

## EXPERTS IN GAS ANALYSIS

### NH3 continuous analyzer by UV spectroscopy

A new continuous **NH3 analyzer** by UV spectroscopy was presented this year by Chromatotec at Pollutec Lyon.

The advantages of this system are easy identification of **ammoniac** spectrum, high reliability and measurement stability, cost effective and no production of pollutants.

The light source used is a Xenon lamp (life time > 10 years). The detection range is between 0.1 and 100 ppm. Calibration and zero are done regularly with pure air (without NH3).



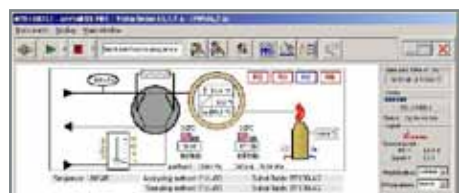
Spectrum decomposition is done by dispersive network; acquisition is fast with a **DCC detector**.

An analysis method based on extraction by Fourier transform is done and the specific NH3 spectrum in ultraviolet is easily observed in mixed gas. In addition to H2S and mercaptans analyzers, this new analyzer is dedicated to the NH3 measurement in the atmosphere and can also be used to measure **emission and deodorization** near

waste treatment plant chimneys.

### Control and display of Mass Flow Controller

The **control and display** of Mass Flow Controller is performed easily via **VISTACHROM** and **VISTADETECTOR** software (see below).



This new device allows us to perform better calibration of our analyzers and, therefore, to increase the precision of the measure. To this end, a multi-dilution system is used. Each flow is regulated by the mass flow controller and then, a precise calibration level is achieved.

This module is able to control the flow coming from a cylinder or from a permeation oven. It also allows the control of dilution gas flow.

It increases the number of calibration points, which is why the precision of the measurement is enhanced.

The quality of the materials (pipes, connections, etc.) is important for low concentration (ppb) analysis.

Adequate mixing room for VOC or sulfurs compounds will allow proper gas homogenization and less dead volume.

This module is controlled directly on the status window of VISTACHROM and VISTADETECTOR. These two MFCs **provide the opportunity** to work in a precise and linear range of flow rate ( $R^2 > 0.995$ ). Method Manager is used to program and control these different flow rates.

**All parameters are available to be transferred by MODBUS to a host system.**

VISTACHROM and VISTADETECTOR allow the creation of a calibration sequence of 6 dilution methods (points) with different concentrations (zero, 100% and 4 dilution points). After the calibration, it is possible to start a measure. This requires the addition of a method in the sequence.

MFC modules are an option of VISTACHROM and VISTADETECTOR, but they can also be installed in an older version of VISTACHROM via an upgrade.

### Chromatotec events

#### 6<sup>th</sup> edition of Chromatotec's VOC and Sulfur Day in Paris

Chromatotec organized a Technical day regarding VOC and Sulfur analysis, 10<sup>th</sup> October 2012

Each year since 2007, Chromatotec has invited different French and foreign companies to come to Paris for the exchange of knowledge and information concerning continuous and on-line monitoring of Volatile Organic Compounds (VOCs) and sulfur compounds.

The main propose of this day is for potential and current users to learn about our new products and to exchange experiences about our instruments.

This year, Chromatotec presented some new projects in Ambient Air Analysis, such as the GCMS, the NH3 analyzer and the Mass Flow Controller.



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### Exhibitions 2013

#### ARAB LAB - UAE

Dubai - Convention & Exhibition Centre  
(10 - 13 March 2013)

#### ACHEMASIA - China

Pekin - National Convention Center  
(13 - 16 May 2013)

#### A&WMA - USA

Chicago - Hyatt Regency  
(25 - 28 June 2013)

#### ASGMT - USA

Houston  
(16 - 19 September 2013)

#### POLLUTEC - France

Paris Villepinte  
(3 - 6 December 2013)

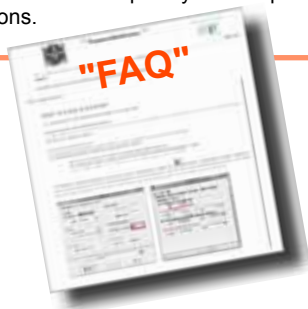
**New !  
FAQ on the website  
«Customer Service»  
See page 2**



## EXPERTS IN GAS ANALYSIS

### Flash info

Since November 2012, Chromatotec's Support website has offered a section called 'Frequently asked Questions' where users can find answers to frequently asked questions.



### Website «Customer Service» <http://support.chromatotec.com>

The CHROMATOTEC support website is customized to meet the needs of clients. This site has been designed to be a full technical platform. Users will find numerous technical resources which will enable them to make full use of Chromatotec's products.

Accessible at <http://support.chromatotec.com>, the site is international thanks to its multilingual function, allowing the users to choose between **French, English and Chinese languages**.

You can find:

- User manuals and technical documents
- Start-up and maintenance videos

- Vistachrom patches for enhanced performance

To ensure the website is accessible to all your colleagues, we implemented multi-account management. From one primary account, you can create as many secondary accounts as necessary.

In order to offer you the best browsing experience, we designed our website with the latest technology compatible with most web browsers. Users can access the website from computer, Smartphone (iPhone and other Android phones) and tablet (iPad, TouchPad and other Android tablets).

**If you are a distributor**, send your request by email to our Customer Service department ([support@chromatotec.com](mailto:support@chromatotec.com)) to get your login and password which will allow you to access all data from our site.

**If you are a customer**, visit our website, enter your email address in the "First registration" box and follow the instructions.

We hope these pages will meet your needs, and we wish you a pleasant visit. Please try out this complimentary service and if you have any feedback or comments regarding our new support site, feel free to let us know at [itad-min@chromatotec.com](mailto:itad-min@chromatotec.com).

### Gas chromatography coupled to mass spectroscopy

Chromatotec has increased its expertise in gas analysis and its field of analyzers by developing a new GC/MS analyzer for **continuous VOC surveillance in the atmosphere**.

This system uses the same trap, thermo desorption and separation technologies as current GCs analyzers. However, a **Quadrupole** is used in addition to the FID.

The FID quantifies and identifies according to the retention time, whereas, the mass spectroscopy analyzer identifies compounds using a comprehensive database.

The combination of these two detectors has resulted

in an improvement in gas analysis expertise.

This system is designed for industrial application. The instrument may be inserted in a 19" rack and can be controlled remotely from another computer.

It will now be possible to analyze a new range of compounds with this system.

Currently, a demonstration instrument is running in our laboratory and analyzing VOC in the atmosphere. For this arrangement, a calibration system is used along with a zero air and a hydrogen generator.

Possible applications include monitoring of VOCs (BTEX, phenol, etc), PAH (benzo(a)pyrene), chloride compounds (chlorobenzene and PCB) and dioxin.

### Certification of in situ gas chromatographs measuring Benzene in compliance with EN 14662-3 under UK MCERTS scheme

The MCERTS scheme certifies that the **CAMS (Continuous Ambient Air Monitoring System)** of a manufacturer complies with the performance criteria of EN 14662-part 3 (Ambient Air Quality) Standard method for the measurement of Benzene concentration (automated pumped sampling with in situ gas chromatography).

Chromatotec has decided to certify two types of analysers at the same time:

- airTOXIC (PID detector) for Benzene, Toluene, Ethyl benzene, m&p-Xylene and o-Xylene.
- airmoVOC C6C12 (FID detector) for 12 VOCs from European VOC list ranging from C6 to C12.

As of last October, all tests have been successfully completed.

### VISTADETECTOR : New software developed by Chromatotec

Powerful and simple, VISTADETECTOR software allows continuous analysis and real-time display of concentrations and results.

Used as emulation graphic software, VISTADETECTOR provides remote monitoring of apparatus and display of real-time results.

VISTADETECTOR is compatible with 3 kinds of analyzers:

- Total sulfurs analyzers by FPD
- Total VOC analyzers (THC): 1 FID
- Total hydrocarbons analyzers: 2 x FID, for simultaneous measurements of THC and CH4 with NMHC calculus.

VISTADETECTOR operates on a Windows embedded platform on either an integrated computer or an external supervisor. It is able to generate **auto-**

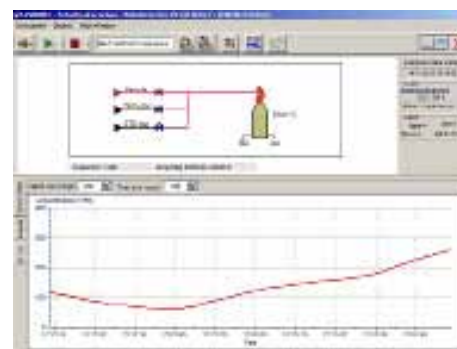
**matic diagnostic reports** with over 50 error codes available.

Automatic calibration and validation of results are also possible.

Thanks to the TREND function, VISTADETECTOR offers complete traceability. It is able to monitor up to 3 analyzers at the same time and to control all processes. Substantial memory of 40 GB allows several years of data storage.

#### Options:

- Multiple outputs
- ModBUS / 4-20mA / 0-10V
- Adjustable alarm thresholds
- Automatic multi-stream analysis possible
- Mass Flow Controller for cylinder dilution
- Hydrogen generator monitored by computer**



Screenshot of VistaDETECTOR

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