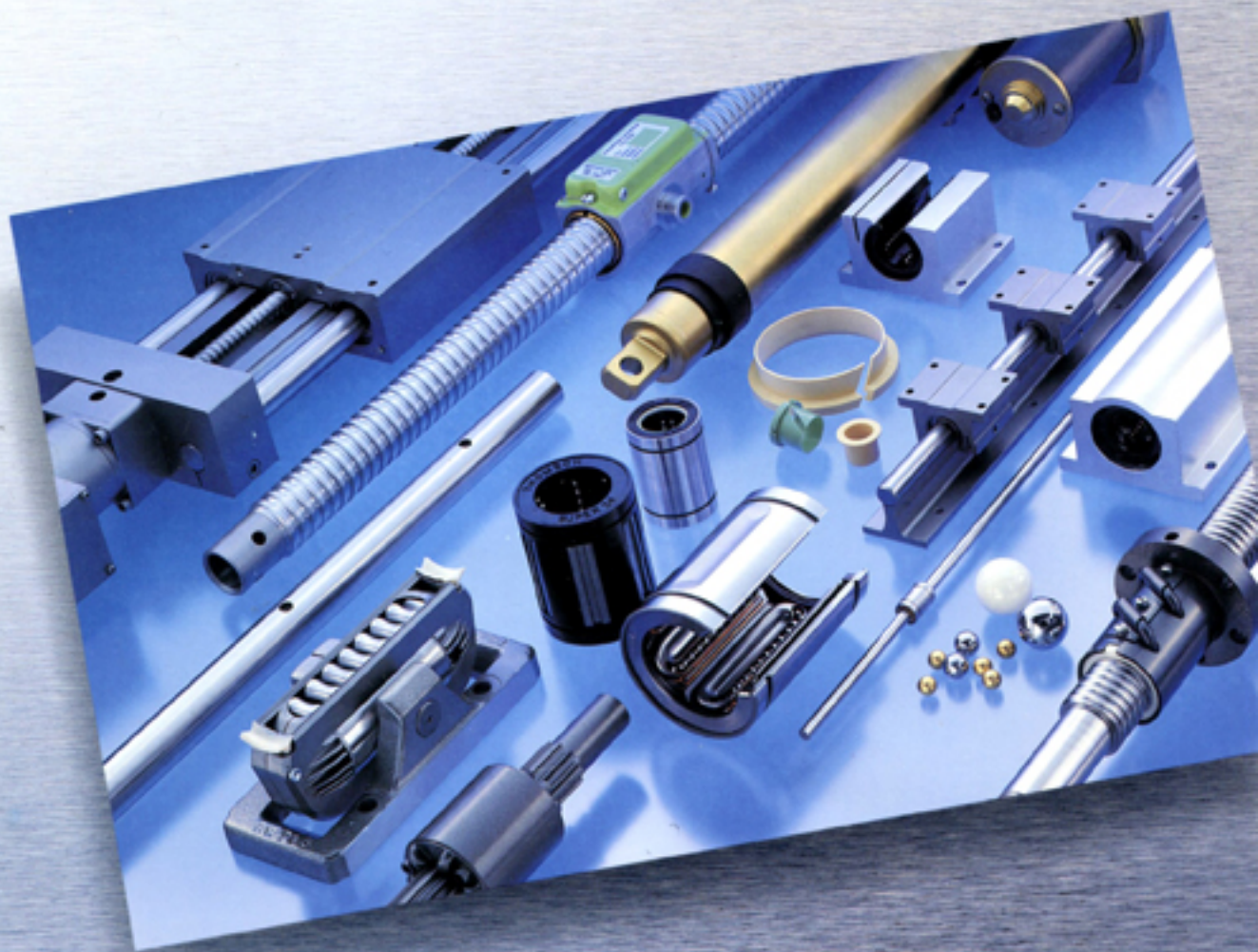


THOMSON
First in Linear Motion Technology



***World-Class Technology
and a Worldwide Presence***

Thomson Linear Motion Components



Super Plus Ball Bushing[®] Bearings

Self-aligning, anti-friction linear bearings

Compared to conventional bearings, our high-efficiency Super Plus linear bearings have three times the load capacity or 27 times more travel life. The self-aligning feature eases installation, minimizes wear from minor bore misalignment and provides more uniform load distribution. Our ground bearing plates mean less ball wear for smoother, more precise operation and a longer service life.



Super Plus Pillow Blocks

Available in closed, adjustable and open styles in both single and twin versions

These pillow blocks are self-aligning in every direction. They're easy to mount, and provide smooth operation and a constant low coefficient of friction. Each pillow block is furnished with a standard lubrication hole for ease of maintenance.

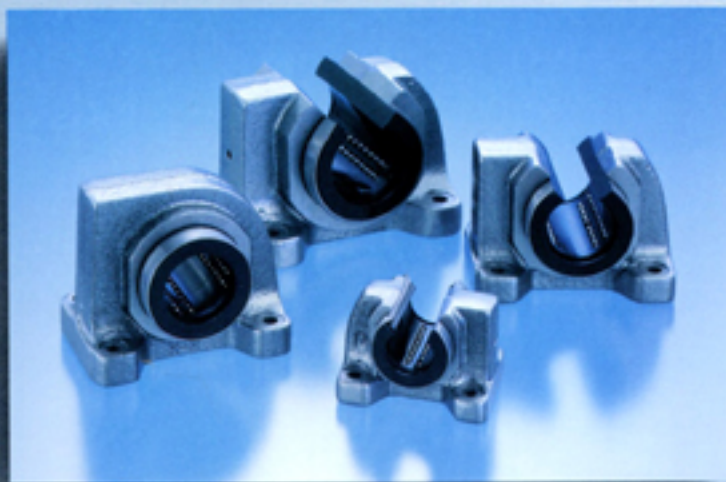


MultiTrac[®] Ball Bushing Bearings

Rigid, high load capacity linear bearings

Extremely rigid MultiTrac linear bearings give you less deflection and twice the load bearing capacity of conventional bearings – up to 4200 N based on 100 km of travel life. Improved ball control design and extremely low coefficients of friction provide smooth, quiet operation under load.

ts and Systems



MultiTrac® Pillow Blocks

Available in closed, adjustable and open styles

Use MultiTrac pillow blocks where you need both load capacity and high rigidity. They perform well under high accelerations, and at steady state travel speeds up to 3 m/s.



Roundway® II M Bearings

Low-cost, low-friction bearings for heavier loads

To reduce friction and wear and eliminate stick-slip for heavy loads, count on our Roundway II M roller bearings, rated up to 80 kN. They consist of the bearing race, concave roller assembly, solid roller design for rigidity and an eccentric trunnion pin.



60 Case® Shafting

The recommended inner race for all Thomson linear bearings

Our hardened and ground shafts, in high-carbon, stainless or tubular steel, offer exceptional smoothness, straightness and hardness. They feature a surface finish of Ra 0,3 microns for maximum accuracy and minimum wear. Available in cut-to-length solid or predrilled shafts, tubular Lite® shafts and standard length, off-the-shelf QUICK® shafts. We also offer matching shaft support blocks and rail assemblies.



Linear Motion Systems

Pre-assembled, cost-effective and ready to install

Complete, ready-to-use Thomson linear motion systems can include integrated ball screws, motors and controllers, as well as our precision-grade linear bearings, pillow blocks and 60 Case shafts. Choose from systems rated to 276 kN with unlimited travel lengths, including fully-supported, end-supported and unsupported configurations with factory-aligned shafts.



Thomson Saginaw® Ball Screws

High-performance ground or rolled thread screws

Our ball screws combine high repeatability and 90% efficiency for precise, reliable linear positioning. Precision Plus® ground thread assemblies provide lead accuracies of Class 5; and rolled thread screw assemblies provide lead accuracies of Class 25. Available in preloaded or non-preloaded configurations.



Performance Pak® Actuators

Dependable, low-maintenance linear positioning systems

Our electromechanical actuators combine a Thomson Saginaw ball screw with a small, powerful electric motor and a vented, corrosion-resistant gearbox. You can choose these compact, ready-to-install packages with a variety of optional position sensing features.

A History of Innovation and Excellence

The Thomson Group of Industrial Companies is a family of related, technology-based, customer-oriented companies. We are a world leader in the linear motion bearing industry which we helped create in the 1940s. Here are the highlights of our half-century of engineering innovations.

THE FORTIES:

John B. Thomson, Sr. invented the world's first, anti-friction linear ball bearing with unlimited travel capability. He called his invention the *Ball Bushing** bearing.

The "Saginaw" Actuator Products Group was formed by General Motors to apply the highly efficient Saginaw* ball screw actuator to non-automotive uses. The induction-hardened, soft root, Gothic arch ball form was perfected. Multiple circuit ball screws were introduced for high load applications.

THE FIFTIES:

In the early 1950's, Thomson introduced 60 Case* shafting as a hardened, precision-ground inner raceway for our linear bearing products.

In the mid-fifties, Thomson licensed Deutsche STAR of West Germany as manufacturer and distributor of linear bearing products in Continental Europe. Later, RHP was licensed in the United Kingdom.

Nyliner* engineering plastic bearings were invented and introduced. They provided cost and weight savings for linear, oscillating and rotary applications.

A proprietary thread rolling process was developed by the "Saginaw" Actuator Products Group to more cost-effectively produce Saginaw ball screws. Preloaded, double-nut assemblies were developed for lash free actuation.

THE SIXTIES:

Thomson invented the revolutionary *Roundway** linear roller bearing. It is self-aligning and provides twenty times the load of a conventional linear ball bearing.

Saginaw Performance Pak* electromechanical actuators were developed and introduced using the Saginaw ball screw as the heart of the unit. This provided economical, high-load actuation in a relatively small package.

THE SEVENTIES:

Never satisfied with past successes, Thomson's next invention was the *Super Ball Bushing**

bearing. This new, self-aligning bearing provides up to three times more load capacity or twenty-seven times more travel life than the older style linear ball bearings.

Single piece, separated circuit, preloaded ball nuts were introduced to improve stiffness of lash-free, high-precision Saginaw ball screw assemblies for machine tools.

THE EIGHTIES:

A busy decade for Thomson's inventive genius! We patented the rigid, high load capacity *XR** machine tool bearing. We also developed a complete family of pre-engineered, pre-assembled, ready-to-install linear motion *Systems*.

Thomson acquired ABEK, Inc. in 1982 and Pioneer Steel Ball Company in 1988. The two operations were combined to form Thomson Precision Ball Company.

Thomson Precision Ball Company perfected the manufacturing process for producing high quality ceramic balls. We also developed and introduced a unique process for making high precision hollow balls for optimum performance in weight-critical applications.

In 1987, Thomson acquired the "Saginaw" Actuator Products Group from General Motors and formed Thomson Saginaw* Ball Screw Company, Inc. Saginaw is the leading name in ball screws, ball splines, and related actuators.

THE NINETIES:

Thomson's tradition of innovation continues. Through April, 1991 (press time), we have received four new patents with several others pending. We've also expanded our line of linear motion products to include a full range of metric linear motion bearings, components and ball screw actuators. These new products will perpetuate Thomson's leadership position and shape the future of linear motion technology for years to come.

Thomson Saginaw has introduced high-accuracy, rolled thread and ground thread Saginaw ball screws, and leads the industry with our state-of-the-art laser lead measuring capabilities.

As we move toward the 21st century, the Thomson Group of Industrial Companies will continue to research and develop new technologies designed to meet the current and future needs of our customers. Meeting the demands of the increasingly complex, quality-conscious industrial world market is a challenge we gladly accept!

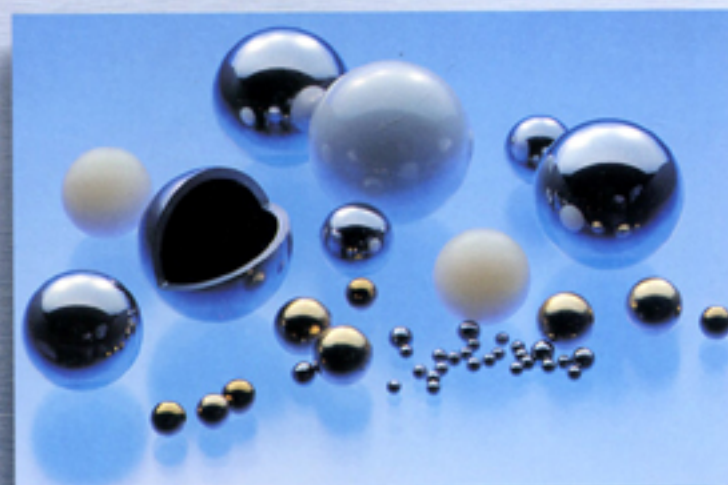
*Trademark of Thomson Industries, Inc.
THOMSON is registered in U.S. Patent and Trademark Office and in other countries.



Nyliner® Bearings

High-performance, low-cost thermoplastic bearings

Engineering polymers give these precision-molded bearings an extremely low coefficient of friction and long service life, at temperatures up to 260 C, with virtually no lubrication. Their thinwall design and unique compensation gap make them great for linear, rotary or oscillating motion applications. Available in seven standard configurations, and custom designs.



Precision Balls

A comprehensive line of standard and custom balls

We manufacture precision balls in high carbon and stainless steel, non-ferrous metals and ceramics, to meet any application you may have. Standard or custom balls are available in diameters as small as 0.5 mm, in Grades 3-200, including hollow balls for weight-sensitive applications.

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