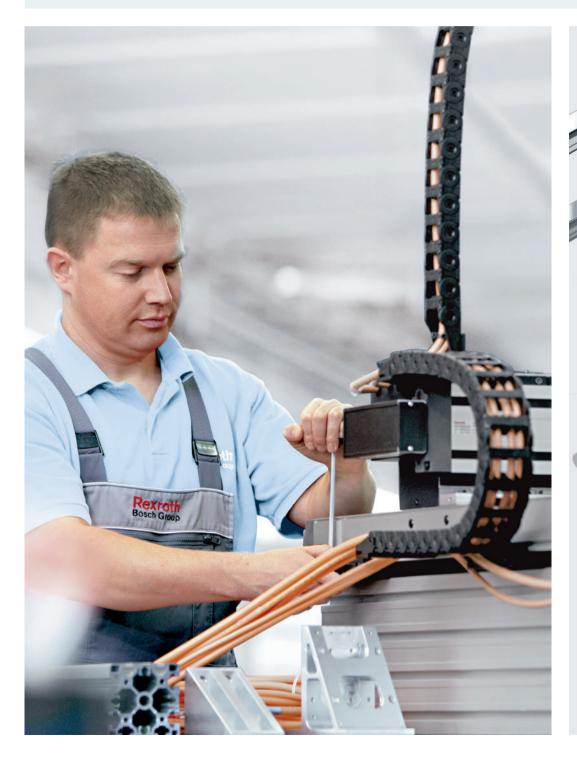
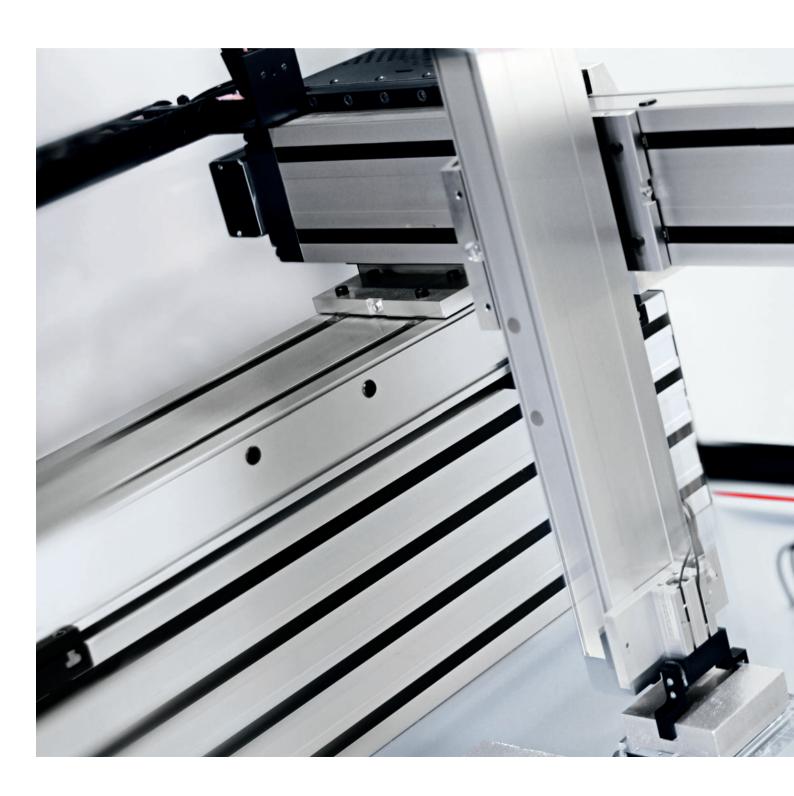


Linear Motion Technology: Performance you can trust





Linear Motion Technology from Rexroth – the best foundation for precision, process safety and efficiency





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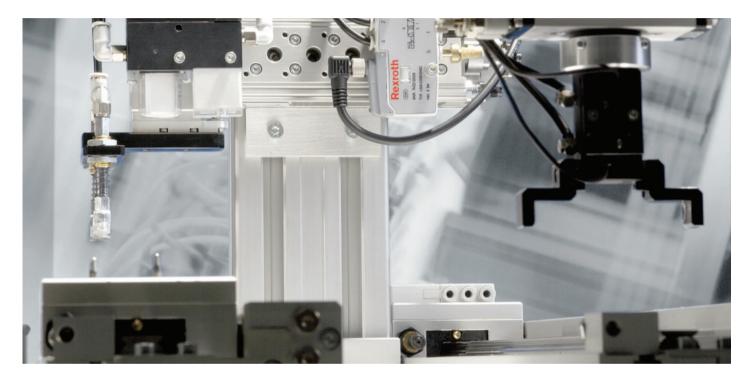
The Drive & Control Company –
 The Full Product Spectrum
 Your Partner for Success
 Media Support, eTools



Helping you to scale new heights

At Rexroth, we are proud of our worldwide reputation for setting benchmarks in drive, control and motion. The key to this technological leadership is an infrastructure focused systematically on partnering with our customers and understanding your business.

This is the way we live our claim: Bosch Rexroth – The Drive & Control Company.



With our integrative and interdisciplinary approach, we cover the complete spectrum of drive and control technologies. This scope is unparalleled in the market. Our innovative engineering delivers optimally matched systems, from standard configurations to customized high-end solutions that are open for combination with other components and systems. This assures that our customers can enjoy continuous and value-creating progress and success. Our mission is to act as providers of solutions, performance and results – and with a future-oriented energy efficiency strategy that is just as unique as our portfolio of products and services.

Motion solutions for every need

Our aim is to respond flexibly to your needs, collaborating closely with you all the way to create the perfect solution for each application. We achieve this aim thanks to the unsurpassed breadth of our portfolio with all the components needed for drive, control and motion. Backed by our superior expertise in consulting, development, implementation and service, this creates decisive competitive advantages for you. Economically, you benefit as well, since our offerings can help you to improve your productivity. This is due to the seamless interaction of all relevant technologies from electric drives and controls, hydraulics, linear motion and assembly technologies to pneumatics. As a result, you can count on system solutions and cross-system integrated applications with a sophistication that is unrivaled anywhere in the world.

We get industries moving anywhere in the world



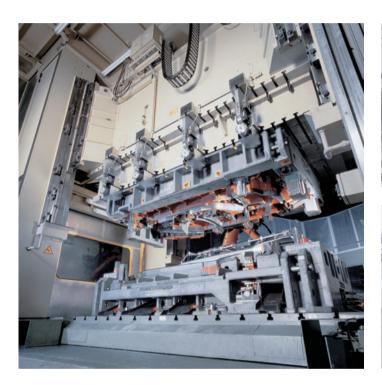
Genuine 360° solutions

As a global leader in the industrial and factory automation markets and in mobile applications, Bosch Rexroth is always a technological step ahead. We offer our customers a unique breadth and depth of industry and application know-how based on decades of accumulated experience. Our experts for each industry not only know exactly which challenges our customers face, but they speak their language, too. As a result, we are able to engineer precisely the right systems and technology packages that our customers need for their applications. In addition, our technologies and solutions help you to use energy more intelligently. In terms of the overall machine life cycle – from design and build to operation and maintenance – you can tap into enormous savings potential by using Rexroth's especially energy-efficient products.

The professional approach to motion

With our broad portfolio and our solution-finding expertise we can respond flexibly to all your needs. Our thoroughly professional approach in development and application-related support, in manufacturing, sales and service, as well as our exceptional manufacturing depth and our incomparable range of components and systems can generate still more competitive advantages for you.

Benefit also from our unique capability to deliver complete plug-and-play systems from a single source because we have all the necessary technologies in-house. With our consistent standardization policy combined with the best possible customization options, we satisfy the requirements of our customers across all industries – from individual components through to perfectly equipped systems including intelligent controls and motors.



Unique industry sector know-how

As a technology leader, we are perfectly at home in all kinds of industries – from automotive to zippers. No matter whether the application is in machine tools, woodworking, food and packaging, assembly and handling, or solar and semiconductor manufacturing, we speak your language.

Rexroth deals daily with technical innovations. This calls for a high degree of flexibility and the willingness to keep updating our skills and knowledge. By doing so, we make sure that our unmatched sector-specific know-how keeps pace with the state of the art, so that we can always find the optimal solution for your needs. With modern linear systems and with an extensive range of assembly technology components, you can rely on receiving complete solutions that deliver top performance.









Special-purpose machinery with a technological edge

Rexroth's Linear Motion Technology is the perfect technological platform for building both mass-production and special-purpose machinery. We offer you that special combination of precision, speed, energy efficiency and production safety. You benefit from the engineering expertise and services of a technology leader – because the aim of technical progress is always to serve our customers.

We maintain an ongoing dialogue with our many customers in different industries all around the world to ensure that we know which requirements have to be met in which industry to achieve an optimal solution. As a result, we can offer you technological advances with innovative and future-oriented products that improve both the performance capability of the applications and their energy efficiency.

Your challenges are our business – putting ideas in motion

Our exceptional capabilities deliver all you want and more

Reliable guidance, precise positioning and handling, and everything that goes with them, are our core expertise. When it comes to linear technology, there are good reasons to rely on Rexroth. With us, you benefit from a seamless range of innovative drive and control technologies, providing immense potential for smart solutions:

- ► Component and system know-how
- ▶ Sensitive attention to detail and precision
- ► Seamless cross-technology expertise
- ► Utmost production safety
- ► Vast range of products and services, unique manufacturing depth
- ► Complete solutions with maximum connectivity

Thanks to our leading expertise in linear technology, our products and solutions deliver top performance, while also offering substantial energy-saving potential. Careful use of scarce resources is, after all, one of the biggest challenges facing industry. Our quality management, designed to satisfy the highest expectations, provides the assurance of long life, so that your investment will pay you back many times over in the future.

As a company that thinks ahead, we are also committed to minimizing environmental impacts and continuously improving energy efficiency.



Guidance

The deciding factors for high-performing linear technology components are accuracy, dynamics and load-bearing capability in every conceivable environment and for every imaginable motion task. Profiled Rail Systems and shaftmounted Linear Bushings are the basis for precise machine movements and machining processes of all kinds. No matter what your requirements for guidance are, we will put together the optimal solution for you from our broad range of products.

Our linear technology products based on rolling element principles offer outstanding advantages: Compared to sliding guides, they consume up to 90% less energy. In addition, they are wear-free no matter what the load, ensuring consistent precision over their entire service life.

Perfect interfaces between stationary and moving machine parts

Guidance

In our vast range of guidance components you will find first-class products that will help you to build machines and equipment with a clear edge in technical performance. All the stated load capacities and ratings are regularly confirmed in sophisticated tests. We also run repeated endurance tests to check the quality of our products – so that you can count on the reliability of Rexroth components at all times.



■ Miniature Ball Rail Systems The miniature versions of ball rail systems are primarily used for highly precise applications in the medical and automation sectors as well as in the electrical industry.



◆ Roller Rail Systems
 The performance capability
 of Roller Rail Systems is at
 the very top of the range.
 Designed for utmost rigidity,
 they are especially suited for
 high-performance machine
 tools.



◆ Cam Roller Guides

Cam Roller Guides from

Rexroth excel in terms of
high speed, compact design,
low weight, minimal friction,
and low-noise operation.



■ Ball Rail Systems
 A complete system for
 linear guides with balls
 as the bearing elements,
 characterized by high load
 capacities and excellent
 rigidity in all accuracy
 classes.



◆ Linear Bushings and Shafts This product line provides amazing diversity. More than 1000 different designs and variants allow limitless combination options to meet different needs and conditions of use.

Drive Units

High-performance components from Rexroth allow you to carry out precise, smooth movements even under high-load conditions. Our drive units can be combined with ball and planetary screw assemblies for ready-to-install systems. Together with a motor and a control unit, complete drive systems are realized that quickly and easily meet all motion requirements.



■ Ball Screw Drives

A broad selection of different design styles and accessories covers all requirements in terms of thrust, positioning and transport. High accuracy and high speed are the characterizing features of these products.



◆ Planetary screw assembly

We offer perfectly coordinated planetary screw assemblies for exacting feed and positioning tasks. These assemblies are characterized by their ultra-high level of precision and feed system power.



Drive Units, Electromechanical Cylinders Ready-to-install,

Ready-to-install, complete drive units reduce the installation effort. Electromechanical Cylinders can replace pneumatic cylinders and offer additional design advantages.

Handling

Solving your handling challenges is one of our special talents: We develop individual and complete single-axis or multiple-axis systems for you. But that's not all you can expect. We deliver them as fully assembled and pre-parameterized systems, which vastly reduces the design, installation and start-up effort at your end. Nor do you have to worry about the technical infrastructure, such as motors or control units – there is no handling challenge that we can't solve.



■ Linear Axes and Systems

Our linear axes comprise high-quality guidance and drive elements. Combined with a matching motor and control unit, they can be delivered as completely pre-configured linear systems.



◆ Complete Systems

Perfect packages for handling tasks – from highly standardized to individually configured.





Drive Units

Ball screws are indispensable for the conversion of rotary to linear motion. As mechanical drive elements they can be installed in all three axis orientations and perform movements with outstanding precision and repeatability. Our Ball Screw Assemblies convert the dynamics of servo motors into precise feed motion. All of the different designs and sizes have one thing in common: their exceptional performance capability.

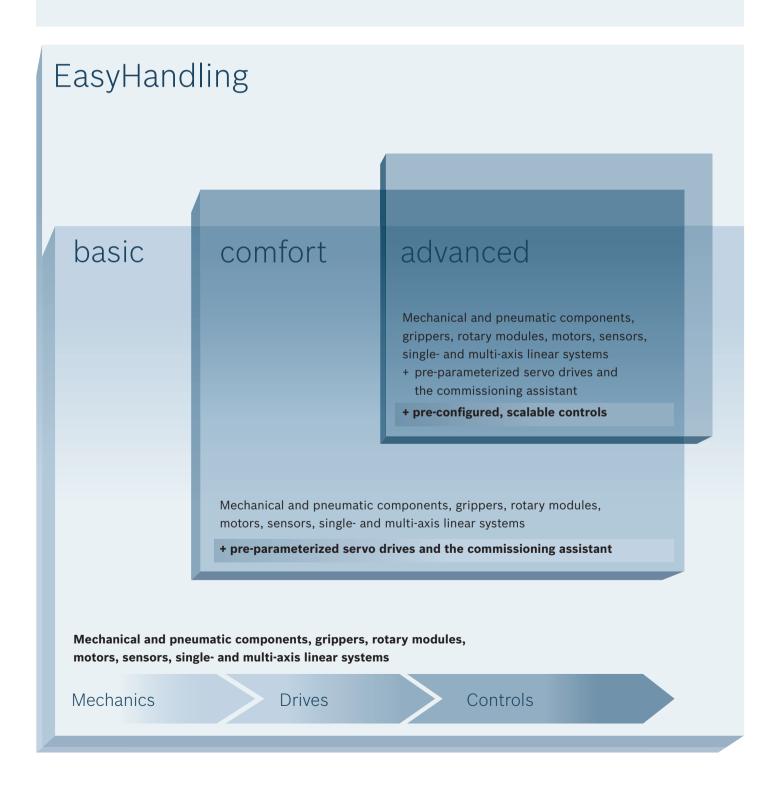
They also score technologically in terms of energy efficiency. Since the balls recirculate, the friction losses are much lower than with Acme screws, resulting in zero wear and consistent precision.

Handling

Optimizing processes and improving productivity are more essential than ever today for generating that decisive competitive edge. For handling and assembly processes, efficient linear and multi-axis systems offer an economical and powerful automation solution. Our coordinated and modular designs allow you to implement flexible systems with minimal planning outlay. Handling processes are accelerated and employees are relieved of physical exertion and monotony.

Regarding configuration, building and starting up of machines and equipment, our complete systems save you precious time while offering unbeatable precision.

The perfect system solution for the perfect application



The three variants – basic, comfort and advanced – provide outstanding solutions for all layers of assembly and handling automation. With access to the largest selection of modular mechatronic, drive and control components on the market, users can develop and deploy solutions for any handling application. The highly versatile architecture supports a large number of module combinations.

The resulting automation systems are the perfect futureproof solutions for the specific application.

As product life cycles continue to contract, the demands placed on today's automation systems are evolving faster than ever before. The EasyHandling concept gives you the tools you need to react swiftly and efficiently to changing market conditions.



basic - mechatronics made to order

EasyHandling covers among other things single- and multi-axis linear systems for any type of mechanical drive technology. The modules are delivered complete with the motors or pneumatic drives to go with them. Grippers, rotary modules and sensors are the perfect extension to the product portfolio.



comfort - get off to a faster start

EasyHandling comfort adds pre-parameterized, multiprotocol-enabled servo drives to the basic component set. With the truly exceptional EasyWizard commissioning assistant, you only need to make a few entries to get your system up and running.



advanced - for highest demands

EasyHandling advanced in combination with scalable, pre-configured motion logic control systems makes configuration and handling even easier. Pre-defined functions eliminate the need for extensive, time-consuming programming and cover more than 90 percent of all handling applications.



Rexroth for Energy Efficiency

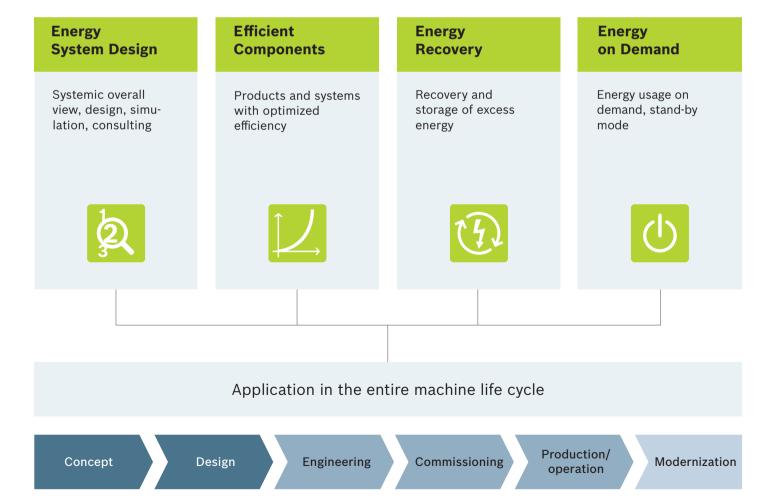


Competency across all technologies

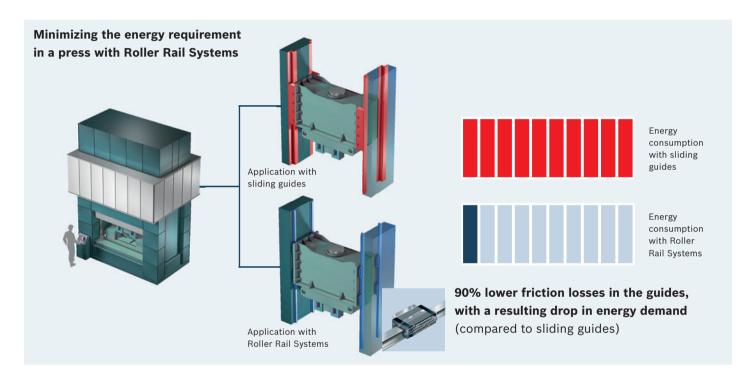
You can optimize your energy efficiency in all phases of the machine life cycle. Isolated individual measures implemented in complex systems typically lead to only minimal success.

Rexroth understands your requirements and knows how you can leverage the potential of all technologies.

Whether it be electrics, hydraulics, pneumatics, individual components, or integrated solutions, our decades of experience has made us familiar with a wide range of complex dynamics. Our 4EE systematic approach helps you identify and exploit all areas in which energy can be saved, from design through to modernization.

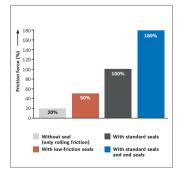


Each stage of the machine life cycle presents different opportunities for implementing energy-efficiency measures.



Higher energy efficiency due to substantial reduction of friction losses

Our rolling-element components significantly reduce the required drive energy. Compared with sliding guides, the friction can be reduced by up to 90% in applications with heavy loads, while ball screws reduce friction by up to 80% relative to Acme screws. The degree of efficiency can also be substantially improved by replacing fluidic drives by electromechanical ones.



Low-friction seals cut the friction in half

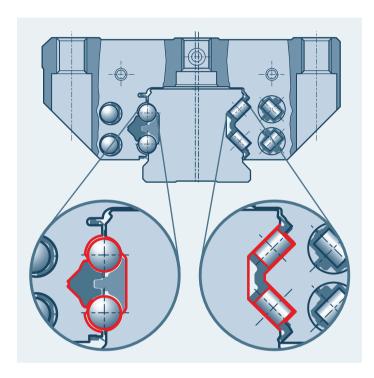
In applications with low environmental contamination levels, low-friction seals can significantly reduce the drive power requirement.

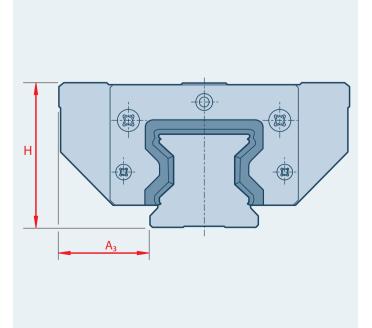


Electromechanical and fluidic cylinders

Rexroth offers all technologies to maximize energy efficiency opportunities and provides technologyneutral consulting to find the optimal solution for each specific application.

Technological Highlights of Profiled Rail Systems





Maximum cost-efficiency in logistics and installation

Total cost of ownership is one of the key performance indicators in modern business management. To offer you the utmost in flexibility and efficiency, we manufacture our products according to a unique design principle: **interchangeability**.

This is where the "inner values" count most. The rolling element sets, the raceways in the runner blocks and guide rails are manufactured to such a high degree of standardization and precision that each element can be replaced by another, regardless of the design style, without any problems. This is also an essential condition for easy combinability.

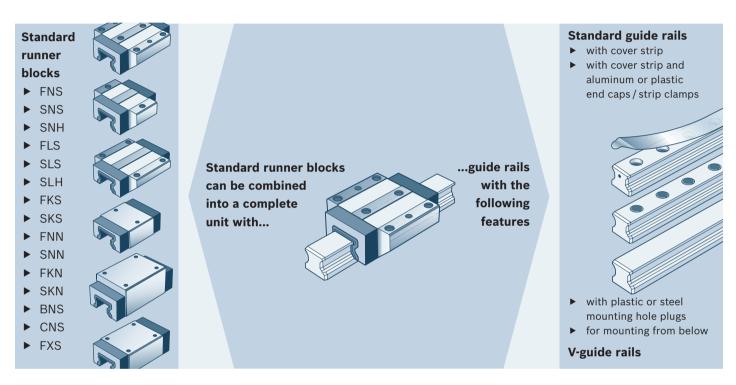
The tolerances for reference edges are graded in different accuracy classes. Your requirements determine which of these will be most appropriate.

At Rexroth, we not only take precision very seriously (see table extract showing standard **accuracy classes**), but we are also the only supplier who can offer you interchangeability of runner blocks and guide rails across all accuracy classes.

Each component, i.e., runner block or rail, can be ordered separately in any accuracy class and design style – which saves an immense amount of time and money in terms of logistics, installation and service.

Combination options for runner block and guide rail; example: Roller Rail System (excerpt from catalog data)

Accuracy Classes		Guide rail class				
Runner block class	Dimensional tolerances	H μm	P μm	SP μm	GP μm	UP μm
н	Tolerance dimension H	±40	±24	±15	-	±11
	Tolerance dimension A ₃	±20	±14	±12	-	±11
	Max. difference, dimensions H and A ₃ , on a rail system	15	15	15	-	15
Р	Tolerance dimension H	±36	±20	±11	-	±7
	Tolerance dimension A ₃	±16	±10	±8	-	±7
	Max. difference, dimensions H and A ₃ , on a rail system	7	7	7	-	7
SP	Tolerance dimension H	±35	±19	±10	±5	±6
	Tolerance dimension A ₃	±15	±9	±7	±7	±6
	Max. difference, dimensions H and A ₃ , on a rail system	5	5	5	5	5
UP	Tolerance dimension H	±34	±18	±9	±4	±5
	Tolerance dimension A ₃	±14	±8	±6	±6	±5
	Max. difference, dimensions H and A ₃ , on a rail system	3	3	3	3	3

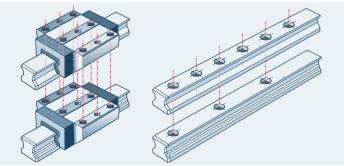


The key factor for flexibility

Precision is one of the factors that have made us technology leaders in linear motion. It enables us to offer you unbeatable advantages in planning, logistics, installation and service that help you to achieve a clear competitive edge.

Combinability is a standard feature in all of our products, no matter which design style you choose. Thanks to precision manufacturing (interchangeability principle) and the fully compatible range of accuracy classes, you can combine any runner block with any guide rail of the same technology and size. It would be hard to find a similar recipe for maximum flexibility anywhere in the market.

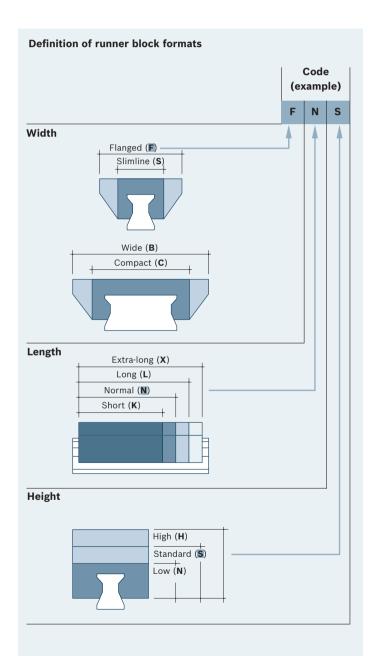
Take advantage of this to solve the most demanding and diverse motion challenges in machine tools, industrial robots or general machinery construction.



Your assurance for trouble-free modifications

If you need to upgrade existing machines or applications or wish to change systems, this is not a problem with components from Rexroth. Our standardized mounting hole patterns as per DIN 645-1 enable easy and efficient **interchangeability**. For example, you can switch from Ball to Roller Rail Systems at any time.

Runner block formats Application possibilities



Application possibilities for all requirements under different environmental conditions

With our broad range of materials and design styles, we make sure that our solutions will match the requirements of the specific application.

One crucial criterion for suitability is the combination of materials used in the runner blocks and guide rails.

Steel: The most important and consequently most widespread version is used not only as a cost-efficient element in general machine construction but also as a high-precision component in machine tools and measuring instruments.

Aluminum: The economical alternative. The runner block body of wrought aluminum alloy saves up to 60% weight while providing the same load capacity as the standard version.

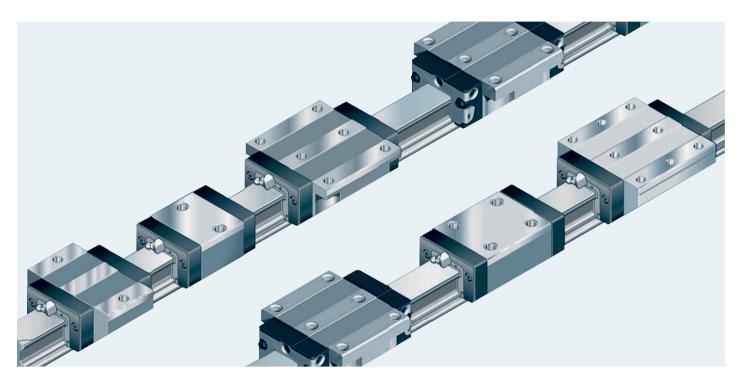
Resist NR: The ideal version for applications requiring corrosion protection. The runner blocks have the same load capacities and moments as the standard versions.

Resist NR II: Since all parts are made of corrosion-resistant material as per EN 10088, these runner blocks offer maximum protection against corrosion with only minor reductions in load capacities and load moments.

Resist CR: The corrosion-resistant runner block body with matte silver hard chrome plating offers the same load capacities and moments as the standard version. An alternative when the NR version is not available.

Resist CR II: black hard chrome plated

NRFG: All steel components are made from corrosion-resistant steel in accordance with DIN EN 10088 and AISI/NSF51. Maximum protection against corrosion with only minimal reductions in load ratings and torques. Plastic components made from certified material in accordance with guideline 2002/72/EC and FDA21CFR.



Unconditional flexibility

With products from Rexroth, you are opting for tried and trusted top technology that satisfies every wish in terms of quality, reliability and precision.

You gain that all-important competitive technical edge as well as a significant plus in efficiency on the installation and logistics level thanks to the immense flexibility we offer you with the **interchangeability** and **combinability** of our linear guides.

Another important advantage when working with Rexroth is excellent service. From the first **information** supplied through to detailed **consulting** and individual **solution proposals**, the focus is always on you, the customer.

Perfect solutions for linear motion applications – plus extensive information to help you make your choice.

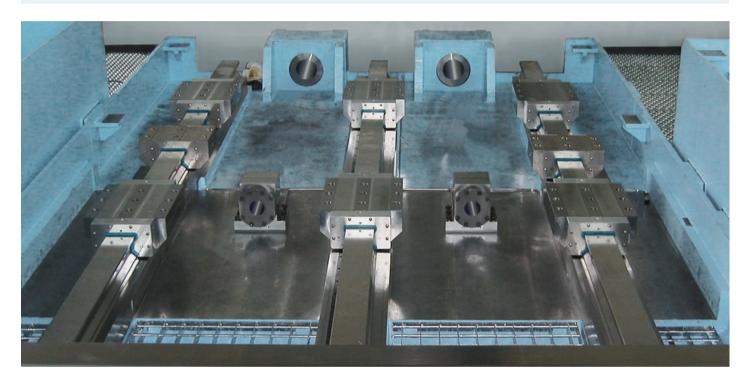
On our website at **www.boschrexroth.com**, you'll find all product details and more:

- ► Selection Guide
- ► Online catalog
- ► Catalog downloads
- ► CAD data files as downloads
- ► eShop

You can also order printed information material easily via the webpage or submit a request for personalized consulting.

Make use of our extensive expertise.

Roller Rail Systems – maximum precision for demanding motion tasks



Roller Rail Systems from Rexroth are designed to meet the highest expectations on precision and rigidity in linear motion. The range offers compact, linear motion guideways in various accuracy classes, with rollers as the rolling elements. The runner blocks and guide rails feature extremely high load capacity and rigidity for especially demanding conditions of use. The advantages of the rolling-element design are particularly apparent when it comes to energy efficiency. Here, they can improve the degree of efficiency by up to 90% relative to sliding guides.



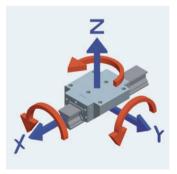
Characteristic features

- ▶ **Different formats** offering highest precision in standard, wide, extra-long and heavy-duty versions
- Unrestricted interchangeability, resulting in full combinability of all roller runner block and guide rail variants
- Extremely high load capacities in all four main directions of loading, high torque load capacity
- Maintenance-friendly lube ports, on all sides, if so desired
- Integrated all-around sealing as standard
- ► Mounting of attachments to runner block from above or below
- ► Full interchangeability thanks to standardized mounting hole patterns as per DIN 645-1
- Minimal variation in elastic deflection thanks to optimized entry-zone geometry



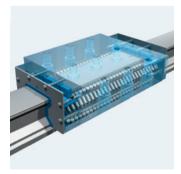
Roller Rail Systems in a press

By using our high-performance Roller Rail Systems, you benefit in several different ways. The minimization of friction losses to just 10% compared to sliding guides has a direct impact on energy consumption and therefore on energy costs. Excellent precision and travel accuracy, regardless of the speed or load, are further positive factors that boost performance and create competitive advantages for you. All of these demonstrate Rexroth's application-focused and cost-efficient approach to maximize the benefits to our customers.



Highest rigidity

Our roller runner blocks have top rigidity in all load directions for best precision and high travel accuracy.



Roller geometry

The geometry has been designed for optimal roller recirculation and guidance. Very low rolling resistance and very high resistance to deformation result in minimal friction losses and low-noise operation.



Unique sealing concept as a standard feature

Sophisticated, high-quality all-around sealing, including side seals. Minimal lubricant consumption over the entire service life.



Proven cover strip

A single cover for all guide rail mounting holes, made of corrosion-resistant spring steel as per EN 10088

- ► Simple and reliable
- Great time-saver compared to individual mounting hole plugs

Runner Blocks

Standard Roller Runner Blocks

Steel, Resist CR

Corrosion-resistant runner blocks, Resist CR, matte silver hard chrome plated, are available for exceptionally demanding conditions of use. They can also be supplied in wall-mounting versions with separate lube ducts. Lube ports can be provided on all sides (sizes 35–65).

For design calculation software and CAD support to facilitate planning, see eTools.



FNS Oil/grease lubrication Sizes 25-65 One-point oil lubrication Sizes 35-55



FLS
Oil/grease lubrication
Sizes 25-65
One-point oil lubrication
Sizes 35-55



SLS
Oil/grease lubrication
Sizes 25-65
One-point oil lubrication
Sizes 35-55

SNH
Oil/grease lubrication
Sizes 25-55
One-point oil lubrication

Sizes 35-55



SLH
Oil/grease lubrication
Sizes 25-55
Cication
One-point oil lubrication
Sizes 35-55



SNS Oil/grease lubrication Sizes 25-55 One-point oil lubrication Sizes 35-55

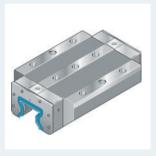
Heavy-Duty Roller Runner Blocks

Steel, Resist CR

Particularly suited for heavy duty applications requiring extremely high load carrying capability and rigidity.



FNS Sizes 100, 125 Exceptionally rigid, extremely high load capacity, for mounting from above and below



FLS
Sizes 100, 125
Exceptionally rigid, max. load on one runner block up to 200 t (size 125), for mounting from above and below



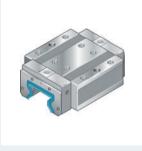
FXS
Extra-long version
Oil/grease lubrication
Size 65
One-point oil lubrication

Size 65

Wide Roller Runner Blocks

Steel, Resist CR

For single-rail applications to achieve high moment load capability.

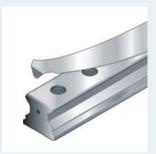


BLS Sizes 55/85, 65/100 High rigidity, high load capacity, for mounting from above and below

Roller Guide Rails and Accessories

Roller Guide Rails

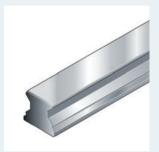
The guide rails have hardened and ground running tracks. Resist CR versions also available. Cover strip made of corrosion-resistant spring steel per EN 10088.



Standard Roller Guide Rail Steel, Resist CR

Sizes 25-125

For mounting from above Size 100 available with steel mounting hole plugs or cover strip, size 125 (heavy duty) with cover strip only



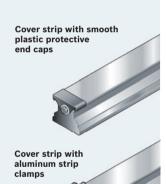
Standard Roller Guide Rail Steel, Resist CR

Sizes 25-65

For mounting from below

Cover options

Various options are available to cover mounting holes as required for the specific application.









Roller Guide Rails, special designs

Roller rail without base groove, wide roller rail



Roller rail without base groove

Sizes 35 - 55

Smooth base for mounting surfaces made from mineralcast material. Full surface contact ensures precision guidance without rippling and variations in height



Wide Roller Guide Rail Sizes 55/85, 65/100 For mounting from above, with cover strip, strip fastening with screws and washers

Accessories

Integrated Measuring System

Accessories

Additional application possibilities through add-on elements



◆ Scraper Plates

For scraping off coarse or adhering contamination, corrosion-resistant spring steel per EN 10088



◆ FKM or NBR Wiper Seal

Prevents dirt, liquid or small particles from entering the runner block. Easy mounting and removal even when guide rail is screwed down. Backing plate made of corrosion-resistant steel per EN 10088



Kit with FKM or NBR Wiper Seal and Scraper Plate

Designed for mounting to runner blocks on guide rails with cover strip



◆ Lube Plate

Lube plate for lubrication on all sides, for mounting to roller runner blocks size 25; standard lube nipple



◄ Front Lube Unit

For applications requiring travel up to 5,000 km without relubrication and for very long relubrication intervals



■ Bellows

High-quality polyester fabric with polyurethane coating to protect guides, also available in heatresistant versions



Integrated Measuring System

The inductive measuring system is a perfect example of mechatronics in practice. It is a well-thought-out, extremely robust system:
The scanner on the runner block and the scale on the guide rail combine the functions of guidance and measurement into one unit. No air sealing is required, which reduces the energy demand.



Scale

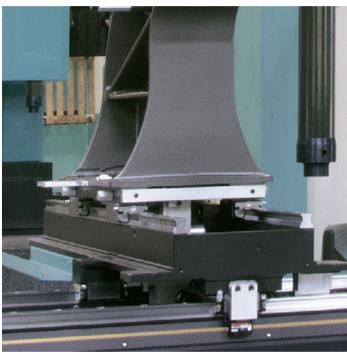
The incremental measuring principle and highly accurate scale enable precise position sensing.

Highlights

- ► Not sensitive to water, oil, dust, chips/ shavings, magnetic interference
- Runner block and measuring system form a single unit which does not take up any extra space in the transverse direction
- ► No measuring inaccuracies due to deviations in parallelism
- ► Inductive measuring system with contactfree scanning ensures zero maintenance



Ball Rail Systems – precision for high-accuracy applications



Our Ball Rail Systems offer outstanding characteristics and are designed primarily for use in general machine construction and machine tools. Especially notable are their high performance and long life. Thanks to different types of corrosion protection, harsh conditions of use are not a problem. Our high-quality long-term lubrication concept and minimal-quantity lubrication systems combined with the wear-resistance typical of rolling-element guides assure a high level of operational reliability and consistent precision throughout the service life of these components.



Characteristic features

- ► Limitless interchangeability; all ball runner block versions can be combined at will with all ball guide rail versions
- ► Excellent dynamic characteristics: speed up to 10 m/s, acceleration up to 500 m/s²
- Integrated all-around sealing as standard, additional seals for a variety of application cases
- ► Same **load capacities** in all four major planes of load application
- ► Optimum system rigidity through O-arrangement of raceways
- ➤ Different formats including special designs such as high precision, high speed, and self-alignment capability as well as versions in aluminum or different corrosion-resistance grades, e.g. for food & packaging applications



2-point contactMinimal friction due to consistent use of 2-point contact throughout

Runner Blocks

Standard, High Precision Ball Runner Blocks

Steel, optionally Resist NR or Resist CR

High rigidity in all load directions – permits applications with just one runner block per rail. High-precision versions offer enhanced travel accuracy (up to factor 6).



FNS

Steel, sizes 15-65 Resist NR, sizes 15-35 Resist CR, sizes 45-65 High precision, sizes 15-45

For high rigidity requirements, high load-bearing capacity



SNS

Steel, sizes 15-65 Resist NR, sizes 15-35 Resist CR, sizes 45-65 High precision, sizes 15-45

For restricted space in transverse direction, high load-bearing capacity



SNH

Steel, sizes 15–55 Resist CR, sizes 25–55 High precision, sizes 15–45

For restricted space in transverse direction, high load-bearing capacity, higher rigidity than SNS



Our ball runner blocks can optionally be equipped with a ball chain to optimize noise levels.



FLS

Steel, sizes 15-65 Resist NR, sizes 15-35 Resist CR, sizes 45-65 High precision, sizes 15-45

For very high rigidity requirements, very high load-bearing capacity



SLS

Steel, sizes 15-65 Resist NR, sizes 15-35 Resist CR, sizes 45-65 High precision, sizes 15-45

For restricted space in transverse direction, very high load-bearing capacity



SLH

Steel, sizes 15-55 Resist CR, sizes 25-55 High precision, sizes 25-45

For restricted space in transverse direction, high rigidity, very high loadbearing capacity, higher rigidity than SLS

Standard Ball Runner Blocks

Steel, optionally Resist NR or Resist CR

Optimal rigidity for standard applications. Short and low-profile versions.



FKS Steel, Resist NR Sizes 15-35

Restricted space in longitudinal direction, medium load-bearing capacity, for mounting from above and below, supplementary to DIN 645-1



SKS Steel, Resist NR Sizes 15-35

For restricted space in longitudinal and transverse direction, medium loadbearing capacity, mounting from above



FNN Steel, Resist CR Sizes 20, 25

For restricted space in vertical direction, high load-bearing capacity, lower rigidity than FNS, not defined in DIN 645-1



SNN

Steel, Resist CR

Sizes 20, 25

For restricted space in vertical and transverse direction, high load-bearing capacity, lower rigidity than SNS, not defined in DIN 645-1



FKN

Steel, Resist CR

Sizes 20, 25

For restricted space in vertical and longitudinal direction, medium load-bearing capacity, lower rigidity than FKS, not defined in DIN 645-1



SKN

Steel, Resist CR

Sizes 20, 25

For restricted space in vertical, longitudinal and transverse direction, medium load-bearing capacity, lower rigidity than SKS, not defined in DIN 645-1

Super Ball Runner Blocks

Steel, optionally Resist CR

Automatic compensation of alignment errors, resulting in much smoother running and considerably longer service life. At least two ball runner blocks per rail required, medium loadbearing capacity.



FKS Super Ball Runner Block Steel, Resist CR Sizes 15-35

For compensating large tolerances in the adjoining structure



Super Ball Runner Block Steel, Resist CR

Sizes 15-35

For compensating large tolerances in the adjoining structure

Standard Ball Runner Blocks

Aluminum

Up to 60% weight saving with high load-bearing capacity. The steel insert technology assures the same load capacities as the steel version up to the maximum load-bearing capability of the aluminum body.

High Speed Runner Blocks

Steel

Excellent dynamics and very high speeds thanks to high-quality ceramic balls, high load-bearing capacity.



FNS

Steel, high-speed

Sizes 15-35

For exceptionally high speeds up to 10 m/s, high load capacity, for mounting from above and below



SNS

Steel, high-speed

Sizes 15-35

For exceptionally high speeds up to 10 m/s, high load capacity, for mounting from above

Wide Ball Runner Blocks

Steel, optionally Resist CR

Can be used as a single runner block in one-rail applications due to very high torque load capacity and torsional rigidity.



FNS Aluminum

Sizes 15-35

For lightweight designs, for compensating slight tolerances in the adjoining structure, for mounting from above or below



SNS

Aluminum

Sizes 15-35

For lightweight designs, for compensating slight tolerances in the adjoining structure, for mounting from above



Resist NR II



Ball runner block made entirely of corrosion-resistant steel as per EN 10088 for harsh environments.

FNS

Resist NR II

Sizes 15-35

High rigidity, high load capacity, for mounting from above and below



BNS

Steel, Resist CR

Sizes 20/40, 25/70, 35/90 For high torsional moments in one-rail applications, very high load capacity, for mounting from above and below



CNS

Steel, Resist CR

Sizes 20/40, 25/70

For high torsional moments in one-rail applications with restricted space in transverse direction, very high load capacity, for mounting from above



SNS

Resist NR II

Sizes 15-35

For restricted space in the transverse direction, high load-bearing capacity, for mounting from above

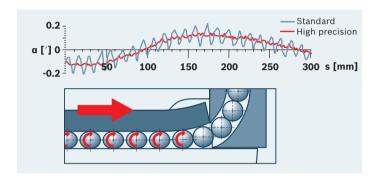


NRFG

Resist NR II

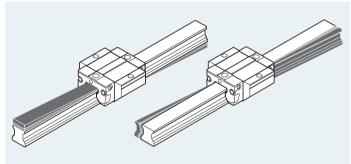
Sizes 15-35

Variant for applications in the packaging industry and select areas of the food industry. Corrosion-resistant runner block with special equipment: Food Graded (FG).



High precision with enhanced travel accuracy

The functionality of the ball entry zone is key for travel accuracy. In the high precision ball runner blocks, an especially innovative design maximizes the travel accuracy. The entry zone adjusts individually to the actual operating load of the ball runner block, as the steel inserts deflect as the balls pass them. The balls thus enter the load-bearing zone very smoothly, i.e. without any load pulsation.



Super ball runner blocks with self-alignment feature

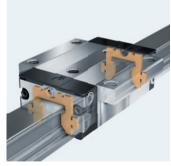
Rexroth Super ball runner blocks with self-alignment compensate for alignment errors of up to 10', assuring that the balls enter the load-bearing zone smoothly and that the load is evenly distributed. The centers of the mating surfaces supporting the steel load bearing plates serve as a rocking fulcrum. Misalignments of the runner block and the guide rail are therefore not a problem. The result is extra-smooth running and considerably longer service life.



Proven cover strip

A single cover for all guide rail mounting holes, made of corrosion-resistant spring steel as per DIN EN 10088

- ► Simple and reliable
- Great time-saver compared to individual mounting hole plugs



Low-friction seal

For special demands on smooth travel in environments with low contamination. Minimal friction resistance for high energy efficiency.



High-efficiency seal

This version effectively prevents chips, wood dust, metalworking fluids, and other contaminants from working their way into the runner block.



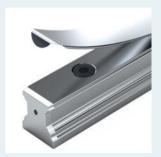
Special requirements

Version for the food industry. NRFG based on corrosion-resistant runner block (Resist NR II) with special features: Food Graded (FG).

Guide Rails and Accessories

Ball Guide Rails

The guide rails have hardened and ground running tracks. Resist CR or Resist CR II versions also available. Cover strip made of corrosion-resistant spring steel per EN 10088.



Standard Ball Guide Rail for mounting from above Steel, Resist CR, Resist CR II Sizes 15-65

Resist NR II Sizes 15-35



Standard Ball Guide Rail for mounting from below Steel, Resist CR, Resist CR II Sizes 15-65

Resist NR II Sizes 15-35



Cover options

Various cover options to meet all environmental requirements.

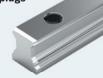
Cover strip with aluminum strip clamps



Cover strip with smooth plastic protective end caps



Plastic mounting hole plugs

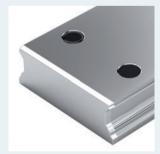


Steel mounting hole plugs



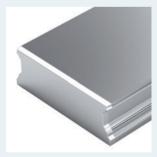
V-guide rail installed by press-fitting into mounting base, steel

Sizes 15-25 No mounting holes needed. Lower cost of mounting due to very much faster installation. Mating cavity for the rail can be produced with a standard contour milling machine.



Wide Ball Guide Rail for mounting from above Steel, Resist CR, Resist CR II

Sizes 20/40-35/90



Wide Ball Guide Rail for mounting from below Steel, Resist CR, Resist CR II Sizes 20/40-35/90

Integrated Measuring System

Accessories

for additional application possibilities



▲ Lubrication Adapter

For oil and grease lubrication from above on SNH and SLH runner blocks

■ Lube Plate

Enables further variations for lubrication of ball runner blocks; available in designs with metric threads or pipe threads

◄ Front Lube Unit

For applications requiring very long relubrication intervals

■ Bellows

High-quality polyester fabric with polyurethane coating to protect guides, also available in heatresistant versions



Integrated Measuring System

The inductive measuring system is a perfect example of mechatronics in practice. It is a well-thought-out, extremely robust system: The scanner on the runner block and the scale on the guide rail combine the functions of guidance and measurement into one unit. No air sealing is required, which reduces the energy demand.

AEE ENERGY EFFICIENCY

Scale

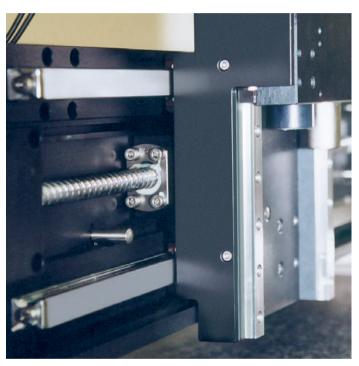
The incremental measuring principle and highly accurate scale enable precise position sensing.

Highlights

- ► Not sensitive to water, oil, dust, chips/ shavings, magnetic interference
- Runner block and measuring system form a single unit which does not take up any extra space in the transverse direction
- ► No measuring inaccuracies due to deviations in parallelism
- ► Inductive measuring system with contactfree scanning ensures zero maintenance



Miniature Ball Rail Systems – small sizes with high load capacity



The miniature version of the ball rail system was specially designed for compact applications in the medical and automation sectors as well as in the electrical industry. These areas in particular require extremely small longitudinal systems with high load capacities. Our products offer exceptional performance in these sizes. This system optimally meets the very special requirements of these production systems thanks to the high load ratings of the rail units in all four main load directions. Cleanroom applications can also be served, and appropriate certifications have been obtained. Since use in these areas depends on many different factors, please contact our specialists for more information.



Characteristic features

- ► Uniform guide rail profile with or without cover strip allows unrestricted interchangeability
- ► All steel parts of the runner block and the guide rail are made of **rust and acid resistant material** similar to ISO 683-17 / EN 10088
- ► Guide rails also available with cover strip
- ► **High load capacities** in all load directions, including moments about all axes, due to the use of largest possible ball sizes
- ► **Smooth running** thanks to optimized ball recirculation and guidance
- ► Easy mounting and replacement without loss of balls due to special ball retention feature
- ➤ Size 15 and up with lube nipples on end faces and relubrication ports on the sides



Miniature Runner Block, Standard R0442..

Sizes 7, 9, 12, 15, 20



Miniature Runner Block, Long R0444..

Sizes 7, 9, 12, 15



Miniature Guide Rail, Standard R0445..

Sizes 7, 9, 12, 15, 20 For mounting from above Size 15 also available for mounting from below



Miniature Guide Rail, Standard R0445..

Sizes 9, 12, 15, 20 For mounting from above, with cover strip made of corrosion-resistant spring steel per EN 10088

Size 15 also available for mounting from below



Miniature Runner Block, Wide R0443..

Sizes 9B, 12, 15



Miniature Runner Block, Wide, Long R0441..

Sizes 9B, 12, 15



Miniature Guide Rail, Standard R0455..

Sizes 9, 12

For mounting from above, with or without cover strip made of corrosion-resistant spring steel per EN 10088

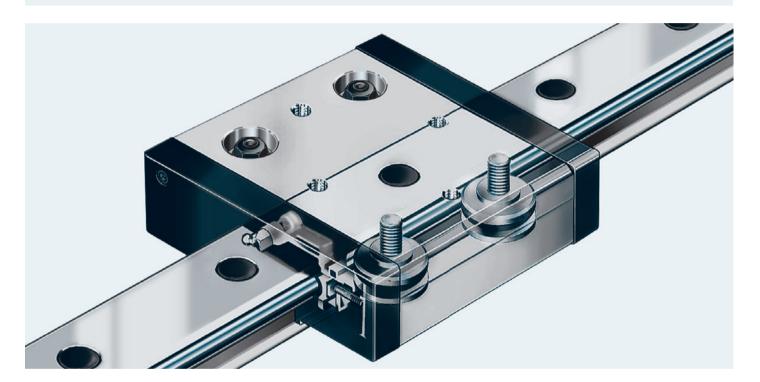


Miniature Guide Rail, Wide R0455..

Size 15

For mounting from above, two rows of mounting holes

Cam Roller Guides – convincing performance: lightweight, silent and fast



Cam Roller Guides from Rexroth were developed primarily for handling and automation applications. With their special features – compact design, very low weight, low friction and extremely low-noise operation – they perform excellently in such tasks. Their biggest advantage is their unbeatable dynamics, as their low-friction movement allows extremely high speeds.

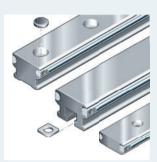
Characteristic features

- ► Extremely high dynamics, with speeds up to 10 m/s and outstanding, low-noise operation
- ➤ Two-row angular-contact ball bearings for especially smooth motion, sealed and lubed for life (large oil reservoir), oil applicator/wiper units at both ends
- ► Various formats: Standard, Super, Profile, U-type and Single/Double Bearing runner blocks
- ► Easy, zero-clearance adjustment of runner blocks through eccentric spigots
- ► Can be ordered separately, thus simplifying logistics
- Guide rails made of anodized aluminum with integrated running tracks made from corrosionresistant precision steel shafts



Standard Runner Block R1902..

Sizes 20, 25, 32, 52, 52-h, 52-sh



Standard Guide Rail R1921...

Sizes 20, 25, 32, 32-2, 52, 52-2, 52-4

Guide Rail with slot R1922..

Sizes 25, 32, 52

Guide Rail, low-profile R1924..

Sizes 32, 32-2, 52, 52-2, 52-4



Single Bearing Runner Block R1903..

with adjustment screws

Sizes 32, 52, 52-h, 52-sh

Double Bearing Runner Block R1904..

with adjustment screws

Sizes 32, 52, 52-h, 52-sh



U-type Runner Block R1905..

Size 20



Super Runner Block R1906..

Sizes 20, 25



Profile Runner Block R1907..

Standard Guide Rail R1921..

Size 42

Anodized aluminum with integrated running tracks



Guide Rail for Single/Double Bearing Runner Block, Standard, half-rail R1925..

Guide Rail for Single/Double Bearing Runner Blocks, low-profile, half-rail R1926..

Sizes 32, 32-2, 52, 52-2, 52-4

Guide Rail for Single/Double Bearing Runner Blocks, wide R1927..

Sizes 52-120



U-type Guide Rail R1923..

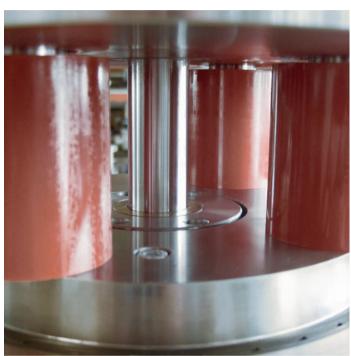
Size 20

For mounting from above, anodized aluminum with integrated running tracks

Linear Bushings and Shafts – proven technologies for handling and automation

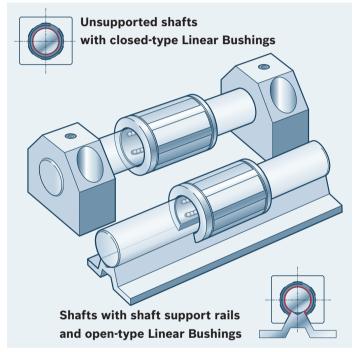


Linear Bushing Guides from Rexroth have proved their worth over many decades. Their uses are practically unlimited. The great diversity of designs, formats and materials used for the elements opens up applications beyond the classic areas of general and special-purpose machinery, jigs and fixtures, enabling powerful solutions for tasks in, for example, the food, semiconductor and medical technology industries. Linear Bushings show impressive performance in environmental conditions involving heavy contamination or high thermal loads. They are also renowned for their long life, accuracy and high degree of efficiency.



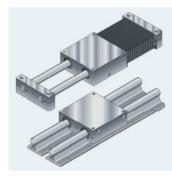
Characteristic features

- ► Many different versions: closed or open, standard or corrosion-resistant, with or without holding rings, sealing rings and side seals, with or without flanges, as Linear Sets
- ► Temperature-resistant up to 200°C
- ▶ Long life, high speeds and high rigidity
- Excellent running characteristics: low friction, smooth travel
- Compensate for misalignments or shaft deflection
- ► Radial clearance adjustable in slotted or open-type and in adjustable Linear Sets
- ► Easy, cost effective mounting



Application-oriented, individual solutions

Meeting special requirements and creating individual solutions that fulfill specifications in all respects are the benefits you can expect when working with Rexroth. Linear Bushings can cope with higher installation tolerances. For short-stroke applications, self-supporting guides with closed-type Linear Bushings are the best choice. For longer travel distances, guides with shaft support rails and opentype Linear Bushings are used.



Linear system without drive

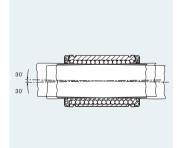
We focus on delivering rapid and economical solutions. With complete units we reduce your effort for in-house fabrication, mounting and adjustment.





Compensation for misalignments

Super Linear Bushings are able to compensate for misalignments or shaft deflections up to 0.5 degrees and therefore save effort when fabricating adjoining structures.



Cost-saving Linear Sets

Utmost precision thanks to highly accurate machining. Ready-to-mount units for cost-effective implementation.

All-metal designs for demanding requirements

Our Standard Linear Bushings have internal ball guides made of steel instead of a plastic ball retainer and can therefore resist temperatures up to 200°C without any seals. The all-metal version is also outstandingly well suited for environments with heavy contamination.

Unsupported Linear Bushing Guides – with closed-type Linear Bushings

Super Linear Bushings and Linear Sets

Unsurpassed, smooth ball circulation, compensation for misalignments, hardened steel segmental load bearing plates with ground ball tracks.

▲, Ⅲ, ᠍ = Super Linear Bushing with compensation for misalignments up to 30′ = 0.5°

(The H and SH series are especially well suited to applications involving higher loads and durability requirements as a result of the increased number of steel inserts.)

B = Super Linear Bushing **without** compensation for misalignments



Super Linear Bushing R0670..., closed-type, with self-alignment feature

Shaft diameter 10-50 mm Hardened steel segmental load bearing plates with ground ball tracks, with or without two integrated wiper seals



Linear Set R1035.. closed-type

Shaft diameter 10-50 mm
Precision housing made
of **aluminum** (lightweight
design), with Super Linear
Bushing ♠ or ♠, relubricatable, with two wiper seals



Linear Set R1085.., tandem, closed-type

Shaft diameter 12-50 mm Precision tandem housing made of **aluminum** (lightweight design), two Super Linear Bushings ♠, two external seals



Super Linear Bushing R0672.., closed-type, without self-alignment feature

Shaft diameter 10–50 mm With or without two integrated wiper seals



Linear Set R1036.. closed-type, adjustable

Shaft diameter 10-50 mm

Precision housing made
of aluminum (lightweight
design), with Super Linear
Bushing or , relubricatable, with two wiper seals



Linear Set R1032.., tandem, closed-type, adjustable

Shaft diameter 10-50 mm

Precision tandem housing made of **aluminum** (lightweight design), two Super Linear Bushings ♠, two external seals



Linear Set R1083.., flanged
Shaft diameter 12-30 mm
Precision flanged housing
made of aluminum (lightweight design), two
Super Linear Bushings ♠,
integrated wiper seals



Linear Set R1081.., flanged
Shaft diameter 12–50 mm
Precision flanged housing
made of gray cast iron, two
Super Linear Bushings or
, integrated wiper seals



R0732.., closed-type, with self-alignment feature Shaft diameter 20–60 mm Additional rows of balls for higher load capacities, ground ball tracks, with or without two integrated wiper seals

Super Linear Bushing 1



closed-type
Shaft diameter 20-60 mm
Precision housing made
of aluminum (lightweight
design), with Super Linear
Bushing ❶ or ▣, relubricatable, with two wiper seals

Linear Set R1701..



Linear Set R1065..
closed-type
Linear Set R1066..
closed-type, adjustable
Shaft diameter 12-50 mm
Precision housing made of
cast aluminum, with Super
Linear Bushing or , integrated wiper seals



Super Linear Bushing R0730.., closed-type, with self-alignment feature
Shaft diameter 20-50 mm
Additional steel segmental

Additional steel segmental load bearing plates with ground ball tracks, with or without integrated wiper seals



Linear Set R1702.. closed-type, adjustable Shaft diameter 20-60 mm Precision housing made of aluminum (lightweight design), with Super Linear Bushing os, relubricatable, with two wiper seals

Unsupported Linear Bushing Guides – with closed-type Linear Bushings

Standard Linear Bushings and Linear Sets

Robust, hard-wearing design, particularly suitable for tough demands.

Can be used at temperatures up to 200°C without seals. Hardened and ground outer sleeves.

Corrosion-resistant steel or antifriction bearing steel per EN 10088.



Standard Linear Bushing, closed-type R0600.., w/o wiper seals R0602.., with two wiper seals

Shaft diameter 3–80 mm Steel ball retainer, wiper seals or integrated steel holding rings, closed version, for use on unsupported shafts



Standard Linear Bushing, closed-type, corrosionresistant R0600..., w/o wiper seals R0602..., with two wiper seals

Shaft diameter 3–40 mm Steel ball retainer, with two wiper seals or integrated steel holding rings



Standard Linear Bushing, flanged R0740.., normal R0740.., corrosion-resistant

Shaft diameter 5-40 mm Steel or plastic ball retainer, with wiper seals



Standard Linear Bushing, adjustable R0610..., w/o wiper seals R0612..., with two wiper seals

Shaft diameter 5 – 80 mm Steel ball retainer, with two wiper seals or integrated steel holding rings, adjustable radial clearance



Standard Linear Bushing, tandem R0650.., with wiper seals, normal R0650.., with wiper seals, corrosion-resistant

Shaft diameter 8-40 mm Steel or plastic ball retainer, with wiper seals



Standard Linear Bushing, flanged, tandem R0741..., normal R0741..., corrosion-resistant

Shaft diameter 8-40 mm Steel or plastic ball retainer, with wiper seals



Standard Linear Bushing, central flange, tandem R0742.., normal R0742.., corrosion-resistant

Shaft diameter 8-40 mm Steel or plastic ball retainer, with wiper seals



Linear Set R1065.., closed-type R1066.., adjustable

Shaft diameter 8–80 mm Precision housing made of gray cast iron, Standard Linear Bushing with two wiper seals, two retaining rings





Linear Set R1081.., flanged

Shaft diameter 12–80 mm Flanged housing made of **gray cast iron**, Standard Linear Bushing with two wiper seals

Unsupported Linear Bushing Guides with closed-type Linear Bushings

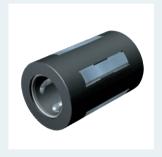
Compact Linear Bushings and Linear Sets





Compact Linear Bushing R0658..

Shaft diameter 12-50 mm



Compact Linear Bushing R0658..

Shaft diameter 8, 10 mm



Compact Linear Set R1027... closed-type

Shaft diameter 12-50 mm Precision housing made of **aluminum** (lightweight design), with Compact Linear Bushing R0658.., size 12-50 mm



Compact Linear Set R1028.. adjustable

Shaft diameter 12-50 mm Precision housing made of **aluminum** (lightweight design), with Compact Linear Bushing R0658.., size 12-50 mm



Compact Linear Set R1029.. tandem, closed-type

Shaft diameter 12-50 mm Precision housing made of aluminum (lightweight design), with Compact Linear Bushing R0658.., size 12-50 mm

Accessories

Segmental Linear Bushings and Linear Sets



Proven in the food, film and photo industries as an economical linear guide. Multi-purpose. Corrosion-resistant steel or antifriction bearing steel per EN 10088.

Segmental Linear Bushing R0668.., normal R0668.., corrosion-resistant

Shaft diameter 12–40 mm Balls made of antifriction bearing steel, hardened segmental steel load-bearing plates, polyamide ball retainer



Linear Set, adjustable R1060.., normal R1060.., corrosion-resistant

Shaft diameter 12–40 mm Pillow block housing of **reinforced polyamide**, with Segmental Linear Bushing, two replaceable wiper seals, adjustable radial clearance



Unsupported Linear Bushing Guides – with closed-type Linear Bushings

Torque-Resistant **Linear Bushings** and Linear Sets

Compact designs for full linear guidance with only one shaft. Especially suited for jigs, fixtures and special machines. Linear Sets are delivered complete with the matching precision steel shaft with ball guide grooves, always ready-mounted and adjusted to zero clearance.

Type 1 with one ball guide groove, Type 2 with two ball guide

Suitable linear bushings can also be delivered without a shaft. Corrosion-resistant steel or antifriction bearing steel per EN 10088. Torque-Resistant Linear Sets with external seals.



Torque-Resistant Linear Bushing R0696.., Type 1 Shaft diameter 12-50 mm

Torque-Resistant Linear Bushing R0696.., Type 2 Shaft diameter 20-50 mm Separate seals



Linear Set R1098.. Linear Set, tandem R1099.. Type 1, aluminum Shaft diameter 12-50 mm

Linear Set R1098.. Linear Set, tandem R1099... Type 2, aluminum Shaft diameter 20-50 mm



Linear Set R1096.. Linear Set, tandem R1097.. Type 1, steel

Shaft diameter 12-50 mm

Linear Set R1096.. Linear Set, tandem R1097... Type 2, steel

Shaft diameter 20-50 mm



Torque-Resistant Compact Linear Bushing R0720.. Shaft diameter 12-50 mm

Plastic ball retainer and outer sleeve, hardened steel load-bearing plates, separate seals



Compact Linear Set R0721...

Shaft diameter 12-50 mm Compact outer sleeve or flanged sleeve made of steel, Torque-Resistant Compact Linear Bushing



Compact Linear Set, tandem R0722..

Shaft diameter 12-50 mm Compact outer sleeve made of steel, two Torque-Resistant Compact Linear Bushings

Torque-Resistant Linear Bushings with four ball guide grooves

Compact designs for full linear guidance with only one shaft. Enhanced torque resistance thanks to four ball guide grooves.

Integrated wiper seals.



Torque-Resistant Linear Bushing R0724 2 with four ball guide grooves Shaft diameter 4–50 mm Hardened and ground outer sleeve, plastic ball retainer, keyway for torque transmission



Torque-Resistant Linear Bushing R0726.. miniature flange, four ball guide grooves Shaft diameter 6–10 mm Hardened and ground outer sleeve, plastic ball retainer



Compact Linear Set, flanged R0723..

Shaft diameter 12–50 mm Compact outer sleeve or flanged sleeve made of **steel**, Torque-Resistant Compact Linear Bushing, precision steel shaft with ball guide groove



Torque-Resistant Linear Bushing R0725.., flanged, four ball guide grooves Shaft diameter 6–50 mm Hardened and ground outer sleeve, plastic ball retainer

Unsupported Linear Bushing Guides – with closed-type Linear Bushings

Linear Bushings for Combined Linear and Rotary Motion

For conversion of linear to rotary motion with one Linear Bushing.
These units consist of a Linear Bushing with a pressfitted external deep-groove ball bearing or needle bearing.



Linear Bushing R0664.. with deep-groove ball bearing, series 60

Shaft diameter 5–80 mm Maintenance-free, sealed with shields, Standard or Segmental Linear Bushing, external seals or integrated wiper seals



Linear Bushing R0663.. with deep-groove ball bearing, series 618

Shaft diameter 5–80 mm Standard or Segmental Linear Bushing, external seals or integrated wiper



Linear Bushing with needle bearing R0665.., w/o wiper seals R0667.., with wiper seals

Shaft diameter 5–80 mm Standard Linear Bushing, steel spacer rings, retaining rings

Torque-Resistant Linear Bushings for Combined Linear and Rotary Motion

For conversion of linear to rotary motion with one Linear Bushing.
Linear motion with torque transmission.



Torque-Resistant Linear Bushing R0727.. with four ball guide grooves

Shaft diameter 20-40 mm Hardened and ground outer sleeve, integrated wiper seals, integrated cross-roller bearing

Supported Linear Bushing Guides – with open-type Linear Bushings

Standard Linear Bushings and Linear Sets

Robust, hard-wearing design, particularly suitable for tough demands. Can be used at temperatures up to 200°C without seals.



Standard Linear Bushing, open-type R0630.., w/o wiper seals R0632.., with two wiper seals

Shaft diameter 12–80 mm Hardened and ground outer sleeve, steel ball retainer, wiper seals or integrated steel holding rings



Linear Set R1067.., open-type R1068.., open-type, adjustable

Shaft diameter 20–80 mm Precision housing made of **spheroidal graphite cast iron**, Standard Linear Bushing with two wiper seals, retention with locating screw



Linear Set R1071.., with side opening R1072.., with side opening, adjustable

Shaft diameter 20–50 mm Precision housing made of **aluminum** (lightweight design), Standard Linear Bushing with two external seals, retention with grooved taper pin

Supported Linear Bushing Guides – with open-type Linear Bushings

Super Linear Bushings and Linear Sets

Unsurpassed, smooth ball circulation, compensation for misalignments, hardened steel segmental load bearing plates with ground ball tracks.

▲, ♠, ♣ = Super Linear Bushing with compensation for misalignments up to 30′ = 0.5° (The H and SH series are especially well suited to applications involving higher loads and durability requirements as a result of the increased number of steel inserts.)

B = Super Linear Bushing **without** compensation for misalignments



Super Linear Bushing A R0671..., open-type, with self-alignment feature Shaft diameter 12-50 mm With or without two integrated wiper seals, or with two integrated wiper seals and side seals (fully sealed)



Linear Set R1037..
open-type
Shaft diameter 12 – 50 mm
Precision housing made
of aluminum (lightweight
design), with Super
Linear Bushing ♣ or ♣,
relubricatable



Linear Set R1071..
with side opening
Shaft diameter 20 – 50 mm
Precision housing made
of aluminum (lightweight
design), with Super Linear
Bushing ▲ or ᠍, relubricatable, with two wiper seals
and side seals (fully sealed)



Super Linear Bushing R0673..., open-type, without self-alignment feature
Shaft diameter 12-50 mm

With or without two integrated wiper seals, or with two integrated wiper seals and side seals (fully sealed)



Linear Set R1038.. open-type, adjustable
Shaft diameter 12-50 mm
Precision housing made
of aluminum (lightweight
design), with Super
Linear Bushing ⚠ or ☒,
relubricatable



Linear Set R1072..
with side opening, adjustable
Shaft diameter 20-50 mm
Precision housing made
of aluminum (lightweight
design), with Super Linear
Bushing or nelubricatable, with two wiper seals
and side seals (fully sealed)



Linear Set R1087.. tandem, open-type Shaft diameter 12-50 mm

Precision tandem housing made of **aluminum** (lightweight design), two Super Linear Bushings , relubricatable, two external seals



Linear Set R1067.. open-type

Shaft diameter 12–50 mm

Precision housing made of spheroidal graphite cast iron, retention with locating screw, Super Linear Bushings ⚠, integrated wiper seals and side seals (fully sealed)



Super Linear Bushing TR0733..., open-type, with self-alignment feature
Shaft diameter 20-60 mm

Hardened steel segmental load bearing plates with ground ball tracks. With or without two integrated wiper seals



Linear Set R1703.. open-type

Linear Set R1704.. open-type, adjustable Shaft diameter 20-60 mm

Precision housing made of **aluminum** (lightweight design), with Super Linear Bushing or , relubricatable



Linear Set R1034.. open-type, adjustable

Shaft diameter 12–50 mm Precision tandem housing made of **aluminum** (lightweight design), two Super Linear Bushings ♠, relubricatable, two external seals



Linear Set R1068.. open-type, adjustable

Shaft diameter 12-50 mm

Precision housing made of spheroidal graphite cast iron, retention with locating screw, Super Linear Bushings , integrated wiper seals and side seals (fully sealed)



Super Linear Bushing R0731.., open-type, with self-alignment feature

Shaft diameter 20-50 mm Hardened steel segmental load bearing plates with ground ball tracks. With or without two integrated wiper seals



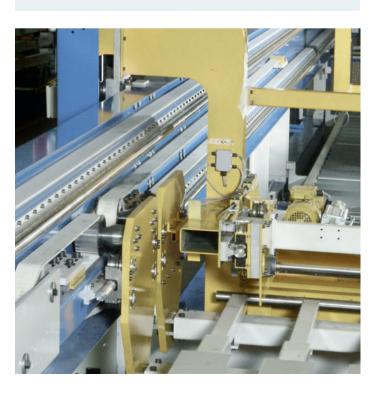
Linear Set R1706.. with side opening, adjustable

Shaft diameter 20–50 mm
Precision housing made
of **steel**, retention with
locating screw, Super Linear
Bushings ① or ③, integrated
wiper seals and side seals
(fully sealed)

Precision Steel Shafts and Shaft Support Blocks

Characteristic features

- ▶ Broad application spectrum with shafts in various tolerances made of heat-treated steel and corrosion-resistant steel as well as hard chrome plated
- ▶ Induction hardened and ground, available as solid or tubular shafts
- ► Customized end machining to customer specification with internal thread on end face, undercuts for retaining rings, spigots, threaded spigots, key flats, annealed ends for further machining or with other processing options
- ▶ Shafts in mill-cut lengths for individual machining, cut to desired length with chamfering at both ends or machined to specification
- ▶ Shafts available in **Linear Bushing and other** diameters





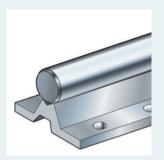
Precision Steel Shafts Shaft diameter 3-110 mm **Linear Bushing diameters:** 3, 4, 5, 8, 10, 12, 14, 16, 20, 25, 30, 40, 50, 60, 80 mm Other diameters:

6, 15, 18, 22, 24, 32, 35, 38, 45, 55, 70, 100, 110 mm



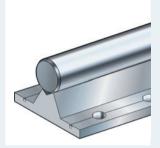


Steel Shafts with ready-mounted Shaft Support Rails and Shaft Support Rails



Steel Shaft with flange R1010.., with mounted Shaft Support Rail Steel Shaft for profile framing systems R1025.., with mounted Shaft Support

Shaft diameter 16-40 mm High rigidity, aluminum, economical



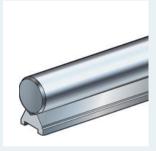
Steel Shaft with flange R1014.., with mounted Shaft Support Rail, aluminum

Shaft diameter 12–80 mm High rigidity, very accurate height tolerance



Steel Shaft for side mounting R1015.., with mounted Shaft Support Rail, aluminum

Shaft diameter 20 – 50 mm High rigidity, Type 1 (standard) or Type 2 (customized hole pattern)

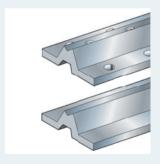


Steel Shaft R1013.., with mounted Shaft Support Rail, aluminum, with flange

Shaft diameter 12-30 mm

Steel Shaft R1016.., with mounted Shaft Support Rail, steel, without flange

Shaft diameter 16-50 mm



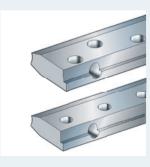
Shaft Support Rail R1039.., aluminum, for profile framing systems, with drilled holes Shaft Support Rail R1039.., aluminum, w/o drilled holes

For shaft diameter 20-30 mm



Shaft Support Rail R1050.., aluminum, with flange, with drilled holes Shaft Support Rail R1050.., aluminum, with flange, w/o drilled holes

For shaft diameter 12–80 mm, length 600 mm



Shaft Support Rail for side mounting R1054.., aluminum

For shaft diameter 20–50 mm, available as Type 1 (standard) or Type 2 (customized hole pattern)

Drive Units with Ball Screw Drives – ready to install and ready to drive



Our Drive Units are pre-assembled, ready-to-use Ball Screw Drives for perfect conversion of rotary to linear motion. They offer impressive diversity and performance capability. Whether with a rotating or stationary screw, our technical quality not only achieves optimally powerful performance but also maximum precision. To absorb radial and eccentric forces, the Drive Units must be additionally equipped with separate, high-performance guide rails. As well-engineered assemblies produced to the highest technical standards, our Drive Units have proven their worth in tough industrial conditions. At the same time, they are remarkably costeffective, saving considerable time and effort in terms of design, installation, configuration and tuning.



Characteristic features

- ► Economical solutions through reduced design and manufacturing effort for high-dynamic motion applications
- ► Broad range of components to satisfy many different requirements
- Optimal travel performance and high load ratings
- ► High positioning accuracy and repeatability
- ► Freely selectable length, no standard length increments
- ► Rapid mounting and easy alignment due to machined reference edges
- ► Can be delivered as drive systems complete with control units and drive motors

Drive Units with driven screw





Closed Drive Unit AGK Pillow blocks, nut enclosure and frame (protective profile) made of aluminum

The AGK drive unit is the classic ball screw assembly with pillow blocks and pre-fabricated nut enclosure, additionally provided with a protective frame and sealing strip. Optional traveling screw supports allow maximum speeds even over long strokes. Pre-assembled for easy attachment of motors via motor mount/coupling or timing belt side drive, also available as a complete system with motor and control unit.



Drive System AGKwith motor mount and coupling or timing belt side drive,
complete with motor

Open Drive Unit AOK Pillow blocks and nut enclosure made of aluminum

Drive Units AOK are ideal for building economical drive solutions with reduced design and manufacturing effort. They combine all the performance characteristics of a classic ball screw drive in one perfectly coordinated unit. Any nut and nut enclosure in the entire product range can be selected as appropriate for the application.

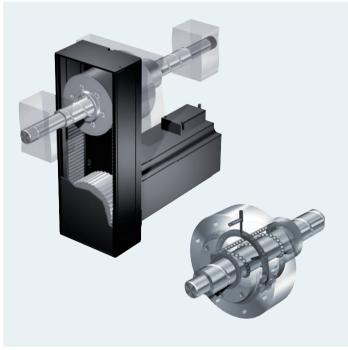
Pre-assembled for easy attachment of motors via motor mount/coupling or timing belt side drive, also available as a complete system with motor and control unit.



Drive System AOKwith motor mount and coupling or timing belt side drive, complete with motor

Drive Units with driven nut





Open Drive Unit AOK Pillow blocks and nut enclosure made of steel

The steel version is a higherstrength alternative to that with aluminum components. Because of its higher rigidity, it also offers greater accuracy.

Pre-assembled for easy attachment of motors via motor mount/coupling or timing belt side drive, also available as a complete system with motor and control unit.



Drive System AOKwith motor mount and coupling or timing belt side drive, complete with motor

Drive Unit FAR with driven nut

Available in many different configurations – if desired, pre-assembled with timing belt side drive and AC motor – this cost-effective drive system and the associated controller unit offer particularly compelling system characteristics.

Unlike conventional designs where the screw rotates and the ball nut is stationary, here the driven nut rotates on a stationary screw. Due to fixing of the screw and the highly accurate axial and radial run-out of the driven nut, it is possible to operate the system above the critical speed. The critical speed – which can lead to resonance and screw whip – is therefore no longer a restriction.

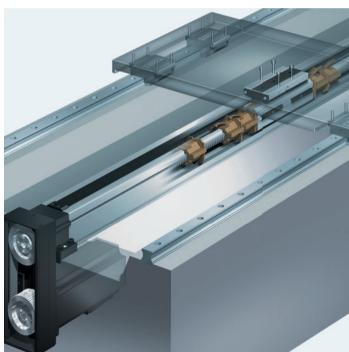
This design makes it possible to achieve higher linear speeds and make full use of the nut's maximum permissible rotary speed. Since no end bearings are needed, the screw can be pre-tensioned to a higher level here, which increases the screw's rigidity. In addition, with this drive concept it is possible to install and operate several motors on one screw and run them separately at different speeds and even in different directions of rotation.



Critical speeds under control

Our sophisticated and patented concept of screw supports effectively pushes the limits of screw loading. If the screw is not supported, a longer stroke normally means a reduction in the critical speed and hence the permissible linear speed. Thanks to the well-thought-out design principle, the screw supports are moved into their respective defined positions as the nut moves along the screw.

An intelligent technical solution to increase productivity and cost-effectiveness – ideal for high-dynamic applications.

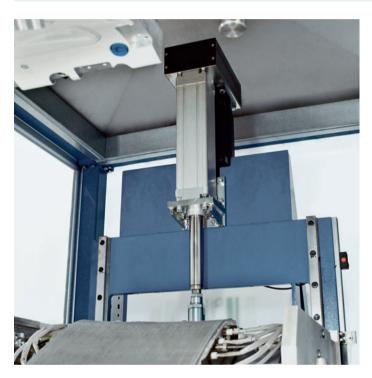


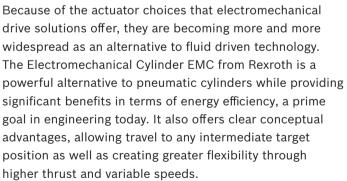
Drive units, drive systems and complete linear motion systems

Rexroth delivers sophisticated, ready-to-install drive units for both standard and non-standard motion and drive tasks. We supply them complete with motor and control unit, resulting in plug-and-play drive systems.

These can be turned into functional linear motion systems by combining the drive unit or system with separate, high-performance guides and configuring the overall system for optimal performance, taking all load conditions into consideration, so that any transverse forces and moments can be absorbed. This could involve, for example, supporting a carriage on two runner blocks at each side – thus creating a professionally engineered, reliably functioning linear motion system.

Electromechanical Cylinders with ball screw drive – the efficient, ready-to-install solution

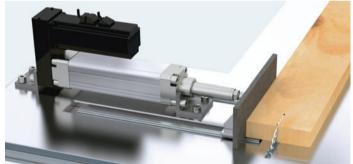




Whether installed with articulated bearings (to avoid the effects of transverse forces) or rigid mounts, these products are especially well suited for typical motion applications, including handling tasks.







Characteristic features

- ► Broad spectrum available in 6 sizes from 32 to 100 per ISO 15552 and in any stroke length from 100 up to 1,500 mm
- ► Integrated ball screw drive ensures exact positioning and powerful thrust capability
- ► Motor attachment via motor mount and coupling or belt side drive
- ► Compact design, dynamic drive
- ► Extensive series of attachments to match every application area
- ► **Rapid installation**, compatible with other products from Rexroth
- ► Piston rod made from corrosion-resistant stainless steel
- ► **High energy efficiency** compared with fluid-driven designs or trapezoidal screws



Electromechanical Cylinder EMC

Sizes 32-100

Mechanics with proven, rolled precision ball screws in all common diameter/lead combinations. Performance characteristics such as positioning accuracy, thrust or speed can be optimized to meet the requirements of each specific application. Through the use of generously sized angular-contact thrust ball bearings, the load rating is used to its maximum potential.



Cylinder system with motor mount or timing belt side drive, complete with motor

To match your specific requirements, there is a choice of attachment options and different servo motors for configuring complete systems.

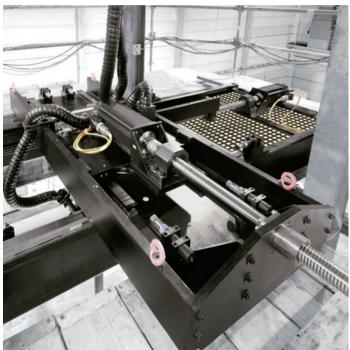


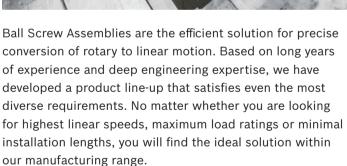
Mounting elements, examples

There are many choices and possibilities when it comes to drive configurations and mounting elements.



Powerful components for building tailor-made solutions





Speed limits and characteristic speed d*n

The bearing speed, critical speed of the screw and the characteristic speed d * n of the ball nut can restrict the linear speed.

The stated d*n value of 150,000 in our specifications is based on tests performed under especially severe conditions, with a thermal load of 60°C and a travel of 100 million revolutions. This corresponds to the life expectancy of a ball screw assembly operating at a load of 0.1*C – reflecting practical usage and reliably confirmed, as you would expect from Rexroth!



Characteristic features

- ▶ **Broad diversity**, a match for every requirement
- ► Absolutely consistent and stable functioning
- ► Especially smooth running due to optimized ball pickup and recirculation
- ▶ **High load ratings** due to large number of balls
- ► Short ball nut design
- ► Easy-to-mount ball nuts; direction of mounting per customer specification
- ► Adjustable preload single nuts
- ► Extensive range with various series in stock
- ▶ Perfectly matched additional single components such as nut enclosures, end bearings, also as pillow block units, including pre-machined versions for attachment of suitable motor mounts





Life-long lubrication with Front Lube Unit

With this series-made component, a ball screw assembly can attain a travel life of up to five years without relubrication. The Front Lube Unit applies the exact amount of oil to the ball screw that is required to replenish depleted oil components in the ball nut lubricant. Space-saving in design, the Front Lube Unit is delivered ready-mounted to the Ball Screw Assembly. Life-long lubrication for operation at up to 15% of the maximum load rating.



Perfectly tuned solutions

To achieve solutions offering maximum accuracy and operating reliability, the individual components in our range have been engineered to interact precisely with each other. They can be efficiently combined to produce complete units. Rexroth also supplies matching drive motors, motor mounts and flange elements.



Miniature/Speed Series

The ideal product lines for economic implementation of positioning and transport applications. Pre-assembled with ball nuts in screw-in or flanged designs, these series provide simple and quick solutions.

Single Nuts

Standard series

Ball nuts are coated with anticorrosion oil prior to shipment. Complete ball screw assemblies are supplied pre-lubricated.



Flanged Single Nut FEM-E-S

Sizes 8x2.5R-80x20R With standard seals, reinforced seals available as an option, some sizes with left-hand thread, with backlash or reduced backlash, preload 2%, 3%, 5%



Flanged Single Nut FEM-E-C

Sizes 16x5R-80x20R With standard seals, reinforced seals available as an option, with backlash or reduced backlash, preload 2%, 3%, 5%



Flanged Single Nut with recirculation caps FSZ-E-S

Sizes 20x5R-40x20R With seals, with backlash or reduced backlash, preload 2%, 3% or 5%



Adjustable-preload Single Nut SEM-E-C

Sizes 16x5R-80x20R With standard seals, reinforced seals available as an option, adjustable preload



Flanged Double Nut FDM-E-S

Sizes 16x5R-80x20R With standard seals, reinforced seals available as an option, preload 7% or 10%, delivered only as a complete ball screw assembly



Flanged Double Nut FDM-E-C

Sizes 16x5R-80x20R With standard seals, reinforced seals available as an option, preload 7% or 10%, delivered only as a complete ball screw assembly



Cylindrical Single Nut ZEM-E-S, ZEM-E-A, ZEM-E-K

Sizes 8x2.5R-63x10R

With standard seals, reinforced seals available as an option, some sizes with left-hand thread, with backlash or reduced backlash, preload 2%, 3%, 5%



Adjustable-preload Single Nut SEM-E-S Sizes 8x2.5R-80x20R With standard seals,

reinforced seals available as an option, adjustable preload, some sizes with left-hand thread



Screw-in Nut ZEV-E-S

Sizes 12x5R-32x10R With low-friction seals, with backlash or reduced backlash, preload 2% Highperformance, miniature, and speed series



Flanged Single Nut, 2-start FED-E-B

Sizes 40 x 20R - 63 x 40R

For significant increases in load ratings, with backlash or reduced backlash, preload 2% or 3%



Miniature Flanged Single Nut FEM-E-B

Sizes 6x1R-12x10R

Miniature Series

With seals, with backlash or reduced backlash; delivered only as a complete ball screw assembly



Driven nut FAR-B-S

Sizes 32 x 10R - 63 x 40R

High-performance series
With seals, reinforced sealing

(optional)

Pretension of 2 %, 3 %, or 5 %

Delivery as complete ball screw only



Flanged Single Nut with recirculation caps FEP-E-S

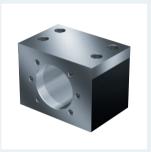
Sizes 20 x 40R - 32 x 64R

Speed Series

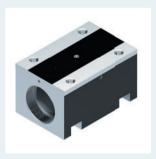
With seals, with backlash, reduced backlash or preload 2%, with plastic recirculation caps, delivered only as a complete ball screw assembly

Ball Nut Enclosures, Precision Screws

Ball Nut Enclosures



Ball Nut Enclosure MGD
Sizes 16x5R-80x20R
Ball Nut Enclosure MGS
Sizes 16x5R-80x10R
Steel nut housing, reference edges on both sides



Ball Nut Enclosure MGA-ZSizes 20x5R-40x40R
Aluminum nut housing, reference edges on both sides

Precision Screws



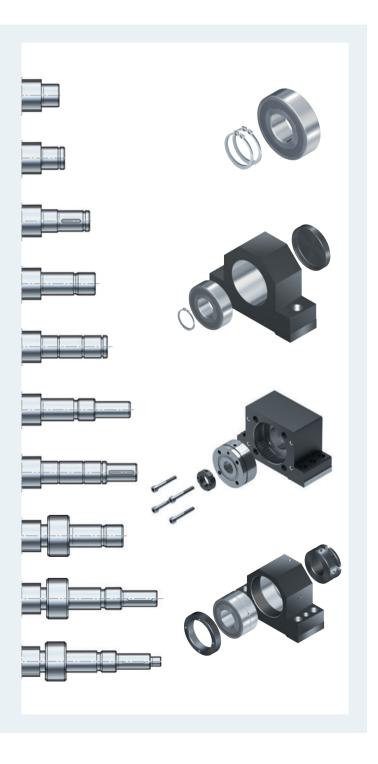
Our rolled precision spindles are a key component in our ball screws and are available in many sizes and pitches.

Depending on the lead, our screws can also be delivered in two-start or four-start versions. In combination with our multi-start ball nuts, this allows higher load ratings to be achieved within a short overall length.

Screw Ends, End Bearings

Screw Ends and End Bearings

Offering a variety of different shaft end machining variants, including processing to your own specifications, our shaft ends combined with appropriate end bearings from our range fulfill all the requirements for your specific application. From deep-groove ball bearing to complete pillow block unit – the screws and end bearings in our portfolio are always matched perfectly to provide optimum performance. They are essential to trouble-free functioning and reliable operation of processes.



Pillow Block Units, Bearings Slotted Nuts and Ring Nuts

Pillow Block Units

Good solutions are a matter of attention to detail. Our Pillow Block Units and Bearings are precision engineered and manufactured products, which have proven themselves in the field over many years. Designed to match the respective requirements, they cover the full range of performance characteristics. From a complete Pillow Block Unit to an economical fixed or floating bearing.



Pillow Block Unit SEC-F Aluminum

Fixed bearing with angularcontact thrust ball bearings, precision pillow block housing made of **aluminum** with reference edge on both sides, angular-contact thrust ball bearing with slotted nut, Motor mountings can be directly adapted



Pillow Block Unit SES-F Steel

Fixed bearing with angularcontact thrust ball bearings, precision pillow block housing made of **steel** with reference edge on both sides, angular-contact thrust ball bearing with slotted nut, Motor mountings can be directly adapted



Pillow Block Unit SEB-F

Steel

Fixed bearing with angularcontact thrust ball bearings, precision pillow block housing made of **steel** with reference edge on both sides, angular-contact thrust ball bearing with slotted nut and ring nut



Pillow Block Unit SEC-L

Aluminum

Floating bearing with deepgroove ball bearing, precision pillow block housing made of **aluminum** with reference edge on both sides, deepgroove ball bearing with retaining ring and cover



Pillow Block Unit SES-L

Stee

Floating bearing with deepgroove ball bearing, precision pillow block housing made of **steel** with reference edge on both sides, deep-groove ball bearing with retaining ring and cover



Pillow Block Unit SEB-L

teel

Floating bearing with deepgroove ball bearing, precision pillow block housing made of **steel** with reference edge on one side, deep-groove ball bearing with retaining ring and cover

Bearings



Bearing LAF

Fixed bearing with angularcontact thrust ball bearing, double-thrust, screw-down, with slotted nut



Bearing LAN

Fixed bearing with angularcontact thrust ball bearing, double-thrust or doublethrust in pairs, with slotted nut



With so many different subassembly designs, there obviously has to be a corresponding variety of slotted nuts and ring nuts. For applications involving high vibrations or for economical constructions – Rexroth will always have the perfect solution for you.



Bearing LAL

Fixed bearing with angularcontact thrust ball bearing, double-thrust, screw-down, for economical constructions, with slotted nut



Bearing LAD

Floating bearing with deepgroove ball bearing, with retaining ring



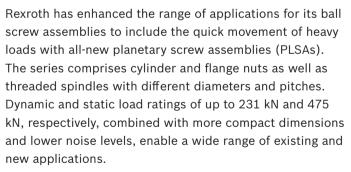




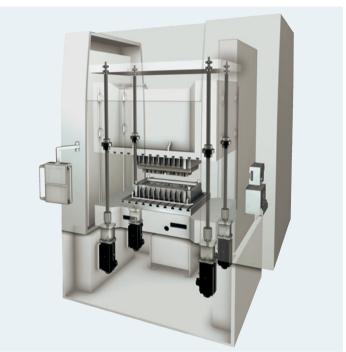


Planetary screw assemblies – more compact, powerful, and quiet





Combining a PLSA with a servo motor produces a mechatronic unit with the nominal force of a hydraulic cylinder. Ultra-high accuracy, positioning, and flexibility as well as low energy consumption lend the design to being used as a feed axis in modern servo presses, machines tools, and injection molding machines.



Characteristic features

- ► **High load capacity** thanks to numerous large contact surfaces
- ▶ Quiet running due to guided planets
- ► Compact size as a result of improved power density
- ► Lower consumption of lubricants and good environmental protection via effective seals
- ▶ **Different nut types** available
- ▶ Economic solution realized by rolled spindle

Single nuts and bearings



Cylindrical single nut with ZEM-E-S axial play

Sizes 20x5R-48x10R

With standard seals, max. axial play 0.03 mm, for PSR precision spindles of tolerance classes T5, T7, T9, static load ratings of up to 481 kN, dynamic load capacities of up to 220 kN



FEM-E-S flange single nut with axial play

Sizes 20x5R-48x10R

With standard seals, max. axial play 0.03 mm, for PSR precision spindles of tolerance classes T5, T7, T9, static load ratings of up to 481 kN, dynamic load capacities of up to 220 kN



FDM-E-S split flange single nut with pretension

Sizes 20x5R-48x10R

With standard seals, pretension, for PSR precision spindles of tolerance classes T5, T7, static load capacities of up to 240 kN, dynamic load ratings of up to 127 kN



LAS bearing

Fixed bearing support with angular-contact ball bearing, double direction, with grooved nut



FEC-F bearing

Fixed bearing support with angular-contact ball bearing, with precision flange housing, with grooved nut For additional bearings (LAF, LAN, LAD), grooved nuts (NMA) and ring nuts (GWR) see page 67

Linear Systems – compact units for many different applications

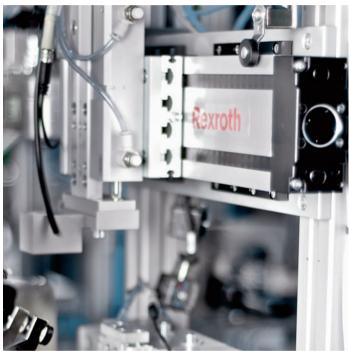


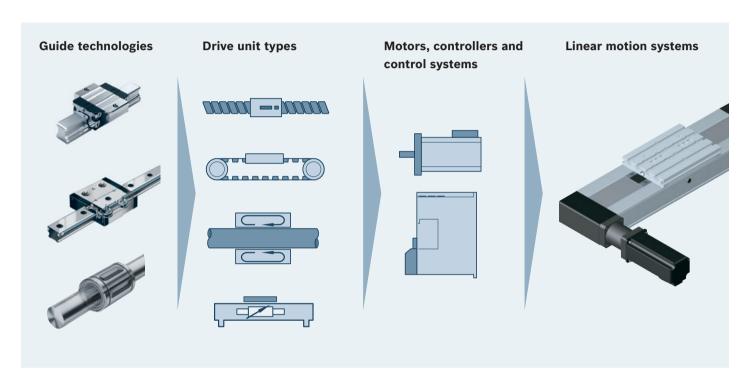
Photo: VS Engineering SRL - Ettore Franceschi

Our Linear Motion Systems range from single axes to sophisticated, pre-configured complete solutions precisely engineered to meet your specific requirements and application needs - compact and ready to install. They help you to get ahead faster, more easily and much more efficiently. You benefit above all from our extensive know-how in guidance technologies and the development and manufacturing expertise we have built up in this area over many years. This, together with our special steel insert technology and the housings we make ourselves, is the reason we are able to minimize the size of our modules. In terms of performance-to-volume ratio, our Linear Axes are unbeatable, to say nothing of their high precision and quality. This naturally holds true for cleanroom applications as well, and appropriate certifications have been obtained. Since use in these areas depends on many different factors, please contact our specialists for more information.



Characteristic features

- ► Complete product range for assembly and handling systems, as standard solutions or individually adaptable for use in almost any industry
- Scalable and ready-made linear systems
- ► Extremely cost-effective, since the customer no longer has to match up the guide and the drive element
- ► Reduced design and manufacturing effort due to high degree of standardization
- ▶ Extensive range of attachments and accessories
- Configuration with motor attachment, drive amplifier and control unit to produce complete systems
- ▶ Adaptations to customer-specific requirements
- Excellent service provided by experienced specialists



Guide technologies

In our Linear Axes we integrate guide components in the following design types:

Ball Rail Systems

Very high rigidity and accuracy, speed up to 5 m/s

Cam Roller Guides

Unbeatable dynamics and speeds up to 10 m/s, extremely low-noise operation

Linear Bushings and Shafts

Smooth-running and robust, especially for harsh environments

Drive unit types

The characteristics of the linear axes are essentially determined by the type of drive unit used.

Ball Screw Drive

High rigidity, high power density and repeatability

Toothed belt drive

For long travel distances with high dynamics, zero maintenance

Linear motor

For high travel speeds and high acceleration rates, fast cycling, highly accurate positioning, zero maintenance

Pneumatic drive

No motor required, travel between end positions

Motors, controllers, control units

Our portfolio also includes motors, controllers and control systems for configuring linear axes into complete linear systems. With our long experience, we make sure the combinations are designed to maximize process efficiency.

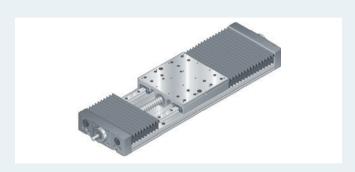
Linear motion systems

All of our Linear Motion Systems are optimally engineered to serve the requirements of each specific industry. From solutions with maximum possible standardization to systems specially adapted to meet your needs and specifications, we develop systems that deliver perfect results.

Ball Rail Tables

The performance capability and design type of a Ball Rail Table is determined by the weights which have to be moved and the travel distance, the required rigidity and the environmental conditions.

Our ready-to-install Ball Rail Tables will help you solve demanding linear motion tasks rapidly and cost-effectively – from simple single-axis systems to multi-axis configurations. We can combine these systems with matching powerful motors and optional linear measuring systems, thus reducing the normally high effort you would have to spend on design and selection.



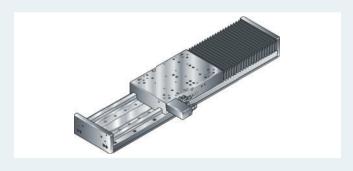
Ball Rail Table TKK

For medium to very high loads, base plate in aluminum or steel. Available in four sizes in lengths up to 2,860 mm with finely graduated length increments.

Switches adjustable over the entire travel range, switch mounting either internal (protected) or external (freely accessible). Optional high-quality measuring system (glass scale).

Characteristic features

- Utmost precision, combined with best travel accuracy
- ► Exceptional load-bearing capacity and rigidity through use of Ball Rail Systems with four long high-precision runner blocks per carriage, with either 2% or 8% preload
- ► Relatively high travel speeds over long linear distances due to large screw diameters and leads, and double floating bearings
- Integrated components protected by high-quality, welded, oil-, moisture- and temperature-resistant bellows
- ► Economical maintenance of ball rail systems via one central lubrication point



Ball Rail Table TKL

For moving medium to very high loads with high dynamics and speeds up to 8 m/s.

Available in three sizes in lengths up to 3,980 mm with finely graduated length increments.

Top travel speeds thanks to the use of ceramic balls and internally mounted, powerful, water-cooled synchronous linear motors. Wear- and maintenance-free linear motor is ideal for 24-hour operation. Integrated distance-coded measuring system (inductive measurement) or glass scale.

Precision Modules

In addition to their outstanding performance features and small dimensions, our Precision Modules will convince you with their superior accuracy.

The compact design and rigidity is due to the precision steel profiles of the frame with integrated Rexroth guideway geometry. Equipped with high-quality ball screws with backlash-free nut systems, these modules achieve exceptionally high positioning accuracy and repeatability in tolerance grade 7 – and at high travel speeds.

Characteristic features

- ► **High-precision** linear modules with steel profile frames in **very compact dimensions**
- ► Running tracks ground into the frame, extremely close manufacturing and mounting tolerances
- ► Travel performance with high load capacity, precision and rigidity
- ► Extremely high positioning accuracy and repeatability thanks to backlash-free nut system
- ► Relatively high travel speeds due to double floating bearing, large screw diameters and leads
- ► Rapid mounting and easy axis alignment thanks to machined reference edge on the frame



Precision Modules PSK

Three different series: open modules or modules with cover plate or cover strip of corrosion-resistant steel per EN 10088. Four sizes in different lengths up to 940 mm.

The modules are available with one or two steel carriages, standard length or long. Switches adjustable over the entire travel range.

Compact Module

In many applications, space is a major problem. The challenge here is to nevertheless achieve high performance with optimal travel characteristics, high load capacities, high rigidity and precision. This is where our Compact Modules score with their excellent performance data, including unsurpassed moment load capacity.

Space requirement is not the only area in which our Compact Modules lead the field, as they are also extremely cost-efficient. They are configured as ready-to-install, plug-and-play units. All components are perfectly matched, which significantly reduces the mounting effort for you. In addition, the intelligent Easy-2-Combine interfaces allow you to interconnect modules rapidly, precisely and securely.



Compact Module CKK with ball screw drive

Extremely compact precision-extruded aluminum profile (frame) with two integrated Ball Rail Systems. Precision ball screw drive in tolerance grade 7 with zero-backlash nut system.

Available in five sizes in lengths up to 5,500 mm.

With traveling gap seal made of PU tape reinforced with steel

CKK 25-200 can also be supplied with screw supports to increase the travel speed over large distances.

Characteristic features

- ► Especially low profile thanks to compact design with built-in profiled guide rails and runner blocks integrated in the carriage.
- Steel insert technology permits the use of aluminum carriages to reduce the moved mass
- ► **High travel speeds** combined with high precision and smooth running
- ► **High moment load capacities** due to twin rail guides
- ► **High power density** in terms of load-bearing capacity and overall dimensions
- Compact aluminum frame with excellent intrinsic rigidity
- Minimal maintenance effort due to central relubrication point



Compact Module CKR with toothed belt drive

Extremely compact precision-extruded aluminum profile with two integrated Ball Rail Systems.

Available in five sizes in lengths up to 12,000 mm.

Aluminum carriage in two different lengths to accommodate different loads. Idler (non-drive) end enclosure with integrated belt-tensioning system. Pulley ball bearings are lubricated for life. High travel speeds combined with high precision and smooth running. The toothed belt also acts as a gap seal and is guided laterally by aluminum strips.

Compact Module eLINE



Compact Module CKL with ironless linear motor

Compact Modules CKL are especially suited for applications requiring very high speed and acceleration combined with travel accuracy, very good positioning performance and fast cycling.

Available in four sizes up to a length of 5,500 mm.

With ironless linear motor and integrated, contact-free measuring system, complete with cable carrier (system) for safe, reliable operation.



Compact Module CKP with pneumatic drive

Extremely compact precision-extruded aluminum profile with two integrated Ball Rail Systems.

Available in three sizes in lengths up to 2,000 mm, with piston diameter from 16 to 32 mm.

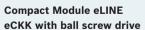
Double-acting, with magnetic piston, adjustable pneumatic cushioning.

Our eLINE Compact Modules were developed specifically with economy in mind and are the most inexpensive of our linear axes. We achieve this through cost-optimized development and the use of economical components.

Characteristic features

- Simplified start-up due to pre-assembled compact drive with positioning data set control or PROFIBUS interface
- ► Same dimensions as Compact Modules, therefore interchangeable
- Minimized maintenance effort due to lubrication for life







Compact Module eLINE eCKR with toothed belt drive

Short or long carriages, with or without connection plate. Simple start-up thanks to performance charts for instant identification of positioning time.

Lengths up to 1,200 mm with standardized length increments.

Alternatively:

Freely configurable lengths or strokes, adaptations for servo motor mounting via flange/coupling, belt drive gear (eCKK), or gear reducer (eCKR).

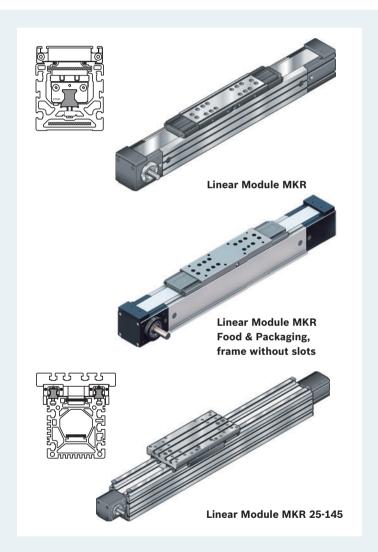
Linear Modules

Powerful linear axes as precise, ready-to-install linear motion systems that combine high performance with compact dimensions – these are the key attributes of our Linear Modules. With their high load capacities, optimal travel characteristics and combinability with different drive types, the integrated zero-clearance guide systems permit implementation of all individual specific requirements, especially for moving large masses at high speeds.

For automation and handling tasks, in particular, our ready-to-install modules offer distinct advantages over customer-built constructions made up of single components. With a configured Linear Module, you obtain a standard solution that has proven its worth many times over in practice. Naturally, each solution can be provided with add-ons to meet individual needs.

Characteristic features

- ► Precise, ready-to-mount guide systems with high performance characteristics and compact dimensions
- ► Extremely compact extruded aluminum profile with excellent rigidity and integrated Cam Roller Guides or Ball Rail Systems
- ► Powerful **toothed belt** or **ball screw drive** for reliable movements
- ► High rigidity, therefore suitable for self-supporting installation
- Available with gear reducer or integrated gear unit in various gear ratios together with (digital)
 AC servo motor with appropriate control unit
- ► Maintenance-free sealing system with gap seal and guidance of toothed belt by the aluminum profile frame (in closed axes)



Linear Module MKR with toothed belt drive

Linear Module for moving heavy loads at high speed thanks to high load capacities and optimal travel performance. For implementation of processes with high moment loads.

In six sizes, configurable in millimeter increments, with one or two ball rail systems, available in lengths up to 12,000 mm depending on dimensions and requirements.

Longer lengths can also be configured by joining modules end-to-end. Toothed belt guided by the aluminum profile. With sealing strips made of corrosion-resistant steel plus gap seal.

Omega Modules



Linear Module MKK with ball screw drive

Linear Module with high thrust forces, ideally suited for applications requiring high load capacities and high positioning accuracy and repeatability.

Available in five sizes in lengths up to 4,900 mm.

Precision ball screw drive with rolled screw and zero-backlash cylindrical single nut. Depending on the size, the drive unit may be covered with a special plastic sealing strip with integrated steel cords, a corrosion-resistant steel strip, or high-quality bellows. Optionally also available with screw supports (MKK 25-110).



Linear Module MLR with cam roller guide and toothed belt drive

Linear Module with integrated zero-clearance Cam Roller Guide whose special design makes this module ideal for very high speeds up to 10 m/s.

Available in two sizes up to a length of 12,000 mm.

Longer lengths can also be configured by joining modules endto-end. With integrated belt tensioning system. The belt pulley system is equipped with ball bearings lubricated for life. Gear reducer with a choice of gear ratios for optimal matching of external load to motor inertia.



OBB omega module with ball rail system and omega tooth belt drive

Linear system with high-level dynamic capabilities The fix-mounted drive makes the modules ideally suited to applications involving deep immersion into the work area. The frame can also be fix-mounted and several table sections traversed independently of each other using a separate drive.

Available in three sizes up to a length of 5,500 mm (lengths in excess of 1,500 mm not recommended for fix-mounted and movable frame).

Precision ball rail system. Tooth belt drive that winds around the gear wheel in the form of an "omega". Drive mounted on the table section to reduce the moved mass of the frame. Multiple table sections that traverse independently of each other possible. Clamping elements for maintaining position available.

Feed Modules Bridge Modules

Mini Slides

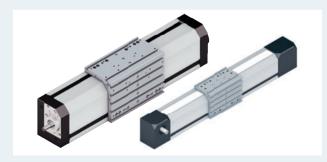


Feed Module VKK with ball screw drive

Compact module units, especially suitable for handling tasks requiring high precision, high thrust and torque transfer capabilities, and high positioning accuracy and repeatability. Because of their low moved mass, Feed Modules are ideal for vertical motion in Z-axes.

Available in three sizes with strokes up to 400 mm.

Compact aluminum profile with eLINE technology, combining aluminum and steel to provide excellent performance of runner block and guide.



Bridge Modules with ball screw or toothed belt drive

Bridge Modules provide neat solutions for applications that could otherwise only be served by costly custom designs. They supplement the broad spectrum of Linear Motion Systems by enabling optimal combination of all axes while bridging larger distances.

Available in two sizes in lengths up to 5,500 mm.

Two versions: either with ball screw drive (BKK) or toothed belt (BKR), optimized for high torsional stiffness and load carrying capacity.



Mini Slide MSC-EL with electric drive

This ready-to-install Mini Slide with integrated electric drive reduces the start-up effort to a few simple actions. Convenient parameter setting of the sequencing control through predefined axis-specific basic parameters.

Available in four sizes with strokes up to 200 mm and in different standard lengths.

Integrated drive unit (ball screw, toothed belt), maintenancefree, brushless, electronically commutated DC motor. Simplified mounting due to Easy-2-Combine interfaces. All sizes available with optional holding brake.



Mini Slide MSC-PN with pneumatic drive

The alternative to the electrically driven Mini Slide from the MSC series, with the same connection dimensions and mounting hole pattern as MSC-EL.

Available in five sizes with strokes up to 200 mm and in different standard lengths.

Can be connected to existing pneumatic infrastructure. Simplified mounting due to Easy-2-Combine interfaces.

Linear Motion Slides

Closed-type format for unsupported units



With Super Linear Bushing **△**, closed-type, with self-alignment feature





Linear Motion Slide with ball screw drive, SGK

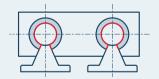
Economical linear axis version for high thrust, especially suited for environments with heavy contamination. Bellows closed on all sides due to unsupported guides. Ball screw with tolerance grade T7 and zero-backlash cylindrical ball nut. Available complete with motor, timing belt side drive, motor mount and coupling.



Linear Motion Slide without drive, SGO

Two precision steel shafts with two aluminum end blocks, four Super Linear Bushings and aluminum carriage. Available with bellows as an option.

Open-type format with supported shafts



With Super Linear Bushing ♠, open-type, with self-alignment feature





Linear Motion Slide with ball screw drive, SOK

Economical linear axis version. Enhanced rigidity through use of supported shafts, permitting longer lengths than with the SGK model. Available complete with motor, timing belt side drive, motor mount and coupling.



Linear Motion Slide without drive, SOO

Two precision steel shafts with aluminum shaft support rails, four Super Linear Bushings and aluminum carriage. Available with bellows as an option.

EasyHandling – the shortest route to the perfect application

Fasier

The simpler way to get the result you want

EasyHandling takes care of a lot of the work for users who are implementing tailored solutions, and it gives them the help they really need in all phases of the project.

Faster

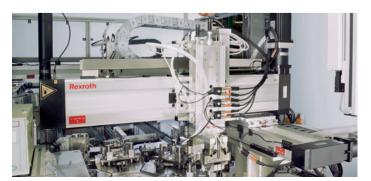
The faster route to the optimal application

EasyHandling offers excellent scalability. It will take you next to no time to make the changes necessary to get your system ready to meet current and future needs.

More economical

Greater efficiency saves you money

EasyHandling is designed to optimize the process from engineering right through to the operational phase. This reduces the strain on resources across the board.



Engineering without the distractions

To support the user during component selection, EasyHandling generates recommendations which include information on parts lists, technical data and CAD drawings.

Fast assembly for immediate deployment

Positive-locking connections ensure that all mechanical components are precisely aligned right from the start and fit perfectly together.

Commissioning in no time at all

The intelligent EasyWizard commissioning assistant virtually turns parameterization and configuration into child's play. It only takes a few clicks to get your system operational in next to no time.

Production efficiency

Rexroth provides an impressive set of intelligent application tools to boost effectivity. To ensure that maintenance intervals are maintained, the drive unit software provides the operator with maintenance instructions that correspond to the specific run times and travel paths. As a result, service life increases and there is less risk of malfunction.

Free to go where the market takes you

Get ready now for tomorrow's market developments.

Open architecture is one of the impressive features of EasyHandling systems. Versatile, adaptable mechanical and electrical components give you the flexibility to react quickly and efficiently to new production requirements.



The flexible architecture of the EasyHandling system offers many ways to combine modules and implement applications.

This, in turn, makes it possible to realize cost-efficient, forward-looking automation solutions that are perfectly coordinated for the respective application. Today, with shorter and shorter product lifecycles, the requirements placed on automation systems are also changing faster than ever before. By leveraging the EasyHandling concept, you can respond to changing market conditions quickly, easily, and effectively.

www.easy-handling.com

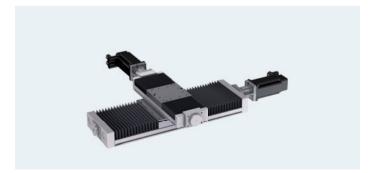


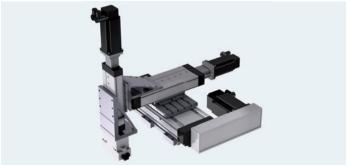


EasyHandling makes it possible to realize all relevant assembly and handling applications in a convenient and flexible manner:

- ► Pick and place
- ► Linear gantry
- ► Cross table
- ► Arm
- ► 3-dimensional gantry







Beyond Linear Motion: More components, systems and solutions from Rexroth

Rexroth is The Drive & Control Company. And Rexroth is unique – because no other brand in the world can offer its customers the complete panorama of all drive and control technologies. Powerful and comprehensive, Linear Motion Technology is one of several different product spectrums in our cross-industry and cross-system expertise. With optimally matched components and intelligently engineered systems, we create economical solutions for manufacturing lines and machine construction.

To find out more about the broad diversity of our offerings, simply visit: www.boschrexroth.com

Our ambition is to be technology leaders, and we demonstrate this continuously through innovations and through our unequalled partnering with our customers. Plus, of course, our closely meshed sales infrastructure, which you can rely on to provide all the support you need in finding the solution you are looking for – either through personal consulting or comprehensive information materials.





- ► Ball Transfer Units
- ► Tolerance Rings





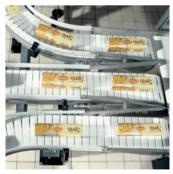


Components and systems for Assembly Technologies

- ► Manual Production Systems
- ► Basic Mechanical Elements
- ▶ EcoShape













System solutions for Factory Automation

- **▶** Transfer Systems
- ► Chain Conveyor Systems
- ► ID Systems
- ► Thermal Deburring Systems
- **▶** Customer-specific system solutions

Rexroth offers still more...

- ► Electric Drives and Controls for machine construction and handling technology
- ► Pneumatic Components and Systems for machine construction and handling technology
- ► Hydraulic Components and Systems for stationary and mobile applications

A true partnership that brings you real benefits



With us, you profit not only from a unique range of components and systems but also from outstanding human and technical skills. Moreover, we continuously expand our expertise and work hard on enhancing our technologies and our performance still further. All to your benefit.

We understand partnership as being there for you – anytime, anywhere

Our partnership has many different facets. A technological one, because Rexroth offers all drive, control and motion technologies with cross-system integration from a single source. A geographical one, because Rexroth is represented in more than 80 countries around the globe. And a supportive one, because we make sure you have everything you need for your application – through personal assistance, sophisticated eTools, and comprehensive media resources.







Face-to-face consulting

Direct and professional – there is no substitute for personto-person consulting. Because a direct dialogue is the best and fastest way to learn about your needs, wishes and special requirements, so that they can be considered in all downstream steps.

Personalized assistance

Each requirement calls for its own particular solution. This is why personalized assistance is a core feature of our services to you. From the initial consultation and provision of efficient technical support through to planning and engineering of complete projects, we will be ready with competent advice to help you accomplish your goals. With our team of highly qualified professionals, we engineer the individual solutions that deliver the best results for you.

Brochures and information

You can access the latest information about our portfolio at any time. Our brochures and catalogs contain valuable product information. You can download them from our website or order printed versions online.

Modern media support – saving time with intelligent tools

Media support and eTools

Rexroth's extensive eServices provide time-saving support, beginning with eTools and stretching all the way to complete handling of all business processes and transactions electronically – directly and 24/7. Our aim is to be at our customers' side from the very first moment.

Take advantage of the targeted support we provide, both online and offline, for configuration, engineering and procurement. Make use of our calculation and configuration programs, eTools and aids to get fast and efficient results.



Selection, configuration and procurement – online: www.boschrexroth.com

Use the whole range of Internet resources. On our website, you'll find many useful eTools, which can help you save a lot of time during product searches, design calculations and procurement.

Online selection guide

From input of requirements to matching product in just a few clicks – with its completely new approach, the online program simplifies the project planning effort for automation applications.

Online product configurators

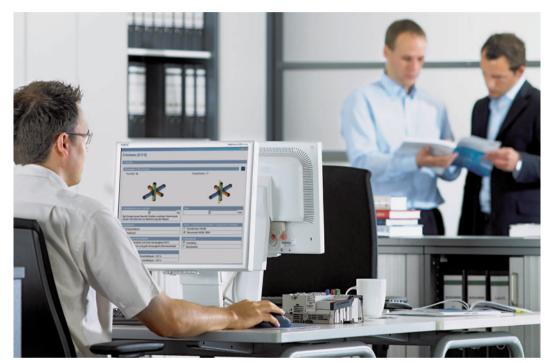
Configure individual products to suit your needs – with the online catalog and various product configurators, you can configure complex products yourself. The results can be generated as 3D CAD files in common formats to support your design engineers.

EasySelect

Plan multiple-axis systems in no time at all – simply enter the key process parameters to rapidly obtain a concrete solution proposal for a EasyHandling multi-axis system.

Bosch Rexroth eShop

Open 24/7 – in our multi-technology eShop you can order products in most countries and check the availability and earliest possible shipment date. This is a great advantage when ordering standard products or placing repeat orders.





Design calculations and configuration

Get optimal results in a few short steps. Our user-oriented professional software packages help you to do just that. From design calculations to complete project engineering, they make sure you'll obtain a perfect solution every time.

Linear Motion Designer

Sizing profiled rail systems correctly – this intelligent software covers the entire spectrum of Rexroth Profiled Rail Systems and is an ideal tool for use by design engineers.

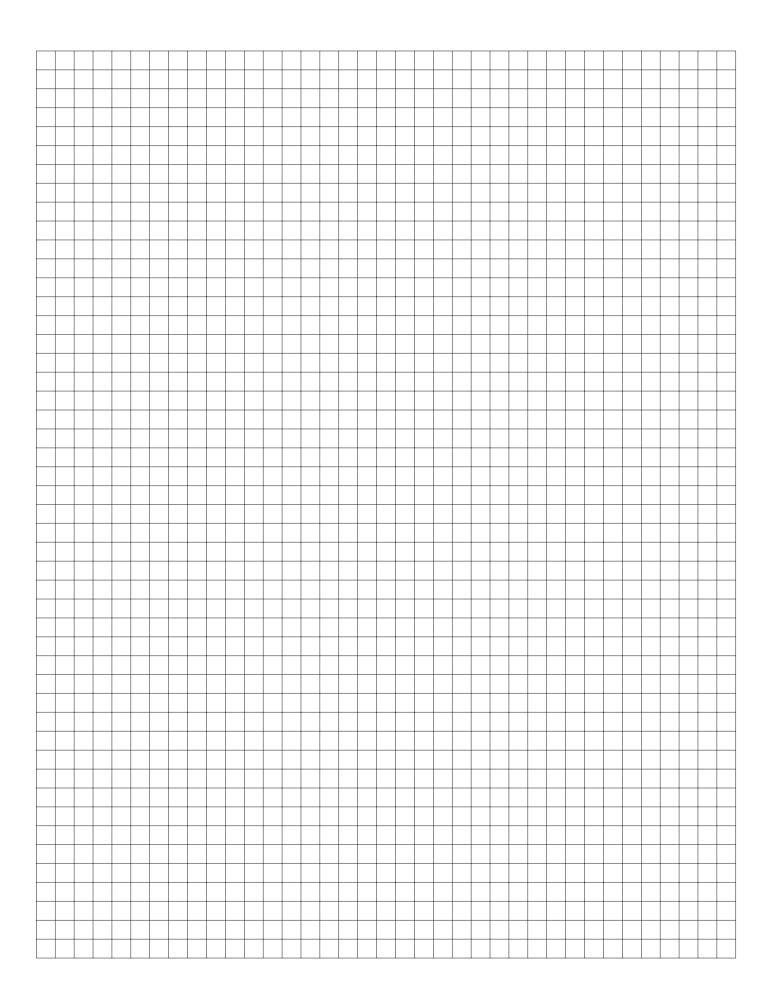
For easy calculation and configuration of Ball Screw Drives. This program allows you to select and size exactly the components you need to make up the assembly that best fits your application.

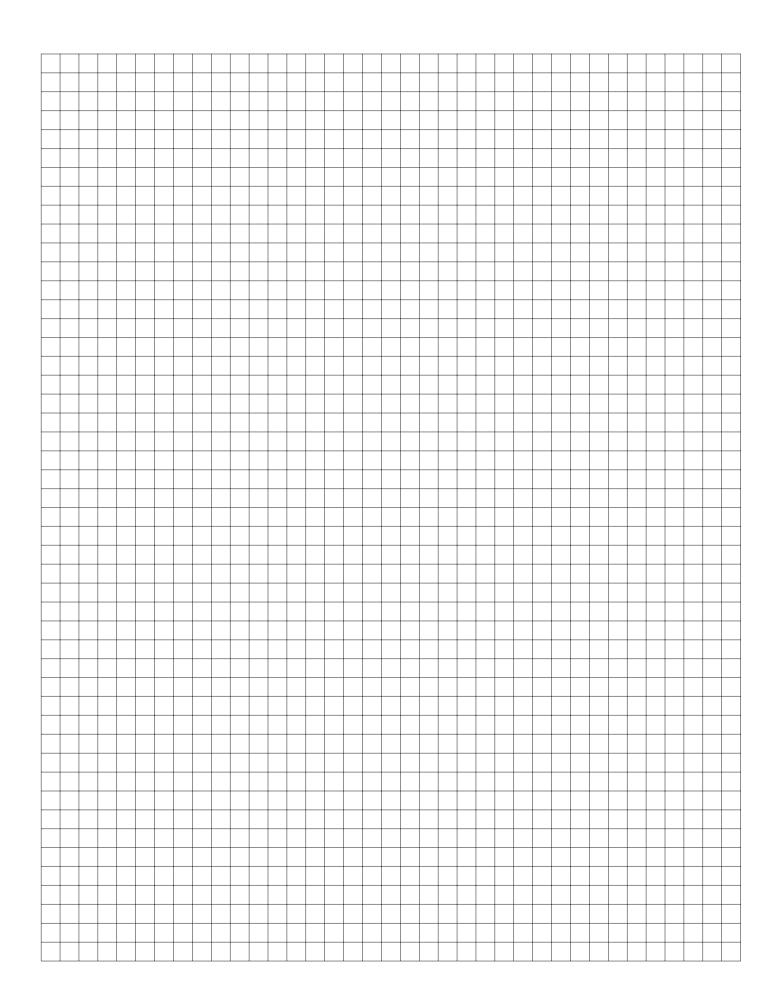
LinSize

Selecting and sizing servo motors for linear axes – this tool uses application support from Rexroth to help you select the right products quickly and easily.

CAD configurator

The CAD configurator can be used to design and download CAD models of single and multi-axis systems in the most commonly used formats. Model data can be entered directly or conveniently taken from an EasySelect project.





The Drive & Control Company



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www.boschrexroth.com/contact