Mechanical Motion Solutions by Thomson
Trusted provider of optimum motion solutions for over 70 years
Thomson – Your Trusted Partner

Thomson invented anti-friction linear technology over 70 years ago and has continued to lead the industry ever since. The Thomson brand is recognised as the global leader in motion technology.

Talk to us early in the design process to see how Thomson can help identify the optimal balance of performance, life and cost for your next application. Please visit www.thomsonlinear.com where you can find a wealth of product and application information as well as 3D models, software tools, our distributor locator and global contact information.

Unmatched Product Range
Since 2002 our product range has grown significantly. Our family of motion products also includes BSA, Neff, Tollo, Micron, Deltran and Cleveland – all now part of Thomson.

World-wide Service and Support
Thomson field service engineers and support teams are available to assist wherever and whenever they are needed. The broadest product offering and unbiased technology expertise enable us to bring you the optimal balance of performance, life and cost. That’s why design engineers turn most often to Thomson products to meet their motion control requirements.
Thomson invented the ball bushing bearing over 70 years ago and has since been the recognized leader in this field. Offering the widest range of bearings and accessories, we easily satisfy the widest range of requirements with the best performing product for the application.

**RoundRail™ Linear Ball Bushing® Bearings**
- Most extensive product offering in the industry
- Pre-assembled, ready to install stages providing low friction and smooth, accurate motion
- Cutting-edge segmented technology

**60 Case LinearRace® Shafting**
- Manufactured to the highest quality standards
- Life extends as much as 50% over the competition
- Available in a number of materials and coatings
- Custom machining capabilities

**Profile Rail Linear Guides**
Thomson has a complete offering of rails and carriages in a broad range of styles and sizes and is a “one-stop shop” for all your profile rail needs.

**Profile Rail 400 Series**
- Double-faced ball track bearing for simple installation
- Up to 30% less noise compared to standard ball cages

**Profile Rail 500 Series**
- Exceptional straightness and high rigidity
- High dynamic, static and moment load capacities

**MicroGuide® Series**
- Miniature guidance system in stainless steel
- Industry standard drop-in replacement

**T-Series**
- Lightweight rail made from aircraft aluminum
- Easy and fast installation - no machining required
Ball Screws

We offer the most complete line of industrial ball screws. Our standard products range from high precision assemblies to standard assemblies. Our custom capabilities range from hollow ball screws to telescoping ball screws.

**Miniature Precision Rolled Series**
- Efficient, cost-effective solution in a small envelope

**FineLine Precision Rolled Series**
- Offers low cost and high precision

**Precision Rolled Series**
- The most comprehensive imperial-based ball screw offering in the industry

**NEFF Precision Rolled Series**
- A wide range of metric ball screws

**Precision Plus Ground Series**
- High repeatability, accuracy and stiffness

Lead Screws

Thomson precision lead screws are the highest quality lead screw assemblies in the industry and an excellent economical solution for your linear motion requirements.

- Rolled precision stainless steel screws
- V-thread screws for high positioning resolutions
- Threaded and flange mounted nuts in several models and configurations
- Anti-backlash nuts for highest accuracy
- Bronze nuts for heavy duty applications
- Custom screw end machining
Motorised Lead Screws

The Motorised Lead Screws from Thomson combine a hybrid stepper motor and a precision lead screw together in one compact envelope. Patent-pending Taper-Lock technology allows quick decoupling and secure, properly aligned connections. This combination offers several advantages over a traditional solution.

- Four standard motor sizes and a large number of screw leads and diameters available
- Improved torque density and efficiency
- Reduced noise
- The Taper-Lock design provides the ability to quickly decouple the lead screw from the stepper motor
- Rotating nut or rotating screw configurations
True Planetary® Gearheads

We offer a complete line of True Planetary gearheads. With seven product families and over 3000 size and ratio combinations, we have a solution for almost every application.

- **UltraTRUE** – Smoothest operating on the market
- **ValueTRUE** – High performance gear at a low cost
- **DuraTRUE** – Ideal alternative to hybrid parallel-shaft spur gearheads
- **NemaTRUE** – Optional front faces
- **EverTRUE** – Continuous duty, higher speeds and lower temperature
- **XTRUE** – Economical precision design
- **AquaTRUE** – Stainless steel gear with up to IP69K protection

Linear Motion Systems

Thomson invented the linear motion systems and can offer the largest range in the industry. Linear Motion Systems are ideal for handling, packaging and other factory automation applications that require high speed and/or long stroke capabilities.

- Modular, self-contained and self-supporting
- Can easily be assembled into X-Y and gantry configurations using multi axis mounting accessories
- Sizes ranging from the smallest to the biggest in the industry
- Ball screw or belt driven models
- Ball guided, wheel guided or prism guided models
- Very large range of options and accessories
- Sealing and washdown options are available for harsh environments

www.thomsonlinear.com
Linear Actuators

Our linear actuator range is one of the broadest on the market and we can offer a suitable model to almost any imaginable application. Thomson also has a very long experience in designing custom solutions and build more custom actuators than anyone.

**Electrak® Series**
- Actuators built for mobile and industry applications
- Rugged, reliable and strong
- Large number of models, all easy to customize

**Throttle Series**
- Specially designed for throttle applications
- Multiple control, feedback and environmental options including CANBUS communication

**Max Jac Series**
- The toughest actuator on the market
- IP69K protection ensures operation virtually anywhere

Lifting Columns

Thomson lifting columns are ideal for medical applications such as wheelchair lifts, x-ray machines, and surgical tables as well as ergonomic automation applications such as workstations and desk lifts.

**LC1600 Series**
- Two-piece extrusion with 1600 N loading capacity
- Ideal for cost-sensitive applications where extension-to-retraction ratio is not as critical

**LC2000 Series**
- Three-piece extrusion with 2000 N loading capacity
- Telescoping leadscrew mechanism to provide an ideal extension-to-retraction ratio

**LC3000 Series**
- Three-piece extrusion with ballscrew drive to allow for 3000 N loading capacity and high moment loading

NEW

**LC-Series**
Three new models – each with unique features and suitable controls
Precision Linear Actuators

The compact design and higher load capacities of our precision linear actuators make them ideal for the replacement of hydraulic and pneumatic cylinders.

T-Series
- Very robust high accuracy 100% duty cycle actuators
- Three sizes and a multitude of accessories available
- Mounting kits according to hydraulic standards available

ECT-Series
- Fully motorized precision linear actuators
- Chose between a large number of motor, gear box and mounting alternatives

PC-Series
- Built to replace pneumatic cylinders
- Very high power density, accuracy and life expectancy
- Visit www.thomsonlinear.com/conversion to learn more about the PC-Series

NEW PC-Series
Units designed specifically for the replacement of pneumatic cylinders

Miniature Systems and Components

Thomson produces the widest selection of miniature linear and rotary components that are engineered to work together. They all benefit from our long experience in motion control engineering and have all the advantages and features offered for standard size products.

- Smaller components enable designers to reduce the size and weight of their end product, resulting in products that are smaller, lighter, and less expensive to produce
- Widest variety of miniature motion products on the market
- Products are designed to work together
- Thomson offers easy and fast customisation

Visit Our Miniature Microsite
www.thomsonlinear.com/mini
Worm Gear Screw Jacks

The Thomson worm gear screw jacks set new standards of precision and engineering and meet all today's requirements for safety, cost-efficiency and durability.

**MULI® and JUMBO® Series**
- Models for loads from 5 to 500 kN
- Designed for easy installation of motors, gears and shaft encoders
- All models designed for tensile and compressive loads
- Complete range of motors and accessories is available
- Synchronisation of several jacks is easily accomplished

Clutches and Brakes

Thomson has over 100 years of experience of manufacturing quality clutches and brakes. Today, our ISO9000 certified clutch and brake products are working in a wide range of applications and in almost all types of products.

- We offer brakes, clutches and combinations of both
- Chose between wrap spring or electromechanical actuation
- Friction, multiple disc, tooth, spring set and other types are available
- A large range of options, accessories and controls are available
- Custom solutions
Precision Balls

Thomson has over 60 years as a leader in supplying standard precision balls, precision ball bearings and unique stainless steel balls for specific applications. Thomson offers a large variety of precision ball types, unique precision ball bearings technologies and a very high quality in both materials and workmanship.

- Most complete variety of materials and technologies
- Over 27 high performance materials
- Ceramic, hollow and specialty balls
- ISO9001:2000 registered
- A2LA certified measuring lab

Customisation and White Paper Designs

Applications often have unique challenges that cannot always be solved by an off-the-shelf solution. Thomson specialises in providing custom engineered solutions quickly and cost effectively to address these requirements. We frequently develop and ship products that have been altered in one or several ways such as:

- Custom materials
- Custom surface treatment
- Custom size or geometry
- Custom assemblies
- Custom services
- New designs

www.thomsonlinear.com
Innovation, Engineering and Customisation Excellence

Often the ideal design solution is not about finding the fastest, sturdiest, most accurate or even the least expensive option. Rather, the ideal solution is the optimal balance of performance, life and cost.

Thomson continues to innovate, both in products, and also tools necessary for design engineers to select, size, and specify the optimised component for any application, regardless of industry or market. From standard products to “white sheet” designs, Thomson has the engineering expertise and manufacturing capabilities to optimise the balance between performance and cost to suit your specific needs. Our engineered, custom designs, as well as our multitude of free, online tools set us apart from other manufacturers and create a benchmark in the component industry.

Material Handling
Improve speed, accuracy and reliability by using the broad range of Thomson products in robots, manipulators, lifting aids and pick-and-place equipment.

Food Processing
Our large range of washdown and non contaminating components makes Thomson a perfect partner to the food processing industry.

Medical and Health
Both patients and caregivers will benefit from easier to use, safer, lighter, smaller and more precise machines made possible by Thomson products.

Machine Tools
Thomson has supplied high performance lead screws, linear guides and clutches and brakes to the machine tool manufacturers for decades.
Decades of Application Expertise

Since 1936 Thomson has been one of the forerunners in the motion technology area. Thomson inventions and products have been supplying optimised motion solutions to a broad range of companies and application areas.

Thomson is the name you can trust for high quality, innovation, on-time delivery, controlled costs and reduced risk regardless of your industry. With extensive experience in numerous industries, including: Mobile Off-Highway, Medical and Health, Packaging, Food Processing, Material Handling, Factory Automation, Clean Energy and Machine Tools, Thomson has the widest selection of mechanical motion components designed to work together to provide the optimal solution for your specific application.

Mobile Off-Highway
Thousands of actuators – many of them customised – are delivered each year by Thomson to manufacturers of combines, tractors, bulldozers, trains and other vehicles.

Packaging
Packaging is a demanding market where Thomson can offer unique products that will improve quality and productivity while lowering manufacturing costs.

Factory Automation
Wherever you need to control a linear motion in a production process Thomson has the broadest range of suitable products on the market.

Clean Energy
The clean energy market is fast growing industry to which Thomson has been supplying standard and customised high quality products for many years.
1936  First ball screw application developed for recirculating ball steering systems

1939  Thomson Saginaw produces first aircraft ball screw for the B-29 Super Fortress

1940  

1945  Thomson invents world’s first anti-friction linear ball bushing bearing

1947  Multiple circuit ball screws introduced at Saginaw

1947  Significantly improved linear ball bushing bearing patented

1948  Subminiature clutches and brakes are released

1950  

1951  60 Case Linear Race shafts developed as ground inner raceway for ball bushing bearing

1953  Precision “A” Bearing invented with better ball circulation manufacture. Still in use today

1955  First re-circulating ball screw introduced on 1955 Chevrolet

1955  Thomson develops thread rolling process for ball screws

1960  

1960  Ball screws are introduced into machine tools

1962  Roundway bearing patented, offers 20 times greater load capacity than Ball Bushing bearings

1965  Performance Pak electromechanical actuators are developed

1967  The first generation of actuators for use in garden tractors and farm equipment is released

1970  Stainless steel rolled lead screws and Supernut® introduced

1974  First line of actuators with parallel motors and both acme and ball screw drive is released

1974  Self-aligning twin pillow block is invented

1979  Thomson invents the self-aligning super ball bushing bearing, which provides up to 27 times more life and up to 3 times greater load capacity than Ball Bushing bearings

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