

ONLINE GAS AND LIQUID ANALYZER EXPERTS

Chromatotec is improving collaboration with big industrial French groups

Chromatotec expertise is increasingly recognized by big companies in France: In the past two years, several projects for developing customized analytical solutions for major chemical and petrochemical industries have been completed with success.

Our constant investment in research and development allows us to provide tailored solutions for specific-compounds (gas and liquid) monitoring in a unique analysis context. Throughout this development, we maintain focus on the accuracy of the analysis at low levels and the sustainability of the instruments. With the implementation of the concepts, Chromatotec is solidifying its position as a technological leader in gas and liquid analysis.

Automatic TEG analysis in Natural Gas



Chromatotec has developed the chroma C6C20+ to allow for the measurement of volatile and semi-volatile organic compounds (VOCs and sVOCs), from low ppb up to % levels of concentration. This system is equipped with an internal calibration system and heated transfer lines to avoid condensation of the sVOCs.

The analyzer can be used for applications in the natural gas market such as TEG analysis. Indeed, Triethylene glycol (boiling point at 285 °C) is used for dehydration of natural gas to avoid water condensation in high-pressure pipelines. Therefore, it is necessary to carefully monitor gaseous concentrations of TEG with a lower limit of 50 ppm.

The chroma C6C20+ is perfectly suited for this measurement, as it automatically identifies and quantifies TEG and includes automatic alarm systems to notify users when concentrations are below the required values.

Analysis and Quantification of H₂S during Deodorization Process in Steam Reforming Units

Steam reforming is a process used to produce high amounts of hydrogen from methane. In this case, we must obtain a superior quality of methane and purify it from all odorant compounds present in natural gas. To ensure the accuracy of the deodorization process, it is needed to monitor the amount of sulfur compounds emitted while being separated from the natural gas.

But how can we analyze this compound in such a humid and complex matrix?

Chromatotec solutions quantify hydrogen sulfide at high concentration (low ppm) samples taken directly from natural gas pipes and very low concentrations (low ppb) sample taken after deodorization. This dual-range system works with two different volumes of sampling loops. The analyzer automatically switches between the two sampling loops to avoid the saturation of the system and/or signal.



MEDOR Ex
in wall-mounted box

The energyMEDOR is capable of analyzing H₂S, mercaptans, DMS and/or total reduced sulfurs by directly collecting the sample at the vent. All the molecules are then separated by chromatography and detected at a very low level (ppb and/or ppm).

Chromatotec Webinars



Vistachrom and Vista MS software functionnalities
Technical training
March, 31st 2021

MEDOR applications
Commercial training
April, 6th 2021

Tradeshows



Nose

7th international conference on environmental odour monitoring & control
Virtual conference - April, 18-21 2021

In this specific case, the energyMEDOR is equipped with two sampling loops adapted to two different ranges of concentrations (0-1 mg/Nm³ to 0-50 mg/Nm³) and integrated in an ATEX-certified cabinet.

Thanks to its internal calibration system, the results are validated automatically and there is no need for manual intervention. The LCD color touchscreen allows the user to view and edit the results directly in front of the analyzer without opening it. The data are also automatically exported to a control room where the user is able to switch manually between the two sampling options instead of automatic mode.

The energyMEDOR detects sulfur compounds thanks to a long-life (up to 10 years) sulfur-specific Electrochemical Detector (ED). The solution analyzes individual compounds and total sulfurs by the sum of all the compounds.

Moisture Monitoring in Gaseous Matrices

In 2020, Chromatotec introduced into its lineup, the DET H2O Electrolytic Moisture Monitor Hygrometer; available in process or portable versions. These hygrometers, with pressure reducers allow moisture measurement by electrolyzing residual amounts of water (between 0 and 1500 ppmV) contained in gaseous matrices.

The instrument's function is based on the fundamental measuring principle of humidity, Faraday's Law of Electrolysis and does not require calibration. It offers high moisture-measurement accuracy thanks to two programmable concentration ranges between 0-10 ppm (v) or 0-1500 ppm (V/p).

It also offers a fast response (<10 minutes) with direct online connection and no additional sampling equipment required.



Trace moisture monitoring
in gaseous samples
Portable version



DET H2O detector
ATEX version

The complete sampling system is engineered for the previously-mentioned applications. An ATEX-certified version for Zones 1 & 2 is also available upon request.

The system is also very resistant to contamination, even with corrosive gases such as chlorine or H2S.

A main type of application for this solution is the calibration of the other moisture monitors on the market, such as aluminum oxide sensors requiring validation. But it is also relevant for moisture monitoring of Chlorine gas drier outlets, measurement of moisture in natural gas or in a refinery's catalytic reformer.

Chromatotec collaborates with the ICARE-CNRS laboratory on atmospheric pollution

Chromatotec recently welcomed to its laboratories a research team from the PRAT (Atmospheric Reactivity Platform) after partnering with them on air pollution control and measurement solutions. Managed by the CNRS and University of Orleans, the PRAT studies the impact of gaseous and particulate pollutants emitted by human activity (transport, pesticides, heating, industrial activities) on health, climate and the environment.

Chromatotec collaborates with the ICARE-CNRS Laboratory through analytical development of GC-MS techniques for atmospheric measurement of volatile and semi-volatile organic compounds. The two entities will combine their expertise to validate the analytical system performance.



BTEX analysis in water for Refinery Processes

Environmental guidelines regarding BTEX monitoring in water have recently changed, with limits of quantification of BTEX decreasing in water used for human consumption. This includes, as a consequence, all fresh water streams. Refineries are particularly targeted by these new guidelines and need to adapt their monitoring systems.

To address the new guidelines, Chromatotec proposes an analysis system capable of quantifying the following chemical species: benzene, toluene and xylene : the airmoVOC Purge and Trap with hydrogen and nitrogen generators and zero air catalyzer.

The system can be installed in a runoff sewage holding tank of the pavement laying of the installations .



The sampling is made below the surface of the liquid, to avoid aspiration of floating particles and to stay away from the bottom of the tank and avoid extraction of sludge.

This sampling system is placed outside a box, near the place where waters are collected. A pump is carrying liquids to the sampling and filtration box, and then inside the analytical shelter where the analyzer is installed.

airmoVOC WMS
Water Monitoring System

EUROPE
SAINT-ANTOINE - FRANCE

USA
HOUSTON - TEXAS

ASIA
BEIJING - CHINA