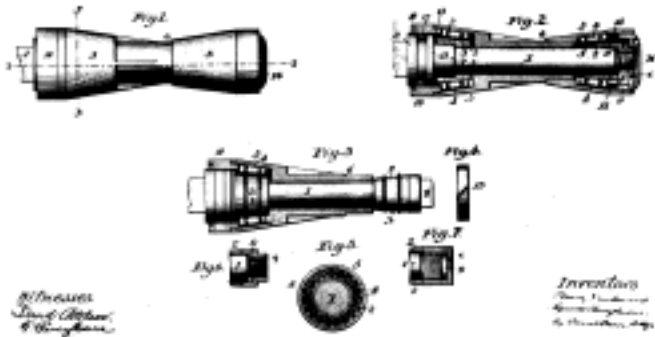


U.S. PATENT OFFICE
H. TIMKEN & S. REINHOLDMAN,
HOLLOW BEARING FOR ROLLERS.
No. 507,835.
Patented June 22, 1893.



DEMONSTRATING GLOBAL COMPETENCE

It was in 1895 that Henry Timken, the founder of The Timken Company, completed the technical drawing for a revolutionary wheel bearing featuring tapered rollers. The new 'tapered roller bearing' dramatically reduced friction in horse-driven carriages and was patented three years later.

Today, 230 types of Timken tapered roller bearings in 26,000 different sizes are targeted at the needs of the world's automotive, aerospace, general industrial and rail business segments. The company serves those needs through more than 140 plants, offices and distribution centers located in 24 countries on six continents.

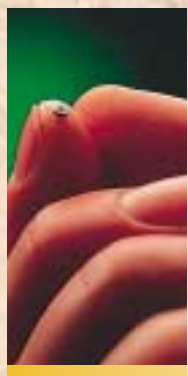
Timken alloy steels - in the forms of seamless steel tubing, bars, billets and ingots - are produced in five facilities in the United States. These products, too, are finding their way into an expanding range of manufacturing industries throughout the world.

The Timken Company operates five wholly-owned subsidiaries: Latrobe Steel Company, a specialty steel manufacturer; MPB Corporation, a producer of miniature and precision bearings; Rail Bearing Service Corporation, which sells and services bearings and related parts used in railroad rolling stock and other equipment; Timken Italia, S.r.l., a bearing manufacturer for European truck, railroad and industrial markets; and Timken Polska Sp.z.o.o., a bearing manufacturer for automotive, agriculture and industrial machinery.

Henry Timken

TIMKEN CARTRIDGE COMPANY

Henry Timken's carriage plant in St. Louis





The Timken Company is the largest manufacturer of tapered roller bearings in the world. Since that first drawing of a wheel bearing featuring tapered rollers, Timken has never stopped inventing. Over the years, we have secured 900 patents and produced more than six billion bearings.

Continuous advancement of our worldwide leadership position can be attributed to unparalleled knowledge within the company's core competencies - bearings and steel. A concentration on every factor that affects bearing performance has driven us to continuous improvement. We specialize in tapered roller bearings, know more about them than anyone else - and put that knowledge to work everyday for our customers.

The Timken Company's application of our core competencies offers customers a collective knowledge base that perpetuates our reputation as the worldwide leader in tapered roller bearings.



TIMKEN RESEARCH

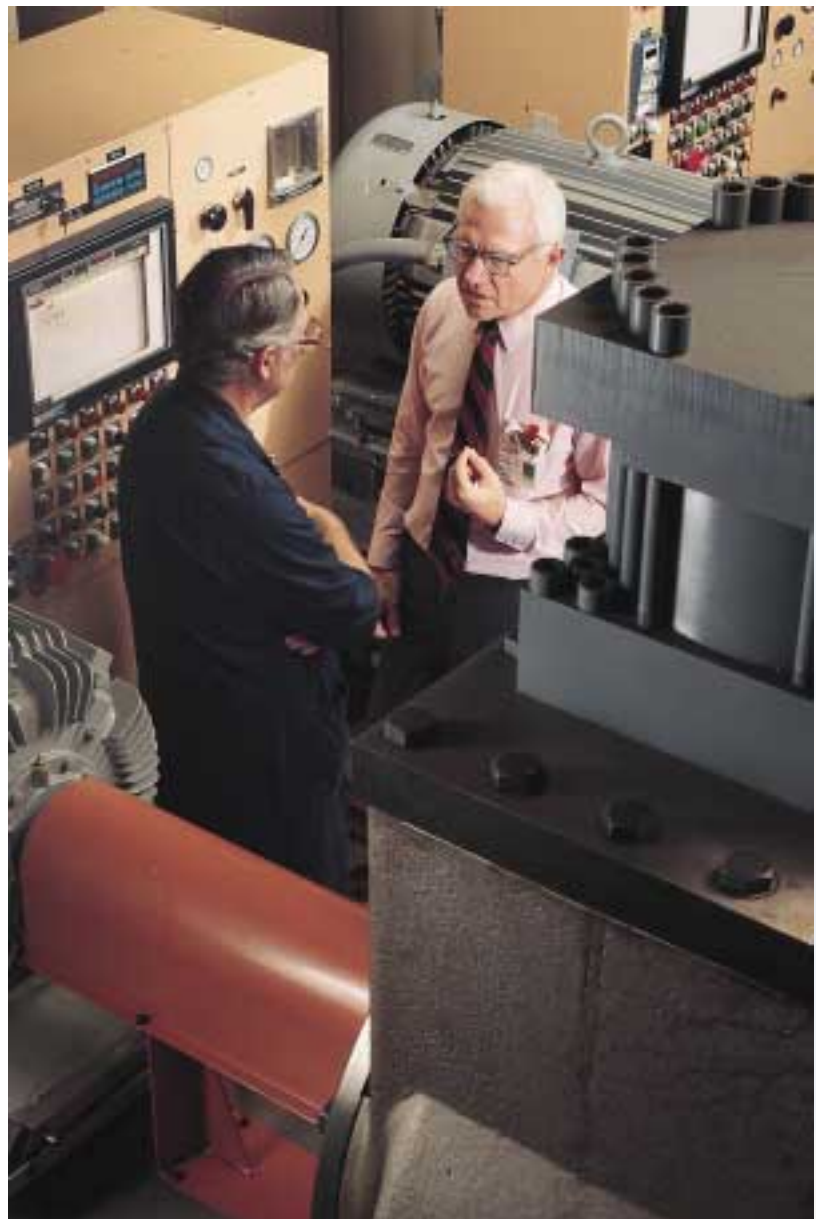
Timken Research has three areas of technology responsibilities:

- **research – bearings and steel**
- **bearing product and process development**
- **steel product and process development**

These three areas combine to support The Timken Company and its customer base worldwide. The Timken Research facility is located near the company's Canton, Ohio headquarters. The facility is approximately 250,000 square feet and houses professional and technical staff of 300. An annual budget of \$50 million supports the technology activities of both the Bearing and Steel Businesses.

A complete range of manufacturing processes is available within Timken Research, including a tool room, heat treatment, steel making (rolling mill) and prototype bearing manufacturing. Specialized laboratories are dedicated to the sciences of metrology, electronics and lubrication/tribology. A technical library supports all research efforts. CAD, FEA (finite element analysis) modeling and advanced bearing design are also performed within the facilities.

Testing equipment is continually used to test bearing products from all Timken Company manufacturing facilities to ensure Timken quality standards are maintained. Customer application simulation testing, plus testing for new products and processes are performed.





TIMKEN STEEL BUSINESS

In 1916, when a new melt shop in Canton, Ohio poured its first heat of steel, The Timken Company became the first bearing manufacturer to produce steel for its own products. Today, Timken bearings begin from alloy steels that are electric-furnace-melted and ladle-refined to our own specifications. Timken produces the highest quality alloy steel for the manufacture of our tapered roller bearings.

Our growing knowledge base, state-of-the-art facilities and drive for continuous improvement enable us to control chemistry accurately and rid liquid metal of unwanted gases and non-metallic impurities. We monitor and control steel quality from chemical analysis to ultrasonic, eddy-current and magnetic particle testing. These capabilities allow us to meet the toughest performance requirements with super-clean, air-melt steel that dramatically decreases inclusion content and increases fatigue life.

Improvements in our steel, including making it cleaner, have helped lengthen the life of Timken bearings by a factor of 16 since 1980. In addition to cleanliness, Timken steel allows bearing cups, cones and rollers to be case-carburized for a hard, long-lasting contact surfaces that can carry heavy loads and a tough core that resists cracking. Case-carburization helps bearings stand up to heavy shock loads that could damage a through-hardened bearing.

TIMKEN BEARING BUSINESS

All the knowledge and experience we have to offer as a company can be found in Timken tapered roller bearings. Just how far has The Timken Company come since the tapered roller bearing was patented in 1895? If you put all six billion bearings the company has produced end to end, they would circle the world 13 times. That equates to 325,000 miles or far greater than the distance to the moon.

Although these numbers speak volumes about our reputation for quality and service, they don't tell the entire Timken story. Evidence of our "more than just the bearing" approach can be found in every aspect of operations. We stand behind our products with approximately 100 years experience as a company and 19,000 associates dedicated to being the best-performing manufacturing company in the world. From the scientist handling fundamental research to the sales engineer in the field, The Timken Company is structured to meet and exceed customer expectations. The Timken Bearing Business provides its customers the necessary resources to maximize the performance of their application.



Advances in steel and bearing design and manufacturing practices have provided the inner bearing manufactured today with the same life expectancy and load capacity as the outer bearing produced 30 years earlier.

Sales engineers

Sales engineers are graduate engineers highly versed in current bearing technology and fully qualified to assist in every aspect of bearing application support - including design, testing, production planning and manufacturing. Their capabilities extend far beyond merely providing selection advice and delivery information. Many sensitive application problems can be solved on the spot with the customer.

Distribution sales representatives

Distribution sales representatives are the link between The Timken Company and its worldwide network of authorized distributors. Sales representatives receive formal training to advise distributors and end users on selection and maintenance of Timken bearings and related services in all industrial and automotive markets.

Customer engineering

Customer engineering provides our sales force in-house support on in-depth design and application issues. These specialists can draw upon leading-edge computer analysis, as well as an unequalled breadth and depth of knowledge and experience. Their mission also encompasses research into new application fields and concepts. This, in turn, broadens their capability to solve a customer's specific application problems.

Service engineering

Service engineering is dedicated to offering a higher level of technical support, providing solutions for customer specific applications and conditions. Timken service representatives, trained and experienced in the practical issues of mounting, adjusting and maintaining bearings, can offer help and advice regarding appropriate maintenance procedures and preventive maintenance practices. They work on site with a customer's design, production, maintenance and service staff.

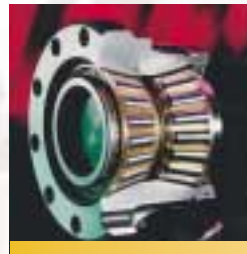
All of the available support ensures that Timken customers receive the right bearing for their application environment. Continually improving Timken technology in steel and bearing manufacturing has provided more design options than ever before. Today, customers can work together with Timken to apply the advantage of a concept called power density. Simply put, power density allows customers to use smaller bearings that can handle the same load as the original or pack more power into an existing envelope. Power density can result in countless cost-saving advantages. You can now downsize the bearings, shafts, gears, housing and other related components... enjoying the benefits of a lower system size, weight and cost while handling the same loads. Or, you can increase horsepower and achieve higher torque without the costly process of retooling the entire system.



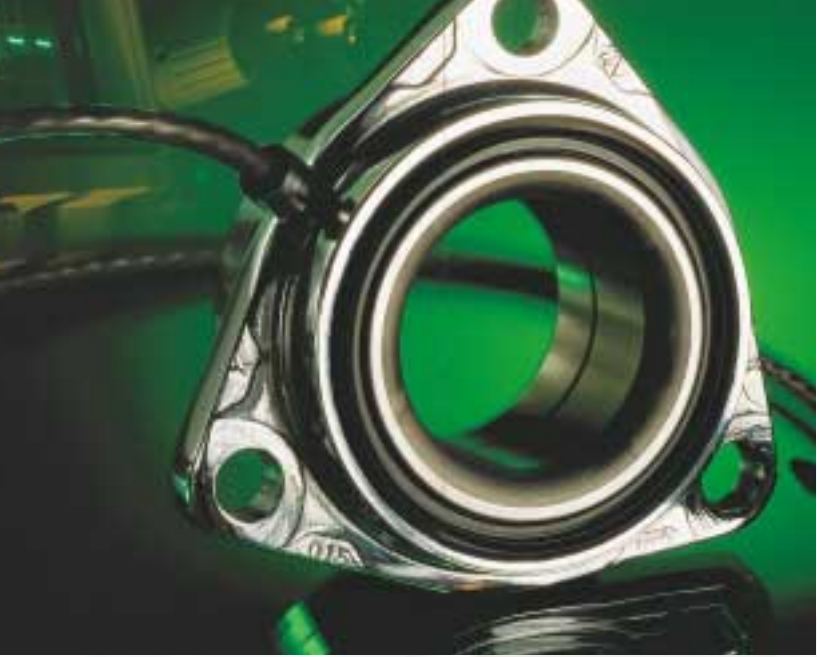
One of The Timken Company's answers to the power density challenge is our premium P900™ bearing. Engineered to boost performance by a factor of three or more, P900 bearings allow equipment builders to upgrade existing designs or downsize new applications. Advances in material, profiles and finishes have allowed P900 bearings to offer more power with less material, less weight and smaller volume. The result is extended life from super-clean steel, increased load-carrying capacity, resistance to hostile environments, superfinishing of crucial bearing elements, tailored profiling or modified geometry, lower warranty costs and better brand image.



When your application requires the combination of power density and customization, you can utilize the breakthrough advances in material and manufacturing technology of our family of Spexx performance bearings. The same benefits featured in P900 product can be selected individually in DuraSpexx™ bearings, which are designed for greater durability and additional load-carrying capabilities needed for larger industrial applications. AquaSpexx™ bearings feature a special corrosion-resistant coating for high performance where water or high humidity are problematic. Z-Spexx™ cylindrical bearings feature an internal geometry that offers Sendzimir mill operators improved gage accuracy and a reduction in their cost-per-ton rolled.



Timken innovation has also led to forward integration. Today's bearings are asked to do much more than reduce friction. Our SENSOR-PAC™ bearing is the first and only bearing to deliver the capability for total traction control under all conditions - stop or full go. This bolt-on automotive wheel bearing package features an integral sensing system design to improve performance for anti-lock brake systems (ABS) and traction control systems (TCS). The integrated, internally-mounted sensor is protected from hazards that can threaten externally-mounted sensors. "Smart" technology has led to Timken products such as the thermal compensating bearings in automotive transaxles and transmissions, central tire inflation bearings in off-highway and military vehicles and Hydra-Rib™ bearings in machine tool spindles.



Much like "AP" bearings, Timken sealed work roll bearings are manufactured for harsh environments. And a rolling mill is one of the most hostile environments a precision component, such as a bearing, can endure. Sealed work roll bearings can incorporate a choice of unique, patented seal designs to resist extreme water, dirt intrusions and temperature variations that can dramatically shorten a bearing's life. When you combine an innovatively engineered seal design with the quality alloy steel and low rolling resistance of a Timken bearing, you get a product that redefines the expectations of mill operators.



The Timken® IsoClass™ brand was developed to encompass and expand our range of metric bearings—and provide you with outstanding value now and in the future. The result is an extensive line of ISO bearings with more than 170 part numbers in the 30000 series readily available.

A closer look will show that Timken IsoClass bearings represent a commitment that reaches far beyond adopting a new brand.

We have invested more than \$60 million in new plants and people to support the IsoClass product line. We have added 30 part numbers to allow us to provide a full line of products to meet this important market's needs.



Offering something new and unique is nothing new to The Timken Company. When Timken "AP" bearings were first introduced to the railroad industry in 1954, it was estimated that railroads would have saved more than 55 million dollars if all freight cars had "AP" bearings. Over 10 million AP bearings later, and more than 2 trillion car miles traveled,

the railroad industry has realized the value that these bearings offer. Based on that success, and the potential for easier installations and a reduction in maintenance costs, industrial markets soon began to utilize the advantages of "AP" bearings. Industrial applications that are subject to heavy-duty usage, located in a harsh environment and, accordingly, need high bearing capacity and good sealing became prime candidates for "AP" bearings because they are self-contained; pre-greased; pre-assembled; feature high quality, tested and improved radial lip seals; and provide adaptability to a wide range of applications. More and more industrial applications, including continuous casters, conveyers, cranes, mine cars, pillow blocks and sheaves, are now realizing the advantages that "AP" bearings can offer.

The Timken Company manufactures more than 26,000 bearing combinations to ensure customers receive the right bearing for their applications. As is the case with innovative products such as sealed work roll bearings, SENSOR-PAC™ bearings and the family of Spexx bearings, many of these products are customized for a specific industry or quality level. That is why The Timken Company offers four classes of precision bearings for applications such as machine tools and printing presses that require the highest level of accuracy. We have a dedicated facility, the New Philadelphia Bearing Plant, that ensures unmatched reliability and produces the most accurate rolling element bearings in the world. Bearing classes manufactured at New Philadelphia are identified in the metric system as Class C, B, A and AA, while in the inch system as 3, 0, 00 and 000. Class 000 feature bearing accuracy less than 40 millionths of an inch (about 1/60 the diameter of a human hair). Controlling all aspects of bearing manufacturing, from steel melt to a finished bearing, allows Timken to assure quality and meet even the most demanding tolerance requirements.





WORLDWIDE QUALITY

From standard to precision product, one feature all Timken bearings share is quality.

Hundreds of customers around the globe have honored our consistency in products and services by presenting us with quality excellence certifications. On average, Timken wins a customer quality award every 1.9 working days. Customers demand the dedication of the whole organization to customer satisfaction and continuous improvement. So does The Timken Company. Nobody gives you higher product quality or more talent than we do. At The Timken Company, the top technical experts on our team - covering areas such as gear steels, forming, bearing design, metrology, seals, bearing alloys, performance testing, grinding, quality systems, alloy design, tribology, sensors, machinability, nondestructive evaluation and quality improvement tools - also work for your team.