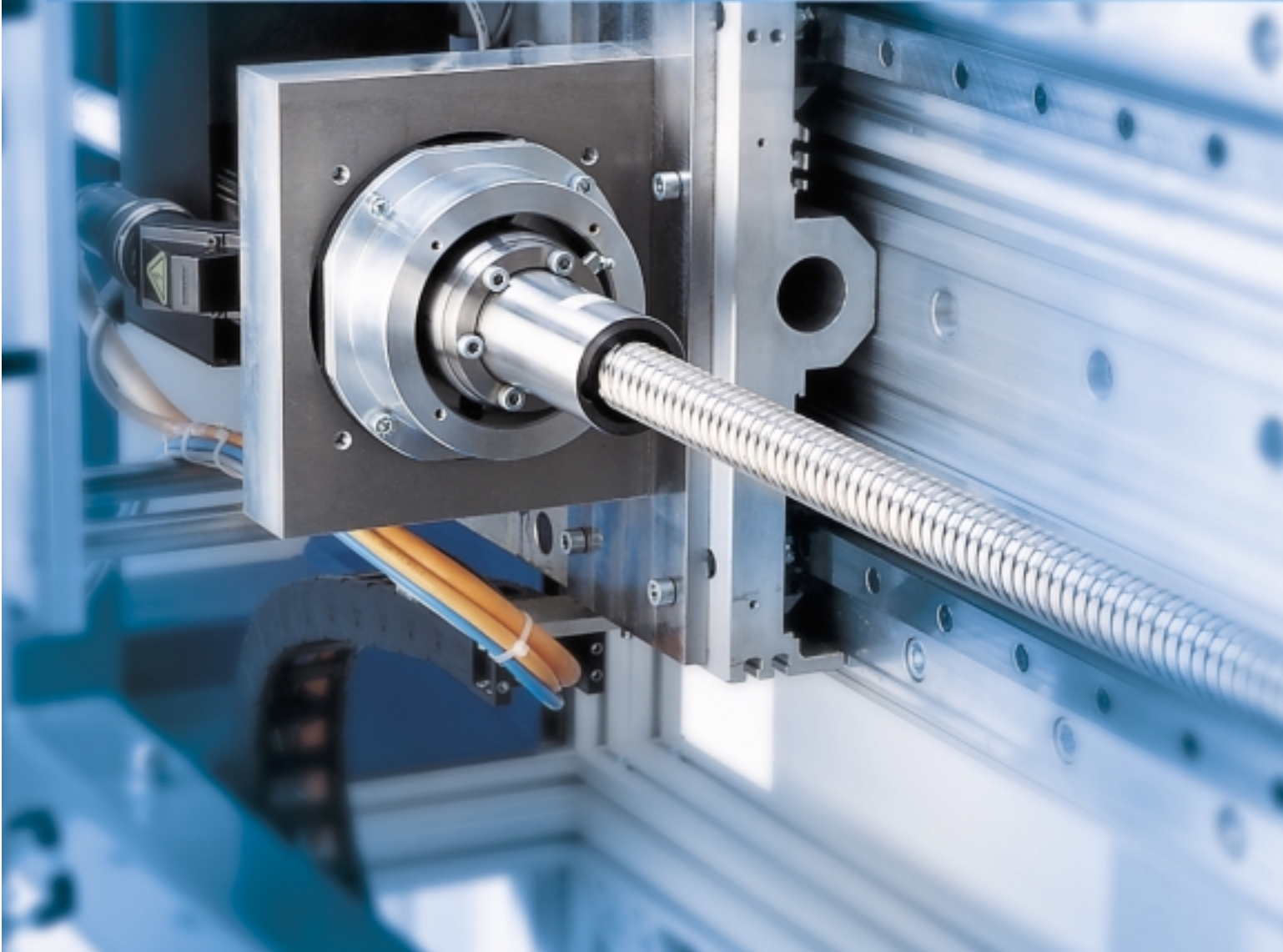
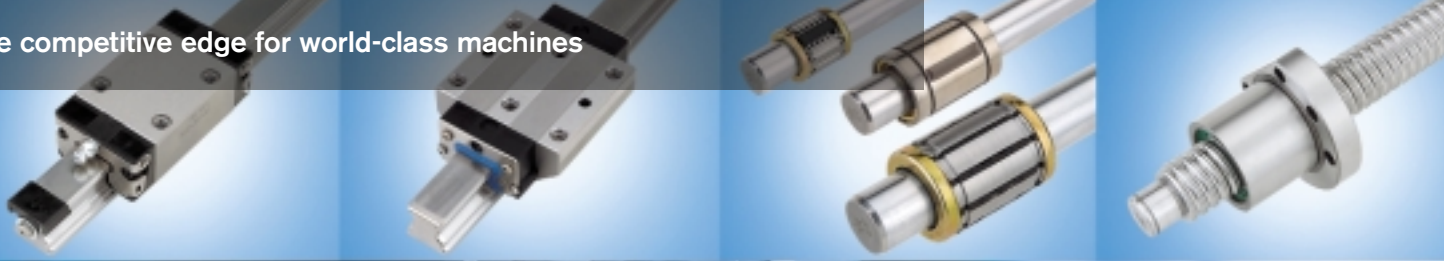


Precision in motion.
Linear motion solutions
from Bosch Rexroth.

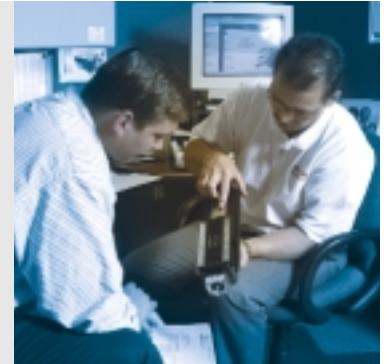


The competitive edge for world-class machines



Linear motion components you need, from a company you can trust

Competitive advantage requires innovative partners. With Bosch Rexroth as your supplier of linear motion components, you receive the unparalleled value that comes from the widest choice of best-in-class products and world-class service and support. Products that are precision engineered to perform reliably with little or no maintenance, delivered promptly without hassle.



The most product choices, anywhere

For driving and guiding motion, no one offers more choices than Bosch Rexroth. From profiled rails to ball screws to linear bushings, you'll find the broadest selection of products to fit perfectly into your application's cost and performance range. If you require cutting-edge technologies, we're out front there, too. Our innovations include the IMS (Integrated Measuring System) and self-driven FAR rotating nuts.

We make it easy, so you save time

As your one-stop source for linear motion solutions, we make it easy to find just the right product. Our expert application support and unmatched customer service help streamline your purchasing effort, to get you the products you need, fast. Our online offering gives you the detailed

information you need to get the right components into your design, including CAD drawings in multiple formats, and sizing and selection tools.

And for even more convenience, distributors and resellers nationwide can support you locally with factory-trained experts.

Precision is the key to performance

Our products are known for their precision engineering—with the attention to detail and commitment to uncompromising quality that means the difference between a good product and a great product. Superior fit and finish yield products engineered for performance, durability, and ease of use. Few companies put as much effort into independent testing and verification to ensure products meet published specifications.

As a company with a high degree of vertical integration, we control the source materials, the design, and the manufacture of our products. Since we manufacture all parts, we ensure that each meets the highest degree of craftsmanship for unsurpassed fit and finish. Compare our products to the industry norm: the difference is Bosch Rexroth engineering.

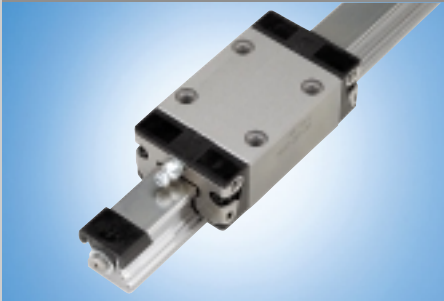
Best-in-class products add long-term value

For light loads or heavy, miniature applications, or megamachines, Bosch Rexroth offers product choices that give you exactly the performance you need. Whether you're a machine builder, machine user, lab technician, or home fitness enthusiast, you'll benefit from the superior performance, reliability, and long-term value that you get only from Bosch Rexroth.

Components overview

With the widest range of linear motion components available from one supplier, Bosch Rexroth offers products with superior performance, better life-cycle value, and greater reliability. Plus we can meet the widest range of application needs, from the high precision of semiconductor fabrication to the heavy loads of automotive assembly. Whether your need is speed, precision, or capacity, we'll help you select and configure the best solution. Choose from profiled rails, precision ball screws, or linear bushings and shafts—all available to handle your applications precisely.

Profiled rail systems



Making light work of any load

Suited for almost any task that demands accurate linear motion, Ball Rail® and Roller Rail™ Systems, available in a broad range of accuracy classes, feature high load capacities and high rigidity. Whether you're moving small components or multi-ton assemblies, you'll find the profiled rail products you need for accurate, dependable movement. Choose from a nearly infinite combination of guide rails and runner blocks to build exactly the assembly you need.

Precision ball screw assemblies



Up to twice the speed, with no loss of precision

Precision ball screw assemblies work with high accuracy and speed—up to twice as fast as industry-standard screws. A wide range of precision screws in the accuracy class you need, with preloaded or adjustable single nuts as well as double nuts in a wide variety of designs, meets the requirements of all feeding, positioning, and transporting tasks. They are available for fast delivery: regardless of your requirements for precision, our lead times are typically half the industry norm.

Linear bushings and shafts



Over 1000 variations

Bosch Rexroth pioneered metric linear bushings and shafts and is still the global leader. Today, we offer over 1000 inch and metric designs and variations to meet all demands and operating parameters. You can select exactly what you require for every task. Our pillow blocks and shaft supports provide a wide variety of mounting options. For transferring heavy loads between stations, Rexroth ball transfer units feature high load capacities for fewer units per application, saving material, installation, and maintenance costs.

Ball Rail® Systems

First developed for machine tools and industrial robots, Ball Rail Systems meet requirements for high-performance applications calling for compact, rolling-element linear motion guideways. These technically superior, low-maintenance systems feature extremely high load capacity and rigidity, are available with or without ball chains, and are designed to be the longest lasting in the industry.

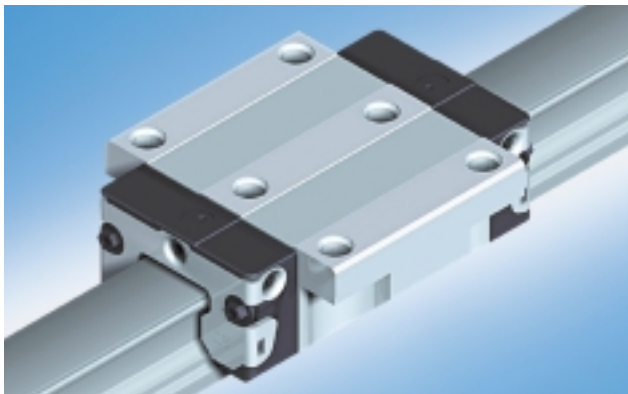


Ball Rail® Systems

The high-speed, zero-friction system that's pre-lubed and ready to roll

Our latest generation Ball Rail System features a new runner block design that helps machine builders shorten assembly time, cut machine cycle times, increase production, and reduce lubrication and maintenance costs. The new runner block design enables travel speeds up to 10 m/s and increases dynamic load capacities by 30%, thanks to an optimized raceway design that minimizes friction during ball recirculation. A revolutionary

From machine tools to semiconductor processing to automotive, Bosch Rexroth keeps things moving—swiftly and precisely.



lubrication system provides 10,000,000 meters of maintenance-free travel, providing substantial reductions in lubrication-related maintenance costs: labor, lubrication storage and disposal, not to mention lost production time.

The unique integrated lubrication system uses a foam insert inside the runner block to release the lubrication to the balls over time. For many machines, the enhanced lubrication technology means maintenance-free operation for the rated life of the machine. This new design is also ideal for builders and users demanding more environmentally friendly machines.

The new runner blocks also offer improved sealing for use in harsh environments. Optional ball chains provide noise reductions of up to 6 dBA and smoother operation for sensitive applications.

The Rexroth Advantage

- Pre-lubed: virtually maintenance free—recommended lubrication is every 5-10 million meters of travel.
- Lower maintenance costs
- Higher speeds = reduced cycle times = higher productivity: twice the industry standard
- Longer product life: fewer replacements and less inventory
- Load capacity three times higher than typical system—at about the same price
- Unique lube channels: easy to lube from any side so that mounting is flexible
- More choices
 - Range: eight sizes from 15 to 65 mm
 - Accuracy classes: 5
 - Dynamic capacities: up to 289,000 N

Miniature Ball Rail Systems

The compact, zero-maintenance solution for small applications

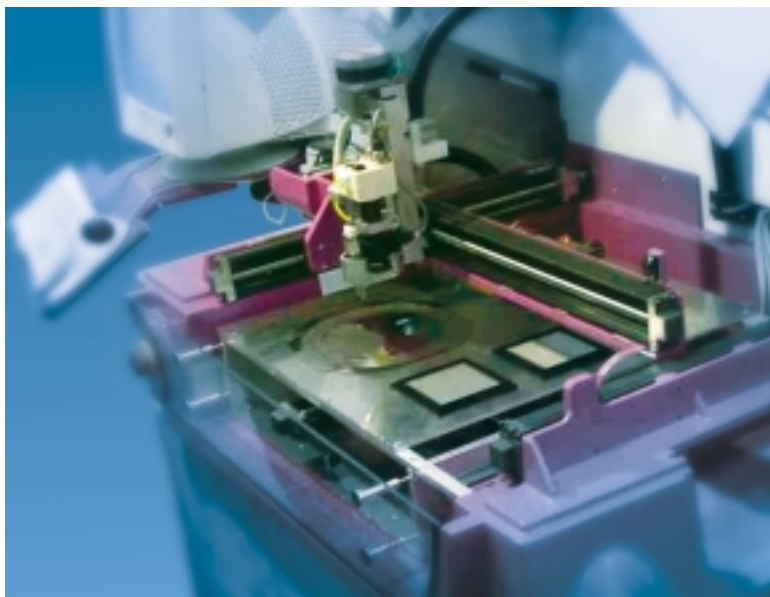
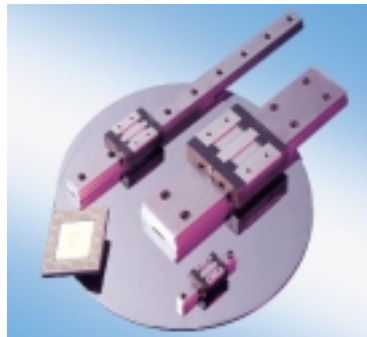
Miniature Ball Rail Systems meet the demands of semiconductor fabrication, optical processing, and similar applications that require extremely compact systems without sacrificing accuracy or high load capacity. Like other Rexroth rail products, our miniature systems offer the ease of the RailSeal™ Cover Strip, runner block interchangeability, and built-in ball retention.

Miniature Ball Rail Systems make wafer manufacturing and other semiconductor fabrication applications more productive.

The Rexroth Advantage

- Cleanroom certified to Class 10
- Zero maintenance
- Extremely low friction
- More choices
 - Range: eight sizes from 7 to 20 mm
 - Accuracy classes: 3
 - Dynamic capacities: up to 7,900 N

Compact Miniature Ball Rail Systems offer big performance in a small package.



Attention to detail: the difference between better and best

Integrated Measuring System (IMS)

Increasing reliability and precision

A high-precision travel measurement system integrated into the guide rail opens up new cost-saving possibilities in machine design and construction by using an inductive and incremental scanning process.

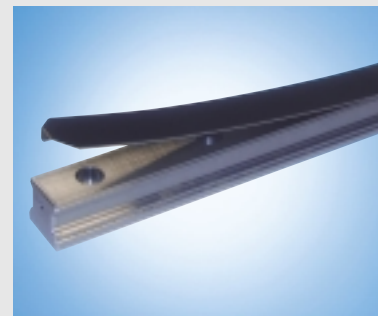


Available for Ball Rail and Roller Rail Systems, the IMS is a steel scale laser-welded to the rail with a scanner probe mounted to the runner block for continuous and precise measurement.

The integrated measuring system makes it easier to obtain positioning information from the linear rail.

RailSeal™ Cover Strip

The fast all-in-one seal that saves hours



Our innovative cover strip saves time and improves performance. Rather than plug holes individually, the cover strip is a single clip-on unit that installs fast and reliably to cover and protect all mounting holes.

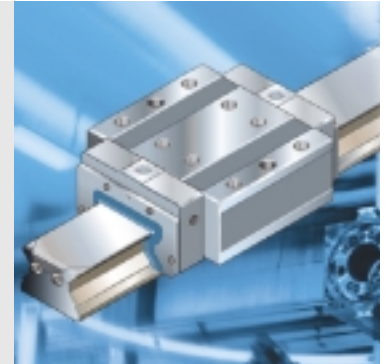
Runner Block Interchangeability

Save time and money with fast, easy replacement

Interchangeability of runner blocks makes it easy to upgrade accuracy classes or maintain a machine without having to buy a complete rail and block assembly. Replacement is as easy as removing the old block from the rail and installing a new one of the same or different accuracy class. Available with Ball Rail, Miniature Ball Rail, and Roller Rail Systems, interchangeability is a hallmark of Rexroth widely appreciated by customers.

Roller Rail™ Systems

Built tough for higher productivity and reduced downtime, our Roller Rail Systems make it easy to handle the heaviest loads with little effort. Designed for tough, heavy-load applications that still require extreme accuracy or rigidity, Roller Rail Systems offer the same benefits as Ball Rail® Systems, including the RailSeal™ Cover Strip and Integrated Measuring Systems.



Roller Rail™ Systems

**Extreme load capacities –
up to 100 tons dynamic load,
200 tons static**

If you have load capacities beyond the normal capabilities of Ball Rails, Roller Rail Systems are linear guideways using precision bearing rollers. They offer extremely high load capacity, high rigidity, and excellent running properties under heavy load. At the high end, 65/100 and 125 sizes meet special requirements in the machine tool, paper and printing, injection molding, industrial robot, and heavy machinery industries. The 125 size can handle static loads up to 200 tons.

The new 65/100 guide rail uses the same profile contour as the standard size 65 rail, but is 100 mm wide with a two-row hole pattern and a wider runner block. The larger supporting surface allows for precise mounting, with double the

number of screw fixing points and smaller screws. The resulting 40% improvement in torsional stiffness and 50% increase in torsional moment capacity make it a single-rail alternative in applications previously requiring two rails.

The Rexroth Advantage

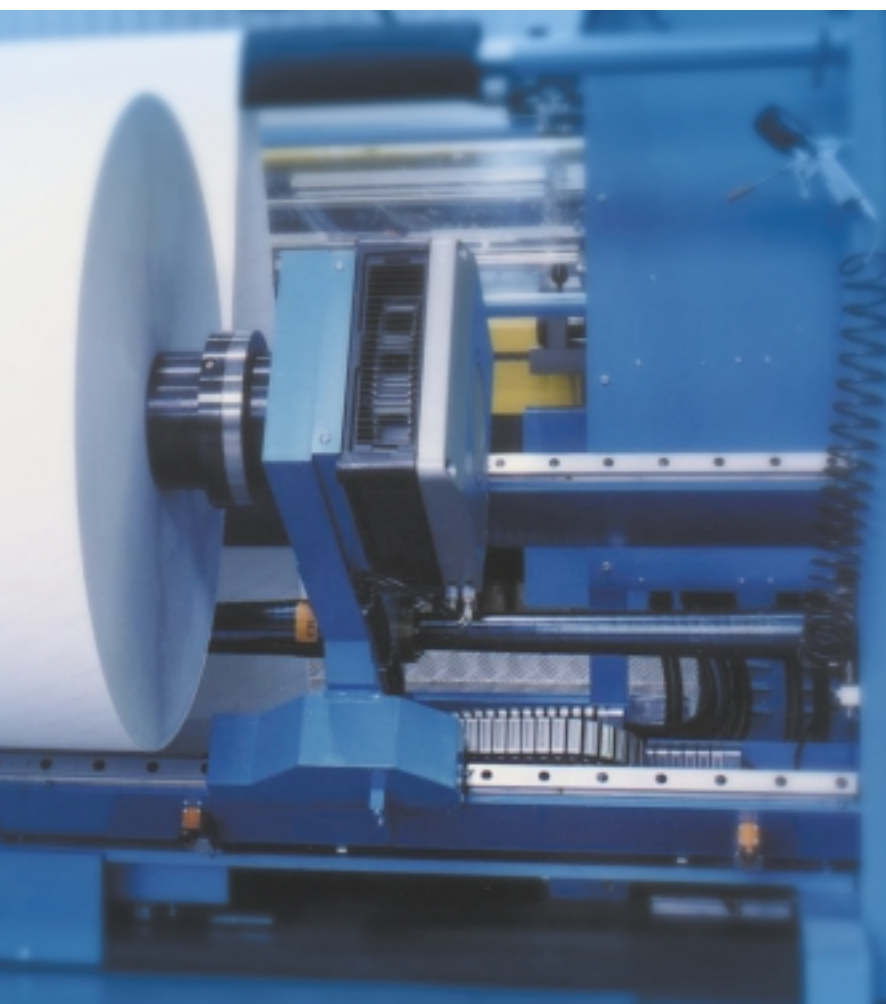
- High load capacity— up to 100 tons dynamic, 200 tons static
- Excellent running properties under heavy load
- Runner block interchangeability
- 40% improvement in torsional stiffness and 50% increase in torsional moment capacity make it a single-rail alternative in applications previously requiring two rails
- Available with RailSeal™ Cover Strip, machined aluminum end caps, and additional lube ports

The largest sizes of Roller Rail Systems in the industry provide unique solutions for paper and other heavy machinery.





Choose the Roller Rail™ System you need, from small to massive—including the industry-leading 65-, 100-, and 125-mm sizes.



More options for world-class linear motion



Tychoway® Linear Roller Bearing System

The original and best roller bearing system available

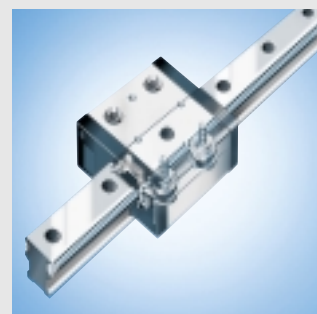
Available with any number of runner blocks, the Tychoway Linear Roller Bearing System features precision-ground bearings for extremely low running resistance.

- High-load capacity: raceway is precision ground to offer high capacity and long life
- Smooth, low-friction operation
- High rigidity for maximum machining accuracy

Cam Roller Guide Systems

High speeds, smooth running for shorter production cycles

Cam roller guides have been specially developed for use in handling and automation technology applications. They combine high maximum speeds, compact design, extremely low weight, quiet operation, simple installation, and low friction.



- Lubrication nipples can be fitted to both ends
- Runner block is easily adjusted and kept free of backlash by means of eccentric spigots
- High load capacity in all loading directions, including torques around all axes
- Anodized aluminum rail body
- Guideways made of rustproof precision steel shafts

Ball screw assemblies

Rexroth is your best choice for ball screws and ball screw assemblies. Choose from the widest range of screws and nuts available. Whether it's fast, accurate transport or precise positioning, we're your source for exactly the lengths, accuracies, and options your applications require. In fact, nobody beats our value in variety of products, range of precision, and timely delivery.



Delivered fast

Our industry-leading delivery times mean we'll ship typically in half the time of our competitors—and often even faster. Couple fast delivery with competitive pricing, and you have your ideal source for precision ball screws. Plus, our Green Light program offers a range of off-the-shelf items ready to ship within 24 hours.

Our Green Light program means fast shipment—in 24 hours or less—of a wide range of products.



Up to twice the speed, with no loss of precision

High speeds, quiet running, extended lengths—our broad line of precision ball screws offer enclosed ball-circulation systems for smooth operation. To maintain exceptional performance, the screws offer high rigidity, high axial load capacity, and low friction to achieve repeatability and precision.

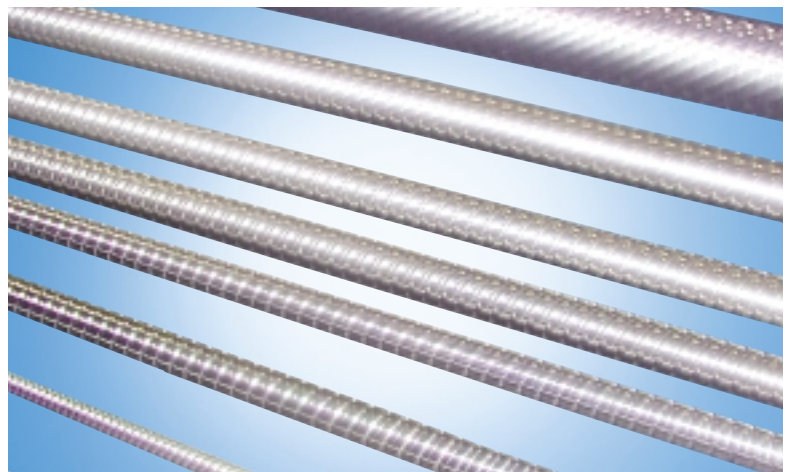
Faster cycle times and travel speeds mean high productivity in your application. Travel speeds are up to two times faster than competitive screws: our 150,000 Dn rating is twice the industry standard, doubling the speed. With an internal recirculation system and integral sealing, the Rexroth ball nuts are durable, designer-friendly, and maintenance-free. The tangential path for transitioning the balls promotes smooth, consistent motion.

Name your accuracy

Any screw in any accuracy—that's our promise. Our line includes economical rolled screws and high-precision ground screws up to P1.

You'll find the greatest variety in accuracy class, diameter, and length, and available accessories to build just the right assembly for highly-tuned performance.

Our precision ball screws are available in diameters from 8 to 125 mm, leads from 2.5 to 40 mm, and lengths of 8000 mm or more.



A full line

You'll find everything you need to apply your precision ball screw. Our ball nuts are available in a variety of styles to allow you to achieve the best match of price and performance. Single nuts are available with or without preload to reduce axial deflection, while double nuts eliminate backlash, increase positioning accuracy and axial stiffness, and prevent lost motion. Single nuts can also be supplied with backlash to promote the smoothest motion. For extended lengths and even higher speeds, our self-driven nuts (see box at right) combine motors into an integrated mechatronics-style assembly to overcome the speed and length limitations of rotating screws. In addition, we offer a wide range of pillow blocks for mounting flexibility.

Assemblies save you time and trouble

We can supply complete, ready-to-install ball screw systems. Not only will you save time in production, you'll reduce the possibility of errors. All standard and custom assemblies are rigorously inspected at our factory prior to shipment so you know they will meet your requirements.

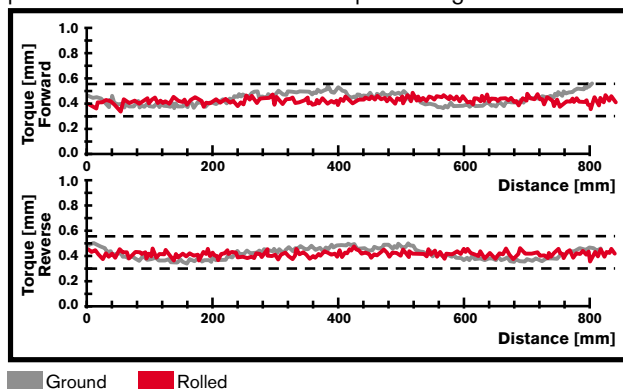
Precision-machined screws Accuracy without the grind

Get ground screw precision with the fast delivery associated with a rolled screw. Our innovative manufacturing processes allow us to achieve exacting tolerances in a precision-machined screw—up to P3 accuracy.

Rexroth rolled screws achieve the precision of much higher priced ground screws—with much faster delivery.

Ball Screw Assembly Torque Report

The Torque Variation Inspection shows smooth performance of rolled screw compared to ground screw.

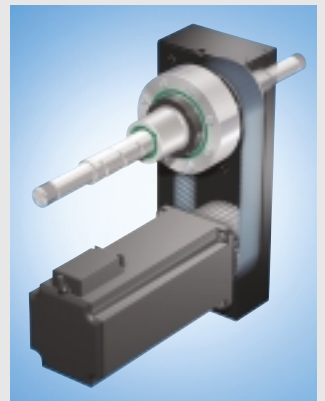


Precision, performance, and flexibility

FAR Rotating Nut

A new twist on ball screws

The FAR rotating nut reverses typical ball screw operation by using a stationary screw and rotating nut to overcome the speed and length limitations of a rotating screw. Our FAR achieves speeds up to 120 m/min at lengths up to 6 meters without causing unstable oscillation. Eliminating the need for end bearings, the screw can be preloaded at a higher level to improve screw stiffness and temperature compensation. Used with a companion integrated measuring system and associated profiled rail, the FAR can achieve twice the position accuracy of an encoder-based approach.



MHS Unit

Precision with a built-in motor

The MHS drive unit combines the advantages of the FAR rotating nut with a built-in digital servo motor. The hollow electric drive is linked directly with the ball nut. This combination yields maximum ball screw performance.

The motor and screw are designed as a compact, space-saving axis, which installs effortlessly in a wide range of applications. Very high linear speeds of up to 120 m/min can be attained even over long strokes of up to 5 meters in length.



Bushings and shafts

Bosch Rexroth invented the metric bushing, and we've been improving them ever since to accommodate higher loads, more compact applications, and longer service life. In addition, we also offer a wide assortment of shafts and bushings in inch dimensions. Count on our expertise to help you achieve the right combination of technology and cost for your application.



Linear bushings

For a global market, the widest range of bushings available

With over 6000 inch and metric styles and sizes, you're sure to find the best bushing for your application. Our bushing technology includes floating seals to maintain contact with the shaft, even when there is misalignment, to prevent contamination and preserve lubrication. Plus, ground raceways provide smoother running characteristics, while interchangeable and replaceable components reduce maintenance costs and repair time significantly.

The full range of bushings

- Radial bushings, designed for the machine tool market, offer the highest load capacities of any bushing product on the market
- Compact bushings offer the most economical choice for

high load capacity and small size (available in stainless steel)

- Super bushings reduce machine costs by compensating for up to 1 degree of misalignment and requiring less precision in the counting components
- Super H and SH bushings provide high load capacity while maintaining self-alignment, with speeds up to 5 m/s

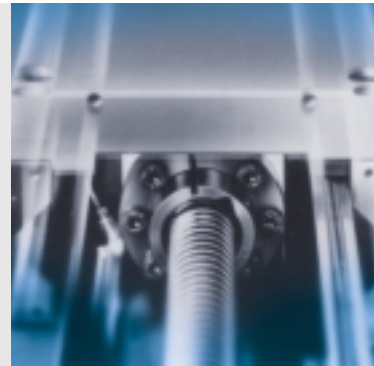
Shafts to complete any application

Available in several tolerance classes, our ground and polished shafts are the perfect complement to our linear bushings. We offer carbon steel or stainless, with a variety of additional plating options for corrosion resistance. High stock levels and efficient machining processes allow us to provide short lead times, whether you simply need a random length or full custom machining.



Linear modules

We've taken proven component technologies and integrated them into linear modules—with 15 styles of ready-made solutions for your toughest needs. With world-class application engineering expertise crossing the widest range of industries, our experts can make sure you get the right module matching all the requirements of your application—whether payload, speed, precision, travel length, application environment, or duty cycle.



PSK Precision Modules



High precision for cleanrooms and beyond

Certified for use in Class 10 cleanrooms, PSK Precision Modules use advanced positioning technologies to help manufacturers in the semiconductor and life science industries achieve higher accuracies and increased throughput. The modules feature a unique sealing strip to prevent contamination in sensitive environments. A steel base with an integral Ball Rail guideway and a precision Ball Screw assembly enable the PSK Precision Modules to achieve positioning repeatability of 5 microns with payloads up to 44,760 N and speeds up to 1.6 m/s.

MKR and MKK Linear Modules



Modules that go the distance

The MKR belt-driven linear module features a Ball Rail System and a highly tensioned toothed belt for good repeatability, long lengths, and high load capacity. The MKK Ball Screw-driven linear module features the same Ball Rail System guideway, but with a Class T7 Ball Screw drive for repeatability of up to 5 microns. Proven performers with years of service in thousands of applications, MKR and MKK Linear Modules use a modular design for easy switch and accessory mounting.

CKR and CKK Compact Modules



Compact size and high performance

Compact modules are ideal for applications with tight space constraints but high-performance requirements. Ready-to-mount CKK versions feature two internal Ball Rail guides and a ball screw drive to provide high load capacities and high repeatability. It's ideal for multi-axis applications. The CKR uses a highly dynamic toothed belt drive system to achieve speeds up to 5 m/s with smooth running characteristics over distances up to 5500 mm. Both the CKK and CKR modules are available with one or two carriages for a variety of mounting and load capacity combinations.

Profiled rail systems



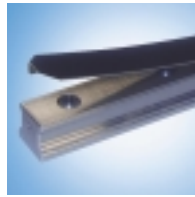
Ball Rail® Systems

- High load capacities
- High speeds/accelerations
- Lowest maintenance and lubrication costs



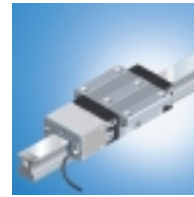
Miniature Ball Rail Systems

- Compact & precise
- Virtually maintenance free
- Sizes from 7 to 20mm
- Corrosion resistant



RailSeal™ Cover Strip

- Vastly reduces assembly time
- Protects against contamination
- Provides smoother running surface



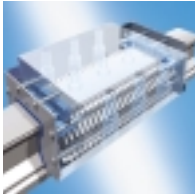
Integrated Measuring Systems

- Increased reliability & precision
- Guiding & measuring in one
- Resolutions: 0.25 to 10 µm
- Economical measuring solution



Corrosion Resistant Option

- Aluminum, chrome plated and/or stainless steel options
- Rails and blocks available
- Ideal for food processing or packaging applications



Roller Rail™ Systems

- Maximum rigidity
- Extremely high load capacities
- Smooth and efficient motion



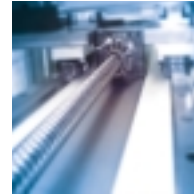
Roller Rail™ Size Options

- Sizes ranging from: 25 to 125
- Various preloads available
- High positioning accuracy



Robust Applications

- Roller Rail™—ideal for heavy automotive, machine tool, and paper applications
- Industry's highest load/moment capacities



Long Travel Applications

- Precision machining means unmatched performance over extended lengths
- Single piece lengths up to 6m; composite rails for unlimited travel



Combined Product Applications

- Best-in-class machine performance comes from best-in-class components
- Ball Screws and Linear Guides from Rexroth lower total cost of ownership

Precision ball screw assemblies



Precision Finished Screws

- Sizes ranging from: Ø16mm to 125mm
- High precision travel
- Fast delivery



ECO Line

- High-quality integrated ball recirculation
- Best price-to-performance ratio
- Shorter lead times



Miniature Ball Screw Assemblies

- Available in a variety of diameter and lead combinations from: Ø6mm to 12mm leads 1mm to 10mm



MHS Drive Unit

- Combined Ball Screw and ServoDrive
- Increased design flexibility
- Maximum speeds without sacrificing accuracy



FAR Rotating Nut

- Achieves revolutionary speeds for extended stroke lengths
- Single point lubrication
- Precise positioning

Bushings and shafts



Bushings

- Inventor of the metric bushing
- Over 1,000 variations
- High load capacities lead to extended life and cost savings



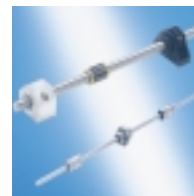
Compact Bushings

- Economical solution
- Integrated retaining rings
- Corrosion resistant option available



Super Bushings & Shafting

- Compensates for alignment errors
- Available in a variety of configurations
- Corrosion resistant option available



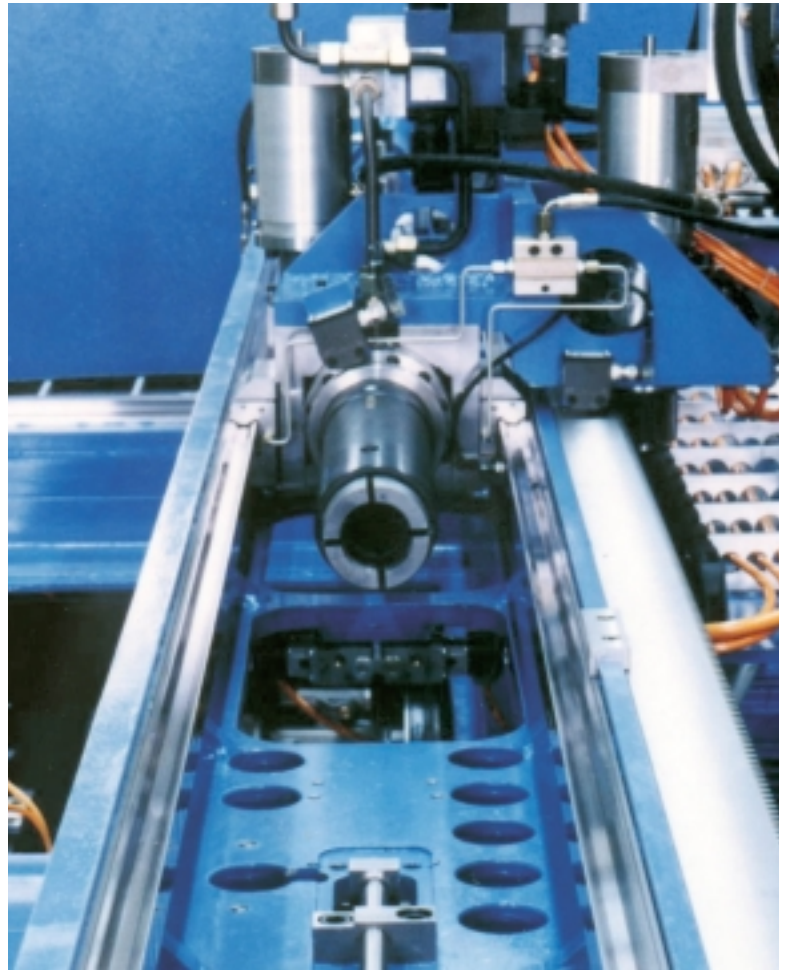
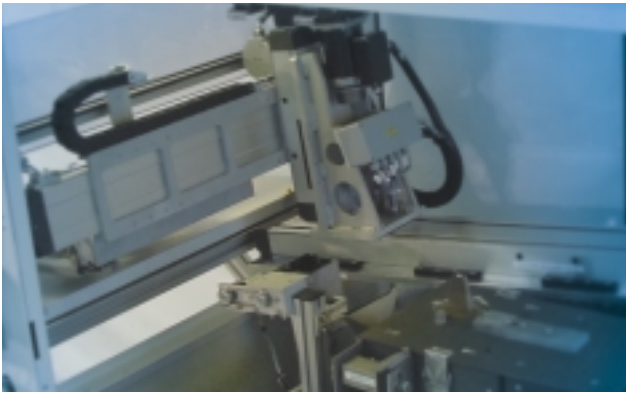
Miniature Bushings & Shafts

- Ø3mm to 16mm
- Various bushing styles available
- Designed for fine mechanical and precision instrumentation applications



Ball Transfer Unit

- Perfect for efficient handling of heavy loads
- Long life
- High load capacities



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Hungary
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Norway
Poland
Portugal
Romania
Slovakia
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