

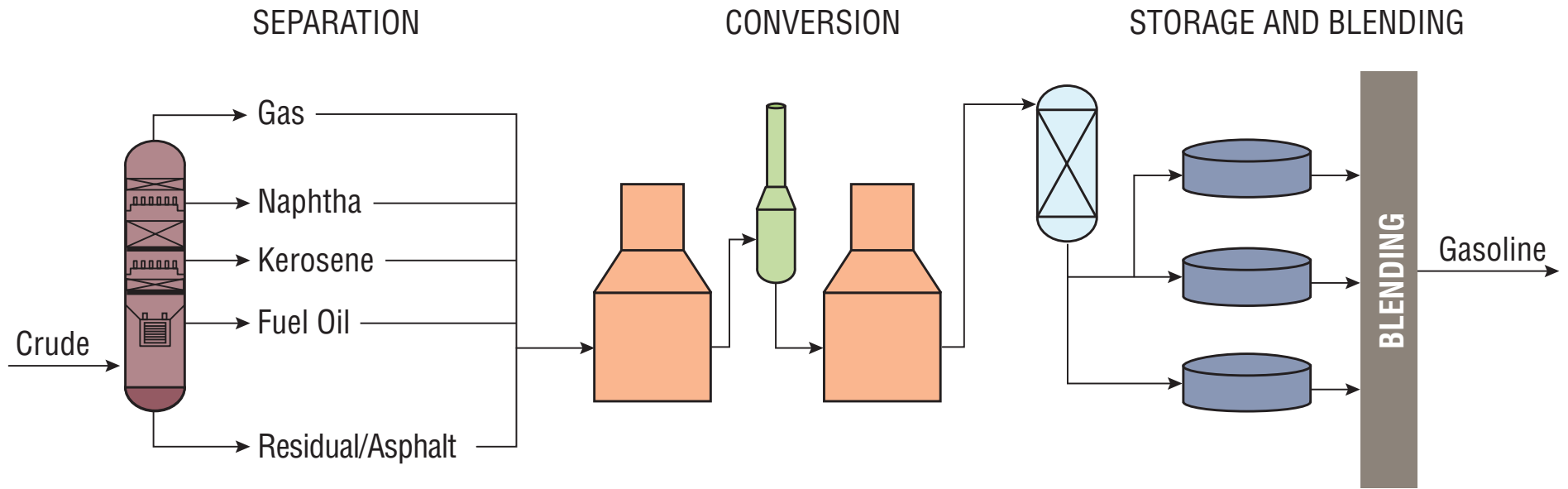
Process Flow Diagrams

REFINERY PROCESS



Experience In Motion

Three Basic Refinery Process Flows



Separation Crude Oil into Various Fractions Based on Boiling Point

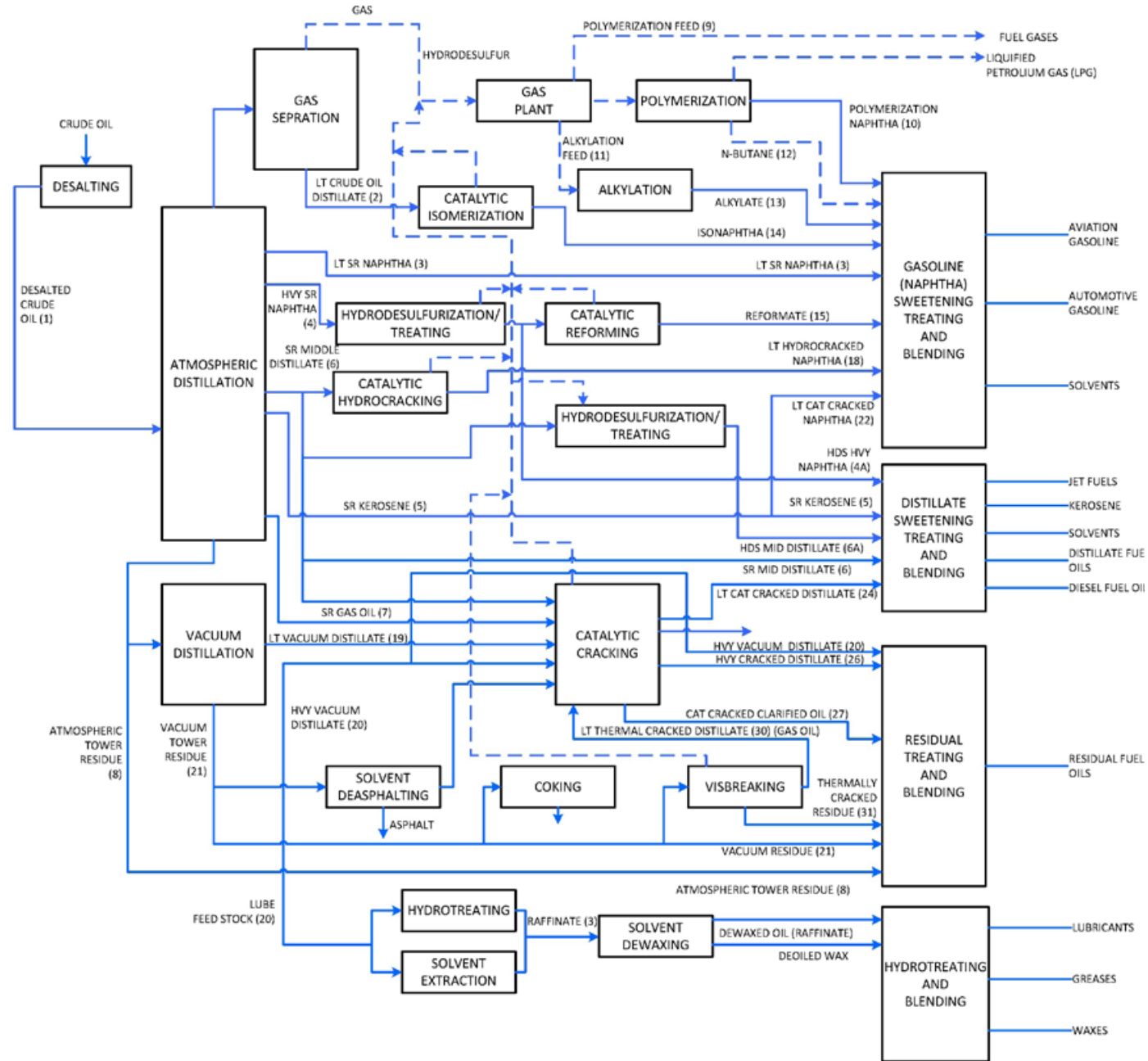
- Crude Desalter
- Atmosphere Crude Unit
- Vacuum Crude Unit

Converts Lower Value Products into High-Demand, Premium Products

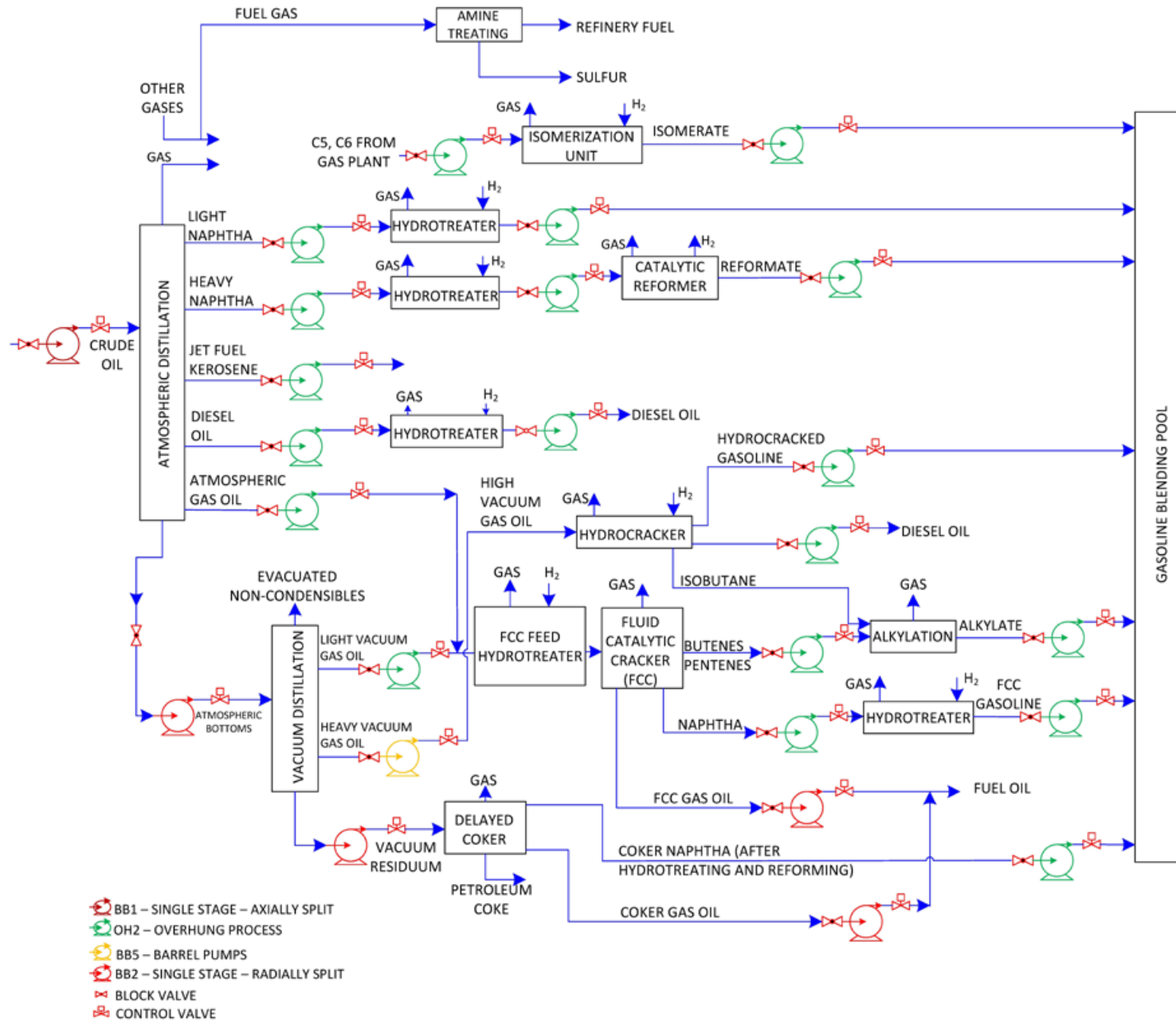
- Residual Conversion
- Middle Distillate Upgrading
- Light Ends Processing

Combines the Various Components from the Conversion Processes into End-Use Products

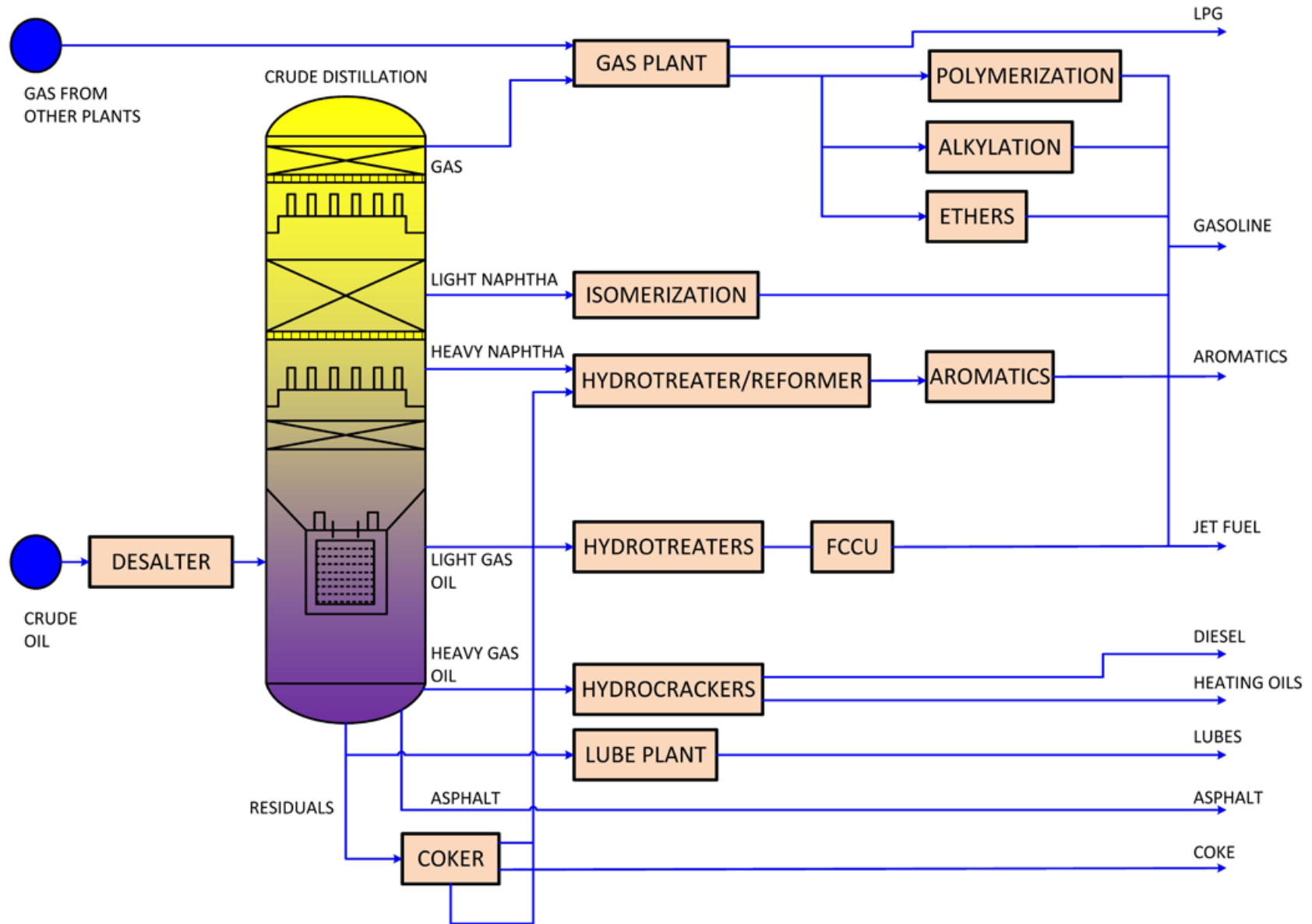
Key Refinery Processes and Marketable End Products



Key Refinery Processes with Critical Pump and Control Valves Concept

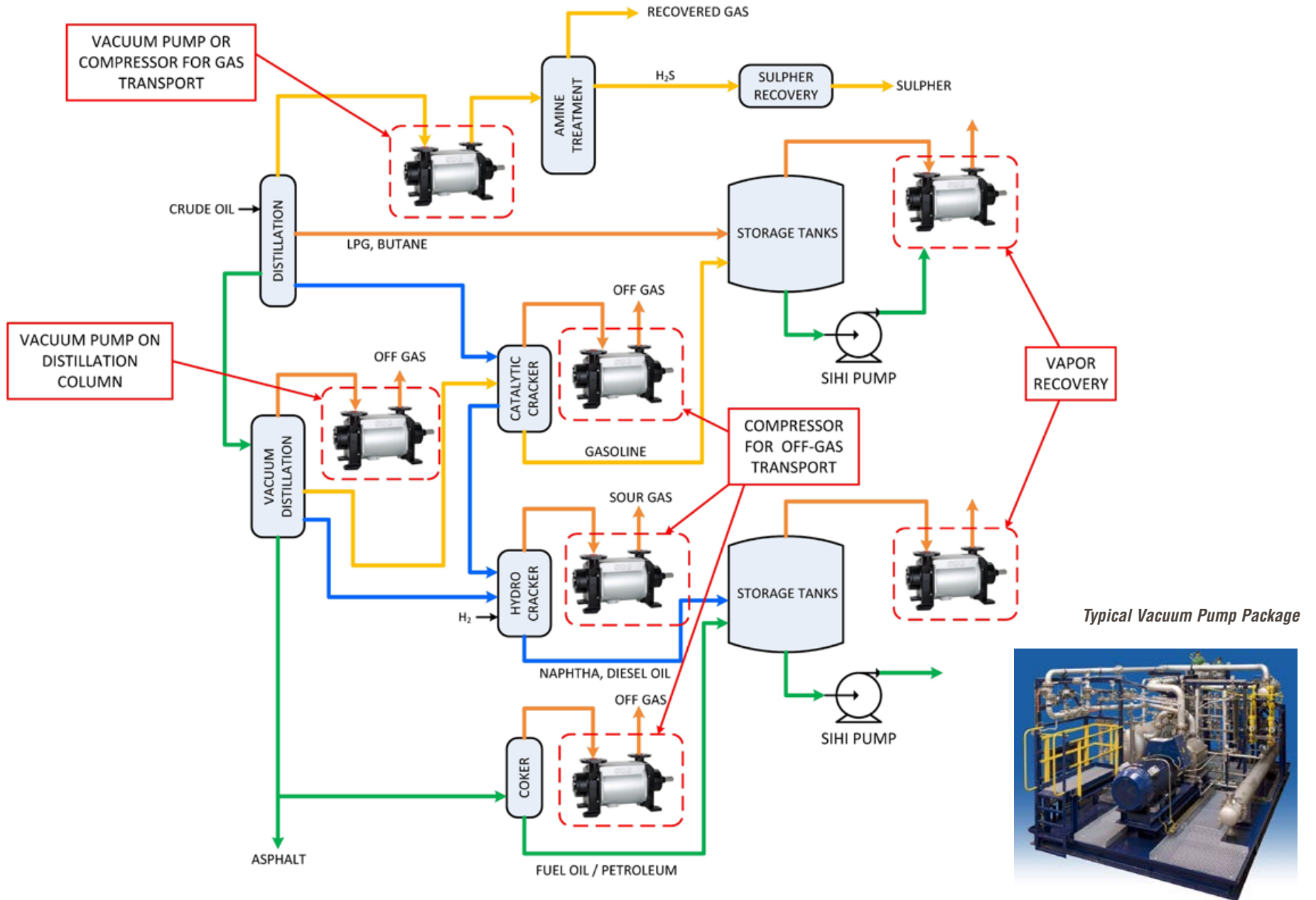


Conversion Process — Typical Distillation Unit Process Descriptions

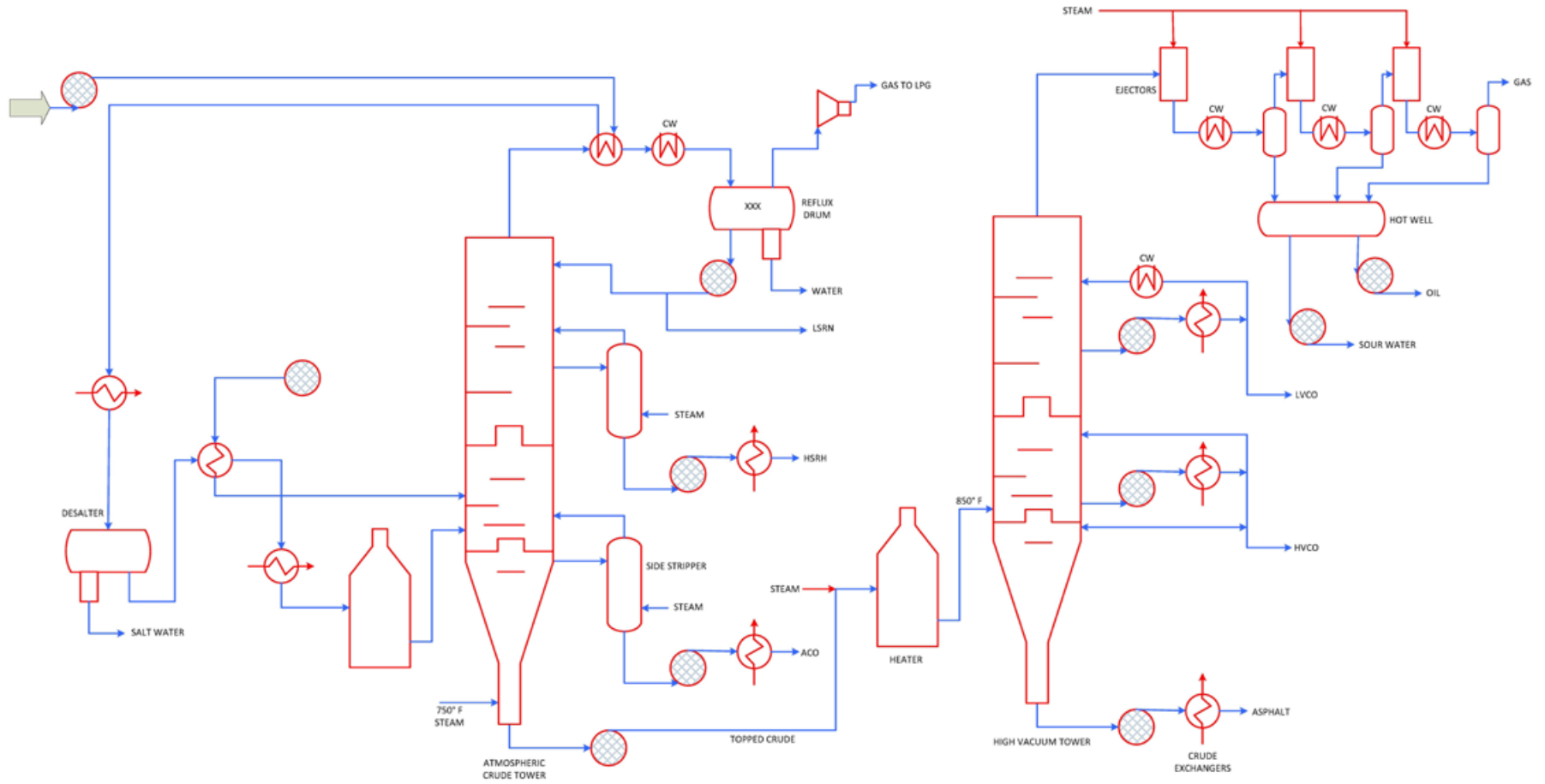


One of the other feedstocks to a refinery is hydrogen, which can be used in a hydrotreater, isomerization, FCC, reformer, and a complex, capital-intensive unit.

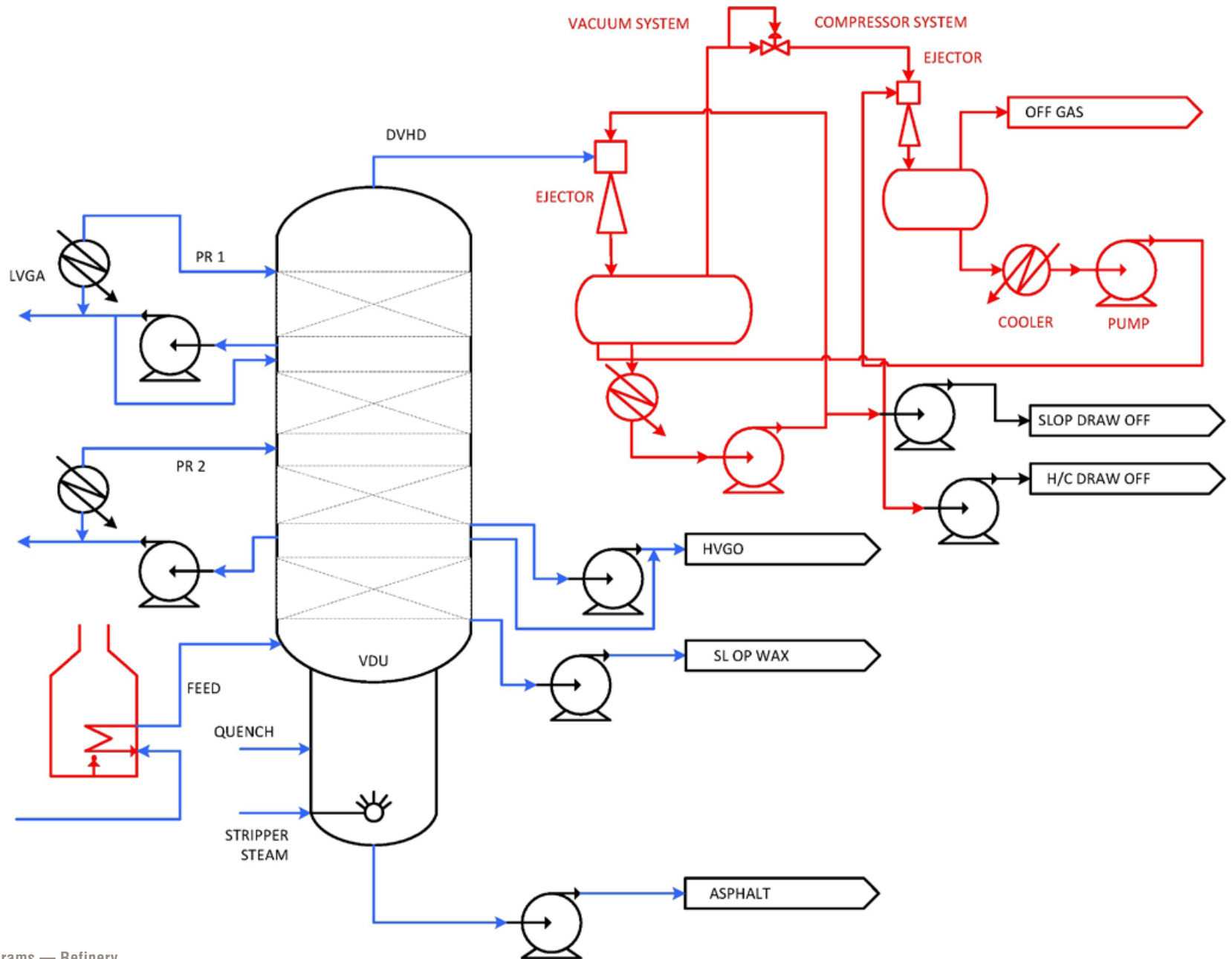
Vapor or Flare Examples Using SIHI Vacuum Products Throughout the Refinery



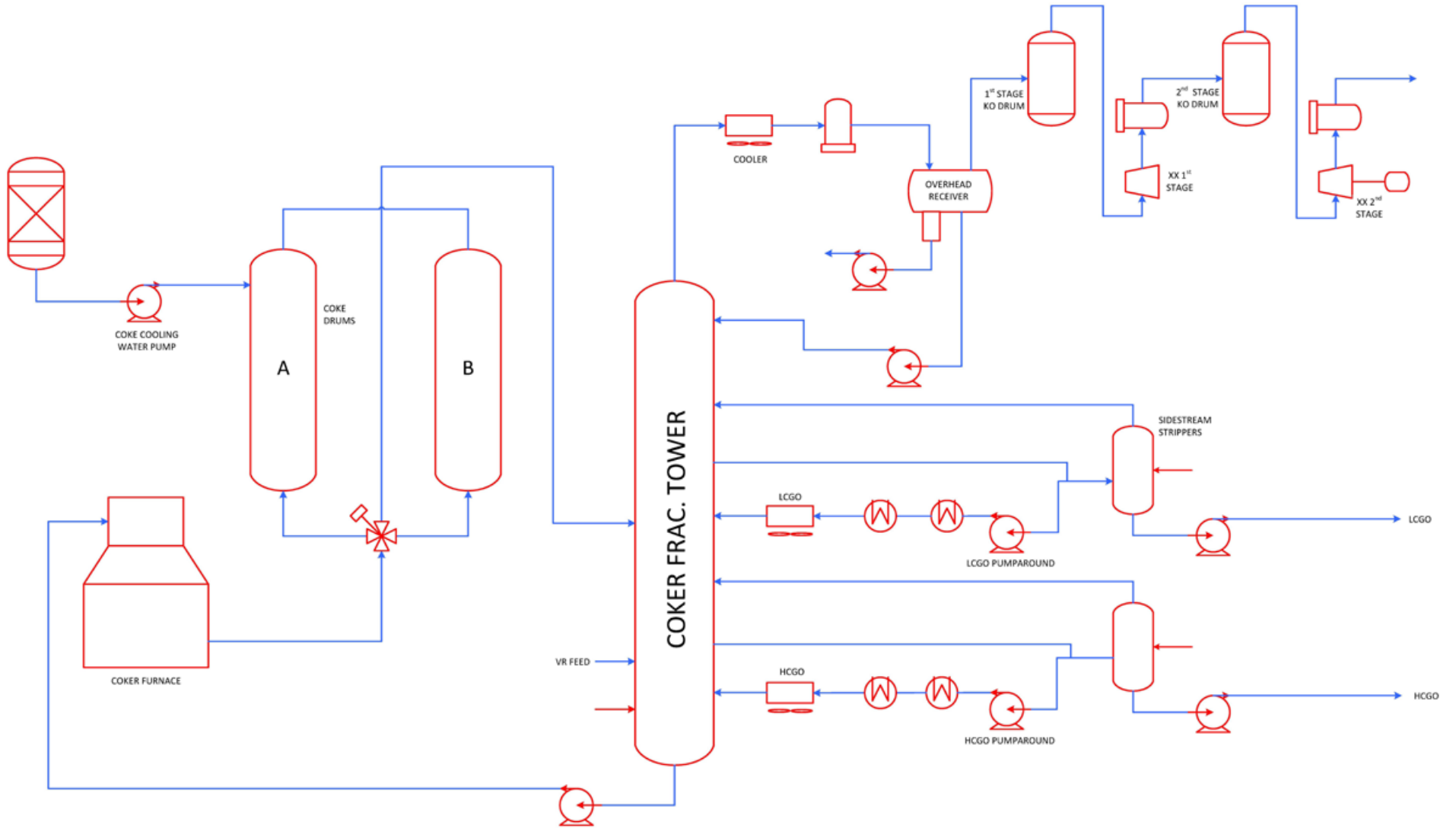
Detailed Crude Distillation Process with Second-Phase, High-Vacuum Tower



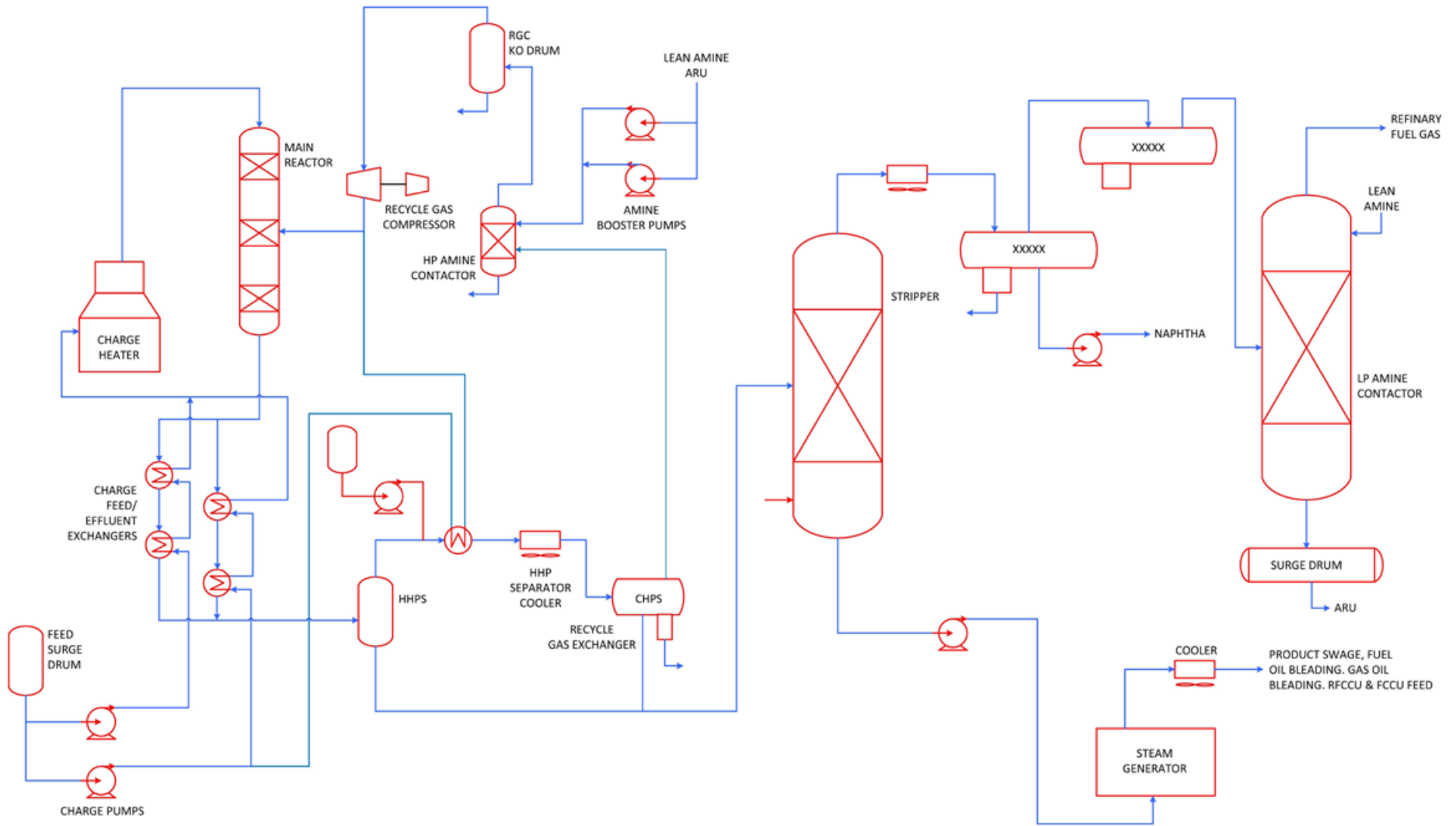
Vacuum Distillation Unit (VDU), Enhanced with SIHI Vacuum Systems Options



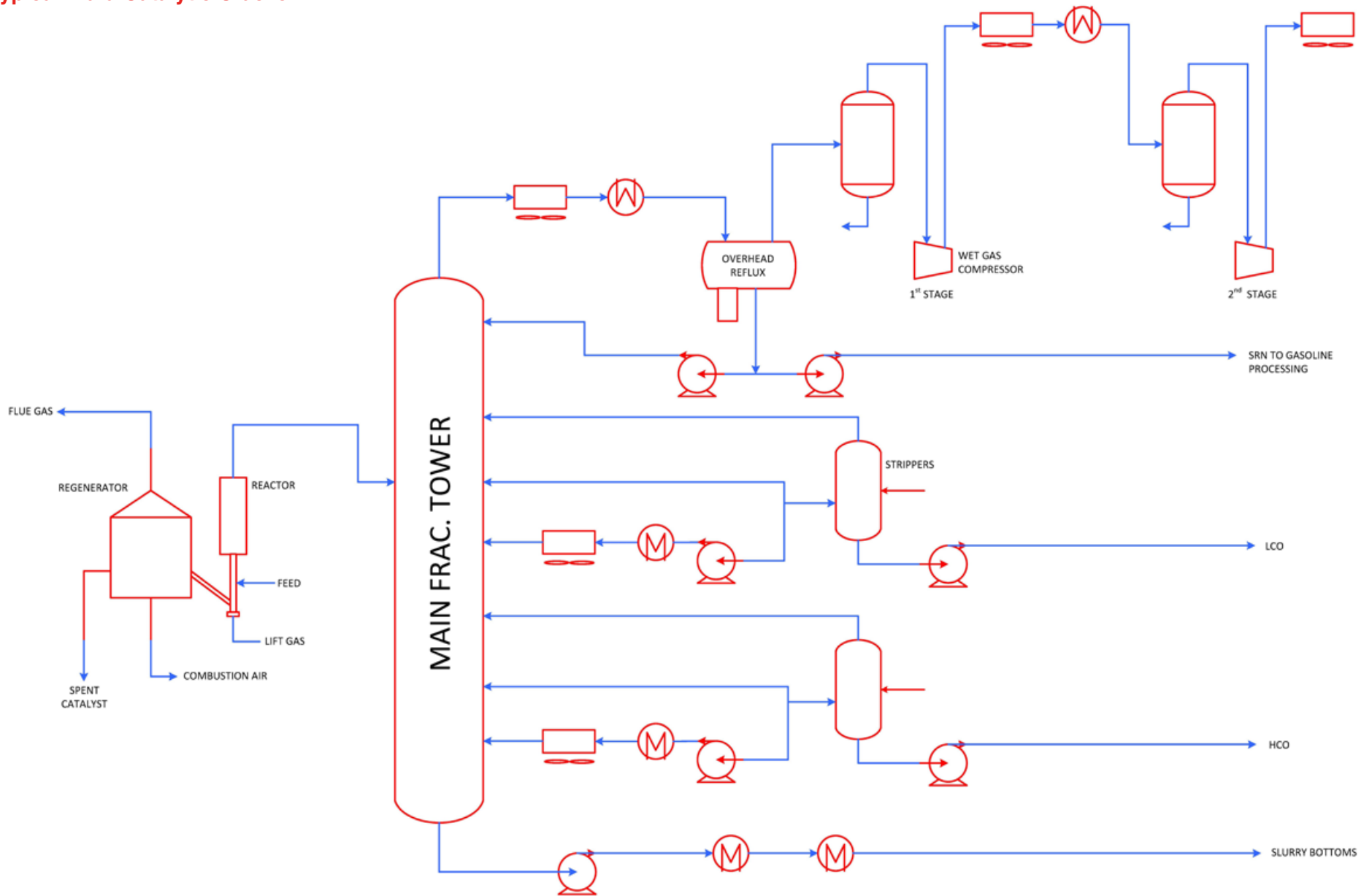
Basic Delayed Coking Unit



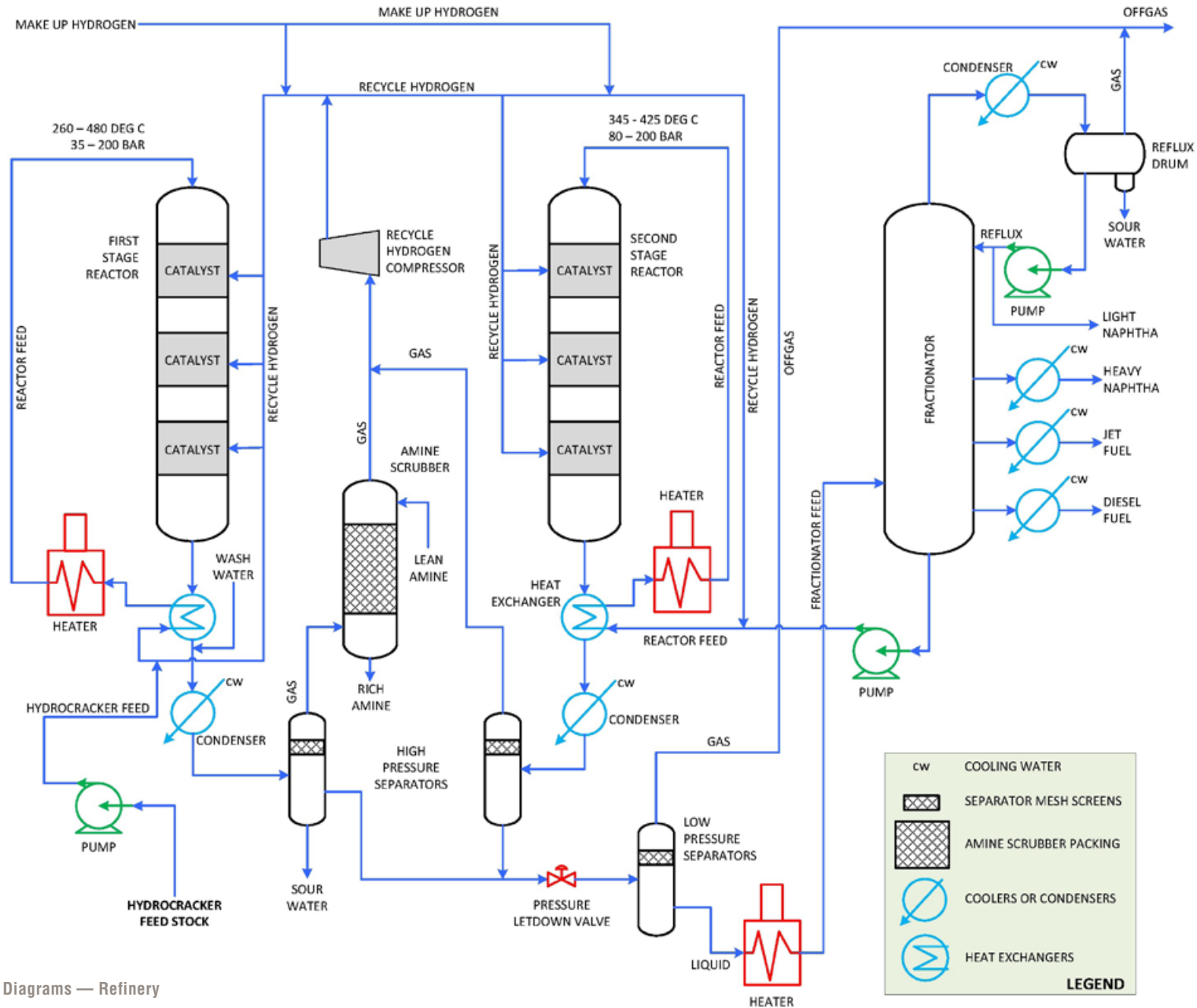
Basic Hydrotreater



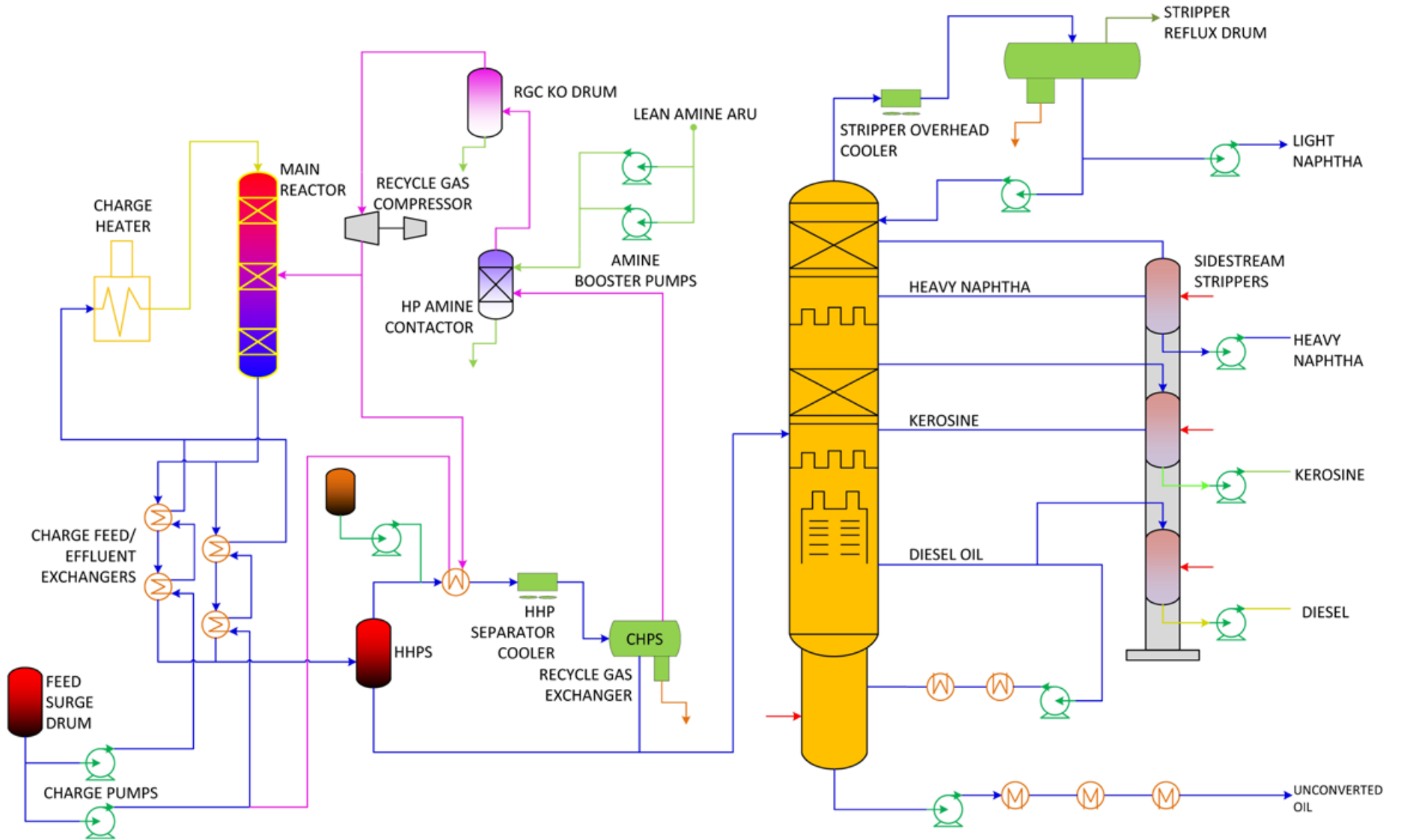
Typical Fluid Catalytic Cracker



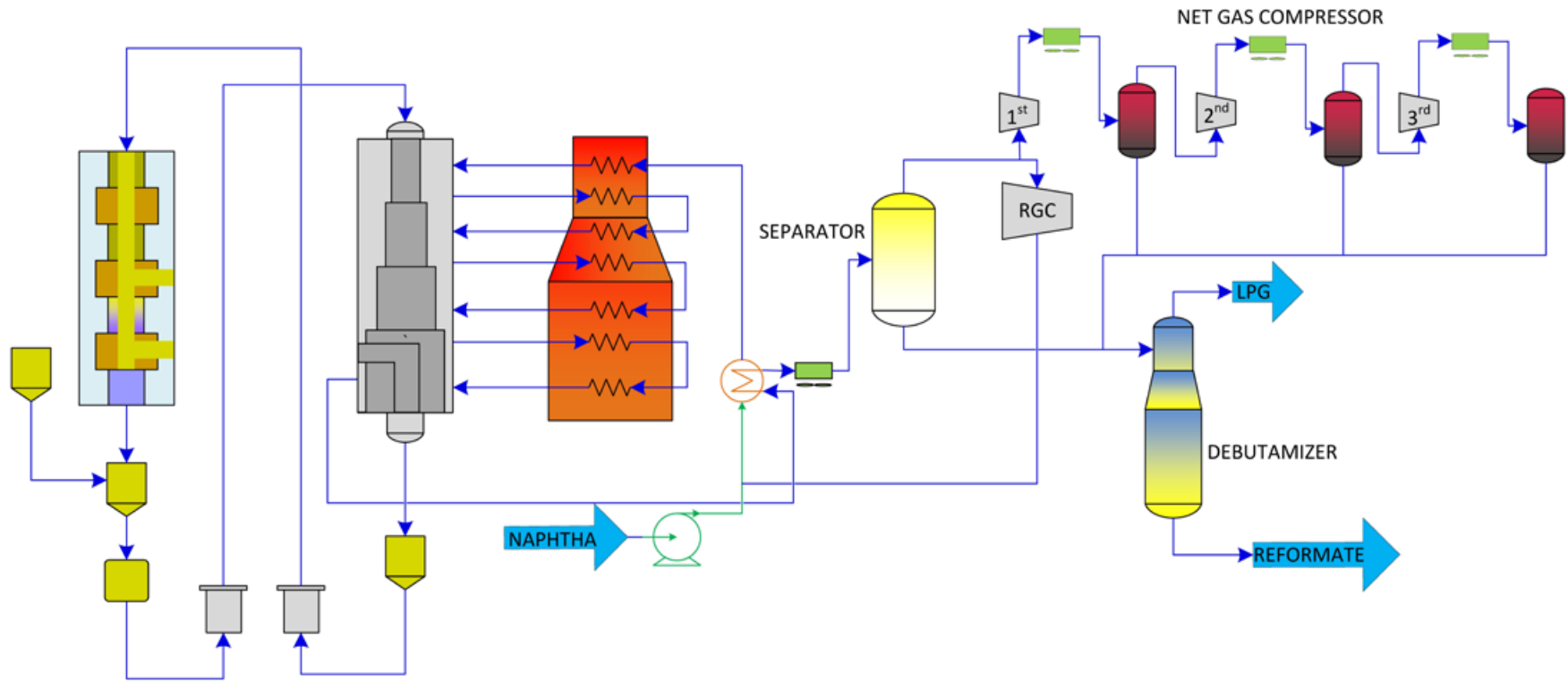
Typical Hydrocracker Thermal and Pressure Balance Processes



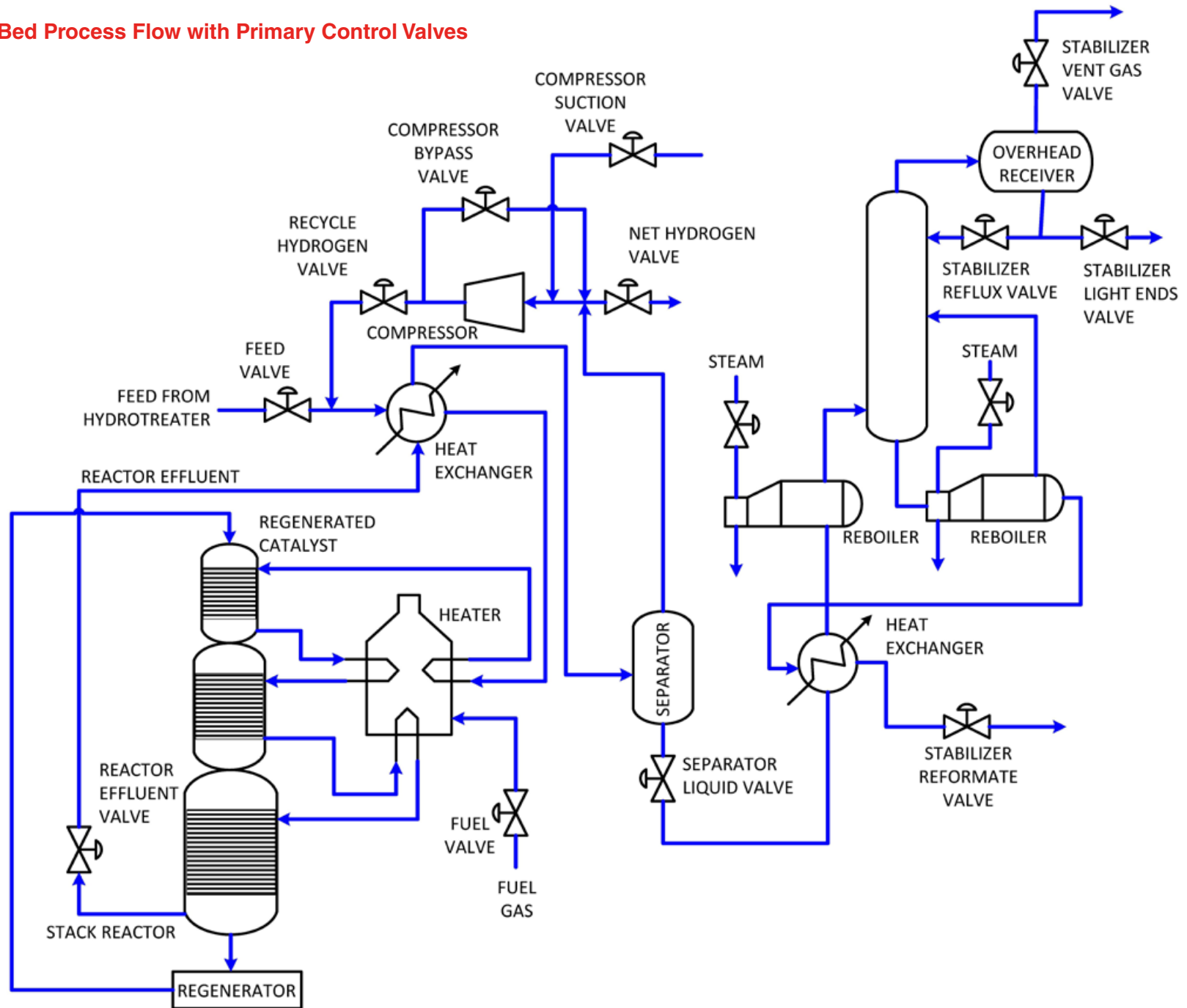
Hydrocracker (Simplified)



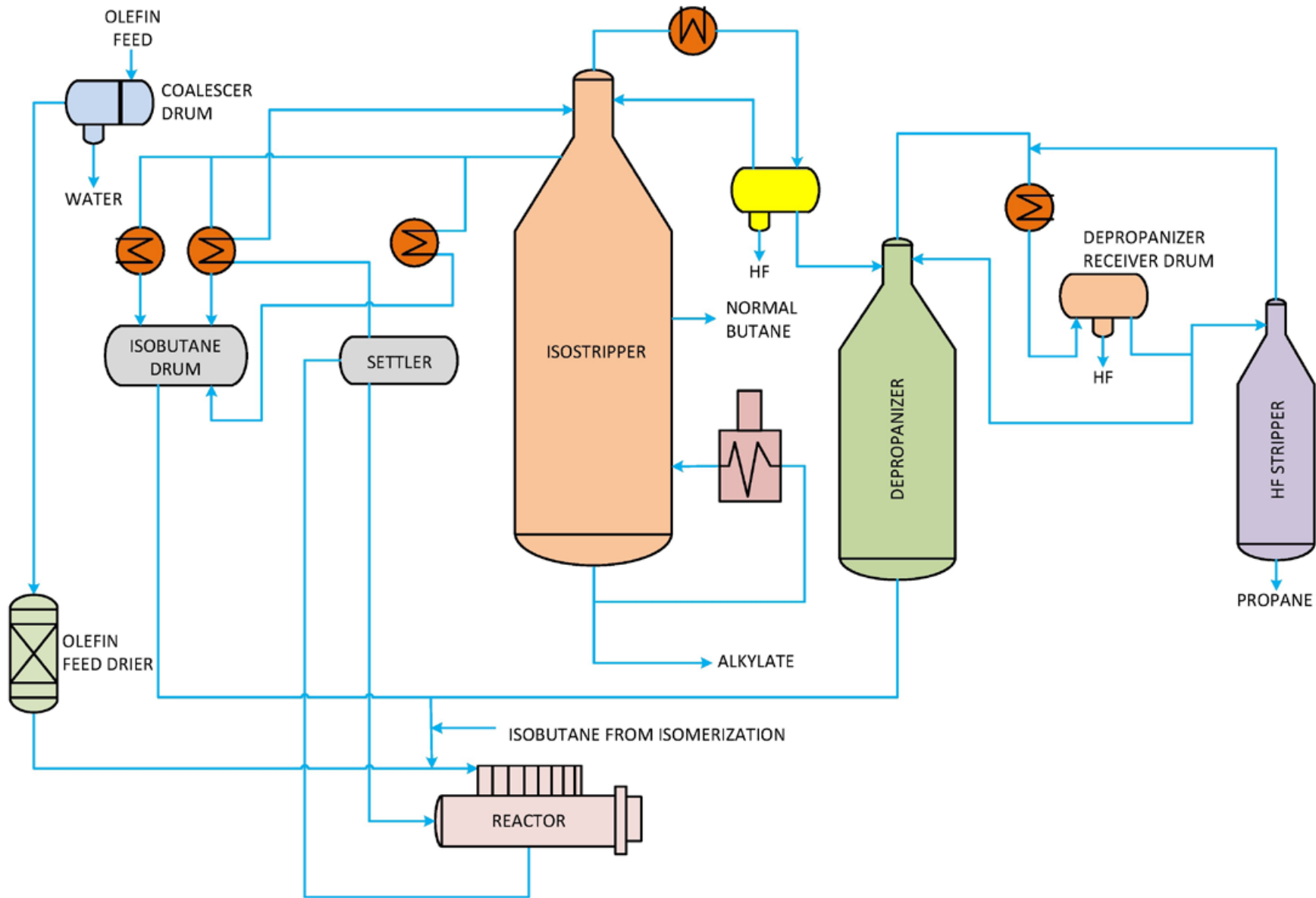
Continuous Catalytic Reformer (Simplified)



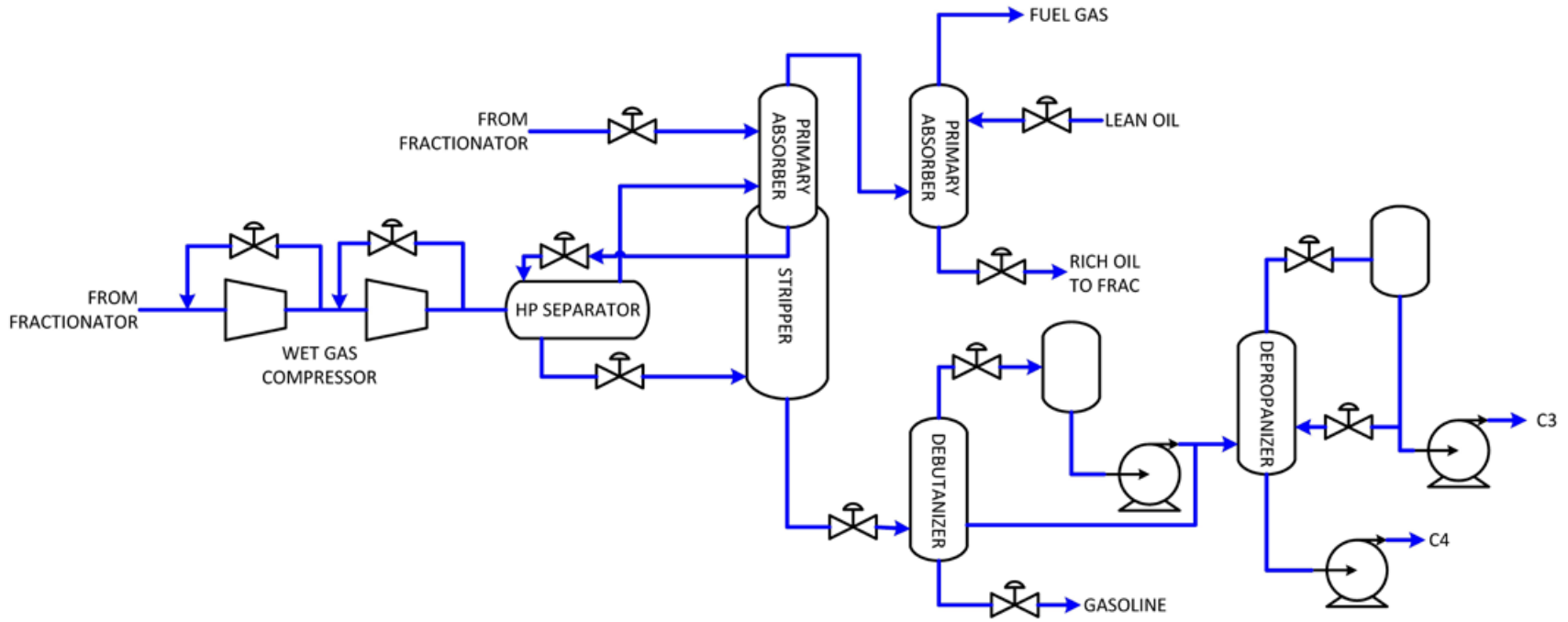
Continuous Bed Process Flow with Primary Control Valves



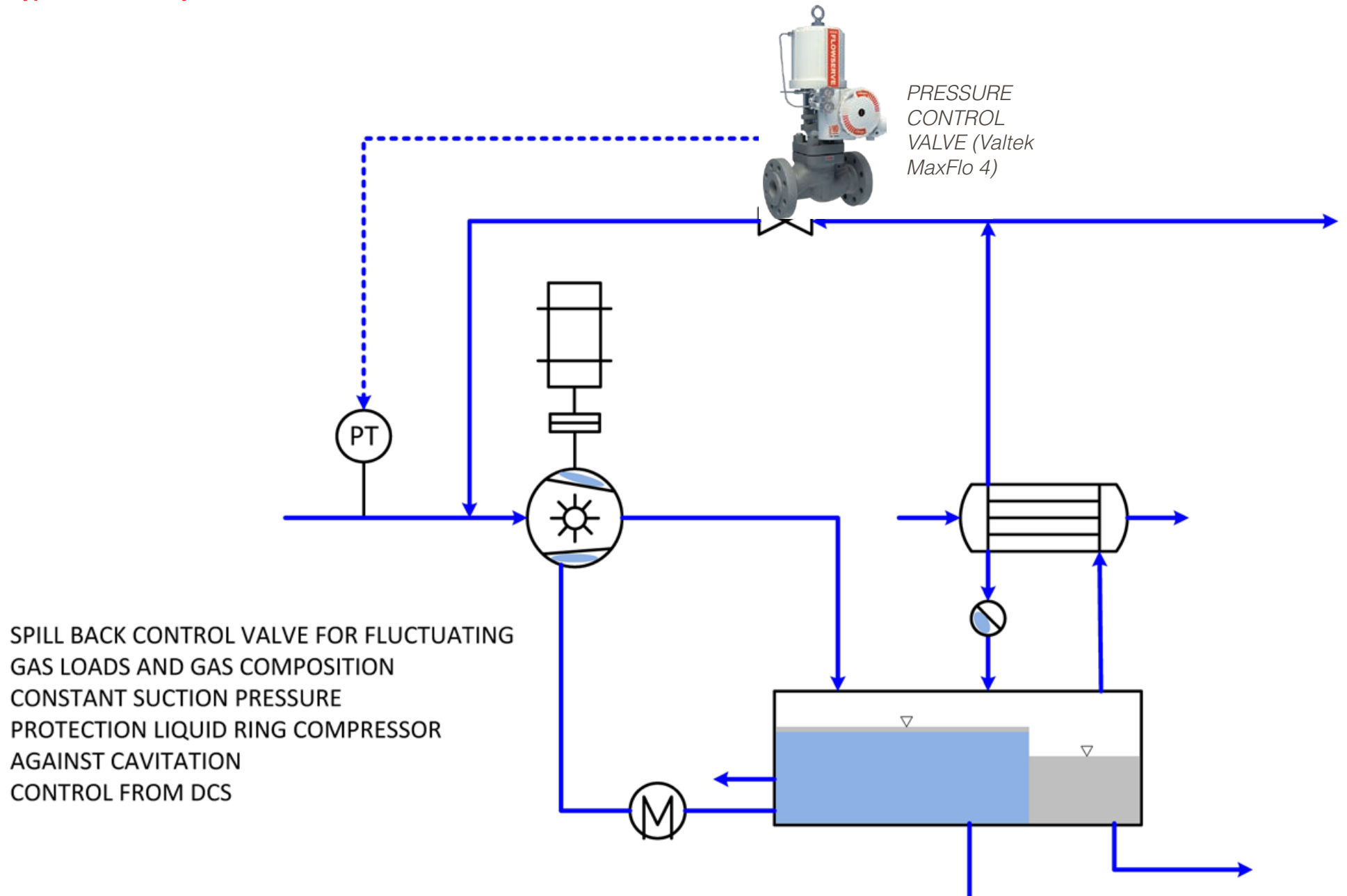
Typical Alkylation-Unit Flow



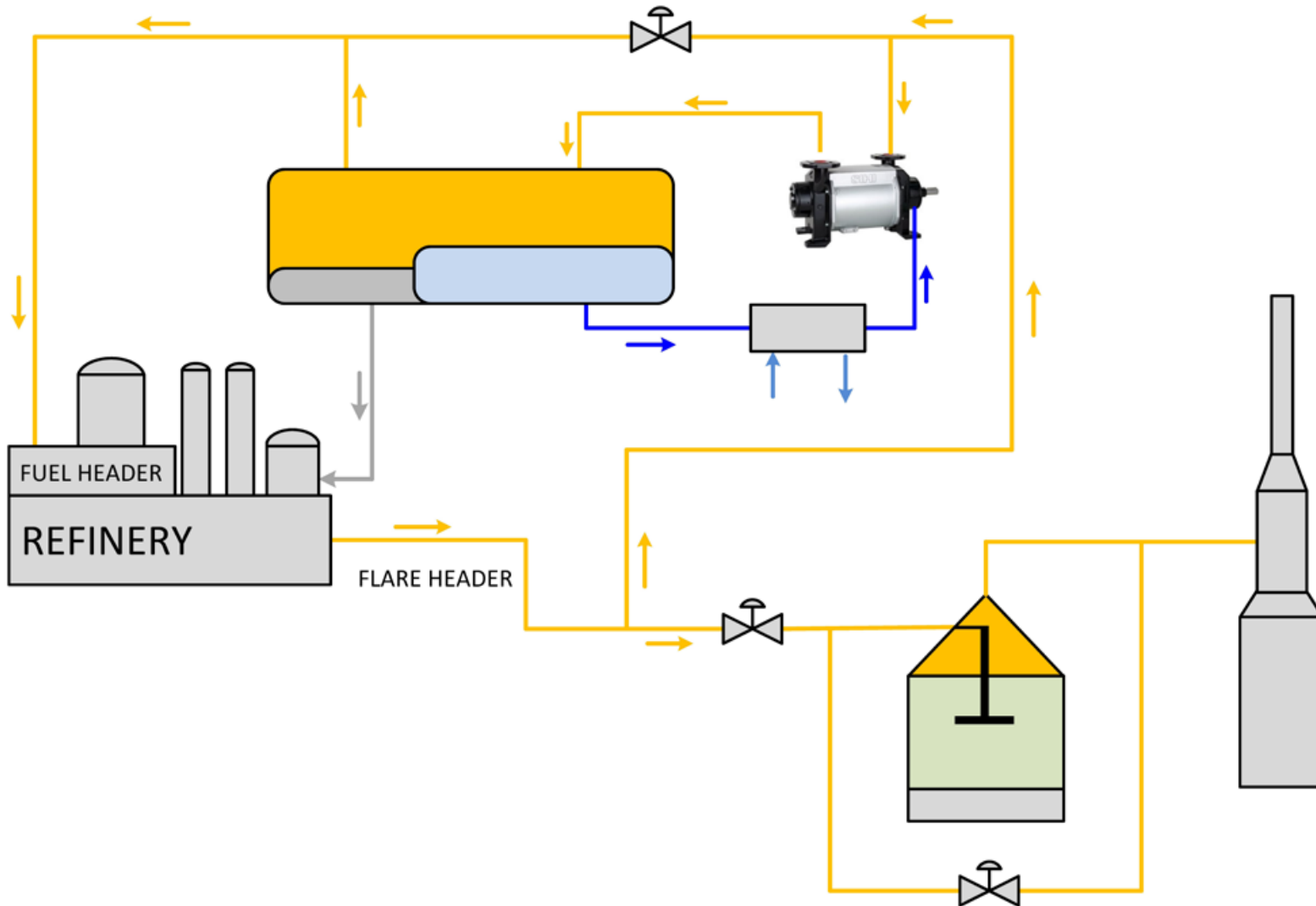
Vapor Recovery System Process



Typical Vacuum Systems

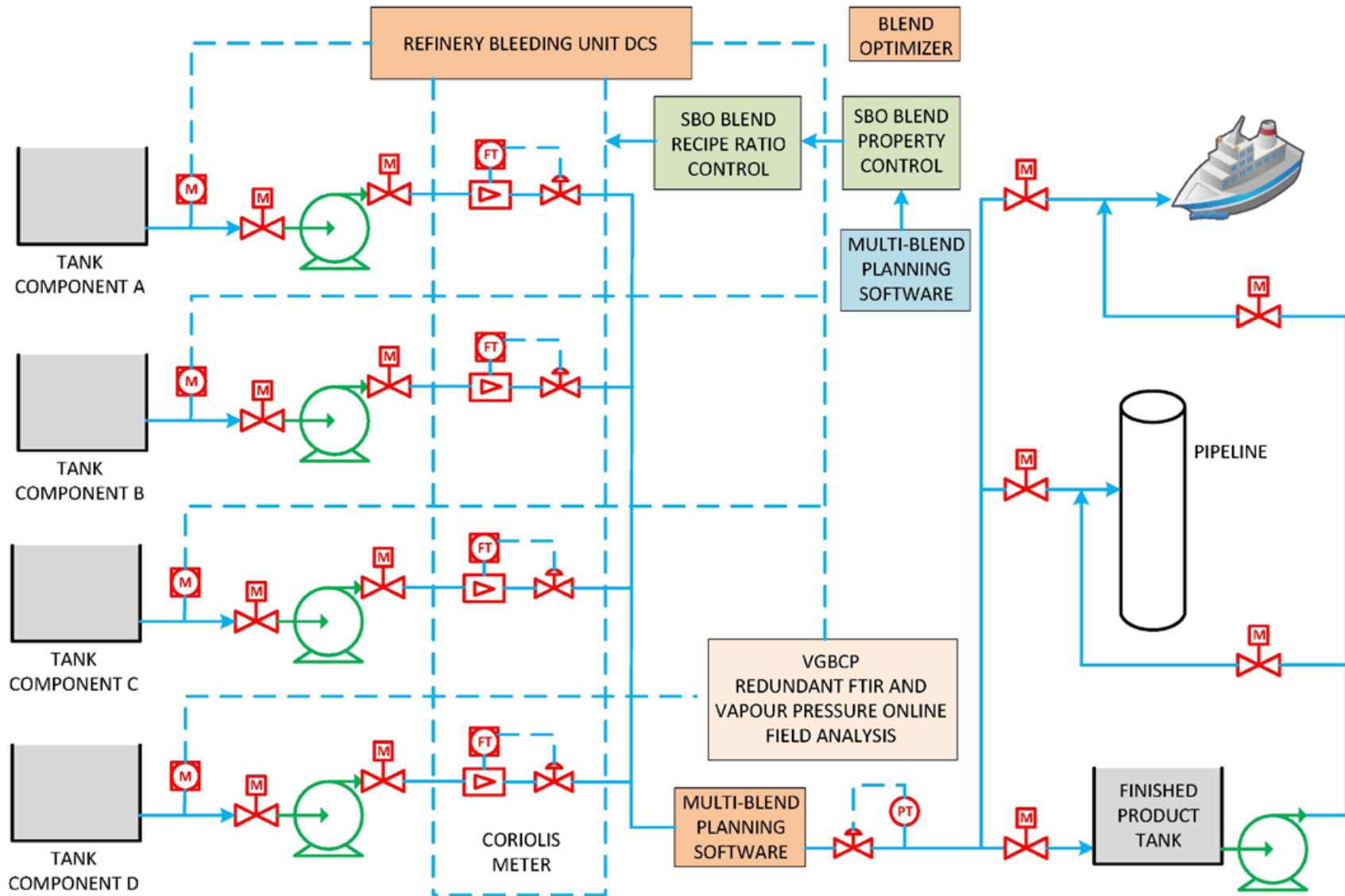


Typical SIHI Liquid Ring Used in Flare Gas

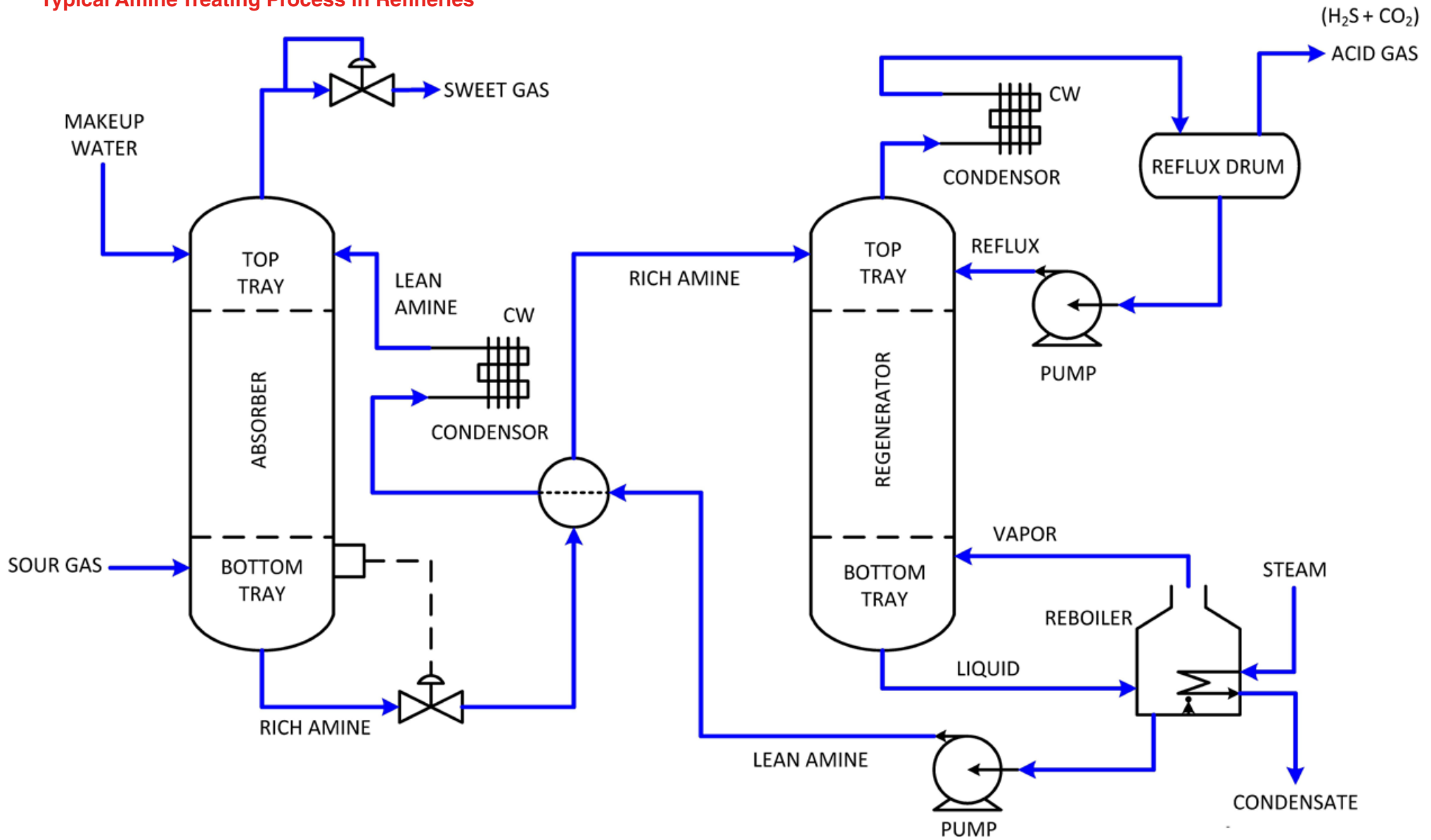


FLARING GAS: POLLUTION AND WASTE OF RESOURCES

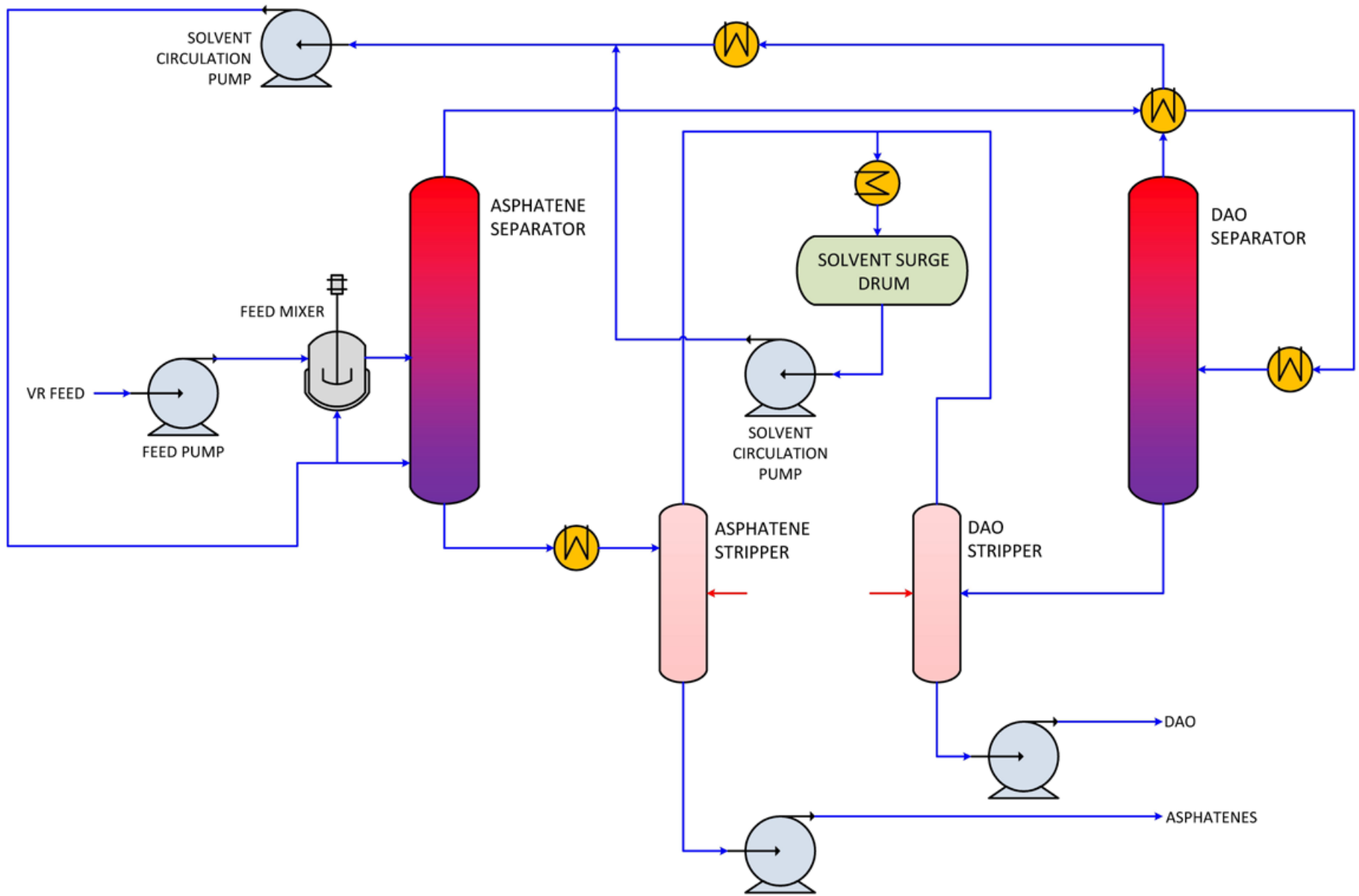
Blending (Mixing) Flow with Key Pump and Control Valves



Typical Amine Treating Process in Refineries



Deasphalter (Simplified)





North America

Latin America

Europe

Middle East

Africa

Asia-Pacific

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Experience In Motion

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