

Not only for the automobile industry

Backlash-free miniature coupling in extremely compact design

The window lifters made the start – in the meantime there are many functions in the interior space of the vehicle where electro drives replaced the manual operations. The spectrum goes from the seat adjuster (incl. the neck-rests) over backlight window shades, sliding roof and Cabrio folding top to the steering column adjuster. Also in the engine space there are located many electric and electrohydraulic small drives – for pumps, compressors and generators.

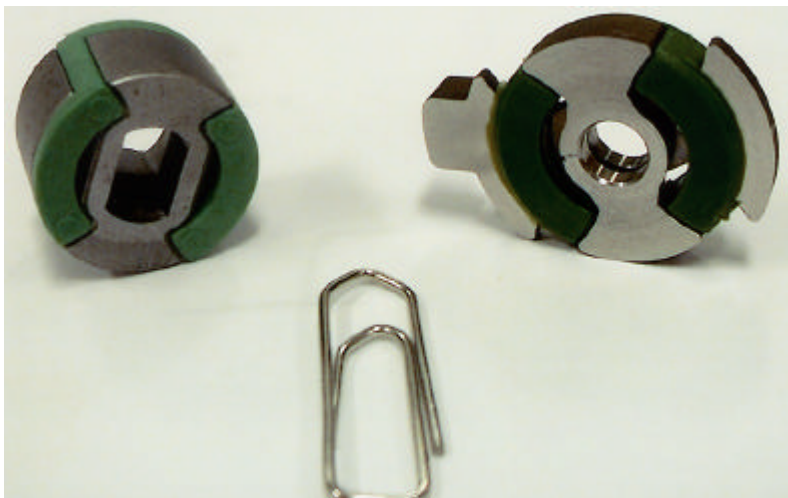
You use torsionally flexible couplings for many of these applications. One of their main tasks is to compensate for mistakes in alignment and to hereby increase the lifetime of adjacent components. But the couplings also reduces driving noises – this is important in the case of drives in the interior space of the vehicle – and it damps vibrations in the driving system. Furthermore, it serves for the heat isolation: The nylon of the Elastomer does not only stop the sound emission, but also the heat flow.

For these applications KTR offers the backlash-free ROTEX GS shaft coupling in miniature form. Its design principle is the same as that of the „large“ ROTEX GS which has proved successful, among others in high dynamic drives of machine tools and in precision drives of the measuring and control technique: A prestressed elastomer is inserted between two jaw-type intermeshing hub parts.

This construction was again optimised for the miniaturised couplings. Instead of the star-shape Elastomer you use the interlocking construction of jaws and spider. This new arrangement of jaws and Elastomers has the advantage that the coupling dimensions could be reduced considerably – an important factor for the automobile developers because the installation space in the vehicle is small.

Like the large ROTEX GS the miniaturised designs are also axially pluggable, i. e. the drive can be easily disassembled. The couplings are failsafe and show high lifetimes; they are usable in a temperature spectrum from – 40 to + 120° C. Since the Elastomers are resistant against lubricants and other fuels (e. g. brake fluid), even a suboil operation is possible. By the selection of the Elastomer material the coupling features can be influenced very exactly.

The new „ROTEX GS Compact“ are manufactured with external diameters from 15 to 40 mm and can transmit maximum torque from 1 to 35 Nm. Main purchasers of this line are the suppliers and the OEM's of the automobile industry for which KTR mostly designs special solutions based on this miniaturised coupling. E. g. „Comfort drives“ for the electric head-rest adjustment and, in the engine space, the electrohydraulic adjustment of throttle valves as well as the connection of electro engine and hydro pump of a new electrohydraulic control support belong to the examples of this application. The ROTEX GS Compact is, of course, also suitable for stationary uses, among others for small drives of the handling technique and for drives of measuring appliances.



With the miniaturised „ROTEX GS Compact“ KTR presents a backlash-free shaft coupling compensating for mistakes in alignment in small drives, increasing the lifetime of adjacent components and reducing sounds as well as vibrations in the driving system.

Picture: KTR Kupplungstechnik GmbH