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PRODUCT CONFORMITY CERTIFICATE

This is to certify that the

CLD NO/NOx Multi-gas Analyser

manufactured by:

Emerson Process Management

*Manufacturing GmbH & Co. OHG
Industrie Straße 1
D-63594 Hasselroth
Germany*

has been assessed by Sira Certification Service
and for the conditions stated on this certificate complies with:

MCERTS Performance Standards for Continuous Emission Monitoring Systems (April 2003)

Certification Ranges :

NO	0 to 134 mg/m ³
NOx	0 to 205 mg/m ³ (expressed as NO ₂)

Project No:	674/0137
Certificate No:	Sira MC 050055/01
Initial Certification:	04 February 2005
This Certificate Issued:	06 September 2007
Renewal Date:	03 February 2010

Technical Director

MCERTS is operated on behalf of the Environment Agency by

Sira Certification Service

12 Acorn Industrial Park, Crayford Road, Crayford
Dartford, Kent, UK, DA1 4AL
Tel: 01322 520500 Fax: 01322 520501

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Certified Performance

The instrument was evaluated for use under the following conditions:

Ambient Temperature Range: +5°C to +40°C

Performance values are expressed as a percentage of the certification range, except for availability and analysis function, and 'a' indicates compliance with MCERTS requirements.

Test	Results expressed as % of certification range				Other results	MCERTS specification
	<0.5	<1	<2	<4		
Linearity		a				<±2%
Cross sensitivity Effect of CO ₂ , CO, SO ₂ , NH ₃ , N ₂ O, HCl, H ₂ O, CH ₄		a				<±4%
Temperature dependent zero shift:	a				<0.26%/°C	<0.3%/°C
Temperature dependent span shift:	a				<0.15%/°C	<0.3%/°C
Response time					60s, with 13m sample line	<200s
Detection limit		a				<2%
Integral Performance (field)			a			<10%
Availability (field)					99.8%	>95%
Maintenance interval					4 weeks	To be reported
Zero drift (field)					<2% per 4 weeks	<2%/week
Span drift (field)					<2% per 4 weeks	<4%/week

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Field Test Site

The CLD NO/NO_x analyser was assessed on the basis of a four month trial mounted on a waste incinerator.

Approved Site Application

On the basis of these tests and the ranges for compliance with EU Directives this instrument is considered suitable for use on incineration and large combustion plant applications.

Any potential user should ensure, in consultation with the manufacturer, that the emission monitoring system is suitable for the process on which it will be installed. For general guidance on stack emission monitoring techniques refer to Environment Agency Technical Guidance Note M2: Monitoring of stack emissions to air. This is available on the Agency's website at www.environment-agency.gov.uk

Test Reports

This certification is based on the following Test Report(s) and on Sira's assessment and ongoing surveillance of the product and the manufacturing process:

TÜV Köln Report No: 936/8060 17/C dated 08.02.1999

TÜV reports are accepted on the basis of the Environment Agency's document 'MCERTS – Guidance on the acceptance of German type approval test reports for CEMS' Version 2 (October 2003)

Product Certified

This certificate applies to instruments with software version 2.3 onwards.

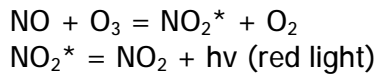
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Description:

The CLD analyser uses the chemiluminescence reaction between ozone and nitric oxide to determine the presence of oxides of nitrogen (NO_x) in a sample gas. The chemiluminescence measurement involves the following reaction:



In the first reaction nitric oxide and ozone readily react to form nitrogen dioxide in an electrically excited state. In the second reaction the excited NO₂* immediately reverts to the ground state, emitting photons (red light). The light intensity is measured by the photodiode detector. Controlled sample flow and excess ozone ensures the reaction is directly proportional to the NO concentration. The technique for NO_x (NO/NO₂) measurement is identical except that before the sample gas is reacted with ozone, any NO₂ in the sample is converted to NO by a heated vitreous carbon bed catalyst.

The CLD may be configured as:

- Standalone Analyser: Comprises of an analyser physics, associated electronics and internal sample and utility gas transport components integrated into a housing, complete with internal power supply, control functionality, display, operator interface and input/output connectivity options – analogue, serial or digital.
- Analyser Module (AM): A blind analyser unit capable of measuring concentration, comprising detector physics, supporting electronics, internal sample and utility gas transport components. Concentration and other relevant data is combined and made available on a digital data highway to an NGA or customer network.
- Integrated Network of Analysers: AM versions can be integrated in an NGA analyser system (mounted into a platform or combined with an MLT/TFID analyser or platform).

Mounting

The CLD Module is mounted in a steel enclosure suitable for installation into a standard 3 U high 19" rack mounting enclosure.

Sample Conditions

The CLD module requires additional extractive sample conditioning equipment. The sample gas must be clean, dry, non-condensing and at a pressure of 620 to 1034mbar. The required sample flow rate is 0.5 to 2.0 l/min.

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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 Sira Certificates'. The design of the product certified is defined in the Sira Design Schedule for certificate No. Sira MC050055/01.
2. If certified product is found not to comply, Sira Certification Service should be notified immediately at the address shown on this certificate.
3. The Certification Marks that can be applied to the product or used in publicity material are defined in 'Regulations Applicable to the Holders of Sira Certificates'.
4. This document remains the property of Sira and shall be returned when requested by the company.

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