

## **NEMA MG 10008**

*General Specification for Consultants, Industrial and Municipal:  
NEMA Premium® Efficiency Electric Motors*

*Published by*

**National Electrical Manufacturers Association**  
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## Foreword

In the preparation of this Standard, input of users and other interested parties has been sought and evaluated. Inquiries, comments, and proposed or recommended revisions should be submitted to the concerned NEMA product Subdivision by contacting the following:

NEMA Technical Operations Department  
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Rosslyn, VA 22209

This Standard was developed by the Motors and Generators Section. Section approval of the document does not necessarily imply that all section members voted for its approval or participated in its development. At the time it was approved, the Section was composed of the following members:

ABB Motors and Mechanical, Inc.—Fort Smith, AR  
Adventech, LLC—Florence, AL  
Bison Gear & Engineering Corporation—St. Charles, IL  
Brook Crompton North America—Toronto, Canada  
Cummins, Incorporated—Minneapolis, MN  
GE Industrial Motors, A Wolong Company—Houston, TX  
Infinitum Electric—Round Rock, TX  
Nidec Motor Corporation—St. Louis, MO  
NORD Gear Corporation—Waunakee, WI  
Regal-Beloit Corporation—Beloit, WI  
SEW-Eurodrive, Incorporated—Lyman, SC  
Siemens Industry Incorporated—Norwood, OH  
Sterling Electric, Incorporated—Indianapolis, IN  
Tatung Electric Company of America—Tustin, CA  
Techtop Industries, Inc—Peachtree Corners, GA  
TECO-Westinghouse Motor Company—Round Rock, TX  
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WEG Electric Corp—Duluth, GA  
Worldwide Electric Corporation—Rochester, NY

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## 1 Scope

This Standard outlines the minimum requirements for three-phase AC induction motors applied to municipal and industrial applications for operation on voltages 5000 volts or less, rated 2500 Horsepower or less, operating more than 2000 hours per year at >75% of full-load.

## 2 Design Standards

In addition to this specification, manufacturers should note the most recent editions of other applicable standards promulgated by the following organizations:

Anti-Friction Bearing Manufacturers Association (AFBMA)  
Air Conditioning and Refrigeration Institute (AHRI)  
Air Movement Control Association (AMCA)  
American National Standards Institute (ANSI)  
American Society of Testing Materials (ASTM)  
Compressed Air and Gas Institute (CAGI)  
Institute of Electrical and Electronics Engineers (IEEE)  
Hydraulic Institute (HI)  
National Electrical Manufacturers Association (NEMA)

## 3 Service Conditions

Service conditions are as follows:

- a) Ambient temperature not greater than 40°C and not less than -15°C
- b) Voltage variation within  $\pm 10\%$  from rated
- c) Frequency variation within  $\pm 1\%$  of rated
- d) Combination of b) and c) above, not to exceed 10% (e.g., 7% voltage variation requires 3% (or less) frequency variation)
- e) Exposure to an altitude that does not exceed 3300 feet (1000 meters)
- f) Installation on a rigid mounting surface
- g) Installation in areas or supplementary enclosures, which do not seriously interfere with the ventilation of the motor

## 4 Enclosures

General purpose horizontal motors for indoor operation in a clean environment can be ODP (Open Drip Proof).

General purpose horizontal motors for outdoor operation or located in hostile non-hazardous environments shall be "Enclosed" or "Weather Protected."

All motors in hazardous locations shall be approved for the application and meet the Class and Group (or applicable Zone) as required by the area classification.