

Experimental Study of Tube and Tube Type Heat Exchanger by Using the Nano Fluid

Prof. A. O. Dhumal¹, Mr. Korde Abhijeet², Mr. Vyavahare Adesh³, Mr. Patil Vishal⁴,
Mr. Ubhale Swapnil⁵

Assistant Professor, Mechanical Engineering, NBNSSOE, Pune, India¹
UG Student, Mechanical Engineering, NBNSSOE, Pune, India^{2,3,4,5}

Abstract: Nano fluids have improved thermal properties and possible heat transfer rate. Nano fluids play a major role in various applications which increase heat transfer rate as it contains metallic or non-metallic Nano powders with a size of less than 100nm in base fluids so, it increases the heat transfer potential of the base fluids. Water is the working fluid in the heat exchanger and metal based (Cu or Al) Nano fluid of particular concentration will act as a heat carrier. Experimental set up will be manufactured with minimum possible dimensions to reduce the cost. Thermocouples are used to measure the temperature of water and Nano fluid at the inlet and outlet. The flow control valves are used to control the flow rate. The effect of mass flow rate of fluids on heat exchangers was studied. The CATIA model was drawn. The result & conclusion was drawn after the experimental testing.

Keywords: Nano Fluids, Heat Exchanger, Mass Flow Rate, CATIA, etc.

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