

HEAT TRANSFER PERFORMANCE IN HEAT PIPE USING DIFFERENT WORKING FLUIDS

R. GANGADHAR¹ AND P. LAKSHMI REDDY²

¹M.Tech student, ²Asst professor

M E Department, G. Pulla Reddy Engineering College, Kurnool, A.P, India

Abstract

Heat pipe is a heat transfer device which transports large quantities of heat with minimum temperature gradient without any additional power between the two temperature limits. It consists of three different sections namely evaporator, adiabatic and condenser sections. In this project heat pipe tested with different working fluids such as DI water, R-134a, and DI water with nano fluid Al_2O_3 at different inclination angles like 0° , 5° , 10° , 15° . Heat pipe performance is generally depends on the material of container and working fluid. The main aim of this project is to fabricate and analyses the heat pipe performance. Consider the parameters of heat pipe such as heat input and inclination angles to find thermal resistance and heat transfer coefficient are calculated for different heat inputs.

Keywords: heat input, inclination angles, thermal resistance and heat transfer coefficient

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