

PROCESS MODELLING AND ENGINEERING LIBRARY MODEL THE THERMAL SEPARATION PROCESSES

SIMULATE YOUR PROCESS PLANT

Easily rebuild or plan your process plant in Dymola. The library is designed to model separation processes with backflow streams, evaporation, condensation and control. The library provides rectification columns, tanks, pipes, pumps, units or gravitational separation tanks. Develop an integrated digital twin for design, simulation, training, and operations.

APPLICATION

The Process Modelling and Engineering Library includes dynamic models for separation processes. Engineers and researchers can utilize these models to predict the behavior of separation units, analyze heat and mass transfer processes, and optimize operating conditions to maximize efficiency and minimize energy consumption. The library can be used for process and control design as well as troubleshooting, enabling industries to improve

product quality, reduce environmental impact, and enhance overall productivity in the domain of thermal separation processes.

The PME library uses the Multiflash® software by KBC to calculate phase equilibrium of multi-phase multi-component fluids. The Thermodynamics Connector library is used as an interface between the PME library and Multiflash®.

VISUALIZATION

Many models of the Process Modelling and Engineering library come with animations in order to visualize key system parameters, for example liquid levels and temperature distributions in rectification columns, or the filling levels in a tank. Visualization during simulation and postprocessing allows for a quick overview about the current state of the simulated system.

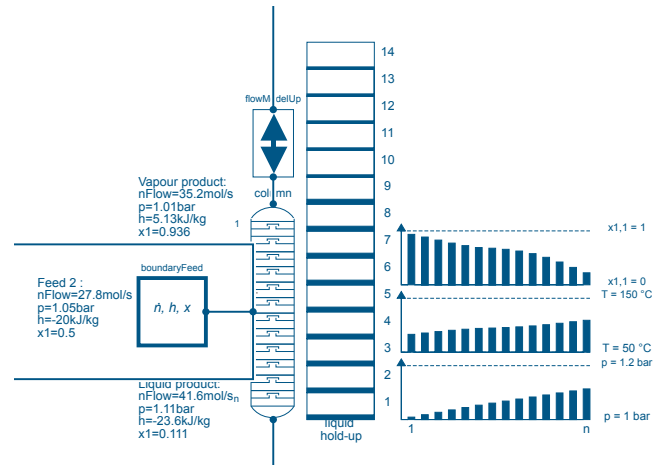
BENEFITS

- Integration of Multiflash® fluid data for fast phase equilibrium calculation
- Design a process plant and calculate the product flows and concentrations
- Optimize operation points and plant design
- Set up and optimize control systems for the plant
- Early decisions in the design process and evaluation of system architectures

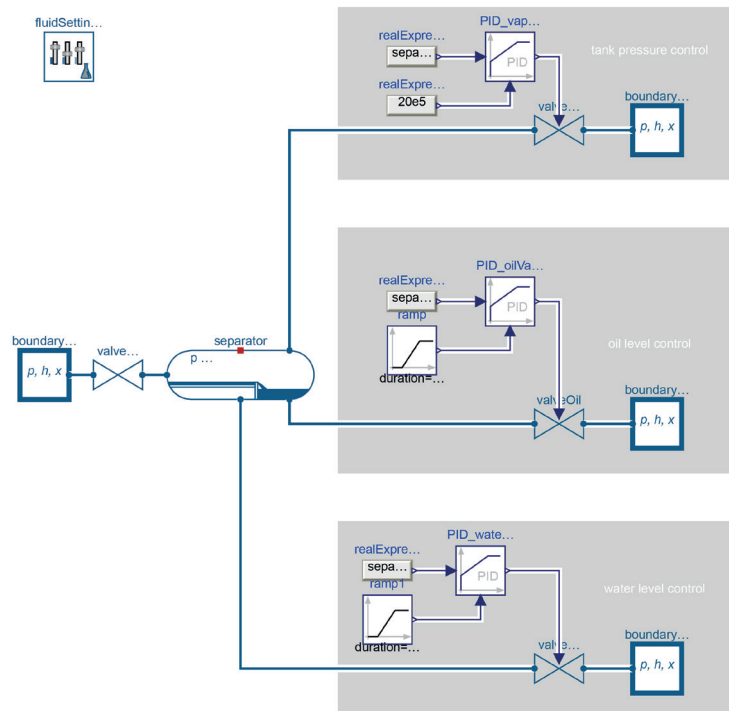
EXAMPLE USE CASES

- Controller development and set up
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- Plant dimensioning
- Model dynamic behavior
- Training simulators
- Debottlenecking
- Develop / compare / evaluate operating strategies
- Evaluate and develop plant architectures

Animated simulation of a rectification column



Controlled gravitational separator tank



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