PRODUCT CONFORMITY CERTIFICATE

This is to certify that the

GC 866 FID airmoVOC (Model A21022)

Manufactured by:

airmotec AG
(Chromatotec Group)
15, Rue d'Artiguelongue
Saint'-Antoine
33240 Val de Virvée
France

has been assessed by CSA Group
and for the conditions stated on this certificate complies with:

'MCERTS performance standards for ambient monitoring equipment'
- Published 6 December 2022
EN 15267-1:2009, EN 15267-2:2009 & EN 14662-3:2015 – QAL1

Certification ranges:

Airborne Benzene Vapour : 0 to 50 µg/m^3

Project number:	80172263
Certificate number:	CSA MC130231/07
Initial certification:	26 July 2013
This certificate issued:	16 September 2025
Renewal date:	25 July 2028

Andrew Young
Environmental Team Manager

MCERTS is operated on behalf of the Environment Agency by

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Form 1335
Issue 13

Certificate Contents

Approved Site Application

Any potential user should make sure, in consultation with the manufacturer, that the monitoring system is suitable for the intended application. For further information on stack emissions monitoring refer to the Environment Agency's guidance available at www.mcerts.net

All tests have been conducted in accordance with BS EN 14662-3:2015.

- 11 lab tests
- 4 field tests over 3 months
- See 'Certified Performance' for details

The field trial was conducted on an urban background site for 3 months – Marylebone Road in Central London.

Test data for other VOCs can be found in the NPL test report listed below, contact Chromatotec directly for details.

MCERTS Manufacturing Audit based on EN 15267-2 and ISO 9001 was conducted on 5th May 2018, Report number 70172875

Basis of Certification

This certification is based on the following test report(s) and on CSA Group's assessment and ongoing surveillance of the product and the manufacturing process (annual audit):

The tests has been performed by National Physical Laboratory (UKAS 002 accredited for Benzene (EN 14662-3) and VOC in compliance with ISO 17025)

NPL report number: E09040018 dated 14th June 2013
CSA report number: 70072766 dated 2nd June 2016

Product Certified

The Chromatotec® GC 866 FID airmoVOC (Model A21022) benzene measuring system consists of the following parts:

- Pneumatic valve: 6 ports
- Analytical column: capillary metallic column
- Detector: Flame ionisation detector (FID)
- Critical orifice: 50, 76 or 100µm
- Vistachrom software version 1.49

This certificate applies to all instruments fitted with software version Vistachrom 1.49 (serial number 20190309) onwards.

Certified Performance

The instrument was evaluated for use under the following conditions:

Ambient Temperature Range: +18°C to +24°C

Note: If the instrument is supplied with an enclosure then the ambient temperature shall be monitored inside the enclosure to ensure that it stays within the above ambient temperature range.

Two identical instruments tested in parallel, the worst result is reported below:

Test	Test result	MCERTS specification
Laboratory tests		
Repeatability standard deviation at 10% of limit value	0.20 µg/m^3	≤ 0.20 µg/m^3
Repeatability standard deviation at limit value	0.092 µg/m^3	≤ 0.25 µg/m^3
Lack of fit (residual from linear regression function)	2.54%	≤ 5%
Sensitivity coefficient to sample gas pressure at span value	0.009 µg/m^3/kPa	≤ 0.10 µg/m^3/kPa
Sensitivity coefficient to sample gas temperature	0.0015 µg/m^3/K	≤ 0.08 µg/m^3/K
Sensitivity coefficient to electrical voltage	0.001108 µg/m^3/V	≤0.08 µg/m^3/V
Short term drift at span level	0.73 µg/m^3	≤2.0 µg/m^3
Response to organic compound mixture	0.23 µg/m^3	≤ 0.25 µg/m^3
Effect of H_2O at concentration of 19 mmol/mol	0.0005 µg/m^3	≤0.015 µg/m^3/(mmol/mol)
Carry over (memory effect)	0.41 µg/m^3	≤1.0 µg/m^3
Field tests	Note 1	
Reproducibility standard deviation under field conditions	0.13 µg/m^3	≤0.25 µg/m^3
Long term drift at span level	4.42%	≤10% of the maximum of the certification range
Maintenance interval	90 days	› 14 days
Availability	96.3%	› 90%
Expanded uncertainty (laboratory and field tests)	14.3%	≤ 25 %

Note 1: In the shelter during the three month field tests, another instrument emitted punctual N Butanol at consistent concentrations that may have disturbed the zero air generator. The N Butanol emitted was analysed in ambient air and did not interfere with the benzene measurement of the GC 866 FID airmoVOC.

Description

GC 866 FID airmoVOC (Model A21022)

- **Rack dimensions** : 5 U monitor built as a 19" unit Width 483mm x Height 220mm 5U x Depth 660mm (730mm with rear face connections)
- **Pneumatic Valve** : 6 ports. High speed injection system (up to 350°C) with 'zero dead volume' sample transfer to the column
- **Analytical column** : Metallic capillary column
- **Detector** : Flame Ionisation Detector (FID) with continuous ignition, electrometer and 0-1 V analog output.
- **Sampling system** : Gas flow control unit (sample volume calculated) with one critical orifice, linked to a sampling pump
- **Trapping system** : Enrichment unit with a drum equipped with 1 adsorbent tube packed with CARBOTRAP, trapping at ambient temperature, thermo desorption up to 350°C
- **Carrier gas** : H_2 cylinder or generator. Remote control of the piezo carrier gas control valve by Vistachrom software that gives consistent retention time
- **Flame gas supply** : H_2 (cylinder or generator), zero air (cylinder or generator)
- **Calibration** : Internal or external calibration with permeation tubes or cylinder, in order to check the sensitivity factor stability of the instrument The permeation tube is regulated in temperature and in flow. Method: Calib, Measure and Blank available in a sequence. It is possible to start a Calibration by clicking on a button or starting automatic method in the sequence
- **Power supply** : 110V, 60Hz or 230V, 50Hz.
- **Power consumption** : 150 VA and peak to 360 (24 VDC power supply is available in option XXX005)
- 6 LEDs in front panel (running/sampling/stand by/ OK/ warning/error)
- **Software** : Vistachrom version 1.49 onwards
- **Communication interface** : Ethernet, RS 232, RS 485, USB, analogic/digital output
- **Communication protocol** : Modbus RTU, Gesytec 1 (Bayer Essen), Gesytec 2, others possible on request

General Notes

1. This certificate is based upon the equipment tested. The Manufacturer is responsible for ensuring that on-going production complies with the standard(s) and performance criteria defined in this certificate. The manufacturer is required to maintain an approved quality management system controlling the manufacture of the certified product. Both the product and the quality management system shall be subject to regular surveillance according to 'Regulations Applicable to the Holders of CSA Group Testing UK Ltd Certificates'.

2. The design of the product certified is defined in the CSA Group design schedule for certificate No. CSA MC130231/07.

3. If a certified product is found not to comply, CSA Group should be notified immediately at the address shown on this certificate.

4. The certification marks that can be applied to the product or used in publicity material are defined in 'Regulations Applicable to the Holders of CSA Group Testing UK Ltd Certificates'.

5. This document remains the property of CSA Group and shall be returned when requested by CSA Group.