

PRODUCT CONFORMITY CERTIFICATE

This is to certify that the

DX100 for continuous isokinetic sampling

Manufactured by:

Opsis AB
Skytteskogsvägen 16
24466 Furulund
Sweden

has been assessed by CSA Group
and for the conditions stated on this certificate complies with:

**MCERTS Performance standards and test procedures for automatic isokinetic samplers,
EA, version 3, dated September 2016 & EN15267-1:2009, EN15267-2:2009 (QAL 1)**

	Certification range:	Supplementary range:
Velocity	2 - 20m/s	2 - 30m/s

Project No.: 80122885
Certificate No: Sira MC220406/00
Initial Certification: 11 May 2022
This Certificate issued: 11 May 2022
Renewal Date: 10 May 2027



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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 this evaluation the isokinetic sampling system is considered suitable for continuous sampling of dioxins, furans and other persistent organic pollutants (POPs) on any process where the stack conditions are within the performance of the certification range of this instrument.

The field test was carried out over a period of three months in the exhaust gas of a municipal waste incinerator.

Basis of Certification

This certification is based on the following test report and on CSA Group's assessment and ongoing surveillance of the product and the manufacturing process:

TÜV Rheinland Energy GmbH, Test report no. 936/21248264/B, Cologne, 04.04.2022

Product Certified

The Opsis DX100 sampling system consists of the following parts:

- The sampling cabinet, mounted on the stack, containing the sample gas probe and sorbent container
- Opsis AS180M gas conditioning unit with peristaltic pump and fine mesh filter
- The AC-conditioned measurement cabinet

This certificate applies to all instruments fitted with software version 1.0 (Build 16.0) onwards (serial number 006).

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Certified Performance

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

Test (<i>Laboratory</i>)	Results expressed as % of the certification range				Other results	MCERTS specification
	<0.5	<1	<2	<5		
Velocity range					2-20 ms ⁻¹	2-20 ms ⁻¹
Accuracy of isokinetic sampling rate response to changes in flue gas velocity				2.2		+/-5%
Accuracy of determination of volume of gas sampled			1.1			+/-2%
Linearity of isokinetic sampling rate 2 – 20 m/s 2 – 30 m/s		0.67	1.5			+/-5%
Response time, T ₉₀ (seconds) 2 – 20 m/s 2 – 30 m/s					21s 26s	<100s
Flow repeatability under laboratory conditions	0.35					+/-5%
Minimum operational velocity +-					≤2	2 ms ⁻¹
Drift (short term)		-0.7				2%

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Test (<i>Field</i>)	Results expressed as % of the certification range				Other results	MCERTS specification
	<0.5	<1	<2	<5		
Accuracy of the determination of volume of gas sampled calculated as an average of ten runs performed during the first of the last month of testing				-2.8		+/-5%
Flow reproducibility under field conditions calculated from ten independent measurement results at one fixed location within the duct				-2.6		+/-5%
Availability over three months continuous use					100	>95%

Note 1: The velocity measurement cannot be performed within oversaturated exhaust gas

Note 2: *Maintenance work* - visual inspection at regular intervals and checking of the compressed air supply

Functional check (recommended before calibration) -

- Visual inspection of the complete measuring and sampling system
- Check on the leak tightness by using the internal leak-test
- Linearity check (setting different pressures at the pressure measurement sensor)
- Check of data transmission (analogue and status signals) to the evaluation system

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Description

The Opsis DX100 is a system for continuous dioxins, furan and CO₂ emissions monitoring by long term sampling and is based on the adsorption method. The system is suitable for sampling PCDD/F and dioxin-like PCBs. The DX100 can be used in a range of applications such as waste incinerators, power plants, cement industries and paper industries.

The Opsis DX100 is fully automated with sampling from 6 hours up to 8 weeks. The system consists of three separate units: the sampling cabinet, the gas conditioning unit and the AC controlled measurement cabinet. The sampling cabinet installed on the stack contains the sample gas probe and also houses the sorbent container in which the component to be sampled is trapped during the sampling period. The gas conditioner (AS180M) cools the sample gas to 50C and removes the condensate with a peristaltic pump. The gas passes through a fine mesh filter and a moisture detector at the gas outlet.

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 CSA Group Testing UK Ltd Certificates'.
2. The design of the product certified is held and maintained by TÜV Rheinland for certificate No. Sira MC220406/00.
3. If a certified product is found not to comply, CSA Group should be notified immediately at the address shown on this certificate.
4. The certification marks that can be applied to the product or used in publicity material are defined in 'Regulations Applicable to the Holders of CSA Group Testing UK Ltd Certificates'.
5. This document remains the property of CSA Group and shall be returned when requested by CSA Group.

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