Umwelt Bundesamt

TÜVRheinland®
Precisely Right.

CERTIFICATE

of Product Conformity (QAL1)

Certificate No.: 0000090022_00

Certified AMS:	D-FW 440 M-EU-LL as leakage monitor
Manufacturer:	DURAG GmbH Kollaustr. 105 22453 Hamburg 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 15859 (2010) and EN 14181 (2014).

Certification is awarded in respect of the conditions stated in this certificate (this certificate contains 5 pages).

TÜVRheinland® CERTIFIED

Suitability Tested
EN 15267
QAL1 Certified
Regular Surveillance

www.tuv.com
ID 0000090022

Publication in the German Federal Gazette (BAnz) of 10 July 2026

This certificate will expire on: 9 July 2031

German Environment Agency
Dessau, 17 September 2026

TÜV Rheinland Energy & Environment GmbH
Cologne, 15 September 2026

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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/21271144/B dated 20 February 2025
Initial certification:	10 July 2026
Expiry date:	9 July 2031
Publication:	BAnz AT 10.07.2026 B5, chapter I Number 1.2

Approved application

The tested AMS is suitable for use as a dust monitor for filter monitoring downstream of filter systems at plants Directive 2010/75/EC, chapter III (combustion plants / 13th BImSchV:2021), Directive 2010/75/EC, chapter IV (waste incineration plants / 17th BImSchV:2024), Directive 2015/2193/EC (44th BImSchV:2022), TA Luft:2021, 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 an eight-month field test at an ancillary facility of waste incineration plant.

The AMS is approved for an ambient temperature range of -20 °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 measured values / emission limit values relevant to the application.

Any potential user should ensure, in consultation with the manufacturer, that this AMS is suitable for the intended use.

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/21271144/B dated 20 February 2025 by 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 10.07.2026 B5, chapter I Number 1.2, UBA announcement dated 18 May 2026:

AMS designation:
D-FW 440 M-EU-LL

Manufacturer:
DURAG GmbH, Hamburg, Germany

Field of application:
Leakage monitor for filter inspection downstream of dust collectors on installations requiring approval under the 13th BImSchV, the 17th BImSchV, the 30th BImSchV and the TA Luft and on installations under the 27th BImSchV and the 44th BImSchV

Measuring ranges during the performance test:

Component	Certification range	Supplementary measuring ranges		Unit
Dust	0 – 7.5	0 – 15	0 – 100	mg/m³

Software version: 3.2.4

Restrictions:

1. Use in flue gases saturated with water vapour is not possible. Similarly, droplet emissions affect the measured dust concentration.
2. Use immediately downstream of electrostatic precipitators is not possible.
3. Use is possible at flue gas velocities in the range of 3 – 40 m/s.

Notes:

1. The maintenance interval is four months.
2. The measuring device can only be adjusted to the zero and span points using the automatic adjustment function.
3. At flue gas velocities in the range of 3–40 m/s, the dependence on flue gas velocity is eliminated by the integrated velocity compensation. To do this, the 4–20 mA analogue input must be connected to a signal representing the flue gas velocity.
4. For constant flue gas velocities (± 10 % of the average flue gas velocity), a fixed value for the flue gas velocity may also be entered.
5. When using a purge air device, compliance with the specified purge air volume must be checked.
6. The measuring device must be operated with a 24-hour interval for the automatic control cycle.
7. The manufacturer's recommendations regarding probe length must be followed. Probe lengths ranging from 250 mm to 1750 mm may be used.
8. The power supply can be 230 V AC or 24 V DC.
9. The measuring system has a digital Modbus interface (serial RS 485), in accordance with VDI 4201 Parts 1 and 3.

Test Report: TÜV Rheinland Energy & Environment GmbH, Cologne
Report No.: EuL/21271144/B dated 20 February 2025

Certified product

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

The D-R 440 M-EU-LL measuring device is based on the triboelectric measuring principle. The measuring effect results from particles interacting with an insulated probe mounted in the flue gas duct or chimney. When moving particles flow past the probe or strike it, an AC signal is triggered electrostatically or a DC signal is triggered by direct charge transfer. This AC/DC signal is then mathematically processed to filter out signal noise and display only the dust signal resulting from the measurement effect.

The type-approved measurement system is based on the D-FW 440 M-EU-LL dust monitor with a standard probe length of 500 mm, a welded-on connector with a Tri-Clamp connection (ø 50 mm, 70 mm length), a Tri-Clamp clamp, a blind cover and a PTFE seal (ø 50 mm). A purge air adapter and probe extensions of 250 mm and 500 mm are available as options. The D-ESI FW software can be used for operation. An RS 485 interface is available for communication. A further RS 485 RTU interface is provided for the transmission of measurement data via the Modbus protocol. A direct USB interface is also available as a service interface.

The device's internal control cycle is used for zero and reference point checks in accordance with DIN EN 15859.

The following components are available for the measuring setup, among others:

- Weld-on adapter, blanking cap, Tri-Clamp clamp, Tri-Clamp-Teflon gasket
- Operating Software: D-ESI FW und
- Interface Adapter: RS 485 USB

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. Upon revocation of the publication the certificate loses its validity. After the expiration of the certificate and on request of TÜV Rheinland Energy & Environment GmbH this document shall be returned and the certificate mark must no longer be used.

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

Document history

Certification of the D-FW 440 M-EU-LL measuring system is based on the documents listed below and the regular, continuous surveillance of the manufacturer's quality management system:

Initial certification according to EN 15267
Certificate no. 0000090022_00: 17 September 2026
Expiry date of the certificate: 9 July 2031
Test report: EuL/21271144/B dated 20 February 2025
TÜV Rheinland Energy & Environment GmbH
Publication: BAnz AT 10.07.2026 B5, chapter I number 1.2
UBA announcement dated 18 May 2026