

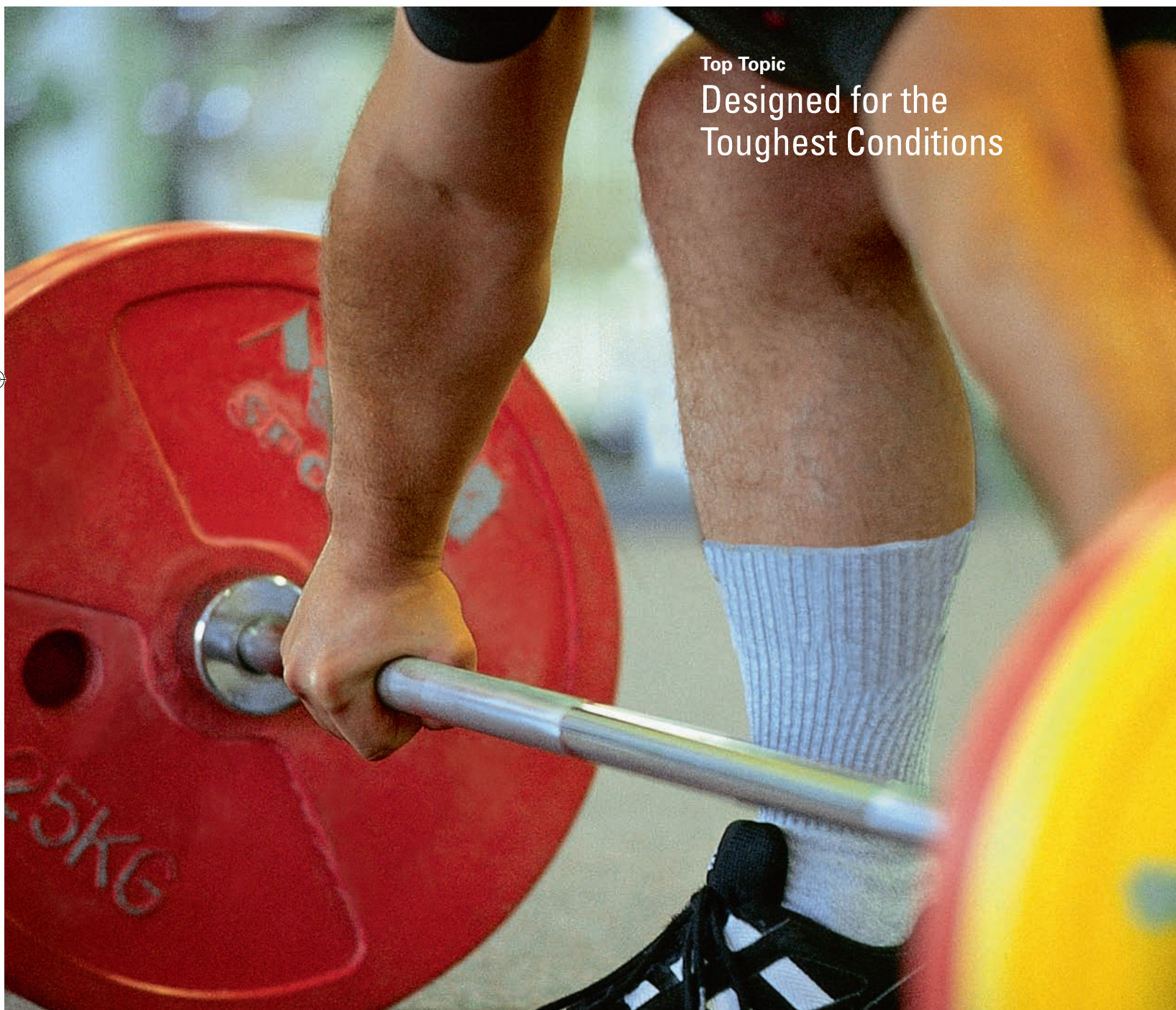
DRIVE

THE JOURNAL FOR COUPLING TECHNOLOGY

Torque Limiters | Bellows Couplings | Miniature Couplings | Elastomer Couplings | Line Shafts | Linear Couplings

Top Topic

Designed for the
Toughest Conditions



Sharing Good Prospects

Dear readers,

Optimism is only valuable for the future when based on hard facts in the present. This differentiates it from hope. We base our optimism on parameters such as incoming orders, specific developments in our target markets and direct talks with customers. On this basis we look ahead with confidence for our partners and ourselves. Because only together we can successfully shape the future.

In retrospect we would therefore like to thank our partners for the successful year we've had in 2011. We look forward to continuing the positive collaboration in 2012.

In addition to plain figures and positive feedback from the market, our newest innovations support these great prospects: our new development BX, for example, offers decisive advantages over steel laminae couplings. You can find more detail about this on pages 4 and 5. Our expansion in France and Switzerland (see page 7) sets the course for further growth.

On that note we hope you find this magazine informative and wish you a Merry Christmas and a Happy New Year.



Heiko Gabeli



Heiko Gabeli
Sales Manager Germany

Products & Innovations 03

Uniquely Automatic –
SH Torque Limiter with
Re-engagement

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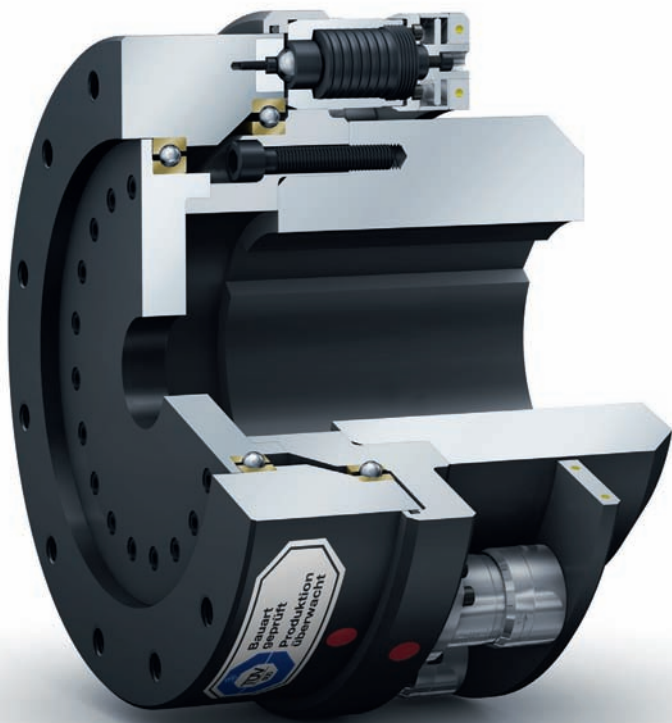
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Ten Years R+W America



Uniquely Automatic – SH Torque Limiter with Re-engagement

R+W presents the new torque limiter from the SH series for heavy duty fields of application, a further development of the successful ST torque limiter. The distinctiveness is found in the automatic re-engagement, which provides a wide range of advantages.

At a glance: Advantages of the SH series

- Infinite life and maintenance-free
- Various means of connection are possible: with elastomer couplings, gear couplings and disc couplings
- Torque range from 1,000 to 160,000 Nm
- Compact, simple design
- Sturdy
- Coupling is ready for operation again within seconds after torque overload
- No time-consuming manual re-engagement
- The torque limiter does not have to be accessible; control signal can be retrieved via ring

"The functionality of this torque limiter is unique in the marketplace. Through the automatic re-engagement during the reversal of rotation direction, the torque limiter in the machine must not remain accessible", is how Heiko Gabeli, Sales Director Germany of R+W Antriebselemente GmbH succinctly puts it. This creates valuable improvements for the constructing engineers: the power transmission can be disengaged in a constructively compact manner, as no additional access points for the torque limiter are required. This in turn leads to noticeable potential for cost savings.

In addition, advantages during equipment maintenance result: the necessary assembly work for accessibility or re-engagement of the torque limiter found in many comparable products is completely eliminated. The product

endures wear and tear and is maintenance-free. The technical basis for the strength of the torque limiter is an integrated maintenance-free hydraulic two-chamber solution in the shift segment. This guarantees that in the case of a crash, the balls move out of the universal ball joints and thereby a permanent load separation between the input and output side occurs. The shift valve, which is positioned inside the torque limiter for safety reasons, ensures that the re-engagement of the shift segment occurs automatically during a reversal of rotation direction.

Even the dimensions of the torque limiters are identical to the standard model series ST. Heiko Gabeli says, "This new development expands our systematic expertise in finding solutions on the basis of growing application expertise."

As a further development of the ST series, TÜV-tested function system (see DRIVE issue 1/2011) is also incorporated in the SH series. This tested and certified safety is unique in the marketplace.





High torque coupling model BX4

Designed for the Toughest Conditions

The application areas are characterized by extremes – in every respect: Temperatures, contamination, vibrations and operating hours stress heavy-duty machines to the maximum over decades. The users must therefore be able to rely on torsion-resistant and maintenance-free couplings. The BX series, a new development from R+W, is superior to steel laminae couplings in many regards.

"The principle of the torsion-resistant metal bellows couplings is nothing new for us. The special challenge was to configure this for the extreme demands of heavy-duty engine construction," explains Tobias Wolf, Product Manager at R+W. This is the signature of the newly developed couplings of the BX series.

One of the biggest challenges was designing the metal bellows, which serve to balance displacement between the two parts to be connected, such as the engine and transmission for example. Wolf looks back on the development phase: "After the first

attempts it quickly became clear that an FEM analysis was necessary for the design of a market-driven solution." Wolf says the reason for this was that the first builds were twice as big and three times as strong as the solution which was ultimately developed. On the basis of the analysis, R+W customized the software for the design of these couplings so that they could be designed in a more compact manner.

For the intermediate tubes, base materials are used that reliably fulfill the high requirements under operating conditions – for long-term durability under the stress of strong vibrations,

"... obvious benefits versus steel laminae couplings."



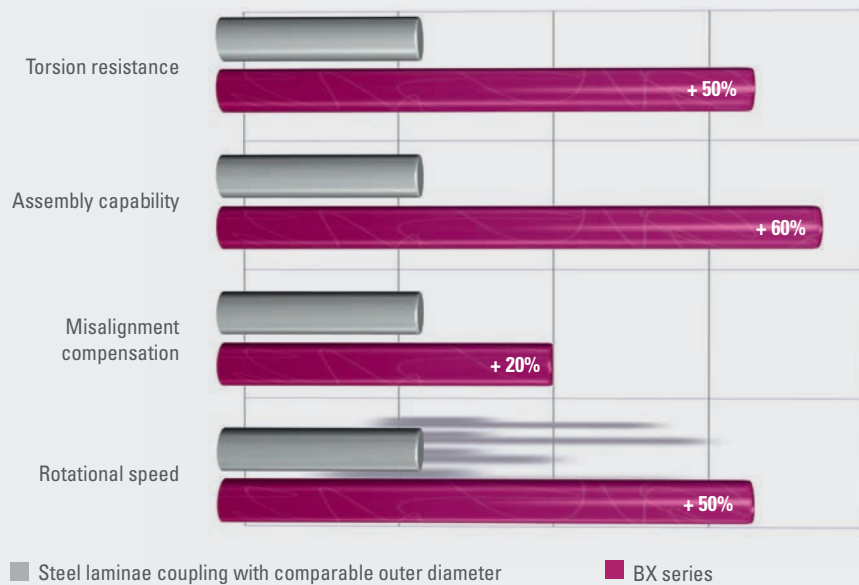
High torque coupling model BX1



High torque coupling model BX6

Advantages of the BX series:

- For high torque
- Compact, simple construction
- Installation friendly
- Torsion resistant
- Variable length
- High offset values



a rough environment and extreme temperatures. "The result of the development work for the new BX series showed clear advantages against steel laminae couplings," explains Wolf. In particular, the more compact design is a good reason for the torsion-resistant metal bellows couplings. The integrated inner reinforcement with all standard series guarantees a high level of safety. Additionally, the BX couplings balance a high axial offset.

Based on the requirements and area of application, the couplings are custom designed. For outdoor or offshore uses, for example, the steel parts can

be oxidized, nickel plated or lacquered for optimal operation according to prevailing conditions. Even the coupling unit can be designed completely in stainless steel.

Thanks to the rotationally symmetric design, the BX1 and BX6 series reach an optimal balance quality in highly dynamic operation and test benches – optionally with qualities up to 2.5. The couplings from the new BX series by default are designed for torques up to 100,000 Nm and bore diameters up to 280 mm. The principle of the metal bellows as a balancing element can be designed for even higher torque, up

to approx. 2,000,000 Nm depending on the geometry, design, and choice of materials.

Tobias Wolf summarizes: "With the torsion-resistant and maintenance-free couplings from the BX series, we offer more than just an alternative to steel laminae couplings. Supplemented by the heavy-duty torque limiter ST, we thereby cover a large part of the requirement spectrum for heavy-duty engine construction." ■

Convincing Technology

Flexibility meets maximum durability – the new coupling generation from R+W combines high torsion resistance with axial freedom of movement.

The engineers at R+W developed a torsion-resistant metal bellows coupling, which in combination with axial freedom of movement makes the balancing of lateral and angular shaft displacement possible.

Through the implementation of the new coupling, torque, as well as drag and compressive force, can be transferred in the axial direction at the same time. This makes torque of up to 10,000 Nm possible as well as the transfer of more than a thousand Newton meters in drag and compressive force. At the same time, shaft diameters of up to 180 mm can be adapted. The balancing of the shaft displacement enables a reduction of the reaction forces.

Precision engineering in particular poses high demands. The newest R+W innovation fulfills these as well.

For example, axial offset balancing is not desired during the machining process involved in honing. Axial freedom of movement in the power transmission, however, calls for constant surface contact between component and tool and the simultaneous rotational and longitudinal movement of the honing tool. The same also applies for further precision applications in multi-axial positioning systems as well as with all industrial grinding processes.

The torsion-resistant operating elements are especially applicable in:

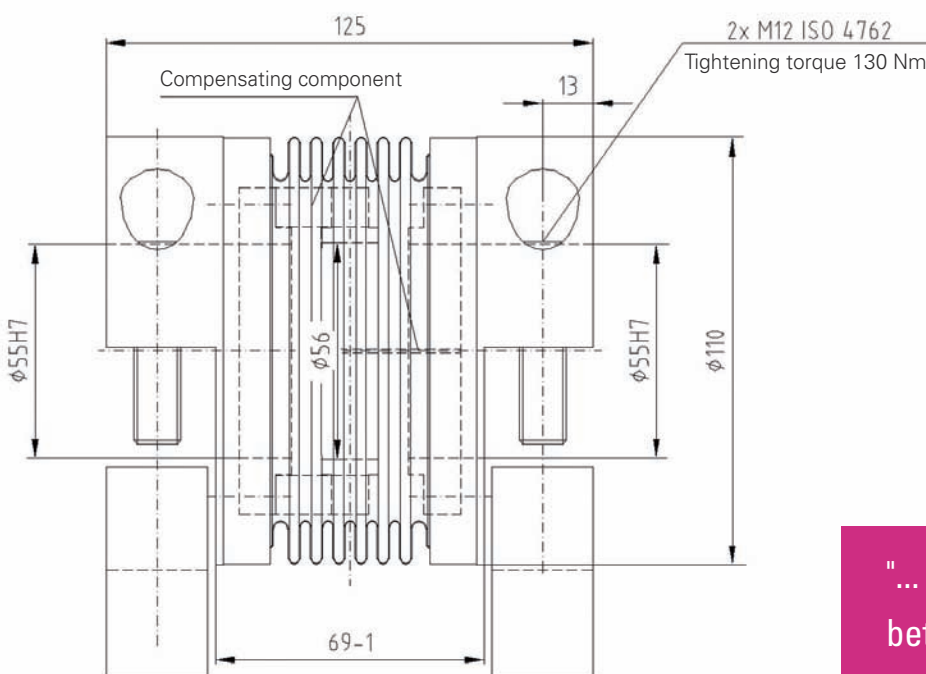
- NC machine tools
- Printing machines
- Measuring systems
- Test facilities

R+W's new development makes it possible for the operating elements of lateral, axial and angular offset to

be balanced even with high torque while remaining absolutely backlash-free and maintenance-free at the same time. The coupling in particular contributes to higher user friendliness and better surface quality after the machining process. ■

Advantages:

- Compact
- Backlash-free
- High torsion resistance
- Axially fixed
- Balancing of angular and lateral misalignments
- Different hub types selectable
- Enduring and maintenance-free



Metal bellows coupling BKH-300 with axial freedom of movement

Technical Data

Nominal torque [Nm]	350
Max. nominal torque [Nm]	450
Max. lateral [mm]	0.3
Max. angular [°]	1
Push and pull forces [N]	350
Max. push and pull forces [N]	500

"... more user-friendly and with better surface quality after the machining process."

Close to the Customer – R+W Expands its Competency Network

Internationally growing areas of responsibility require optimal customer satisfaction, short communication channels and a local contact person. In order to adequately fulfill high requirements, R+W has expanded its international competency network with two new sales offices in France and Switzerland.

Under the management of Christian Hérítier, the company has been represented in the French economic region of Lyon since March 2010. Sergio Colacicco is managing the new location

in Switzerland. Since September he has been working closely with the market and customers for R+W from Zurich. ■



Expertise on the Phone

The specialist representatives from the R+W Sales Department are always ready to listen and to find the appropriate answer to technically challenging questions. With comprehensive expert knowledge, Marcus Dümmel, Dirk Hasenstab and Frank Stadtmüller address individual customer inquiries on a daily basis. "By effectively focusing on very specific customer requirements and the high level of innovation in the company, you're constantly develop-

ing. That's what I like so much about the work at R+W – day after day," says Certified Tradesman Dirk Hasenstab.

R+W values and encourages dialogue with customers. Thanks to the regular exchange and individual customer care, the company not only regularly implements new impulses in drive technology, but has also developed into a technological leader in the couplings industry over the last few years. ■

Trade Fair Dates

AUTOMATICA

22–25 May

Munich, Germany



MOTEK

8–11 October

Stuttgart,
Germany



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Ten Years R+W America – a Success Story

"When we opened our office in the USA in 2001, it was a one-man show with an unknown outcome. Today, on the occasion of the ten-year anniversary, you can call it a real success story," says Frank Kronmüller, Authorized Officer and Vice President of R+W Antriebselemente GmbH, with pride as he looks back. Today, the current workforce of ten employees – which

continues to increase – especially serves customers from the fields of special-purpose engineering and renewable energy. The services offered go beyond the mere selling of R+W products: The personnel also assist with technical service and competent consultation. An exclusive stock program completes the portfolio of the office located near Chicago. Frank

Kronmüller emphasizes: "The development is to be especially valued in light of the challenging american mechanical engineering market." ■



For ten years now R+W has been servicing American customers out of their office in Bensenville near Chicago.

