

FreshAir Everest



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Did you know that each of us consumes more air every day than anything else in the world? It's true. We each breathe in over 3,000 gallons of air every day. And don't we all want to breathe pure, fresh air? Unfortunately the air outside can be bad, and indoors where we spend most of our time, the air can be much worse. In fact according to the Environmental Protection Agency (EPA), indoor air levels of many pollutants may be 2-5 times, and sometimes, more than 100 times higher than outdoor levels. Without some method of control, airborne contaminants can be breathed in or eventually settle on exposed surfaces. But whether you suffer from allergies or not, there is something you can do about it. FreshAir Everest combines five nature-based processes into one unique, proven, active technology system that helps clean the air you breathe and the surfaces you touch.



About Indoor Air

One alarmingly simple fact to consider: if you don't use an air purifier, you are the air purifier. The EPA says the average adult breathes over 3,000 gallons of air each day and spends a significant amount of time, up to 90%, indoors. The Asthma and Allergy Foundation of America (AAFA) reports that one in four Americans currently suffer from asthma and allergies. And while the human respiratory system has several built-in defenses to prevent substances from entering the lungs, utilizing air purification to remove or reduce the amount of airborne pollution in the breathing space can potentially ease the burden of contamination in the body and help maintain overall wellness. Those common household airborne pollutants can potentially include:

- Dust which is generally comprised of dead skin, dust mites and dust mite feces, insect parts, and more.
- Smoke emanating from tobacco, wood-burning fireplaces, fuel-burning heaters, and cooking.
- Chemicals from spray cleaners, perfumed deodorizers, carpets, and other building materials.
- Various microscopic bacteria and viruses.

All of these will continue to be of concern as modern building methods and the energy efficiency improvements of retrofitting existing structures continue to seal pollutants within indoor spaces. Such buildings tend to have decreased ventilation rates, higher concentrations of indoor-emitted pollutants, and more occupants reporting health problems.

Dust Mites

It has been reported that up to 80% of U.S. homes have large dust mite infestations, which may not be surprising considering as many as 40,000 dust mites can live in a single ounce of dust. These pests are second only to pollen in causing allergic reactions, mostly from airborne dust mite feces, ranging from itchy noses and eyes to severe asthma attacks. Along with keeping a low relative humidity between 30 – 50%, one of the most obvious methods of controlling dust mites may be to just reduce the amount of dust. An air purifier that works to continuously remove particulate from the air, combined with a thorough cleaning regimen that includes vacuuming can be an effective, simple strategy to minimize the aggravations of airborne dust.

Exposed Surfaces

Contamination on surfaces isn't limited to visible dust - there are numerous other types of contaminants that generally get spread where people live. Whether from sneezing and coughing or just every day handling, doorknobs, countertops, and almost any exposed surface can become a potential staging ground. It's also interesting to note that, by legal definition, disinfectants must be capable of reducing the level of pathogenic bacteria by 99.999% during a time frame of less than 10 minutes. Yet, as widely accepted as chemical disinfectants are, they may have little or no effect once removed from a surface due to lack of contact exposure. Because of this, some type of surface contaminant reduction between cleanings or disinfection may be desirable and beneficial as part of a regular regimen.

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**Published scientific studies conducted on behalf of EnviroMed Sciences by Dr. James Marsden at Kansas State University demonstrated that ActivePure® Technology substantially reduces contaminants on surfaces. No claim with respect to contaminants is made based on these results. Field results may vary based on environmental conditions.

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The Advantage of ActivePure®

With an end result similar to traditional filtration, ActivePure's active technology will clear the air of dust and floating particles, but unlike filters, it works out in the indoor environment, using air from the unit to carry "scrubber" ions and oxidizers through the air and to surfaces where they may be needed most. ActivePure® makes extensive use of five nature-based processes:

- Sunlight - for germicidal UV light
- Rain and thunderstorms - to generate ionization
- Lightning - to produce activated oxygen
- Photocatalysis - for hydro peroxides and oxide ions
- Wind - to distribute these properties into the environment

Utilizing Lights and Metals

To create oxide ions and powerful oxidizers, the ActivePure® cell located inside the FreshAir Everest utilizes an advanced form of photocatalytic process known as radiant catalytic ionization. This proprietary cell technology incorporates short wave UVC germicidal light as a catalyst to react with a formulated titanium dioxide and a proprietary blend of transition metals coating a target honeycomb matrix. The strong germicidal capabilities of the cell ensure any contaminants passing through the FreshAir Everest are inactivated and rendered harmless.

Ionization Reduces Airborne Particulate

FreshAir Everest includes a dual polarity ionization system designed to bring about the agglomeration of airborne dust particles, odors, smoke, and contaminants to effectively cause them to cluster together and drop from the air. This airborne particulate can contain both pollen and dust along with its various constituents including dust mites, dust mite feces, and insect parts. Tobacco, cooking, and other types of smoke are also removed from the air by ionization through a similar process.

The Power of Activated Oxygen

To eliminate difficult odors as well as odor-causing bacteria at the source, FreshAir Everest offers an adjustable, optional purification function to produce activated oxygen, otherwise known as O₃ or ozone. A naturally occurring oxidizer with a very short half-life of approximately 5 minutes, activated oxygen works to break down all

forms of odors and many types of air pollutants before breaking down itself to basic oxygen, allowing it to be used in unoccupied spaces for odor remediation and dust mite control as well as for everyday low level odor and contaminant control purposes as desired.

Scientifically Studied

Testing on behalf of EnviroMed Sciences by Dr. James Marsden, and others at Kansas State University was conducted to determine the potential use of ActivePure® (RCI) Technology for the inactivation of Staph (Staphylococcus aureus), MRSA (Antibiotic Resistant Staph), E. coli (Escherichia coli), Bacillus spp., Streptococcus spp., Pseudomonas aeruginosa, Listeria monocytogenes, Candida albicans, and black mold on stainless steel surfaces at diverse contact times in a controlled airflow cabinet. Further testing was conducted for EnviroMed Sciences at the University of Cincinnati Center for Health-Related Aerosol Studies to investigate the novel air purification technique combining aerosol/bioaerosol control mechanisms of unipolar ion emission and photocatalytic oxidation promoted by the ActivePure® (RCI) technique. These tests validated the effectiveness of the ActivePure® Technology in controlling contaminants.

An Earth Friendly Value

Active technology air purifiers like FreshAir Everest with ActivePure® offer opportunities to contribute to an earth friendly lifestyle by continuously working to reduce biological contaminants on surfaces which may lessen the amount and impact of chemicals needed for cleaning and deodorizing, potentially saving money and resulting in fewer empty containers going into the trash. By evaluating based on total area covered and suggested retail pricing, EnviroMed Sciences has calculated that FreshAir Everest costs up to 83% LESS per square foot of coverage when compared to popular brands of simple HEPA filters.

Space Certified Technology

ActivePure® Technology is based on a variation of the technology originally developed for use in the International Space Station and is recognized as the exclusive Certified Space Technology by the Space Foundation in its category.

Unique Features of FreshAir Everest

- Uses super oxide ions and hydroperoxides created by ActivePure® Technology to remove contaminants.
- Alternating positive and negative charged ions remove microscopic particles from the air to reduce harmful airborne pollutants.
- Features high intensity UVC light to make use of the same oxidation and ionizing properties as naturally occurring sunlight.
- Certified Space Technology™ (www.spacefoundation.org)
- Normal Mode uses exclusive ActivePure® (RCI) Technology to produce safe, low-level, oxidizers and super oxide ions for basic, everyday applications.
- High Mode adds the power of activated oxygen for faster coverage and increased elimination of smoke, odors, and surface contaminants.
- 8-hour Away Mode increases the maximum output of activated oxygen for increased effectiveness in unoccupied areas.
- Includes a remote control for easy operation.
- Optional Ozone Free ActivePure® Cell allows for operation without creating ozone in normal mode.
- Optional prefilter available for harsh or dust-prone environments.
- Improves the quality of air in an environment up to 3,000 sq. feet.
- Alerts for normal maintenance or when service is required.

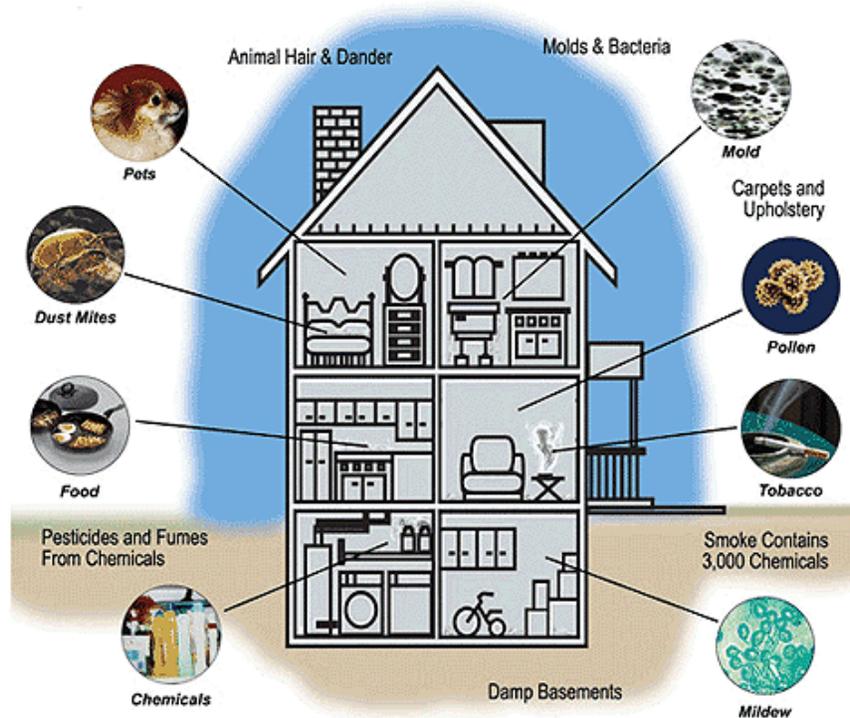
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FreshAir Everest

Common Indoor Air Problems



Frequently Asked Questions

- *How does FreshAir Everest work?*

Five nature-based technologies including short wave UVC light, positive and negative ionization, RF ionization, activated oxygen, and proprietary ActivePure® Technology are combined in one system to very effectively reduce dust and particulate, smoke, odors, and surface contaminants in the indoor environment.
- *What is environmental conditioning?*

Because FreshAir Everest treats interior exposed surfaces as well as indoor air, it doesn't fit into the category of an air purifier only. The term "environmental conditioning" more accurately describes the overall effect of the active technologies within the living area.
- *Should I be concerned about ozone?*

FreshAir Everest provides the OPTION of using activated oxygen (ozone) when desired. The unit produces no ozone when set on Normal Mode, while allowing incremental preset adjustments for specific square footages when set to High Mode. Away Mode should not be used when anyone, including pets, is or will be present in the area. For complete operating procedures, see the FreshAir Everest owner's manual.
- *Is FreshAir Everest loud like a lot of air filtration machines?*

The loudness of an air purifier (measured in decibels) depends on situations, a high fan setting may be somewhat more effective.
- *How long should the FreshAir Everest run?*

For best results, it is recommended to continuously run the FreshAir Everest. This allows constant treatment for particle removal and reduction of contaminants on surfaces.
- *Where should I place FreshAir Everest?*

Place the FreshAir in your home, in as high a place as is feasible. By doing so, you'll get the most benefit from the clustering effect of ionization and maximum dispersion of ActivePure® properties and the purifier feature of the FreshAir Everest.
- *What is the expected coverage?*

The FreshAir Everest is designed to cover from 250 to 3000 square feet of area in an average home.
- *How do I know when to clean the unit?*

A notification will appear on the display as a reminder to clean the rear lint screen, purifier plate (if equipped), and to vacuum the ActivePure® cell and front and rear grills. This is a good sign and lets you know how much the FreshAir is helping you and

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Installing

For optimal performance, place FreshAir Everest in your home as high up as possible, near the source of pollution or in the most heavily used area.

Using FreshAir Everest

The power button on the remote or located on the front control panel will turn the unit on and off (standby). The 5-speed fan may be adjusted according to personal sound preference without adversely affecting performance.

The High Mode purification setting turns on the adjustable purification function for added effectiveness.

Reminders and notifications will appear on the screen when it's time for regular servicing or cleaning. For on-the-spot treatment, FreshAir Everest can be easily moved to any room or area.

Away Mode

For periodic additional effectiveness or remediation of stubborn, difficult odors, air quality problems, or surface contaminant issues, the Away Mode can be used, but only in areas that will remain unoccupied for the duration of the treatment.

Special Considerations

FreshAir Everest, which includes an adjustable purification function and Away Mode feature, does not meet California requirements and cannot be shipped to California or Canada. The FreshAir Everest has been designed to accommodate an optional second ActivePure cell in place of the purifier and Away Mode functions, and is available for use in all 50 states as well as Canada.

Warnings

- The rear of the unit should always have at least one inch of open area to allow unrestricted airflow.
- Point the unit toward the center of the room for maximum dispersion of ions.
- When operating a central heating and air conditioning fan, set the coverage up to the total ventilated indoor area. Otherwise, set the coverage up to the size of the room. Do not exceed the size of the ventilated indoor area when setting the purifier level.
- Please note: "unoccupied areas" includes pets. Some pets, like humans, may experience adverse reactions from exposure to increased levels of ozone and should not be present during AWAY MODE operation.
- Do not look directly at the glowing lamp. Prolonged exposure, even to reflected UV light, can cause eye damage according to the American Conference of Governmental Industrial Hygienists (ACGIH) Standards.

Specifications

Model	Fresh Air Surround
Item Number	US40135bGRW - Walnut/Graphite
Max O3	360 mg/hr+ (Away Mode)
Technology	Needlepoint ionization RF ionization ActivePure® cell - Scalable O3 Adjustable 2,4,6,&8-hour Away Mode
Power Usage	120Volts,90watts
Lint Screens & Filters	Electrostatic lint screen Optional pre-filter
Applications	Homes, offices, salons, medical/dental offices, light industrial
Coverage	3,000 ft ²
Size	9" wide x 12" high x 12" deep
Weight	16lbs

Key Scientific Studies

National Academy of Sciences, 2011 Jun; S-1 Climate Change, the Indoor Environment, and Health. Committee on the Effect of Climate Change on Indoor Air Quality and Public Health; Institute of Medicine

Journal of Rapid Methods & Automation In Microbiology, 2007 Nov; 15(4):359-68 Efficacy of Radiant Catalytic Ionization and Ozone Generators at Reducing Microbial Populations on Stainless Steel Surfaces. M.T. Ortega, L.J. Franken, P.R. Hatesohl, J.L. Marsden. Department of Animal Sciences and Industry, K-State Food Science Institute, Kansas State University, Manhattan, KS 66506

Environ Sci Technol. 2007 Jan 15;41(2):606-12. Control of Aerosol Contaminants in Indoor Air: Combining the Particle Concentration Reduction with Microbial Inactivation. S.A. Grinshpun, A. Adhikari, T. Honda, K.Y. Kim, M. Toivola, K.S. Ramchander Rao, T. Reponen. Center for Health-Related Aerosol Studies, Dept. of Environmental Health, University of Cincinnati, 3223 Eden Avenue, Cincinnati, OH 45267

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The FreshAir Surround will produce scalable ozone on demand. The FreshAir Everest contains 2 ActivePure cells for twice the effectiveness and does not produce any ozone.