

Compact, Easy-to-Operate MEMBRANE SYSTEMS Outperform Traditional Sweetening Systems

Ever-increasing environmental regulations and demand for natural gas bring membranes to the forefront of the oil and gas industry as a prominent method for natural gas treatment.

For the removal of components such as CO₂, H₂S, and H₂O from natural gas, membranes are quickly differentiating themselves, particularly in processes that require bulk separations. Their compactness, modularity, quick and easy installation, passive and environmentally safe operation, and low capital investment make them the preferred choice over traditional systems.

Membrane systems are perfect for pipeline sales gas conditioning, enhanced oil recovery (EOR) operations, fuel gas conditioning, and de-bottlenecking amine plants. They can be applied to a wide variety of processes, successfully treating feed gas at 300-1715 psig and 3.0-88.0% CO₂ concentrations. In the residual stream, membrane systems typically achieve CO₂ concentrations of below 2.0%.



ABOVE: EOR CO₂ recovery plant (89% CO₂) using Grace CA spiral wound membranes. Zero hydrocarbon losses – 100% of permeate gas stream being compressed and reinjected (> 95% CO₂). APPLICATION: EOR CO₂ Gas Recovery.

A two-stage membrane system can keep overall hydrocarbon losses to 1.5% or lower.

Gas separation membrane units can be supplied using either cellulose acetate (CA) or polyimide (PI) materials based on performance requirements.

Modular units which accommodate changes in processing requirements and feed gas conditions easily accommodate turndown and expansion.



REFERENCES

Available upon request.

FOR MORE INFORMATION

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