Online Analytical Solutions Experts

ONLINE ANALYSIS OF VOLATILE ORGANIC COMPOUNDS BY autoGC-MS

Ultra Compact Stand-alone Solution

Monitoring up to 300 compounds with online reference method in ambient air and or process application

OZONE PRECURSORS : VOCs FROM PAMS, TO14, TO15, OVOCs

INCLUDING BTEX, HALOGENATED VOCs DIOXINS PRECURSORS AND SOLVENTS

S VOCs: PAHs, PCBs

autoGC-MS

VOCs monitoring with speciation at ppt level

The autoGC-MS from CHROMATOTEC® offers continuous, online analysis of volatile organic compounds from concentrations as low as 1 ppt in indoor or outdoor ambient air.

All VOC's and S VOC's compounds from C2 to C40 can be analyzed by the autoGC-MS and with first results only 30 min once the analyzer is started. Unknown compounds are identified by our VistaMS software comparing automatically obtained mass spectrum to embedded NIST library from 0.1 ppb and quantified by auto GC FID using theorical response factors. There are many different configuration of CHROMATOTEC®auto GC-MS to match your needs.

Ultra-Compact, this cylinder free system is designed to be used on field and in mobile station for continuous and accurate analysis.

This autonomous and robust system uses proven autoGC technology and process quadrupole mass spectrometer developed and improved over 35 years for ozone precursor analysis in ambient air. The quality and performance of our systems have been recognized worldwide with recognition from Standard Organizations such as TUV, MCerts and Chinese Pattern approval.

Air quality monitoring station for VOCs

The airmOzone + DET QMS has been developed to monitor all available VOCs found in ambient air from cities or industrial areas.
The system continuously analyze and identify with expertise the compounds on a fixed station or on a mobile station such as a mobile van thanks to the inbuilt gas generators and calibrator.

Indoor air monitoring: airmoTWA

Monitoring Airborne Molecular Contaminations in indoor cleanroom air is possible with the airmoTWA, Chromatotec® auto GC-MS dedicated to this application. airmoTWA is composed by one airmoVOC expert + DET QMS which monitor and record high or low concentrations or a large number of molecules specific to these processes in a short time 15 to 30 minutes.

Moreover, its security system allows setting alarms to inform of important changes of the surrounding atmosphere and track the origin of the contamination via speciation and expertise.

Air quality monitoring station for SVOCs

The airmoVOC C10C40 + DET QMS is used to monitor high carbon VOCs up to the semi volatile hydrocarbons in industrial site, tropical forest and on site under decontamination. With a detection limit as low as 1 ppt for Benzene or Naphthalene the system measures gaseous PAHs in ambient air and up to Benzo(a)pyrene and linear alkanes up to C40.

Features & Benefits

FID and MS detection

The use of our micro FID and process MS ensures no interference of results, a high expertise by combining the long term stability and linearity of FID and the expertise in term of identification of the MS. The only gases required by the system are Hydrogen and zero air provided by inbuilt ultra-high purity chromatotec gas generators.

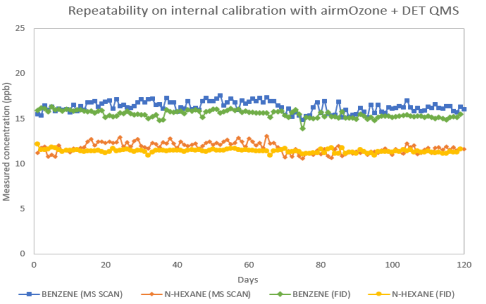
Low maintenance

The auto GC-MS is a low maintenance system offering considerable cost savings over the lifetime of the system. Metallic capillary columns are not changed after years of operation. The process Mass Spectrometer filament lifetime is more than 2 years in GCMS operation mode.

One annual preventive maintenance only.

Internal multipoint calibration system

airmoCAL MFC: internal calibration by certified permeation tubes, cylinder inlet and MFC for dilution of the cylinder or the permeation tubes. Results are thus automatically validated. No external calibration cylinders are required for operation.



Automatic Data Treatment

The VISTACHROM operating software developed by CHROMATOTEC® offers a user-friendly interface for easy operation and automatic processing of data. Alarms, status reports, working parameters and all results are easily transferred though MODBUS in standard. Automatic calibration and sampling can be easily set-up and modified, directly or remotely as required. Calculation module: average, statistics, odor index…

Automatic compounds identification:

VistaMS software is dedicated to the results from the process Mass Spectrometer and is linked to the NIST library for automatic identification of unknown compounds from a targeted library* or from the full library. Very strong function for industrial environment to detect any contamination and/or unexpected compounds.

For more precision, this software provides automatic comparison between FID and MS results and intercomparison to produce valid data.

**The targeted library is limited to the compounds which can elute from the particular GC.*

Speciation of compounds

The compounds list can be adjusted according to customer request by selecting the best configuration between the autoGC range of instruments from CHROMATOTEC®.

Technical Specifications

Molecule range	Capabilities of analysis: - More than 300 VOCs including PAMS 56, TO14, TO 15 molecule lists - Alkanes, hydrocarbons and Polyaromatics Hydrocarbons (PAHs) -Oxygenated VOCs -SO_2-2 for VOC's in water -Any specific VOC's on demand with feasibility study
Technologies	Automatic Gas Chromatography and Process MS/FID (auto GC-MS)
Dimensions	Depend on configuration, but starting from 19" cabinet Total Height : 124 S / Width : 600 mm / Depth: 800 mm *Including gas generators*
Detectors	Flame Ionization Detector (FID) and Mass Spectrometer
Detection limits	- Benzene or Naphthalene down to 1 ppt with Trap GC-MS/FID - Benzene 5 ppb with loop GC MS/ FID
Range	- ppt to ppb / 0.5 to 45 µg/m3 (mCerts tests) with Trap GC-MS/FID - 5 ppb to % with loop GC MS/ FID
RSD	< 0.3 % over 48 h on Retention Time < 3 % over 48 h on concentration
Cycle Time	Depend on configuration and method: - Ultra fast GC MS 5 to 10 minutes for targetted compound - GC MS 15 to 60 minutes for targetted compound - Few seconds with MS used in direct mode.
Analysis Mode	- GC MS / FID - SCAN mode / MID mode
Results	- Data storage (timestamp)
Communication	- MODBUS protocol included in standard - 4-20mA current output (option) - MODBUS / JBUS or MGS1 communication protocol (option)
Supervisor	- Embedded industrial computer Windows® based with LCD display - SSD 128 Go hard disk
Carrier gas / Gas supply per analyzer	- H2 (FID and carrier gas): 30 ml/min (inlet 2 bars; 1/16"Swagelok) - Air (FID): 180 ml/min (inlet 2 bars; 1/8" Swagelok) - Sample inlet (vacuum pump) ¼" Swagelok
Power Supply	230 V / 115 V (50 Hz/60 Hz) / Consumption max. 1730 Watt

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