

**IAQ** has been found to affect occupant health, leading to illness and even death. Airborne infectious agents such as bacteria Tuberculosis and Legionnaire's Disease, cause infection as the result of inhaling the organism. Thus, control of indoor air quality is critical to protecting building occupants from such infections. Asthmatic and allergic reactions have many



causes, including exposure gases, pollen, particulate matter and microorganisms.

*Commercial Building Indoor Air Quality An Introduction to the problem November 1999 Building Ecology Research Group*

## Applications

Medical-Hospitals-Critical Care Facilities

Airports

Fire Stations

Federal-County & State Facilities

Law Enforcement-Prisons Evidence Rooms

Nursing Homes Schools

Schools-Labs-Dressing Rooms

RTU Replacement Markets

Casinos

## Features

Factory engineered and Retrofit

Low Pressure Drop (0.05" w.g.)

Material protection (hardening)

15 year catalyst life cycle

Maintenance access

Safety controls

Integrated wiring

UL and EPA labeled

"Biological air pollutants are found to some degree in every home, school, and workplace. Components of mechanical heating, ventilating, and air conditioning (HVAC) systems may also serve as reservoirs or sites of microbial amplification. These include air intakes near potential sources of contamination such as standing water, organic debris or bird droppings, or integral parts of the mechanical system itself, such as various humidification systems, cooling coils, or condensate drain pans. Dust and debris may be deposited in the duct work or mixing boxes of the air handler." <http://www.epa.gov/iaq/pubs/hpguide.html>



*Trane Performance Climate Changer  
Field Retro-fit, Norman OK Library*



Trane is proud to introduce, TCACS, a new solution engineered to deliver cleaner air and better indoor air quality (IAQ).

TCACS seamlessly integrates three technologies to effectively improve building IAQ

1. High efficiency MERV 13 filters capture larger particles

2. Photocatalytic Oxidation (PCO) eliminates volatile organic compounds (VOCs) and small biologicals

3. Ultraviolet Germicidal Irradiation (UVGI) prevents microorganisms from reproducing.

Available today as a pre-engineered option on most Trane air handlers or retrofit on most airhandler brands

*The most effective process available to improve indoor air quality*

## Genesis Air's Photo Catalytic Air Cleaning System



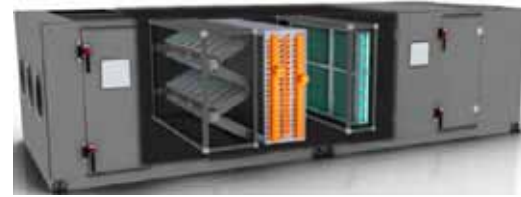
*San Francisco Airport T2 Terminal  
Genesis Air Retro-Fit*

**Indoor Air Quality**

Contact your local Trane Territory Manager for more information

# Genesis Air Photocatalysis

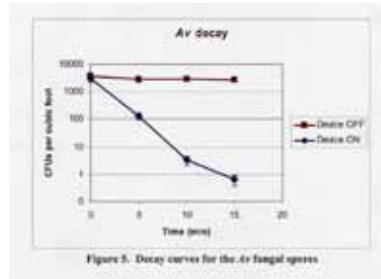
3rd party testing available thru your Trane Territory Manager



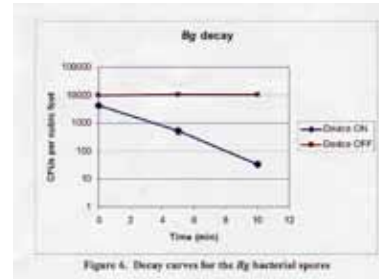
Norman Oklahoma Police Station RTU Change Out



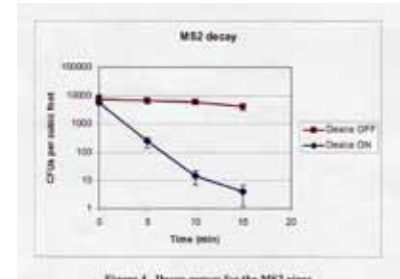
Laughlin AFB Fuel Systems Hanger Retro-Fit



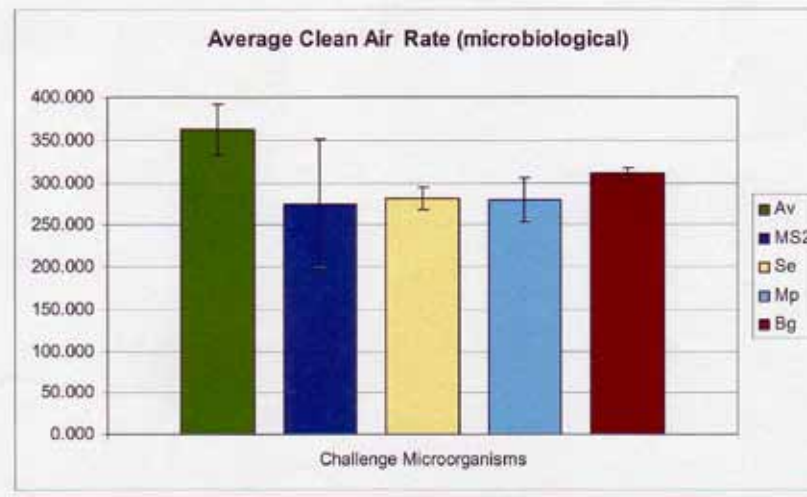
*Aspergillus versicolor*



*Bacillus anthracis*



*E.Coli*

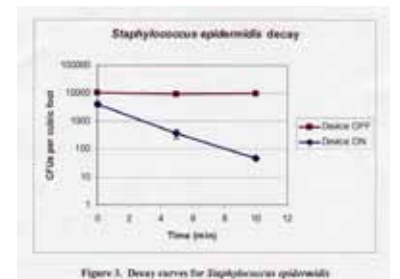


Clean Air Rate Microbiological

Third Party Testing Courtesy of RTI International



*Tuberculosis*



*MRSA*

Certified Lab Testing

3 Step Process

- Merv 13 Filtration
- UVGI
- Photocatalytic Oxidation

## Photo Catalytic Oxidation

- The Oxidation of Carbon
- The Reduction of Volatile Organic Compounds
- Degradation of Cellular Structure in Pollen, Mold, Bacteria and Virus

## Features

- Oxidation/Reduction Reaction, not Capture
- Low Static Pressure Drop .05in @ 500fpm
- Energy requirements/ general rule .05 to .1 watts per cfm. (at 500fpm.)
- Ease of installation in new or existing retrofit jobs
- Dual use - effective with both BIO and VOC's
- 15 year catalyst life cycle