



US Integral HP Motor Rule

U.S. Department of Energy Integral Horsepower Motor Rule

Effective June 1, 2016

The U.S. DOE passed a final rule that covers 1 – 500 HP (0.75 – 370 kW) three phase electric motors. This new law will supersede the existing Energy Independence and Security Act of 2007.

The motors regulated under expanded scope meet the following nine characteristics:

1. Is a single speed motor,
2. Is rated for continuous duty (MG 1) operation or for duty type S1 (IEC),
3. Contains a squirrel-cage (MG 1) or cage (IEC) rotor,
4. Operated on polyphase alternating current (AC) 60-hertz sinusoidal line power,
5. Has 2-, 4-, 6-, or 8-pole configuration,
6. Is rated 600 volts or less,
7. Have a three or four digit NEMA frame size (or IEC metric equivalent), including those designs between two consecutive NEMA frame sizes (or IEC metric equivalent) or an enclosed 56 NEMA Frame size (or IEC metric equivalent).
8. Has no more than 500 horsepower, but greater than or equal to 1 horsepower (or kilowatt equivalent), and
9. Meets all the performance requirements of a NEMA design A, B or C electric motor or an IEC design N or H electric motor.

Several categories of motors were previously covered at lower efficiency levels or exempt. These motors now must be produced to premium efficiency levels (NEMA MG

1-2011, Table 12-12, 20A or 20B).

- NEMA Design A motors from 201-500 HP
- Electric motors with moisture-resistant windings, sealed or encapsulated windings
- Partial electric motors
- Totally-enclosed non-ventilated (TENV) electric motors
- Immersible electric motors
- Integral or non-integral brake electric motors
- U-frame motors
- Design C motors
- IEC 100 frame, NEMA 66 frame
- Electric motors with non-standard endplates or flanges
- Electric motors with non-standard base or mounting feet
- Footless motors (C-face or D-flange less base)
- Electric motors with special shafts
- Close-coupled pump motors
- 56J Jet pump motors (Enclosed)
- Vertical hollow shaft electric motors
- Vertical medium and high thrust solid shaft electric motors
- Electric motors with sleeve bearings IZ Electric motors with thrust bearings IZ Pre-NEMA frame motors
- Arbor saw motors

Even with expanded coverage, some motor types are still not covered:

- Single phase ODP motors (may be covered by Small Motor Rule)
- Single phase Enclosed motors
- DC motors
- Two digit frames (42 – 48) (may be covered by Small Motor Rule)
- 56 frame ODP (may be covered by Small Motor Rule)
- Multi-speed motors
- Medium voltage motors
- TEAO or Open Air-over motors
- Submersible motors
- Water-cooled motors
- Intermittent duty motors (S2-S8)
- Stator-rotor sets
- Design D motors
- Motors designed for Inverter Power (MG 1, Part 31) with no line start (Baldor V*S Master, RPM AC and similar)
- Synchronous AC motors
- Permanent magnet rotor AC motors
- Servo motors

Energy efficiency regulations in Canada and Mexico were not upgraded to match the U.S. levels at this time.

