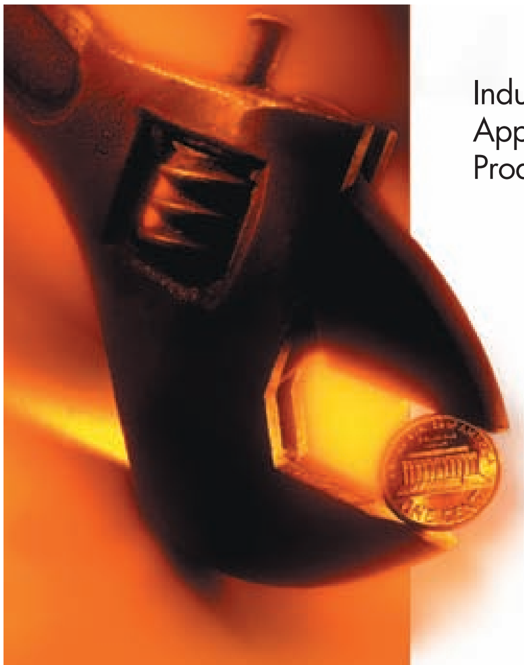
Industry: Petrochemical/Chemical
Application: Premium Efficient Motors to Reduce Energy Costs
Products: Baldor Super-E® Premium Efficient Motors



DOCUMENTED SAVINGS
CASE STUDY NO. 6

The Challenge

A chemical plant was using standard motors and was looking to improve efficiency and reduce their total operating costs.

The Baldor Solution

Baldor Super-E® Premium efficient motors were compared to the customer's existing standard motors.* After an initial cost for the motors, an overall cost savings for the company was documented.

* See back page for details of data analysis.

The Savings

Electricity costs for 5 HP, 25 HP, and 350 HP motors were calculated for 7,200 hours of operation at $0.08/kWh. Approximately $11,545 in annual electricity cost savings were gained in return for investing (at the initial purchase) an additional $2,347 for the Premium efficient Baldor motors. As a result, this yielded a first-year net savings of $9,198.

The Conclusion

By using the Baldor Super-E® Premium efficient motors, the customer was able to take advantage of energy savings at the facility. Although the initial product cost was more, the amount saved in energy usage enables this plant to run more efficiently and yields a reduction in operating costs for the customer.

The Step-by-Step Calculation

ANNUAL OPERATING COST

Existing Standard Motors

Baldor Solution Total Savings of: $9,198

Step 1 –

For each product that was analyzed, Baldor asked the following questions:

- What is the unit's HP?
- What is the efficiency rating (in %) of the unit?
- How many hours per year will the unit be in operation?
- How many years will the unit be in operation?
- What is the electrical cost per hour ($kW/hour)?
- What is the total number of units used in the application?
- What is the purchase price of each unit?
- What is the labor rate per hour?
- What is the unit replacement frequency per year?
- What is the number of hours required for replacement?

Step 2 –

We calculated the total operating costs for the existing and proposed solutions using the following formulas:

Installation Cost = [(Time Spent on Activity/60 Minutes) x (# of Employees for Each Activity) x (Labor Rate) x (Replacement Frequency)]

Downtime Cost = [Downtime Cost ($ per Hour) x (Time Spent on Activity) x (Replacement Frequency)]

Efficiency Cost per Unit = [(kW Spent*) x (# of Operating Hours) x ($kW per Hour) x (# of Years in Operation) x (# of Units)]

* kW Spent = Unit HP x 1/Unit Efficiency

RESULT:

Existing or Alternative Total Operating Cost	$ 195,257
Baldor Total Operating Cost	$ 183,712
SAVINGS	**$ 11,545**

Step 3 –

We compared the purchase price of the existing and proposed solutions to illustrate an accurate assessment of overall costs.

RESULT:

Existing or Alternative Purchase Price	$ 13,297
Baldor Purchase Price	$ 15,644
SAVINGS	**$ (2,347)**

Step 4 –

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Based on these calculations, we were able to discover and document a **TOTAL DOCUMENTED SAVINGS OF:** **$ 9,198**

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