INTERNATIONAL
STANDARD

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Stationary source emissions — Sampling for the automated determination of gas emission concentrations for permanently-installed monitoring systems

Émissions de sources fixes — Échantillonnage pour la détermination automatisée des concentrations d'émission de gaz pour des systèmes fixes de surveillance

Reference number
ISO 10396:2007(E)

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Contents

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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

ISO 10396 was prepared by Technical Committee ISO/TC 146, *Air quality*, Subcommittee SC 1, *Stationary source emissions*.

This second edition cancels and replaces the first edition (ISO 10396:1993), which has been technically revised.

Introduction

This International Standard describes the use of methodologies for the sampling of stack gases for the determination of pollutants by automated measuring systems (AMS). The methodology applies to the sampling of oxygen (O_2), carbon dioxide (CO_2), carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen monoxide (NO) and nitrogen dioxide (NO_2), or the sum of NO and NO_2 as nitrogen oxides.

Stationary source emissions — Sampling for the automated determination of gas emission concentrations for permanently-installed monitoring systems

1 Scope

1.1 General

This International Standard specifies procedures and equipment that will permit, within certain limits, representative sampling for the automated determination of gas concentrations of effluent gas streams. The application is limited to the determination of oxygen (O_2), carbon dioxide (CO_2), carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen monoxide (NO) and nitrogen dioxide (NO_2), or the sum of NO and NO_2 as nitrogen oxides.

1.2 Limitations

It is recognized that there are some combustion processes and situations that may limit the applicability of this International Standard. Where such conditions exist, caution and competent technical judgment are required, especially when dealing with any of the following:

a) corrosive or highly reactive components such as ammonia, hydrogen chloride and sulfuric acid;

b) high vacuum, high pressure or high temperature gas streams;

c) wet flue gases;

d) fluctuations in velocity, temperature or concentration due to uncontrollable variation in the process;

e) gas stratification due to the non-mixing of gas streams;

f) measurements made using environmental control devices;

g) relatively low levels of gas concentrations.

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.

ISO 10780:1994, *Stationary source emissions — Measurement of velocity and volume flowrate of gas streams in ducts*