Production of Dimethyl ether

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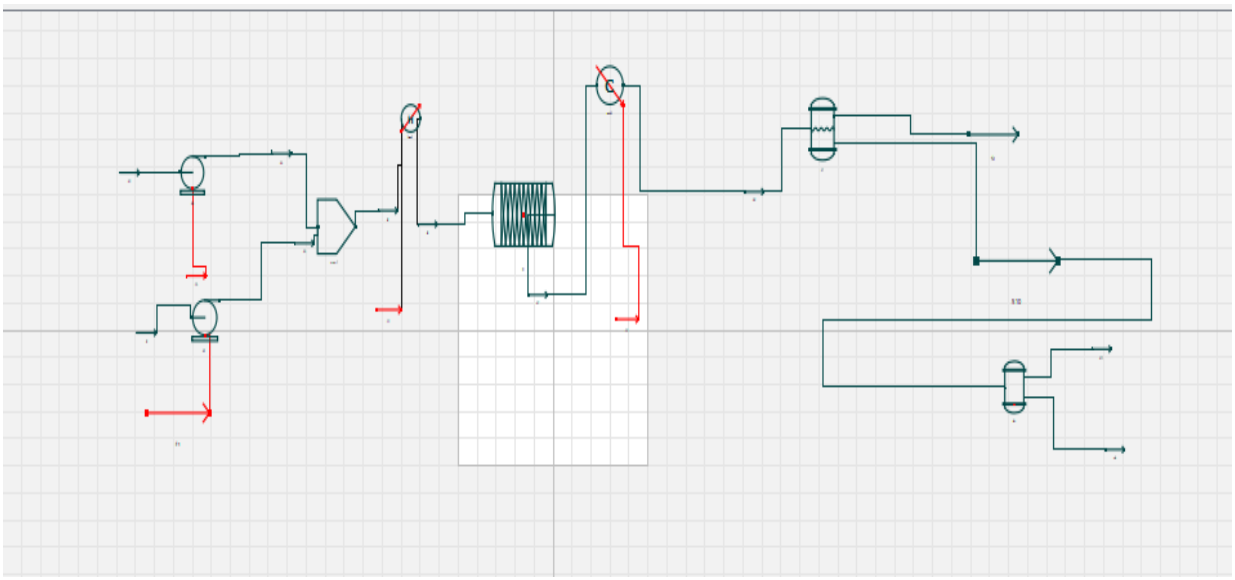
Background & Description:

This flow-sheet deals with the production of dimethyl ether from water and methanol. Two feed streams of methanol (100%) and methanol (99%) and water (1%) are pumped to a pressure of 13.5 atm at 65% efficiency. The streams are then mixed and heated to a temperature of 628K and sent to the reactor. The conversion is set to be 75% in the Plug Flow reactor. The output stream is cooled and the send through a flash column at 225678 Pa. The bottoms is sent through a Compound separator.

Flowsheet:



Results:

Flow Rate (mol/s)	Feed 1	Feed 2	Product 1	Product 2	Bottoms
Methanol	**138. 889**	**28.04175**	**117.05**	**116.14**	**116**
Water	**0**	**0.28325**	**108.975**	**108.804**	**1**
Dimethyl Ether	**0**	**0**	**108.689**	**88.6939**	**1**