

# CERTIFICATE

## of Product Conformity (QAL1)

Certificate No.: 0000038502\_02

**AMS designation:** 200E / T200 for NO, NO<sub>2</sub> and NO<sub>x</sub>

**Manufacturer:** Teledyne Advanced Pollution Instrumentation  
9480 Carroll Park Drive  
San Diego  
CA 92121-5201  
USA

**Test Laboratory:** TÜV Rheinland Energy GmbH

**This is to certify that the AMS has been tested and certified  
according to the standards  
VDI 4202-1 (2002), VDI 4203-3 (2004), EN 14211 (2012),  
EN 15267-1 (2009) and DIN EN 15267-2 (2009).**

Certification is awarded in respect of the conditions stated in this certificate  
(this certificate contains 10 pages).



Suitability Tested  
Complying with  
2008/50/EC  
EN 15267  
Regular  
Surveillance

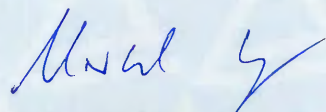
www.tuv.com  
ID 0000038502

Publication in the German Federal Gazette  
(BAnz) of 06 November 2007

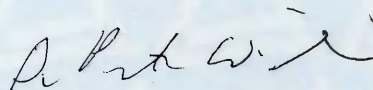
This certificate will expire on:  
04 March 2023

German Federal Environment Agency  
Dessau, 05 March 2018

TÜV Rheinland Energy GmbH  
Cologne, 04 March 2018



Dr. Marcel Langner  
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51105 Köln

Test institute accredited to EN ISO/IEC 17025:2005 by DAkS (German Accreditation Body).  
This accreditation is limited to the accreditation scope defined in the enclosure to the certificate D-PL-11120-02-00.

**Certificate:**  
0000038502\_02 / 05 March 2018

**Test Report:** 936/21205926/A dated 22 June 2007  
Addendum 936/21219874/B dated 11 October 2012  
Addendum 936/21221556/B dated 16 March 2013

**Initial certification:** 05 March 2013

**Expiry date:** 04 March 2023

**Certificate:** Renewal (of previous certificate 0000038502\_01 dated 20 August 2013 valid until 04 March 2018)

**Publication:** BAnz. 06 November 2007, no. 206, p. 7925, chapter II no. 2.1

### **Approved application**

The certified AMS is suitable for continuous ambient air monitoring of NO, NO<sub>2</sub> and NO<sub>x</sub> (stationary operation).

The suitability of the AMS for this application was assessed on the basis of a laboratory test and a three-month field test.

The AMS is approved for an ambient temperature range of +5 °C to +40 °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, in consultation with the manufacturer, that this AMS is suitable for monitoring the limit values relevant to the application.

Any potential user should ensure, in consultation with the manufacturer, that this AMS is suitable for ambient air applications at which it will be installed.

### **Basis of the certification**

This certification is based on:

- Test report 936/21205926/A dated 22 June 2007 issued by TÜV Rheinland Immissionsschutz und Energiesysteme GmbH, addendum 936/21219874/B dated 11 October 2012 issued by TÜV Rheinland Energie und Umwelt GmbH and addendum 936/21221556/B dated 16 March 2013 issued by 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. 06 November 2007, no. 206, p. 7925, chapter II no. 2.1

UBA announcement dated 23 September 2007:

**AMS designation:**

M200E for NO, NO<sub>2</sub> and NO<sub>x</sub>

**Manufacturer:**

Teledyne Advanced Pollution Instrumentation, San Diego, USA / EAS GmbH, Brunn, Austria

**Field of application:**

For continuous ambient air monitoring of NO, NO<sub>2</sub> and NO<sub>x</sub> (stationary operation)

**Measuring ranges during performance testing:**

NO<sub>2</sub> 0–400 µg/m<sup>3</sup>

0–500 µg/m<sup>3</sup>

NO 0–1200 µg/m<sup>3</sup>

**Software version:**

Revision G.2

**Test Report:**

TÜV Rheinland Immissionsschutz und Energiesysteme GmbH, Cologne

TÜV Rheinland Group, Cologne

Report no. 936/21205926/A dated 22 June 2007

Publication in the German Federal Gazette: BAnz. 26 January 2011, no. 14, p. 294, chapter IV notification 21,

UBA announcement dated 10 January 2011:

**21 Notification as regards Federal Environment Agency notice of 23 September 2007 (BAnz p. 7925, chapter II no. 2.1)**

The current software version of the M200E ambient air measuring system for NO, NO<sub>2</sub> and NO<sub>x</sub> manufactured by Teledyne Advanced Pollution Instrumentation is:

K.4 incl. Library Version 6.3

Statement issued by TÜV Rheinland Energie und Umwelt GmbH dated 29 September 2010

Publication in the German Federal Gazette: BAnz. 26 January 2011, no. 14, p. 294, chapter IV notification 22,  
UBA announcement dated 10 January 2011:

**22 Notification as regards Federal Environment Agency notice of 23 September 2007 (BAnz p. 7925, chapter II no. 2.1)**

The M200E measuring system for NO, NO<sub>2</sub> and NO<sub>x</sub> manufactured by Teledyne Advanced Pollution Instrumentation is manufactured both in its old design M200E and in its new design Model T200. The new design differs from the old design only in that it has a new display, a new front plate and offers extended possibilities for communication.

The current name of the new design of the measuring system is:

Model T200

The current software version of the new design of the measuring system is:

1.0.0 bld 54 incl. Library Version 7.0.0 bld 57

Statement issued by TÜV Rheinland Energie und Umwelt GmbH dated 29 September 2010

Publication in the German Federal Gazette: BAnz AT 05.03.2013 B10, chapter V notification 4,  
UBA announcement dated 12 February 2013:

**4 Notification as regards Federal Environment Agency (UBA) notices of 23 September 2007 (BAnz p. 7925, chapter II no. 2.1) and of 10 January 2011 (BAnz p. 294, chapter IV, 21<sup>st</sup> and 22<sup>nd</sup> notification)**

The M200E and T200 versions of the measuring system for NO, NO<sub>2</sub> and NO<sub>x</sub> manufactured by Teledyne Advanced Pollution Instrumentation meet the requirements of EN 14211 (Issue June 2005). Furthermore the manufacturing process and the quality management for the M200E and T200 versions of the measuring system for NO, NO<sub>2</sub> NO<sub>x</sub> meet the requirements of EN 15267.

The test report on performance testing, report no. 936/21205926/B, and addendum to the test report, no. 936/21219874/B, which is an integral part of the test report, are available on the internet at [www.qal1.de](http://www.qal1.de).

The current software version of the M200E measuring system is:

K.7 incl. Library Version 6.4

The current software version of the T200 measuring system is:

1.0.4 incl. Library Version 7.0.3

Statement issued by TÜV Rheinland Energie und Umwelt GmbH dated 11 October 2012

Publication in the German Federal Gazette: BAnz AT 23.07.2013 B4, chapter V notification 16,  
UBA announcement dated 03 July 2013:

**16 Notification as regards Federal Environment Agency (UBA) notices of 23 September 2007 (BAnz p. 7925, chapter II no. 2.1) and of 12 February 2013 (BAnz AT 05.03.2013 B10, chapter V 4<sup>th</sup> notification)**

The M200E and T200 versions of the measuring system for NO, NO<sub>2</sub> and NO<sub>x</sub> manufactured by Teledyne Advanced Pollution Instrumentation meet the requirements of EN 14211 (Issue November 2012). An addendum as integral part of test report no. 936/21221556/B is available online at [www.qal1.de](http://www.qal1.de).

In addition to the valve used so far as NO/NO<sub>x</sub> valve and auto-zero valve (VA0000007), the measuring system may alternatively use the new valve (VA0000059).

The measuring system is fitted with an additional mixing nozzle in order to further extend its life cycle.

The new designation of the M200E measuring system for NO, NO<sub>2</sub> and NO<sub>x</sub> is 200E.

Statement issued by TÜV Rheinland Energie und Umwelt GmbH dated 16 March 2013

Publication in the German Federal Gazette: BAnz AT 02.04.2015 B5, chapter IV notification 15,  
UBA announcement dated 25 February 2015:

**15 Notification as regards Federal Environment Agency (UBA) notices of 23 September 2007 (BAnz p. 7925, chapter II number 2.1) and of 3 July 2013 (BAnz AT 23.07.2013 B4, chapter V 16<sup>th</sup> notification)**

The 200E and T200 measuring systems for monitoring NO, NO<sub>2</sub> and NO<sub>x</sub> manufactured by Tele-dyne Advanced Pollution Instrumentation may alternatively be equipped with the PU1998N828-5.07 sample gas pump manufactured by KNF.

Statement issued by TÜV Rheinland Energie und Umwelt GmbH dated 4 September 2014

Publication in the German Federal Gazette: BAnz AT 14.03.2016 B7, chapter V notification 8,  
UBA announcement dated 18 February 2016:

**8 Notification as regards Federal Environment Agency (UBA) notices of 23 September 2007 (BAnz p. 7925, chapter II no. 2.1) and of 25 February 2015 (BAnz AT 02.04.2015 B5, chapter IV 15<sup>th</sup> notification)**

The current software version of the M200E measuring system for NO, NO<sub>2</sub> and NO<sub>x</sub> manufactured by Teledyne Advanced Pollution Instrumentation is:

Package Version: 1.0.2  
Driver Version: 1.0.6

Statement issued by TÜV Rheinland Energie und Umwelt GmbH dated 19 October 2015



### **General remarks**

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 manufacturing process for 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 document as well as the certification mark remains property of TÜV Rheinland Energy GmbH. Upon revocation of the publication the certificate loses its validity. After the expiration of the certificate and on request of TÜV Rheinland Energy GmbH this document shall be returned and the certificate mark must no longer be used.

The relevant version of this certificate and its expiration date are also accessible on the internet at [qal1.de](http://qal1.de).

Certification of the 200E / T200 measuring system is based on the documents listed below and the regular, continuous surveillance of the manufacturer's quality management system:

### **Basic testing**

Test report: 936/21205926/A dated 22 June 2007  
TÜV Rheinland Immissionsschutz und Energiesysteme GmbH, Cologne  
Publication: BAnz 06 November 2007, no. 206, p. 7925, chapter II no. 2.1  
UBA announcement dated 23 September 2007

### **Notification**

Statement issued by TÜV Rheinland Energie und Umwelt GmbH dated 29 September 2010  
Publication: BAnz. 26 January 2011, no. 14, p. 294, chapter IV notifications 21 and 22  
UBA announcement dated 10 January 2011  
(Software & design changes)

### **Initial certification according to EN 15267**

Certificate no. 0000038502: 22 March 2013  
Expiry date of the certificate: 04 March 2018

Test report: 936/21205926/A dated 22 June 2007  
TÜV Rheinland Immissionsschutz und Energiesysteme GmbH, Cologne  
Addendum: 936/21219874/B dated 11 October 2012  
TÜV Rheinland Energie und Umwelt GmbH, Cologne  
Statement issued by TÜV Rheinland Energie und Umwelt GmbH dated 11 October 2012  
Publication: BAnz AT 05.03.2013 B10, chapter V notification 4  
UBA announcement dated 12 February 2013

**Supplementary testing according to EN 15267**

Certificate no. 0000038502\_01: 20 August 2013  
Expiry date of the certificate: 04 March 2018

Test report: 936/21205926/A dated 22 June 2007  
TÜV Rheinland Immissionsschutz und Energiesysteme GmbH, Cologne  
Addendum: 936/21219874/B dated 11 October 2012 issued by TÜV Rheinland Energie und Umwelt GmbH  
Addendum: 936/21221556/B dated 16 March 2013 issued by TÜV Rheinland Energie und Umwelt GmbH  
Publication: BAnz AT 23.07.2013 B4, chapter V notification 16  
UBA announcement dated 03 July 2013

**Notifications in accordance with EN 15267**

Statement issued by TÜV Rheinland Energie und Umwelt GmbH dated 04 September 2014  
Publication: BAnz AT 02.04.2015 B5, chapter IV notification 15  
UBA announcement dated 25 February 2015  
(New sample gas pump)

Statement issued by TÜV Rheinland Energie und Umwelt GmbH dated 19 October 2015  
Publication: BAnz AT 14.03.2016 B7, chapter V notification 8  
UBA announcement dated 18 February 2016  
(New software version)

**Renewal of the certificate**

Certificate no. 0000038502\_02: 05 March 2018  
Expiry date of the certificate: 04 March 2023



Calculation of overall uncertainty (device 2)

Measuring device:		Teledyne API M200E/T200		Serial-No.:		SN 1 (1253)	
Measured component:		NO2		1h-limit value:		104.6 nmol/mol	
No.	Performance characteristic	Performance criterion	Result	Partial uncertainty		Square of partial uncertainty	
1	Repeatability standard deviation at zero	≤ 1.0 nmol/mol	0.940	u <sub>r,z</sub>	0.22	0.0466	
2	Repeatability standard deviation at 1h-limit value	≤ 3.0 nmol/mol	1.050	u <sub>r,th</sub>	0.05	0.0023	
3	"lack of fit" at 1h-limit value	≤ 4.0% of measured value	-0.600	u <sub>l,th</sub>	-0.36	0.1313	
4	Sensitivity coefficient of sample gas pressure at 1h-limit value	≤ 8.0 nmol/mol/kPa	0.140	u <sub>gp</sub>	1.29	1.6656	
5	Sensitivity coefficient of sample gas temperature at 1h-limit value	≤ 3.0 nmol/mol/K	0.040	u <sub>gt</sub>	0.10	0.0106	
6	Sensitivity coefficient of surrounding temperature at 1h-limit value	≤ 3.0 nmol/mol/K	0.520	u <sub>st</sub>	1.35	1.8113	
7	Sensitivity coefficient of electrical voltage at 1h-limit value	≤ 0.30 nmol/mol/V	0.010	u <sub>v</sub>	0.04	0.0013	
8a	Interferent H <sub>2</sub> O with 21 mmol/mol	≤ 10 nmol/mol (Zero)	3.300	u <sub>H2O</sub>	1.43	2.0510	
		≤ 10 nmol/mol (Span)	-3.300				
8b	Interferent CO <sub>2</sub> with 500 µmol/mol	≤ 5.0 nmol/mol (Zero)	0.300	u <sub>int,pos</sub> or	0.63	0.3915	
		≤ 5.0 nmol/mol (Span)	0.700				
8c	Interferent NH <sub>3</sub> mit 200 nmol/mol	≤ 5.0 nmol/mol (Zero)	0.700	u <sub>int,neg</sub>			
		≤ 5.0 nmol/mol (Span)	0.700				
9	Averaging effect	≤ 7.0% of measured value	0.800	u <sub>av</sub>	0.48	0.2334	
18	Difference sample/calibration port	≤ 1%	0.000	u <sub>1,sc</sub>	0.00	0.0000	
21	Converter efficiency	≥ 98	98.00	u <sub>EC</sub>	2.09	4.3765	
23	Uncertainty of test gas	≤ 3%	2.000	u <sub>cg</sub>	1.05	1.0941	
Combined standard uncertainty				u <sub>c</sub>		3.4445	nmol/mol
Expanded uncertainty				U		6.8890	nmol/mol
Relative expanded uncertainty				W		6.59	%
Maximum allowed expanded uncertainty				W <sub>req</sub>		15	%

Measuring device:		Teledyne API M200E/T200		Serial-No.:		SN 2 (1257)	
Measured component:		NO2		1h-limit value:		104.6 nmol/mol	
No.	Performance characteristic	Performance criterion	Result	Partial uncertainty		Square of partial uncertainty	
1	Repeatability standard deviation at zero	≤ 1.0 nmol/mol	0.830	u <sub>r,z</sub>	0.19	0.0379	
2	Repeatability standard deviation at 1h-limit value	≤ 3.0 nmol/mol	1.230	u <sub>r,th</sub>	0.06	0.0032	
3	"lack of fit" at 1h-limit value	≤ 4.0% of measured value	-0.200	u <sub>l,th</sub>	-0.12	0.0146	
4	Sensitivity coefficient of sample gas pressure at 1h-limit value	≤ 8.0 nmol/mol/kPa	0.060	u <sub>gp</sub>	0.55	0.3003	
5	Sensitivity coefficient of sample gas temperature at 1h-limit value	≤ 3.0 nmol/mol/K	0.030	u <sub>gt</sub>	0.08	0.0060	
6	Sensitivity coefficient of surrounding temperature at 1h-limit value	≤ 3.0 nmol/mol/K	0.180	u <sub>st</sub>	0.47	0.2170	
7	Sensitivity coefficient of electrical voltage at 1h-limit value	≤ 0.30 nmol/mol/V	0.030	u <sub>v</sub>	0.11	0.0114	
8a	Interferent H <sub>2</sub> O with 21 mmol/mol	≤ 10 nmol/mol (Zero)	0.000	u <sub>H2O</sub>	0.19	0.0359	
		≤ 10 nmol/mol (Span)	0.000				
8b	Interferent CO <sub>2</sub> with 500 µmol/mol	≤ 5.0 nmol/mol (Zero)	0.700	u <sub>int,pos</sub> or	0.68	0.4650	
		≤ 5.0 nmol/mol (Span)	1.300				
8c	Interferent NH <sub>3</sub> mit 200 nmol/mol	≤ 5.0 nmol/mol (Zero)	0.000	u <sub>int,neg</sub>			
		≤ 5.0 nmol/mol (Span)	1.700				
9	Averaging effect	≤ 7.0% of measured value	1.000	u <sub>av</sub>	0.60	0.3647	
18	Difference sample/calibration port	≤ 1%	0.000	u <sub>1,sc</sub>	0.00	0.0000	
21	Converter efficiency	≥ 98	98.20	u <sub>EC</sub>	1.88	3.5449	
23	Uncertainty of test gas	≤ 3%	2.000	u <sub>cg</sub>	1.05	1.0941	
Combined standard uncertainty				u <sub>c</sub>		2.4771	nmol/mol
Expanded uncertainty				U		4.9543	nmol/mol
Relative expanded uncertainty				W		4.74	%
Maximum allowed expanded uncertainty				W <sub>req</sub>		15	%

**Calculation of overall uncertainty (device 2)**

Measuring device:		Teledyne API M200E/T200		Serial-No.:		SN 1 (1253)	
Measured component:		NO2		1h-limit value:		104.6 nmol/mol	
No.	Performance characteristic	Performance criterion	Result	Partial uncertainty		Square of partial uncertainty	
1	Repeatability standard deviation at zero	≤ 1.0 nmol/mol	0.940	$u_{r,z}$	0.22	0.0466	
2	Repeatability standard deviation at 1h-limit value	≤ 3.0 nmol/mol	1.050	$u_{r,1h}$	not considered, as $\sqrt{2} \cdot u_{r,1h} = 0.06 < u_{r,f}$		-
3	"lack of fit" at 1h-limit value	≤ 4.0% of measured value	-0.600	$u_{l,1h}$	-0.36	0.1313	
4	Sensitivity coefficient of sample gas pressure at 1h-limit value	≤ 8.0 nmol/mol/kPa	0.140	$u_{sp}$	1.29	1.6656	
5	Sensitivity coefficient of sample gas temperature at 1h-limit value	≤ 3.0 nmol/mol/K	0.040	$u_{gt}$	0.10	0.0106	
6	Sensitivity coefficient of surrounding temperature at 1h-limit value	≤ 3.0 nmol/mol/K	0.520	$u_{st}$	1.35	1.8113	
7	Sensitivity coefficient of electrical voltage at 1h-limit value	≤ 0.30 nmol/mol/V	0.010	$u_v$	0.04	0.0013	
8a	Interferent H <sub>2</sub> O with 21 nmol/mol	≤ 10 nmol/mol (Zero)	3.300	$u_{H2O}$	1.43	2.0510	
		≤ 10 nmol/mol (Span)	-3.300				
8b	Interferent CO <sub>2</sub> with 500 µmol/mol	≤ 5.0 nmol/mol (Zero)	0.300	$u_{int,pos}$	0.63	0.3915	
		≤ 5.0 nmol/mol (Span)	0.700				
8c	Interferent NH <sub>3</sub> mit 200 nmol/mol	≤ 5.0 nmol/mol (Zero)	0.700	$u_{int,neg}$	0.63	0.3915	
		≤ 5.0 nmol/mol (Span)	0.700				
9	Averaging effect	≤ 7.0% of measured value	0.800	$u_{av}$	0.48	0.2334	
10	Reproducibility standard deviation under field conditions	≤ 5.0% of average over 3 months	1.770	$u_{r,f}$	1.85	3.4278	
11	Long term drift at zero level	≤ 5.0 nmol/mol	0.400	$u_{d,l,z}$	0.23	0.0533	
12	Long term drift at span level	≤ 5.0% of max. of certification range	1.030	$u_{d,l,1h}$	0.62	0.3869	
18	Difference sample/calibration port	≤ 1%	0.000	$u_{ssc}$	0.00	0.0000	
21	Converter efficiency	≥ 98	98.000	$u_{ec}$	2.09	4.3765	
23	Uncertainty of test gas	≤ 3%	2.000	$u_{cg}$	1.05	1.0941	
Combined standard uncertainty				$u_c$		3.9658	nmol/mol
Expanded uncertainty				U		7.9317	nmol/mol
Relative expanded uncertainty				W		7.58	%
Maximum allowed expanded uncertainty				$W_{req}$		15	%

Measuring device:		Teledyne API M200E/T200		Serial-No.:		SN 2 (1257)	
Measured component:		NO2		1h-limit value:		104.6 nmol/mol	
No.	Performance characteristic	Performance criterion	Result	Partial uncertainty		Square of partial uncertainty	
1	Repeatability standard deviation at zero	≤ 1.0 nmol/mol	0.830	$u_{r,z}$	0.19	0.0379	
2	Repeatability standard deviation at 1h-limit value	≤ 3.0 nmol/mol	1.230	$u_{r,1h}$	not considered, as $\sqrt{2} \cdot u_{r,1h} = 0.08 < u_{r,f}$		-
3	"lack of fit" at 1h-limit value	≤ 4.0% of measured value	-0.200	$u_{l,1h}$	-0.12	0.0146	
4	Sensitivity coefficient of sample gas pressure at 1h-limit value	≤ 8.0 nmol/mol/kPa	0.060	$u_{sp}$	0.55	0.3003	
5	Sensitivity coefficient of sample gas temperature at 1h-limit value	≤ 3.0 nmol/mol/K	0.030	$u_{gt}$	0.08	0.0060	
6	Sensitivity coefficient of surrounding temperature at 1h-limit value	≤ 3.0 nmol/mol/K	0.180	$u_{st}$	0.47	0.2170	
7	Sensitivity coefficient of electrical voltage at 1h-limit value	≤ 0.30 nmol/mol/V	0.030	$u_v$	0.11	0.0114	
8a	Interferent H <sub>2</sub> O with 21 nmol/mol	≤ 10 nmol/mol (Zero)	1.300	$u_{H2O}$	0.19	0.0359	
		≤ 10 nmol/mol (Span)	-3.700				
8b	Interferent CO <sub>2</sub> with 500 µmol/mol	≤ 5.0 nmol/mol (Zero)	0.700	$u_{int,pos}$	0.68	0.4650	
		≤ 5.0 nmol/mol (Span)	1.300				
8c	Interferent NH <sub>3</sub> mit 200 nmol/mol	≤ 5.0 nmol/mol (Zero)	0.000	$u_{int,neg}$	0.68	0.4650	
		≤ 5.0 nmol/mol (Span)	1.700				
9	Averaging effect	≤ 7.0% of measured value	1.000	$u_{av}$	0.60	0.3647	
10	Reproducibility standard deviation under field conditions	≤ 5.0% of average over 3 months	1.770	$u_{r,f}$	1.85	3.4278	
11	Long term drift at zero level	≤ 5.0 nmol/mol	-0.840	$u_{d,l,z}$	-0.48	0.2352	
12	Long term drift at span level	≤ 5.0% of max. of certification range	-0.950	$u_{d,l,1h}$	-0.57	0.3291	
18	Difference sample/calibration port	≤ 1%	0.000	$u_{ssc}$	0.00	0.0000	
21	Converter efficiency	≥ 98	98.200	$u_{ec}$	1.88	3.5449	
23	Uncertainty of test gas	≤ 3%	2.000	$u_{cg}$	1.05	1.0941	
Combined standard uncertainty				$u_c$		3.1815	nmol/mol
Expanded uncertainty				U		6.3630	nmol/mol
Relative expanded uncertainty				W		6.08	%
Maximum allowed expanded uncertainty				$W_{req}$		15	%