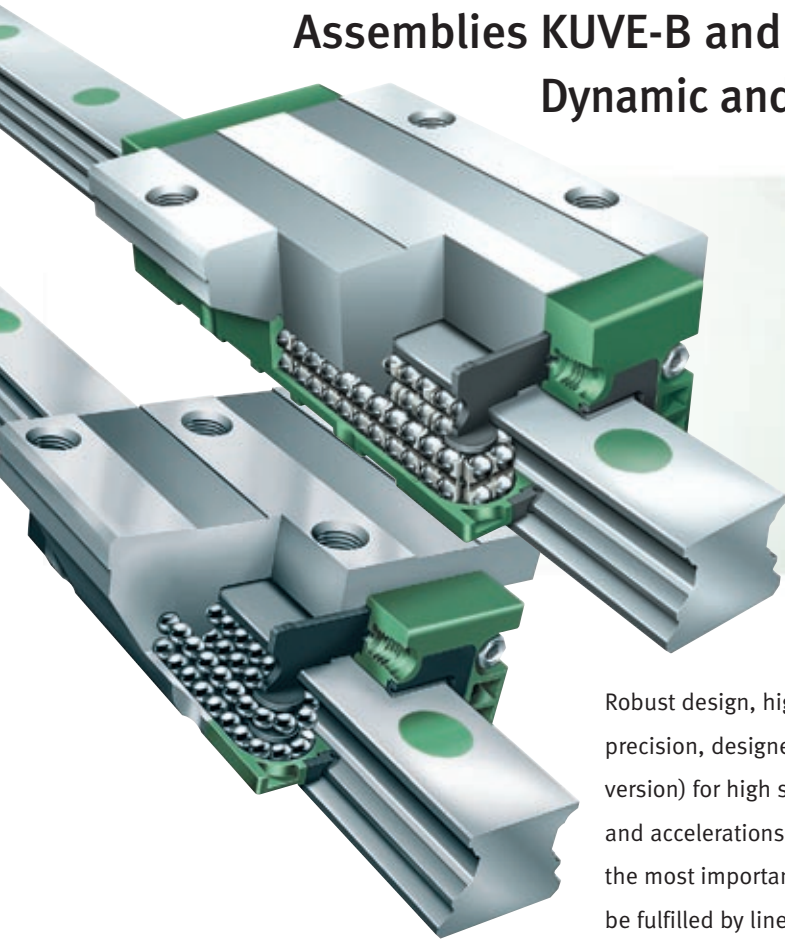


Four-row Linear Recirculating Ball Bearing and Guideway Assemblies

Series KUBE-B / KUBE-B-KT

Four-row Linear Recirculating Ball Bearing and Guideway Assemblies KUVB-B and KUVB-B-KT: Dynamic and Capable of Supporting High Loads



Robust design, high rigidity and high precision, designed (in the high-speed version) for high speeds up to 10m/s and accelerations of up to 150 m/s², are the most important conditions that must be fulfilled by linear recirculating ball bearing and guideway assemblies in production machinery.

If you value products that are easy to fit and maintain as well as a precisely matched range of accessories, INA Linear Technology is the ideal partner for you. This is because we offer not just products, but complete system solutions. System solutions that can often be easily configured on a modular basis and with excellent levels of cost-effectiveness.

The newest generation of KUVB-B and KUVB-B-KT are robust, four-row monorail guidance systems with very high load carrying capacity, rigidity and positioning accuracy. With their smooth, uniform running characteristics, high dynamics and wide range of accessories, they are

the ideal linear guidance system for moving heavy loads with precise linear travel.

INA linear recirculating ball bearing and guideway assemblies are either maintenance-free or at least extremely low maintenance, depending on the operating conditions. Their efficient seals ensure long trouble-free operating life also under extreme operating conditions.

With X-life technology

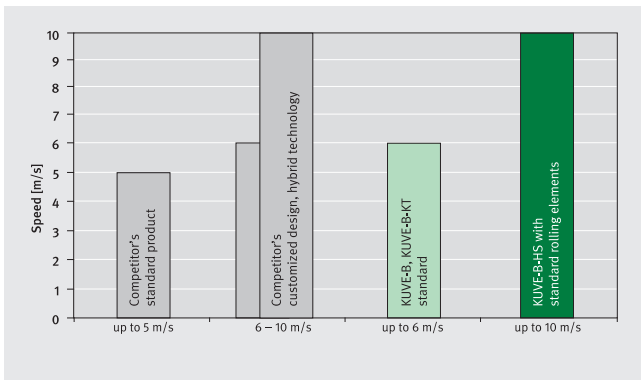
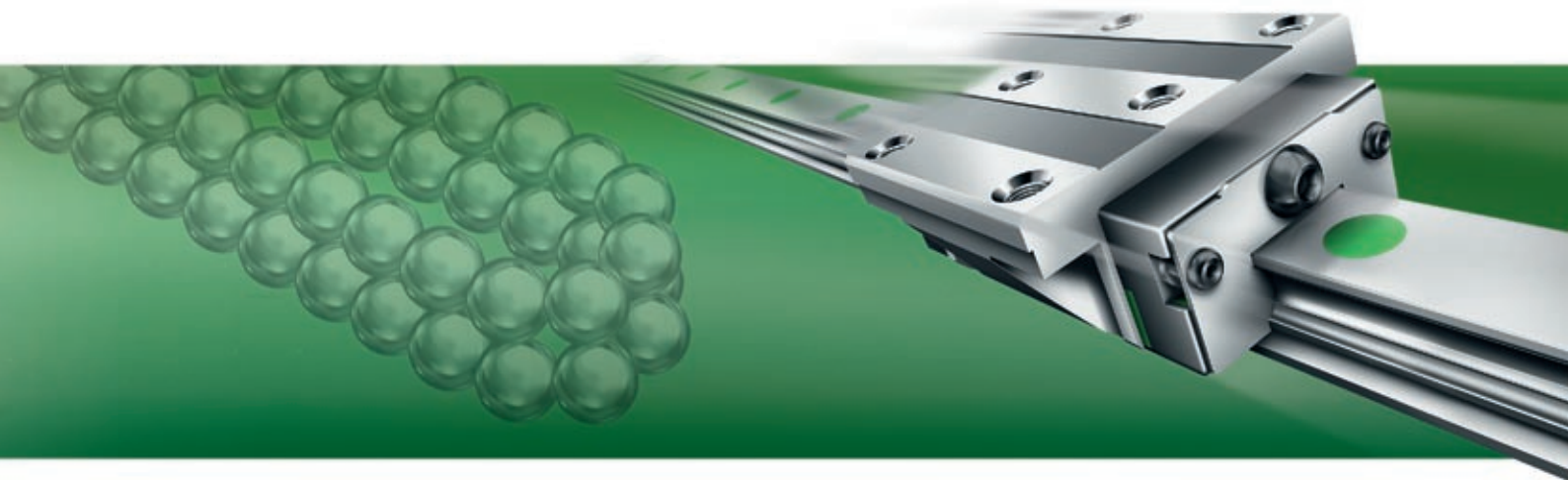
... Full complement

Series KUVB-B is capable of supporting very high loads due to its full complement of balls. It is the perfect solution if dynamics, maximum load carrying capacity and rigidity are required.

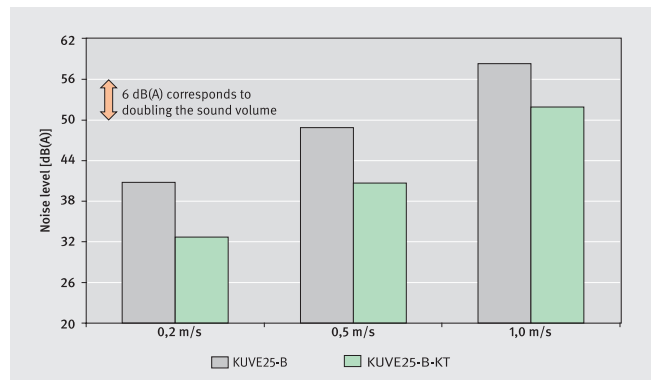
... Highly dynamic

The new variant KUVB-B-HS with a full complement ball system was developed for highly-dynamic applications and very fast travel. The improved technical characteristics of these high-speed linear recircu-

In X-life Quality: Full Complement Design, High Speed or with Quad Spacers



Speed limits for linear recirculating ball bearing and guideway assemblies



Noise behavior KUVE-B / KUVE-B-KT

lating ball bearing and guideway assemblies in X-life quality stand for higher robustness and longer operating life.

Load carrying capacity and rigidity are on the same high level as the KUVE-B units.

KUVE...-B-HS High Speed:

- Up to 10 m/s with steel balls
- For highly dynamic applications
- Same load carrying capacity, rigidity and crash safety as standard KUVE-B
- Interchangeable with KUVE-B

- 30 % longer operating life compared with hybrid technology
- Can be used with standard guideway TKVD
- Design envelope according to DIN 645

... Or with quad spacers

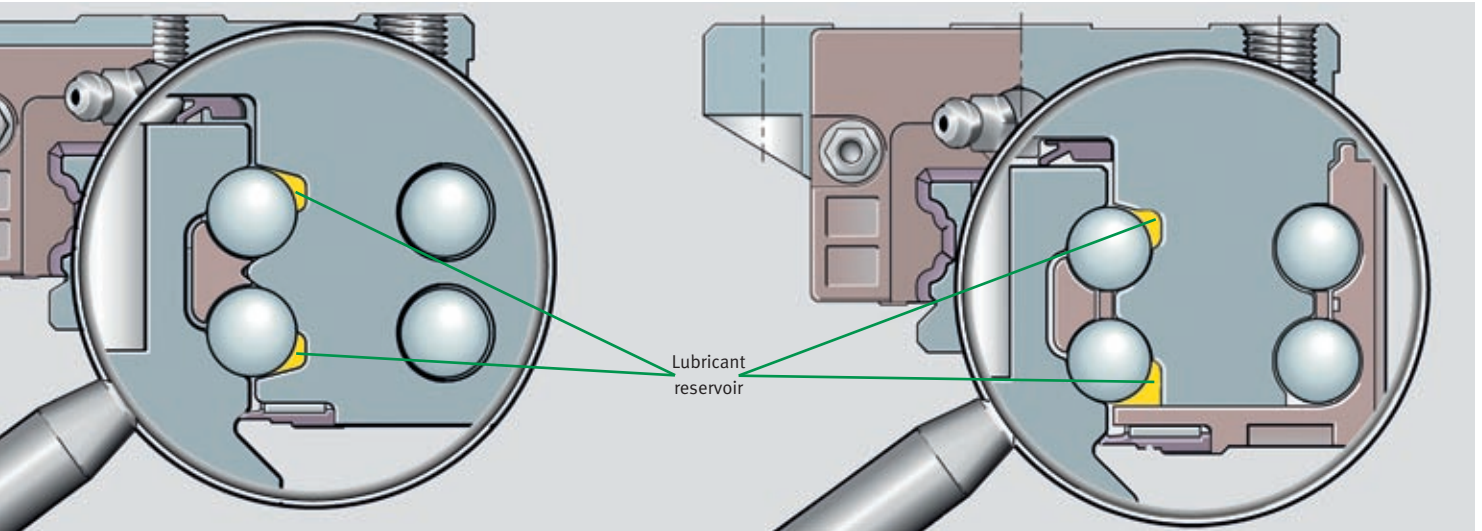
Linear recirculating ball bearing and guideway assemblies KUVE-B-KT with ball guidance quad spacers (plastic spacer units) make a convincing case since they operate with low noise.

One quad spacer guides two balls each on the compressive and tensile raceway. The balls run without contact and therefore significantly quieter.

Bending and tensile stresses are eliminated, since the quad spacers are not connected chain elements.

Under highly dynamic operating conditions or even with ingress of contaminant particles into the guidance system, there is no risk of fracture because of this design.

Technology for Longer Operating Life



Cross-section of carriage. Left: full complement, right: with quad spacers

Effective seals

Standard upper sealing strips and end wipers protect the rolling element system and ensure the function of the system over a long period of time – even in critical environmental conditions. INA Linear

Technology has optional additional sealing strips for even higher requirements and a perfectly-matched modular sealing concept with end wipers.

The relubrication intervals are extended considerably due to the generous lubricant reservoir located near the raceway.

This means that low maintenance or maintenance-free solutions can be designed, depending on the operating and environmental conditions.

The four-row linear recirculating ball bearing and guideway assemblies with initial greasing can be installed directly after delivery. The lubricant connectors for mounting on the carriage are part of the scope of delivery.

Protection against wear and corrosion

Linear recirculating ball bearing and guideway assemblies KUVE-B / KUVE-B-KT

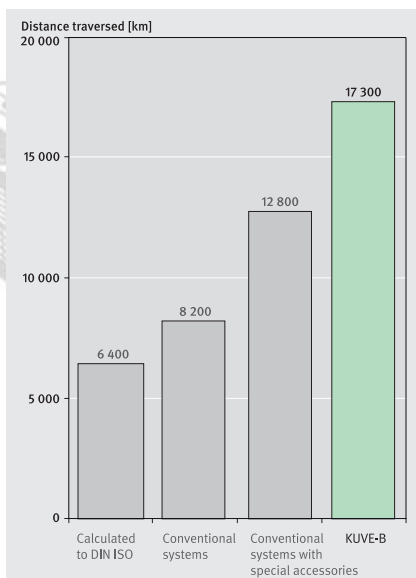
are coated with special coatings for use in aggressive conditions. Our engineers at INA Linear Technology are only too happy to advise you with selecting the most suitable coating for your application.

Modular system

Full-complement, high-speed and low noise units can all be mounted on identical guideways. The carriages and guideways can be used in any combination (within the specific size).

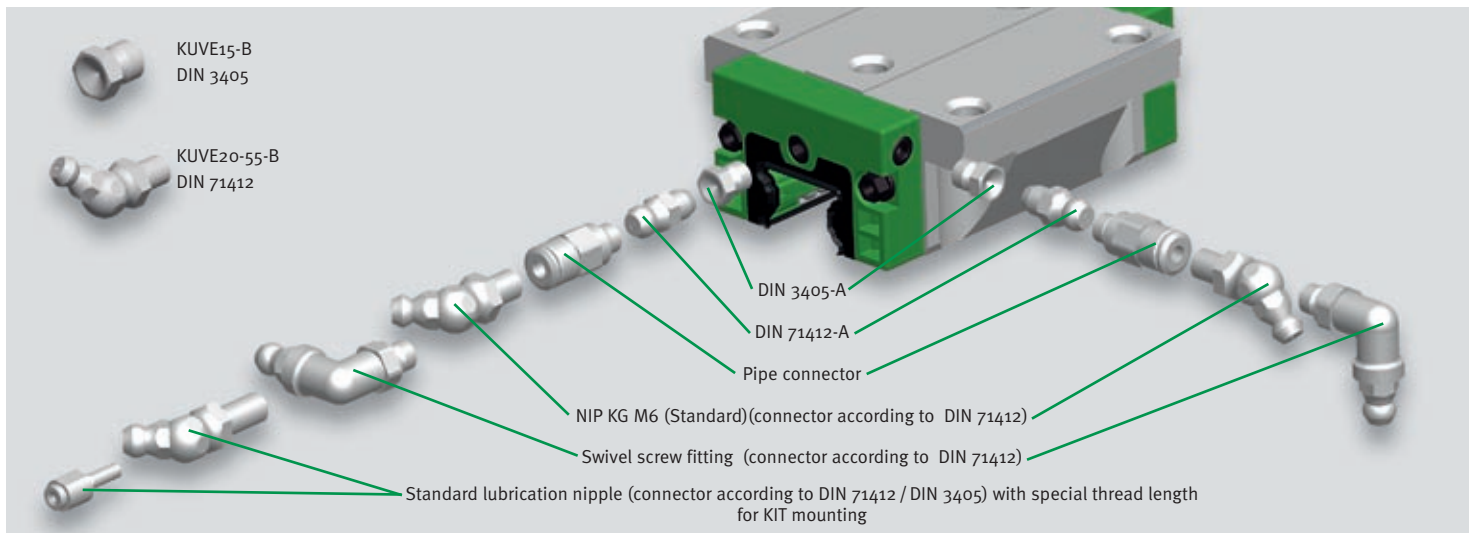
The advantages include:

- Flexible design options with standard components
- Economical stockholding
- Replacement parts available quickly
- Short mounting time due to modular system and recurring steps.



Operating life: KUVE-B with lubricant reservoir near the raceway as standard

Easy To Assemble



Connectors for oil or grease lubrication

Connector components

Linear recirculating ball bearing and guideway assemblies KUV E-B / KUV E-B-KT can be lubricated using a wide range of standardized connectors. These include standardized oil and grease supply connectors, adapters, etc.

Toothed guideways ZHP / ZHST+SVS:

These compact guideways are used in the handling sector and in automation engineering. They are far superior to conventional solutions due to the integration of two functions (teeth and guideway).

The advantages include:

- Easier to mount to the adjacent construction
- Lower requirements in terms of logistics
- Increased fitting possibilities
- Can be combined with nearly all carriages
- For grease or oil lubrication



Toothed guideways ZHP / ZHST+SVS

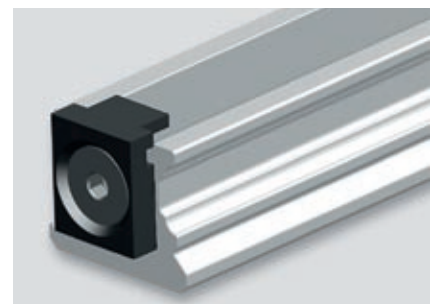
Guideway covering strip ADB-K

The strip is made of a roll-bonded composite material and is simply clamped in the groove on both sides to close off the guideway surface flush with the sides. This provides an optimum surface for wiping. A fitting device makes fitting quick and precise, especially in the case of long axes. The strips can be supplied

in coils up to 300 meters long and can be customized according to requirements.

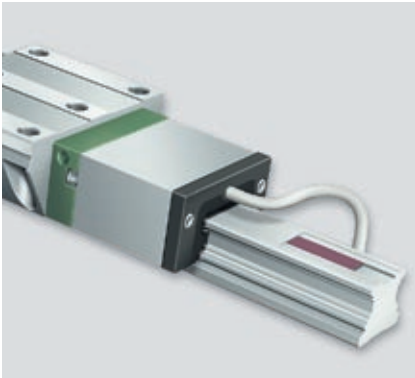
The advantages include:

- Flush connection with the surface of the guideway
- Secure retention and protection by geometrical locking
- Good sealing action against cooling lubricants



Guideway covering strip ADB-K

Reliable Operation



Measuring systems LMSD / LMST

Integrated measuring systems

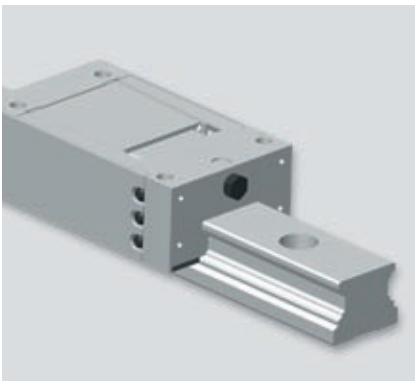
LMSD / LMST

Linear recirculating ball bearing and guideway assemblies KUVE-B / KUVE-B-KT with an absolute measuring system are useful when particularly precise travel distances must be adhered to. The distance moved is measured directly, precisely and without pitch errors. In each case, the systems consist of a measuring head connected to the carriage and a guideway with SIKO dimensional scale

(LMSD with separate electronic evaluation system, LMST with integrated electronic evaluation system).

The advantages include:

- Economical, compact adjacent construction
- Little fitting work required, easy to handle and operate
- Wear-free and resistant to dust, contamination and vibration
- Current carriage position is stored if electrical power supply fails (LMSD)



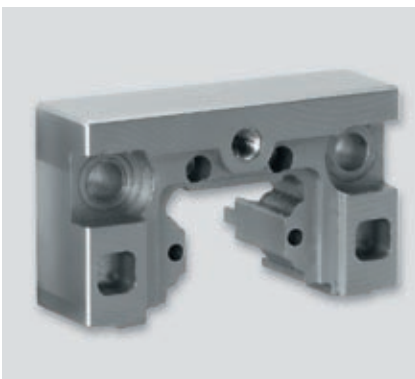
Braking and clamping element BKE.TKVD

Braking and clamping element BKE.TKVD

This important safety element slows down the linear axis safely if the power drops or if the control system fails. Driven axes that do not have their own braking or clamping function are stopped instantly and reliably without any input of external energy, giving protection for personnel and machinery.

The advantages include:

- Also suitable for use as an emergency stop brake
- Constant reaction time of approx. 30 ms
- Secure, powerful braking of linear axes
- Cost-effective and maintenance free
- Compact solution within the design envelope of the linear recirculating ball bearing and guideway assembly
- Clearance-free brake shoes with automatic wear compensation



End piece of special steel

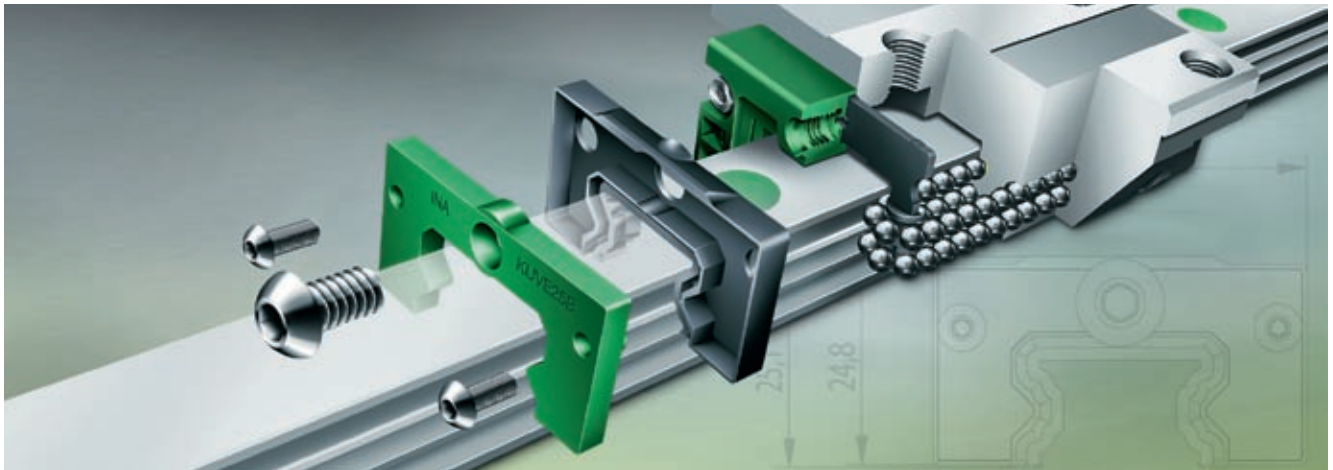
Materials

With special materials, four row linear recirculating ball bearing and guideway assemblies KUVE-B are suitable even for unusual operating and environmental conditions. The range includes complete units from corrosion-resistant or amagnetic steel, ceramic balls as well as corrosion-resistant end pieces for guideways that are exposed to high temperatures or gamma radiation, for example.

The advantages include:

- Many combinations are possible
- Superior mechanical, physical and chemical properties
- Compatible with the standard range of accessories
- More economical logistics for replacement parts

Practical Service Packages



KIT-System for KUVE

The system includes the entire range of accessories for various seal and lubrication requirements. The components can be combined and have been carefully matched to each other offering the right solution for every application.

KIT modular system

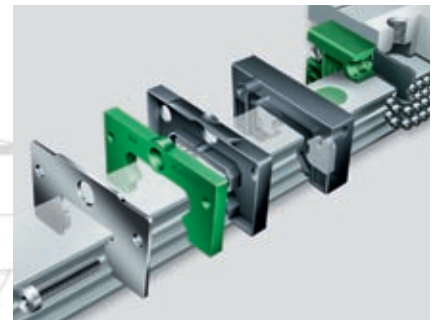
“Long term lubrication unit”

The operating life of linear recirculating ball bearing and guideway assemblies KUVE-B / KUVE-B-KT can be significantly extended with the large-volume “long term lubrication unit” from INA Linear Technology.

Premounted “long term lubrication units” are ready for immediate use.

The advantages include:

- Large high capacity lubricant reservoir
- Lubricant supply irrespective of position
- Minimized lubricant discharge due to a double lip end wiper
- Lower operating costs due to extended maintenance interval
- Absolutely maintenance-free depending on environmental and operating conditions



Long term lubrication unit

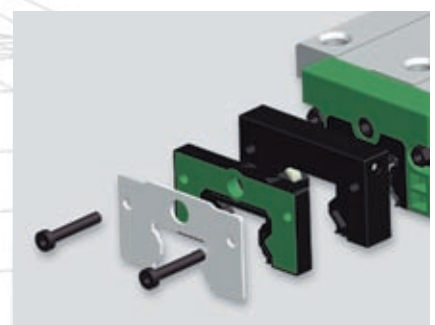
KIT modular system “Seals”

The configuration of these matched seal elements is based on practical experience.

Single lip or double lip end seals and sealing strips made from proven sealing material are available.

The advantages include:

- Versatile use of various seal elements, including cascade arrangements
- Customer-specific configurations are available on request
- Little fitting work required, easy retrofitting, quick and easy to replace
- Simple, easily predictable stockholding



Seals

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