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BSI Standards Publication

Stationary source emissions — Determination of the volume concentration of carbon dioxide — Reference method: infrared spectrometry

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National foreword

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Stationary source emissions - Determination of the volume concentration of carbon dioxide - Reference method: infrared spectrometry

Émissions de sources fixes - Détermination de la concentration volumique en dioxyde de carbone - Méthode de référence spectrométrie infrarouge

Emissionen aus stationären Quellen - Ermittlung der Volumenkonzentration von Kohlenstoffdioxid - Referenzverfahren: Infrarot-Spektrometrie

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European foreword

This document (CEN/TS 17405:2020) has been prepared by Technical Committee CEN/TC 264 “Air quality”, the secretariat of which is held by DIN.

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1 Scope

This document specifies the reference method (RM) for the measurement of carbon dioxide (CO_2) based on the infrared (IR) absorption principle. It includes the sampling and the gas conditioning system, and allows the determination of the CO_2 in flue gases emitted to the atmosphere from ducts and stacks. This document specifies the measurement of the total CO_2 concentration and does not differentiate between biogenic and fossil derived CO_2.

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

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

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

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

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at https://www.iso.org/obp

3.1
standard reference method
SRM
reference method prescribed by European or national legislation

[SOURCE: EN 15259:2007]