ABSTRACT In this paper, the effect of geometrical parameters of microtube on enhancing the heat transfer has been studied numerically. Single phase model was used to simulate the flow of sio2-ethlyen glycol nanofluids inside a microtube at different reynolds numbers ranged from 10 to 160 at constant heat flux boundary condition. The results show that the higher tube diameter and entrance size has the highest Nusselt number and lower pressure drop. Furthermore, no effect of inclination angles was found.