

Simulation and Estimate of Pressure Swing Adsorption Process for Hydrogen Purification onto Activated Carbon

강석현, 남기문¹, 정병만¹, 김성현, 최대기*¹
고려대학교; ¹한국과학기술연구원
(dkchoi@kist.re.kr*)

To optimize the performance of the adsorption column, the adsorption characteristics were studied for 20% methane and 80% hydrogen binary system on nonisothermal and nonadiabatic condition. The lump-resistances linear driving force model(LDF) was assumed for calculating the rate of mass transfer. Adsorption dynamic for simulation of this process was developed using the Aspen ADSIM simulator. In this study, there was obtained the results that hydrogen purity was more 99% and hydrogen recovery ratio was more 85% then conventional processing condition.