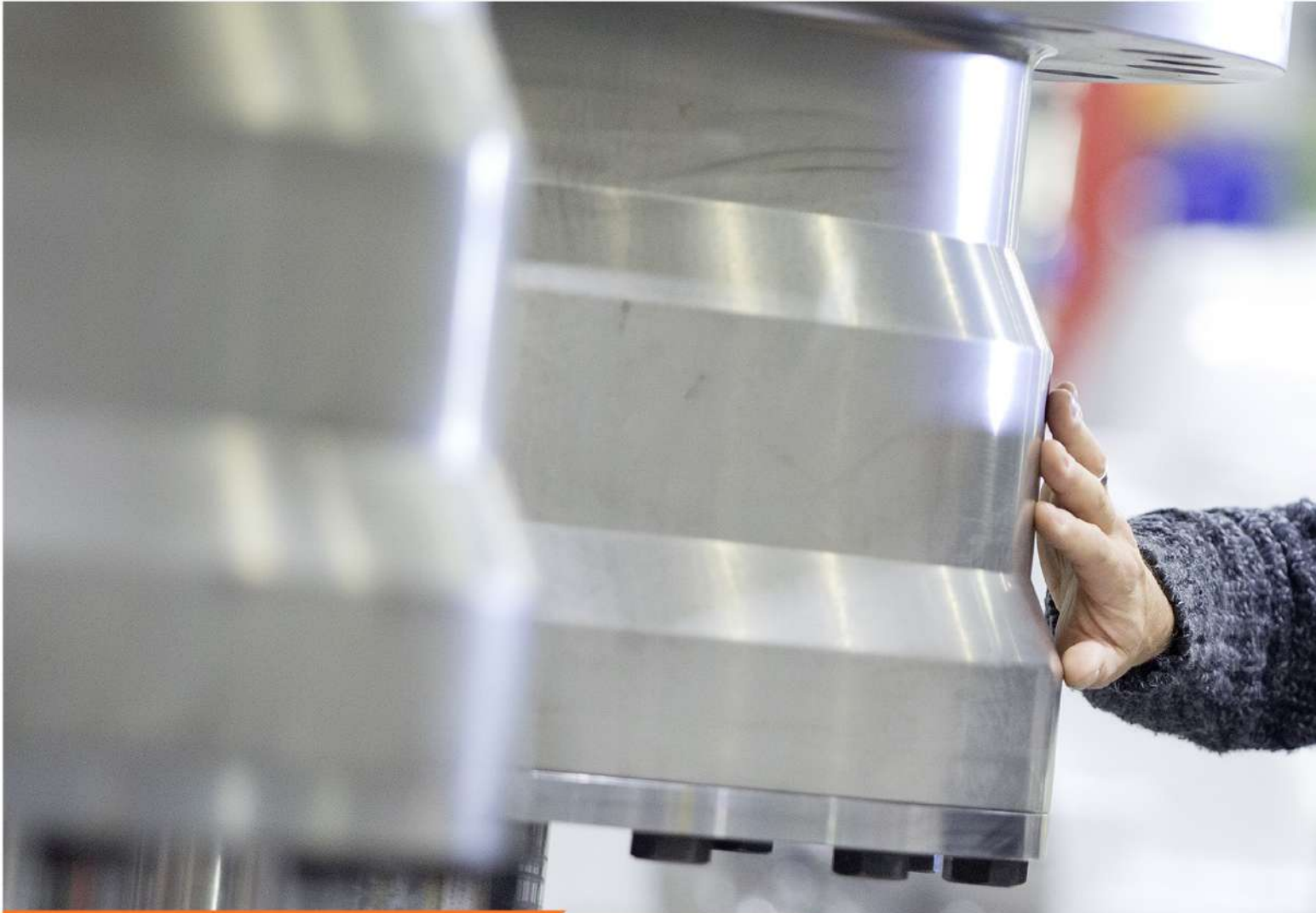


RENK

COUPLING SOLUTIONS

Intelligent coupling  
solutions for  
all applications.

# Quality from a single source.



Precision, innovation and performance are the cornerstones of technical leadership. This guiding principle has defined RENK as a technology company for over 140 years. We are a leading manufacturer in the field of drive train technology. Our extensive product portfolio is used in many applications and industries. The portfolio ranges from standard products to customized solutions. Teamwork is the key to sustained success – it's how creativity, dedication and personal commitment result in excellent products and solutions for our customers.



**/ Precision**

**Uncompromising functionality and quality down to the smallest detail**

**/ Performance**

**Maximum transmission performance for all applications**

**/ Innovation**

**Pioneering developments for minimal total cost of ownership**



# Highest requirements. The ideal prerequisite for a long-term connection.

## RENK coupling solutions

- Ultimate torque
- Optimum adjustment of the drive train
- Perfect use of resources
- Top availability
- Longer product life-cycle
- Precise interaction of the components

## Designed for individual targets. Innovative components achieve precise performance.

Maximum passion and reliability, precision and quality commitment in manufacturing:

This makes RENK a leading specialist in pioneering solutions for controlling extreme forces throughout the drive-train in: industrial applications, power generation, demanding maritime applications and in tracked vehicles.

The result is innovative products and solutions that set standards when it comes to quality, precision, and reliability and represent the cutting edge of technology on the worldwide market.

Uncompromising expertise and our focus on holistic solutions ensure success in every project.

RENK is available for you with world-wide commitment and dedication, creativity, and expert knowledge. Our service portfolio is complete from innovative services throughout the entire life-cycle, from consultation and customer development to maintenance, condition monitoring, and test benches.



**Steel and metal industry:** Competitive steel mills combine the use of state-of-the-art processes and production technologies with a high degree of reliability. This makes it possible to keep the life-cycle costs of the plants low. Whether in rolling mills, continuous casting lines, roller tables or in reel drives: Low-wear couplings from RENK achieve a very high level of safety.



**Oil, gas and petrochemical industries:** RENK couplings are suitable for use under extreme loads in special environments, such as in pumps, turbines, and compressors.



**Marine technology:** The quality and safety reliability of the coupling's functions play a particularly important role on the high seas. Whether couplings for rear drives, thrusters or alternative drives or for on-deck applications: RENK offers customized coupling solutions for any situation. Application experience and our commitment to set new innovative technological standards ensure development advances in this industry.



**Railway technology:** Special standards apply to couplings in railway drives. After all, the mobility of people and goods depends on the reliability of these systems. Since the 1980s, RENK has been mass producing couplings which ensure maximum torque transmission and the compensation of large displacements.





**Conventional power generation:**

Whether the energy comes from coal, gas or the combustion of biomass or waste: The quality of the couplings used in the field of conventional power production is determined by a high degree of robustness and reliability. This is why designers, plant builders and plant operators have trusted RENK products and solutions for many decades.

**Mining:** Whether as a component of conveyor systems, crushers, mills or fans, in open pit mining or underground: Drive components are exposed to extreme conditions in mining. The experience and knowledge that we put into the development of our couplings creates the perfect combination of long service life and maximum safety.



**Wind power:** Innovative and flexible propulsion technology is the key driver for reducing the costs of energy production in the long term. RENK couplings offer maximum reliability and service life for powerful applications up to the multiple megawatt range.

## / Safety

**Decoupling the drive when components are overloaded in the railway**



## / Sustainability

**Damping of torque surges protects the drive**

## / Service life

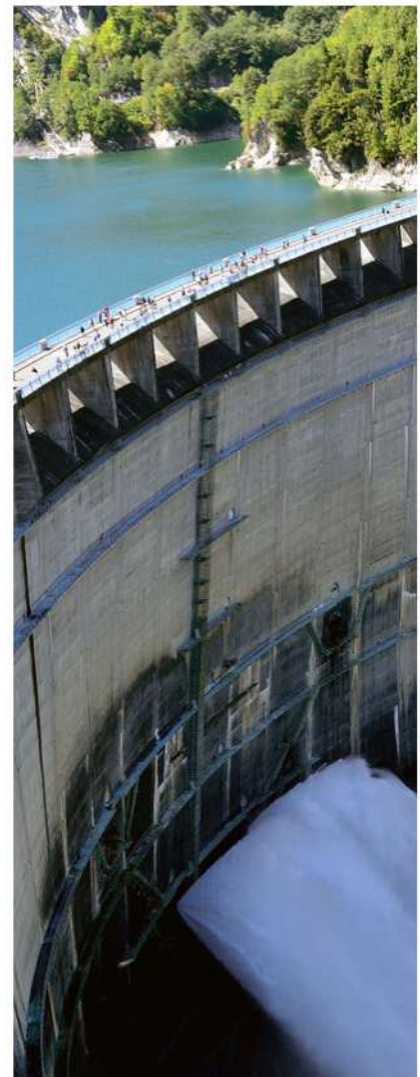
**Precise compensation of shaft misalignments in adjacent components**

**Material handling:** Operators of conveyor and crane systems around the world rely on the exceptional load capacity and service life of RENK couplings. With custom solutions, RENK helps its customers to position themselves well for future challenges.

**Paper industry:** Speed and flexibility play a crucial role in the production and processing of paper and pulp. The optimization of these factors ensures competitiveness.



**Hydropower:** Where expertise meets innovation. Hydropower plants play an important role in producing electricity from renewable energy sources nowadays. Maximum efficiency and sustainability requires sophisticated and precisely designed solutions. RENK provides the optimal coupling solution, both for new and for retrofit projects.





# Real closeness to customers in many industries. Innovative coupling solutions from RENK.

| Industries                          | Field of application  |
|-------------------------------------|---|
| Steel and metal industry            | Steel and metal industry  |
| Oil, gas and petrochemical industry | Refinery, oil rig, LNG terminals  |
| Railway technology                  | High-speed trains, regional trains, trams, subways, freight   |
| Marine technology                   | Dredgers, government container and supply ships, yachts, ferries, tug boats, bulk carriers, LNG tankers, oil rigs |
| Mining                              | Open pit, underground   |
| Wind energy                         | Wind turbine systems (onshore and offshore)   |
| Conventional power production       | Power plants (coal, gas, nuclear), waste incineration plants, biomass power plants                                |
| Hydropower                          | Pumped storage power plants, Run-of-river power plants  |
| Material handling                   | Material transports   |
| Paper industry                      | Paper production  |



|  | p. 10<br>Gear<br>couplings                  | p. 18<br>Safety<br>couplings                                    | p. 22<br>Maintenance-free<br>couplings  | p. 30<br>Flexible<br>couplings | p. 34<br>Overrunning<br>clutches |
|--|---|---|---|--------------------------------|----------------------------------|
|  | Gear coupling<br>Gear joint<br>Gear spindle | HYGUARD<br>safety coupling<br><br>TORLOC<br>clamping<br>element | RAFLEX flexible<br>disk coupling<br><br>EQ-Flex® flexible<br>disk coupling<br><br>Diaphragm<br>coupling | ELCO<br>coupling               | Synchronous<br>clutch coupling   |
| <b>Applications</b>  |   |   |   |                                |                                  |
| Rolling millster (hot, cold),<br>continuous casting<br>systems, roller conveyors<br>(production, finishing, etc.),<br>reel drives, energy recovery | ■   | ■   | ■   | ■                              | ■                                |
| Pumps, compressors,<br>turbines  | ■   |   | ■   | ■                              | ■                                |
| Bogie (axle-mounted<br>transmissions, engines),<br>engines, transmissions  | ■   | ■   | ■   |                                |                                  |
| Main drives, thrusters,<br>alternative drives,<br>on-deck applications<br>(winches, dredgers, pumps)   | ■   | ■   | ■   | ■                              | ■                                |
| Conveyor systems, crushers<br>(dredgers), mills, ventilation   | ■   | ■   | ■   | ■                              | ■                                |
| Transmissions,<br>generators   |   |   | ■   |                                |                                  |
| Turbines, generators,<br>pumps   | ■   | ■   | ■   | ■                              | ■                                |
| Turbines, generators,<br>pumps   | ■   |   |   | ■                              | ■                                |
| Conveyor systems,<br>crane systems   | ■   | ■   | ■   | ■                              |                                  |
| Paper machines, refiners,<br>pulp preparation, printing<br>machines  | ■   | ■   | ■   |                                |                                  |

# Gear couplings.



**Gear couplings from RENK impress with a high power density, long service life and a variety of possible combinations. They are particularly suitable for compensating axial, radial and angular misalignments as torsionally rigid shaft connections for form-fit torque transmissions. Their absolute reliability is also guaranteed in harsh environments or potentially explosive areas such as in mining.**



**/ Performance**

High misalignment  
capability in harsh environments

**/ Quality**

High power density  
for continuous use

**/ Standard**

Broad range  
for custom needs



# RENK gear couplings. Sturdy and powerful.

## Advantages at a glance

- More than 1,000,000 couplings sold worldwide
- Self-lubrication with oil or grease filling or continuous oil lubrication
- Misalignment  $\pm 1.5^\circ$  for each half of the coupling, up to  $\pm 3^\circ$  in special versions
- Different toothing versions: normalized, hardened, or hardened and ground
- Special requirements such as class approvals, API conformity or ATEX are possible

## RENK gear couplings have a long service life and high power density.

Customers who use our gear couplings can focus entirely on their business and success.

Solutions from RENK ensure absolute functionality and smooth operation – even in a demanding environment.

The basis for this is our unique experience in developing and operating gear couplings. This results in ultimate performance in every application while offering a long service life and excellent flexibility.

Gear couplings from RENK work across a multitude of applications.

Successful operators benefit from a variety of possible combinations. Variations include brake disks or spacers shafts, as well as switchgears for versions that can be disengaged during standstill as well as those with our HYGUARD safety coupling.

We also equip RENK's turbo series with our hardened and ground external and internal gearing. This creates extremely lightweight and high-performance couplings that work efficiently and reliably, especially in systems with demanding rotor dynamics.





/ 1939

Patent for the first  
gear coupling

/ &gt; 40,000 rpm

Speed range\*

/ &gt; 8,300 kNm

Nominal torque\*

### Turbo gear coupling

#### Type ZTKH

- For high and maximum speeds
- Hardened and ground internal and external tothing
- API 671 compliant
- Different sizes on request



#### Basic series (Type SB, SBK, LBK)

Uncompromising freedom to choose: The range of gear couplings from RENK has become the most comprehensive in the world since it was patented in 1939. This opens up countless possibilities for the design of the shaft connection, ensuring that the optimum solution can be found for even the most complex drive applications.



#### Turbo series (Type ZTKH, TF, TSBL)

The gear couplings of RENK's high-speed series are ideal and high-quality solutions for the transmission of high torques at maximum speeds.

\* Other speeds and torques on request

# Shifting gear coupling. Ensures availability where needed. For variability in operation.

## Advantages at a glance

- Engagement and disengagement of toothed parts, also in synchronous operation
- Connection or disconnection of drives on demand
- Fresh oil technology lubricates, cools and cleans the system
- Integrated control solution controls and optimizes the coupling
- Custom solutions for every need

## Shifting gear coupling. Engagement or disengagement. In any position.

Complete flexibility: The gear coupling from RENK has always been available in a connectable design.

The geared components can be engaged or disengaged at a standstill as well as during the synchronous operation of connected units. If necessary, operators can thus temporarily disconnect certain machines of a drive train and connect auxiliary or alternative drives, if required.

Tailor-made couplings from RENK are available in both horizontal and vertical designs. Shifting gear couplings are usually structured in a double cardanic design. This structure allows for the compensation of radial, axial and angular misalignments of machine shafts.

Consistency leads to success: The running and switching behavior of couplings always remains the same.

The system automatically compensates for any change in coupling alignment caused by a sagging foundation, for example. In the process, an injection lubrication system ensures the constant supply of fresh oil and thus cooling of the component. It also enables dirt particles to be filtered out when changing the oil.

The individual switchgear is either pneumatic or hydraulic while the control system of the clutch coupling is integrated into the entire system's existing control unit. It takes over and controls the optimal engagement and disengagement of the coupling – always as part of a customer-specific solution in accordance with the system's individual requirements.



## Shifting gear coupling Type HAW

- Engagement and disengagement at a standstill
- Manual or hydraulic switchgear



/ 600 rpm

Speed range\*

/ Engagement

from any position  
due to pre-selection teeth

/ 2,000,000 Nm

Torque\*

**Vertical shifting gear coupling****Type VHBA**

- Easy engagement from any position due to pre-selection teeth
- Maintenance-free due to continuous lubrication of the toothing

**Horizontal shifting gear coupling****Type HBA**

- Engagement and disengagement at synchronous speeds
- Hydraulic switchgear
- Maintenance-free due to continuous lubrication

\* Other speeds and torques on request

# RENK gear joint and RENK gear spindle.

## Advantages at a glance

- High transmission of torque
- Compact external dimensions
- Large angular misalignment
- Misalignment values  $\pm 3^\circ$  valid only for gear spindle
- Lubrication with choice of grease or oil for the gear spindle

## RENK gear joint and gear spindle. Completely interlocking. For complete control under extreme forces.

RENK gear joints connect the drive unit and lifting device. Nevertheless, the joint connection remains flexible on all sides.

As a connecting element between the drive unit and lifting device, RENK gear joints perform an important dual function for efficient and successful systems.

In addition to transmitting torque, the joint supports the forces acting radial on the drum. A significant advantage compared to a rigid coupling: The joint connection is torsionally rigid, but flexible to all sides.

The unique RENK gear spindle is completely interlocking and contributes to an extremely high performance capability.

RENK gear spindles are an enhancement of the globally well recognized gear couplings. This shaft connection, which is torsionally rigid yet flexible in all directions, does not contain any flexible transmission elements and is therefore the ideal form lock fixing. The purely mechanical flexibility of the RENK gear spindle can be attributed to the special shape of the curved tooth.

Axial, angular and radial shaft misalignments are compensated by a flexibility in all directions. The tooth flanks remain capable of bearing the full load, resulting in the exceptionally high level of performance. Operators also benefit from the high level of availability and simple exchange of the elements.





## / Maneuverability / Compact design / Reliability

**Mechanical flexibility thanks to the unique shape of the gear coupling**

**High capacity for optimal use of space**

**Proven and sophisticated technology for decades**

### **RENK gear joint**

#### **Type FS**

RENK gear joints serve as connecting elements between the drive unit and lifting device. The RENK gear joint is torsionally rigid, yet flexible to all directions, which offers significant advantages in comparison with a rigid coupling. RENK gear joints are primarily used in applications of hoisting and conveyor technology in crane hoists and hoisting drum drive systems.



### **RENK gear spindle**

#### **Type GS**

RENK Gear spindles are primarily used where large torques need to be transmitted uniformly without cardan effects in conjunction with small external diameters. At the same time, a high capability to compensate for misalignments is required. This is especially the case for hot and cold rolling mills, continuous casting systems and straightening presses.



# HYGUARD safety couplings.



Safety couplings are used predominantly in the railway- and steel industries and in test benches. They protect not only the drive train of machinery from overload but also capital goods from being damaged by unexpected overstraining. RENK safety couplings offer a constant, individually adjustable release torque – throughout the entire operation.



**/ Performance**

High torque within  
limited cross section

**/ Flexibility**

Individual protection through  
adjustable pressure values

**/ Availability**

Low downtimes due to  
quick recommissioning



# HYGUARD safety couplings. Perfect system protection and quick recommissioning.

## Advantages at a glance

- Can be combined with all types of couplings
- Constant trigger torque throughout the entire period of operation
- No operation interruption due to material fatigue, therefore low downtime costs
- Quick availability
- No cost-intensive stocking of spare parts

## Reliable connection with individual limitation of torques.

The HYGUARD safety coupling extends the service life of machines and protects drivetrains and its systems from damage.

Specially equipped for continuous use with high torque applications and for the torsionally rigid connection of shafts. The torque is transmitted exclusively by frictional engagement. The individually adjustable torque limitation protects against overload, thereby increasing productivity in operation.

The tripping torque is generated by oil-hydraulic pressure and remains constant throughout the operating period.

If the torque exceeds the individually adjusted value, the HYGUARD safety coupling triggers instantly and the oil pressure drops. Recommissioning requires little time. The system simply needs to be re-pressurized.





/ &gt; 1,600 mm

External diameter\*

/ &gt; 7,500 rpm

Speed range\*

/ &gt; 10,000,000 Nm

Nominal torque\*

**HYGUARD safety coupling****Type HEW**

- Transmission of high torques in a small space
- Torsionally rigid / articulated shaft connections in conjunction with gear couplings
- Overload protection with adjustable torque limitation, trigger accuracy of  $\pm 7\text{-}10\%$
- < 20 msec for a torque trigger

**TORLOC clamping element**

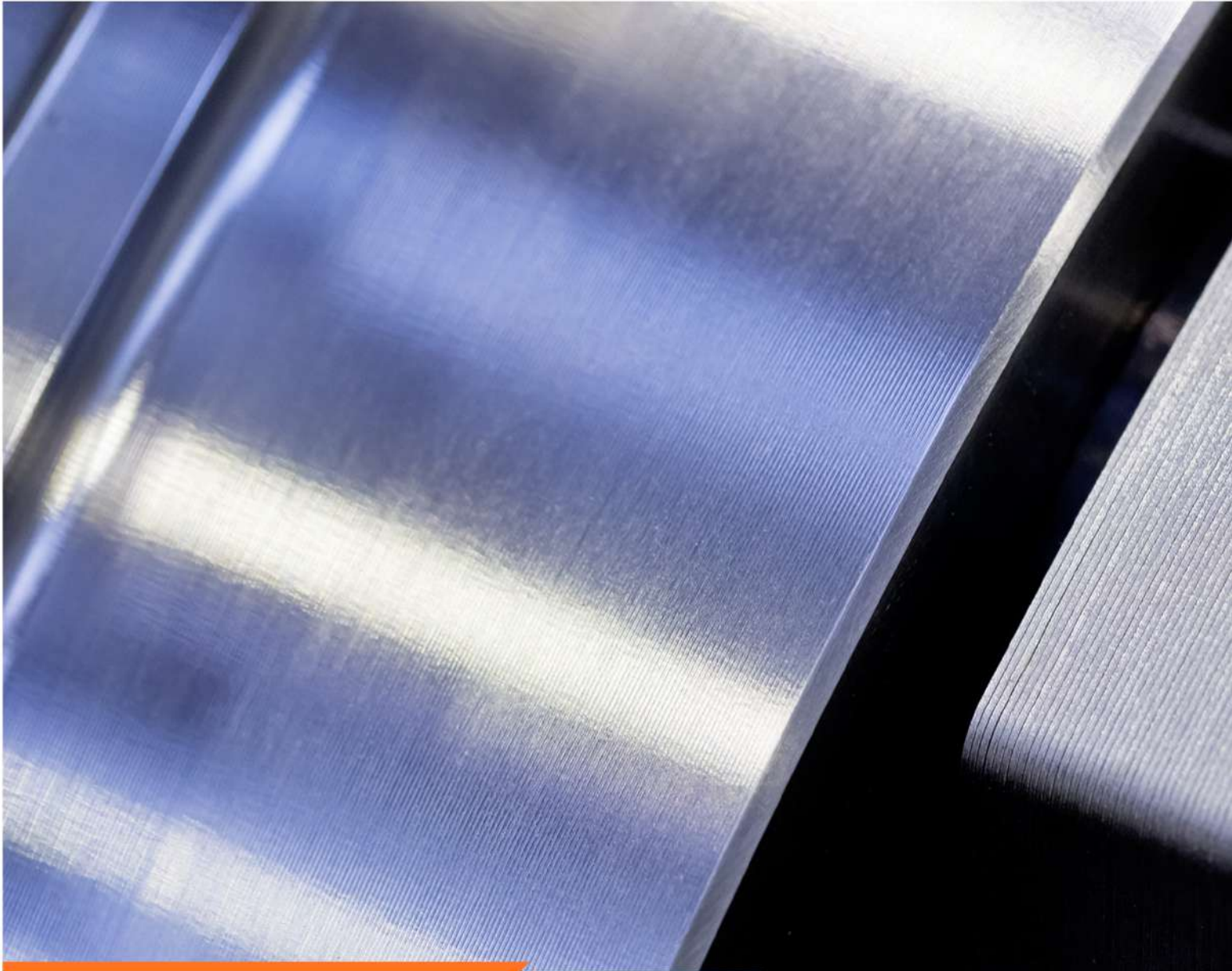
The TORLOC clamping element is ideal wherever quick and safe clamping of machine parts is needed. For example, it is used on test benches as a quick-release coupling, while in tool- and production machines it is used as a clamping coupling with fine-adjustment options.

**HYGUARD safety coupling series****(Type BW, BWL, HDW)**

Variable adjustments to the different design types are possible according to customer requirements.

\* Other speeds and torques on request

# Maintenance-free couplings.



**Our maintenance-free couplings are another key factor for success. The RAFLEX portfolio offers the ideal solution with our products from basic to turbo series. RENK diaphragm couplings are optimized to the customer and system requirements and can also be designed as dual-diaphragm couplings.**



## / Maintenance

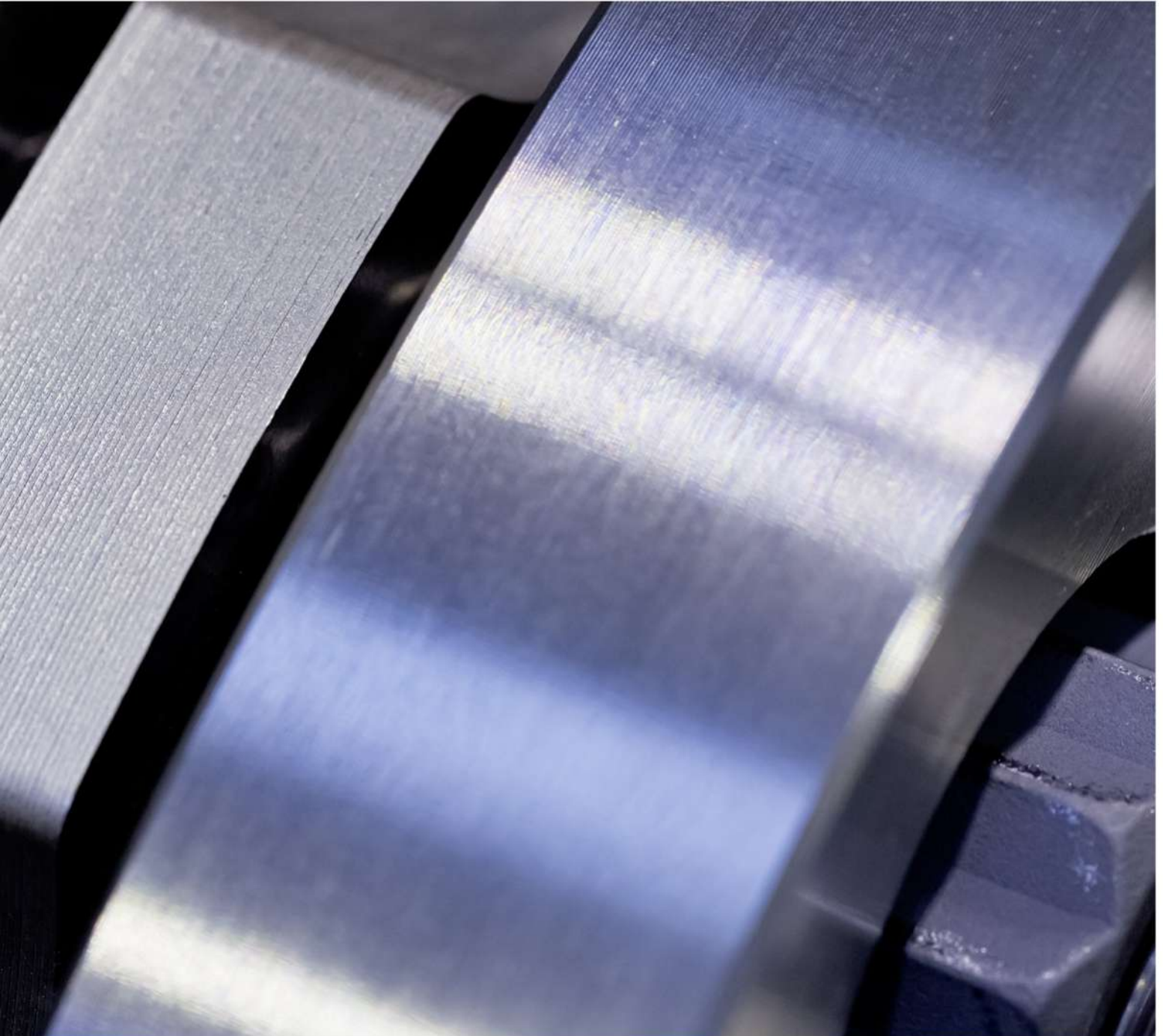
Wear-free, low-maintenance materials ensure optimal system operation

## / Performance

High power density combined with a long service life

## / Variability

Usable to numerous applications



# RAFLEX flexible disk couplings. Reliable. In any application.

## Advantages at a glance

- Maintenance and wear-free
- Torsionally rigid and compensating for offset
- High power density
- 3 – 4 – 5 standard bolt designs
- API 610 and 671 compliant

## RAFLEX flexible disk couplings. Success through quality. For the system's whole life.

A long service life, even in the most demanding environmental conditions – and complete control over restoring forces in operation.

The alternating bolted disk packs are made of stainless spring steel. Due to the layered structure of the specially shaped disks, these couplings compensate for axial, radial, and angular misalignments between the drive and working machines without generating high restoring forces. High-quality materials ensure a long service life even under the toughest of environmental conditions.

The couplings fulfill the requirements of API 610 or 671, depending on the product family. Use in potentially explosive atmospheres is also possible according to ATEX.

RAFLEX products are always the ideal custom solution – for industrial use as well as for high-speed applications.

Our RAFLEX portfolio is divided into two series – basic and turbo. The couplings in the DS series are especially suitable for industrial use in pumps, fans, presses, crane systems, generators as well as for marine applications.

The turbo series is specifically intended for high-speed applications such as turbines, compressors or generators.





/ -20 °C to  
+200 °C

Temperature range\*

/ > 36,000 rpm

Speed range\*

/ > 350,000 Nm

Nominal torque\*

### RAFLEX flexible disk coupling

#### Type DTL

- API 671 compliant
- High power density



#### Basic series (Type DSH, DSL, DSP)

The RAFLEX flexible disk couplings of the DS series are especially suitable for challenging industrial use in the low-speed range.



#### Turbo series (Type DTL, DTR)

The RAFLEX flexible disk couplings of the DT/MT series are noted for their high power density at maximum speeds.

\* Other speeds and torques on request

# EQ-Flex®.

## Intelligent torque transmission for maximum system protection.

### Experience and quality.

- RENK has decades of experience with the coupling series RAFLEX as well as with safety couplings and torque limiting couplings, which are also used in numerous other industries and applications.

**Our innovative slip system (patent pending) ensures a variable and stable slip torque during the entire operation – without disassembling the coupling in the drive train or recalibrating in the test bench.**

### EQ-Flex®: For reliable torque transmission between gearbox and generator.

EQ-Flex® provides the reliable transmission of torque and ensures torque limitation in the event of an overload. Sturdy materials ensure long service life in the most challenging environmental conditions.

The RAFLEX portfolio offers the ideal solution for almost any application area due to our products from the standard and high speed series. A torque limiter and an electrical insulation to protect other system components from electrical current passage were developed for use in wind turbines in particular. Operators benefit from maintenance-free and wear resistance as well as from a technical functional design appropriate to the system. The use of high-quality, certifiable materials ensures the sustainability of the system as well as the easy assembly, compact and simple design.

### High-quality couplings for the most demanding application areas.

EQ-Flex® flexible disk coupling consist of optimized maintenance-free and wear-free components. They are designed for a complete system life time, even in the most demanding environmental conditions. Due to the layered structure of the specially shaped disks, these couplings compensate axial, radial, and angular misalignments between the drive and driven machines without generating high restoring forces.

An innovative torque limiter gives the coupling decisive advantages for enhancing the system availability and optimizing the maintenance costs. An adjustment of the slip torque is for the first time possible within a few minutes without disassembling the coupling. Especially for the coaxial platform configuration, the use of RENK torque limiter simplifies the coupling adjustment and avoids the complex disassembly of the pitch wire.



## / Flexibility

Unique slip element adjustable with a high accuracy

### EQ-Flex® flexible disk couplings:

with innovative torque limiter for a constant slip torque

- Slip accuracy already from  $\pm 5\%$
- The slip torque can be adjusted individually according to the requirements of the wind turbine when installed in the system

## / Quality

Wear-free and low-maintenance materials ensure continuous operation

### Customized brake disk design

- Toothed brake discs
- Dual brake discs
- Vast range of connection types

## / 1,500–15,000 kW

Nominal power



### Customized turbine flange

- Cylindrical seat with shrink disc
- Conical seat
- Connection to flange plate

### Variable Glass-Fiber Reinforced Plastic (GFRP) intermediate piece

- Standard GRP intermediate piece
- GRP/steel combination
- Custom adapted solutions with respect to stiffness

# Diaphragm couplings. Loss free transmission, even in the event of extreme forces.

## Advantages at a glance.

- Maintenance-free operation
- Compensation of axial and angular misalignments
- High temperature-resistance
- Low restoring and bending moments
- Lightweight
- Very high balance quality
- High concentricity and axial run-out accuracy

## Superior control and long service life. Even at extremely high torques.

A unique diaphragm secures misalignments, even under load. A long service life and freedom from maintenance ensure a high level of availability.

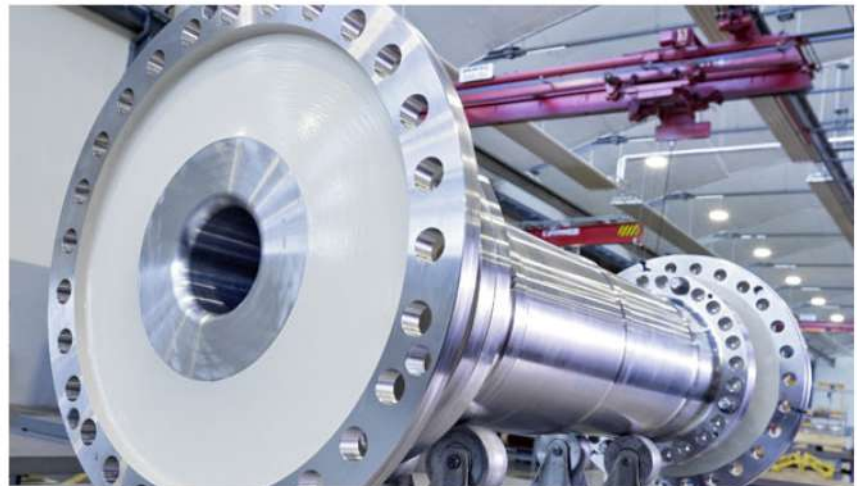
A profiled single-disk diaphragm transmits the highest torques at the highest speeds safely, reliably and always without any problems – even in performance ranges of up to 150 MW – making it suitable for our turbo series. The individually shaped diaphragm for every application gives the coupling its flexibility to compensate for axial, radial, and angular misalignments, even under load, without generating high restoring forces in the process.

The basic design consists of just a few structural elements. This makes assembly and handling much easier for the operator.

Diaphragm couplings from RENK impress for every custom made solution with the highest production quality.

The production process of our diaphragm couplings forms the basis for their outstanding availability. Every single component is characterized by absolute concentricity and axial run-out accuracy. Balancing quality is constantly at the highest level. A final overall balancing enables low-vibration operation of the system.

Every diaphragm coupling is designed for the specified application using FEM calculation method. This results in customer-specific solutions for the maximum success of each system.



/ ≤ 150 MW

Power\*

/ &gt; 35,000 rpm

Speed range\*

/ &gt; 350,000 Nm

Nominal torque\*

**Diaphragm coupling****Type MCM**

- API 610 and 671 compliant
- 0.1 – 0.33° misalignment
- Temperature range  
– 60 °C to +200 °C
- up to 200 m/s  
circumferential speed

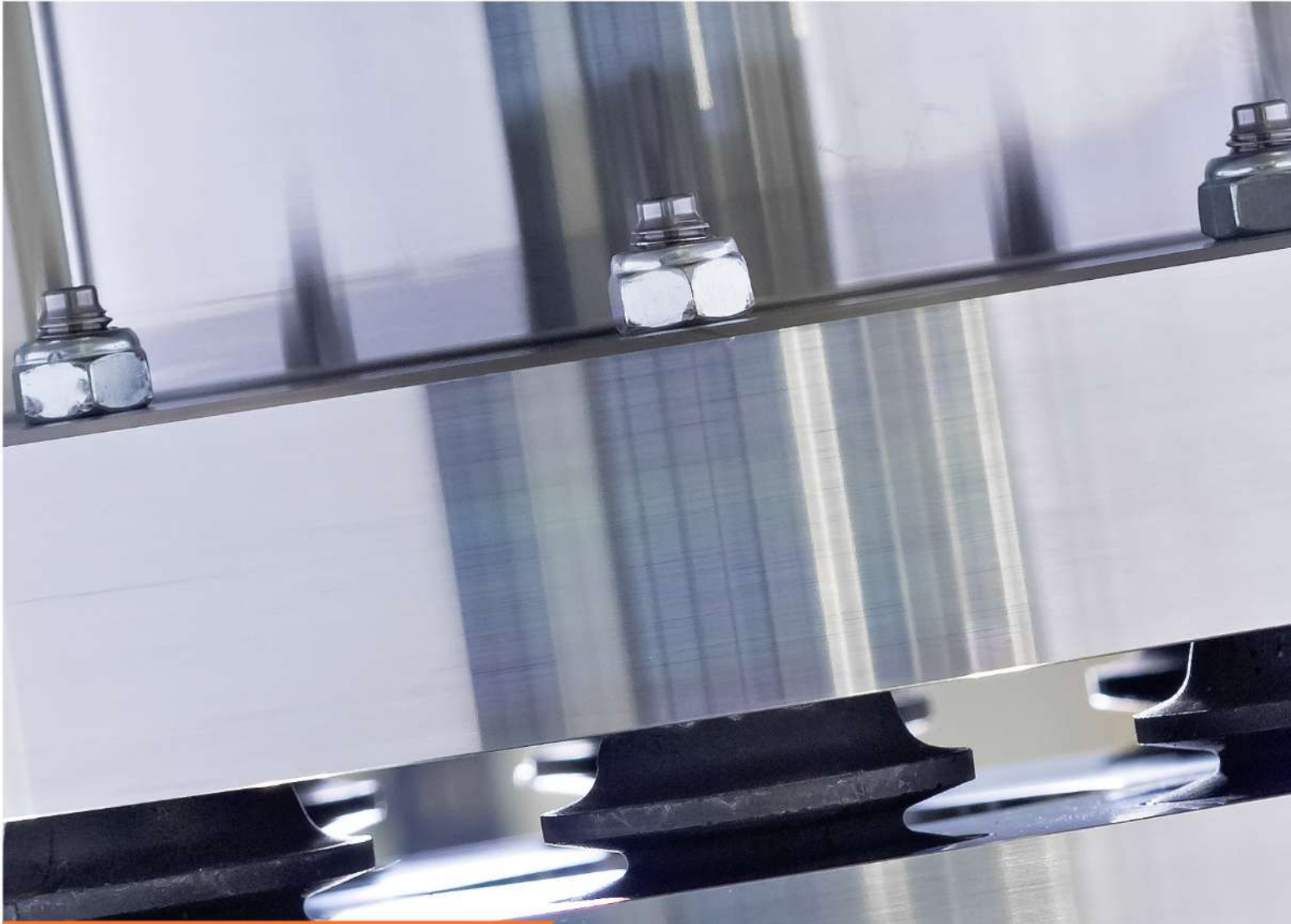


Customization is the standard with the MC series.  
Customized diaphragm shape and quantity according  
to technical requirements.

\* Other speeds and torques on request



# Flexible couplings.



Due to the adaptability and high-quality design, RENK ELCO couplings have proven in tens of thousands of drives used in conventional energy production, in mining and hydropower, as well as in the oil, gas, and the petrochemical industry. Torsionally flexible couplings have the task of effectively damping operational shocks and vibrations in drive systems. They also absorb longitudinal displacements and permit limited radial and angular displacements of the shafts to be connected.

**/ Versatility**

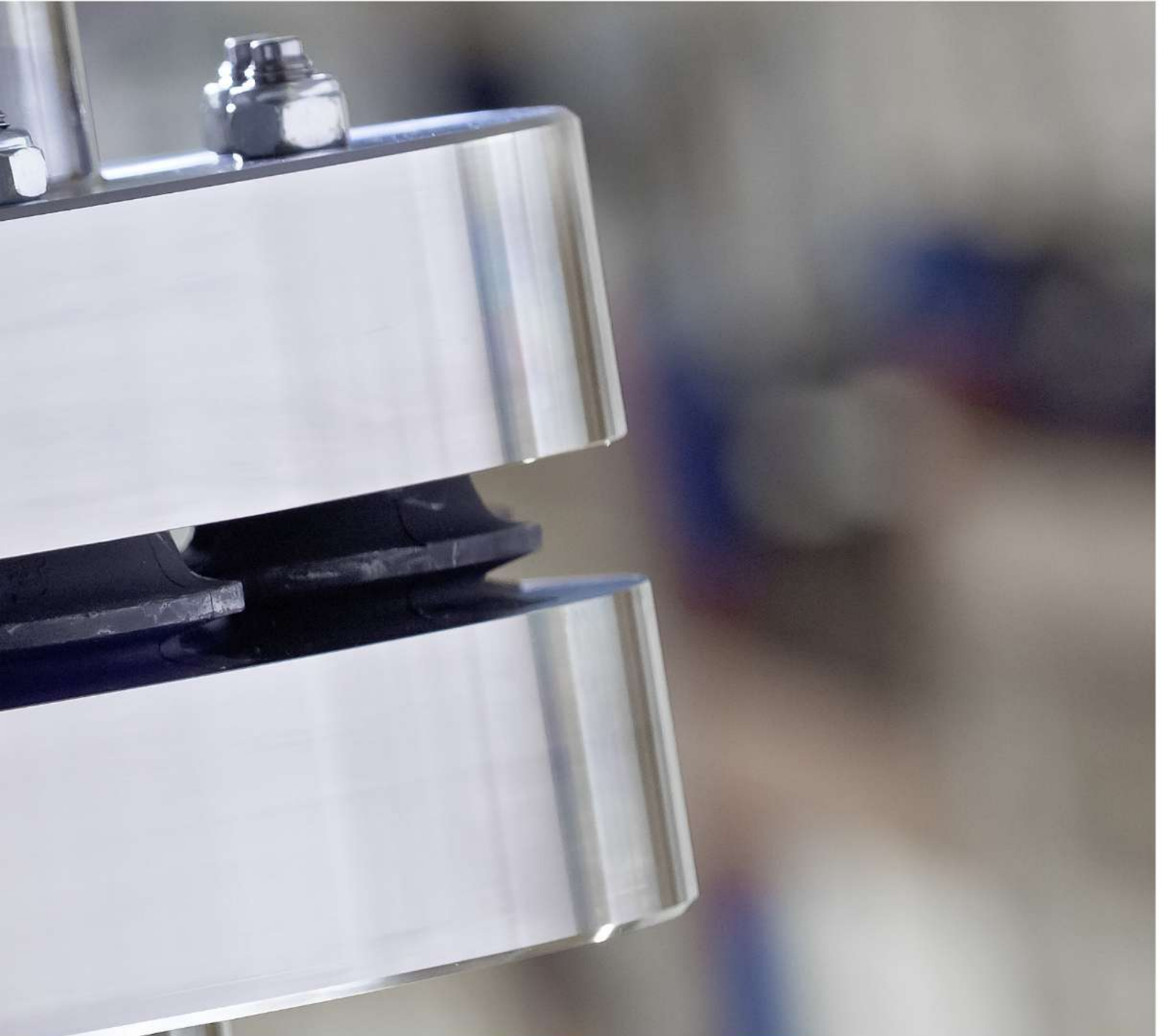
Flexible in use  
for many industries

**/ Quality**

Durable and reliable  
operation

**/ Safety**

Effective damping  
of impacts and vibrations



# Flexible coupling, type ELCO. Safety and protection. For every system.

## Advantages at a glance.

- Particularly good torsion spring and damping properties
- Reduction of torque and speed shocks
- Reduction of torsional vibrations
- Failsafe and consistent transmission of torque
- Compensation of radial and angular misalignments
- Compensation of longitudinal displacements
- Easy axial removal of the profile sleeves and bolts

## ELCO couplings dampen impacts and vibrations. Effectively, reliably and in all types of systems.

The installation of a correctly designed ELCO coupling reduces torque and speed shocks and protects systems from damage and consequential costs.

The special spring and damping properties of the profiled coupling sleeves effectively limit torsional vibrations. The special design of the ELCO coupling ensures the failsafe and consistent transmission of torque. It permits limited radial and angular misalignments of the shafts being connected and absorbs longitudinal displacements.

The versatility of the ELCO coupling makes it a popular component in many industries.

The coupling flanges of the adaptable ELCO coupling consist of steel or a special material. The standard design has one-sided or alternately arranged transmission elements, but special designs are also possible. The sleeve material is usually made from a modified natural rubber, alternatively from chloroprene polymer or nitrile rubber.





/ Compensation

of angular and radial  
misalignments

/ 10 – 500 mm

Shaft diameter

/ 18 – 540,000 Nm

Nominal torque

### Flexible coupling type ELCO

- Design: Standard design with one-sided or alternately arranged transmission elements, special designs
- Sleeve material: Modified natural rubber, chloroprene polymer or nitrile rubber

*Very low restoring forces due  
to the profiled coupling sleeve*



*Adaptable design  
of the coupling flanges*

*Easy axial removal of the profile  
sleeves and bolts without unit offset*

# Overrunning clutches.



**Custom and successful: High-quality overrunning clutches from RENK are the ideal solution for demanding applications. In addition to functioning as an overrunning clutch, the integrated flexible gear coupling ensures that the two connected machines are balanced. The integrated flexible gear coupling means that the number of bearings and hence the system length can also be reduced. They ensure constantly effective operation when standard methods reach their limits.**

## / Functionality

Purely mechanical automatic  
engaging and disengaging

## / Individuality

Solutions for challenging  
applications

## / Durability

Wear-free couplings due to  
hydrodynamic lubrication





# Engage. Disengage. Automatic. Synchronous clutch couplings.

## Advantages at a glance.

- On-site maintenance for higher availability
- Automatic engagement at synchronous speeds
- Disengaging at any speed
- Transmission of the full positive and negative torque if required
- Compensation of angular errors as well as radial and axial movements
- No additional flexible couplings necessary
- Automatic lock-in and/or lock-out mechanism optional

## Synchronous clutch couplings transmit the full torque without disengaging.

The synchronous clutch coupling of type MS from RENK-MAAG can compensate large axial displacements, radial misalignments or angular errors.

Synchronously rotating system parts separate automatically if the speeds are not in sync. Due to hydrodynamic lubrication of all components the coupling is wear-free.

Additional features permit the individual use of this overrunning clutch in a wide range of applications and industries.

The synchronous clutch coupling of type HS automatically engages at low speeds.

The coupling can be disengaged at any speed by reducing the output to <10% and sending the corresponding signal to the hydraulic unit. When engaged, the HS synchronous clutch coupling functions like a classic gear coupling.

Due to the straight toothing, the full positive and negative torque can be transmitted without disengaging.

**/ Economy**

Shorter, more efficient system layouts possible

**/ Maintenance**

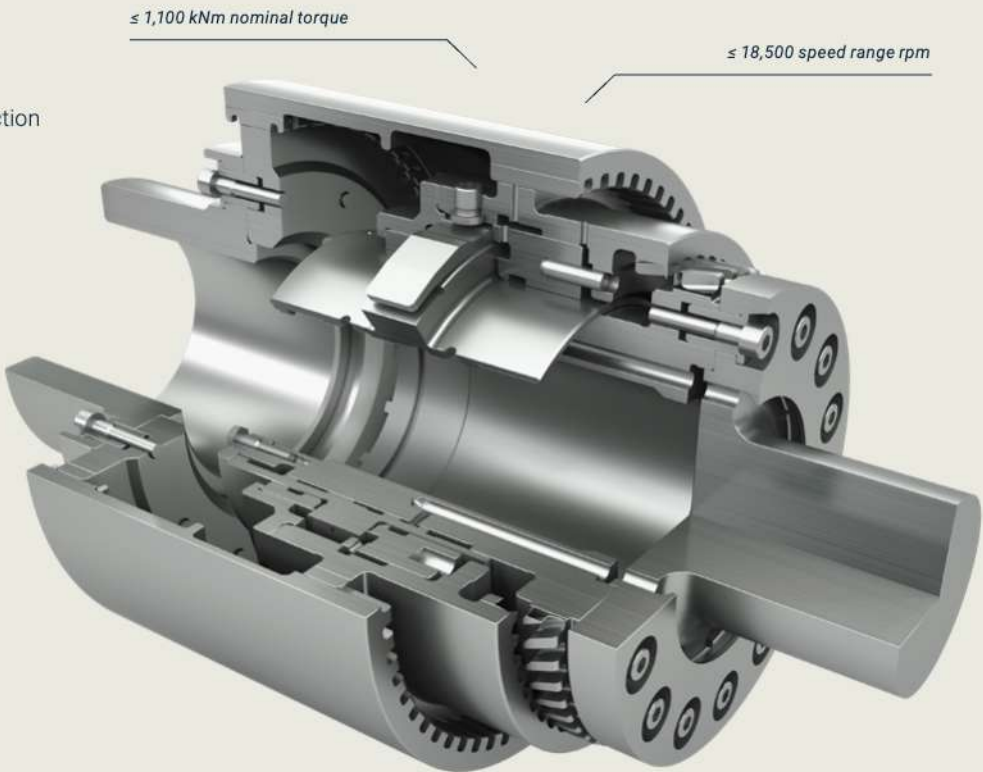
On-site for higher plant availability

**/ ≤ 400 MW**

Power range

**Synchronous clutch coupling  
Type MS**

The MS synchronous clutch coupling provides a form-fit connection between synchronously rotating system parts and separates automatically at non-synchronous speeds.



**Synchronous clutch coupling  
Type HS**

Due to their straight tothing, synchronous clutch couplings of the HS type enable the transmission of the full torque in both direction without disengaging (disengaging on demand).

# RENK Services.



**RENK offers impressive products and solutions – throughout the entire life-cycle. RENK is a driver of innovation and a strong partner in many industries. Always. And everywhere. As a one-solution provider, RENK offers holistic solutions and blends customer proximity with state-of-the-art technology. RENK is shaping the future – with excellent process intelligence, project expertise, and the highest quality standards for methods and materials.**



**/ Maintenance**

**Worldwide service  
for maximum availability**

**/ Development**

**Custom solutions  
for demanding challenges**

**/ Commitment**

**Dedicated employees advise  
with expertise and Know-How**



# RENK life-cycle. Successful solutions for all systems.

**RENK is a driver of innovation and a strong partner.**

**The unique RENK life-cycle makes us the ideal one-solution provider for holistic and reliable solutions from a single source.**

## **Consultation, production, control: Custom solutions from the start.**

Expertise and experience – always applied appropriately and with commitment: The perfect basis for reliable and profitable systems.

The RENK life-cycle ensures success and efficiency – for every system. Operators benefit from our unique expertise. Experts accompany every project step-by-step. They advise, plan, produce and optimize with modern testing systems. This results in superior system solutions. Application-specific. Innovative. Future-proof.

## **Commissioning, condition monitoring, maintenance – ensuring economic efficiency.**

Intelligent maintenance strategies create space for savings and increased efficiency.

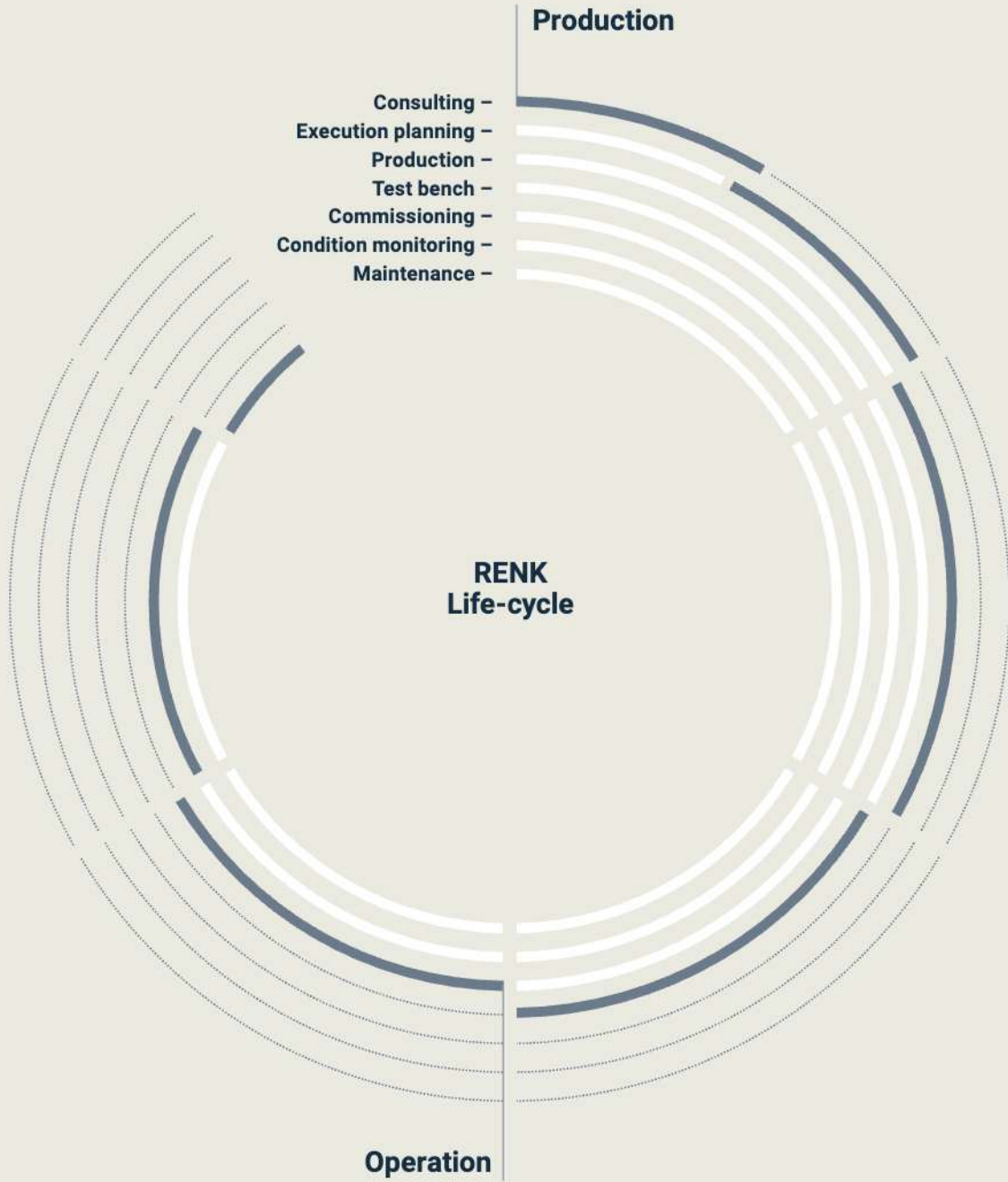
Highest production resources availability. Always and in every environment. The RENK life-cycle creates the ideal prerequisites for this before the first work cycle even begins. It forms the solid basis for individual systems that analyze and continuously optimize ongoing operations in real-time.

The longer service life of the components and the longer maintenance intervals ensure maximum utilization of system performance.

**In this way, RENK is shaping the future of superior systems – with excellent process intelligence, unique project expertise and high quality standards for methods and materials.**









# Maintenance for excellent efficiency. Always and everywhere.

**RENK takes global responsibility for efficient and sustainable systems. We do everything to ensure the availability of components and the competitiveness of the system.**

**More than maintenance:  
On-site service, upgrades and  
genuine parts.**

Maintenance from RENK means service without compromise – anywhere, anytime. RENK takes care of planning and executing all the tasks involved in new assemblies, commissioning, inspection, and maintenance work. Our qualified assembly and commissioning personnel also carry out standard upgrades and overhauls. In this way, RENK guarantees the operational reliability of all systems.

Optimal planning, the availability of qualified personnel, and the necessary parts and tools ensures that all work runs smoothly. You can depend on the work being performed professionally and on time, and know that you'll receive a transparent breakdown of the costs. Thanks to our expertise, we offer quick service to guarantee the maximum availability of your systems.

**All-round services.  
For maximum system  
availability**

**On-site service:** Many repairs can be carried out directly on the system. Our competent service fitters have the necessary certificates to be able to work on site.

**Examination and repair:** If it is not possible to repair the system directly, we will analyze and optimize it at our plant. It will then be just like new.

**Upgrades:** Upgrades can increase the efficiency and thus the value of existing systems – and can often be carried out on site by our specialized personnel. This saves money and optimizes operation.

**Genuine parts:** RENK parts are unmatched in terms of their performance, functionality and quality. Genuine parts ensure decisive advantages in efficiency and success.



#### **RENK Maintenance and Services**

Maintenance around the world. RENK works precisely and successfully. Our experts stand for expertise and reliability at every location.

- On-site service
- Examination and repair
- Upgrades
- Genuine parts



## Trusted Partner.

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