



RAMCO INSTITUTE OF TECHNOLOGY

Approved by AICTE, New Delhi & Affiliated to Anna University
Accredited by NAAC & An ISO 9001: 2015 Certified Institution
NBA Accredited UG Programs: CSE, EEE, ECE and MECH

Academic Year 2021 – 2022 (Even Semester)

Details of Programme Organized

Sl. No.	Contents	Details
01.	Title of the programme	Thermo-compressors to Save Energy in Multiple Effect Evaporators
02.	Programme Theme	Research opportunities
03.	Programme Type	Webinar
04.	Details of resource person	Dr.Sileshi Kore Assistant Professor Department of Mechanical Engineering Faculty of Engineering Wolayita Sodo University Ethiopia
05.	Mode & Venue / Platform	Google Meet & YouTube https://meet.google.com/ixf-vs00-npt
06.	Date & Duration	30.05.2022 & 35 minutes
07.	No. of Student Participants	19
08.	No. of Faculty Participants	15
09.	No. of External Participants	24
10.	Expenditure amount (if any)	NIL
11.	Registration Link	https://tinyurl.com/INT007-Thermo

12. Objective of the Programme:

- To impart knowledge on cutting edge technologies (Energy conservation in multiple effect evaporators using Thermo-compressors) to the participants and to upgrade the expertise of the faculty members in mechanical engineering field.

13. Detail description of the activity:

Extramural Lecture Series on the topic "Thermo-compressors to Save Energy in Multiple Effect Evaporators" was organized by Department of Mechanical Engineering, Ramco Institute of Technology, Rajapalayam on 30.05.2022. The main objective of this ELS is to impart knowledge about cutting edge technologies related to energy conservation in multiple effect evaporators using Thermo-compressors and its benefits. The Resource Person was Dr.Sileshi Kore, Assistant Professor, Department of Mechanical Engineering, Faculty of Engineering, Wolayita Sodo University, Ethiopia

Mr.R.Arun Kumar, AP/Mech welcomed the participants and Dr.S.Godwin Barnabass, ASP/Mech delivered the introduction about the resource person. Dr.Sileshi Kore gave a brief introduction about multiple-effect evaporator and its integration with thermo-vapour compressor. Further, the structure of thermo-compressor along with its uses and applications were discussed by the resource person. The method for mixing low-pressure steam with high pressure steam using thermos-compressor was explained. The components of thermo-compressor and the components in which energy conservation can be done was briefed by the Professor.

Towards the second half of the session, two types of thermos-compressors namely: Fixed nozzle type and Variable nozzle type was explained along with its working principle. The precaution in choosing the type of thermos-compressor was shared. The advantages of using the thermo-compressor was listed along with common cause of poor performance as listed below:

- Lower Motive pressure.
- Higher differential pressure
- Motive steam not dry
- Variation in discharge pressure.
- Motive steam excessive superheat.
- Nozzle worn-out or choked
- Steam leakage high to low pressure
- Alignment issue with nozzles.

At last the list of factors to be considered while choosing the type of evaporator were listed and concluded by the resource person.

The vote of thanks was delivered by Dr.V.Sivakumar, ASP/Mechanical, RIT. The total no. of participants presented in the webinar was 58 including 24 external participants. The overall feedback of the program was good.

14. Banner / flyer of the programme:

 **RAMCO INSTITUTE OF TECHNOLOGY**
North vengalloor village, Rajapalayam - 626 017
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Department of Mechanical Engineering

EXTRAMURAL LECTURE SERIES(ELS) - INT007

THERMO-COMPRESSORS TO SAVE ENERGY IN MULTI EFFECT EVAPORATORS


<https://meet.google.com/xf-vs00-npt>

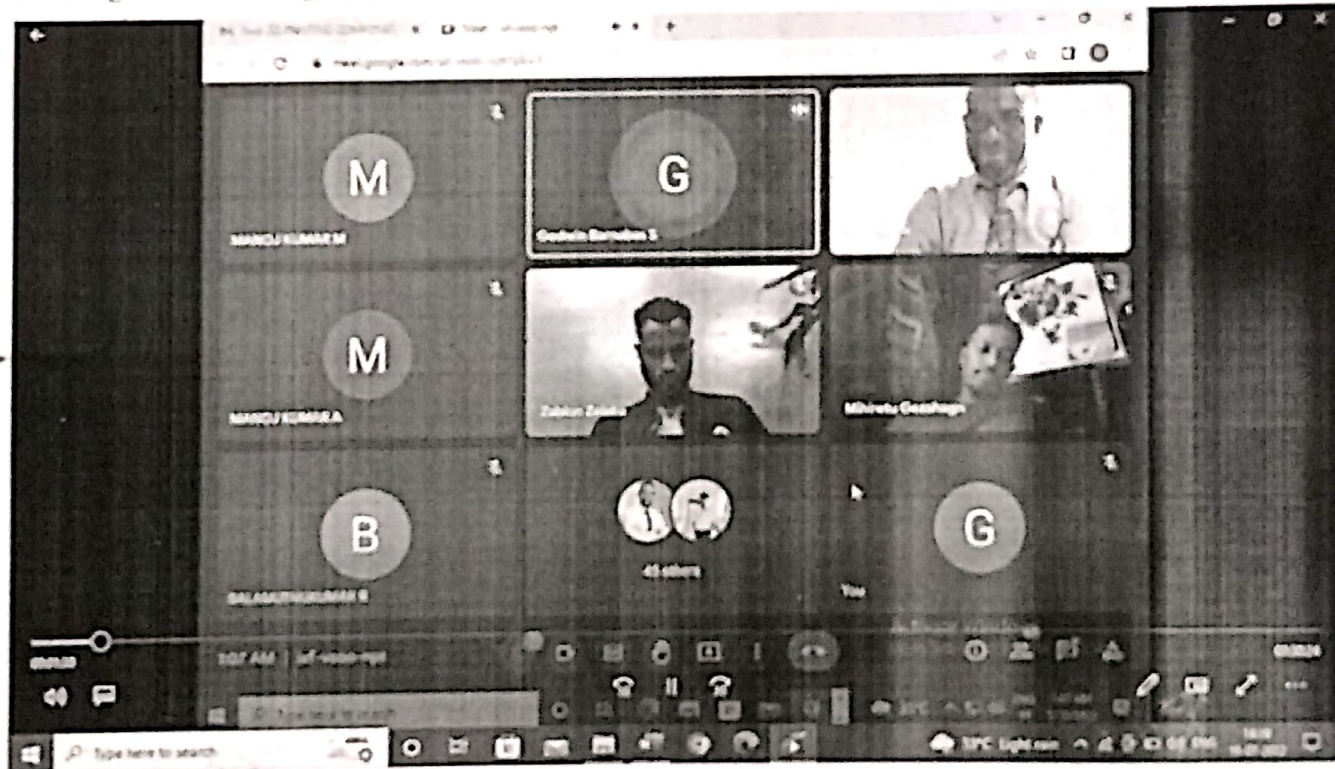

Dr. Silashi Kore
Assistant Professor
Department of Mechanical Engineering
Faculty of Engineering
Addis Ababa University, Ethiopia

Date : May 30, 2022
(Monday)
IST: 01.30 P.M.
Ethiopia Time: 11.00 A.M.

Registration Link : <https://tinyurl.com/INT007/Thermo>

COORDINATOR: DR. SIVAKUMAR ASSOC. PROF./MECH
CONVENER: DR. P. SURESHKUMAR ASSOC. PROF./MECH
PATRON: DR. S. RASHEED AKKARAN VICE PRINCIPAL & HEAD /MECH
CHIEF PATRON: DR. L. GANESAN PRINCIPAL

15. Programme Photographs:



Wade Alex is presenting

Types of Thermo-compressor

Fixed nozzle type

- This type of compressor has no regulating spindle.
- An element of control is achievable by throttling the motive steam pressure via a separate valve upstream.
- Typically the fixed nozzle is used when operating loads are stable.

Cross section of fixed nozzle type

Participants: Turpin Pawan, Wade Alex, MANOJ KUMAR, Kanti Muralidhar, 52 others. Status: Activate Windows. System tray: 32°C Light rain, 15:45 19-07-2022.

Wade Alex is presenting

Participants: Turpin Pawan, Wade Alex, MANOJ KUMAR, Subramani P. Status: Thank You Sir. System tray: 32°C Light rain, 15:45 19-07-2022.

Prepared by: *[Signature]*

Approved by: *[Signature]*



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EXTRAMURAL LECTURE SERIES(ELS) - INT007

THERMO-COMPRESSORS TO SAVE ENERGY IN MULTI EFFECT EVAPORATORS



<https://meet.google.com/ixf-vs00-npt>



Dr. Sileshi Kore

Assistant Professor
Department of Mechanical Engineering
Faculty of Engineering
Addis Ababa University, Ethiopia

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COORDINATOR

Dr. V. SIVAKUMAR

ASSOC. PROF./MECH

CONVENER

Dr. P. SURESHKUMAR

ASSOC. PROF./MECH

PATRON

Dr. S. RAJAKARUNAKARAN

VICE PRINCIPAL & HEAD /MECH

CHIEF PATRON

Dr. L. GANESAN

PRINCIPAL