ORTLOFF ENGINEERS, LTD.

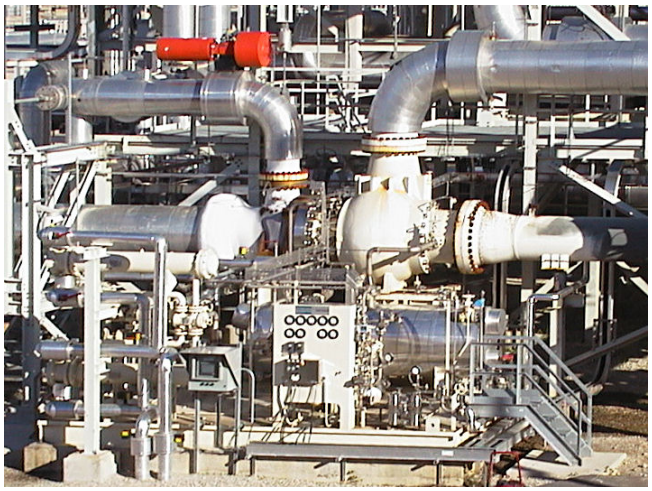
Supplemental Rectification with Reflux

Ortloff's Supplemental Rectification with RefluX (SRX) process is an enhancement of Ortloff's Recycle Split Vapor (RSV) technology. The SRX process can recover any level of ethane from ultra-high ($99\%^{+}$) down to full ethane rejection, while maintaining ultra-high propane and heavier component recovery at all times. It is an extremely flexible process for ethane recovery and is more efficient than RSV, requiring less horsepower for lower capital and operating costs.

The SRX design incorporates a demethanizer column very similar to an RSV column. A side vapor stream is withdrawn from the Demethanizer and condensed. This stream is then pumped to provide reflux to the lower of the upper two rectification sections. A recycle stream from the residue gas is cooled and fed to the top section as reflux. This additional reflux feed point allows the process to achieve any level of ethane recovery while maintaining ultra-high recovery of the propane and heavier components at all times. Additionally, the process has a higher tolerance for CO_2 in the feed gas than either RSV or GSP.

Applications

The SRX technology is extremely flexible, and can operate at any ethane recovery level up to ultra-high RSV recovery levels. This flexibility allows an operator to maximize plant profits based on ethane economics. The operator can "seamlessly" adjust the ethane recovery as necessary anywhere between ultra-high recovery and full rejection as required. This feature may also be beneficial for operational flexibility. For example, reduced ethane recovery may be desirable if the NGL recovery plant is feeding ethane to multiple downstream chemical processing plants that might be taken off-stream one at a time periodically for maintenance.



Typical applications for the SRX process include:

- Ultra-high ethane recovery from natural gas streams with essentially no loss of propane and heavier components.
- Ultra-high propane recovery from natural gas streams while operating the plant at lower ethane recovery levels.
- Applications where elevated levels of CO_2 may be present in the feed gas.

SRX technology can be installed in a new facility or may be retrofit into an existing facility where varying ethane recovery combined with ultra-high LPG recovery resulting in plant operational flexibility is desired.

Feedstock and Products

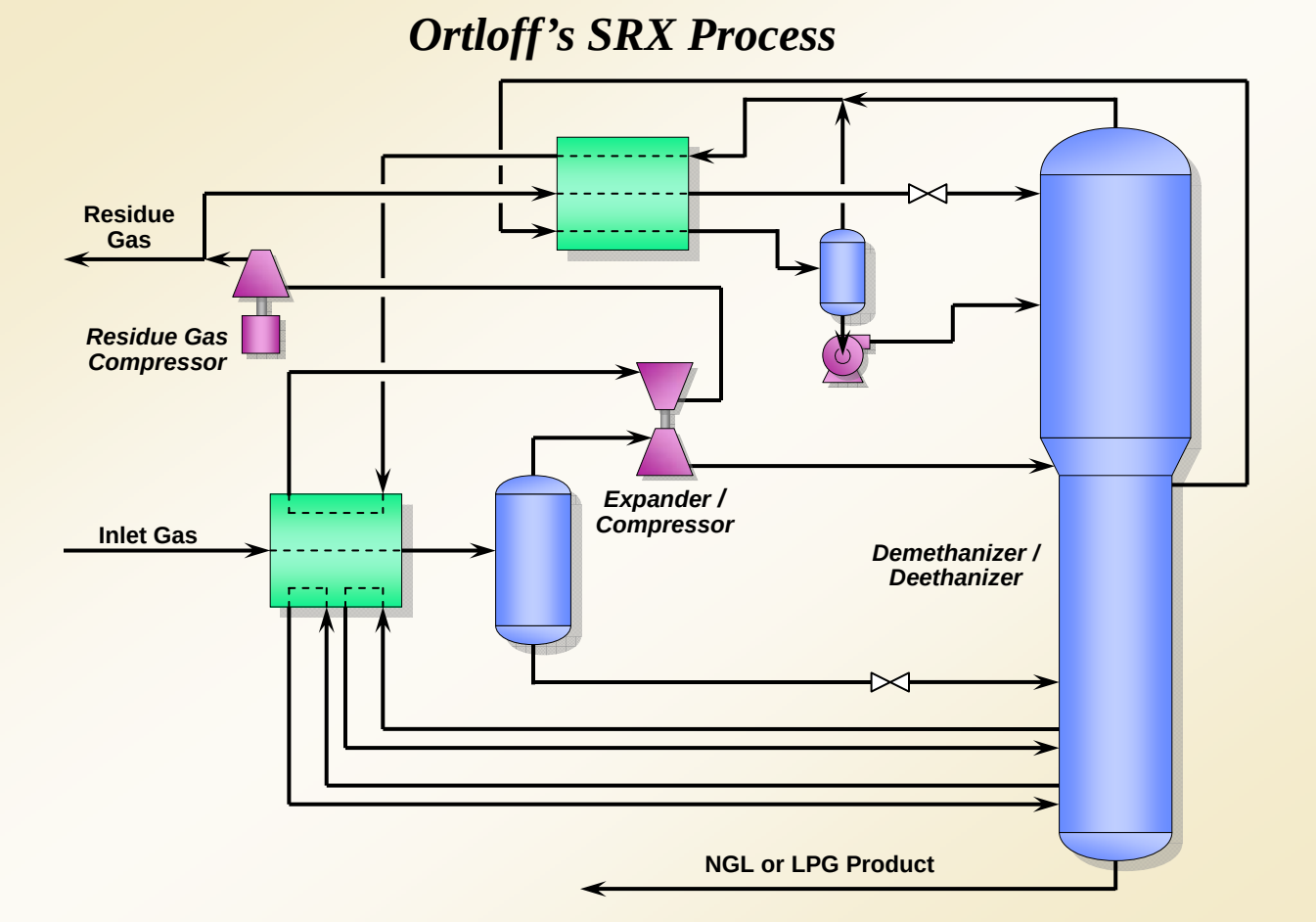
The SRX process can accommodate most natural gas feedstocks. Richer gas compositions may require the addition of a refrigeration system. Inlet pressures above 600 PSI are generally preferred.

In ethane recovery mode the SRX process produces a mixed NGL product stream, typically meeting a maximum methane in ethane liquid product specification. In propane recovery mode a mixed LPG product stream is produced, typically meeting a maximum ethane in propane liquid product specification.

The residue gas product stream will contain methane or methane and ethane, depending on the mode of operation.

Experience

Ortloff's SRX technology was developed in the mid 2000's and utilizes proven Ortloff technology that is in operation in various forms in over 200 plants worldwide.



For More Information

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