

## ABSTRACT

The increase in fuel price, atmospheric air pollution and global warming potential due the use of halogen refrigerants motivate us to find alternate source for cooling the air. Out of different alternate resources, thermodynamic conversion system is one of the air cooling methods without using refrigerant. The thermoelectric conversion system works based on the peltier effect which is having hot and cold side on either side when the current passed through it. Using this principle, 9 thermo electric conversion module is connected in parallel with 9 fans for removing the heat on hot side. One fan is provided at the tail end to induce airflow at the front side. The air passed through the cold sink to carry out the cooled air. The required cooling effect is achieved with the above set up which is eco-friendly in nature. This system is compact, occupies less space and cost efficient. This system provides better efficiency with less electricity consumption when compared to other devices.