

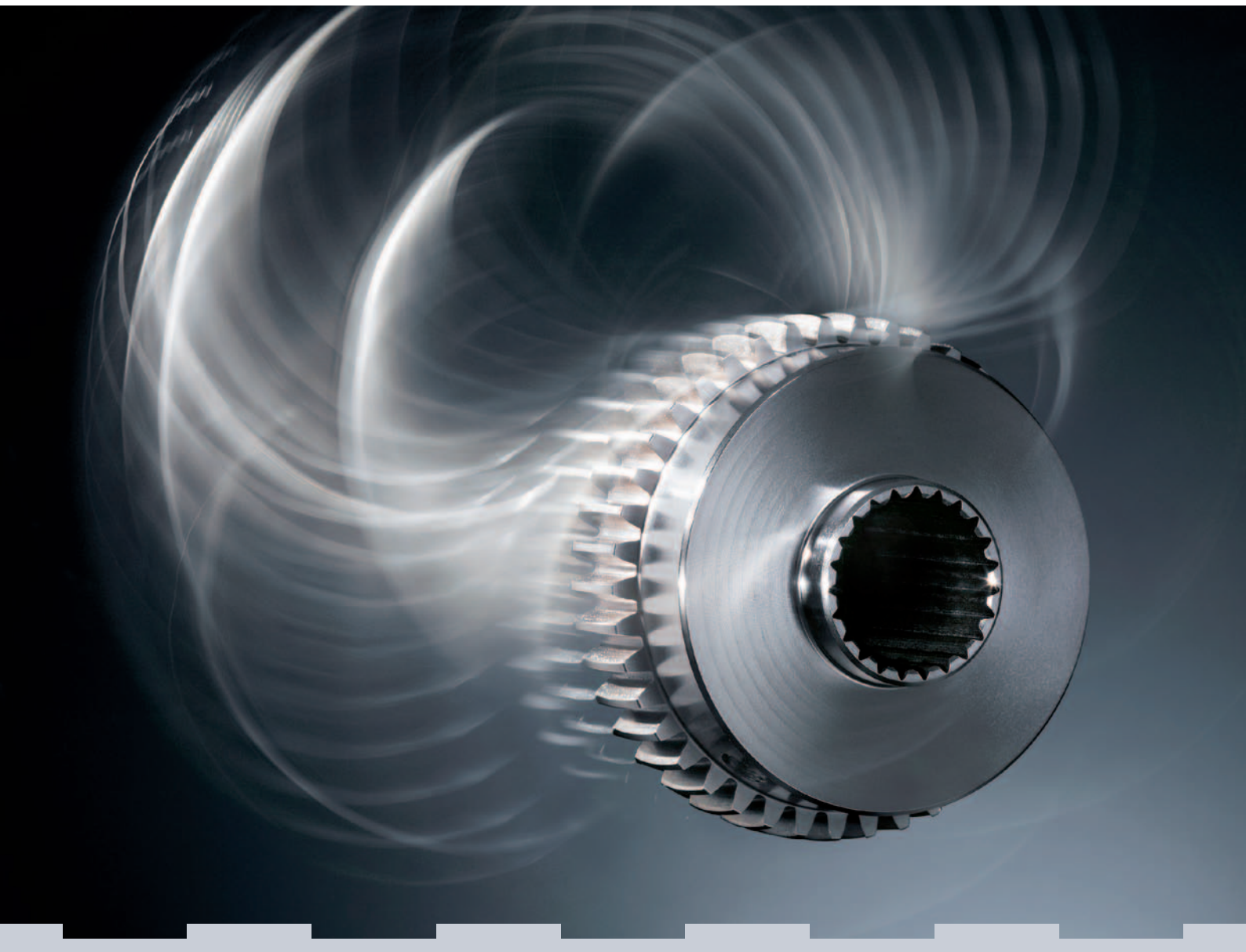


**To all those
who want to set things in motion**

Made for Motion



www.ktr.com



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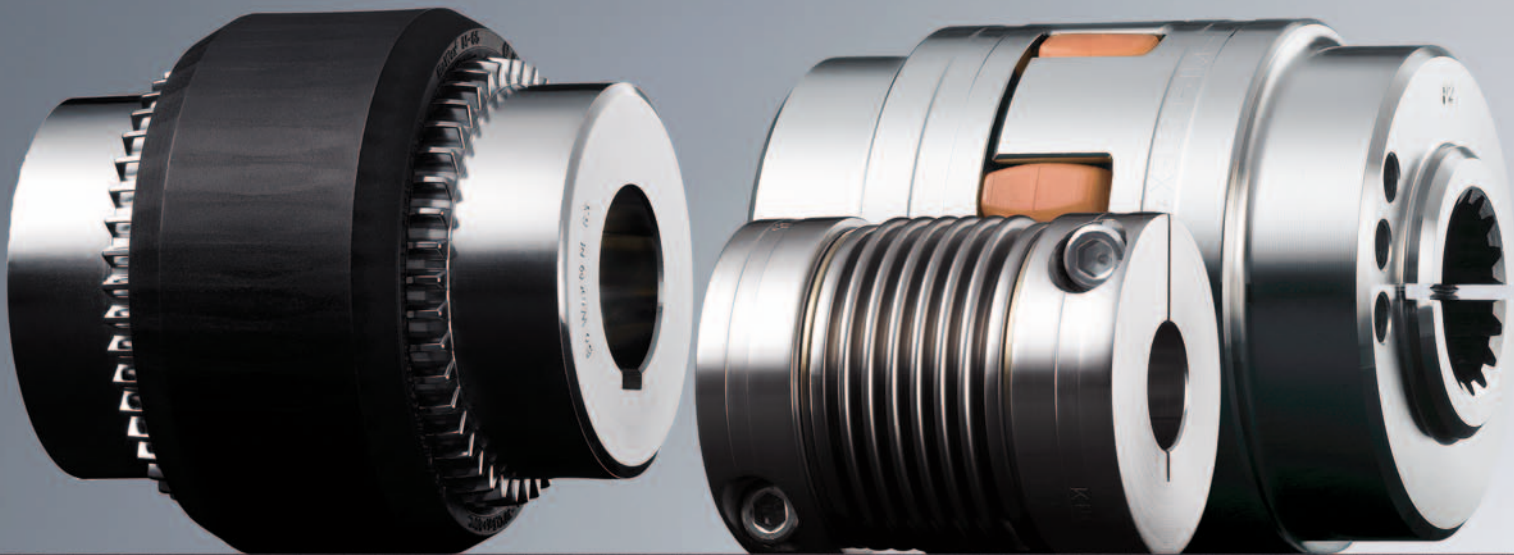
Competence meets creativity. That's what it is all about.

More than 50 years of experience in power transmission, more than 40 premises throughout the world, that is KTR. As a leading manufacturer of couplings, clamping sets, torque limiters, torque measuring systems and hydraulic components we are the right partner for all those who want to set things in motion.

KTR not only developed the first curved-tooth gear coupling being a connection of nylon and steel, but also the first low-cost torque measuring device and the first coupling to become a DIN standard. More and more KTR products define the industrial standard and our product portfolio is being developed all the time.

Our in-house production and quality management allows us to make sure that our products meet with the highest demands. In this way we ensure that well-designed, high-quality components result in more sophisticated characteristics and a higher service life of the overall drive system.

In conjunction with our customers we develop and design innovative components for pioneering drive solutions. We manufacture products both for universal and individual applications in all markets and set trends in the development of coupling technology. What do you think is driving us? Our customers' demands.



Couplings, components, in essence KTR

Everything started with BoWex®: The first curved-tooth gear coupling, with a steel hub and a nylon sleeve free from wear, formed the basis of our huge production programme. At the same time the trademark BoWex® has become synonymous with a maintenance-free, torsionally rigid shaft coupling.

In 1966 we introduced the torsionally flexible jaw coupling with elastomer spiders, available in various kinds of shore hardness. Today ROTEX® is one of those power transmission components used most frequently throughout the world. Its name serves as a generic description for all shaft couplings for operating in power transmission dampening torsional vibrations.

In the course of several decades many more couplings were added to the KTR production programme, which included the highly flexible flange couplings for diesel engines, steel laminae couplings for backlash-free, torsionally stiff drives, permanent-magnet couplings for contactless torque transmission and as a further development of ROTEX® the highly accurate prestress-ed ROTEX® GS type P in accordance with DIN 69002.



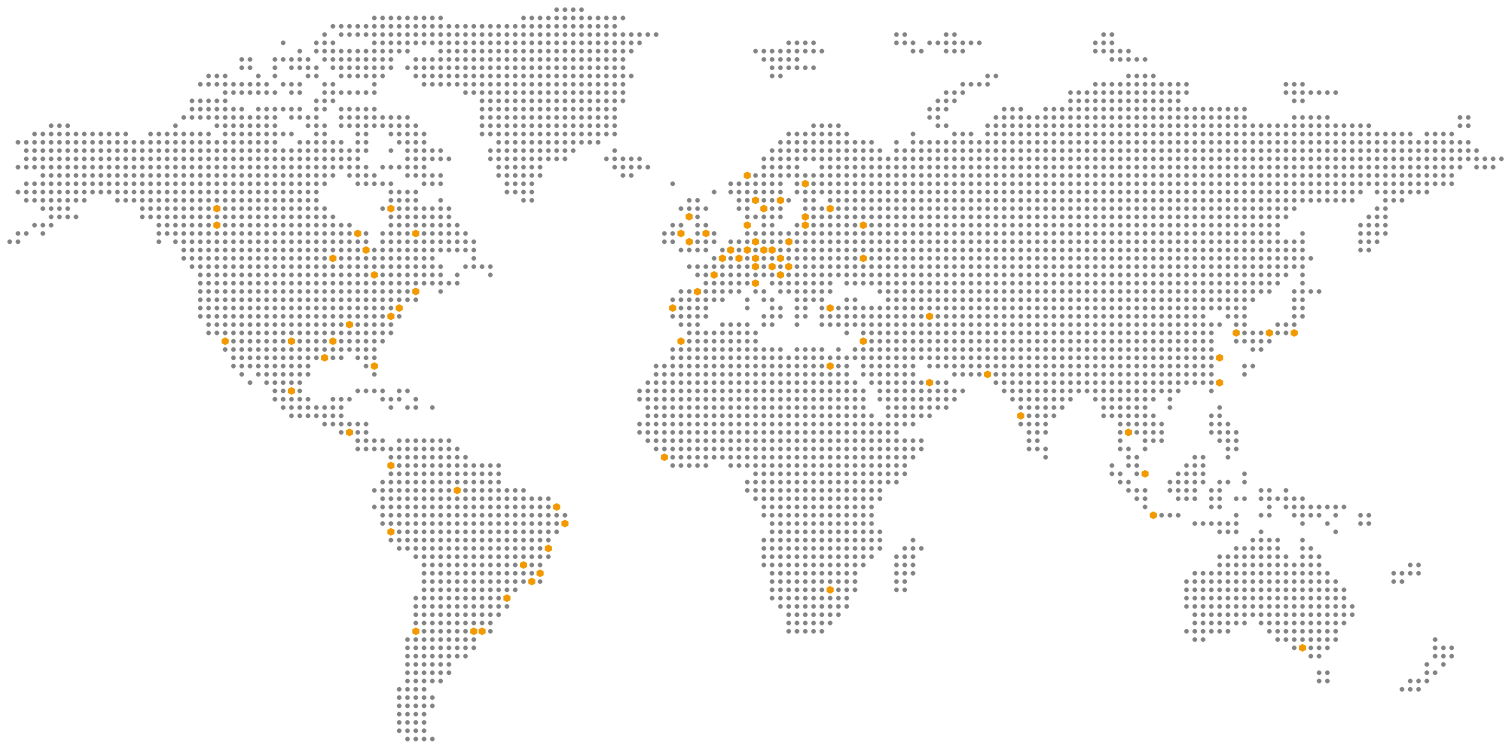
A perfect thing? Not only one, but more than 20,000.

The GEARex® all-steel gear coupling is a product for KTR to supplement their coupling portfolio, creating a complete series of large heavy duty couplings, while other drive components complement our programme: clamping sets, speed measuring devices and torque limiters as well as torque measuring shafts offered at unmatched competitive prices.

KTR have always been pioneers in the development of coupling technology and will continue to provide exemplary components for advanced drive solutions in the future. Our product portfolio comprises more than 20,000 various couplings and other drive assemblies for torques from 0.1 Nm to 1,000 kNm or above.

In addition, our high performance steel lamina couplings series RIGIFLEX®-HP for turbines, feature circumferential speeds up to 200 m/s. Apart from that we provide hydraulic components such as bellhousings and accessories, damping elements, tanks and an extensive thermo management range from a single.

Our production programme is the perfect thing.



Rheine, Rio, Rawalpindi. We set things in motion everywhere

Worldwide growth

Since our foundation in 1959 our business has not only grown continuously, but we have developed a worldwide network of subsidiaries. With 350 employees in the headquarters in Rheine and more than 850 employees worldwide, 22 subsidiary companies and more than 90 sales partners, KTR is at home in the industrial markets on all five continents today. KTR's drive components are used throughout the world. The number of our products and production plants as well as the number of our employees is growing even faster than the markets we serve.



Being close to the customers around the world

As a partner of leading companies in all industries we consider it to be important to be close to our customers. That is why our worldwide presence in the market is just as natural for us as our participation in up to 50 international exhibitions every year.

Our large service network ensures professional advisory service in every corner of the world, our specialist engineers, in our numerous subsidiary companies have the same expert knowledge as their colleagues in Rheine. They are supported by our product engineers spreading their know-how over the whole world.

Worldwide transfer of knowledge

A global network of information sharing between all our locations enables quick decision making within the KTR group of companies and allows us to react to every situation quickly and flexibly.

Thanks to our international character, we not only offer prices in line with the global market, but we assure the same standard of quality worldwide. You can rely on the trademark of KTR always and everywhere. This is ensured by our international quality management system "Made by KTR".



Good connections are beneficial for everyone. We produce them.

KTR products are well known in many industries and are absolutely essential in others: We are the world's leader in wind power technology and dominant in pump technology. Well-known manufacturers of machine tools and construction machines trust in the KTR trademark. Two thirds of German tramways, numerous commuter trains throughout the world, and an increasing number of marine vessels are operated with KTR couplings, as are steel works and agricultural applications.

In addition we provide couplings for applications in materials-handling technology, food processing and wrapping industry, metallurgical and foundry technology, printing and paper industry, hydraulics, and medical engineering. On all these applications KTR products increase the productivity and reduce the life cycle costs.

Our range of couplings extends to the very small, some having a weight of only 50 grams and used in car headrest drive systems. Other larger KTR couplings, with a length of 9 m and weighing up to 2 tons, are used in waterworks.

Safe braking, compact cooling

Whoever moves towards the future with high torques has to provide for sufficient safety. That is what the innovative brake systems KTR-STOP® does, while also being perfectly adapted to our drive components. The hydraulic or spring-actuated KTR-STOP® were specifically developed for operation under the toughest conditions, stopping even the heaviest machinery reliably – with clamping forces from 1 to 550 kN. During hot operation KTR coolers provide for perfect thermo management, either as oil/air coolers, oil/water coolers or compact MMC combined coolers.



By land, by water and in the air

We are pleased to share the knowledge we have gained in different industries. As an example, the corrosion protection coating used in agricultural applications was originally used for saltwater-proof shaft connections in marine and offshore technology. An overload system designed for wind power stations is now also used to protect different kinds of drives too.

When things heat up, for example when conveying red-hot steel, we keep our cool by increasing the temperature resistance of our drive components. Our latest innovation is the high-performance elastomer made of T-PUR® for ROTEX® jaw couplings, which can be used with ambient temperatures from -50 to +120 °C. Such spin-off effects make both our experience and our customers' success grow.





Do you want to reinvent the wheel? We can help.

KTR power transmission components set new standards regarding power density and compact design dimensions again and again. This is reflected only in part by our company catalogue. Many of our products are based on individual, customised designs depending on the application. What ever your problem is KTR can solve it. KTR not only supplies products but also solves problems.

Our engineers not only analyse the torque transmission but also the operation of the overall machine. Our technical sales engineers provide a professional advisory service in your local area and support you during the design stage of your project. Based on the know-how gained from thousands of applications in many industries we will find the most suitable, low-cost solutions for new special applications.



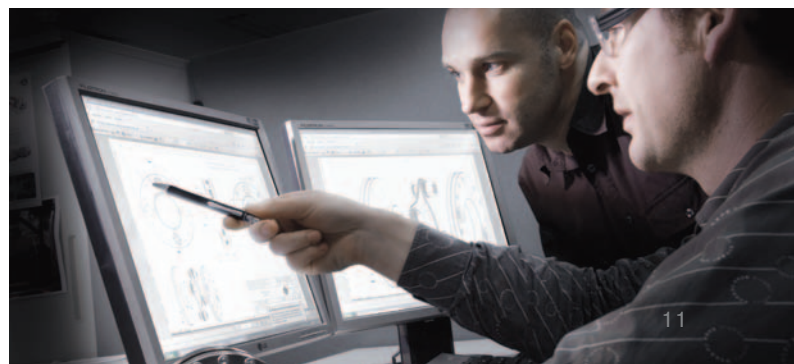
3x120°



From planning to designing

Our 3D-CAD systems and FEA (Finite Element Analysis) allow us to accelerate the process from the idea stage to the prototype stage considerably. To determine technical parameters and to run tests in the field we make use of the highly accurate test benches in our R & D centre. We are not only working on developing our existing range of products, but also on more than 20,000 new bespoke developments every year.

Thanks to our engineers' creativity we have permanently added new ideas to power transmission technology. Within the framework of our research and development projects for future markets we steadily open up new application ranges. That is why it might be possible that we will not only reinvent the wheel, but also the coupling.





Everything we do in KTR, we do for our customers. That is why we design our products and services accurately following your demands. We preserve maximum quality assurance during the overall value added chain, starting from planning, through production, on to extensive load testing. That is the only way to ensure our products make the heart of every machine, i. e. the drive, beat properly for as long as possible.

Preparation and processing

KTR starts with quality assurance at the production planning stage. By integrating all operational data in our ERP system we register the progress in production accurately during every stage. The online logging of operational data prevents trouble, accelerates every work stage, and ensures a smooth processing of orders.

Accuracy and flexibility

We produce our products on the latest CNC production machines with constant accuracy. We manufacture from various types of steel, aluminium and bronze, carbon and glass fibre reinforced materials, natural rubber and a wide range of nylon materials, in particular elastomers. We produce millions of standard products as per our customers' specifications every year. Thanks to our automation, we are in a position to manufacture such customised components in time and at low cost.

KTR's machinery is always state-of-the-art!





Want to bet that everything works perfectly? We do not bet, but we test.

It's best if we test

The German word for quality implies the word "stress". We take this literally by stressing our products to stand utmost demands. We run extensive service life and load tests on servo-hydraulic and mechanical test benches in our in-house test centre. We inspect the rotational symmetry of our products utilizing our 3D measuring devices. To simulate extreme ambient conditions and artificial ageing, we test our products in our climate chamber. We match the data, among others, with the results of our finite element method (FEM). Furthermore, we perform torsional vibration calculations of complete drive systems to make sure that they do not only run perfectly, but also last longer.

Trust is a good thing, but certification is a better one

All operating processes in KTR are certified. In 1993 we became one of the first companies in drive technology to be awarded with certification in accordance with DIN EN ISO 9001. It was also awarded to our plants in China, India and the USA. In addition we were also awarded with approvals by all major classification societies. We are not satisfied with meeting the demands, our aim is to exceed them.





Made by KTR. Quality which sets things in motion throughout the world

The rating “Made in Germany” is highly regarded around the world, including the coupling business. But often Germany is too far away to act successfully in the fast-developing worldwide markets. That is why we prefer to establish our production in locations local to our customers, yet incorporating our typical German efficiency. This is guaranteed by our in-house logo “Made by KTR” (MbK) which assures consistent quality throughout the world.

German Engineering goes international

Made by KTR (MbK) anchors the quality genes of our German engineering in the local DNA of our target markets. Encapsulated within MbK is an extensive catalogue of binding measures stipulating that the same standards are observed for all work stages and materials and that uniform best practice processes are also realized. That is why each of our production plants has the same high-tech equipment as the headquarters in Germany. Furthermore, the manufacturing drawings are generated with the approved 3D designing software ProEngineer in every location, resulting in a uniform illustrated language which is understood worldwide.

Consistency meets flexibility

Every country, every market and every customer is different - this is why we aim to combine consistency with flexibility. In close cooperation with KTR's headquarters in Rheine, an individual development outline is prepared for every subsidiary company. This outline takes into account the local market conditions and is tailor-made to the needs of each subsidiary company. Local production is only started until after a production site has successfully completed the in-house MbK process of auditing and licensing.



The essential items of the MbK guidelines

- The objective of our action is always our customers' utmost satisfaction.
- Promoting the awareness of quality is a major task of the management.
- Acting on his or her individual responsibilities, every member of the staff worldwide contributes to meeting the demands of "Made by KTR".
- Error prevention has priority over error correction.
- The process of continuous improvement is our constant duty.



Protecting man by protecting the environment

Those who set things in motion must not ignore one item: the effects on the environment. That is why environmental protection has always been an essential business objective of KTR, following the motto: the more ecological, the more economical.

Using human resources

Environmental awareness begins in the mind. All employees of KTR have been made aware of ecological action by up-to-date information and training. All important decisions are assessed by environmental criteria and corrected, if necessary, to exceed legal provisions. In this way we aim to show that measures for environmental protection can be successfully realized within a reasonable economic framework.

Preserving natural resources

The responsible approach to all raw materials and the efficient use of energy are a matter of course for KTR. The materials used within our production are almost completely recyclable. With all materials we prefer preservation, cleaning and recycling as opposed to disposal. Even in rare cases, where it is not possible to recycle the materials they are carefully disposed of, taking into account all waste management provisions. All suppliers of KTR are obliged to observe the list of banned substances according to the EU.

The essential items of KTR's environmental guidelines

- Environmental protection takes priority.
- We undertake to protect the environment and save raw materials.
- We undertake to observe all relevant environmental laws and provisions.
- The environmental compatibility of our products and production sites is subject to a continuous improvement process.
- All members of our staff are continuously informed about all environmental aspects of their scope of responsibility.
- Every year we set detailed, measurable environmental objectives and are intensively working towards realizing them

Ecologically certified: DIN ISO 14001

KTR has been certified in accordance with DIN ISO 14001 since 2008. The International Environmental Management Standard focuses on the continuous improvement of the environmental performance according to the PDCA method, Plan-Do-Check- Act: planning – doing – checking – optimizing. Regular audits by accredited certifiers assure observance for the defined environmental objectives.

Ecologically communicated: Green IT

We look beyond the edge of the screen in information and communications technology too: Green IT is no longer an ideal conception for KTR but daily routine. Throughout its overall life cycle, we organize our IT usage preserving the environment, energy and resources.





**We have the answer.
What is the question!**

With KTR you are spoilt for choice, not only among 20,000 products, but also between numerous sources of information helping you to find the right component for your drive system.

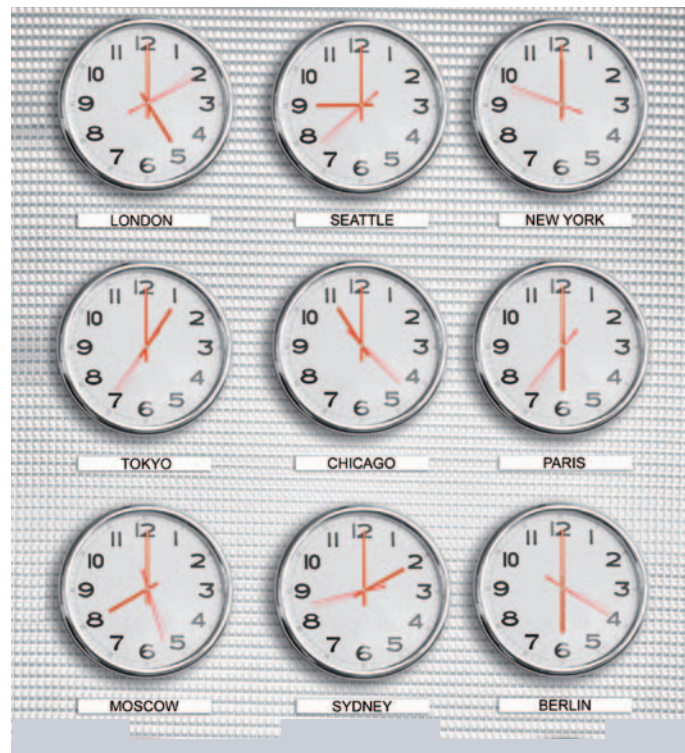


By handshake, by mail, by click of the mouse

More than 100 KTR engineers and our well-trained sales staff are expert in all industries and for every application. Everyone of them will be pleased to assist you with the selection of couplings and components to ensure their safe and long-term use.

The KTR company catalogue as well as numerous industry catalogues and up-to-date brochures dealing with specific information are available. You can receive them either via mail or instantaneously by downloading them free of charge from the internet.

Check out www.ktr.com where you will find that everything is just a few clicks away. Everything is available immediately, including catalogue pages, mounting instructions and details about prices. For your design work we provide you with a whole library of 3D models free of charge. Our configuration tools allow you to simply select the suitable components. Afterwards you can display your selection, zoom details and download them as a file – to fit with all usual CAD systems. Or you can print the drawing to have the information in black and white.



As soon as you have selected your drive component, you can order immediately – at the date you request. The KTR Shop is open around the clock. For orders that are placed before 02.00 p. m. we guarantee delivery for domestic shipments the same day, since our 3,500-off standard products are permanently available from stock.

We fulfil the requests of our regular customers automatically: Kanban agreements for call-off orders or fixed delivery schedules save disposition time and optimise storage: KTR delivers just in time.

Flexible, quick, professional

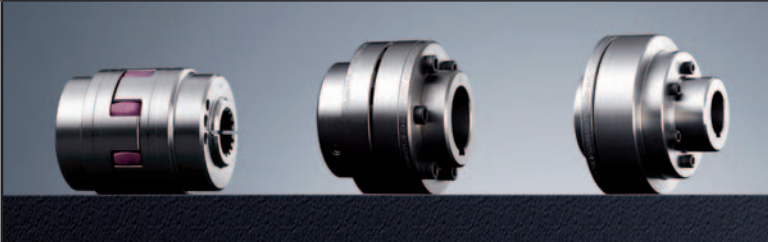
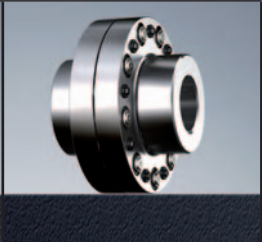
Our SAP system ensures an optimum network with our customers and business partners, as it allows for flexible communication with other systems. Our advanced scheduling system ensures quick order handling through short reaction times with order, modification of order, order confirmation, delivery advice and invoice. The experts speak very highly of our business integration service. We are simply pleased to supply our customers reliably with their needs even in urgent cases.

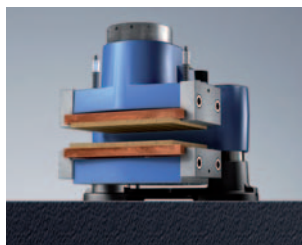


**Do you want everything at once?
We can do it.**

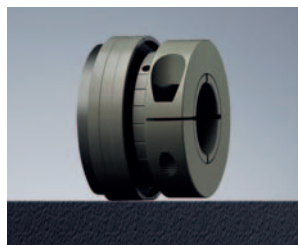
Every day more than 800 consignments leave our logistics centre via four loading bays. Its volume comprises almost 55,000 storage spaces and more than 4,000 pallet racks. The flow of goods is monitored by means of barcode scanning. Packaging, labelling and wrapping as well as the issue of shipping and export documents are performed immediately. The status of shipments can be interrogated at every stage by the tracking and tracing system. Market-leading distribution partners ensure the delivery to every part of the world in time and on time.

KTR's product portfolio

				
Product	ROTEX®	POLY-NORM®	POLY	REVOLUX® KX-D
Type	Jaw coupling			Pin & bush coupling
Torsionally stiff				
Torsionally flexible	●	●	●	●
Highly flexible				
Backlash-free				
Axial plug-in	●	●	●	●
Fail-safe	●	●	●	●
Maintenance-free				
Single-cardanic	●	●	●	●
Double-cardanic	●			
Shaft-to-shaft	●	●	●	●
Flange-to-shaft	●			
ATEX	●	●	●	●
UL-listed	●			
Cleanroom compatibility (IPA)				

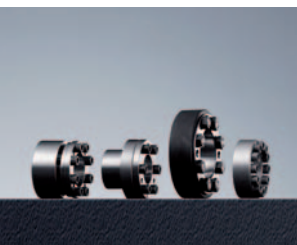


Hydraulic Brakes
KTR-STOP®



Torque limiters
RUFLEX® torque limiter
SYNTEX® backlash-free overload system
SYNTEX®-NC backlash-free overload system
KTR-SI safety system

						
BoWex®	GEARex®	BoWex® FLE-PA	BoWex-ELASTIC®	MONOLASTIC®	RADEX®-N	
Gear coupling		Flange coupling			Lamina coupling	
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Clamping sets

- CLAMPEX® self-centering
- CLAMPEX® not self-centering
- CLAMPEX® external clamping sets
- CLAMPEX® rigid shaft coupling



Measuring system

- DATAFLEX® torque measuring shaft

					
RIGIFLEX®-N	ROTEX® GS	COUNTEX®	TOOLFLEX®	RADEX®-NC	MINEX®-S
ing	Jaw coupling	Encoder coupling	Bellow-type coupling	Lamina coupling	Magnet coupling
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Hydraulic components

Bell housings and accessories
Damping elements
Tanks
Tank accessories
Controls, heaters
Cooling systems



Universal joints

According to DIN 808
According to DIN 808 extensible
With quick locking



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