Reduced downtime for replacing bearings on conveyor with DODGE® E-Z KLEEN® bearings

The challenge
A customer had a conveyor in a washdown environment where they were using 1 ½” standard-duty pillow block bearings. The existing bearings had to be replaced on-average twice a year, resulting in unscheduled downtime.

The Dodge solution
We compared the existing bearings with our DODGE E-Z KLEEN bearings and were able to show an overall cost savings, which included reduced maintenance costs and the elimination of unscheduled downtime.* Best of all, the customer will need to replace our DODGE E-Z KLEEN bearings only once a year at a scheduled interval.
* See back page for details of data analysis.

The savings
Using our DODGE stainless-steel housed E-Z KLEEN bearings resulted in an overall cost savings of $1,142 and reduced the company’s downtime, as well as maintenance costs.

The conclusion
Since this customer’s application needs were in a washdown environment, stainless-steel housed E-Z KLEEN bearings were a key factor in making this solution successful. The DODGE E-Z KLEEN bearings reduced the customer’s total cost of ownership by providing a bearing that needed to be replaced only once a year.
Annual operating cost

For more information please contact:
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Step 1
For each product that was analyzed, ABB 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:

\[
\text{Installation cost} = \left( \frac{\text{time spent on activity}}{60 \text{ minutes}} \right) \times \left( \# \text{ of employees for each activity} \right) \times \text{(labor rate)} \times \text{(replacement frequency)}
\]

\[
\text{Downtime Cost} = \left( \text{downtime cost ($ per hour)} \right) \times (\text{time spent on activity}) \times \text{(replacement frequency)}
\]

Result:
- Existing or alternative total operating cost: $ 2,331
- ABB total operating cost: $ 1,168
- Savings: $1,163

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: $ 70
- ABB purchase price: $ 92
- Savings: $(22)

Step 4
Based on these calculations, we were able to discover and document a

Total DCS (documented cost savings) of: $1,141

Dodge E-Z Kleen

Total savings of $1,141 USD

Existing bearing