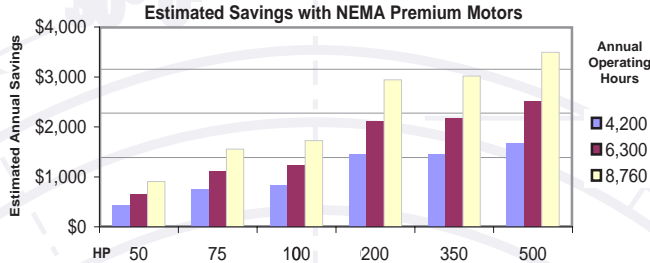


## Replacing Older Motors

Have you evaluated your older motors as candidates for replacement? The chart below illustrates potential cost savings by replacing older motors with NEMA Premium® motors.



Source: MDM Motor Planning Kit 2.1. Calculation assumes a 1800 rpm TEFC motor and \$0.075/kWh electric cost.

## Variable Frequency Drives

Consider evaluating your system as a candidate for a VFD. Good candidates include applications that operate frequently (>2000 hrs/yr) and have a variable load whose output is throttled or damped below full rated speed.

### Proof Positive

A small textile plant retrofitted several of its HVAC fan motors with VFDs, replacing inefficient variable inlet guide vanes and outlet dampers. A 59% reduction in total energy use was achieved, from 2.7GWh to 1.1GWh annually, translating to an annual cost savings of \$101,000. Project costs were recovered in 1.3 years.

Source: NRCAN, <http://oee.nrcan.gc.ca/industrial/equipment/vfd-ref/page-06.cfm>

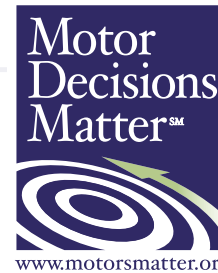
## Managing a plan is easier than managing a crisis.

### Motor Management

Motor management starts with creating an inventory and assessing your system, tuning and retrofitting for optimal performance, regularly monitoring and testing your equipment, and implementing a plan when failure occurs. Sound motor management planning can reduce your operational costs.

### Resources

- MDM Tools: [www.motorsmatter.org/tools](http://www.motorsmatter.org/tools)
- US Department of Energy, Industrial Technologies Program: [www1.eere.energy.gov/industry/bestpractices/motors.html](http://www1.eere.energy.gov/industry/bestpractices/motors.html)
- US DOE ITP State Incentives and Resources Database: [www1.eere.energy.gov/industry/states/state\\_activities/incentive\\_search.aspx](http://www1.eere.energy.gov/industry/states/state_activities/incentive_search.aspx)
- ANSI/EASA AR100: Recommended Practice for the Repair of Rotating Electrical Apparatus: [www.easa.com/energy](http://www.easa.com/energy)



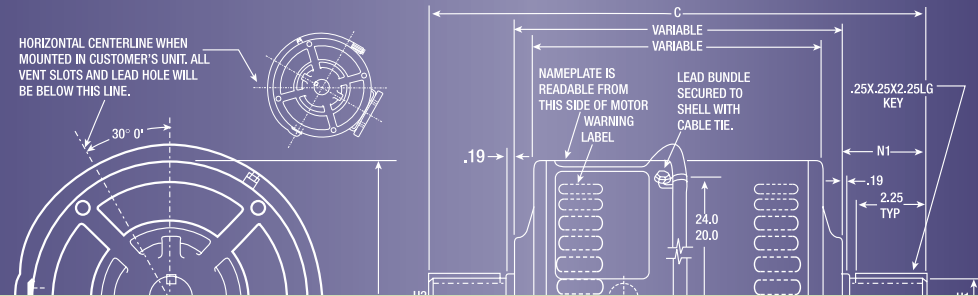
# Motor Decisions Matter<sup>SM</sup>



[www.motorsmatter.org](http://www.motorsmatter.org)

## Improve your bottom line with motor management.

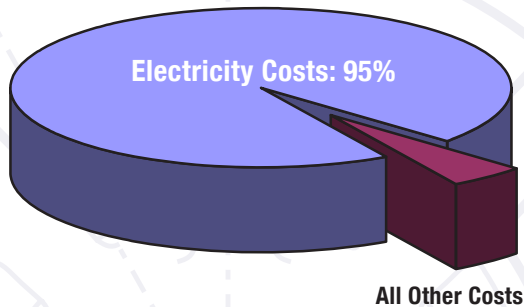
# Motor Decisions Matter<sup>SM</sup>



## You can increase profits by making the right motor system decisions.

Did you know that electricity costs account for approximately 95% of a motor's lifetime operating costs? Purchase, installation, and maintenance represent close to 5% of the total cost. That means it's important to your bottom line to select efficient motors and make sure the motor driven system is maintained properly and running optimally.

### Lifetime Motor Costs



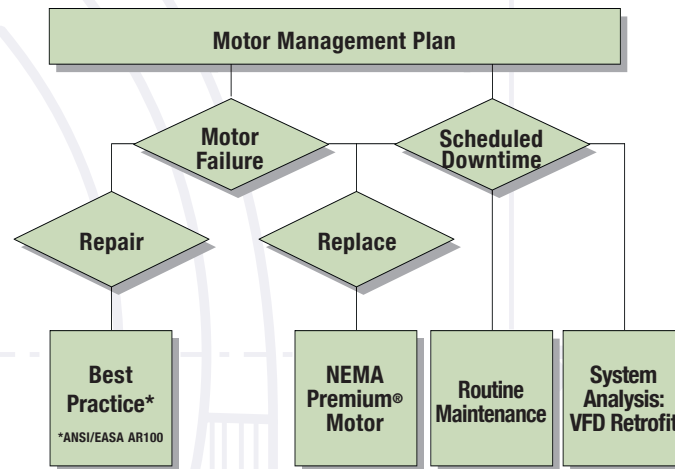
A motor management plan can help you to:

- Make proactive repair-replace decisions
- Reduce unscheduled downtime
- Improve productivity and reliability
- Reduce operating costs

## What is a motor management plan?

A motor management plan can be simple or comprehensive, depending on your needs. At a minimum, a plan should include:

- An inventory of your current and spare motors
- Repair-replace decision guidelines
- Purchase and repair policies based on life cycle cost analysis
- Predictive and preventive maintenance plans
- Assessment of variable frequency drives (VFD) and other optimization opportunities



## How can you build a plan that suits your company?

### Call the Experts

Your motor service center/vendor and utility may be able to assist you in developing a motor management plan that is right for you.

### Use Motor Decisions Matter<sup>SM</sup> Resources

The MDM web site, [www.motorsmatter.org](http://www.motorsmatter.org), provides easy-to-use tools for developing a motor management plan:

- 1\*2\*3 Approach – a spreadsheet tool that compares motor purchase and repair options using basic life cycle cost analysis
- Motor Planning Kit – a booklet that provides an overview of motor management concepts and strategies to get started
- Simple Savings Chart – a simple spreadsheet tool to estimate energy savings based on your electricity cost and hours of operation