

## Review Form 1.6

Journal Name:	<a href="#">Journal of Engineering Research and Reports</a>
Manuscript Number:	Ms_JERR_78268
Title of the Manuscript:	PERFORMANCE EVALUATION AND OPTIMIZATION OF A TWO HORSE POWER CONCENTRIC TUBE HEAT EXCHANGER
Type of the Article	Experimental work

### **General guideline for Peer Review process:**

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

(<https://www.journaljerr.com/index.php/JERR/editorial-policy> )

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**PART 1: Review Comments**

	<b>Reviewer's comment</b>	<b>Author's comment</b> <i>(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)</i>
<b>Compulsory</b> REVISION comments	<p>I have reviewed the manuscript entitled “<b>Performance evaluation and optimization of a two horse power concentric tube heat exchanger</b>”, the authors intended to improve the performance of a two horse power (2hp) shell and tube heat exchanger. I noted the following:-</p> <ol style="list-style-type: none"> <li>1) The aim of this study was to experiment, validate and provide design suggestions to optimize the shell and tube heat exchanger. This was not clearly coming out from the presented work. The authors talked about work done by previous students, but unfortunately the background to that work was not given. I believe the background work is the basis upon which the authors wanted to optimize the heat exchanger. Such background must be clearly enunciated so as to set the correct projectile for the manuscript.</li> <li>2) The presented work also lack in the following areas:               <ol style="list-style-type: none"> <li>i) The flow conditions for the fluid in both the tube and shell side was not given. It must be noted that the heat exchange in fluids is greatly affected by nature of flow (turbulent or laminar). It is also important to explain how the flow conditions were maintained throughout the experiment.</li> <li>ii) Result for heat transfer coefficient was given by the authors – it is not clear how these values were derived/obtained from the experiment.</li> <li>iii) Normally, analysis of heat exchangers is generally done using LMTD. This is a very important and basic criterion which cannot be overlooked.</li> <li>iv) Volumetric and mass flow rates for the fluids through the tube and shell side were also given- the question that can be asked is how did you measure the flow rates? This must be adequately addressed in the write-up.</li> <li>i) The conclusion that heat exchange from a counter flow arrangement was more efficient than that of a parallel flow is obvious; this could however, have been supported with calculations on the overall heat transfer for the heat exchanger units used.</li> <li>v) ALSO SEE MANUSCRIPTS FOR SOME INDICATED MINOR CORRECTIONS</li> </ol> </li> </ol>	
<b>Minor</b> REVISION comments	The authors gave the title of manuscript as keywords. Keywords are terms relevant to your article that people can search for on a journal database. There is need to revise and pick correct keywords for this manuscript.	
<b>Optional/General</b> comments	When optimizing, it is important that the authors develop a CFD methodology to represent the flow physics and then validate with experimental results.	

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**PART 2:**

	<b>Reviewer's comment</b>	<b>Author's comment</b> <i>(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)</i>
<b>Are there ethical issues in this manuscript?</b>	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

**Reviewer Details:**

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