

## Department of Energy

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mounted on the test equipment using adaptive fixtures for testing as long as the mounting or use of adaptive mounting fixtures does not have an adverse impact on the performance of the electric motor, particularly on the cooling of the motor.

### *4.5 Electric Motors with a Separately-powered Blower:*

For electric motors furnished with a separately-powered blower, the losses from the blower's motor should not be included in any efficiency calculation. This can be done either by powering the blower's motor by a source separate from the source powering the electric motor under test or by connecting leads such that they only measure the power of the motor under test.

### *4.6 Immersible Electric Motors*

Immersible electric motors shall be tested with all contact seals removed but be otherwise unmodified.

### *4.7 Partial Electric Motors:*

Partial electric motors shall be disconnected from their mated piece of equipment. After disconnection from the equipment, standard bearings and/or endshields shall be added to the motor, such that it is capable of operation. If an endshield is necessary, an endshield meeting NEMA or IEC specifications should be obtained from the manufacturer or, if the manufacturer chooses, machined by the testing laboratory after consulting with the manufacturer regarding the critical characteristics of the endshield.

### *4.8 Vertical Electric Motors and Electric Motors with Bearings Incapable of Horizontal Operation:*

Vertical electric motors and electric motors with thrust bearings shall be tested in a horizontal or vertical configuration in accordance with IEEE 112 (Test Method B), depending on the testing facility's capabilities and construction of the motor, except if the motor is a vertical solid shaft normal thrust general purpose electric motor (subtype II), in which case it shall be tested in a horizontal configuration in accordance with IEEE 112 (Test Method B). Preference shall be given to testing a motor in its native orientation. If the unit under test cannot be re-oriented horizontally due to its bearing construction, the electric motor's bearing(s) shall be removed and replaced with standard bearings. If the unit under test contains oil-lubricated bearings, its bearings shall be removed and replaced with standard bearings. Finally, if the unit under test contains a hollow shaft, a solid shaft shall be inserted, bolted to the non-drive end of the motor and welded on the drive end. Enough clearance shall be maintained such that attachment to a dynamometer is possible.

## APPENDIX C TO SUBPART B OF PART 431—COMPLIANCE CERTIFICATION

CERTIFICATION OF COMPLIANCE WITH ENERGY EFFICIENCY STANDARDS FOR ELECTRIC MOTORS (OFFICE OF MANAGEMENT AND BUDGET CONTROL NUMBER: 1910-1400. EXPIRES FEBRUARY 13, 2014)

An electronic form is available at <https://www.regulations.doe.gov/ccms/>.

1. Name and Address of Company (the "company"):

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2. Name(s) to be Marked on Electric Motors to Which this Compliance Certification Applies:

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3. If manufacturer or private labeler wishes to receive a unique Compliance Certification number for use with any particular brand name, trademark, or other label name, fill out the following two items:

A. List each brand name, trademark, or other label name for which the company requests a Compliance Certification number:

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B. List other name(s), if any, under which the company sells electric motors (if not listed in item 2 above):

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Submit electronically at <https://www.regulations.doe.gov/ccms/>.

Submit paper form by Certified Mail to: U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Building Technologies (EE-2J), Forrestal Building, 1000 Independence Avenue, SW., Washington, DC 20585-0121.

This Compliance Certification reports on and certifies compliance with requirements contained in 10 CFR Part 431 (Energy Conservation Program for Certain Commercial and Industrial Equipment) and Part C of the Energy Policy and Conservation Act (Pub. L. 94-163), and amendments thereto. It is signed by a responsible official of the above named company. Attached and incorporated as part of this Compliance Certification is a Listing of Electric Motor Efficiencies. For each rating of electric motor\* for which the Listing specifies the nominal full load efficiency of a basic model, the company distributes no less

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efficient basic model with that rating and all basic models with that rating comply with the applicable energy efficiency standard.

\*For this purpose, the term “rating” means one of the combinations of an electric motor’s horsepower (or standard kilowatt equivalent), number of poles, motor type, and open or enclosed construction, with respect to which §431.25 of 10 CFR Part 431 prescribes nominal full load efficiency standards.

Person to Contact for Further Information:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Telephone Number: \_\_\_\_\_

Facsimile Number: \_\_\_\_\_

If any part of this Compliance Certification, including the Attachment, was prepared by a third party organization under the provisions of 10 CFR 431.36, the company official authorizing third party representations:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Telephone Number: \_\_\_\_\_

Facsimile Number: \_\_\_\_\_

Third Party Organization Officially Acting as Representative:

Third Party Organization: \_\_\_\_\_

Responsible Person at the Organization: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Telephone Number: \_\_\_\_\_

Facsimile Number: \_\_\_\_\_

All required determinations on which this Compliance Certification is based were made in conformance with the applicable requirements in 10 CFR Part 431, subpart B. All information reported in this Compliance Certification is true, accurate, and complete. The company is aware of the penalties associated with violations of the Act and the regulations thereunder, and is also aware of the provisions contained in 18 U.S.C. 1001, which prohibits knowingly making false statements to the Federal Government.

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Firm or Organization: \_\_\_\_\_

**ATTACHMENT OF CERTIFICATION OF COMPLIANCE WITH ENERGY EFFICIENCY STANDARDS FOR ELECTRIC MOTOR EFFICIENCIES**

Date: \_\_\_\_\_

Name of Company: \_\_\_\_\_

Motor Type (i.e., general purpose electric motor (subtype I), fire pump electric motor, general purpose electric motor (subtype II), NEMA Design B general purpose electric motor)

Motor horsepower/standard kilowatt equivalent	Least efficient basic model—(model numbers(s)) Nominal full-load efficiency							
	Open motors (number of poles)				Enclosed motors (number of poles)			
	8	6	4	2	8	6	4	2
1/75 .....	_____	_____	_____	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____	_____	_____	_____
1.5/1.1 .....	_____	_____	_____	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____	_____	_____	_____
2/1.5 .....	_____	_____	_____	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____	_____	_____	_____
3/2.2 .....	_____	_____	_____	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____	_____	_____	_____
5/3.7 .....	_____	_____	_____	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____	_____	_____	_____

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Motor horsepower/standard kilowatt equivalent	Least efficient basic model—(model numbers(s)) Nominal full-load efficiency							
	Open motors (number of poles)				Enclosed motors (number of poles)			
	8	6	4	2	8	6	4	2
	_____	_____	_____	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____	_____	_____	_____
Etc .....	_____	_____	_____	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____	_____	_____	_____

**Note:** Place an asterisk beside each reported nominal full load efficiency that is determined by actual testing rather than by application of an alternative efficiency determination method. Also list below additional basic models that were subjected to actual testing.

*Basic Model* means all units of a given type of electric motor (or class thereof) manufactured by a single manufacturer, and which (i) have the same rating, (ii) have electrical design characteristics that are essentially identical, and (iii) do not have any differing physical or functional characteristics that affect energy consumption or efficiency.

*Rating* means one of the combinations of an electric motor's horsepower (or standard kilowatt equivalent), number of poles, motor type, and open or enclosed construction, with respect to which §431.25 of 10 CFR Part 431 prescribes nominal full load efficiency standards.

MODELS ACTUALLY TESTED AND NOT PREVIOUSLY IDENTIFIED

Motor horsepower/standard kilowatt equivalent	Least efficient basic model—(model numbers(s)) Nominal full-load efficiency							
	Open motors (number of poles)				Enclosed motors (number of poles)			
	8	6	4	2	8	6	4	2
_____ .....	_____	_____	_____	_____	_____	_____	_____	_____
_____ .....	_____	_____	_____	_____	_____	_____	_____	_____
_____ .....	_____	_____	_____	_____	_____	_____	_____	_____
_____ .....	_____	_____	_____	_____	_____	_____	_____	_____
_____ .....	_____	_____	_____	_____	_____	_____	_____	_____
_____ .....	_____	_____	_____	_____	_____	_____	_____	_____
_____ .....	_____	_____	_____	_____	_____	_____	_____	_____
_____ .....	_____	_____	_____	_____	_____	_____	_____	_____
_____ .....	_____	_____	_____	_____	_____	_____	_____	_____
Etc .....	_____	_____	_____	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____	_____	_____	_____

[69 FR 61923, Oct. 21, 2004, as amended at 76 FR 59006, Sept. 23, 2011]