

عنوان مقاله:

CFD Simulation of Heat Transfer from an Immersed Bar in a Simple Batch Bubble Column

محل انتشار:

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خلاصه مقاله:

A CFD model has been developed to estimate the heat transfer rate from cylindrical surfaces immersed in a simple batch bubble column. The heater position was 650 mm above the distributor. Several heaters of different length to diameter ratio were used. The effects of variation of superficial gas velocities in the range of 0.02-0.165 m/s on heat transfer rate were investigated for the different heaters with heat supply range of 3 to 300 W. It is found that the heat transfer coefficient decreases as the length of the heater increases to about 50 mm and heat transfer coefficient increases with increase of bulk temperature. A decrease in heat transfer coefficient with position of the heater toward the column wall and increase of the numbers of heater elements was reached.

کلمات کلیدی:

Computational Fluid Dynamics, Heat Transfer Coefficient, Two Phase Flow, Bubble Column Reactor

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