Electricity Generation by using Roof Wind Ventilator

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Abstract: *Roof wind ventilator is mostly useful in commercial, residential and industrial applications. In this project is the generating the electricity by using kinetic energy from RWV. Basically, RWV is used for ventilation or exhaust hot air remove from the outside purposes. A latest/standard RWV is the typically mounted on the roof top peak/top on industry/factory, workshops, warehouses, home etc are the provided. We are use RWV for generation of electricity purposes. RWV works on the principle of the hydro-mechanism. RWV is the doesn't consumed the electricity for it's working. RWV is main produce the electricity for low wind speed purpose. This system is produce electricity without causing pollution. Wind energy is a one type of non-conventional energy, or it is replace conventional energy that is the reason of the pollution to environment. This RWV system produce the electricity and then battery will be charging mode that time finally charge the battery and then energy give the battery for its operation. In this project we use the invertor kit. Invertor kit is to be converted DC to AC then electricity generate.*

Keywords: RWV, AC, DC

1. INTRODUCTION

Wind energy is types of non-convectional energy and it doesn't reason any pollution because non-convectional is a primary energy source from get the nature. So, the presently is the science development of provide the wind energy for generation of electricity. In wind energy is used for the replacement of fossil energy in that like, oil and charcoal (coal) because environment pollution. Presently there is a number of smaller and medium wind turbines are used for generation of electricity for building, workshops, warehouses etc. roof wind ventilator is installing the vent hot air outside the top. Ventilation is mostly installing in attic space. So, the RWV system this equipment with smallest direct electric generator.

In RWV in this DC generator are provided 18 W DC generator is installed in around the roof wind ventilator rotating 24 inches. Whenever the wind speed is higher than 2 meters per second that time produce about 3.5 V. When connect the voltage produced by the generator to DC step-up convertor, it is wind speed is 5 meters per second that time DC generator is produce voltage is 3V.

As we know the day by day the electricity demand in India is very increasing. As we know the demand is increasing the various types of convectional and non- convectional energy is used for electricity generate the demand. The solar, wind, ventilator is very mostly important role in electricity of roof wind ventilator. The day time temperature is increasing 400 C and the average temperature in India is 320 C is the many of internal so this increasing temperature is effect on worker and also productivity of company because of high sunlight pressure and high room temperature so the ventilation is very useful in warehouses, workshops, industry etc. So the roof wind ventilator are mostly used for a ventilation purpose because is that the ventilator is work on without using electric energy.

The main function of RWV is the when the is air in the top of roof that time exhaust hot air is removed outside that is known as ventilator. The main advantage is ventilation is the maintain the temperature in the building, industry, workshop, warehouses etc.

2.BLOCK DIAGRAM AND WORKING

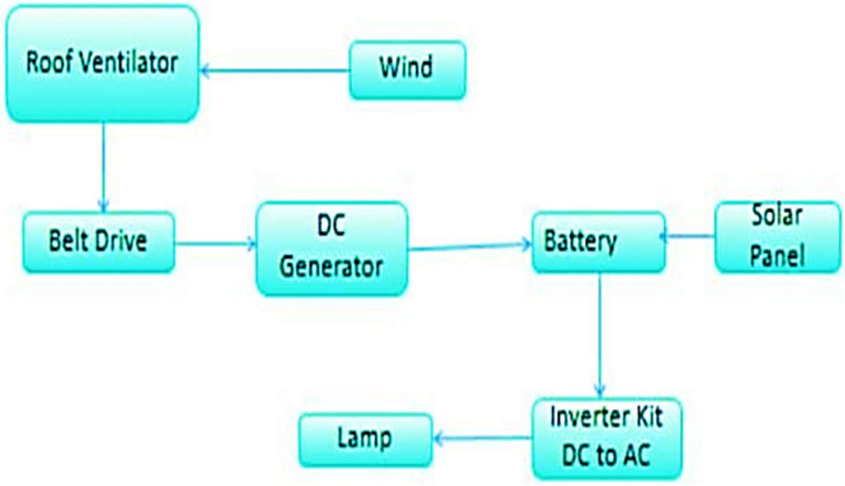

Fig. 1. Block diagram of proposed system

Working:

Roof wind ventilator is an effective and economical ventilator system. The working of ventilator is to basically upon the ventilator pressure and temperature which is the assists natural convection. Roof wind ventilator are mounted an the roof tops (attic space). The impeller on the rotating parts are expanded to the outside atmosphere. Ventilators are rotated by the speed of wind and it does not need any electrical functioning.

Roof wind ventilator main aim is at reducing the temperature inside the building/industry by eliminate the exhaust hot air and replacing it with fresh air is created inside the industry/ workshop etc. is very lighter in weight and has lower density. Hence, they inclination to flow upward to roof ventilator natural convection. The roof ventilator is rotating and sop these hot gases and eliminate them into atmosphere. This from a low pressure around area the ventilator. Due to this pressure drop, fresh cold air is created and higher density flow inside the industry through the roof ventilator.

This cycle is continuous and flow of hot and cold fresh air and further assists in the rotation of ventilator. So, the roof ventilator works normally 24×7 minimizes inside temperature by 3-4 degree Celsius with any power consumption. In this project ventilator, solar panel, DC Generator, battery, load ect. are the provided. In this project electric DC Generator are provided which is converts mechanical energy is converted into an electrical energy. The basis of the working of generator is Faraday' law.

In roof wind ventilator torque produced is low. Solar panel is provided Solar panels are those devices which are used to absorb the sun's rays and convert them into electricity or heat. the main function of battery is to charge the battery by using SC supply and electricity will be generated.

3.Advantages

a. Zero failure
b. Zero maintenance
c. Highest air discharge
d. Accident and leakage proof
e. Rugged construction

4.Disadvantages

i. Moving parts can become quite noisy.
ii. Hot and humid air out of the attic.
iii. Difficulties operating near ground level.

5. Conclusion

In this project, after the objective and introduction of Roof top ventilator and DC generator which have used, one typical generator is practically design successfully. Afterwards the generator elements analysis some of parameters of generator was calculated, after the electricity generation using rooftop ventilator is experimentally calculated. When the airs flow of heat air (Hot Air) present under the roof, it will help to rotate or turns the rooftop ventilator. When roof ventilator moves, motors get operated and hence electricity gets generated.

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