



**Linear axes:**

**digital, individual,**

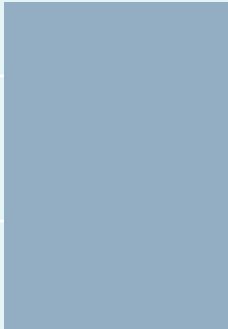
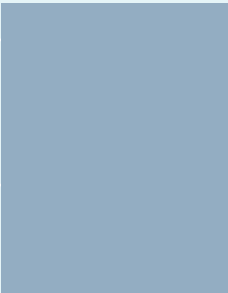

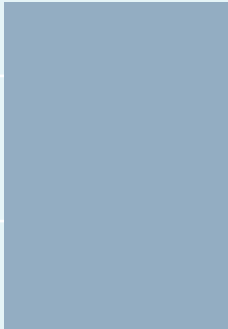
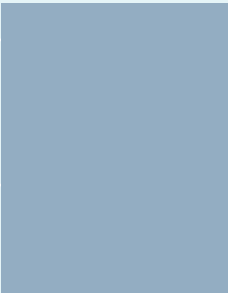

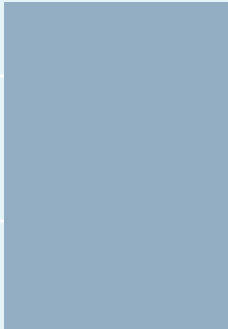
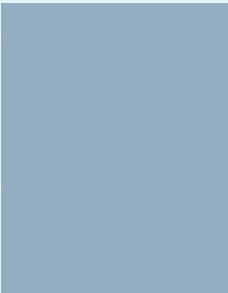

**complete**

Highly precise movements, smart automation: get ready for the Factory of the Future.  
With **Linear Motion Technology** from **Rexroth**.

# At a glance: the right linear axis for every application

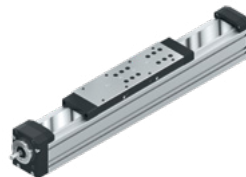
From simple yet highly precise linear guidance to highly complex processing tasks, for example in machine tools – Rexroth’s broad portfolio of axes offers the right solution for every application. In our overview, you can find out at a glance which product would best meet your individual requirements:

## APPLICATION REQUIREMENTS

<b>High precision/processing</b>			
<b>Automation/handling</b>			
<b>Simple motion tasks</b>			



**Compact modules**









**Linear modules**



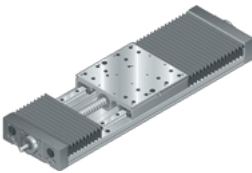
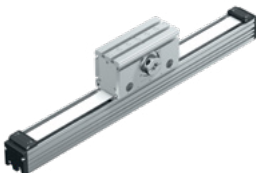

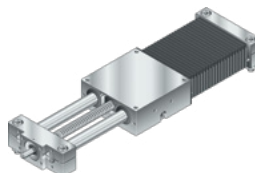

**Precision modules**

## PRODUCT PROPERTIES

<b>Load capacity</b>			
<b>Precision</b>			

**Operating successfully:**

On the pages that follow, you can see how Rexroth linear axes stand the test in a wide range of different environments.

					with external guide
					
<b>Ball rail tables</b>	<b>Omega modules</b>	<b>Feed modules</b>	<b>Linear motion slides</b>	<b>Drive units</b>	
					with external guide
					with external guide



## WE MOVE. YOU WIN. SUCCESS STORY 1

High-performance 3D printing with  
ready-to-install linear systems

# Precision in three dimensions

## in the sand

### THE CHALLENGE

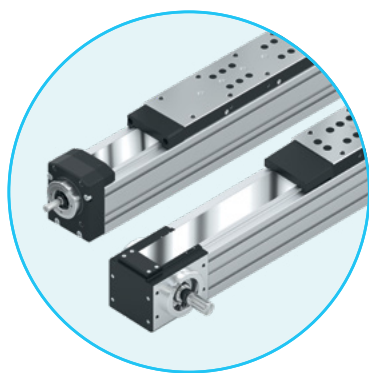
The 3D printers from voxeljet, one of the leading companies in the area of additive manufacturing, are designed to offer high performance. Although they work without tools, they use sand and binding agents and must offer the same durability and precision as machine tools. The print head weighing 20 kg must be positioned with an accuracy of less than 5  $\mu\text{m}$ . And it must be moved at a speed of up to 1 m/s. In vehicle production, for example, they are in operation round the clock. This calls for high-precision, ready-to-install linear motion technology that is extremely robust.

### THE REXROTH SOLUTION

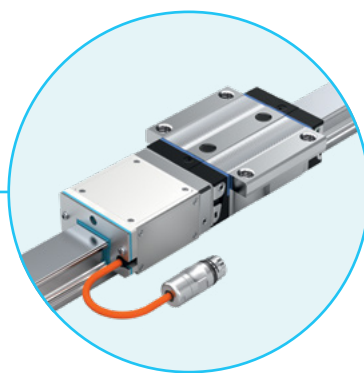
In order to ensure the necessary precision and stability during the printing process, voxeljet relies on individually configured, ready-to-install Rexroth linear modules made from an aluminum profile with an integrated, particularly durable high-precision ball rail system BSHP. In the Y axis, the print head is moved by a toothed belt-driven gantry axis system with two Rexroth linear modules MKR. In the X axis, a linear module MKK with a ball screw assembly positions the print head with great precision. Roller rail systems are also used in the Z axis to guide the sand box. The system is perfect for micromovements of 100 to 350  $\mu\text{m}$  and large loads up to 400 kg. A linear module MKK with an integrated measuring system IMS-I promises even greater precision. This would allow positioning accuracy and repeatability of  $\pm 0.25 \mu\text{m}$ , which in the past could only be achieved using glass scales.



## THE COMPONENTS



**Linear modules  
MKK and MKR**



**High-precision ball runner block BSHP  
with integrated measuring system IMS-I**

## THE RESULT

**“Our machines run day and night and we’re very keen to ensure that all components function precisely and durably. With Rexroth, we can be sure that this is the case.”**

Bastian Heymel,  
voxeljet AG

## WE MOVE. YOU WIN. SUCCESS STORY 2

Record-breaking textile printer with  
tailor-made solution package

# Impressive backdrops

### THE CHALLENGE

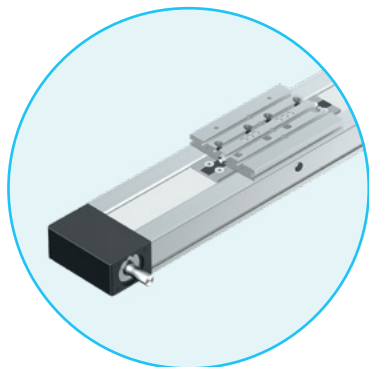
A particularly precise and powerful Linear Motion Technology package was needed for the world's biggest textile printer developed by Big Image in Potsdam. In order to print large motifs seamlessly on pieces of cloth measuring up to 12 meters in width, the "Infinitus" super printer must move a carriage weighing 120 kg to an exact position in front of a mighty drum at a speed of up to 5 m/s. To perform this demanding task, a 16 meter long, low-maintenance linear system from Bosch Rexroth is used. It was delivered as a ready-to-install package including a control and drive system.

### THE REXROTH SOLUTION

At the heart of the solution is a two-part, precisely dimensioned compact module CKR-200 from the Rexroth system toolbox. Bosch Rexroth recommended a toothed belt drive system as a cost-optimized drive solution for long travel distances. Two zero-clearance ball rail systems with high-precision technology (HP) ensure optimum running properties with high load ratings and rigidity. According to Big Image, the high quality of the solution is not the only reason to continue working with Bosch Rexroth – the company also appreciates the particularly long service intervals, the linear system's low lubricant consumption and its easy maintenance. Bosch Rexroth had provided assistance with all the necessary calculations in advance and put together a ready-to-install complete solution using suitable components from the toolbox. Servicing too is from a single source. It is a recipe for success: a second, identical super printer is already in use.



## THE COMPONENTS



**Complete system based on two compact modules CKR**

## THE RESULT

**“We appreciate not only Bosch Rexroth’s high quality and flexibility but also its future-proof system solutions, its punctual deliveries and its service.”**

Holger Schulz,  
Big Image

## WE MOVE. YOU WIN. SUCCESS STORY 3

Electrochemical machining with ready-to-install six-axis handling system

# Compact, robust and highly precise

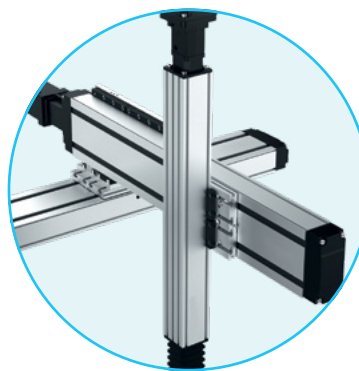
### THE CHALLENGE

Today's machines for electrochemical machining (ECM) should have short cycle times and work with micrometer precision even over long travel distances. At the same time, use in corrosive salt spray places huge demands on the material. With the help of Rexroth components, the medium-sized EMAG Group developed a new modular and economical machine concept for use in such environments. It should be particularly compact and cover all process steps – from pre-cleaning and electrochemical machining to post-cleaning and testing.

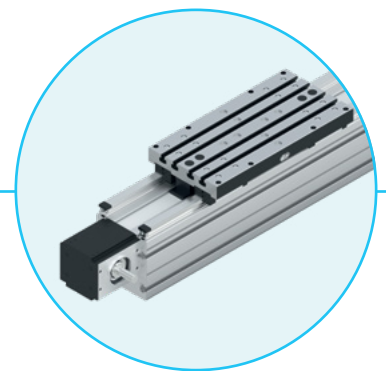
### THE REXROTH SOLUTION

Rexroth developed a modular, corrosion-resistant six-axis handling system with an integrated high-precision measuring system IMS-I. The solution includes a complete sensor system and evaluation electronics in the runner blocks. The fully pre-assembled system is based on adapted standard modules from Rexroth's Linear Motion Technology toolbox. The positive-locking connection technology allows quick final assembly with no need for time-consuming adjustment. An automated central lubrication system guarantees minimal maintenance outlay and maximum service life.

### THE COMPONENTS



Two three-axis systems

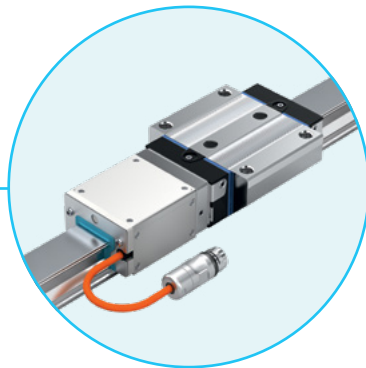


Linear modules MKR





**Compact modules CKK**



**Integrated measuring system IMS-I**

### THE RESULT

**“Rexroth achieved our goals as regards compactness, costs and flexibility.”**

Alexander Noller,  
EMAG



## WE MOVE. YOU WIN. SUCCESS STORY 4

Realistic take-offs and landings at the world's smallest airport – perfect timing thanks to the compact modules CKK and CKR



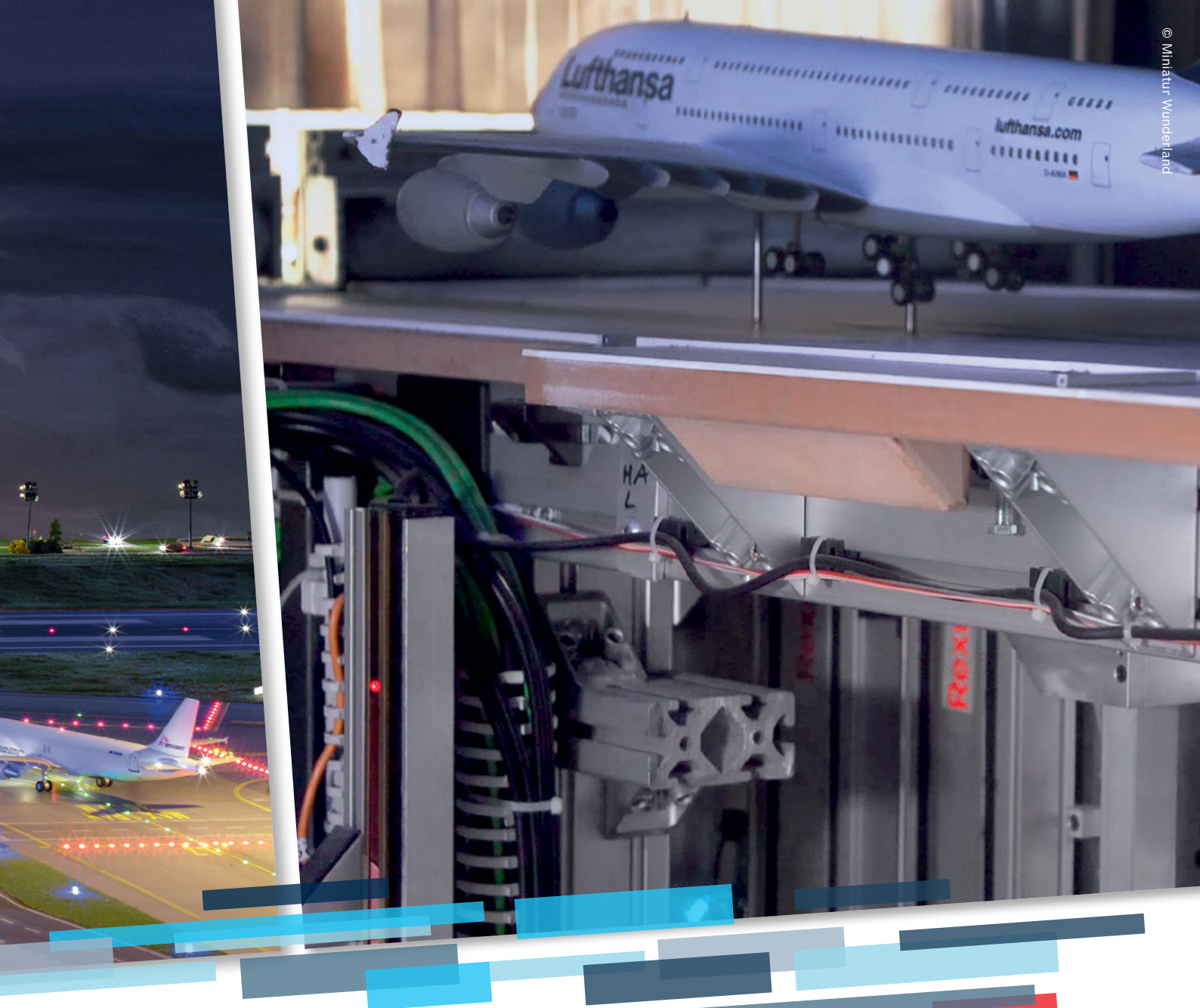
# Small planes make a big impression

### THE CHALLENGE

At Knuffingen Airport at the Miniatur Wunderland Hamburg, visitors can watch over 45 detailed model planes taking off and landing 360 times a day – 365 days a year. With around 80 operating hours each week, considerable demands are placed on the technical systems. Extreme precision and reliability were therefore necessary, as was a varied portfolio of Linear Motion and Assembly Technology to come up with the best solution possible. To ensure that everything runs smoothly, the constructors opted for components from the field of factory automation.

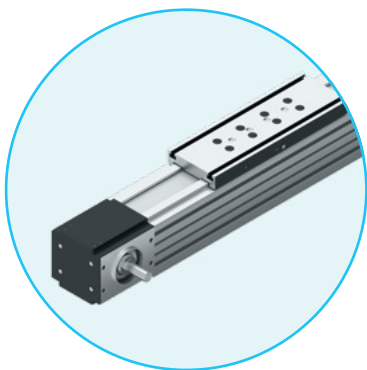
### THE REXROTH SOLUTION

A perfect combination of linear and compact modules allows the planes not only to take off and land on the 14-meter-long runways but also to appear and disappear behind a cloud curtain as if by magic. The curtain is adjusted using two linear modules MLR running in parallel. Lift platforms were created using compact modules CKR. Driven by toothed belts, they ensure high dynamics, high load capacities and the necessary rigidity without transmitting any vibrations to the base plate. Linear axes with attached compact modules CKK allow forward movements. Thanks to a ball screw assembly and zero-clearance nut system, they position the planes reliably and with great precision. For soft landings like in real life.



A look behind the scenes:  
a video of Knuffingen Airport

**THE COMPONENTS**



**Linear modules MLR**



**Compact modules CKK and CKR**

**THE RESULT**

**“The linear drives from Bosch Rexroth are extremely reliable, highly precise and do a great job here.”**

Gerrit Braun, Managing Director of  
Miniatur Wunderland Hamburg

# We make it easy for you: the quick way to find a suitable product

The specialists at Bosch Rexroth provide reliable support throughout the product life cycle for Linear Motion Technology. This means helping you to find a solution, providing advice and eTools and offering service on your premises anywhere in the world. Everything from a single source. The perfect basis for building best-in-class machinery and systems.

Take advantage of Rexroth's comprehensive application know-how – every step of the way to your individual linear system. Easy, quick, reliable.

[www.boschrexroth.com/  
linear-motion-technology](http://www.boschrexroth.com/linear-motion-technology)





1

**PRINTED / ONLINE BROCHURE**

Our brochure provides a quick overview of our entire range. It offers basic information about linear axes in compact form and allows access to more detailed information via links and QR codes.



2

**QUICK SEARCH QUICK ACCESS**

With our search function on the website, shortlinks and QR codes, you can find what you are looking for quickly.



3

**ENGINEERING TOOLS AND CONFIGURATORS**

Sophisticated calculation programs offer access to Rexroth's entire engineering know-how. They help you find the right components and systems for your application and adapt them to meet your requirements. They are available any time, anywhere in the world and can be used right away.



4

**eSHOP AND ONLINE ORDERING**

Thanks to Rexroth's consistent tool chain, you can quickly turn an initial idea into an order from our eShop. With just a few clicks. Across all program boundaries and work media.

**SUPPORT**



**Service**

Our comprehensive servicing offers spare parts and repairs to ensure maximum machine availability and productivity. It is available anywhere in the world and includes a 24h hotline: +49 9352 40 50 60.



**Training courses**

With our Drive & Control Academy, you can take advantage of our experts' unrivaled knowledge and practically oriented courses relating to Linear Motion Technology.

**[www.boschrexroth.com/training](http://www.boschrexroth.com/training)**



**Advice**

Rexroth Linear Motion Technology experts with a wealth of application experience in a range of sectors are available to help you. Get in touch with your local contact person.

**[www.boschrexroth.com/contact](http://www.boschrexroth.com/contact)**



**How-to videos**

Understand how things work on a step-by-step basis. Our explanatory videos for Linear Motion Technology are easy to understand and are available online at any time.

**[www.boschrexroth.com/how-to-LT](http://www.boschrexroth.com/how-to-LT)**

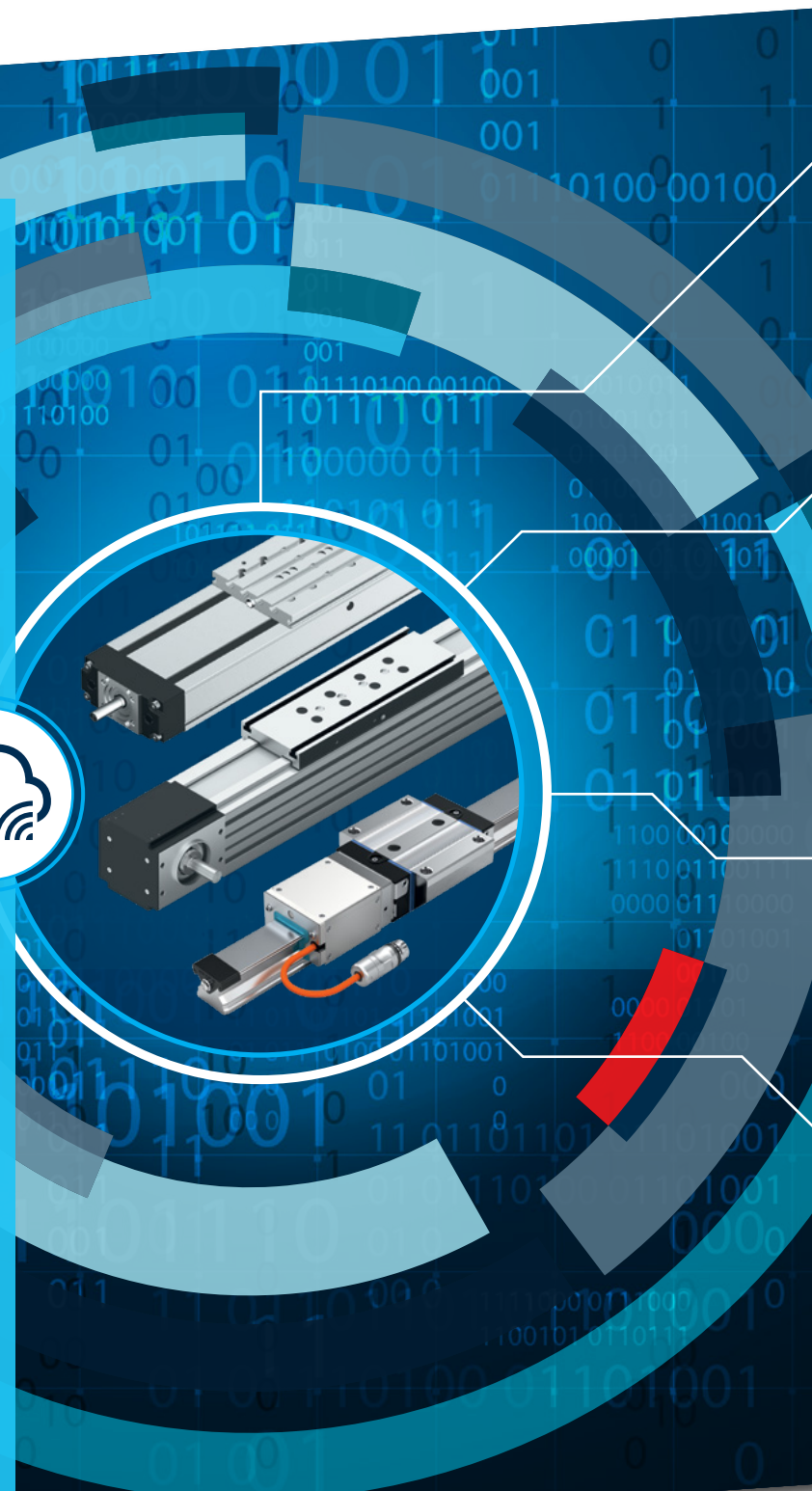


# Rethinking of Linear Motion Technology: fully connected, quick commissioning, maximum efficiency

Rexroth is driving the evolution of Linear Motion Technology by combining mechanics with electrics, software and sensor systems. We are creating smart solutions for your motion tasks – and making your applications future-proof.

Optimize system availability through new products with integrated intelligence and sensor systems. Commission your systems more quickly with plug and produce complete solutions such as our modular Smart Function Kits. Speed up your engineering with eTools and configurators. And take advantage of a partner who can offer everything for Industry 4.0 from a single source. Rexroth is by your side.

And the digital transformation continues. As one of the leading companies for the Internet of Things (IoT), the Bosch Group has engineers and scientists from a range of fields working on advance development projects all over the world. Linear Motion Technology benefits from this unique know-how, whether it be in the area of sensor systems or software programming. We thus make Linear Motion Technology at Rexroth better, simpler and more digital – every day. And ready for the Factory of the Future.



**Factory of  
the Future**  
Now. Next. Beyond.



### QUICK COMMISSIONING

#### thanks to plug & produce and zero programming

Commissioning a system without any programming knowledge within a few minutes with drag and drop: pre-installed software with automatic hardware configuration, automatic parametrization of the servo drive and initialization of the entire system makes this possible. Our Smart Function Kits make it easy.



### MAXIMUM INCREASE IN EFFICIENCY

#### thanks to condition monitoring

With intelligent components, you can ensure maximum system availability – and achieve maximum productivity. Machine downtimes can be significantly reduced and maintenance work is only carried out if it is necessary.

An example: with our intelligent ball screw assemblies, the sensor data are permanently analyzed by sophisticated algorithms. The status of components is displayed on a smart device – key figures can thus be retrieved at any time and maintenance work can be planned early on.



### TIME AND COST SAVINGS

#### thanks to modern eTools and digital twins

Our engineering tools and configurators help you to select and configure a suitable product with just a few clicks. CAD data for various 2D and 3D systems are then available. In the future, a digital twin will accompany our components and systems for the duration of their life cycles. As a result, you will be able to carry out simulations in advance and reduce commissioning times to a minimum.



### SHORTER TIME TO MARKET

#### thanks to solutions from a single source – from selection through to servicing

Our modular toolboxes with mechanics, electrics and software offer you solutions from a single source. Take advantage of having just one contact person – from product selection, ordering and delivery to commissioning and servicing.



### SMART FUNCTION KIT: ONE TOOLBOX – NUMEROUS BENEFITS

Whether it be assembly, joining, forming or testing, the first modular mechatronic toolbox is suitable for a wide range of standardized pressing and joining applications. For forces from 2 to 30 kN. The Smart Function Kit has already won an innovation award. It combines mechanical and electrical Rexroth components along with software and is the perfect basis for system integrators or end users with process know-how. Flexible, compact and future-oriented. Other Function Kits are already being developed.

- + Easy product selection and configuration**  
Intuitive operation. Five sizes are pre-defined in the configurator and can be individually configured via LinSelect.
- + Plug & produce**  
Delivered in a single package, including pre-installed operating software. Automatic parametrization of the drive controller. Few interfaces: drive controller with integrated control system.
- + Zero programming**  
No programming knowledge required. Simple and logical configuration of the process and the evaluation elements. Browser-based HMI, can be used on various end devices. Modern and intuitive design.

# A consistent tool chain: quick selection, shorter time to market

**Time matters: easy-to-use eTools and configurators are a must for efficient engineering. With the central eTool LinSelect, you can select and configure all components including motors and controllers intuitively. The results are automatically available for configuring and generating 3D data and digital twins as well as for placing orders. A seamless tool chain. For a shorter time to market.**









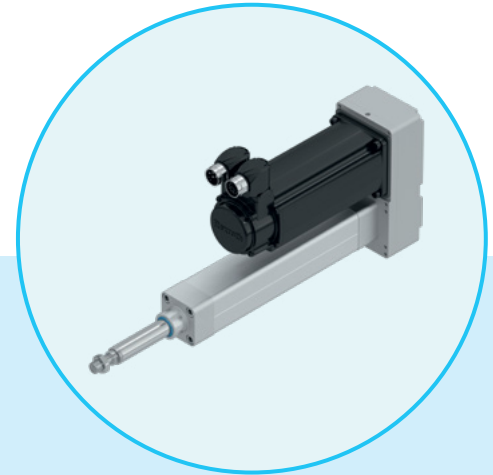
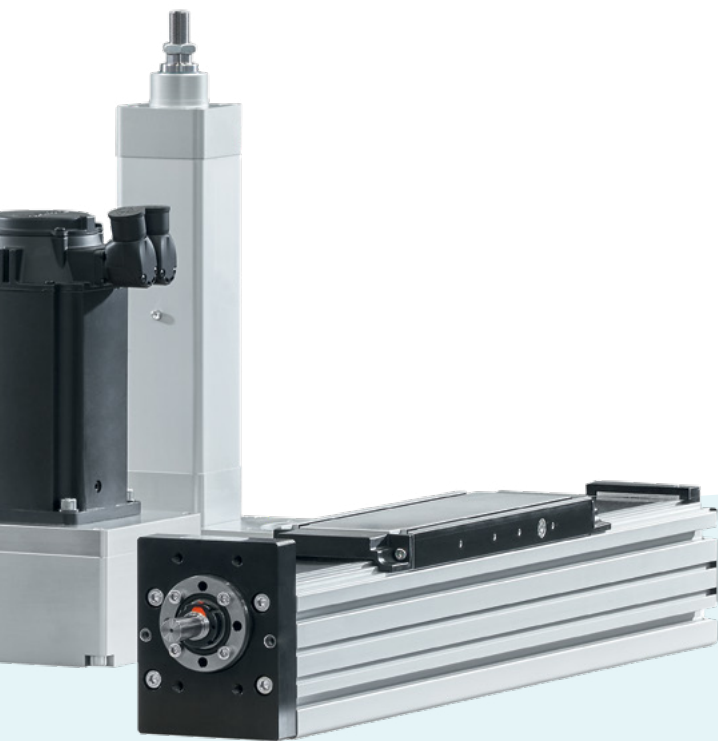
## **LINSELECT - THE SELECTION TOOL: INTUITIVE, INTERACTIVE, INTELLIGENT**

Rexroth's complete applications expertise in a single tool: LinSelect makes it much easier to select and configure linear axes and actuators. An intuitive interface guides you step by step to the optimum result. This saves time and money.



**Download:**  
[www.boschrexroth.com/linselect](http://www.boschrexroth.com/linselect)







-  Quick engineering: a result in just 15 minutes
-  Combines Rexroth application experience with intuitive operation
-  Mechanics, motors and drive controllers can be selected and configured in a single tool
-  Seamless: simply configure your selection online, order and generate CAD data
-  Consistently precise and reliable results at all times
-  Product data are continually updated



### ELECTROMECHANICAL CYLINDERS – HYGIENIC, VARIABLE, ENERGY-EFFICIENT

You can use LinSelect to select electromechanical cylinders too: EMCs from Bosch Rexroth are more than just a high-performance alternative to pneumatic and hydraulic cylinders – they offer impressive energy efficiency and variability too. Take advantage of mechanical complete solutions including the benefits of the very latest control technology. As the user, you can parametrize the force, position and travel speed freely and adapt them to new tasks via the drive system at any time.

#### ADVANTAGES



-  **Quick:** high feed speeds even with high loads
-  **Economical:** low operating costs, high energy efficiency
-  **Versatile:** for applying force in a wide range of sectors, highly adaptable
-  **Smart:** with a servo drive, you can create an intelligent, freely programmable drive system even for complex travel profiles
-  **Hygienic:** IP65/IP65+R depending on requirements with hygienic equipment
-  **Simple:** can be conveniently selected via LinSelect

### CONFIGURATORS – FOR THE ENTIRE RANGE: QUICK, VERSATILE, PRECISE

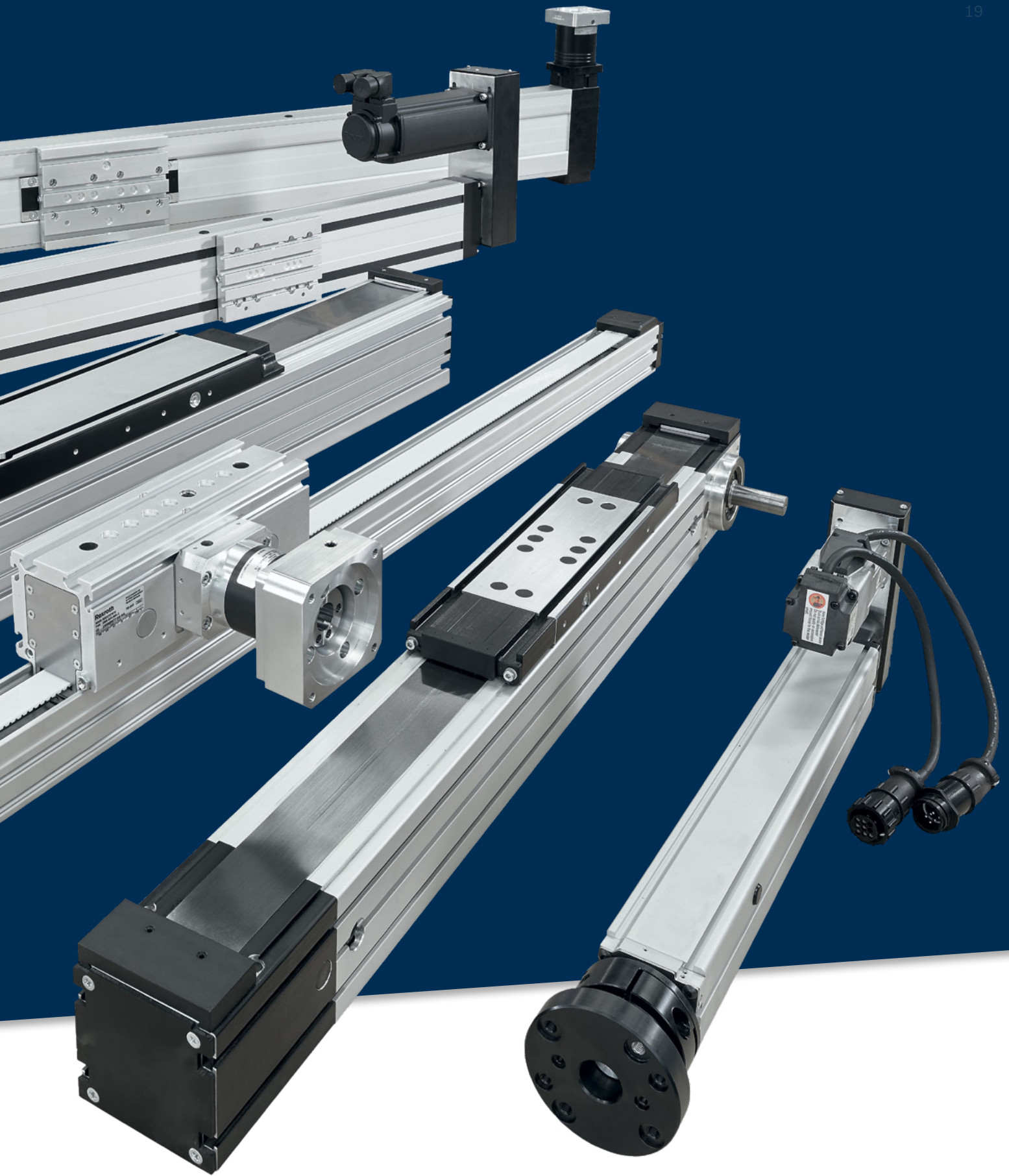
The quicker way to find your product: The huge range of products available along with the countless combination options give you the freedom you need to configure your individual Linear Motion Technology solution. This applies not only to axes but also to actuators, shafts, screw drives and guides. With the online configurators, you can generate precise and complete product data for the next steps – from engineering to ordering.

# One toolbox, 1,000 standard components, complete freedom

## THE BENEFITS OF REXROTH LINEAR AXES

-  **Everything from a single source:**  
Rexroth is able to provide the mechanics, drives and control systems. Complete systems which are ready to install and can be commissioned quickly are also available.
-  **Everything individual:**  
The huge portfolio with over 1,000 standard components and products allows highly individual solutions for virtually any application.
-  **Everything digital:**  
Selecting and configuring linear axes has never been so easy – with the eTools from Rexroth, you can create your optimum product in just a few steps.

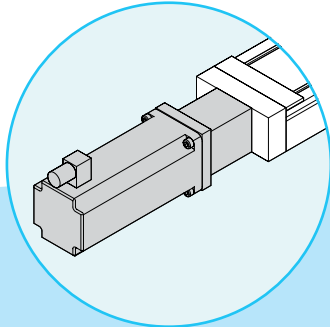




# Linear axis construction

## Motor attachment with flange and coupling

The flange is used to fix the motor on the linear axis and as a closed housing for the coupling. Via the coupling, the motor's drive torque is transmitted stress-free to the drive journal. The coupling also compensates for thermal expansion in the system.

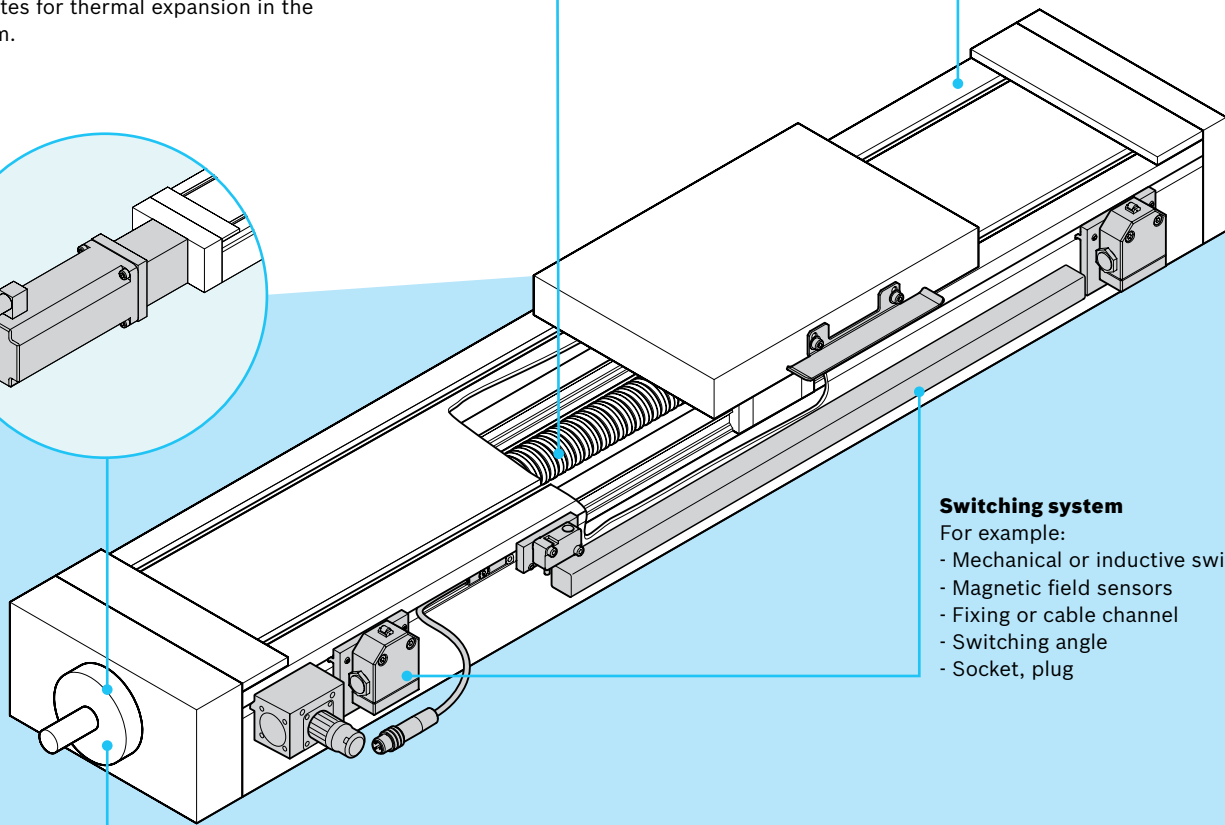


## Ball screw assembly

In various sizes and with various leads. Longer designs feature screw support (SPU) for high travel speeds.

## Frame with guide

Frame made from aluminum or steel, with one or two rail guides. Optionally available with an integrated measuring system or with a linear bushing.



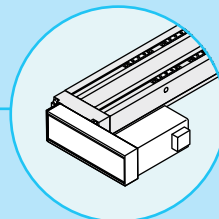
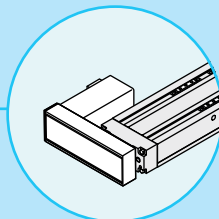
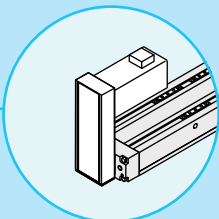
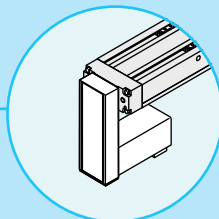
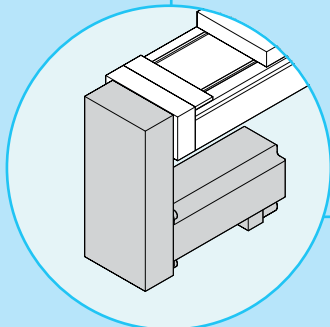
## Switching system

- For example:
- Mechanical or inductive switches
  - Magnetic field sensors
  - Fixing or cable channel
  - Switching angle
  - Socket, plug

## Motor attachment with belt side drive

A belt side drive reduces the overall length of the linear axis compared to a motor attachment with flange and coupling.

The compact, closed pulley housing protects the belt and serves as a mounting for the motor. Various gear ratios are available.



**Toothed belt drive**

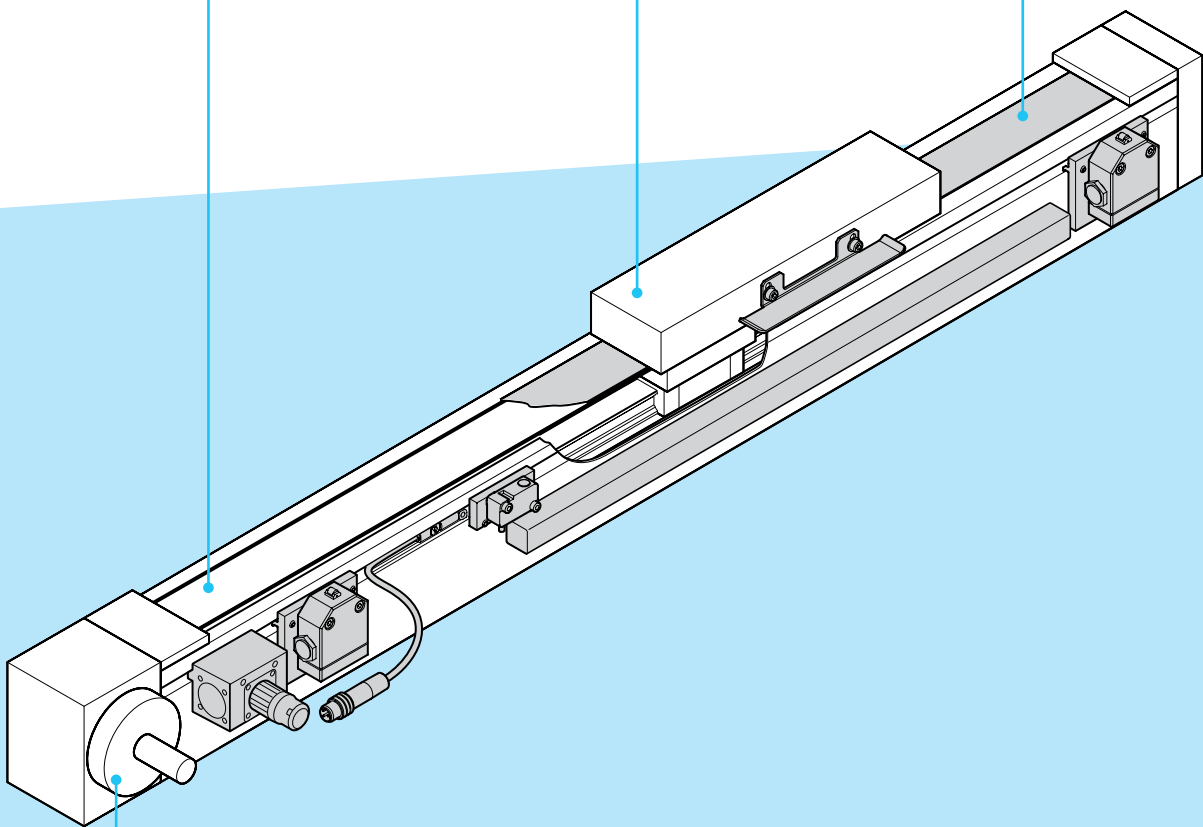
For linear axes working at high travel speed over long distances.

**Carriage in various lengths**

Available with or without a connection plate. Version with T-slots or threads.

**Covers**

For example: Cover plate, belt cover, bellows.



**Motor attachment with reduction gear or direct attachment**

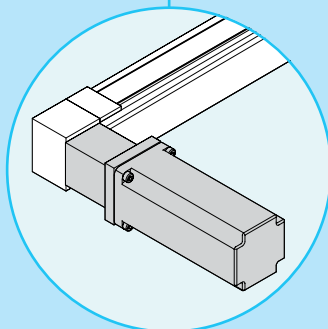
Reduction gear: The gear system is attached via a flange. Various gear ratios are available.

Direct attachment: The motor is connected to the linear axis's drive end head via a flange.

When motor attachments without a motor are ordered, not all parts come fitted – the customer must carry out the final assembly work using the instructions provided.

**Motor**

Servo motors with various power outputs.



**Lubrication**

Ungreased, with initial greasing or prepared for central lubrication systems with oil or liquid grease



**Scope of supply**

Linear axes are supplied fully assembled and with product documentation



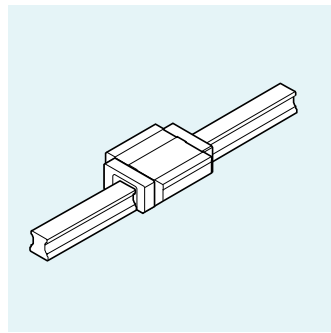
**Note**

The illustrations and descriptions relate to example products

# Guides

You will find suitable guide and drive types to meet various requirements as regards axis rigidity and precision here.

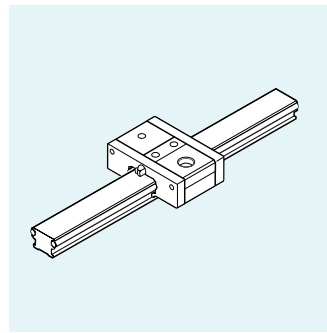
## BALL RAIL SYSTEM



e.g. compact module CKK

- ▶ High rigidity
- ▶ High precision
- ▶ Pre-tensioning 2 % of C
- ▶ Travel speed up to 5 m/s

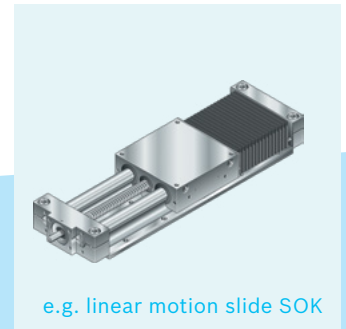
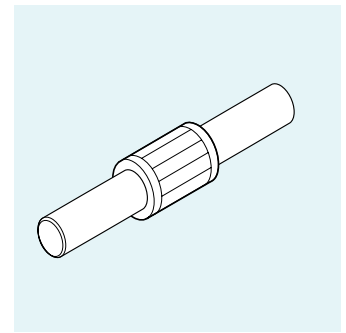
## CAM ROLLER GUIDE



e.g. linear module MLR

- ▶ Low noise level
- ▶ High travel speed up to 10 m/s

## LINEAR BUSHING



e.g. linear motion slide SOK

- ▶ Smooth-running
- ▶ Dirt-resistant
- ▶ Robust (especially closed type)

<b>Load rating</b>	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■
<b>Pre-tensioning</b>	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■
<b>Rigidity</b>	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■
<b>Travel speed</b>	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■
<b>Precision</b>	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■
<b>Noise characteristics</b>	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■

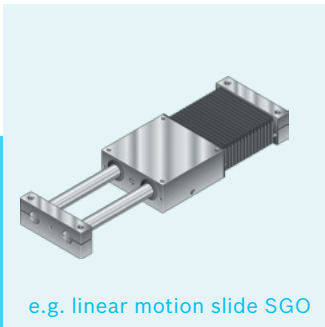
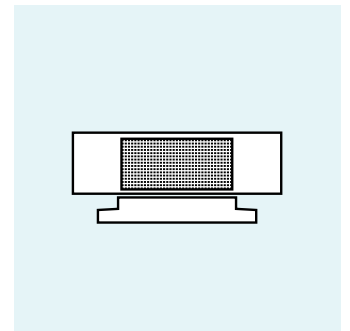
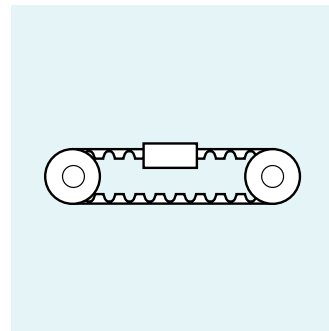
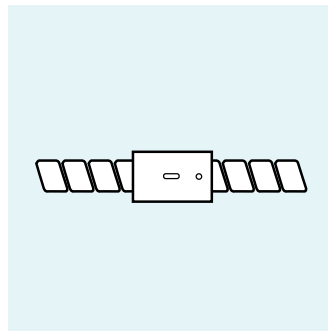
# Drives

## WITHOUT DRIVE

## BALL SCREW ASSEMBLY

## TOOTHED BELT DRIVE

## LINEAR MOTOR



- ▶ Hand adjustment
- ▶ Robust linear axis

- ▶ High rigidity in the direction of travel
- ▶ High power density
- ▶ High repetition accuracy up to  $\pm 0.005$  mm (zero-clearance)
- ▶ Travel speed up to 2.5 m/s

**In linear axes with a ball screw assembly, zero-clearance cylinder nuts are mainly used – this allows delivery tasks with high precision requirements.**

- ▶ High travel speeds up to 10 m/s
- ▶ Low rigidity in the direction of travel
- ▶ Repetition accuracy up to  $\pm 0.05$  mm

**Toothed belt drives are particularly suitable for highly dynamic applications.**

- ▶ High travel speed up to 5 m/s and high acceleration up to  $100 \text{ m/s}^2$
- ▶ Short cycle times
- ▶ High positioning accuracy and repeatability
- ▶ Multi-carriage applications with independent carriages
- ▶ High availability thanks to low wear
- ▶ Maintenance-free motor
- ▶ Low noise level

**Linear motors generate the feed force on the carriage itself. As a result, there is no need to convert rotary into linear motion.**

# Product overview

## COMPACT MODULES

**Compact aluminum precision profile with two integrated ball rail systems**

**With ball screw assembly**

### CKK



#### Properties

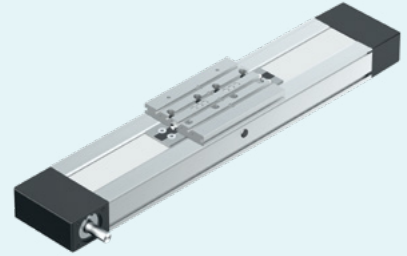
- ▶ Five sizes
- ▶ Length up to 5,500 mm
- ▶ Dynamic load capacity up to 121,185 N
- ▶ Travel speed up to 2.5 m/s
- ▶ Repetition accuracy up to  $\pm 0.005$  mm

#### Highlights

- ▶ Four different lubrication systems
- ▶ Centering holes for easy combination with other linear axes and connection elements
- ▶ Optional screw support
- ▶ “Resist” cover offers increased protection for installed components

**With toothed belt drive**

### CKR



#### Properties

- ▶ Five sizes
- ▶ Length up to 10,000 mm
- ▶ Dynamic load capacity up to 121,185 N
- ▶ Travel speed up to 5 m/s
- ▶ Repetition accuracy up to  $\pm 0.05$  mm

#### Highlights

- ▶ Four different lubrication systems
- ▶ Centering holes for easy combination with other linear axes and connection elements

## LINEAR MODULES

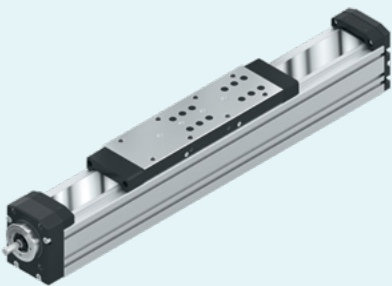
**Compact aluminum precision profile with an integrated ball rail system (MKK/MKR) or cam roller guide (MLR)**

**With ball screw assembly**

**With toothed belt drive**

**With toothed belt drive**

### MKK



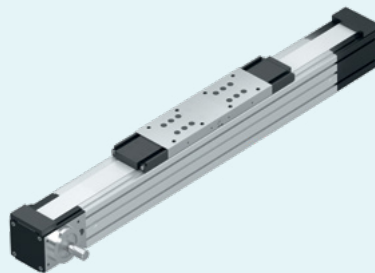
#### Properties

- ▶ Six sizes
- ▶ Length up to 5,400 mm
- ▶ Dynamic load capacity up to 118,600 N
- ▶ Travel speed up to 2.5 m/s
- ▶ Repetition accuracy up to  $\pm 0.005$  mm

#### Highlights

- ▶ Four different lubrication systems
- ▶ Two material pairings ALST, ALCR
- ▶ Centering holes for easy combination with other linear axes and connection elements
- ▶ Optional screw support
- ▶ Length measuring system IMS

### MKR



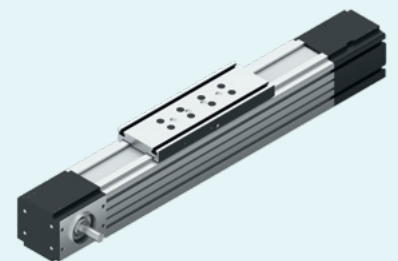
#### Properties

- ▶ Six sizes
- ▶ Length up to 12,000 mm
- ▶ Dynamic load capacity up to 118,600 N
- ▶ Travel speed up to 5 m/s
- ▶ Repetition accuracy up to  $\pm 0.05$  mm

#### Highlights

- ▶ Four different lubrication systems
- ▶ Two material pairings ALST, ALCR
- ▶ Centering holes for easy combination with other linear axes and connection elements
- ▶ Length measuring system IMS

### MLR



#### Properties

- ▶ Two sizes
- ▶ Length up to 10,000 mm
- ▶ Dynamic load capacity up to 31,000 N
- ▶ Travel speed up to 10 m/s
- ▶ Repetition accuracy up to  $\pm 0.05$  mm

#### Highlights

- ▶ Centering holes for easy combination with other linear axes and connection elements

# Product overview

## PRECISION MODULES

**Precision steel profile with integrated Rexroth guideways**

**With ball screw assembly**

### PSK



#### Properties

- ▶ Four sizes
- ▶ Graduated lengths up to 940 mm
- ▶ Dynamic load capacity up to 44,670 N
- ▶ Travel speed up to 1.6 m/s
- ▶ Repetition accuracy up to  $\pm 0.005$  mm
- ▶ Positioning accuracy up to 0.01 mm
- ▶ Guide accuracy up to 0.005 mm

#### Highlights

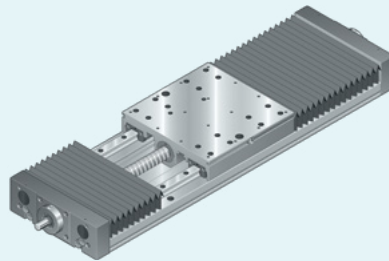
- ▶ Machined reference edge
- ▶ Thread and pin holes in the carriage ensure precise alignment and secure fixing of the attached parts

## BALL RAIL TABLES

**Base plate made from machined aluminum or steel profile with reference edge and two ball rail systems**

**With ball screw assembly**

### TKK



#### Properties

- ▶ Four sizes
- ▶ Graduated lengths up to 2,860 mm
- ▶ Dynamic load capacity up to 180,600 N
- ▶ Travel speed up to 1.6 m/s
- ▶ Repetition accuracy up to  $\pm 0.005$  mm
- ▶ Positioning accuracy up to 0.01 mm
- ▶ Guide accuracy up to 0.007 mm
- ▶ High longitudinal and torsional moment load capacity

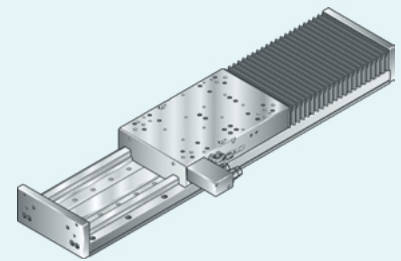
#### Highlights

- ▶ Base plate made from aluminum or steel
- ▶ Machined reference edge
- ▶ Bellows cover
- ▶ Optional length measuring system

**Base plate made from machined aluminum profile with reference edge and two ball rail systems**

**With linear motor**

### TKL



#### Properties

- ▶ Three sizes
- ▶ Length up to 3,940 mm
- ▶ Dynamic load capacity up to 224,100 N
- ▶ Travel speed up to 5 m/s
- ▶ Acceleration up to 100 m/s<sup>2</sup>
- ▶ Repetition accuracy up to  $\pm 1$   $\mu$ m
- ▶ High longitudinal and torsional moment load capacity

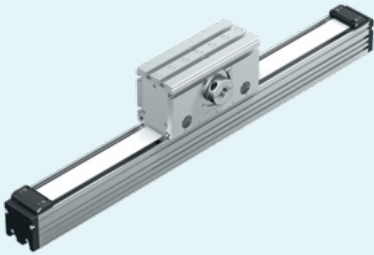
#### Highlights

- ▶ Easy maintenance and low maintenance outlay owing to the low-wear direct drive
- ▶ Machined reference edge
- ▶ Bellows cover
- ▶ Length measuring system IMS from Rexroth

**OMEGA MODULES**

**Compact aluminum precision profile with integrated ball rail system**

**With toothed belt drive**

**OBB****Properties**

- ▶ Three sizes
- ▶ Length up to 5,500 mm
- ▶ Dynamic load capacity up to 96,200 N
- ▶ Travel speed up to 5 m/s
- ▶ Repetition accuracy up to  $\pm 0.05$  mm

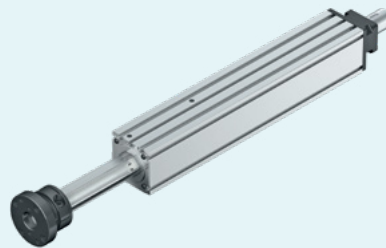
**Highlights**

- ▶ Centering holes in the carriage and in the end plates for easy combination with other linear axes and connection elements or grippers for example
- ▶ Can also be used as a vertical axis
- ▶ Drive mounted on the carriage
- ▶ Low traveling net weights in the fixed carriage version (frame travels)
- ▶ Shock absorbers and clamping elements as accessories

**FEED MODULES**

**Compact aluminum precision profile with integrated guide**

**With ball screw assembly**

**VKK****Properties**

- ▶ Three sizes
- ▶ Graduated lengths up to 600 mm
- ▶ Dynamic load capacity up to 26,000 N
- ▶ Travel speed up to 1.27 m/s
- ▶ Repetition accuracy up to  $\pm 0.01$  mm

**Highlights**

- ▶ Centering holes for easy combination with other linear axes and connection elements
- ▶ Thanks to the low moved mass, feed modules VKK are ideal as Z axes for vertical movements
- ▶ Thrust rod with attachment flange for customer attachments

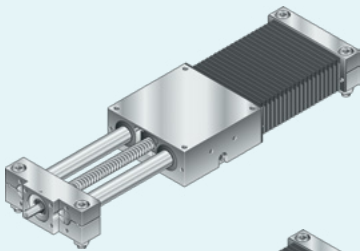
# Product overview

## LINEAR MOTION SLIDES

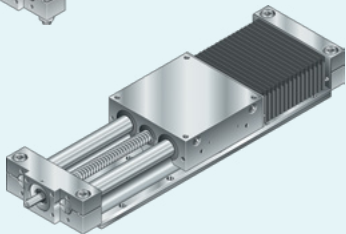
Integrated Rexroth linear bushing, open and closed type

With ball screw assembly

**SGK**



**SOK**



### Properties

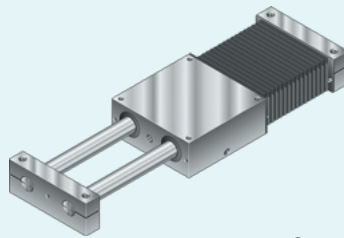
- ▶ Seven sizes
- ▶ Length: up to 4,000 mm
- ▶ Dynamic load capacity up to 39,180 N
- ▶ Travel speed: up to 1.6 m/s
- ▶ Repetition accuracy up to  $\pm 0.005$  mm

### Highlights

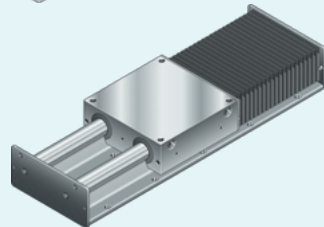
- ▶ Open type: Precision steel shafts with shaft support rail
- ▶ Closed type: for self-supporting installation
- ▶ With bellows cover

Without drive

**SGO**



**SOO**



### Properties

- ▶ Eight sizes
- ▶ Length: up to 5,300 mm
- ▶ Dynamic load capacity up to 39,180 N
- ▶ Travel speed: up to 5 m/s

### Highlights

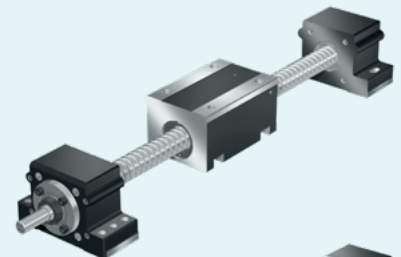
- ▶ Open type: Precision steel shafts with shaft support rail
- ▶ Closed type: for self-supporting installation
- ▶ With bellows cover

## DRIVE UNITS

Drive units with an open or closed type

With ball screw assembly

**AOK**



**AGK**



### Properties

- ▶ Three sizes
- ▶ Length: AOK up to 4,400 mm, AGK up to 5,600 mm
- ▶ Dynamic load capacity: external guide required
- ▶ Travel speed: up to 2.5 m/s
- ▶ Repetition accuracy up to  $\pm 0.005$  mm

### Highlights

- ▶ Drive axis for linear movement and positioning tasks with nut housing and pillow block units
- ▶ Aluminum profile and belt cover in steel or polyurethane (AGK)
- ▶ Screw support (AGK)



**OVER 1 MILLION  
LINEAR AXES LAUNCHED**

By constantly updating its range of innovative linear axes, Bosch Rexroth has been leading the field for more than 30 years. Thanks to our extremely wide and varied range of products and services, we're a leading provider in all sectors and for all linear motion technology applications. As a technological leader, we've been setting milestones for decades and our customers benefit from our wealth of experience – both as a leading provider and a leading user. By constantly developing new, innovative products, we ensure that we and you are well prepared for the future of linear motion technology.

30 years of  
success



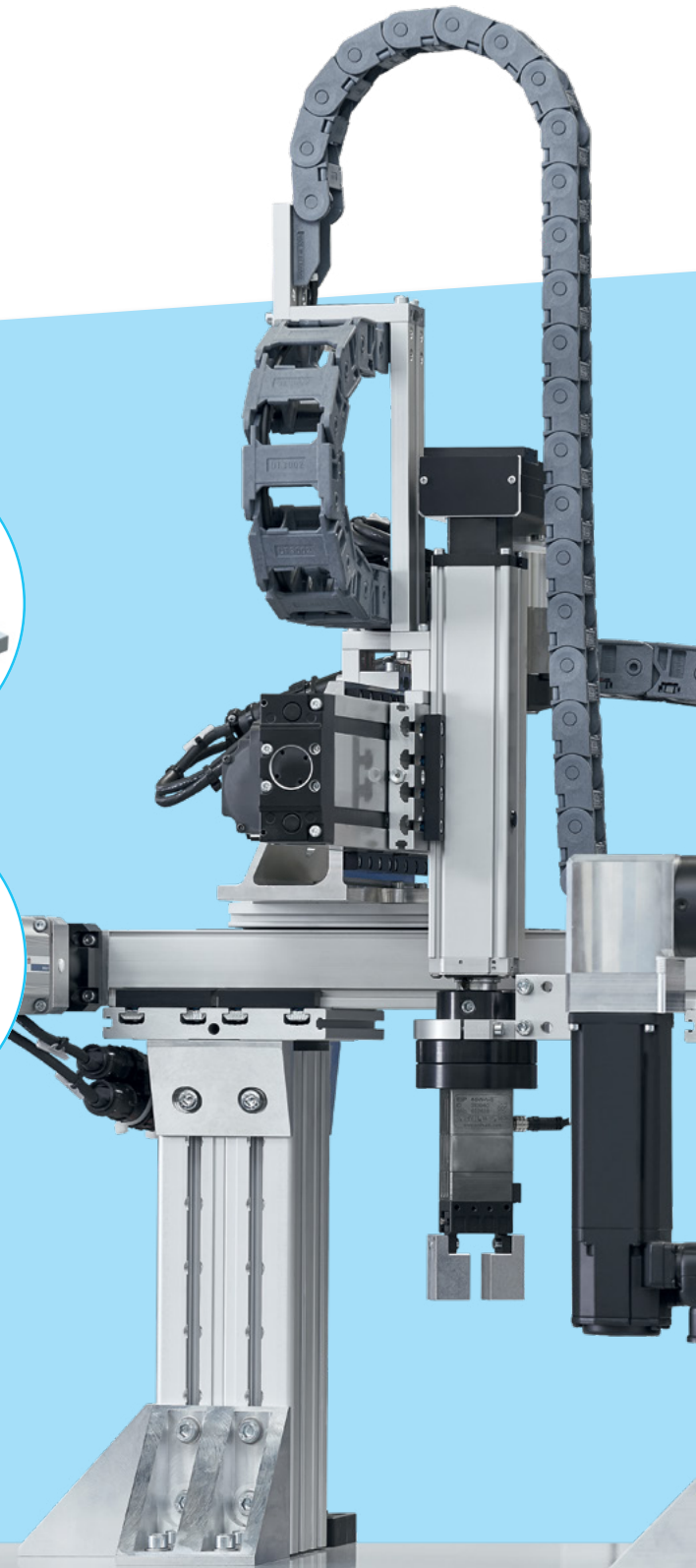
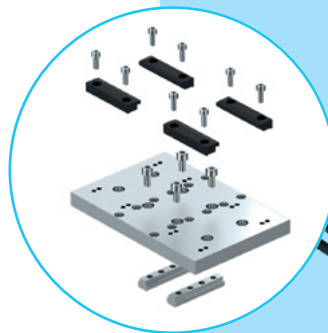
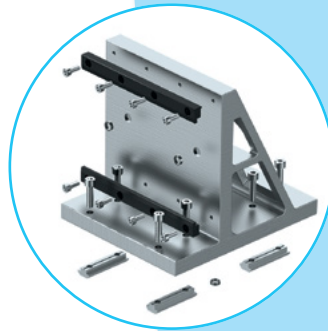
**Linear axes by**  
**Bosch Rexroth.**

# Connection technology: connecting linear axes precisely

**Minimal assembly times, maximum efficiency – connection kits significantly reduce assembly outlay. The mechanical systems all have positive-locking interfaces and can be connected quickly and precisely with no time-consuming alignment work.**

## THE BENEFITS

- ▶ Easy, quick assembly thanks to direct connections or ready-made modules
- ▶ Positive-locking and force fit connections using centering elements
- ▶ Optimized design and form factor
- ▶ Weight-optimized
- ▶ Wide range of combinations
- ▶ Time and cost savings thanks to reduced construction and assembly outlay
- ▶ High precision, loading and repeatability
- ▶ Minimum space requirements and weight with high stability and high dynamics
- ▶ Flexible thanks to multiple use of parts



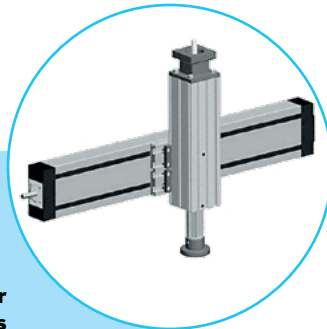
Detailed information in the online catalog  
[https://www.boschrexroth.com/  
product-link?cat=LT&p=p867145&c=  
xc&lang=en](https://www.boschrexroth.com/product-link?cat=LT&p=p867145&c=xc&lang=en)



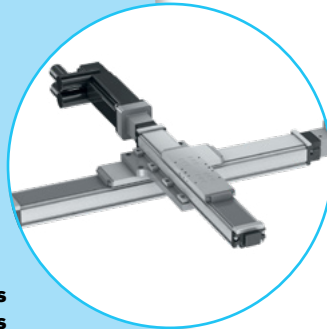
# Putting together individual multi-axis systems

**Naturally, you can easily combine axes to create multi-axis systems for more complex handling tasks: for example for pick and place or room, area and linear gantries.**

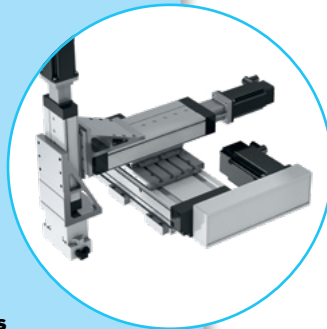
**e.g. linear gantries**



**e.g. cross tables**



**e.g. booms**



**e.g. room portals**



## THE BENEFITS

- ▶ Perfect combinations: Rexroth multi-axis systems can be tailored ideally to your requirements – our engineering experts would be happy to assist you at any time.
- ▶ Huge toolbox: our comprehensive range of linear axes is the ideal basis for creating individual mechatronic handling solutions. Everything from a single source.
- ▶ Free choice: we supply individual components or pre-assembled systems – even ready-to-install complete systems.

# Service Linear Motion Technology: maximum machine availability and productivity



**Rexroth service for Linear Motion Technology means partnership over the entire life cycle of your systems. We are there to help you in 80 countries around the world. From emergency repairs to field service, with original spare parts, modernization and predictive maintenance services. Working together, we increase your productivity and ensure maximum availability.**



**REPAIRS**

- ▶ Analysis
- ▶ Expert overhauls
- ▶ Cost control



**TRAINING**

- ▶ Expert assembly
- ▶ Replacing wear parts
- ▶ Damage analysis



**SPARE PARTS**

- ▶ Cheap
- ▶ Time-saving
- ▶ Spare parts from the original manufacturer
- ▶ Low storage costs



**FIELD SERVICE**

- ▶ On-site repairs
- ▶ Reduced downtimes
- ▶ Customer-specific service packages



**SERVICE  
LINEAR MOTION TECHNOLOGY**

- ▶ 24h hotline +49 9352 40 50 60
- ▶ Direct hotline +49 9721 9378617 from 8 a.m. until 5 p.m. (CET)
- ▶ [service.lt@boschrexroth.de](mailto:service.lt@boschrexroth.de)

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[www.boschrexroth.com/linear-motion-technology](http://www.boschrexroth.com/linear-motion-technology)



### Your personal contact

At your service. You can find your local Rexroth contact online at [www.boschrexroth.com/contact](http://www.boschrexroth.com/contact)



### Linear Motion Technology online

Videos and tools as well as configurators and selection guides are available for downloading here: [www.boschrexroth.com/linear-motion-technology](http://www.boschrexroth.com/linear-motion-technology)



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