



**SLOVENSKI STANDARD**  
**oSIST prEN ISO 13137:2012**  
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**Zrak na delovnem mestu - Črpalke za osebno vzorčenje kemičnih in bioloških agensov - Zahteve in preskusne metode (ISO/DIS 13137:2012)**

Workplace atmospheres - Pumps for personal sampling of chemical and biological agents - Requirements and test methods (ISO/DIS 13137:2012)

Arbeitsplatzatmosphäre - Pumpen für die personenbezogene Probenahme von chemischen und biologischen Arbeitsstoffen - Anforderungen und Prüfverfahren (ISO/DIS 13137:2012)

Air des lieux de travail - Pompes pour l'échantillonnage individuel des agents chimiques et biologiques - Exigences et méthodes d'essai (ISO/DIS 13137:2012)

**Ta slovenski standard je istoveten z: prEN ISO 13137**

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**ICS:**

13.040.30	Kakovost zraka na delovnem mestu	Workplace atmospheres
23.080	Črpalke	Pumps

**oSIST prEN ISO 13137:2012**

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NORME EUROPÉENNE  
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**DRAFT**  
**prEN ISO 13137**

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Will supersede EN 1232:1997, EN 12919:1999

English Version

## Workplace atmospheres - Pumps for personal sampling of chemical and biological agents - Requirements and test methods (ISO/DIS 13137:2012)

Air des lieux de travail - Pompes pour le prélèvement  
individuel des agents chimiques et biologiques - Exigences  
et méthodes d'essai (ISO/DIS 13137:2012)

Arbeitsplatzatmosphäre - Pumpen für die  
personenbezogene Probenahme von chemischen und  
biologischen Arbeitsstoffen - Anforderungen und  
Prüfverfahren (ISO/DIS 13137:2012)

This draft European Standard is submitted to CEN members for parallel enquiry. It has been drawn up by the Technical Committee CEN/TC 137.

If this draft becomes a European Standard, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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EUROPÄISCHES KOMITEE FÜR NORMUNG

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## Foreword

This document (prEN ISO 13137:2012) has been prepared by Technical Committee ISO/TC 146 "Air quality" in collaboration with Technical Committee CEN/TC 137 "Assessment of workplace exposure to chemical and biological agents" the secretariat of which is held by DIN.

This document is currently submitted to the parallel Enquiry.

This document will supersede EN 1232:1997, EN 12919:1999.

### Endorsement notice

The text of ISO/DIS 13137:2012 has been approved by CEN as a prEN ISO 13137:2012 without any modification.

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## DRAFT INTERNATIONAL STANDARD ISO/DIS 13137

ISO/TC 146/SC 2

Secretariat: **ANSI**Voting begins on  
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# Workplace atmospheres — Pumps for personal sampling of chemical and biological agents — Requirements and test methods

*Air des lieux de travail — Pompes pour l'échantillonnage individuel des agents chimiques et biologiques — Exigences et méthodes d'essai*

ICS 13.040.30

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### ISO/CEN PARALLEL PROCESSING

This draft has been developed within the International Organization for Standardization (ISO), and processed under the **ISO-lead** mode of collaboration as defined in the Vienna Agreement.

This draft is hereby submitted to the ISO member bodies and to the CEN member bodies for a parallel five-month enquiry.

Should this draft be accepted, a final draft, established on the basis of comments received, will be submitted to a parallel two-month approval vote in ISO and formal vote in CEN.

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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. 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 13137 was prepared by Technical Committee ISO/TC 146, *Air quality*, Subcommittee SC 2, *Workplace atmospheres* and by Technical Committee CEN/TC 137, *Assessment of workplace exposure to chemical and biological agents* in collaboration.

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## Introduction

Many different methods are used to determine the concentration of chemical and biological agents in workplace air. Many of these methods involve the use of a pump and sampler connected by a flexible tube. Air is drawn through the sampler and chemical and biological agents are trapped, for example, on a filter, sorbent tube or long-term detector tube or in a gas washing bottle. In personal sampling, the pump and sampler are attached to the worker so as to collect chemical and biological agents in the breathing zone.

The volume of air drawn by the pump during the sampling period is one of the quantities in the calculation of the concentration of the chemical and biological agents in air. Therefore, the volume of air sampled should be determined accurately and, in order to facilitate this, the flow rate should be maintained within acceptable limits throughout the sampling period. For particle size selective sampling, the short-term fluctuation of the flow rate should also be maintained within acceptable limits in order to ensure that the sampler exhibits the required collection characteristics.

EN 482 specifies general performance criteria for methods for measuring the concentration of chemical and biological agents in workplace air. These performance criteria include maximum values of expanded uncertainty that are not to be exceeded under prescribed laboratory conditions. In addition, the performance criteria should also be met under a wider variety of environmental influences, representative of workplace conditions. The contribution of the sampling pump to measurement uncertainty should be kept to a minimum.

This International Standard should enable manufacturers and users of personal sampling pumps to adopt a consistent approach to, and provide a framework for, the assessment of the specified performance criteria. Manufacturers are urged to ensure that pumps meet the requirements laid down in this International Standard, including environmental influences which can be expected to affect performance.

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# Workplace atmospheres — Pumps for personal sampling of chemical and biological agents — Requirements and test methods

## 1 Scope

This International Standard specifies performance requirements for battery powered pumps used for personal sampling of chemical and biological agents in workplace air. It also specifies test methods in order to determine the performance characteristics of such pumps under prescribed laboratory conditions.

This International Standard is applicable to battery powered pumps having a nominal volumetric flow rate above  $10 \text{ ml} \cdot \text{min}^{-1}$ , as used with combinations of sampler and collection substrate for sampling of gases, vapours, dusts, fumes, mists and fibres.

This International Standard is primarily intended for flow-controlled pumps.

## 2 Normative references

The following referenced documents, in whole or in part, are normatively referenced in this document and 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.

IEC 60068-2-31:2008, *Environmental testing – Part 2-31: Tests – Test Ec: Rough handling shocks, primarily for equipment-type specimens*

IEC 60079-0, *Explosive atmospheres – Part 0: Equipment – General requirements*

IEC 61000-6-1, *Electromagnetic compatibility (EMC) – Part 6-1: Generic standards – Immunity for residential, commercial and light-industrial environments*

IEC 61000-6-3, *Electromagnetic compatibility (EMC) – Part 6-3: Generic standards – Emission standard for residential, commercial and light-industrial environments*

## 3 Terms and definitions

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

### 3.1

#### **biological agent**

bacteria, viruses, fungi and other micro-organisms or parts of them and their associated toxins, including those which have been genetically modified, cell cultures or endoparasites which are potentially hazardous to human health

Note 1 to entry Dusts of organic origin, for example pollen, flour dust and wood dust, are not considered to be biological agents and are therefore not covered by this definition.

[SOURCE: EN 1540:2011, definition 2.1.1]