

What is air purifier? What is the structure and mechanism of operation?

Along learn more about the structure, operating principles, features of air purifiers to choose for your home, office work the most appropriate device!

In this article, TipsMake.com will help you answer questions related to air purifiers, such as what air purifiers are, including which parts, how they work, what effects they have, and how they are good. Or not, how much, buy the best one!

Air purifiers are considered by many to be the most effective way to deal with air pollution in addition to natural methods such as growing indoor air purifiers. So if you are looking to learn more about this product, do not miss the following information!

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What is air purifier?

The air purifier is a device used to enhance air quality through features such as dust filtration, deodorizing, bactericidal, mold removal, other allergens, and leveling. moisture in the air (can compensate for moisture or dehumidify) . to protect human health (especially respiratory system) from air pollutants.



Air purifiers are widely used in life to clean the air.

What kind of air purifier?

Air cleaners are divided into 2 main groups:

Room air purifier

Room air purifier is the type of air purifier used to clean the air in a separate area such as living room, bedroom . Room air purifier is usually turned on when people in the room or also Can turn on all day. Each room air purifier is usually designed with capacity, air flow, filtration speed, size . to ensure optimal operation on a given area and is usually divided into 3 types:

1. Car air purifier: is the type used to filter air in small areas such as on cars and cars.
2. Household air purifier: is a type used to filter room air with an area of ??up to 50 square meters.
3. Industrial air purifier: is the type used to filter room air from 50 square meters to several hundred square meters.

Central air purifier (whole house air purifier)

The central air purifier is a type of air purifier that operates continuously and combines with heating, ventilation and air conditioning (HVAC) systems to purify the air for the entire house, maybe even Clean the air to an area of ??thousands of square meters. However, the investment cost for this device is quite high and the initial installation is also quite complicated.

The information below will focus on room air purifiers (called air purifiers for short).

The mechanism of action of the air purifier

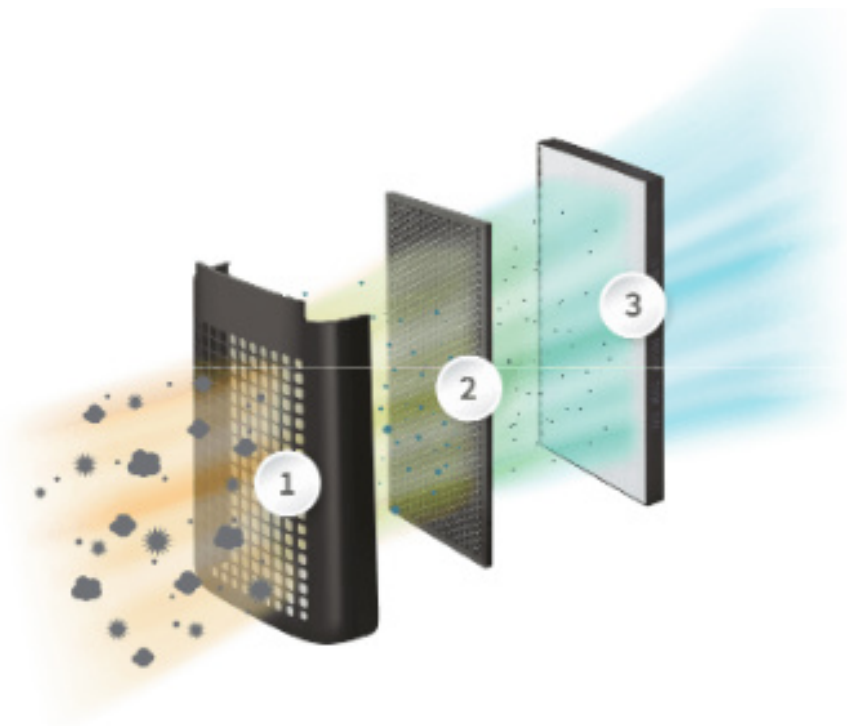
There are two types of air purification mechanisms that air purifiers can apply: passive air purifiers and active air purifiers.

Passive air filtration mechanism

Passive air filtration is a method of using filters to purify the air. With this mechanism, the air purifier will use exhaust fans to draw air from the outside environment into the machine. After that, the air will be passed through the filter to clean and then returned to the external environment.

With passive air filtration mechanism, the filter usually consists of many different types of filters made from materials such as foam, fiberglass, cotton . Each type will have the effect of eliminating pollutants. based on the size or nature of that agent. Common types of filters include:

1. **Coarse filter** : Has the function of filtering large size dust, animal hair, hair, small insects, some types of pollen.
2. **HEPA filter** : Has the function of filtering dust, mold, pollen . with sizes as small as 0.3 micrometres.
3. **Activated carbon filter** : Has the function of filtering exhaust gas, smoke, unpleasant smell .



Air cleaners may have different types of filters.

Active air purification mechanism

Active air purification is a method that uses air filters without filters that apply a number of other technologies such as:

1. **Ionization** : The air purifier releases negative ions and ions to contaminate the pollutants, thereby preventing them from floating in the air and sticking to the surfaces around the room. and can be easily cleaned by vacuuming, sweeping, and cleaning.

2. **Electrostatic precipitator** : The air purifier also electrically pollutes the air pollutants, then drains them with a charged plate.
3. **Generating ozone** : Air purifiers create ozone to eliminate air pollutants.
4. **Thermodynamic disinfection** : Air purifiers apply heat treatment to harmless pollutants. The air from the external environment is directed into the machine through convection, then goes through the ceramic core of microscopic capillaries heated to 200 degrees Celsius to burn the contaminants.
5. **Ultraviolet sterilizing irradiation** : The air purifier will use UV rays to kill bacteria, specifically removing microorganisms such as bacteria, viruses, mold.
6. **Using photocatalyst cleaners** : Air purifiers will use ultraviolet light in combination with catalysts (usually titanium dioxide - TiO_2) to create chemical reactions that oxidize bacteria, viruses, molds, odors, volatile organic compounds into harmless byproducts.

The construction of an air purifier

Air purifiers on the market today can use either passive or active air purification mechanisms or both at the same time to enhance air filtration efficiency. Depending on the type of filtering mechanism applied, the principle of operation of the air cleaner may have different specific structures.

For example, for an air purifier that only applies a common passive filter mechanism, there will be three main components: the frame, the fan and the filter. With an air purifier that only applies active filtering mechanisms, the structure will consist of the main components of the chassis and the reaction unit (such as ion generation, photochemical reaction, UV emission . .). For an air purifier that applies both active and passive filters simultaneously, the structure of the machine will consist of the main frame, the fan, the filter and the reaction unit.

Features of air purifiers

In addition to the basic function of air purifiers, dust filters are also equipped with many other utilities such as deodorizing, bactericidal, fine dust filtration, creating negative ions, reducing static electricity, removing effects. cause allergies, moisturize, dehumidify, catch mosquitoes . to help purify the indoor air more effectively, bringing a fresh and healthy atmosphere to the user.

Along with advanced features, the air cleaner also has additional types of dust sensors, odor sensors, humidity sensors, air quality indicators, filter replacement warnings, etc. timer, sleep mode, power saving mode, child lock, remote control, display screen, intuitive control panel system . so that users can use the machine conveniently , easier.

The air purifiers often have an elegant, beautiful design and are very diverse in style, design, capacity so you can easily choose a device that is suitable for living, living and working spaces. your job.

Especially, with reputable air purifier brands, you will not only be completely assured of the quality of air purifier, but also be assured of the safety and durability of the device when the machine is made from objects. Durable material, high class.

Therefore, air purifiers are becoming more and more popular to protect health more effectively.



Air purifiers have many uses for purifying air.

Should buy a good air purifier?

On the market today, there are many different models of air purifiers, so you need to consider carefully to choose the air purifier that suits the area of use as well as the full range of filtration and calculation mechanisms. Utility features needed for their practical needs.

Besides, do not forget to buy machines from reputable brands such as Sharp, Boneco, Hitachi, Coway, Honeywell, Daikin, Panasonic, Beurer, Xiaomi, Hafele, Airocide . to ensure the quality and guarantee. Best practice for the product:

1. **Sharp air purifier** : A famous brand of air purifier from Japan, the product is applied with modern Plasmacluster ion technology, which has a variety of models, capacity, functions (full range of machines air desiccant, humidifier, catch mosquitoes) at an affordable price.
2. **Boneco air purifier** : The brand of air purifier from Switzerland, offering a full range of automotive air purifiers, household air purifiers, industrial air purifiers with a variety of filters, The product has an intelligent air quality sensor and smooth operation.
3. **Hitachi air purifier** : The brand of high-class air purifier from Japan, the product is modernly designed, colorful in style, applying many advanced technologies such as power-saving inverter, self-cleaning set. filter .
4. **Coway Air Purifier** : Korean brand of air purifier with a unique product design, offering exclusive herbal HEPA filters, products with air quality notices, power-saving operation, dulcet.
5. **Panasonic air purifier** : A brand of modern air purifier from Japan with a series of advanced technologies such as NanoE, Econavi, Super Nano filter, dust sensor, light sensor, odor sensor, lamp. Dust alarms, filter changing indicator lights . ensure the most convenient product usage experience.
6. **Xiaomi air purifier** : The brand of air purifier from China, the product has a modern minimalist design, affordable price and still ensures many utilities to use, especially can be controlled. and track the device via smartphone app.

7. **Airocide air purifier** : A brand of high-quality air purifier from the US, which applies advanced filtration technology researched by NASA with compact, trendy and impressive design.

Immediately refer to some genuine air purifiers with good prices being appreciated by many users today :

How much does an air purifier cost?

The price of air purifiers on the market today is quite diverse, depending mainly on the area used and the features of the machine. Reference prices for common air purifiers on the market today are as follows:

Price of air purifier according to room size

1. Car air purifier price: 700,000 - 4,500,000 VND
2. Price of home air purifier: 450,000 - 16,800,000 VND
3. Price of industrial air purifier: VND 7,750,000 - VND 50,000,000

Air purifier price by function

1. Price of air purifier to compensate moisture: 5.100.000 - 19.900.000 VND
2. Dehumidifier air filter price: VND 5.190.000 - 9.900.000
3. Price of air purifier for catching mosquitoes: VND 3,190,000 - 7,490,000

Detailed reference : Quotations of the latest, cheapest air purifiers available today



Air purifier is very diverse in style, design, price.

What to note when using air purifiers?

In the process of using the air purifier, in addition to following the instructions of the manufacturer, there are a few small notes that you should not ignore to ensure effective air cleaning as well as extending the life of the device. suffers:

1. Put the air purifier in an enclosed space, at flat places, capable of good air circulation, avoid the location of humid, high temperature.
2. Should be placed near locations with a lot of dirt, unpleasant smell.
3. Clean the air filter regularly, if it has a filter, it needs to replace the filter periodically.
4. Under normal conditions, the machine should be operated in Auto mode, while the Max mode should only be used when the air in the room is too dirty or smells too unpleasant or when it is necessary to filter the air quickly.
5. To save power efficiently, you can use the timer, sleep mode.

Hopefully the above information will be helpful and help you easily and quickly choose the most suitable air purifiers to protect your health and loved ones.

See also :

1. Top 10+ air purifiers that deal with pollution the most effectively
2. 5 things to consider when buying an air purifier
3. Share where to buy reputable air purifiers, good prices in Hanoi, TP. HCM

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