



ADDENDA

**ANSI/ASHRAE/IES Addendum i to
ANSI/ASHRAE/IES Standard 90.1-2019**

Energy Standard for Buildings Except Low-Rise Residential Buildings

Approved by ASHRAE and the American National Standards Institute on October 30, 2020, and by the Illuminating Engineering Society on October 6, 2020.

This addendum was approved by a Standing Standard Project Committee (SSPC) for which the Standards Committee has established a documented program for regular publication of addenda or revisions, including procedures for timely, documented, consensus action on requests for change to any part of the standard. Instructions for how to submit a change can be found on the ASHRAE® website (<https://www.ashrae.org/continuous-maintenance>).

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FOREWORD

This addendum proposes a change to Section G3.1.2.10 Exhaust Air Heat Recovery to correct a mistake that was made when ASHRAE 90.1-2013 addendum bm was published. ASHRAE Standard 90.1 does not require systems serving laboratories to comply with prescriptive energy recovery requirements when laboratory exhaust is variable volume. This exception was introduced in 90.1-2004, and prior to the publication of addendum bm, Appendix G rules followed this requirement. The current wording in Appendix G would require a proposed laboratory design with variable flow exhaust and energy recovery to model both heat recovery and variable exhaust in the baseline HVAC system.

The proposed change aligns the baseline requirements of Appendix G with the requirements of laboratory systems from the 2004 version of 90.1. It does not alter the cost-effectiveness of the standard.

Note: In this addendum, changes to the current standard are indicated in the text by underlining (for additions) and ~~strike through~~ (for deletions) unless the instructions specifically mention some other means of indicating the changes.

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Modify the standard as shown (I-P and SI units).

G3.1.2.10 Exhaust Air Energy Recovery. Individual fan *systems* that have both a design supply air capacity of 5000 cfm (2400 L/s) or greater and have a minimum design *outdoor air* supply of 70% or greater shall have an *energy recovery system* with at least 50% *enthalpy recovery ratio*. Fifty percent *enthalpy recovery ratio* shall mean a change in the enthalpy of the *outdoor air* supply equal to 50% of the difference between the *outdoor air* and return air at *design conditions*. Provision shall be made to bypass or *control* the heat recovery system to permit *air economizer* operation, where applicable.

Exceptions to G3.1.2.10: If any of these exceptions apply, exhaust air *energy* recovery shall not be included in the *baseline building design*:

1. *Systems* serving *spaces* that are not cooled and that are heated to less than 60°F (16°C).
2. *Systems* exhausting toxic, flammable, or corrosive fumes or paint or dust. This exception shall only be used if exhaust air *energy* recovery is not used in the *proposed design*.
3. Commercial kitchen hoods (grease) classified as Type 1 by NFPA 96. This exception shall only be used if exhaust air *energy* recovery is not used in the *proposed design*.
4. Heating *systems* in Climate Zones 0 through 3.
5. Cooling *systems* in Climate Zones 3C, 4C, 5B, 5C, 6B, 7, and 8.
6. Where the largest exhaust source is less than 75% of the design *outdoor airflow*. This exception shall only be used if exhaust air *energy* recovery is not used in the *proposed design*.
7. *Systems* requiring dehumidification that employ *energy* recovery in series with the cooling coil. This exception shall only be used if exhaust air *energy* recovery and series-style *energy* recovery coils are not used in the *proposed design*.
8. Systems serving laboratory HVAC zones with a total laboratory exhaust volume greater than 15,000 cfm (7100 L/s).

POLICY STATEMENT DEFINING ASHRAE'S CONCERN FOR THE ENVIRONMENTAL IMPACT OF ITS ACTIVITIES

ASHRAE is concerned with the impact of its members' activities on both the indoor and outdoor environment. ASHRAE's members will strive to minimize any possible deleterious effect on the indoor and outdoor environment of the systems and components in their responsibility while maximizing the beneficial effects these systems provide, consistent with accepted Standards and the practical state of the art.

ASHRAE's short-range goal is to ensure that the systems and components within its scope do not impact the indoor and outdoor environment to a greater extent than specified by the Standards and Guidelines as established by itself and other responsible bodies.

As an ongoing goal, ASHRAE will, through its Standards Committee and extensive Technical Committee structure, continue to generate up-to-date Standards and Guidelines where appropriate and adopt, recommend, and promote those new and revised Standards developed by other responsible organizations.

Through its *Handbook*, appropriate chapters will contain up-to-date Standards and design considerations as the material is systematically revised.

ASHRAE will take the lead with respect to dissemination of environmental information of its primary interest and will seek out and disseminate information from other responsible organizations that is pertinent, as guides to updating Standards and Guidelines.

The effects of the design and selection of equipment and systems will be considered within the scope of the system's intended use and expected misuse. The disposal of hazardous materials, if any, will also be considered.

ASHRAE's primary concern for environmental impact will be at the site where equipment within ASHRAE's scope operates. However, energy source selection and the possible environmental impact due to the energy source and energy transportation will be considered where possible. Recommendations concerning energy source selection should be made by its members.

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As an industry leader in research, standards writing, publishing, certification, and continuing education, ASHRAE and its members are dedicated to promoting a healthy and sustainable built environment for all, through strategic partnerships with organizations in the HVAC&R community and across related industries.

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