

**Stationary source emissions -
Determination of the mass concentration of
carbon monoxide (CO) - Reference method:
Non-dispersive infrared spectrometry**

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mass concentration of carbon monoxide (CO) -
Reference method: Non-dispersive infrared
spectrometry

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 15058:2006 sisaldab Euroopa standardi EN 15058:2006 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 29.06.2006 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 15058:2006 consists of the English text of the European standard EN 15058:2006.</p> <p>This document is endorsed on 29.06.2006 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala: This European Standard specifies the Standard Reference Method (SRM) for sampling, and determining carbon monoxide content in ducts and stacks emitting to atmosphere. It describes the Non Dispersive Infra-Red (NDIR) analytical technique, including the sampling system and sample gas conditioning system, to determine CO in flue gases. This European Standard is the reference method for periodic monitoring and for calibration or control of Automatic Measuring Systems (AMS) permanently installed on a stack, for regulatory purposes or other purposes. To be used as the SRM, it is necessary to demonstrate that the performance characteristics of the method are lower than the performance criteria defined in this European standard and that the overall uncertainty of the method is less than $\pm 6\%$ relative at the daily Emission Limit Value (ELV).</p>	<p>Scope: This European Standard specifies the Standard Reference Method (SRM) for sampling, and determining carbon monoxide content in ducts and stacks emitting to atmosphere. It describes the Non Dispersive Infra-Red (NDIR) analytical technique, including the sampling system and sample gas conditioning system, to determine CO in flue gases. This European Standard is the reference method for periodic monitoring and for calibration or control of Automatic Measuring Systems (AMS) permanently installed on a stack, for regulatory purposes or other purposes. To be used as the SRM, it is necessary to demonstrate that the performance characteristics of the method are lower than the performance criteria defined in this European standard and that the overall uncertainty of the method is less than $\pm 6\%$ relative at the daily Emission Limit Value (ELV).</p>
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Võtmesõnad:

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English Version

Stationary source emissions - Determination of the mass
concentration of carbon monoxide (CO) - Reference method:
Non-dispersive infrared spectrometry

Emissions de sources fixes - Détermination de la
concentration massique en monoxyde de carbone (CO) -
Méthode de référence : spectrométrie infrarouge non
dispersive

Emissionen aus stationären Quellen - Bestimmung der
Massenkonzentration von Kohlenmonoxid (CO) -
Referenzverfahren: Nicht-dispersive Infrarotspektrometrie

This European Standard was approved by CEN on 20 April 2006.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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



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Foreword

This document (EN 15058:2006) has been prepared by Technical Committee CEN/TC 264 "Air quality", the secretariat of which is held by DIN.

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 November 2006, and conflicting national standards shall be withdrawn at the latest by November 2006.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

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

1 Scope

This European Standard specifies the Standard Reference Method (SRM) for sampling, and determining carbon monoxide content in ducts and stacks emitting to atmosphere. It describes the Non Dispersive Infra-Red (NDIR) analytical technique, including the sampling system and sample gas conditioning system, to determine CO in flue gases. This European Standard is the reference method for periodic monitoring and for calibration or control of Automatic Measuring Systems (AMS) permanently installed on a stack, for regulatory purposes or other purposes. To be used as the SRM, it is necessary to demonstrate that the performance characteristics of the method are lower than the performance criteria defined in this European standard and that the overall uncertainty of the method is less than $\pm 6\%$ relative at the daily Emission Limit Value (ELV).

NOTE When the NDIR method is used as an AMS, refer to EN 14181 and other relevant standards provided by CEN TC 264.

It is necessary for anybody who would like to use an Alternative Method instead of this Standard Reference Method to work out the demonstration of the equivalence according to the Technical Specification TS 14793, providing that his capability to carry out this demonstration is officially recognised by his national accreditation body or law.

This Standard Reference Method has been evaluated during field tests on waste incineration, co-incineration installations and large combustion plants. It has been validated for CO concentrations with sampling periods of 30 min in the range of 0 mg/m³ to 400 mg/m³ for large combustion plants and 0 mg/m³ – 740 mg/m³ for waste and co-incineration. For waste incineration plants, Council Directive 2000/76/EC lays down emission values which are expressed in mg/m³, on dry basis at a specified value of O₂ and at reference conditions of 273 K and 101,3 kPa.

2 Normative references

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

ENV 13005, *Guide to the expression of uncertainty in measurement*.

CEN/TS 14793: *Stationary source emission - Intralaboratory validation procedure for an alternative method compared to a reference method*.

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

ISO 5725-2, *Accuracy (trueness and precision) of measurement methods and results – Part 2: Basic method for the determination of repeatability and reproducibility of a standard measurement method*.

ISO 5725-6:1994, *Accuracy (trueness and precision) of measurement methods and results - Part 6: Use in practice of accuracy values*.

VIM 1994, *International vocabulary of basic and general terms in metrology*.

3 Terms and definitions

For the purposes of this document the following terms and definitions apply.