

Ambient Air Monitoring Applications

Waste water treatment plants Air quality control by TRS MEDOR

Online Odor Monitoring

Context & Challenges

Globally, the wastewater treatment is the first public health issue. Urban development leads to urbanization near waste water treatment plant and extension of sewerage network. These aspects induce to an augmentation of sulfur compounds (H₂S, mercaptans and sulfides) which are very corrosive, odorant and toxic. To monitor these compounds online CHROMATOTEC® offers high meteorological solutions.

Odors are very distinct air contaminants as they generate nuisances. The factors playing a role in the determination of odor annoyance are: odor concentration and intensity, frequency, appreciation, duration, synergy and location. CHROMATOTEC® proposes an automatic solution to well identify the origin and the level of odors.

Chromatotec® Solutions

TRS MEDOR ppb or ppm for up to 14 compounds

With only one instrument, it is possible to analyze up to 14 sulfur compounds. Thanks to specific sulfur detector (SSD) and AIR or N₂ carrier gas, the separation and sensitivity is excellent down to 1 ppb levels and low odor unit/m³.

The instruments are being calibrated with primary gas standard certified at ±2%. There are **no interferences** due to the gas chromatography separation and the sulfur specific detector. The analyzer is **LINEAR**: range 0 / 100 ppb.



The instruments are fully automated thanks to internal calibration (**airmoCAL**). The **VISTACHROM** software controls the analyzers, multiplexer, meteorological station and enables storage and display of the chromatograms thanks to Peak Viewer.

It is possible to transfer data to a data logger or modelling software with the communication protocols MODBUS RTU, JBUS, German PROTOCOL and X-Path.

A comprehensive solution for odor monitoring, including:

- Data Acquisition and transmissions
- GPRS/ModBUS/4-20 mA/0-1 V

- Internal auto calibration to validate automatically the data
It is possible to monitor **specific WWTP odors** at emission and at **environment**. The specification allows you to **identify origins** of the odor (odor calculation based on odor threshold determined by scientist).

Option:

Data Reporting and modeling Software

- o Real Time Odor Dispersion Modeling
- o Online Registration of Complains
- o Recalculation of Odor
- o Concentration at Specific Location & Time

Multi stream: (2 to 12 streams control by analyzer)

Meteorological Station: wind direction and speed, temperature, relative humidity;

Confirmation / adjustment UO by olfactometry on site.

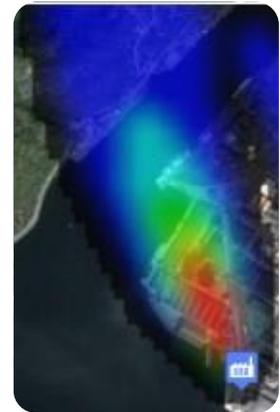
Results

The instrument monitors ambient odors inside and outside waste water treatment plant. One instrument with inbuilt computer supervises meteorological station, TRS MEDOR analyzer, calculate odor unit and communicate data to the modelling software.

Conclusion:

TRS MEDOR, the adequate solution for in situ sulfur analysis and odor monitoring for surveillance of wastewater treatment plant:

- Fully automated with gas generator (N2 or Air/Calibration gas)
- Data transfer to a data logger or by modem or Ethernet
- Stability and repeatability (from 1 ppb to 1000 ppm, areas and retention times)
- Linearity (from 1 ppb to 1000 ppm)
- In compliance with ISO 6326/2 norm and DIN 51855/7, no interferences
- Approval on sulfurs (ASTM D7493-08 2008)
- In standard, TRS MEDOR analyzes 7 compounds H2S, SO2, MM, EM, DMS, DES and DMDS
- In option up to 14 sulfurs THT, H2S, SO2, MM, EM, DMS, IPM, TBM, NPM, MES, 2BM, DES, NBM and DMDS.
- NEW: manage meteorological station and communicate with odor modelling software
- OPTION ppt range with a pre concentration trap for DMS/DES and DMDS



Online odor monitoring:

