



STS Instruments Ltd

# STS Siloxane Monitor

In-situ, online, simple siloxane monitoring



*The STS Siloxane Monitor*

- *Measurement of total Siloxanes in gas supply to CHP engines*
- *Suitable for Anaerobic Digestion derived Bio Gas and Landfill gases*
- *Constant monitoring once an hour, 24hrs a day 365 days a year*
- *Data logging and remote communications available*
- *Minimal maintenance and operator input*

The STS Siloxane Monitor has, unlike other available units been designed specifically and solely for the analysis of siloxanes in gases supplied to CHP engines. This ground up development has resulted in the instrument being simple to install, run and maintain whilst providing clear and understandable data.



*Siloxane Monitor housed in 19" rack cabinet*

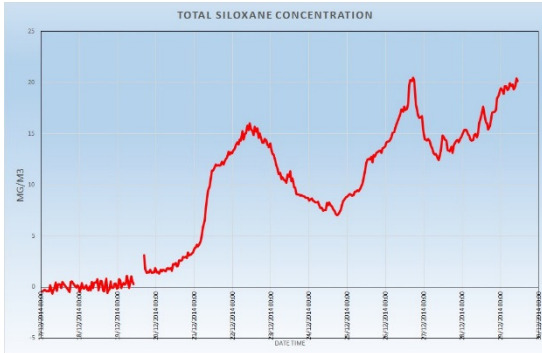


*Typical Installation in site cabin*

The STS Siloxane Monitor uses a combination of analytical techniques to sample the gas supply and outputs a concentration figure in  $\text{mg}/\text{m}^3$ . The instrument will detect siloxane levels down to  $1\text{mg}/\text{m}^3$  and up to  $400\text{mg}/\text{m}^3+$



STS Instruments Ltd



Carbon filtering is the most common form of siloxane removal and it works very well. Carbon is relatively easy to replace, may be regenerated several times and is readily available.



However knowing when to change a carbon filter currently relies

either on inadequate bag sampling or on historical information of how long a previous filter was deemed to have lasted. The STS Siloxane Monitor therefore fulfils two roles, the identification of the filter's failure as it begins to pass damaging siloxanes to the engine and in potentially extending the life of the filter where breakthrough has not occurred but under a diarised regime the filter would have been prematurely changed.

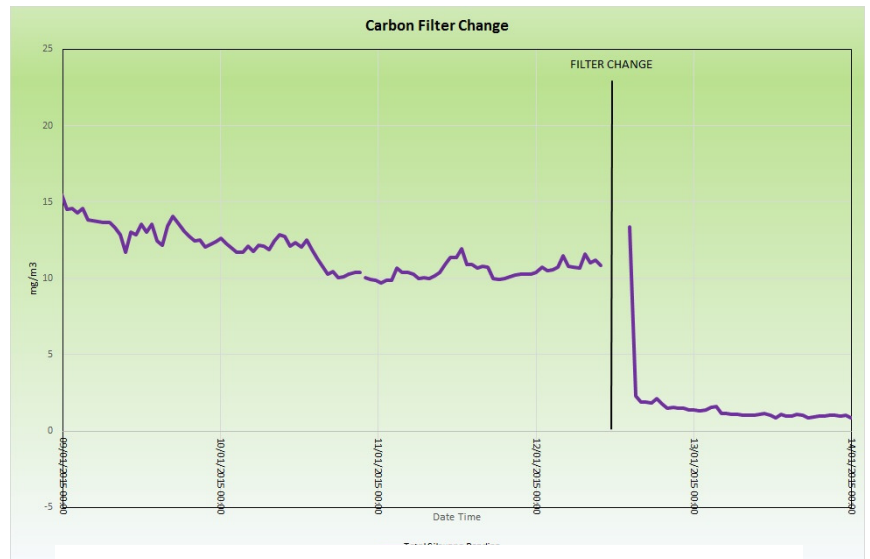
The cost benefit of online monitoring is very clear, on the one hand extending carbon life means reduced costs and on the other changing the filter at the correct time means preventing damaging siloxanes entering the engine and the resultant cost of replacement heads, plugs and oil.

### Simple understandable Data

The Siloxane Monitor produces a reading every hour which is logged to the instruments internal memory and also outputted to a SD card.

The data is in a csv file and can therefore be easily converted to an excel graph to show the trend.

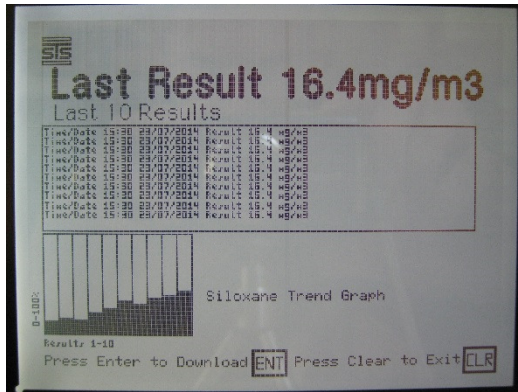
The data is also viewable from the instrument display. A bar chart of the last 200 readings and tables of the last 2000 readings can be quickly accessed for on the spot interpretation and appropriate action.



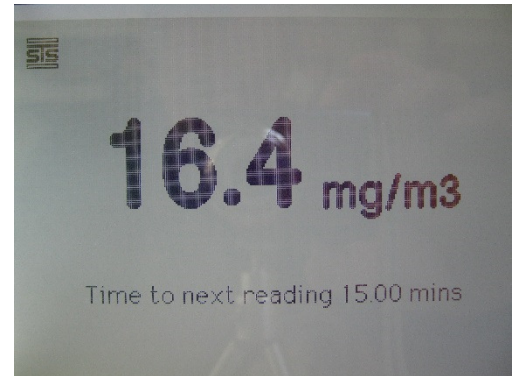
Before and after filter change results



STS Instruments Ltd

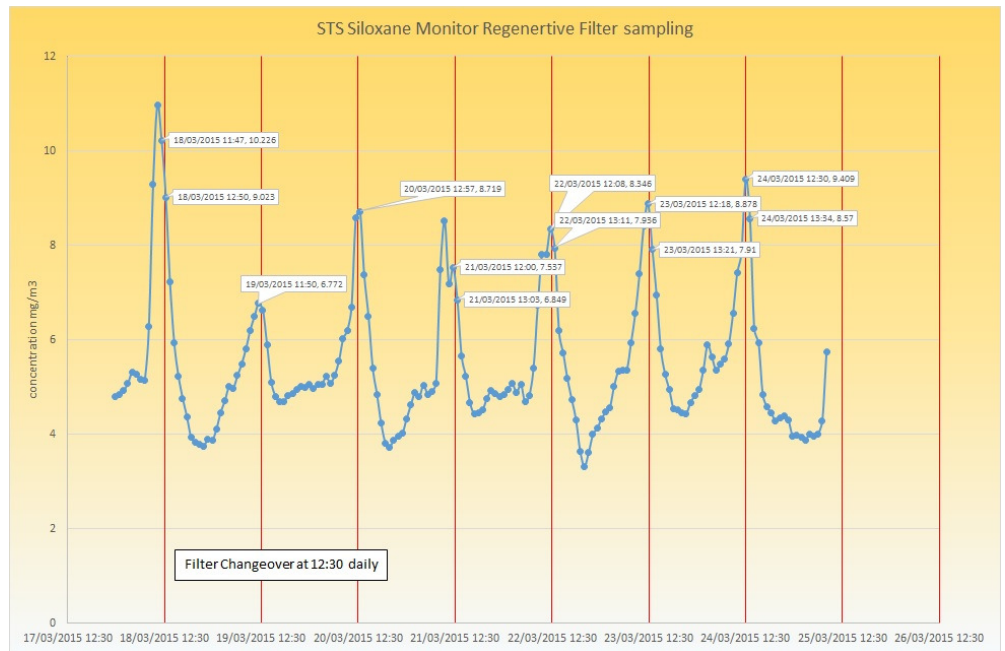


Example of Graph and results display



The graph below shows an example of the output from a regenerative filter over a week, the daily cycle can be clearly seen as well as the filter efficiency.

Regenerative Filter results from AD Biogas Trial



The Siloxane Monitor may be used for the optimisation of regenerative filter regimes ensuring that the maximum capacity of the filters is used before regeneration takes place. Cost efficiencies can therefore be made saving on the frequency of expensive regeneration, the data will also give advance warning of a deterioration of the filter media and therefore less efficient siloxane removal.





STS Instruments Ltd

STS offers a full site survey, installation and maintenance/calibration service to UK customers. Overseas customers are handled by our distribution network.

All instruments are manufactured in the UK and supplied with 12 months warranty.



*The Siloxane Monitor can be used with Carbon and regenerative Filter Systems*

## Technical Specification for the STS – Siloxane Monitor

### **Instrument Dimensions**

Size 475 x 350 x170 mm

Weight 12 Kg

### **Instrument Features**

LCD Display 180 x 120 mm

Alphanumeric & Navigation Keypads

Internal Memory data capture of up to 2000 sample records

SD Card slot for data download

### **Instrument Function Menu**

Data Input - sample number, location unique ID number, date, time and reading.

Data Display Screen – shows previous reading and trend over last 200 readings

### **Power Information**

The Siloxane Monitor runs from 240V mains power.

### **Limit of Detection**

1mg/m<sup>3</sup> D5 Equivalent up to 400 mg/m<sup>3</sup>

### **Sampling Time**

Approx 1 hour cycle between readings

Compare what you currently know about your siloxane loading to what you could know with an online monitor - timely, accurate, understandable, usable data giving you the tools to optimise your plant - to your advantage.

For more information on the STS Siloxane Monitor please visit:

[www.siloxanemonitoring.com](http://www.siloxanemonitoring.com)

or call us on: +44 (0) 1344 483563

or email to: [sales@safetrainingsystems.com](mailto:sales@safetrainingsystems.com)

STS Instruments Ltd– Holly House, Maidenhead Road, Wokingham, Berkshire RG40 5RR  
Tel: +44 (0)1344 483563 Fax: +44 (0)1344 485175 Email: [sales@safetrainingsystems.com](mailto:sales@safetrainingsystems.com)  
Web: [safetrainingsystems.com](http://safetrainingsystems.com) Registered in England No.02654899 VAT no. GB572853808