



Customer
Paper mill

Industry
Pulp & Paper

Application
Wood chip reclaimer

Rexnord Solution:
Rexnord Shaft-Mounted Planetgear Speed Reducer with Custom Output Flange and Shaft

Total Annual Savings
\$169,190

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

Paper Mill Manufacturer Saves \$169,190 with Shaft-Mounted Planetgear Speed Reducers

Challenge

Two speed reducers failed at a mill operated by one of North America's largest integrated manufacturers of uncoated freesheet paper. The speed reducers were used on the wood chip reclaimer in the wood yard of the mill.

- The wood yard is a harsh environment and the reclaimer experiences high shock loads.
- The failed speed reducers had required major refurbishment every six months.
- The failed units were obsolete, so they could not be replaced with identical products. However, new speed reducers of the current brand, having the same design characteristics as the obsolete units, were expected to require similar maintenance.

Rexnord Solution

Rexnord provided Shaft-Mounted Planetgear™ (SMP) Speed Reducers with custom output flanges and splined output shafts. SMP Speed Reducers are designed for extreme-duty applications like those found in the wood yard. The newly installed Gemini-size units are expected to perform reliably, without frequent refurbishment, because of key design features that make them the most durable speed reducers available:

- **Self-aligning planet carriers**, floating both radially and axially, ensure equal load distribution and provide perfect alignment of the drive train.
- **Tapered roller bearings on both the input and output shafts** provide high overhung and thrust load capacity.
- **Spline-connected components** isolate the gear train from external forces.
- **Two taconite duty-rated seals** provide a grease-purgeable cavity to keep out damaging contaminants and moisture.
- **Rexnord's custom output flanges and splined output shafts** allow drop-in replacement.

Rexnord Solutions and Savings in Action

By installing this Rexnord solution, the customer:

- Saved time, material and labor as a result of drop-in installation.
- Eliminated the maintenance expense of refurbishment every six months, which was required with the current brand of gear reducers.
- Saved 48 hours of downtime for each refurbishment.
- Chose a gear reducer solution that will typically last at least twice as long.

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.
- Maintenance costs.
- Lost production costs.

Annual Cost Analysis Breakdown (in \$USD)

Acquisition Costs	Purchase Price	Expected Life (years)	Units Installed	Total
Current brand gear reducer	\$45,000	4	2	\$22,500
Shaft-Mounted Planetgear Speed Reducer	\$99,000	8	2	\$24,750
Annualized Savings				-\$2,250

Installation Costs	Installation Cost	Expected Life (years)	Units Installed	Total
Current brand gear reducer	\$3,120	4	2	\$1,560
Shaft-Mounted Planetgear Speed Reducer	\$2,080	8	2	\$520
Annualized Savings				\$1,040

Maintenance Costs	Cost/Event	Events/Year	Units Installed	Total
Current brand gear reducer refurbishment	\$14,120	2	2	\$56,480
Shaft-Mounted Planetgear Speed Reducer	\$320	2	2	\$1,280
Annualized Savings				\$55,200

Lost Production Costs Eliminated the current brand's downtime for each of the refurbishments.	Event/Year	Downtime/Event (hours)	Downtime Cost/ Hour	Total
Current brand gear reducer	2	48	\$1,200	\$115,200
Shaft-Mounted Planetgear Speed Reducer	0	0	0	0
Annualized Savings				\$115,200

Rexnord Solution Annual Savings Summary

Total current cost	\$195,740
Total proposed cost	\$26,550
Total savings	\$169,190
TCO reduction percent	86%

Total Cost of Ownership Annual Savings: \$169,190