



ENVIRONMENT
AGENCY

PRODUCT CONFORMITY CERTIFICATE

This is to certify that the

FGA950E 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 100 ppm (0 to 150 mg/Nm ³)	to	0 to 2000 ppm (0 to 2500 mg/Nm ³)
CO	0 to 60 ppm (0 to 75 mg/Nm ³)	to	0 to 4000 ppm (0 to 5000 mg/Nm ³)
O ₂	0 to 5 vol%	to	0 to 25 vol%

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

Project No: 6740138A
Certificate No: Sira MC 040019/00
Initial Certification: 16th February 2004
This Certificate Issued: 16th February 2004
Renewal Date: 15th 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



ENVIRONMENT
AGENCY

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 All gases except O ₂			✓			<±2%
O ₂	✓				<±0.3%	<±0.3%
Cross sensitivity				✓		<±4%
Ambient temperature: zero shift						
All gases except O ₂	✓				<±0.3%	<±0.3%
O ₂		✓				<±0.5%
Ambient temperature: span shift						
All gases except O ₂	✓				<±0.3%	<±0.3%
O ₂		✓				<±0.5%
Response time					55s	<200s
Detection limit All gases except O ₂			✓			<±2%
O ₂	✓				<±0.2%	<±0.2%
Analysis function/ (field)						
CO					97.5%	>95%
NO					99.5%	>95%
O ₂					99.9%	>95%
Maintenance Interval					1 month	To be reported
Availability (field)					98.4%	>95%
Zero drift (field)						
All gases except O ₂	✓				<±2%/week	<±2%/week
O ₂	✓				<±0.2%vol/week	<±0.2%vol/week
Span drift (field)						
All gases except O ₂	✓				<±4%/week	<±4%/week
O ₂	✓				<±0.2%vol/week	<±0.2%vol/week

Certificate No: Sira MC Sira MC 040019/00 * MCERTS performance limit Version 2, Revision 1, April 2003

This Certificate Issued: 16th February 2004

This certificate may only be reproduced in its entirety and without change



ENVIRONMENT
AGENCY

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)

Certificate No: Sira MC 040019/00
This Certificate Issued: 16th February 2004

This certificate may only be reproduced in its entirety and without change



ENVIRONMENT
AGENCY

Description:

The FGA 950E Flue Gas Analyser is intended for measuring the concentrations of carbon monoxide, 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 040019/00
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 040019/00
This Certificate Issued: 16th February 2004