

Variable flow-rate operation of feed stream for two pumps SMB process

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SMB (Simulated Moving Bed) is well-known to be high effective in the sense of continuous process and suitable process for large-scale separation. Few studies were, however, reported for energy saving operation or strategy of SMB process. In the previous study, we focused therefore on the energy saving of SMB and developed a modified SMB process using two pumps. The two pumps SMB showed similar results with conventional SMB, but structural and operational limitations of two-pumps SMB were also observed. In this study, an operational strategy was developed to solve these limitations. The PowerFeed process was conceptually applied into two pumps SMB process to operate feed flow-rate variably. By this variable flow-rate operation of feed stream, the two pumps SMB was improved and showed comparable results with conventional SMB.