

Modeling of High Capacity Passive Cooling System

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Summary

High capacity passive cooling system studied in this project is a thermolooop device that utilizes the thermolooop heat transfer concept (THTC). This device is an assemblage of Evaporator, Condenser, Non-return valves and Reservoir charged with a liquid for removing heat from any source upon which the evaporator is attached. This project is to have two major modules: Design Module–Device components, materials and working fluids will be chosen on the basis of experimental results and better heat transfer performance and Analysis Module–Performance of the device at different thermal loads and ambient conditions to address the relationship among pressure limit, heat flux limit, operating temperature, fluctuation frequency, and fluid physical properties.