



ENVIRONMENT
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PRODUCT CONFORMITY CERTIFICATE

This is to certify that the

LaserGas Monitor HCl

manufactured by:

NEO Monitors AS

Solheimveien 62A
1473 Lørenskog
Norway

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, Version 2, Revision 1 (April 2003)**

Certification Ranges :

HCl	0 to 15 mg/m ³
	0 to 90 mg/m ³

Project No: 674/0224
Certificate No: Sira MC 060086/00
Initial Certification: 20 November 2006
This Certificate Issued: 20 November 2006
Renewal Date: 19 November 2011

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

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Approved Site Application

On the basis of the assessment and the ranges required for compliance with EU Directives this instrument is considered suitable for use on waste incineration and large coal-fired 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.mcerts.net

Basis of Certification

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 Rheinland Report No: 936/808007/A dated 30/09/99
TÜV Rheinland Report No: 936/808007/B dated 14/02/00
TÜV Rheinland Report No: 936/2124648/A dated 30/05/06

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

The LaserGas HCl measuring system consists of the following parts:

- Transmitter unit
- Receiver unit
- Electronics unit

This certificate applies to all instruments fitted with software version 4.4j onwards (serial number 4121 onwards).

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Certified Performance

The instrument was evaluated for use under the following conditions:

Ambient Temperature Range: -20°C to $+50^{\circ}\text{C}$

Unless otherwise stated the evaluation was carried out on the certification range 0 to 15 mg/m^3 .

Test	Results expressed as % of the certification range				Other results	MCERTS specification
	<0.5	<1	<2	<4		
Linearity			-2.0			<2%
Cross-sensitivity (H_2O , CO_2 , CO , CH_4 , N_2O , NO , NO_2 , NH_3 , SO_2)				-3.3		<4%
Temperature dependent zero shift	0.11					<0.3%/°C
Temperature dependent upper reference point shift	-0.16					<0.3%/°C
Response time					10s	<600s
Detection Limit			1.3			<2%
Integral Performance (field) ^{Note 2}				3.3		<10%
Availability ^{Note 2}					99.5%	>95%
Zero drift during field trial ^{Note 2}	0.15					<2%
Upper reference point drift during field trial ^{Note 2}		0.73				<4%
Vibration test (10 to 60Hz ($\pm 0.3\text{mm}$), 60 to 150Hz at 19.6m/s^2)					Pass	Not specified
Mains voltage (190V to 250V)					Pass	<2%
Sample gas pressure					Note 1	To be reported
Sample gas temperature					Note 1	To be reported
Maintenance Interval ^{Note 2}					6 months	To be reported

Note 1: Tests not applicable.

Note 2: Field test: The LaserGas monitor was assessed on the basis of a three month field trial mounted on a waste incinerator.

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Description:

The NEO LaserGas Monitor HCl is an optical instrument based on transmitting infrared laser light from a transmitter unit on one side of the stack to a receiver unit on the diametrically opposite side of the stack. The measuring technique is based on measuring the absorption of light by the gas molecules present in the stack.

The measuring principle is called infrared single-line absorption spectroscopy and is based on the fact that most gases absorb light at certain wavelengths. The absorption is a direct function of the gas concentration in the stack.

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 MC 060086/00.
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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