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Improvement of Efficiency of Bio-Ethanol Manufacturing Process

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Abstract

Many distilleries where potable-quality ethanol spirit is manufactured contain a hydro-extractive distillation column. Addition of water as the extractive agent here results in a large dilution of ethanol, and subsequently, a higher energy consumption at the rectification column. By means of computer-aided simulation, it was found that the hydro-extractive distillation step could be effectively replaced with a high-reflux distillation step. It was also found that application of this result to a working distillery in Sri Lanka would result in an energy saving of 251 kW.