

MODULAR LINEAR ACTUATOR
PRODUCT GUIDE

Standard and Custom Linear Axes for a Wide Range of Applications



High Quality Linear Axes

Experience unlimited precision and dynamic performance with our premium linear axes. Explore our extensive product portfolio of over 100 variants. Develop a system to perfectly suit your application with confidence.

Extreme Flexibility

We can provide custom linear axes and multi-axis systems according to your unique application. This means you no longer need to accept limitations in your machine development.

Exceptional Customer Service

You can enjoy the convenient customer service of expert advice from our team of highly qualified engineers. This is available to you at any time during the design and project planning of your linear equipment project.

Fast Delivery Times

Fast and flexible delivery times ensure exceptional convenience in implementation of your linear motion equipment. Our optimized warehouse management with high availability saves you significant time on the design of your system because you can reliably plan ahead.

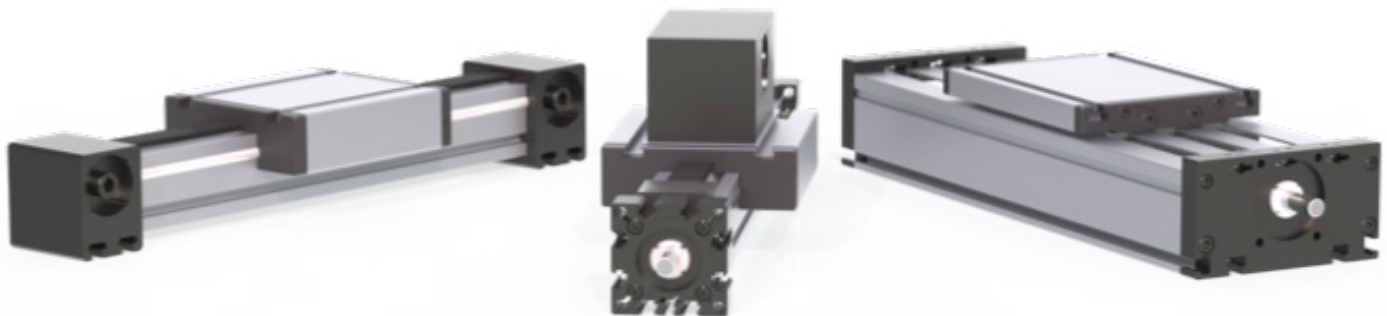


Applications

With Nook's flexible, high-quality linear motion systems, it's easy to build a state-of-the-art multi-axis motion control system for any application. Nook/Thomson offers standard or customized solutions to meet any challenge.

- Gantry
- Automated Drilling
- Part Transfer
- XYZ Pick and Place
- Spraying Machines
- Step and Scan
- Machine Tool
- Simultaneous Multi-Axis
- Coordinated Motion
- High Speed/Precision Positioning
- Conveyor Automation and Transport
- Handling, Packing, Palletizing

Our high-quality, high-performance products are made of self-supporting and wear-resistant aluminum profiles.



> Ideally suited to perform in harsh environments (wet/dusty/dirty). Corrosion resistant models can be used in chemically adverse environments.

> Easily integrated into users' existing control networks with standardized connecting profiles.

Fully flexible portfolio with 1000's of combinations

Features

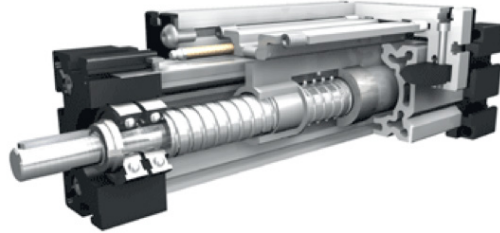
- Standard or custom-made positioning systems
- Positioning speed up to 12 mm/s acceleration
- Repeatability up to 0.02 mm
- Positioning weight up to 1000 kg
- System length up to 60 m
- Unique precision at lengths > 3 meters
- Clean room capability (ISO 14644-1) and ATEX 2014/34/EU certification

Benefits

- Low maintenance/low wear
- Long lifetime & excellent reliability
- High drive stiffness/high load capacity
- Smooth and Quiet motion
- High speed with fast acceleration
- High drive stiffness with Long strokes and high efficiency
- Low breakaway/drive torque

Drive and Screw Technology

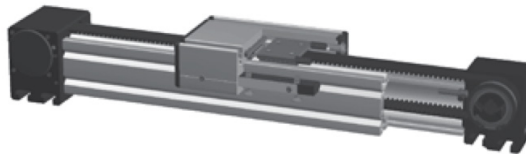
Nook offers linear actuators with a choice of screw or belt drive systems. We use a diverse variety of screw and belt types to meet the challenging demands for all possible applications. They include maintenance free ball bearings and are easily adjusted.



Screw Drive

- Use the finest ACME and Ball screws
- Direct in-line motor mount
- High thrust /torque/stiffness
- **Ball Screw** = 0.025 mm repeatability
- **Ball Screw** = high efficiency/accuracy
- ACME Screw = 0.2 mm repeatability
- ACME Screw = standard accuracy, minimum wear
- Up to 3 M screw length

Screw Drive Type	Benefits
Screw driven with ball guides	High loads and high precision
Screw driven with V-Groove guides	Medium to high load and durable roller system



Belt Drive

- High tension steel belt material
- Internal or external belt
- Clean room and explosion proof versions
- No minimum length
- Standard accuracy
- 0.1 mm repeatability

Belt Drive Type	Benefits
Belt driven with ball guides	High load and dynamics
Belt driven with wheel guides	Applications requiring extreme speed and acceleration
Belt driven with V-Groove guides	Low cost and durable guide system



Rack and Pinion Drive

- Ideal for lifting movements
- Driven along guide rods by high precision rack

Rack and Pinion Type	Benefits
Belt driven with ball guides	High load and dynamics
Belt driven with wheel guides	Applications requiring extreme speed and acceleration
Belt driven with V-Groove guides	Low cost and durable guide system

Guidance Technology

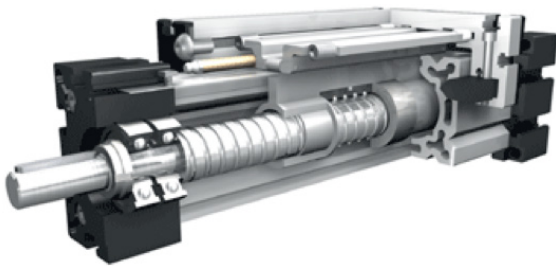
Nook offers linear actuators with a choice of guidance systems. We use a diverse variety of guidance types to meet the challenging demands for all possible applications. They are adjustable to reduce lash, splash-proof and dust-tight.

Light Loads (Fz)

Forces up to 1125 N

V Groove Guided

The carriage moves along the unit guided by V-slides that are adjustable to reduce lash. The linear opening of the unit is sealed with a stainless steel cover plate to make the unit splash-proof and dust-tight.



Moderate Loads (Fz)

Forces up to 6000 N

Internal Roller Bearing Guided

The carriage moves along the unit guided by hardened steel guide rods on the inside of the actuator that are adjustable to reduce lash. The linear opening of the unit is sealed with a stainless steel cover band to make the unit splash-proof and dust-tight.



Moderate Loads (Fz)

Forces up to 6000 N

External Roller Bearing Guided

The carriage moves along the unit guided by hardened steel guide rods on the outside of the actuator that are adjustable to reduce lash. The linear opening of the unit is sealed with a stainless steel cover band to make the unit splash-proof and dust-tight.

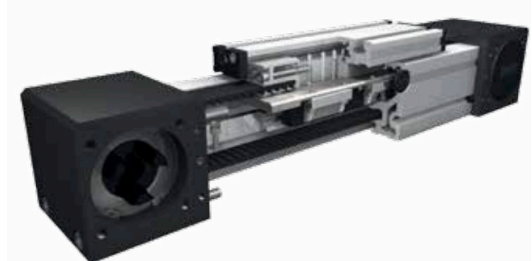


Heavy Loads (Fz)

Forces up to 20600 N

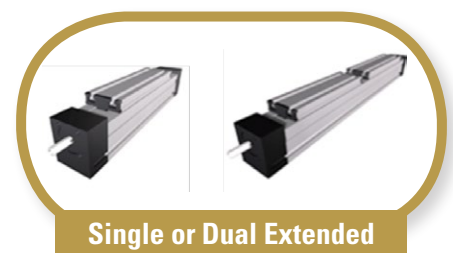
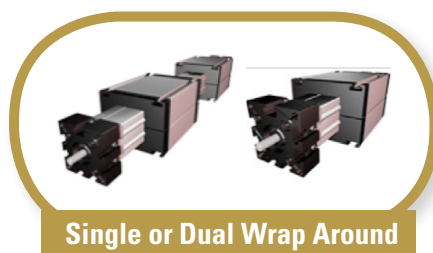
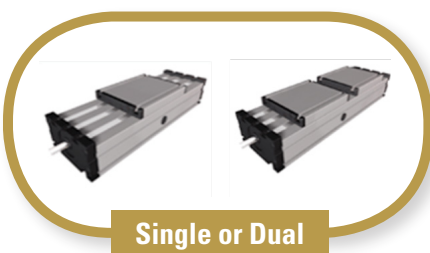
Internal Profile Rail Guided

The carriage moves along the unit guided by a single or dual internal profile rail on the outside of the actuator that are adjustable to reduce lash. The linear opening of the unit is sealed with a stainless steel cover band to make the unit splash-proof and dust-tight.



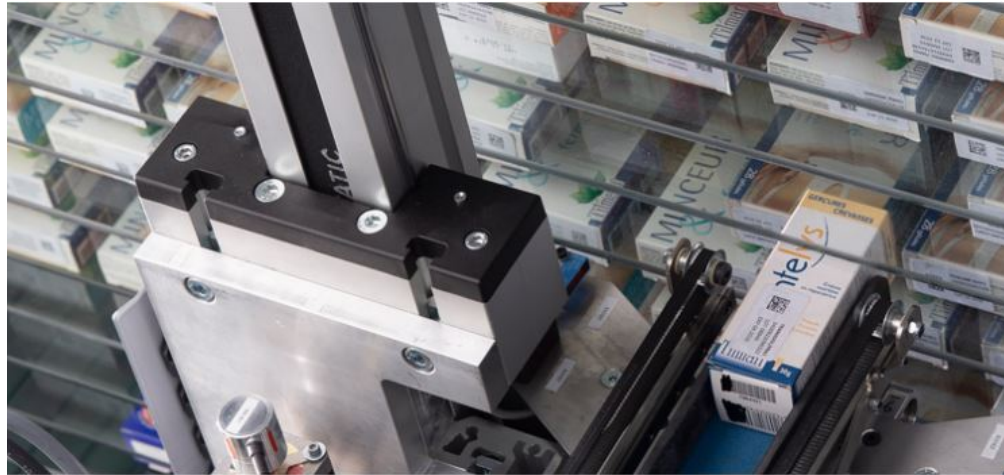
Carriage Configuration Options

Multiple carriage lengths are available



Flexible Multi-Axis Solutions

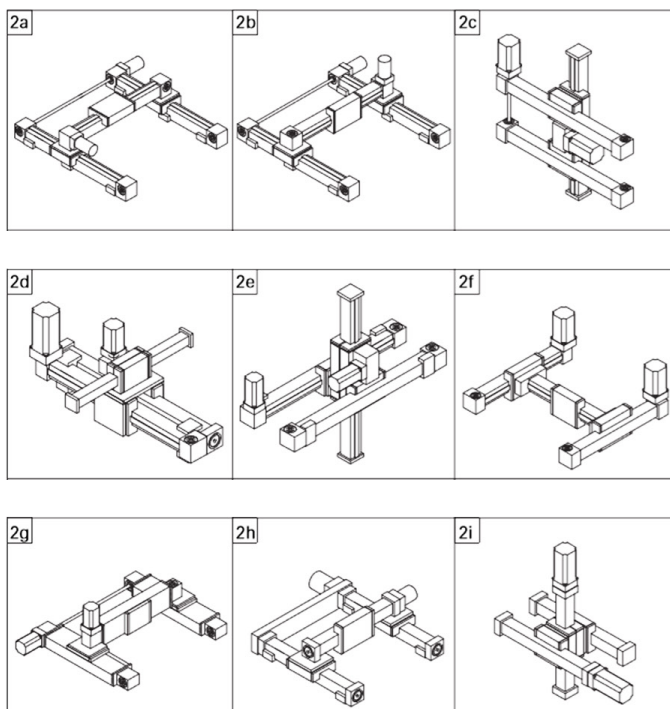
The ELZU external belt driven actuator consists of two Y-axes and single X-axis, driven by one rotating belt. This belt runs around different deflection pulleys. Positioning is achieved by two motors. The coordinate is diagonal to the deflection points of the Y-axis. Advantage: A smaller amount of inertia is needed, which allows achieving higher accelerations. The ELZU belt driven actuator is available in multiple configurations.



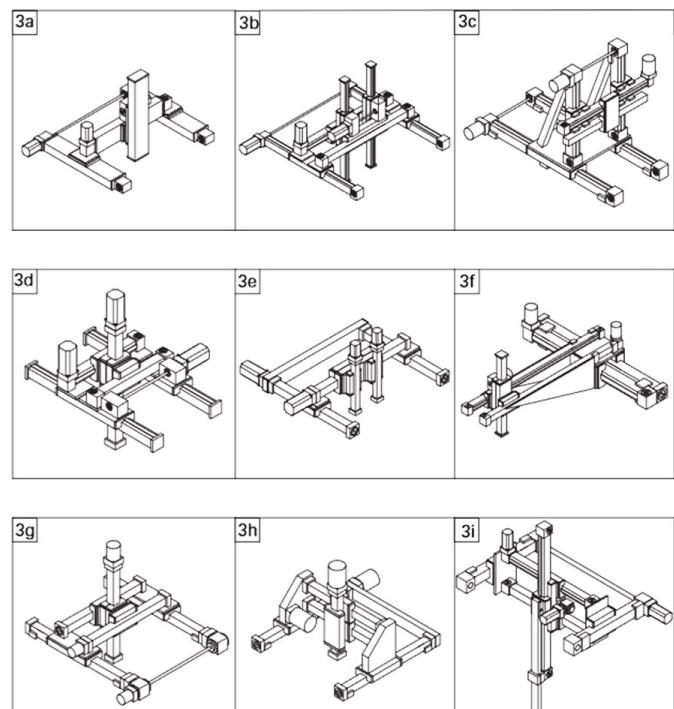
Distinct Advantages

- **Fit.** Can be manufactured in virtually any length
- **Simplicity.** Pre-engineered to provide bidirectional movement across two or more planes

2-Axis Systems



3-Axis Systems



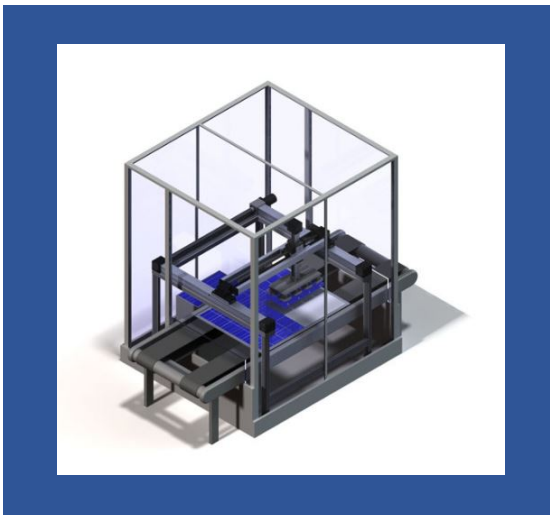
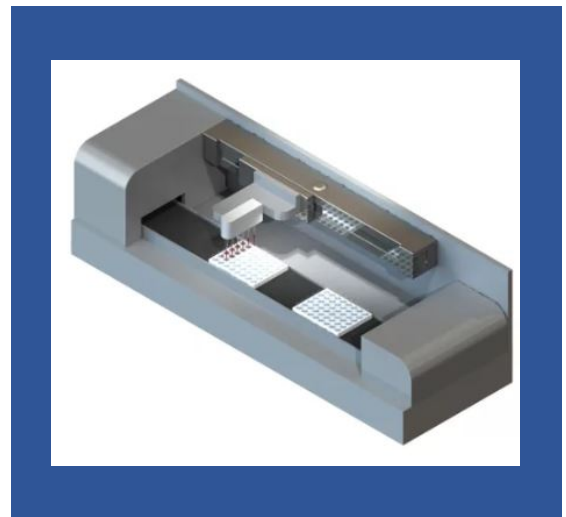
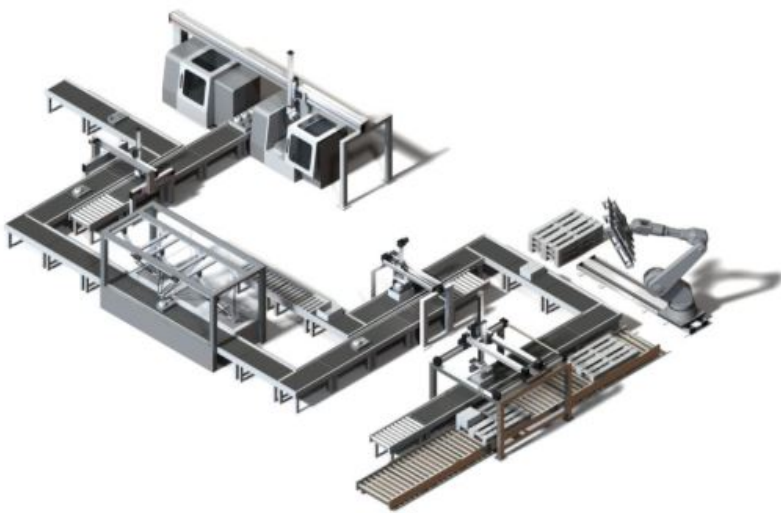
Offered with an Unparalleled Selection of Accessories:

Proximity Switches, Mounting Hardware, Limit Sensors, Motors, Drives, and much more...

Market Segments

Moving Modern Industry

Equipment designers have used Nook/Thomson modular linear actuators to satisfy countless application challenges. From the design phase to start up - our customers benefit from over 50 years of linear motion experience. As a result, you can count on Nook/Thomson to develop comprehensive solution that meets your individual needs.



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Unlimited Market Possibilities

- Industrial Automation
- Medical Diagnostics & Pharmaceutical
- Packaging Operations
- 3D Printing
- Clean Rooms
- Food & Beverage
- Test & Measurement
- Electronics & Semiconductor
- Warehouse Picking
- Machine Tool
- Robotics

And many more...





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