

Fine tuning for your drive train.



Speed and precision, reliability and flexibility, performance and efficiency – and all that with the greatest safety possible. If requirements as different as these have to be met, two things are clear: Firstly: It's about the automation industry. Secondly: It's about couplings.

The demands placed on couplings by different drives are diverse. We offer you different servo couplings that are tailored to your application: jaw couplings, multiple disc clutches and metal bellows couplings. All servo couplings can be combined with the SYNTEX®-NC overload clutch that is extremely light and backlash-free.

A high degree of flexibility for the different drive constellations is provided by the great variant diversity in the selection of the optimum drive components.

Highlights

- Great variant diversity for a wide variety of drives
- Friction-fit or positive-fit
- Compact design
- Backlash-free torque transmission
- Customised designs available on request

Variants of backlash-free servo couplings

ROTEX® GS

The backlash-free and torsionally rigid jaw coupling is extremely versatile. Often the ROTEX® GS coupling is used in the field of positioning technology and for main spindle drives. Its vibration-damping properties help to avoid "mechanical parasitic oscillations". In spite of its vibration-damping properties, the coupling is so torsionally rigid that even in highly dynamic servo drives precision is not affected. The ROTEX® GS coupling is also available in the clamping ring design for high friction torques and speeds and is suitable for circumferential speeds of 50 m/s.

ROTEX® GS P

The P variant is a high-precision, backlash-free shaft coupling with an integrated clamping system for circumferential speeds of 80 m/s. It is designed of steel by 100% and, thanks to its top quality, it has obtained the 69002 DIN standard without any problems.

ROTEX® GS HP

The backlash-free and elastic ROTEX® GS HP reaches circumferential speeds up to 175 m/s. The ring-shaped and closed design reduces the radial deformation of the hub geometry. Furthermore, this generation of couplings dispenses with a ring gear. Individual elastomers are enclosed between the cams instead. They are held in position and in shape by the closed structure of the coupling. They are mainly used in machine tools as well as in the fields of measurement technology and test bench technology.

TOOLFLEX®

The backlash-free and torsionally rigid metal bellows coupling consists of a force-fit bellow-hub connection and a friction-fit clamping hub. In the flanged/welded version, the Toolflex is suitable up to +200°C as a standard. It is also available in short design, with flange design (TOOLFLEX® CF) or as the TOOLFLEX® PI (plug-in) variant with an axial plug-in for short mounting times.

RADEX®-NC

The backlash-free and torsionally rigid multiple disc clutch was specially designed for the field of servo technology. Thanks to the discs of rust-free spring steel, it is extremely torsionally rigid and flexible at the same time. Aluminium hubs provide for a low moment of inertia. In the double-cardan version it even reliably compensates for radial shaft misalignments with low restoring forces.



RADEX®-NC

HT RADEX® NC HT (High Torque) is a backlash-free and torsionally rigid steel multiple-disc clutch for high power ranges. The connections between discs and hubs are designed in a force-fit and positive-fit fashion, which provides for the use in servo drives in the higher power range. Their torsionally rigid and flexible discs are designed of rust-free steel, the hubs of high-strength aluminium. The coupling is light, compact, and reaches a low moment of inertia. It is available in the single- and double-cardan design. The backlash-free shaft-hub joint can be implemented in two ways: either by using a clamping ring hub for the friction-type connection. The hub structure is rotationally symmetrically and suitable for high speeds. It is mounted on block, which facilitates the installation of the coupling. The second way of implementing the connection is to use a clamping hub, optionally with a positive-fit or friction-type connection. The servo coupling is maintenance-free and can be used for temperatures up to +200° C and under aggressive ambient conditions. Possible applications are machine tools as well as the fields of measuring technology and test bench technology, but also automation technology and servo gearboxes.

COUNTEX®







The backlash-free and torsionally rigid COUNTEX® is especially suited as rotary transducer coupling in the field of measurement and control technology. In particular in the case of exact and reproducible positioning processes, COUNTEX® displays its strengths. The double-cardan operating principle reduces the restoring forces to a minimum. Thanks to its compact dimensions, the axial pluggability for blind mounting and the high-temperature-proof intermediate piece, it provides the optimum link between the rotary transducer and the motor.

Overview of the backlash-free servo couplings

Design/function

The basic function is the precise transmission of the motor power from one shaft to another and compensation of the shaft misalignment resulting

from this process. The torque transmission is performed in a backlash-free fashion, even with alternating directions of rotation.

	ROTEX® GS	ROTEX® GS HP	TOOLFLEX®	RADEX®NC	RADEX®-NC High Torque	COUNTEX
		NEW 			NEW 	
Type/version	Jaw coupling	High-speed coupling	Metal bellows coupling	Servo multiple disc clutch		Rotary transducer coupling
Shaft-hub joint	Positive-fit and frictionally engaged		Frictionally engaged		Positive-fit and frictionally engaged	Frictionally engaged
Backlash-free	•	•	•	•	•	•
Torsionally rigid			•	•	•	•
Maintenance-free	•	•	•	•	•	•
Axial plug-in	•					•
Compensation of misalignments	•	•	•	•	•	•
Electrically insulating	•					•
Fail-safe	•					
Breakdown			•			
Application areas	Machine tools, automation technology, drive technology, medical technology, packaging technology	Machine tools, measuring and test bench technology, turbine drives, special-purpose machine manufacturing	Machine tools, automation technology, drive technology, medical technology, packaging technology	Automation technology, drive technology, medical technology	Machine tools, measuring and test bench technology – servo drives in the higher power range	Measuring and control technology
Torque	0.2 to 5850 Nm	120 to 725 Nm	0.1 to 600 Nm	2.5 to 300 Nm	35 to 2000 Nm	0.3 to 2.0 Nm
Temperature range	-50°C to +150°C	-30°C to +90°C	Up to +200°C	Up to +200°C	Up to +200°C	-40°C to +160°C
Special features	Different hub types and different shore hardness values, vibration-damping	For extremely high speeds (up to 175 m/s) – short – high torque density – low noise emission by minimum air turbulence due to the closed design	Bellow of stainless steel Coupling hub of aluminium Partly available with a keyway	Flexible steel discs All-metal coupling	Hub material: alu Disc material: steel Clamping ring hub or clamping hub of light and compact design	Short and easy to fit
ATEX certification	•			•		•
Clean room certification	•		•	•		

We will be happy to advise you with regard to individual dimensioning and any other questions you may have.