

Molecular Gate[®] Adsorption Technology

Molecular Gate SPEC PLANT for N₂ Removal from Smaller Flow Rates



Molecular Gate[®] "SPEC Plant"
Being Delivered

Molecular Gate[™] adsorption systems for upgrading contaminated natural gas are rapidly growing in popularity with two-dozen projects underway. This includes systems for the removal of nitrogen (N₂) from natural gas, the removal of carbon dioxide (CO₂), or removal of a mixture of N₂ and CO₂. Molecular Gate[®] adsorbents are a new type of molecular sieve that can adsorb and remove N₂ (as well as CO₂) from contaminated natural gas.

Experience indicates that contaminated gas production inherently means that the wells have not been produced for extended periods. This is due to the fact that the contamination restricts the introduction of the gas into the pipeline system unless a blending arrangement can be negotiated. An expensive leap of faith by the producer is required to prove the wells and requires a substantial investment in the field and upgrading technology.

Nitrogen (along with CO₂) has been removed in many systems including feeds from contaminated natural gas and coal mine gases. Typically N₂ is removed to 4% (with CO₂ in the feed removed to 50 ppm or less).

SPEC Plant Availability

To help alleviate this investment risk, Guild Associates, Inc. offers a SPEC PLANT on a purchase or rental basis to allow production and well decline evaluation while limiting the investment required. The system is also appropriate for long-term use on smaller flow rates.

The SPEC PLANT operates by removing nitrogen at 60-100 psig, produces methane at 50-90 psig and rejects the N₂ (and CO₂) and about 10% of the feed methane at 5 psig. The system operates unattended with only a daily visit by the well pumper and with all major equipment skid mounted for easy and quick installation.

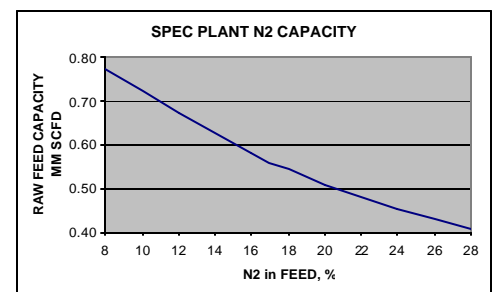
Successful proof of the field allows the producer to proceed with a more aggressive drilling program targeting larger flows. Start-up services and training of the operator (typically the well pumper) is provided but the simplicity of the system and shop operation prior to shipment makes start-up easy.

Complete Portability

For installation, the footprint of the main skid is 8ft by 25-ft though peripheral items, such as compression, will require an area for placement. The skid is shipped with the vessels, vacuum pump, instrument air system, valves and instrumentation installed and pre-tested. The weight is about 30,000 lbs and easily shipped on a doubled-drop truck. Installation is typically on a timber/gravel base or concrete pad. A separate skid of buffer tanks to smooth flows is also provided.

The portability of the system also makes it applicable to purifying associated gas after frac projects.

The capacity of the unit depends on the amount of nitrogen in the feed and the required product specification. Capacity for a product of 4% nitrogen is shown in the chart.



About Guild Associates

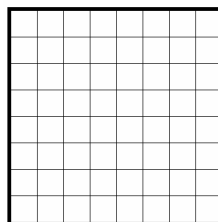
Guild Associates is the exclusive USA licensee of the Molecular Gate technology originally developed by Engelhard Corporation (now a part of the BASF Group), and provides adsorption and catalyst systems to a variety of markets as well as shop fabricated engineered systems including Molecular Gate systems.

Contact

To learn more about Molecular Gate technology, contact Michael Mitariten, by phone, at 908-752-6420 or, by email, at mike@moleculargate.com

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

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Guild
Associates, Inc.

5750 Shier-Rings Road
Dublin, OH 43016
Phone: (614) 798-8215
Fax: (614) 798-1972

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