

Timing Solutions for Steel Mill Production Lines

Climax Keyless Locking Assemblies provide timing solutions for steel mill production lines providing a cost-effective and maintenance-friendly alternative to traditional keyed connections.



Traditional methods used to mount mechanical power transmission components in steel mills, incorporate the use of gears and keyways. After some time these keyed connections begin to deteriorate causing components to become out of sync, resulting in maintenance issues and downtime consequently affecting the production and profitability of the mill.

The hot rolled bar production line in a steel mill has gears in the transfer station for lifting the hot metal bars. These gear/lifting arm combinations demand strict sync tolerances in order for the transfer process to run smoothly. Eventually as these arms pick up and transfer large quantities of very long steel bars, the keyed connection is compromised, causing the lifting arms to lose synchronization and production to be halted. This need to periodically re-align the gears and/or replace expensive keyed shafting is often very expensive, difficult, and time consuming.

Using two back-to-back C405-series keyless locking devices eliminates the corrosion and subsequent wear on keyed connections while providing the necessary torque capacity as well as desired safety factor. If the gears ever slip on the shaft due to a catastrophic overload, the locking devices can be easily loosened to realign gears and restore timing.

For Rotating Applications:

- Keys, keyways, and set screws are prone to shaft damage and fretting corrosion
- Shrink or press fits that are difficult to install and remove
- Requires only the use of simple hand tools for installation and removal
- Transmit high torque, thrust, and bending loads



RBC has been producing bearings in the USA since 1919. In addition to unique custom bearings, RBC offers a full line of standard industrial and aerospace bearings, including:



Tapered Roller Thrust Bearings

Case-hardened tapered roller thrust bearings for oilfield top drives and swivels. Available in full complement, maximum capacity versions.



Thin Section Ball Bearings

Standard cross sections to one inch. Bore sizes to 40 inches. Stainless steel and other materials are available. Seals are available on all sizes and standard cross sections. Super duplex configurations.



Cam Followers

Standard stud, heavy stud, yoke type, caged roller followers. Patented **RBC Roller**® cylindrical roller cam followers, **HexLube**® universal cam followers, airframe track rollers.



Cylindrical Roller Bearings

Cylindrical roller bearings designed for mud pump pinion and eccentric positions. Fully interchangeable to industry standards.



Needle Roller Bearings

Pitchline® caged heavy duty needle roller bearings ideal for cross head bearings applications. These double row bearings are available in single row and **Tandem Roller**® versions.



Commercial Rod Ends

Commercial and industrial, precision, Mil-Spec series, self-lubricating, and aircraft. Sold under the **Heim**®, **Unibal**®, and **Spherco**® names. Available in inch and metric sizes.



Spherical Plain Bearings

Radial, angular contact, extended inner ring, high misalignment. **QuadLube**®, **ImpactTuff**®, **SpreadLock**® Seal, **CrossLube**®, **DuraLube**™, and self-lubricating bearings. Available in inch and metric sizes.



Tapered Roller Bearings

Single, double, & multi row versions available for main bearing positions in mud pumps, gear boxes, etc. Bearings are constructed of case hardened steel washers and rollers with bore size of 11" or greater.



TP Series Bearings

RBC's TP Series cylindrical roller thrust bearings ideal for crane hooks, oil well swivels, winch systems, and gear boxes. Fully interchangeable with industry standard offering.



Keyless Locking Devices

Mechanical bushings used to connect power transmission components onto rotating shafts. Without the use of keyways, KLDs eliminate the problems associated with backlash including fretting, corroding, and wallowing.



Lubron® Bearings

Lubron® self-lubricating bearings designed and custom manufactured in most any size, material and bearing configuration. Applications include hydro power and water control, nuclear power generation, infrastructure, architecture, offshore marine, industrial, machinery and heavy equipment.



Shaft Collars

Used to position or locate a component on a shaft. Made from mild steel, type 303 or 316 stainless steel, aluminum, or acetal. Available in inch and metric sizes.



Self-Lubricating Bearings

Radial, thrust, rod ends, spherical bearings, high temperature, high loads. Available in inch and metric sizes. **Fiberglide**® self-lubricating bearings.



Specials

RBC manufactures many specialty bearings for the aerospace, oil and energy, semiconductor equipment, packaging, transportation, and other industries.



Ball Bearings

Precision ground, semiground, unground. High loads, long life, smooth operation. **Nice**® branded products are offered in caged and full complement configurations.



Rigid Couplings

Shaft couplings serve as components to time, join, or align shafts at lower speeds and torque, especially when zero backlash is desired. Made from mild steel with a black oxide finish, type 303 stainless steel, or aluminum. Available in inch and metric sizes.



PIC Design

Complete line of precision gears, precision hardware, timing belts, pulleys, and linear motion systems. Industries served include industrial, aerospace, defense, medical, robotics and automation, material handling, and assembly. Custom design support for unique applications.