

QUICK FLEX® COUPLINGS FOR THE OIL & GAS INDUSTRY

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TECHNOLOGY TO IMPROVE EFFICIENCY

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The Lovejoy Advantage -

QUICK FLEX® Coupling

The Timken solution provides reduced maintenance expenses:

- No lubrication required
- Drive components remain stationary if insert needs to be replaced
- No metal to metal contact
- Downtime limited to cover removal and insert replacement

QUICK FLEX Couplings Reduce Mud Pump Downtime

Application Challenges

In a perfect operating environment, gear style couplings operate well. However, when we think about couplings operating in mud pumps, the environment may be a challenge. Couplings are typically located in non-accessible area making relubrication difficult to perform. As the lubricant becomes compromised, this leads to metal to metal gear tooth contact and ultimate fatigue. Misalignment can compromise the performance of a gear coupling by edge loading the gear teeth leading to premature failure.

- Rigid set up—if couplings binds, could damage gear box, motors, shaft, or pump •
- Needs lubrication ٠
- Need preventative maintenance schedule to check gearing
- Replacement requires moving one of the bases (motor or gear drive)
- On an oil rig, this involves use of a crane a crew •
- The motor shaft and drive input needs to be laser aligned •

This process is costly from a component perspective and loss in productivity. In addition, there are often multiple mud pumps on each rig, multiplying the downtime and expenses.

QUICK FLEX Solution

Unlike gear or grid couplings, Timken QUICK FLEX couplings with elastomeric inserts do not have steel on steel contact; the teeth are engaged by the polymer element. This will be the only part that feels wear over time and has the added benefit of dampening shock and vibration that may be present.

- No metal to metal contact •
- No lubrication •
- Downtime limited to cover removal, insert replacement

QUERTELA Couplings transmit inglier levels of torque in most cases.								
QUICK FLEX Series	QUICK FLEX Max RPM	Continuous Torque ¹ Rating (in-lbs)	Gear Coupling Size	Continuous Torque ² Gear Coupling (in-Ibs)	Torque Improvement			
3150	2000	871,139	6	770,471	13%			
10260	1200	1,670,826	7	1,183,950	41%			

Based on QUICK FLEX coupling with split cover and black elastomeric insert

OLIICK ELEV Couplings transmit higher levels of torg

2) Average continuous torque rating from competitive gear couplings

Benefits To Maintenance

- No spend on grease or cleanup of grease (environmentally friendly) and the work area remains clean ٠ and free of grease
- With a lubrication-free product, there is no need to dedicate staff to the job of re-lubrication
- Motor and/or gearbox and associated equipment will not need to be moved during insert replacement
- Polymer element can be quickly and easily replaced by simply removing the cover, hubs remain mounted during insert replacement (see https://www.lovejoy-inc.com/resources/installationinstructions-videos/ for complete installation instructions)



Benefits of QUICK FLEX® Couplings

The initial cost for a QUICK FLEX coupling is comparable to standard competitors' gear couplings. However, the QUICK FLEX coupling can generate more than \$25,000 savings per coupling in the replacement cycle. Operators only need to replace the elastomeric insert instead of the entire gear coupling and there is no need to incur the cost of a crane and crew, laser align the gearbox and motor, and loose valuable uptime. And with more than one pump on a rig, this guickly adds up.

One Replacement Cost Comparison*







QUICK FLEX COMPARISON	QUICK FLEX	Jaw Coupling	Grid Coupling	Gear Coupling	Chain Coupling	Tire Coupling
Easy to replace without moving hubs	•				•	•
High and low torque ratings	•			•		
High-speed capability	•			•		
Low lifetime cost	•	•				
No lubrication needed	•	•				•
No hub teeth wear	•	•				•
Cushioned shock	•	•	•			•
Compact design	•	•	•	•	•	









* This example of savings was documented and provided by a Timken customer