

# **STUDY, ANALYSIS AND DESIGN OF AUTOMOBILE RADIATOR (HEAT EXCHANGER) PROPOSED WITH CAD DRAWINGS AND GEOMETRICAL MODEL OF THE FAN**

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## **ABSTRACT**

The heat exchanger, used in refrigeration unit, air conditioning unit, radiator used with IC engine automobiles is either rectangular or square in shape. But the air blown/sucked by the fan is in circular area developing low velocity zones or high temperature regions are created in the corners.

Different heat exchangers/radiators are studied; Radiator is designed, Calculations are done, CAD drawings of radiator and geometrical model are developed. Also power consumed by fan is studied. Experimentally it is found that the power consumed by fan is 2 to 5% of power produced by engine.

It is proposed to have circular heat exchanger for refrigeration, air conditioning unit and for car radiators for maximum efficiency. Till now no significant work has been carried out on circular heat exchanger and radiators.

**KEYWORDS:** Heat Exchanger, Radiator, Cad Model of Radiator, Geometrical Model of Fan, Power etc