



## U.S. Department of Energy Energy Efficiency and Renewable Energy

Bringing you a prosperous future where energy  
is clean, abundant, reliable, and affordable

# INDUSTRIAL TECHNOLOGIES PROGRAM

## Improve Motor System Efficiency with MotorMaster+

### MotorMaster+ (Version 4.0) Software Aids Replace/Rewind Decisions

Whether you're a novice or an expert at managing motor systems, MotorMaster+ is designed for you. The separate but communicating modules make the software exceptionally flexible and **easy to learn and use**. This software tool handles everything from calculating payback on a single motor purchase to comprehensive, integrated motor system management.

Version 4.0 has the same look and feel as the popular Version 3.0 and is available as an easy-to-install upgrade. It quickly identifies inefficient or oversized facility motors and computes the savings that can be achieved with more energy-efficient models. The software runs on local or wide-area networks for access by multiple users.

In response to comments and suggestions from diverse industrial facilities, MotorMaster+ 4.0 carries expanded capabilities for inventory management, maintenance logging, lifecycle costing, savings tracking and trending, conservation analysis, savings evaluation, energy accounting, and environmental reporting. It continues to serve as a respected, nonbiased source for motor data.

### Helpful Features

- Expanded list of over 25,000 motors from 18 manufacturers, including NEMA Premium medium-voltage (>6,600 volts) motors.
- Improved predictive maintenance testing—facilitates rapid data entry, sorting by condition, and rewind/replace recommendations.
- Enhanced user manual—new reporting methods and efficient predictive maintenance practices.
- Technical data to help optimize drive systems, such as data on motor part-load efficiency and power factor; full-load speed; and locked-rotor, breakdown, and full-load torque.
- Motor purchasing information, including list prices, warranty periods, catalog numbers, motor weights, and manufacturer addresses.
- Capability to calculate energy savings, dollar savings, simple payback, cash flows, and the after-taxes rate of return-on-investment for energy programs—taking into account such variables as load factor, motor efficiency, purchase price, energy costs, hours of operation, and utility rebates.



**Motor-driven equipment  
accounts for 64% of the  
electricity used in the  
U.S. industrial sector.**

*"MotorMaster+ is easy for us  
to work with.... It gave me  
the numbers I need to justify  
the purchase."*

Irma Grogan, Foreman, Ellensburg  
Wastewater Treatment Plant, WA

**To download the MotorMaster+ Tool  
and other free software tools or  
participate in an on-line tool forum,  
visit us at:**

[www.eere.energy.gov/industry/  
bestpractices/software.html](http://www.eere.energy.gov/industry/bestpractices/software.html)

**To learn more, contact the EERE Information Center (1-877-337-3463) or visit  
the BestPractices web site at [www.eere.energy.gov/industry/bestpractices](http://www.eere.energy.gov/industry/bestpractices)**

## MotorMaster+ Gets Results

MotorMaster+ is a popular tool with thousands of industrial end users, vendors, and consultants. They use it for a variety of reasons—

- To create lists of motors that meet user-specific requirements.
- To calculate the savings and simple payback period for premium-efficiency motors versus standard-efficiency units.
- To optimize the motor repair-versus-replace decision.
- To manage motor systems comprehensively.

A large motor repair shop uses MotorMaster+ to assist customers in making sound motor purchase and replacement decisions. One of these applications at a large facility in Indiana led to the replacement of 125 motors with premium-efficiency motors, saving the plant approximately \$80,000 per year. MotorMaster+ also specified premium-efficiency motors on new OEM equipment at the facility for another \$128,000 in annual savings.

"We've saved a significant amount of energy in our forest products plants and increased reliability through an aggressive motor management plan that relies on DOE motor system publications and MotorMaster+."

John Holmquist, Senior Scientist,  
Weyerhaeuser Company

In 2001, the Ellensburg Wastewater Treatment Plant in Washington State had to decide whether to replace or rewind two large 50-horsepower aerator motors. Initial use of the MotorMaster+ software indicated that it would be more cost-effective to purchase new motors than to rewind the existing motors. In a second run, MotorMaster+ compared the cost effectiveness and simple payback periods of various new 50-horsepower motors and helped justify the purchase of new standard-efficiency units.

**An independent study  
(published in 2000) credited  
MotorMaster+ with  
nationwide annual savings  
of over \$2.4 million and  
50,687 MWh.**

## A Strong Energy Portfolio for a Strong America

Energy efficiency and clean, renewable energy will mean a stronger economy, a cleaner environment, and greater energy independence for America. Working with a wide array of state, community, industry, and university partners, the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy invests in a diverse portfolio of energy technologies.

For more information contact:

EERE Information Center

1-877-EERE-INF (1-877-337-3463)

[www.eere.energy.gov](http://www.eere.energy.gov)



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