

## Product Range





## Uhing-Linear Drive Systems®



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## Engineering



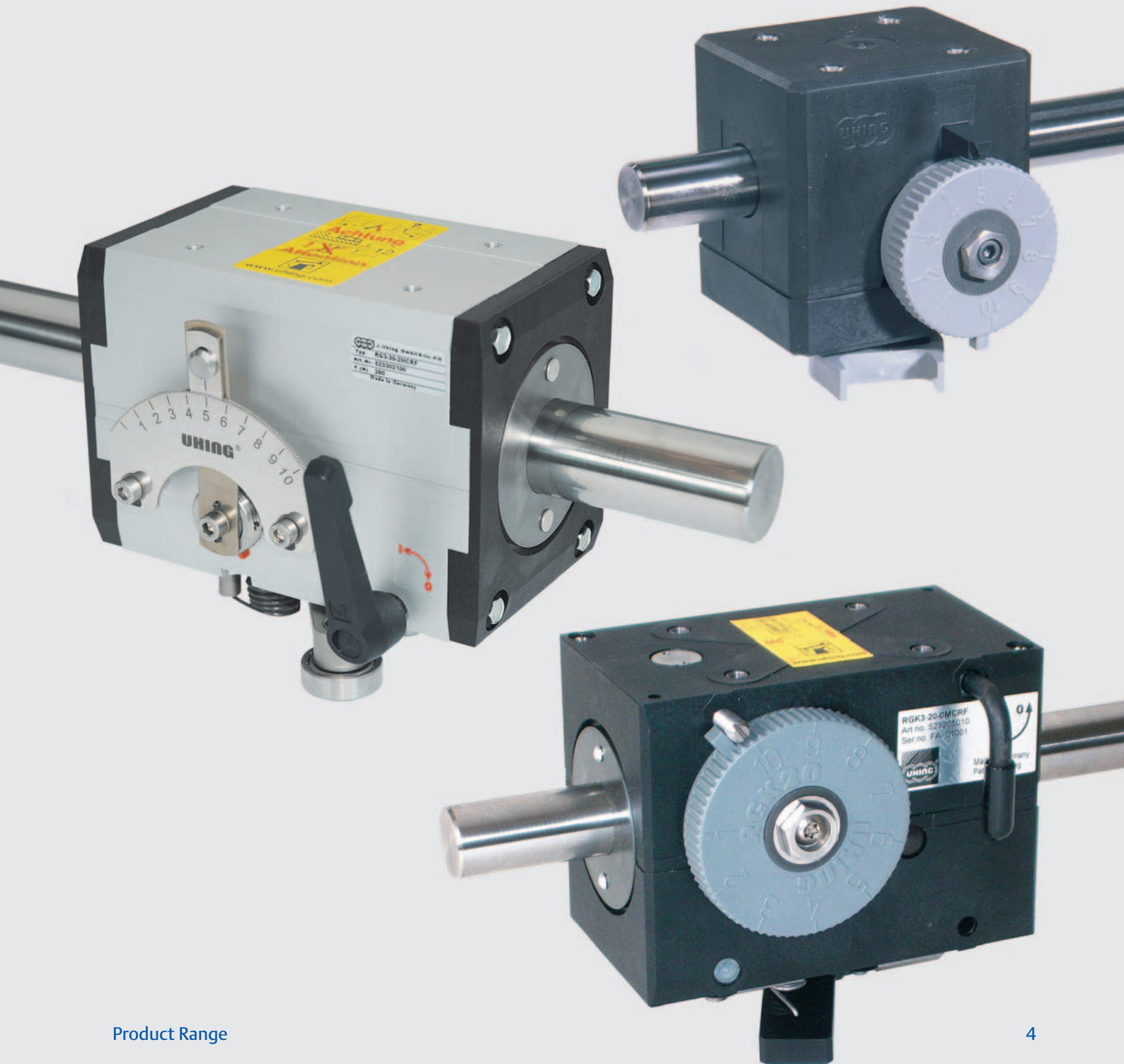
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## Uhing



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## Rolling Ring Drives KI, RGK and RG

### Features

These drives are mechanical friction drives which convert the constant rotation of a plain shaft in a single direction into a reciprocating motion.

They operate on the principle of pivotable rolling rings based on ball bearings, whose specially crowned running surfaces are pressed against a shaft. Due to their inclined position in relation to the shaft (pitch angle), they act like nuts on screw spindles, but have a left or right pitch alternately by reversing (reciprocating motion). By varying the pitch angle, the speed of travel can be set at very small increments (with different speeds in the two directions of travel if required) or can be set at zero (standstill).

Reversal is effected via a reversal mechanism, which is connected to the Rolling Rings and which makes contact with adjustable endstops.

Special features on request.

### Application areas

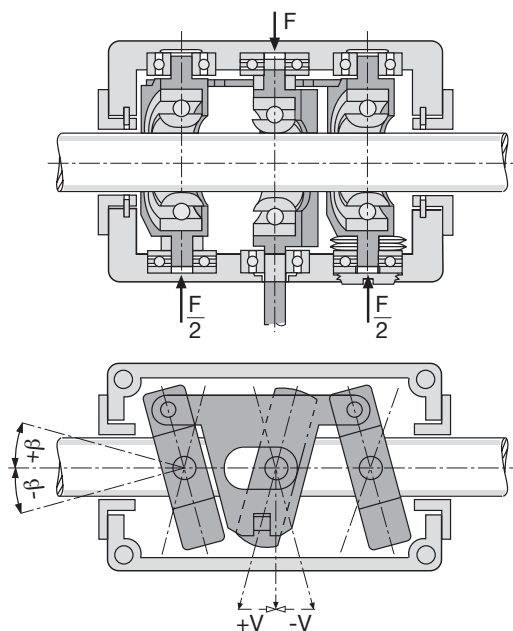
- Winding
- Special drives
- Drive Technology

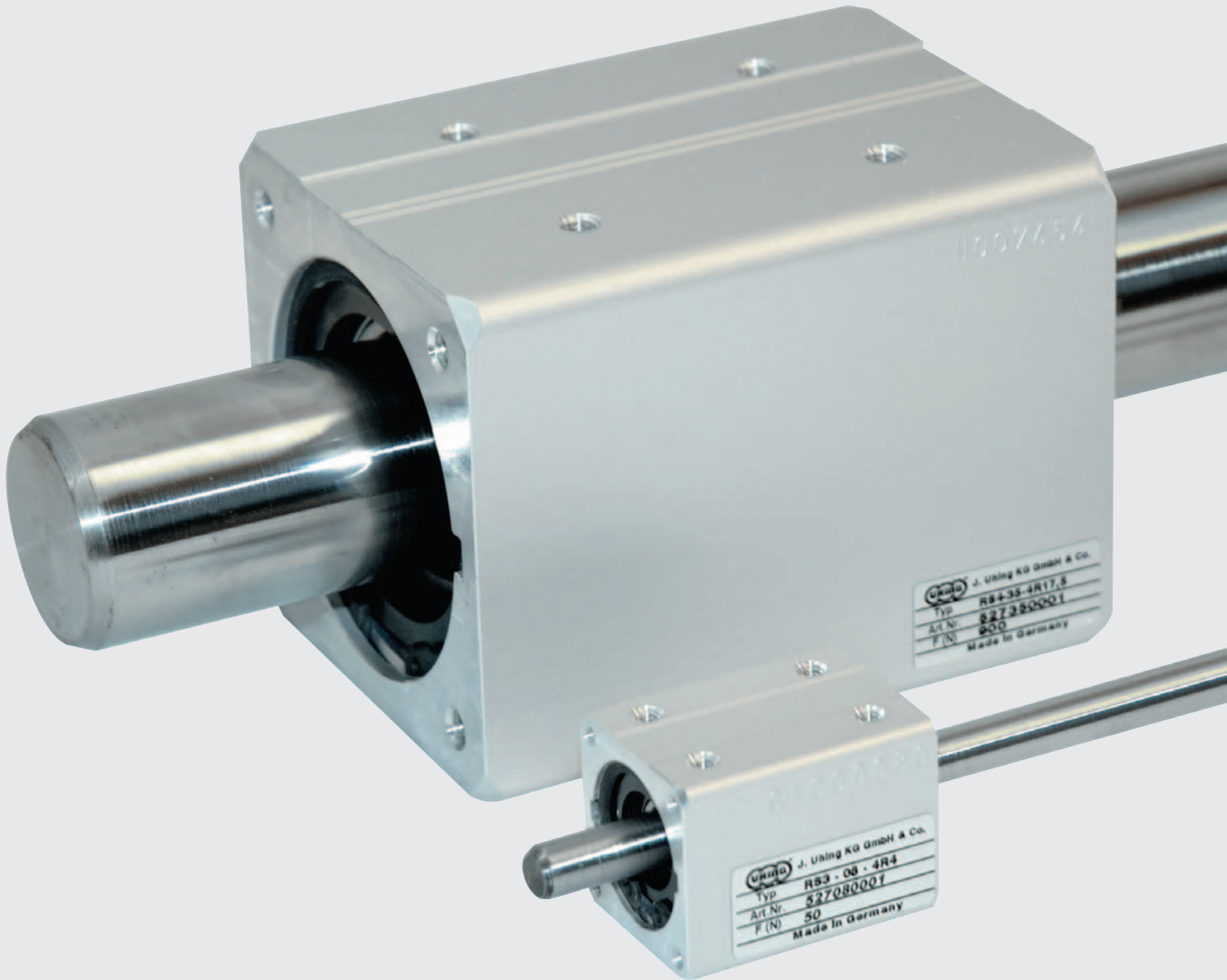
### Your benefit

- Automatic reciprocating motion with constant direction of shaft rotation
- Side thrust up to 3600 N
- Width of stroke up to 5 m
- Speed up to 4.2 m/sec.
- Suitable for horizontal and vertical application
- Variable linear output speed from constant shaft input speed

- Rapid or speeded down reversal
- High reversal position dynamics
- Can be disengaged on the shaft
- Good sealing possibilities (plain shaft)
- High efficiency
- Low operating costs
- High corrosion protection, on request
- Customisable shaft journal

For detailed information: Catalogue RG





## Linear Drive Nut RS

### Features

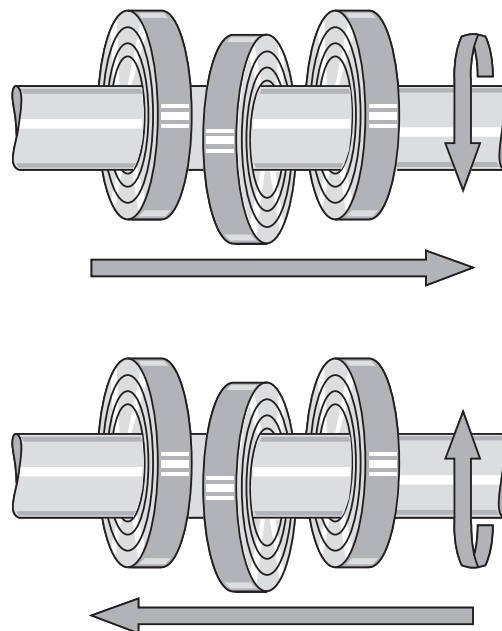
Uhing Linear Drive Nuts are non-positive drives which convert the rotation of a plain shaft into linear motion. In contrast to Rolling Ring Drives, the Rolling Rings are not arranged to swivel but are fitted at a fixed angle of pitch, the speed being varied by varying the speed of the shaft. The change of direction is achieved by reversing the direction of rotation of the shaft.

Backlash-free, low noise, rolling-friction giving high-efficiency, combined drive and carrier, release mechanism (option) enables unit to be manually positioned on the shaft, compact design, small space requirement, safe as it will slip when overloaded, thrust can be multiplied by ganging-up units, available with a variety of pitches, left- and right-hand pitch on the same shaft possible, good sealing possibilities e.g. for use in dusty, dirty or humid environments.

Wherever linear motion is required, the Uhing Linear Drive Nut is a modern alternative to hydraulics and pneumatics, chain drives and lead screws.

### Your benefit

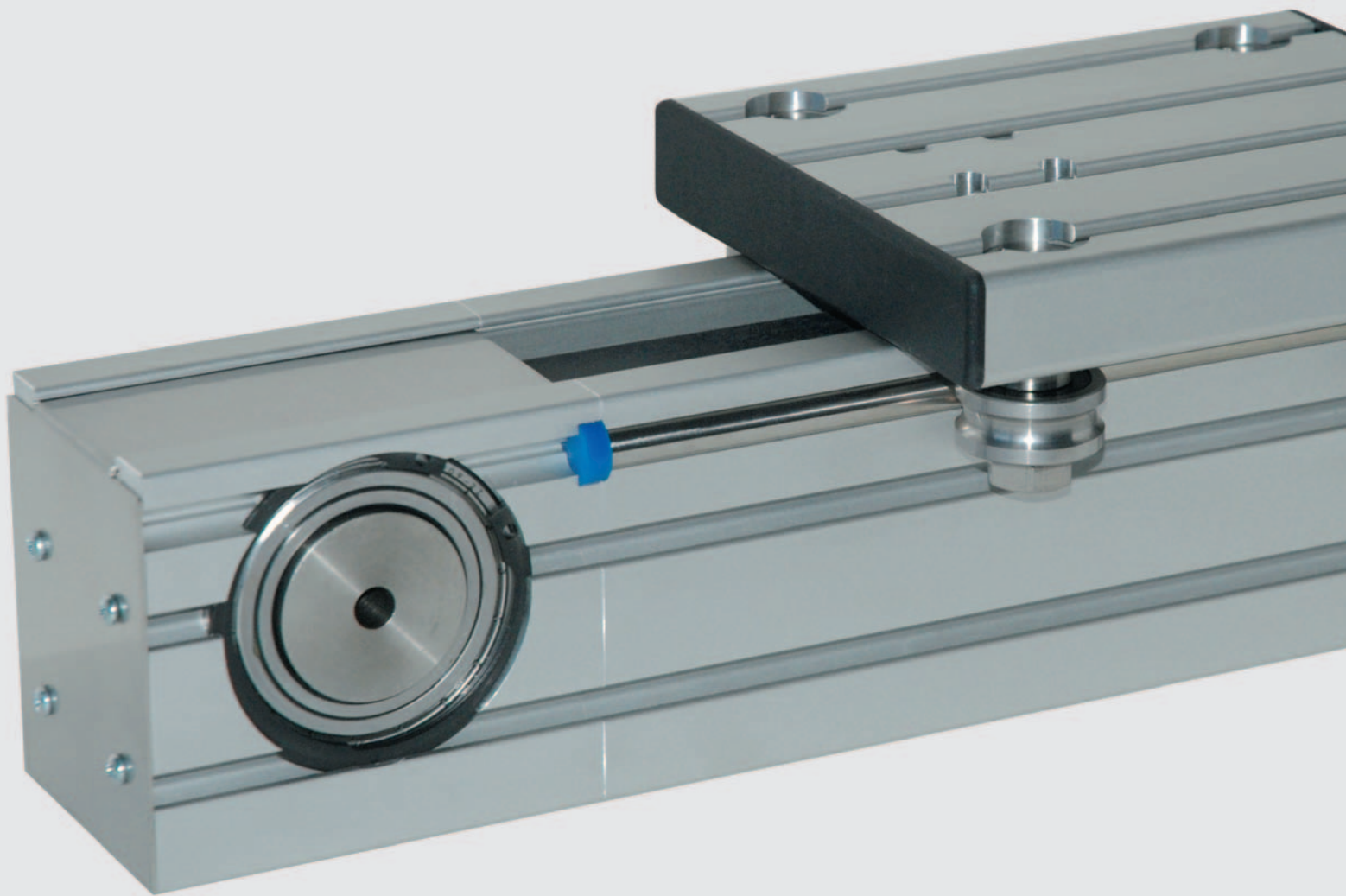
- Converts rotary motion into linear motion
- Backlash free
- Low noise
- Low maintenance
- Compact
- Good sealing possibilities (plain shaft)
- Drive can be disengaged on the shaft
- Low operating costs
- Comprehensive range of sizes
- Resistant against vibration
- High corrosion protection, on request



### Application areas

- Co-ordinate measuring machines
- Inspection technology
- Materials handling
- Conveyor systems
- Engine controls
- Food industry
- Medical apparatus

For detailed information: Catalogue RS





## Timing Belt Drive AZ

### Features

The basis of the Uhing Z-Drive is a rigid aluminium profile resistant bending and torsion.

A number of T-slots in the carrier section offer variable extension possibilities and simplify assembly. Slide connection blocks can be easily inserted. The transmission of power from the drive belt to the load carrier is via belt fastener fitted to the carrier.

Uhing-Z-Drives are characterized by the use of high grade materials including corrosion resistant hardened guide rails and robust timing belts which retain their shape. They are precise, positionally exact, reach high acceleration rates and speeds and are built for long life.

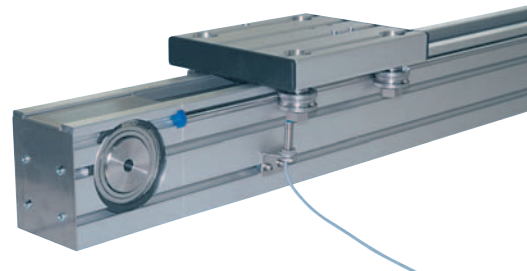
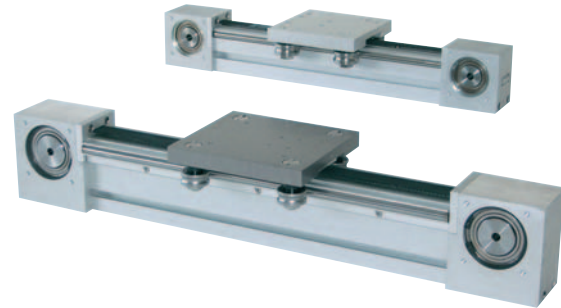
### Application area

- General drive technologies

### Your benefit

- Easy to fit
- Precise guiding
- High linear speeds and rates of acceleration
- Comprehensive range of types and accessories

For detailed information: Catalogue AZ





## Uhing Motion Drive®

Contrary to a standard rolling drive, Uhing Motion Drive® has no mechanical reversal or manual pitch setting with a scale. A stepping motor fitted underneath the device performs all these functions. All parameters such as pitch and reversal points can be set on a touch panel. A PLC (programmable logic controller) processes the input and translates it into a corresponding motion profile.

The displacement transducer system continuously records the current position of the rolling ring drive and triggers a direction reversal when the calculated reversal points are reached.

### Your Advantage

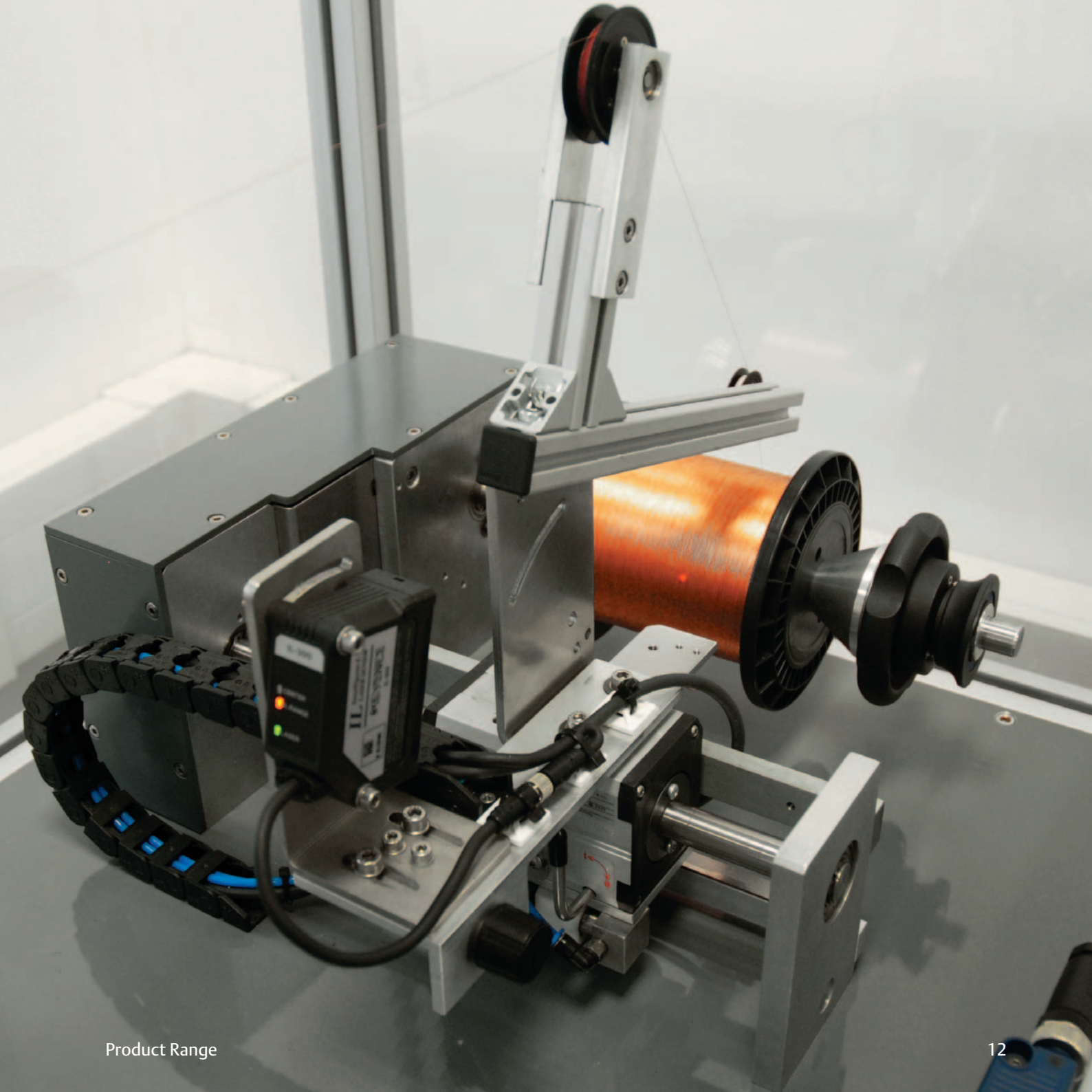
- Modular design in terms of mechanics and electrics allows for flexible adaptation to individual applications
- Variable ratio between traversing shaft system and winding shaft
- Easy adaptation to various spool sizes (max. K355)
- Easy operation with touch panel:  
Spool and material dimensions, traversing pitch, speeds, tension, etc.
- Recipe management for materials and spools
- Troubleshooting
- Service-friendly, low maintenance requirements
- Languages: German and English

### Areas of application

The Uhing Motion Drive® was especially designed for winding and traversing processes in the processing industry. The system can also be used in processes where linear motion is required within certain limits.

For more information, please refer to our catalogue Uhing Motion Drive®.

**Uhing** Motion Drive®



## Uhing Measuring System® - UMS

The Uhing Measuring System® uses a PLC to connect the rolling ring drive with laser sensors. This system is used for laying winding material on cylindrical and biconical spool types.

You can enter parameters such as spool dimensions, material height and width, and flange sensing thresholds on a touch panel. If material accumulates at the flange during the winding process (height differences), the laser sensors detect these flaws and and compensates them by timely switching.

The displacement transducer system continuously determines the current position of the rolling ring drive, so that the release range at the flange can be determined in millimetres (mm) at the touch panel.

### Areas of application

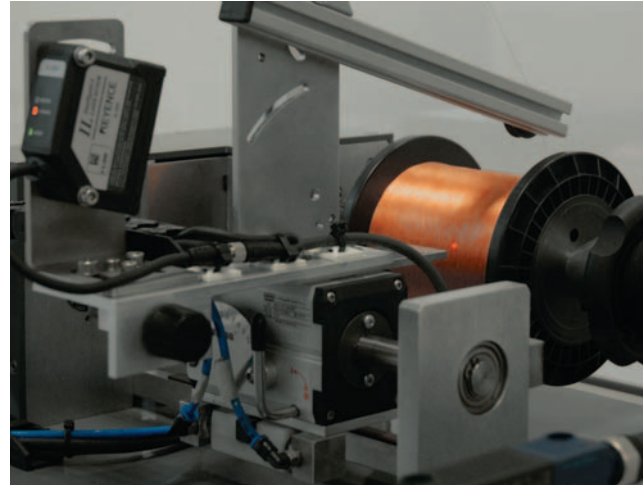
Uhing Measuring System® is used for laying round and flat materials. The system can be equipped with one or two laser sensors, depending on the material width.

It is possible to connect valves for pneumatic reversal and to provide several signals for the the machine controller.

### Your Advantage

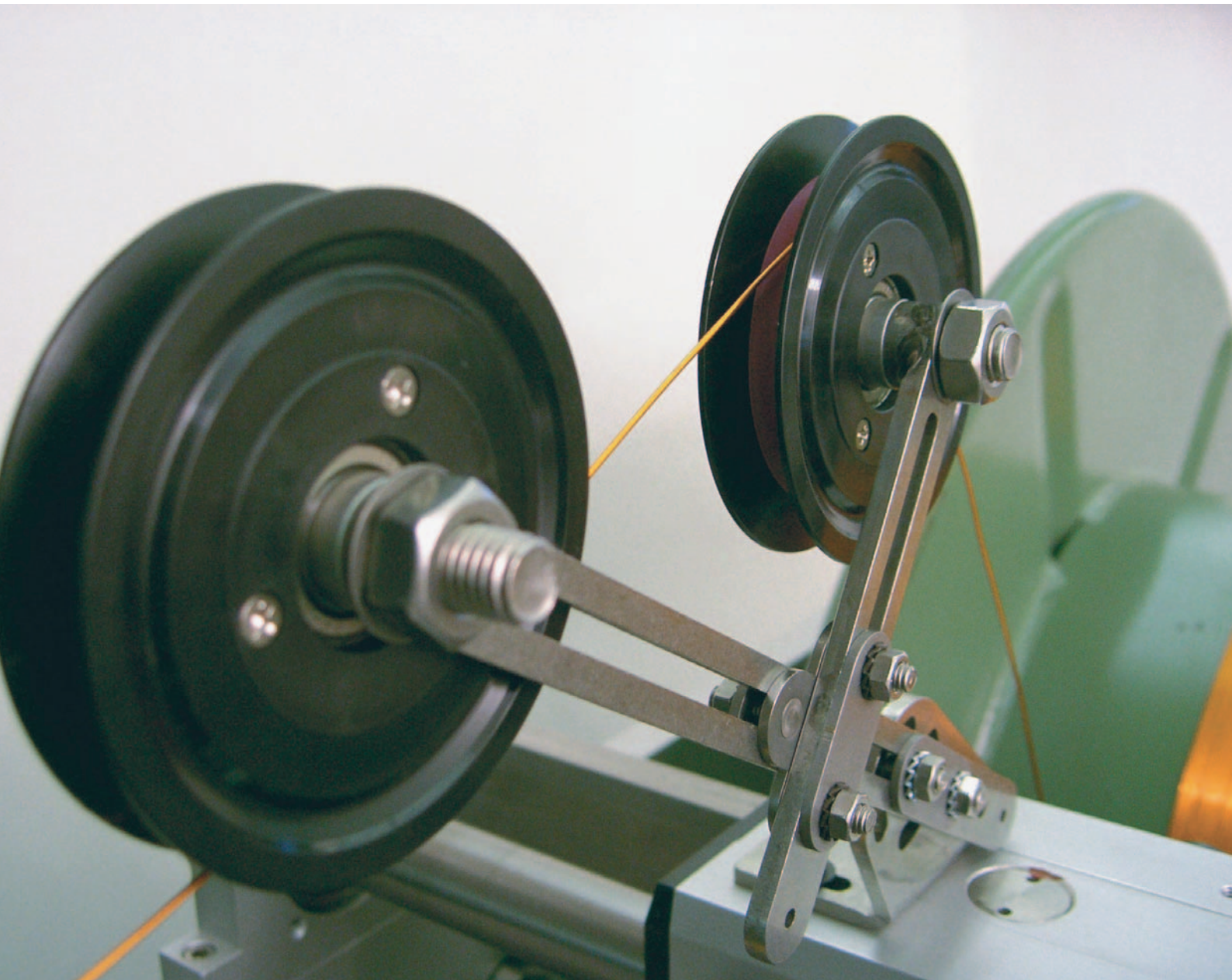
- Can be retrofitted to existing systems
- Usable spool types: cylindrical and biconical
- Easy operation with a keypad or optionally touch panel:
  - Spool and material dimensions, reversal threshold, etc.
- Recipe management for materials and spools
- Troubleshooting
- Languages: German and English

For more information, refer to the UMS catalogue, the UMS Operating Instructions, and the instructional video at [www.uhing.com](http://www.uhing.com)



For different types of spools.

**Uhing Measuring System®**



## Guide System GS

### Features

The Uhing Guide System GS transfers the movement of the traverse to the guide roller and the material to be wound. It can be universally adapted to the winding tasks using additional modules.

### Application area:

- Winding

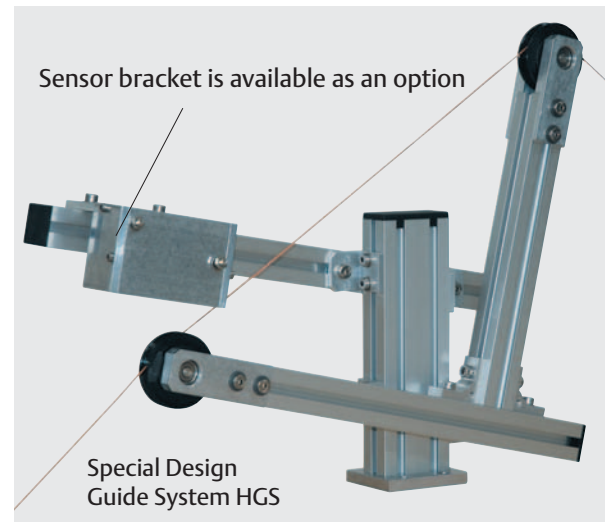
### Your benefit

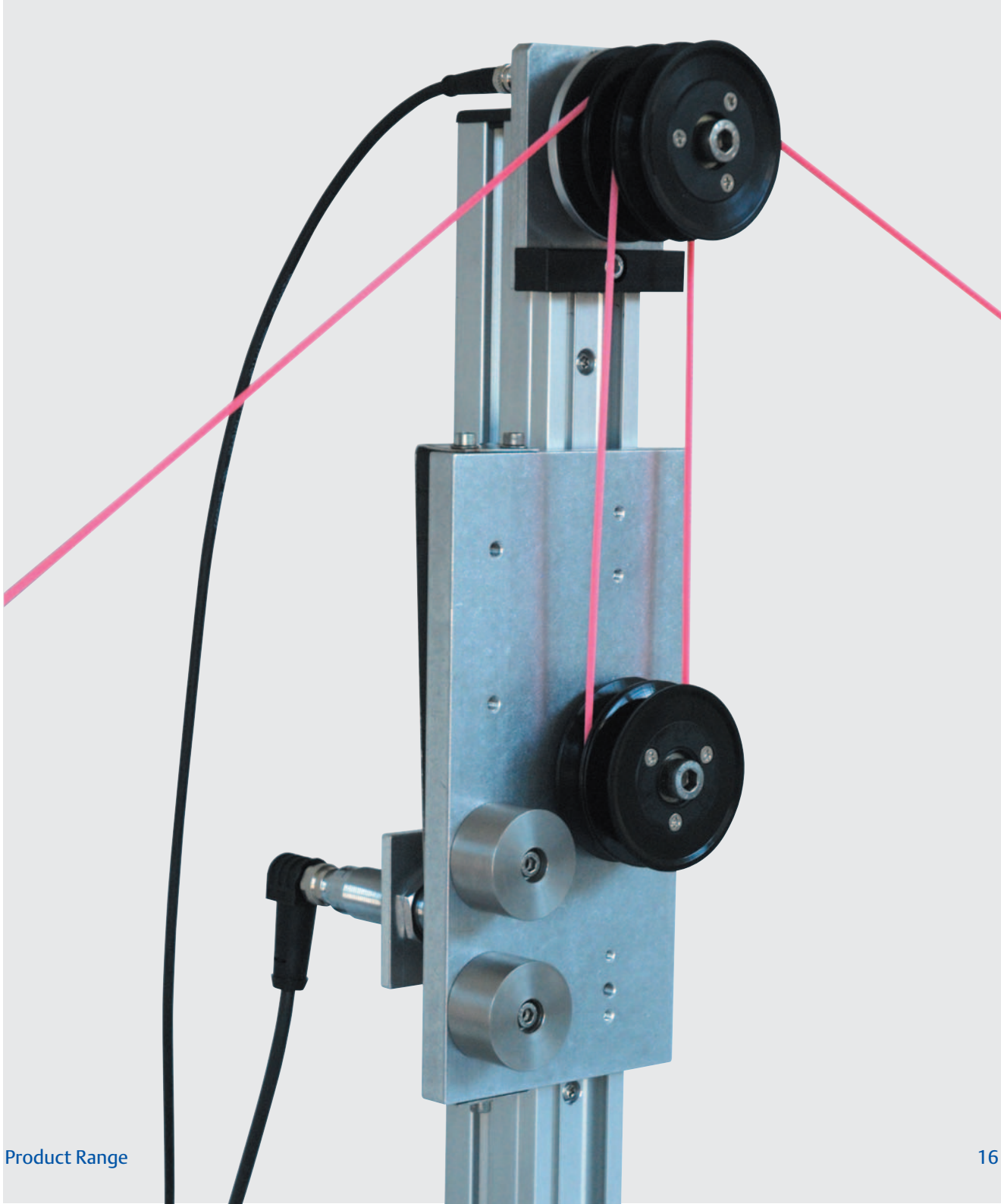
- Modular design for easy adaption to the winding task
- Continuously adjustable
- High rigidity
- Adapter for assembly on Uhing Rolling Ring Drives KI, RGK15/20 and RG15, RG20, RG22, RG30
- Made entirely of stainless steel
- Versatile attachment
- Options for guide rollers
- Suited for all traversing systems

## Special Design: Uhing Heavy Guide System HGS

The Uhing HGS is optimally suited for higher tractive forces that are caused by heavy material or more precise guidance of the material to be wound. This special HGS design is intended for the RG15, RG20, and RG30 types. Appropriate adapter plates ensure the material is always guided centrally to the rolling ring drive.

For detailed information: Catalogue Accessories







## Uhing Tension Control

Uhing Tension Control is a dancer system that does not translate the dead weight of the material into a tension force but uses an external force that acts on the material.

A dancer is a commonly known method of controlling the tension when winding material. As a rule, a motor drives the spool to be wound at a given speed depending on the type of material. The unwinder has to operate at a synchronised speed to ensure the desired tension force is present at all times. The Uhing Tension Control ensures a constant tension by way of a carriage on which weights are mounted. In this way, an accelerating winder will cause the Uhing Tension Control carriage to move in upward direction whereas slower winding will cause the carriage to move down. According to the block and tackle principle, the tension is proportional to the dancer force. Uhing Tension Control can be adjusted using several pulleys and larger weights while the sensor at the carriage provides additional information for the drive motors and their speed control. The tension of the material has to be kept constant to prevent flaws in the winding pattern. Uhing Tension Control can be used for round and flat material.

By adding sensors to the Uhing Tension Control, it is possible to adjust the tension force and capture the material speed or to integrate a length counter system (special accessories).

## Advantages

- Compact design
- Robust
- Easy handling
- Uhing quality
- Durable
- Maintenance free

For detailed information: Catalogue Accessories



## Clamping System U-Clip

### Features

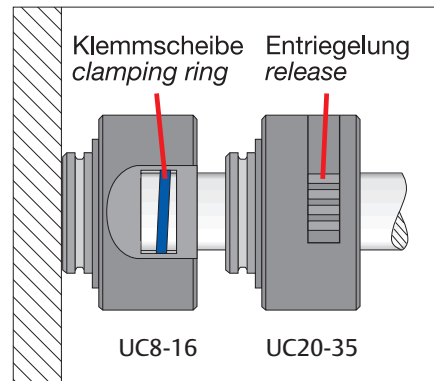
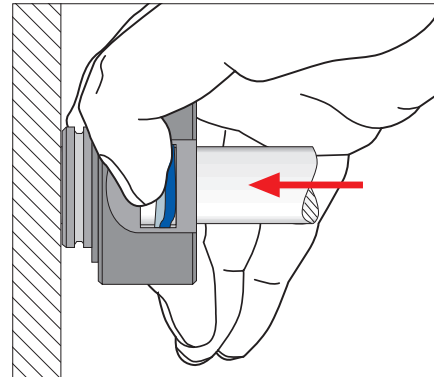
U-Clip is using a clamping ring which is off-set to the shaft and therefore clamping forces are provided. Like a bushing the U-Clip is pushed forward against the component to be fixed and it automatically locks into position. To release, just pull the clamping ring towards the user.

### Application areas

- Positioning on rotating and non-rotating shafts, e.g. wind-up and pay-off
- Tube to shaft (or tube) connection, e.g. tripods
- Fixing components on shafts, e.g. dumb-bell weights
- Quick adjustment for material guiding, e.g. packaging machines

### Your benefit

- Usage on hardened and soft surfaces
- Self locking
- One hand operation
- Symmetrical design
- High self locking force compared to ball systems with inclined level
- Corrosion protected
- Resistant against vibration
- Matching shafts available from a single source on request



For detailed information: Catalogue UE



## Fast Action Clamping System Uhing-easylock®

### Features

The Uhing-easylock® System is characterized by ease of handling and its clamping/tensioning function on smooth shafts.

The result is rapid roll changing combined with high but sensitively applied retaining pressures for spools and rolls of flexible width and with varying core diameters in a modular system suitable for a variety of applications. Its main component parts are a fixed pintle and a clamping section comprising a tensioning unit and an interchangeable pintle point.

Its function relates to a clamping ring which is located in the tensioning unit and which is brought into pressure contact with the shaft. The greater the tensioning force, the greater is the clamping effect of the ring.

The spool or roll is retained and fixed by pushing the tensioning unit up against it and turning the tensioning wheel until the required clamping force has been achieved.

To release, the clamping force is cancelled via the tensioning wheel and the clamping pintle is pulled off the shaft. Also suitable for driven shafts.

### Your benefit

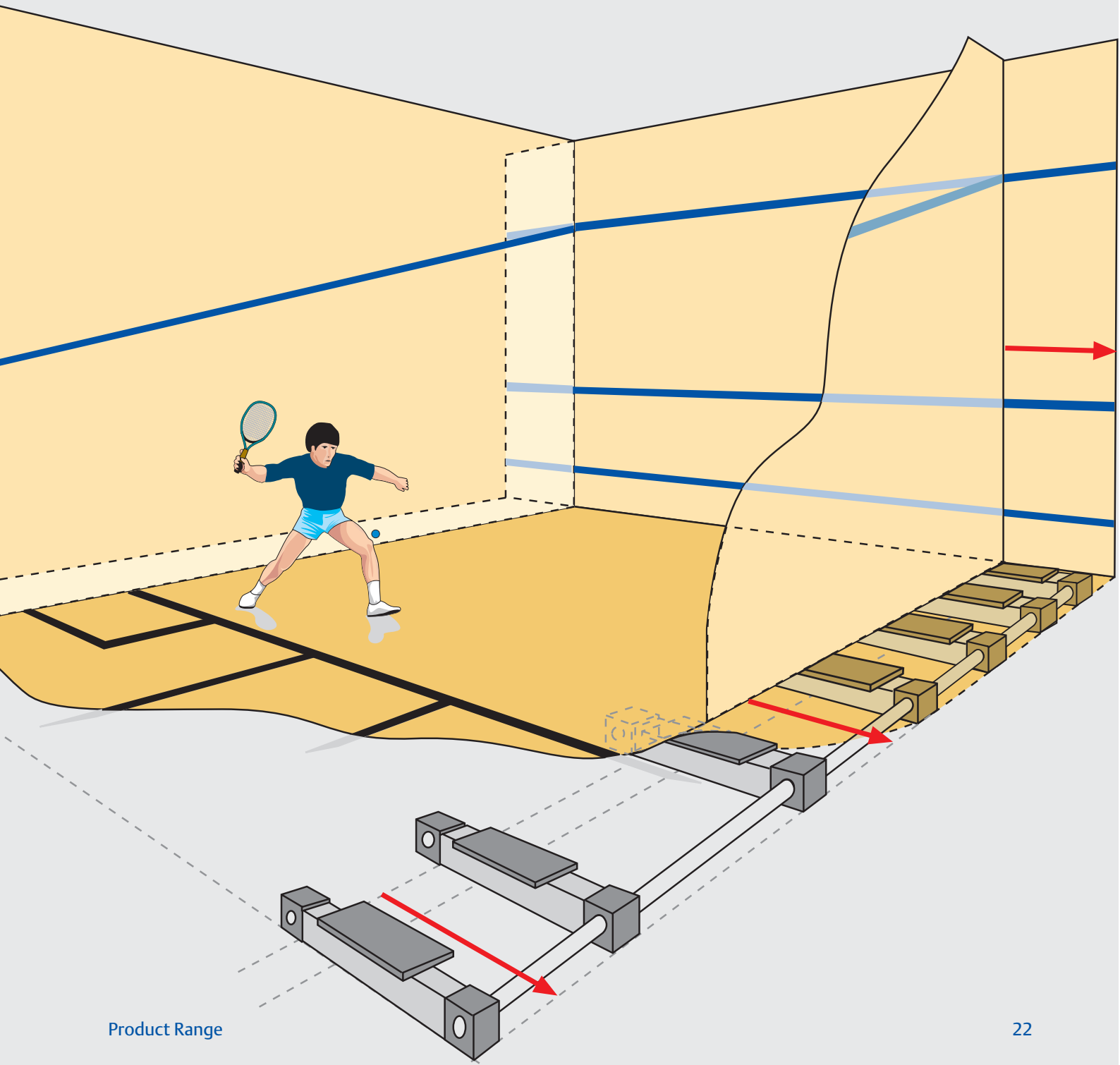
- Shortest possible roll change-over times
- High but sensitively controlled clamping pressure
- Single handed operation
- Extremely flexible in operation
- Plain shaft
- Maintenance-free
- Safe in case of emergency stop
- Resistant against vibration
- Matching shafts available from a single source on request



### Application areas

- Winding
- Spools / supply rolls
- Packing machines
- Static applications

For detailed information: Catalogue EL



## Engineering

The Joachim Uhing GmbH & Co. KG has a long lasting experience in development and handling of exacting engineering projects.

Some 10% of our employees are working in the R&D departments. To handle complex tasks, they have access to state-of-the-art 3D CAD systems, a company-wide computer network and specially developed calculation programs.

We have particularly extensive experience in the sectors of winding technology and periphery, and general drive technology. Apart from design, development and authoring of manufacturing documentation we also offer the supply of partial or complete supply of special-purpose plants.

### **UHING Analysis**

We determine the status quo on site, discuss possibilities in co-operation with all persons concerned, and define the objectives of the plant in question.

### **UHING Conception**

We turn the information gathered during analysis, paired with customer suggestions and in line with existing technical possibilities and qualifications, into a project concept, present it and synchronize with the customer.

### **UHING Development**

Using cutting edge CAD systems we design machine components, subsystems and special-purpose devices down to the component level and build prototypes if required.

### **UHING Production**

Production of products as single element or in an overall package. Depending on the requirements, we also employ 2nd tier manufacturers. The next step are test runs.

### **UHING Installation**

Uhing full-service quality. Uhing employees install the special-purpose machines, perform the test runs and accompany their implementation until production.

### **UHING Service**

Regular maintenance by an expert and genuine spare parts ensure trouble free system operation. Upon conclusion of a maintenance contract, we define the maintenance parameters for your machine (time, scope).





## History

The beginnings of the company date back to 1943 when electrical engineer Joachim Uhing founded an engineering bureau. In this bureau, 35-mm cameras, wall clocks and a forerunner of today's 4 axes for machining clamped items from various sides were developed.



Joachim Uhing had close connections to the knitting machine manufacturers, and in 1952, their enquiries for means to automate the traversing movements of the knitting carriage brought about the most important product developed by the house of Uhing: the rolling ring drive.

Being able to mechanically convert the constant rotary movement of a smooth shaft into permanent traversing movements, the rolling ring drive has made the name of Uhing a synonym for this type of products all over the world.

Based on the worldwide patented rolling ring drive, the linear drive nut, a non-positive helical gear without internal switch-over mechanism, was developed in 1983. Featuring zero backlash, the linear drive nut soon became a coveted drive element, in particular for measuring machine manufacturers.

The Uhing-easylock® fast-action clamping system, introduced in 1992, is a comprehensive series of non-tool clamping and fastening systems for plain shafts supplemented by the U-Clip clamping element in late 2002.

Although being a renowned manufacturer of purely mechanical products, Uhing started producing electronic peripherals for its rolling ring drives in 1998.

For example, the Non-Contact Flange Detecting System FA was developed as an extension for the winding sector. The Uhing Motion Drive® system is based on an Uhing rolling ring drive enhanced by sensors and an electronic control unit. The control unit software engineered by Uhing ensures that both components - control unit and rolling ring drive - perfectly match each other.

By now, automation has become a permanent element of Uhing's product range, and in developing the Modular Winder, Uhing presented a winder/rewinder with perfectly cooperating control unit and mechanical components completely produced in-house.

Continuous innovation, cutting-edge production facilities and high-performance CAD and IT equipment ensure Uhing can expand the technological lead while at the same time meeting the customer's desire for high-quality and process-sure products. As the demands on production and occupational safety continued to rise, the company's Mielkendorf premises used for decades no longer met the demands on space and layout. In April 2017, we moved to our new Flintbek premises specially designed for Uhing.









## Worldwide

The addresses of our agencies are available in the internet: [www.uhing.com](http://www.uhing.com)



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01 e Product Range

**January 2024**