Biogasclean **QSR** - biological removal of H_2S from biogas

Plant: *Nature Energy Køng Denmark*

Capacity: *2,500 Nm^3/h (1,470 scfm) CO_2 7,500 ppm H_2S*

Key features of Biogasclean QSR:

- **The PTU** – the Process Technique Unit - is the engine room and contains PLC controller board, circulation pump, air blower, valves, flow meters and – if required – also gas detector and heating system installed either on a skid or in a custom-made fiberglass container or a modified shipping container.
- **The reactor tank** is manufactured in high quality fiberglass and made with a grating so it is possible to inspect the tank underneath the packing media. The tank is supplied with ladder and handrail and - if required – also with insulation. The tank is so robust that it can be filled with water. We manufacture fiberglass tanks in several countries to reduce transportation costs.
- **The packing media** is manufactured in plastic and can be cleaned inside the tank with the QSR® - Quick Sludge Removal - system. This will reduce downtime and increase revenues.
- **Safety;** injection of air or oxygen into biogas is only safe with a reliable control system. The PLC receives signals from an oxygen meter and will reduce or stop air injection in case the oxygen content in the clean gas gets too high. If the PTU is enclosed the safety system will remove the ignition source by cutting the power supply if the gas detector in the PTU should measure above 25% of the Lower Explosive Level (LEL) of CH_4.

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Plant: *Seaboard Sunray, Texas USA*

Capacity: *1,190 m^3/h (700 scfm) CO_2 5,000 ppm H_2S*

- **Efficient and reliable operation;** the system is automatically controlled by the PLC controller board which reduces the risk for manual errors and operation problems. The main function is to provide stable conditions for the biological process and to ensure safe and reliable production. The signals are available in the control room and can be accessed for remote process control.
- **Low operating costs;** the system uses no chemicals and has a very low electrical consumption. In many projects we use treated water from an anaerobic digester or an aeration pond as scrubber liquid and nutrient source. This is cheaper than soft water and industrial fertilizer. To prevent clogging inside the scrubber tank the water is first pre-treated in the MUW® - Make Up Water - system.
- **Guaranteed performance;** we provide performance guarantees on all projects.

Biogasclean A/S
Biogasclean is specialized in biological desulfurization and methanation of biogas. We develop, manufacture and supply fully automated gas conditioning systems combining low operating costs with high availability. Our track record comprises more than 300 plants in operation or under construction in 40 countries. Biogasclean supplies clean gas to more than 650 MW gas engines and boilers and removes sulfur from more than 30 biogas upgrading plants for RNG production.

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