ADDENDA

ANSI/ASHRAE/IES Addendum bz to
ANSI/ASHRAE/IES Standard 90.1-2013

Energy Standard for Buildings Except Low-Rise Residential Buildings

Approved by the ASHRAE Standards Committee on August 24, 2016; by the ASHRAE Board of Directors on Septebmer 6, 2016; by the IES Board of Directors on September 26, 2016; and by the American National Standards Institute on September 28, 2016.

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. 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.

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FOREWORD

In 2012, ASHRAE amended Standard 127 to include new rating conditions for computer room air conditioners. Later in 2013, AHRI developed Standard 1360, which incorporates Standard 127-2012 as a method of test. AHRI 1360 includes the same new rating conditions that are listed in Standard 127-2012. AHRI member companies have begun to test their equipment based on the AHRI standard, and an industry certification program was put in place to independently verify the performance rating of these products.

This addendum replaces the current Table 6.8.1-11 in its entirety and replaces it with a new table to account for the new rating conditions. These new rating conditions add three application classes. Minimum net sensible COP values were developed for the new classes, while net sensible COP values for class 1 (i.e., 75°F dry-bulb/52°F dew-point) were kept the same or equivalent to those currently listed in ASHRAE Standard 90.1-2013

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

Addendum bz to 90.1-2013

Delete the existing Table 6.8.1-11, Air Conditioners and Condensing Units Serving Computer Rooms, in its entirety and replace with the new table shown below (I-P).

TABLE 6.8.1-11 Air Conditioners and Condensing Units Serving Computer Rooms

			Minimum Net Sensible COP			
			Return Air Dry-Bulb Temperature/Dew-Point Temperature			
			Class 1	Class 2	Class 3	
Equipment Type	**Net Sensible Cooling Capacity**	**Standard Model**	**75°F/ 52°F**	**85°F/ 52°F**	**95°F/ 52°F**	**Test Procedure**
Air-cooled	<65,000 Btu/h	Down-flow unit		2.30		AHRI 1360 (I-P)
		Up-flow unit—ducted		2.10		
		Up-flow unit—nonducted	2.09			
		Horizontal-flow unit			2.45	
	>=65,000 and <240,000 Btu/h	Down-flow unit		2.20		
		Up-flow unit—ducted		2.05		
		Up-flow unit—nonducted	1.99			
		Horizontal-flow unit			2.35	
		Down-flow unit		2.00		

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	>=240,000 Btu/h	Up-flow unit—ducted		1.85		
		Up-flow unit—nonducted	1.79			
		Horizontal-flow unit			2.15	
Water cooled	<65,000 Btu/h	Down-flow unit		2.50		AHRI 1360 (I-P)
		Up-flow unit—ducted		2.30		
		Up-flow unit—nonducted	2.25			
		Horizontal-flow unit			2.70	
	>=65,000 and <240,000 Btu/h	Down-flow unit		2.40		
		Up-flow unit—ducted		2.20		
		Up-flow unit—nonducted	2.15			
		Horizontal-flow unit			2.60	
	>=240,000 Btu/h	Down-flow unit		2.25		
		Up-flow unit—ducted		2.10		
		Up-flow unit—nonducted	2.05			
		Horizontal-flow unit			2.45	
Water cooled with fluid economizer	<65,000 Btu/h	Down-flow unit		2.45		AHRI 1360 (I-P)
		Up-flow unit—ducted		2.25		
		Up-flow unit—nonducted	2.20			
		Horizontal-flow unit			2.60	
	>=65,000 and <240,000 Btu/h	Down-flow unit		2.35		
		Up-flow unit—ducted		2.15		
		Up-flow unit—nonducted	2.10			
		Horizontal-flow unit			2.55	
	>=240,000 Btu/h	Down-flow unit		2.20		
		Up-flow unit—ducted		2.05		
		Up-flow unit—nonducted	2.00			
		Horizontal-flow unit			2.40	
Glycol cooled	<65,000 Btu/h	Down-flow unit		2.30		AHRI 1360 (I-P)
		Up-flow unit—ducted		2.10		
		Up-flow unit—nonducted	2.00			
		Horizontal-flow unit			2.40	
	>=65,000 and <240,000 Btu/h	Down-flow unit		2.05		
		Up-flow unit—ducted		1.85		
		Up-flow unit—nonducted	1.85			
		Horizontal-flow unit			2.15	
	>=240,000 Btu/h	Down-flow unit		1.95		
		Up-flow unit—ducted		1.80		
		Up-flow unit—nonducted	1.75			
		Horizontal-flow unit			2.10	
Glycol cooled with fluid economizer	<65,000 Btu/h	Down-flow unit		2.25		AHRI 1360 (I-P)
		Up-flow unit—ducted		2.10		
		Up-flow unit—nonducted	2.00			
		Horizontal-flow unit			2.35	
		Down-flow unit		1.95		

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	>=65,000 and <240,000 Btu/h	Up-flow unit—ducted		1.80		
		Up-flow unit—nonducted	1.75			
		Horizontal-flow unit			2.10	
	>=240,000 Btu/h	Down-flow unit		1.90		
		Up-flow unit—ducted		1.80		
		Up-flow unit—nonducted	1.70			
		Horizontal-flow unit			2.10	

Add a new reference to Section 12 as follows (I-P):

ANSI/AHRI Standard 1360-2016 (I-P) — Performance Rating of Computer and Data Processing Room Air Conditioners

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Delete the existing Table 6.8.1-11, Air Conditioners and Condensing Units Serving Computer Rooms, in its entirety and replace with the new table shown below (SI).

TABLE 6.8.1-11 Air Conditioners and Condensing Units Serving Computer Rooms

			Minimum Net Sensible COP			
			Return Air Dry-Bulb Temperature/Dew-Point Temperature			
			Class 1	Class 2	Class 3	
Equipment Type	**Net Sensible Cooling Capacity**	**Standard Model**	**24°C/ 11°C**	**29.5°C/ 11°C**	**35°C/ 11°C**	**Test Procedure**
Air cooled	<19 kW	Down-flow unit		2.30		AHRI 1361 (SI)
		Up-flow unit—ducted		2.10		
		Up-flow unit—nonducted	2.09			
		Horizontal-flow unit			2.45	
	>=19 kW and < 70 kW	Down-flow unit		2.20		
		Up-flow unit—ducted		2.05		
		Up-flow unit—nonducted	1.99			
		Horizontal-flow unit			2.35	
	>=70 kW	Down-flow unit		2.00		
		Up-flow unit—ducted		1.85		
		Up-flow unit—nonducted	1.79			
		Horizontal-flow unit			2.15	
Water cooled	<19 kW	Down-flow unit		2.50		AHRI 1361 (SI)
		Up-flow unit—ducted		2.30		
		Up-flow unit—nonducted	2.25			
		Horizontal-flow unit			2.70	
	>=19 kW and <70 kW	Down-flow unit		2.40		
		Up-flow unit—ducted		2.20		
		Up-flow unit—nonducted	2.15			
		Horizontal-flow unit			2.60	
	>=70 kW	Down-flow unit		2.25		
		Up-flow unit—ducted		2.10		
		Up-flow unit—nonducted	2.05			
		Horizontal-flow unit			2.45	
Water cooled with fluid economizer	<19 kW	Down-flow unit		2.45		AHRI 1361 (SI)
		Up-flow unit—ducted		2.25		
		Up-flow unit—nonducted	2.20			
		Horizontal-flow unit			2.60	
	>=19 kW and <70 kW	Down-flow unit		2.35		
		Up-flow unit—ducted		2.15		
		Up-flow unit—nonducted	2.10			

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		Horizontal-flow unit			2.55	
	>=70 kW	Down-flow unit		2.20		
		Up-flow unit—ducted		2.05		
		Up-flow unit—nonducted	2.00			
		Horizontal-flow unit			2.40	
Glycol cooled	<19 kW	Down-flow unit		2.30		AHRI 1361 (SI)
		Up-flow unit—ducted		2.10		
		Up-flow unit—nonducted	2.00			
		Horizontal-flow unit			2.40	
	>=19 kW and <70 kW	Down-flow unit		2.05		
		Up-flow unit—ducted		1.85		
		Up-flow unit—nonducted	1.85			
		Horizontal-flow unit			2.15	
	>=70 kW	Down-flow unit		1.95		
		Up-flow unit—ducted		1.80		
		Up-flow unit—nonducted	1.75			
		Horizontal-flow unit			2.10	
Glycol cooled with fluid economizer	<19 kW	Down-flow unit		2.25		AHRI 1361 (SI)
		Up-flow unit—ducted		2.10		
		Up-flow unit—nonducted	2.00			
		Horizontal-flow unit			2.35	
	>=19 kW and <70 kW	Down-flow unit		1.95		
		Up-flow unit—ducted		1.80		
		Up-flow unit—nonducted	1.75			
		Horizontal-flow unit			2.10	
	>=70 kW	Down-flow unit		1.90		
		Up-flow unit—ducted		1.80		
		Up-flow unit—nonducted	1.70			
		Horizontal-flow unit			2.10	

Add new reference in Section 12 as follows (SI):

ANSI/AHRI Standard 1361-2016 (SI) — Performance Rating of Computer and Data Processing Room Air Conditioners

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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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