

DEVELOPMENT OF A HEAT TRANSFER MODEL FOR CALCULATION OF OVERALL HEAT BALANCE OF BIOGAS REACTORS

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ABSTRACT

Heating requirements of a biogas reactor requires advanced calculations based on environmental conditions like; temperature, solar irradiance and etc. Thus a computer simulation program was developed to calculate the overall heat balance on 5 different scenarios of reactor design concept for Isparta (Turkiye) conditions. Moreover model includes gained solar energy amount relevant to diameter, location of reactors (longitude, altitude), under ground reactor construction. Obtained data is not validated with an experimental data but model results give some detailed overview in terms of engineering design