

PRODUCT CONFORMITY CERTIFICATE

This is to certify that the

OXITEC 5000+

Manufactured by:

ENOTEC GmbH

Industriestraße 7
51709 Marienheide
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 3.5 dated June 2016**

EN15267-3:2007,
& QAL 1 as defined in EN 14181: 2014

Certification Ranges :

O₂ 0 to 25 vol.%

Project No.: 70128742
Certificate No: Sira MC170326/00
Initial Certification: 01 June 2017
This Certificate issued: 01 June 2017
Renewal Date: 31 May 2022

Emily Alexander
Deputy Certification Manager

MCERTS is operated on behalf of the Environment Agency by

Sira Certification Service

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Approved Site Application

Any potential user should ensure, in consultation with the manufacturer, that the monitoring system is suitable for the intended application. For general guidance on monitoring techniques refer to the Environment Agency Monitoring Technical Guidance Notes available at www.mcerts.net

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. This CEM has been proven suitable for its measuring task (parameter and composition of the flue gas) by use of the QAL 1 procedure specified in EN14181, for IED Chapter III and IED Chapter IV applications for the ranges specified. The lowest certified range for each determinand shall not be more than 1.5X the daily average emission limit value (ELV) for IED Chapter IV applications, and not more than 2.5X the ELV for IED Chapter III and other types of application.

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:

TUV Report No.: 936/21228221/A dated 04 October 2016

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Product Certified

The measuring system consists of the following parts:

Testing was conducted with the KES-200X probe and SME-53 electronic unit.

- Probes
KES-200x – tested probe
KES-132x – shorter immersion depth
KES-500x – smaller outer diameter
KEX-500x – ATEX approved
- Probe signal and pneumatic cable
FEP-0001/8/9
FEP-0002
- Electronic units
SME-53 – tested unit
SME-54 – 19 inch rack electronic housing
SME-56 – identical, but in an additional GRP housing
SME-5D – ATEX housing
SME-5S – stainless steel

Allowable variations could include:

- A different brand or model of sampling system of the same type, provided that there is evidence the alternative system works with similar types of CEM.
- Additional manifolds and heated valves used to allow more than one analyser to share a sampling system.

This certificate applies to all instruments fitted with software version 4.10 (serial numbers 200317 and 117150XXXXX) 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
Instrument IP rating: IP66

Results are expressed as error % of certification range, unless otherwise stated.

Test	Results expressed as % of the certification range				Other results	MCERTS specification
	<0.5	<1	<2	<5		
Response time					5 seconds	<200s
Repeatability standard deviation at zero point	0.01					<0.2%
Repeatability standard deviation at reference point	0.02					<0.2%
Lack-of-fit	0.10					<0.2%
Influence of ambient temperature zero point (-20°C to +50°C)	-0.03					<0.5%
Influence of ambient temperature reference point (-20°C to +50°C)	0.24					<0.5%
Influence of sample gas pressure	0.17					<0.2%
Influence of voltage variations (196V to 230V)	0.03					<2.0%
Influence of vibration (10 to 60Hz (±0.3mm), 60 to 150Hz at 1g)	-0.13					To be reported
Cross-sensitivity at zero with interferents: O ₂ , H ₂ O, CO, CO ₂ , CH ₄ , N ₂ O, NO, NO ₂ , NH ₃ , SO ₂ , HCl	0.19					<0.4%
Cross-sensitivity at reference with interferents: O ₂ , H ₂ O, CO, CO ₂ , CH ₄ , N ₂ O, NO, NO ₂ , NH ₃ , SO ₂ , HCl	0.37					<0.4%
Measurement uncertainty O ₂					Guidance - at least 25% below max permissible uncertainty 2.73%	<7.5% (10%)
Calibration function (field)					0.99	>0.90
Response time (field)					7 seconds	<200s
Lack of fit (field)	-0.15					<0.2%
Maintenance interval					6 months	>8 days

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Test	Results expressed as % of the certification range				Other results	MCERTS specification
	<0.5	<1	<2	<5		
Zero and Span drift requirement	<i>It is possible to record zero and span drift. This complies with the requirements for QAL3 according to EN 14181. The system is equipped with an automatic drift check. On reaching the limits for the automatic drift correction, a status signal was set.</i>					Clause 6.13 & 10.13 Manufacturer shall provide a description of the technique to determine and compensate for zero and span drift.
Change in zero point over maintenance interval	0.05					<0.2%
Change in reference point over maintenance interval	-0.04					<0.2%
Availability					99.8%	>98%
Reproducibility	0.07					<0.2%

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Description

The OXITEC 5000+ O₂ analyser system consists of an in situ probe (KES/KEX-...), an electronic unit (SME-5...) and the connection cables (FEP-...).

The probe is mounted in a duct and measures the oxygen concentration in situ with its heated ZrO₂ sensor. The electronic unit, which is mounted up to 150 m apart, supplies the voltage and test/reference gases through the signal and pneumatic cable to the probe, and processes the signals.

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 MC170327/00
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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