

CERTIFICATE

of Product Conformity (QAL1)

Certificate No.: 0000074630_02

Certified AMS: MT100 for Waste gas velocity

Manufacturer: Fluid Components International LLC
1755 La Costa Meadows Drive
San Marcos, California 92075
USA

Test Institute: TÜV Rheinland Energy 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 (2009), EN 15267-3 (2007),
EN 16911 (2013) and 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 0000074630_01 dated 31 May 2022.



Suitability Tested
EN 15267
QAL1 Certified
Regular
Surveillance

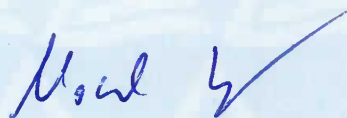
www.tuv.com
ID 0000074630

Publication in the German Federal Gazette
(BAnz) of 28 July 2022


German Environment Agency
Dessau, 09 August 2022

This certificate will expire on:
27 July 2027

TÜV Rheinland Energy GmbH
Cologne, 08 August 2022



Dr. Marcel Langner
Head of Section II 4.1



ppa. Dr. Peter Wilbring

www.umwelt-tuv.eu
tre@umwelt-tuv.eu
Tel. + 49 221 806-5200

TÜV Rheinland Energy GmbH
Am Grauen Stein
51105 Köln

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:	936/21247922/C dated 18 May 2022
Initial certification:	05 August 2021
Expiry date:	27 July 2027
Publication:	BAnz AT 28.07.2022 B4, chapter II No. 1.1

Approved application

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

The AMS is approved for an ambient temperature range of -20° 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 flue gas velocity 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 do correspond to the current state of. 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 936/21247922/C dated 18 May 2022 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



Certificate:
0000074630_02 / 09 August 2022



Publication in the German Federal Gazette: BAnz AT 28.07.2022 B4, chapter II No. 1.1,
Announcement by UBA dated 28 June 2022:

AMS designation:

MT100 for the measurement of waste gas velocity

Manufacturer:

Fluid Components International LLC., San Marcos, USA

Field of application:

For plants requiring official approval and plants according to the 27th BImSchV.

Measuring range during the performance test:

Component	Certification range	Unit
Velocity	0 - 30	m/s

Software version: 3.08M

Restrictions:

The measuring device can only be used in waste gas that is not saturated with water vapor.

Notes:

1. The maintenance interval is six months.
2. Supplementary test (maintenance interval extension) to the announcement of the Federal Environment Agency of 9 March 2022 (BAnz AT 11.04.2022 B10, Chapter III Number 1.1).

Test institute: TÜV Rheinland Energy GmbH, Cologne

Report No.: 936/21247922/C dated 18 May 2022



Certificate:
0000074630_02 / 09 August 2022



Certified product

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

The AMS tested here consists of one or more measuring probes, in which one heated and one unheated sensor is installed per probe, as well as the electronics / control unit. The individual signals of the measuring probes (up to eight) result in an output signal that represents the total flow. The number of measuring probes results from the dimensions of the flue gas ducts where the probes are to be installed later and the volume flow determined.

During the performance test, 2 control units with two measuring probes each were used. Through this potential combination of the number of probes and sensors, the smallest possible number of measuring probes was tested and, in addition, a practice-oriented distribution of the sampling points is possible. For each control unit up to four measuring probes can be installed.

The AMS tested here comprises the following components:

- Electronic / control unit
- Two measuring probes, length during the performance test 533 mm each
- Operating software ST MT Configurator
- Software version 3.08M

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 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 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 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**](http://qal1.de).

History of documents

Certification of MT100 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. 0000074630_00: 03 September 2021
Expiry date of the certificate: 04 August 2026
Test report 936/21247922/A dated 11 February 2021
TÜV Rheinland Energy GmbH
Publication BAnz AT 05.08.2021 B5, chapter II number 1.1
UBA announcement dated 29 June 2021

Supplementary testing according to EN 15267
Certificate No. 0000074630_01: 31 May 2022
Expiry date of the certificate: 11 April 2027
Test report 936/21247922/B dated 31 August 2021
TÜV Rheinland Energy GmbH
Publication BAnz AT 11.04.2022 B10, chapter III number 1.1
UBA announcement dated 9 March 2022

Supplementary testing according to EN 15267
Certificate No. 0000074630_02: 09 August 2022
Expiry date of the certificate: 27 July 2027
Test report 936/21247922/C dated 18 May 2022
TÜV Rheinland Energy GmbH
Publication BAnz AT 28.07.2022 B4, chapter II number 1.1
UBA announcement dated 28 June 2022

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

Measuring system

Manufacturer	Fluid Components International LLC.
AMS designation	MT100
Serial number of units under test	675808 / 675809
Measuring principle	Thermal dispersion

Test report

Test laboratory	936/21247922/C
Date of report	TÜV Rheinland
	2022-05-18

Measured component

Certification range	Velocity
	0 - 30 m/s

Calculation of the combined standard uncertainty

Tested parameter

			u^2
Standard deviation from paired measurements under field conditions *	u_D	0.097 m/s	0.009 (m/s) ²
Lack of fit	u_{lof}	0.116 m/s	0.013 (m/s) ²
Zero drift from field test	$u_{d,z}$	-0.052 m/s	0.003 (m/s) ²
Span drift from field test	$u_{d,s}$	0.139 m/s	0.019 (m/s) ²
Influence of ambient temperature at span	u_t	0.100 m/s	0.010 (m/s) ²
Influence of supply voltage	u_v	0.036 m/s	0.001 (m/s) ²
Uncertainty of reference material at 70% of certification range	u_{rm}	0.242 m/s	0.059 (m/s) 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)	$u_c = \sqrt{\sum (u_{max, j})^2}$	0.34 m/s
Total expanded uncertainty	$U = u_c * k = u_c * 1.96$	0.66 m/s

Relative total expanded uncertainty

Requirement of 2010/75/EU	U in % of the range 30 m/s	2.22
Requirement of EN 15267-3	U in % of the range 30 m/s	7.84 **
	U in % of the range 30 m/s	5.88

** The EU-directive 2010/75/EC on industrial emissions does not define requirements for this component.
A value of 7.84 % was used instead.