

Unacceptable 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.

IAQ problems and the resulting illnesses and economic damages also can have legal and financial implications for all parties, including designers, builders, product manufacturers, building owners, employers, and occupants. Insurance and lending institutions are increasingly becoming involved in IAQ issues. Plaintiffs who were building occupants, employers, or owners have brought lawsuits for millions of dollars against designers, owners, manufactures and contractors. Workers compensation claims by employees against their employers are widespread, although more commonly these involve public rather than private sector buildings. One study placed the annual cost of IAQ problems in U.S. buildings between \$10 Billion and \$100 Billion. These amounts are comprised of direct costs of health care, lost work time and lost worker productivity and loss of commercial opportunities.¹

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



A recent study estimated that approximately 64,000 people in the United States die prematurely from heart and lung disease every year due to particulate air pollution -- more people than die each year in car accidents.¹



Trane Air Handler
Homeland Security's
FLETC Training Facility
Artesia, New Mexico

Photocatalysis

is considered to be a sustainable technology that functions to improve indoor air quality.

In certain designs, the opportunity may exist for LEED point standings to increase due to the application of this product in the building design.

GAP™

is a cost effective process for removal of chemical and biological airborne contaminants

Genesis Air, Inc.

Providing
Environmentally
Sound Solutions for
Indoor Air Quality

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GAP™ The most effective process available to improve indoor air quality

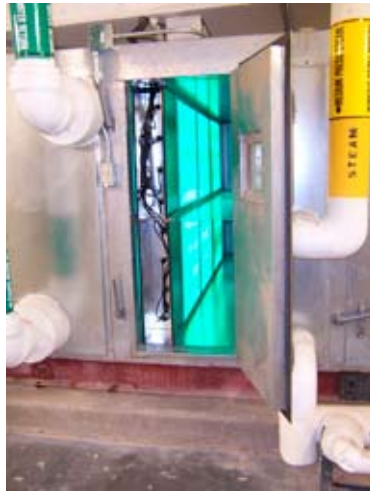
GENESIS AIR
CREATING CLEAN AIR
TO BREATHE™



**Indoor Air
Quality**

Genesis Air Photocatalysis

Has been rigorously tested by many certified labs, such as the Department of the Army's Dugway Proving Grounds and RTI International



Typical 2008 PCP Standard install in a VA Hospital



Typical PCP Standard install Fort Sam Houston

Mold

Aspergillus versicolor and Aspergillus niger have both been tested rigorously with similar results. Genesis Air **GAP™** photocatalysis process averages **93.5%** in a single pass removal rate with no viable airborne fungal spores.

Bacteria

Bacillus atrophaeus (*anthracis*), Staphylococcus epidermidis (*Staph*), Mycobacterium parafortuitum (*Tuberculosis*) and Escherichia coli (*E.coli*) have all four been tested by Genesis Air and were able to remove or neutralize better than **98%** single pass of airborne bacterial spores with Genesis Air **GAP™**

Viruses

MS2 (*MRSA*) was the primary virus testing agent. Dugway Proving Grounds stated no MS2 was found after each challenge. RTI International gave the Genesis Air **GAP™** unit 2008B a **275 CARM** (Clean Air Rate *microbiological*) rating for MS2.

VOCs/Odors

VOC's like Benzene, Styrene, Toluene, Formaldehyde and Carbon Monoxide have been successfully tested reducing the level of VOCs. Contact us for more information regarding VOCs to see if Genesis Air **GAP™** can benefit your application.

Markets

- Hospitals
- Schools
- Labs
- Office and Retail Space
- DoD, VA, DoHS, Govt. Offices
- Casinos and Bars
- Industrial

GAP™

- Three step synergistic approach
- Photocatalytic Oxidation (PCO)
- Proven, leading-edge technology.
- Rationalized design for application-specific products.
- Safe - no ozone or by-products, no accumulation of chemical contaminants: converts toxic substances to benign.
- Scalable - GAP™ can be engineered to any size air stream.

Merv 13 Filtration

Reduces particulate and also serves to protect HVAC equipment and the final stages of the Genesis Air process from particulate contamination

UVGI

Germicidal ultra violet light is used to activate the photocatalyst cell.

Photocatalytic Oxidation

GAP™ is a process that uses a patented titanium dioxide coated media, when activated by UV light, creates a hydroxyl cloud oxidizing organic compounds that pass through the catalyst media, converting them into benign carbon dioxide and water vapor.