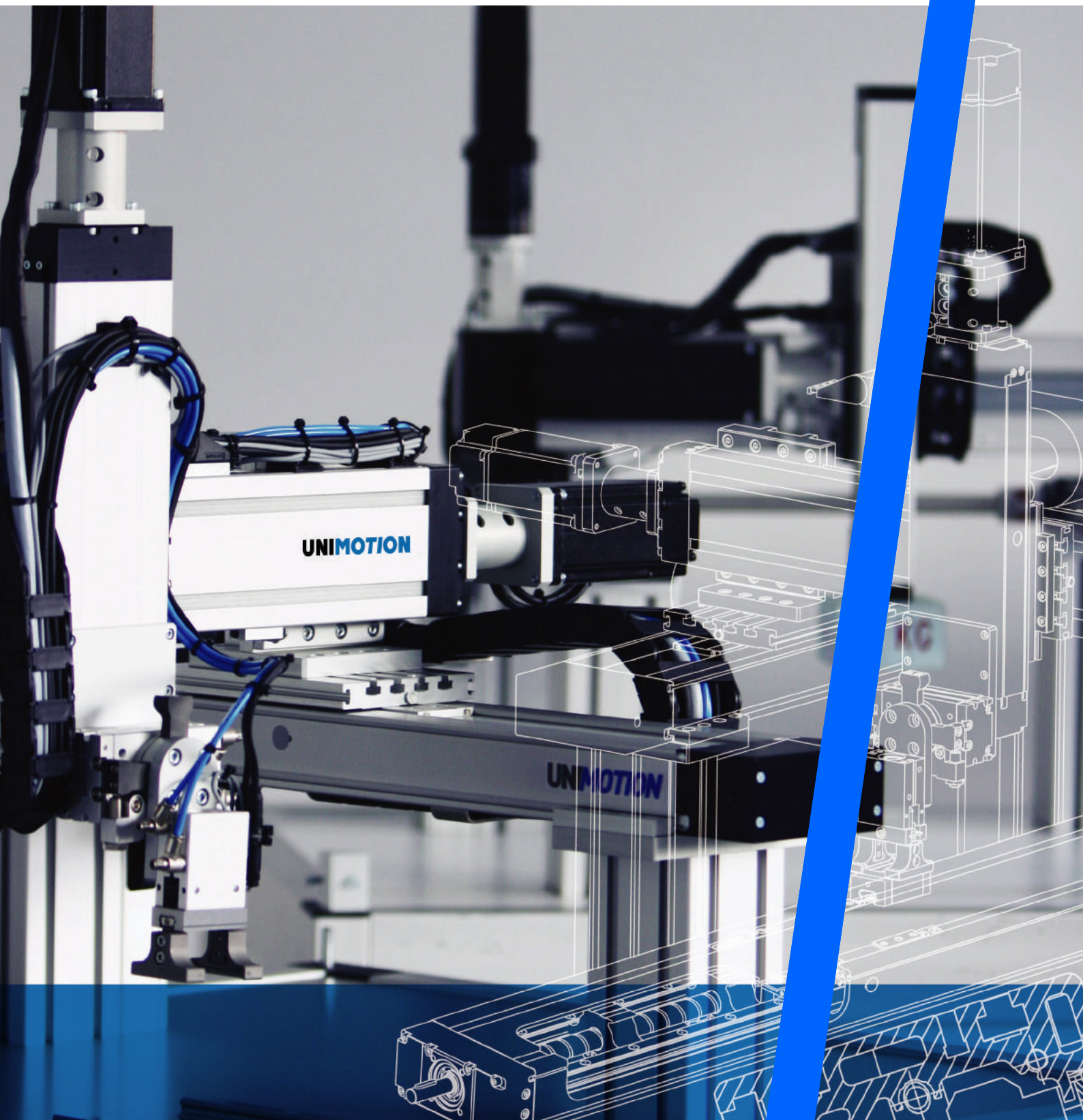


UNIMOTION

PRODUCT OVERVIEW



UNIMOTION

INTRODUCTION



30+

**Years
of experience**

A global linear motion
technology solution
provider.

100+

**Number
of employees**

Fast growing
family business.

50+

**Worldwide
distribution**

We export in over
50 countries
worldwide.

Unimotion is a fast-growing European innovator in the field of industrial automatization with a worldwide developed sales network.

The company was established in 1990. After several years of experience in metal processing as a contractor, the company began to operate in the field of customized machinery, offering individual and integrated solutions such as testing machines and assembly lines with its own development. We export our products worldwide. Inspired by our customers' requirement, Unimotion is constantly developing new products and system solutions.

All under one roof



PRODUCTION

Engineering production, construction and warehouse - all under one roof!

Extensive knowledge



KNOWLEDGE

Our knowledge can help us to quickly modify our existing solutions to any requirement.

Customized solutions



FLEXIBILITY

Flexible, fast and reliable products and customized solutions for high dynamic demands.

Highly trained professionals



SERVICE

Personalized service and fast response time to your individual needs.



WHAT MAKES US DIFFERENT?

Unimotion products are made with the best quality materials by experienced engineers with the highest precision.



SMART INNOVATIONS

Among the main goals of the company is innovation.



AWARDED DESIGNS

In every single situation, we strive for perfectly designed solutions.



COST-EFFECTIVE SOLUTIONS

One of the key elements is optimization of production processes in various industries.



SUPERIOR QUALITY

We produce and develop high-standard industrial automation products, built from premium quality materials.

NEW PRODUCTS

UNIMOTION IRONLESS LINEAR MOTORS



LMLA coreless linear motors



High force density

Force density is up to 25% higher in comparison to our competitors.



Low force ripple

Thanks to the robust design the UNIMOTION coreless motors achieve an extremely low force ripple.



Best price-performance ratio

UNIMOTION coreless motors have a great price-performance ratio.



High dynamic applications

UNIMOTION coreless motors are ideal for a variety of high-dynamic applications.



Linear motors



Linear motor sizes

UNIMOTION provides 4 different sizes of coreless linear motors.



Linear motor versions

Each Coreless linear motor size is available in up to 5 different versions all in high and low-speed types.



High and low speed

High-speed motors offer a nearly 230% increase in maximum velocity compared to low speed.



No cogging and no attraction force

Thanks to the ironless core there is no attraction force between the motor and the magnet plate and no cogging effect.



Hall sensor



Hall sensor

UNIMOTION LML Hall Sensors are the only ones on the market with integrated Analog and Digital sensors.



Free wake & shake

The innovative design of a Hall sensor enables a free wake & shake feature.



Magnet plates



Magnet plate sizes

UNIMOTION provides multiple sizes of magnet plates for various mounting combinations.



Multi mounting options

All magnetic plates have multi mounting options: through holes and threads.

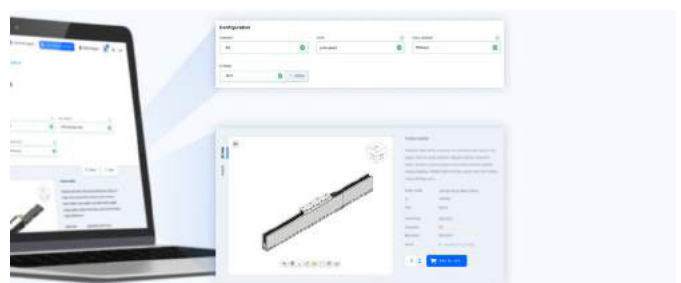


Online sizing tool



Online sizing tool

A sophisticated sizing tool provides you with a solution in only a few minutes.



Endless configuration



Configuration tool

The Linear motor system can be configured through the Easy to use, Step-by-Step configuration tool.



3D model generation

The integrated 3D generation solution allows instant preview and download of the configured system in more than 50 formats.



Online ordering

The configured Linear motor system can be easily purchased through the UNIMOTION online shop.

UNIMOTION IRONCORE LINEAR MOTORS



UNIMOTION linear motors



High force density

Force density is up to 30 - 50 % higher in comparison to our competitors.



Low cogging

UNIMOTION linear motors boast themselves with a very low cogging.



High and low speed

High speed motors offer a nearly 230 % increase in maximum velocity compared to low speed.



Magnet plates



Magnet plate sizes

UNIMOTION provides multiple different sizes of magnet plates for various mounting combinations.



High performance

High performance magnet plates offer an increase of maximum force up to 11 % compared to standard plates.



Hall sensor



Free wake & shake

Innovative design of a Hall sensor enables a free wake & shake feature.



AD Hall sensor

Universal Hall sensor with an Analog and Digital output.



Linear motors



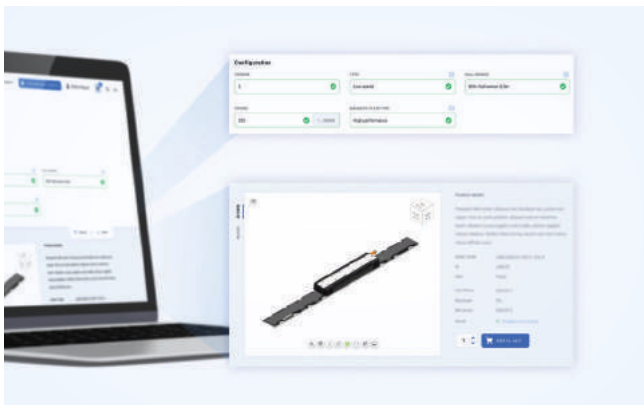
Linear motor sizes

UNIMOTION provides 11 different sizes of linear motors all in high and low speed versions.



Multiple combination

All UNIMOTION linear motors can be combined with the standard or high-performance magnet plates.



Endless Configuration



Configuration tool

The linear motor system can be configured through the easy to use, step-by-step configuration tool.



3D model generation

The integrated 3D generation solution allows instant preview and download of the configured system in more than 50 formats.



Online ordering

The configured linear motor system can be easily purchased through the UNIMOTION online shop.

UNIMOTION CTL LINEAR UNITS WITH DIRECT DRIVE



UNIMOTION CTL linear units



Excellent design

The vision to offer not only the best but also excellent looking products, led us to the award pending design.



Compact form

CTL linear units are designed to be as compact as possible with no compromise to high performance.



Linear motor drive

Built-in high performance UNIMOTION linear motor drive.



Cleanroom certified



Protection system



Dust protection

The special protection system ensures that the linear unit is always perfectly sealed.



Protection cover tensioning

The innovative tensioning solution offers perfect alignment of protection cover even at long strokes and high acceleration.



High speed

Using innovative UNIMOTION linear motor drive enables the unit to achieve speeds up to 5 m/s.



High acceleration

CTL linear units offer the highest acceleration among all UNIMOTION linear units.

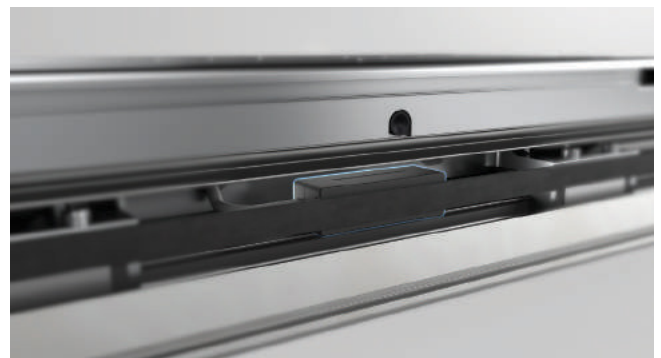


Optional Hall sensor



AD Hall sensor

Universal Hall sensor option with an integrated Analog and Digital output.



Measurement system



Measurement system

CTL linear units offer a wide range of different built-in measurement systems.



Repeatability precision

The combination of linear motor drive and measurement system offer a repeatability precision up to $\pm 0,001$ mm.



Online sizing tool



Online sizing tool

A sophisticated sizing tool provides you with a solution in only a few minutes.



Optional cover



Option without protection cover

UNIMOTION CTL linear units can be supplied with or without the protection cover.

ELECTRIC CYLINDERS AND SLIDERS

PNCE SERIES - 32, 40, 50, 63, 80, 100

ISO
15552



The PNCEs are electric cylinders with a precision ball screw drive. The electric cylinder is based on the standard ISO 15552. Its outer design and dimensions are very similar to pneumatic cylinders.

High performance features such as:

- high speeds,
- good positioning accuracy and
- high repeatability

are ensured through a precision ball screw with reduced backlash (preload on request) of the ball nut and non-rotating piston rod. For a long service life the relubrication can be done through a lubrication nipple.

Maximum stroke: 1500 mm
Maximum travel speed: 2,5 m/s

Maximum axial load: 29000 N
Axial backlash: < 0,02 mm

MCE SERIES - 25, 32, 45



Mini electric cylinder MCE is a mini linear drive with a piston rod. By using an integrated precision ball screw drive, the rotary motion (rotation) of the drive shaft is converted to the linear motion (translation) of the piston rod with high mechanical efficiency and low internal friction.

High-performance features such as high speed, good positioning accuracy, and high repeatability are ensured through a precision ball screw drive and an anti-rotating piston rod device.

A preassembled standard motor (in-line with a motor adapter and a coupling or in-parallel with a motor side drive and a timing belt) together with the standard drive, makes the system plug and play ready. Compact dimensions and optimally selected motor combinations cover a widerange of applications.

The aluminium cylinder profile includes T-slots on the bottom for fixing the electric cylinder, as well as side slots for clamping fixtures and magnetic field sensors.

Options, such as female piston rod end and extended piston rod, together with a wide range of accessories make this product highly flexible.

There is also an option of the mini electric cylinder without the preassembled motor if an individual motor is required.

For applications, where higher resistance to lateral loads or torsional moments is required, a guiding unit GUC can be used. By using the guiding unit, which offers high precision guiding and positioning, the mini electric cylinders can easily be combined to the multi-axis systems.

Travel speed: $v \leq 0,75$ m/s
Repeatability precision: $\pm 0,015$

MSCE SERIES - 25, 32, 45



Mini electric slider MSCE is a mini linear drive with an integrated linear guiding system and slide. By using an integrated precision ball screw drive, the rotary motion (rotation) of the drive shaft is converted to the linear motion (translation) of the slide with high mechanical efficiency and low internal friction.

High-performance features such as high speed, good positioning accuracy, and high repeatability are ensured through a precision ball screw drive and a linear guiding system.

A preassembled standard motor (in-line with a motor adapter and a coupling or in-parallel with a motor side drive and a timing belt) together with the standard drive, makes the system plug and play ready. Compact dimensions and optimally selected motor combinations cover a wide range of applications.

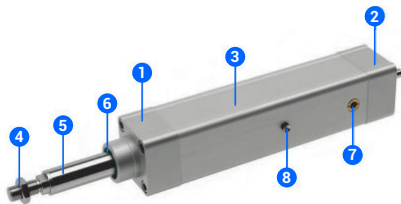
The aluminium base profile includes T-slots on the bottom for fixing the electric slider, as well as side slots for clamping fixtures and magnetic field sensors.

The aluminium slide and front plate of the electric slider allow a wide range of options for mounting the working tools and attaching additional accessories.

There are prepared connection holes on the slide and front plate for an easy combination of the MSCEs to the multi-axis system, which makes this product highly flexible. There is also an option of the mini electric slider without the preassembled motor if an individual motor is required.

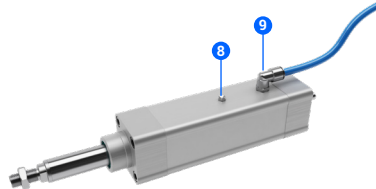
Travel speed: $v \leq 0,75$ m/s
Repeatability precision: $\pm 0,015$

STANDARD VERSION



- 1 - Front cap
- 2 - Drive cap
- 3 - Smooth cylinder profile
- 4 - Hex nut

OPTIONS

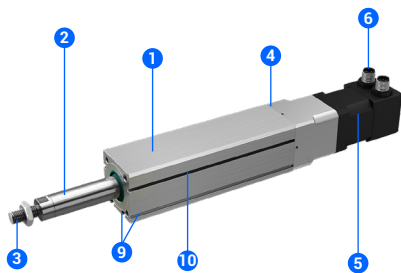


- 5 - Preassembled motor (with/without brake)
- 6 - Standard connectors (motor, encoder and brake- optionally)
- 7 - Motor side drive with a timing belt



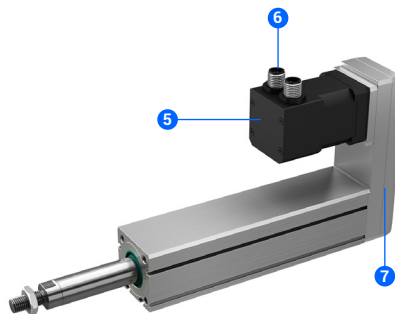
- 8 - Lubrication nipple
- 9 - Connection for pressure compensation

COMBINATION WITH A STANDARD MOTOR AND A MOTOR ADAPTER VK



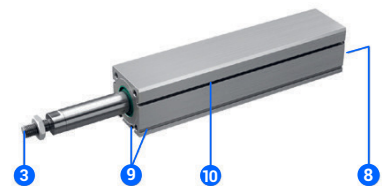
- 1 - Compact aluminium cylinder profile
- 2 - Piston rod (stainless steel) with an anti-rotation device
- 3 - Piston rod end (optionally a female thread is available)
- 4 - Motor adapter VK with a coupling

COMBINATION WITH A STANDARD MOTOR AND A MOTOR SIDE DRIVE MSD



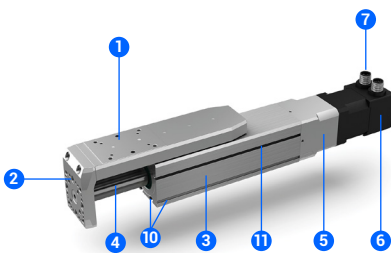
- 5 - Preassembled motor (with/without brake)
- 6 - Standard connectors (motor, encoder and brake - optionally)
- 7 - Motor side drive with a timing belt

WITHOUT A MOTOR



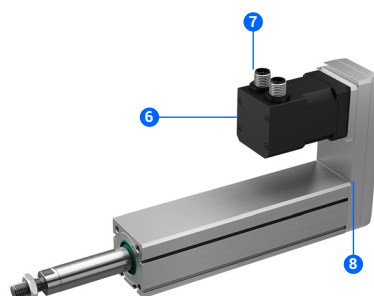
- 8 - Drive shaft of a precision ball screw drive
- 9 - Slots for mounting
- 10 - Slots for the magnetic field sensors size 32 and 45) or mounting the sensor holder (size 25)

COMBINATION WITH A STANDARD MOTOR AND A MOTOR ADAPTER VK



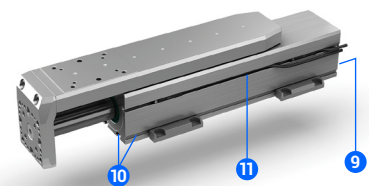
- 1 - Aluminium slide with an integrated linear guiding system
- 2 - Front plate
- 3 - Compact aluminium base profile
- 4 - Positioning rod
- 5 - Motor adapter VK with a coupling

COMBINATION WITH A STANDARD MOTOR AND A MOTOR SIDE DRIVE MSD



- 6 - Preassembled motor (with/without a brake)
- 7 - Standard connectors (motor, encoder and a brake – optionally)
- 8 - Motor side drive with a timing belt

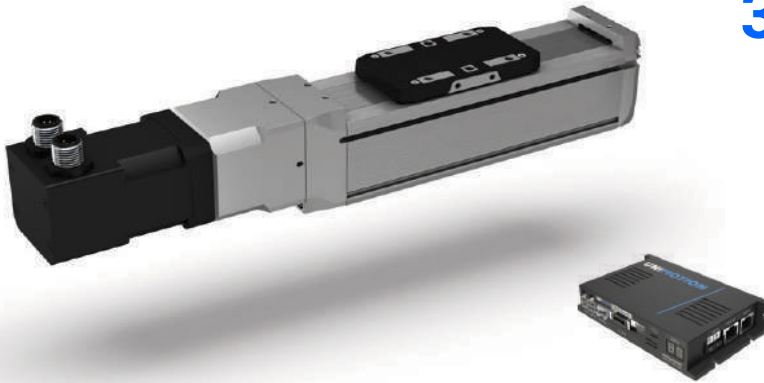
WITHOUT A MOTOR



- 9 - Drive shaft of a precision ball screw drive
- 10 - Slots for mounting
- 11 - Slots for the magnetic field sensors (size 32 and 45) or mounting the sensor holder (size 25)

MINI LINEAR UNITS

MGBS SERIES 32, 45, 60



The MGBS is a mini linear unit with an integrated precision ball screw drive that converts the rotary motion of the motor to the linear motion (translation) of the carriage with high mechanical efficiency and low friction.

High performance features such as high speed, good positioning accuracy and repeatability are achieved by using a precision ball screw drive and linear guide.

Preamsembled standard motor (in-line with a motor adapter and coupling or in-parallel with motor side drive and timing belt) together with the standard drive makes the system plug and play ready. Compact dimensions and optimally selected motor combinations cover a wide range of applications. Optionally the MGBS without the preassembled motor and drive is also available when a combination with a different motor is required.

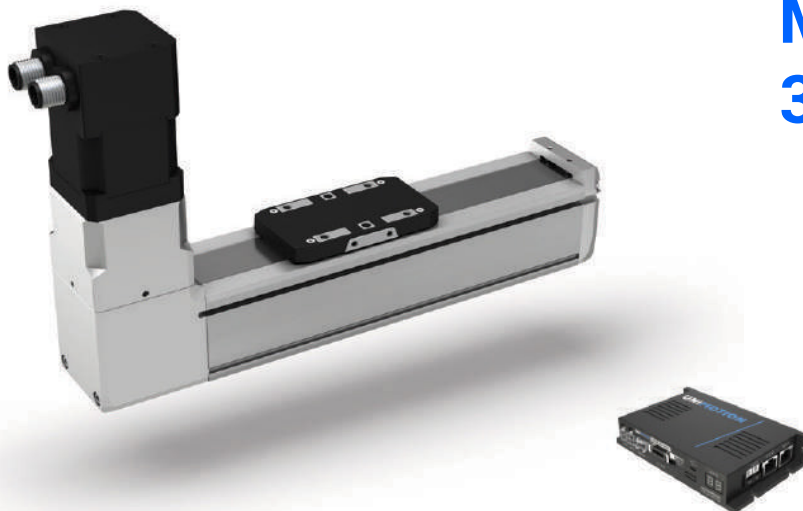
The anodized aluminium profile has side slots for clamps and a magnetic field sensor. The carriage is ready for attaching other MGBS, MGTB, MCE or MSCE units to create modular multi-axis systems.

Each MGBS is pre-lubricated and ready for a maintenance-free operating process.

Travel speed: $v \leq 0,97 \text{ m/s}$

Repeatability precision: $\pm 0,015$

MGTB SERIES 32, 45, 60



MGTB is a mini linear unit with a toothed belt drive.

High-performance features such as high speed, good positioning accuracy and high repeatability are ensured by using a zero-backlash toothed belt drive and a linear guide.

A Preamsembled standard motor with a motor adapter and coupling, together with the standard drive makes the system plug and play ready.

Compact dimensions and optimally selected motor combinations cover a wide range of applications. Optionally the MGTB without the preassembled motor and drive is also available when a combination with a different motor is required.

The anodized aluminium profile has side slots for clamping fixtures and a magnetic field sensor.

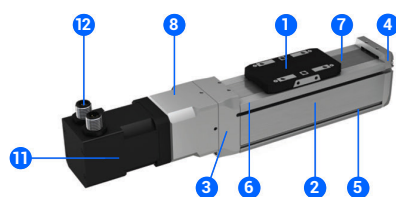
Other MGBS, MGTB, MCE or MSCE units can be attached to the carriage to form a modular multi-axis system.

Each MGBS is pre-lubricated and ready for a maintenance-free operating process.

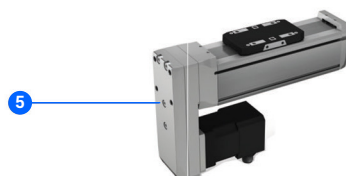
Travel speed: $v \leq 1,5 \text{ m/s}$

Repeatability precision: $\pm 0,08$

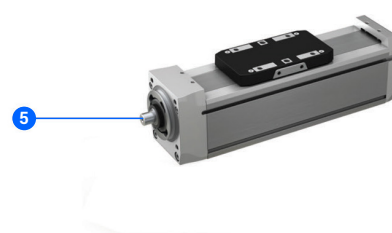
COMBINATION WITH A STANDARD MOTOR
ANDA MOTOR ADAPTER VK



COMBINATION WITH A STANDARD MOTOR
AND A MOTOR SIDE DRIVE MSD



WITHOUT A MOTOR

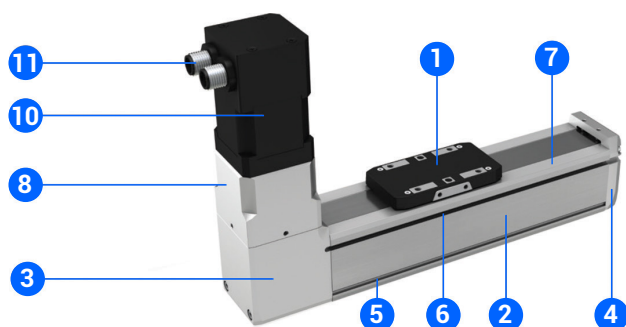


- 1 - Carriage
- 2 - Aluminium base profile
- 3 - Drive block
- 4 - End block

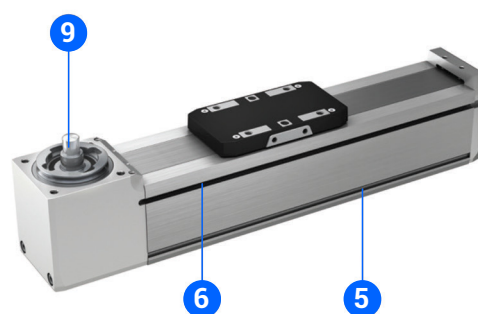
- 5 - Mounting slots
- 6 - Slot for magnetic field sensors
- 7 - Stainless steel protection strip
- 8 - Motor adapter VK with a coupling

- 9 - Motor side drive MSD with timing belt
- 10 - Driveshaft of the precision ball screw drive
- 11 - Preassembled motor (with/without brake)
- 12 - Standard connectors (motor, encoder and brake – optionally)

COMBINATION WITH A STANDARD MOTOR
AND A MOTOR ADAPTER VK



WITHOUT A MOTOR

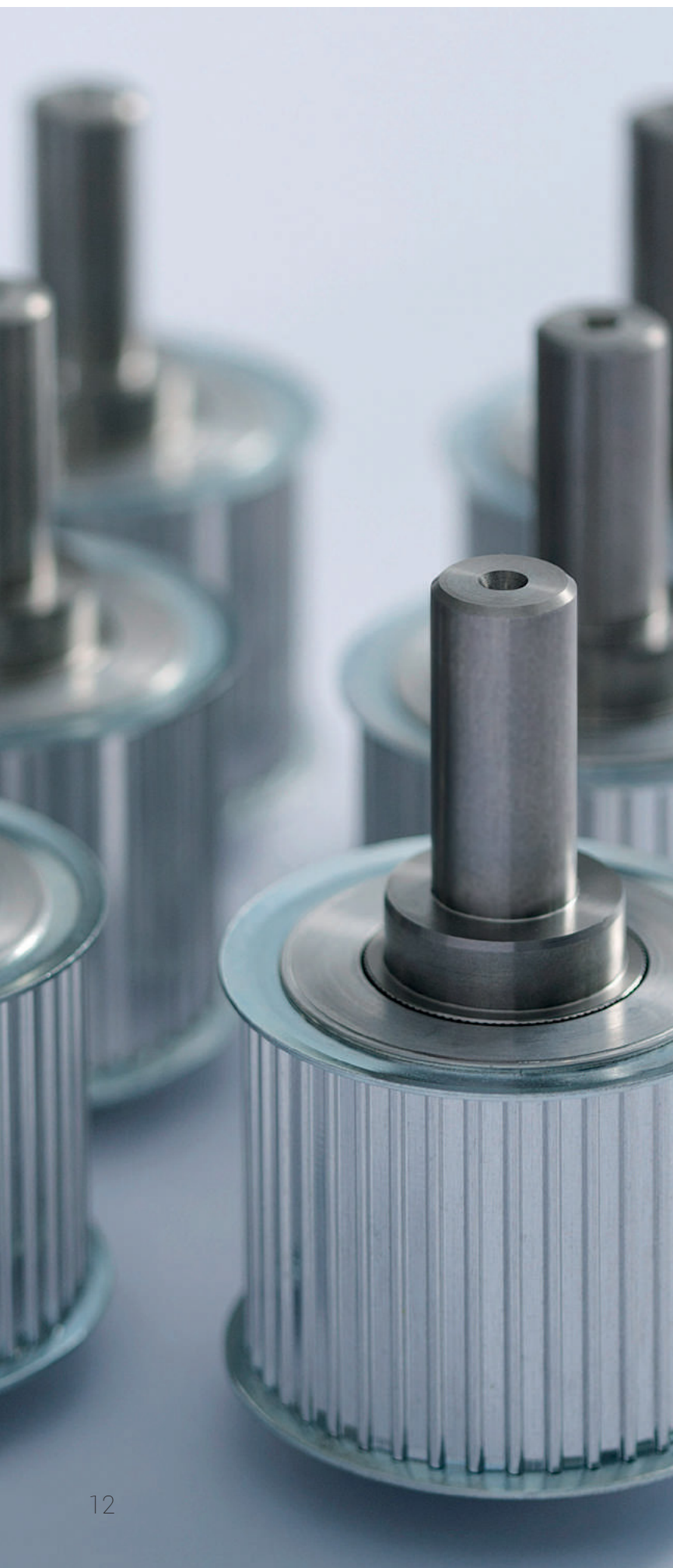


- 1 - Carriage
- 2 - Aluminium base profile
- 3 - Drive block with a pulley
- 4 - End block

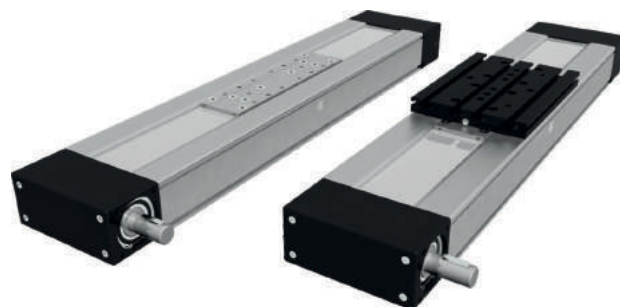
- 5 - Mounting slots
- 6 - Slot for magnetic field sensors
- 7 - Stainless steel protection strip
- 8 - Motor adapter VK with a coupling
- 9 - Driveshaft of the pulley

- 10 - Preassembled motor (with/without brake)
- 11 - Standard connectors (motor, encoder and brake – optionally)

BELT DRIVEN LINEAR UNITS



CTJ SERIES - 90, 110, 145, 200



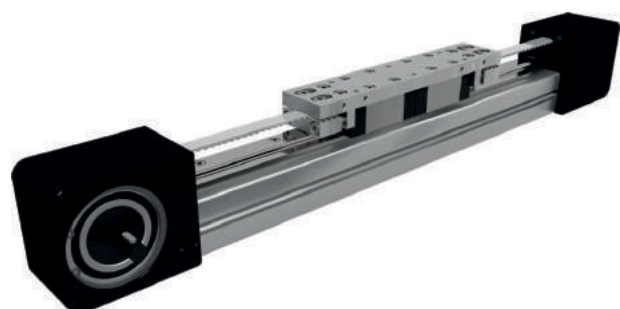
MTJ AND **MRJ** SERIES - 40, 65, 80, 110



MTJ Z SERIES - 40, 65, 80, 110



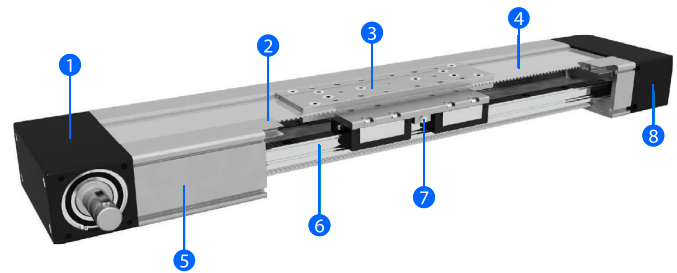
MTJ ECO SERIES - 40





A compact linear unit with an AT toothed belt with steel cords and two parallel, integrated zero-clearance guide rail systems. A compact hard anodized aluminium profile with additionally in one-step machined internal surfaces for precise and optimal movements. The linear unit is driven by a zero-clearance drive pulley. The polyurethane timing belt is guided in the profile slot and protects all the parts in the profile from different contaminations. Lubrication ports for the central re-lubrication of the ball rail guide system.

Travel speed: $v \leq 6 \text{ m/s}$
Repeatability precision: $\pm 0,08 \text{ mm}$



- | | |
|---|--|
| 1 - Drive block with pulley | 5 - Aluminium profile-Hard anodized |
| 2 - Aluminium cover | 6 - Two integrated Linear Ball Guideways |
| 3 - Carriage; with built in Magnets | 7 - Central lubrication port on both sides |
| 4 - AT polyurethane toothed belt with steel tension cords | 8 - Tension End with integrated belt tensioning system |



A compact linear unit with a precision-extruded aluminium profile and AT toothed belt with steel cords and zero-clearance drive pulley. The polyurethane timing belt is guided in the profile slot and protects all the parts in the profile from different contaminations. For better protection of the internal parts, the linear unit can be sealed with a corrosion-resistant protection strip. A lubrication port for the central re-lubrication of the ball rail guide system.

MTJ 40, 65, 80, 110

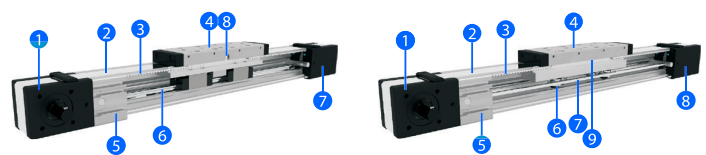
Linear unit with an integrated zero-clearance guide rail system inside the profile.

Travel speed: $v \leq 6 \text{ m/s}$
Repeatability precision: $\pm 0,08 \text{ mm}$

MRJ 40, 65, 80, 110

Linear unit with the integrated Track Rollers inside the profile.

Travel speed: $v \leq 10 \text{ m/s}$
Repeatability precision: $\pm 0,08 \text{ mm}$

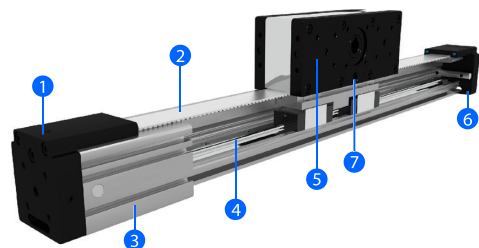


- | | |
|--|--|
| 1 - Drive block with pulley | 1 - Drive block with pulley |
| 2 - Corrosion-resistant protection strip (available also without protection strip) | 2 - Corrosion-resistant protection strip (available also without protection strip) |
| 3 - AT polyurethane toothed belt with steel tension cords | 3 - AT polyurethane toothed belt with steel tension cords |
| 4 - Carriage; with built in Magnets | 4 - Carriage; with built in Magnets |
| 5 - Aluminium profile-Hard anodized | 5 - Aluminium profile-Hard anodized |
| 6 - Linear Ball Guideway | 6 - Track Roller (journal Bearing) |
| 7 - Tension End with integrated belt tensioning system | 7 - Two hardened steel Round guide (58/60 HRC) |
| 8 - One central lubrication | 8 - Tension End with integrated belt tensioning system |
| | 9 - One central lubrication port |



The Omega linear units with an AT toothed belt with steel cords and an integrated zero-clearance guide rail system inside the profile are suitable for vertical application. The drive carriage can be stationary mounted while the aluminium profile moves in the vertical directions. This enables its low travelling mass and makes the linear unit suitable for vertical movements. A lubrication port for the central re-lubrication of the ball rail guide system.

Travel speed: $v \leq 6 \text{ m/s}$
Repeatability precision: $\pm 0,08 \text{ mm}$

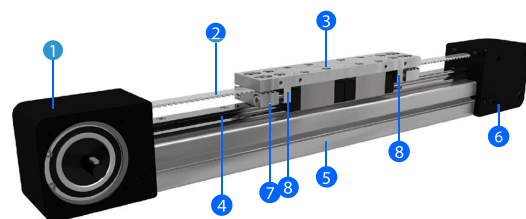


- | | |
|---|--|
| 1 - Tension End with integrated belt tensioning system | 5 - Drive block with pulley, Motor flange; with built in Magnets |
| 2 - AT polyurethane toothed belt with steel tension cords | 6 - Tension End with integrated belt tensioning system |
| 3 - Aluminium profile-Hard anodized | 7 - Central lubrication port |
| 4 - Linear Ball Guideway | |



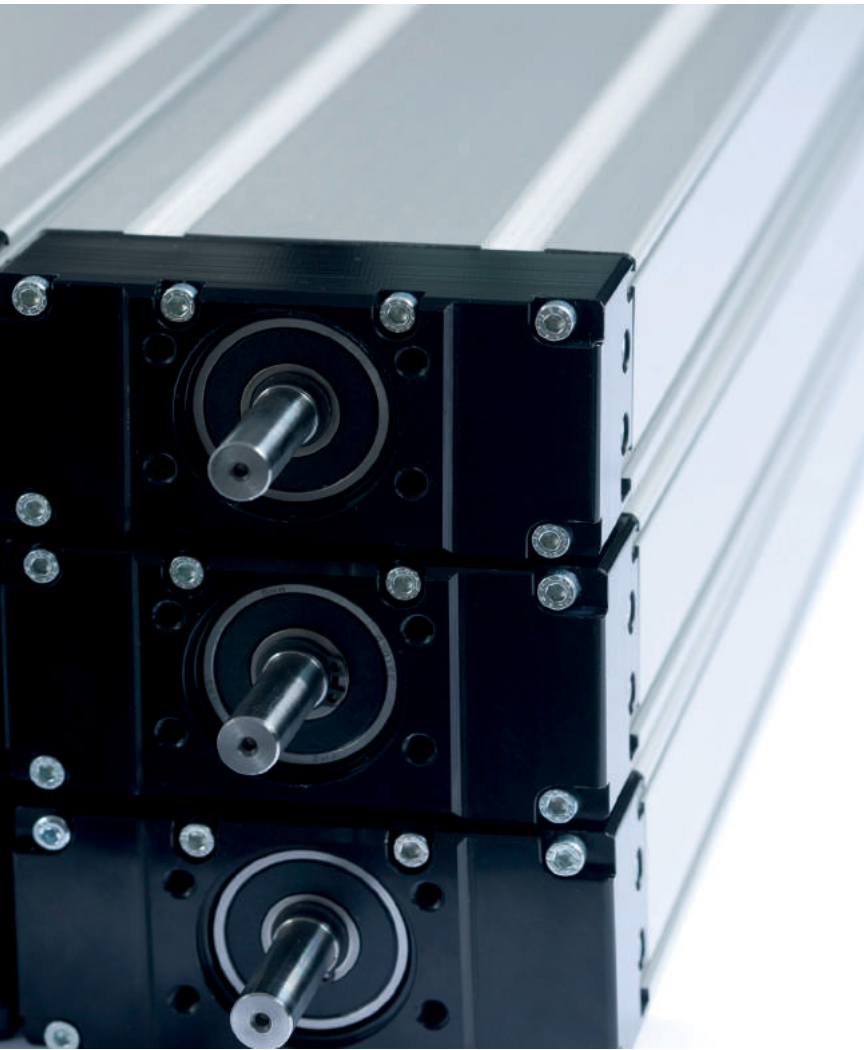
The linear unit is a powerful and cost-effective version based on precision-extruded aluminium profile and equipped with an AT toothed belt with steel cords and an integrated zero-clearance guide rail system outside the profile. It makes for easy and accurate linear movements. Lubrication ports for the re-lubrication of the ball rail guide system.

Travel speed: $v \leq 3 \text{ m/s}$
Repeatability precision: $\pm 0,1 \text{ mm}$



- | |
|---|
| 1 - Drive block with pulley |
| 2 - AT polyurethane toothed belt with steel tension cords |
| 3 - Carriage |
| 4 - Linear Ball Guideway |

BALL SCREW DRIVE



MTV SERIES - 65, 80, 110

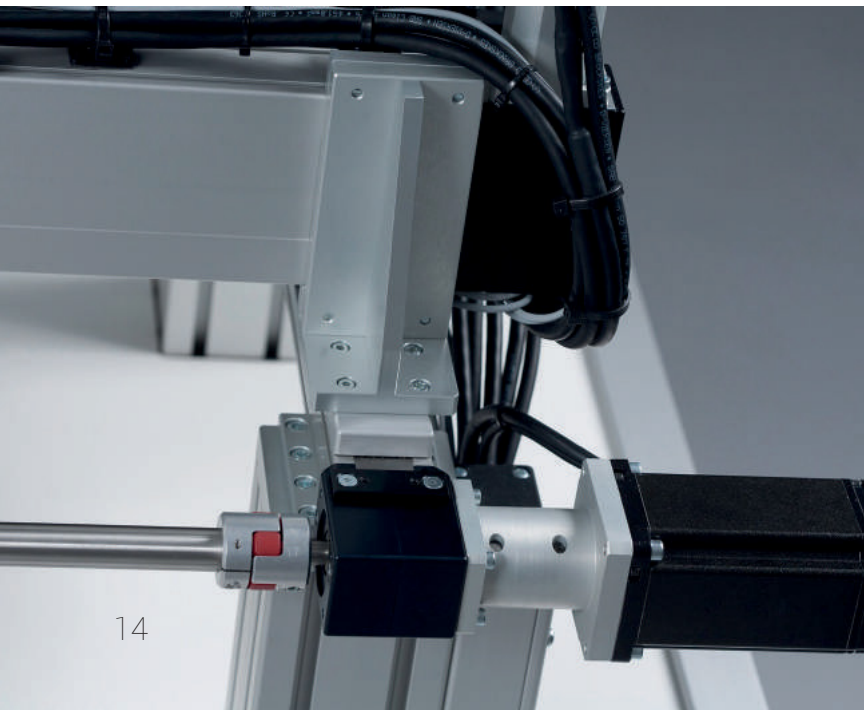


CTV SERIES - 90, 110, 145, 200



AVAILABLE ALSO FOR
CLEANROOM APPLICATION

ACCESSORIES



FIXING ELEMENTS CLAMPING FIXTURES



The clamping fixtures are used for mounting the Linear units. They are placed in the slot on the side of the profile of the Linear unit.

CONNECTION ELEMENTS



Fixing and connection elements to combine the Linear units to a multi-axis system.

CENTRING RINGS



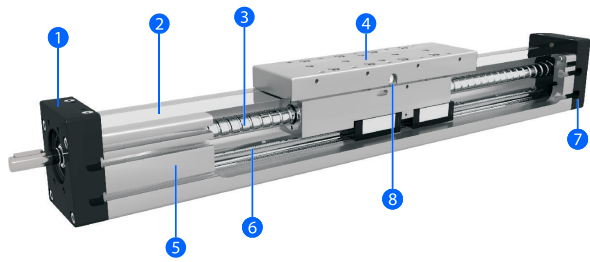
Centring rings are used to position a Linear unit on a connection plate or any customer's product on the Linear unit.



Linear units with a precision ball screw drive and integrated zero-clearance guide rail system inside the profile. A compact hard anodized aluminium profile with additionally in one-step machined internal surfaces for precise and smooth movements. The linear unit is sealed with a corrosion-resistant protection strip which protects all the parts in the profile from dust and other contaminations. A lubrication port for the central re-lubrication of the ball screw drive and the ball rail guide system.

Repeatability precision ISO7: $\pm 0,02$ mm
Repeatability precision ISO5: $\pm 0,01$ mm

Optional: Trapezoidal thread



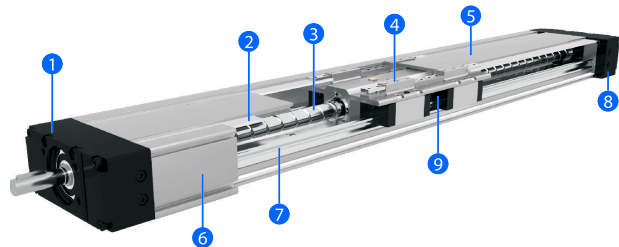
- | | |
|--|-------------------------------------|
| 1 - Drive block with floating bearing | 5 - Aluminium profile-Hard anodized |
| 2 - Corrosion-resistant protection strip | 6 - Integrated Linear Ball Guideway |
| 3 - Ball screw tolerance ISO 7
(ISO 5 available on request) | 7 - End block with fixed bearing |
| 4 - Carriage, with built in Magnets | 8 - One central lubrication port |



A compact linear unit with precision ball screw drive and two parallel, integrated zero-clearance guide rail systems. A compact hard anodized aluminium profile with additionally in one-step machined internal surfaces for precise and smooth movements. Two parallel circulating sealing strips and an aluminium cover protects all the parts in the profile from dust and other contaminations. Lubrication ports for a central re-lubrication of the ball screw drive and the ball rail guide system.

Repeatability precision ISO7: $\pm 0,02$ mm
Repeatability precision ISO5: $\pm 0,01$ mm

Optional: Trapezoidal thread



- | | |
|--|--|
| 1 - Drive block with floating bearing | 5 - Aluminium cover |
| 2 - Gap-type seal of antistatic PU strip
(recirculating) | 6 - Aluminium profile-Hard anodized |
| 3 - Ball screw tolerance ISO 7
(ISO 5 available on request) | 7 - Two integrated Linear Ball Guideways |
| 4 - Carriage; with built in Magnets | 8 - End block with fixed bearing |
| | 9 - Central lubrication port; both sides |

SENSORS



- Mechanical switch
- Induction switch
- Magnetic field sensor

MOTOR SIDE DRIVE



- Mechanical switch
- Induction switch
- Magnetic field sensor

SYNCHRONIZATION SHAFT



- For synchronizing two parallel linear units
- Backlash-free transmission and torsionally stiff
- Various executions: with an elastomer coupling or with a bellows coupling for compensation of misalignments.

MOTOR ADAPTER

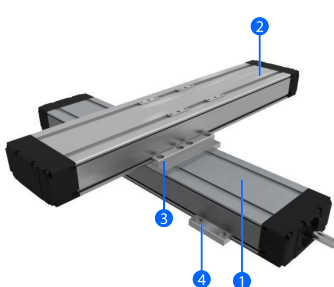


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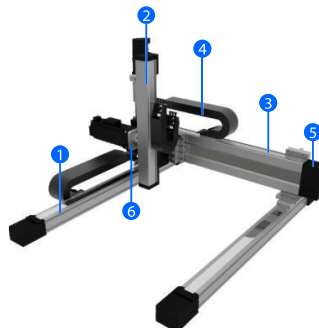
MULTI-AXIS SYSTEMS FOR ENDLESS POSSIBILITIES.

The Linear units can be combined to various multi-axes linear systems and ensure an excellent price/performance ratio within a short delivery time. We offer a strong technical support in calculation and determination of individual multi-axis system solutions. A flexible combination of linear units with various kinds of switches, brackets, clamping fixtures and customized motor adapters provide a final multi-axis system solution available in 3D drawings.



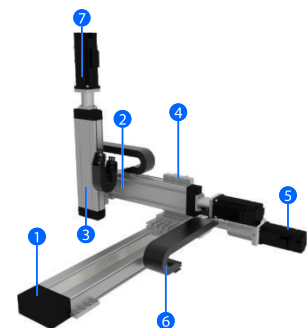
X-Y CROSS TABLE SYSTEM

- 1 - X-Axis: Ball screw driven Linear unit CTV
- 2 - Y-Axis: Ball screw driven Linear unit CTV
- 3 - Connection element with centring ring
- 4 - Clamping fixture to attach the X-Y system



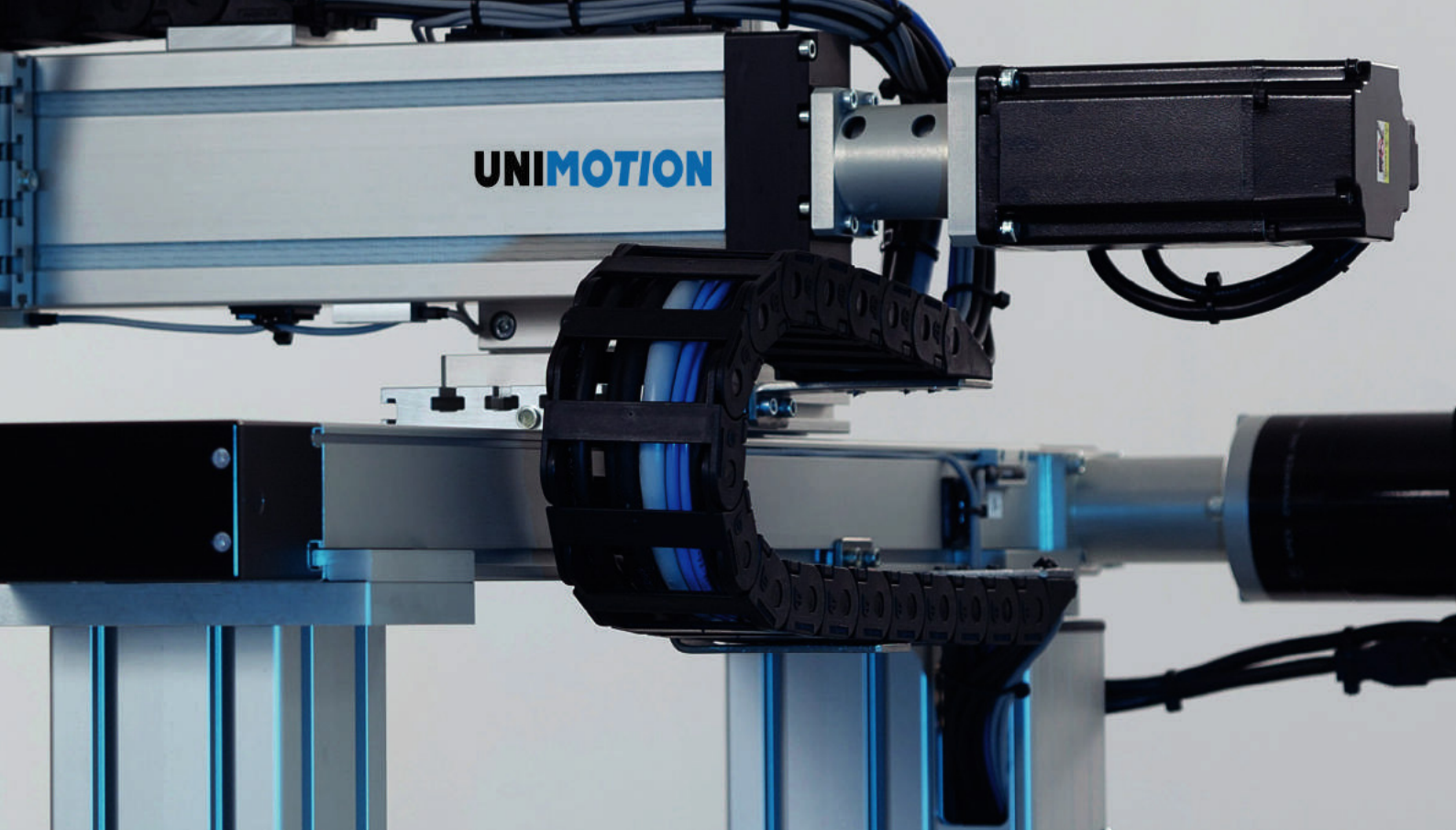
2X-Y-Z BRIDGE SYSTEM

- 1 - X-Axis: Belt driven Linear unit MTJ
- 2 - Z -Axis: Belt driven omega Linear unit MTJZ
- 3 - Y-Axis: Belt driven Linear unit CTJ
- 4 - Energy chain
- 5 - Fixing bracket with centring rings and fixing elements
- 6 - Motor adapter



X-Y-Z SYSTEM

- 1 - X-Axis: Belt driven Linear unit CTJ
- 2 - Y-Axis: Ball screw driven Linear unit CTV
- 3 - Z-Axis: Ball screw driven Linear unit CTV
- 4 - Fixing bracket with centring rings and fixing elements
- 5 - Servo motor
- 6 - Energy chain
- 7 - Motor adapter



We can also build for you a gantry system or a portal as a complete assembled machine together with the frame, protections and other necessary elements to fit your exact requirements. You can use our Linear unit selection software or call our experts to save time and optimize your solution.



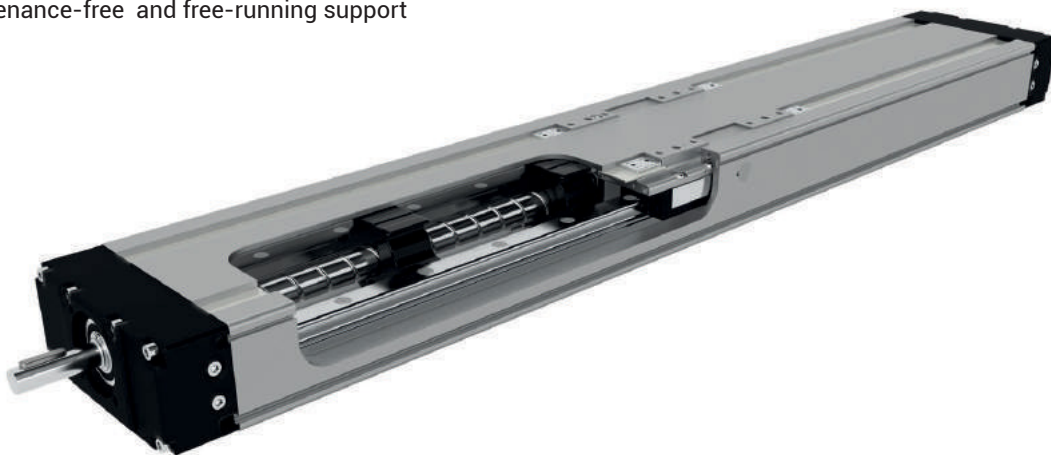
Selective Coating device from KC-Produkte for electronic circuit boards.



SPECIAL PROJECT

AT YOUR REQUEST

Ball screw supports for higher travel speed of linear unit at long stroke.
-Maintenance-free and free-running support



XYZ Portal with Flatbed equiped.



Ball screw driven linear unit with two at the same time driven carriages. Both carriages are driven by one ball screw with left and right-hand thread.



Linear unit with two separate trapezoidal screw drive. Each carriage can be moved individually by its own drive.

