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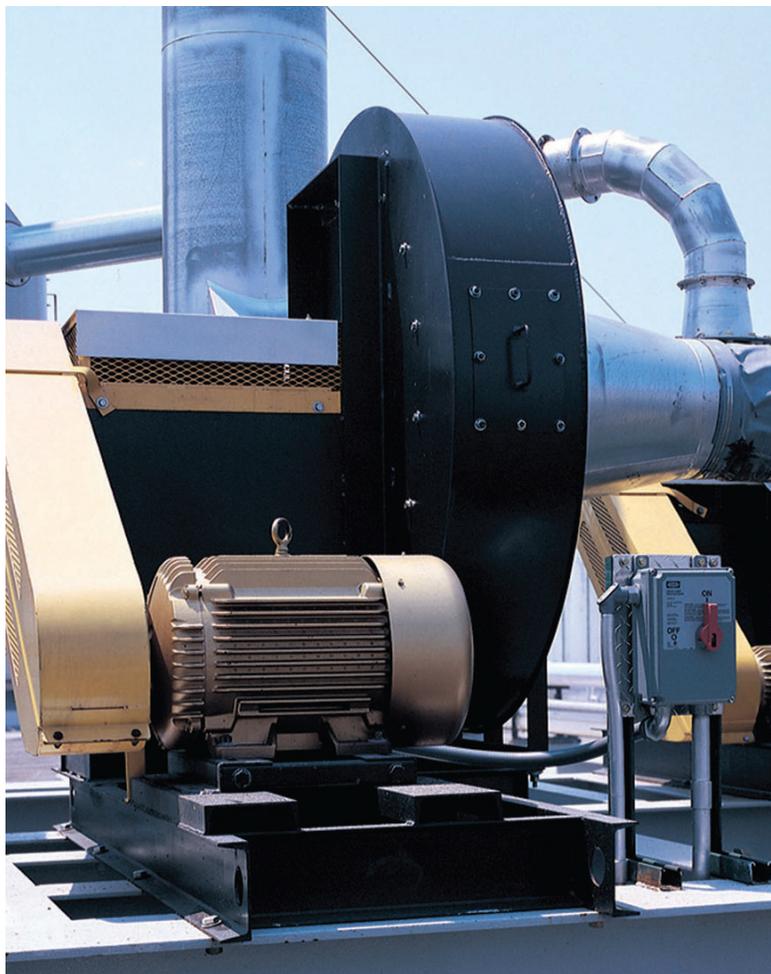
FACTORY

AUTOMATION

BY JOHN TERESKO

LET MOTOR EFFICIENCY DRIVE COMPETITIVENESS, TOO

High-efficiency motors offer a way of reducing industrial power consumption.



Baldor's Super-E motor adds efficiency to an HVAC application.

On December 19, 2007, President Bush signed the Energy Independence and Security Act (EISA). The bill, which goes into full effect in December 2010, mandates motor efficiencies beyond the minimums of the 1992 Energy Policy Act. Tip for motor buyers: Evaluate if exceeding EISA's efficiency minimum will provide a competitive advantage for motor-driven products.

EISA will keep motor makers busy advising and assisting customers over the next few years. For example Baldor Electric Co.'s current annual report states, "We will be working closely with our customers to make sure they are using the appropriate premium efficient motors as required in the new energy bill."

Randy Breaux, Baldor's vice president of marketing, says many OEMs will be required to upgrade from a standard efficient motor on machinery they produce to a premium efficient motor. His advice to motor buyers: "First determine if even more efficiency could be competitively advantageous for the motor applications." The company's highest efficiency models, the Baldor/Reliance Super-E motors, exceed EISA

Photo courtesy Baldor Electric Co.



Photo courtesy Baldor Electric Co.

Baldor's Super-E motor on an industrial mixer

requirements. Breaux says the Super-E motors, now being prototyped, offer performance efficiency that OEMs could apply to competitive advantage.

“Any upgrade process should begin with an understanding of initial cost versus lifecycle cost,” says John McFarland, Baldor’s chairman and CEO. Consider that the lifecycle cost of a typical AC induction motor consists of only

2% for the purchase price and over 97% for the energy used over its life, adds John Malinowski, the company’s product manager, AC & DC Motors.

Breaux explains that while the upgrade to premium efficient motors required by EISA will raise initial motor cost 10% to 15%, the added efficiency will recover the added cost in six to 12 months. Adds McFarland, “The savings in electricity will then continue year-after-year. And since motors often last 15 to 20 years, the lifecycle savings can be substantial, if the right decision is made up front.”

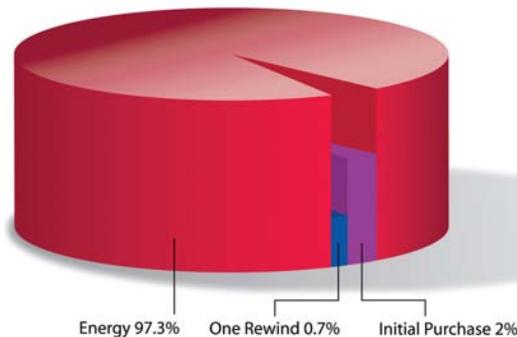
Even greater efficiency gains can be achieved by using adjustable speed drives in certain applications, particularly pumps and fan applications, McFarland notes. “In some cases an adjustable speed drive can reduce power consumption by half.” He says running an adjustable speed

drive could also enable other efficiencies in the process. He estimates only 5% to 10% of all industrial motors are equipped with adjustable speed drives, and according to the Department of Energy (DOE), as many as 25% could be or should be.

With motors accounting for 60% of industry’s electric power bill, McFarland sees motor efficiency as an issue of growing global consequences. He recalls a Department of Energy study from the beginning of the decade concluding that high efficiency motors, appropriately used, could reduce industrial power consumption by as much as 18%. He says gains in motor efficiency imply billions of dollars of savings that could be used to improve industry’s profitability or competitiveness in world markets. “Also we might see the price of electricity, natural gas and coal drop if demand was dropping.”

McFarland says the underlying challenge is in understanding how much it costs to operate electric motors and that these costs can be reduced.

Lifecycle Cost of an Industrial AC Electric Motor



Courtesy Baldor Electric Co.

Invest in Gold



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Electric motors consume 63 percent of all electricity used in U.S. industry. Designed and built to meet or exceed NEMA Premium® efficiency standards, Baldor • Reliance® Super-E® motors run cooler, last longer and cost less every minute they operate.

Fractional to 15,000 Hp, Baldor • Reliance Super-E motors reduce your electricity costs with a return on your investment that's as good as gold.

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