

PRODUCT CONFORMITY CERTIFICATE

This is to certify that the

FMD 09 flow monitor

Manufactured by:

Dr. Födisch Umweltmesstechnik AG

Zwenkauer Straße 159
D-04420 Markranstädt / OT Kulwitz
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, EN ISO 16911-2 : 2013
& QAL 1 as defined in EN 14181: 2014**

Certification Ranges :

Velocity	2 to 30 m/s
	2 to 60 m/s

Project No.:	70127010
Certificate No:	Sira MC170329/00
Initial Certification:	21 July 2017
This Certificate issued:	21 July 2017
Renewal Date:	20 July 2022

Emily Alexander BSc (Hons)
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. 936/21212361/C dated March 2012

Mattersteig & Co Test Report No. K-FS-7135-17 dated June 2017

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Product Certified

The flow measuring device FMD 09 consists of the following parts:

- Measuring probe: differential pressure probe Dr. Födisch AG
- Differential pressure transducer
- Temperature sensor
- Evaluation unit
- Optional: absolute pressure sensor
- Optional: cross-over cock for back flushing measuring probe

This certificate applies to all instruments fitted with software version Main version 2.07 and I/O Version 1.13 (serial number 17516) 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: Unit IP65, Probe IP66

Results are expressed as error % of certification range 2 to 30 m/s, unless otherwise stated.

Test	Results expressed as % of the certification range				Other results	MCERTS specification
	<0.5	<1	<2	<5		
Response time						
2 to 30 m/s					10s	<200s
2 to 60 m/s					10s	<200s
Repeatability standard deviation at zero point						
2 to 30 m/s	0.02					<2.0%
2 to 60 m/s	0.3					<2.0%
Repeatability standard deviation at reference point	0.1					<2.0%
Lack-of-fit						
2 to 30 m/s			-1.13			<2.0%
2 to 60 m/s		0.97				<2.0%
Influence of ambient temperature zero point (-20°C to +50°C)			-1.4			<5.0%
Influence of ambient temperature reference point (-20°C to +50°C)	-0.3					<5.0%
Influence of voltage variations (196V to 230V)	0.4					<2.0%
Influence of vibration		-0.9				To be reported

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Test	Results expressed as % of the certification range				Other results	MCERTS specification
	<0.5	<1	<2	<5		
Measurement uncertainty 2 to 30 m/s					Guidance - at least 25% below max permissible uncertainty 2.0%	<7.5% (10%)
Calibration function (field)					0.9935	>0.90
Response time (field)					10s	<200s
Lack of fit (field)		0.6				<2.0%
Maintenance interval					3 months	>8 days
Zero and Span drift requirement	The AMS allows the recording of zero and reference point drift and thus meets the requirements of QAL 3 as specified in EN14181, as the differential pressure transducer is typically tested again the field test					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	0.0					<2.0%
Change in reference point over maintenance interval			1.0			<4.0%
Availability					99.5%	>95%
Reproducibility		0.8				<3.3%

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Description

The flow measuring device FMD 09 is a highly sensitive system for continuous in-situ measurement of the velocity and temperature of gas flows in pipelines.

In the FMD 09 the measuring gas is measured in the exhaust flow by the dynamic pressure probe. Thereby the differential pressure is continuously measured by the dynamic pressure probe. The signal which results from the differential pressure is a degree for the velocity of the exhaust. The microcontroller integrated in the operating unit generates a proportional signal and evaluates the volume flow.

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 V00 for certificate No. Sira MC170329/00
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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