QUALVISTA

Qualvista Biogas Monitor

The Qualvista Biogas Monitor provides the biogas industry a continuous, cost-effective and robust method for siloxane, methane, carbon dioxide, hydrogen sulfide and oxygen measurements. Qualvista has developed the monitoring system together with VTT Technical Research Centre of Finland. The monitor's siloxane measuring technology is patented and Qualvista holds exclusive rights to commercialize this method. The system has been successfully tested on multiple different biogas installations.

The Qualvista biogas measurement system enables monitoring of siloxane and other biogas components either on demand or by regular intervals as defined by the user. Real-time measurement information can be accessed both in the local equipment display and in the Qualvista online reporting tool. The measurement information can also be integrated into customer IT systems. The real-time monitoring will help Qualvista customers to optimize their maintenance intervals for both purification systems and gas engines or turbines, as well as to verify the quality of biogas.

KEY FEATURES OF THE QUALVISTA BIOGAS MONITOR

* Continuous process monitoring
* On-demand detection
* Purification efficiency verification
* Measuring the current and cumulative amount of siloxanes entering gas engines or turbines
* Fully automated measurements
* Robust and reliable
* Verification of gas quality to fulfill customer, regulatory and gas engine/ turbine manufacturers' requirements
* Automatic system calibration indication
* Multiple measuring points and measuring of e.g. CH_4, CO_2, H_2S and O_2 possible as add-on feature

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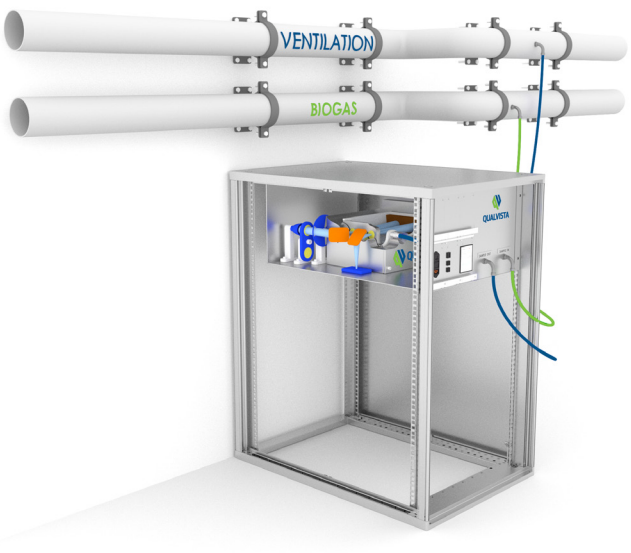
QUALVISTA BIOGAS MONITOR TECHNICAL DETAILS

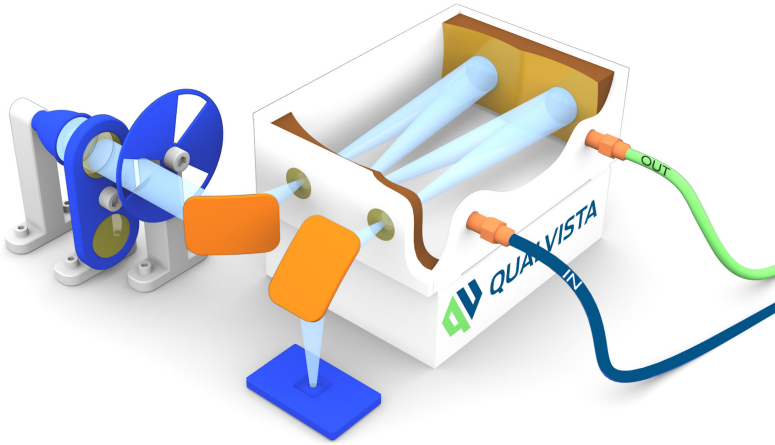


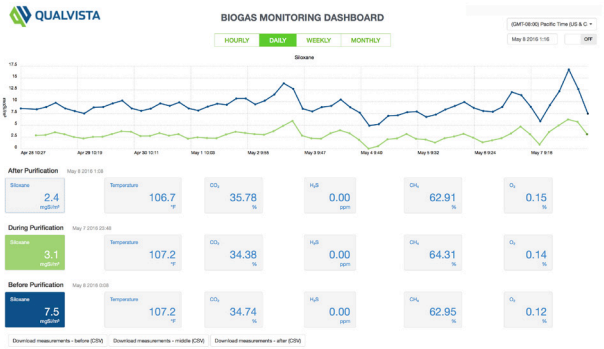
The patented Qualvista siloxane measuring system is based on the NDIR (Nondispersive Infrared) method. The NDIR method is well-known and the most robust method for measuring absorption of the infrared light of the gas sample provided. The gas flow goes through the equipment at 0.5-2 l/minute, so continuous measurement is possible. One measurement takes roughly three minutes to complete.

The system is sensitive and its detection limit is currently app. 0.1-0.5 mgSi/m^3 for total siloxane level. The unit can be followed remotely by using state-of-the-art communication technologies. It can also be coupled to the local automatisation via analog signals and/or communication buses, like Ethernet or ProfiBus.

The measurement equipment is available for different IP or NEMA classes.

The principle of the Qualvista NDIR method. The modulated IR light source is focused and led through a cuvette. The lense after the cuvette focuses the beam to the gas detector. The information received from the detector enables the Qualvista system to calculate the total amount of silicon amount using a specific scientific algorithm.





The Qualvista online reporting tool gives the user a comprehensive, customizable view of the biogas measurement information, such as siloxane purification efficiency and current or cumulative amount of siloxane entering gas engines or turbines.

Siloxane information can be reported in any required unit(s), for example mgSi/m^3, ppm or ppb.

The online reporting information can be accessed anywhere with standard PC and mobile devices.

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