Schlumberger

AMSIM Simulation Software

Natural gas sweetening and carbon dioxide absorption simulation

APPLICATIONS

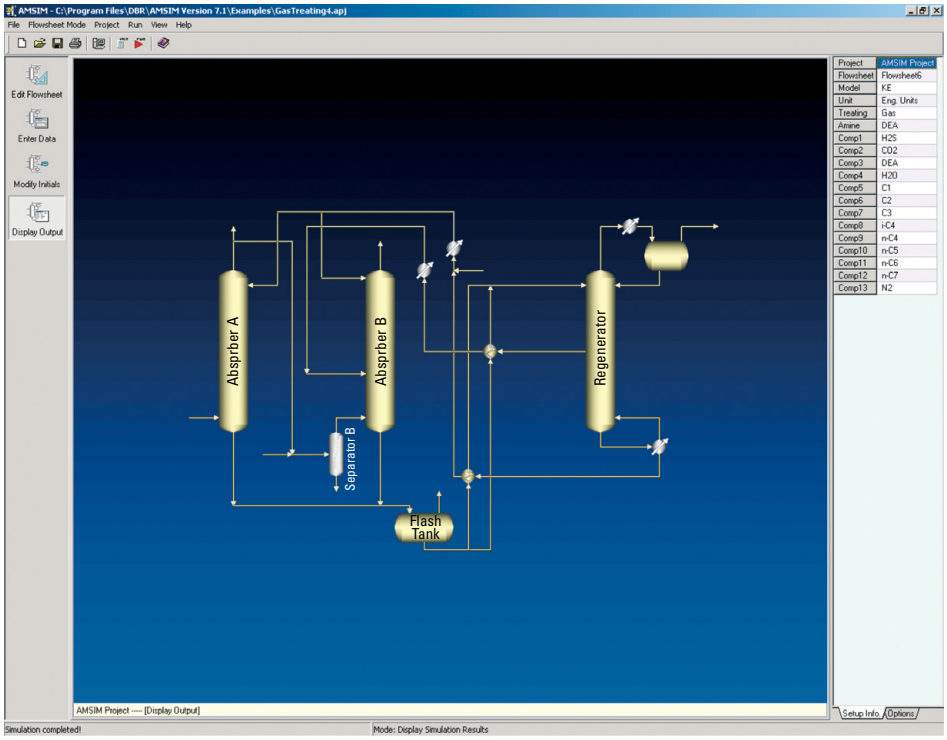
- Simulating the removal of hydrogen sulfide (H_2S), carbon dioxide (CO_2), carbonyl sulphide (COS), carbon disulfide (CS_2), and mercaptans
- Evaluating alternative process configurations and contracting solvents
- Analyzing sensitivity of key operating parameters
- Diagnosing necessary process improvement
- Monitoring and reporting hydrocarbon emissions

ADVANTAGES

- Increases design certainty
- Assesses energy costs
- Provides a rigorous nonequilibrium stage model
- Provides a rate-based packed column model
- Provides a simple, reliable, and efficient solution for optimal process design
- Provides fast and easy case convergence
- Generates flexible reports
- Includes comprehensive component databank
- Offers choice of random packing, structured packing, and packing material
- Calculates reflux ratio from a given reboiler heat duty
- Inputs reflux ratio to calculate reboiler heat duty
- Improves prediction of Kent-Eisenberg and Li-Mathew models
- Calculates stage efficiency
- Models any combination of two blended amines
- Simulates column with multipass trays
- Allows alteration of simulation cases

AMSIM* simulation software is a specialized process program that simulates the removal of H_2S, CO_2, COS, CS_2, and mercaptans from natural gas and liquefied petroleum gas (LPG) streams by using aqueous amines, activated amines (methyldiethanolamine and piperazine), and physical solvents. This software is backed by more than 25 years of laboratory data.

By applying a rigorous nonequilibrium stage model and the Peng-Robinson equation of state, the AMSIM simulator investigates alternative process configurations and solvent options. The simulator also analyzes the sensitivity of the key operating parameters, provides a diagnostic optimization of gas sweetening and CO_2 capture units, and predicts acid gas removal over a full range of inlet conditions, process configurations, solvent types, and concentrations. The software also provides hydrocarbon emission monitoring from gas sweetening units.



AMSIM simulation screen.