

ASHRAE Standards May 2019

Alkis Triantafyllopoulos

Email: A.Triantafillopoulos@Menerga.gr

Mechanical Engineer

ASHRAE Hellenic Chapter V.President 2018-2019



menerga
a systemair company

Introduction

- 62.1/2 - Ventilation
- 55 - Thermal Comfort
- 90.1/2 - Energy Efficiency
- 170 – Ventilation of Healthcare
- 14 – Energy Measurements and Ver. Prot.
- 209 – Energy Simulation Aided Design
- 90.4 – Energy for Data Centers
- 189 – High Performance Buildings Design
- 15 & 34 – Safety for Refrigeration Systems

62 – Ventilation for Acceptable Indoor Air Quality



ANSI/ASHRAE Standard 62.1-2016
(Supersedes ANSI/ASHRAE Standard 62.1-2013)
Includes ANSI/ASHRAE addenda listed in Appendix K

Ventilation for Acceptable Indoor Air Quality

See Appendix K for approval dates by the ASHRAE Standards Committee, the ASHRAE Board of Directors, and the American National Standards Institute.

This Standard is under continuous maintenance 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. The change submittal form, instructions, and deadlines may be obtained in electronic form from the ASHRAE website (www.ashrae.org) or in paper form from the Senior Manager of Standards. The latest edition of an ASHRAE Standard may be purchased from the ASHRAE website (www.ashrae.org) or from ASHRAE Customer Service, 1791 Tullis Circle, NE, Atlanta, GA 30329-1305. E-mail: orders@ashrae.org; Fax: 678-539-2129; Telephone: 404-636-8400 (worldwide), or toll free 1-800-527-4723 (for orders in US and Canada). For reprint permission, go to www.ashrae.org/permissions.

© 2016 ASHRAE

ISSN 1041-2336



- 1. PURPOSE
- 2. SCOPE
- 3. DEFINITIONS (see Figure 3.1)
- 4. OUTDOOR AIR QUALITY
- 5. SYSTEMS AND EQUIPMENT
- 6. PROCEDURES
- 7. construction and system start-up
- 8. operations and maintenance

55- Thermal Environmental Conditions for Humans Occupancy



ANSI/ASHRAE Standard 55-2013
(Supersedes ANSI/ASHRAE Standard 55-2010)
Includes ANSI/ASHRAE addenda listed in Appendix M

Thermal Environmental Conditions for Human Occupancy

See Appendix M for approval dates by the ASHRAE Standards Committee, the ASHRAE Board of Directors, and the American National Standards Institute.

This standard is under continuous maintenance 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. The change submittal form, instructions, and deadlines may be obtained in electronic form from the ASHRAE Web site (www.ashrae.org) or in paper form from the Manager of Standards. The latest edition of an ASHRAE Standard may be purchased from the ASHRAE Web site (www.ashrae.org) or from ASHRAE Customer Service, 1791 Tullie Circle, NE, Atlanta, GA 30329-2305. E-mail: orders@ashrae.org. Fax: 478-539-3129. Telephone: 404-636-8400 (worldwide), or toll free 1-800-527-4723 (for orders in US and Canada). For reprint permission, go to www.ashrae.org/permissions.

© 2013 ASHRAE

ISSN 1041-2336



- 1. Purpose
- 2. Scope
- 3. Definitions
- 4. General Requirements
- 5. Conditions That Provide Thermal Comfort
- 6. Compliance
- 7. Evaluation of the Thermal Environment

90.1 Energy Standard for Buildings



ANSI/ASHRAE/IES Standard 90.1-2016
(Supersedes ANSI/ASHRAE/IES Standard 90.1-2013)
Includes ANSI/ASHRAE/IES addenda listed in Appendix H

Energy Standard for Buildings Except Low-Rise Residential Buildings (I-P Edition)

See Appendix H for approval dates by the ASHRAE Standards Committee, the ASHRAE Board of Directors, the IES Board of Directors, and the American National Standards Institute.

This Standard is under continuous maintenance 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. The change substantial form, instructions, and deadlines may be obtained in electronic form from the ASHRAE website (www.ashrae.org) or in paper form from the Senior Manager of Standards. The latest edition of an ASHRAE Standard may be purchased from the ASHRAE website (www.ashrae.org) or from ASHRAE Customer Service, 1791 Tullie Circle, NE, Atlanta, GA 30329-2305. E-mail: orders@ashrae.org. Fax: 404-537-2129. Telephone: 404-636-8400 (worldwide), or toll free 1-800-527-4723 (for orders in US and Canada). For reprint permission, go to www.ashrae.org/permissions.

© 2016 ASHRAE

ISSN 1541-2334



170 – Ventilation for Healthcare Facilities



ANSI/ASHRAE/ASHE Standard 170-2017
(Supersedes ANSI/ASHRAE/ASHE Standard 170-2013)
Includes ANSI/ASHRAE/ASHE addenda listed in Appendix C

Ventilation of Health Care Facilities

See Appendix C for approval dates by the ASHRAE Standards Committee, the ASHRAE Board of Directors, the ASHE Board of Directors, and the American National Standards Institute.

This Standard is under continuous maintenance 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. The change submittal form, instructions, and deadlines may be obtained in electronic form from the ASHRAE website (www.ashrae.org) or in paper form from the Senior Manager of Standards. The latest edition of an ASHRAE Standard may be purchased from the ASHRAE website (www.ashrae.org) or from ASHRAE Customer Service, 1791 Tullie Circle, NE, Atlanta, GA 30329-2305. E-mail: orders@ashrae.org. Fax: 404-875-2129. Telephone: 404-875-8400 (worldwide), or toll free 1-800-527-4723 (for orders in US and Canada). For reprint permission, go to www.ashrae.org/permissions.

© 2017 ASHRAE

ISBN 1041-2336



14



ASHRAE Guideline 14-2014
(Supersedes ASHRAE Guideline 14-2002)

Measurement of Energy, Demand, and Water Savings

Approved by ASHRAE on December 18, 2014.

ASHRAE Guidelines are scheduled to be updated on a five-year cycle; the date following the guideline number is the year of ASHRAE Board of Directors approval. The latest edition of an ASHRAE Guideline may be purchased on the ASHRAE website (www.ashrae.org) or from ASHRAE Customer Service, 1791 Tullie Circle, NE, Atlanta, GA 30329-2305. E-mail: orders@ashrae.org, Fax: 678-539-2129, Telephone: 404-636-9400 (worldwide) or toll free 1-800-527-4773 (for orders in US and Canada). For reprint permission, go to www.ashrae.org/permissions.

© 2014 ASHRAE

ISSN 1049-894X



Includes online access to RP-1050 and RP-1093 final reports, as well as downloadable software toolkits for analysis of building energy and environmental data.

- 1. PURPOSE
- 2. SCOPE
- 3. DEFINITIONS, ABBREVIATIONS, AND ACRONYMS
- 4. REQUIREMENTS AND COMMON ELEMENTS
- 5. SPECIFIC APPROACHES
- 6. INSTRUMENTATION
- 7. WATER
- 8. ELECTRIC DEMAND
- 9. MEASUREMENT AND VERIFICATION (M&V) FOR RENEWABLE ENERGY TECHNOLOGIES



ANSI/ASHRAE Standard 209-2018

Energy Simulation Aided Design for Buildings Except Low-Rise Residential Buildings

Approved by ASHRAE on March 30, 2018, and by the American National Standards Institute on April 2, 2018.

ASHRAE® Standards are scheduled to be updated on a five-year cycle; the date following the Standard number is the year of ASHRAE approval. The latest edition of an ASHRAE Standard may be purchased on the ASHRAE website (www.ashrae.org) or from ASHRAE Customer Service, 1791 Tullie Circle, NE, Atlanta, GA 30329-2305. E-mail: orders@ashrae.org, Fax: 678-539-2129, Telephone: 404-636-8400 (worldwide) or toll free 1-800-527-4723 (for orders in US and Canada). For reprint permission, go to www.ashrae.org/permissions.

© 2018 ASHRAE

ISSN 1041-2336



- 1. Purpose
- 2. Scope
- 3. Definitions, Abbreviations, and Acronyms
- 4. Utilization
- 5. General Requirements
- 6. Design Modeling Cycles
- 7. Construction and Operations Modeling
- ✓ 8. Postoccupancy Modeling
- Table 1 Limits

90.4



ANSI/ASHRAE Standard 90.4-2016

Energy Standard for Data Centers

Approved by the ASHRAE Standards Committee on June 29, 2016; by the ASHRAE Board of Directors on June 29, 2016; and by the American National Standards Institute on July 27, 2016.

This Standard is under continuous maintenance 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. The change submittal form, instructions, and deadlines may be obtained in electronic form from the ASHRAE website (www.ashrae.org) or in paper form from the Senior Manager of Standards. The latest edition of an ASHRAE Standard may be purchased from the ASHRAE website (www.ashrae.org) or from ASHRAE Customer Service, 1791 Tullie Circle, NE, Atlanta, GA 30329-2305. E-mail: orders@ashrae.org. Fax: 678-539-2129. Telephone: 404-636-8400 (worldwide), or toll free 1-800-527-4723 (for orders in US and Canada). For reprint permission, go to www.ashrae.org/permissions.

© 2016 ASHRAE

ISSN 1041-2336





Certifications

CHD

HVAC Design

BCXP

Commissioning

BEAP

Energy Assessment

BEMP

Energy Modeling

HBDP

High-Performance Building Design

HFDP

Healthcare Facility Design

OPMP

Building Operations

ASHRAE Standards May 2019

- **Alkis Triantafyllopoulos**
 - Email: A.Triantafillopoulos@Menerga.gr
 - Mechanical Engineer
- ASHRAE Hellenic Chapter V.President 2018-2019

