

## عنوان مقاله:

Analysis of Fluid Flow and Gas Pressure Drop in a Rotating Packed Bed using CFD

## محل انتشار:

سومین کنفرانس ملی کاربرد CFD در صنایع شیمیایی (سال: 1390)

تعداد صفحات اصل مقاله: 13

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## خلاصه مقاله:

Three-dimensional steady-state turbulent rotating flow of air in a dry rotating packed bed (RPB) with three gas feed designs were investigated using CFD. The CFD predictions were compared with the overall dry pressure drop measurements for a given RPB design. The results showed that the design of the gas entrance determines the flow circulation in the RPB casing; hence, different velocity distributions arise depending on the RPB geometry. Also, simulation results showed that for the tangential gas inlet system, maldistribution of gas flow nearby the packing-housing junction is less than other designs. Almost the same values of the total pressure drop achieved for three RPB feed designs. Generally, good agreement between the measured pressure drops and CFD predictions achieved and the dependences with respect to RPM captured well.

## کلمات کلیدی:

Rotating Packed Bed, CFD simulation, Dry pressure drop

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/109187>

