

Cost Savings Case Study

Installed Base Evaluation

**Executive Summary-
Motor and Gearbox
Evaluation**

**Industry:
Chemical & Allied Products**

Opportunities to reduce energy consumption

Identify potential cost savings opportunities

Provide a replacement inventory list



Executive Summary

Baldor's Installed Base Evaluation Team surveyed the electric motors installed at a large chemical production facility. The purpose of the evaluation was to capture information on all of the existing motors, look for opportunities to reduce energy consumption, identify potential cost savings opportunities, and provide a replacement inventory list. This report will show the details of the evaluation, and illustrate how the use of Baldor-Reliance brand products can favorably impact your bottom line.

Electrical Overview

Over the course of the evaluation information was collected and reviewed on 396 motors from fifteen (15) different manufacturers. The largest motors surveyed were the 400HP ammonia compressor motors. There were (30) motors in service at 15HP, the most common rating. There were (22) 7.5HP motors, the second most common rating. Out of the 396 motors currently in operation and in spares storage, we were able to successfully interchange 322 of them. There were 74 motors that were either missing information, inaccessible, or we do not have an offering for; some of these can be quoted as special production items and would need to be reviewed on a case by case basis.

Mechanical Overview

While the team was in the facility they noticed a few applications utilizing older gearboxes from another supplier. Information was collected on a total of 26 units with a potential energy savings of \$6,302.64. These have all been interchanged to Baldor-Dodge; Quantis and Tigear-2 part #'s.

Assumptions

We were provided an energy cost of \$.08 per kilowatt hour and annual operations totaling 6,720 hours. We assumed 100% motor loading. Actual efficiency gains and true energy costs will vary from the assumptions made in this report.

Recommendations

It makes the most economical sense to replace the existing motors as they fail. If all of the motors currently in service were replaced with Baldor Super-E designs, a total of \$35,387.41 in energy reduction could be achieved.

It also makes the most sense to look at replacing the gearboxes as they fail. A major benefit to the Dodge Quantis design is the fact that it uses a standard C-Face motor with a standard shaft. This can simplify maintenance and reduce downtime when compared to some models that have special mounting and shafts.

Another opportunity for cost reduction is through standardization of Baldor brand products: Baldor-Reliance, Baldor-Dodge, and Baldor-Maska. Standardization has a large and positive impact on simplifying the procurement process as well as inventory management.