

عنوان مقاله:

Design and testing of a natural convection experimental setup on the external surface of a heated horizontal cylinder with a constant heat flux boundary condition in none electrolyte solutions

محل انتشار:

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نویسنده:

Zargham Baramaki - *Sought Pars Gas Complex Research Assistant*

خلاصه مقاله:

An experimental set up for natural convection heat transfer from horizontal cylinder with a constant heat flux boundary condition in pure water as an electrolyte media transferring toward TEG as anone electrolyte media via a varieties of mass concentrations of 20 ; 40 ; 60 ; 80 percents of TEG inwater , has been designed and tested for various heat fluxes . Comparisons were made with empirical correlations available for natural convection heat transfer from horizontal cylinders,presented by cherrill-chu[2]; Morgan[1] and nuselt[3] within the range of Ra (0- 50000). It wasobserved that although the results are in good agreement with the mentioned empirical correlations, the decreasing tendency of the Nusselt number holds as the TEG concentration or tendency to benon-electrolyte .increased .The results have been tabulated and plotted in several tables and graphs, shown at the end of this paper

کلمات کلیدی:

Free convection, horizontal cylinders, none electrolyte solutions

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