Industry: Aggregate
Application: Installation and Maintenance of a New Gear Reducer
Solution: DODGE® TORQUE-ARM® II

DOCUMENTED SAVINGS
CASE STUDY NO. 1

The Challenge

An aggregate facility needed a new gear reducer for a conveyor. This conveyor had a competitor's unit on it that had been in place since the plant was built in the mid 1980's. In an effort to find a new reducer to replace the old one, the facility began looking at various manufacturers.

The Baldor Solution

By comparing our DODGE TORQUE ARM II to the competitor's gear reducer, we were able to illustrate the total cost savings that were not reflected in the purchase price.* Total operating cost parameters such as initial installation costs, long-term maintenance costs, and purchase price were included in the analysis to give a true price comparison to the customer.

* See back page for details of data analysis.

The Savings

Although the purchase price of the competitor's reducer was $64 less than the DODGE TORQUE-ARM II, the annual operating cost was $522 more than the Baldor solution.

The Conclusion

In addition to searching for a new reducer, this aggregate plant also needed a new main drive for their C-1 conveyor drive system. By listening to the customer and understanding their needs, we were able to provide a complete pre-assembled drive system that included a new reducer, motor, v-drive, and belt guard. This also helped reduce installation time and money, therefore contributing to additional total cost savings.

The Step-by-Step Calculation

ANNUAL OPERATING COST

Competitive Reducer

Baldor Solution Total Savings of: $458

Step 1 –

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

- What was the amount of time required to perform each of the following activities?
  - Lock out conveyor drive and belt
  - Remove the existing drive
  - Select and purchase new components
  - Install a new drive
- What was the number of employees required for each activity?
- What was the labor rate for each activity?
- What was the cost of parts for each activity?
- What was the replacement frequency of each component?
- What were the downtime costs ($ per hour)?

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	$ 6,285
Baldor Total Operating Cost	$ 5,763
SAVINGS	**$ 522**

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	$ 4,579
Baldor Purchase Price	$ 4,643
SAVINGS	**$ (64)**

Step 4 –

+

Based on these calculations, we were able to discover and document a **TOTAL DOCUMENTED SAVINGS OF:** **$ 458**

BALDOR
BALDOR • DODGE • RELIANCE

World Headquarters
P.O. Box 2400, Fort Smith, AR 72902-2400 U.S.A., Ph: (1) 479.646.4711, Fax (1) 479.648.5792, International Fax (1) 479.648.5895
www.baldor.com