

AIR PURIFIER MACHINE

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1 ABSTRACT

As we live in 21st century an age of industries. Industries means machine and machine means pollution of air. This machine together with automobiles on working releases various types of gases, many of them like CARBON MONO-OXIDE, CARBON DIO-OXIDE, NITROGEN DIO-OXIDE, SULPHUR DIO-OXIDE, are very harmful. This gases are also known as greenhouse gases. This gases leads to pollution of air. According to an survey approximately 35-40% of air used for respiration is been polluted. It causes harm to human health like lung cancer, nasal cancer, etc. So for human being to live a longer life we must concentrate on the problem of air pollution. But as we know we are unable to work on the reduction of no of industries and automobiles, but we can control air pollution. According to this we are making a 'AIR PURIFIER MACHINE' naming "SURAKSHAYANTRA" (protecting instrument) to increase human life.

2 INTRODUCTION

According to a survey there is 40% increase in the atmospheric concentration of carbon from 280 ppm in 1750 to 416 ppm in 2107. This has been achieved due to human activities since the begning of industrial revolution (around 1750). It has been estimated that if these harmful gases emission continues the earth surface temperature could exceed its historical values. So the project is for living beings as the name "SURAKSHAYANTAR" itself defines that it protects living beings life and increases the life period from 60 years to 80 years.

3 SCOPE AND OBJECTIVE OF THE PROJECT

"SURAKSHAYANTRA" mainly focuses on the reduction of harmful gases from the atmosphere gas. The machine has capability to reduce about 70-75% of total presence of harmful gas from air. The main objective of the machine is to enhance the purity of atmospheric air to make it comfortable for respiration. The project has capability to reduce health problems up to 80% since it purifies the air to a 75%.

4 IMPORTANCE OF PROJECT

The project is very much important in reducing the content of harmful gases from atmospheric air and making air very much purified for the respiration purpose. It also controls the increment of carbon amount in air. It is very important in the aspect of environment as it also controls the global warming. As the content of sulphur and nitrogen also reduces the content of oxygen in the air automatically increases.

5 LITERATURE REVIEW

Here, we are designing air purifier machine which can purify air in order to do this work we have undergone by various author as followed:-

- I. Guoliang liu and Derek clements has presented a comprehensive review on the synergistic effect of different air purification technologies.
- II. Roger W. Fork and MD Tampa has presented a review paper on increment of indoor air quality by the filtration of harmful contaminants from air.
- III. Gauraw Balpande together with his team members has presented a comprehensive review on the automatic air filter cleaning system.
- IV. Sulay N. Patel together with his team member presented a comprehensive review on the effect of air purifier on the performance of four stroke gasoline engine.
- V. Marius Tama and Iordana Fileru has presented a comprehensive review on the maintenance of air filters

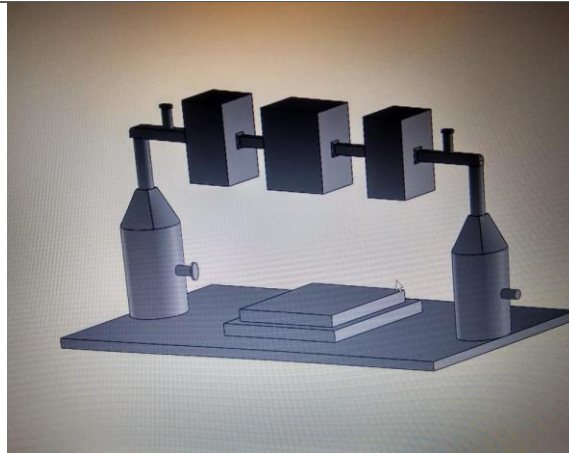


Fig.1 Air Purifier Machine

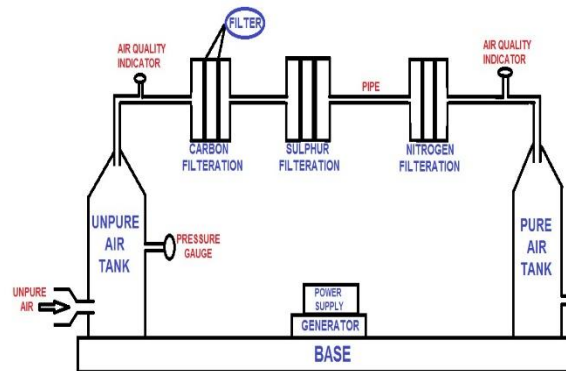


Fig.2 Air Purifier Machine Both of the above figure represents the layout of the air purifier machine.

7 PARTS

The various parts of the machine are as followed:-

(1) BASE

Base is a platform on which all the parts of the machine are mounted. It is made up of wooden block. It has the length of 1.5 meters and width of 1 meter

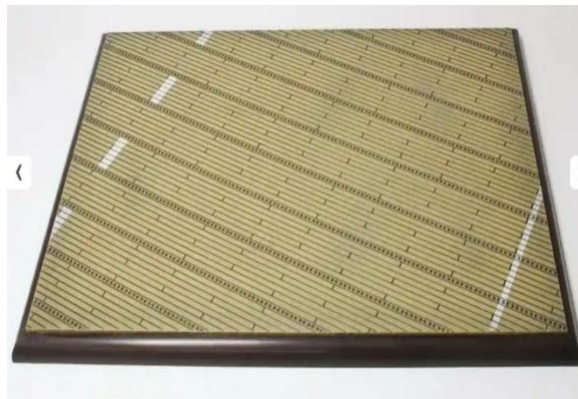


Fig.3 Wooden Block

(2)AIR TANK

Air tank is used for the storage of the air. It is made up of painted iron sheet to avoid corrosion. There are two tank one for the pure air and another for the unpure air. The tank approximately is 1 meter long and have a diameter of 60-70 cm.



Fig.4 Air Tank

(3)PIPES

Pipes are used for motion of air from one point to another point. Pipes are also made up of painted iron sheet to avoid corrosion. It also provides strength to the system. The diameter of the pipe is about 5-6 cm.



Fig.5 Pipes

(4)FANS

Fans are used to suck impure air from atmosphere, motion of air from one point to another point and for the removal of pure air from the system. The fan used are simple mini fan on the 12 volt supply and has speed of 200 rpm.



Fig.6 Mini Fan

(5)AIR QUALITY INDICATOR

It is a device to determine the quality of air. It represent the amount of Carbon, Nitrogen and Sulphur present in the air before and after the filtration chambers.



Fig.7 Air Quality Indicator

(6)FILTERS

Filters are used to remove the harmful gases like Carbon, Nitrogen and Sulphur from the air. It converts impure air into pure form of air.

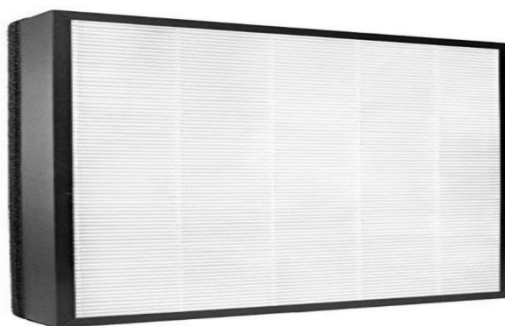


Fig.8 Filter

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9 CONCLUSION

From the above work we conclude that the amount of Carbon, Nitrogen and Sulphur from the air get reduced to about 70-80%. The air **gets** purified for respiration. We also conclude that since the machine is fully automatic so it can be easily controlled by unskilled labour. At last it is concluded that the machine helps living beings in better living in the environment.

10 BIOGRAPHY

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