

ICS 13.040.40

English Version

**Stationary source emissions - Determination of mass
concentration of multiple gaseous species - Fourier
transform infrared spectroscopy**

Émissions de sources fixes - Détermination de la
concentration en masse de multiples substances
gazeuses - Spectroscopie infrarouge à transformée de
Fourier

Emissionen aus stationären Quellen - Messung von
Emissionen im Abgas mit FTIR-Geräten

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European foreword

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1 Scope

This document describes a method for sampling and determining the concentration of gaseous emissions to atmosphere of multiple species from ducts and stacks by extractive Fourier transform infrared (FTIR) spectroscopy.

This method is applicable to periodic monitoring and to 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 14793:2017, *Stationary source emissions - 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, *Air quality - Evaluation of the suitability of a measurement procedure by comparison with a required measurement uncertainty (ISO 14956)*

ISO/IEC Guide 98-3:2008, *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 <http://www.iso.org/obp>

3.1

FTIR spectrometer

interferometer that uses infrared wavelengths of the electromagnetic spectrum for measurements and normally includes a sample cell and detector

Note 1 to entry: The interferometer records an interferogram which represents the detection systems response as a function of time. The Fourier-transform function is applied to produce optical intensity as a function of frequency or wavelength.

3.2

sample cell

part of the FTIR instrument where the infrared beam is transmitted through the sample