

AN ABSTRACT OF A THESIS

DESIGN OF A DISTILLATION UNIT TO DRY ETHANOL

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Master of Science in Chemical Engineering

The primary purpose of this study was to determine the number of stages required in the different distillation columns for a separation process to dry ethanol. The process consisted of two parts: the first part was the concentration of the ethanol in a vacuum distillation tower to slightly below the azeotrope, and the second part was azeotropic distillation for breaking the azeotrope at atmospheric pressure. The number of theoretical stages in each distillation column was calculated and the heat requirements for a conventional distillation process were calculated and then compared with the requirements when heat pumps were installed on the columns.

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A Thesis

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CERTIFICATE OF APPROVAL OF THESIS

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by

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