

Linear recirculating ball bearing and guideway assemblies KLLT

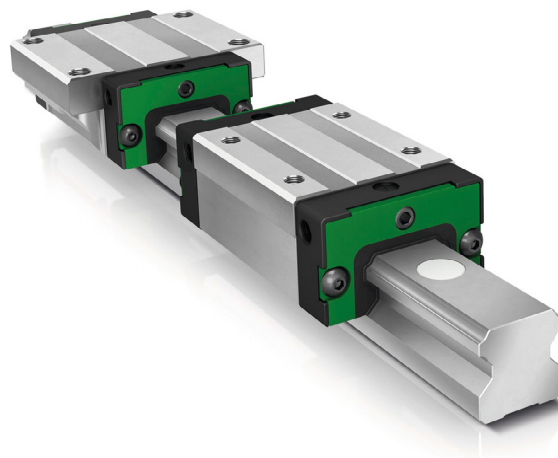
Wide range of variants – versatile in application

We pioneer motion

SCHAEFFLER

Our versatile solution among the four-row linear recirculating ball bearing and guideway assemblies

With our new KLLT linear recirculating ball bearing and guideway assemblies, available in sizes 15 to 45, we are expanding our portfolio of four-row monorail guidance systems to cover a wide range of applications in the areas of automation, assembly and handling. The design features an X arrangement of raceways and rolling elements, as well as an optimised lubrication and sealing system. Combined with a robust design, the new KLLT series serves as a maintenance-friendly “all-round linear recirculating ball bearing and guideway assembly” for applications with lower accuracy and rigidity requirements.



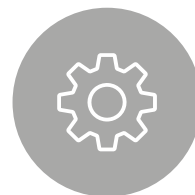
Customer benefits

- Lower demands on the adjacent construction
- Unhindered running even with a relatively soft adjacent construction
- Cost-effective overall construction
- Smooth running and reduced frictional resistance
- Long maintenance intervals, up to maintenance-free operation
- Flexible relubrication options
- Very wide range of applications
- Geometries allowing for easy exchange with other recirculating ball bearing and guideway systems
- Easy mounting and separate storage of carriages and guideways



Features

- Raceways on guideway and carriage in X arrangement
- Compensation of misalignments
- Improved rolling element return and inlet geometry
- Optimised external sealing
- Integrated lubricant reservoir
- Optimised sealing concept
- Low lubricant consumption
- Relubrication possible from both sides, from the front or from above
- Large selection of carriage designs
- Dynamic applications up to 5 m/s and 75 m/s²
- Carriages and guideways interchangeable within defined preload and accuracy classes



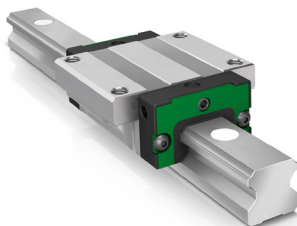
Applications

- Handling systems
- Workpiece loading and unloading on machine tools
- Door guides
- Adjustment of patient chairs or patient beds
- Axes for machining of non-ferrous metals, plastics and wood-based materials on machine tools with flexible machine beds
- Automation solutions with low and medium loads in machine tool sector and applications with larger tolerances for adjacent constructions
- Productronics
- Axes for additive manufacturing processes, laser machines (cutting, engraving, welding)
- Medical equipment
- Laboratory automation

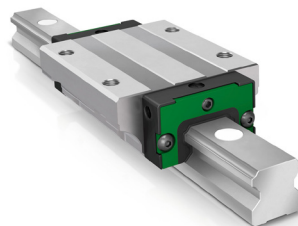
The right solution for your automation needs

The four-row linear recirculating ball bearing and guideway assemblies KLLT consist of modular components, allowing for cost-efficient solutions tailored to specific applications. Eight different carriages (KWLTL..) – in long, short, high and low versions, with or without flanges – offer maximum design freedom and flexibility. All carriages are interchangeable within ISO 12090-1. End piece with integrated lubricant reservoir for exceptionally long relubrication intervals.

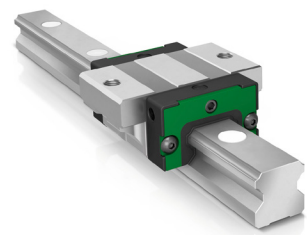
KLLT-A



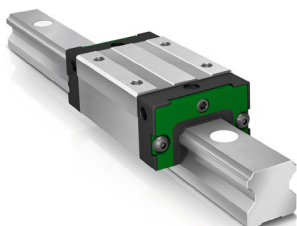
KLLT-AL



KLLT-AS



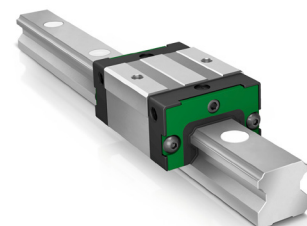
KLLT-S



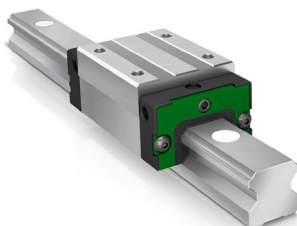
KLLT-SL



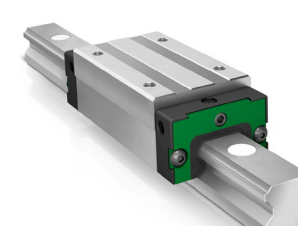
KLLT-ESC, KLLT-US



KLLT-H



KLLT-HL



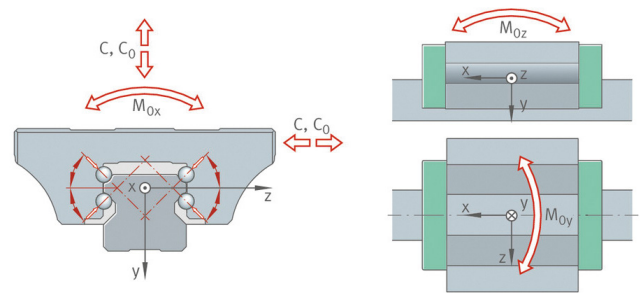
TKLT, TKLT-U



Four-row linear recirculating ball bearing and guideway assembly KLLT

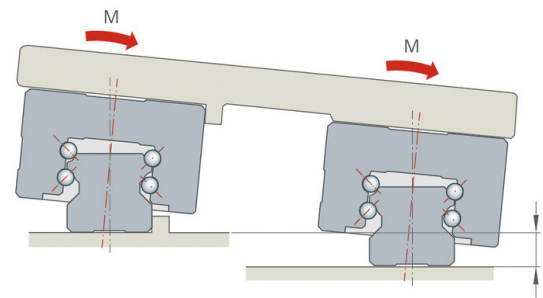
Equal loading capability in all four main loading directions

The arrangement of the raceways at a 45° angle (X arrangement) provides uniform load distribution, load carrying capacity and rigidity in all four main loading directions, allowing maximum design flexibility.



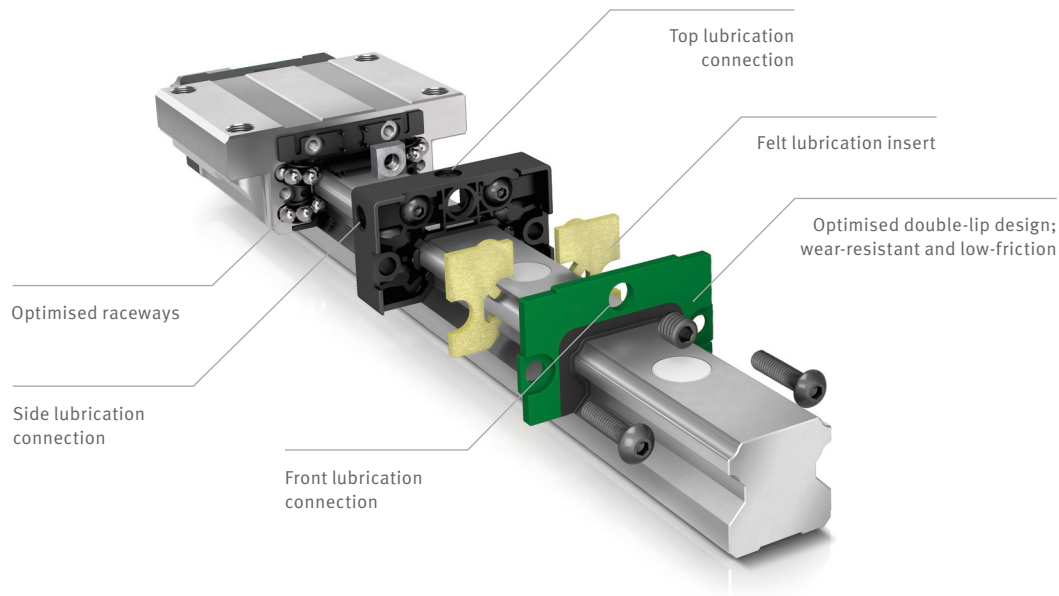
Tolerant to adjacent constructions with geometry deviations

Unlike our highly rigid KUBE-B four-row linear recirculating ball bearing and guideway assemblies in an O arrangement, the new KLLT linear recirculating ball bearing and guideway assemblies are designed with an X arrangement. Combined with larger rolling elements, which result in a lower rigidity, the KLLT linear recirculating ball bearing and guideway assembly can better compensate for larger tolerances in the adjacent geometries. This reduces constraining forces in the mounted state, making the KLLT ideal for handling applications in which structural aluminium extrusions or welded constructions with relatively large tolerances are used.



Easy installation and cost-effective storage of replacement parts

The four-row KLLT linear recirculating ball bearings and guideway assemblies are available in six sizes: 15, 20, 25, 30, 35 and 45. Guideways and carriages are freely interchangeable within accuracy classes G3 and G4, as well as preload classes V0 and V1, and can therefore be ordered and stocked individually. If guideways and carriages are combined or interchanged within a single accuracy class, the accuracy class is also maintained for the system. For higher requirements in terms of preload and accuracy, systems can be ordered pre-paired ex works. The maximum length of the one-piece guideways is approx. 4000 mm for all sizes. Longer lengths are made up of several sections. Systems and carriages are supplied with an initial application of grease and a pre-filled lubricant reservoir as standard, allowing for immediate use.



Longevity provided by comprehensive sealing and integrated lubricant reservoir

In critical environments:

- Upper and lower sealing strips ensure a secure seal against the outside environment and protect the rolling system from the ingress of contaminants
- Double-lipped elastic wipers on both ends of the carriage keep the lubricant reliably in the system
- Additional wipers keep out foreign bodies and aggressive media

For smooth-running axes:

- Gap seals for axes with minimal friction requirements

Comfortable handling:

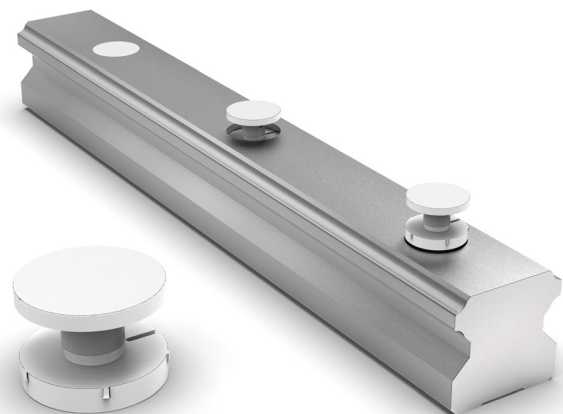
- Side lubrication holes automatically opened and activated only after the Schaeffler lubricant fittings have been screwed in
- Relubrication from above possible through the adjacent construction

Insert. Tap in. Done!

The patented KA-TN/B plastic closing plugs enable efficient sealing of the fixing holes in the guide rails. They are supplied loose in the packaging, in the required quantity, with each TKLT standard rail. For applications exposed to hot swarf or similar conditions, optional 2-piece brass closing plugs KA-M/A (with clinch ring) are available.

Advantages at a glance:

- Greatly simplified mounting and time savings, especially for wall and overhead mounting
- Secure positioning in counterbored hole
- Reduced number of parts



Programme and service overview



You can find further links in our media library:

- **Four-row linear recirculating ball bearing and guideway assembly in X arrangement**
- **Monorail guidance systems**
- **Miniature linear recirculating ball bearing and guideway assembly**

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Issued: 2025, March

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