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PRODUCT CONFORMITY CERTIFICATE

This is to certify that the

Goyen EMS 6 Particulate Monitoring System

manufactured by:

Goyen Controls Co Pty Ltd

*Trading as Tyco Environmental Systems
268 Milperra Road
Milperra
NSW 2214
Australia*

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 Range :

Particulate Concentration 0 to 30 mg/m³

Note: This product has a limitation of use (see Page 2 of the certificate for details).

Project No: 674/0199
Certificate No: Sira MC 000009/03
Initial Certification: 22 June 2000
This Certificate Issued 03 September 2007
Renewal Date: 21 June 2010

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

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Limitation of use

This product is unable to perform a span check measurement required by some applications e.g. installations falling under the Large Combustion Plant Directive (LCPD) or Waste Incineration Directive (WID).

Approved Site Application

The manufacturer should be consulted if the instrument is to be mounted upstream of an electrostatic precipitator or after a wet collector. This instrument is suitable for use on applications where velocities are greater than 5ms⁻¹.

Particulate monitors may exhibit sensitivity to various in-stack effects. Potential interferences are site specific and may vary from stack to stack.

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:

MCT/WTC/B.02/SO4	(AEAT) dated February 2000
MCT/ESTC/B.01/SO4	(AEAT) dated November 1999
N 0340	(Sira) dated May 2000
QE21/N00/010	(NPL) dated May 2000
C-1237	(Sira) dated April 2006

Product Certified

Ordering Code of System Tested:
EMS6-3200 Digital head, 200°C
ANJ1-000 Network dual T box
Software Connect 2.13
ANP1-000 AC Power Supply Converter

This certificate applies to all instruments fitted with software version 1.78 onwards for EMS6 electronics and software version 2.0 onwards for EMS6 software.

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Certified Performance

The instrument was evaluated for use under the following conditions:

Ambient Temperature Range: Stack Components -10°C to +50°C
 Control Unit -10°C to +50°C
 Probe Temperature Maximum 200°C
 Relative Humidity: Stack Components 5 to 95% (including condensation)
 Control Unit 20 to 80% (excluding condensation)

Unless otherwise stated the evaluation was carried out on the certification range 0 to 30 mg/m³.

Test	Results expressed as % of the certification range				Other results	MCERTS specification
	<0.5	<1	<2	<4		
Linearity					98.16%	>0.95 ⁽¹⁾
Drift						<±2%
Ambient temperature: Zero shift	0.01					<0.3% per °C
Response time					15.2s	<200s
Detection limit	0.3					<2%
Repeatability					13.9%	<15%
Reproducibility					56.58	>30
Maintenance interval: (field test)					>3 months	To be reported
Availability ^{Note 1}					100%	>95%
Integral performance ^{Note 1}				4.52		C/<20%
Effect of particulate velocity (2.5 to 15 m/s at particulate concentration of 15 mg/m ³)					-22% to +18%	Not specified
Effect of particulate size (change from 18 to 9 µm)					-26%	Not specified
Vibration 10-150Hz at 19.6m/s ²					No effect	Not specified

⁽¹⁾ Correlation coefficient requirement (as specified in ISO 10155)

Note 1: Field test: The EMS6 system was evaluated for 3 months on a municipal water incinerator. The instrument was installed after the abatement units.

Note 2: The instrument was tested with a probe length of 0.3m. The performance of the instrument is a function of probe length.

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Description:

The EMS6 Particulate Monitor uses the AC coupled tribo principle. The probe head is available in two versions - for stack temperatures to 80°C or to 200°C. Control of the head and data acquisition is provided via a PC connected using an RS 485 network implementing Modicon Modbus. Up to two sensing heads are connected to a 'Termination Switching Junction Box'. These junction boxes are then daisy chained together on RS 485 and connected to the PC. Up to 29 sensing heads can be connected on to any one bus segment. The sensor heads have no controls or displays.

The EMS6 Sensing Head is capable of operating in ambient temperatures from -10°C to +50°C.

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 000009/02.
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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