

## Validation

RGF first developed its Advanced Oxidation Technology over 20 years ago. Over 1 million RGF Cells are in use around the world. RGF has licensed its technology to many Fortune 500 companies for use in the medical, food, military, residential, commercial, marine, hospitality and government, etc. RGF cells in various products have been tested and approved by:

- UL, ETL, TUV, EPA & CSA
- U.S. Military
- Chinese Government
- Japanese Government (TV commercials)
- Canadian Government
- U.S. Government – GSA
- European Union

In addition, RGF technology, because of its ability to kill bacteria and virus on surfaces and in the air, have been specified in the Norovirus/MRSA protection plan of America's largest restaurant chains, hotel chains, theme parks, cruise lines, public schools and hospitals.

## Test Results

### Samples of university & independent lab tests and major corporation studies

- 4-log reduction (99.99%) surface bacteria/virus reduction
- Over 80% VOC reduction
- 78% of microbes in human sneeze killed at 3 feet
- 97% airborne bacterial reduction
- 99% reductions of Ecoli, Listeria, Strep and Bird Flu
- 85% odor reduction
- 97% airborne mold reduction
- US Military approved for mold protection in field hospitals
- Hospital approvals Infectious Diseases - U.S. and International 99% reduction of Staph (MRSA)
- 99% food surface microbial reduction
- Major US city school reports 20% reduction in absenteeism
- Tested and approved by the Chinese Government for protection against the SARS virus
- 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 technology has been featured on Fox, ABC, CBS and in Popular Science Magazine

## Safety

It is a normal reaction to question the long term safety of any product that is effective and uses new or "break-through" technology. This type of question has become common as our litigious society has taught us to question things that significantly outperform existing methods or products.

The breakthrough in the RGF *advanced oxidation technologies* is a group of oxidants known as Hydroperoxides. Hydroperoxides have been a common part of our environment for over 3.5 billion years. Hydroperoxides are created in our atmosphere whenever three components are present: oxygen molecules, water vapor and energy (electro magnetic). PHI™ has the ability to create hydroperoxides.

Ionized-Hydro-Peroxides™ are very effective at destroying harmful microbials in the air and on surfaces. As oxidants, they do this by either destroying the microbe through a process known as cell lysing or by changing its molecular structure and rendering it harmless (which is the case in VOC's and odors). The amount of hydroperoxides required to accomplish this task in a conditioned space is well below the level that is constantly in our outside air. The Advanced Oxidation Technology found in RGF's Guardian Air product family has brought the oxidants found in the outside air into the conditioned space of your home.

There is no known case of hydroperoxides ever creating a health risk. Considering we have been exposed to hydroperoxides in nature since the day man stepped on the planet, it is a reasonable assumption that hydroperoxides do not constitute a health risk. Over the past 20 plus years RGF has more than 1 million Advanced Oxidation products successfully used worldwide without a safety problem.

## About RGF Environmental



### Innovation

Since 1985 RGF has maintained a steady flow of award winning innovative enviro-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 Advanced Oxidation

Technology has been approved for use by the USDA / FDA / FSIS for food processing and major corporations for Norwalk/MRSA protection.

RGF manufactures over 500 environmental products



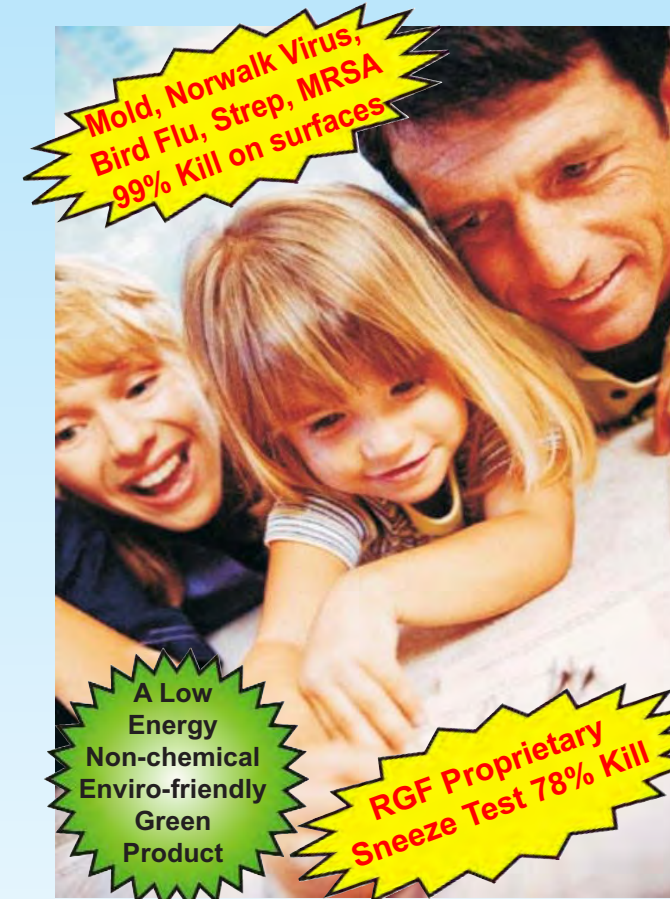
Manufactured by **RGF Environmental Group**  
www.rgf.com

A Member of AEE • Certified IAQ Specialist on staff

# Guardian Air™

An RGF PHI Technology

An RGF Residential / Commercial Product



Mold, Norwalk Virus,  
Bird Flu, Strep, MRSA  
99% Kill on surfaces

A Low  
Energy  
Non-chemical  
Enviro-friendly  
Green  
Product

RGF Proprietary  
Sneeze Test 78% Kill

## The main advantage...

Guardian Air does not need the pollutants to travel to the air handler for UV treatment or filtration. Guardian Air is proactive and sends ionized aggressive advanced oxidizers into the room to destroy the pollutants at the source, in the air and on surfaces, before they can reach your family, clients or employees.



Made In America





# PHI™ is your answer to Indoor Air and Surface Pollution

**GASES & ODORS**  
Up to 85%



**MICROBIALS**  
Up to 99%



RGF's Aggressive Advanced Oxidizers travel throughout the room aggressively attacking pollutants

## SPECIFICATIONS

**Advanced Oxidation Plasma .01-.02 ppm:**

- Hydro-Peroxides
- Super Oxide Ions
- Hydroxide Ions

Distributed through air handler  
Installed in HVAC duct, plenum

**•Electrical**

110-220 VAC 50/60 Hz / 12VDC

**Warranty on parts (2 Year)\*  
(USA only)**

**\*Continuous Operation**

Item #	HVAC Air Blower Size	Watts*
HVAC-PHI-118-GA-VSF	300 to 1,200 CFM	13.3
HVAC-PHI-212-GA	1,000 to 6,500 CFM	13.3
HVAC-PHI-212HO-GA	6,500 to 10,000 CFM	21.6
HVAC-PHI-357-GA	10,000 to 18,000 CFM	19.2
HVAC-PHI-357HO-GA	18,000 to 26,000 CFM	32.4

\*Energy wise

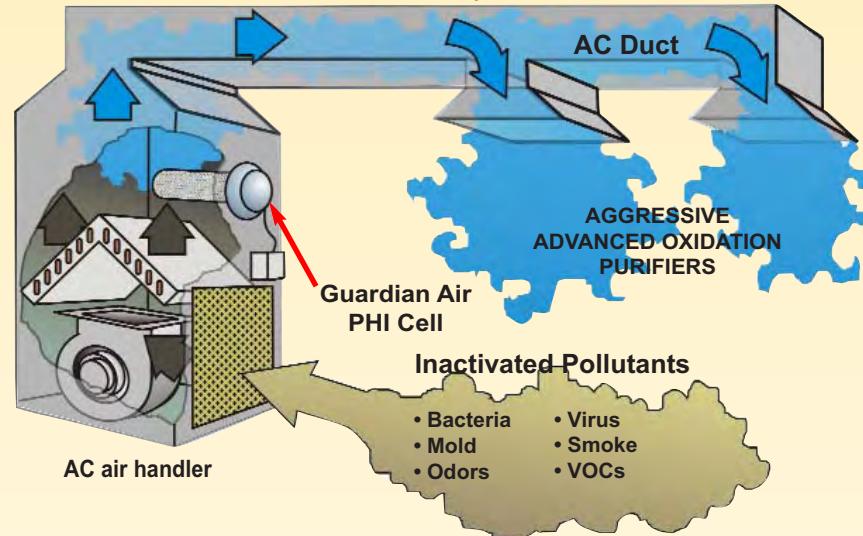
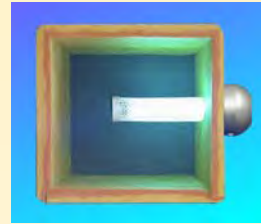
### To calculate CFM from tonnage rating:

As a general rule 400 CFM = 1 ton unit  
Example: 5 ton x 400 = 2000 CFMs

# RGF's PHI™ Technology

\*Professional installation required

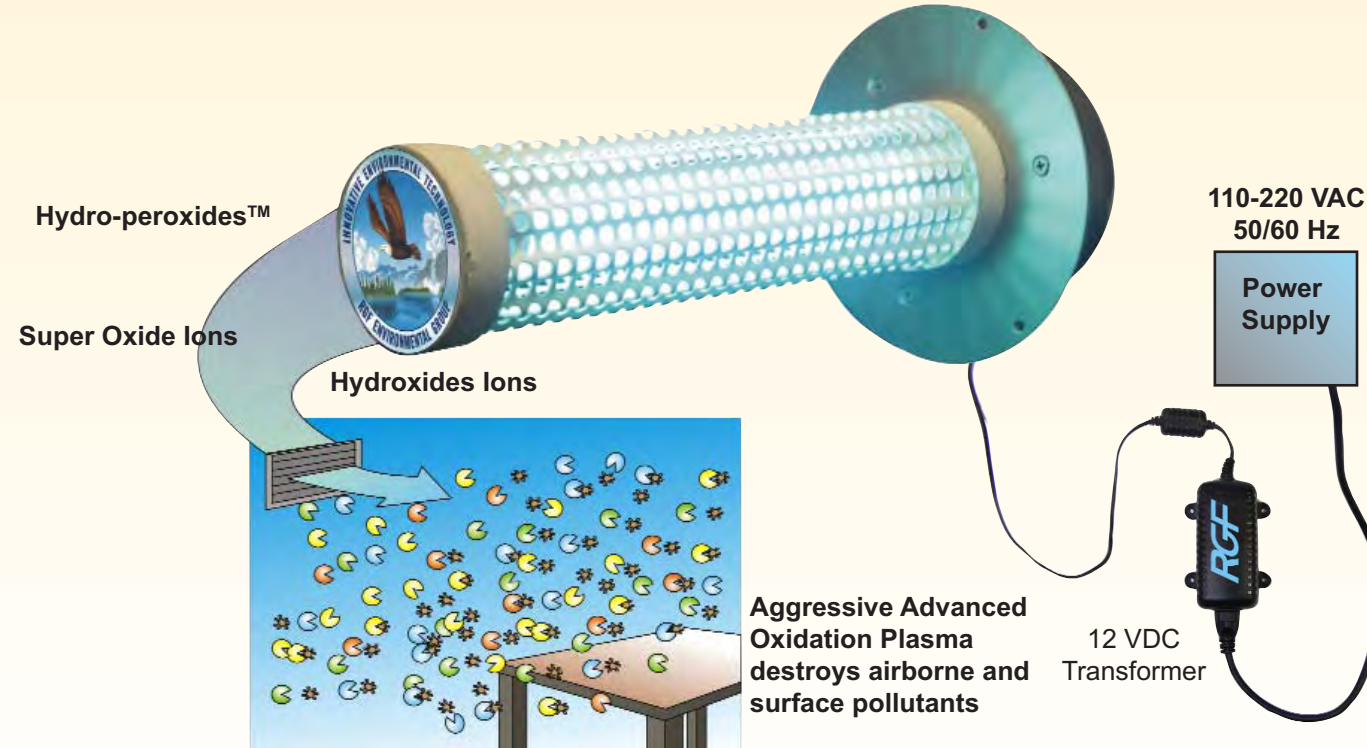
PHI-Guardian Air In HVAC Duct



## PHI™

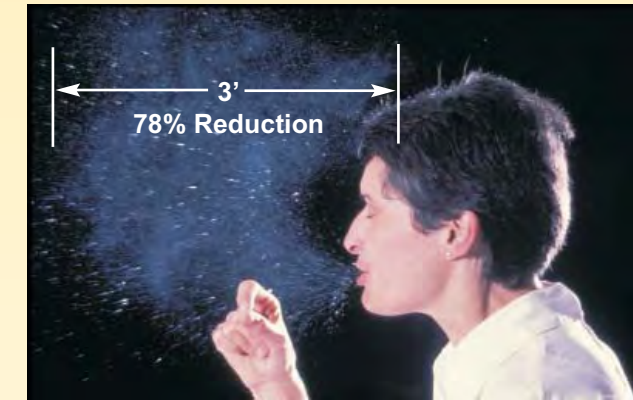
With a Guardian Air HVAC Cell Advanced Oxidation System, micro-organisms can be reduced by over 99%. Gases, VOCs and odors can also be reduced significantly. Advanced Oxidation Plasma will be carried throughout the ducts and rooms for a continuous purification process and a quick kill of newly introduced odors or microbials.

## RGF'S Guardian Air™ PHI Cell



Guardian Air™ sends Advanced Oxidants throughout the room to kill microbials at the source.  
Average sneeze microbial reduction: 78%

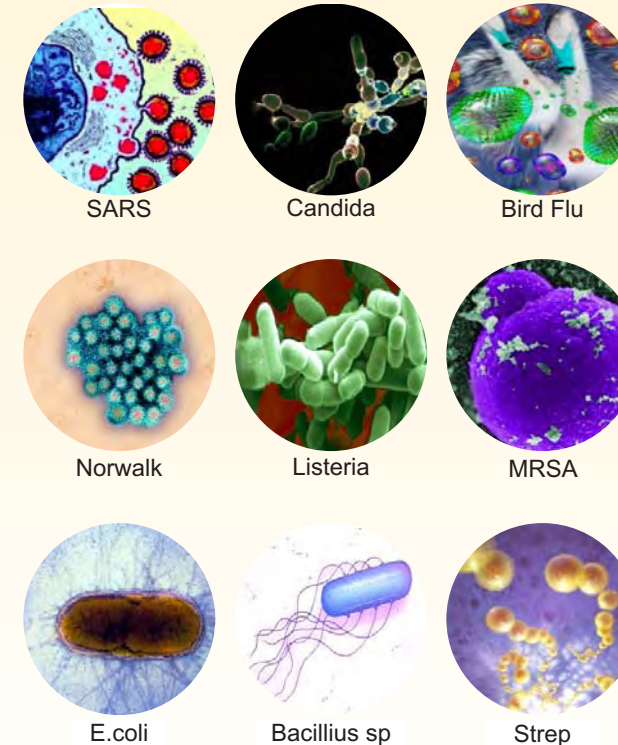
### The Sneeze Test



Simulated Sneeze Lab Test at three feet in a 250 cu ft Bio Test Chamber. An independent double blind study.

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

### Microbial Reductions Typical virus and bacteria killed



Independently tested on surfaces and/or airborne