

## Product Range





## Uhing-Linear Drive Systems®



Rolling Ring Drive KI/RGK/RG Page 4/5



Linear Drive Nut RS Page 6/7



Timing Belt Drive AZ Page 8/9

---

## Electronical Products and Components



Uhing Motion Drive® Page 10/11



Uhing Modular Winder® Page 12/13



Uhing Moveable Endstops® Page 14/15



Uhing Measuring System® Page

---

## Winding accessories-options



Guide System GS and HGS Page 18/19



Uhing Tension Control Page



Expansion Spool Page 22/23

---

## Clamping Systems



U-Clip Page 24/25



Uhing-easylock® Page 26/27

---

## Engineering



Engineering Page 28/29

## Uhing



History Page 30/31



## 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 two-way reciprocating motion.

They operate on the principle of pivotable ball bearing based Rolling Rings, the specially crowned running surfaces of which are pressed against a shaft. By addressing them to the shaft at an offset angle (pitch) they operate like nuts on a threaded bar, however, because of their ability to swivel, they have alternating left-hand and right-hand pitch (providing reciprocating motion). By varying the pitch angle, the speed of travel can be set at finely stepped 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

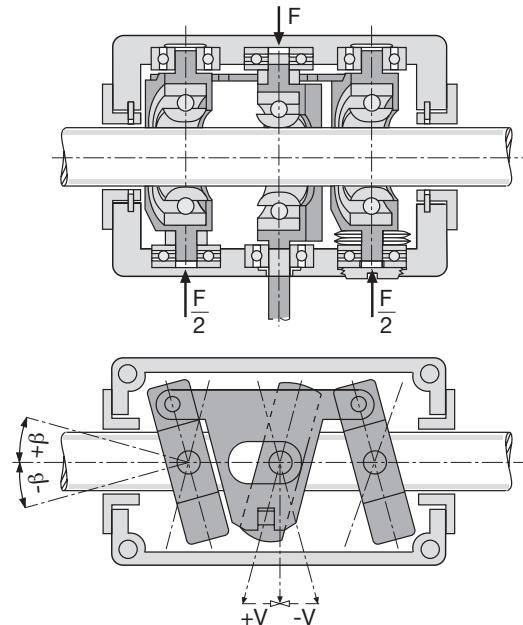
- Winding
- Special drives

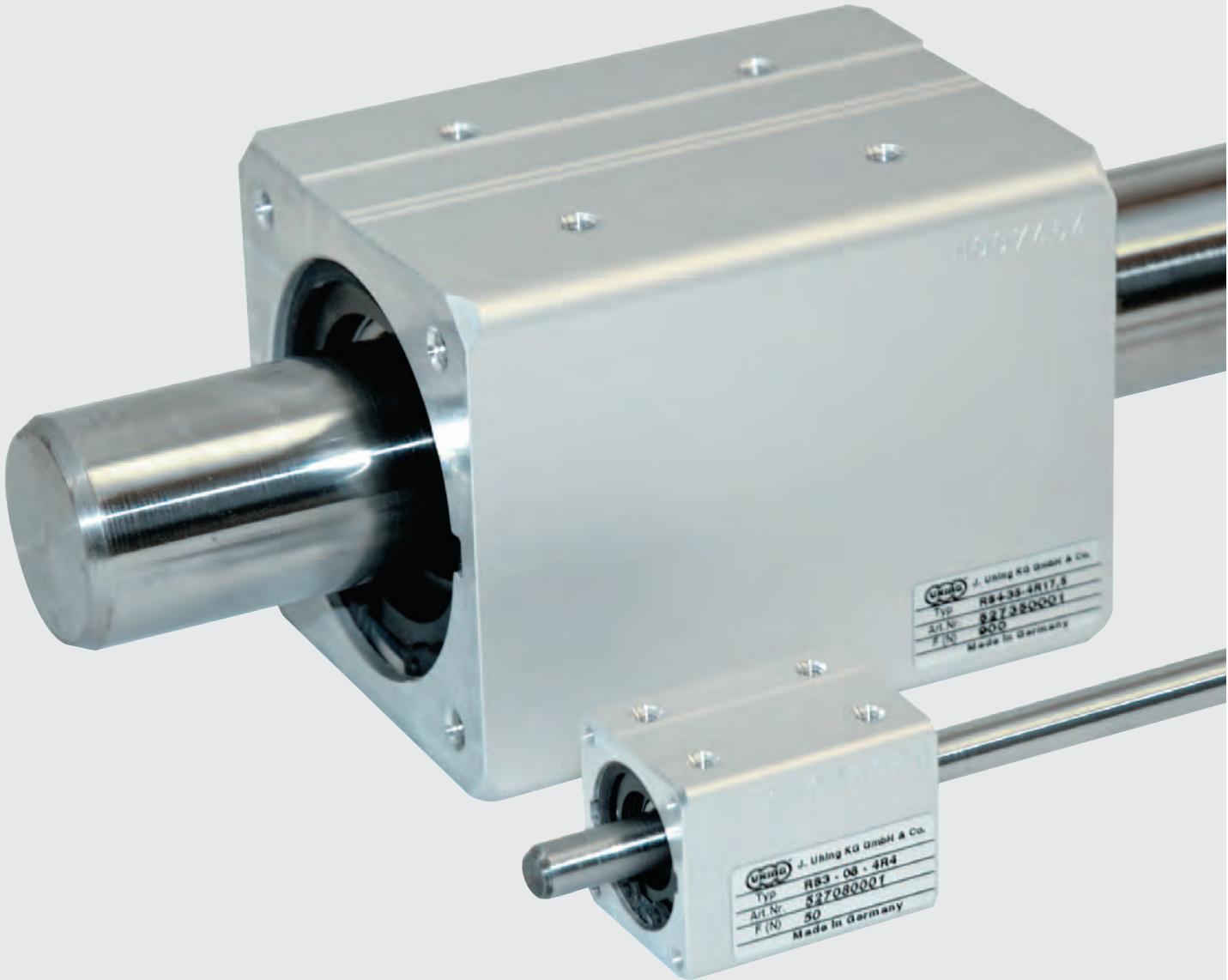
### Your benefit

- Automatic reciprocating motion with constant direction of shaft rotation
- Side thrust up to 3600 N
- Width of stroke up to 5m
- Speed up to 4.2m/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

For detailed information: Catalogue RG





## Linear Drive Nut RS

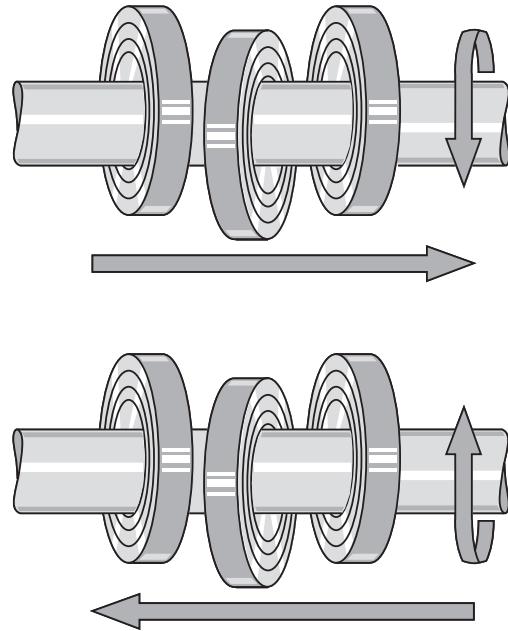
### Features

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

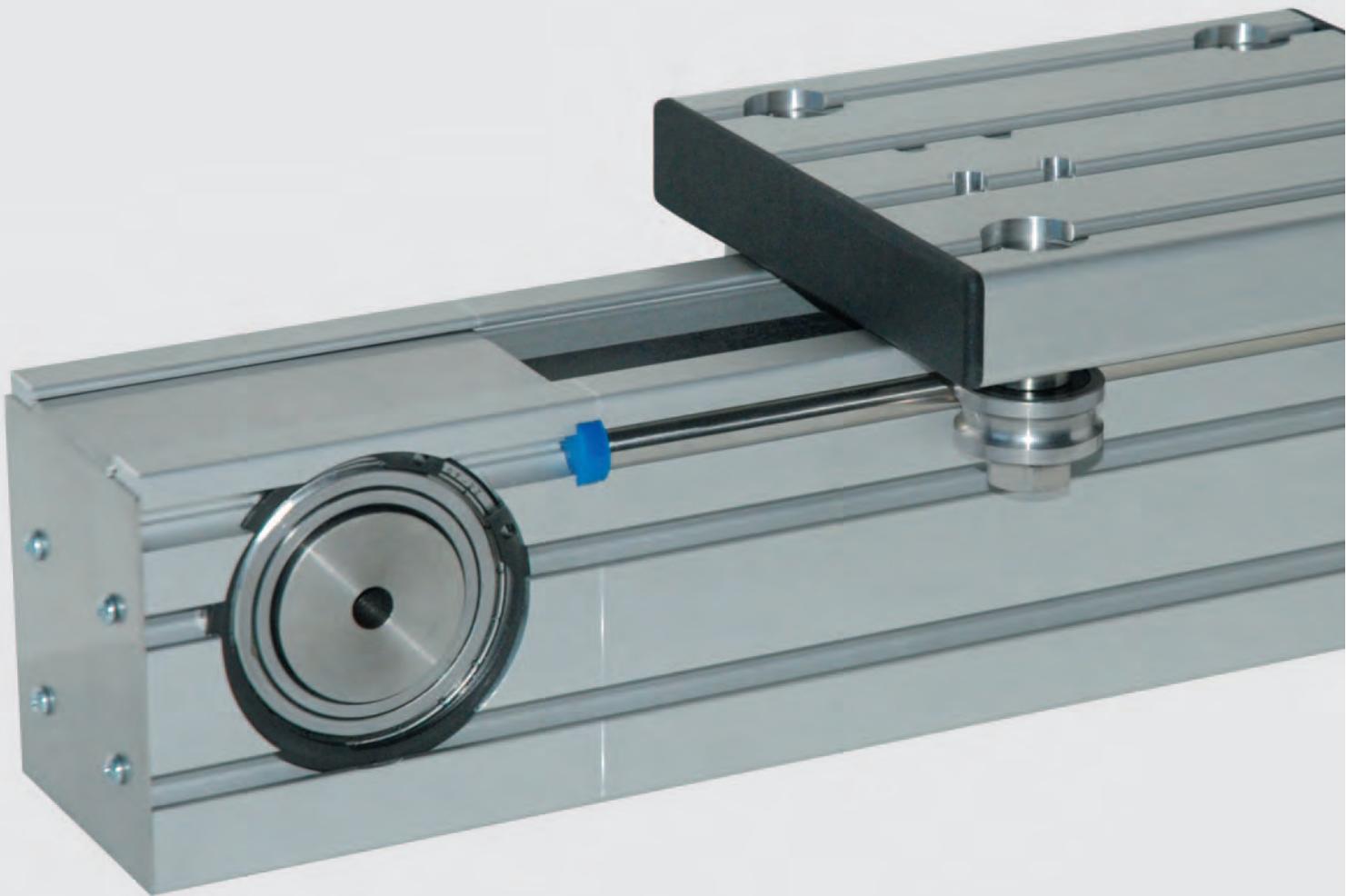
- Converts rotary motion into linear motion
- Backlash free
- Low noise
- Low maintenance
- Compact
- Good sealing possibilities (plain shaft)
- Drive can be disengaged on the shaft
- Low operating costs
- Comprehensive range of sizes
- Resistant against vibration
- High corrosion protection, on request



### 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 bending and torsion resistant rigid aluminium profile.

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

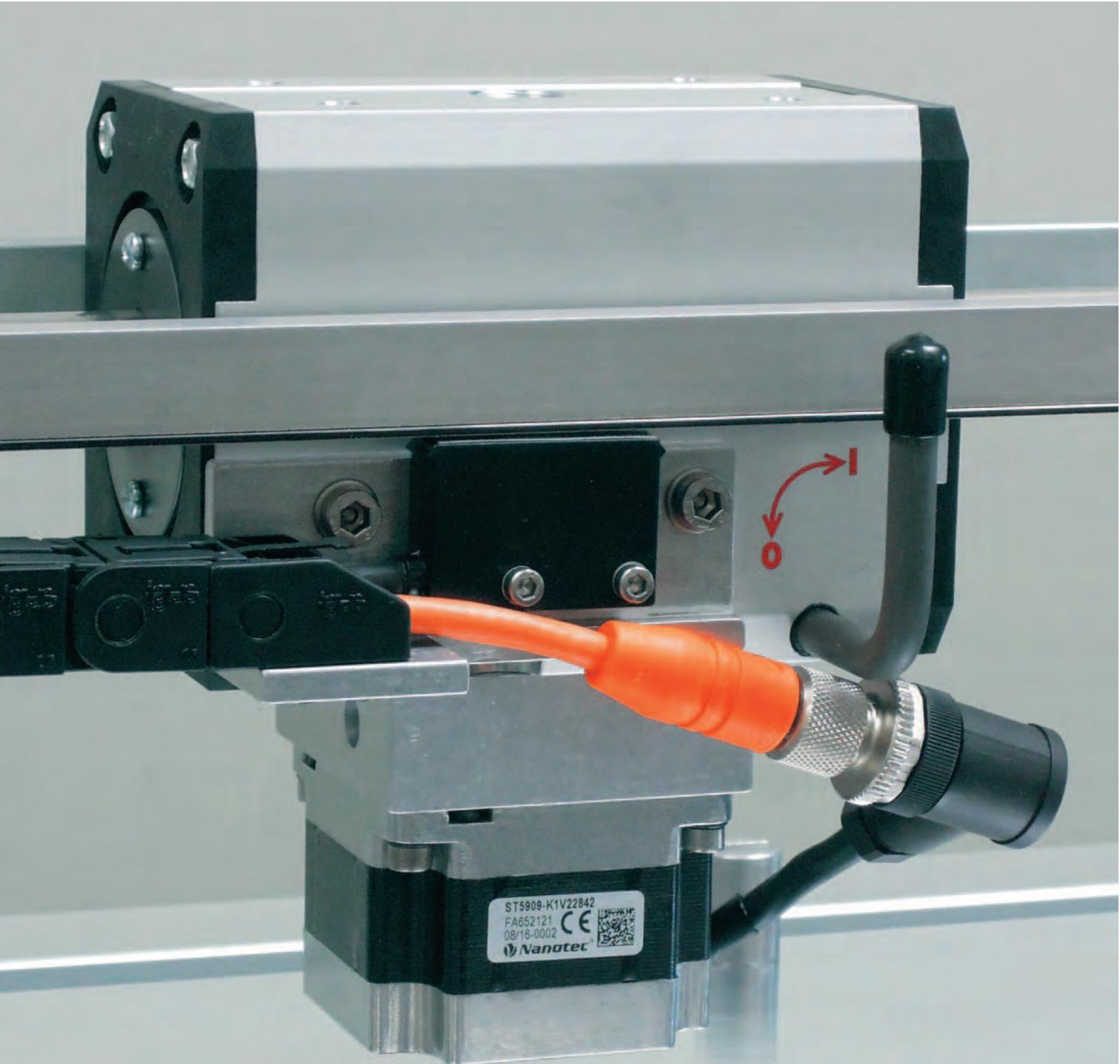
- Drive technologies

### Your benefit

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

For detailed information: Catalogue AZ





ST5809-K1V22842  
FA652121 CE  
08/16-0002  
Nanotec

## Uhing Motion Drive®

The Uhing Motion Drive system is based on an Uhing rolling ring drive extended 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.

The tried and tested rolling ring drive has been modified. When implemented in the Uhing Motion Drive, neither the reverse lever nor the scale for pitch setting are required. A stepping motor controlled by a Siemens S7 PLC offering user-friendly operation and flexible and variable parameter set-up in self-explaining and logical menus is used to implement these functions.

In addition to the standard motion programmes defined for winding, the Uhing Motion Drive also lets you define custom programmes, thus offering maximum flexibility.

The Uhing Motion Drive covers all mechanic Uhing solutions of the special rolling ring drive variants (except for the release lever).

### Advantages

- One system to operate the widest range of spool types: rectangular, bi-conical, single conical, etc.
- Freely definable winding patterns
- Spool types can be stored
- Robust and reliable rolling ring drive technology
- The Uhing Motion Drive also offers all the benefits of the tried and tested rolling ring drive technology
- No more calibration and test cycles for winding applications
- Internal detection/elimination of errors
- Multi-station systems are possible
- Mechanically compatible with conventional rolling ring drives – they can be converted
- Constant speed with different shaft speeds, or different speeds with constant shaft speed

- Mechanical synchronisation between winding shaft and “Uhing shaft”
- Freely definable motion programmes
- Definable action/reversal points
- All components compliant with industry standards
- Integration into customer's machine controller possible
- Flexibly adjustable - nearly all special rolling ring drive variants can be implemented

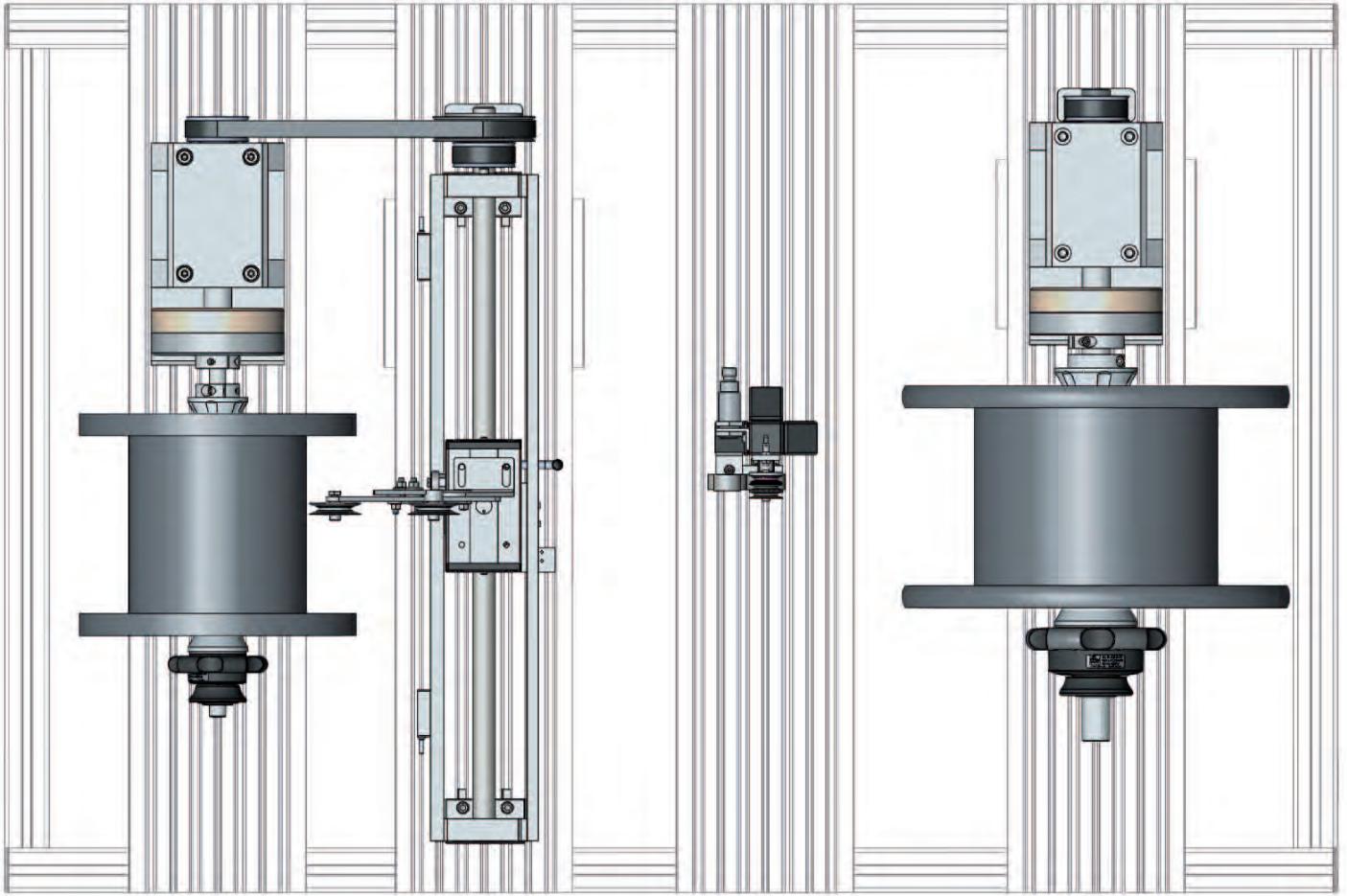
### Areas of application

The Uhing Motion Drive was designed in particular for winding and traversing processes in the wire and cable industry, and for handling and XY gantry systems.

Other feasible applications are general drive technology processes where a linear motion is required within limits specified by the respective systems.

For detailed information: Catalogue UMD

**Uhing** Motion Drive®



## Uhing Modular Winder® - UMW

Uhing's Modular Winder is a rewinder that can be flexibly adapted to a great number of winding tasks. Its modules made up of Uhing products are perfectly matched to each other and can be used separately or jointly.

Due to the modular design, customer-specific requirements can be met quickly and easily. Even the basic configuration offers many possible solutions of complex winding tasks.

### One Rewinder - Many Tasks

Due to its modular design, the Uhing Modular Winder can be customised with regard to speed, winding pattern, material properties, and geometry of spools. In this way, the Uhing Modular Winder lets you process small batches with only a few spools but also larger amounts without time-consuming adjustments.

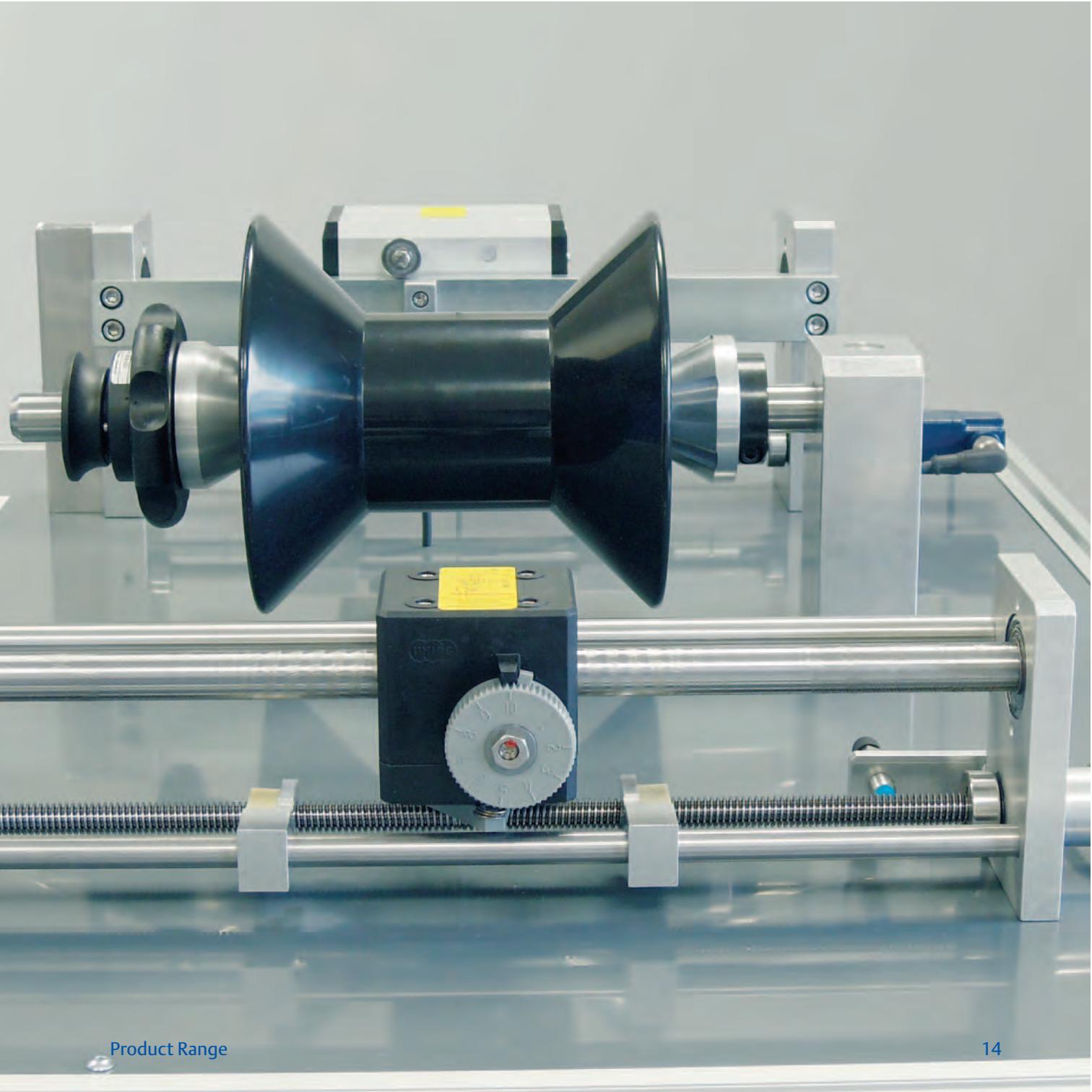
### Your benefit

- The modular design in terms of mechanics and electrics allows for flexible adaptation to individual applications
- Robust and proven mechanical components
- Easy extension with mentioned options
- Easy adaptation to various spool sizes
- Common industry standards are complied with RFID technology
- Variable ratio between traversing system and winder
- Languages: German and English
- Mobile operating panel for easy and intuitive operation
- Service-friendly, low maintenance requirements
- Can be used as a winder
- Tried and tested Uhing quality

For detailed information: Catalogue UMW



## Uhing Modular Winder®



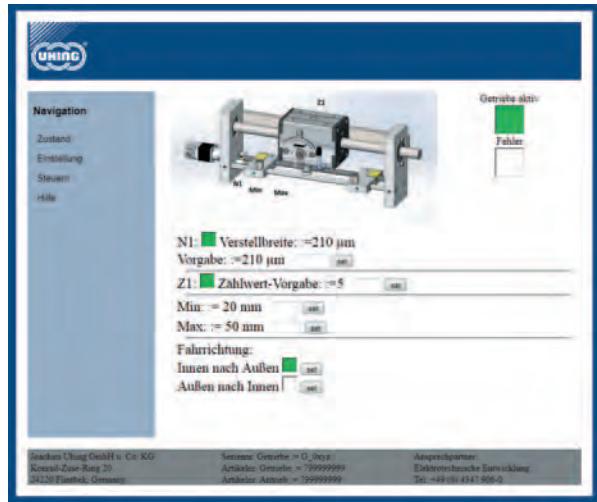
## Uhing Moveable Endstops® for Use with Conical Spools

Uhing's new electronically adjustable stops, the Uhing Moveable Endstops, feature easy operation for fast and smooth winding patterns on bi-conical spools. The sensor counts the number of strokes and equally adjusts the stops on both sides. In the menu, you specify the number of stops to count before the end stops are to be moved, and their offset. Manually setting the reversal points is no longer necessary.

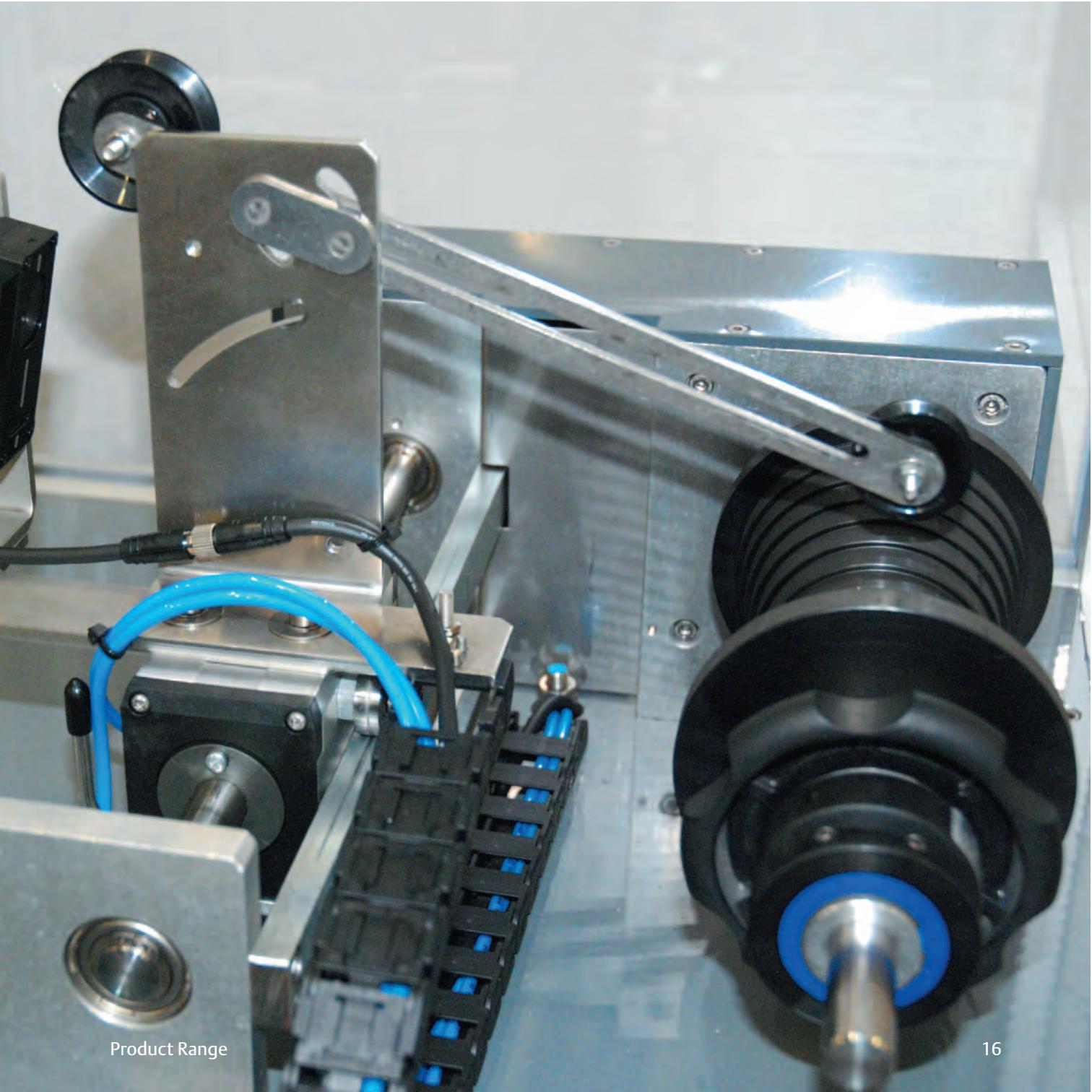
### Benefits

- Easy winding on bi-conical spools
- Easy operation with web based user interface
- Control with a tablet/smart phone
- Stroke can be adjusted during operation

For detailed information: Information sheet UME



UHING Moveable Endstops®



## Uhing Measuring System® - UMS

### Application

The Uhing Measuring System detects the position of flanges on spools, regardless of the spool used. After a spool change, the system automatically adjusts to the new spool position and, where necessary, the new spool shape.

The Uhing Measuring System was specially designed for application with pneumatically reversible rolling ring drives but can also be fitted on other traversing systems after testing.

### Principle of function

The sensor detecting the flange is mounted on the traversing system. At a defined point, the current distance is captured and saved as reference distance for each single layer.

While the traversing system moves, the reference distance is continuously compared to the measured value. A reversal is triggered as soon as the permissible, adjustable height deviation is exceeded. Such a height deviation occurs when the flange or an accumulation of material on the spool is detected.

### Areas of application

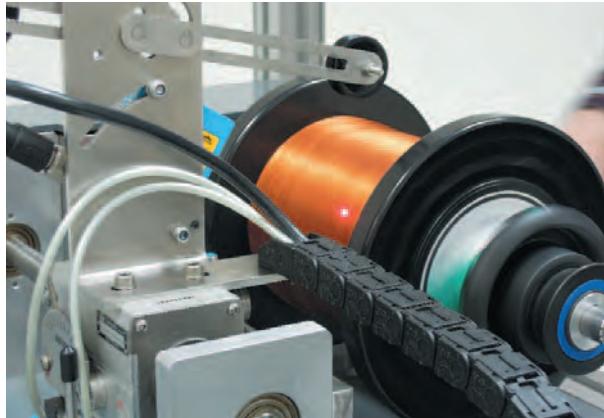
The system has been designed for laying round material with diameters of 0.1 to 2.0 mm on cylindrical and conical spools. Other dimensions are possible after consultation.

### Your advantage

- No manual adjustment of reversal points
- Significant time savings when spools of different type and dimension are used

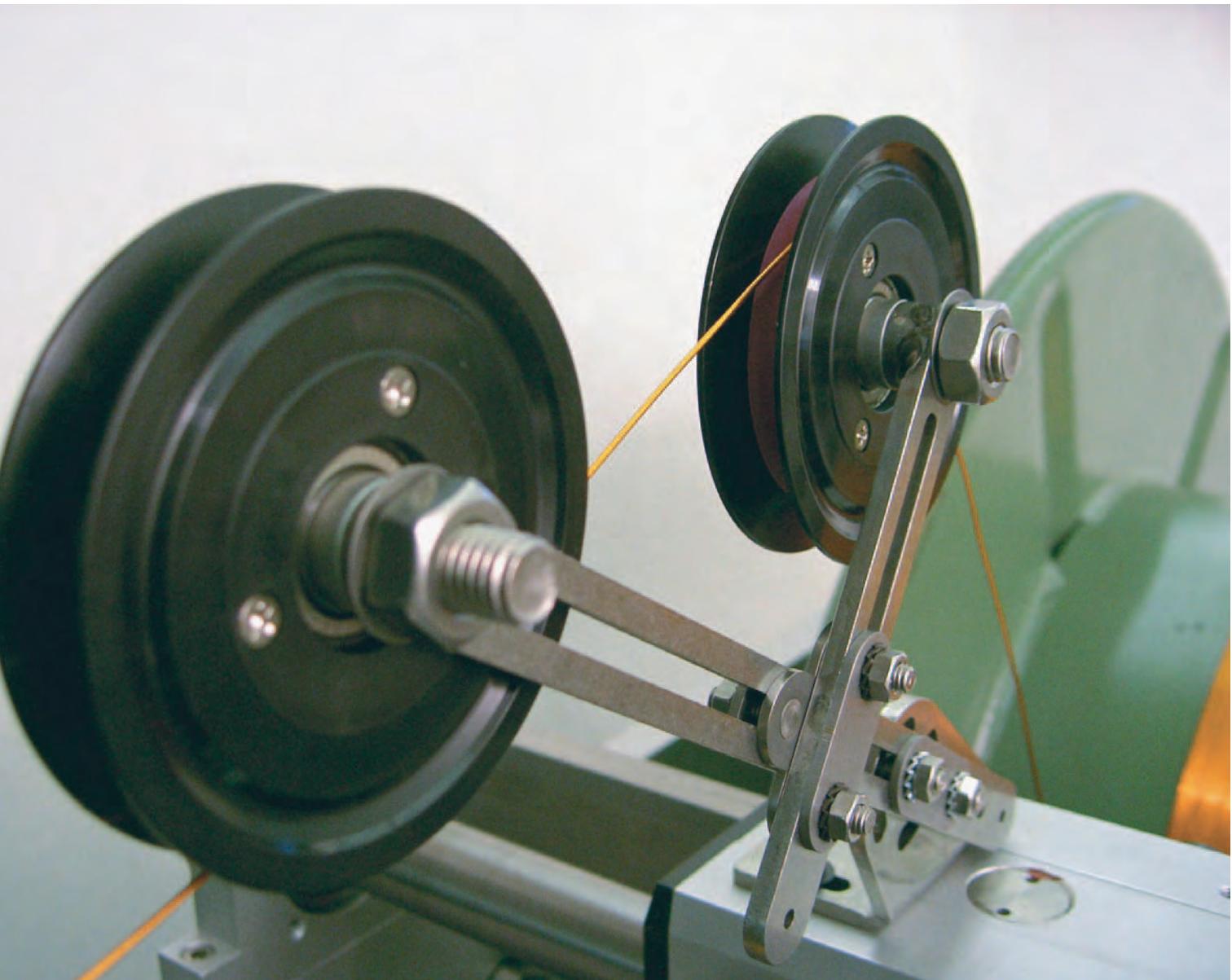
- Very easy operation
- No prior experience required
- Perfect winding patterns

For detailed information: Catalogue UMS, User Manual UMS and 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

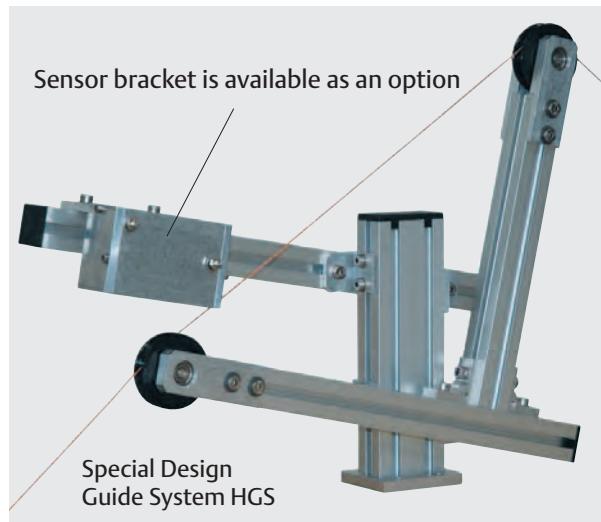
### Your benefit

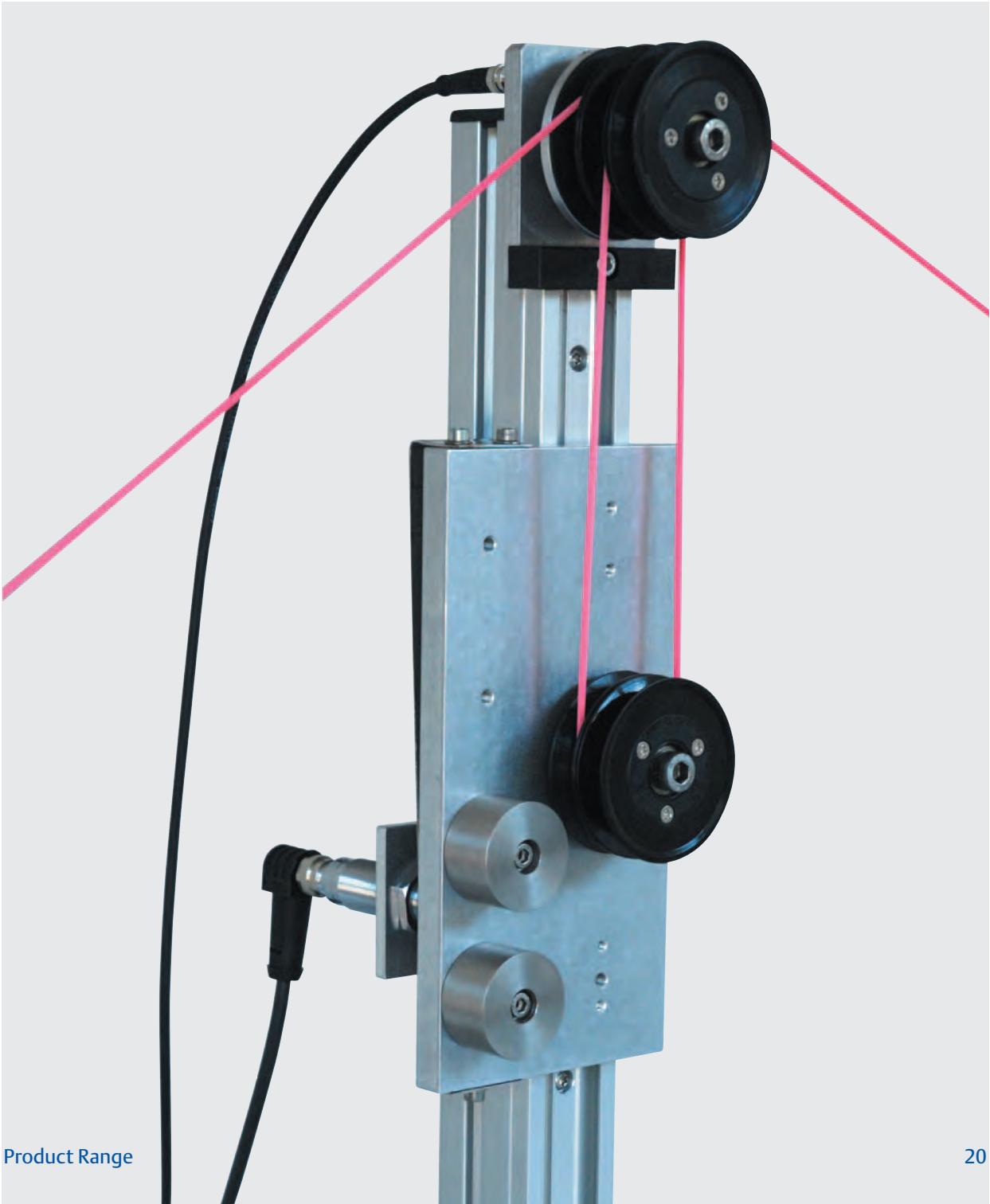
- Modular design for easy adaption to the winding task
- Continuously adjustable
- High rigidity
- Adapter for assembly on Uhing Rolling Ring Drives KI, RGK15/20 and RG15, RG20, RG22, RG30
- Made entirely of stainless steel
- Versatile attachment
- Options for guide rollers
- Suited for all traversing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

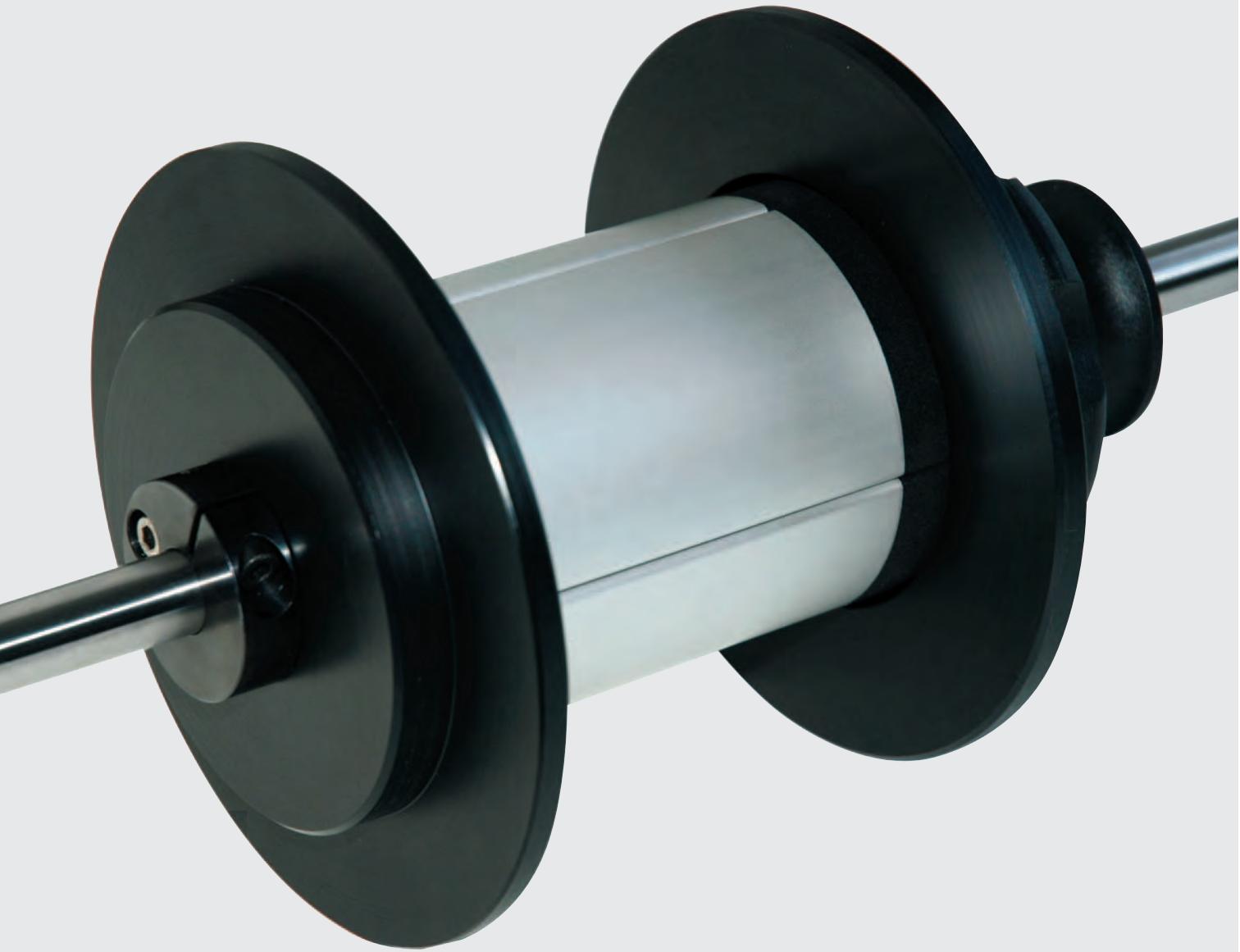
A dancer is a commonly known method of controlling the tension when winding material. As a rule, a motor drives the spool to be wound at a given speed depending on the type of material. The unwinder has to operate at a synchronised speed to ensure the desired tension force is present at all times. The 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](#)



## Using Expansion spool

### Areas of application

- Coreless winding
- Winding of faulty material or, for example, edge trim for coreless disposal
- Winding of, for example, edge trim or superfluous material

For detailed information: Catalogue Accessories

### Principle of function

The spool core expands to a specific diameter when the distance between the cones is reduced.

The spool core diameter shrinks due to the integrated springs when the distance between the cones is increased.

### Benefits

- Spool is reused ever and ever again
- One-off costs
- No material waste
- No additional material
- Low energy consumption because no compressed air is required
- Material easily detaches from the core of the expansion spool

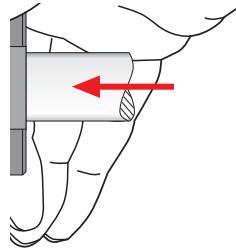




## Clamping System U-Clip

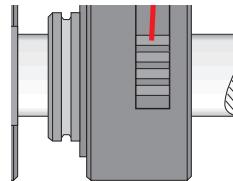
### Features

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 to be fixed component 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

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.

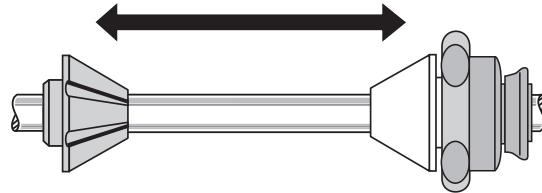
The spool or roll is retained and fixed by pushing the tensioning unit up against it and turning the tensioning wheel until the required clamping force has been achieved.

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

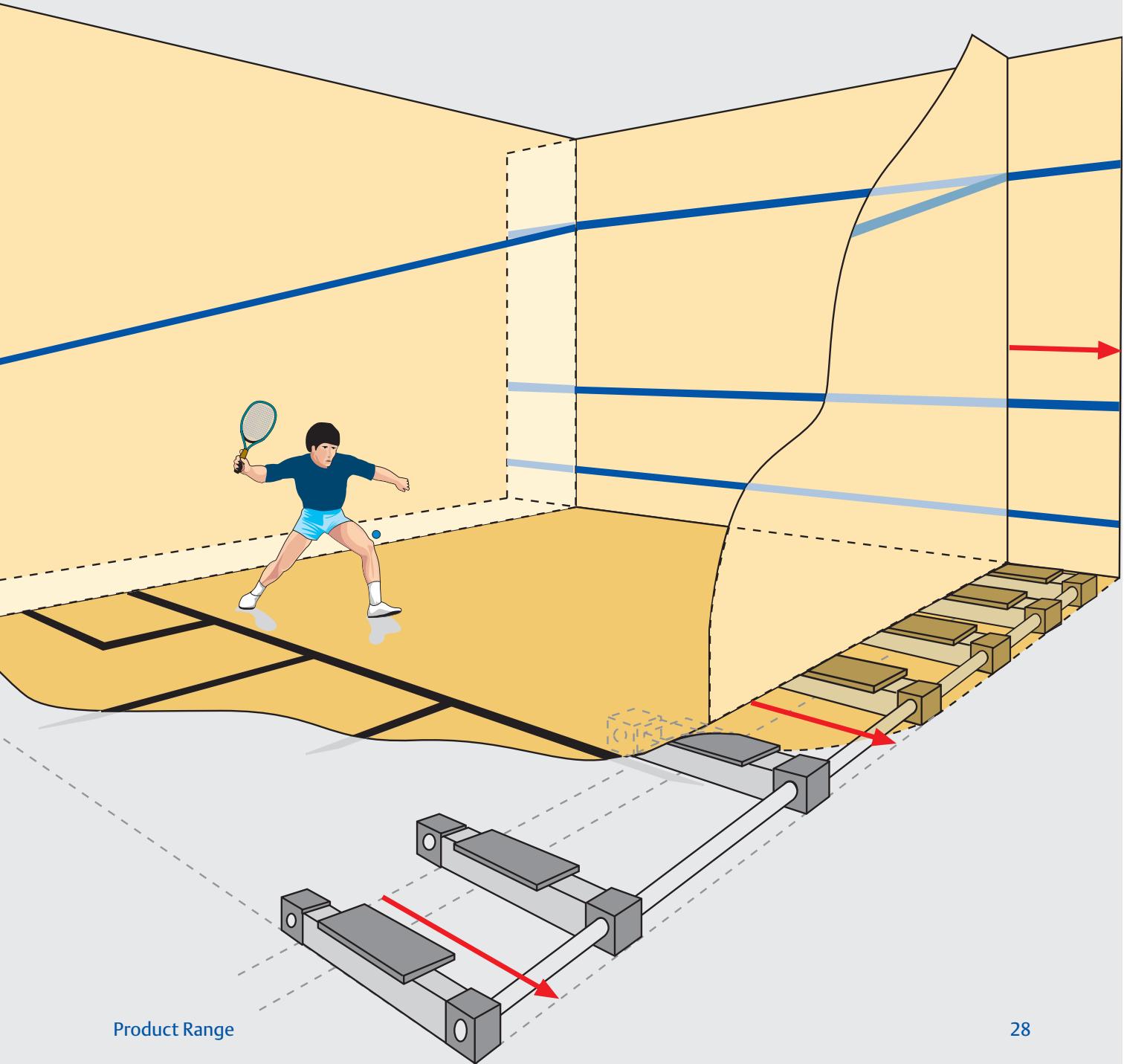
- Shortest possible roll change-over times
- High but sensitively controlled clamping pressure
- Single handed operation
- Extremely flexible in operation
- Plain shaft
- Maintenance free
- Safe in case of emergency stop
- Resistant against vibration



### 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 wind-ing 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 premises Mielkendorf 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)



**Joachim Uhing GmbH & Co. KG**  
Konrad-Zuse-Ring 20  
24220 Flintbek, Germany  
Telefon +49 (0) 4347 - 906-0  
Telefax +49 (0) 4347 - 906-40  
e-mail: [sales@uhing.com](mailto:sales@uhing.com)  
Internet: [www.uhing.com](http://www.uhing.com)