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Fans — Vocabulary and definitions of categories —

Part 1: Vocabulary

Ventilateurs — Vocabulaire et définitions des catégories —

Partie 1: Vocabulaire

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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).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 117, *Fans*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 156, *Ventilation for buildings,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This document, along with ISO 13349-2, cancels and replaces ISO 13349:2010, which has been technically revised.

The main changes are as follows:

— document split into two parts: Vocabulary and Categories;

— this document only retains Clauses 1, 2 and 3;

— classification of terms in Clause 3 revised;

— positions of the illustrations modified;

— editorial errors corrected.

A list of all parts in the ISO 13349 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

This document reflects the importance of a standardized approach to the terminology of fans.

The need for an International Standard has been evident for some considerable time. To take just one example, the coding of driving arrangements differs from manufacturer to manufacturer. What one currently calls arrangement no. 1 can be known by another as arrangement no. 3. The confusion for the customer is only too apparent. For similar reasons, it is essential to use standardized nomenclature to identify particular parts of a fan.

Wherever possible, in the interests of international comprehension, this document is in agreement with similar documents produced by Eurovent, AMCA, VDMA (Germany), AFNOR (France) and UNI (Italy). They have, however, been built on where the need for amplification was apparent.

Use of this document will lead to greater understanding among all parts of the air-moving industry. This document is intended for use by manufacturers, consultants and contractors.

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Fans — Vocabulary and definitions of categories —

Part 1: Vocabulary

1 Scope

This document defines terms in the field of fans used for all purposes.

It is not applicable to electrical safety.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1 General terms and definitions

3.1.1
fan
rotary-bladed machine that receives mechanical energy and utilizes it by means of one or more impellers fitted with blades to maintain a continuous flow of air or other gas passing through it and whose work per unit mass does not normally exceed 25 kJ/kg

Note 1 to entry: The term "fan" is taken to mean the fan as supplied, without any addition to the inlet or outlet, except where such an addition is specified.

Note 2 to entry: Fans are defined according to their installation category, function, fluid path and operating conditions.

Note 3 to entry: If the work per unit mass exceeds a value of 25 kJ/kg, the machine is termed a turbocompressor. This means that, for a mean stagnation density through the fan of 1,2 kg/m^3, the fan pressure does not exceed 1,2 × 25 kJ/kg, i.e. 30 kPa, and the pressure ratio does not exceed 1,30, since atmospheric pressure is approximately 100 kPa.

3.1.2
non-driven fan
bare shaft fan
fan without motors, drives, attachments or accessories

3.1.3
driven fan
fan driven by an electrical motor

Note 1 to entry: One or more impellers fitted to or connected to a motor with a stationary element, with or without transmission or variable speed drive

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3.1.4
stand-alone fan
fan used as a unique entity and not integrated into any other product

Note 1 to entry: The fan can have ducting connected to its inlet and outlet.

3.1.5
standard air
air with a density of 1,2 kg/m^3

3.2 Fan installation categories according to the arrangement of ducting

3.2.1
installation category A
installation with free inlet and free outlet with a partition

Note 1 to entry: See Figure 1.

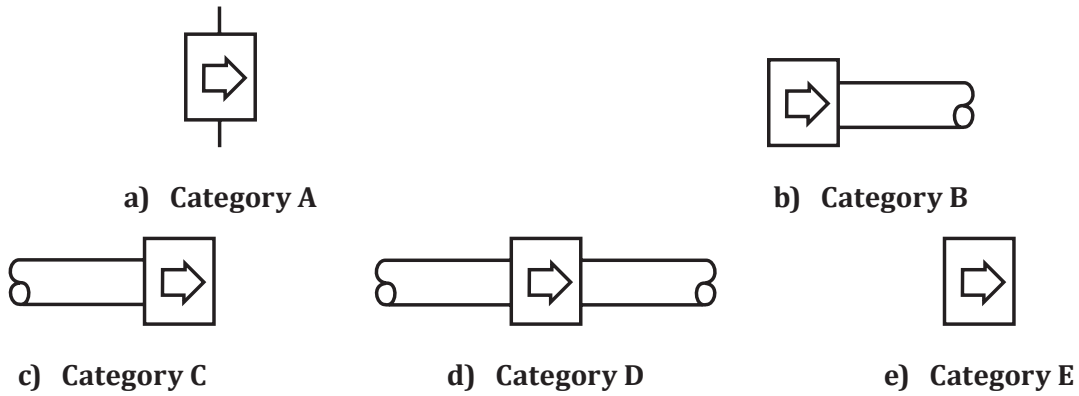


Figure 1 — Installation categories

3.2.2
installation category B
installation with free inlet and ducted outlet

Note 1 to entry: See Figure 1.

3.2.3
installation category C
installation with ducted inlet and free outlet

Note 1 to entry: See Figure 1.

3.2.4
installation category D
installation with ducted inlet and ducted outlet

Note 1 to entry: See Figure 1.

3.2.5
installation category E
installation with free inlet and free outlet without a partition

Note 1 to entry: See Figure 1.

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