

GENERON® MEMBRANE TECHNOLOGY

Coal Bed Methane Treatment



Coal bed methane gas is present in coal deposits and mainly consists of CH₄ and CO₂. The simplest way to treat is with membrane® technology that lowers the CO₂ content to less than 2 mol % .

GENERON'S® membrane systems have been used to reduce the CO₂ and improve the heating value of the gas. **GENERON** supplies customized coal bed methane gas treatment systems which also include the feed compression. **GENERON®** fabricates its own membrane modules and works directly with the client to provide the most cost effective solution

Alternatives for treating the coal bed methane gas are amine systems which are complex and have high capital, operating and installation costs, as well as requiring chemicals that need continued replacement and disposal.

Other alternatives for biogas treatment are absorption (water wash) or adsorption (PSA) systems. These complex systems have high capital, operating and installation cost compared to membrane systems.

The GENERON® 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:

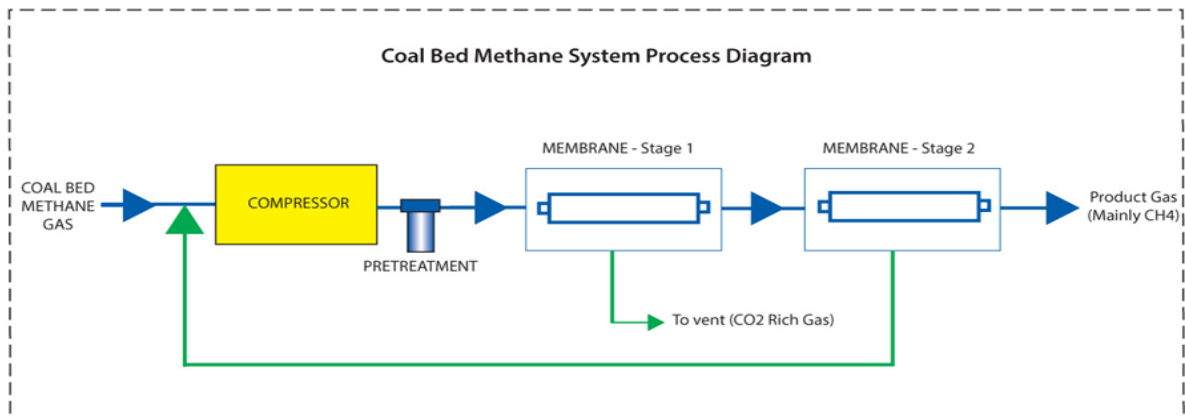
- PSA systems
- Instrument air packages
- Air and gas compression packages
- Blowers
- On-site oilfield services—operating personnel and rental equipment
- Custom Integrated Skid Packages



Nitrogen Membrane® Systems

Coal Bed Methane Treatment

In a typical **GENERON®** coal bed methane treatment membrane system the feed gas is first filtered to remove any particles and liquid condensate. The gas then enters the **GENERON®** membrane modules. The CO₂ permeates preferably through the membrane. The non-permeated gas, mainly CH₄, remains at pressure and is the product gas.



SYSTEM PERFORMANCE:

- Feed gas pressures up to 1,000 psi (69 bar)
- > 60 vol % CO₂ in feed
- < 2% CO₂ content in product
- >98% recovery of hydrocarbon gas
- > 90% removal of CO₂
- Flow rates from 0.01 to 100 MMscfd



ADVANTAGES:

- **No moving parts.** Designed for **remote** unmanned **operation**
- **Efficient packaging minimizes space & weight** –Ideal for **OFFSHORE** applications
- **Optimized** process design to maximize total hydrocarbon recovery
- **System flexibility** - Can operate at wide range of flow rates and CO₂ Content
- **Quick deployment & Installation** - skidded systems installed in hours

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