



**BSR/ASHRAE/IES Addendum cq  
to ANSI/ASHRAE/IES Standard 90.1-2016**

**Public Review Draft**

# **Proposed Addendum cq to Standard 90.1-2016, Energy Standard for Buildings Except Low-Rise Residential Buildings**

**First Public Review (May 2019)  
(Draft Shows Proposed Changes to Current Standard)**

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(This foreword is not part of this standard. It is merely informative and does not contain requirements necessary for conformance to the standard. It has not been processed according to the ANSI requirements for a standard and may contain material that has not been subject to public review or a consensus process. Unresolved objectors on informative material are not offered the right to appeal at ASHRAE or ANSI.)

## FOREWORD

*Federal regulations for ceiling fan testing have been in effect since January 23, 2017. 10 CFR Appendix U to Subpart B of Part 430, Uniform Test Method for Measuring the Energy Consumption of Ceiling Fans provides test procedures for determining the airflow and power consumption of ceiling fans. The purpose of this addendum is to ensure that the maximum fan power input is properly reported for installations both inside and outside the United States. This addendum is similar to the current requirements for elevators in Standard 90.1 and is intended to set the stage for the future addition of ceiling fan efficiency requirements.*

*[Note to Reviewers: This addendum makes proposed changes to the current standard. These changes are indicated in the text by underlining (for additions) and ~~striketrough~~ (for deletions) except where the reviewer instructions specifically describe some other means of showing the changes. Only these changes to the current standard are open for review and comment at this time. Additional material is provided for context only and is not open for comment except as it relates to the proposed changes.]*

## Addendum cq to 90.1-2016

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*Modify the standard as follows (IP and SI Units)*

### 3 Definitions, Abbreviations, and Acronyms

**ceiling fan:** a nonportable (*permanently installed*) device suspended from a ceiling or overhead structure for circulating air via the rotation of fan blades.

**ceiling fan, large-diameter:** a ceiling fan that is greater than or equal to 84.5 inches (2.15m) in diameter.

#### **6.4.1.3 Ceiling Fans**

Large-diameter ceiling fans shall be rated in accordance with 10 CFR 430 Appendix U or AMCA 230. The following data shall be provided:

- a. Blade span (blade tip diameter).
- b. Rated airflow and power consumption at the maximum speed.

6.4.1.3.1 The data provided shall meet one of the following requirements:

1. is determined by an independent laboratory; or
2. is included in a database published by the U.S. DOE; or
3. is certified under a program meeting the requirements of Section 6.4.1.5.

Exception to 6.4.1.3

Ceiling fans not covered in the scope of 10 CFR Part 430.

**6.4.1.34 Equipment Not Listed**

*Equipment* not listed in the tables referenced in Sections 6.4.1.1 and 6.4.1.2 may be used.

**6.4.1.45 Verification of Equipment Efficiencies**

Note to reviewer: Yes, there is a strikethrough through the 4. You just can't see it.

*Equipment efficiency* information supplied by *manufacturers* shall be verified by one of the following:

- a. *Equipment* covered under EPACT shall comply with U.S. Department of Energy certification requirements.
- b. If a certification program exists for a covered product, and it includes provisions for verification and challenge of *equipment efficiency* ratings then the product shall be listed in the certification program.
- c. If a certification program exists for a covered product, and it includes provisions for verification and challenge of *equipment efficiency* ratings, but the product is not listed in the existing certification program, the ratings shall be verified by an independent laboratory test report.
- d. If no certification program exists for a covered product, the *equipment efficiency* ratings shall be supported by data furnished by the *manufacturer*.
- e. Where components such as indoor or outdoor coils from different *manufacturers* are used, the *system* designer shall specify component efficiencies whose combined *efficiency* meets the minimum *equipment efficiency* requirements in Section 6.4.1.
- f. Requirements for plate-type liquid-to-liquid heat exchangers are listed in Table 6.8.1-8.

**6.4.1.56 Labeling**

**6.4.1.56.1 Mechanical Equipment**

Mechanical *equipment* that is not covered by the U.S. National Appliance Energy Conservation Act (NAECA) of 1987 shall carry a permanent label installed by the *manufacturer* stating that the *equipment* complies with the requirements of Standard 90.1.

**6.4.1.56.2 Packaged Terminal Air Conditioners**

Nonstandard-size *packaged terminal air conditioners* and heat pumps with existing sleeves having an external *wall* opening of less than 16 in. high or less than 42 in. wide and having a cross-sectional area less than 670 in.<sup>2</sup> shall be factory *labeled* as follows: *Manufactured for nonstandard-size applications only: Not to be installed in new construction projects.*

**12 Normative References**

Air Movement and Control Association International, Inc. (AMCA)  
30 West University Drive, Arlington Heights, IL 60004-1806

ANSI/AMCA Standard 230-15

Laboratory Methods of Testing Air Circulating Fans  
for Rating and Certification

*NOTE TO REVIEWER: This is how the addendum will appear in the standard if it is passed as written. It includes language from addendum ao, which replaced FEG with FEI in section 6.5.3.1.3. That addendum has a list of exempted fan types that includes ceiling fans along with a description of ceiling fans. That description has been removed and replaced with the new definition.*

*Modify the standard as follows (IP and SI Units)*

### **3 Definitions, Abbreviations, and Acronyms**

**ceiling fan:** a nonportable (*permanently installed*) device suspended from a ceiling or overhead structure for circulating air via the rotation of fan blades.

**ceiling fan, large-diameter:** a ceiling fan that is greater than or equal to 84.5 inches (2.15m) in diameter.

#### **6.4.1.3 Ceiling Fans**

*Large-diameter ceiling fans* shall be rated in accordance with 10 CFR 430 Appendix U or AMCA 230. The following data shall be provided:

- a. Blade span (blade tip diameter).
- b. Rated airflow and power consumption at the maximum speed.

6.4.1.3.1 The data provided shall meet one of the following requirements:

1. is determined by an independent laboratory; or
2. is included in a database published by the U.S. DOE; or
3. is certified under a program meeting the requirements of Section 6.4.1.5.

Exception to 6.4.1.3

*Ceiling fans* not covered in the scope of 10 CFR Part 430.

#### **6.4.1.4 Equipment Not Listed**

*Equipment* not listed in the tables referenced in Sections 6.4.1.1 and 6.4.1.2 may be used.

#### **6.4.1.5 Verification of Equipment Efficiencies**

*Equipment efficiency* information supplied by *manufacturers* shall be verified by one of the following:

- a. *Equipment* covered under EPCACT shall comply with U.S. Department of Energy certification requirements.
- b. If a certification program exists for a covered product, and it includes provisions for verification and challenge of *equipment efficiency* ratings then the product shall be listed in the certification program.
- c. If a certification program exists for a covered product, and it includes provisions for verification and challenge of *equipment efficiency* ratings, but the product is not listed in the existing certification program, the ratings shall be verified by an independent laboratory test report.
- d. If no certification program exists for a covered product, the *equipment efficiency* ratings shall be supported by data furnished by the *manufacturer*.
- e. Where components such as indoor or outdoor coils from different *manufacturers* are used, the *system* designer shall specify component efficiencies whose combined *efficiency* meets the minimum *equipment efficiency* requirements in Section 6.4.1.
- f. Requirements for plate-type liquid-to-liquid heat exchangers are listed in Table 6.8.1-8.

#### **6.4.1.6 Labeling**

##### **6.4.1.6.1 Mechanical Equipment**

Mechanical *equipment* that is not covered by the U.S. National Appliance Energy Conservation Act (NAECA) of 1987 shall carry a permanent label installed by the *manufacturer* stating that the *equipment* complies with the requirements of Standard 90.1.

#### 6.4.1.6.2 Packaged Terminal Air Conditioners

Nonstandard-size *packaged terminal air conditioners* and heat pumps with existing sleeves having an external *wall* opening of less than 16 in. high or less than 42 in. wide and having a cross-sectional area less than 670 in.<sup>2</sup> shall be factory *labeled* as follows: *Manufactured for nonstandard-size applications only: Not to be installed in new construction projects.*

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#### Exceptions to 6.5.3.1.3

1. Fans that are not *embedded fans* with a motor *nameplate horsepower* of less than 1.0 hp (0.75 kW) or with a *fan nameplate electrical input power* of less than 0.89 kW.
  2. *Embedded fans* and *fan arrays* with a combined motor *nameplate horsepower* of 5 hp or less or with a *fan system electrical input power* of 4.1 kW or less.
  3. *Embedded fans* that are part of *equipment* listed under Section [6.4.1.1](#).
  4. *Embedded fans* included in *equipment* bearing a third-party-certified seal for air or *energy* performance of the *equipment* package.
  5. ~~Ceiling fans, i.e., nonportable devices suspended from a ceiling or overhead structure for circulating air via the rotation of fan blades.~~
  6. Fans used for moving gases at temperatures above 482°F (250°C).
  7. Fans used for operation in explosive atmospheres.
  8. Reversible fans used for tunnel ventilation.
  9. Fans outside the scope of AMCA 208.
  10. Fans that are intended to only operate during emergency conditions.
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## 12 Normative References

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