# ANSI/AMCA Standard 205-19

# Energy Efficiency Classification for Fans

An American National Standard
Approved by ANSI on May 3, 2019

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## Energy Efficiency Classifications for Fans

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# AMCA Standard

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# Energy Efficiency Classification for Fans

## 1. Purpose

This standard defines the energy efficiency classification for fans.

## 2. Scope

The scope includes fans having an impeller diameter of 125 mm (5 in.) or greater, operating with an impeller shaft power of 750 W (1 hp) and above and having a fan total efficiency calculated according to one of the following fan test standards: ANSI/AMCA Standard 210, AMCA Standard 260 or ISO 5801. All other fans are excluded. This standard only applies to the fan, not the fan drive or the fan system.

## 3. Normative References

The following referenced documents shall be utilized 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.

ANSI/AMCA Standard 99, Standards Handbook
ANSI/AMCA Standard 210, Laboratory Methods of Testing Fans for Certified Aerodynamic Performance Rating
AMCA Standard 260, Laboratory Methods of Testing Induced Flow Fans for Rating
IEEE 112-2004, Standard Test Procedure for Polyphase Induction Motors and Generators
IEEE 114-2001, Standard Test Procedure for Single-Phase Induction Motors
ISO 5801, Industrial Fans - Performance Testing Using Standardized Airways
ISO 12759:2010, Fans - Efficiency Classification for Fans
ISO 13348:2007, Industrial Fans - Tolerances, Methods of Conversion and Technical Data Presentation
ISO 13349:2008, Industrial Fans - Vocabulary and Definitions of Categories

## 4. Definitions/Symbols

For the purpose of this standard, the definitions, units of measure and symbols in this section apply.

Definitions for fan pressures and efficiencies are found in the standards referenced in Section 3.

### 4.1 Definitions

#### 4.1.1 Fan

A rotary machine that imparts energy to an air stream and by means of one or more impellers fitted with blades to maintain quasi continuous flow with a fan pressure rise that does not normally exceed 30 kPa (120 in. wg).

Note: The pressure limit corresponds approximately to a fan specific work of 25 kJ/kg.

#### 4.1.2 Impeller diameter

For the purpose of fan efficiency grade (FEG) classification, impeller diameter is the largest diameter of the circle inscribed by the rotating impeller blade tips.