نویسندگان:

J. Khorshidi - *Department of Mechanical Engineering, Hormozgan University, Bandarabbas, Iran.*

T. Zarei - *Department of Mechanical Engineering, Hormozgan University, Bandarabbas, Iran.*

H. Davari - *Department of Mechanical Engineering, Hormozgan University, Bandarabbas, Iran.*

خلاصه مقاله:

The purpose of this study is numerical modeling of temperature variation of phases in a two phase regime in fluidized bed dryers including particles belonging to Group D of geldart classification. The mass transfer between phases is not taken into consideration in this modeling which has been assumed in three- dimensional, unsteady, and two-phase regime.To verify the modeling we consider the domain so that we will be able to compare the results with the experimental study has done by khorshidi et al [۱]. At first we choose the governing equations according to problem physics and solving method. Then by designing an appropriate grid, we solved the governing equation by the volume of fluid (VOF) method, a suitable method to solve multi-phase problems; finally we obtained thermal variations of gas and solid phase, the contours of temperature, pressure, and volume fraction.The comparison of numerical and experimental study results revealed that there was an appropriate adaptation between them. Also, the temperature contours proved that perfect mixing hypothesis that has been introduced by some researchers is a true one and has adaptation with this research results.

کلمات کلیدی:

Volume of fluid (VOF) method, Heat transfer, Fluidized bed, Two phase flow.

لینک ثابت مقاله در پایگاه سیویلیکا:

https://civilica.com/doc/1887237