



CLEAN-BGAS® UPGR

Biogas upgrading solution

CLEAN-BGAS® UPGR is a technology focused on biomethane production. There are different stages in the technology and it is based on a chemical process which includes a chemical scrubber with amine. The technology has different modules.

Biogas Cleaning: It aims to separate all the impurities from the biogas before its entry into the CO₂ removal process. At this stage undesirable compounds such as siloxanes, moisture, particulates, halogenated hydrocarbons and NH₃, that can poison the solvent used for scrubbing, are removed.

CO₂ removal / Biomethane. This is performed by chemical absorption. The biogas is washed with a suitable chemical solvent (Alkanolamine) to remove up to 100% of CO₂ from this stream, as well as possible traces of H₂S that can be found in biogas. As a result of the process, a biogas stream with a high level of CH₄, similar to natural gas is obtained.

Solvent recovery. The regeneration of the solvent is made by distillation. By doing so the CO₂ stream is removed from the solvent, captured from the biogas. The solvent is once again used in the absorption operation while the CO₂ can be destined to other uses (filling fire extinguishers, dry ice, seaweed farming, petrochemicals, etc.).

Drying gas / biomethane: Drying gas: Its purpose is to ensure a dry gas for its compression and storage. This operation involves cooling and drying by adsorption. For the last operation, substances with a high adsorption capacity are used.



Technical features

- Suitable for any type of biogas.
- Compact equipment installed in modified shipping containers.
- Modular equipment depending on the vehicle fleet.
- Operates at low pressures.
- Intelligent management of energy produced.
- Fully automatic.
- Produces a high CO₂ concentration stream useful for the market.

Applications

- Biofuel for vehicles.
- Injection into natural gas grid.
- Raw material for production of methanol and hydrogen.
- High purity CO₂.
- As natural gas.

Advantages

- Low power consumption.
- Minimum investment in civil works.
- Ecological fuel.
- Operation at low pressures.
- The solvent is selective, minimal loss of methane.



Biogas compressor



Biogas cleaning