make sure that the replacement prefilter / grille is placed properly by noting the direction of the airflow on the grille housing. There will be an arrow or similar indicator designating the airflow. Proper airflow will travel from the prefilter / grille section of the unit through the UVGI bulb section and out through the catalyst.

Proper airflow will travel from the prefilter / grille section of the unit through the UVGI bulb section and out through the catalyst.

NOTE - Your 2000WO 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!

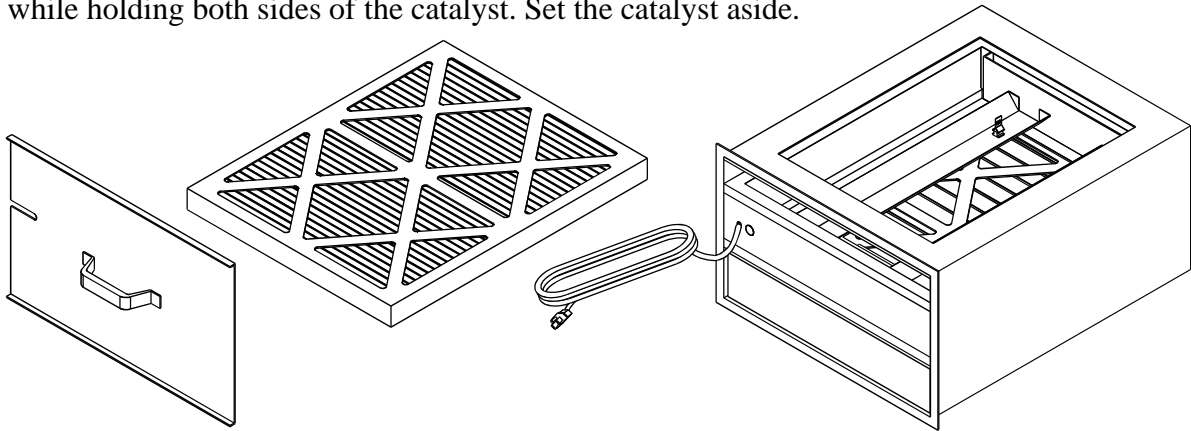
Make sure the power is shut off before servicing this unit. Servicing this UVGI fixture without shutting off the power risks potential skin and/or eye exposure. Disconnect the power by unplugging the unit from the wall outlet!

Maintenance: Replacing Bulbs

Although the UVGI bulbs shipped with your 2000WO unit are designed for a long life, it may become necessary from time to time to perform maintenance on and sometimes replace these bulbs. This is an easy process and can be accomplished quickly and efficiently.

Remove the lid by loosening the screws and slowly pulling the lid away from the unit. You may hear a small “click” as the safety switch is released.

Once the face panel has been removed, the **GAP**™ catalyst must be removed from the housing. Put the lid aside and carefully remove the catalyst by pulling firmly but gently in a straight line while holding both sides of the catalyst. Set the catalyst aside.



NOTE - Your 2000WO unit may vary slightly from the unit shown above. If this is the case it may be necessary to remove the outlet cover through a slightly different method.

Your Genesis Air 2000WO unit is equipped and designed to be used with two 36 Watt UVGI bulbs. These bulbs are critical to the proper use and effectiveness of your system. When it becomes necessary to change the bulbs, follow the procedures and guidelines outlined in this section. UVGI (Ultraviolet Germicidal Irradiation) bulbs are specifically designed for sterilization and can cause serious damage to exposed skin or eyes. If handled properly and safely, these bulbs can be easily replaced and disposed of.

CAUTION!

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

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!

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 unplugging the unit from the wall outlet!

CAUTION!

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

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

UV working 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

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 or feasible to turn the UVGI systems OFF to perform necessary tasks appropriate personal protective equipment (PPE) must be worn.

The following procedure must be followed at all times:

Turn OFF power to the 2000-P unit. Depending on the installation, a circuit switch may be used or the appropriate fuse may be removed.

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.

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.

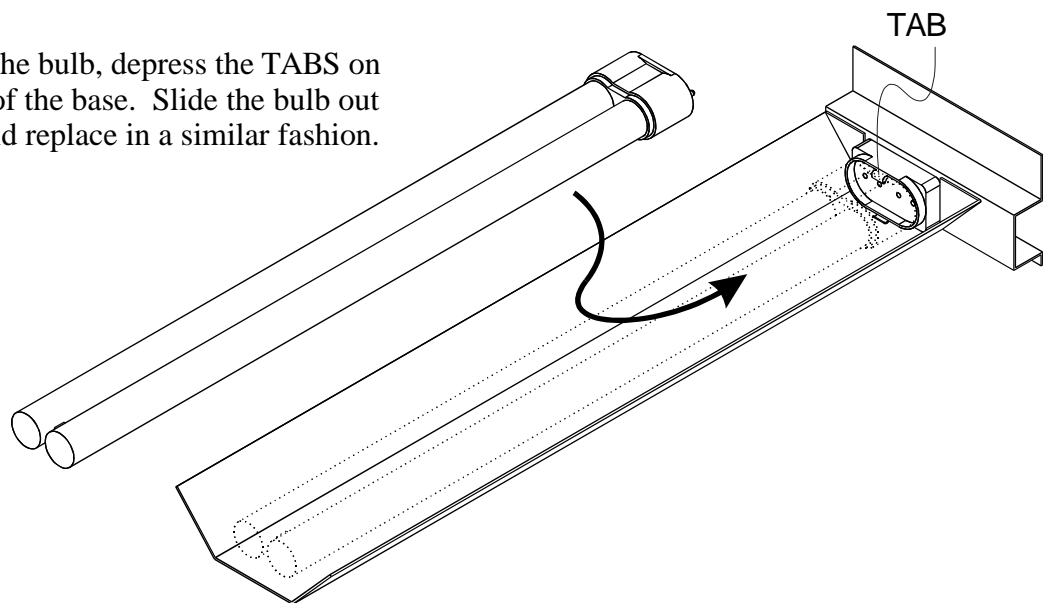
- Prior to the manufacturer's expected life rating of 9000 burning hours of usage.
- When tubes stop glowing.
- When they flicker to an objectionable extent;
- or if there is a drastic reduction in output measurement from the previous quarterly inspection.

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



Bulb Disposal

In most states, UVGI light bulbs can be disposed of in the same way as regular or fluorescent light bulbs. While all fluorescent and UVGI bulbs contain a trace amount of mercury, the quantity is so minute that disposal is not regulated by federal standards (established by the EPA, the Environmental Protection Agency). 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 skin and/or eye exposure. Disconnect the power by unplugging the unit from the wall outlet!

REPLACEMENT PARTS

Although we do not expect you to have any recurring problems with your 2000WO unit, we understand that at some point in time, a replacement part may be necessary. These replacement 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 Required**
- **2000WO Serial Number**
- **Cause For Replacement (Optional)**

Pre-Order!

To minimize down-time of your 2000WO unit, pre-order replacement bulbs before the current bulbs go out!

PART NUMBERS	
GA-WO-01	HOUSING
-10	LID
-11	CATALYST
-12	PREFILTER / GRILLE
-13	UVGI BULB
GA-DT-05	BALLAST
GA-DT-12	BULB SOCKET

CONTACT INFORMATION

We aim to serve our customers with all their needs. If you ever need to contact us, don't hesitate.
Our offices are open Monday through Friday 8am - 5pm (Central Time).

Corporate Offices

GENESIS AIR, INC.
2714 - B 82nd Street
Lubbock, TX 79423

Phone (806) 745-7000
Fax (806) 745-7079

Company Website
www.genesisair.com

For Product Literature
info@genesisair.com

For General Assistance
Visit Our Website

NOTES

Serial Number

Write your 2000WO serial number in the space above. It may be necessary to have this number available when contacting Genesis Air.

NOTES