

Solar Air Purifier

Akhil Kanyal, Ayush Rai

Abstract:

Around the world, air pollution is a big issue. It can cause a variety of health problems, including respiratory infections, heart disease, and cancer. Solar air purifiers are a promising new technology for reducing air pollution. They use solar energy to power a fan that draws polluted air into the purifier. The air is then filtered through a series of filters that remove pollutants such as dust, pollen, and smoke. Solar air purifiers are a sustainable and environmentally friendly way to improve air quality.

Introduction:

Air pollution is a major problem in many parts of the world. It is estimated that air pollution causes 7 million deaths each year. The World Health Organisation (WHO) has identified air pollution as the largest environmental risk factor for death.

There are a number of different sources of air pollution. These include traffic emissions, industrial emissions, and agricultural emissions. Air pollution can also be caused by natural sources, such as dust storms and wildfires.

Air pollution can cause a variety of health problems. These include respiratory infections, heart disease, and cancer. Air pollution can also worsen asthma and other chronic respiratory conditions.

There are a number of different ways to reduce air pollution. These include reducing emissions from vehicles and factories, improving agricultural practices, and planting trees.

Solar air purifiers are a promising new technology for reducing air pollution. They use solar energy to power a fan that draws polluted air into the purifier. The air is then filtered through a series of filters that remove pollutants such as dust, pollen, and smoke. Solar air purifiers are a sustainable and environmentally friendly way to improve air quality.

Solar Air Purifier Design:

The solar air purifier consists of the following components:

- Solar panel: The solar panel converts sunlight into electricity.
- Fan: The fan draws polluted air into the purifier.
- Filters: The filters remove pollutants from the air.
- Battery: The battery stores electricity for use at night or when the solar panel is not producing

enough power.

- Control panel: The control panel allows the user to monitor the air quality.

Solar Air Purifier Operation:

The solar air purifier works by using the solar panel to convert sunlight into electricity. The electricity powers the fan, which draws polluted air into the purifier. The air is then filtered through a series of filters that remove pollutants such as dust, pollen, and smoke. The clean air is then released back into the environment.

Solar Air Purifier Benefits:

Solar air purifiers offer a number of benefits, including:

- They are a sustainable and environmentally friendly way to improve air quality.
- They are easy to use and maintain.
- They are portable and can be used in a variety of locations.
- They are affordable.

Solar Air Purifier Drawbacks:

Solar air purifiers also have a few drawbacks, including:

- They may not be effective in areas with high levels of pollution.
- They may not be able to remove all pollutants from the air.
- They may not be suitable for all climates.

Conclusion:

Solar air purifiers are a promising new technology for reducing air pollution. They are sustainable, easy to use, and affordable. However, they may not be effective in areas with high levels of pollution or in all climates. Further research is needed to determine the effectiveness of solar air purifiers in different settings.