

Ammonia production

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Introduction

Here we made basic ammonia production flowsheet with the help of OpenModelica library OMChemSim.

About Process

Considered process is very simple; As input raw material we have pure gas which is compressed till 100atm pressure and send to the conversion reactor where 20% Conversion is possible. After that reactor yield are cooled till 250K and then send it into Flash column, where ammonia and unreacted gas are separated from each other. Unreacted gas are heated to 450K and then recycle back to reactor.

Result and conclusion

Here overall 100% conversion is achievable by adding recycle stream.