

Analysis of Control Structures for a Dividing Wall Column for Various Feed Conditions

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A Dividing Wall Column (DWC) can save energy more than 20%~30% compared to a conventional distillation process. Many previous researches worked on the processes which can be applicable to the DWC. Currently many DWCs are used in the chemical industries. However, controlling a DWC is not easy because of a dividing wall and a side draw stream. To solve these problems, control structures of the DWC are investigated. To know their control performance, 9 cases of different feed conditions have been studied. Feed conditions are differentiated by changing composition of an intermediate component and feed materials which have different distribution coefficients. Consequently, effect of feed conditions on control structures of a DWC is analyzed and basic guidelines for selecting control structures for DWCs are proposed.

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