

Optimal design of acid gas removal unit

송기욱, 이철진, 김경진, 전정우, 한종훈*
서울대학교
(chhan@snu.ac.kr*)

Acid gases such as carbon dioxide and hydrogen sulfide need to be removed before the main liquefaction process of natural gas to avoid corrosion, solidification and plugging problems. Amine based chemical solvents are the most generally accepted and widely used for removal of acid gases. Simulation of gas sweetening process using diethanolamine was performed in Aspen HYSYS. The goal is to lower carbon dioxide and hydrogen sulfide concentration to 50 ppmv and 4 ppmv, respectively. Then the simulation was linked with MATLAB to find optimal design.

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