

Guild
Associates, Inc.

Profit from Your Digester Proven, Trouble-free System Upgrades Biogas to Pipeline Specifications



A Guild System for Smaller Flow Rates

Digester gas systems producing biogas are becoming increasingly common due to the wide range of benefits offered to the farmer. Previously in this application, the resultant biogas is commonly flared or used in generators that produce power for local or grid use.

Electrical generation, however, is costly and maintenance intensive and, in most regions, provides little revenue for the sale of electricity. What is more, the presence of H₂S in the biogas is corrosive to the generator engines, compounding maintenance and shortening generator life.

Systems are now being used to remove the water, carbon dioxide, and H₂S contaminants present in the biogas in a single processing step to produce high purity methane for pipeline sales. Enriching the biogas to pipeline specifications enables the farmer to derive substantially greater returns for the biogas since it can achieve its full commercial sales potential. The farmer also benefits from the stable demand for natural gas, and avoids the troublesome operating problems with on-site electrical generation.

In the Guild process, biogas is compressed to 60-100 psig, before being introduced to the Guild adsorption system. The PSA adsorption system removes the water, carbon dioxide, and H₂S, to yield a product gas which meets pipeline specifications. Subsequent to the adsorption step, the adsorber vessel is regenerated by reducing the pressure and desorbing the water, carbon dioxide, and H₂S through a vacuum pump, at which point these impurities, and a small portion of the feed methane, leave the system as tail gas. The tail gas can be used as local fuel or flared, as necessary, since it has a relatively low heating value.

In most cases, biogas contains approximately 40% carbon dioxide, up to a few thousand ppm of H₂S, and is water saturated. The system removes the water to the pipeline specifications of less than 7 lbs per MMSCF, removes the H₂S to a typical requirement of 4 ppm, and removes the carbon dioxide as required by the pipeline specification (typically in the range of 1 to 3%).

Installations

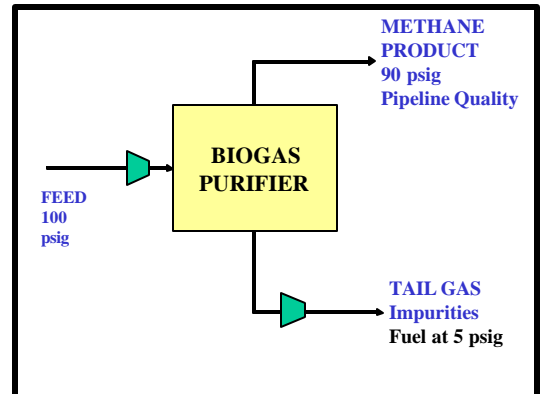
Guild has been fabricating and installing systems producing pipeline gas for over 5 years. To date, two-dozen projects by Guild are underway. These systems are noted for high reliability, unattended operation, and environmental friendliness. Push-button start-up and easy operation allow for minimal efforts by the operator. A daily visit to review the operation is generally all that is necessary to insure continuous generation of pipeline quality product gas.

Flow rates range from 0.5 MMSCFD or less to 10 MMSCFD. System turndown is to zero flow,

and units are commonly designed for expansion of the treating capacity for future production, often to double the initial capacity.

About Guild Associates

Guild provides adsorption and catalyst systems to a variety of markets, as well as shop fabricated engineered systems. Guild Associates is the licensee of the Molecular Gate™ technology originally developed by Engelhard Corporation (now a part of the BASF Group) and has provided all systems to date.

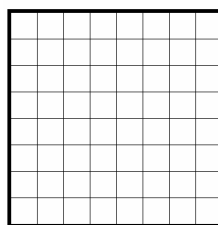


Contact

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You can also visit us on the Internet at www.moleculargate.com

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