CERTIFICATE

of Product Conformity (QAL1)

Certificate No: 0000040211_03

Certified AMS:	K-Bar 2000B for waste gas velocity
Manufacturer:	Kurz Instruments Inc. 2411 Garden Road CA 93940 Monterey USA
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 ISO 16911-2 (2013), as well as EN 14181 (2004).

Certification is awarded in respect of the conditions stated in this certificate (this certificate contains 7 pages).
The present certificate replaces certificate 0000040211_02 dated 1 July 2020.

Suitability Tested
EN 15267
QAL1 Certified
Regular Surveillance

www.tuv.com
ID 0000040211

Publication in the German Federal Gazette (BAnz) of 1 April 2014

German Environment Agency

Dessau, 27 June 2025

This certificate will expire on:
30 June 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:	936/21219690/A dated 10 October 2013
Initial certification:	1 April 2014
Expiry date:	30 June 2030
Certificate:	Renewal (of previous certificate 0000040211_02 of 1 July 2020 valid until 30 June 2025)
Publication:	BAnz AT 01.04.2014 B12, chapter II No. 2.2

Approved application

The tested AMS is suitable for use at plants according to Directive 2010/75/EC, chapter III (combustion plants / 13th BImSchV:2013), Directive 2010/75/EC, chapter IV (waste incineration plants / 17th BImSchV:2013), Directive 2015/2193/EC (44th BImSchV:2022), TA Luft:2002, 30th BImSchV:2009 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 -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 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 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 936/21219690/A dated 10 October 2013 of TÜV Rheinland Energie und Umwelt 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 01.04.2014 B12, chapter II No. 2.2, Announcement by UBA dated 27 February 2014:

AMS designation:
K-BAR 2000B for waste gas velocity

Manufacturer:
Kurz Instruments, Inc., Monterey, USA

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

Measuring ranges during the performance test:

Component	Certification range	Unit
Velocity	0 – 30	m/s

Software version:
MFT-B VER 2.08

Restrictions:
The measuring system may only be employed if the temperature does not fall below dew point.

Notes:
1. The maintenance interval is four weeks.
2. The measuring system may be used at exhaust gas temperatures of up to 500 °C.

Test Institute:
TÜV Rheinland Energie und Umwelt GmbH, Cologne
Report No.: 936/21219690/A dated 10 October 2013

Publication in the German Federal Gazette: BAnz AT 24.03.2020 B7, Chap. IV notification 57, Announcement by UBA dated 24 February 2020:

57 Notification as regards Federal Environment Agency (UBA) notices of 27 February 2014 (BAnz AT 01.04.2014 B12, chapter II number 2.2)

In the context of continuous product development, Kurz Instruments introduced the following changes to their K-BAR 2000B measuring system for waste gas velocity. The latest software version of the measuring system now is:
MFT-B VER 2.15

Moreover, the following software version are approved for this instrument version:
MFT-B VER 2.08, MFT-B VER 2.09, MFT-B VER 2.10, MFT-B VER 2.11, MFT-B VER 2.12, MFT-B VER 2.13 and MFT-B VER 2.14.

Statement by TÜV Rheinland Energy GmbH dated 17 September 2019

Certified product

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

The measuring system K-BAR 2000B for monitoring exhaust gas velocity consists of one or more sensor probe rods in which one or more sensor elements are fitted (the tested measuring system is equipped with 2 built-in sensor elements) that measure velocity according to the principle of thermal anemometry. To do so, an electrically heated resistance temperature detector (RTD) is used which maintains a constant temperature difference to the surrounding sample gas (temperature is measured with a second RTD). The measurement signal produced is the electricity required to maintain a constant temperature difference between the heated RTD and the sample gas.

An electronic analysis component is fitted directly on the probe rod and is connected to the external analysis and control electronics Adam 155B. The Adam 155B component calculates and provides the mean value of the individual elements. The parameters of the entire measuring system can also be controlled using the keyboard and display.

A control cycle for zero and span point control can be initiated via an external Siemens Logo PC. No proper reference point checks were carried out, but the evaluation electronics of the sensor elements were subjected to testing.

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 K-Bar 2000B 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. 0000040211_00: 29 April 2014
Expiry date of the certificate: 31 March 2019
Test report: 936/21219690/A dated 10 October 2013
TÜV Rheinland Energie und Umwelt GmbH
Publication: BAnz AT 01.04.2014 B12, chapter II number 2.2
UBA announcement dated 27 February 2014

Renewal of certificates
Certificate No. 0000040211_01: 1 April 2019
Expiry date of the certificate: 30 June 2020

Notifications
Statement issued by TÜV Rheinland Energy GmbH dated 17 September 2019
Publication: BAnz AT 24.03.2020 B7, chapter IV notification 57
UBA announcement dated 24 February 2020
(Software changes)

Renewal of certificates
Certificate No. 0000040211_02: 1 July 2020
Expiry date of the certificate: 30 June 2025

Renewal of certificates
Certificate No. 0000040211_03: 27 June 2025
Expiry date of the certificate: 30 June 2030

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

Measuring system					
Manufacturer			Kurz Instruments Inc.		
AMS designation			K-Bar 2000B		
Serial number of units under test			1294A / 1294B		
Measuring principle			Thermal convection		
Test report			936/21219690/A		
Test laboratory			TÜV Rheinland		
Date of report			2013-10-10		
Measured component			Velocity		
Certification range			0 - 30	m/s	

Calculation of the combined standard uncertainty

Tested parameter				u^2	
Standard deviation from paired measurements under field conditions *	u_D	0.215	m/s	0.046	$(m/s)^2$
Lack of fit	u_{lof}	-0.230	m/s	0.053	$(m/s)^2$
Zero drift from field test	$u_{d,z}$	0.035	m/s	0.001	$(m/s)^2$
Span drift from field test	$u_{d,s}$	0.052	m/s	0.003	$(m/s)^2$
Influence of ambient temperature at span	u_t	0.115	m/s	0.013	$(m/s)^2$
Influence of supply voltage	u_v	0.012	m/s	0.000	$(m/s)^2$
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 span" or
"Standard deviation from paired measurements under field conditions"

Combined standard uncertainty (u_C)	$u_c = \sqrt{\sum (u_{max,j})^2}$	0.42	m/s
Total expanded uncertainty	$U = u_c * k = u_c * 1.96$	0.82	m/s

Relative total expanded uncertainty	**U in % of the range 30 m/s**	**2.7**
Requirement of 2010/75/EU	**U in % of the range 30 m/s**	**10.0 ****
Requirement of EN 15267-3	U in % of the range 30 m/s	7.5

** For this component no requirements in the EC-directives 2010/75/EU on industrial emissions are given.
The chosen value is recommended by the certification body.