

# SIZING OF UNIT OPERATIONS IN PROCESS ENGINEERING USING ASPEN PLUS

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## Abstract

This project deals with the sizing of unit operations in process engineering. Process engineering is the understanding and application of the fundamental principles and laws of nature that allow us to transform raw material and energy into products that are useful to society, at an industrial level. By taking advantage of the driving forces of nature such as pressure, temperature and concentration gradients, as well as the law of conservation of mass, process engineers can develop methods to synthesize and purify large quantities of desired chemical products. In this project we will focus in the design, operation, control, optimization and intensification of chemical processes by designing pipelines in each case study. For Numerical Resolution, will use the chemical process simulator Aspen HYSYS, used to mathematically model chemical processes. We have a multitude of problems to deal with during this project.

1. Study of an incompressible fluid flow in a pipeline
2. Technology of Heat Exchangers
3. Refrigeration cycle

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