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# **Electricity Generation by Teg Plates**

Prof. S. G. Aghor<sup>1</sup>, Ishwarkadam<sup>2</sup>, Prathamesh Pangare<sup>3</sup>, Vaibhav Rautrao<sup>4</sup>, Siddesh Renuse<sup>5</sup>

Lecturer, Department of Mechanical Engineerin<sup>1</sup> Students, Department of Mechanical Engineering <sup>1234</sup> Zeal Polytechnic, Pune, Maharashtra, India

Abstract: According to International Institute of Refrigeration, air conditioning and refrigeration consumes around 15% of the total worldwide electricity and also contributes to the emission of CFCs, HCFCs, CO2 etc. Due to the use of such refrigerants it leads to much harmful effect to our environment i.e. the global warming. For air conditioning use of fuel also increases and all these are affect on the car efficiency. To overcome the problem of emission and fulfill the mismatch between the demand and supply of energy consumption the thermoelectric Air conditioning can be used. This system is not going to be noisy, a there will be no hazardous emission to the environment so the system is totally ecofriendly. By using this system we can make revolution in ev's world by this process we can increase efficiency of Ev Vehicles in Upcoming World or anywhere where the hot surface is there then we can create electricity by using this process.

Keywords: electricity

### I. INTRODUCTION

A thermoelectric module is an electrical module, which produces a temperature difference with current flow. The thermoelectric module is a heat pump and has similar function as a refrigerator. It gets along however without mechanically small construction units (pump, compressor) and without cooling fluids. The heat flow can be turned by reversal of the direction of current. Thermoelectric cooling provides an alternative solution to the common compressor and absorber cooler. Thermoelectric coolers are used especially if small cooling power is required up to 500 W.

Our goal is to define the new Electricity generation system. If this system comes in present automobile, then revolution will occur in the automobile. With rising population and pollution at an alarming rate this system has come to rescue as these are environment friendly and compact. Conventional compressor run cooling equipment have more limitations related to energy efficiency and Chloro-Fluro Carbon (CFC) refrigerants use. Both these factors indirectly point to the impending scenario of global warming. As most of the electricity generation relies on the coal power plants, which add greenhouse gases to the atmosphere is the more cause of global warming.

Although researches are going on, best alternatives for the CFC refrigerants is still on the hunt. So instead of using conventional air conditioning systems, other products which can efficiently cool a person are to be planned. By using other efficient cooling device, we can save the electricity bills as well as control the greenhouse gases that are currently released into the surrounding atmosphere.

Although thermoelectric property was discovered about two centuries ago thermoelectric device save only been commercialized during current years. The applications of thermoelectric vary from small refrigerator. In this System we implement TEG plates on Refrigeration cycles Evaporator and sucks its heat and generate electricity and that electricity we can use for battery charging of car and any other purpose.

## **II. LITERATURE REVIEW**

S. Nozu et al [1], a method is presented and graphically demonstrated for estimating the tube length and static pressure drop required for complete condensation under given conditions of cooling-side and refrigerant for air-cooled condensers

Cparora [2], gives enthalpy and entropy values at different temperatures or different pressures for designing and experimental analysis of vapour compression system

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James M. Calm [3], has studied the emission and environmental impacts of R11, R123 and R134a due to leakage from centrifugal chiller system. He also investigated the total impact in form of TEWI and change in system efficiency or performance due to charge loss. He also summarized the methods to reduce the refrigerant losses by the system like design modifications, improvement in preventive maintenance techniques, use of purge system for refrigerant vapour recovery, servicing and lubricant changing in system.

R. Cabello, E. Torrella and J. Navarro-Esbri [4], have analyzed the performance of a vapour compression refrigeration system using three different working fluids (R134a, R407c and R22). The operating variables are the evaporating pressure, condensing pressure and degree of superheating at the compressor inlet.

Rkrajput [5], for calculating log mean temperature difference along with condenser design.

# III. LITERATURE GAP

Study the design and manufacturing of vapour compression refrigeration system and to understand the need& application of the different component in the field of refrigeration.

Limited research on high-temperature TEGS: Most studies focus on low-temperature TEGs, leaving a gap in research on high-temperature applications

# **IV. METHODOLOGY**

The methodology of the system design is evaluated by following procedure.

i. Selection of parameter like evaporating temperature, condensing temperature.

ii. Selecting known parameter like capacity, temperature ranges, compressor specification

iii. Selection of standard ranges from ASHRE table.

iv. Assuming standard ranges of temperature by ASHRE.

v. Design of condenser.

vi. Design of evaporator.

vii. Design and selection of capillary as per standard ranges.

viii. Assuming and designing required values for system.

ix. Checking system parameter and actual systems review.

x. Fabricating total system.





IG.4.1 Capillary tube and Evaporator

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FIG.4.2 Electric generators by TEG PLATE

### V. CONCLUSION

As per our experimental setup we are concluding that we can generate electricity any where heating surface is available by applying the TEG Plates on that hot surface at some quantity

As we want more electricity from this setup then we require more hot surface and TEG Plates according requirement

## VI. ACKNOWLEDGMENT

I would like to express my heartfelt gratitude to everyone who helped make the ELECTRICITY GRNEATION BY TEG PLATES reality.

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