PRODUCT CONFORMITY CERTIFICATE

This is to certify that the

HM 1400 TR Mercury Analyser

manufactured by:

DURAG GmbH

Kollaustraße 105
22453 Hamburg
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, Version 2, Revision 1 (April 2003)

Certification Ranges :

Total gaseous mercury	0 to 45 µg/m³ to 0 to 90 µg/m³

Project No:	674/0067E
Certificate No:	Sira MC 060076/00
Initial Certification:	16 June 2006
This Certificate Issued	16 June 2006
Renewal Date:	15 June 2011

Technical Director

MCERTS is operated on behalf of the Environment Agency by

Sira Certification Service
South Hill, Chislehurst, Kent, BR7 5EH, England
Tel: 020-8468-1806 Fax: 020-8467-7097

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.

HM 1400 TR is a measuring system for monitoring mercury and mercury compounds in different kinds of waste gases at industrial processes.

Important applications are incineration plants (urban waste, industrial waste, hospital waste, hazardous waste, sewage sludge, contaminated soil), crematories, mercury mines and refineries, fluorescent light bulb recycling plants, steel plants (scrap metal preparation), cement industry, power plants and other industrial processes. The analyser is suitable for emission monitoring and process control measurements.

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

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 Nord Report No. 00CU014 dated 01st February 2001

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 HM1400 TR system consists of the following parts:

- Heated sampling probe
- Analyser with sample treatment unit

This certificate applies to all HM1400 TR fitted with software version 1.05 onwards (serial number 10199 onwards)

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Certified Performance

The instrument was evaluated for use under the following conditions:
Ambient Temperature Range: +5°C to +30°C

Unless otherwise stated the evaluation was carried out on the certification range 0 to 45 µg/m³.

Test	Results expressed as % of certification range				Other results	MCERTS* specification
	<0.5	<1	<2	<4		
Linearity		1.0				<±2%
Cross sensitivity				2.8		<±4%
Temperature dependent zero drift	<0.1					<0.3% / 1°C
Temperature dependent span drift	0.19					<0.3% / 1°C
Response time					190 s	<600s
Detection limit			1.3		See note 1	<2%
Analysis function Note 6					98.5%	>95%
Availability Note 6					95.7%	>95%
Zero shift (weekly) Note 6	0.35					<2%
Span shift (weekly) Note 6		0.58				<4%
Vibration test					See note 2	Not specified
Sample gas pressure					See note 3	To be reported
Sample gas temperature					See note 4	To be reported
Maintenance Interval Note 6					1 month See note 5	To be reported

Note 1: The detection limit is presented as % of the smallest certification range.
Note 2: HM1400 is an extractive analyser. Test not applicable.
Note 3: Test not required. System is an extractive analyser with a pump sampling system
Note 4: Test not required. There are no active detection parts exposed to the flue gas temperature
Note 5: The manufacturer states that the maintenance interval is typically 6 months.
Note 6: Field test: The HM1400 TR was assessed on the basis of a three month field trial mounted on a cement kiln (with secondary fuels according to 17th BImSchV).

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Description:

HM 1400 TR is a sensitive analyser for monitoring total mercury in different types of waste gases. The analysis is performed via cold vapour atomic absorption spectroscopy. Total Mercury Analyzer HM 1400 TR operates with a thermocatalytic converter to transform all Mercury into its elemental form. The dual beam UV detector monitors this elemental Mercury on dry basis after separating the moisture. Using the dual beam detector UV cross interference effects of compounds like SO2 or aromatics can be minimised. For adjustment purposes of HM 1400 TR al manual calibration module is available.

HM 1400 TR is equipped with a heated sampling probe SP 2000 for separating particles from the sample gas. Mercury adsorbed at these particles will be released at 180 °C. The sample gas is piped via heated line (180 °C) from the sampling probe to the analyser housing where the complete sample gas treatment system and the detector is located.

HM 1400 works in real time without any preconcentration steps in the sample gas treatment system.

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 060076/00.

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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