CERTIFICATE

of Product Conformity (QAL1)

Certificate No.: 0000085402_00

Certified AMS:	OPM 19 ED for dust
Manufacturer:	Dr. Födisch Umweltmesstechnik AG Zwenkauer Str. 159 04420 Markranstädt 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 (2023) as well as EN 14181 (2014).

Certification is awarded in respect of the conditions stated in this certificate (this certificate contains 6 pages).

TÜVRheinland® CERTIFIED

Suitability Tested
EN 15267
QAL1 Certified
Regular Surveillance

www.tuv.com
ID 0000085402

Publication in the German Federal Gazette (BAnz) of 19 May 2025

German Environment Agency

Dessau, 20 August 2025

This certificate will expire on:
18 May 2030

TÜV Rheinland Energy & Environment GmbH
Cologne, 18 August 2025

Dr. Marcel Langner
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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:	EuL/21257032/B dated 27 September 2024
Initial certification:	19. May 2025
Expiry date:	18 May 2030
Publication:	BAnz AT 19.05.2025 B3, chapter I No. 1.1

Approved application

The tested AMS is suitable for use at plants according to Directive 2010/75/EC, chapter III (combustion plants / 13th BImSchV:2021), chapter IV (waste incineration plants / 17th BImSchV:2024), Directive 2015/2193/EC (44th BImSchV:2022), TA Luft:2021 and 30th BImSchV:2019. 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 six month field test at a lignite-fired power plant.

The AMS is approved for an ambient temperature range of +0 °C to +50 °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 EuL/21257032/B dated 27 September 2024 of TÜV Rheinland Energy & Environment 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 19.05.2025 B3, chapter I No. 1.1, Announcement by UBA dated 2 April 2025:

AMS designation:
OPM 19 ED for dust

Manufacturer:
Dr. Födisch Umweltmesstechnik AG, Markranstädt, Germany

Field of application:
For installations subject to authorisation under the 13th BImSchV, 17th BImSchV, 30th BImSchV, 44th BImSchV and TA Luft

Measuring ranges during the performance test:

Component	Certification range	additional range			Unit
Dust	0 - 7.5	0 - 15	0 - 50	0 - 500	mg/m³

Software versions:
v1.22
Version v1.21 can also be used.

Restrictions:
The measuring system can only be used at constant exhaust gas velocities (± 10 % of the average exhaust gas velocity) or with particle sizes ≤PM_4.

Notes:
1. The maintenance interval is three months.
2. The measuring system is operated and controlled using the PC_DUx_ED software, which is executed on a Windows PC that is an integral part of the measuring system.

Test institute:
TÜV Rheinland Energy & Environment GmbH, Cologne
Report No.: EuL/21257032/B dated 27 September 2024

Certified product

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

The OPM 19 ED measuring device is an extractive continuous dust measurement system.

The principle of operation of this system is described below:
To measure the dust concentration, the sample gas is removed from the process with a temperature-controlled probe and fed to an optical sensor unit. The sample gas sucked in is continuously diluted and dried with hot and dust-free ambient air. The dust concentration of the conditioned sample gas is measured by an optical sensor. The sample gas is sucked out of the duct by an ejector.

The principle of dust measurement is based on optical scattered light measurement. In the electronics of the optical sensor, the scattered light signal is converted into an equivalent dust signal.

All results and necessary parameters can be checked and set by a PC software connected to the USB-C port of the probe. The results of the dust monitor are always provided via analogue and digital interfaces. The OPM 19 ED OS optical sensor is located in the probe of the OPM 19 ED. It combines the optical measuring cell and the control electronics of the OPM 19 ED.

The laser light penetrates the sample gas and is scattered by the particles present. The scattered light generated by the dust particles in the sample gas is measured by the detector. The remaining laser light is directed via the reflectors to a light trap.

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 OPM 19 ED 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. 0000085402_00: 20 August 2025
Expiry date of the certificate: 18 May 2030
Test report: EuL/21257032/B dated 27 September 2024
TÜV Rheinland Energy & Environment GmbH
Publication: BAnz AT 19.05.2025 B3, chapter I number 1.1
UBA announcement dated 2 April 2025

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

Measuring system					
Manufacturer			Dr. Födisch Umweltmesstechnik AG		
AMS designation			OPM 19 ED		
Serial number of units under test			23001/23002		
Measuring principle			extractive scattered light		
Test report			EuL/21257032/B		
Test laboratory			TÜV Rheinland		
Measured component			Dust		
Certification range			0 - 7,5	mg/m³	
Calculation of the combined standard uncertainty					
Tested parameter				u^2	
	u_D	0,084	mg/m³	0,007	(mg/m³)²
Lack of fit	u_{lof}	0,023	mg/m³	0,001	(mg/m³)²
Zero drift from field test	$u_{d,z}$	-0,004	mg/m³	0,000	(mg/m³)²
Span drift from field test	$u_{d,s}$	0,017	mg/m³	0,000	(mg/m³)²
Influence of ambient temperature at span	u_t	0,026	mg/m³	0,001	(mg/m³)²
Influence of supply voltage	u_v	0,023	mg/m³	0,001	(mg/m³)²
Influence of sample gas flow	u_p	0,200	mg/m³	0,040	(mg/m³)²
Uncertainty of reference material at 70% of certification range	u_{rm}	0,061	mg/m³	0,004	(mg/m³)²
Combined standard uncertainty (u_C)	$u_c = \sqrt{\sum (u_{max,j})^2}$			0,23	mg/m³
Total expanded uncertainty	$U = u_c * k = u_c * 1.96$			0,45	mg/m³

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

Relative total expanded uncertainty	**U in % of the ELV 5 mg/m³**	**9,0**
Requirement of 2010/75/EU	**U in % of the ELV 5 mg/m³**	**30,0**
Requirement of EN 15267-3	U in % of the ELV 5 mg/m³	22,5