

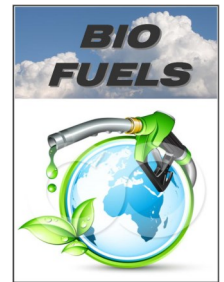
# **GENERON**<sup>®</sup> MEMBRANE TECHNOLOGY

## Biogas Systems

During anaerobic digestion or degradation in the absence of oxygen, organic material is decomposed by bacteria forming biogas, a mixture of CO<sub>2</sub> and CH<sub>4</sub> with trace amounts of H<sub>2</sub>S and H<sub>2</sub>O. The biogas can be used as vehicle fuel, in industrial processes or injected into the gas distribution grid, but first needs to be treated.

**GENERON**<sup>®</sup> membrane systems are used to reduce the CO<sub>2</sub> and improve the heating value of the gas. The systems also reduce the H<sub>2</sub>S and H<sub>2</sub>O content. The customized biogas membrane systems (which can also include the feed compressor) are manufactured in our ISO 9000 Certified facilities in Houston, TX while the membrane is manufactured in our Pittsburg, CA facility.

**GENERON** works directly with clients to provide the most efficient and cost effective solutions. Contact our professional engineering team at 713.937.5200 or [www.generon.com](http://www.generon.com) for more information.



### The **GENERON**<sup>®</sup> Advantage

- **Extensive Experience** - custom designed skids
- **State-of-the-art Membrane** - high recoveries
- **Simple Solution** - no moving parts, minimal maintenance
- **Remote Operation** - Minimal attention required, fully automated systems
- **Minimal Losses** - low HC losses
- **No Chemicals** - environmentally friendly
- **Small Footprint** - easily meet footprint

#### RELATED GENERON PRODUCTS:

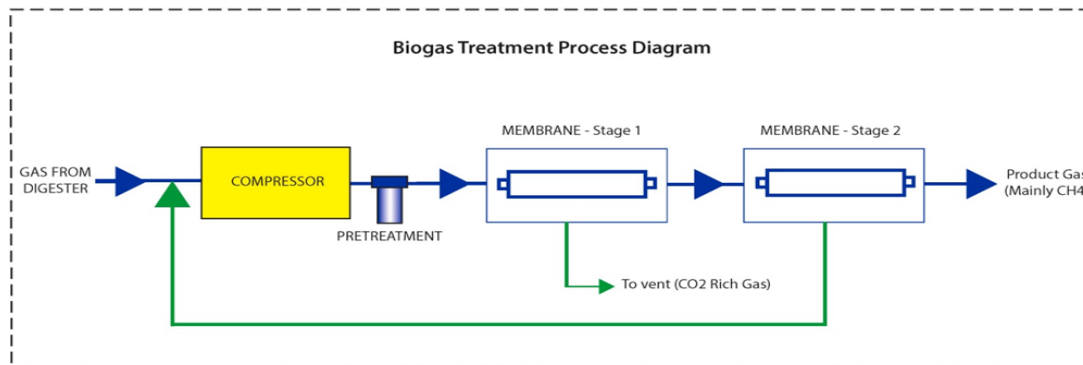
- PSA systems
- Instrument air packages
- Air and gas compression packages
- Blowers
- On-site oilfield services—operating personnel and rental equipment



# Nitrogen Membrane® Systems

## Biogas Treatment

In a typical GENERON® biogas membrane system the feed gas is filtered to remove any entrained aerosols and liquids. The gas then enters the GENERON® membrane modules. The CO<sub>2</sub> as well as any H<sub>2</sub>S and H<sub>2</sub>O permeate through the membrane. The non-permeated gas, mainly CH<sub>4</sub>, remains at pressure and is the product gas.



### SYSTEM PERFORMANCE:

- Feed gas pressures up to 1,000 psi (69 bar)
- > 60 vol % CO<sub>2</sub> in feed
- < 2% CO<sub>2</sub> content in product
- >98% recovery of hydrocarbon gas
- > 90% removal of CO<sub>2</sub>
- Flow rates from 0.01 to 500 MMscfd



### ADVANTAGES:

- **No moving parts**, and designed for **remote unmanned operation**
- **Treat a wide range of flow rates**
- **Efficient packaging minimizes space and weight** — ideal for offshore applications
- **Custom designed systems** - maximize total hydrocarbon recovery
- **System flexibility** - Can operate at wide range of flow rates and CO<sub>2</sub> Content
- **Quick deployment & quick installation** - skidded system can be installed in hours

#### GENERON

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