SLOVENSKI STANDARD
SIST ISO 7168:1997

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Kakovost zraka - Prikazovanje alfanumeričnih podatkov o kakovosti okoljskega zraka

Air quality -- Presentation of ambient air quality data in alphanumerical form

Qualité de l'air -- Présentation sous forme alphanumérique des données relatives à la qualité de l'air ambiant

Ta slovenski standard je istoveten z: **ISO 7168:1985**

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13.040.01 Kakovost zraka na splošno Air quality in general

SIST ISO 7168:1997 **en**

International Standard 7168

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Air quality — Presentation of ambient air quality data in alphanumerical form

Qualité de l'air — Présentation sous forme alphanumérique des données relatives à la qualité de l'air ambiant

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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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 7168 was prepared by Technical Committee ISO/TC 146, *Air quality*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

Printed in Switzerland

Air quality — Presentation of ambient air quality data in alphanumerical form

0 Introduction

For the interpretation or comparison of ambient air quality data, the data themselves are usually not sufficient. The measuring method used, the interval of time of sampling of a single measurement, sampling sites, topography, emission sources or other information may be needed for a proper evaluation.

1 Scope and field of application

This International Standard specifies the minimum desirable information which should be provided when ambient air quality data are presented in alphanumerical form. The structure of the data presentation and suggested formats have been chosen to allow readability of direct print-outs.

This International Standard is recommended for use in the exchange of information about ambient air quality; it does not specify data storage or handling.

2 References

ISO 3534, *Statistics — Vocabulary and symbols.*

ISO 4226, *Air quality — General aspects — Units of measurement.*

ISO 6709, *Standard representation of latitude, longitude and altitude for geographic point locations.*

ISO 6879, *Air quality — Performance characteristics and related concepts for air quality measuring methods.*

3 Definitions

For the purpose of this International Standard, the definitions of ISO 6879, and the following, apply.

ambient air quality data: Values of ambient air measurements, for example concentrations of air pollutants as measured, or derived values thereof, or results of associated meteorological measurements.

4 Specification

The following specifies the desirable number of data to be used for the exchange of information about ambient air quality.

4.1 Institution

The name and address of the organization exchanging the ambient air quality data shall be given. The name and address of the authority performing the measurements may also be furnished.

4.2 Temporal identification

The period of time to which the set of ambient air quality data refers shall be given. This should identify the start and end of the set of measurements and, depending on the detail and type of data being presented, requires the date as well as the zone time and its relation to the Coordinated Universal Time (UTC).

4.3 Method and reference procedure

The procedures for determining the individual air quality characteristics shall be identified, preferably by reference to the relevant International Standards. If there are no International Standards, a list of performance characteristics (see ISO 6879) shall be stated separately.

4.4 Spatial identification

Map references for each sampling site shall be provided in the form of latitude and longitude, both to the nearest second. Its altitude above mean sea-level (geodetic reference datum) shall also be given as well as the height of the air intake or measurement point above ground level. The sampling site address and an indication of the type of surrounding area would be useful additional information and should be recorded under 4.6.

4.5 Data

The data shall always be presented as integers in the units specified in ISO 4226 or in SI units. The necessary multiplication factor as a power of 10 shall be stated within the data control record.

4.5.1 Derived values

When derived values from the individual measurements reported are not specified in 5.2.3.1, then the formulae used for deriving these values shall be given. Rules employed in deciding the validity of the data base in calculating derived values shall be stated, for example monthly derived values from 24 h samples may not be calculated and reported if less than, say, 21 daily values are available for the month.

4.5.2 Interval of time of measurement

The interval of time, for example averaging time, covered by each datum shall be reported. Each datum is assumed to be calculated from a minimum number of measurements; this number and the interval of time of sampling of a single measurement shall also be reported.

4.6 Additional information

The information specified in 4.1 to 4.5 shall accompany any presentation of ambient air quality data. However, depending on the context in which the data are being reported, consideration should be given to further information which is likely to be useful in the use and interpretation of the data, for example emission sources, topographical features, road traffic conditions, presence of other interfering air pollutants (see *interferent*, ISO 6879), and other statistical parameters not specified in 5.2.3.1.

5 Recommended format

If formats other than those recommended here are used, they shall be specified.

5.1 File structure

The file is divided into four groups:

a) the identification group (5.2.1), which gives the names and addresses of the institutions and individuals and defines the number of constituent and data blocks;

b) the constituent group (5.2.2), which gives, for each constituent, the method (5.2.2.1) together with details of the sampling sites (5.2.2.2);

c) the data group (5.2.3), which consists of the number of data blocks specified in 5.2.1. Each data block contains a data control record (5.2.3.1) which summarizes the periodicity and type of values to be found in the subsequent data records (5.2.3.2);

d) a comment group (5.2.4), which provides a control record (5.2.4.1) and all additional information (5.2.4.2).

5.2 Format presentation

	Number of lines (records)	Format
5.2.1 Identification group		
5.2.1.1 Institution record — name of institution — address of institution	4	72A1
5.2.1.2 Header record — number of constituent blocks (I5) — number of data blocks (I5)	1	2I5
5.2.2 Constituent group		
5.2.2.1 Constituent record — number of sampling sites (I3) — constituent code (I3), the following are preferably used	1	I3,I3,16A1,10A1,18A1,I5,I5,2I6

sulfur dioxide	1	wind speed	51
nitrogen monoxide	2	wind direction	52
nitrogen dioxide	3	pressure	53
carbon monoxide	4	temperature	54
hydrogen sulfide	5	humidity	55
hydrogen fluoride	6	mixing height	56
hydrogen chloride	7	solar irradiance	57
ozone	8		

	Number of lines (records)	Format
— constituent name (16A1)		
— unit of measurement in accordance with ISO 4226 or in SI units (10A1)		
— method (or reference procedure) identified by reference to the relevant International Standard (18A1)		
— height, in metres, of measurement point above ground level (I5)		
— identification of "no value available" (default code) by the use of a dummy datum, either positive or negative (I5); other codes should be specified separately		
— upper limit of measurement and lower detection limit (2I6)		
5.2.2.2 Sampling site record	1	I6,18A1,I4,2(3I5,A2),2I5
— sampling site number (I5)		
— sampling site identification (20A1)		
— time deviation from UTC, in hours, multiplied by 10 (I4)		
— latitude, longitude of the sampling site, both in degrees, minutes, seconds (3I5), plus letter to denote N, S, E or W (A2), default value: 99		
— altitude, in metres, of the sampling site above mean sea-level (I5)		
— part of network and the type (I5)		
0 no classification		
1 local		
2 regional		
4 national		
8 international		
any combination as sum, for example 5 = 1 + 4, local and national		
5.2.3 Data group		
5.2.3.1 Data control record	1	I3,I5,I5,4(1×,5I2),I4,I4,I5
— constituent code (I3)		
— sampling site number (I5)		
The sampling site number shall always be greater than 0; if 0 is given the following data block is listed in spatial order, according to the sequence specified by the preceding sampling site records for this constituent		

	Number of lines (records)	Format
— type of data, i.e. the derived value or statistical parameter reported for the specified interval of time of sampling using the following code (I5)		
Arithmetic mean	1	
Geometric mean	2	
Standard deviation (see ISO 3534) of arithmetic mean	3	
Standard deviation (see ISO 3534) of geometric mean	4	
Maximum value	5	
Minimum value	6	
Percentile, for example 92,5 ≙ 7000 + 92,5 × 10 = 7925	7	
Calculation according to the formulae given in the comment record	0	
— start time at the beginning of the period for which data are reported YYMMDDHHMM (1×, 5I2)		
— length of period covered by all data YYMMDDHHMM (1×, 5I2)		
— interval of time covered by each datum, for example averaging time YYMMDDHHMM (1×, 5I2)		
— interval of time of sampling of a single measurement YYMMDDHHMM (1×, 5I2)		
— number of measurements used to establish one datum (I4)		
— factor of multiplication as power of 10, to obtain the data in the unit stated in the constituent record (I4)		
— number of data in the data record (I5)		
5.2.3.2 Data record	1	12I6
— sequence of data (I6) If the number of data given in the data control record equals N, the number of lines (records) equals 1 + INT[(N − 1)/12]. For example at 31 data there are 1 + INT(30/12) = 1 + 2 = 3 lines; the number of data in the last line: 31 − (2 × 12) = 7. The data are given in temporal order if the sampling site numbers in the data control record (position 2) do not equal 0 and appear in spatial order if these sampling site numbers equal 0.		
5.2.4 Comment group		
5.2.4.1 Comment control record	1	I5
— number of records (lines) N in the following comment record (I5)		
5.2.4.2 Comment records	N	72A1
— N free text records for additional information		

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