

عنوان مقاله:

Experimental and CFD Investigation for Predicting Weeping from Sieve Trays of Divided Wall Column

محل انتشار:

دومین کنفرانس دوسالانه بین المللی نفت، گاز و پتروشیمی (سال: 1397)

تعداد صفحات اصل مقاله: 13

نویسندگان:

Mitra Sadat Lavasani - *Department of Chemical Engineering, University of Sistan and Baluchestan, Zahedan, Iran*

Rahbar Rahimi - *Department of Chemical Engineering, University of Sistan and Baluchestan, Zahedan, Iran*

Mortaza Zivdar - *Department of Chemical Engineering, University of Sistan and Baluchestan, Zahedan, Iran*

خلاصه مقاله:

Divided wall column (DWC) is one of the intensified distillation processes, which has been highly regarded by various academic and industrial research organizations for several decades. However, details of the interior design of these columns are not available in open literature. Sieve trays are widely used in distillation column and weeping of trays has a critical effect on the efficiency of column. The rate of weeping from DWC sieve trays was measured for air-water system. A comprehensive study on the weeping rates and some hydraulic parameters of different trays has been made. The influence of parameters such as gas velocity, liquid rate, hole diameter, weir height, and fractional perforation area is investigated. The data have been correlated to finding a correlation for predicting weeping of DWC trays. Furthermore, a computational fluid dynamics (CFD) method was used to study the weeping phenomenon in DWC trays.

کلمات کلیدی:

Distillation, Dividing Wall Column, Sieve tray, Weeping, CFD

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1041126>

