

# Filters and Duct Cleaning Reduce Indoor Air Particulates

## Particulates

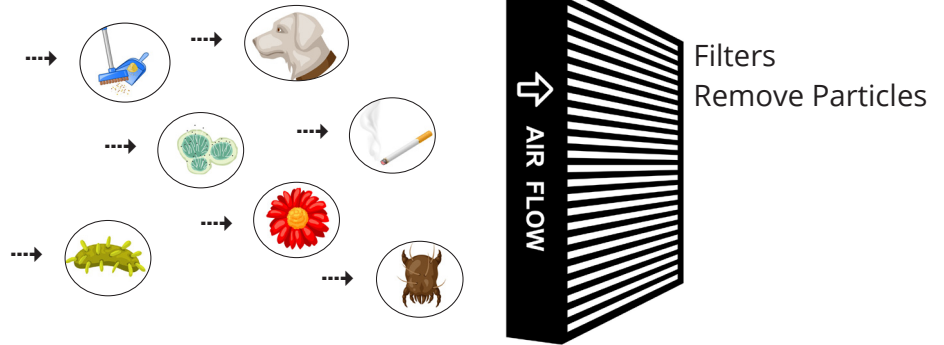
Particulate matter is a complex mixture of very small solids and liquid droplets that are in the air. These particles can vary in size, shape, and composition. The EPA is especially concerned about particles that are 10 microns in diameter or smaller because they can get deep into your lungs and may even get into your bloodstream.

## 3 Types



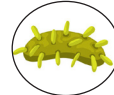
**Allergens:** dust mites, pet dander, pollen, mold, and dust

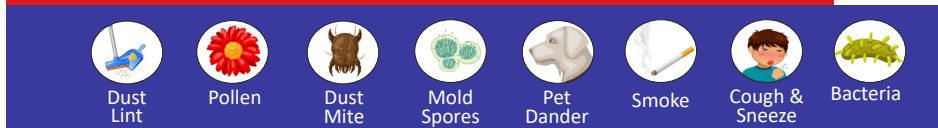
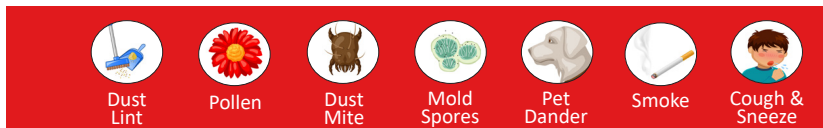
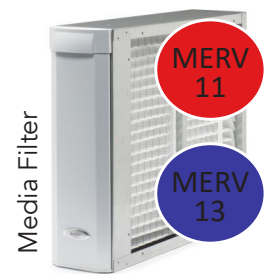
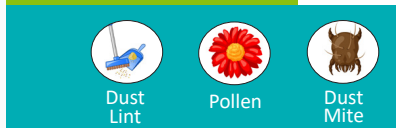
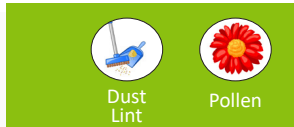
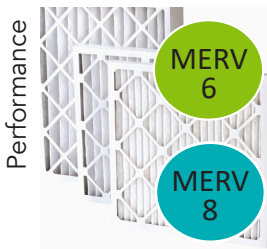
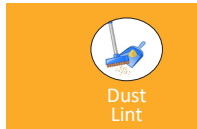
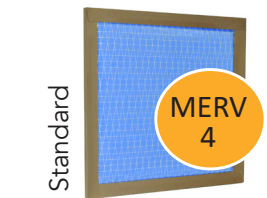
**Biological:** bacteria, viruses, fungi

**Toxins:** cigarette smoke, wood smoke, lead dust, asbestos



Filters capture airborne particles that range in size from 0.3 microns (the smallest) up to 10 microns. Particles from 0.3 to 0.9 present the greatest health concern.

-  Pollen can be between 10 to 1000 microns
-  Pet dander can measure between 0.5 to 100 microns
-  Staphylococcus Bacteria measure 0.7 microns



Media filters are 3 times more efficient than a standard fiberglass filter.

**Capture up to 80% of particles in the air**

**Note:** The main return ducts need to be modified to accommodate the larger filter size.

## Duct Cleaning

The average home in the United States collects **40 pounds of dust** each year.



## Case study (home on Ensley Lane in Leawood, KS)

**Before** duct cleaning

**9/10/2018** - Particulate matter detected =  $>50 \mu\text{g}/\text{m}^3$

**After** having the ducts cleaned

**12/8/18** - Particulate matter detected =  $9.6 \mu\text{g}/\text{m}^3$

That is an **80%** decrease in particulate matter in the home.