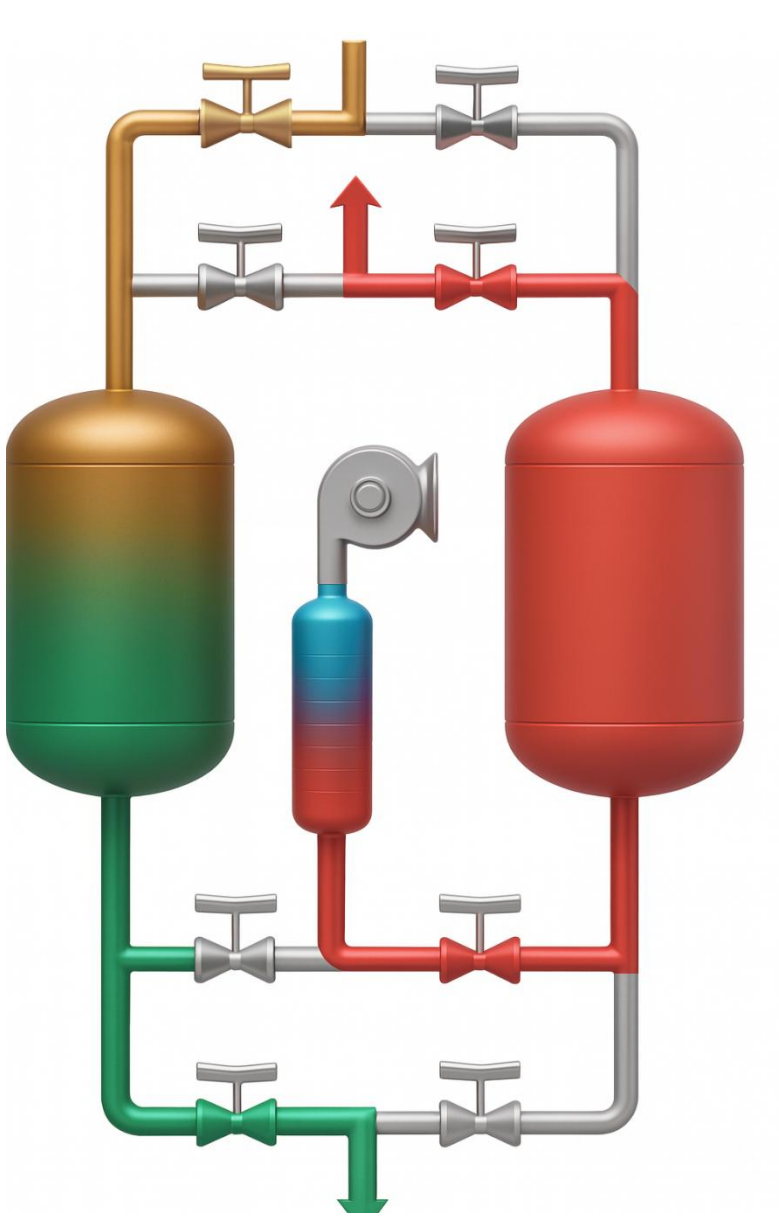
Regenerative VOC & Siloxane Removal System (SGS)

ANKA

Regenerative VOC & Siloxane Removal System Principles



The untreated biogas which contains VOC & Siloxanes passes through the filter system and is fed to the gas engines up to 99% purified from VOC & Siloxanes.

The system consists of two filters containing the media for VOC & siloxane removal. These filters work in sequence. When a filter reaches its full adsorption capacity, the system automatically activates the other tank which is already regenerated and ready. Thus, the gas engines are continuously supplied with clean gas.

Regenerative VOC & Siloxane Removal System Specifications:

- Ability to work with PLC fully automatically without requiring operator intervention
- Low maintenance cost
- Compliance with ATEX and CE directives
- Fail-safe system
- Low cost filter material
- Regenerable filter media
- Small footprint, compact design
- Communication hardware that can be integrated into SCADA systems (Optional)
- Remote monitoring and SMS sending feature (Optional)

Seymen Regenerative VOC & Siloxane Removal System (10.000 Nm3/h)

In gas engines, siloxanes are oxidized to silicon dioxide (SiO_2) in combustion chamber forming solid, hard and abrasive crystals. Silicon dioxide deposits on cylinders, pistons, valves and many other engine components. These deposits cause severe damages to the engines, lead to frequent equipment maintenance, reduce generation capacity and shorten spare part replacement interval.

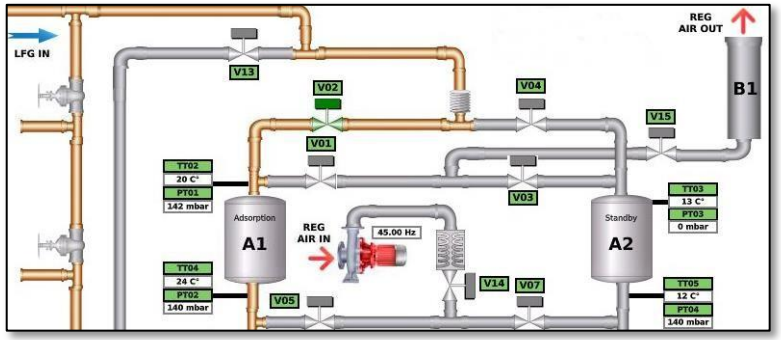
SGS ® by ANKA offers a unique solution for all these problems and treat the landfill or biogas to the acceptable limits by the gas engine manufacturers. Seymen LFG treatment plant is on duty since the beginning of September 2020 for 10.000 m^3/h LFG.

Seymen Regenerative VOC & Siloxane Removal System Expansion

After 1 year of operation of 10.000 m3/h Seymen LFG treatment plant, the SGS system has been upgraded to 20.000 m3/h on February 2022.

Edirne Regenerative VOC & Siloxane Removal System (1.400 Nm3/h)

Landfill Gas Treatment System SGS-1400 is supplying clean gas for 2 of 1200 kW MWM type landfill gas engine for landfill gas to electricity power plant in Edirne. It has capacity of 1.400 Nm3/h gas flowrate. It started working in November 2020 and it is up and running now successfully.



SEKAY Regenerative VOC & Removal System (2.500 Nm3/h)

Landfill Gas Treatment System SGS-2500 is supplying clean gas for four of 1457 kW CAT type landfill gas engine for landfill gas to electricity power plant in Sakarya. It has capacity of 2.500 Nm3/h gas flowrate. It started working in March 2022 and it is up and running now successfully.

EGE Regenerative VOC & Siloxane Removal System (2.500 Nm3/h)

Landfill Gas Treatment System SGS-2500 is supplying clean gas for 4 of 1415 kW Jenbacher INNIO type landfill gas engine for landfill gas to electricity power plant in Manisa. It has capacity of 2.500 Nm3/h gas flowrate. It started working in June 2022 and it is up and running now successfully.

Osmaniye Regenerative VOC & Siloxane Removal System (1.400 Nm3/h)

Landfill Gas Treatment System SGS-1400 is supplying clean gas for two of 1200 kW MWM type landfill gas engine for landfill gas to electricity power plant in Osmaniye. It has capacity of 1.400 Nm3/h gas flowrate. It started working in June 2022 and it is up and running now successfully.

SUEZ Regenerative VOC & Siloxane Removal System (1.400 Nm3/h)

Landfill Gas Treatment System SGS-1400 is supplying clean gas for 2 of 1200 kW MWM type landfill gas engine for landfill gas to electricity power plant in Çanakkale. It has capacity of 1.400 Nm3/h gas flowrate. It started working in July 2022 and it is up and running now successfully.

SEKAY Biogas Regenerative VOC & Siloxane Removal System (2.500 Nm3/h)

Landfill Gas Treatment System SGS-2500 is supplying clean gas for 4 of 1457 kW CAT type biogas engines for biogas to electricity power plant in Sakarya. It has capacity of 2.500 Nm3/h gas flowrate. It started working in August 2022 and it is up and running now successfully.

Kayseri Regenerative VOC & Siloxane Removal System (2.500 Nm3/h)

Landfill Gas Treatment System SGS-2500 is supplying clean gas for 4 of 1415 kW Innio Jenbacher type landfill gas engine for landfill gas to electricity power plant in Kayseri. It has capacity of 2.500 Nm3/h gas flowrate. It started working in January 2023 and it is up and running now successfully.

Pystallia Regenerative VOC & Siloxane Removal System (600 Nm3/h)

Regenerative VOC & Siloxane Removal system was installed in the Ellaktor Group's waste treatment plant located on the Pysttalia Island within the Athens borders, using a Regenerative Thermal Oxidizing System. The System has been successfully commissioned in 2023.

Mersin Regenerative VOC & Siloxane Removal System (6.750 Nm^3/h)

Landfill Gas Treatment System SGS-6750 is supplying clean gas for the 13.2 MW landfill gas-to-energy plant in Mersin operated by Kalde Enerji.

The system was initially installed with a capacity of 4,500 Nm^3/h and later upgraded to 6,750 Nm^3/h to meet higher gas flow requirements.

It started working in 2024, and it is up and running successfully.

Silifke Regenerative VOC & Siloxane Removal System (2.500 Nm^3/h)

Landfill Gas Treatment System SGS-2500 is supplying clean gas for the 3.6 MW landfill gas-to-electricity power plant in Silifke.

It has a capacity of 2,500 Nm^3/h gas flowrate.

It started working in May 2024, and it is up and running successfully.

Nevşehir Regenerative VOC & Siloxane Removal System (900 Nm^3/h)

Biogas Treatment System SGS-900 is supplying clean gas for the 3.6 MW biogas-to-electricity facility in Nevşehir, which processes approximately 250 tons of municipal solid waste per day.

It has a capacity of 900 Nm^3/h gas flowrate. It started working in 2024, and it is up and running successfully.

Aydın Regenerative VOC & Siloxane Removal System (2.750 Nm^3/h)

Landfill Gas Treatment System SGS-2750 is supplying clean gas for the Aydın landfill gas-to-energy plant operating with four 1.2 MW G56HM engines.

It has a capacity of 2,750 Nm^3/h gas flowrate. It started working in August 2025, and it is up and running successfully.

Kuşadası Regenerative VOC & Siloxane Removal System (2.000 Nm^3/h)

Landfill Gas Treatment System SGS-2000 is supplying clean gas for the Kuşadası Integrated Solid Waste Facility's power generation operations.

It has a capacity of 2,000 Nm^3/h gas flowrate.

It started working in August 2025, and it is up and running successfully.

Belo Horizonte (Brazil) Regenerative VOC Removal System (7.500 Nm^3/h)

VOC Treatment System SGS-7500 is supplying clean gas for the RNG upgrading facility located in Belo Horizonte, Brazil, operating with an installed power of 1.4 MW.

The system consists of 3 × 2,500 Nm^3/h units, providing a total treatment capacity of 7,500 Nm^3/h.

It started working in 2025, and it is up and running successfully.

Riga (Latvia) Regenerative VOC Removal System (1.500 Nm^3/h)

VOC Removal System SGS-1500 is supplying clean gas for the Riga landfill gas utilization facility in Latvia.

It has a capacity of 1,500 Nm^3/h gas flowrate.

It started working in 2025, and it is up and running successfully.