Our modern machinery with various CNC machining centres and CNC automatic lathes enables high-precision manufacturing and in-depth in-house production capabilities. For example, we ourselves manufacture the drive shafts with the pulleys and machine the ball screw ends. We ensure the constant quality and performances for our outstanding products through the following machines:

- annealing machine station for the ball screw
- straightening machine
- several CNC machines and automatic lathes with power tools
- two 4-axis machining centres with a highly modern, fully automated pallet changing system
- high precision CNC machining machine with a travel distance of 3.5m,
- 5-axis CNC machine with a travel distance of 7m for 5-axis sawing, drilling and machining jobs where our linear-axis profiles are machined
- one Wenzel 6m-long CNC measuring machine
- one Wenzel 3D coordinate CNC measuring machine

This is why, quality, reliability, a good price/performance ratio and short delivery times are harmonised to perfection. Thus, in the production of our standard linear units as well as individual and complex special linear units, we can guarantee high capacity, flexibility and precision.
The PNCE 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 re-lubrication can be done through a lubrication nipple.

The design with its smooth surfaces enables easy cleaning of the cylinder. In combination with a lubricant class H1 it is also suitable for food & beverage applications. It can be additionally equipped with switches and ISO standard accessories.

Maximum stroke: 1200 mm
Maximum travel speed: 2,5 m/s
Maximum axial load: 16500 N
Axial backlash: <0,02 mm

![Electric Cylinders Diagram](image-url)
BELT DRIVE

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: $\pm 0.08 \text{ mm}$

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: $\pm 0.08 \text{ mm}$

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: $\pm 0.08 \text{ mm}$

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: $\pm 0.1 \text{ mm}$
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: ± 0,02 mm
Repeatability precision ISO5: ± 0,01 mm

Optional: Trapezoidal thread

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: ± 0,02 mm
Repeatability precision ISO5: ± 0,01 mm

Optional: Trapezoidal thread

SENSORS
- 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 SIDE DRIVE
- The motor belt side drive can be designed and manufactured for any motor according to the customer’s specifications
- Attachment of pulley with clamping set
- Timing Belt tensioning system
- Anodized aluminium housing

MOTOR ADAPTER
- A motor adapter can be designed and manufactured for any motor according to the customer’s specifications
- Anodized aluminium
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.
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
The calculation program “LINEAR UNITS SELECTION” enables the fast and simple selection of a suitable linear axis based on your application data. As a result of the interpretation of this data, the program provides you with diverse information, e.g. driving torque, rotation speed, maximal process speed, durability and other information about a particular product.

CALCULATE YOUR OWN PROJECT!

We have many years of experience and are upgrading daily, so we can meet any challenge and can optimize the solutions for your projects. Our staff is innovative and creative, we respond quickly and are available at any point of the process, from the concept to implementation.

For more information and contact forms visit us online:

www.unimotion.de
WE DISTRIBUTE ALL OVER THE WORLD
We cover all major markets, if you wish to contact us, send us an enquiry, we would be happy to assist you.

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