

Washington State Energy Office

MotorMaster

Fully half of the electricity used in the United States goes to power some 35 million electric motors that are larger than one horsepower and that annually consume over \$90 billion worth of electricity. While electric motors are inherently efficient end-use conversion devices, the energy savings and lifecycle economics of high and premium efficiency motors simply can't be ignored. But there is a dearth of information regarding the specifications, price, and availability of energy-efficient motors. To fulfill this information gap, the Washington State Energy Office created MotorMaster, a user-friendly software package that presents a wealth of information on high efficiency motors.

MotorMaster provides comparative information on three-phase motors and allows its users to review motor features such as enclosures available, efficiency at various loads, and price. The second version of MotorMaster, which has been available since January 1993, contains information on almost 10,000 motor models, including amperage and torque ratings, supplied and reviewed by 17 major motor manufacturers.

MotorMaster analyzes three general motor purchase scenarios. First, when a new motor is to be purchased, MotorMaster can compare the cost effectiveness of any two models. Second, when a motor fails, a decision needs to be made whether to rewind the motor or purchase a new one. MotorMaster compares the cost and efficiency of a new motor against repairing the old one. Third, there is the possibility of replacing an operating motor with a more efficient model.

MotorMaster targets a wide profile of users. Engineering firms can use the software to perform calculations for specific applications. MotorMaster helps mechanics faced with replacing equipment. Motor vendors can benefit greatly from the Version 2 MotorMaster disk because a filter is available which allows users to select what manufacturers' products show up on the screen. Salespeople can print out sheets comparing the motors they have for sale.

MotorMaster can support utility motor rebate programs by identifying which models meet minimum efficiency requirements. MotorMaster contains a sample library of utility motor rebate programs which currently includes Pacific Gas & Electric, Consolidated Edison, Rochester Gas & Electric, BPA, Portland General Electric, and Puget Sound Power & Light. Data for additional rebate programs can be incorporated by the user, and rebate files can be easily created or modified.

Perhaps the most remarkable aspect of MotorMaster is the significance of the project in relation to its cost. The program has essentially been run by one individual, Todd Litman, with a total budget of less than \$100,000. By January 1993 roughly 5,000 MotorMaster disks had been distributed though it is estimated that half of all people receiving the MotorMaster disk will pass it on to another user, resulting in at least 7,500 copies in circulation.

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Sector: Commercial & Industrial

Measures: Energy-efficient three-phase motors.

Mechanism: Motor buyers use MotorMaster software to compare almost 10,000 energy-efficient motors.

History: Program began in July 1992 with Version 1 available for free. Version 2 became available in January 1993 for a \$50 registration charge. Version 2 owners get two disk updates per year along with phone support.

FY 1992 - FY 1993 Cumulative Data

Cost: \$97,554
Participation rate: 5,000 disks distributed

The Results Center produced 126 profiles of the most successful energy efficiency and renewable energy programs in the United States and around the world in the early and mid 1990s. With the support of the John D. and Catherine T. MacArthur Foundation, Ted Flanigan directed a research team at Colorado-based IRT Environment to produce and distribute these exceptional examples. Thanks to strong demand for solid case studies, The Results Center was supported by dozens of major utilities and energy associations worldwide. Today, The Results Center is managed again by Ted Flanigan, now at California-based EcoMotion Incorporated, a firm focused on strategic consulting, information dissemination, program design, outreach services, and aggressive implementation. To nominate highly successful programs, contact: The Results Center, c/o EcoMotion, 15375 Barranca Parkway, F-104, Irvine, CA 92618, (949) 450-7155, or TFlanigan@EcoMotion.us

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