

Made for Motion



## **KTR for Material Handling**

Drive Technology

Brake Systems

Hydraulic Components

[www.ktr.com](http://www.ktr.com)



## **KTR – when the flow of materials must not stop.**

'Things have to keep running' – a standard maxim in materials handling. More specifically, things must run ever faster and with greater power – a fact which is clearly seen through continuously rising demands. Meeting such requirements calls for special couplings that are able to absorb dynamic loads and reliably compensate for shaft misalignments. There is also a need for brakes that are gentle on materials. Or, to put it another way, this is a job for components from KTR – products that for many years have ensured everything keeps moving in materials handling.





# Setting the world in motion for over 50 years.

Whenever it comes to reliable power transmission, KTR has a part to play – and not only in materials handling technology. After all, we have been involved in the development of drive components for mechanical and plant engineering for over 50 years. Today we are a leading manufacturer of high-grade power transmission technology, braking and cooling systems, and hydraulic components – an innovative partner for any company that wants to keep moving forward.

KTR started out with an extremely successful combination, processing both plastic and steel in a single coupling as an industry first. The result was the maintenance-free BoWex® coupling, a logical development of the tried-and-tested curved tooth coupling®.

Since then, KTR has built up an impressive product range that includes a variety of couplings and other power transmission component groups, as well as braking systems. However, this does not prevent us from producing more than 20,000 product variants and new developments each year on behalf of our clients. We see ourselves not only as a supplier, but also as a problem solver who works with customers as a partner to find the ideal range of cost-effective solutions for specific applications. Naturally, this includes materials handling equipment.

## Control and competence

To keep things running for our customers, we must also keep ourselves moving forward and continue to enhance our products. After all, well-engineered, high-grade components ultimately result in improved characteristics for the entire power transmission system or braking system, ensuring a longer service life. Our Power Transmission Center, a modern R & D facility with a multifunctional assembly hall, provides the perfect conditions for developing and testing drive components for materials handling equipment. The

development, engineering and testing of braking systems is managed by KTR Brake Systems GmbH in a state-of-the-art internal competence centre for such technology.

In the Power Transmission Center alone, KTR engineers have more than 25 hydraulic and electric test benches at their disposal to carry out extensive durability and load tests. As there is nothing tougher than real life, KTR likes to test its products in as close to realistic conditions as possible. In the environmental chamber, for example, components are put through their paces and must prove that they can be relied on even in extreme environmental conditions at temperatures as low as –50 degrees.

Naturally, you can also depend on our specially trained sales staff and application engineers. Whether you are interested in a power transmission component or a braking system, we can provide you with support – even in the planning phase, if you so wish. Visit [www.ktr.com](http://www.ktr.com) to access more product information as well as a CAD library, installation instructions and much more.

If you require one of our standard products for your conveyor system, you can also order directly online. Orders within Germany placed before 2 p.m. are shipped the same day. There is nothing tricky about such a rapid service – it is the result of our SAP data hub, which facilitates direct communication with other systems using electronic data interchange (EDI) and guarantees a short response time for orders, changes to orders, order confirmations, dispatch notifications and invoices. As a result, the flow of materials never grinds to a halt.





**Conveying and transporting –  
with great experience.**





When you want to transport goods from A to B, you need a partner who could do the job blindfolded. A partner like KTR! No matter whether you are operating a continuous conveyor, an overhead crane, a chain hoist or a palletising robot, you will find the right power transmission systems at KTR for each of these conveying systems and many more. Even when it comes to shouldering heavy burdens, you can still count on KTR. One example is an opencast ore mine in Sierra Leone, where the conveyor system transports no less than 3,500 tonnes of excavated material containing ore every hour using KTR components.

### **Driving and protecting – with couplings from KTR**

When it comes to power transmission technology, it is true that a chain is only as strong as its weakest link. At KTR, we go to great lengths to ensure that the weakest element does not come from our factory. As a result, KTR couplings for conveying technology, lifting equipment and intra-logistics stand out for their especially high power density – they have a compact design yet the capacity to handle large forces. Furthermore, any components that come into contact with salty sea air, such as cable winches on harbour cranes, are given special corrosion protection.

Once installed, our products perform two jobs. In addition to simply transmitting power, they also act as a kind of bodyguard for the complete drive system, compensating for any shaft misalignments caused by thermal expansion and other forces. At the same time, our couplings also absorb dynamic loads by damping starting and shock torques. In this way, KTR components ensure stress-free drives and increase the service life of the overall system.

### **Advice and support – from the outset**

Do you need a specially designed coupling system for a specific application? If so, you should talk to the team at KTR. Our application engineers would be pleased to offer their advice and work with you to find the right components. In many cases, you need look no further than our own versatile catalogue range. However, it is not a problem if the solution is not directly found within our standard product range. We relish a challenge and will respond to your specific requirements by customising the necessary products.



# Ensuring the best transport.

Does your job entail transporting bulk and general cargo? Perhaps warehousing, distribution, bottling and packing? Or maybe comfortable lifting and sensitive positioning at fast cycle speeds? If so, we're a good match, as our job is all about providing technically sophisticated couplings, clamping sets and torque limiters for such activities.

## **Our ROTEX®**

is an axial plug-in jaw coupling that is maintenance-free, fail-safe and torsionally flexible. Often used in crane drives, ROTEX® also compensates for shaft displacements and absorb vibrations.

## **The ROTEX® AFN-SB**

features an integrated brake disc and is ideal for equipment such as dockside cranes, bucket-wheel excavators and other large machines. The disc brake is mounted on the output side of the transmission, where the greater mass moment of inertia is located.

## **The RADEX®-N**

is a zero-play, maintenance-free steel lamina coupling with an FEM-optimised lamina shape for precise torque transmission -15 Nm to 280,000 Nm – and is suitable for conveyor systems such as packing machines.

## **The RADEX®-N NANA**

and the short version RADEX®-N NNZ both have a double-cardan design and, therefore, stand out for their high displacement potential capability and low restoring forces – perfect for packing machines and automation technology.

## **The ROTEX® GS**

is also an axial plug-in component that is maintenance-free, fail-safe and, the same time, backlash-free. Thanks to its high power density, it reliably guarantees vibration-free power transmission on zero-play precision drives with low torque, among other benefits.

## **The CLAMPEX®**

clamping sets allow infinitely variable positioning of belt drives with a frictional connection between the shaft and pulley. They are compact, powerful, inexpensive and reusable.

## **The newly developed MINEX®-H**

is a permanent-magnetic synchronous coupling that transmits torque through magnetic forces between mutually facing hubs. It is used in a completely new form of materials handling technology in automotive construction, whereby the conveyor belt is driven continuously without interruption.





### **Protecting people and machinery**

Even if things don't run quite according to plan, you can still count on KTR. For instance, an overload on the conveyor system causing backlogs, congestion or collisions, could be dangerous not only for the equipment in question, but also for people. In this instance a torque limiter can excel as a mechanical overload system. Once the defined torque is exceeded, the power transmission is disconnected from the machine, thus limiting any potential damages. Torque limiters - the best solution for people and machinery – and much safer.

### **The RUFLEX® sliding hub**

is used in robust drive systems with lower requirements in terms of response time and repeat accuracy. For example, it offers reliable overload protection at a torque of up to 6,800 Nm in chain drives and V-belt pulleys.

### **The SYNTEX® overload system**

protects drives with low to medium speeds and a torque of up to 400 Nm – such as belt drives on packing machines. This integrated solution is an extremely cost-effective safety coupling.

The KTR-SI and KTR-SI FRE disengaging overload systems are used for larger torque ranges. For instance, the limit of the KTR-SI FRE can be set up to 60,000 Nm, with even higher torques possible on request. The flange design allows tooth belt discs or chain wheels to be mounted and offers an impressive level of repeat accuracy.

Incidentally, it is never too late to opt for a KTR safety coupling. It is also very easy to retrofit your high-quality drive components with RUFLEX®, KTR-SI or SYNTEX®. Such an investment will certainly pay off: these couplings protect the drive system from damage or premature wear, thus reducing life cycle costs.



## Equipment that is driven also has to be slowed down.

KTR always goes one step further. As a leading provider in power transmission technology, we have ventured to use our technical know-how to develop suitable braking systems for drives. As a result, we have not only revolutionised the hydraulic brake, but also tripled the power spectrum of electromechanical brakes. Today we are one of only a few manufacturers worldwide that offer two different braking systems within its portfolio: the hydraulically powered KTR-STOP® and the electromechanical EMB-STOP - a selection by which you can only stand to benefit.

### Brakes with feeling: IntelliRamp®

First things first – if you use a brake from KTR, you can rest assured that it will work with power and precision. If you also want to control the manner of braking, simply order our hydraulic and electromechanical brakes with IntelliRamp®. This electronic control system combines power with fine regulation, facilitating ramped and coordinated braking processes. A control computer performs all calculation and

monitoring functions used to regulate the braking operation. Do you need continuous deceleration for your drive? Or a continuous time function? Or perhaps continuous speed adjustment? No problem – simply make your selection and let the IntelliRamp® do the rest. It's as easy as that.

In order to ensure that you always have control over the braking process in critical situations, the system features an uninterrupted power supply, making it possible to complete a full braking cycle even in the event of a power cut. Everything can then come to a stop without lengthy downtime.





### **The KTR-STOP®: variable braking forces, versatile in use**

A real grafter among brakes – the KTR-STOP® braking system is based on the conventional disc brake with floating caliper. It delivers a reliable performance whenever conveyor equipment has to operate under especially tough conditions, be it in the freezing cold or baking heat, by the sea, on the steppe or in the desert. With high resistance to harsh and aggressive environmental conditions, the KTR-STOP® reliably gets the job done, even when faced with the immense heat of foundries or the sulphurous air of copper mines.






In order to perform such tough tasks, the braking system comes with several forms of protection: it is completely encapsulated, with integrated dirt wipers and additional wear rings. This makes the KTR-STOP® more resilient while helping to reduce operating costs and extending service life. Thanks to additional guide systems and the optimum use of materials (the brake pads can be lowered almost as far as the supporting plate), the KTR-STOP® requires only short and infrequent breaks for maintenance and is quickly ready for use again. A workhorse through and through.

### **The EMB-STOP: energetic, electromechanical, unique**

The EMB-STOP was originally developed for wind turbines but found its way back down to earth, and onto the water, a long time ago. After all, the benefits it provides are simply too compelling. Unlike its hydraulically powered counterpart, the EMB-STOP is purely electromechanical. Dispensing with hydraulics allows a more compact design while avoiding the need for maintenance tasks such as oil changes and oil disposal, all of which makes the EMB-STOP virtually maintenance-free.

Nowadays, EMB-STOP brakes are also in continuous use as an especially efficient, fail-safe system solution in materials handling. But that should come as no surprise, since they offer a high contact pressure of between 2.5 kN and 1,600 kN which can be increased gently and in a controlled manner until the maximum braking power is achieved. For conveyor systems in particular, such a stop-and-go solution is very gentle on materials.

# PRODUCT OVERVIEW FOR MATERIALS HANDLING TECHNOLOGY

					
Product	ROTEX®	ROTEX® GS	REVOLEX® KX-D	BoWex®	BoWex® FLE-PA BoWex® FLE-PAC
High-bay warehouse technology	■			■	
Automatic small-parts warehouses	■	■		■	
Belt conveyor drives	■	■	■		
Transfer and shifting systems	■		■	■	
Storage lifts	■	■		■	
Cranes	■		■		■
Hoisting equipment	■	■	■		
Unit load conveyors	■		■		
Bulk material conveyors	■		■		
Bucket conveyors	■		■		
Worm conveyors	■		■		
Floor conveyors	■				■





MONOLASTIC®

POLY-NORM®

RADEX®-N

RUFLEX®

CLAMPEX®

KTR-STOP®

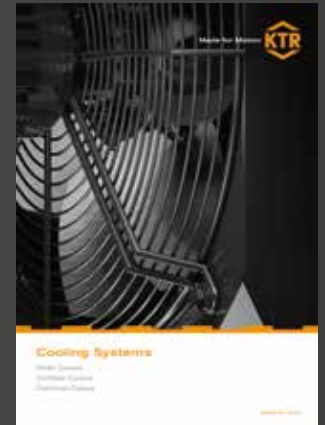
EMB-STOP



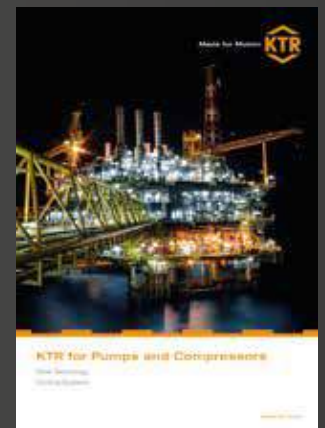
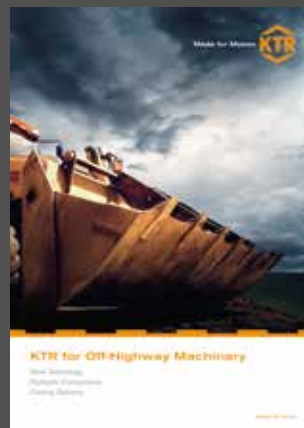
# Overview of literature

The KTR product portfolio is as varied as its areas of use, whether you require the perfect power transmission system, effective brakes, space-saving cooling systems or precision hydraulics on land, water or high in the air. These catalogues and brochures offer an overview. Available at [www.ktr.com](http://www.ktr.com)

## Product catalogues



## Individual sector brochures







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