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Electric Motor Efficiencies

When to Purchase an Energy Efficient Motor

READING ELECTRIC, a leading supplier of electro-mechanical equipment, services, and problem solver for Industrial and Commercial customers for over 50 years provides technical information to the Region's Residential, Commercial and Industrial Community. This Bulletin provides information on when to consider purchasing an energy-efficient motor.

The Energy Policy Act of 1992 (EPACT) requires most general purpose electric motors manufactured for sale in the United States after October 24, 1997 meet minimum efficiency standards. To be considered energy efficiency the motor's performance must meet or exceed nominal full load efficiency values provided by NEMA and listed in Publication MG1.

Energy efficient motors should be purchased under the following circumstances:

- For all new Installations
- As part of equipment packages (HVAC, Pumps, etc)
- During major equipment modifications
- Instead of rewinding older motors
- When replacing oversized / underloaded motors
- As part of an energy conservation plan

The following factors should be considered when choosing a new motor:

Motor Size: A properly sized motor will operate most efficiently with a load factor between 65 – 100%.

Operating Speed: Select replacement energy-efficient motors with a comparable full-load speed for centrifugal load applications (pumps and fans). Induction motors have an operating speed that is slightly lower than their rated synchronous speed.

CONTACT Reading Electric to receive a DOE information packet on how to determine Electric Motor Load and Efficiency.

MotorMaster+ software helps you choose the most efficient and cost-effective motor for your application. The MotorMaster+ database contains performance information and list prices for over 13,800 NEMA design B motors, ranging from 1 to 600 hp. Full- and part-load efficiencies, power factor, full-load rpm, voltage, frame size, service factor, and list price are available for each model. You specify the horsepower, speed, enclosure type, and operating voltage to obtain a list of available models ranked in order of descending full-load efficiency values.
(Information provide courtesy of DOE)

FOR ADDITIONAL INFORMATION contact READING ELECTRIC for electrical equipment efficiency solutions and an opportunity to let READING ELECTRIC's over 50 years of expertise serve you, contact READING ELECTRIC at 80 Witman Road, Reading, Pennsylvania 19605. Phone: 610-929-5777; Fax: 610-929-1670; Visit our Website at www.readingelectric.com {TB562-052808}