

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/virus reduction
- Tested and approved by the Chinese Government for protection against the SARS virus
- Over 80% VOC reduction
- 97% airborne bacterial reduction
- 99% reductions of Ecoli, Listeria and Strep
- 85% odor reduction
- 100% reduction of Bird Flu
- 97% airborne mold reduction
- 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
- 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

•PHI Cell Replacement:

Recommended after 25,000 hrs (3 Year)

Item #	HVAC Air Blower Size
HVAC-PHI-118-GA-VSF	300 to 1,200 CFM
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

To calculate CFM from tonnage rating:

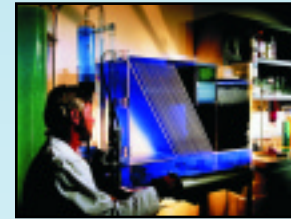
As a general rule 400 CFM = 1 ton unit
Example: 5 ton x 400 = 2000 CFMs

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.



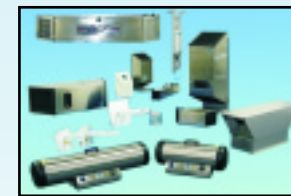
Design and R&D

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.

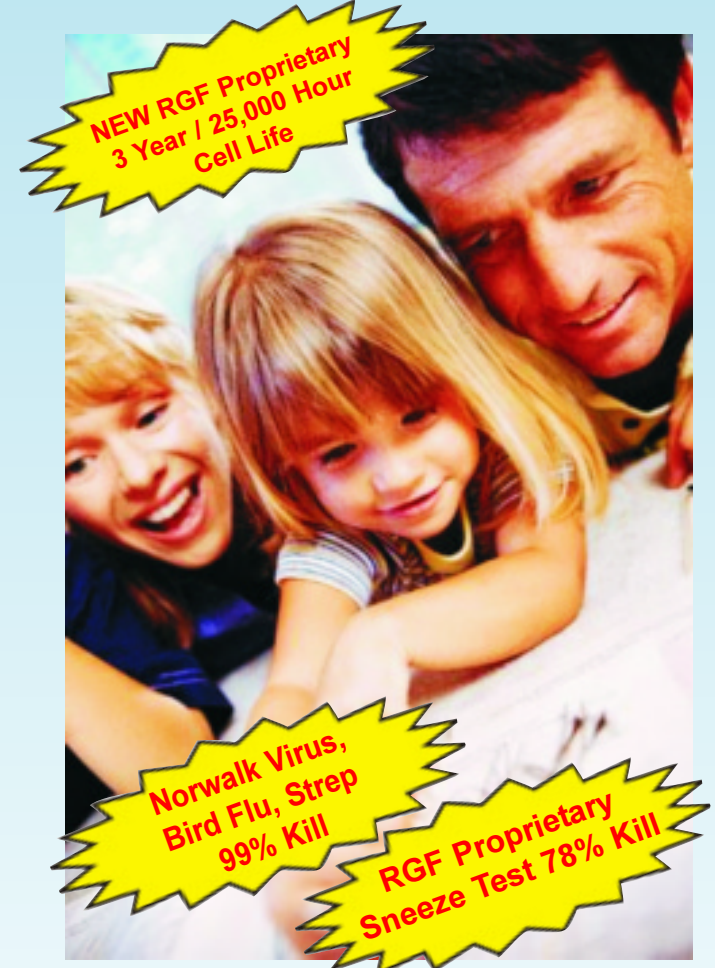
Distributed By:

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

A Member of AEE • Certified IAQ Specialist on staff

Guardian Air

An RGF Photohydroionization™
(PHI™) Technology



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

**Norwalk Virus,
Bird Flu, Strep
99% Kill**

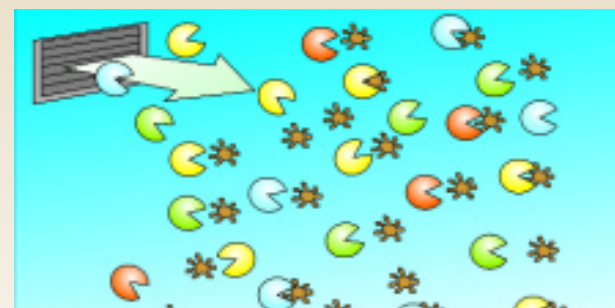
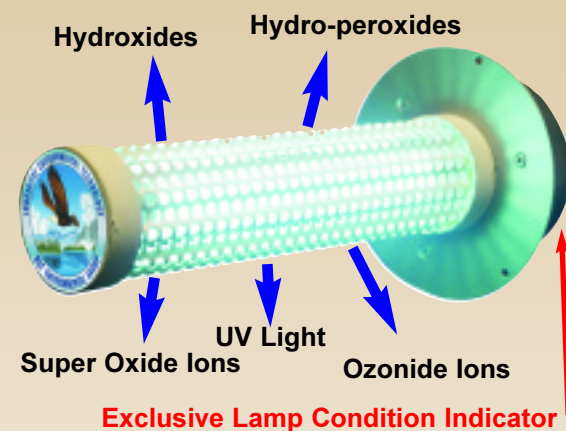
**RGF Proprietary
Sneeze Test 78% Kill**

**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: Hydro-peroxides, 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.

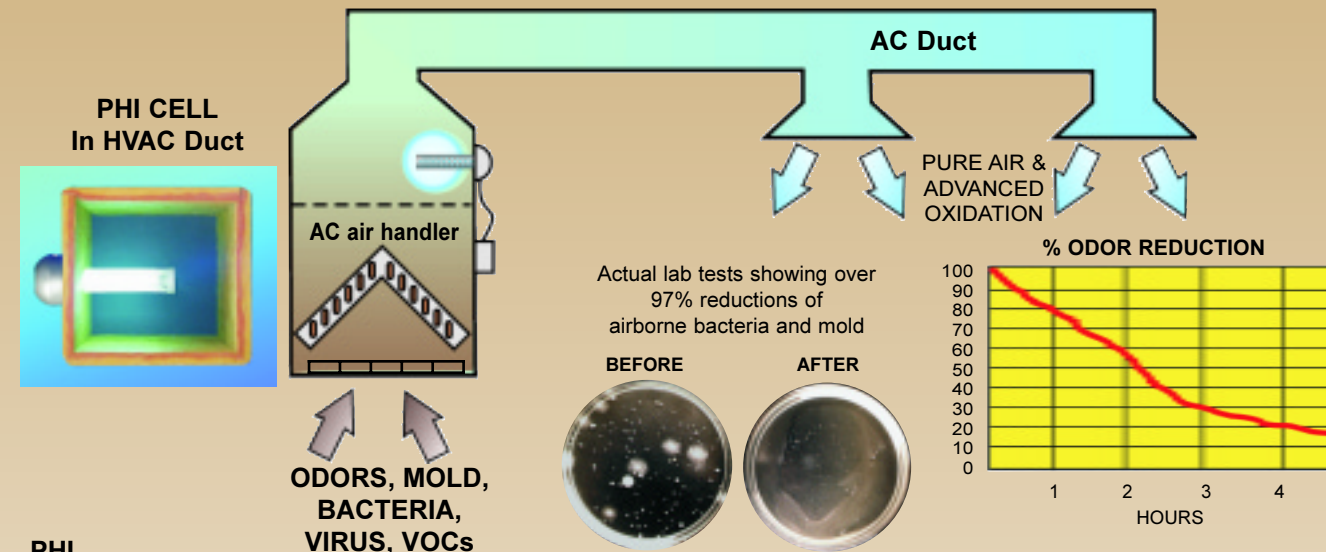
**RGF'S PHI™ CELL
Advanced Oxidizers**



Aggressive Advanced Oxidizers travel throughout the room attacking pollutants

- Tested and approved by USDA and FSIS for Food Purification
- Tested and approved by the Chinese Government for protection against SARS Virus
- Adapted by major cruise lines for control of Norwalk 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.

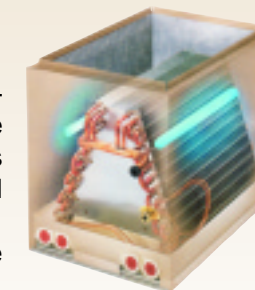
UV-C - Germicidal Lamps

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.

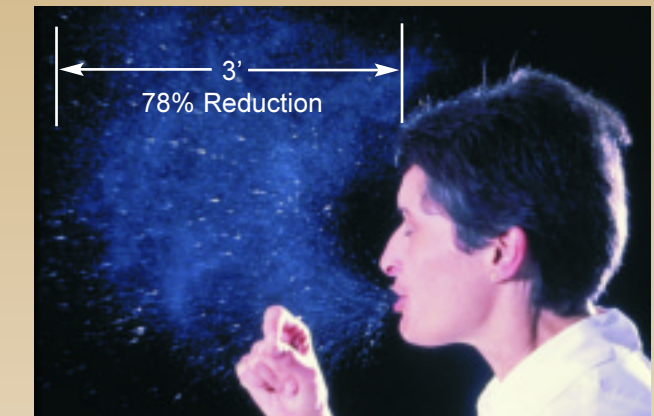
Minimum of two lamps must be used to cover at least one-quarter of the coil surface (the upper half of the outer coil). For one-half coverage, three to six lamps must be used. 100% coverage is not practical. For a 90% kill rate of airborne microbials, 30" lamps would have to be placed every 2' in a 95' 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.

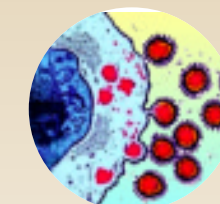
The Sneeze Test



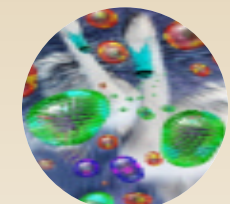
Simulated Sneeze Lab Test at three feet in a 250 cu ft Bio Test Chamber.

Average sneeze microbial reduction: 78%
Note: The RGF PHI Cell is not a medical device and no medical claims are made.

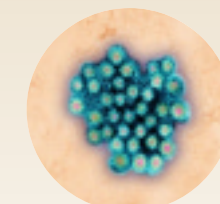
Typical virus and bacteria reductions



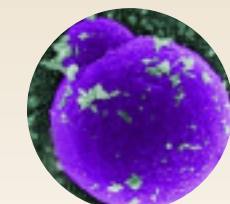
SARS 99% reduction



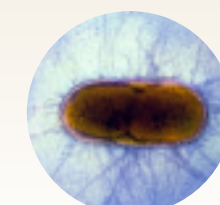
Bird Flu 100% reduction



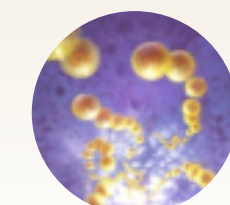
Norwalk 99% reduction



MRSA (Staph) 99% reduction



E.coli 98% reduction



Strep 96% reduction