



ADDENDA

**ANSI/ASHRAE Addendum ar to
ANSI/ASHRAE Standard 62.1-2016**

Ventilation for Acceptable Indoor Air Quality

Approved by the ASHRAE Standards Committee on June 22, 2019; by the ASHRAE Technology Council on June 26, 2019; and by the American National Standards Institute on June 27, 2019.

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FOREWORD

Addendum ar modifies language in Informative Appendix E, "Acceptable Mass Balance Equations for Use with the IAQ Procedure," to be consistent with the current IAQP. It also clarifies that the equations do not include any potential compounds added by the HVAC system.

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.

Addendum ar to Standard 62.1-2016

Modify Informative Appendix E as shown.

INFORMATIVE APPENDIX E ACCEPTABLE MASS BALANCE EQUATIONS FOR USE WITH THE IAQ PROCEDURE

When applying the IAQ Procedure from Section 6.3, mass balance analysis may be employed to determine outdoor air

ventilation requirements to control concentrations to meet design targets ~~indoor contaminant levels~~.

Table E-1 presents mass balance equations for analysis of single-zone systems. Figures E-1 and E-2 show representative single-zone systems. A filter may be located in the recirculated airstream (location A) or in the supply (mixed) airstream (location B). The equations do not account for sources within the HVAC system that may occur, such as filter off-gassing, energy recovery carryover of specific gases, or generation of particles or compounds.

Variable-air-volume (VAV) single-zone systems reduce the circulation rate when the thermal load is lower than the design load. This is accounted for by a flow reduction fraction (F_r).

A mass balance equation for each design compound or PM2.5 ~~the contaminant of concern~~ may be written and used to determine the required outdoor airflow or the breathing zone ~~contaminant~~ resultant concentration for the various system arrangements. Six permutations for air-handling and single-zone air distribution systems are described in Table E-1. The mass balance equations for computing the required outdoor airflow and the breathing-zone contaminant concentration at steady-state conditions for each single-zone system are presented in Table E-1.

If the allowable breathing zone ~~contaminant concentration~~ design target is specified, the equations in Table E-1 may be solved for the zone outdoor airflow rate (V_{OZ}). When the zone outdoor airflow rate is specified, the equations may be solved for the resulting breathing zone design compound or PM2.5 concentration.

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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