## Abstract

A Renormalized Group (RNG) k-ε model is used to numerically simulate the turbulent nanofluids flow in a duct using triangular rib. The governing equations are solved by using the finite volume method (FVM). The parameters examined in this study are; the effect of nanoparticles type, the nanoparticles volume fraction, the nanoparticles diameter, and Reynolds number to show their effect on the heat transfer coefficient and friction coefficient. The nanoparticles concentration is ranged from 1% to 6% and Reynolds number is ranged from 4000 to 32,000. Nanofluids; Al2O3-EG, CuO-EG and SiO2-EG are explored here. The results show that for the case of SiO2-EG, 6 vol% and Re = 32,000, the average Nusselt number is 84.45% higher than the case of Re = 4000. A slight increase in the friction coefficient is observed when the nanoparticles concentration increases.