CERTIFICATE

of Product Conformity (QAL1)

Certificate No: 0000072197_01

Certified AMS:	FIDAMAT 6 Measuring System II for TOC
Manufacturer:	Siemens AG Östliche Rheinbrückenstr. 50 76187 Karlsruhe Germany
Test Institute:	TÜV Rheinland Energy & Environment GmbH

This is to certify that the AMS has been tested and found to comply with the standards EN 15267-1 (2009), EN 15267-2 (2023), EN 15267-3 (2007), EN 12619 (2013), as well as EN 14181 (2014).

Certification is awarded in respect of the conditions stated in this certificate (this certificate contains 6 pages).
The present certificate replaces certificate 0000072197_00 dated 7 September 2020.

TÜVRheinland® CERTIFIED
Suitability Tested
EN 15267
QAL1 Certified
Regular Surveillance
www.tuv.com
ID 0000072197

Publication in the German Federal Gazette (BAnz) of 31 July 2020

German Environment Agency

Dessau, 27 June 2025

This certificate will expire on:
30 July 2030

TÜV Rheinland Energy & Environment GmbH
Cologne, 26 June 2025

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Test institute accredited to EN ISO/IEC 17025 by DAkkS (German Accreditation Body).
This accreditation is limited to the accreditation scope defined in the enclosure to the certificate D-PL-11120-02-00.

Test report:	936/21245879/A dated 2 March 2020
Initial certification:	31 July 2020
Expiry date:	30 July 2030
Certificate:	Renewal (of previous certificate 0000072197_00 of 7 September 2020 valid until 30 July 2025)
Publication:	BAnz AT 31.07.2020 B10, chapter I No. 2.1

Approved application

The tested AMS is suitable for use at plants according to Directive 2010/75/EC, chapter III (combustion plants / 13th BImSchV:2020), chapter IV (waste incineration plants / 17th BImSchV:2013), Directive 2015/2193/EC (44th BImSchV:2022), TA Luft:2002, 30th BImSchV:2019 and 27th BImSchV:2013. The measured ranges have been selected so as to ensure as broad a field of application as possible.

The suitability of the AMS for this application was assessed on the basis of a laboratory test and a three month field test at a waste incineration.

The AMS is approved for an ambient temperature range of +5 °C to 40 °C.

The notification of suitability of the AMS, performance testing and the uncertainty calculation have been effected on the basis of the regulations applicable at the time of testing. As changes in legal provisions are possible, any potential user should ensure that this AMS is suitable for monitoring the emission limit values relevant to the application.

Any potential user should ensure, in consultation with the manufacturer, that this AMS is suitable for the installation at which it will be installed.

Note

The legal regulations mentioned correspond to the current state of legislation during certification. Each user should, if necessary, in consultation with the competent authority, ensure that this AMS meets the legal requirements for the intended use. In addition, it cannot be ruled out that legal regulations governing the use of a measuring device for emission monitoring may change during the lifetime of the certificate.

Basis of the certification

This certification is based on:

- Test report 936/21245879/A dated 2 March 2020 of TÜV Rheinland Energy GmbH
- Suitability announced by the German Federal Environment Agency (UBA) as the relevant body
- The ongoing surveillance of the product and the manufacturing process

Publication in the German Federal Gazette: BAnz AT 31.07.2020 B10, chapter I No. 2.1, Announcement by UBA dated 27 May 2020:

AMS designation:
FIDAMAT 6 Measuring System II for Total Organic Carbon

Manufacturer:
SIEMENS AG, Karlsruhe

Field of application:
For plants requiring official approval and for plants according to the 27th and 44th BImSchV

Measuring ranges during the performance test:

Component	Certification range	supplementary measuring ranges				Unit
TOC	0 – 15	0 – 50	0 – 150	0 – 500	0 – 3,000	mg/m³

Software version: 1.3.7

Restrictions: None

Notes:
1. The maintenance interval is four weeks.
2. The ending -37 on the type plate identifies the Fidamat 6 analyser module.
3. The automatic zero and span check must be deactivated for operation.

Test Institute: TÜV Rheinland Energy GmbH, Cologne
Report No.: 936/21245879/A dated 2 March 2020

Publication in the German Federal Gazette: BAnz AT 03.05.2021 B9, Chap. III notification 57, Announcement by UBA dated 31 March 2021:

57 Notification as regards Federal Environment Agency (UBA) notice of 27 May 2020 (BAnz AT 31.07.2020 B10, chapter I number 2.1)

The latest software version of the FIDAMAT 6 Measuring System II for TOC manufactured by Siemens AG is:
V1.3.8.

Statement issued by TÜV Rheinland Energy GmbH dated 11 September 2020

Certified product

This certificate applies to automated measurement systems conforming to the following description:

An integrated diaphragm pump supplies the sample gas to the FIDAMAT 6 Measuring System II via a heated line and an additional filter, and to the flame ionisation detector via a clogresistant quartz glass limiter. Inside the detector, hydrocarbons present in the sample gas are burned in an oxygen-hydrogen flame. Organic hydrocarbons are ionised during the combustion process.

Ions thus released are converted into an ion current as a result of the polarisation potential between the electrodes and are measured with the help of a highly-sensitive amplifier. The measured current is proportional to the number of organic C atoms of the hydrocarbons present in the sample gas.

A pressure controller keeps the hydrogen pressure at a constant level. A dove-tailed system consisting of a pump, capillaries and combustion-air pressure control ensures constant sample gas pressure.

The AMS tested here comprises the following components:

- FIDAMAT 6 analyser
- Analyser cabinet
- Heated sampling probe (180 °C) incl. controller, M&C SP2000
- Alternative: sampling probe Bühler GAS 222.20
- Heated cable (180 °C) (max. 50 m) incl. controller with Teflon core

General notes

This certificate is based upon the equipment tested. The manufacturer is responsible for ensuring that on-going production complies with the requirements of the EN 15267. 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 systems shall be subject to regular surveillance.

If a product of the current production does not conform to the certified product, TÜV Rheinland Energy & Environment GmbH must be notified at the address given on page 1.

A certification mark with an ID-Number that is specific to the certified product is presented on page 1 of this certificate. This certification mark may be applied to the product or used in advertising materials for the certified product.

This document as well as the certification mark remains property of TÜV Rheinland Energy & Environment GmbH. With revocation of the publication the certificate loses its validity. After the expiration of the certificate and on requests of the TÜV Rheinland Energy & Environment GmbH this document shall be returned and the certificate mark must not be employed anymore.

The relevant version of this certificate and its expiration is also accessible on the internet: **qal1.de**.

History of documents
Certification of FIDAMAT 6 Measuring System II is based on the documents listed below and the regular, continuous monitoring of the Quality Management System of the manufacturer:

Initial certification according to EN 15267
Certificate No. 0000072197_00: 7 September 2020
Expiry date of the certificate: 30 July 2025
Test report: 936/21245879/A dated 2 March 2020
TÜV Rheinland Energy GmbH
Publication: BAnz AT 31.07.2020 B10, chapter I number 2.1
UBA announcement dated 27 May 2020

Notifications
Statement issued by TÜV Rheinland Energy GmbH dated 11 September 2020
Publication: BAnz AT 03.05.2021 B9, chapter III notification 57
UBA announcement dated 31 March 2021
(Software changes)

Renewal of certificates
Certificate No. 0000072197_01: 27 June 2025
Expiry date of the certificate: 30 July 2030

Calculation of overall uncertainty according to EN 14181 and EN 15267-3

Measuring system			
Manufacturer		Siemens AG	
AMS designation		FIDAMAT 6 Measuring System II	
Serial number of units under test		L-4597 / L-4598	
Measuring principle		FID	
Test report		936/21245879/A	
Test laboratory		TÜV Rheinland	
Date of report		2020-03-02	
Measured component		TOC	
Certification range		0 - 15	mg/m³
Evaluation of the cross-sensitivity (CS)			
(system with largest CS)			
Sum of positive CS at zero point		0.49	mg/m³
Sum of negative CS at zero point		-0.08	mg/m³
Sum of postive CS at span point		0.37	mg/m³
Sum of negative CS at span point		0.00	mg/m³
Maximum sum of cross-sensitivities		0.49	mg/m³
Uncertainty of cross-sensitivity	u_i	0.283	mg/m³

Calculation of the combined standard uncertainty

Tested parameter				u^2	
Standard deviation from paired measurements under field conditions *	u_D	0.070	mg/m³	0.005	(mg/m³)²
Lack of fit	u_{lof}	-0.058	mg/m³	0.003	(mg/m³)²
Zero drift from field test	$u_{d.z}$	0.052	mg/m³	0.003	(mg/m³)²
Span drift from field test	$u_{d.s}$	0.139	mg/m³	0.019	(mg/m³)²
Influence of ambient temperature at span	u_t	0.173	mg/m³	0.030	(mg/m³)²
Influence of supply voltage	u_v	0.050	mg/m³	0.003	(mg/m³)²
Cross-sensitivity (interference)	u_i	0.283	mg/m³	0.080	(mg/m³)²
Influence of sample gas flow	u_p	-0.041	mg/m³	0.002	(mg/m³)²
Uncertainty of reference material at 70% of certification range	u_{rm}	0.121	mg/m³	0.015	(mg/m³)²
Variation of response factors (TOC)	u_{rf}	0.272	mg/m³	0.074	(mg/m³)²

* The larger value is used :
"Repeatability standard deviation at set point" or
"Standard deviation from paired measurements under field conditions"

Combined standard uncertainty (u_C)	$u_c = \sqrt{\sum (u_{max,j})^2}$	0.48	mg/m³
Total expanded uncertainty	$U = u_c * k = u_c * 1.96$	0.95	mg/m³

Relative total expanded uncertainty	**U in % of the ELV 10 mg/m³**	**9.5**
Requirement of 2010/75/EU	**U in % of the ELV 10 mg/m³**	**30.0**
Requirement of EN 15267-3	U in % of the ELV 10 mg/m³	22.5