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## **Determination of particle size distribution — Single particle light interaction methods —**

### **Part 1: Light scattering aerosol spectrometer**

*Détermination de la distribution granulométrique — Méthodes  
d'interaction lumineuse de particules uniques —*

*Partie 1: Spectromètre d'aérosol en lumière dispersée*



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## Contents

Page

Foreword.....	iv
Introduction .....	v
<b>1 Scope .....</b>	<b>1</b>
<b>2 Terms and definitions.....</b>	<b>1</b>
<b>3 Requirements .....</b>	<b>3</b>
<b>3.1 Size range .....</b>	<b>3</b>
<b>3.2 Counting efficiency.....</b>	<b>3</b>
<b>3.2.1 General.....</b>	<b>3</b>
<b>3.2.2 Lower size limit .....</b>	<b>4</b>
<b>3.2.3 Upper size limit .....</b>	<b>4</b>
<b>3.3 Size resolution .....</b>	<b>4</b>
<b>3.4 Sizing accuracy.....</b>	<b>5</b>
<b>3.5 Sampling flow rate.....</b>	<b>5</b>
<b>3.6 Effective detection flow rate .....</b>	<b>5</b>
<b>3.7 Maximum particle number concentration .....</b>	<b>5</b>
<b>4 Test method.....</b>	<b>5</b>
<b>4.1 Size calibration.....</b>	<b>5</b>
<b>4.2 Effective detection flow rate .....</b>	<b>6</b>
<b>4.3 Maximum particle number concentration .....</b>	<b>7</b>
<b>4.4 Size resolution .....</b>	<b>8</b>
<b>4.5 Counting efficiency.....</b>	<b>9</b>
<b>Annex A (informative) Principle of the instruments .....</b>	<b>11</b>
<b>Annex B (informative) Particle size standards .....</b>	<b>18</b>
<b>Annex C (informative) Effects of the LSAS parameters on the particle size and particle number concentration determination .....</b>	<b>21</b>
<b>Annex D (informative) Representative sampling .....</b>	<b>22</b>
<b>Annex E (informative) Example of an LSAS calibration with DEMS-classified PSL particles.....</b>	<b>24</b>
<b>Bibliography .....</b>	<b>26</b>

## 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 21501-1 was prepared by Technical Committee ISO/TC 24, *Particle characterization including sieving*, Subcommittee SC 4, *Particle characterization*.

ISO 21501 consists of the following parts, under the general title *Determination of particle size distribution — Single particle light interaction methods*:

- *Part 1: Light scattering aerosol spectrometer*
- *Part 2: Light scattering liquid-borne particle counter*
- *Part 3: Light extinction liquid-borne particle counter*
- *Part 4: Light scattering airborne particle counter for clean spaces*

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## Introduction

Monitoring particle size distributions and particle number concentrations is required in various fields, e.g. in filter manufacturing, in the electronic industry, in the pharmaceutical industry, in the chemical industry, in the manufacture of precision machines and in medical operations. The aerosol spectrometer is a useful instrument for the determination of the size distribution and number concentration of particles suspended in a gas. The purpose of this part of ISO 21501 is to provide the calibration procedure and the validation method for aerosol spectrometers, so as to improve the accuracy of the measurement result by aerosol spectrometers in general, and to minimize the difference in the results measured by different instruments.