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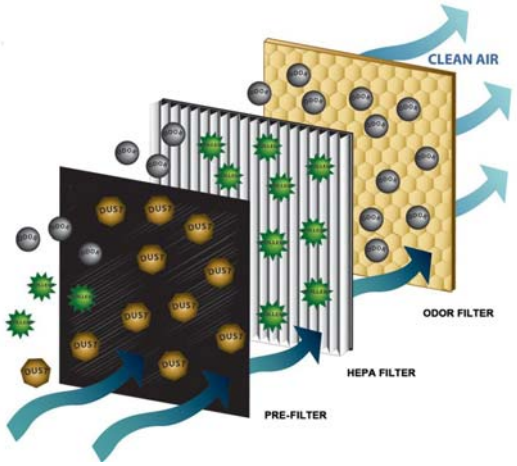
What's in my air?

Sometimes it may be better to not know what is in the air, but since you are reading this we'll share what the leading health agencies are reporting. First a little background on particulate matter. The particles that float through the air are a combination of solid particles and liquid droplets. Particles are measured in microns, where a micron is one millionth of a meter (10-6 meters) and is also called a micrometer. The particles that we can see with the naked eye are those larger than 50 microns. A human hair is approximately 100 microns in diameter. The airborne particles that result in allergies or impact our health are much smaller and not visible with the naked eye. Mold spores and pollen particles are from to 10 microns. At times they can be visible but this is when there is a large concentration massed together.

Before we get to the types of particles in the air, let's review the particulates in the air that are 10 microns and smaller and why we need to care about them. Particles 10 microns and smaller can pass through and deposit in our respiratory system and are referred to as respiratory particulates. The concern here is that the smaller particles can be breathed deep into the lungs. These smallest of particles tend to stay suspended in the air longer than very large particles such as dust so there is a greater chance for inhalation. They can also serve as a vehicle to transport contaminants deep into the lung area.

Particles 5 microns and larger are trapped in the throat and nasal regions, particles between 1 and 5 microns are trapped in the trachea (leads to the lungs) and larger lung branches and particles less than 1 micron in size go to the alveolar area which are the tiny air sacs in the lungs. This is where the exchange of oxygen and carbon dioxide takes place.

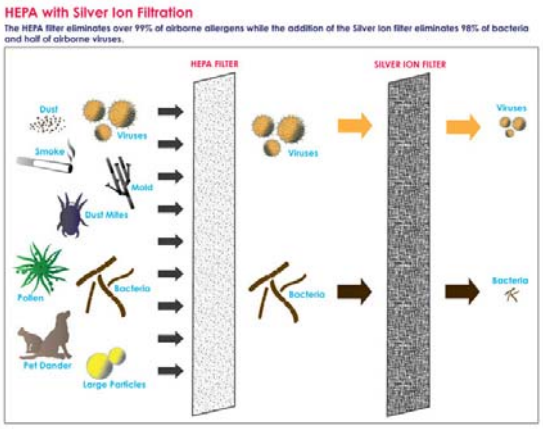


The primary composition of our air is made up of Nitrogen, Oxygen, Argon and Carbon Dioxide. All of this is obviously invisible to us. Unfortunately, the respiratory particulates are also not visible to the naked eye. Here is a summary of the common "pollutants":

Bacteria: 0. - 5 microns
Mold spores: – 10 microns
Pollen: 10- 0 microns
Dust mites: 300 microns (feces 0 microns) – most common allergen in US
Viruses: 1 micron and smaller

How do you get rid of this particulate matter?

How do we get rid of these micro particles? As we have said, the most effective technology to safely remove these particles is with HEPA filtration. A true HEPA filter is rated at removal of 99.97% of particles that are 0.3 microns and larger. An interesting fact is that the effectiveness of HEPA filters increases over time which is the opposite of the ionic or filter-less technologies as those plates get dirty the ability to charge and collect particles decreases. Also, since these particles can be easily breathed into our respiratory system, the last thing you want to do is have to clean them regularly and come into contact with the stuff you're trying to avoid. In addition, HEPA filters also perform better at the removal of particles smaller than 0.3 microns.



To kill bacteria, UV lamps have been proven effective. The T300, A375UV, and Paralda models specifically address these concerns as well as offer HEPA filtration for mold spores, pollen, dust, etc.

New in 2009 - HEPA Silver Ion Filters !!!

Check out our new Silver Ion Filters for each of the Air Purifiers we carry. The new Silver HEPA filter can help you avoid the flu by reducing airborne viruses by up to 50% all the while eliminating 99% of allergens AND 98% of bacteria!

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