

H₂S REMOVAL FROM NATURAL GAS

SourSep™

Problem

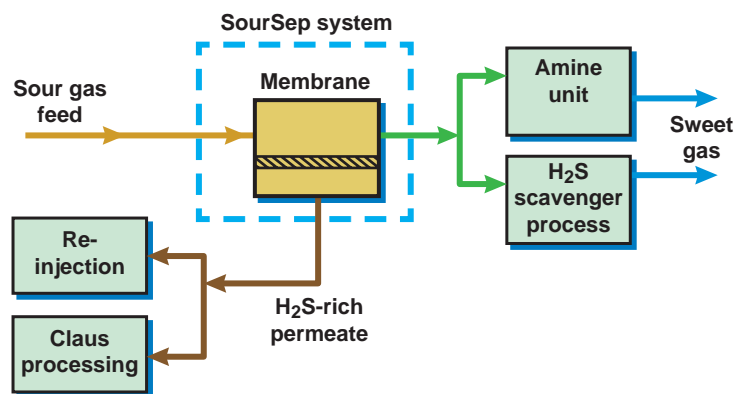
Sour gas is a headache right from the wellhead. Simple bulk removal of H₂S upstream will mitigate the problem. Upstream bulk removal can be combined with re-injection or Claus processing to unload downstream sweetening facilities. Downstream facilities can then be configured to merely polish the gas to pipeline specs - allowing a wider choice of downstream processing options.

Membrane Solution

MTR's SourSep™ systems bulk remove H₂S from pressurized sour gas in a simple single stage process. Bulk removal (>75%) will generate a very sour permeate which can be re-injected or processed in a Claus plant. The unit is simple, has no moving parts, no absorbents or adsorbents and processes only gas. No liquids or solids are used or produced. The incoming high pressure sour stream is split into a moderately sweetened high pressure product stream and a low pressure H₂S rich reject stream.

- Bulk H₂S removal using a simple passive system
- Combine with re-injection or Claus
- Simple and effective at small scale — simple to start-up and operates unattended
- Compact skid-mounted equipment can be trucked or airlifted to site

“Because of their simplicity, SourSep™ units do not need a myriad of redundant components to ensure reliability.”



SourSep™ bulk H₂S removal can be combined with (i) reinjection or (ii) Claus processing for bulk H₂S disposal. Moderately sweetened product gas can be polished using (iii) lightly loaded conventional amine units with Claus or (iv) H₂S scavenger processes.

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SourSep™ unit for installation on an Indonesian remote production field

Benefits

- Simple bulk H₂S removal down to 200-300 ppm
- Product gas with low hydrocarbon and water dewpoint
- Robust, proven membrane performance at high H₂S content
- Skid mounted equipment, can be trucked to site and installed fast

System Performance

- Feed flow rate: up to 100 MMSCFD
- Feed H₂S content: >5% to <100 ppm
- Product gas pressure 30 to 1200 psia
- H₂S reduction up to 90%

Application Options

- Bulk upstream removal
- Minimize scavenger loading

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