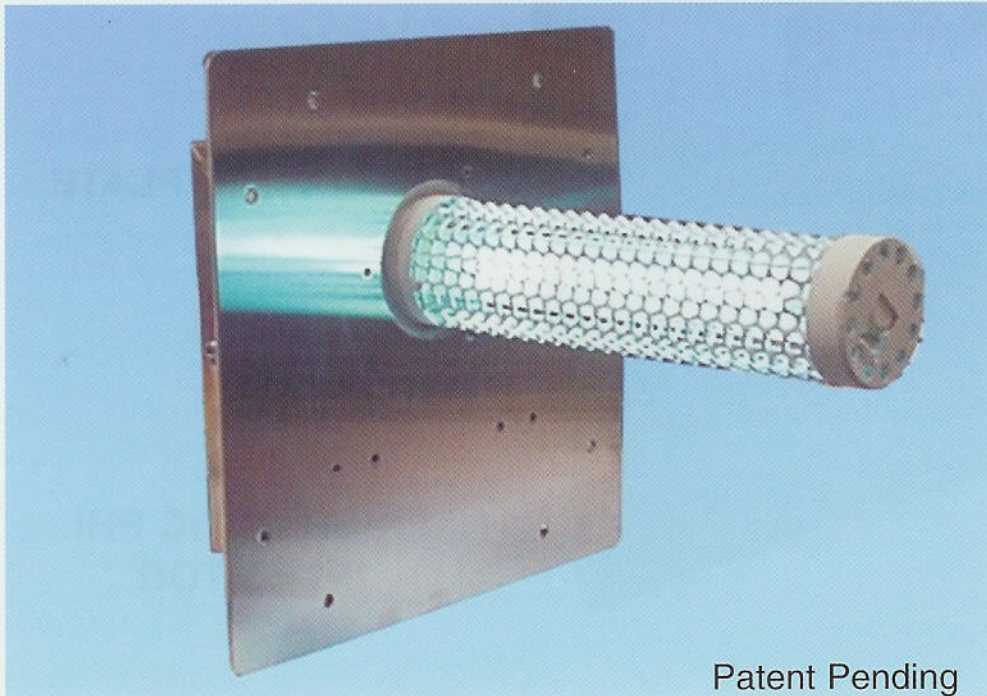


Guardian Air

By RGF Environmental Group, Inc.

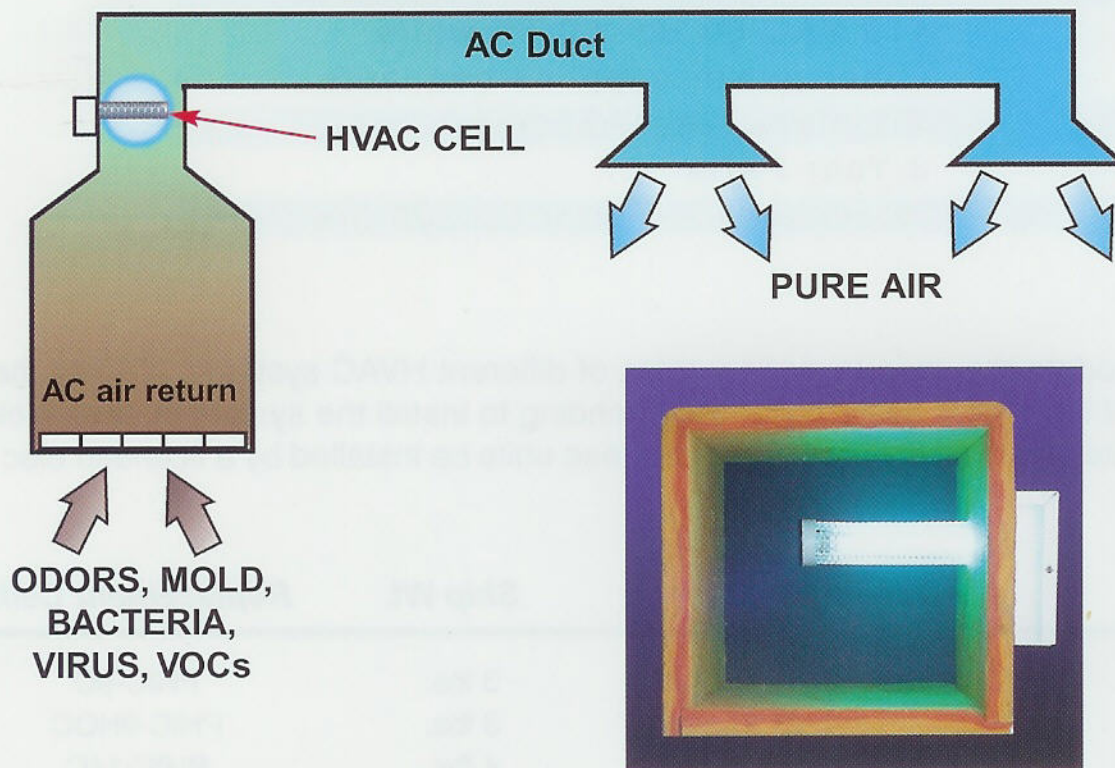
AC/Heat Duct Air Purification System A Photohydroionization™ (PHI) Technology



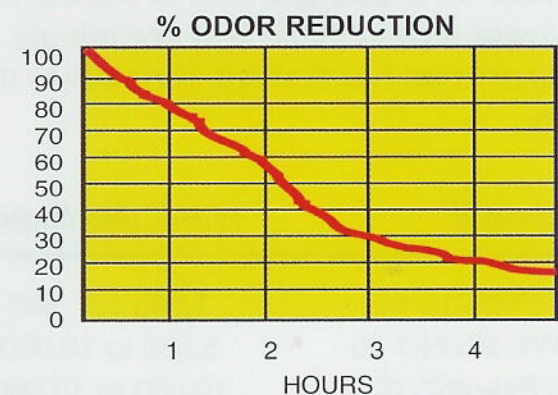
The HVAC PHI Cell by RGF® is designed to eliminate sick building syndrome risks by reducing odors, air pollutants, VOCs (chemical odors), mold bacteria and viruses*. The HVAC-PHI Cells are easily mounted into air conditioning and heating systems air ducts where most sick building problems start. When the HVAC system is in operation the HVAC-PHI Cell creates an Advanced Oxidation Process consisting of: Hydro-peroxides, ozonide ions, super oxide ions and hydroxide ions. All are friendly oxidizers. By friendly oxidizers we mean oxidizers that revert back to oxygen and hydrogen after the oxidation of the pollutant.

Why Use RGF's Photohydroionization™ Technology ?

Germicidal UV light rays have been used for decades by the medical industry as a method for destroying micro-organisms (germs, viruses, bacteria). UV light is dependable and can be easily installed in HVAC ducts or a plenum. Germicidal UV light is effective in reducing only the airborne micro-organisms that pass directly through the light rays. However, germicidal UV light has little to no effect on gases, vapors or odors. Photohydroionization Advanced Oxidation, on the other hand, is very effective on gases, vapors, VOCs and odors.



Actual lab tests showing up to 90% reductions of airborne bacteria and mold

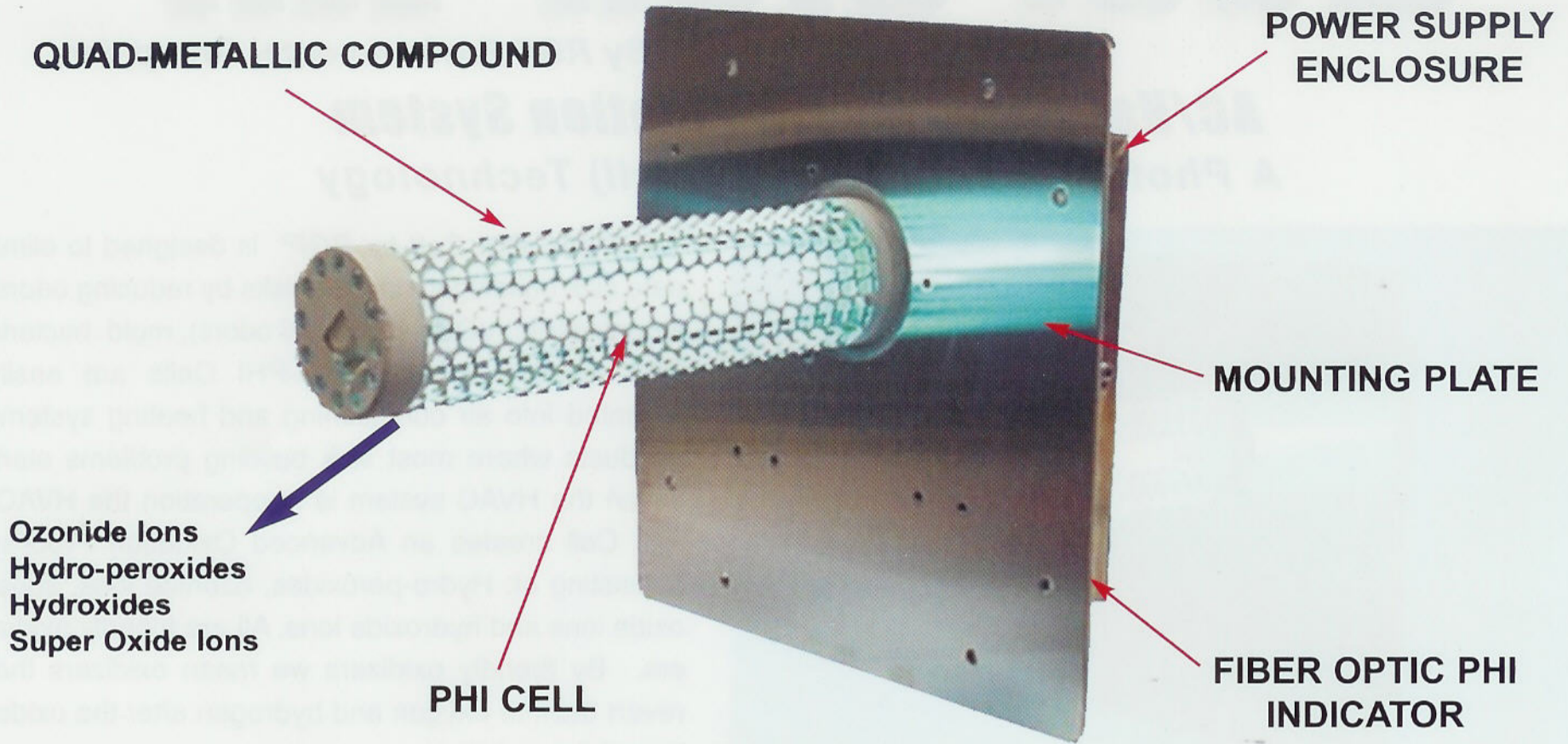


The combination of safe low level ozone (O₃) and UV light enhanced by a hydrated quad-metallic compound target develops an advanced oxidation reaction that creates as well as reduces ozone to safe low levels. This process also produces hydro-peroxides, super oxide ions, ozonide ions and hydroxides. By engineering the proper UV light wavelength, in combination with a triple function, no maintenance unit, The PHI Cell provides safe hydro-peroxides, super oxide ions, ozonide ions and hydroxides to purify the air.

With the RGF HVAC-PHI Cell Advanced Oxidation System, micro-organisms can be reduced by over 95%. Gases, VOCs and odors can also be reduced significantly, and the room will have ozonide ions, hydro-peroxides, super oxide ion and hydroxides which will help give your room fresh, clean and odor free air.

*UV, Hydro-peroxides and Ozone are recorded as effective in killing viruses however RGF has not performed clinical tests on viruses as there are thousands of strains

HVAC PHI CELL



•Ozonide Ion Production:	0.02 ppm maximum
•Hydro-peroxides distribution:	distributed thru air handler
•Super Oxide Ion distribution:	distributed thru air handler
•Hydroxide Ion distribution:	distributed thru air handler
•Installation:	installed in hvac duct or plenum
•Electrical:	110 VAC 60 Hz 50-90 watts Other power supplies available
•Materials:	Stainless steel housing
•Warranty:	3 Year Parts
•PHI Cell Replacement	Recommended after 25,000 hrs

The **RGF PHI Cell** unit size is scaled to accommodate the various air flow rates of different HVAC systems. Locate the air blower size in cubic feet per minute (SCFM) of the HVAC system you are intending to install the system in, then pick the model number that corresponds to that flow rate. **Note:** It is recommended these units be installed by a licensed electrician.

Item #	HVAC Air Blower Size	Dimensions	Ship Wt.	Replacement Cell#
HVAC-PHI-212-16	1,000 to 6,500 SCFM	9 probe / 9 x9 plate	3 lbs.	PHIC-9C
HVAC-PHI-212HO-16	6,500 to 10,000 SCFM	9 probe / 9 x9 plate	3 lbs.	PHIC-9HOC
HVAC-PHI-357-16	10,000 to 18,000 SCFM	14 probe / 9 x9 plate	4 lbs.	PHIC-14C
HVAC-PHI-357HO-16	18,000 to 26,000 SCFM	14 probe / 9 x9 plate	4 lbs.	PHIC-14HOC

For 220 volt 50 Hz replace -16 with -25
For 220 volt 60 Hz replace -16 with -26

RGF Environmental Group, Inc.
3875 Fiscal Court West Palm Beach, Florida 33404
800 842-7771 fax 561 848-9454 www.rgf.com

Got Mold?
Get

Pure Air

Plug In Plus Air Purification System

A Photohydroionization™ (PHI) Technology



Reduces Airborne

- Mold •VOCs •Odors
- Bacteria •Viruses*

Benefits

- Plugs into existing outlets
- No wiring required
- Economical
- Low Maintenance
- 25,000 Hour Cell Life
- Light weight
- Compact
- Built in night light
- Hidden mounting screws prevents theft
- Built in electrical outlet two sides (4 total)
- 3 year warranty

THEFT PROOF

Order Part# PIP-16

Ideal for homes, hotel rooms, suites, public restrooms, offices, locker rooms and more!

The Plug In Plus Natural Air Purification System provides bacteria, mold, odor and VOCs (chemical odors) reduction. The advantage of the Plug In Plus is its ability to be used in any room and be completely inconspicuous. The Plug In Plus plugs directly into a wall outlet and can be used with or without its internal fan. Because it has its own outlets as part of the unit, you do not lose the wall outlet you will actually gain 2 new outlets. The Plug In Plus is an air treatment system not a filter.

The Problem:

Indoor air pollution is now considered by the EPA and Congress to be America's No. 1 environmental health problem. Tightly sealed buildings and homes may be more energy efficient but can trap pollutants and microbes indoors causing allergies odors, mold and illness.

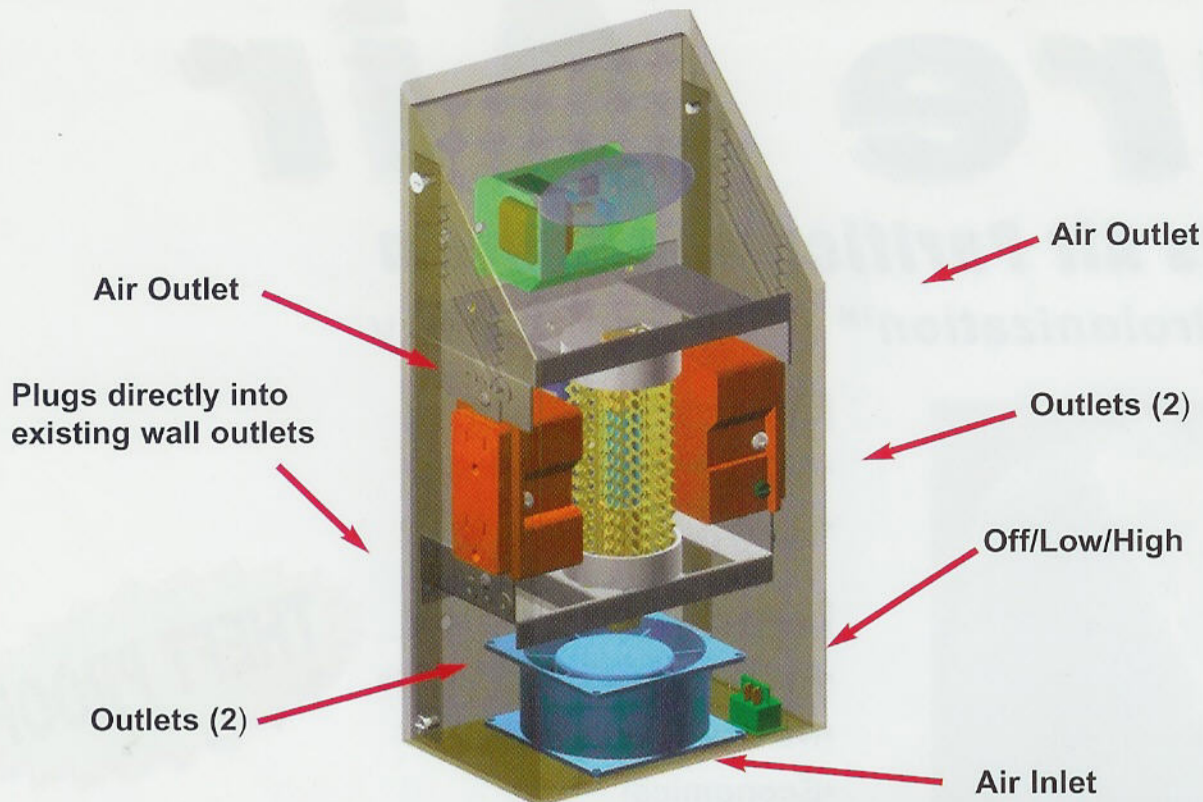
The Solution:

The Plug In Plus by RGF has proven to drastically reduce odors, smoke, mold, VOCs (chemical odors) and bacteria found in many rooms. Airborne bacteria and mold reduction is normally in the 90+ percentile.

The Technology:

The Plug In Plus utilizes RGF's Photohydroionization™ technology which utilizes ozonide ions, super oxide ions, hydro peroxides, hydroxides and UV light targeted on a hydrated quad-metallic target to develop an advanced oxidation.

You don't lose an outlet, you actually gain two more!

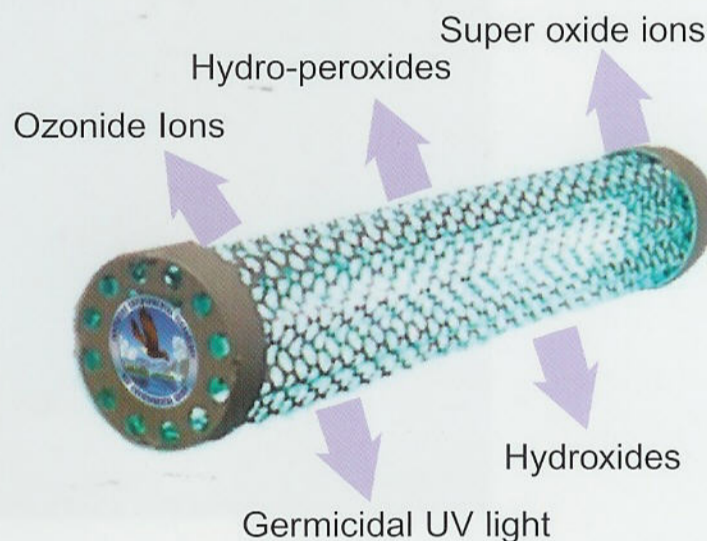


Optional anti-theft mounting screws



Easy installation

PHI Cell™

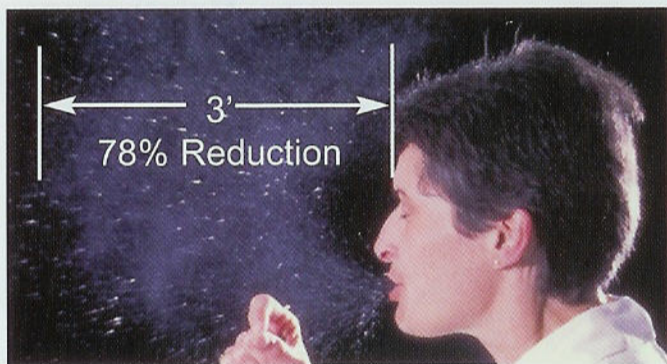


The RGF Pure Air™ Advantage

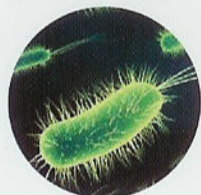
While UV systems are designed to kill mold on the HVAC coil, the RGF PHICell™ does this, plus it adds advanced oxidants throughout the room to kill microbials at the source.

The Sneeze Test

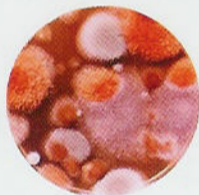
Simulated Sneeze Lab Test at three feet in a 250 cu ft Bio Test Chamber. 78% reduction



Bacteria 99% Reduction



Viruses 99.99% Reduction



Mold 97% Reduction



Gases and Odors 85% Reduction

•The proprietary **Guardian Plasma System™**

provides a pro-active atmosphere of Advanced Oxidation Plasma for continuous protection from microbials and odors. Your air will have the smell of purity.

•The RGF proprietary **Mold Intervention System™** has the ability to kill airborne mold spores and mold odors

•The RGF proprietary **Virus Interceptor System™** has the ability to kill virus even the stubborn Norwalk Virus (Independent lab test 99.99% kill in 15 minutes).

•The RGF proprietary **Photohydroionization™ PHI Cell** has a 25,000 hour or 3 year life.

BEFORE

AFTER



Actual lab tests showing up to 96% reductions of airborne bacteria and mold

SPECIFICATIONS

Dimensions: 6.25" w x 3.75" d x 10" h

Electrical: 110 VAC 50 watts

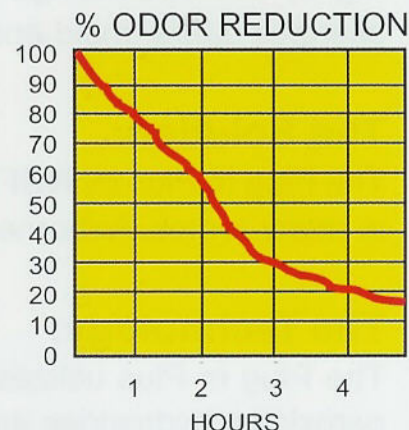
Controls: On / Off /Low /High

Weight: 2 lbs.

Material: Aluminum/ Polymers

Advanced Oxidation: Less than .04 ppm

Replacement PHI Cell: (1) PHIC-5A-PIP



Note: Not recommended for installation on external GFCI outlets (if required, a panel box type GFCI breaker must be used).

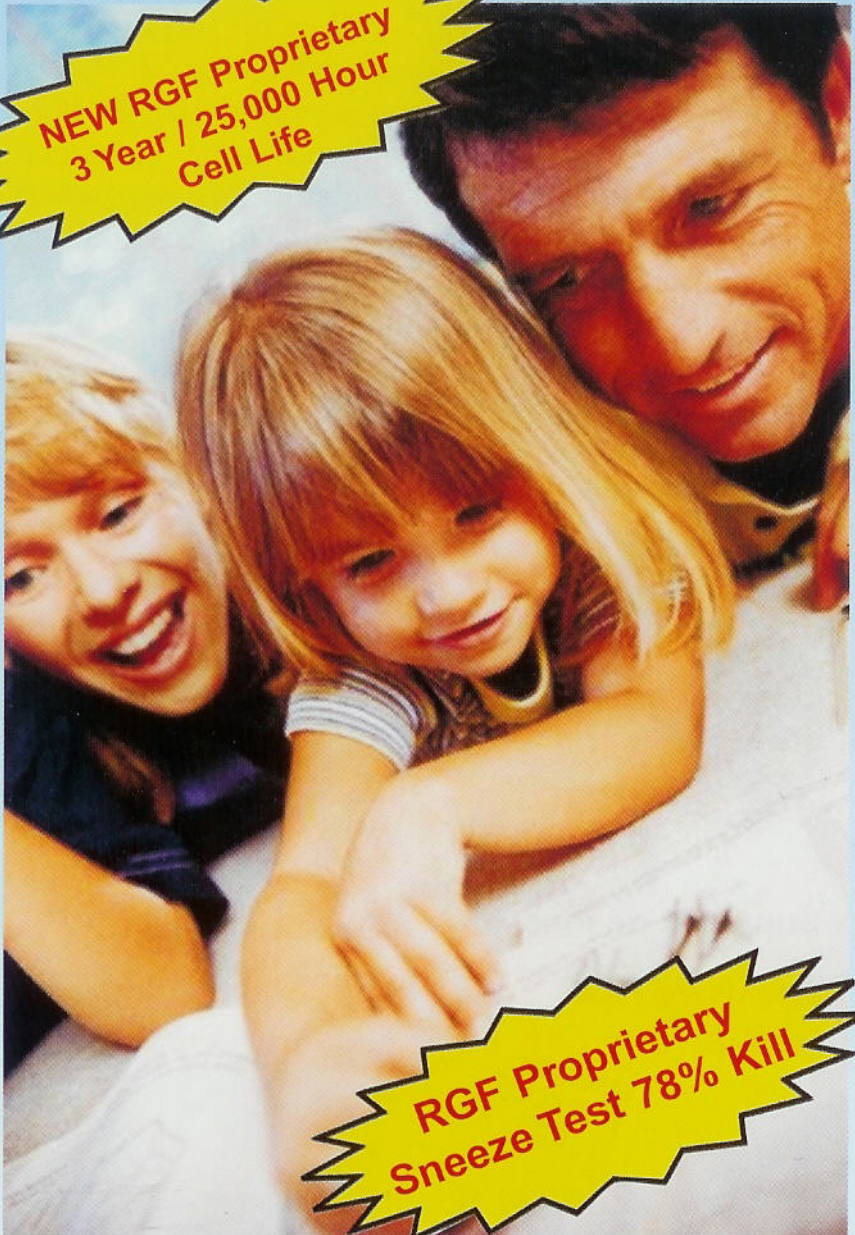
RGF Environmental Group, Inc.

3875 Fiscal Court West Palm Beach Florida 33404 800 842-7771 • 561 848-1826 • Fax 561 848-9454 • www.rgf.com

Guardian Air

An RGF Photohydroionization™
(PHI™) Technology

NEW RGF Proprietary
3 Year / 25,000 Hour
Cell Life



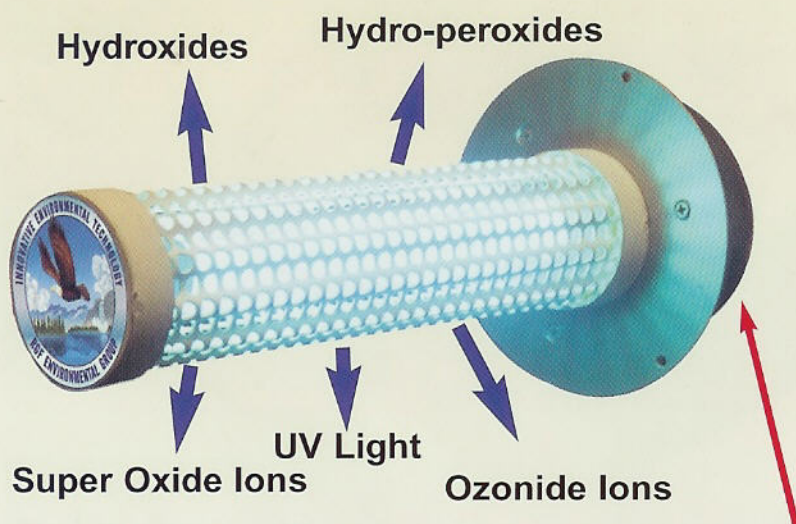
RGF Proprietary
Sneeze Test 78% Kill

**What Is The Health of Your
Family Worth To You?**

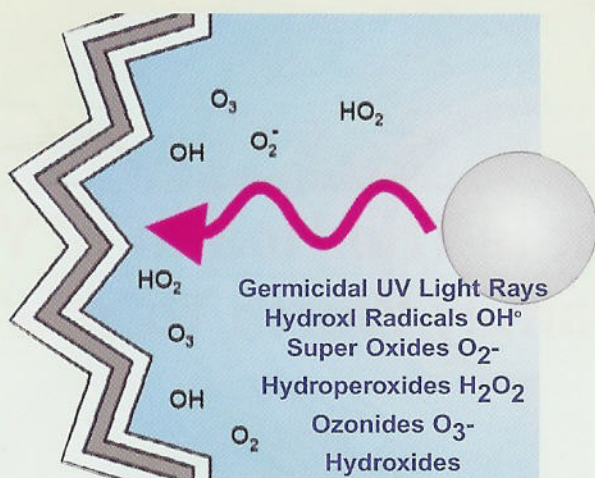


The **Guardian Air by RGF®** is designed to eliminate sick building syndrome risks by reducing odors, air pollutants, VOCs (chemical odors), smoke, mold, bacteria and viruses*. The HVAC-PHI Cells are easily mounted into air conditioning and heating systems air ducts where most sick building problems start. When the HVAC system is in operation the HVAC-PHI Cell creates an Advanced Oxidation Process consisting of: Hydroperoxides, ozonide ions, super oxide ions, UV light rays and hydroxide ions. All are friendly oxidizers. By friendly oxidizers we mean oxidizers that revert back to oxygen and hydrogen after the oxidation of the pollutant.

RGF'S PHI™ CELL

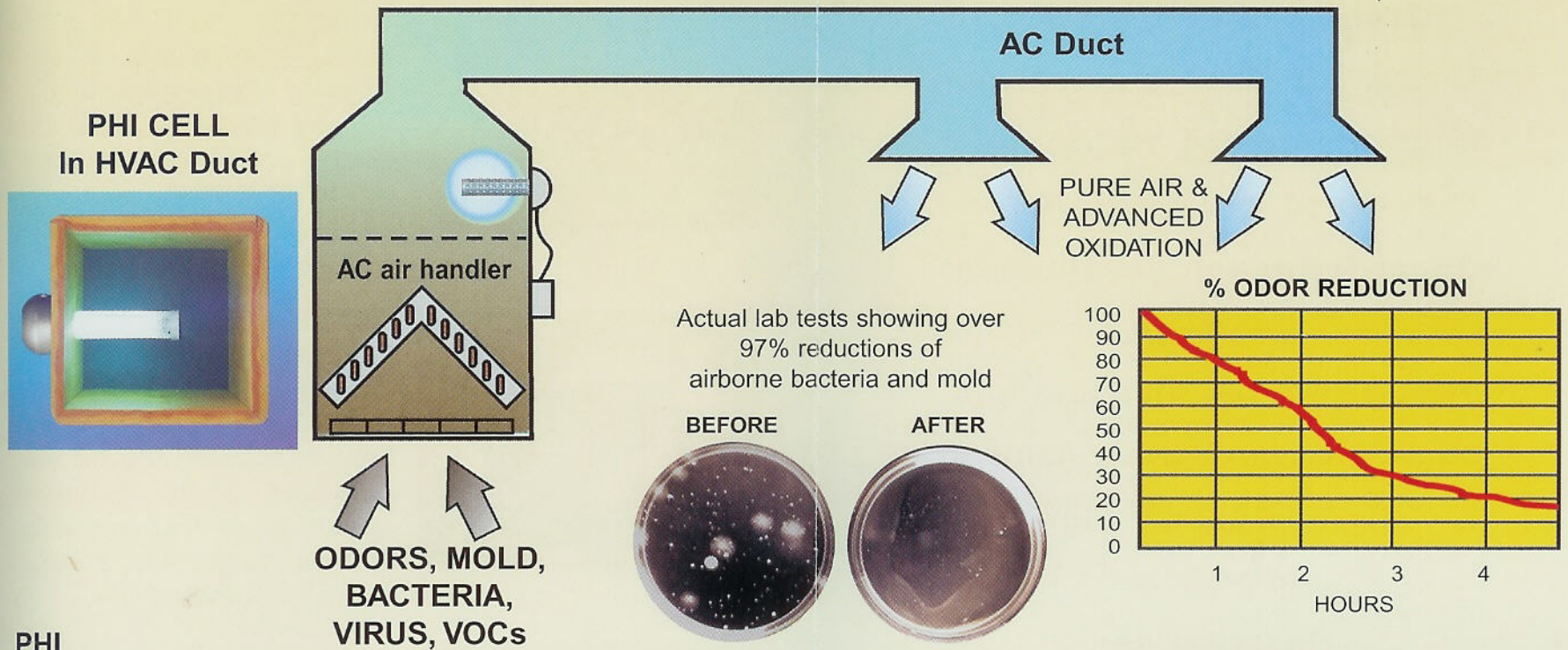


Exclusive Fiber Optic Lamp Condition Indicator



- Tested and approved by USDA and FSIS for Food Purification
- Tested and approved by the Chinese Government for protection against SARS Virus

PHI™ Technology vs. UV alone



PHI

The combination of UV light enhanced by a hydrated quad-metallic compound target develops an advanced oxidation reaction. This process produces hydro-peroxides, super oxide ions, ozonide ions and hydroxides. By engineering the proper UV light wavelength, in combination with a triple function, no maintenance unit, The PHI Cell provides safe hydro-peroxides, super oxide ions, ozonide ions and hydroxides to purify the air.

With the RGF HVAC-PHI Cell Advanced Oxidation System, micro-organisms can be reduced by over 97%. Gases, VOCs and odors can also be reduced significantly. Advanced oxidizers will be carried throughout the ducts and rooms for a continuous purification process and a quick kill of newly introduced odors or microbials. This is far superior to UV alone. In addition the PHI Cell has a protective poly coating to prevent mercury contamination in case of lamp breakage.

UV-C - Germicidal Lamps

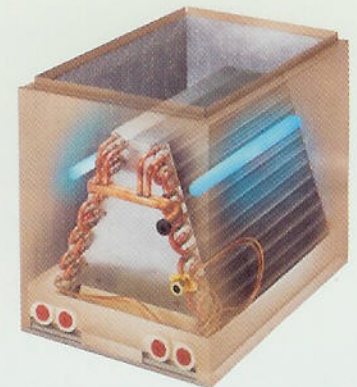
These are rapidly becoming very popular as an easy fix for the air conditioner coil mold problem. This is one of the most prevalent cause of the mildew smell you get when you enter an air-conditioned sick building. UV-C (254nm) lamps are basically similar to sun lamps and are typically only effective on microbials that pass by within a few inches of the lamp or areas where the light is shining directly on for extended periods of time, such as the air conditioner coil (see article in HVAC News - June 30 2003 and associated press 11-24-03).

Pros: Low cost, easy installation, and effective on suppressing mold growth on the coil.

Cons: Not effective at killing airborne mold unless numerous lamps are used (see article). Only effective on the surface of the coil that is in direct light. This leaves much of the coil with no treatment. Does not provide ongoing room protection. Most UV systems install a glass UV mercury bulb without protection from breakage. A broken bulb could release mercury, a potential environmental and health hazard.

Minimum of two lamps must be used to cover at least one-quarter of the coil surface (the upper half of the outer coil). For one-half coverage, three to six lamps must be used.

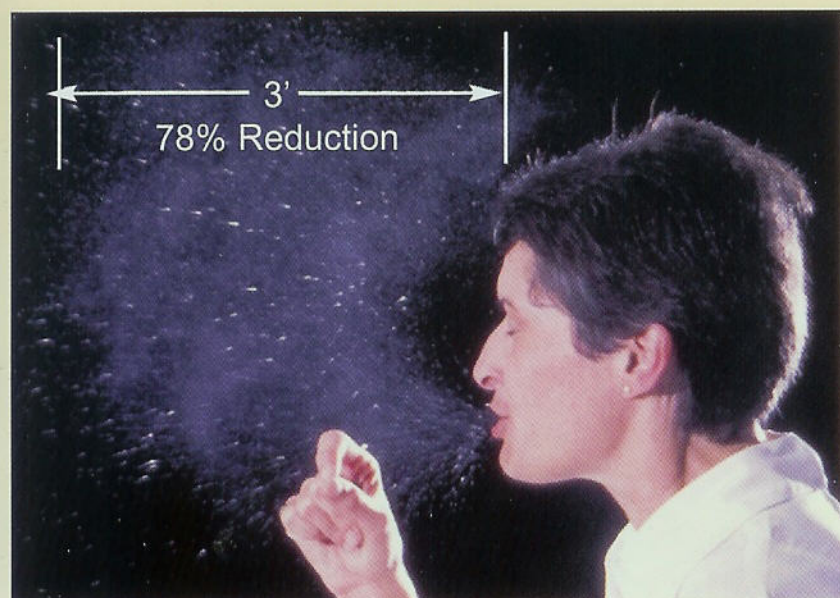
100% coverage is not practical. For a 90% kill rate of airborne microbials, 30" lamps would have to be placed every 2' in a 95' duct, calculated with a 24" x 24" plenum at 2000 cu ft per minute.



The RGF PHI™ Advantage

While UV systems are designed to kill mold on the HVAC coil, the Guardian Air does this, plus it adds advanced oxidants throughout the room to kill microbials at the source.

The Sneeze Test



Simulated Sneeze Lab Test at three feet in a 250 cu ft Bio Test Chamber.

Without a RGF PHI Cell

With a RGF PHI Cell



Test A-1



Test A-2



Test B-1



Test B-2



Test C-1



Test C-2

Average sneeze microbial reduction: 78%

Note: The RGF PHI Cell is not a medical device and no medical claims are made.

Validation

The RGF PHI™ technology has achieved the following results in both commercial and academic independent lab tests:

- 4-log reduction (99.99%) surface bacteria reduction
- Tested and approved by the Chinese Government for protection against the SARS virus
- Over 80% VOC reduction
- 97% airborne bacterial reduction
- 85% odor reduction
- 99.99% bacteria in water reduction
- 97% airborne mold reduction
- Hospital approvals Infectious Diseases - U.S. and International
- 99% food surface microbial reduction
- Approved by the USDA, FSIS and FDA for use in food processing plants
- Fox News three-part indoor air series featured RGF and concluded substantial mold and bacteria reductions
- RGF's PHI™ technology has been featured on Fox, ABC, CBS and in Popular Science Magazine



RGF Environmental
West Palm Beach, Florida

SPECIFICATIONS

•Ozonide Ion Production:

Distributed through air handler

•Hydro-peroxides distribution:

Distributed through air handler

•Super Oxide Ion distribution:

Distributed through air handler

•Hydroxide Ion distribution:

Distributed through air handler

•Germicidal UV Light

In plenum

•Installation:

Installed in hvac duct, plenum or coil

•Electrical:

110-220 VAC 60 Hz 50-90 watts

•Warranty:

3 Year Parts & Labor

•PHI Cell Replacement:

Recommended after 25,000 hrs (3 Year)

Item

HVAC Air Blower Size

HVAC-PHI-212-GA	1,000 to 6,500 CFM
HVAC-PHI-212HO-GA	6,500 to 10,000 CFM
HVAC-PHI-357-GA	10,000 to 18,000 CFM
HVAC-PHI-357HO-GA	18,000 to 26,000 CFM

Other power supplies available

To calculate CFM from tonnage rating:

As a general rule 550 CFM = 1 ton unit
Example: 5 ton x 550 = 2750 CFMs

About RGF Environmental



Innovation

Since 1985 RGF has maintained a steady flow of award winning innovative environmentally friendly solutions. RGF has been awarded national recognition as a recipient of the Inc./MCI Customer Service Award.



Design and R&D

Our technical staff consists of engineers and scientists from the following specialties: biological, mechanical, chemical, waste treatment, construction engineering, nuclear, fabrication, design, and environmental law.



Patented Technology

RGF has been a leader in patented Environmental Purification Technology. RGF technology has been licensed to numerous Fortune 500 companies and is in use in 33 countries.



Advanced Oxidation

RGF has been a leader in Advanced Oxidation technology since 1985. We developed an advanced catalytic oxidation system for total organic oxidation. Our

Photohydroionization process has been approved by the USDA / FDA / FSIS for food processing.