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# PRODUCT CONFORMITY CERTIFICATE

This is to certify that the

***FGA940E Flue Gas analyser***

manufactured by:

***Land Instruments International Ltd***

*Stubley Lane  
Dronfield  
Derbyshire  
S18 1DJ  
England*

has been assessed by Sira Certification Service  
and found to comply with:

**MCERTS Performance Standards for Continuous Emission  
Monitoring Systems, Version 2, Revision 1 (April 2003)**

Certification Ranges :

NO	0 to 200 mg/Nm <sup>3</sup> (0 to 150 ppm)	to	0 to 2500 mg/Nm <sup>3</sup> (0 to 2000 ppm)
O <sub>2</sub>	0 to 12 vol%	to	0 to 25 vol%

*Certification is awarded in respect of the conditions stated in this certificate*

Project No: 6740138C  
Certificate No: Sira MC 040021/02  
Initial Certification: 16<sup>th</sup> February 2004  
This Certificate Issued: 07<sup>th</sup> March 2008  
Renewal Date: 15<sup>th</sup> February 2009

Chief Executive

*MCERTS is operated on behalf of the Environment Agency by*

**Sira Certification Service**

South Hill, Chislehurst, Kent, BR7 5EH, England  
Tel: 020-8467-2636 Fax: 020-8467 7097

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### Certified Performance

The instrument was evaluated for use under the following conditions:

Ambient Temperature Range: -20°C to +50°C

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

Test	Results expressed as % of max of certification range				Other results	MCERTS* specification
	<0.3	<0.5	<2	<4		
Linearity NO			✓			<±2%
O <sub>2</sub>	✓				<±0.3%	<±0.3%
Cross sensitivity				✓		<±4%
Ambient temperature: zero shift						
NO	✓				<±0.3%	<±0.3%
O <sub>2</sub>		✓				<±0.5%
Ambient temperature: span shift						
NO	✓				<±0.3%	<±0.3%
O <sub>2</sub>		✓				<±0.5%
Response time					55s	<200s
Detection limit NO			✓			<±2%
O <sub>2</sub>	✓				<±0.2%	<±0.2%
Analysis function (field)						
NO					99.5%	>95%
O <sub>2</sub>					99.9%	>95%
Maintenance Interval (field)					1 month	To be reported
Availability (field)					98.4%	>95%
Zero drift (field)						
NO	✓				<±2%/week	<±2%/week
O <sub>2</sub>	✓				<±0.2%vol/week	<±0.2%vol/week
Span drift (field)						
NO	✓				<±4%/week	<±4%/week
O <sub>2</sub>	✓				<±0.2%vol/week	<±0.2%vol/week

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\* MCERTS performance limit Version 2, Revision 1, April 2003

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### Approved Site Application

The field tests were performed over 3 months at a municipal waste incinerator using heated filter units (Part No. 702.943) and stainless steel probe tubes (Part No. 702.947).

The ambient temperature range is 0 °C to +35 °C for the standard analyser. This can be extended to +50 °C using a vortex cooler or an air conditioner unit, and to -20 °C by the addition of a case heater. The instrument certified covers the -20°C to +50°C range.

This certificate applies to all instruments fitted with software version 1.23 onwards (i.e. serial number 9892269 onwards).

The manufacturer states that sample probes and sample lines can be provided for most applications on request.

*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. The MCERTS standard gives guidance of process conditions for some other types of plant.*

### Test Reports

This certification is based on the following Test Reports

TÜV Köln                      Report No. 936/808003/A dated 14.08.1998

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' (Feb 2001)

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### Description:

The FGA 940E Flue Gas Analyser is intended for measuring the concentrations of nitric oxide, and oxygen in the exhaust gases produced by combustion processes. The measurement technique uses pairs of electrochemical cells using the Land Instruments Dual Sensor Technology (DST). The analyser contains pumps to provide a flow of sample gas, and a gas cooler to condense and remove water vapour.

The analyser requires that gas from the sample probe is free of solid particles greater than 5 µm diameter and acid aerosols.

Auto-calibration is performed automatically at regular intervals or when requested.

### 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 040021/01
2. If certified product is found not to comply, Sira Certification Service should be notified immediately at the address shown on page 1.
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.

Certificate No: Sira MC 040021/01  
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