



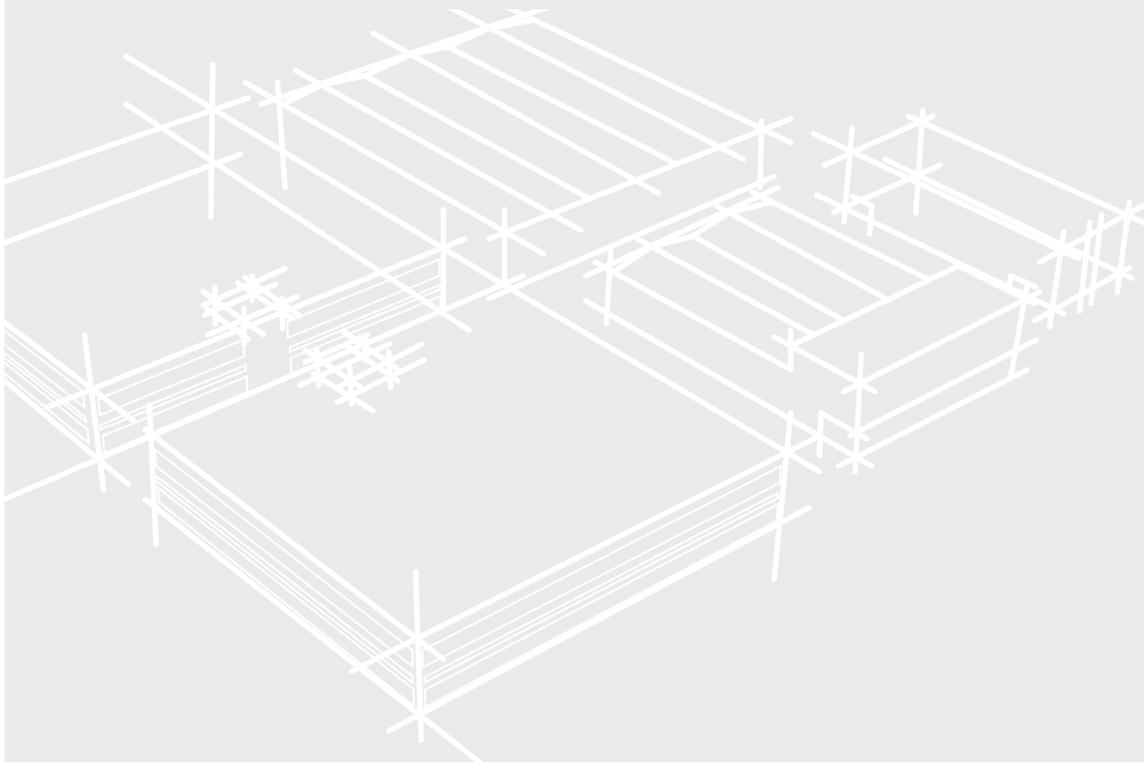
## KTR Company News

### Company

- Continuing the expansion – Opening of a new plant in China
- Change at the top of KTR: Andreas Nauen is the new CEO of the KTR group
- KTR started up a new test bench
- Getting faster to the right standard coupling – KTR selection tools provide more speed with the selection of products

### Continuing the expansion – Opening of a new plant in China

In April 2016 we opened our new plant located in Jiaxing (province of Zhejiang, about 100 km southwest of Shanghai), thus laying the foundation of our future growth in the Asian-Pacific region.



## Continuing the expansion – Opening of a new plant in China

**In April 2016 we opened our new plant located in Jiaxing (province of Zhejiang, about 100 km southwest of Shanghai), thus laying the foundation of our future growth in the Asian-Pacific region.**

KTR has been operating in China since 1999 already, having started with a sales office in Shanghai. Following was the gradual expansion of in-house production facilities, finding its preliminary completion with the new plant located in the Industrial Park of Jiaxing. 30,000 square metres are available for production, research & development, assembly and logistics. Moreover, the local facilities provide for sufficient space for the location's future development.

„Our plans aim at establishing Jiaxing as a production and logistics location to provide East and South-East Asia as well as Australia with tailor-made drive solutions from here in the future.

Yet there is still a lot to be done before we achieve this objective“, our General Managing Director, Andreas Nauen, explains. Our new CEO does not have any concerns looking at the current economic difficulties in China. „It is true that China's economic realignment dampens down the expectations in growth at the moment, but it does not stop our drive. We are confident in spite of the dropping growth dynamics while we foresee a lot of potential and huge growth prospects in the overall region in long term.“

KTR China employs more than 200 persons in total at the moment, both in the new plant in Jiaxing and the sales office in Shanghai, with an increasing tendency.



*Having opened the new plant located in Jiaxing we laid the foundation for future growth in the Asian-Pacific region.*

## Change at the top of KTR: Andreas Nauen is the new CEO of the KTR Group

**Andreas Nauen became the new CEO of the KTR Group as of 1st June 2016. In this position he will succeed Josef Gerstner who will retire from the operative business after nine years being in the top management of KTR.**

Under the management of Prof. Dr. Josef Gerstner (67) KTR implemented a successful and sustainable development. It was characterized, among others, by re-engineering of the company, the consistent expansion of the headquarters in Rheine, the extension of the product portfolio and the development of KTR's locations in India and just recently China being the latest production and logistics centre for East and South-East Asia.

Gerstner will continue to be closely linked to the company both as a member of the advisory board and as a consultant. In addition he will continue to perform his duties within the governing board of VDMA (Association of German Machinery and Plant Manufacturers) and the VDMA in North Rhine-Westphalia as well as the Verband Münsterländischer Metallindustrieller (Association of industrialists in metal industry in Munsterland).

An experienced manager and acknowledged expert of the wind energy industry, Mechanical Engineer & MBA Andreas Nauen (51) will take over the position of the general managing director. After his studies of Mechanical Engineering, Nauen started his career in the power plant sector of Siemens AG in 1991 working in the project management of gas and steam turbines first. Afterwards he undertook sales responsibilities for fossil power plants in India and from 1997 for the European market. From 2002 to 2004 he was responsible for strategic planning and communication with Siemens' power generation division. After the Danish manufacturer of wind turbines, Bonus Energy A/S, had been taken over by Siemens in 2004, he set up the group's wind energy business as CEO of Siemens Wind Power A/S. In 2010 Mr. Nauen joined the company Senvion GmbH where he held the position as CEO until December 2015. „KTR is excellently positioned for the next major steps“, Nauen explained. „I am very excited about my new assignment, and I specifically look forward to continue the positive development of this long-established company together with the entire KTR team“.



*Andreas Nauen (In the image on the left ) is the new CEO of the KTR group. He succeeds Dr. Josef Gerstner.*

## KTR started up a new test bench

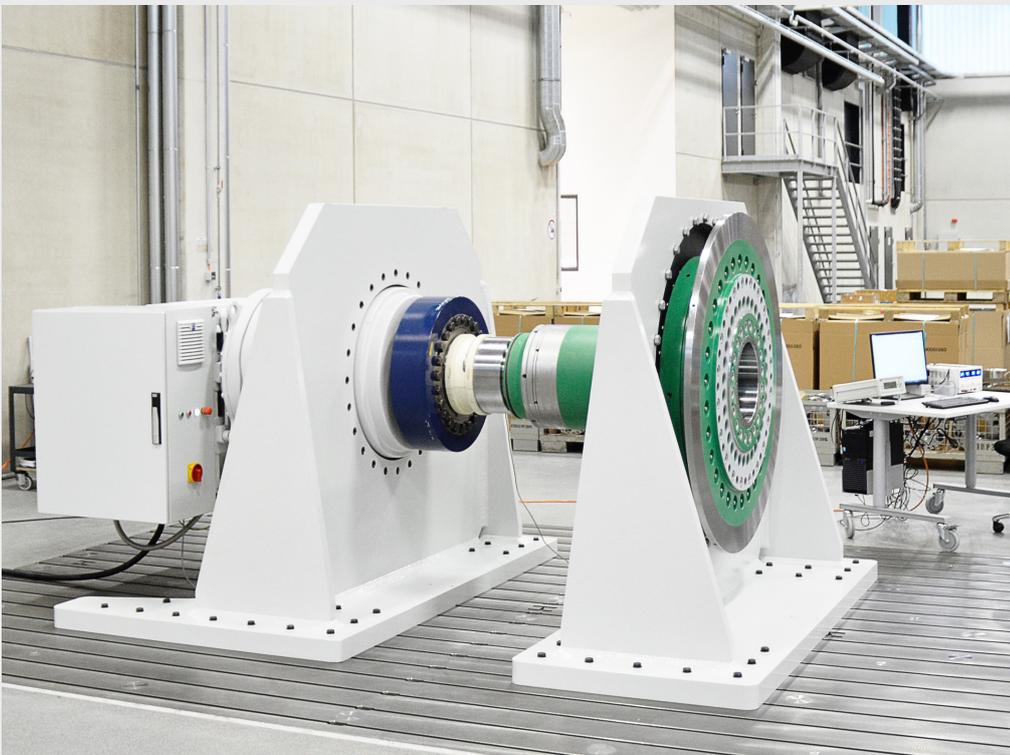
**KTR started up a new test bench for large couplings covering a performance range up to 500,000 Nm at the headquarters in Rheine. The test bench allows to calculate mechanical coupling parameters and perform service life testing. Testing sample of the initial testing series is a torque limiter intended to be used on an 8 MW offshore wind energy plant.**

The new test bench is provided with an electrical variable-speed drive generating a maximum testing torque of 500,000 Nm via several gears. The torque is measured on the gear output side through a calibrated measuring shaft via DMS technology while the twisting angle is calculated on the drive side through a pulse encoder or a position sensor which is installed directly on the testing sample. The data acquired allow to calculate the torsion spring stiffness. Apart from recording mechanical coupling figures, testing of component strength and service life is performed on the new test bench. In addition positive-locking and frictionally engaged overload systems will be tested and set here.

With the new test bench KTR's testing capacities in Rheine have been increased five times. „The availability of

such kind of test bench is particularly important in an age during which the performance level of drive components for machinery and plant engineering is continuously increasing“, Dipl.-Ing. Reinhard Wibbeling, Head of Designing/Research & Development in KTR explains. „This allows KTR to further expand its position as the world's leading manufacturer of mechanical couplings and overload systems.“

KTR's test bench for mechanical couplings and overload systems at the headquarters in Rheine currently comprises 24 rotating and non-rotating test benches operated hydraulically, servo-hydraulically or electrically. The test benches cover a test range from 0.2 Nm to 500,000 Nm and allow for practical testing conditions with dynamic or static load of the testing sample. The testing capacity includes determination of coupling parameters, adjustment of overload systems and endurance testing regarding component strength and service life.



*Initial testing sample on the new test bench is a torque limiter having set a torque of more than 350,000 Nm*

## Getting faster to the right standard coupling – KTR selection tools provide more speed with the selection of products

**Smart configuration tools are worthwhile, because they make engineering more efficient while saving valuable time and consequently money with the development and designing of machines. While such software solutions become more and more sophisticated, for example with the selection of complex electric drives, coupling technology still makes frequent use of catalogues when selecting a coupling. Making use of web-based configuration tools, KTR increases the degree of convenience when selecting mechanical couplings.**

Few data only are sufficient to find the right coupling for an application via the online selection tools by KTR. Apart from the existing drive data, typical input parameters are, as an example, rated speeds, temperatures, starting and reversing frequencies and definitely the shaft diameters along with other industry-specific operating factors. Having entered these data, the tools that may be utilized freely on KTR's homepage provide the suitable standard couplings out of an almost immeasurable number of options without having to browse catalogues for a long time. Compared to the catalogue, KTR accompanies the suitable technical coupling solution by illustrating alternatives which finally results in more scope to equip machines optimally.

**Only few parameters generating the result promptly**  
Choosing different types of couplings from the KTR product portfolio, users are in a position to refer to two different configurators. „Quick Selection“ covers a wide range of standard couplings. It includes, among others, flexible jaw and pin & bush couplings, gear couplings, backlash-free servo couplings, steel lamina couplings as well as flange and magnet couplings. “Quick selection” was developed by KTR's in-house IT department to allow the users to find the right product for their applications in a time-saving way.

Having entered the main parameters, „Quick Selection“ provides for a coupling solution comprising all data that are necessary for ordering and documentation. This includes, for example, assembly instructions as well as parts lists, true to scale drawings in a PDF format along with prices and links to the online shop. Normally the components are available from stock for more than 90 % and can be delivered worldwide in short term.

Since the online configuration tool which has deliberately been kept very simple makes the selection of standard couplings considerably more comfortable, the time required during the projecting phase is diminished, since „Quick Selection“ reduces the wide KTR product portfolio to a few coupling variants suitable for the application thanks to smart filter properties. Reiner Banemann, Product Manager for steel lamina couplings in KTR Rheine, specifically emphasizes the factor of time which is always tight with the selection of a coupling. „The common practice is that the couplings are always at the very end of the project phase when developing a machine. Accordingly there is only few times left for the selection, procurement and documentation.“ As a result it becomes increasingly important to find the right information quickly in order to make reliable statements about size and prices during the proposal stage, too.

„Nobody wants to spend much time on the selection of a coupling“, Reiner Banemann notices regularly and is surprised about its comparatively low status in engineering again and again. Finally a drive does not work without a coupling. „Many people remember that couplings are needed for combining components with each other at a late stage. Then time is short and everybody is in a hurry.“

*Continued on page 6*



*The selection tools were developed and programmed in-house based by the IT department*

continued from page 5: Getting faster to the right standard coupling

## Configurator as a supplementary offer

Since apart from that the installation space specifications are defined within a completed designing during this stage, special designs may be the result for transmitting the existing torques and speeds reliably. That is why the selection tools are not a substitute for the cooperation between a customer and KTR on the matter of building couplings that are specifically adjusted to an application. „With the web configurator we rather address to standard applications and those applications on which the design engineer usually already knows as to which type of coupling can be used, but he only wants to know detailed types and sizes“, Klemens Tebroke, application programmer in KTR, explains.

The coupling specialist located in Münsterland goes one step further applying the selection tool for steel lamina couplings of the series RADEX®-N and RIGIFLEX®-N. Apart from the data density of „Quick Selection“ the configurator analyses further geometry and performance data, torsional stiffness, mass moments of inertia, weights and critical speeds. The result of configuration can be printed both as a schematic two-dimensional drawing including dimensions and summarized as a PDF in one page for a complete documentation.

Generally speaking, with the free configurators KTR managed to utilize the profound know how on applications and couplings entering a few data in a time-saving way to allow for a quick selection. With this in mind KTR deliberately assigned the 21 members IT department located in Rheine with the development of the systems. „We develop and utilize our in-house software which we adapted to our customers' demands with a high degree of usability“, Klemens Tebroke summarizes.

## Conclusion

The new selection tools allow to implement KTR couplings into a project much faster – from the designing to the quotation and pricing stage and finally to the documentation. Since the inconvenient browsing through thick catalogues can be done without, the full process of projecting and ordering is simplified. This in turn diminishes the time necessary which reduces the costs during the engineering stage. In addition the design engineers get more scope for concentrating on their core tasks.

KTR Kupplungstechnik GmbH  
D-48407 Rheine 

---

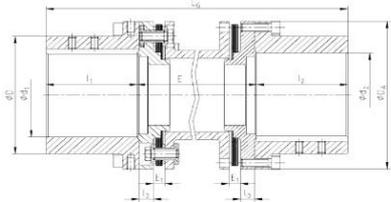
**Eingabewerte**

Leistung	500.00 kW	Drehrichtung $S_d$	Konstant (1.0)
Drehzahl	1500 rpm	Betriebstemperatur $S_t$	-30 - 150 (1.0)
Antriebsmoment $T_N$	3183.33 Nm	Wuchtung	Ohne Wuchtung
Betriebsfaktor $K_S$	1.00	Wellendurchmesser Antrieb	110.00 mm
Spitzendrehmoment $T_{max}$	3185.00 Nm	Wellendurchmesser Abtrieb	110.00 mm
API	Undef.	Wellenabstand	140.00 mm

Kommentar

---

**RIGIFLEX®-N 110**




---

**Geometriedaten RIGIFLEX-N 110**

D	152.00 mm	$L_0$	314.00 mm	$D_s$	191.00 mm
$d_1$ (max)	110.00 mm	E (min)	140.00 mm	$d_2$ (max)	110.00 mm
$l_1$	87.00 mm	$E_1$	12.00 mm	$l_2$	87.00 mm
		$l_3$	18.00 mm		

---

**Leistungsdaten RIGIFLEX-N 110**

Drehmoment $T_{N1}$	3500 Nm	Versatz pro Lamellenpaket	0.7 °
Max. Drehmoment $T_{max}$	7000 Nm	Axialer Versatz	2.40 mm
Max. Drehzahl	3000 rpm	Radialer Versatz	1.1 mm
Biegekritische Drehzahl	1998755 rpm		

---

**Physikalische Daten RIGIFLEX-N 110**

	Gesamt	Nabe Antrieb	Nabe Abtrieb	Lamellenpaket	Mittelstück	Flansch
Massenträgheiten	0.14303 kgm <sup>2</sup>	0.03480 kgm <sup>2</sup>	0.03480 kgm <sup>2</sup>	0.00538 kgm <sup>2</sup>	0.02388 kgm <sup>2</sup>	0.01939 kgm <sup>2</sup>
Gewichte	28.31 kg	7.06 kg	7.06 kg	0.91 kg	5.12 kg	3.62 kg
Torsionssteifigkeiten	0.678 MNm/rad	-	-	1.460 MNm/rad	9.449 MNm/rad	-

The result of configuration provided by the selection tool for steel lamina couplings is a data sheet with 2D drawings including full documentation and dynamic calculations.

## In-house software

The selection tools were developed and programmed in-house based by the IT department. The department comprising 21 employees makes use of two independent computer centres certified by TÜV which as a summary keeps the value in the company assuring a high availability. Here the application programming follows international standards such as ISO 270001, ITIL, Scrum or Agile Development.