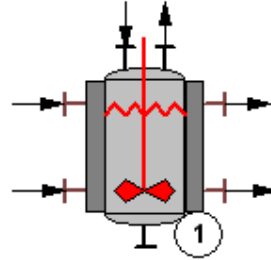


Dynamics: Fermentation kinetics

Stream No.	12	13
Name	Charge	Rxn product
- - Overall - -		
Molar flow gmol/h	55474.8120	55474.8050
Mass flow g/h	1000780.6906	1000780.5799
Temp C	25.0000	25.0000
Pres bar	1.0132	1.0132
Flowrates in gmol/h		
Water	55454.8095	55454.8095
E	0.0020	0.0006
S	20.0000	3.6423
ES	0.0000	0.0014
P	0.0000	16.3562



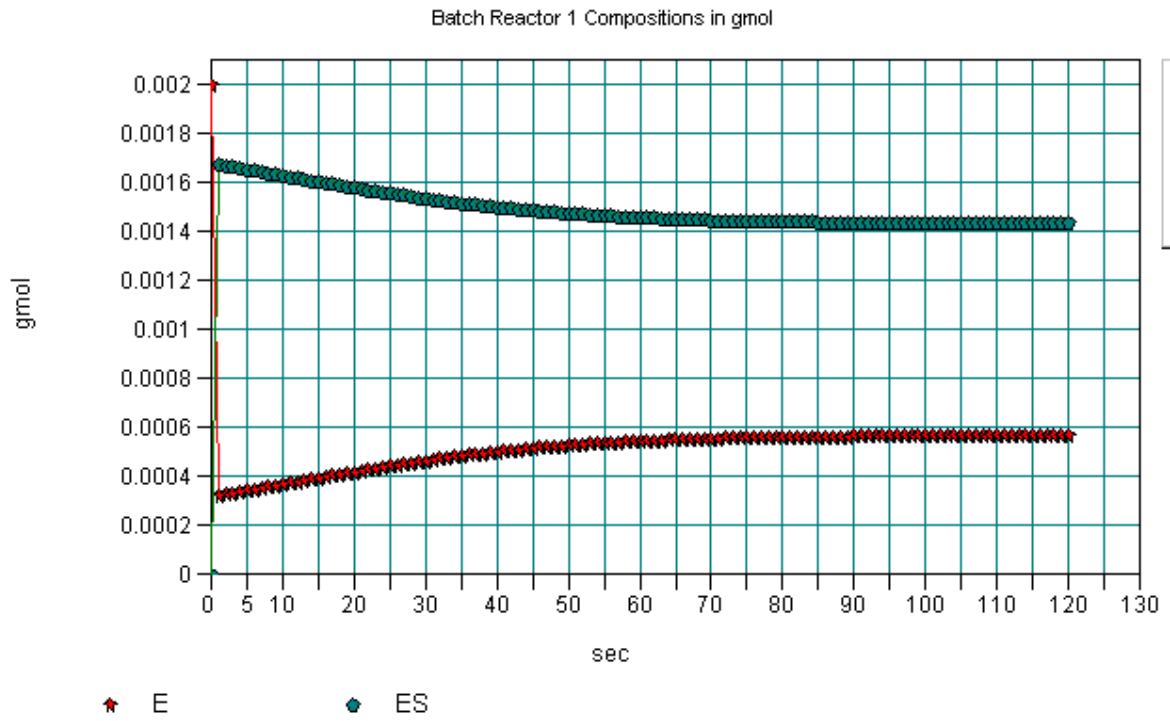
DESCRIPTION:

CHEMCAD's reaction module, CC-ReACS can be used to simulate fermentation tanks. The Batch Reactor model allows simulation including heating, cooling, and agitation, Batch, semi-batch and continuous fermentation can be calculated. Real equipment, control valves, and PID controllers can be used. Batch scheduling is possible.

When simulating biotechnology processes, the key point is to apply appropriate bioreaction chemistry.

CHEMCAD gives now the user a chance of entering own kinetic equations of any form, and store the equations in Excel.

This way, entering the Michaelis-Menten kinetic equation for fermentation is not a problem anymore.



The picture above shows concentrations of enzyme and enzyme-substrate complex as function of time in one of test runs.