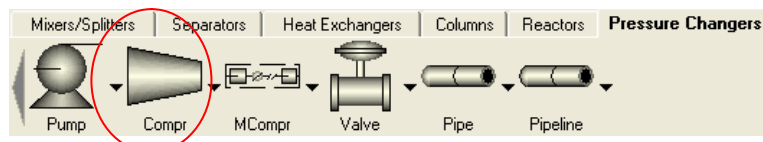
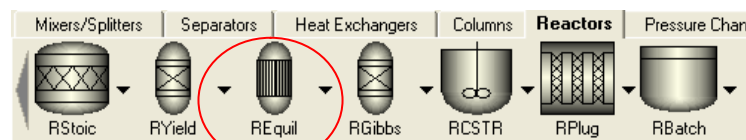
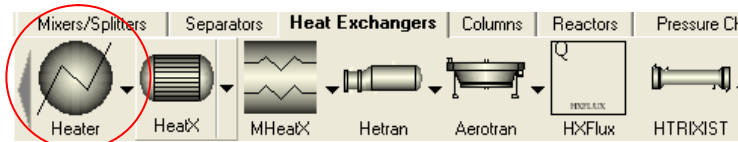
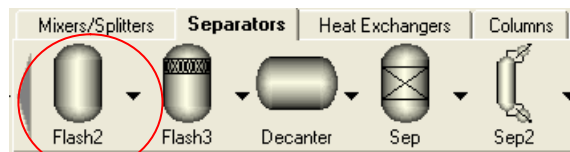
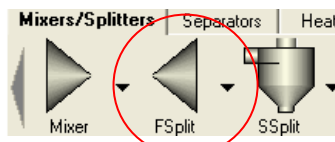
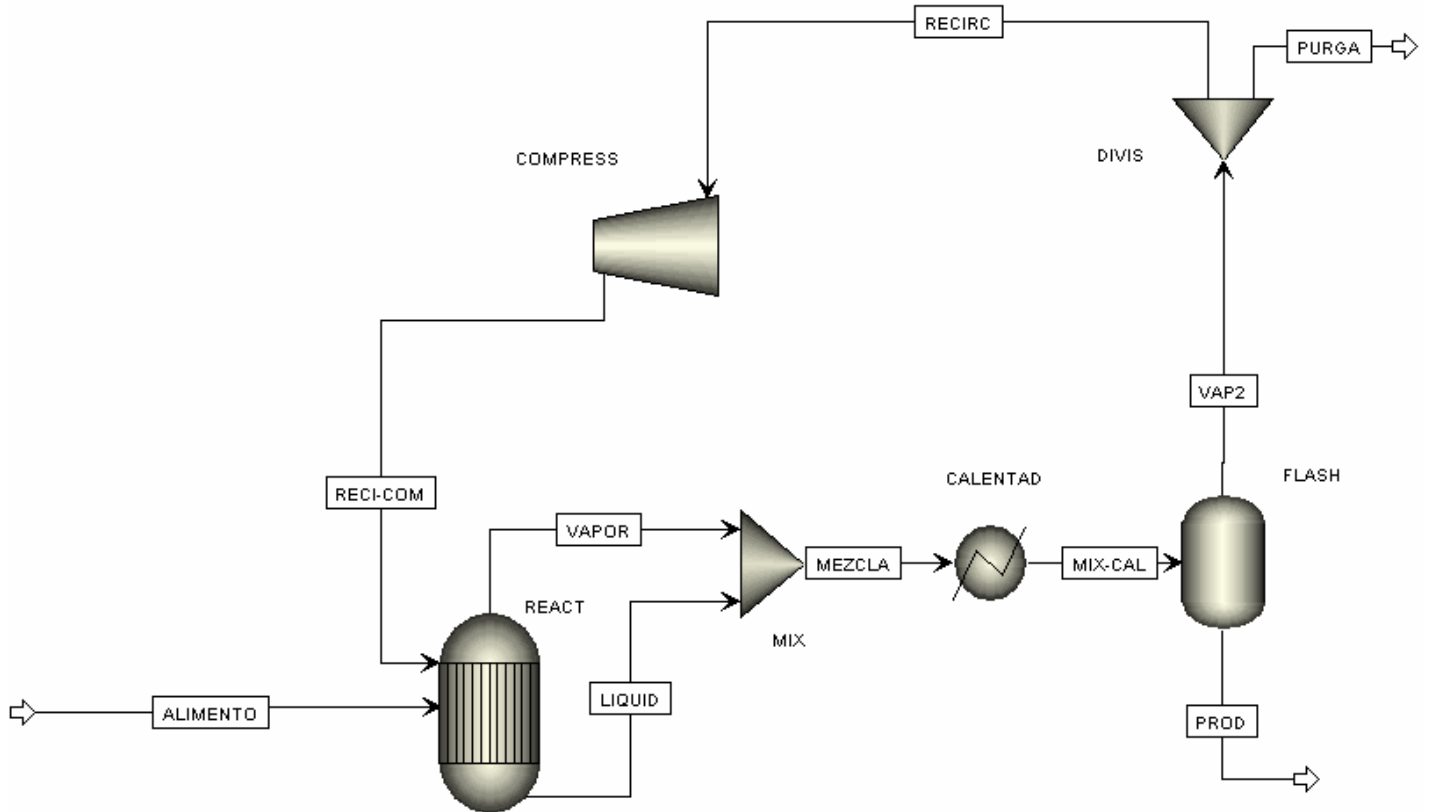


# REACTOR DE AMONIACO CON RECICLO

Obtenga el siguiente diagrama de flujo:



Seleccione los componentes:

Component ID	Type	Component name	Formula
N2	Conventional	NITROGEN	N2
H2	Conventional	HYDROGEN	H2
NH3	Conventional	AMMONIA	H3N
AR	Conventional	ARGON	AR
CH4	Conventional	METHANE	CH4
*			

Seleccione el método base CHAO SEADER:

Property methods & models

Process type: ALL

Base method: CHAO-SEA

Henry components:

Petroleum calculation options

Free-water method: STEAM-TA

Water solubility: 3

Electrolyte calculation options

Chemistry ID:

Use true-components

Property method: CHAO-SEA

Modify property models

Vapor EOS: ESRK

Data set: 1

Liquid gamma: GMXSH

Data set: 1

Liquid enthalpy: HLMX13

Liquid volume: VLMX20

Poynting correction

Heat of mixing

oprima y complete la información del ALIMENTO:

Substream name: MIXED

Ref Temperature

State variables

Temperature: 77 F

Pressure: 200 atm

Total flow: Mole


Solvent:

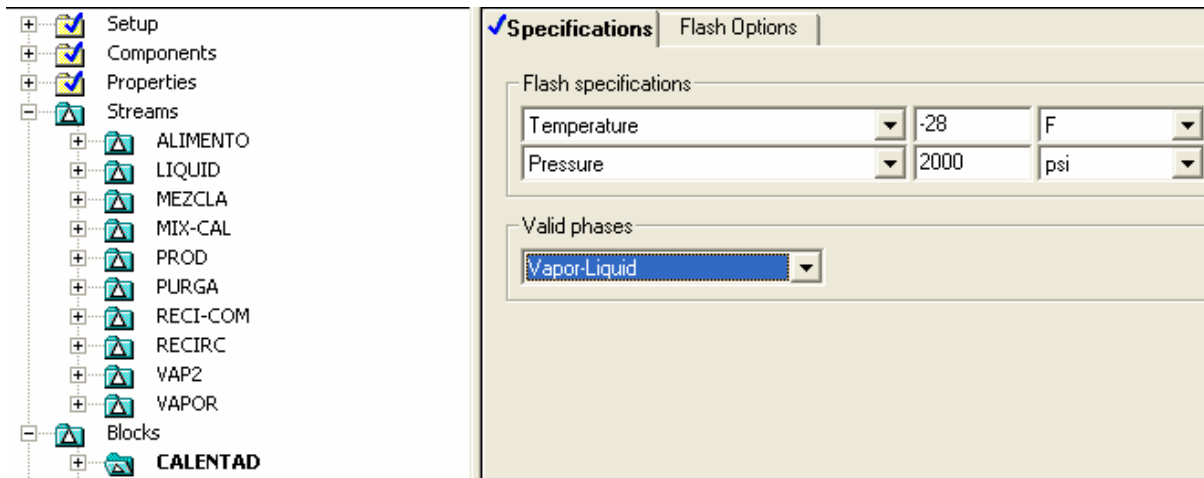
Composition

Mole-Flow lbmol/hr

Component	Value
N2	24
H2	74,3
NH3	0
AR	0,6
CH4	1,1

Total: 100

oprime  y complete la información del bloque CALENTAD:




**Specifications** | Flash Options

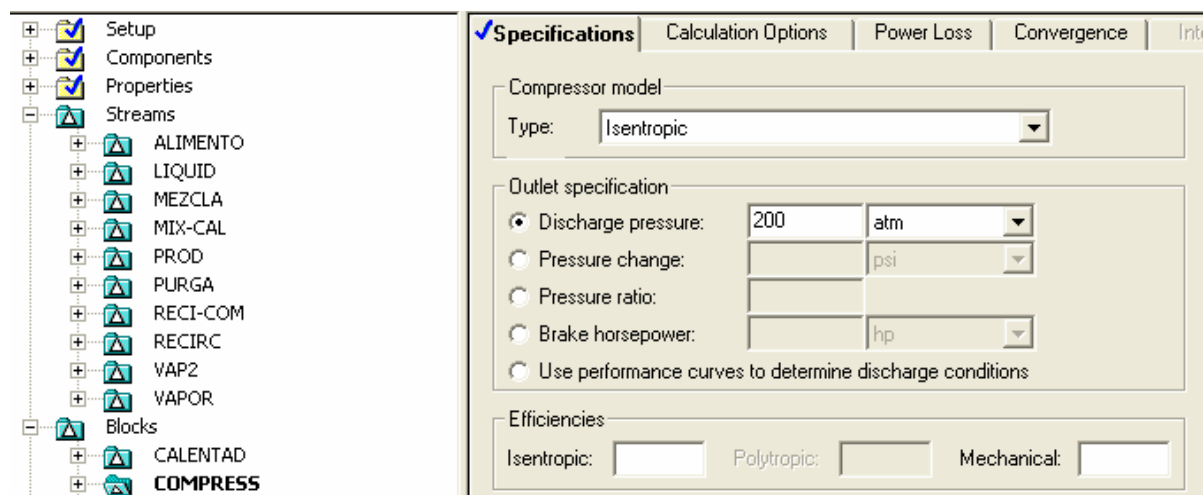
Flash specifications

Temperature: -28 F

Pressure: 2000 psi

Valid phases: Vapor-Liquid

oprime  y complete la información del bloque COMPRESS:



**Specifications** | Calculation Options | Power Loss | Convergence | Info

Compressor model

Type: Isentropic

Outlet specification

Discharge pressure: 200 atm

Pressure change: psi

Pressure ratio:

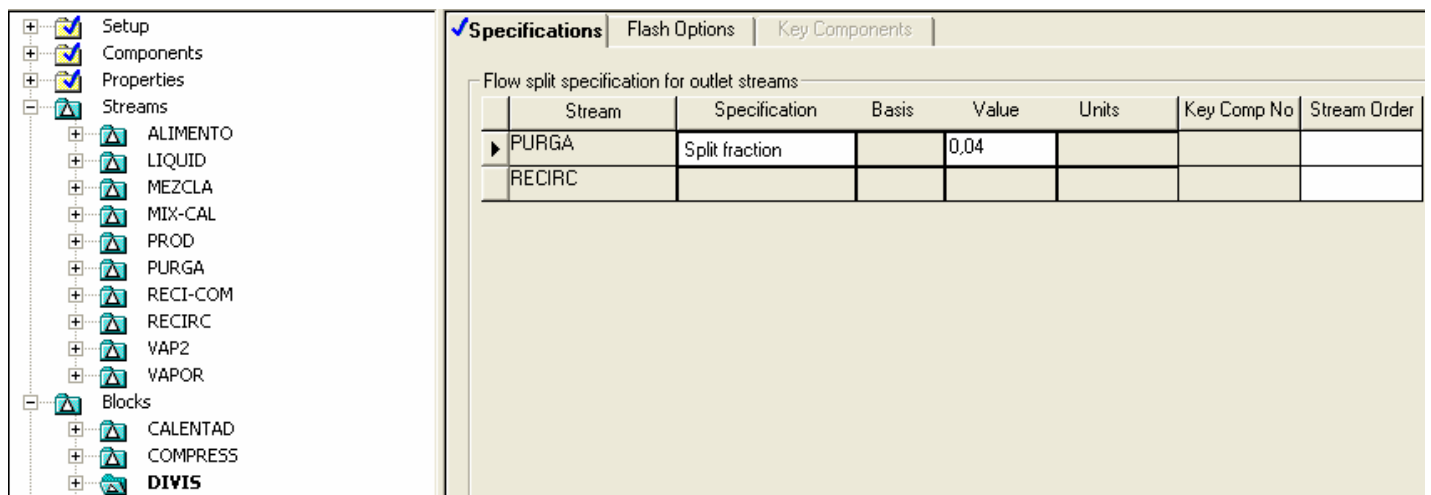
Brake horsepower: hp

Use performance curves to determine discharge conditions

Efficiencies

Isentropic: Polytopic: Mechanical:

oprime  y complete la información del bloque DIVIS:

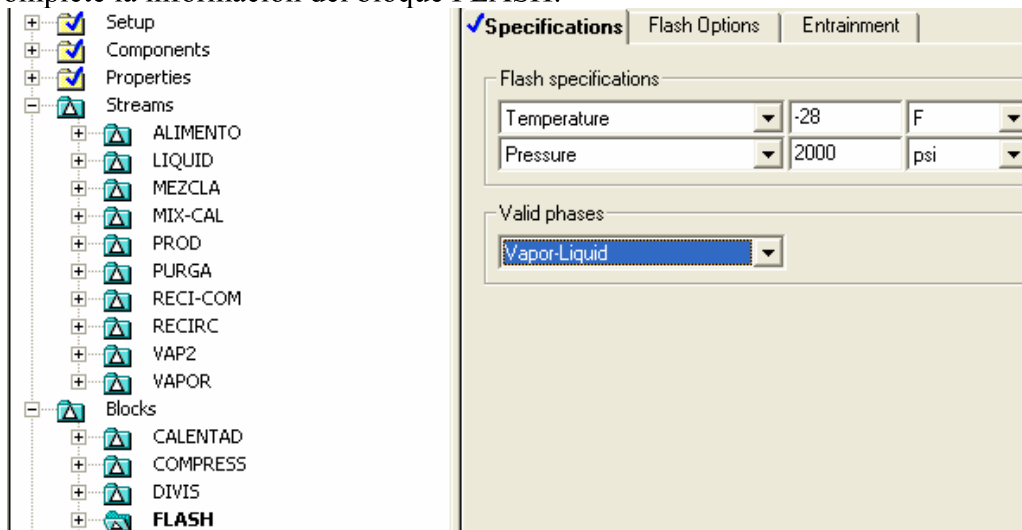


**Specifications** | Flash Options | Key Components

Flow split specification for outlet streams

	Stream	Specification	Basis	Value	Units	Key Comp No	Stream Order
▶	PURGA	Split fraction		0,04			
	RECIRC						

oprime  y complete la información del bloque FLASH:



Setup

Components

Properties

Streams

- ALIMENTO
- LIQUID
- MEZCLA
- MIX-CAL
- PROD
- PURGA
- RECI-COM
- RECIRC
- VAP2
- VAPOR

Blocks

- CALENTAD
- COMPRESS
- DIVIS
- FLASH**


**Specifications** | Flash Options | Entrainment

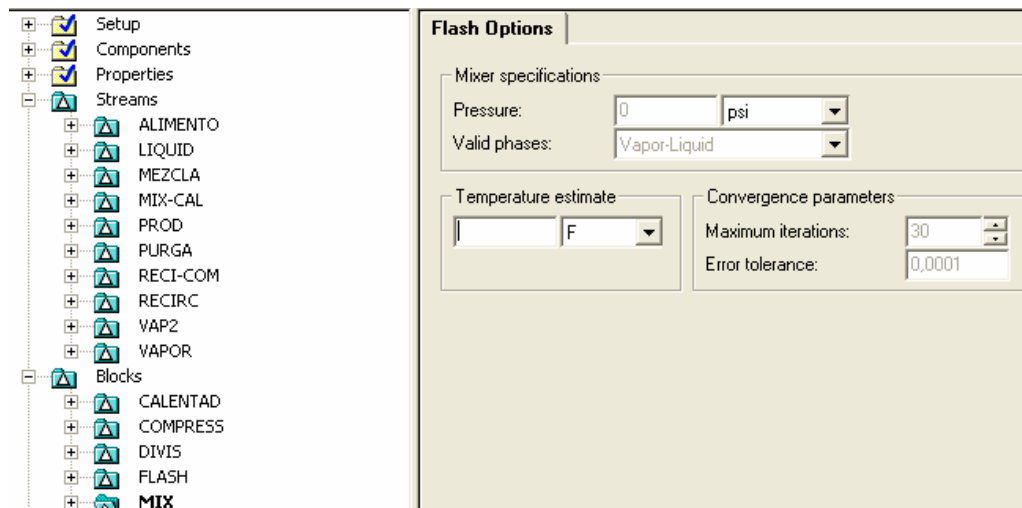
Flash specifications

Temperature: -28 F

Pressure: 2000 psi

Valid phases: Vapor-Liquid

oprime  y complete la información del bloque MIX:



Setup

Components

Properties

Streams

- ALIMENTO
- LIQUID
- MEZCLA
- MIX-CAL
- PROD
- PURGA
- RECI-COM
- RECIRC
- VAP2
- VAPOR

Blocks

- CALENTAD
- COMPRESS
- DIVIS
- FLASH
- MIX**

Flash Options | Convergence | Entrainment

Mixer specifications

Pressure: 0 psi


Valid phases: Vapor-Liquid

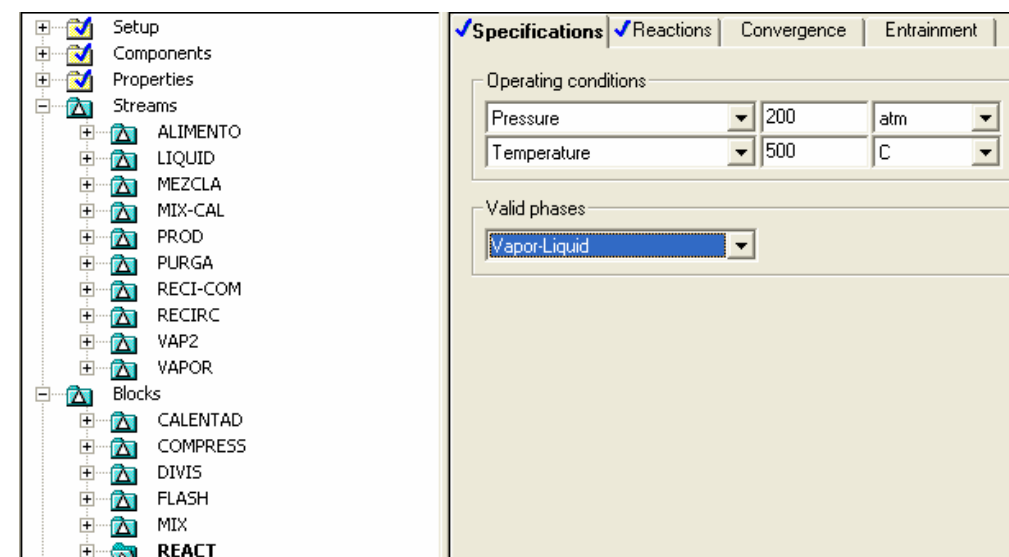
Temperature estimate: F

Convergence parameters

Maximum iterations: 30

Error tolerance: 0,0001

oprime  y complete la información del bloque REACT:



Setup

Components

Properties

Streams

- ALIMENTO
- LIQUID
- MEZCLA
- MIX-CAL
- PROD
- PURGA
- RECI-COM
- RECIRC
- VAP2
- VAPOR

Blocks

- CALENTAD
- COMPRESS
- DIVIS
- FLASH
- MIX
- REACT**

**Specifications** | Reactions | Convergence | Entrainment

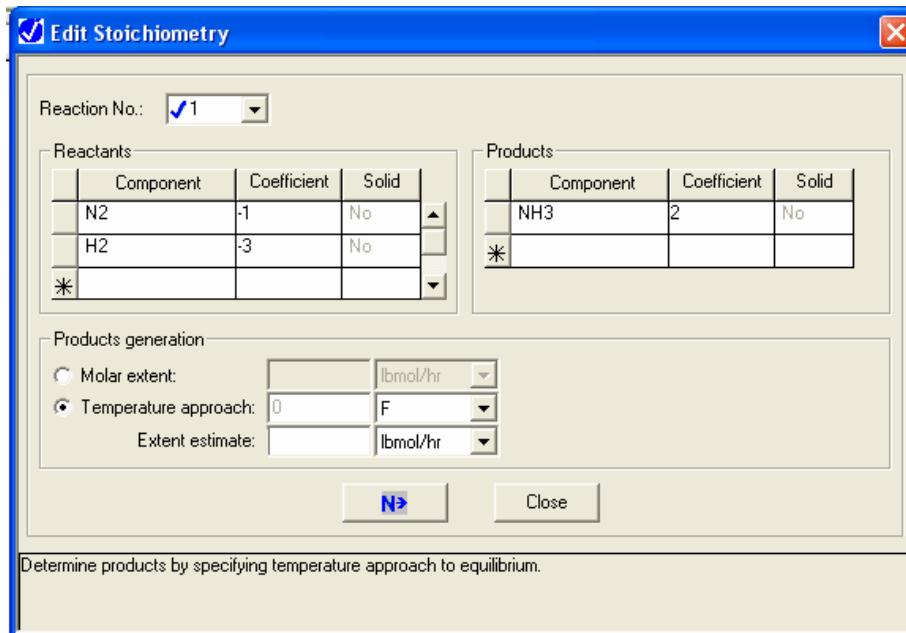
Operating conditions

Pressure: 200 atm

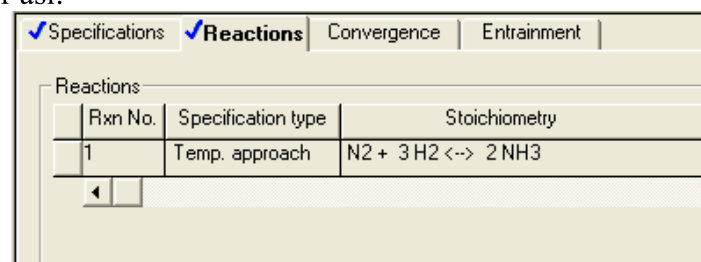
Temperature: 500 C

Valid phases: Vapor-Liquid

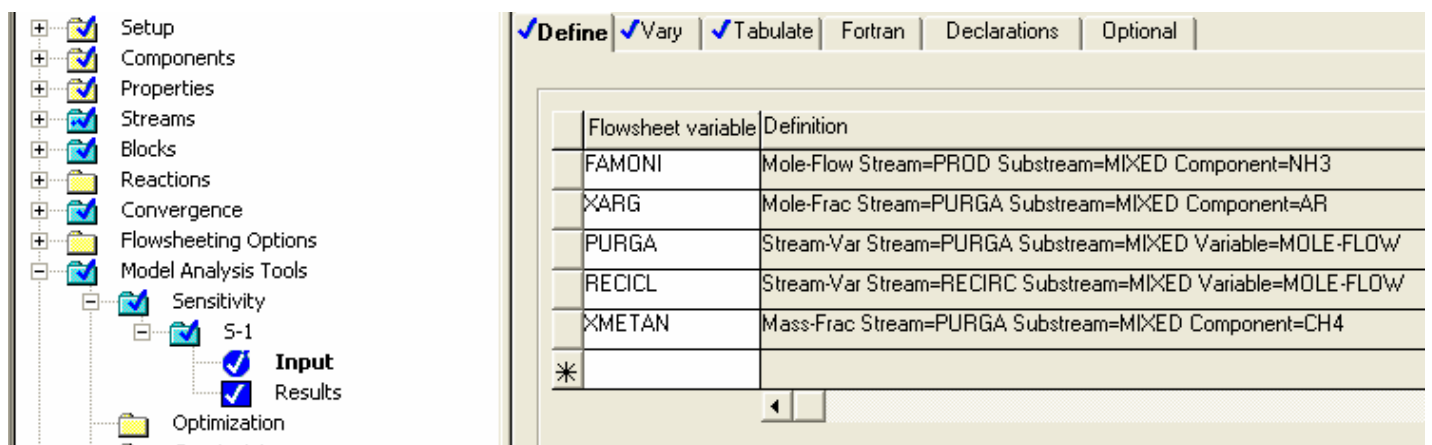
Cree un objeto REACTIONS y introduzca la reaccion:



El formulario debe aparecer así:



Cree un objeto sensitivity y cambie la relacion de flujos en el divisor:



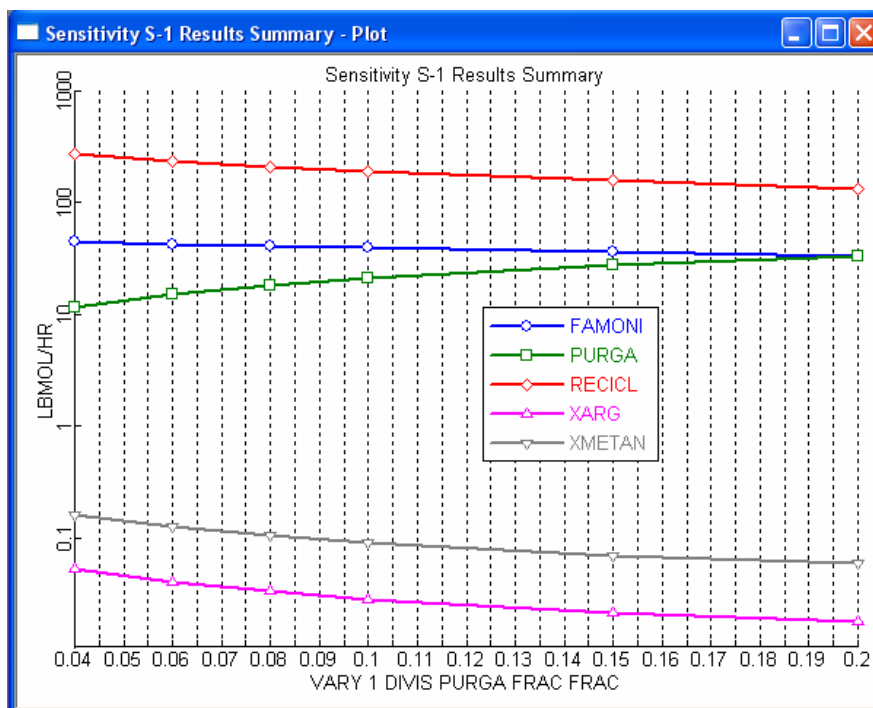
Define  Vary  Tabulate Fortran Declarations Optional

Variable number:  1

Manipulated variable  
 Type: Block-Var  
 Block: DIMS  
 Variable: FLOW/FRA  
 Sentence: FLOW/FRA  
 ID1: PURGA

Values for varied variable  
 List of values  
 0,2 0,15 0,1 0,08 0,06 0,04  
 Overall range  
 Lower:   
 Upper:   
 #Point:  Incr:

Report labels  
 Line 1:  Line 2:   
 Line 3:  Line 4:



Las composiciones de Argon y Metano aumentan al disminuir la purga y ellas son muy grandes respecto a las del alimento, esto es, si la relación purga/reciclo disminuye, el efluente vapor del flash llega a ser mas rico en los componentes inertes, sin embargo esto incrementa el flujo del reciclado y el costo de recirculación (además del volumen del reactor).