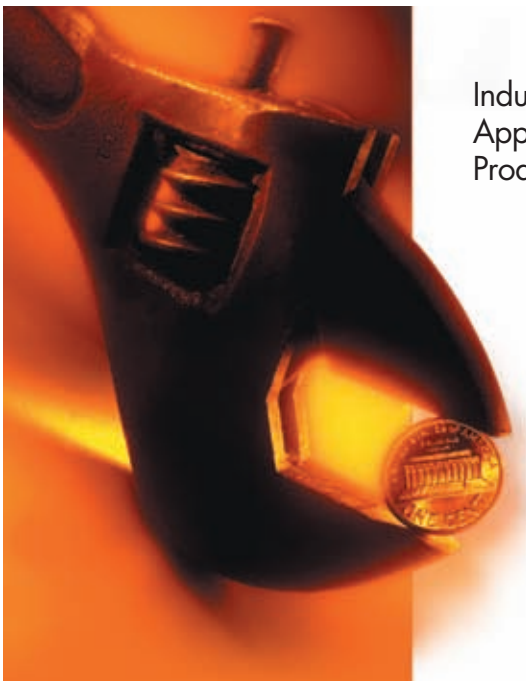

Industry: Food
Application: Efficiency Savings Using XE Motors for Packaging Application
Products: Baldor•Reliance™ XE Motors

DOCUMENTED SAVINGS
CASE STUDY NO. 8

The Challenge

A food facility uses standard motors for a packaging application. Recently they added 160 variable frequency drives to have more process control and to allow better communication on the network. However, the standard motors did not operate well on these drives and, over time, the insulation resin broke down (causing electrical shorts in the motor winding).

The Baldor Solution

We suggested that the customer replace the standard motors with Baldor•Reliance® XE motors. By comparing the customer's existing motor with our Reliance XE motor, we were able to show an overall cost savings.* Our Baldor•Reliance XE motors will not only hold up with the variable frequency drives, but will operate more efficiently—providing the customer with electrical cost savings.

* See back page for details of data analysis.

The Savings

As a result of using our Baldor•Reliance XE motors, there was an overall cost savings (over three years) of $18,000. Operating costs were reduced by utilizing efficiency savings and because the motors ran correctly with the customer's existing drives.

The Conclusion

We reduced the customer's total cost of ownership by providing a Baldor•Reliance XE motor that would operate well with these particular drives. And we were able to provide documentation of these results before the equipment was installed.

The Step-by-Step Calculation

ANNUAL OPERATING COST

Present Situation

Baldor Solution Total Savings of: $18,000

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 motor 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	$ 89,200
Baldor Total Operating Cost	$ 68,100
SAVINGS	**$ 21,100**

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	$ 28,000
Baldor Purchase Price	$ 32,100
SAVINGS	**$ (4,100)**

Step 4 —

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

+

$ 18,000

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