

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 siloxanes and H₂S in the biogas can cause operation challenges and compound maintenance and shortening generator life.

Systems are now commonly being used to remove the water, siloxanes, VOCs, H₂S and carbon dioxide 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 operator to derive substantially greater returns for the biogas since it can achieve its full commercial sales potential. The operator 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, siloxanes, VOCs, H₂S and carbon dioxide 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 impurities 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, ppm levels of siloxanes (in WWTP digesters) 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, removes siloxanes to non-detectable levels and removes the carbon dioxide as required by the pipeline specification (typically in the range of 1 to 3%). Only regenerated media is used and media replacement is not required.

Installations

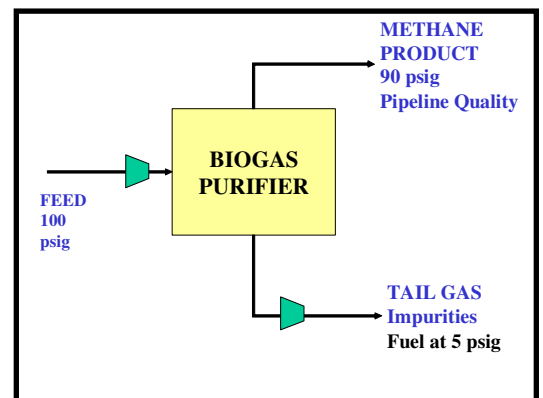
Guild has been fabricating and installing systems producing pipeline gas for over a decade. To date, over 35 projects by Guild are underway. These systems are noted for high reliability, unattended operation, and environmental friendliness. Push-button start-up and easy operation allow for minimal efforts 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 100 SCFM to 12,000 SCFM. System turndown and purity control is automatic. Units are commonly designed for expansion of the treating capacity for future production.

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 in the marketplace.



Contact

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