

Customized Bearings and Racks

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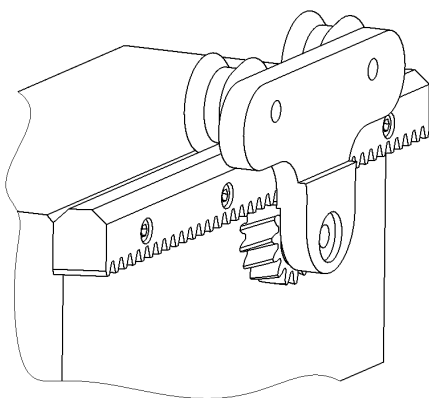
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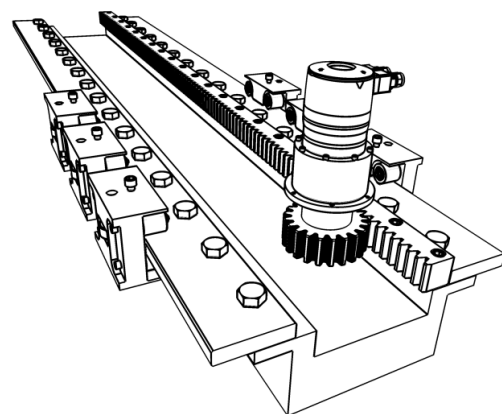
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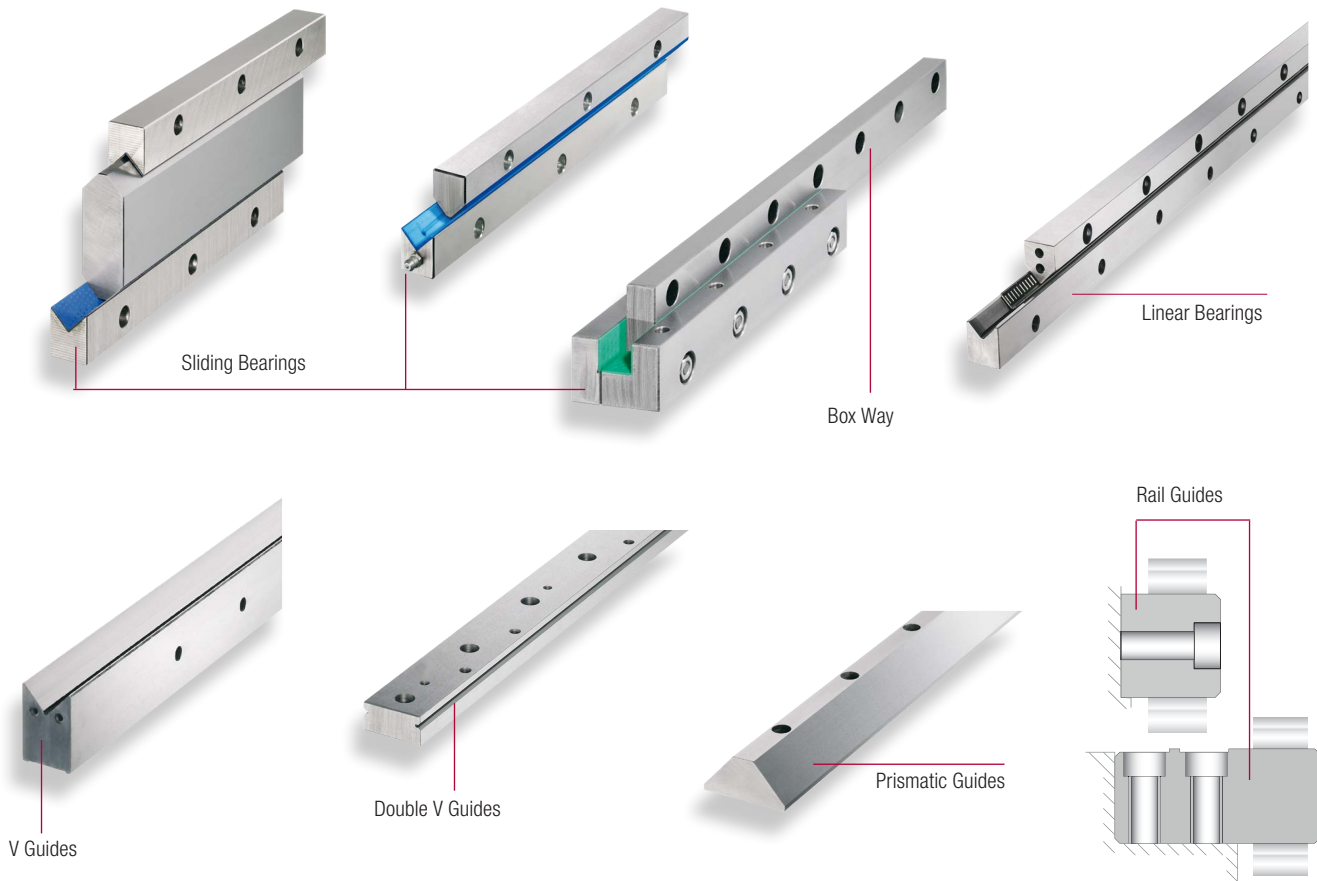


Gear rack integrated into linear guideway (guide racks)



1 Competence in Rolling Element and Sliding Guideways

1.1 Product overview



1.2 Process operation: from raw materials to quality control



Raw Material Stocks

To minimise leadtimes, an extensive range of material profiles is held on stock supported by various specialist steel suppliers.

Drilling

We drill the rails with pitch error compensation for the hardening process. As a result multi-piece rails can be easily mounted.



Through hardening

Is one of our core competencies. Cross-sections with a thickness of up to 55mm can be through hardened.

Hardening and quenching up to 3m

Through hardening results in more stable and good straight rails. Through hardened rails can also be reground.



Induction hardening

is of particular interest for very large cross sections, as well as very long components. Only the required surface areas of the cross-section are hardened.

Induction hardening and quenching up to 6m

Longer single piece rail lengths means the number of butt joints can be reduced. A close tolerance is kept on the hole pitches.

2 From standard precision to measuring machine accuracy classes

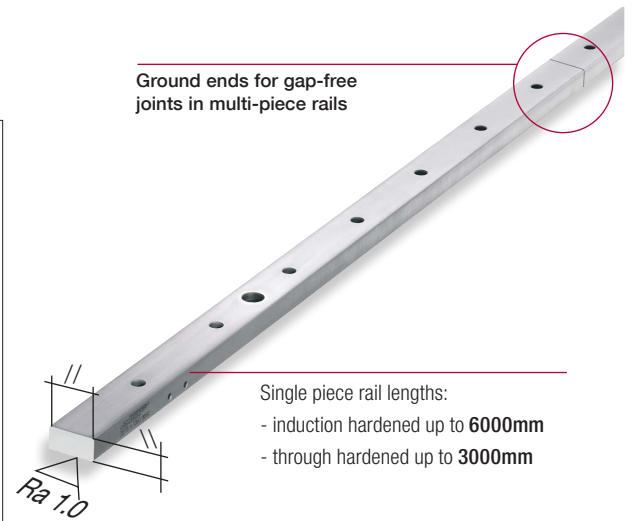
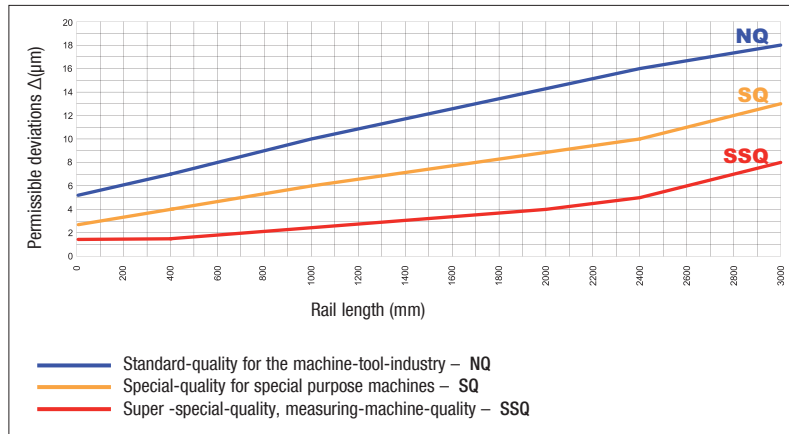
2.1 SCHNEEBERGER special components

A flexible, stand alone production facility specializing in the production in the manufacture of guideways and gear racks:

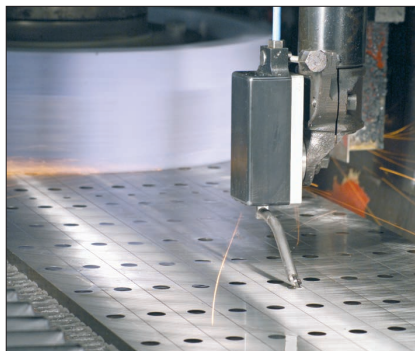
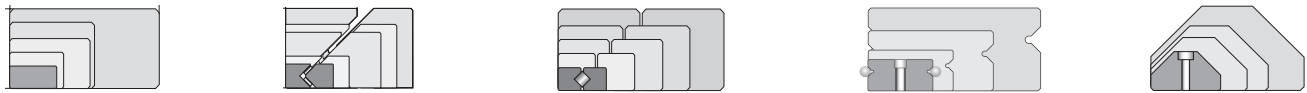
- For the metalworking, automation, wood processing, electronics and measuring equipment industries.
- In various standard designs as single pieces or series volumes.
- As replacement parts for machine retrofits where spares are no longer available from the manufacturer.

Our employees have extensive experience, a flexible manufacturing facility and have the know-how from the research and development departments within the SCHNEEBERGER-Group at their disposal.

2.2 Parallelism tolerances



2.3 Any cross-section



Tempering and straightening

The hardening process induces internal stresses. A careful tempering eliminates such stresses without affect on the hardness.

End grinding

For straight or angled butt joints for gap-free multi-piece rails. This is done in efficient multiple settings.

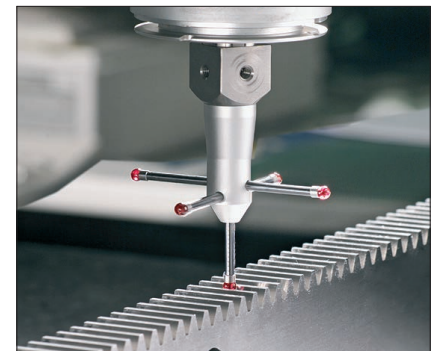


Precision finish grinding

Precision grinding is where SCHNEEBERGER is recognized for quality. Extensive skills and 30 years of experience, gives us the competence to achieve extremely high levels of precision. Trackway to Ra = 0.3μm.

Coatings and sliding materials

Coatings for hardness, corrosion resistance or aesthetics are available. Slide-ways with various ground plastic or metal frictionless wear strips.



Marking

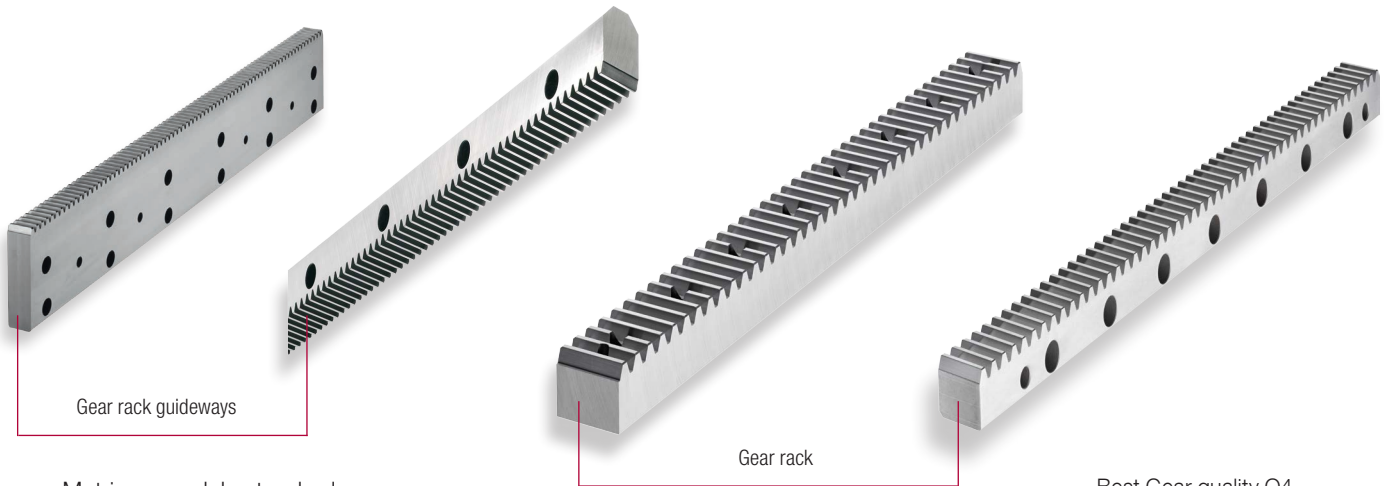
For traceability or stock control the guideways are marked by laser. Butt joint ends are marked with identification numbers.

Quality Control

To ensure the high quality standards of SCHNEEBERGER, all products go through a comprehensive and stringent quality check before shipment.

3 Gear racks and gear rack guideways to customer specification

3.1 Gear racks and gear rack guideways



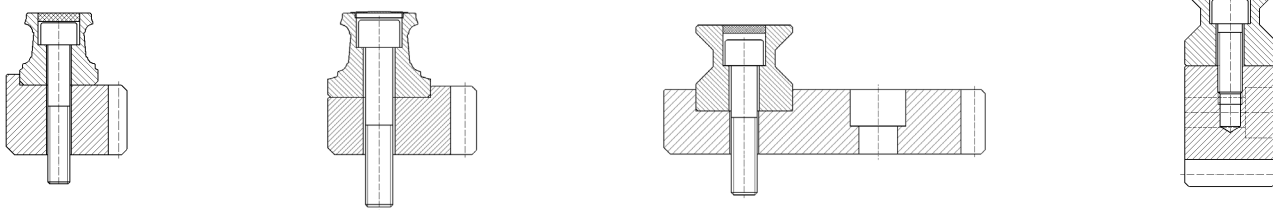
- Metric or module standards
- Up to module 20
- Helical or straight gears
- Hardened and tempered, nitrided, case-hardened, induction or through hardened
- Milled or ground
- Max. single piece length: 3000mm
- Multi-piece butt jointed rails for longer lengths

Best Gear quality Q4

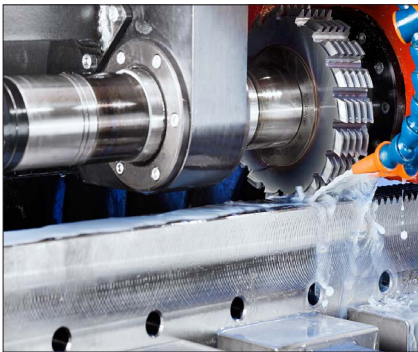
Individual adjacent pitch error
 $f_p = 0.003\text{mm}$

Cumulative pitch error
 $F_p = 0,015\text{mm}/1000\text{mm}$

3.2 Space-saving combination of guideway and drive element



3.3 Gear rack process operation



Gear racks

Depending on the loading, gear racks are either thoroughly hardened, case-hardened or induction hardened, nitrided or hardened and tempered. The material varies depending on the process.

Milling and/or grinding

The required accuracy and surface finish determine whether the gears also need to be ground after milling. Best quality: Q4.

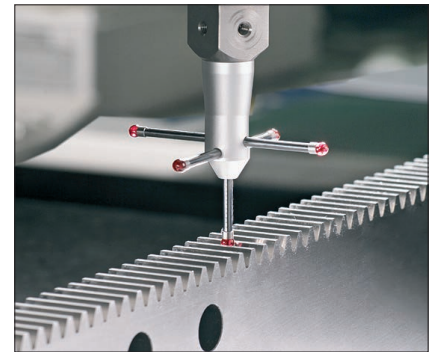


Standard gear racks

From modules 2 to 12, gear racks can be delivered in typical industry dimensions.

Customized gear racks

Alongside the standard parts, we also manufacture customized gear racks and guide racks up to a maximum length of 3 m and a unit weight of 500 kg.



Marking

For traceability or stock control the guideways are marked by laser.

Quality Control

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4 Technical and engineering know-how for special applications



Customer specific guideways and gear racks

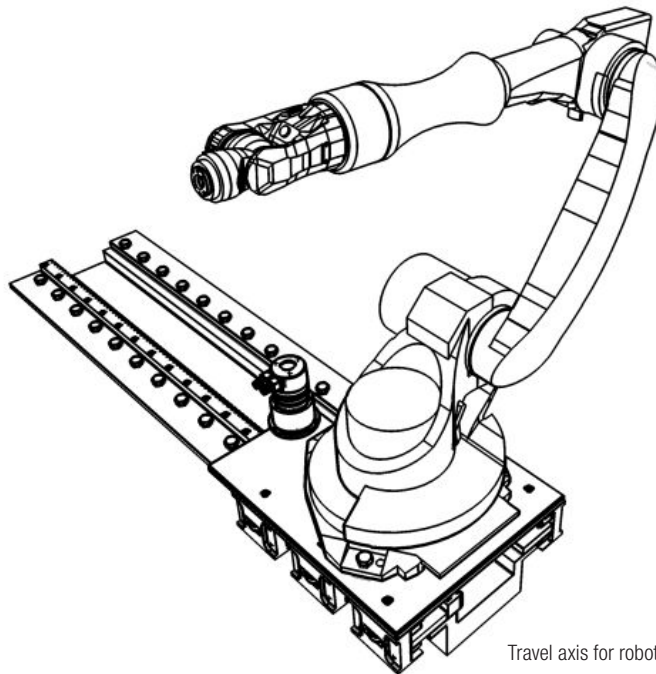
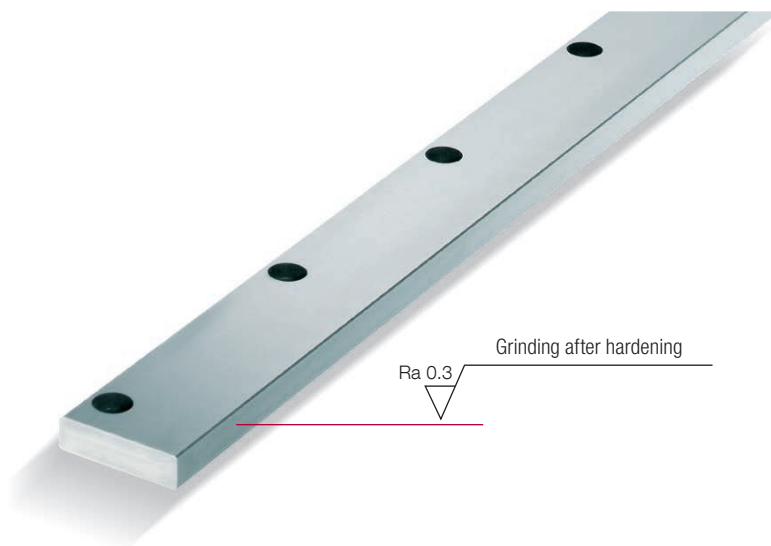
are standard for us. Our qualified sales engineers will be pleased to visit your facility to discuss the optimum solution for your new application.

Delivery Commitments

We guarantee short leadtimes for prototype products and fixed production schedules for production volumes.

Spares for machine refurbishments

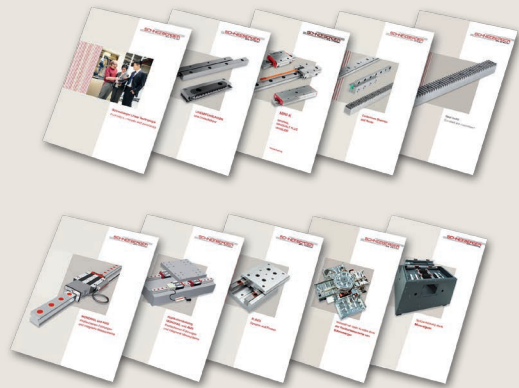
When you require a replacement rail or set of rails – we manufacture to the original accuracy or better.



Travel axis for robots fitted with SCHNEEBERGER box ways and gear racks

PROSPECTUSES

- COMPANY BROCHURE
- CUSTOMIZED BEARINGS
- GEAR RACKS
- LINEAR BEARINGS and RECIRCULATING UNITS
- MINERAL CASTING SCHNEEBERGER
- MINI-X MINIRAIL / MINISCALE PLUS / MINISLIDE
- MONORAIL and AMS profiled linear guideways with integrated measuring system
- MONORAIL and AMS application catalog
- POSITIONING SYSTEMS
- SLIDES



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