

BSR/ASHRAE/IES Addendum af to ANSI/ASHRAE/IES Standard 90.1-2022

Public Review Draft

Proposed Addendum af to

Standard 90.1-2022, Energy Standard

for Sites and Buildings Except Low-

Rise Residential Buildings

Second Public Review (November 2024) (Draft Shows Proposed Independent Substantive Changes to Previous Public Review Draft)

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BSR/ASHRAE/IES Addendum af to ANSI/ASHRAE/IES Standard 90.1-2022, *Energy Standard for Sites and Buildings Except Low-Rise Residential Buildings* Second Public Review Draft – Independent Substantive Changes

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FOREWORD

This ISC makes corrections to the Addendum af that covers electric motor efficiency, to align with DOE 10 CFR 431.

DOE published a *Federal Register* proposed direct final rule on June 1, 2023, pertaining to energy conservation standards for electric motors that range in size from 1.0 to 750.0 horsepower (0.75 to 559 kW).

DOE published the final rule on October 20, 2023, confirming the effective date and compliance date with the new standards established in the direct final rule, which is required on and after June 1, 2027.

Cost justification: This is a table clean-up that does not require a cost-effectiveness analysis.

[Note to Reviewers: This public review draft makes proposed independent substantive changes to the previous public review draft. These changes are indicated in the text by <u>underlining</u> (for additions) and strikethrough (for deletions) except where the reviewer instructions specifically describe some other means of showing the changes. Only these changes to the previous draft 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 substantive changes.]

Addendum af to 90.1-2022

Modify Section 10.4.1 as follows:

10.4.1 Electric Motors. Electric motors manufactured alone or as a component of another piece of equipment with a rated motor power of 1 hp or more, and less than or equal to $\frac{200750}{50}$ hp (559 kW), shall comply with the requirements shown in Table 10.8-1 for NEMA Design A motors, NEMA Design B motors, and IEC Design N, NE, NEY, or NY motors, and Table 10.8-2 for NEMA Design C motors and IEC Design H motors. General purpose small electric motors with an rated motor power of 0.25 hp [.18 kW] or more, and less than or equal to 3 hp [2.2 kW], shall have a minimum average full-load efficiency that is not less than as shown in Table 10.8-3 for polyphase small electric motors and Table 10.8-4 for capacitor-start capacitor-run small electric motors and capacitor-start induction-run small electric motors.

Fire pump electric motors shall have a minimum nominal full-load efficiency that is not less than that shown in Table 10.8-5. Air-over electric motors shall have a minimum nominal full-load efficiency not less than that shown in Table 10.8-7 and Table 10.8-8.

Modify Table 10.8-1 as follows ((I-P):

	Manufactured Date	Nominal Full-Load Efficiency, %							
Motor Horsepower, hp		2-Pole		4-Pole		6-Pole		8-Pole	
		Enclosed	Open	Enclosed	Open	Enclosed	Open	Enclosed	Open
550	All <u>On or after June</u> <u>1, 2027</u>	95.8	96.2	96.2	96.2	NR	NR	NR	NR
600	All <u>On or after June</u> <u>1, 2027</u>	95.8	96.2	96.2	96.2	NR	NR	NR	NR
650	All <u>On or after June</u> <u>1, 2027</u>	95.8	96.2	96.2	96.2	NR	NR	NR	NR
700	All <u>On or after June</u> <u>1, 2027</u>	95.8	96.2	96.2	96.2	NR	NR	NR	NR
<u>750</u>	On or after June 1, 2027	<u>95.8</u>	<u>96.2</u>	<u>96.2</u>	<u>96.2</u>	NR	<u>NR</u>	NR	<u>NR</u>

Table 10.8-1 Minimum Nominal Full-Load Efficiency for NEMA Design A, NEMA Design B, and IEC Design N, NE, NEY, or NY Motors (Excluding Fire Pump Electric Motors) at 60 Hz^{a,b,c}.

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c. NR = no requirement

Modify Table 10.8-1 as follows (SI):

Table 10.8-1 Minimum Nominal Full-Load Efficiency for NEMA Design A, NEMA Design B, and IEC Design N, NE, NEY, or NY Motors (Excluding Fire Pump Electric Motors) at 60 Hz^{a,b,c}.

Motor standard kilowatt equivalent, kW	Manufactured Date	Nominal Full-Load Efficiency, %								
		2-Pole		4-Pole		6-Pole		8-Pole		
		Enclosed	Open	Enclosed	Open	Enclosed	Open	Enclosed	Open	
410	All <u>On or after</u> June 1, 2027	95.8	96.2	96.2	96.2	NR	NR	NR	NR	
447	All <u>On or after</u> June 1, 2027	95.8	96.2	96.2	96.2	NR	NR	NR	NR	
485	<u>All On or after</u> June 1, 2027	95.8	96.2	96.2	96.2	NR	NR	NR	NR	
522	All <u>On or after</u> June 1, 2027	95.8	96.2	96.2	96.2	NR	NR	NR	NR	
559	All <u>On or after</u> June 1, 2027	95.8	96.2	96.2	96.2	NR	NR	NR	NR	

... c. NR = No requirement.