

Omniflex®



## About us

### Many years of experience

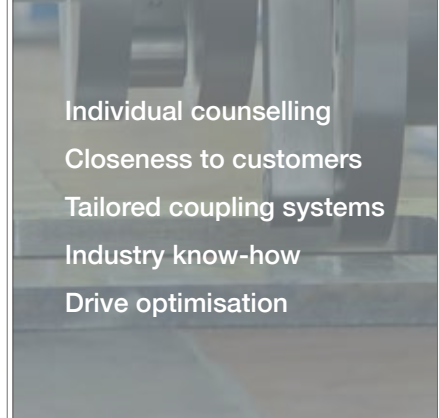
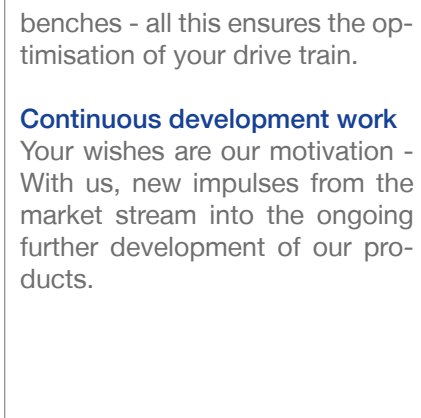
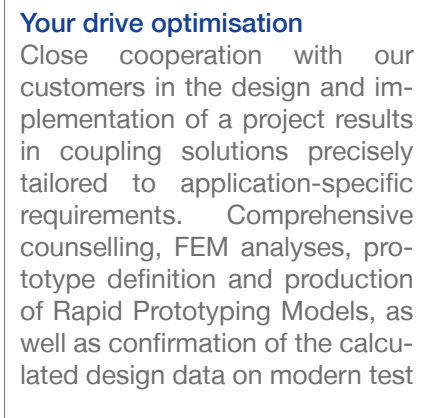
For almost 50 years, we have been advising machine manufacturers as partners for compact coupling systems. Our experience in power transmission has given us extensive know-how in many industries, as we know and understand the most varied applications, and this allows us to optimally support you. Our products are always a safe

choice. No matter if it is a standard product, a coupling tailored to a specific industry, or a coupling solution designed for a specific application.

### Products with high technical functionality

Our product range includes torsionally stiff couplings which stand out due to their compactness and high

functionality. Their unique technical features offer technical users a variety of practice-oriented advantages. Renowned OEMs from all areas of machinery manufacturing are among our partners.



## Introduction Omniflex



Torque range to 1.000.000 Nm  
High torsional stiffness  
Precise  
Application-oriented design

### The universal talent

The Omniflex coupling offers high universal displacement compensation in compact dimensions. These torsionally stiff, sturdy couplings have been designed for ma

ximum torque requirements up to 1.000 kNm and the toughest cyclic operation. Precision couplings are perfect for industrial heavy-duty applications such as press drives,

forge rolling, test benches for large gears and applications in process engineering.

## Technique

### Maximum torque transmission

The Omniflex coupling has been designed for maximum torque transmission. The power spectrum of rated torques ranges up to 1.000 kNm.

### High universal displacement compensation

The Omniflex coupling offers high universal - radial, axial and angular - displacement in conjunction with compact design. The explanation of this symbiosis lies in the

coupling system kinematics. The transmission of the rotary motion and torque takes place via two pairs of 90°-offset parallel link rods. They connect the driving side and the power take-off with the centre disc. Special spherical bearings work in the coupling elements.

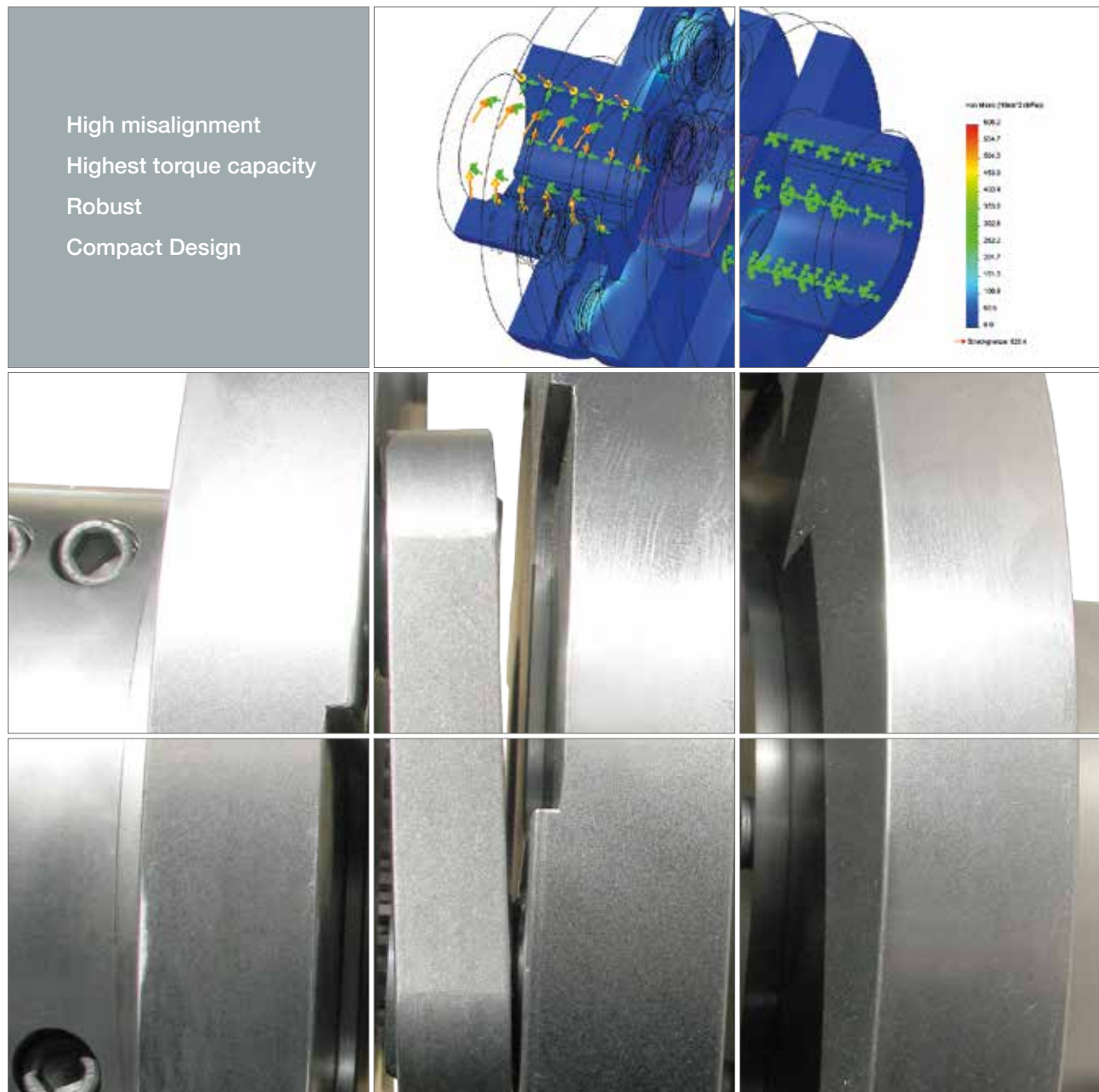
### Precise

The couplings offer high torsional stiffness and work with high precision. Additional robustness of the

couplings make them predestined for the toughest cycle operations and for applications with very hard impact moments.

### Application-oriented design

A precise coupling design in terms of performance and dimensions is carried out individually, according to the user's specifications. This likewise applies to the choice of bearing combination, which is tailored to the diverse requirement profiles.



## High shaft misalignment capacity

In conjunction with special spherical bearings, the coupling system offers high universal shaft misalign-

ment compensation. Depending on the size, the precision couplings offer an angular misalignment of

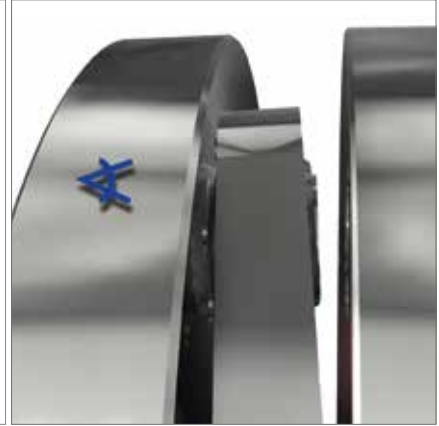
max. 3°, a radial shaft misalignment up to 100 mm and an axial equalisation up to 40 mm.



Axial equalisation up to 40 mm



Radial shaft misalignment up to 100



Angular misalignment of max. 3°

## Spezifikationen

D mm	L mm	m kg	T <sub>KN</sub> Nm	T <sub>Kmax</sub> Nm	min <sup>-1</sup>	Misalignment		
						angular °	radial mm	axial mm
80	50	1	150	340	1.250	3	3	1
100	70	2	300	680	1.250	3	4	1,5
120	80	4	500	1.100	1.000	3	5	2
135	80	7	800	1.700	900	2	6	2,5
175	90	14	1.500	3.400	700	2	8	3
200	100	17	2.500	5.600	600	2	10	4
220	100	20	3.000	7.000	500	3	10	4
320	150	70	10.000	23.000	330	3	20	6
410	190	130	20.000	45.000	250	3	25	8
550	260	330	50.000	113.000	170	3	35	10
700	320	670	100.000	225.000	130	2	50	15
880	410	1.330	200.000	450.000	90	2	60	20
1.190	560	3.330	500.000	1.125.000	70	1,5	100	30
1.500	700	6.670	1.000.000	2.250.000	50	1,5	100	40

The coupling sizes shown are in part of couplings already manufactured and of performance classes at the planning stage. We will determine the exact design of the coupling with dimensions and performance data in consultation with the user according to the res-

pective requirements profiles. The choice of bearing pair is based on a wide variety of requirements profiles and is done to suit the application concerned. The displacement values are maximum values. In event of combined displacements, they must be

coordinated to ensure that the total of actual displacements does not exceed 100%. If necessary, the speed must also be taken into consideration. Our application technicians will be pleased to advise you.

## Applications



Forming  
Large gearboxes  
Forging presses  
Cement mills  
Process engineering  
and much more

### We speak your language

Every industry has its own peculiarities. Understanding this is a key task for the successful implementation of industry-specific applications.

For nearly 50 years, the release of countless applications in various

industries has given us the experience and know-how to implement, jointly with our customers, the most suitable and efficient coupling solution for each application. No matter whether you deal with industrial gearings or press drives,

conveyor systems or process engineering, forming or mixers: We speak your language!

## The optimal solution for every application

### Forming

In the manufacture of chassis parts, the hardest impact torques occur per power cycle. The material is preformed, bent and drilled through several work processes under cyclic operation. During material processing, through adjusting movements such as different shaping and thickness adjustment, high parallel and angular displacements occur in the process which are converted by the Omniflex coupling. In the coupling elements, spherical bearings operate in the steel/steel combination in hard impact operation. According to the high torque requirements, the coupling has a peak torque of over 150.000 Nm.

### Automatic laser welding machines

Modern automatic laser beam welding machines are frequently used for welding single metallic parts and components to complex assemblies and prefabricated parts. A high welding speed, high positioning accuracy and low thermal distortion when assembling individual components are the advantages of such systems.

To assemble larger round parts, a turntable provides the appropriate material application and feeding.

The driving torque of the turntable is up to 10.000 Nm. In this regard, the Omniflex coupling provides precise transmission of the rotary motion and torque with additional compensation of universal radial, axial and angular shaft displacements up to 5 mm, 3 mm and 1 degree respectively.

### Coating systems

For the continuous transport of piece goods, such as luggage, parcels, work pieces, or containers, belt conveyors are often used. By choosing the belt surface and corresponding friction values, pitches can be overcome without causing the conveyed items to slip away. To obtain this adhesion on the conveyor belt, which is required for this purpose, the surface is often coated with different plastics. This coating is applied via coating rollers which can be adjusted in operation radially up to 20 mm, and angularly up to 1 degree, due to the processing of different materials and thicknesses. An Omniflex version with very short length provides for uniform coating application via its precise operation and compensates the high universal displacement under confined installation conditions.

In spherical bearings, the bearing combination of steel on PTFE fabric ensures no maintenance is required.

### Plant manufacturing

In plant manufacturing, when forwarding gases or thermal energy, valve flaps are mostly used.

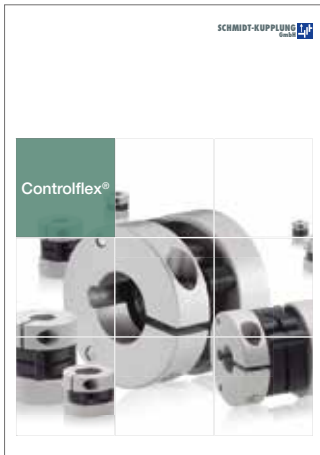
The drive of the flaps takes place via travel and oscillating movements. In addition to the displacement and torque requirements over 10.000 Nm, the coupling additional thermal resistance plays a major role due to the mentioned media and environmental conditions.

The high universal displacements occurring in operation are balanced by the Omniflex coupling. Coupling components such as hubs and elements are made of steel and ensure work is done at high ambient temperature in combination with corresponding, thermally stable spherical bearings.

Mixers and agitators  
Valve flap systems  
Coating Systems  
Welding machines  
and much more



## Product Overview



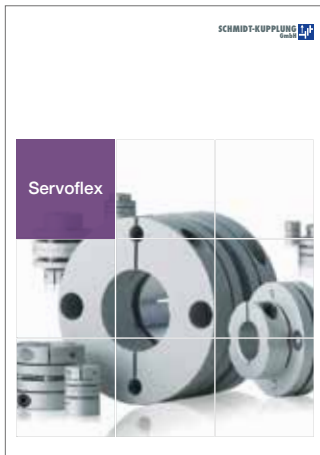
*Catalogue Controlflex*



*Catalogue Semiflex*



*Catalogue Schmidt-Kupplung*



*Catalogue Servoflex*



*Catalogue Loewe GK*



*Catalogue Omniflex*

## Contact

SCHMIDT-KUPPLUNG GmbH  
Wilhelm-Mast-Straße 15  
38304 Wolfenbüttel

Tel.: 05331 9552 500

Fax: 05331 9552 552

eMail: [info@schmidt-kupplung.com](mailto:info@schmidt-kupplung.com)

Web: [www.schmidt-kupplung.com](http://www.schmidt-kupplung.com)