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Second edition
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Determination of particle size distribution — Single particle light interaction methods —

Part 4: Light scattering airborne particle counter for clean spaces

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

Partie 4: Compteur de particules en suspension dans l'air en lumière dispersée pour espaces propres



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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 24, *Particle characterization including sieving*, Subcommittee SC 4, *Particle characterization*.

This second edition cancels and replaces the first edition (ISO 21501-4:2007), which has been technically revised.

The main changes from the previous edition are:

- [Clause 4](#) for “Principle” and [Clause 5](#) for “Basic configuration” have been added;
- “size calibration” and “verification of size setting” have been combined as “size setting error” in the requirements clause;
- “Test report” (3.11 in the previous edition) has been changed to [6.10](#) on “Reporting of test and calibration results”;
- information about uncertainties has been enriched and is now the subject of [Annex E](#).

A list of all parts in the ISO 21501 series can be found on the ISO website.

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Introduction

Monitoring particle contamination levels is required in various fields, e.g. in the electronic industry, in the pharmaceutical industry, in the manufacturing of precision machines and in medical operations. Particle counters are useful instruments for monitoring particle contamination in air. The purpose of this document is to provide a calibration procedure and verification method for particle counters, so as to minimize the inaccuracy in the measurement result by a counter, as well as the differences in the results measured by different instruments.