



Second Committee Draft (CD)

Project: Revision of OIML R 126-3:2012
Title: Evidential breath alcohol analyzers
Date: 10 October 2019
Document number: TC17_SC7_P3_N139
Supersedes document: TC17_SC7_P3_N18

Project Group: OIML TC 7/SC 7/p 3
Convenership: Germany / France
Conveners: Mrs. Regina Kluess / Laetitia Delette

Circulated to P- and O-members and liaison international bodies and external organizations for:

☐ Discussion at

☐ Comments by:

☒ Information only

October 2019



INTERNATIONAL ORGANIZATION OF LEGAL METROLOGY

Second Committee Draft Revision International Recommendation 126

“Evidential Breath alcohol analyzers”

Part 1: Metrological and technical requirements

Part 2: Metrological controls and performance tests

Part 3: Test report format

OIML TC 17/SC 7 Secretariats: France, Germany

Participating Nations in p3:

Australia, Austria, Belgium, Brazil, Canada, Colombia, Czech Republic, Finland, France, Germany, Iran, Ireland, Japan, Netherlands, P.R. China, Poland, Romania, Russian Federation, Slovenia, South Africa, Spain, Sweden, Switzerland, United Kingdom, United States of America

Observing Nations in p3:

Albania, Croatia, Cuba, Denmark, Hungary, Korea (R.), Namibia, Norway, Portugal, Serbia, Slovakia, Uruguay

Part 3 – Test report format

1 Introduction

This report format applies for any kind of EBAs (independent of its technology). It presents a standardized format for recording the results of the various tests and examinations, described in this Recommendation, to which a type of EBA for alcohol detection shall be submitted with a view to its approval based on this OIML Recommendation.

The use of this report format as is, or translated into a different language, is recommended to all metrology services or laboratories evaluating and/or testing types of EBAs for alcohol detection according to OIML R 126, or according to national or regional regulations based on this Recommendation. If a translation is used, it is highly recommended to leave the structure and the clause numbers unchanged, in order to facilitate the interpretation of the contents by those readers who are not familiar with this other language.

The size of the fields should be adjusted as required to accommodate each specific record.

The report format, in its practical application, shall as a minimum contain clauses A–F (where applicable) in addition to a cover page issued by the Issuing Authority.

2 Applicability of this report format

In the framework of the *OIML Certificate System for Measuring Instruments* applicable to EBAs in conformity with this Recommendation, the use of this report format is mandatory. It shall be made available in English and/or in French and include copies translated into the national languages of the countries issuing such certificates, when appropriate.

3 Guidance for the application of this report format

Key to the symbols and expressions used on the following pages:

The “summary of the results” and the “results of the tests” shall be completed according to the following example:

Clause	Requirement or test	Yes	No	N.A.	Meaning
#	<name>	X			Passed
#	<name>		X		Failed
#	<name>			X	Requirement or test is not applicable to this instrument

- Notes:*
- (1) Unless prescribed otherwise, “Date” in the report refers to the date of testing.
 - (2) The name(s) or symbol(s) of the unit(s) used to express the test results shall be specified in each form.
 - (3) Where in a table one or several choices can be made, checkboxes are applied.
In such a case, some or all of the columns Y, N, N/A are not applicable and are thus presented grayed out or crosshatched (see the example below).

Clause	Description	Yes	No	Not applicable	Observations
		<input type="checkbox"/>			
		<input type="checkbox"/>			

If a prescribed test is not relevant for the type of instrument to be tested, the reason why the test is omitted shall be clearly stated in the field “Observations” (for instance surge tests on signal lines shorter than 30 m, tests related to AC mains supply in the case of an instrument only powered by DC mains supply, or partial testing after modification of a previously tested type).

The number of the report and the page numbers shall be completed in the heading.

4 The evaluation report

The format for the report is presented on the following pages, starting with space for the cover page.

Cover page
by the
Issuing Authority
in accordance with national custom or legislation

Contents of the evaluation report

A	References of the authority responsible for this report	8
B	Synopsis of the results of the evaluation.....	8
C	Summary of the results of the evaluation (examination and tests)	9
C.1	Examinations	9
C.2	Performance tests.....	10
D	General information	11
D.1	Manufacturer	11
D.2	Applicant	11
D.3	Testing laboratories involved in the tests	12
D.4	General information concerning the type and the specimen(s) supplied for the tests	13
D.6	Selection of specimens tested	14
D.7	Adjustments, modifications and corrective action.....	15
D.7a	Adjustments and modifications	15
D.7b	Correction & corrective action	15
D.8	Additional information concerning the type	15
D.9	Documentation supplied by the applicant.....	15
D.10	Results of previous tests that were taken into account	16
D.11	Information concerning the test equipment used for the type evaluation.....	16
E	Examinations.....	17
E1	Unit of measurement and decimal sign.....	17
E2	Measuring range	17
E3	Masking of low results (optional).....	17
E4	Scale interval	17
E5	Multiple indicating devices	17
E6	Indicating device	17
E7	Availability of measurement results	17
E8	Protection against fraud	17
E9	Checking operations	17
E10	Warm-up time.....	17
E11	Availability for measurement	17
E12	Continuity of exhalation	17
E13	Alcohol in the upper respiratory tract.....	17
E14	Mouthpieces	18
E15a	Software - Identification	18
E15b	Correctness of algorithms and functions	18
E15c	Software - Fraud protection	18
E15f	Maintenance and verification of EBA software	18
E15g	Software documentation	18
E16	Printing device.....	18
E17	Storage and transmission of data.....	18
E18	Other.....	18

E19 - Instruction manual	18
E20 - Additional instructions	18
E21 - Inscription.....	18
E22 - Sealing	18
E23 - Documentation	18
F Performance tests	19
F.1 Maximum permissible errors and repeatability	19
F.2 Drift	19
F.3 Memory effects.....	20
F.4 Influence factors of the conditions of injection	20
F.5 (a and b) Static environmental temperatures (Dry heat and cold)	21
F.6 Damp heat, steady state (non condensing)	21
F.7 Atmospheric pressure	21
F.8 Random vibration	22
F.9 (a and b) Mains voltage variations (DC and AC)	22
F.10 Mains frequency variations (AC)	22
F.11 Low voltage of internal battery.....	23
F.12 Voltage variations of road vehicle battery.....	23
F.13 Total fraction by volume of hydrocarbons in the environment	23
F.14 Influence of the volume fraction of CO ₂	24
F.15 Conducted currents generated by RF EM Fields	24
F.16 Radiated, radio frequency, electromagnetic fields.....	24
F.17 Electrostatic discharges	25
F.18 Bursts on AC and DC mains.....	25
F.19 Surges on AC and DC mains power lines	25
F.20 Bursts on signal, data and control lines	26
F.21 Ripple on DC main power	26
F.22 DC mains voltage dips, short interruptions and voltage variations	26
F.23 AC mains voltage dips, short interruptions and voltage variations	27
F.25 Electronical transient conduction along supply lines	27
F.26 Electronical transient conduction via lines other than supply lines.....	28
F.27 Battery voltage variations during starting up a vehicle engine.....	28
F.28 “Load dump” test.....	28
F.29 Mechanical shocks.....	28
F.30 Shakes	28
F.31 Damp heat, cyclic (condensing)	29
F.32 Storage test	29
F.33 Vibration.....	29
F.34 Durability.....	30
F.35 Physiological influence quantities	30
F.36 Disturbances expected in specific environmental conditions (optional)	30

A ~~References of the authority responsible for this report~~

Name	
Address	
Report number	
Application number	
Period of execution of the tests	
Date of issuing this report	
Name and signature of the person responsible for the report and stamp(s) (if applicable)	

B Synopsis of the results of the evaluation*(To be completed by the Issuing Authority)*

The evaluated specimen (or specimens) fulfils all the applicable and required criteria stated in OIML R 126-1:XXXX

☐

Yes

☐

No

Observations:

C Summary of the results of the evaluation (examination and tests)
(To be completed by the Issuing Authority)

C.1 Examinations

For details of the evaluation results refer to the corresponding records in clause E of this report.

R126-1 Clause	Examinations	Specimen(s) comply with referred clause			Details in
		Yes	No	N.A.	
5	Units of measurement and decimal sign				E.1
6.1	Measuring range				E.2
6.2	Masking of low results (optional)				E.3
6.3	Scale interval				E.4
6.4	Multiple indicating devices				E.5
7.1.1.1	Indicating device				E.6
7.1.1.2	Availability of measurement results				E.7
7.1.1.3	Presentations when in metrological test mode				E.8
7.1.2	Protection against fraud				E.9
7.1.3	Checking operations				E.10
7.1.4	Warm-up time				E.11
7.1.5	Availability for measurement				E.12
7.1.6	Continuity of exhalation				E.13
7.1.7	Alcohol in the upper respiratory tract				E.14
7.1.8	Mouthpieces				E.15a
7.1.9.1	Software - Identification				E.15b
7.1.9.2	Correctness of algorithms and functions				E.15c
7.1.9.3	Software - Fraud protection				E.15d
7.1.9.4	Detection of significant defects				E.15e
7.1.9.5	Interfaces				E.15f
7.1.9.6	Maintenance and verification of EBA software				E.15g
7.1.9.7	Software documentation				E.16
7.2.1.1	Printing device				E.17
7.2.1.2	Storage and transmission of data				E.18
7.2.1.3	Redundancy				E.19
8.1	Instruction manual				E.20
8.2	Additional instructions				E.21
9.1	Inscription				E.22
9.2	Sealing				E.23
R 126 - Part 2 Clause					
2.2	Documentation				E.24
2.3.1	Visual examination				E.25

C.2 Performance tests

For details of the test results refer to the corresponding records in clause F of this report

Tests of R 126-2 clause	Performance tests	corresponding requirements in R126-1	Specimen(s) comply with referred clause			Details in
			Yes	No	N.A.	
2.5.5.1	Maximum permissible errors and repeatability	6.6; 6.7				F.1
2.5.5.2	Drift	6.8				F.2
2.5.5.3	Memory effects	6.9				F.3
2.5.6	Influence factors of the conditions of injection	6.10.2				F.4
2.5.7.1	Static environmental temperatures - Dry heat	6.10.1				F.5a
2.5.7.1	Static environmental temperatures - Cold					F.5b
2.5.7.2	Damp heat, steady state (non condensing)					F.6
2.5.7.3	Static Atmospheric pressure					F.7
2.5.7.4	Random vibration					F.8
2.5.7.5	Mains voltage variations - DC					F.9a
2.5.7.6	Mains voltage variations - AC					F.9b
2.5.7.7	Mains frequency variations (AC)					F.10
2.5.7.8	Low voltage of internal battery					F.11
2.5.7.9	Voltage variations of road vehicle battery					F.12
2.5.7.10	Total fraction by volume of hydrocarbons in the environment					F.13
2.5.7.11	Influence of the volume fraction of CO ₂					F.14
2.5.8.1	Conducted currents generated by RF EM fields	6.11.1 table 3				F.15
2.5.8.2	Radiated, radio frequency, electromagnetic fields					F.16
2.5.8.3	Electrostatic discharges					F.17
2.5.8.4	Bursts on AC and DC lines					F.18
2.5.8.5	Surges on AC and DC mains power lines					F.19
2.5.8.6	Bursts on signal, data and control lines					F.20
2.5.8.7	Ripple on DC main power					F.21
2.5.8.8	DC mains voltage dips, short interruptions and voltage variations					F.22
2.5.8.9	AC mains voltage dips, short interruptions and voltage variations					F.23
2.5.8.10	Surges on signal, data and control lines					F.24
2.5.8.11	Electronical transient conduction along supply lines					F.25
2.5.8.12	Electrical transient conduction via lines other than supply lines					F.26
2.5.8.13	Mechanical shocks	6.11.1 table 4				F.27
2.5.8.14	Shakes					F.28
2.5.8.15	Damp heat, cyclic (condensing)					F.29
2.5.8.16	Storage test					F.30
2.5.8.17	Vibration					F.31
2.5.8.18	Durability	6.5				F.32
2.5.9	Physiological influence quantities	6.11.2				F.33
2.6.1	Sand and dust (optional)	6.11.3				F.34
2.6.2	Salt mist (optional)					F.35
2.6.3	water					F.36

D General information**D.1 Manufacturer**

Company	
Address	

D.2 Applicant

Company		
Representative		
Address		
Reference		
Date of application		
Applicant is authorized by the manufacturer (documented)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
It is verified that no application for OIML type evaluation for the same type has been made to any other OIML Issuing Authority (see OIML B 3, 5.1.2)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Observations:		

D.3 Testing laboratories involved in the tests*(This table to be completed for each test laboratory)*

Name		
Address		
Application number		
Tests by this laboratory		
Date/period of tests		
Name(s) of test engineer(s)		
Details of relevant peer assessment or assessment by other means where applicable	QA standard	
	Accreditation number:	Expires (date):
Entry area for detailed information if tests have not been performed on the premises of this laboratory but at a different location		
Name of the responsible person		
Date of signature		
Stamp (where applicable) and signature of the responsible person		
Observations:		

D.4 General information concerning the type and the specimen(s) supplied for the tests

Information, indicated on the instrument	
Manufacturer's trade mark	
Designation	
Serial number(s) of the sample(s)	
Type of EBA	
Use T°C	
Measuring range	
Printing device	
Storage T°C	
Identification of software	
Electrical power (voltage, frequency...)	
Power supply	

Relevant external/internal photographs taken during the examination and tests:
--

Remarks:

D.5 Accessories, supplied by the applicant (if applicable)

Operating instructions	
battery	
Operating instructions	
Cables	
.....	
<p>Examples are: Data printer (if applicable); ancillary devices, cabling and other accessories:</p>	

D.6 Selection of specimens tested

If the tests and examinations are valid for more versions, present full details of these versions, according to the listing of parameters and type designation in the way presented in D.4:

Justification of the selection of the specimens:

The following specimens have taken part in the examination:

Specimen no.	Model	Serial no.
1		
2		
3		
4		
5		
...		

D.7 Adjustments, modifications and corrective action

D.7a Adjustments and modifications

Adjustments, modifications, and repairs made to the specimens during the testing:

D.7b Correction & corrective action

Repairs, correction, analysis of the cause and corrective action made to the specimens when the results of a test are failed. Consequence of the tests performed before.

D.8 Additional information concerning the type

Additional observations and/or information (connection equipment, interfaces, etc.):

D.9 Documentation supplied by the applicant

Observations:

NB : this documentation should contains all the documentation mentioned in this Recommendation § 11.2

D.10 Results of previous tests that were taken into account

Details:

D.11 Information concerning the test equipment used for the type evaluation
(including details of simulations)

- ➔ Description of the test gas generator
- ➔ Characteristic reference values of the test gas
- ➔ If simplified means, description of the simplified means.
- ➔ If a simplified mean is used, the correction based on the error in the reference conditions must be given

E Examinations

To be completed by the Evaluating Authority

For each item of chapter E, the minimum mandatory information are:

Date of the examination

Name of the technician

Serial number

Description of the test performed and Result

Passed ☐ Failed ☐ Non applicable ☐

The results may be presented in a list of items or in a table such as the following table:

		Date of the examination	Name of the technician	Serial number	Description of the test performed and Result	Results		
						Passed	Failed	NA
E1	Unit of measurement and decimal sign							
E2	Measuring range							
E3	Masking of low results (optional)							
E4	Scale interval							
E5	Multiple indicating devices							
E6	Indicating device							
E7	Availability of measurement results							
E8	Presentations when in metrological test mode							
E9	Protection against fraud							
E10	Checking operations							
E11	Warm-up time							
E12	Availability for measurement							
E13	Continuity of exhalation							
E14	Alcohol in the upper respiratory tract							

E15a	Mouthpieces							
E15b	Software - Identification							
E15c	Correctness of algorithms and functions							
E15f	Software - Fraud protection							
E15g	Maintenance and verification of EBA software							
E16	Software documentation							
E17	Printing device							
E18	Storage and transmission of data							
E19	Redundancy							
E20	Instruction manual							
E21	Additional instructions							
E22	Inscription							
E23	Sealing							
E24	Documentation							
E25	Visual examination							

F Performance tests

F.1 Maximum permissible errors and repeatability

Date of the examination

Name of the technician

Serial Number

Test apparatus used for the test

Type of gas used for the test

Test conditions before and after the test (T°C, HR% and P)

Description of the test performed and Result

Passed ☐ Failed ☐ Non applicable ☐

Reference Concentration (mg/L)		Number of tests	Smallest error value (mg/L)	Highest error value (mg/L)	Average error (± mg/L)	Maximum permissible error (mg/L)	Experimental standard deviation (mg/L)	Maximum permissible standard deviation (mg/L)
Min	Max							

F.2 Drift

Date of the examination

Name of the technician

Serial Number

Test apparatus used for the test

Type of gas used for the test

Test conditions before and after the test (T°C, HR% and P)

Description of the test performed and Result

Passed ☐ Failed ☐ Non applicable ☐

Test1				Test 2					
Reference Concentration (mg/L)		Number of tests	Average error (mg/L)	Reference Concentration (mg/L)		Number of tests	Average error (mg/L)	Difference between the mean values (mg/L)	Maximum permissible deviation (mg/L)
Min	Max			Min	Max				

F.3 Memory effects

Date of the examination

Name of the technician

Serial Number

Test apparatus used for the test

Type of gas used for the test

Test conditions before and after the test (T°C, HR% and P)

Description of the test performed and Result

Passed ☐ Failed ☐ Non applicable ☐

Test1							Test 2								
Reference concentration (mg/L)		Number of tests	Smallest error value (mg/L)	Highest error value (mg/L)	Maximum permissible error (mg/L)	Average error (mg/L)	Reference concentration (mg/L)		Number of tests	Smallest error value (mg/L)	Highest error value (mg/L)	Maximum permissible error (mg/L)	Average error (mg/L)	Difference between the mean values (mg/L)	Maximum permissible deviation (mg/L)
Min	Max						Min	Max							

F.4 Influence factors of the conditions of injection

Date of the examination

Name of the technician

Serial Number

Test apparatus used for the test

Type of gas used for the test

Test conditions before and after the test (T°C, HR% and P)

Description of the test performed and Result

Passed ☐ Failed ☐ Non applicable ☐

Reference Concentration (mg/L)		Number of tests	Characteristic of the tests	Smallest error value (mg/L)	Highest error value (mg/L)	Average error (± mg/L)	Maximum permissible error (mg/L)
Min	Max						

F.5 (a and b) Static environmental temperatures (Dry heat and cold)

Date of the examination

Name of the technician

Serial Number

Test apparatus used for the test

Type of gas used for the test

Test conditions before and after the test (T°C, HR% and P)

Description of the test performed and Result

Passed ☐ Failed ☐ Non applicable ☐

Test		Reference Concentration (mg/L)		Number of tests	Smallest error value (mg/L)	Highest error value (mg/L)	Average error (± mg/L)	Maximum permissible error (mg/L)
		Min	Max					
Dry heat and Cold	Special condition value of the test (-10°C...)							
	Special condition value of the test (+30°C...)							

F.6 Damp heat, steady state (non condensing)

Date of the examination

Name of the technician

Serial Number

Test apparatus used for the test

Type of gas used for the test

Test conditions before and after the test (T°C, HR% and P)

Description of the test performed and Result

Passed ☐ Failed ☐ Non applicable ☐

Test		Reference Concentration (mg/L)		Number of tests	Smallest error value (mg/L)	Highest error value (mg/L)	Average error (± mg/L)	Maximum permissible error (mg/L)
		Min	Max					
Damp heat, steady state	Special condition value of the test							

F.7 Static Atmospheric pressure

Date of the examination

Name of the technician

Serial Number

Test apparatus used for the test

Type of gas used for the test

Test conditions before and after the test (T°C, HR% and P)

Description of the test performed and Result

Passed ☐ Failed ☐ Non applicable ☐

Test		Reference Concentration (mg/L)		Number of tests	Smallest error value (mg/L)	Highest error value (mg/L)	Average error (± mg/L)	Maximum permissible error (mg/L)
		Min	Max					
Atmospheric pressure	Special condition value of the test							

F.8 Random vibration

Date of the examination

Name of the technician

Serial Number

Test apparatus used for the test

Type of gas used for the test

Test conditions before and after the test (T°C, HR% and P)

Description of the test performed and Result

Passed ☐ Failed ☐ Non applicable ☐

Test		Reference Concentration (mg/L)		Number of tests	Smallest error value (mg/L)	Highest error value (mg/L)	Average error (± mg/L)	Maximum permissible error (mg/L)
		Min	Max					
Random vibration	Special condition value of the test							

F.9 (a and b) Mains voltage variations (DC and AC)

Date of the examination

Name of the technician

Serial Number

Test apparatus used for the test

Type of gas used for the test

Test conditions before and after the test (T°C, HR% and P)

Description of the test performed and Result

Passed ☐ Failed ☐ Non applicable ☐

Test		Reference Concentration (mg/L)		Number of tests	Smallest error value (mg/L)	Highest error value (mg/L)	Average error (± mg/L)	Maximum permissible error (mg/L)
		Min	Max					
Mains voltage variations	Special condition value of the test (DC)							
	Special condition value of the test (AC)							

F.10 Mains frequency variations (AC)

Date of the examination

Name of the technician

Serial Number

Test apparatus used for the test

Type of gas used for the test

Test conditions before and after the test (T°C, HR% and P)

Description of the test performed and Result

Passed ☐ Failed ☐ Non applicable ☐

Test		Reference Concentration (mg/L)		Number of tests	Smallest error value (mg/L)	Highest error value (mg/L)	Average error (± mg/L)	Maximum permissible error (mg/L)
		Min	Max					
Main frequency variation (AC)	Special condition value of the test							

F.11 Low voltage of internal battery

Date of the examination

Name of the technician

Serial Number

Test apparatus used for the test

Type of gas used for the test

Test conditions before and after the test (T°C, HR% and P)

Description of the test performed and Result

Passed ☐ Failed ☐ Non applicable ☐

Test		Reference Concentration (mg/L)		Number of tests	Smallest error value (mg/L)	Highest error value (mg/L)	Average error (± mg/L)	Maximum permissible error (mg/L)
		Min	Max					
Low voltage of internal battery	Special condition value of the test							

F.12 Voltage variations of road vehicle battery

Date of the examination

Name of the technician

Serial Number

Test apparatus used for the test

Type of gas used for the test

Test conditions before and after the test (T°C, HR% and P)

Description of the test performed and Result

Passed ☐ Failed ☐ Non applicable ☐

Test		Reference Concentration (mg/L)		Number of tests	Smallest error value (mg/L)	Highest error value (mg/L)	Average error (± mg/L)	Maximum permissible error (mg/L)
		Min	Max					
Voltage variations of road vehicle battery	Special condition value of the test							

F.13 Total fraction by volume of hydrocarbons in the environment

Date of the examination

Name of the technician

Serial Number

Test apparatus used for the test

Type of gas used for the test

Test conditions before and after the test (T°C, HR% and P)

Description of the test performed and Result

Passed ☐ Failed ☐ Non applicable ☐

Test		Reference Concentration (mg/L)		Number of tests	Smallest error value (mg/L)	Highest error value (mg/L)	Average error (± mg/L)	Maximum permissible error (mg/L)
		Min	Max					
Total fraction by volume of hydrocarbons in the environment	Special condition value of the test							

F.14 Influence of the volume fraction of CO₂

Date of the examination

Name of the technician

Serial Number

Test apparatus used for the test

Type of gas used for the test

Test conditions before and after the test (T°C, HR% and P)

Description of the test performed and Result

Passed ☐ Failed ☐ Non applicable ☐

Test		Reference Concentration (mg/L)		Number of tests	Smallest error value (mg/L)	Highest error value (mg/L)	Average error (± mg/L)	Maximum permissible error (mg/L)
		Min	Max					
Influence of the volume fraction of CO ₂	Special condition value of the test							

F.15 Conducted currents generated by RF EM Fields

Date of the examination

Name of the technician

Serial Number

Test apparatus used for the test

Type of gas used for the test

Test conditions before and after the test (T°C, HR% and P)

Description of the test performed and Result

Passed ☐ Failed ☐ Non applicable ☐

Test		Reference Concentration (mg/L)		Number of tests	Intrinsic Error (average of the errors under reference conditions) (\bar{E}_{ref}) (mg/L)	Error of Indication (average of the errors during the disturbance) (\bar{E}_i) (mg/L)	Fault $\bar{E}_i - \bar{E}_{ref}$ (mg/L)	Fault limit (mg/L)	Observations
		Min	Max						
Conducted currents generated by RF EM Fields	Special condition value of the test								

F.16 Radiated, radio frequency, electromagnetic fields

Date of the examination

Name of the technician

Serial Number

Test apparatus used for the test

Type of gas used for the test

Test conditions before and after the test (T°C, HR% and P)

Description of the test performed and Result

Passed ☐ Failed ☐ Non applicable ☐

Test		Reference Concentration (mg/L)		Number of tests	Intrinsic Error (average of the errors under reference conditions) (\bar{E}_{ref}) (mg/L)	Error of Indication (average of the errors during the disturbance) (\bar{E}_i) (mg/L)	Fault $\bar{E}_i - \bar{E}_{ref}$ (mg/L)	Fault limit (mg/L)	Observations
		Min	Max						
Radiated, radio frequency, electromagnetic fields	Special condition value of the test								

F.17 Electrostatic discharges

Date of the examination

Name of the technician

Serial Number

Test apparatus used for the test

Type of gas used for the test

Test conditions before and after the test (T°C, HR% and P)

Description of the test performed and Result

Passed ☐ Failed ☐ Non applicable ☐

Test		Reference Concentration (mg/L)		Number of tests	Intrinsic Error (average of the errors under reference conditions) (\bar{E}_{ref}) (mg/L)	Error of Indication (average of the errors during the disturbance) (\bar{E}_i) (mg/L)	Fault $\bar{E}_i - \bar{E}_{ref}$ (mg/L)	Fault limit (mg/L)	Observations
		Min	Max						
Electrostatic discharges	Special condition value of the test								

F.18 Bursts on AC and DC mains

Date of the examination

Name of the technician

Serial Number

Test apparatus used for the test

Type of gas used for the test

Test conditions before and after the test (T°C, HR% and P)

Description of the test performed and Result

Passed ☐ Failed ☐ Non applicable ☐

Test		Reference Concentration (mg/L)		Number of tests	Intrinsic Error (average of the errors under reference conditions) (\bar{E}_{ref}) (mg/L)	Error of Indication (average of the errors during the disturbance) (\bar{E}_i) (mg/L)	Fault $\bar{E}_i - \bar{E}_{ref}$ (mg/L)	Fault limit (mg/L)	Observations
		Min	Max						
Bursts on AC and DC mains	Special condition value of the test								

F.19 Surges on AC and DC mains power lines

Date of the examination

Name of the technician

Serial Number

Test apparatus used for the test

Type of gas used for the test

Test conditions before and after the test (T°C, HR% and P)

Description of the test performed and Result

Passed ☐ Failed ☐ Non applicable ☐

Test		Reference Concentration (mg/L)		Number of tests	Intrinsic Error (average of the errors under reference conditions) (\bar{E}_{ref}) (mg/L)	Error of Indication (average of the errors during the disturbance) (\bar{E}_i) (mg/L)	Fault $\bar{E}_i - \bar{E}_{ref}$ (mg/L)	Fault limit (mg/L)	Observations
		Min	Max						
Surges on AC and DC mains power lines	Special condition value of the test								

F.20 Bursts on signal, data and control lines

Date of the examination

Name of the technician

Serial Number

Test apparatus used for the test

Type of gas used for the test

Test conditions before and after the test (T°C, HR% and P)

Description of the test performed and Result

Passed ☐ Failed ☐ Non applicable ☐

Test		Reference Concentration (mg/L)		Number of tests	Intrinsic Error (average of the errors under reference conditions) (\bar{E}_{ref}) (mg/L)	Error of Indication (average of the errors during the disturbance) (\bar{E}_i) (mg/L)	Fault $\bar{E}_i - \bar{E}_{ref}$ (mg/L)	Fault limit (mg/L)	Observations
		Min	Max						
Bursts on signal, data and control lines	Special condition value of the test								

F.21 Ripple on DC main power

Date of the examination

Name of the technician

Serial Number

Test apparatus used for the test

Type of gas used for the test

Test conditions before and after the test (T°C, HR% and P)

Description of the test performed and Result

Passed ☐ Failed ☐ Non applicable ☐

Test		Reference Concentration (mg/L)		Number of tests	Intrinsic Error (average of the errors under reference conditions) (\bar{E}_{ref}) (mg/L)	Error of Indication (average of the errors during the disturbance) (\bar{E}_i) (mg/L)	Fault $\bar{E}_i - \bar{E}_{ref}$ (mg/L)	Fault limit (mg/L)	Observations
		Min	Max						
Ripple on DC main power	Special condition value of the test								

F.22 DC mains voltage dips, short interruptions and voltage variations

Date of the examination

Name of the technician

Serial Number

Test apparatus used for the test

Type of gas used for the test

Test conditions before and after the test (T°C, HR% and P)

Description of the test performed and Result

Passed ☐ Failed ☐ Non applicable ☐

Test		Reference Concentration (mg/L)		Number of tests	Intrinsic Error (average of the errors under reference conditions) (\bar{E}_{ref}) (mg/L)	Error of Indication (average of the errors during the disturbance) (\bar{E}_i) (mg/L)	Fault $\bar{E}_i - \bar{E}_{ref}$ (mg/L)	Fault limit (mg/L)	Observations
		Min	Max						
DC mains voltage dips, short interruptions and voltage variations	Special condition value of the test								

F.23 AC mains voltage dips, short interruptions and voltage variations

Date of the examination

Name of the technician

Serial Number

Test apparatus used for the test

Type of gas used for the test

Test conditions before and after the test (T°C, HR% and P)

Description of the test performed and Result

Passed ☐ Failed ☐ Non applicable ☐

Test		Reference Concentration (mg/L)		Number of tests	Intrinsic Error (average of the errors under reference conditions) (\bar{E}_{ref}) (mg/L)	Error of Indication (average of the errors during the disturbance) (\bar{E}_i) (mg/L)	Fault $\bar{E}_i - \bar{E}_{ref}$ (mg/L)	Fault limit (mg/L)	Observations
		Min	Max						
AC mains voltage dips, short interruptions and voltage variations	Special condition value of the test								

F.24 Surges on signal, data and control lines

Date of the examination

Name of the technician

Serial Number

Test apparatus used for the test

Type of gas used for the test

Test conditions before and after the test (T°C, HR% and P)

Description of the test performed and Result

Passed ☐ Failed ☐ Non applicable ☐

Test		Reference Concentration (mg/L)		Number of tests	Intrinsic Error (average of the errors under reference conditions) (\bar{E}_{ref}) (mg/L)	Error of Indication (average of the errors during the disturbance) (\bar{E}_i) (mg/L)	Fault $\bar{E}_i - \bar{E}_{ref}$ (mg/L)	Fault limit (mg/L)	Observations
		Min	Max						
Electronical transient conduction along supply lines	Special condition value of the test								

F.25 Electronical transient conduction along supply lines

Date of the examination

Name of the technician

Serial Number

Test apparatus used for the test

Type of gas used for the test

Test conditions before and after the test (T°C, HR% and P)

Description of the test performed and Result

Passed ☐ Failed ☐ Non applicable ☐

Test		Reference Concentration (mg/L)		Number of tests	Intrinsic Error (average of the errors under reference conditions) (\bar{E}_{ref}) (mg/L)	Error of Indication (average of the errors during the disturbance) (\bar{E}_i) (mg/L)	Fault $\bar{E}_i - \bar{E}_{ref}$ (mg/L)	Fault limit (mg/L)	Observations
		Min	Max						
Electronical transient conduction along supply lines	Special condition value of the test								

F.26 — Electronical transient conduction via lines other than supply lines

Date of the examination

Name of the technician

Serial Number

Test apparatus used for the test

Type of gas used for the test

Test conditions before and after the test (T°C, HR% and P)

Description of the test performed and Result

Passed ☐ Failed ☐ Non applicable ☐

Test		Reference Concentration (mg/L)		Number of tests	Intrinsic Error (average of the errors under reference conditions) (\bar{E}_{ref}) (mg/L)	Error of Indication (average of the errors during the disturbance) (\bar{E}_i) (mg/L)	Fault $\bar{E}_i - \bar{E}_{ref}$ (mg/L)	Fault limit (mg/L)	Observations
		Min	Max						
Electronical transient conduction via lines other than supply lines	Special condition value of the test								

F.27 Mechanical shocks

Date of the examination

Name of the technician

Serial Number

Test apparatus used for the test

Type of gas used for the test

Test conditions before and after the test (T°C, HR% and P)

Description of the test performed and Result

Passed ☐ Failed ☐ Non applicable ☐

Test		Reference Concentration (mg/L)		Number of tests	Intrinsic Error (average of the errors under reference conditions) (\bar{E}_{ref}) (mg/L)	Error of Indication (average of the errors after the disturbance) (\bar{E}_i) (mg/L)	Fault $\bar{E}_i - \bar{E}_{ref}$ (mg/L)	Fault limit (mg/L)	Observations
		Min	Max						
Mechanical shocks	Special condition value of the test								

F.28 Shakes

Date of the examination

Name of the technician

Serial Number

Test apparatus used for the test

Type of gas used for the test

Test conditions before and after the test (T°C, HR% and P)

Description of the test performed and Result

Passed ☐ Failed ☐ Non applicable ☐

Test		Reference Concentration (mg/L)		Number of tests	Intrinsic Error (average of the errors under reference conditions) (\bar{E}_{ref}) (mg/L)	Error of Indication (average of the errors after the disturbance) (\bar{E}_i) (mg/L)	Fault $\bar{E}_i - \bar{E}_{ref}$ (mg/L)	Fault limit (mg/L)	Observations
		Min	Max						
Shakes	Special condition value of the test								

F.29 Damp heat, cyclic (condensing)

Date of the examination

Name of the technician

Serial Number

Test apparatus used for the test

Type of gas used for the test

Test conditions before and after the test (T°C, HR% and P)

Description of the test performed and Result

Passed ☐ Failed ☐ Non applicable ☐

Test		Reference Concentration (mg/L)		Number of tests	Intrinsic Error (average of the errors under reference conditions) (\bar{E}_{ref}) (mg/L)	Error of Indication (average of the errors after the disturbance) (\bar{E}_i) (mg/L)	Fault $\bar{E}_i - \bar{E}_{ref}$ (mg/L)	Fault limit (mg/L)	Observations
		Min	Max						
Damp heat, cyclic (condensing)	Special condition value of the test								

F.30 Storage test

Date of the examination

Name of the technician

Serial Number

Test apparatus used for the test

Type of gas used for the test

Test conditions before and after the test (T°C, HR% and P)

Description of the test performed and Result

Passed ☐ Failed ☐ Non applicable ☐

Test		Reference Concentration (mg/L)		Number of tests	Intrinsic Error (average of the errors under reference conditions) (\bar{E}_{ref}) (mg/L)	Error of Indication (average of the errors after the disturbance) (\bar{E}_i) (mg/L)	Fault $\bar{E}_i - \bar{E}_{ref}$ (mg/L)	Fault limit (mg/L)	Observations
		Min	Max						
Storage test	Special condition value of the test								

F.31 Vibration

Date of the examination

Name of the technician

Serial Number

Test apparatus used for the test

Type of gas used for the test

Test conditions before and after the test (T°C, HR% and P)

Description of the test performed and Result

Passed ☐ Failed ☐ Non applicable ☐

Test		Reference Concentration (mg/L)		Number of tests	Intrinsic Error (average of the errors under reference conditions) (\bar{E}_{ref}) (mg/L)	Error of Indication (average of the errors after the disturbance) (\bar{E}_i) (mg/L)	Fault $\bar{E}_i - \bar{E}_{ref}$ (mg/L)	Fault limit (mg/L)	Observations
		Min	Max						
Vibration	Special condition value of the test								

F.32 Durability

Date of the examination

Name of the technician

Serial Number

Test apparatus used for the test

Type of gas used for the test

The requirement is met if the instrument submitted to the accuracy tests and disturbance test passes each single test:

Passed ☐ Failed ☐ Non applicable ☐

F.33 Physiological influence quantities

Date of the examination

Name of the technician

Serial Number

Test apparatus used for the test

Type of gas used for the test

Test conditions before and after the test (T°C, HR% and P)

Description of the test performed and Result

Passed ☐ Failed ☐ Non applicable ☐

Concentration of the reference gas (mg/L \pm 5%)	tested substance	Nominal value for vapour mass concentration (mg/L \pm 5%)	Number of tests	Results of the EBA without the interfering substances (mg/L)	Results of the EBA with the interfering substances (mg/L)	Variation (\pm mg/L)	Maximum permissible variation (mg/L)

F.34 Sand and dust conditions (optional)

Date of the examination

Name of the technician

Serial Number

Test apparatus used for the test

Type of gas used for the test

Test conditions before and after the test (T°C, HR% and P)

Description of the test performed and Result

Passed ☐ Failed ☐ Non applicable ☐

Test		Reference Concentration (mg/L)		Number of tests	Intrinsic Error (average of the errors under reference conditions) (\bar{E}_{ref}) (mg/L)	Error of Indication (average of the errors during or after the disturbance) (\bar{E}_i) (mg/L)	Fault $\bar{E}_i - \bar{E}_{ref}$ (mg/L)	Fault limit (mg/L)	Observations
		Min	Max						
Disturbances expected in specific environmental conditions (optional)	Special condition value of the test								

F.35 salt mist (optional)

Date of the examination

Name of the technician

Serial Number

Test apparatus used for the test

Type of gas used for the test

Test conditions before and after the test (T°C, HR% and P)

Description of the test performed and Result

Passed ☐ Failed ☐ Non applicable ☐

Test		Reference Concentration (mg/L)		Number of tests	Intrinsic Error (average of the errors under reference conditions) (\bar{E}_{ref}) (mg/L)	Error of Indication (average of the errors during or after the disturbance) (\bar{E}_i) (mg/L)	Fault $\bar{E}_i - \bar{E}_{ref}$ (mg/L)	Fault limit (mg/L)	Observations
		Min	Max						
Disturbances expected in specific environmental conditions (optional)	Special condition value of the test								

F.36 water (optional)

Date of the examination

Name of the technician

Serial Number

Test apparatus used for the test

Type of gas used for the test

Test conditions before and after the test (T°C, HR% and P)

Description of the test performed and Result

Passed ☐ Failed ☐ Non applicable ☐

Test		Reference Concentration (mg/L)		Number of tests	Intrinsic Error (average of the errors under reference conditions) (\bar{E}_{ref}) (mg/L)	Error of Indication (average of the errors during or after the disturbance) (\bar{E}_i) (mg/L)	Fault $\bar{E}_i - \bar{E}_{ref}$ (mg/L)	Fault limit (mg/L)	Observations
		Min	Max						
Disturbances expected in specific environmental conditions (optional)	Special condition value of the test								