

Review Form 3

Journal Name:	Journal of Energy Research and Reviews
Manuscript Number:	Ms_JENRR_124046
Title of the Manuscript:	Material and Parametric Design Optimization of Improved Heat Transfer Rate of AC Condenser
Type of the Article	

PART 1: Review Comments

Compulsory REVISION comments	Reviewer's comment	Author's Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.	<p>The manuscript presents an interesting approach to optimizing material selection and refrigerant properties for enhanced heat transfer. There is significant room for further elaboration on the results, particularly regarding the physics and underlying mechanisms that explain the obtained outcomes. A deeper discussion would strengthen the paper's impact and relevance.</p> <p>Rearrange the Introduction in 3-4 paragraphs, where initial paragraph discusses the importance, applications and intro to the field, second paragraph to discuss brief overview of the research topic and final paragraph to discuss the objectives and research gap that the study aims to address.</p>	
Is the title of the article suitable? (If not please suggest an alternative title)	The title of the article is relevant to the field of study	
Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.	<p>The abstract is comprehensive and well-structured, but it would benefit from including specific data or percentages that highlight the improvements in key parameters to provide a clearer overview of the study's impact.</p> <p>Specify the percentage of improvement in key performance parameters such as heat flux, static pressure, velocity, mass flow rate, and total heat transfer. Providing this data will offer a clearer understanding of the extent of enhancement achieved in the study.</p>	
Are subsections and structure of the manuscript appropriate?	The manuscript is well structured, no major comments.	
Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.	<p>The manuscript is scientifically robust and technically sound; however, it requires further elaboration on the results, particularly regarding the physics and underlying mechanisms that explain the obtained outcomes. Additionally, the choice of refrigerants R32 and R290 needs to be justified, with a discussion on their specific benefits and advantages over other refrigerants.</p> <p>Results from Figures 5, 6, 7, 8, and 9 need more detailed discussion and justification based on underlying physics. Explain the mechanisms driving the observed improvements in performance.</p> <p>[2] Justify the choice of refrigerants R32 and R290, emphasizing their benefits such as lower environmental impact and better thermodynamic properties.</p>	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.	The citations seem relevant and sufficient for the study.	

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Minor REVISION comments		
Is the language/English quality of the article suitable for scholarly communications?	No, the whole manuscript needs to be revised to correct the English grammar and typos for better readability.	
Optional/General comments	[1] In section 2.5, Correct typo error 300K [2] Correct unit in Table 4, "film coefficient value" [3] Correct unit of heat flux in Table 5, W/mm ² [4] Correct the unit of thermal conductivity in Section 3. [5] The simulation methodology requires more detailed explanation, particularly regarding the assumptions and boundary conditions used. [6] Mention the Y-axis units of Figures 5,6,7,8 and 9. [7] Results from Figures 5, 6, 7, 8, and 9 need more detailed discussion and justification based on underlying physics. [8] Comparison with experimental data or validation through existing studies would strengthen the credibility of the presented simulations. [9] In Section 4, include the percentage improvements in static pressure, velocity magnitude, mass flow rate, and heat transfer rate for clearer results and understanding. [10] In the conclusion section, identify gaps in current research and suggest areas for future study.	

PART 2:

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

Reviewer Details:

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