

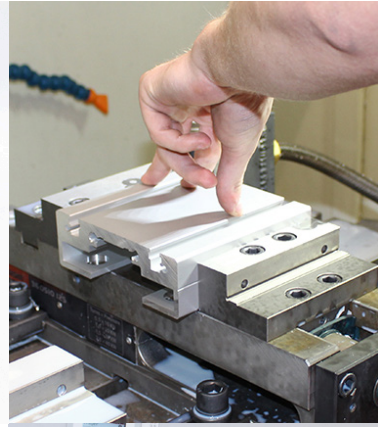
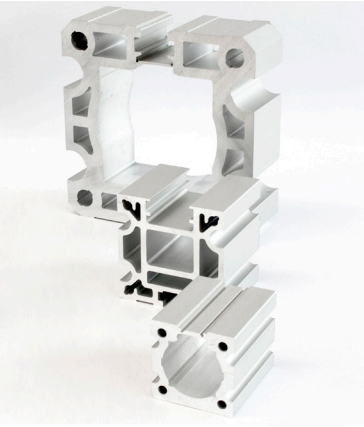
**Industrial
Automation**

Electric Motion

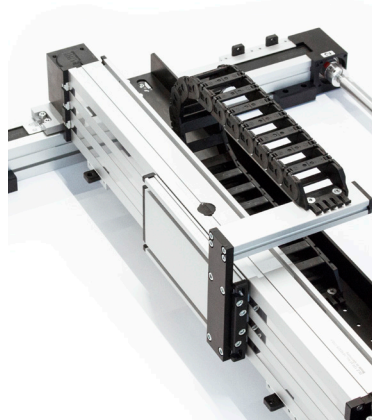
www.norgren.com

IMI

**Breakthrough
Engineering**



Breakthrough Engineering for a Better World



Breakthrough Engineering for a Better World

Norgren is part of global engineering organization IMI plc. IMI is at the forefront of delivering the solutions we need in a changing world and is focused on **creating tremendous value by solving key industry problems in attractive markets and employing the best.**

Norgren has a proud history of creating innovative engineering solutions in precise motion control and fluid technology, and we collaborate with our customers across more than 50 countries in critical areas such as Factory Automation, Material Handling, Rail, Food & Beverage, Process Control, Life Science, and Commercial Vehicles.

From improving speed, productivity, reliability, and efficiency of equipment, to generating significant energy and cost savings, or lowering total cost of ownership across many industries, Norgren's high-quality solutions are designed to help customers pursue progress, achieve new goals, and overcome problems.

With market-leading industry expertise, we offer the capability, resources, engineering intelligence, and global support infrastructure to tackle the largest project demands.

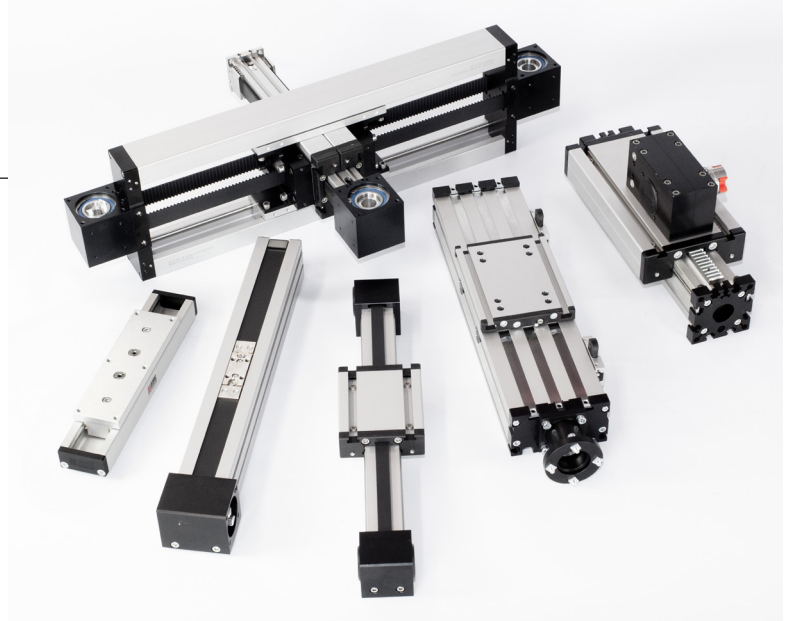
Our world-class portfolio of fluid and motion control products include Norgren, Bimba, Buschjost, FAS, Herion, Kloehn, and Maxseal, supplied either individually or combined into powerful customised solutions to meet customer needs.

Breakthrough engineering you can count on.

Engineering & Service

Our focus is on individually designed drive solutions and the perfect integration of modular linear axes into our customers' equipment. We work with our customers to develop customized linear systems in an efficient manner based on their requirements.

With more than 30 years' experience, we offer products of the highest quality, a one-of-a-kind engineering service, and an experienced team that have successfully realized countless projects.



**Comprehensive
Consulting**



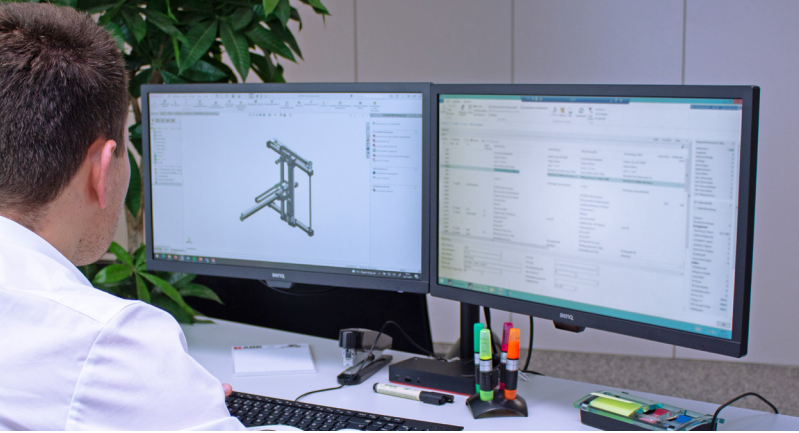
**Tailor-Made
Solutions**



**Calculations
and Analyses**



**Best-In-Class
Service**



Comprehensive Consulting

From the early engineering phase onwards, we provide support and assistance to mechanical engineering and producing companies on a partnership basis, diving deeply into the individual applications - this is what consulting means to us. Our field staff will give you assistance from the design phase through to commissioning, including maintenance and repair of your equipment. You will benefit from the following standard services:

- » Personal consulting via phone, online, or on site
- » Free-of-charge quotation within the shortest possible time
- » Technical drawings and CAD data with every quotation
- » Joint product configuration and trainings



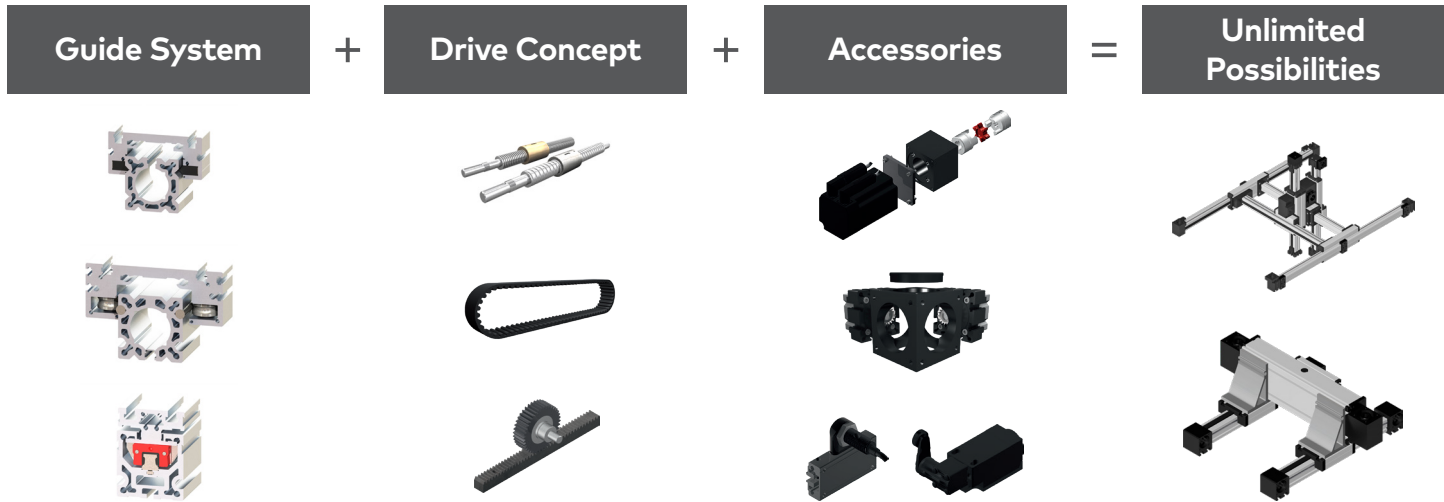
Calculations and Analyses

Our expert team of technicians and engineers will assist you by providing transparent calculations and analyses for the design of your specific application. Our sales and design teams work closely together to optimize your system with regard to efficiency and longevity. In each project case you will receive the following services without charge:

- » Design of multi-axis gantry systems with energy chains
- » Application-specific cycle-time analyses
- » Lifetime and deflection calculations
- » Design of gear units and motors of your choice

Custom-Made Special-Purpose Solutions

Since every industrial application is different, you will receive from us tailor-made and customized linear technology. Thanks to unlimited combination possibilities of different guide and drive concepts we can realize single axes or gantry systems for every project case. In addition, the corresponding accessories for adapting electric drives, workpieces, or sensors for each of our linear units can be delivered ex warehouse. By individually configuring profile lengths, guide carriages, and drive pinions, our product portfolio can be accurately fitted into your existing machine frame, saving you laborious design work.



Toothed Belt Drives



Linear axes with toothed belt drive can be found in every industry and in every application area. No matter how often and how far you want to move your workpieces, belt-driven linear units are ideal for fast handling and positioning tasks. The linear axis is driven by a steel-reinforced toothed belt moving light-weight or heavy loads from A to B within the desired cycle time.

Specific Solutions For Every Application

Our toothed belt drives are characterized by **high speeds**, delivering impressive results even over **long travel distances**. Each of our linear axes can be individually configured and modified by any type of special machining. In addition to our standard designs we also deliver stainless and reinforced components that are suitable for applications in **explosion protection, food processing, and clean room areas**. The positioning of the carriage is achieved by means of a **roller guide or rail guide**, depending on the product series and the application requirements. Our "Made in Germany" promise guarantees the use of **high-quality components** and ensures an unbeatable **service life** of your application.

- » high dynamics
- » long service life
- » individually configurable
- » low-maintenance
- » long travel distances
- » suitable for ex protection, clean room etc.
- » temperature range between -22 °F and 167 °F (-30 °C and 75 °C)



Track Rollers



Linear axes with track roller guides are cost-efficient and extremely robust even in harsh operating conditions. We use premium-quality track rollers and steel shafts for our systems, ensuring long service lives with low maintenance effort.



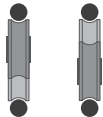
EL | ML - Series

double roller - single guided



LL | QL - Series

double roller - single guided

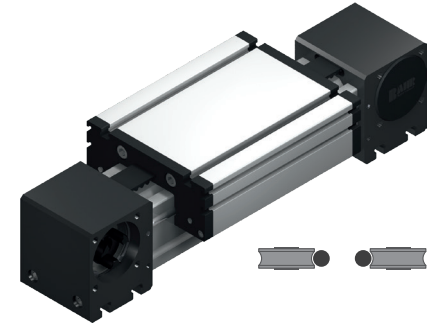
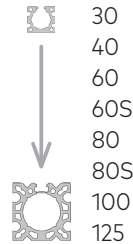



DL - Series

double roller - double guided

- » smooth running
- » long service life
- » high velocity
- » low-maintenance
- » long travel distances

ELZ



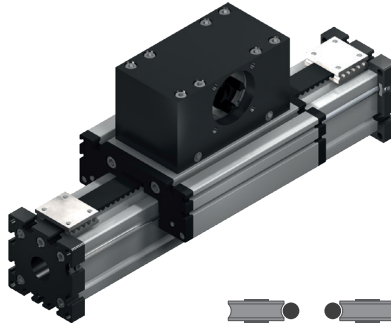
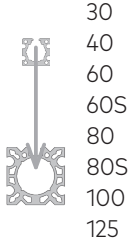
- » individually configurable
- » robust for use in harsh environments
- » long travel distances
- » suitable for ex protection 

Toothed Belt Drive

Mechanical linear unit with external track roller guide. The system is driven by a revolving toothed belt. The carriage and the toothed belt can be configured in reinforced versions. The reinforced carriage and toothed belt versions are suitable for use in applications with high loads.

Since these units can be configured in a multi-segment design, long strokes of well over 20 meters can be realized with the ELZ series. Thanks to its high flexibility, this linear unit can be used in a wide range of applications in all industrial sectors.

ELSZ



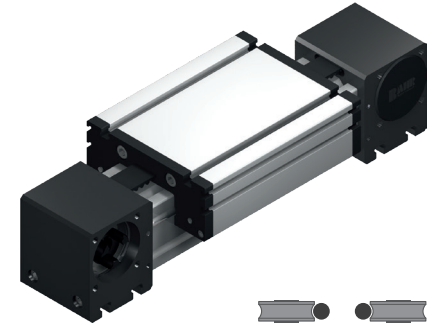
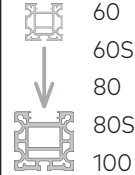
- » individually configurable
- » omega system - vertical lifting unit
- » reinforced versions available
- » two independent carriages possible

Toothed Belt Drive

Mechanical linear unit with external track roller guide. The system is driven by a fixed toothed belt. The omega deflection of the carriage allows the guide profile to be moved. Additionally, several carriages can be driven separately.

The ELSZ system is particularly suitable for a vertical mounting position in gantry systems used to lift loads. Similarly, two separately driven carriages can be used for horizontal applications with long strokes.

MLZ



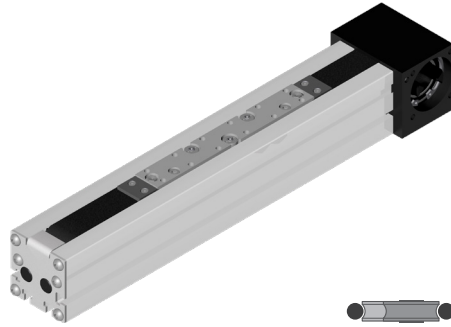
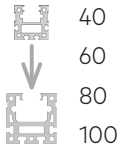
- » individually configurable
- » flexible mounting position
- » long travel distances
- » available with nubbed belt

Toothed Belt Drive

Mechanical linear unit with external track roller guide. The system is driven by a revolving toothed belt guided within the profile.

The toothed belt guided within the profile makes this linear drive ideal for any mounting position, even for long travel distances. A nubbed belt may be used for applications that must be particularly quiet without compromising accuracy.

LLZ



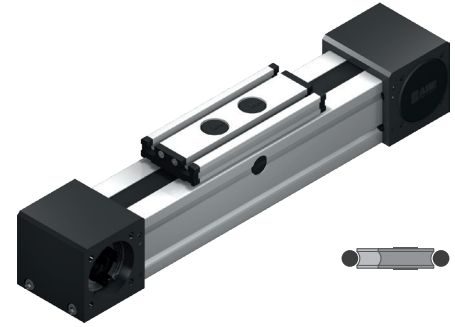
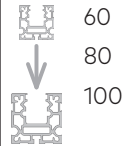
- » individually configurable
- » compact design
- » long travel distances
- » flexible mounting position

Toothed Belt Drive

Mechanical linear unit with internal track roller guide. The toothed belt guided within the profile makes this linear drive ideal for any mounting position, even for long travel distances.

The compact design is achieved by an internal deflection roller and a unilateral drive connection via a belt reverse unit. In addition to the largest possible stroke with a small overall length, this also ensures an unbeatable price/performance ratio.

QLZ



- » individually configurable
- » flexible mounting position
- » long travel distances
- » suitable for clean room applications

Toothed Belt Drive

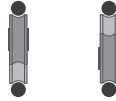
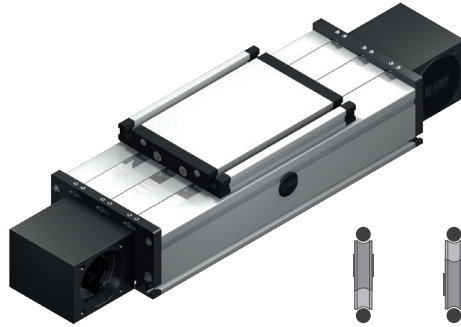
Mechanical linear unit with internal track roller guide. The toothed belt guided within the profile makes this linear drive ideal for any mounting position, even for long travel distances.

Since these units can be configured in a multi-segment design, long strokes of well over 20 meters can be realized with the QLZ series. The required profile stability is achieved by secure butt joints and offset guide shafts, which at the same time ensure smooth running transitions.

DLZ



120
160
200



- » individually configurable
- » high loads possible
- » internal guide
- » robust in harsh conditions

Toothed Belt Drive

Mechanical linear unit with internal track roller guide. It is driven by a completely internal and revolving toothed belt. Thus, the linear unit is extremely robust in harsh conditions.

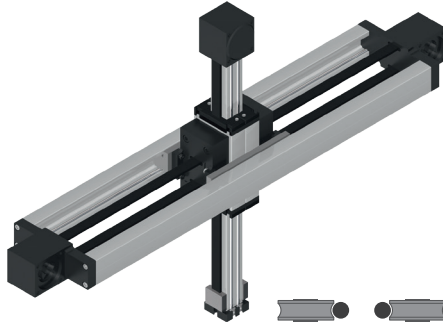
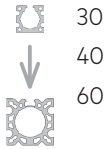
Ideal loading of the system is achieved by the horizontal mounting position of the double-guided rollers. The DL series can be equipped with a reinforced toothed belt, so that higher loads can be applied.



DLZ 160 Toothed Belt Drive

DLZ 160 toothed belt drive with energy chain, special components, and a servo gear combination

ELZI



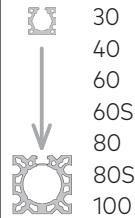
- » individually configurable
- » dynamic x/z gantry
- » compact design
- » pick & place applications

Toothed Belt Drive

Gantry system consisting of mechanical linear units with internal and external track roller guides. The system is driven by a single toothed belt that runs through the entire system and is mounted in the vertical Z axis.

Due to the compact design and the fixed connection of all electric motors to the X-axis, only small masses are moved. This allows the realization of highly dynamic pick-and-place applications.

ELZU



- » individually configurable
- » compact design
- » dynamic x/y or x/z gantry
- » pick & place applications

Toothed Belt Drive

Gantry system consisting of mechanical linear units with external track roller guides. The unit is driven by a revolving toothed belt which remains connected through various deflection points.

Due to the compact design and the fixed connection of all electric motors to the X-axis, only small masses are moved in Y(Z) direction. This enables dynamic positioning over a wide area, which is why the ELZU gantry system is often used in order picking and warehouse systems.

Rail Guide

Linear axes with rail guides are ideal for dynamic applications with heavy loads. Thanks to optimum shape and position tolerances, our linear axes with rail guide achieve precise accuracies. Additionally, the guides are extremely low-maintenance and quiet.



LS | QS - Series

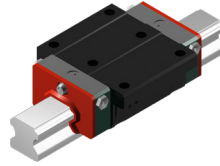
single rail guide



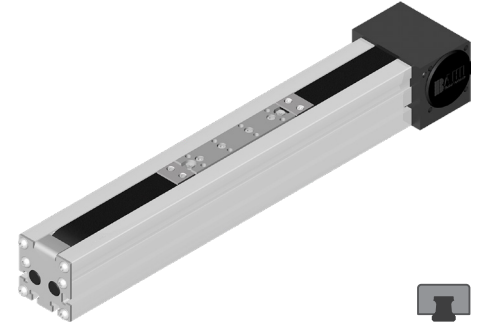
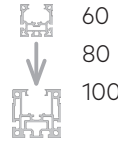
DS - Series

double rail guide

- » high dynamics
- » high load-carrying capacity
- » low-maintenance
- » low noise
- » long travel distances



LSZ



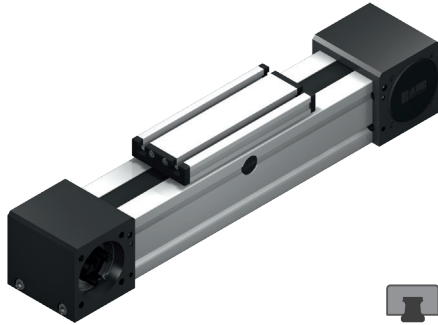
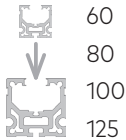
- » individually configurable
- » compact design
- » high dynamics
- » high-precision version available

Toothed Belt Drive

Mechanical linear unit with internal rail guide. The toothed belt guided within the profile makes this linear drive ideal for any mounting position, even for long travel distances.

The compact design is achieved by an internal deflection roller and a unilateral drive connection via a belt reverse unit. In addition to the largest possible stroke with a small overall length, this also ensures an unbeatable price/performance ratio.

QSZ



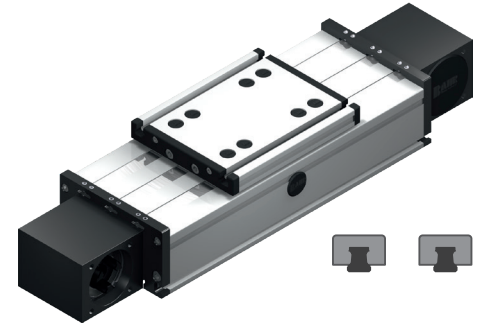
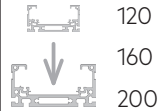
- » individually configurable
- » flexible mounting position
- » suitable for clean room applications
- » long travel distances

Toothed Belt Drive

Mechanical linear unit with internal rail guide which enables higher moments to be absorbed. The toothed belt guided within the profile makes this linear drive ideal for any mounting position, even for long travel distances.

Since these units can be configured in a multi-segment design, long strokes of well over 20 meters can be realized with the QSZ series. The required profile stability is achieved by secure butt joints and offset guide rails, which at the same time ensure smooth transitions.

DSZ



- » individually configurable
- » high moment absorption possible
- » internal guide
- » robust in harsh conditions

Toothed Belt Drive

Mechanical linear unit with internal rail guide, making it possible to absorb higher moments. The system is driven by a completely internal and revolving toothed belt.

Thus, the linear unit is extremely robust in harsh conditions. Due to the double rail guide, longer lever arms with larger moments can also be realized. The DS series can be equipped with a reinforced toothed belt, so that higher loads can be applied.

Screw Drives



Linear axes with screw drive can be found in every industry and in every application area. They are used for moving high loads or in precise dosing equipment. Screw drives can be used to realize high feed forces, while at the same time they are suitable for cases with high requirements regarding positioning and repeating accuracy.

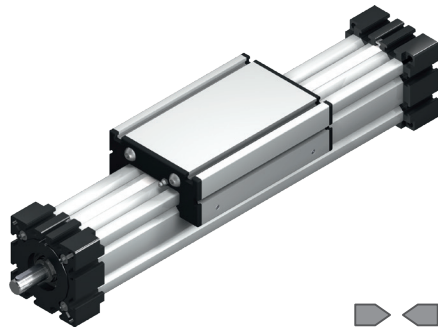
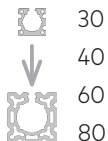
Specific Solutions For Every Application

Our screw drives are characterized by excellent accuracy, which can be guaranteed even under harsh operating conditions and with long operating times. Each of our linear axes can be individually configured and modified by any type of special machining. In addition to our standard designs, we also deliver stainless and reinforced components that are suitable for applications in explosion protection, food processing, and clean room areas. The systems are driven either by a trapezoidal threaded screw or by a ball screw. For positioning the carriage, you can choose between a sliding guide, a roller guide, or a rail guide. Our "Made in Germany" promise guarantees the use of high-quality components and ensures an unbeatable service life of your application.

- » high positioning accuracy
- » long service life and operating safety
- » high efficiency with ball screw
- » individually configurable
- » high feed forces
- » self-locking with trapezoidal screw



EGT/K



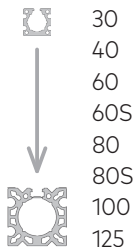
- » individually configurable
- » sliding guide
- » robust for use in harsh environments
- » cost-efficient

Screw Drive

Mechanical linear unit with external plastic sliding guide. The system is driven either by an internal trapezoidal screw or ball screw drive. Depending on the requirements, the diameter and pitch of the screw can be configured accordingly.

The sliding guide is ideal for cost-efficient and simple movement tasks, as well as in harsh environments. Optionally, the system can be configured with two carriages to realize a bench vise principle. Also available with a split screw and two drive sides.

ELT/K



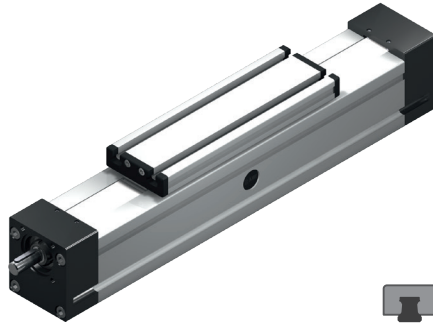
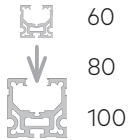
- » individually configurable
- » roller guide
- » right/left system
- » movement and lifting system

Screw Drive

Mechanical linear unit with external track roller guide. The system is driven either by an internal trapezoidal screw or ball screw drive. Depending on the requirements, the diameter and pitch of the screw can be configured accordingly.

Optionally, the system can be configured with two carriages to realize a bench vise principle. Also available with a split screw and two drive sides.

QST/K

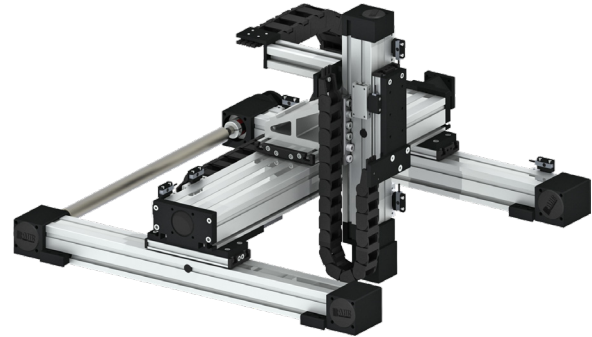


- » individually configurable
- » rail guide
- » right/left system
- » movement and lifting system

Screw Drive

Mechanical linear unit with internal rail guide, making it possible to absorb higher moments. The system is driven either by an internal trapezoidal screw or ball screw drive. Depending on the requirements, the diameter and pitch of the screw can be configured accordingly.

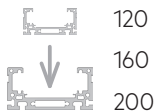
Optionally, the system can be configured with two carriages to realize a bench vise principle. Also available with a split screw and 2 drive sides.



Multi-Axis Gantry

Consisting of QSK 80, QSZ 80, and DSK 160. Linear axes for handling heavy loads, including sensors, connecting shafts, energy chains, and motor adaptation.

DLT/K



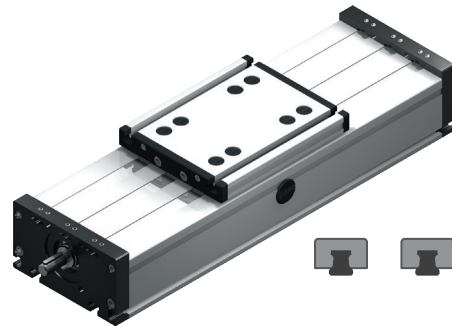
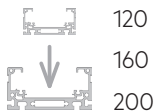
- » individually configurable
- » roller guide
- » right/left system possible
- » movement and lifting system

Screw Drive

Mechanical linear units with internal track roller guide. Ideal loading of the system is achieved by the horizontal mounting position of the double-guided rollers. The system is driven either by an internal trapezoidal screw or ball screw drive.

Depending on the requirements, the diameter and pitch of the screw can be configured accordingly. Optionally, the system can be configured with two carriages to realize a bench vise principle. Also available with a split screw and two drive sides.

DST/K



- » individually configurable
- » rail guide
- » right/left system possible
- » movement and lifting unit

Screw Drive

Mechanical linear units with internal rail guide. Due to the double rail guide, longer lever arms with larger moments can also be realized. The system is driven either by an internal trapezoidal screw or ball screw drive.

Depending on the requirements, the diameter and pitch of the screw can be configured accordingly. Optionally, the system can be configured with two carriages to realize a bench vise principle. Also available with a split screw and two drive sides.

Application Examples

We develop customized solutions for every requirements profile, from individual parts to series production, and we offer the right linear technology for every industry segment.



Mechanical and systems engineering

- » Coating, painting, welding, measuring, and forming plants; glass, stone, and wood working machinery



Automation & electrical engineering

- » Assembly lines and storage systems
- » Assembly and handling systems
- » Measuring and inspection equipment



Lifting and materials handling technology

- » Bottling and dosing systems
- » Electromechanical lifting systems
- » Lift systems



Food industry

- » Food and animal food production
- » Resistant against cleaning agents



Chemical and pharmaceutical industry

- » Mixing, testing, and dosing equipment
- » Laboratory applications
- » Clean-room conditions



Pharmacy Automation

- » Automatic picking system



Packaging technology

- » Labeling and packaging equipment
- » Systems for cartoners, loaders, packers, and deliverers



3D printing

- » Rapid prototyping
- » Industrial 3D printing
- » Sintered metal process
- » Architectural projects

Norgren operates four global centers of technical excellence and a sales and service network in 50 countries, as well as manufacturing capability in Brazil, China, Czech Republic, Germany, India, Mexico, UK and the USA.

For information on all Norgren companies visit

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Due to our policy of continuous development, Norgren reserve the right to change specifications without prior notice.

IMI

Incorporating

