



METALS CAPABILITIES BROCHURE

The Timken Company, with over a century of expertise and innovation, leads the industry in designing, manufacturing, and applying high-performance engineered bearings for our customers' most challenging applications. We brought American Roller Bearing® in our portfolio to provide a comprehensive range of bearings designed specifically for the metals market.

Our expanding range of industrial motion products aims to enhance the dependability and effectiveness of industrial equipment and machinery. Groeneveld-BEKA® Lubrication Systems, Timken Belts, Diamond® and Drives® chain, and Lovejoy® couplings provide customers a variety of solutions that keep industry in motion.

TIMKEN ENGINEERING EXPERTISE

As a Timken customer, you are connected to a team of application, sales and onsite service engineers who help solve unique equipment challenges resulting in extended uptime, productivity and efficiency.

TIMKEN APPLICATION ENGINEERING

Our extensive application knowledge can help optimize your system for better overall performance and lower total cost. From duty cycle to environment specific expertise, our application engineers are ready to solve your toughest challenges.







TIMKEN SALES ENGINEERING

As a Timken customer, you are connected to our highly technical and knowledgeable sales engineering team early in the design process. From market-leading engineered bearings to high-performance industrial motion products, your Timken sales engineer is your single point of contact





TIMKEN SERVICE ENGINEERING






With capabilities ranging from troubleshooting, inspection, installation, training and guidelines for repair technicians, our service engineers provide support to help you maximize uptime and set you up for success.





Engineered Bearing Products

Product	Summary	Advantages
 TIMKEN® ADAPT™	Combination of cylindrical and spherical roller bearing designs into one easy-to-assemble, high-capacity configuration	<ul style="list-style-type: none"> Three-point contact design geometry provides simultaneous misalignment and axial displacement performance, optimizes contact stress distribution, and helps promote roller stability The only toroidal bearings in the industry that come standard with a lubrication groove lube holes in the outer ring Unique cage face slots purge contaminants from the bearing
 TIMKEN® SPHERICAL ROLLER BEARINGS	Optimized internal geometry provides the highest industry load ratings for handling the most demanding loading	<ul style="list-style-type: none"> Enhanced surface finishes and hardened cages improve bearing service life and optimize low speed lubrication conditions Brass and steel cage designs available
 TIMKEN® FOUR-ROW TAPERED ROLLER BEARINGS	TQOW for work and intermediate backup rolls TQITS for roll necks of high speed rolling mills	<ul style="list-style-type: none"> TQOW: slots on the cone faces provide lubrication access to cone and fillet rings faces; hardened cone spacers to reduce wear TQITS: A tapered bore that is matched and continuous through the inner races, allowing for an interference fit
 TIMKEN® DOUBLE-ROW TAPERED ROLLER BEARINGS	One-piece double inner race and two single outer races and are typically supplied complete with an outer race spacer as a preset assembly	<ul style="list-style-type: none"> Double cone and two single cups, with or without a cup spacer Ability to be used at fixed positions on rotation shafts Ability to be used to float on the stationary shaft in rotating housing applications
 TIMKEN® SEALED ROLL NECK BEARINGS	Our premium quality four row sealed bearings are operate at high speeds and withstands harsh environments, while carrying heavy loads	<ul style="list-style-type: none"> An integrated seal design with improved contact geometry Case-carburized components to improve toughness and increase fatigue life Improved surface finishes to enhance lubrication performance
 TIMKEN® FOUR-ROW CYLINDRICAL ROLLER BEARINGS	Four-row cylindrical bearings carry heavy radial loads in steel, aluminum and other metal rolling mills.	<ul style="list-style-type: none"> Design offers very high radial load capacity. No thrust capacity. Straight and tapered bores available. Inner races are interchangeable with outer assemblies.

Industrial Motion

Product	Summary	Advantages
 PRECISION ROLLER CHAIN	Manufactured to meet or exceed both ANSI and ISO/ British Standards and excel in tough, high-performance applications	<ul style="list-style-type: none"> Excel in tough, high-performance, demanding applications Custom and standard MTO attachments available Available in both ANSI and ISO/British Standard specifications Reduced maintenance chain, precision roller attachment chain, engineered class chain and corrosion resistant options available
 BELTS	Purpose-built and designed for optimal performance in a multitude of demanding applications	<ul style="list-style-type: none"> Comprehensive line of premium-quality heavy-duty v-belts and synchronous belts Engineered and built to rigid specifications to provide superior performance and reliability
 AUTOMATIC LUBRICATION SYSTEMS	For a wide range of automatic lubrication solutions, Groeneveld products deliver safety and efficiency at every work site	<ul style="list-style-type: none"> Improved vehicle/machine uptime leads to higher productivity Extended service life of critical components means lower repair and maintenance costs, resulting in higher residual value Improved safety for workers; decreased environmental burden
 QUICK FLEX® COUPLINGS	Easy to install and requiring no lubrication, their lifespan matches the rotating equipment to help lower overall cost of ownership	<ul style="list-style-type: none"> Transmit the same or higher torque than a gear, grid, chain or other elastomeric coupling with similar dimensions Insert is easy to replace without moving hubs – maintenance takes minutes Sized to fit virtually all needs, with multiple hub and shaft combinations for easy mounting

Product	Summary	Advantages
 TIMKEN® CYLINDRICAL ROLLER	Standard and specially designed single-row cylindrical roller bearings in a wide range of configurations and series	<ul style="list-style-type: none"> Available in brass cage, steel cage and full-complement designs High load carrying capacity resulting from proprietary profiles and optimized raceway surfaces Smooth surfaces reduce friction and lower operating temperatures to promote longer bearing life.
 TIMKEN® THRUST TAPERED ROLLER BEARINGS	Engineered for true rolling motion, which offers increased bearing life and additional load-bearing capacity	<ul style="list-style-type: none"> Full roller complement design without conventional bore The highest capacity of the v-flat being types True rolling motion between the tapered rollers and both raceways, with no skidding or sliding at any point on the rolling surfaces
 TIMKEN® THRUST SPHERICAL ROLLER BEARINGS	Achieve high thrust capacity with low friction and continuous roller alignment - even if the shaft and housing become misaligned during operation	<ul style="list-style-type: none"> Spherically contoured rollers to accommodate high thrust loads and support moderate radial loads Compensation for misalignment Enhanced geometry for higher dynamic load ratings and improved lubrication
 TIMKEN® MOUNTED SPHERICAL ROLLER BEARINGS	Split block and solid block housing types available with robust sealing options to increase bearing life and improve uptime	<ul style="list-style-type: none"> Split block styles composed of durable cast-iron or ductile iron housing with sealing options including double-lip, labyrinth, V-ring or taconite designs Solid block styles manage radial and axial loads and misalignment with a full range of housing styles, shaft locking configurations and sealing options
 TIMKEN® SPLIT CYLINDRICAL MOUNTED ROLLER BEARINGS	A design that's completely split to the shaft, resulting in less down time and production losses during change outs	<ul style="list-style-type: none"> Time and cost savings without having to remove ancillary equipment when changing out the bearing Easy visual inspection of the bearing condition through quickly removing support caps and housing halves
 FAFNIR® MOUNTED BALL BEARINGS	Multiple housing styles, shaft sizes, sealing and locking solutions support a wide range of demanding applications and conditions	<ul style="list-style-type: none"> Provide advanced protection against contaminants, reducing costly wear and tear Set screw solution (Shaft Guard Technology) eliminates shaft damage from set screws Industry leading eccentric lock for simplified and secure mounting and shaft damage prevention
 TIMKEN® MOUNTED TAPERED ROLLER BEARINGS	Manage high axial and radial loads and avoid contamination; unrivaled multi-point sealing solution design; solid and split housings; self-aligning options available	<ul style="list-style-type: none"> Triple-barrier seal for industry-leading protection against contamination Secondary sealing system with open and closed end covers are available to improve grease retention and protect the bearing Available with FDA-compliant coating for corrosion resistance and food safety Stainless steel housing available

Product	Summary	Advantages
 GEAR COUPLINGS	Standard and specialty designs in both the flanged and continuous sleeve styles	<ul style="list-style-type: none"> High load capacity and compact size Interchangeable with industry standard Operate in wide temperature range and available in several materials to match the operating environment
 STAINLESS STEEL JAW COUPLINGS	Jaw couplings provide highly reliable service for light-, medium-, and heavy-duty applications	<ul style="list-style-type: none"> Hubs and inserts are available in many materials to cater to the needs of your environment no matter how harsh No lubrication Rust resistant Convertible to in-shear coupling type when you need to accommodate misalignment or want to reduce downtime when performing maintenance
 GRID COUPLINGS	Protects equipment from vibration and shock with an all-metal flexible grid coupling	<ul style="list-style-type: none"> Available in 25 sizes Interchangeable with industry standard Spacer style designs
 SEALS	A variety of types and material options provide resistance to extreme temperatures, pressure, debris and most chemicals	<ul style="list-style-type: none"> Contact and non-contact designs suit any application Durable materials offer long seal life and minimize maintenance Secondary seals, covers and end caps provide extra protection Custom blue seals available upon request

AVAILABILITY

Timken understands the importance of product availability and has programs in place to ensure our customers have access to product where and when they need it.

SAVE PROGRAM

In an effort to reduce lead time, our SAVE program offers matched bearing assemblies. Customers receive the high-performing bearing they need without the added time.

MOD PROGRAM

Available for all bearing types, Timken can modify in stock products for a specific application or customer need, all while delivering the product on-time.



ROLLING MILL INDUSTRIAL TRAINING

Learn how to use the proper equipment and implement the right practices that will help reduce downtime and lower your rolling mill's overall maintenance costs.

You will learn:

- Multiple phases of mill operations from melt to finish, including:
- Bearing fundamentals.
- Rolling mill configurations and related equipment.
- Bearing damage analysis and repair.
- Bearing installation techniques, setting methods and proper lubrication.

You will gain:

- Personalized instruction from Timken service and application engineers, all of whom have extensive industry knowledge.
- A combination of classroom and hands-on training. This helps you put what you learn into practice.

For additional information about the training program, visit www.timken.com/training

REBUILD/REPAIR SERVICES

Timken has a dedicated team of bearing repair experts who follow strict standards and quality control in the remanufacturing process. In addition, the repaired bearing is backed by an industry-leading warranty.

We repair most types of bearings with a 12" interior diameter and larger, regardless of the original manufacturer

We can repair most types of bearings including:

- Ball Bearings
- Class 3 precision bearings
- Cross roller bearings
- Cylindrical roller bearings
- Spherical roller bearings
- Tapered roller bearings
- Thrust bearings
- Triple ring bearings

Modifications and Coatings

We can add special features, including advanced coatings, to existing bearing assemblies to enhance performance.

Repair, Repeat, Save

With each repair cycle, you can save 20 to 60 percent of the cost of replacing the bearing. Replace the same bearing twice, and you could cover the cost of a new bearing.

NEW MILL AND UPGRADE PLANNING

Whether you are upgrading or building a new mill, Timken sales engineers collaborate and work with the steelmaking equipment OEMs. This creates a connected network to meet your specific specifications, requirements and timeline. By working closely together, you receive new or renovated equipment that was designed by one, integrated team.



TIMKEN

The Timken team applies their know-how to improve the reliability and performance of machinery in diverse markets worldwide. The company designs, makes and markets bearings, gear drives, automated lubrication systems, belts, brakes, clutches, chain, couplings, linear motion products and related industrial motion rebuild and repair services.

Stronger. By Design.

www.timken.com