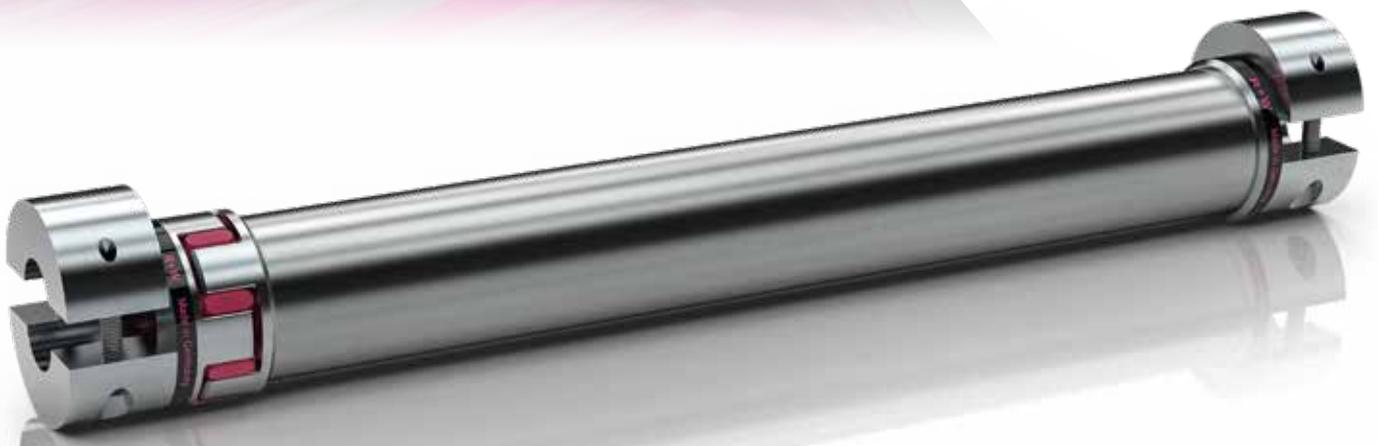


DRIVE

THE JOURNAL FOR COUPLING TECHNOLOGY

HOT TOPIC:
Line shafts





Well on course

Dear readers,

In many respects, the past year and a half have been an exceptional period, which we have negotiated successfully in spite of all the challenges. Our order entry is robust, and we are looking forward to the coming months with optimism.

We are very grateful for this and wish to thank you, our customers and partners, for the sustained trust you place in us. This strong performance would also not have been possible without our employees, who have shown extraordinary commitment and achieved a great deal. A big thanks to you as well. Our strength has been and continues to be that we embraced digital systems and implemented virtual structures in our company at an early stage, facilitating a smooth digital transformation.

R+W has also grown on the human resources front, and we are delighted to be welcoming new colleagues aboard, some of whom will be introduced to you in this issue. We do not just want to look back, but to look forward with confidence. The expansion of our international business activities, especially in China and the USA, is well on course, and the continued implementation of a lean management culture in our operations is making good progress. We therefore see ourselves well positioned to meet future challenges.

We wish you an enjoyable read.

Maximilian Crößmann, Frank Kronmüller and Holger Vogt

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A better connection for individual requirements: line shafts, accessories and advice from a single source

Reliably transmitting torque and compensating for misalignment while spanning longer distances between drive components is what R+W line shafts do. Building on that specific area of expertise, R+W has added a new line shaft design with single rigid hub to its portfolio. The new EZ2S comes with accessories like intermediate support bearings and rigid shaft segments, building on the ways in which R+W can offer a complete line shafting package along with the expert specialist advice to make selection and purchasing significantly easier for customers.

Modern line shafts are designed to span distances between shaft ends of up to six meters without the need for intermediate supports. They have a broad range of applications including machine tools, packaging machinery, printing presses, conveyor and crane systems, and coating and finishing lines, to name a few. They are backlash free and come in both torsionally rigid and vibration damping versions, both of which can compensate for axial, angular and lateral misalignment.

Precision positioning or vibration damping

Line shaft selection begins with a choice between two flexible coupling systems, depending on the performance requirements. Where a high degree of positioning accuracy is required, as in many automation and machine tool

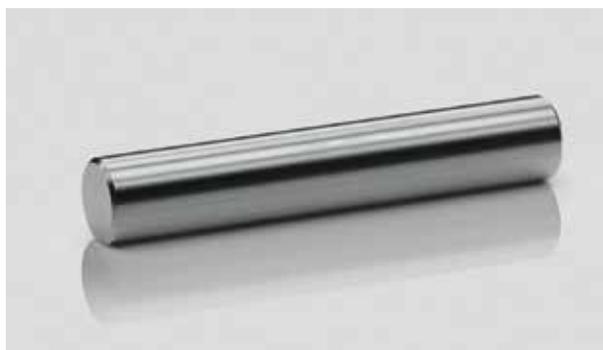
applications, the use of flexible metal bellows couplings guarantees accurate transmission of torque and position for precise synchronization. Line shafts with elastomer inserts as the flexible elements are a little less torsionally stiff and help to absorb vibration and shock, while also providing electrical isolation.

EZ series elastomer line shafts

Line shafts from the EZ series elastomer range feature fully split clamping hubs for easy lateral installation and removal. These types can span distances of up to four meters between shaft ends in their standard designs. Extremely straight and laterally rigid aluminum tubes, which are also available in steel or CFRP, ensure a robust connection between the two rotating coupling bodies.



Intermediate bearing



Intermediate shaft without key



Intermediate shaft with one key

New: EZ2S line shaft with single rigid hub

Many applications do not require intermediate shafts and supports between line shafts, but in some cases, like in screw jack systems for stage construction, the length and speed requirements can become exceedingly high. In these cases it is recommended that the line shafting system be split into segments with intermediate support bearings to prevent resonant frequency vibration from causing damage. R+W's newest product offering, the vibration damping EZ2S with single rigid hub was developed precisely for these situations. Its design continues to facilitate quick and easy installation and removal, and is available in torque capacities ranging from 12.5 to 1,350 Nm.



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Line shafts and accessories from a single source

An important improvement for R+W customers is the expanded range of line shaft accessories. The product portfolio now features accessories like intermediate bearings (ZL) and intermediate shafts (ZW) to go along with the new line shafts. The intermediate bearings are available in various sizes, and the matching intermediate shafts are available in three configurations: without keys, with one key, or with two keys.

Product portfolio features CFRP intermediate tubing as a standard

Zero backlash, torsionally rigid line shafts from the ZAL series are suitable for applications involving high rotational speed and positioning accuracy. The bellows, made from highly elastic stainless steel, and the high performance intermediate tube, made from carbon fiber reinforced plastic (CFRP), ensure smooth stable running and light weight. The material used for the tubing is also more commonly known as carbon fiber, and is a great deal lighter than steel. R+W's product portfolio also features CFRP intermediate tubing as a standard design.

Quick and easy procurement

By expanding its product portfolio with matching accessories, R+W is making the procurement of complete line shaft kits considerably easier for customers. This helps avoid unnecessary and time consuming component selection and purchasing. In addition to one stop shopping, R+W also provides expert technical advice for optimum machine design. "We regard making procurement of the right components to meet our customers' specific requirements as easy as possible a matter of importance", Joerg Stang, Head of Sales at R+W, explains. ■



Intermediate shaft with two keys

Creating value with smart coupling technology: real time performance data from directly within the drive line

Avoid unplanned downtime by using smart sensor technology in drive lines: machine failures and expensive repairs can be prevented with minimal effort and low cost by using R+W's smart electronic measurement system – available for new equipment or retrofit into existing machinery systems.

R+W's integrated electronic measurement system enables inline monitoring of machine conditions without the need for external wiring. It can be installed into any drive component and transmits and records measurement data including torque, speed, temperature, acceleration, vibration and tensile/compressive force at a sampling rate of 500 Hz – providing information about component wear and predicted life in near real time.

Rapid amortisation

The adaptable sensor technology can be integrated into disc pack couplings, line shafts, heavy duty safety couplings, and simple rigid flanges. In principle, the system can be used in just about any industrial drive application and in a wide range of industries. Low procurement costs and minimal integration effort ensure rapid amortization for the user.

Basis for predictive maintenance

This smart electronic measurement system lays the foundation for predictive maintenance and enhancing machine and plant operations. Standardized analysis tools enable automatic monitoring of defined threshold values. The user can also visualize the performance data with the intuitive R+W app.

R+W is also working on innovative concepts to provide energy to the battery powered sensors, such as an inductive power supply, and with miniaturized energy harvesters also in the R&D pipeline. ■



And the winner is ... Core Sensing

Core Sensing GmbH, R+W's partner on this project has won the Hermes Startup Award 2021 for developing its robust and reliable coreIN force and torque sensor. R+W is delighted for its partner, and congratulates Core Sensing on their achievement!



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Safety first! Experience delivers safety

Overload safety is a particularly important requirement in large plants and complex operations. If accidental overloads result in unplanned downtime, things get expensive quickly. This is where R+W safety couplings come in – if worst comes to worst, these wear resistant, robust mechanical connections ensure a safe, fast and reliable disconnect between driving and driven components. R+W can draw on its many years of experience and expertise when it comes to sizing and implementation.

Safety couplings have many different applications in the machinery sector. In case of overload they guarantee a reliable disconnect between driving and driven components to ensure that applied torque is accurately limited. Reliable and fast overload protection is essential, especially in large and heavy equipment such as rolling

mills, wind power plants, mining equipment, extrusion systems, shredders and tunnel boring machines, because damage to such large components can result in equally large repair expenses and downtime. When it comes to torque overload protection, mechanical safety is the be all and end all.

A matter of milliseconds

The safety coupling is a key factor in ensuring the smooth and uninterrupted operation of any plant or equipment. Time is of the essence here – every millisecond counts when a machinery line needs to be shut down because of a malfunction. In this respect, mechanical components have a distinct advantage over their electronic counterparts. Compared with electronic overload safety features, mechanical devices can prevent the overload force from being transmitted in considerably less time.

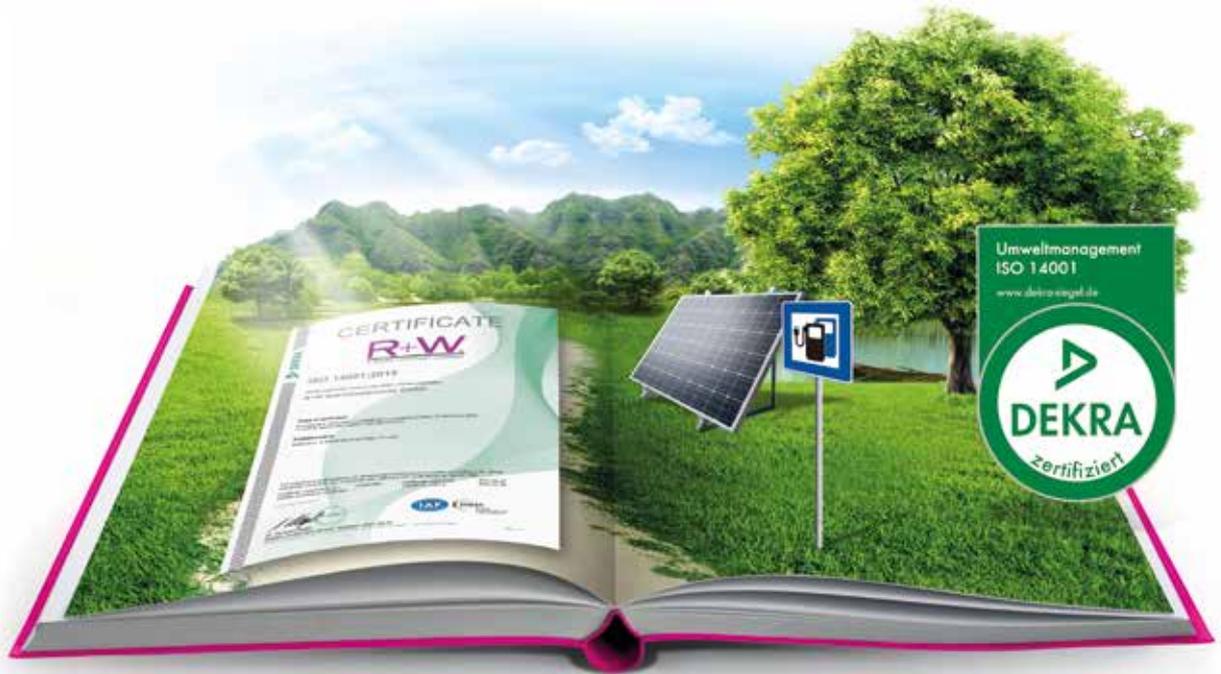
Broad portfolio and extensive experience

All of R+W's mechanical safety couplings operate on the spring loaded ball detent principle, and serve as an emergency breaker for machines. Standard versions of the ST series industrial safety couplings transmit torques ranging from 200 to 500,000 Nm in both direct and indirect drives. They can be factory set to the required disengagement torque and adapted mechanically to meet modified requirements. Various installation options also enable a safety coupling to be installed in a drive line precisely at the location where the probability of an overload is at its highest.



R+W's range of safety couplings appeals by offering a broad spectrum of versions and models. With decades of industry experience and profound technical know how at its disposal, R+W provides its customers with expert advice about design and selection for relevant applications. Customers from all industries are able to find the right product – that's a safe bet. ■





"R+W goes green" series

R+W is now ISO 14001-certified: A meaningful step for the sake of the environment

In April of 2021, R+W's corporate environmental policies were successfully certified in accordance with the international ISO 14001 standard. The company is taking environmental protection seriously and has started to incorporate new measures across all its divisions.

"Environmental protection is an integral part of our business activities", MD Holger Vogt emphasises. To meet its corporate environmental protection commitments, R+W has introduced a documented management system that complies with the ISO 14001 standard and is also currently working on having its occupational health and safety management system certified in line with the "Sicher mit System" (Systematic Safety) seal of quality, analogous to the ISO 45001 standard.

By acquiring this certification, R+W will use sustainable technology and methods in its business processes, in order to reduce environmental impact and to improve energy efficiency and industrial health and safety. This will not only impact new investments, but applies to all corporate divisions. Wherever possible, the company uses renewable energies for power generation and heat recovery purposes, while

also utilizing state-of-the-art, energy-efficient machinery in its production facilities. The vehicle fleet is gradually being converted to hybrid and e-vehicles. Charging stations have been built on site and can also be used for e-bikes. The green spaces surrounding the corporate facilities are watered using soaker hose systems. All energy consumption figures are reviewed regularly so further improvements can be made.

In regards to occupational health and safety, R+W is continuously enhancing its work processes with new hazard precautions and preventive healthcare. More employees have been trained in first-aid so that there is less time to wait for first-responders to assist in an emergency. Influenza vaccinations are also being specifically provided to the entire staff. "All this is helping the company to be successful, as well as ensuring customer, employee, and partner satisfaction," says Holger Vogt with conviction. ■

Virtual and yet personal

R+W has long embedded automated processes and virtual work environments into its corporate structure. This does not hinder personalized customer contact – on the contrary. The company is focusing on additional opportunities that digitalization offers and regards this transformation as a positive step for both sides.

Regardless if products, services, or communication are involved: R+W is putting digital transformation into practice. The company was already planning to take big steps before the pandemic, which has now accelerated the process of digitization in all industries. "The changeover did not take us by surprise. We were already familiar with the topic and were able to use and upgrade the structures that were already embedded within the company", Tobias Fischer, Head of Marketing, explains.

Back in 2019, R+W and Darmstadt based start-up Core Sensing GmbH co-developed a smart, retrofittable sensor as a remote interface inside drivetrains, thus laying the foundations for predictive maintenance. For roughly a year now,

customers have been able to learn all about R+W products virtually in the "Become an expert" webinar series. In addition to that, the new DRIVE:ON videos provide information on a variety of subjects involving precision couplings.

A digital channel for customer communication has been created as well. Appointments can be made with the online booking tool in order to speak to the right contact person either in form of a web meeting or on site. "Of course, virtual contact cannot entirely replace the real thing. But we have gained good experience of it and are noticing that digitalization delivering greater efficiency in many areas, without us losing our customer focus", states Tobias Fischer. ■



On course for growth

R+W has grown its headcount: over the past year the company has brought some new colleagues on board. Their experience and ideas are being incorporated into R+W's products, services, and expertise to enable these elements to be enhanced further for our customers' benefit. You can get to know the representative foursome below.



Tobias Fischer | Marketing

R+W gained 25 years' worth of marketing experience at the turn of the year when Tobias Fischer joined. In December 2020, he took up his position as **Head of Marketing** in the company. His responsibilities include enhancing and implementing R+W's marketing and communication strategies, focusing on digitization, marketing automation, and eProcurement.



Carolin Berbalk | Controlling

Carolin Berbalk joined R+W in October 2020 as a **Financial Analyst** in the Management Accounting team and is responsible for the calculation and reporting of key operational indicators and financial results. She is also closely involved in setting up the Data Warehouse.



Marcel Flicker | Product Management

The company's latest recruit, **Product Manager** Marcel Flicker, has been on board since May 2021. As the link between Sales, Marketing and Technology, he helps the domestic and international Sales teams to prepare and launch new products and product innovations.



Walter Hofmann | Quality Management

Walter Hofmann, **Head of Quality**, brings two trained eyes to his position. He has been responsible for incoming and outgoing goods inspections since 2020, and leads the team that verifies whether manufactured couplings correspond exactly to their design drawings.

65

Total of 65 years of active service for R+W

Long-serving employees are a real asset to a company in such fast-moving times. Between them, Christian Langhammer, Ilona Nagel, Alexander Engel and Frank Stadtmüller have worked for a total of 65 years in the company. R+W congratulates and cordially thanks them for their dedication and loyalty.

Christian Langhammer

Tapered Press-Fit

/25 Years

He specializes in the BK press-fit coupling products and is responsible for spray-coating the couplings before then passing them onto the bonding booth.

Ilona Nagel

Accounting

/20 Years

She keeps track of things in the Accounting department, focusing on receivables management.

Alexander Engel

Manufacturing

/10 Years

He is an expert in balancing couplings and operating the wire erosion machinery that is used to machine serrations as well as standard grooves and notches.

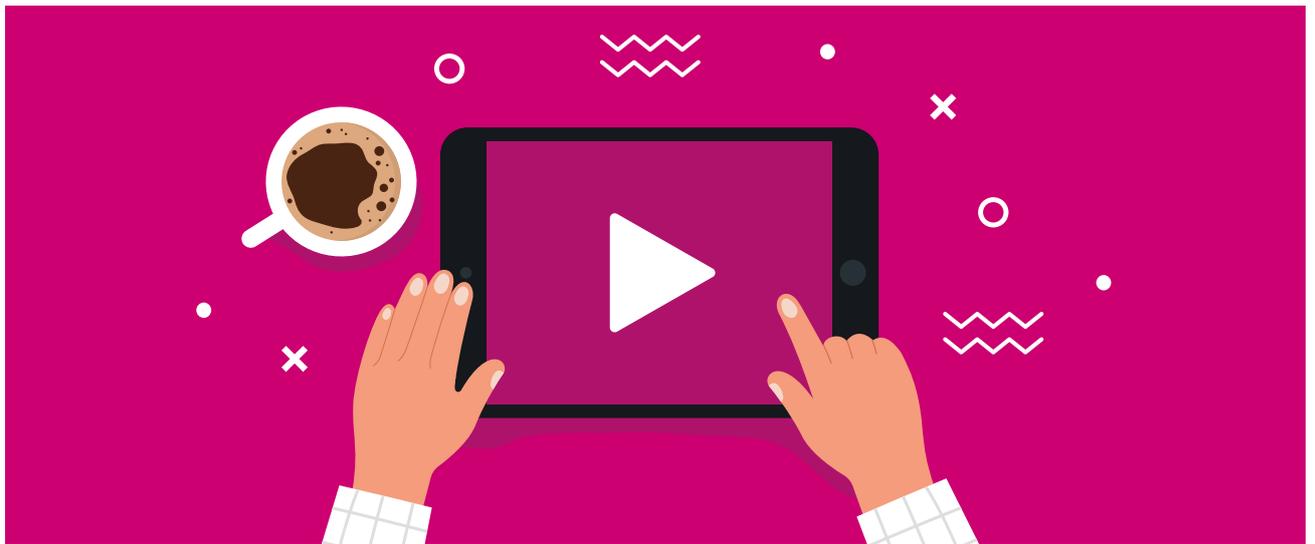
Frank Stadtmüller

Technical Account Consultant

/10 Years

He is always available to help customers – anything from quotations to product training and technical product advice.





DRIVE:ON

R+W starts a new video series:
More detailed insight into the world of precision couplings.



Industries

Where are couplings used?

High-precision metal bellows couplings are used in industries where positional accuracy is of utmost importance.



You can find more videos at

youtube.com/user/RWKupplungen

Drivetrains

The coupling as a drivetrain component

Why are couplings such important components? Requirements for highly dynamic machinery are complex. Couplings not only have to operate quickly, flexibly and accurately, but also have to be cost-effective and safe.



Shaft Couplings

Shaft couplings for mechanical and plant engineering applications

There are many shaft couplings on the market – torsionally rigid, torsionally flexible and/or vibration-damping. This video explains which coupling or combination of different couplings is the right one for your application.



R+W expands its global network

New agencies in Brazil, India and Sweden

Having new agreements with agencies in Brazil, India and Sweden, R+W is now covering more markets and has a local presence that customers can get in touch with. Customers in these regions now have a direct point of contact for any questions relating to R+W products and services. ■



R+W America reaches 20

In 2021, R+W's American subsidiary celebrates its anniversary.

R+W America was R+W Antriebselemente GmbH's first international subsidiary, and in the last two decades it has built up a highly effective sales network in the USA, Canada and Mexico. The US subsidiary now has its own design engineering department and provides unique products that have been adapted for the American market. R+W sends its congratulations and looks forward to many more years of successful partnership. ■

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