



SANDIP
FOUNDATION



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AICTE Sponsored INTERNATIONAL E-CONFERENCE

ON MECHANICAL AND MATERIAL SCIENCE
ENGINEERING: INNOVATION AND RESEARCH
(ICMMSE: IR 2021)

17th -18th Sept. 2021

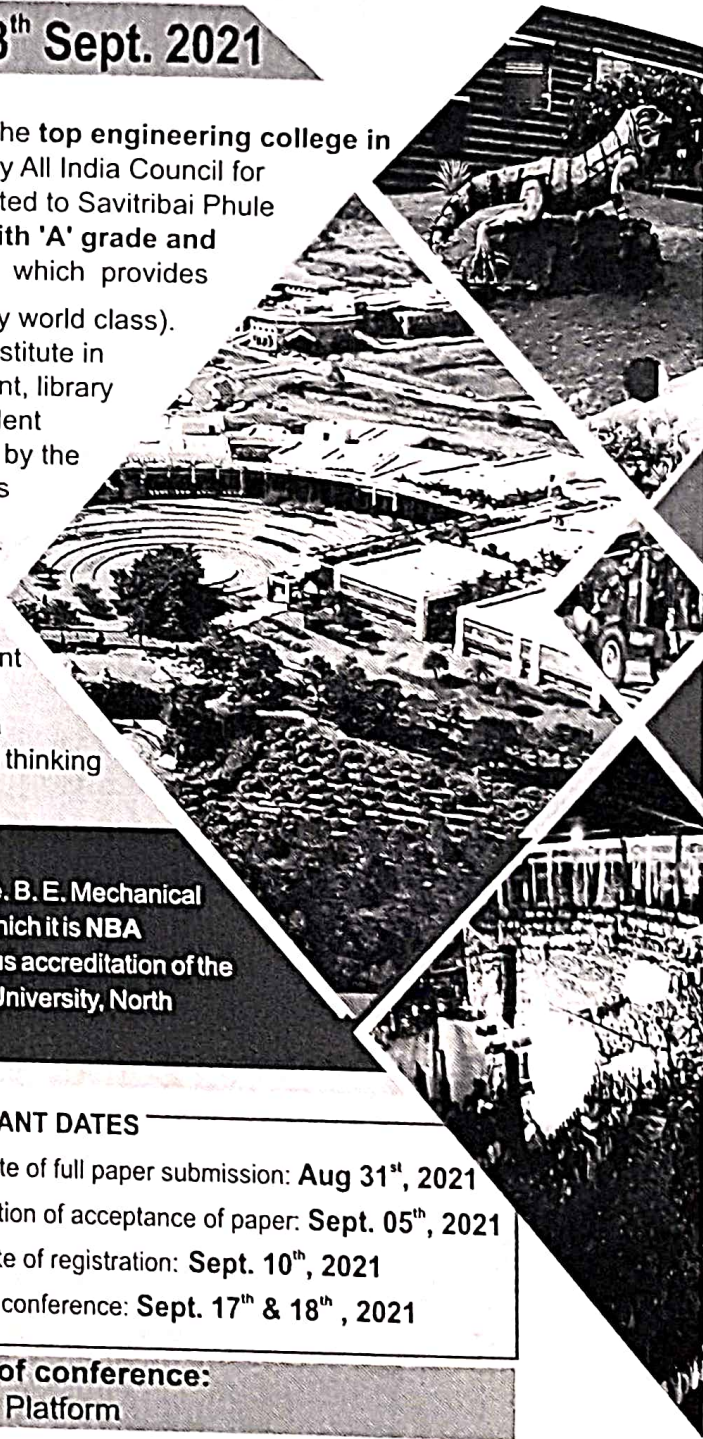
**ORGANIZED BY
DEPARTMENT OF MECHANICAL ENGINEERING
SANDIP INSTITUTE OF TECHNOLOGY
& RESEARCH CENTRE, NASHIK (MS)**

ABOUT SITRC

Sandip Institute of Technology and Research Center (SITRC), the top engineering college in Nashik, Maharashtra is established in 2008 and is approved by All India Council for Technical Education, New Delhi Government of India and affiliated to Savitribai Phule Pune University, Pune. The Institute is accredited by NAAC with 'A' grade and comprehensive score of 3.11, an ISO 9001:2008 certified which provides

uncompromising quality infrastructure (Faculty & facilities simply world class).

This commitment is reflected in the investments made by the Institute in providing facilities to students in terms of laboratories, equipment, library sports, transportation and everything it takes to create an excellent environment for learning. On visiting the Campus, one is struck by the aesthetic and elegant buildings, splendid lawns, spacious sports grounds and lush green environment conducive for teaching-learning process. The Campus boasts of in-house facilities like state-of-the-art labs, spacious classrooms (with Audio-Video teaching aids), mess with hygienic food, college canteen, health care centre, gym etc. to cater all necessities of the student and the staff, ultramodern hostel facilities with beautiful surroundings. 250+ acres of Campus is about 12 km away from Nashik city. SITRC has an ambiance that stimulates intellectual thinking and academic proceedings (Teaching and Learning Process).



DEPARTMENT OF MECHANICAL ENGINEERING

Department of Mechanical Engineering offers undergraduate program i.e. B. E. Mechanical Engineering course and practices OBE (outcome based education) for which it is NBA accredited from 2020 – 21 to 2022 – 23. This is the highest and prestigious accreditation of the nation acquired as on date by only few programs in the jurisdiction of the University, North Maharashtra region as well as the nation.

WHO SHOULD ATTEND?

The conference is relevant to UG/PG students, Ph. D scholars, Researchers/Engineers, Academicians & Industrialist the field of Mechanical and Materials Science.

Paper Submission process and Conference update, please visit our website
<https://www.sandipfoundation.org/icmmseir>

CONFERENCE HIGHLIGHTS

- * Publication of all peer reviewed and accepted papers in referred and Scopus/WoS Indexed Journal.
- * Presentation & Attendee certificates.

IMPORTANT DATES

- Last date of full paper submission: **Aug 31st, 2021**
- Notification of acceptance of paper: **Sept. 05th, 2021**
- Last date of registration: **Sept. 10th, 2021**
- Date of conference: **Sept. 17th & 18th, 2021**

Mode of conference:
Online Platform

Registration Fee:

- No registration charges for conference participation.
- Additional charges for publication in Scopus/WoS Indexed Journal.

PUBLICATION:

All papers submitted to the conference will be peer reviewed and evaluated for originality, technical contents and relevance to the conference. Peer reviewed papers will be published in Scopus/WoS Indexed Journal.

HEAD

Vidya Vardhini's College of
Engineering & Technology
Vasai Road

Experimental Study of Combined Water Cooling, Air Cooling & Water Heating breaker

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Abstract. Human life in the current society is rigorously committed to comfort. Water cooling, air cooling, and water heating are all in high demand around the world, and it's growing at a rapid pace. Because heat equals energy, energy conservation is one of the most important issues in terms of both fuel use and environmental protection. As a result, a considerable and real effort to conserve energy through waste heat recovery is also required. An attempt has been made to use waste heat from the refrigerator's condenser. This heat can be applied to a variety of residential and industrial applications. This system is very beneficial for household purposes because it has low construction, maintenance, and operating costs. Using the refrigeration concept, we attempt to construct a system that provides cool water, cool air, and hot water. It's a viable choice for increasing overall efficiency and repurposing waste heat. The study concluded that such a system is both technically and economically feasible. So this product will assist us in addressing this issue since we are attempting to create a tailored cooling system that will operate at a low cost that can be afforded by the average person. When a water-cooled condenser is utilized instead of an air-cooled condenser, the coefficient of performance (COP) improves.

Keywords. water cooling, air cooling, water heating, energy, condenser, refrigeration, waste heat, overall efficiency.

INTRODUCTION

Not only from the standpoint of energy conservation but also the standpoint of global environmental protection, energy conservation is one of the most important issues. The issue for energy conservation now is to apply cutting-edge technology to facilities and upgrades that can be justified on their own [1]. Waste heat is heat that is generated in a process by fuel combustion or chemical reaction and then thrown into the environment, although it may still be used for some useful and economically beneficial purposes. A household refrigerator and a water cooler are common household appliances that consist of a thermally insulated compartment that, when in use, transfers heat from the interior of the compartment to its external environment, allowing the interior of the thermally insulated compartment to be cooled to a temperature lower than the room's ambient temperature. In the case of a traditional residential refrigerator and water cooler with an air-cooled condenser, heat rejection can occur directly to the air or water in the case of a water-cooled condenser [2].

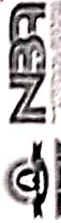
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ICMMSE:IR
2021



CERTIFICATE

----- OF PRESENTATION -----

AICTE Sponsored International E-Conference on Mechanical and
Material Science Engineering: Innovation and Research (ICMMSE:IR 2021)

17th -18th September 2021. | SITRC, Nashik

This is Certified that **Prof. GANESH WAHILE** of **Vidyardhini's College Of Engineering And Technology Vasai Mumbai** presented his research paper titled **Experimental Study Of Combined Water Cooling Air Cooling And Water Heating** in the AICTE Sponsored International E-Conference on Mechanical and Material Science Engineering: Innovation and Research (ICMMSE : IR 2021) Organized by Department of Mechanical Engineering, Sandip Institute of Technology & Research Centre, Nashik (MS) on 17th - 18th September 2021.

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Prof. (Dr.) S. T. Gandhe
Conference Convenor,
Principal, SITRC, Nashik