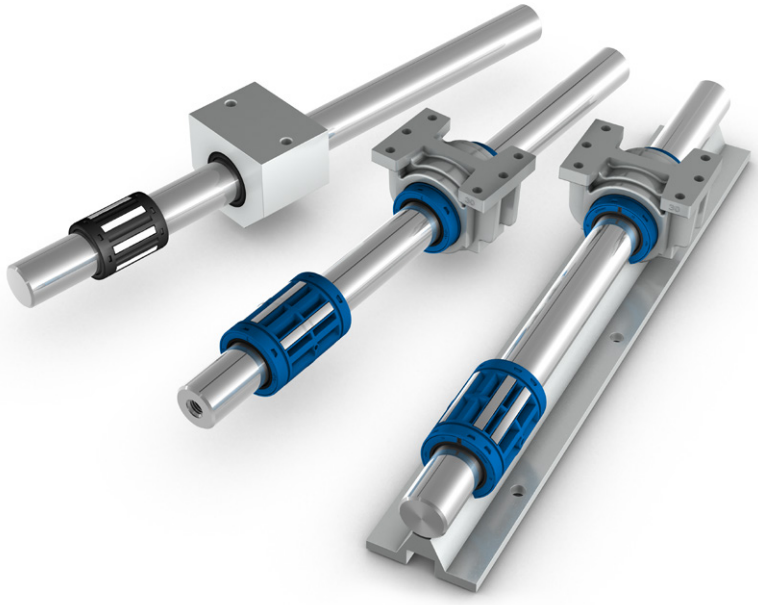
EWELLIX
A Schaeffler Company

WHY EWELLIX

Linear ball bearings

Maximum flexibility and ease of use



Ewellix linear ball bearings are designed for unlimited stroke applications

Ewellix offers two different linear ball bearing ranges, the compact and the standard range. Where the compact bearing fits best in applications with limited space, the standard range is optimised for higher load ratings.

They are widely used in a variety of easy to implement linear guide systems.

The wide range of diameters combined with the different types of bearings, housings and shafts make it easy to use and assemble supporting a variety of applications.

Linear ball bearings, also called ball bushings or shaft guides, translate rolling motion into linear motion. Like in a normal ball bearing, the rolling elements allow nearly frictionless linear movements even under load.

Linear ball bearings are precise machine elements that can transport and position nearly any type of load along the shaft. The balls within the linear ball bearing continuously recirculate allowing precise movement with low energy consumption.

Thanks to the Ewellix global network of sales units and distributors, standard components are available worldwide in stock for quick delivery.

Common applications

- Pick and place in automation
- 3D Printers
- Filling station – beverage machines
- Pneumatic slides
- Machine doors
- Edge band machines
- Labelling machines
- Leg press machines

General features

High performance

Long rating life with nearly no maintenance.

Self-holding functionality for compact bearings

The cage design is made for a perfect press fit into the right housing tolerance.

Pre-lubricated from the factory

Ready to install and environmentally friendly as only the necessary amount for initial greasing is applied.

Optional double lip seal

This perfectly fitted seal safely keeps contamination out and grease inside the linear bearing.

Self-aligning capability for standard range bearings

Allows the whole bearing to accommodate misalignment of ±30 minutes of arc.

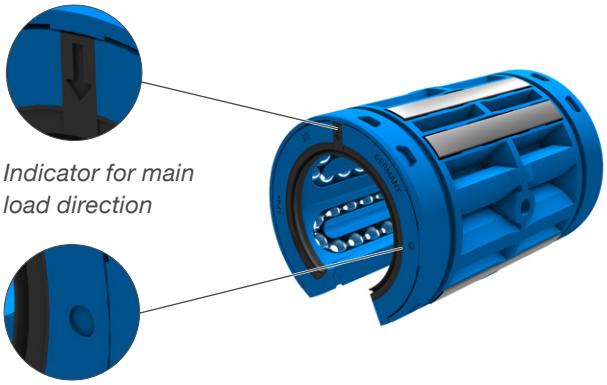
Full range of bearing units

Single, tandem, quadro and flange. Flexible design to build a variety of different slides.

Easy mounting

Ewellix linear bearings are easy to install and add safety.

There is an indicator for the main load direction that allows you to visually control the right mounting position for maximum performance. The lube and fixation hole indicator helps to find the correct mounting position and therefore avoids bearing or cage damage during installation.



Indicator for main load direction

Indicator for lubrication port position

Lightweight units and shaft blocks

Ewellix linear ball bearings support the goal of saving energy in motion. Compared to most other housing solutions, the lightweight range from Ewellix offers significantly lower weight for linear guide slides. One lightweight die-cast bearing unit size 20 saves up to 42% in weight compared to a standard aluminium unit made of extruded material. That's real energy saving potential.

Ewellix range overview

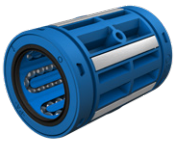
Linear ball bearings

LBBR

Compact bearing

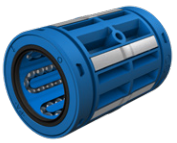
LBCR

Standard bearing



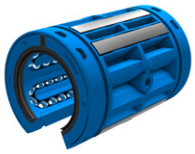
LBCD

Standard bearing, self-aligning



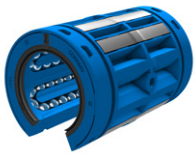
LBCT

Standard bearing, open design



LBCF

Standard bearing, open design, self-aligning



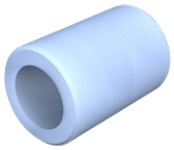
LBHT

Standard heavy duty bearing, open design

Linear plain bearings

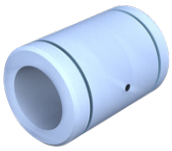
LPBR

Compact plain bearing



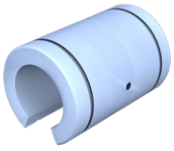
LPAR

Standard plain bearing



LPAT

Standard plain bearing open design



Size overview

Each range is specifically available in shaft diameter sizes that are common for use in various applications across different industries. The compact series is geared toward the miniaturisation market, going down to the size of 3 mm. The standard series goes up to 80 mm and can be used for applications with heavy loads.

3 4 5 6 8 10 12 14 16 20 25 30 40 50

Compact range: [mm]

5 8 12 16 20 25 30 40 50 60 80

Standard range: [mm]

Application examples

Linear bearings (also called ball bushings or shaft guides) are composed of a linear bearing, block and shaft. They are cost-effective and widely used in a variety of applications as linear guide systems. The guiding principle consists of three elements: linear ball bearings, bearing housings and precision shafts. The wide range of diameters combined with the different types of bearings, housings and shafts make it easy to use and flexible to design in. Shaft guides provide low-friction guidance at unlimited travels and high tolerance to misalignments.

Ewellix is one of the leading manufacturers of linear bearings, blocks and shafts thanks to its extensive experience and professionalism in the industry.

Leg press machine – Fitness equipment

A leg press machine is a multifunctional training equipment for fitness and rehabilitation. Linear bearings guide the movement of the person and provide smoother motion.

Why linear ball bearings:

- Minimized friction with high quality linear ball bearings
- Low noise due to optimized ball recirculations
- Smooth motion even with misaligned shafts thanks to self-aligning capability
- Chrome plated shafts for corrosion

Smith machine – Fitness equipment

Smith machines and multi-functional training racks are used for fitness and rehabilitation. Linear bearings guide the vertical movement of the weights and provide smoother movement.

Why linear ball bearings:

- Low noise and smooth running performance even with misaligned shafts
- No maintenance cost due to fit-for-life lubrication and corrosion resistance
- Extremely good sealing function to avoid lubricant on the shafts

Seat adjustment – General industry

Adjustable seats (for examples at the optician, at the dentist or in vehicles with different drivers), need low-friction movement and ease of adjustment to provide the best possible comfort.

Why linear ball bearings:

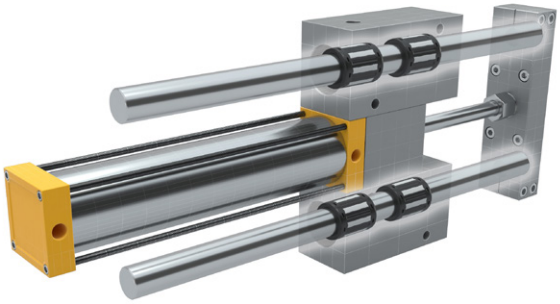
- Low friction and smooth running
- Able to cope with inaccurate surrounding, for example welded frames
- Easy shaft integration into seat frame

Pneumatic slides – Automation industry

Pneumatic driven linear slides are used in many applications and industries for lifting, pushing, transporting, or handling of different kind of goods.

Why linear ball bearings:

- Easy to mount self-holding linear bearing
- Maintenance-free with factory pre-lubrication
- Robust against slight misalignment or bending
- Small sizes in mini slides follow miniaturisation trend

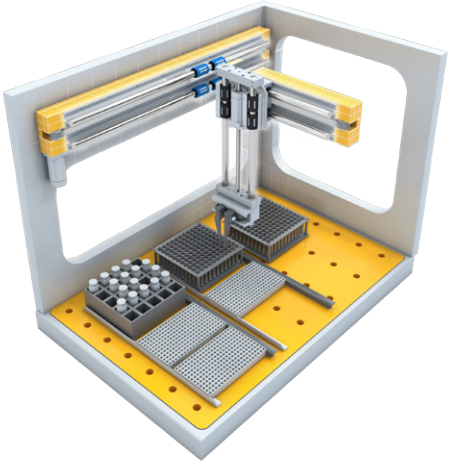


Pick and place - Automation industry

Precise linear motion in up to 3 axes for handling small machine parts, doing testing or liquid handling. Linear ball bearings can be used in one or several axes to boost productivity.

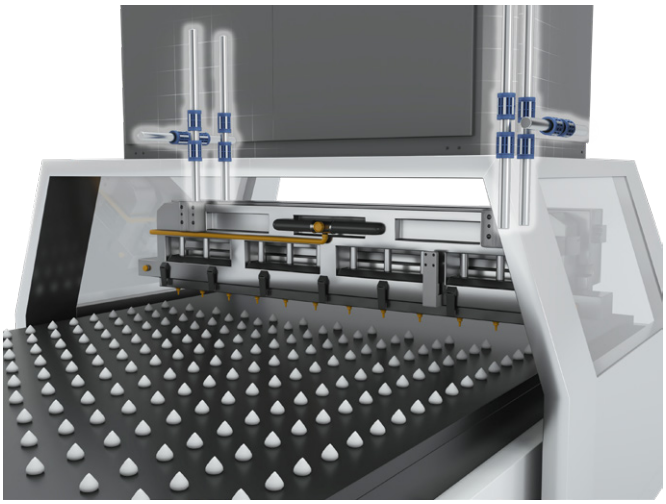
Why linear ball bearings:

- Low noise level for convenient work environment
- High speed and acceleration to increase output
- Low friction for reduced energy consumption
- No maintenance thanks to double lip seals



Depositing system – Food and beverage

For automated food production (for example ice cream portions, chocolate bars or biscuits) a depositing system is required. The system deposits the correct amount onto a conveyor or into cups. The dispenser, guided by linear ball bearings, moves up and down and along the conveyor to achieve accurate results.

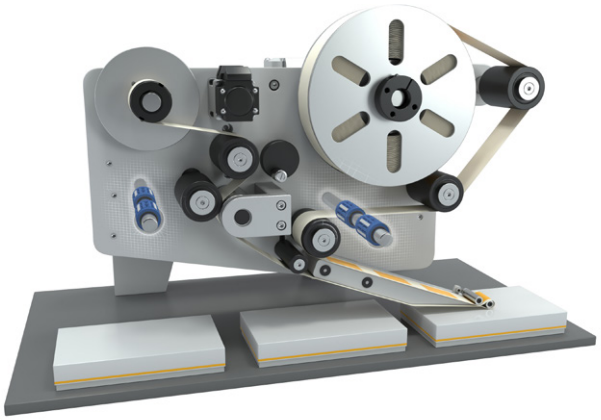


Why linear ball bearings:

- Shaft guides as structure element help to increase machine cleanliness
- Few mechanical components near the food
- Extremely good sealing performance for longer service life
- Corrosion resistant by using stainless steel shafts and bearings

Labelling machine – Packaging industry

Product labels need to be placed on products at different positions. The precise position of the labeller is adjusted by linear ball bearings.

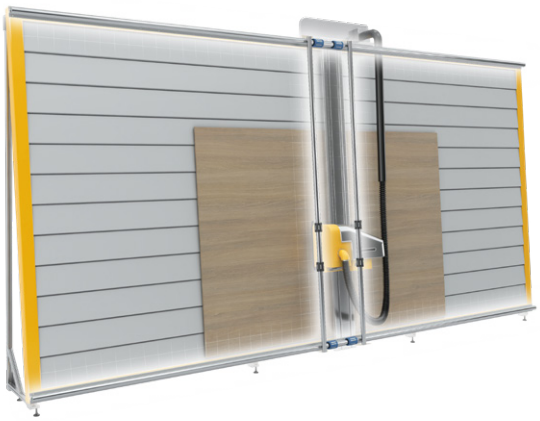


Why linear ball bearings:

- Easy to setup with standard bearing units
- Shafts used as guide and structure element
- Stainless steel variant and shaft for corrosion protection
- Low maintenance as bearings are pre-lubricated

Vertical panel saw – Woodworking industry

A panel saw cuts wooden, plastic or cement panels in vertical and horizontal direction. The movement of the saw is guided by linear ball bearings in both directions.



Why linear ball bearings:

- Low friction and smooth motion for manual operation
- Accurate cut results thanks to minimized operating clearance
- Long horizontal strokes and even joint shafts possible
- Vertical linear bearings perfectly work on unsupported shafts
- Long service life thanks to good sealing function

Miter saw – Woodworking industry

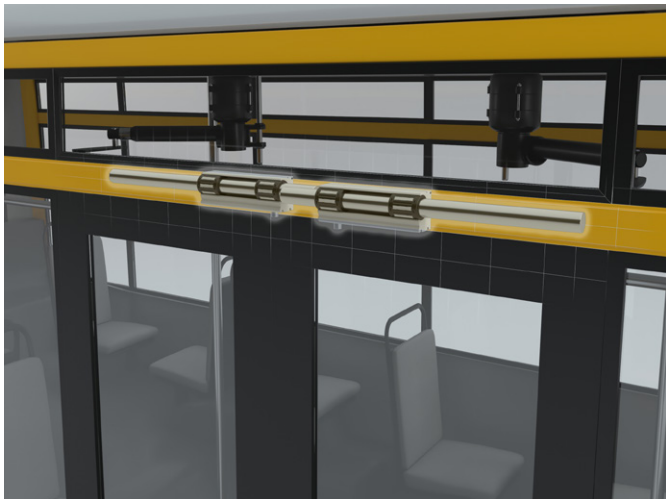
A power tool that is used to make quick, accurate crosscuts. The saw's cutting head is guided by linear ball bearings mounted on a chrome plated shaft.

Why linear ball bearings:

- Precise motion due to minimum operating clearance
- Extremely good sealing function helps to keep dust outside
- Smart design with shafts used as guide and structure element
- Maintenance free with pre-lubricated bearings

Train and bus doors – Public transportation

Train, tram and bus doors must open fully and safely throughout the day, all year long. The parallel side movement of the door systems and the rectangular unlock movement are possible thanks to linear ball bearing solutions.



Why linear ball bearings:

- Long service life even in harsh environment
- Excellent sealing performance fits rough conditions
- Ewellix linear bearings fulfill EN 45545-2 railway requirement

3D filament printer

The print head moves precisely in two dimensions and applies lines of melted plastic onto the print bed. After completion of one layer, the print bed moves downwards. Individual layers are built one by one, until the desired 3D part is completed.

Why linear ball bearings:

- Precise and vibration-free motion for accurate parts
- Comfortable noise level, suitable for office use
- Easy integration into customized housings
- No maintenance thanks to double lip seals

Ewellix linear ball bearings: how are they different?

Flexible design and integration

- Easy to design and install linear slide solutions
- Suitable for virtually any application
- Easy to integrate into machine designs
- LBC linear ball bearings offer a flexible, drop-in replacement for existing machines designs using ISO Series 3 bearings

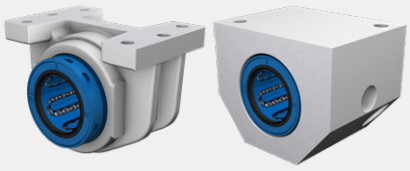
Fit and forget

- Best solution of all linear guide solutions to cope with misalignments and imprecise machine structures or machine bends
- Easy to maintain, long service life and best sealing functionality
- Compact range is greased for life under normal use

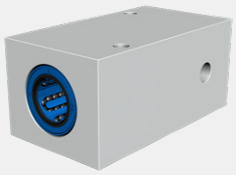
Available in stainless steel

- For corrosive or harsh environment applications
- Linear ball bearings and shafts are available as stainless steel version

Bearing units, shafts and accessories

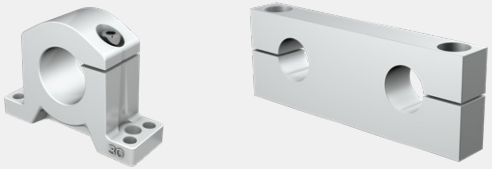


Single units

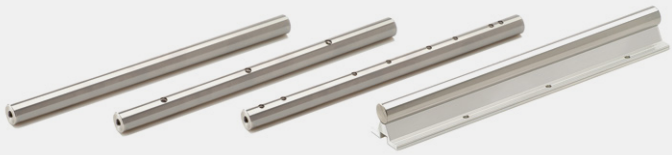


Tandem unit

Quadro unit



Linear bearing shaft blocks



Precision shafts and supports

- As a complement to the linear ball bearings from Ewellix, there are a large number of single linear bearing units, tandem and quadro units. We also offer a variety of lightweight units and shaft blocks.
- Ewellix precision shafts and shafts guides ensure low-friction guidance and are characterised by their exceptionally high dimensional stability and long service life.
- Shafts can be ordered cut to length with various options of shaft end machining like chamfers, axial or radial threads, or according to customer drawing.
- Ewellix precise shafts are hardened and available in different steel types like high grade steel, stainless steel and hard chrome plated. Hollow shafts are also available.

For more detailed information see our **Linear bearing, units and shafts** catalogue.

ewellix.com

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