Irish Standard
I.S. EN 14790:2017

Stationary source emissions - Determination of the water vapour in ducts - Standard reference method

I.S. EN 14790:2017

Incorporating amendments/corrigenda/National Annexes issued since publication:

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I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

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This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):

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National Foreword

I.S. EN 14790:2017 is the adopted Irish version of the European Document EN 14790:2017, Stationary source emissions - Determination of the water vapour in ducts - Standard reference method

This document does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 14790

January 2017

ICS 13.040.40

Supersedes EN 14790:2005

English Version

Stationary source emissions - Determination of the water vapour in ducts - Standard reference method

Emissions de sources fixes - Détermination de la vapeur d'eau dans les conduits - Méthode de référence normalisée

Emissionen aus stationären Quellen - Bestimmung von Wasserdampf in Kanälen - Standardreferenzverfahren

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

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
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European foreword

This document (EN 14790:2017) has been prepared by Technical Committee CEN/TC 264 “Air quality”, the secretariat of which is held by DIN.

This document supersedes EN 14790:2005.

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.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European Standard specifies the standard reference method (SRM) based on a sampling system with a condensation/adsorption technique to determine the water vapour concentration in the flue gases emitted to atmosphere from ducts and stacks.

This European Standard specifies the performance characteristics to be determined and performance criteria to be fulfilled by measuring systems based on the measurement method. It applies to periodic monitoring and to 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 to the SRM by application of EN 14793:2017.

This European Standard is applicable in the range of water vapour content from 4 % to 40 % as volume concentrations and of water vapour mass concentration from 29 g/m^3 to 250 g/m^3 as a wet gas, although for a given temperature the upper limit of the method is related to the maximum pressure of water in air or in the gas.

In this European Standard all the concentrations are expressed at standard conditions (273 K and 101,3 kPa).

NOTE 1 For saturated conditions the condensation/adsorption method is not applicable. Some guidance is given in this European Standard to deal with flue gas when droplets are present.

This European Standard has been validated during field tests on waste incineration, co-incineration and large combustion plants. It has been validated for sampling periods of 30 min in the volume concentration range of 7 % to 26 %.

NOTE 2 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 1911, *Stationary source emissions - Determination of mass concentration of gaseous chlorides expressed as HCl - Standard reference method*

EN 14791:2017, *Stationary source emissions — Determination of mass concentration of sulphur oxides — Standard reference method*

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*

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