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Scope of Extraction Unit for Medical and Agricultural Application

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Abstract: *The circular pin fin heat sink are simulated for different alloys like Aluminium alloys i.e.6063-T83, 7075O(SS) and Copper alloys i.e. Chromium Copper. This study comparing the heat transfer rate with respect to different alloys under Natural Convection. The objective of this study was to maximize the thermal performance of heat sink with respect to different material such that it benefits to finding material selection, low cost material and good heat transfer rate for designing the heat sink. The performance of fine-and-tube heat exchanger is enhanced by modifying fin shape. Aluminum are the materials especially used rather than brass and iron. The utilization of pins in the heat sink rises the heat transfer area to reach the extreme rate of heat loss in a restricted space. Engineering innovative methods for example Computational Fluid Dynamics (CFD) are heavily used to solve, design and model complex industrial applications. Computational Fluid Dynamics (CFD) is an effective and powerful tool to simulate fluid flow and heat transfer numerically. Many different numerical methods have also been developed by researchers since decades to use this robust tool to simulate a wide range of complex flows and heat transfer problems. These methods can be categorized into two major clusters as "conventional methods" and "accelerated techniques".*

Keywords: Computational, transfer, performance, Dynamics

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