PRODUCT CONFORMITY CERTIFICATE

This is to certify that the

D-RX 250 Dust Concentration and Flow Monitor

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 :

Dust	0 to 15 mg/m^3
	0 to 50 mg/m^3
Velocity	0 to 30 m/s

Project No:	674/0067D
Certificate No:	Sira MC 060075/01
Initial Certification:	29 September 2006
This Certificate Issued	22 May 2007
Renewal Date:	28 September 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
Tel: 01322 520500 Fax: 01322 520501

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.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 Rheinland Group	Report No: 936/800006/A dated 25th January 2001
Sira Report	Report No: C1241 August 2006
Sira Report	Report No: C1243 September 2006

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 D-RX 250 system consists of the following parts:

- Combined sensor unit
- Differential pressure transducer 265DS
- Transmitter
- Control and evaluation unit

This certificate applies to all D-RX 250 fitted with software version 2.0 onwards (serial number 401069 onwards)

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Certified Performance

The instrument was evaluated for use under the following conditions:
Ambient Temperature Range: -20°C to +50°C

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

Test	Results expressed as % of max of certification range				Other results	MCERTS specification
	<0.5	<1	<2	<4		
Linearity			2.0			<±2%
Temperature dependent zero drift	<0.1					<0.3%
Temperature dependent span drift	0.13					<0.3%
Response time					8 s	<200s
Detection limit			1.3		See note 1	<5%
Integral performance				3.4		<20% (<10%)
Availability Note 3					99.6%	>95%
Voltage effect, at ±15% from the norm	a					<2%
Zero shift (weekly) Note 3	0.25				Over 2 months	< 3% (<2%)/week
Span shift (weekly) Note 3	0.25				Over 2 months	< 3% (<2%)/weed
Reproducibility Note 3					106	> 30 (>50)
Vibration test					No effect	Not specified
Sample gas pressure					See note 2	To be reported
Sample gas temperature					See note 2	To be reported
Maintenance Interval Note 3					2 month	To be reported

Note 1: The detection limit is presented as % of the smallest certification range.
Note 2: D-RX 250 measures directly within the stack. So temperature and pressure of the sample gas have a direct influence to the measuring signal. To calculate the normal concentration of the dust information of temperature and pressure of the sample gas is required. D-RX 250 is able to measure these values.
Note 3: Field test: The DRX 250 was assessed on the basis of a three month field trial mounted on a waste incinerator. Additional tests have been performed at an industrial boiler plant.

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Flow (Gas velocity)

Unless otherwise stated the evaluation was carried out on the certification range 0 to 30 m/s.

Test	Results expressed as % of max of certification range				Other results	MCERTS specification
	<0.5	<1	<2	<4		
Linearity (20-290 Pa)			-1.8			<±3%
Cross sensitivity					See note 1	<±4%
Detection limit:					< 16.7 %	≤20% of indicating range
Ambient temperature: zero shift:	-0.3					<0.3%
Ambient temperature: span shift:	-0.04					<0.3%
Response time					8 s	≤10s
Reproducibility					88	≥30
Analysis function Note 3					99.8%	>95%
Integral performance Note 3			1.3			<5%
Availability Note 3					99.9%	≥95%
Vibration test					No effect	Not specified
Sample gas pressure					See note 2	To be reported
Sample gas temperature					See note 2	To be reported
Maintenance Interval Note 3					2 months	To be reported

Note 1: Due to the measuring principle cross sensitivity to any other waste gas components is not expected. Hence this test was not carried out.

Note 2: Sample gas pressure and sample gas temperature have an influence to the measuring signal because the measuring result depends on the density of the measuring gas. The principle of the measurement is based on the standard reference method for the measurement of waste gas velocity with the pitot tube. Temperature and pressure measurements are not part of the standard DFL system and the uncertainty associated with these measurements is not included in the MCERTS calculations.

Note 3: Field test: The DRX 250 was assessed on the basis of a three month field trial mounted on a waste incinerator.

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Description:

The D-RX 250 Combined Sample Probe is used for continuous monitoring of dust concentrations in various different applications. In addition to the measurement of dust concentration, the volume flow, temperature and the absolute pressure in the flue is measured. D-RX 250 dust concentration monitor uses the triboelectric measuring principle. Due to the measurement principle, this triboelectric signal is, without any compensation calculation, dependent on the concentration of the dust in the flue gas, the gas velocity and the particle characteristics. The dust concentration is calculated from the tribo-electric measuring signal and the volume flow. The D-RX 250 is able to supply a velocity compensated dust signal that can also be related to normal conditions because temperature and pressure in the duct are also measured.

The approved version of D-RX 250 consists of the sensor unit D-RX 250, an electronic connection unit and a control and evaluation unit. The sensor unit is located direct at the duct and consists of a combined probe for the measuring of dust concentration and a differential pressure transducer for the measurement of the gas velocity which is mounted close to the probe. The control and evaluation unit is usually mounted away from the stack in a more user-friendly position. The measurement of the gas velocity is performed by using the differential pressure principle. The sensor unit can also measure gas temperature and gas pressure.

The manufacturer states that the product is suitable for monitoring low to medium dust concentration i.e. power plant, steel and cement industry, asbestos and food industry.

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 060075/01.

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.