

DRIVE

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COUPLING.

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R+W
A POPPE + POTTHOFF COMPANY

Time to Celebrate

Dear readers,

The current edition of Drive is dedicated to the subject of time. We spent months preparing for our anniversary celebrations until finally the big day dawned – around 200 invited guests celebrated the 25th anniversary of R+W's foundation at the "Hofgut von Hünersdorff" in Wörth am Main. Nowadays these historic stables are a location for exclusive events and they also provided an appropriate setting for our happening. All the works of art you see adorning the front cover of this magazine will in future grace our branches around the world. You can see other pictures taken at our event on page 7.

Furthermore we will be reporting on Motek. We spent a great deal of time talking with our customers at the Stuttgart automation engineering show. Our showcase included couplings, which we would like to present to you on the following pages – torque limiters, which can prevent logjams on fully-automated assembly lines. They help to keep production downtimes to a minimum.

We hope you enjoy reading our magazine!



Jörg Stang



Jörg Stang, Sales Manager

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Preventing Stoppages

If a machine on an automated production line malfunctions, production often grinds to a complete halt. Safety mechanisms that intervene immediately in the event of a problem and prevent more major damage and outages are the key to ensuring as high a degree of process reliability as possible. Mechanical torque limiters play an important role here – in an emergency they isolate powertrains within a few milliseconds and thus prevent overload.

Highly automated industries include the vehicle manufacturing sector. In this environment torque limiters, for example, prevent logjams on fully automated assembly lines, which can lead to longer-term downtimes. "These compact components have a huge impact," explains Dirk Steimann, who is a member of the sales team at couplings specialists, R+W. "Torque limiters protect the machinery and prevent longer downtimes – and therefore high consequential costs."

This is how R+W solved the problem encountered by a manufacturer of diesel injection pumps. An end cap is screwed on to each one of these pumps. The screws required are poured at random and with no quality checks into a hopper. From here they are transferred to the screwdriver unit, where they then automatically screw onto the product at very high speed and at a tightening torque of 15 Newton meters. Cross-threaded or defective screws can trigger a full-blown outage during this process. A

torque limiters is therefore designed to isolate the powertrain safely from the screwdriver unit at torque of 20 Newton meters in the screw-in direction. Once isolated, there is however another job that has to be performed to enable the assembly line to start operating again – the jammed screws have to be unscrewed in the reverse direction at high torque. >>

Focus on process reliability

What initially sounds like a simple exercise harbors pitfalls when you get down to the fine detail. Thus the torque limiter must only be activated in the screw-in direction in the event of overload and not – as is otherwise usual – in both rotational directions. However in this case the screw is only intended to be unscrewed by turning it in the opposite direction, meaning that R+W's specially adapted SK1 / 60 coupling solution therefore serves as a torque limiter in only one direction. "Conversely this special safety coupling then acts instead as a rigid mechanical connection that applies the antagonistic force required to loosen the screw," is how Steimann describes the so-called block function.

This protective mechanism now ensures a quite different level of production line operability/functionality.

"When screwdriver-unit malfunctions occurred in the past, a lack of torque limiters meant substantial downtimes, since the assembly station is directly linked to the other machining centers and there is no slack time," is how Dirk Steimann describes the initial situation. "Given the worm gear reduction ratio, it was previously not possible to generate the necessary torque in the opposite direction with the aid of the drive motor." Cross-threaded screws could therefore only be removed with great difficulty – the entire assembly line stood idle until the cause of the crash had been eliminated through outside intervention.

Double effect

Meanwhile the configuration of the production line has now been adapted, Steimann reports: "A more powerful drive motor can now be used thanks to this new concept, which involves

torque limiters with an overload and block function. This solution now enables cross-threaded or defective screws to be easily removed." This solution also enabled the removal of blockages to be integrated de facto into the automation process. A side benefit is also provided - all machine components are passively protected against secondary failure.

Once the overload has been eliminated, the coupling automatically re-engages 60° from the original disengagement position. This multi-position engagement function is important, since manual re-engagement would be impossible given the structural design of the assembly line. Only if release torque needs to be altered does a spacer or a flange have to be removed to provide access to the SK1 adjustment nut. However this is an exception.

Precision sizing right down the line

If torque limiters are factored at an early stage into the applications planning procedure, that has positive consequences for the entire equipment planning process. Since the torque limiters provide the system with reliable protection against overloading, other components, like gears or mandrels for example, can be designed more accurately from the word go, without the need to incorporate any exaggerated or additional safety features. This not only enables money, available space and weight to be saved. This solution also increases the process reliability and service life of the entire plant.



Stuttgart Catches the App Fever

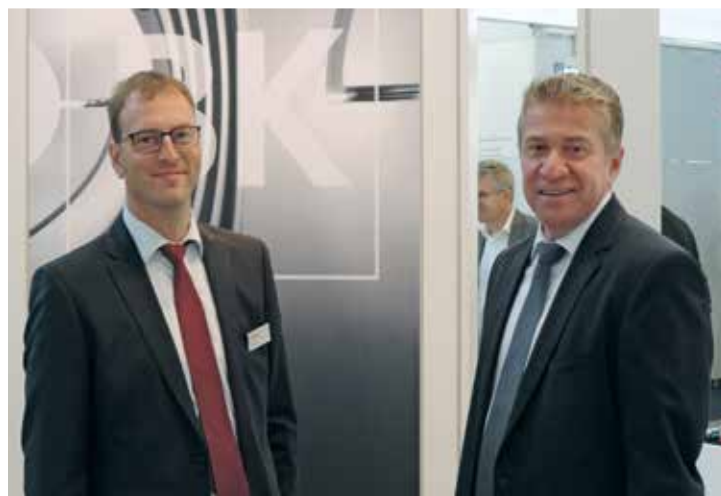
Our virtual couplings went down really well with Motek visitors.

63,000 square meters of space, more than 900 other exhibitors and around 38,000 trade visitors from a large number of countries – against this backdrop R+W showcased what it does best at Motek in Stuttgart from October 5 to 8, 2015. This particular trade fair showcase focused on the R+W App, which enables couplings to be displayed in 3D on a smartphone or tablet and to be broken down into their constituent parts.

"Following the premiere of our app at Hannover Messe, Motek visitors were also really taken by our floating couplings", says Jörg Stang, Head of

Sales at R+W. Presentations about the couplings being exhibited were enhanced with the aid of Augmented Reality technology. "What was also positively rated was our new booth position in Hall 8", Stang adds. Motek's new hall layout meant that even more people visited R+W.

As a trade fair for production and assembly line automation, Motek attracted key decision-makers from the vehicle manufacturing, mechanical engineering and toolmaking, electrical and electronics industries as well as metal and plastics processing companies over the course of four days.

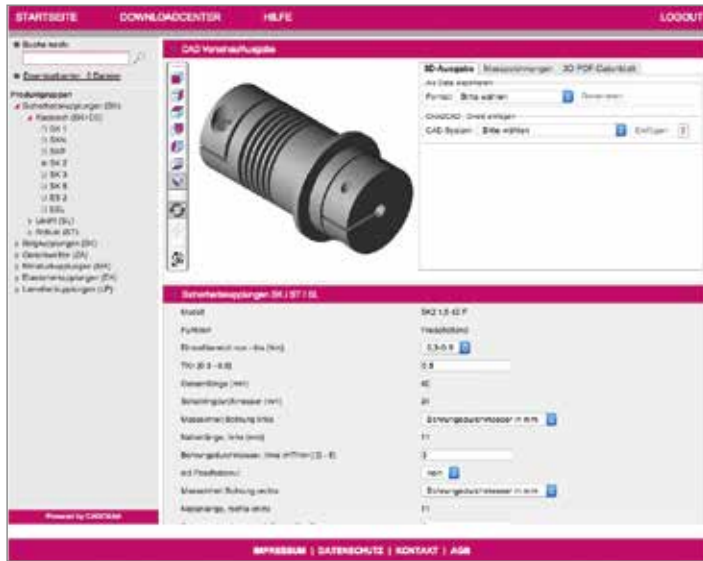


Design your own Coupling yourself!

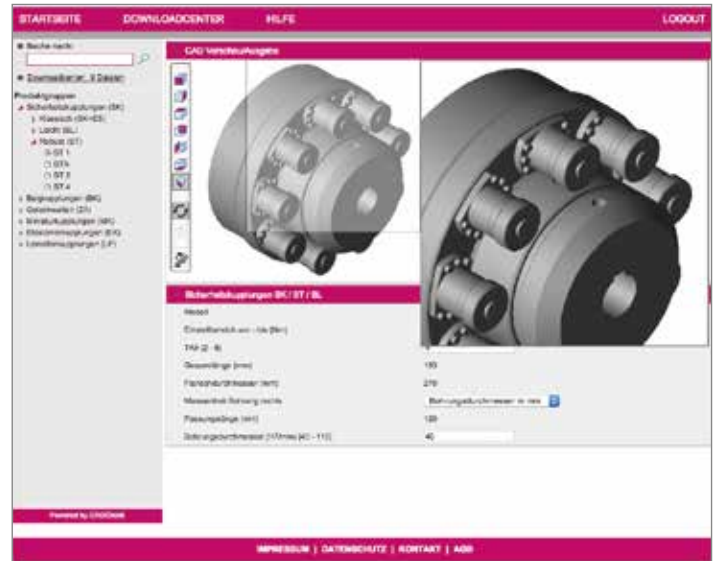
Our new, comprehensive CAD tool enables you to configure the coupling you require yourself in next to no time.

Our CAD Configurator makes true-to-detail visualization of a precision or industrial drive coupling a convenient exercise. Simply select the size you require, details like inside diameter and if necessary the settings range and you can download the coupling you require directly to your CAD tool

or as an image in a range of formats. Another option is to produce a 3D PDF datasheet. This extensive service offering enables design engineers to obtain important information and data quickly and straightforwardly. This provides you with valuable assistance in your day-to-day work.



Select the required image format or direct-to-your-CAD-system option here.



You can zoom in on details using the mouse.

Investment in the Future

New production site in Würth am Main



R+W Antriebselemente is expanding – its new production facility is located in Würth am Main. The roughly 300-square-meter production building dedicated to the SK and ES ranges of torque limiters is located near corporate headquarters in Klingenberg. Shifting production of both ranges is also designed to ensure delivery performance in the future. Other logistics capacities can also be utilized in the same location. By taking this step R+W is systematically pursuing its growth strategy and setting the course for a successful future.



25 – a Sign of the Times

Work of art to mark our anniversary

R+W held a lavish celebration to mark its silver jubilee. Our invited guests enjoyed an evening of exquisite food and drinks in the stylish ambiance of the "Hofgut von Hünersdorff" at the River Main. A quite particular work of art was created to mark this special occasion: the figure 25 consisting entirely of couplings components adorns a six-part painting, the individual sections of which will go on tour after the celebrations (and which are also depicted on the front cover of this edition of Drive). Each of our branches will receive one such painting, meaning the complete work will be spread out all over the world. A duplicate was made for our headquarters in Klingenberg, meaning a full overview of the painting has also been retained.



Quite a Different Perspective



Experience augmented reality technology with R+W:
3D-models, animations, videos and data in one app.

<http://www.rw-couplings.com/news/r-w-app.html>

Regularly news in the blog of R+W:

<http://blog.rw-couplings.com/>

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