

Stationary source emissions - Determination of volume concentration of oxygen - Standard reference method: Paramagnetism

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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English Version

Stationary source emissions - Determination of volume
concentration of oxygen - Standard reference method:
Paramagnetism

Emissions de sources fixes - Détermination de la
concentration volumique en oxygène - Méthode de
référence normalisée: Paramagnétisme

Emissionen aus stationären Quellen - Bestimmung der
Volumenkonzentration von Sauerstoff -
Standardreferenzverfahren: Paramagnetismus

This European Standard was approved by CEN on 26 September 2016.

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Contents

Page

European foreword	4
1 Scope.....	5
2 Normative references.....	5
3 Terms and definitions	6
4 Symbols and abbreviations	12
4.1 Symbols.....	12
4.2 Abbreviated terms.....	13
5 Principle	13
5.1 General.....	13
5.2 Measuring principle.....	13
6 Description of the measuring system	13
6.1 General.....	13
6.2 Sampling and sample gas conditioning system.....	14
6.2.1 Sampling probe.....	14
6.2.2 Filter	14
6.2.3 Sample gas line	14
6.2.4 Sample gas cooler or permeation drier	15
6.2.5 Sample gas pump	15
6.2.6 Secondary filter	15
6.2.7 Flow controller and flow meter	15
6.3 Different variants of the paramagnetism principle	15
7 Performance characteristics of the SRM	16
8 Suitability of the measuring system for the measurement task.....	17
9 Field operation.....	18
9.1 Measurement planning.....	18
9.2 Sampling strategy	18
9.2.1 General.....	18
9.2.2 Measurement section and measurement plane.....	18
9.2.3 Minimum number and location of measurement points.....	18
9.2.4 Measurement ports and working platform	18
9.3 Choice of the measuring system	18
9.4 Setting of the measuring system on site	19
9.4.1 General.....	19
9.4.2 Preliminary zero and span check and adjustments	19
9.4.3 Zero and span checks after measurement.....	20
10 Ongoing quality control.....	21
10.1 General.....	21
10.2 Frequency of checks.....	21
11 Expression of results	21
12 Equivalence of an alternative method.....	21

13	Measurement report	22
	Annex A (informative) Validation of the method in the field.....	23
A.1	General	23
A.2	Characteristics of installations	23
A.3	Repeatability and reproducibility in the field.....	24
A.3.1	General	24
A.3.2	Repeatability	25
A.3.3	Reproducibility.....	26
	Annex B (informative) Example of assessment of compliance of paramagnetic method for oxygen with given uncertainty requirements	27
B.1	General	27
B.2	Elements required for the uncertainty determinations.....	27
B.2.1	Model equation.....	27
B.2.2	Combined uncertainty	28
B.2.3	Expanded uncertainty.....	28
B.2.4	Determination of uncertainty contributions in case of rectangular distributions.....	29
B.2.5	Determination of uncertainty contributions by use of sensitivity coefficients	29
B.3	Example of an uncertainty calculation.....	30
B.3.1	Site specific conditions	30
B.3.2	Performance characteristics	30
B.3.3	Determination of the uncertainty contributions	31
B.3.4	Results of uncertainty calculation	34
B.3.4.1	Standard uncertainties.....	34
B.3.4.2	Combined uncertainty	35
B.3.4.3	Expanded uncertainty.....	36
B.3.4.4	Evaluation of the compliance with the required measurement quality.....	36
	Annex C (informative) Schematic diagram of the measuring system	37
	Annex D (informative) Example of correction of data from drift effect.....	38
	Annex E (informative) Significant technical changes	40
	Bibliography	41

European foreword

This document (EN 14789:2017) has been prepared by Technical Committee CEN/TC 264 "Air quality", the secretariat of which is held by DIN.

This document supersedes EN 14789:2005.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by July 2017, and conflicting national standards shall be withdrawn at the latest by July 2017.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

Annex E provides details of significant technical changes between this document and the previous edition.

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1 Scope

This European Standard specifies the standard reference method (SRM) based on the paramagnetic principle for the determination of the oxygen concentrations in flue gases emitted to the atmosphere from ducts and stacks. It includes the sampling and the gas conditioning system as well as the analyser.

This European Standard specifies the performance characteristics to be determined and the performance criteria to be fulfilled by portable automated measuring systems (P-AMS) based on this measurement method. It applies to periodic monitoring and the calibration or control of automated measuring systems (AMS) permanently installed on a stack, for regulatory or other purposes.

This European Standard specifies criteria for demonstration of equivalence of an alternative method (AM) to the SRM by application of EN 14793:2017.

This European Standard has been validated during field tests on waste incineration, co-incineration and large combustion plants and on a recognized test bench. It has been validated for sampling periods of 30 min in the range from 3 % to 21 %. Oxygen concentration values, expressed as volume concentrations, are used to allow results of emission measurements to be standardised to the oxygen reference concentration and dry gas conditions required e.g. by EU Directive 2010/75/EC on industrial emissions.

NOTE The characteristics of installations, the conditions during field tests and the values of repeatability and reproducibility in the field are given in Annex A.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 14793:2017, *Stationary source emission — Demonstration of equivalence of an alternative method with a reference method*

EN 15259:2007, *Air quality - Measurement of stationary source emissions - Requirements for measurement sections and sites and for the measurement objective, plan and report*

EN 15267-4:2017, *Air quality — Certification of automated measuring systems — Part 4: Performance criteria and test procedures for automated measuring systems for periodic measurements of emissions from stationary sources*

EN ISO 14956:2002, *Air quality - Evaluation of the suitability of a measurement procedure by comparison with a required measurement uncertainty (ISO 14956:2002)*

ISO/IEC Guide 98-3:2008, *Uncertainty of measurement — Part 3: Guide to the expression of uncertainty in measurement (GUM:1995)*