

Heat transfer and airflow characteristics enhancement of compact plate-pin fins heat sinks – a review

Plate-pin heat sinks are widely used for the electronic cooling system, internal combustion IC engine, cooling of gas turbine blades and other different applications to enhance the thermal performance of heat sinks due to simplicity, low cost, and a reliable manufacturing process. However, compact heat sinks give higher pressure drop compared with other types of heat sinks. The purpose of this article is to summarise the main advantages and disadvantages of the compact heat sink with some recommendation studies for future works heat sink thermal airflow experiment and simulations. Furthermore, the research attempts to highlight the importance of balance the relationship between the hydraulic performance and the thermal performance of compact heat sinks