

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

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*A Project Report On*

**DESIGN AND FABRICATION OF THERMOACOUSTIC  
REFRIGERATION SYSTEM**

By

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## **ABSTRACT**

From creating comfortable home environments to manufacturing fast and efficient electronic devices, air conditioning and refrigeration remain expensive, yet essential, services for both homes and industries. However, in an age of impending energy and environmental crises, current cooling technologies continue to generate greenhouse gases with high energy costs.

Thermo acoustic refrigeration is an innovative alternative for cooling that is both clean and inexpensive. Through the construction of a functional model, we have demonstrated the effectiveness of thermo acoustics for modern cooling. Thermo acoustic refrigeration is an emerging refrigeration technology which does not require any moving parts or harmful refrigerants in its operations.

The work reported here deals with the design of the Thermo Acoustic Refrigerator (TAR) as an attempt to address the future generation environment friendly energy system. The manufacturing of the different components of the apparatus will be explained along with the reasons for using specific materials.

The motivation of the design of thermo acoustic refrigerator explains the reasons for carrying out the work illustrating its benefits and how the performance of the TAR in future can be made efficient in comparison with the performance of a conventional refrigerator.