

# H<sub>2</sub>S Removal

## GENERON<sup>®</sup> Membrane Technology



### Typical Applications

- Fuel gas conditioning
- H<sub>2</sub>S removal from bio gas or digester gas
- Hydro-cracker purge gas cleaning
- Combined w/ CO<sub>2</sub> removal

Hydrogen Sulfide, H<sub>2</sub>S, will cause corrosion in your gas engine. H<sub>2</sub>S, can be easily removed from methane or light hydrocarbon gas streams by selective permeation in Generon membrane modules. 90 to 99% reductions in H<sub>2</sub>S are achieved by simple 1 or 2 stage process that can also remove water vapor and CO<sub>2</sub> from chiefly methane feed streams. Feed gas with H<sub>2</sub>S levels in the double-digit percent range can be effectively treated with our membrane products.

Membrane systems provide an alternative to adsorptive or catalytic removal systems. High pressure feed gas is first pretreated to remove any possible liquid contaminants and then processed with Generon membrane modules to remove the H<sub>2</sub>S (as well as water vapor and CO<sub>2</sub>) as a low pressure vent stream while maintaining pressure for the purified methane product gas. Minimal methane is lost in the process that can often make pipeline spec gas. Advantages of the Membrane Systems are:

### The GENERON<sup>®</sup> Advantage

- Skid mounted process units are easy to connect and commission
- Built to your specifications and for your convenience
- Engineering support from concept to completion
- Remote control operation
- Operation flexibility with automated part-load



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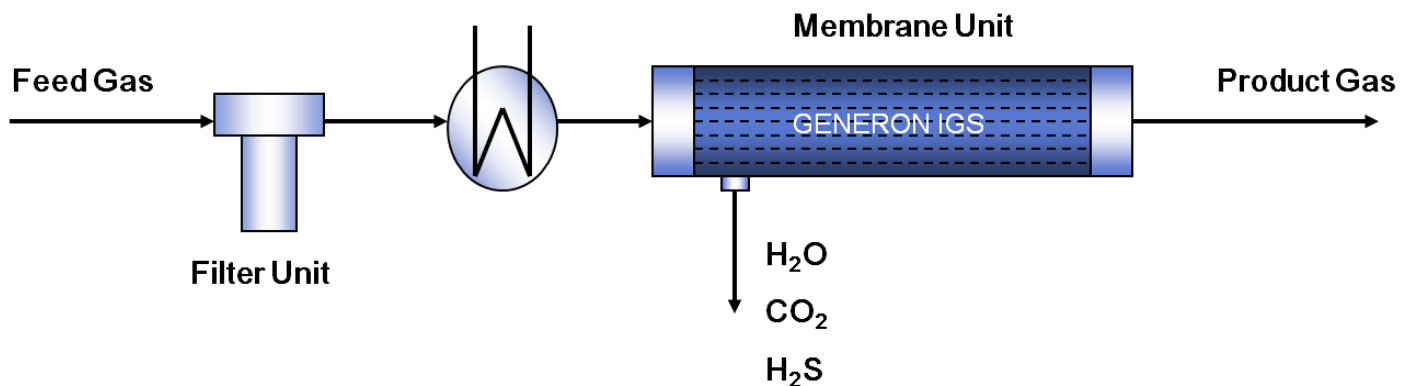
## GENERON<sup>®</sup> Membrane Technology

In a typical GENERON<sup>®</sup> membrane system for H<sub>2</sub>S removal, the feed gas is filtered to remove particles and liquid condensate. The feed gas is then heated to an optimum operation temperature and ready to enter the GENERON<sup>®</sup> membrane modules. H<sub>2</sub>S gas permeates preferred through the membrane walls. The non-permeated gas remains at pressure and is the high heating value product. The “faster” permeating gases, e.g. CO<sub>2</sub>, H<sub>2</sub>O, H<sub>2</sub>S, are collected in the permeate.



### Advantages of MEMBRANE Systems:

- no moving parts, and designed for remote unmanned operation
- Efficient packaging minimizes space and weight — ideal for offshore applications
- Optimized process design to maximize total hydrocarbon recovery
- CO<sub>2</sub> content can be adjusted to desired specifications
- Easy installation: skidded system can be installed in hours



### The System Performance:

- Feed gas pressures up to 2,000 psi (138 bar)
- > 95% recovery of hydro carbon gas
- > 10 ppm to < 5 vol% H<sub>2</sub>S in feed
- Flow rates of 10 to 350,000 SCFM