



**Customer**  
Gold mining producer

**Industry**  
Mining

**Application**  
Conveying — shuttle conveyor

**Rexnord Solution:**  
Falk Quadrive Shaft-Mounted Reducer

**Total Annual Savings**  
\$542,478

For a detailed cost analysis for your application, contact your local Rexnord Representative.

## Falk Quadrive Delivers 98% Savings for Gold Mining Producer

### Challenge

A major gold mining producer was using gear reducers on their shuttle conveyors that operate 24 hours per day, seven days per week, 365 days a year. As a result of the continuous high demand on the gear reducer, the producer was experiencing:

- Unplanned downtime every six to 12 months to replace failed gear reducers — every hour of downtime meant about 2,000 tons of lost production.
- Excessive gear reducer replacement costs of \$70,419 per year as a result of consistent gear reducer failure.

### Rexnord Solution

Rexnord replaced three of the producer's current gear reducers with the Falk® Quadrive® Shaft-Mounted Reducer for multiple reasons.

- **Robust, helical design** features high-hardness surface-finished teeth with a wider face to handle continuous and heavy demand on the system, while also providing maximum load carrying capacity, eliminating downtime and lost production related to reducer failure.
- **Tapered roller bearings**, located both on the input and output shafts, provide large overhung and thrust load capacities to avoid unplanned downtime for gearbox service or replacement.
- **Severe-duty, grease-purged Viton® seals** handle high temperatures, preventing oil leakage and entry of abrasive contaminants, preventing reducer failure.



The customer chose the Falk Quadrive Shaft-Mounted Reducer because of its wider helical design, tapered roller bearings and Viton seals.

### Rexnord Solutions and Savings in Action

Since installing the Rexnord solution **more than five years ago**, the customer:

- Reduced their total cost of ownership by 98 percent.
- Hasn't experienced any reducer failures or unscheduled downtime.

## Calculating the Annual Total Cost of Ownership (TCO)

Rexnord worked with the customer to determine the current costs compared to the TCO using the Rexnord solution. Factors considered were:

- Acquisition costs.
- Installation costs.
- Elimination of reducer failures resulting in lost production.

### Annual Cost Analysis Breakdown (in \$USD)

Acquisition Costs	Purchase Price	Expected Life (years)	Units Installed	Total
Current reducer	\$14,753	1	3	\$44,259
Falk Quadrive Shaft-Mounted Reducer	\$17,750	10	3	\$5,325
<b>Annualized Savings</b>				<b>\$33,934</b>

Installation Costs	Installation Cost	Installation/Year	Units Installed	Total
Current reducer	\$8,720	1	3	\$26,160
Falk Quadrive Shaft-Mounted Reducer	\$8,720	0.1	3	\$2,616
<b>Annualized Savings</b>				<b>\$23,544</b>

### Lost Production Cost

Eliminated the unexpected downtime to replace the reducers.	Events/Year	Downtime/Event (hours)	Downtime Cost/Hour	Total
Current reducer	1	8	\$60,000	\$480,000
Falk Quadrive Shaft-Mounted Reducer	0	0	\$0	\$0
<b>Annualized Savings</b>				<b>\$480,000</b>

### Rexnord Solution Annual Savings Summary

Total current cost	\$550,419
Total proposed cost	\$7,941
Total savings	\$542,478
TCO reduction percent	98%

**Total Cost of Ownership Annual Savings: \$542,478**