



# Standard Guide for Ordering Low Voltage (1000 VAC or Less) Alternating Current Electric Motors for Shipboard Service—Up to and Including Motors of 500 Horsepower<sup>1</sup>

This standard is issued under the fixed designation F2361; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

## 1. Scope

1.1 This guide covers the required basic ordering information for low voltage (1000 VAC or less) general-purpose, commercial, universal, small-, and medium-sized alternating current electric motors for shipboard use, up to and including motors of 500 hp.

1.2 The electric motors covered by this guide are general-purpose (GP) motors intended to drive common shipboard mechanical machinery such as fans, blowers, centrifugal and screw pumps.

1.3 This guide is not intended to be used to order special-purpose (SP) motors or definite-purpose motors (for example, cryogenic service) or motors for use in hazardous (classified) locations as defined by the National Electrical Code (NFPA 70).

1.4 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.5 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

## 2. Referenced Documents

2.1 *Canadian Standards Association (CSA):*<sup>2</sup>

**CSA Standard C390-93C Energy Efficiency Test Methods for Three-Phase Induction Motors General Instruction No.1**

<sup>1</sup> This guide is under the jurisdiction of ASTM Committee F25 on Ships and Marine Technology and is the direct responsibility of Subcommittee F25.10 on Electrical.

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<sup>2</sup> Available from Canadian Standards Association (CSA), 178 Rexdale Blvd., Toronto, ON M9W 1R3, Canada, <http://www.csagroup.org>.

2.2 *Institute of Electrical and Electronic Engineers (IEEE):*<sup>3</sup>

**IEEE Standard 45 Recommended Practice for Electrical Installations on Shipboard**

**IEEE Standard 112 Standard Test—Procedure for Polyphase Induction Motors and Generators**

2.3 *National Electrical Manufacturers Association (NEMA) Standard:*<sup>4</sup>

**NEMA Standard MG-1 Motors and Generators**

2.4 *National Fire Protection Association (NFPA):*<sup>5</sup>

**NFPA 70 National Electrical Code**

## 3. Terminology

3.1 *Definitions of Terms Specific to This Standard:*

3.1.1 *closed-coupled, n*—a special design where the motor features a face mounting flange that the pump casing mounts to, and a motor shaft extension on which the pump impeller is mounted.

3.1.2 *drip-proof, n*—a machine enclosure that allows the motor to be cooled by ambient air having ventilation openings that allow operation when drops of liquid or solid particles strike the enclosure at any angle from zero to 15°.

3.1.3 *drive method, n*—the method of driving the equipment, such as direct, belt, gearbox, or chain.

3.1.4 *efficiency classes, n*—standard efficiency classes established by NEMA based on motor performance.

3.1.5 *end shield, n*—a machined flange or base which have rabbets and bolt holes for mounting equipment to the motor or for overhanging the motor on a driven machine.

3.1.6 *frame size, n*—standard sizes established by NEMA based on motor power and speed.

3.1.7 *mounting arrangement, n*—the installed operating position of the motor, such as horizontal, vertical shaft up, or vertical shaft down.

<sup>3</sup> Available from Institute of Electrical and Electronics Engineers, Inc. (IEEE), 445 Hoes Ln., Piscataway, NJ 08854-4141, <http://www.ieee.org>.

<sup>4</sup> Available from National Electrical Manufacturers Association (NEMA), 1300 N. 17th St., Suite 900, Arlington, VA 22209, <http://www.nema.org>.

<sup>5</sup> Available from National Fire Protection Association (NFPA), 1 Batterymarch Park, Quincy, MA 02169-7471, <http://www.nfpa.org>.