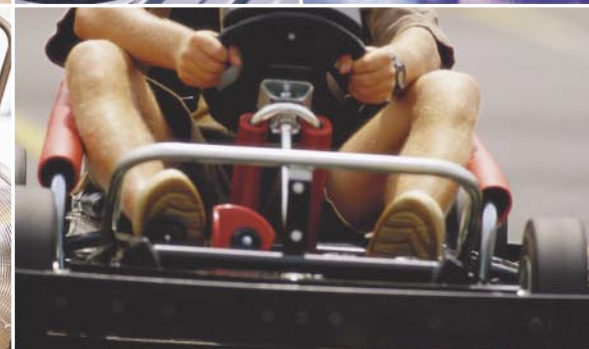


TIMKEN®

consumer products



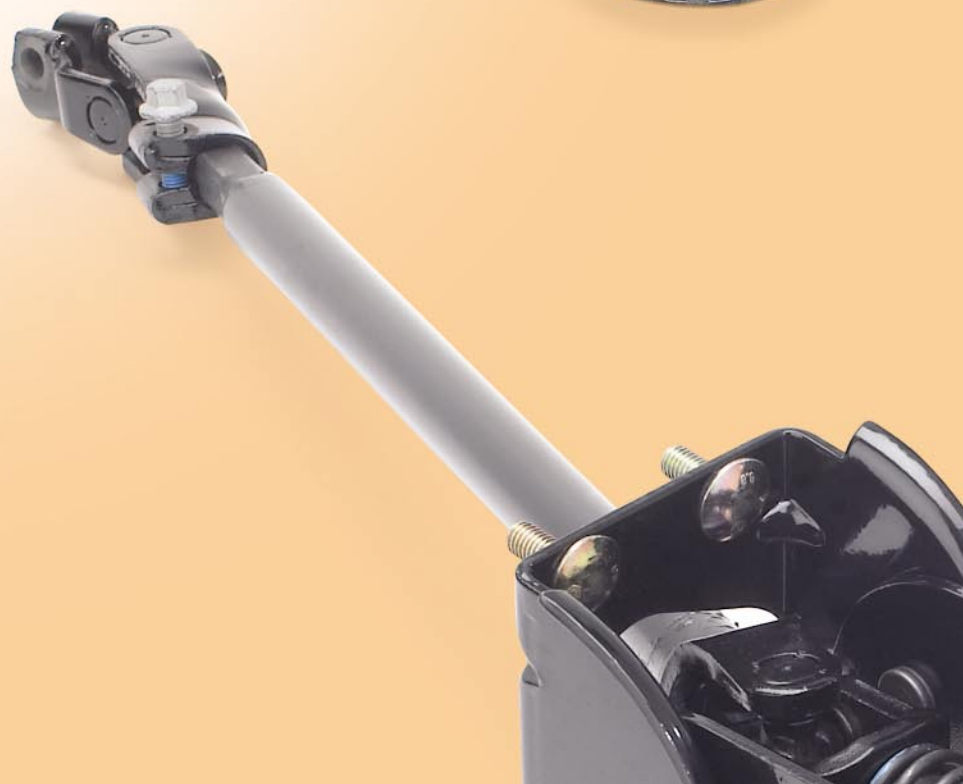


With Timken as your source, you gain:

Global value, delivered locally.

A unique combination of
products, technology
and **service.**

Advanced solutions to
enhance product performance
and consumer satisfaction.



breadth

From handheld tools to high-performance utility vehicles, consumer product makers rely on Timken for highly engineered components and technology services. Why? Timken offers an outstanding combination of proven performance, value-added options and global presence to help these customers differentiate their lines from the competition and achieve new levels of consumer satisfaction.

Our solutions for two- and four-stroke engines, power tools, recreational vehicles and exercise equipment are based on our knowledge of motion, friction management and power. To date, we have earned 2,500 patents related to:

- tapered roller bearings
- needle roller bearings
- ball bearings
- spherical roller bearings
- cylindrical roller bearings
- thrust bearings and
- integrated assemblies.



Reliable options

In addition to a full range of metric and inch bearings, Timken produces precision pins and shafts and a wide range of specialized components and integrated assemblies to give customers economical, reliable options. Our specially formulated lubricants and lubrication systems add unique capabilities to our product breadth.

We transfer our knowledge from one industry to another. The solutions we offer for four-stroke engines, drivetrains and steering are based on proven designs we have pioneered for automotive applications. We also leverage our automotive and industrial sensor technology knowledge into our consumer product designs, giving manufacturers new ways to enhance products and differentiate their brands.

TIMKEN
Torrington
Fafnir

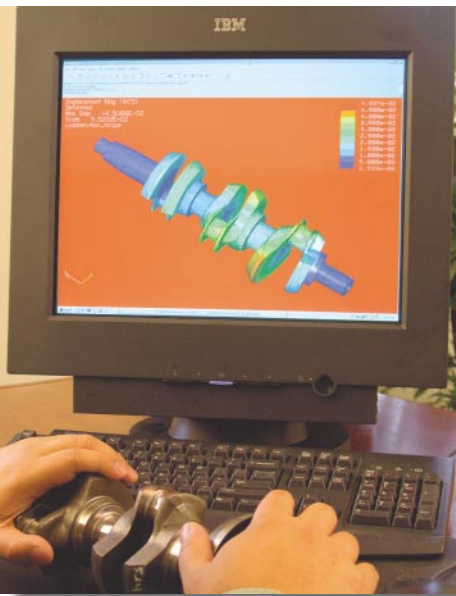


The Timken difference

Timken is much more than a bearing maker; we are a friction management solutions provider. We spend more than \$50 million each year on research alone. At our technology centers, we evaluate and refine our designs and create the components of the future.

By considering the function of a system rather than focusing on a specific part, we can suggest the best configurations and help solve related problems.

Our quality standards are unwavering. Our commitment to consistency – from design to delivery – is one of the reasons Timken®, Torrington® and Fafnir® components are the products of choice for leading consumer-market suppliers.



Our broad analytical capabilities play a key role in developing innovative friction management solutions.



Professional Tools

Professional tools require professional performance. Timken® products stand up to the high speeds and impact loads of the toughest tools, from drills and circular saws to planers and grinders. Our broad capabilities enable us to develop bearing and component designs that meet power density and weight reduction requirements, as well as help to control noise and vibration.

- A customized jigsaw solution combines a standard needle roller bearing with a special steel housing. This design significantly reduces the friction when rotating motion is turned into reciprocating motion and helps to deliver more power to the working tool.
- We supply special needle rollers for power drills that act as shaft and bearing raceways in gear sets. Our ability to meet very tight tolerances and superior surface finishes enhances the value for these applications.



Engines & Powertrain

Timken brings strong experience for engines used in recreational vehicles, lawn and garden and other power equipment.

We have pioneered many demanding applications, including the early marine outboard motors.

Current developments for high-performance two-cycle engines help to reduce friction and enhance power density.

Our friction management innovations for automotive engine valve trains provide advanced technology that we now can apply to recreational four-cycle engines.

- We creatively meet customer needs by assembling custom connecting rods with special Torrington® needle roller bearings for the wristpin and crankpin positions.
- Leveraging both engine and manufacturing technology, we developed an advanced shift shaft for outboard engines. Precision, high-speed welding maintains exact tolerances for optimum mounting and alignment.



Solutions

Timken is a recognized technology leader. When you choose Timken as your resource, you receive advanced components and access to a global team of highly trained engineers and researchers. They apply the latest techniques to solve issues inherent in consumer products, including:

- Maximizing power density
- Improving reliability
- Reducing weight
- Managing G-forces
- Handling high speeds and temperatures
- Meeting emissions standards
- Lowering production costs and
- Creating value-added extras for consumers.

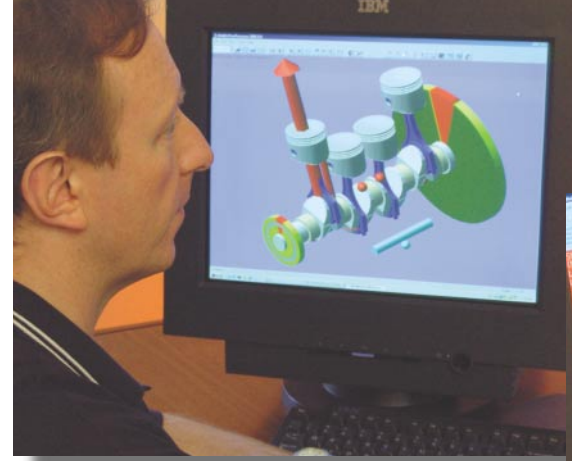
Because we understand this complex market, we can align with you to improve the total value and reduce the total cost of your machines.

Design analysis

Most solutions start in our global technology centers, where engineers help analyze designs to meet a broad range of application challenges. They evaluate entire systems and recommend ways that bearings and related components can be engineered to perform more efficiently with less weight and size. Timken engineers have strong analytical skills. Using customer-provided data, they can suggest the best designs to address specific application requirements. They also develop robust designs with added features to extend service life.

Materials expertise

Performance can be enhanced by modifying component materials. Our knowledge of metallurgy, based on more than 80 years as a world-leading steel maker, is transferred to our product designs.



Our engineers combine industry experience and advanced analytical tools to enhance product design and optimize system performance.



Timken® engineered surfaces technology enhances operating characteristics for specific application requirements.



We evaluate and recommend the best materials – including alloy and stainless steel, ceramics and polymers – to meet your performance goals.

By applying proprietary coatings and surface treatments to pins and shafts, rollers, cages, raceways, gears and other components, life can be extended up to two times that of standard offerings. These engineered surfaces can withstand higher temperatures and debris and can minimize the need for additional lubrication.

In some cases, we incorporate solid lubrication into packaged bearing designs to help eliminate the need for manual lubrication and minimize friction during operation.

Advanced assemblies

By offering packaged units, Timken manages global sourcing, production and assembly, helping to keep your costs low without compromising quality or reliability. These range from bearings integrated with gears to complex units involving 10 or more components. Our customers realize benefits such as simplified installation, improved performance and enhanced total value.



Recreational Vehicles

In addition to our engine expertise, Timken applies broad capabilities to creating value for recreational vehicle producers. Our extensive resources enable us to develop comprehensive solutions for power transmission and chassis applications. As engines become quieter, we are applying technology to reduce other system noise and improve user satisfaction.

- *Our engineers helped develop an innovative solution for an automated snowmobile drive chain tensioner that eliminates periodic adjustment and reduces noise, vibration and harshness.*
- *We are using automotive steering technology with tilt and vibration-isolation features to improve handling and operator satisfaction for utility vehicle and snowmobile customers.*

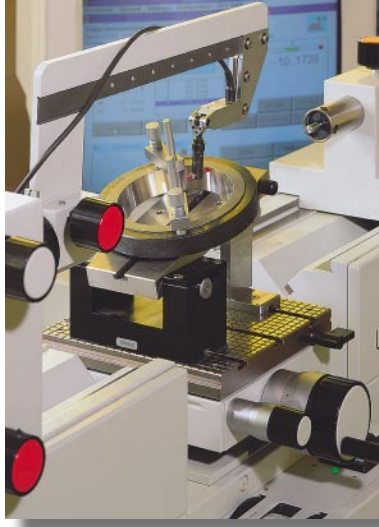
Outdoor Power Equipment

From lawn and garden projects to professional tree work and landscaping, Timken® products withstand high loads, speeds and temperatures. Building on experience that goes back to the early chain saws, we are developing new needle bearing designs that support the drive for cleaner two-cycle engine emissions. Similar compact, lightweight products help us adapt our automotive technology for small four-stroke engines.

- *Our cartridge unit for commercial mower spindles integrates bearings, seals and spacers within a single, extended outer ring. The design provides easy installation, increased capacity and improved sealing, while resisting shock loading.*
- *Timken supplies cage and roller bearings in the wristpin and crankpin positions on the connecting rod of a handheld four-stroke engine used in a grass and weed trimmer. Our design withstands the high G-forces and reciprocating loads.*
- *High-performance bearings with a cost-effective cage design handle the high acceleration and temperatures in chain saw wristpins.*



global



Rigorous process controls and inspections help our products meet or exceed industry standards around the globe.

Timken maintains research, manufacturing and sales offices around the world to remain close to our global customers. This proximity and broad process capabilities also allow us to bring new designs to production – faster. We want to be where customers need us when they need us.

Our technology centers are located in North America, Europe and India. Representatives from various disciplines – including metallurgy, tribology and advanced engineering – are situated around the world so that our customers can have convenient access to our experts.



Timken maintains operations in 27 countries. This allows us to design a component in one area of the world, produce it in another and assemble it with related parts in yet another location. Continued manufacturing development and investment bring advanced processes to the factory floor, preparing us to meet new customer requirements.



Our investment in sophisticated systems streamlines communication between our facilities and our customers, and our flexible approach to manufacturing equips us to complete high- and small-volume production runs.

Fitness Equipment

As exercise equipment becomes more varied and sophisticated, Timken continues to meet diverse requirements for efficient friction management, envelope restrictions, cost effectiveness and reduced noise. Working with engineers and manufacturers of exercise bikes, treadmills and rowers helps us develop a wide range of solutions, from individual bearings and roller clutches to integrated assemblies containing multiple components.

- *Our unitized assembly for an exercise bicycle crank reduces the number of components and provides a bolt-on unit that simplifies handling and installation, while reducing noise and total cost.*
- *Torrington drawn cup roller clutches provide the alternating locking and overrunning action that powers rowing machine flywheels. Our low-cost alternative delivers smooth and reliable performance.*



Home Appliances

Today's consumer demands reliable performance from all household equipment. Timken engineering, coupled with an expanded product line, helps us deliver cost-effective solutions for optimum service life. Combining individual products in unitized assemblies helps us deliver enhanced value to our customers.

- Molding a plastic gear to a drawn-steel sleeve that mates with a compact roller clutch provides a cost-effective assembly for a vacuum cleaner actuator that saves handling and installation time.
- A unitized needle thrust bearing assembly accommodates axial loads in a washing machine transmission. The design reduces tolerance stack-up (by lowering the number of components from six to two), eases installation and improves lubrication retention.



Universal quality

The Timken®, Torrington® and Fafnir® brands represent performance, reliability and service. ISO and QS certifications are evidence of our conformity to internationally recognized quality standards. Wherever Timken® product is manufactured, it's interchangeable around the world because of our consistency. We have received hundreds of honors from global customers acknowledging Timken's excellence as a preferred supplier.

Throughout our organization, associates use Lean Six Sigma concepts to identify and implement improvements. As our internal processes are streamlined, we are able to reduce cycle times and costs.

Just as we are the supplier of choice for automotive and industrial leaders, we are your source for the products that help bring new levels of performance to motorcycles, power tools, boat motors, utility vehicles and other consumer equipment.



Advanced processes enhance our worldwide product quality and cost effectiveness.



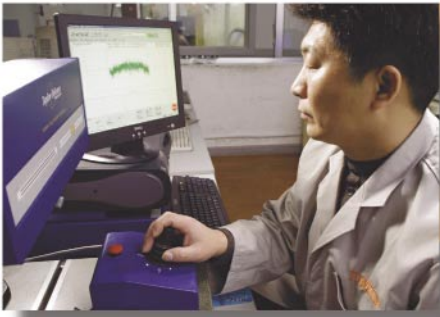
global

Global reach. Local presence.

Many of our customers are launching new programs in Eastern Europe and Asia. Timken is already there, giving you a local source for standard or customized parts. By remaining near our customers, we become stronger allies and can respond to changes in demand more effectively.

We have created a strategic global logistics and transportation system that complements our manufacturing organization. We stock popular part numbers in Timken-owned and partner-managed warehouses around the world, placing these products close to customers.

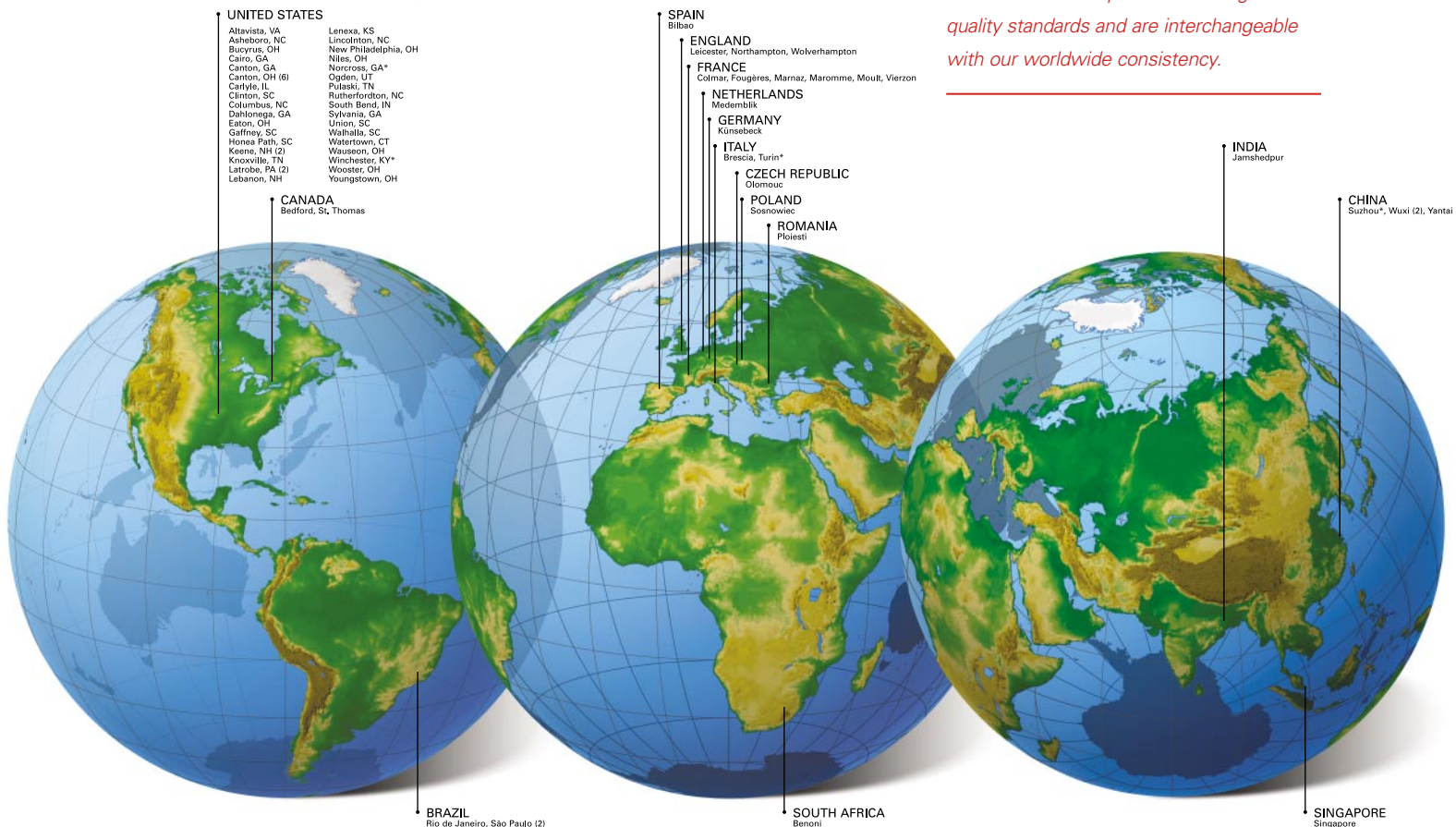
Our global presence gives consumer product makers around the world access to the support they need to launch new programs on time: design expertise, rapid prototype development, testing, manufacturing and delivery. Our comprehensive approach to project management keeps programs moving on schedule, helping you speed your products to market.



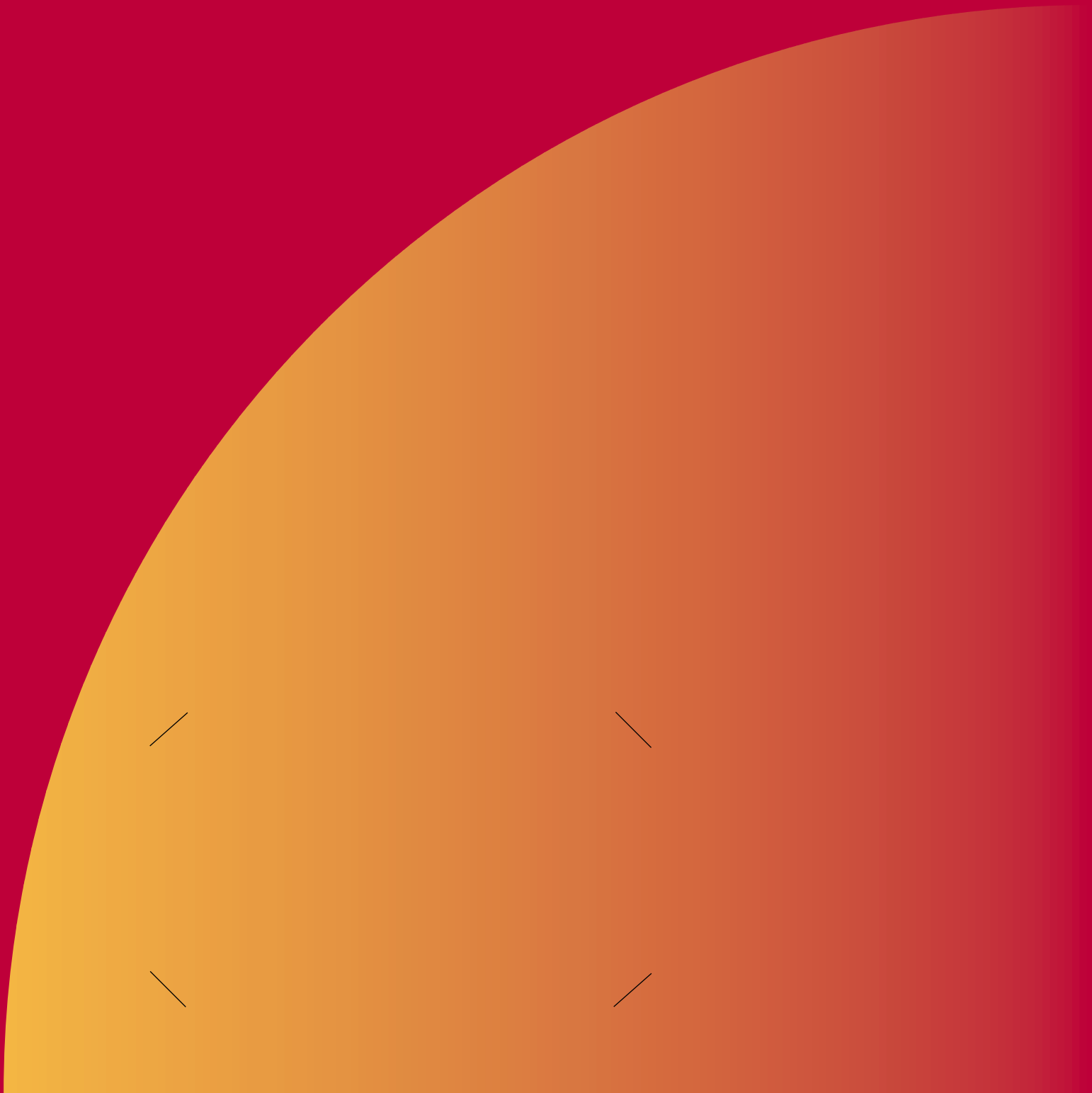
Solutions in Asia

Timken is capturing opportunities to expand our manufacturing presence in emerging markets. For example, in China we currently have four facilities – including plants in Suzhou, Yantai and Wuxi – as well as a logistics center in Singapore. Our field sales organization is located throughout Asia to provide local solutions for customers in the region.

Timken's manufacturing network covers the world. All Timken® products meet global quality standards and are interchangeable with our worldwide consistency.



* Joint venture facility



Timken is your resource for comprehensive consumer equipment solutions.

To learn more about how Timken can improve your products,

visit www.timken.com or call one of our global locations –

330.438.3000 (Canton, Ohio, USA), 86.1064106490 (Beijing, China),

33.389214444 (Colmar, France) or 91.805529234 (Bangalore, India).

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