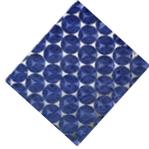
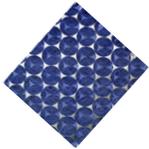


Did you know...

Filters have indicator arrows stamped on their framework to show the way they should be installed according to airflow. It is important that the filter be installed according to these instructions.



Dirty filters reduce the efficiency of units by reducing airflow. This can lead to higher electricity consumption and premature failure of the unit.



Filter-changing intervals should be based on the pressure drop across the filter median. However, calendar scheduling or visual inspection is the most frequently used means for deciding when to change a filter.

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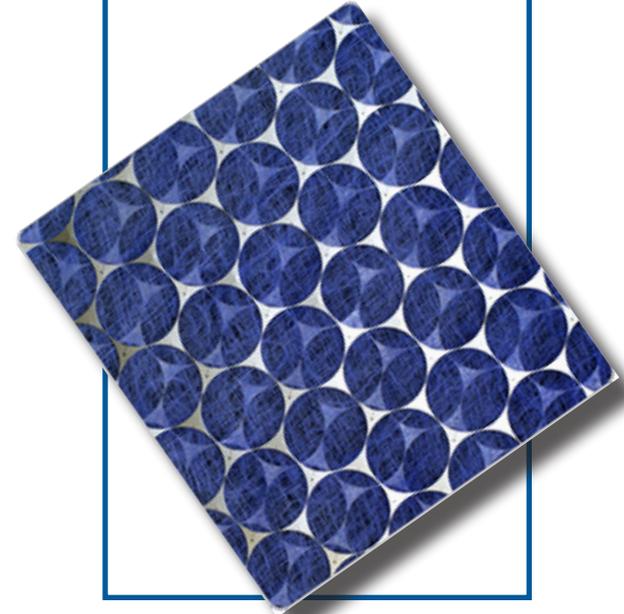
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Filters



What do you know about
your air conditioning
system's filter?



Your Air Conditioning Filter

Filters play two important roles in the heating, ventilation and air conditioning (HVAC) system. They help maintain indoor air quality and they protect downstream components of the air handling system (the evaporator coil and fan) from accumulating dirt.

The most common type of filter is the fiberglass disposable type which has a slight coating of "viscosine" or other type of oil to increase efficiency. Such filters are about 10% to 20% efficient in trapping air particles. They have little depth and may tend to clog up with dust and particles on the filter surface. Other types of disposable filters are made with various surface treatments to increase efficiency. It is important that the filter fits snugly in the filter holder to ensure air passes through the filter instead of around it.

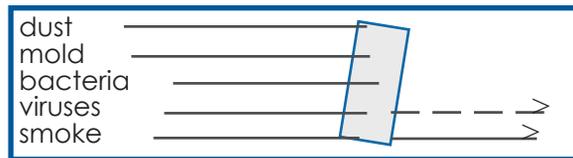
Washable metal filters are common but create problems when improperly cleaned. After the filter is washed and dried, the filter should be treated with a "viscosine" to increase its efficiency. You will likely find the necessary treatment spray for sale at your local hardware store or air conditioner supply company.

Pleated filters made with cotton or synthetic fabrics cost more than the flat filters made of fiberglass or spun polyester mats. The fabric boosts filtration efficiency from below 20% to about 30% or 40%, and the pleats increase the filters' effective entrapment area, reduces pressure drop across the coil and extends the useful life of the filter.

As illustrated here, the disposable, washable and pleated disposable filters filter dusts and molds from the air.



Electrostatic action is a far superior way to filter the air. These poly-materials are about 90% efficient in trapping airborne particles. The cost is somewhat more but the additional cost is worth the cleaner air. Some of these filters are disposable and some are washable.



The most efficient filters are electronic. They are quite a bit more expensive, require electrical hookup and sometimes additional ductwork. They also consume about 60 watts of electricity for most residential models. These filters remove virtually all airborne particles including smoke, viruses, mold spores and dust.



What is a micron?

A micron is one twenty-five thousand four-hundredths ($1/25,400$) of an inch, or one-thousandth of a millimeter.

Most people use the less expensive disposable filters with a filtration rate of less than 40%. This means that 60% of breathable particles are going through the filter unhindered. Upgrading to 90% efficient filters would reduce the number of particles by a factor of 4. Also, consider what size particles this efficiency rating is based on. Most filters do a better job on the larger particles (5 microns or larger). This includes pollen, mold and lint, which are borderline visible to the naked eye. But these larger particles are generally not the most troublesome, as our bodies already filter out most of these type particles. Particles under 5 microns can be more troublesome (bacteria, skin flakes, smoke and < 0.1 micron viruses). Allergy and asthma sufferers should consider upgrading to a filter that will provide cleaner air.

Check with your air conditioning contractor prior to installing an upgrade filter. Each air conditioning manufacturer designs their air handler units to operate with a certain amount of air movement across the coil. If the filter you want to install will restrict the airflow below a predetermined threshold, your unit will not operate as efficiently. Modifications to the return air side of the system may be necessary before installing an upgrade filter.