

Enhancement of tube and tube Heat exchanger with semispherical hollow baffle for counter flow

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Abstract

An experimental investigation was carried for the measuring the performance of Tube and Tube heat exchanger with insertion of semispherical Hollow baffle for counter flow. Copper tube of 25 mm internal diameter and 30 mm outer pipe inner diameter. Length of whole test tube is 950 mm is used. A stainless steel semispherical hollow baffle having diameter 24 mm. This paper compare the performance of tube and tube heat exchanger with and without insertion of hollow semispherical baffle for counter flow .experimental results depend on the estimating various heat transfer characteristics. There are simulation results for nusselt number and the friction factor. Insertion of semispherical Hollow baffle enhances the heat transfer rate with apperatiely increasing friction factor. This experiment also predicts the performance for different Reynold number range.

Keywords:

Heat transfer enhancement, hollow semispherical baffle, heat transfer rate