INTERNATIONAL STANDARD

ISO 12500-3

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Filters for compressed air — Test methods —

Part 3: Particulates

Filtres pour air comprimé — Méthodes d'essai —

Partie 3: Particules

Reference number
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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 12500-3 was prepared by Technical Committee ISO/TC 118, *Compressors and pneumatic tools, machines and equipment*, Subcommittee SC 4, *Quality of compressed air*.

ISO 12500 consists of the following parts, under the general title *Filters for compressed air — Test methods*:

— *Part 1: Oil aerosols*

— *Part 2: Oil vapours*

— *Part 3: Particulates*

A Part 4 dealing with water removal is under development.

Introduction

Particulates are a typical contaminant found in compressed air streams. Particulate filters are designed to remove particulates from compressed air.

The most important performance characteristics are the ability of the filter to remove particulates from the air stream and the amount of pressure drop caused by the filter as compressed air flows through it.

This part of ISO 12500 provides a means of comparing the performance of filters.

Filters for compressed air — Test methods —

Part 3: Particulates

1 Scope

This part of ISO 12500 provides a guide for choosing an appropriate method of determining the solid particulate removal efficiency rating by particle size of filters used in compressed air systems.

This part of ISO 12500 specifies the layouts and procedures for testing these filters. Measurement methods are recommended based on the size range of the particulates that the filter being tested has been designed to remove. The test is performed as a "type-test" on filters as being representative of a range.

The following two particle diameter size ranges are identified in this part of ISO 12500:

— fine filter range 0,01 µm to < 5,0 µm;

— coarse filter range ⩾ 5,0 µm to ⩽ 40 µm.

2 Normative references

The following referenced documents 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.

ISO 1219-1, *Fluid power systems and components — Graphic symbols and circuit diagrams — Part 1: Graphic symbols for conventional use and data-processing applications*

ISO 5598, *Fluid power systems and components — Vocabulary*

ISO 8573-1:2001, *Compressed air — Part 1: Contaminants and purity classes*

ISO 8573-4:2001, *Compressed air — Part 4: Test methods for solid particle content*

ISO 12103-1, *Road vehicles — Test dust for filter evaluation — Part 1: Arizona test dust*

EN 1822-1, *High efficiency air filters (HEPA and ULPA) — Part 1: Classification, performance testing, marking*

EN 1822-2:1998, *High efficiency air filters (HEPA and ULPA) — Part 2: Aerosol production, measuring equipment, particle counting statistics*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 8573-1, ISO 5598 and the following apply.