AS/NZS ISO 12759:2013
ISO 12759:2010

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Australian/New Zealand Standard™

Fans—Efficiency classification for fans

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee ME-013, Industrial Fans. It was approved on behalf of the Council of Standards Australia on 5 March 2013 and on behalf of the Council of Standards New Zealand on 7 March 2013.
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The following are represented on Committee ME-013:

Australian Industry Group
Bureau of Steel Manufacturers of Australia
Department of Climate Change and Energy Efficiency
Energy Efficiency and Conservation Authority New Zealand
Engineers Australia
Fan Manufacturers Association of Australia and New Zealand

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We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia or Standards New Zealand at the address shown on the back cover.

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee ME-013, Industrial Fans.

The objective of this Standard is to ensure that defined fan performance aligns with accepted International Standards through the implementation of a proposed classification system which incorporates a series of efficiency bands. With improvements in technology and manufacturing processes, the minimum efficiency levels can be reviewed and increased over time.

This Standard is identical with, and has been reproduced from ISO 12759:2010, *Fans—Efficiency classification for fans*.

As this Standard is reproduced from an International Standard, the following applies:

(a) Its number appears on the cover and title page while the International Standard number appears only on the cover.

(b) In the source text 'this International Standard' should read 'this Australian/New Zealand Standard'.

(c) A full point substitutes for a comma when referring to a decimal marker.

None of the current editions of the normative references in the source document have been adopted as Australian or Australian/New Zealand Standards.

The terms 'normative' and 'informative' have been used in this Standard to define the application of the annex to which they apply. A 'normative' annex is an integral part of a Standard, whereas an 'informative' annex is only for information and guidance.

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INTRODUCTION

The last decade has seen not only an escalation in the price, but also an increasing recognition of the finite life of many of the fossil fuels in use. There is also a belief that climatic change is due to an increase in the levels of carbon dioxide in the atmosphere. This has lead to many nations reviewing methods of energy generation and usage.

Therefore, there is a need to promote energy efficiency in order to maintain economic growth. This requires better selection of equipment by users and better design of this equipment by manufacturers.

Fans of all types are used for ventilation and air conditioning, process engineering (drying, pneumatic conveying), combustion air supply and agriculture, etc. Indeed, the energy usage by fans has been calculated as nearly 20 % of worldwide demand.

The fan industry is of a global nature, with a considerable degree of exporting and licensing. To ensure that defined fan performance characteristics are common throughout the world, a series of International Standards has been developed. It is the belief of the industry that there is a need for the recognition of minimum efficiency standards. To encourage their implementation, a classification system is proposed which incorporates a series of efficiency bands. With improvements in technology and manufacturing processes, the minimum efficiency levels can be reviewed and increased over time.

This International Standard can be used by legislators or regulatory bodies for defining future energy saving targets.

AUSTRALIAN/NEW ZEALAND STANDARD

Fans—Efficiency classification for fans

1 Scope

This International Standard establishes a classification of fan efficiency for all fan types driven by motors with an electrical input power range from 0,125 kW to 500 kW. This International Standard is applicable to bare shaft and driven fans, as well as fans integrated into products. Fans integrated into products are measured as stand-alone fans.

This International Standard is not applicable to:

a) fans for smoke and emergency smoke extraction;

b) fans for industrial processes;

c) fans for automotive application, trains and planes;

d) fans for potentially explosive atmospheres;

e) box fans, powered roof ventilators and air curtains;

f) jet fans for use in car parks and tunnel ventilation.

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 5801:2007, *Industrial fans — Performance testing using standardized airways*

ISO 13348:2007, *Industrial fans — Tolerances, methods of conversion and technical data presentation*

ISO 13349:2010, *Fans — Vocabulary and definitions of categories*

IEC 60034-2-1, *Rotating electrical machines — Part 2-1: Standard methods for determining losses and efficiency from tests (excluding machines for traction vehicles)*

IEC 60034-30, *Rotating electrical machines — Part 30: Efficiency classes of single-speed, three-phase, cage-induction motors*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 13349 and the following apply.

NOTE See, in particular, ISO 13349:2010, Tables 4 and 5, as well as the associated equations in Clause 5 of this International Standard and ISO 5801.