INTERNATIONAL STANDARD

ISO 8756

First edition
1994-01-15

Air quality — Handling of temperature, pressure and humidity data

Qualité de l'air — Traitement des données de température, de pression et d'humidité

Reference number
ISO 8756:1994(E)

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.

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.

International Standard ISO 8756 was prepared by Technical Committee ISO/TC 146, *Air quality*, Subcommittee SC 4, *General aspects*.

Annex A of this International Standard is for information only.

International Organization for Standardization
Case Postale 56 • CH-1211 Genève 20 • Switzerland
Printed in Switzerland

Air quality — Handling of temperature, pressure and humidity data

1 Scope

This International Standard describes procedures for adjusting air quality measurements for changes in temperature, pressure and humidity during the sampling period. It also specifies the reference conditions of temperature, pressure and humidity to be used when reporting the results.

The procedures and reference conditions are applicable to air quality measurement methods and apply to measurements made in ambient and workplace atmospheres and to the measurement of stationary source emissions.

2 Procedures for adjustment of air quality measurements for changes in atmospheric pressure, temperature and humidity during the sampling period

2.1 Ambient and Workplace Atmospheres

2.1.1 General

Atmospheric temperature, pressure and humidity may all change during the sampling period, which may be of a duration of several minutes or several weeks, depending on the location at which the air quality measurements are made (workplace or ambient) and the purpose for which they are required. Pressure and absolute humidity change slowly, but temperature and relative humidity changes may be much more sudden. For example, a daily change in pressure may be of the order of approximately 4 000 Pa taking place fairly smoothly at a rate of 200 Pa/h. Temperature changes may be approximately 20 °C in the course of several hours, although in heated indoor workplaces the temperature is likely to remain fairly constant. Conversely, in some workplaces in industrial plants (e.g. near blast furnaces), changes may be very sudden and large.

The effect of change in humidity will be different for different methods of air quality measurement and is not merely a correction for the volume of air sampled. For the effect of humidity, it is essential to refer to the specific air quality measurement method.

2.1.2 Sampling period of up to 15 min duration

Atmospheric temperature, pressure and humidity are unlikely to change significantly in any 15 min period and corrections for changes are therefore unnecessary.

In this case, the atmospheric temperature and pressure (where relevant, the absolute or relative humidity) should be noted at the time of sampling.

2.1.3 Sampling period of up to 1 h duration

Atmospheric pressure is unlikely to change greatly during a 1 h sampling period, but the temperature may change significantly during normal weather conditions.

In this case, atmospheric pressure should be noted once during the sampling period, the temperature measured at the start and finish of sampling and the mean value recorded. Where relevant, the absolute or relative humidity should be noted once during the sampling period, preferably at the middle of the period.

2.1.4 Sampling period of up to 12 h duration

Atmospheric temperature and pressure (and, where relevant, absolute or relative humidity) should be measured at the start of the sampling period and then at intervals of 1 h. The mean values should be used in calculating air quality results. Sometimes, particu-