Industrievertretung Miebach GmbH
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Gear Couplings






RINGFEDER® TNZ

EN 10.2023 | **Product Paper & Tech Paper**



100 YEARS EMPOWERING TOMORROW SINCE 1922



Machine Building



Aviation & Aerospace



Process Technology

Welcome

Your System Partner for Drive and Damping Technology

We say what we mean and mean what we say.

We see things from our customers' perspective.

We are considerate of our employees and their families as well as of our environment and society.



Movement



Energy



Extraction

RINGFEDER POWER TRANSMISSION is the international market leader in niche markets for drive and damping technology. We develop, manufacture and supply superior Shaft-Hub Connections, Damping Components, Couplings, Brake Systems and Bearing Housings for highest functionality and durability requirements in a wide range of technology sectors worldwide. Not only do we always provide our ambitious customers with competent advice based on over 100 years of experience and expertise, but also realize need-based, application-oriented solutions together with them that guarantee safe, failure-free and economic machine and plant operation – with our aspiration to be **Partner for Performance**.

Our customer promise for your specific use case:

- Excellent know-how for maximum performance and reliability
- Best cost-benefit ratio
- Short reaction times and high product availability



Quality & Expertise

One century of competence and experience

As pioneer and market leader for premium systems and components of drive and damping technology, we stand for outstanding professional competence, superior product and service quality as well as excellent customer focus. For your advantage, we consistently combine highest quality standards, continuous optimization and profound consulting – no matter how, where and when forces must be transmitted or damped.

Reliability & Trust

From the requirement to the optimum result

Whether customized special design or proven standard type, highly specific individual or holistic system solution: As a competent, professional and service-oriented partner, we support and accompany you from the initial clarification of your requirements to the successful completion of your purpose – and, of course, also beyond.



Your Projects, Our Drive

Anytime & Anywhere

Locally on-site for you worldwide

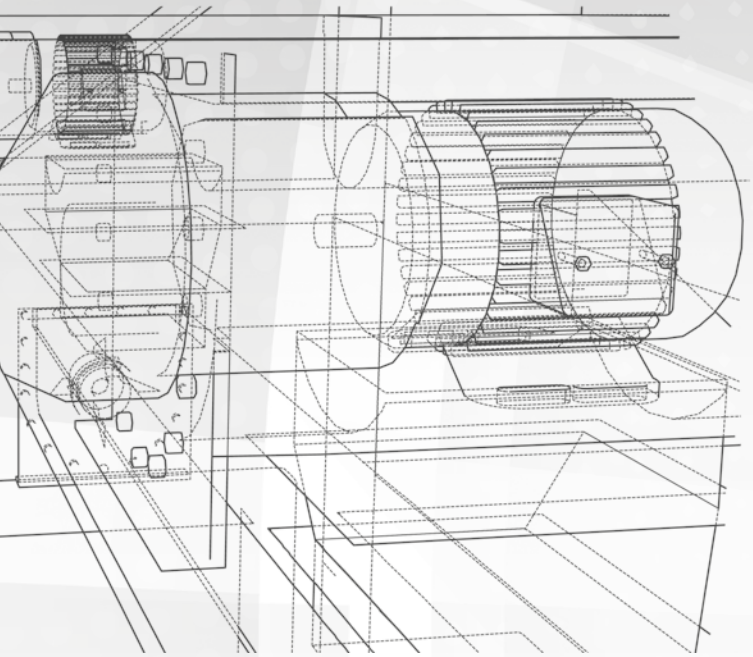
Thanks to national and international development, manufacturing and sales locations as well as a worldwide service and partner network, we are at your side around the globe directly and locally with qualified technical support and fast product availability – around the clock, seven days a week, of course also and particularly in urgent maintenance and repair cases.

Digital & Online

Always find the right information instantly

Discover the latest company and product information, download CAD models, brochures and data sheets, use our calculation and selection program for shaft-hub connections, arrange a video consultation appointment with one of our specialists and much more – quickly, easily, with no obligation and at any time. Convince yourself on our website at www.ringfeder.com.

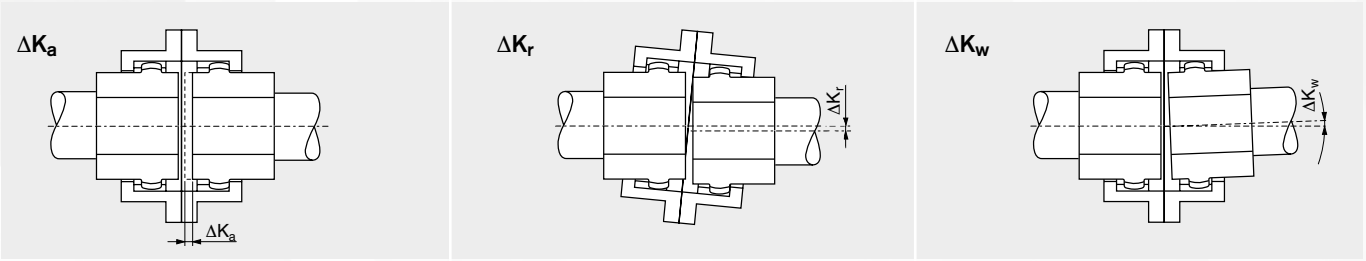
RINGFEDER®
Gear Couplings



Introduction

The RINGFEDER® TNZ torsionally rigid gear couplings are designed to connect machine shafts required to transmit high torques. These couplings have a very compact design which results in a high power density. The coupling housings have a straight internal toothing whilst the hubs have an external toothing with a chased variable radius. As a result, the hubs can move spatially within the housing and thus compensate angular, radial and axial shaft misalignment of the adjoined shaft ends within specified tolerances.

Standard gearing allows angular displacements up to 0.5° per joint and several millimetres of axial movement. The maximum possible radial displacement depends on the distance between the two joints. High quality tooth flanks and lubricants with high pressure additives ensure low restoring forces and long service life of the RINGFEDER® TNZ Gear Couplings. The RINGFEDER® TNZ can also on request be offered with flanged connections pursuant to AGMA 9008-B00.





Gear Couplings RINGFEDER® TNZ

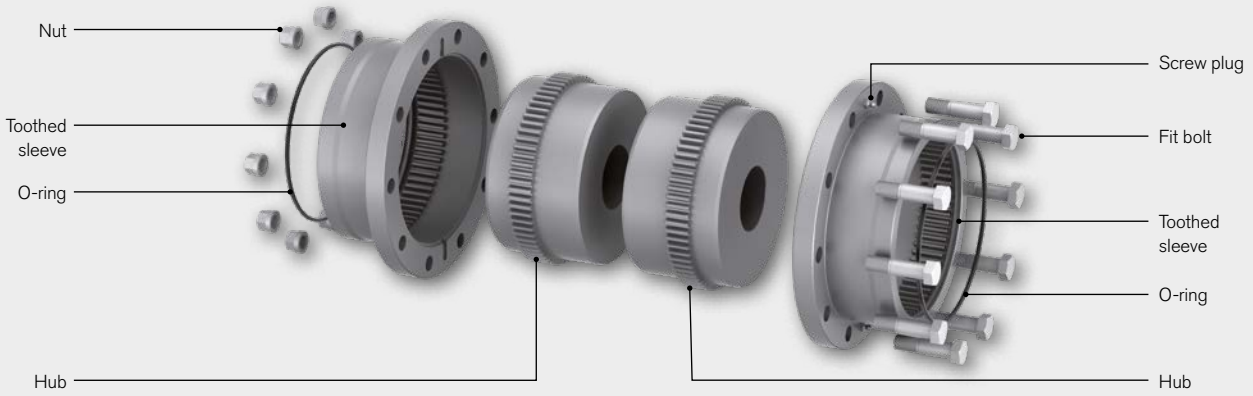
RINGFEDER®	Nom. transmissible torque T_{KN} [Nm]	with integrated O-ring	with separate O-ring cover	Min. bore diameter* d_{1kmin} / d_{2kmin} [mm]	Max. bore diameter* d_{1kmax} / d_{2kmax} [mm]
TNZ ZCA / TNZ ZCB	1750 – 195000	●	●	12 – 130	50 – 270
TNZ ZCAU / TNZ ZCBU	1750 – 195000	●	●	12 – 130	50 – 270
TNZ ZCAUU / TNZ ZCBUU	1750 – 195000	●	●	12 – 130	50 – 270
TNZ ZCAF / TNZ ZCBF	1750 – 195000	●	●	12 – 130	55 – 330
TNZ ZCAK / TNZ ZCBK	1750 – 195000	●	●	12 – 130	50 – 270
TNZ ZCAV / TNZ ZCBV	1750 – 195000	●	●	12 – 130	50 – 270
TNZ ZCAZ / TNZ ZCBZ	1750 – 195000	●	●	12 – 130	50 – 270
TNZ ZCH	1750 – 195000		●	12 – 130	50 – 270

* with keyway according to DIN 6885-1

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Customisation

The modular design of the RINGFEDER® TNZ Gear Coupling offers highly flexible options for the assembly of many coupling designs. Suitable components such as brake discs and drums, torsion shafts or constructions for vertical operation of a coupling can be adapted to suit requirements.



Materials

Standard toothed hubs and sleeves are manufactured using high quality heat treated steel with yield strengths of at least 335 N/mm². RINGFEDER® can offer special solutions using increased strength materials for instances with special stress such as, for instance, locking devices or cylindrical interference fit of shaft and hub. NBR O-rings are used for sealing.

The sleeves are bolted together using high quality bolts specifically developed for the RINGFEDER® TNZ. The half-coupling is centred using high strength locating screws and self-locking all-steel nuts.

Environmental conditions

The standard type is designed for ambient temperatures between -10 °C and +80 °C. Special seals will allow the maximum temperature to be increased to 120 °C. RINGFEDER® should be consulted in case of extremely high or low temperatures, since this would require the use of suitable lubricants. The coupling is designed for operation in common industrial air only.

Aggressive media will pose a threat to the functional integrity of the coupling, since coupling components, screws and flexible elements may be attacked. All RINGFEDER® TNZ Gear Couplings are also available with long-term corrosion protection on request.

Balancing recommendations

RINGFEDER® recommends dynamic balancing pursuant to DIN ISO 21940-11 for circumferential speeds in excess of 30 m/s.

Tolerances and Standards

Unless specified otherwise, the bore tolerance will be ISO H7. The given maximum bore diameters refer to bores with keyways as per DIN 6885-1. The hubs are also available with cylindrical shrink fit bores or other positive fit connections between shaft and hub.

Disclaimer of liability
All technical details and notes are non-binding and cannot be used as a basis for legal claims. The user is obligated to determine whether the represented products meet his requirements.

We reserve the right carry out modifications at any time in the interests of technical progress.



Coupling selection

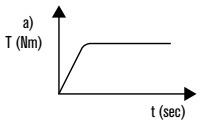
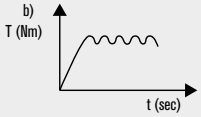
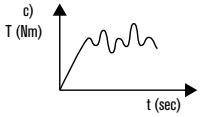
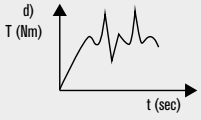
The dimensioning of torsionally rigid RINGFEDER® Gear Couplings will be based on the nominal and maximum torques T_N and T_{max} of the machines.

The maximum coupling torque T_{Kmax} must not be exceeded under any operational condition (start-up, electrical short, blocking, etc.).

Equation 1)

$$T_N = 9550 \cdot P_N / n_N$$

T_N	=	Nominal torque of machine	[Nm]
P_N	=	Machine power	[kW]
n_N	=	Operating speed	[min^{-1}]

Torque characteristics at operating point on outputside	Torque characteristics	Minimum load factor S_L
Constant, uniform, without torque variation		1
Uniform with little variations, slight shocks		1,25
Non-uniform, also API-671, API-610, moderate shocks		1,5
Non-uniform, fluctuant, heavy shocks		1,75
Other torque characteristics		Own specification/ personal vibration calculation

S_L = Load factor of output side

Load for working machine	
Uniform load (S_L >1)	
■ Generator (except welding generator)	■ Rotary pump
■ Belt conveyor (constantly loaded)	■ Stirrer (for liquids)
■ Rotary blower	
Irregular load (S_L >1,5)	
■ Belt conveyor (unevenly loaded)	■ Positive displacement blower
■ Gear pump	■ Printing machine
■ Vane pump	
Heavy shock (S_L >1,75)	
■ Welding generator	■ Chopping machine
■ Multi-cylinder piston compressor	■ Roller table
■ Mill for ore crusher	■ Crusher for ore or stones
■ Plastic calenders	■ Hot rolling mill
■ Rubber calender	■ Blooming trail
■ Refiner	■ Double action scissor
■ Cold rolling mill	■ Billet shear

Load for working machine

Determination of the coupling size

The Gear Coupling Type TNZ is dimensioned based on the nominal torque, also considering an operational factor f. In drives using e-motors, the minimum load factor S_L will be determined as a function of the torque curve at the operating point to yield the operational factor f after multiplication with the alignment factor S_A.

For drives with high non-repetitive impulse moments T_S, apply
a) for non-reversing torque: $T_{KN} > T_S$
b) for reversing torque: $T_{KN} > 1{,}5 \times T_S$

Equation 2)

$$f = S_L \cdot S_A$$

f	=	Operational factor
S_L	=	Minimum load factor
S_A	=	Alignment factor

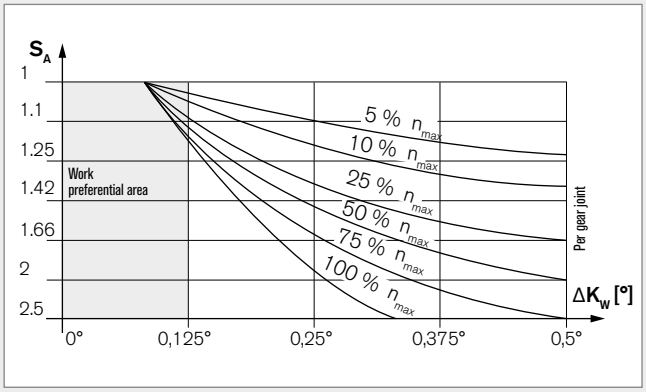
Equation 3)

$$T_{KN} \geq T_N \cdot f = \left(9550 \cdot \frac{P_N}{n_N}\right) \times f$$

T_{KN}	=	Nom. transmissible torque (Coupling)	[Nm] acc. to Paper data
T_N	=	Operational torque	[Nm] acc. to equation 1)
P_N	=	Operational power	[kW]
n_N	=	Operating speed	[min^{-1}]
f	=	Load factor of drive side	
S_L	=	Load factor of output side	

Determining the alignment factor S_A as a function of angular displacement

The alignment factor S_A is a function of the ratio between nominal speed n_{nom} and reference speed n_{max} and the angular displacement. It may be determined by means of the diagram.



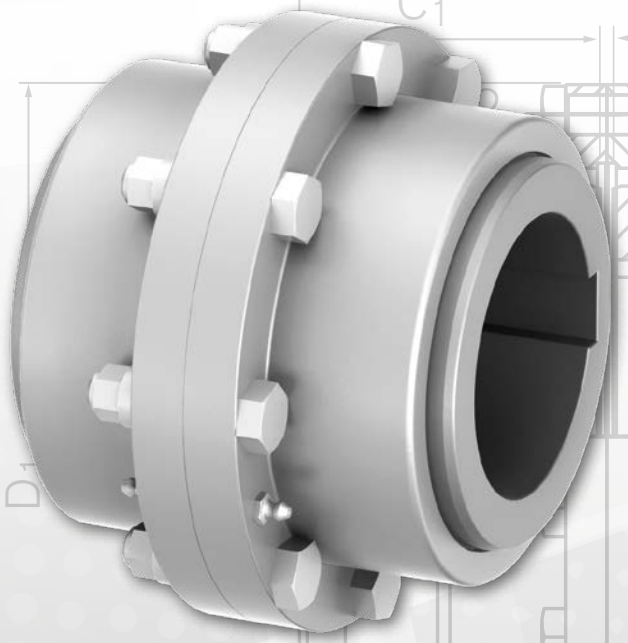
Checking the selected size

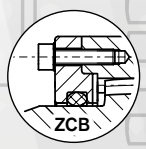
- The shock torque must be lower than T_{Kmax} of the selected coupling; if not, select a larger size coupling.
- Check whether shaft diameter does not exceed max. bore diameter.
- Check the torque transmitted through the shaft-hub connection. Please select an extended hub if the standard hub is too short.
- Consider the permissible rpm of the coupling. Check whether the coupling should be dynamically balanced.

Size		Torque	Speed
ZCH	ZCA/ZCB	T_{KN}	n_{max}
Nm	Nm	Nm	min^{-1}
69	69	1750	6000
85	85	2750	4600
107	107	5500	4200
133	133	8500	4000
152	152	13500	3850
179	179	22000	3700
209	209	35000	3200
234	234	43000	2900
254	254	68000	2600
279	279	82000	2300
305	305	150000	2100
355	355	195000	1800

Reference data



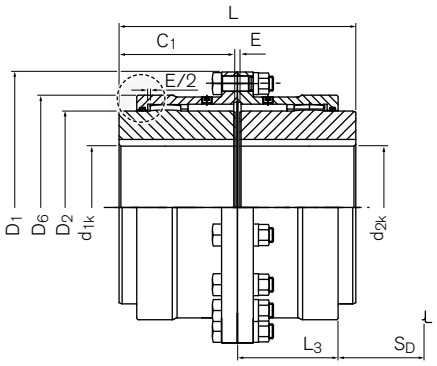




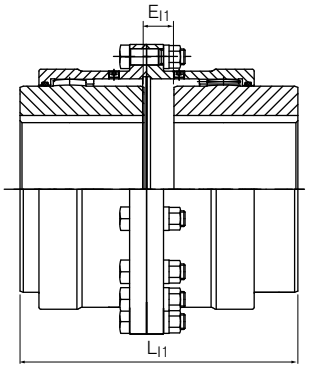
Further information on
RINGFEDER®
TNZ ZCA / TNZ ZCB
on **www.ringfeder.com**

ZCA: with integrated O-ring
ZCB: with separate O-ring cover

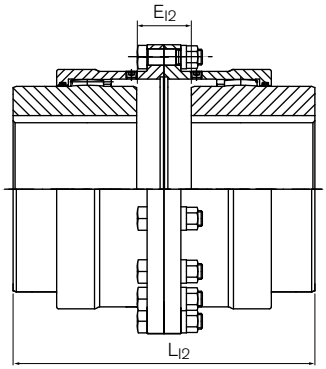
Design E



Design E_{l1}



Design E_{l2}



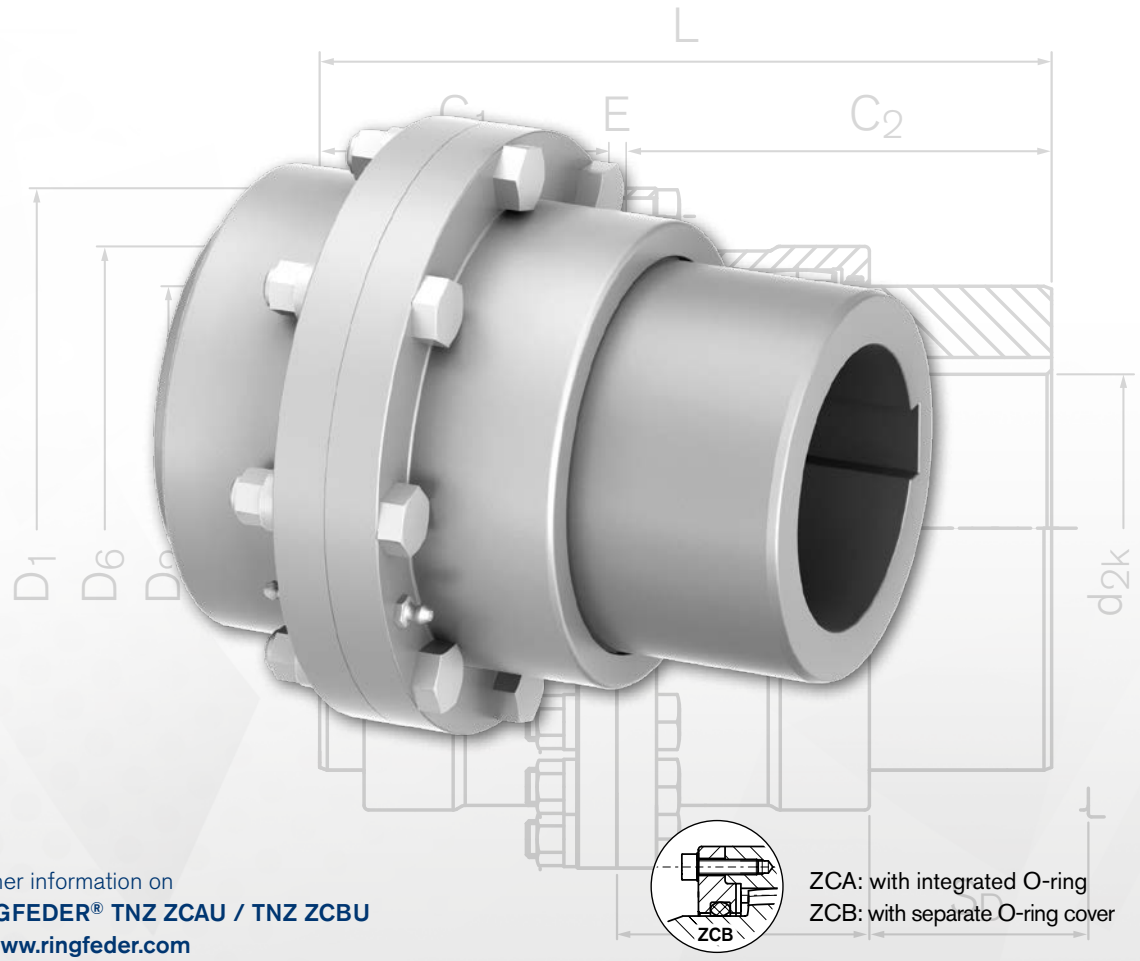
Standard hubs

The **RINGFEDER® TNZ ZCA** coupling is a torsionally stiff gear coupling designed to have some backlash and consists of two coupling halves that are connected by fitted bolts.

Unlike the TNZ ZCA coupling, the **RINGFEDER® TNZ ZCB** comes with a bolt-on O-ring carrier which facilitates installation by changing the mounting sequence. For mounting the coupling, unscrew the cover and place it on the shaft. Mount the hub onto the shaft, slide the sleeve onto the hub and fasten the O-ring carrier to the sleeve. This way of mounting is advantageous when large couplings are involved.

Characteristics

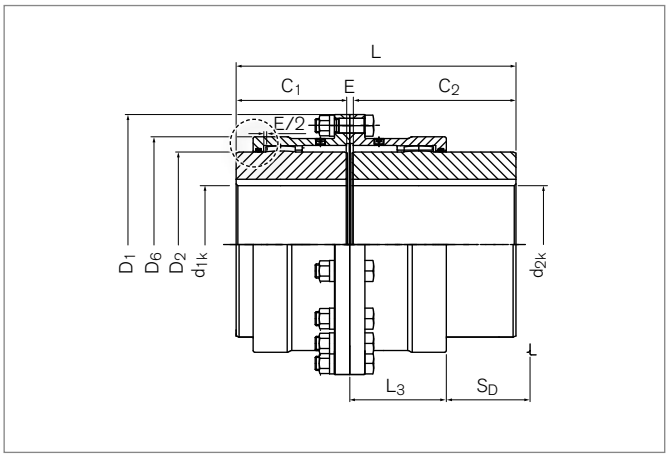
- Torsionally rigid gear coupling made of high-quality steel
- Compensates for angular, radial and axial shaft offset
- Suitable for use in temperatures up to +120 °C if special seals are used
- Coupling halves centred using fitting screws. Quantity, bores and bolt circles in accordance with international standards
- Bores up to 270 mm
- Torques up to T_{KN} = 195000 Nm / T_{Kmax} = 390000 Nm
- Speeds up to n_{max} = 6000 min^{-1}



ZCA: with integrated O-ring
ZCB: with separate O-ring cover

Further information on
RINGFEDER® TNZ ZCAU / TNZ ZCBU
on **www.ringfeder.com**

Standard hub and extended universal hub

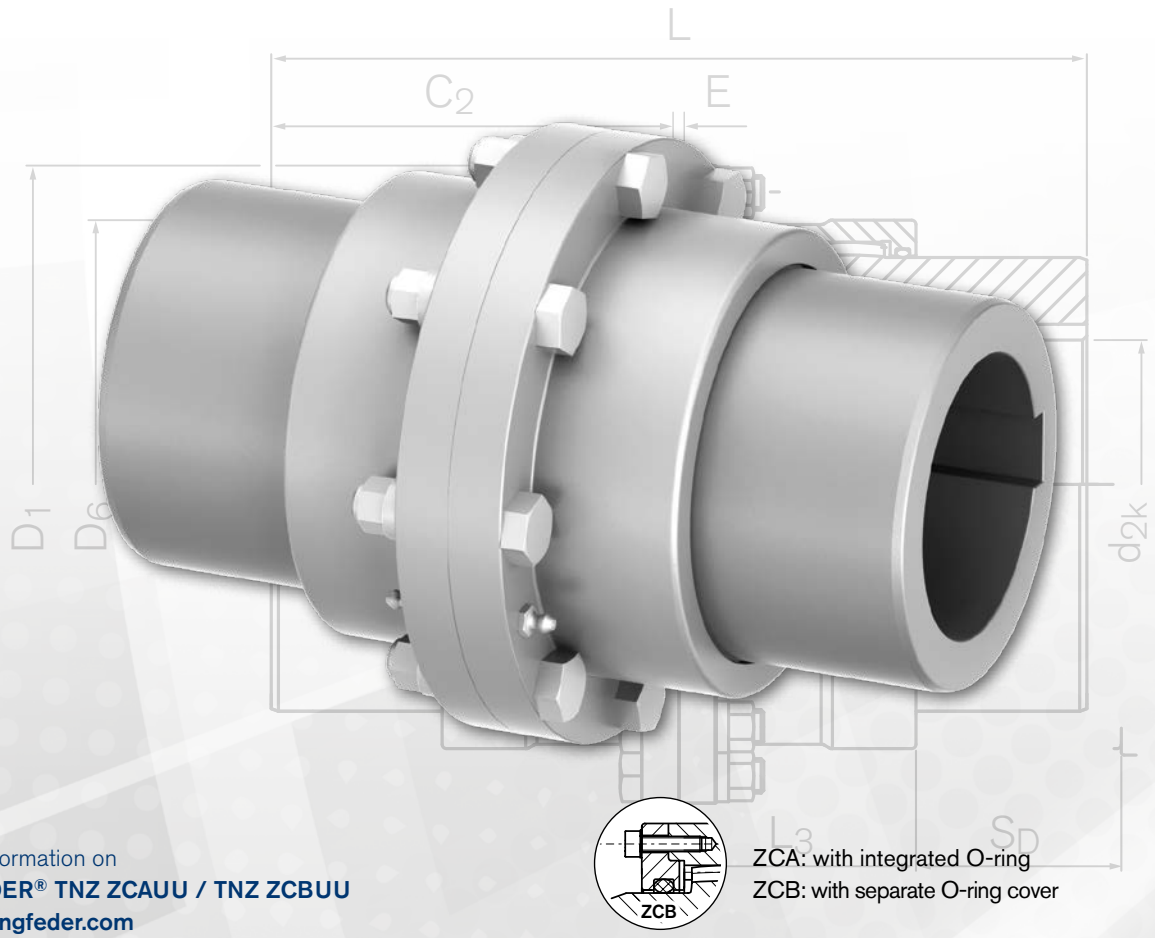


Compared to the TNZ ZCA types, the coupling **RINGFEDER® TNZ ZCAU** is equipped with an elongated hub, the length of which can be adapted to the plant requirements.

Compared to the model TNZ ZCAU, the **RINGFEDER® TNZ ZCBU** coupling is equipped with an O-ring carrier which facilitates installation by changing the mounting sequence. For mounting the coupling, unscrew the cover and place it on the shaft. Mount the hub onto the shaft, slide the sleeve onto the hub and fasten the O-ring carrier to the sleeve. This way of mounting is advantageous when large couplings are involved. Like the model ZCAU, the ZCBU has an elongated hub the length of which can be adapted to the plant requirements.

Characteristics

- Torsionally rigid gear coupling made of high-quality steel
- Compensates for angular, radial and axial shaft offset
- Suitable for use in temperatures up to +120 °C if special seals are used
- Coupling halves centred using fitting screws. Quantity, bores and bolt circles in accordance with international standards
- Bores up to 270 mm
- Torques up to T_{KN} = 195000 Nm / T_{Kmax} = 390000 Nm
- Speeds up to n_{max} = 6000 min^{-1}



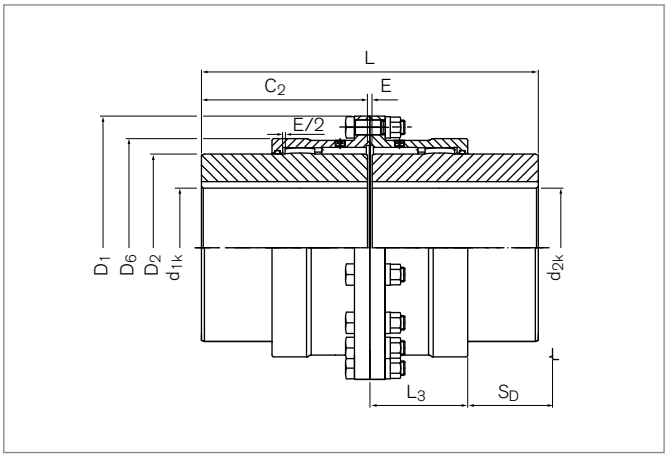
Further information on
RINGFEDER® TNZ ZCAUU / TNZ ZCBUU
on **www.ringfeder.com**

ZCA: with integrated O-ring
ZCB: with separate O-ring cover

Extended universal hubs

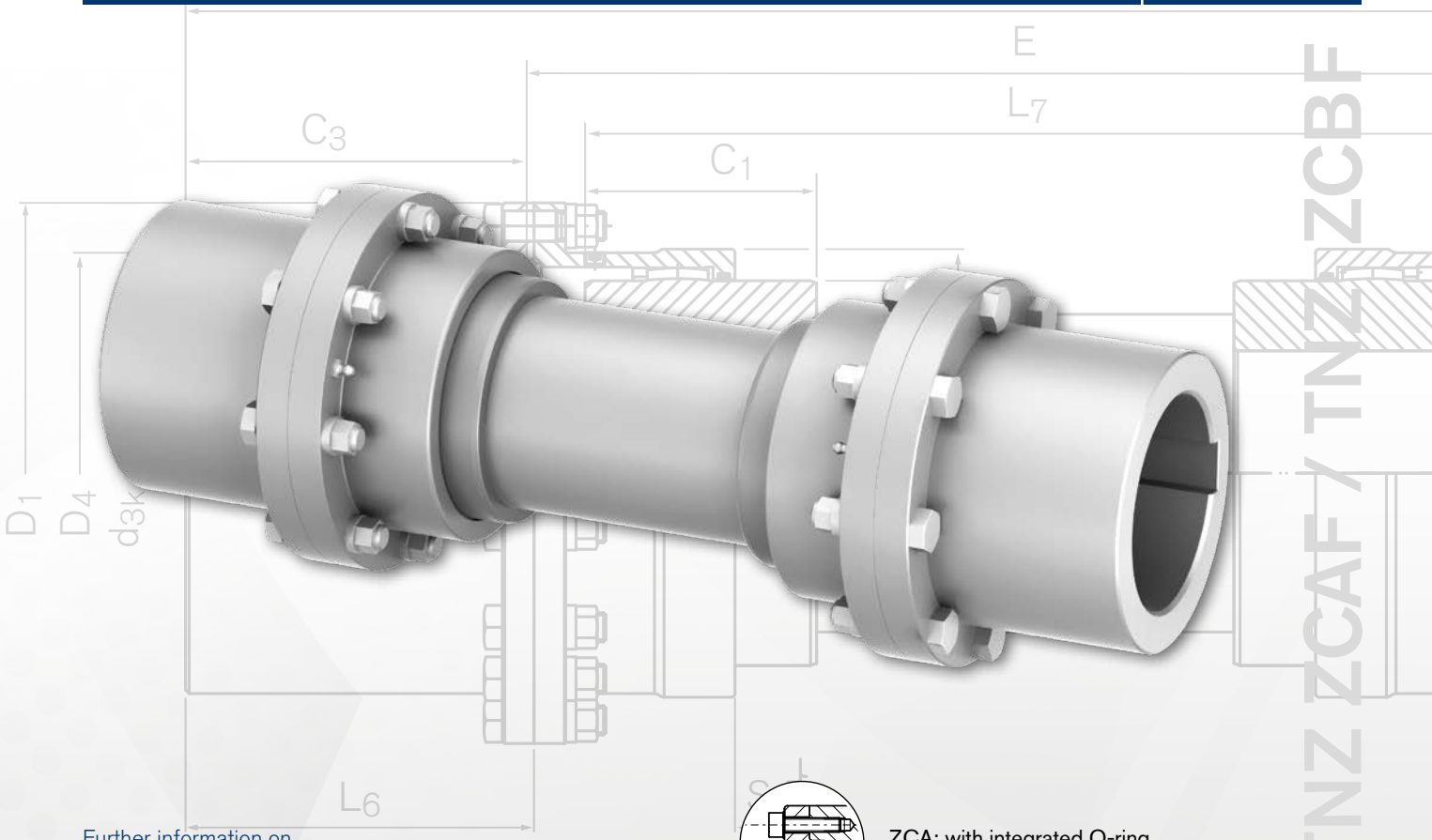
Unlike the model TNZ ZCA, the **RINGFEDER® TNZ ZCAUU** has two elongated hubs the length of which can be adapted to the plant requirements.

Compared to the TNZ ZCAUU, the coupling model **RINGFEDER® TNZ ZCBUU** is equipped with an O-ring carrier which facilitates installation by changing the mounting sequence. For mounting the coupling, unscrew the cover and place it on the shaft. Mount the hub onto the shaft, slide the sleeve onto the hub and fasten the O-ring carrier to the sleeve. This way of mounting is advantageous when large couplings are involved. Like the model ZCAUU, the ZCBUU has two elongated hubs the length of which can be adapted to the plant requirements.

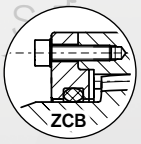


Characteristics

- Torsionally rigid gear coupling made of high-quality steel
- Compensates for angular, radial and axial shaft offset
- Suitable for use in temperatures up to +120 °C if special seals are used
- Coupling halves centred using fitting screws. Quantity, bores and bolt circles in accordance with international standards
- Bores up to 270 mm
- Torques up to T_{KN} = 195000 Nm / T_{Kmax} = 390000 Nm
- Speeds up to n_{max} = 6000 min^{-1}



Further information on
RINGFEDER® TNZ ZCAF / TNZ ZCBF
on **www.ringfeder.com**

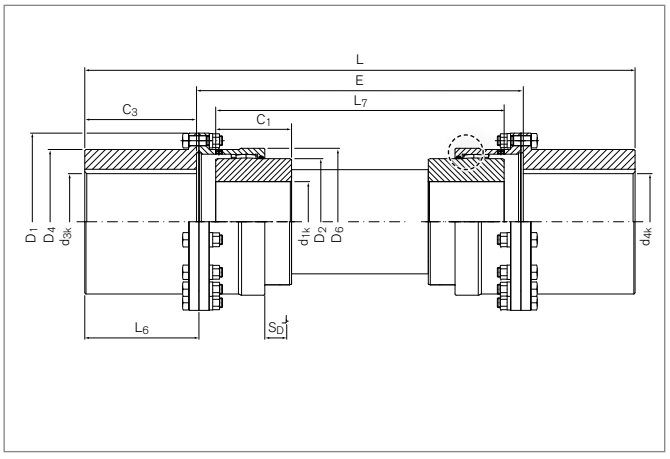


ZCA: with integrated O-ring
ZCB: with separate O-ring cover

Intermediate shaft and rigid counter-flanges

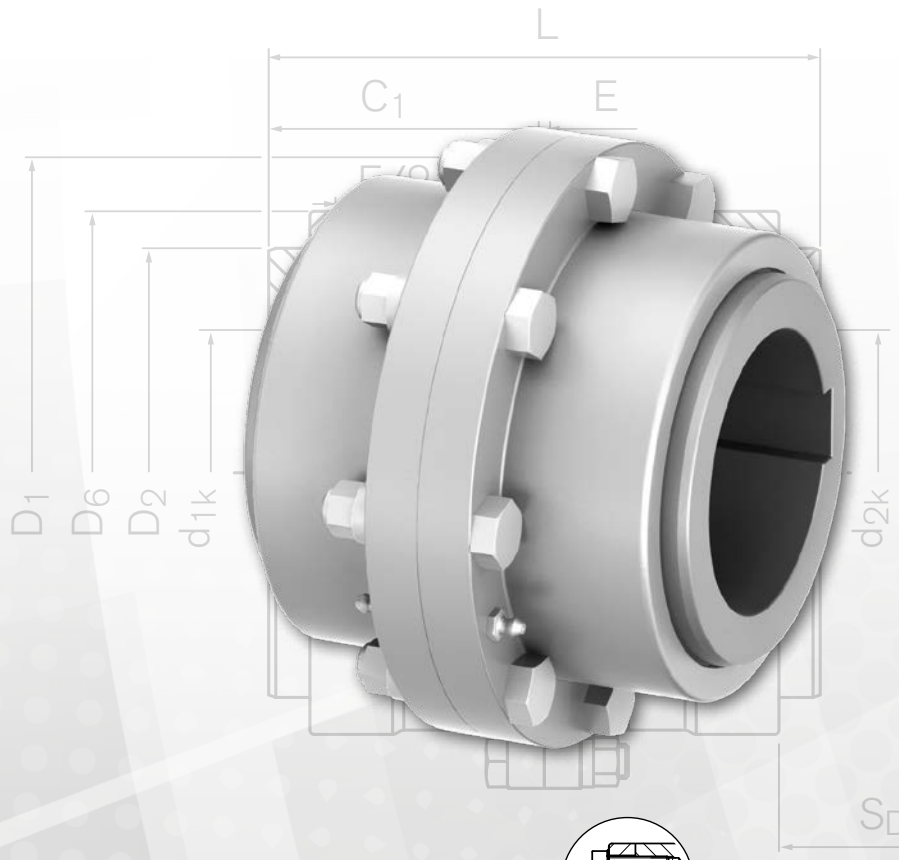
The model **RINGFEDER® TNZ ZCAF** is composed from the coupling halves of the coupling TNZ ZCA and is complemented by an intermediate shaft and two rigid counter-flanges. If required, the torsional stiffness of the shaft can be tuned to the dynamic behavior of the drive line. In addition, the intermediate shaft, which serves to accommodate longer shaft separations, can be mounted and dismounted radially without having to move the connected machines.

The model **RINGFEDER® TNZ ZCBF** is composed from the coupling halves of the coupling TNZ ZCB and is complemented by an intermediate shaft and two rigid counter-flanges. If required, the torsional stiffness of the shaft can be tuned to the dynamic behavior of the drive line. In addition, the intermediate shaft, which serves to accommodate longer shaft separations, can be mounted and dismounted radially without having to move the connected machines.

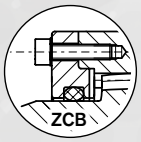


Characteristics

- Torsionally rigid gear coupling made of high-quality steel
- Compensates for angular, radial and axial shaft offset
- Suitable for use in temperatures up to +120 °C if special seals are used
- Coupling halves and counter-flanges centred using fitting screws. Quantity, bores and bolt circles in accordance with international standards
- Bores up to 330 mm
- Torques up to T_{KN} = 195000 Nm / T_{Kmax} = 390000 Nm
- Torsion resistance can be influenced by arrangement of the intermediate shaft.



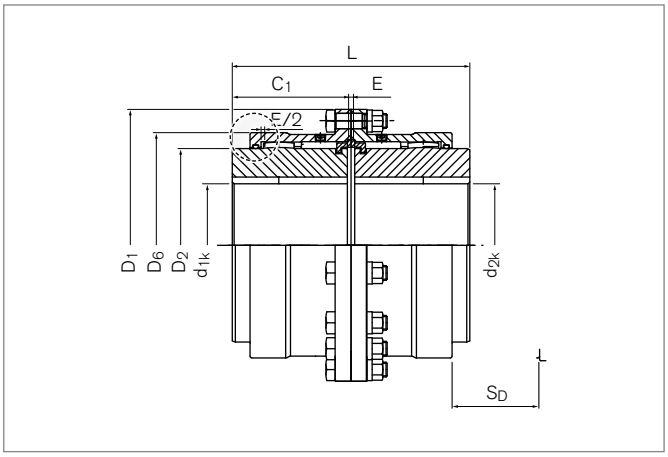
Further information on
RINGFEDER® TNZ ZCAK / TNZ ZCBK
on **www.ringfeder.com**



ZCA: with integrated O-ring
ZCB: with separate O-ring cover

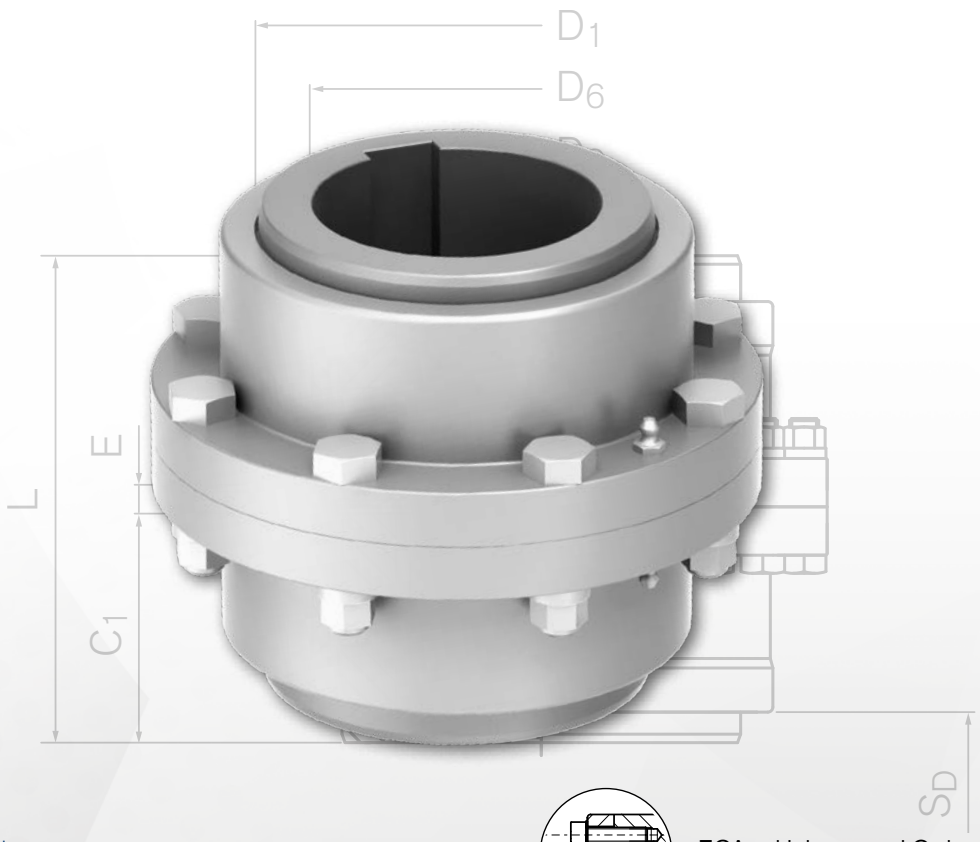
Type with limited end float

The double cardanic versions **RINGFEDER® TNZ ZCAK** and **RINGFEDER® TNZ ZCBK** are equipped with a limitation of the end float. The limitation of the end float serves to axially locate a shaft that is mounted on sleeve bearings. The rotor of an electric motor with sleeve bearings can thus be aligned within a desired tolerance range via the coupling to the bearing of the driven machine, so that the rotor remains at its magnetic centre during acceleration of the driving machine. The limitation of the end float constrains the ability to compensate for angular and radial shaft misalignments. In contrast to the TNZ ZCAK with integrated O-ring, the TNZ ZCBK has screwed-on, separate O-ring supports.

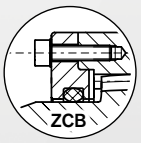


Characteristics

- Torsionally rigid gear coupling made of high-quality steel
- Compensates for angular, radial and axial shaft offset
- Suitable for use in temperatures up to +120 °C if special seals are used
- Coupling halves centred using fitting screws. Quantity, bores and bolt circles in accordance with international standards
- Bores up to 270 mm
- Torques up to T_{KN} = 195000 Nm / T_{Kmax} = 390000 Nm
- Speeds up to n_{max} = 6000 min^{-1}



Further information on
RINGFEDER® TNZ ZCAV / TNZ ZCBV
on **www.ringfeder.com**

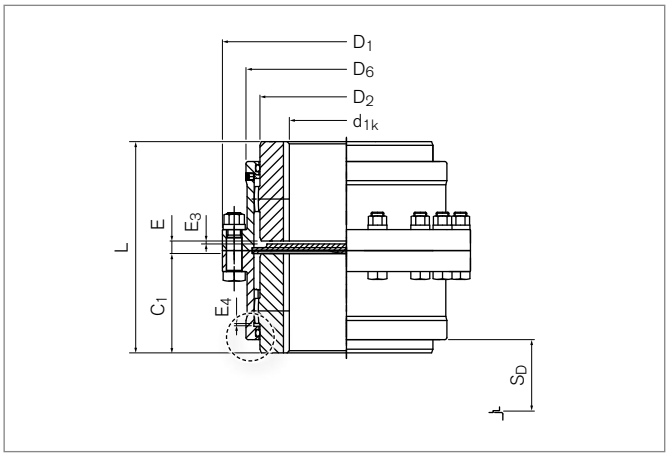


ZCA: with integrated O-ring
ZCB: with separate O-ring cover

Vertical construction

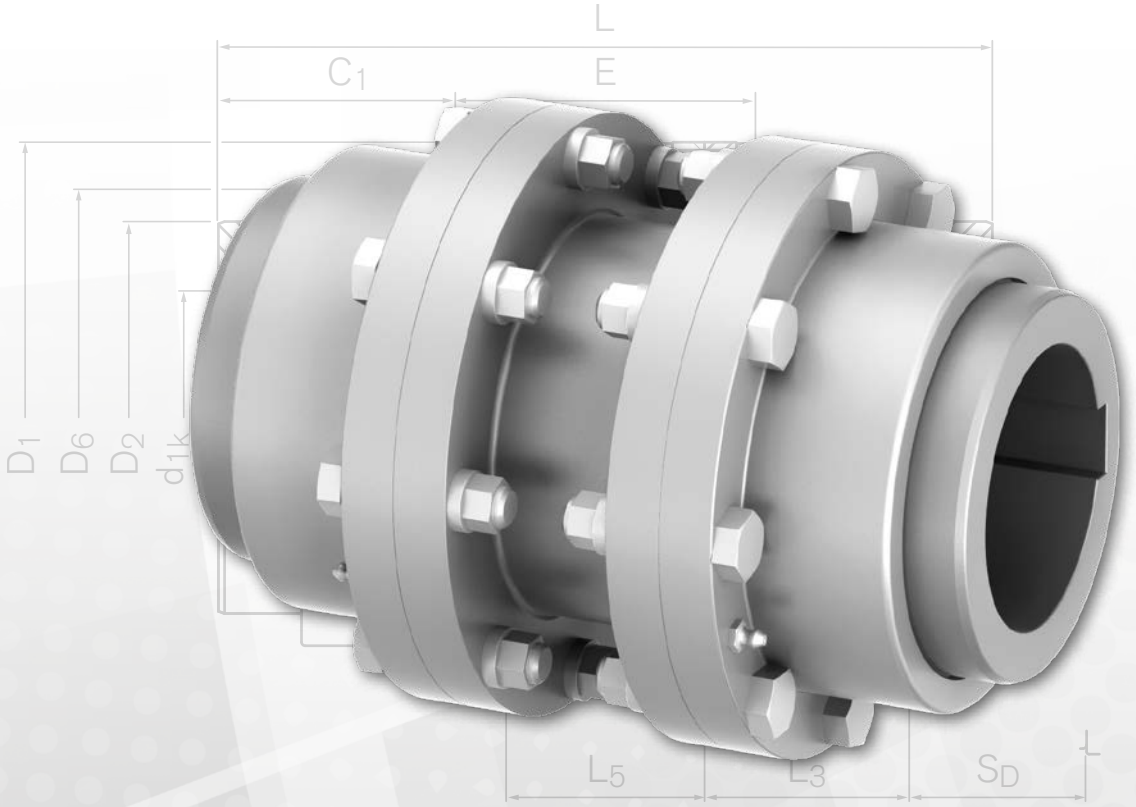
The coupling **RINGFEDER® TNZ ZCAV** is suitable for vertical installation. To this purpose, the TNZ ZCA is equipped with supporting plates which hold the sleeves in their vertical position.

The coupling model **RINGFEDER® TNZ ZCBV** is suitable for vertical installation. To this purpose, the TNZ ZCB is equipped with supporting plates which hold the sleeves in their vertical position.



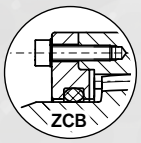
Characteristics

- Torsionally rigid gear coupling made of high-quality steel
- Compensates for angular, radial and axial shaft offset
- Suitable for use in temperatures up to +120 °C if special seals are used
- Coupling halves centred using fitting screws. Quantity, bores and bolt circles in accordance with international standards
- Bores up to 270 mm
- Torques up to T_{KN} = 195000 Nm / T_{Kmax} = 390000 Nm
- Speeds up to n_{max} = 6000 min^{-1}



TNZ ZCAZ / TNZ ZCBZ

Further information on
RINGFEDER® TNZ ZCAZ / TNZ ZCBZ
on **www.ringfeder.com**

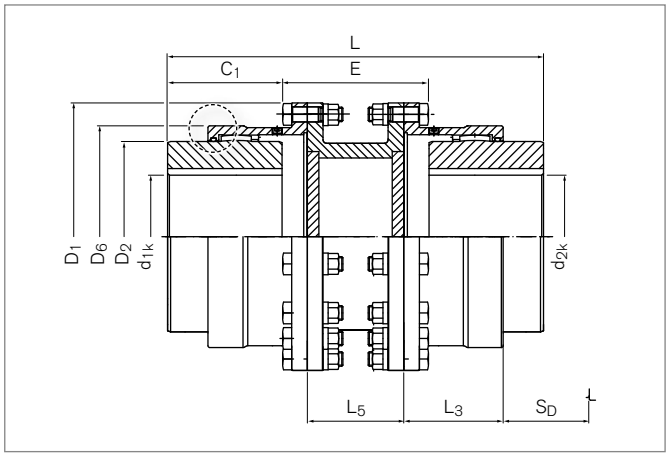


ZCA: with integrated O-ring
ZCB: with separate O-ring cover

Standard hubs and spacer

The coupling model **RINGFEDER® TNZ ZCAZ** is complemented with a spacer that is mounted between the sleeves of a TNZ ZCA coupling by using fitted bolts. The spacer serves to accommodate larger distances between the shafts ends, and can be mounted and dismounted radially without having to move the connected machines.

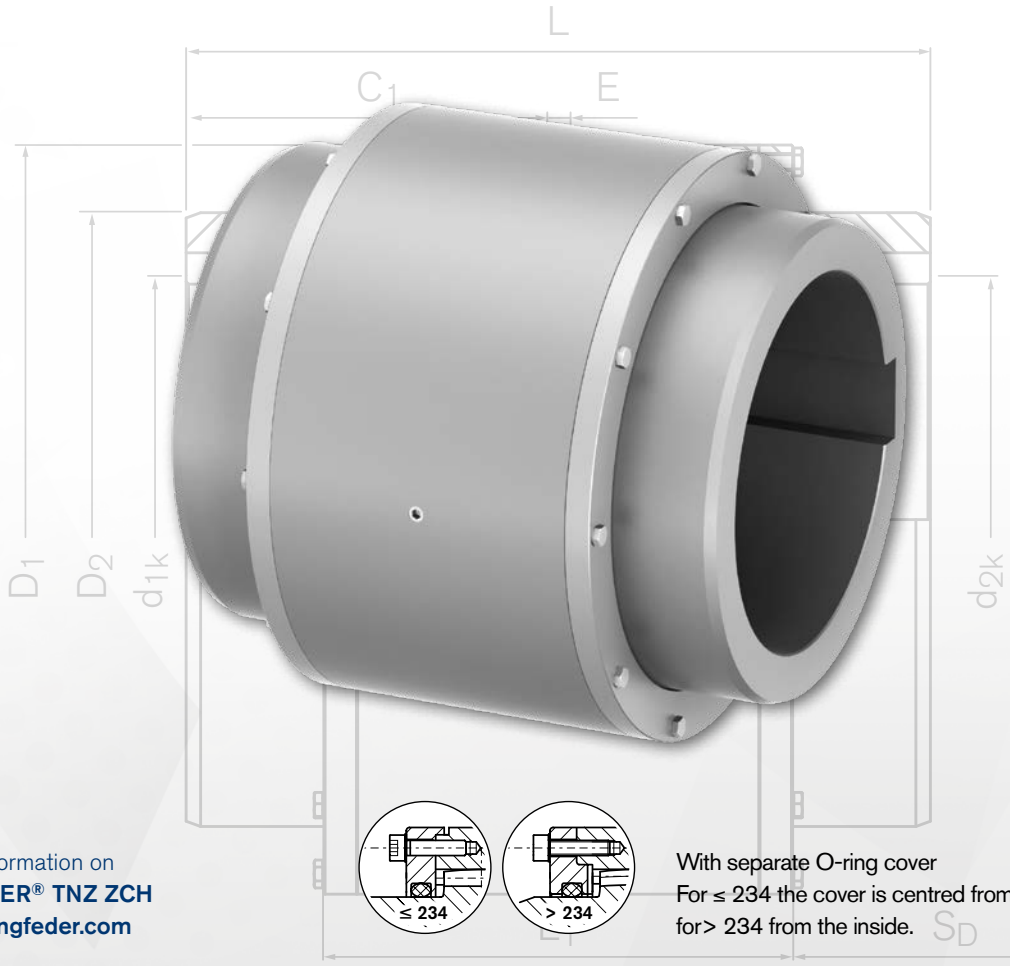
Unlike the TNZ ZCAZ, the coupling **RINGFEDER® TNZ ZCBZ** is equipped with a bolt-on O-ring carrier which facilitates installation by changing the mounting sequence. The coupling model TNZ ZCBZ is complemented with a spacer that is mounted between the sleeves of a TNZ ZCB coupling by using fitted bolts.



Characteristics

- Torsionally rigid gear coupling made of high-quality steel
- Compensates for angular, radial and axial shaft offset
- Suitable for use in temperatures up to +120 °C if special seals are used
- Coupling halves and intermediate piece centred using fitting screws. Quantity, bores and bolt circles in accordance with international standards
- Bores up to 270 mm
- Torques up to T_{KN} = 195000 Nm / T_{Kmax} = 390000 Nm

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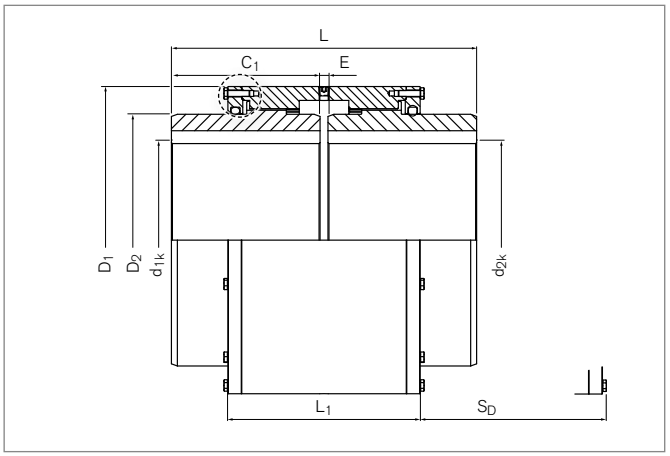
TNZ ZCH

Further information on
RINGFEDER® TNZ ZCH
on **www.ringfeder.com**

With separate O-ring cover
For ≤ 234 the cover is centred from the outside,
for > 234 from the inside.

Standard hubs with one-piece casing

The **RINGFEDER® TNZ ZCH**, comprising one-piece casing with O-ring supports on both sides and two hubs on the TNZ ZCA. Combinations available with long hubs (ZCHU and ZCHUU).



Characteristics

- Torsionally rigid gear coupling made of high-quality steel
- Compensates for angular, radial and axial shaft offset
- Suitable for use in temperatures up to +120 °C if special seals are used
- Compact structure through one-piece casing
- Bores up to 270 mm
- Torques up to T_{KN} = 195000 Nm / T_{Kmax} = 390000 Nm
- Speeds up to n_{max} = 6000 min^{-1}



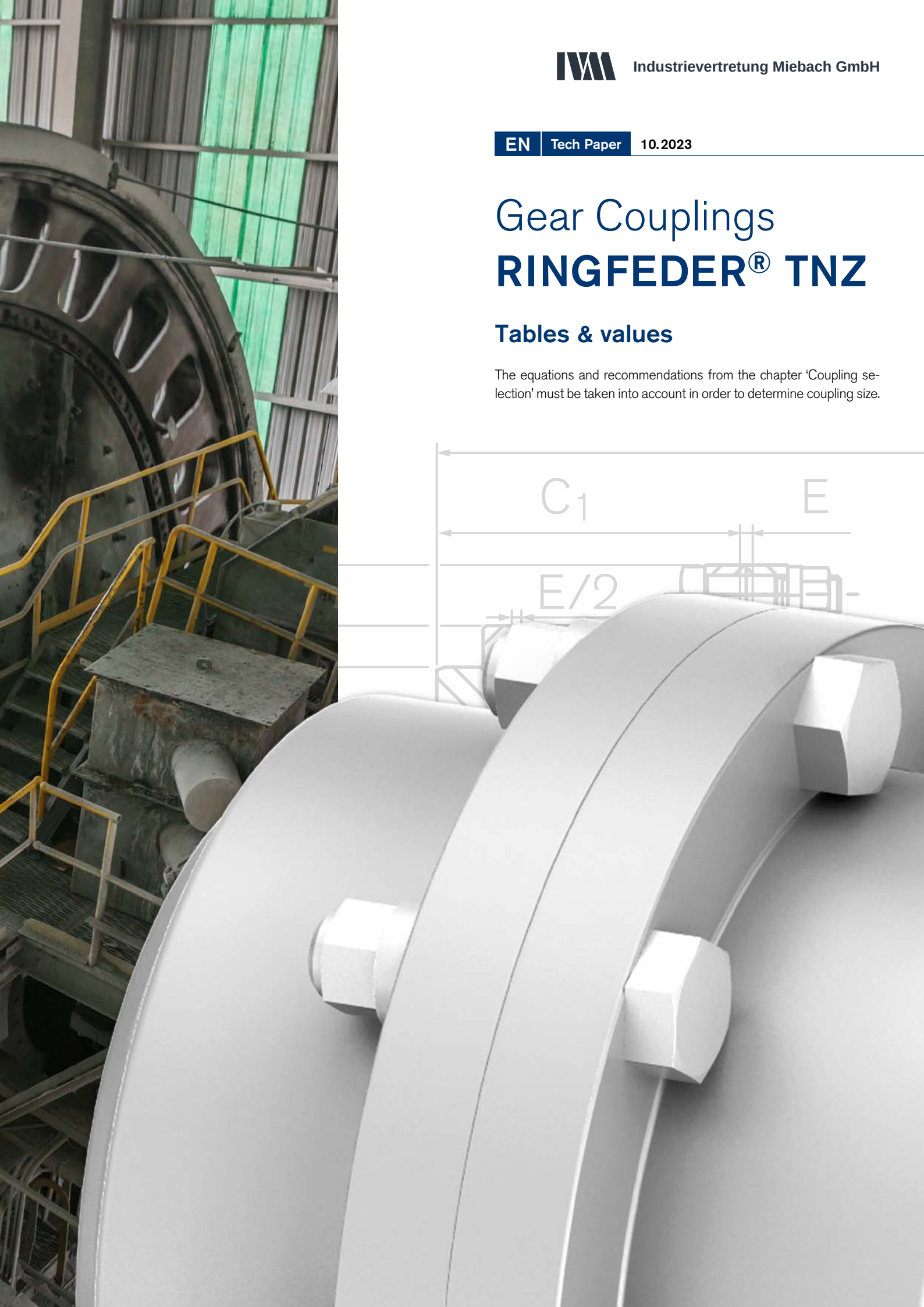
Industrievertretung Miebach GmbH

EN | Tech Paper | 10.2023

Gear Couplings
RINGFEDER® TNZ

Tables & values

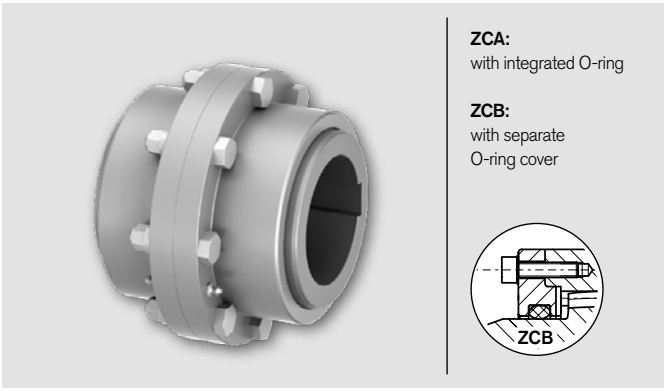
The equations and recommendations from the chapter 'Coupling selection' must be taken into account in order to determine coupling size.

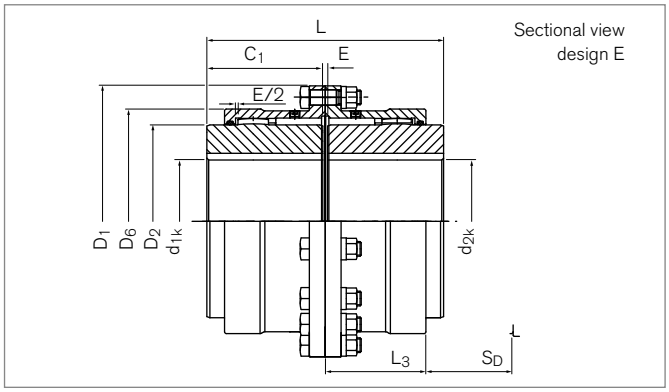


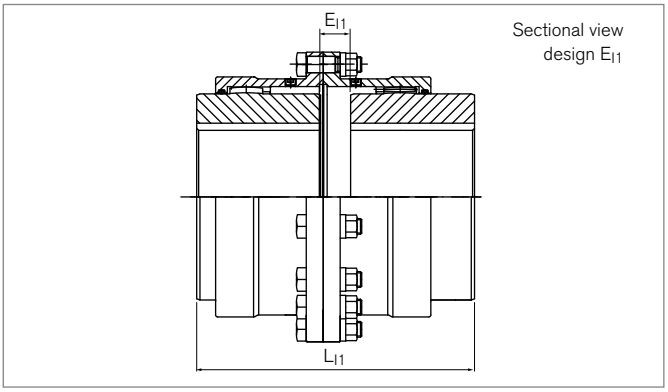
Gear Couplings

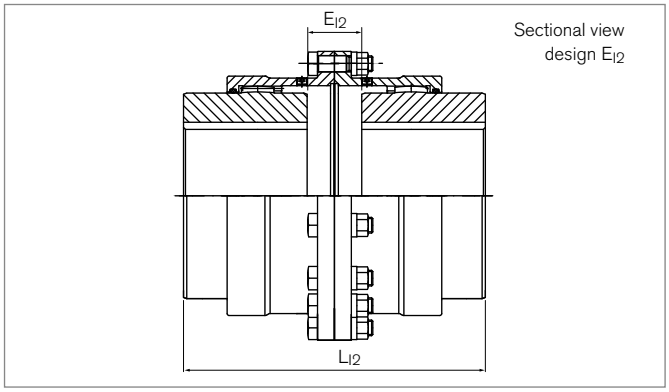
RINGFEDER® TNZ ZCA / TNZ ZCB

Standard hubs









Identifier		Size	T_{KN}	T_{Kmax}	n_{max}	d_{1k} min-max	d_{2k} min-max	D_1	D_2	D_6	C_1
ZCA	ZCB		Nm	Nm	1/min	mm	mm	mm	mm	mm	mm
XC2106	---	69	1750	3500	6000	12 - 50	12 - 50	111	69	81,5	43
XC2108	---	85	2750	5500	4600	18 - 60	18 - 60	152	85	103,5	50
XC2110	XC3110	107	5500	11000	4200	28 - 75	28 - 75	178	107	127,5	62
XC2113	XC3113	133	8500	17000	4000	40 - 95	40 - 95	213	133	156	76
XC2115	XC3115	152	13500	27000	3850	50 - 110	50 - 110	240	152	181	90
XC2117	XC3117	179	22000	44000	3700	60 - 130	60 - 130	280	178	209	105
XC2120	XC3120	209	35000	70000	3200	70 - 155	70 - 155	318	209	245,5	120
XC2123	XC3123	234	43000	86000	2900	85 - 170	85 - 170	346	234	274	135
XC2125	XC3125	254	68000	136000	2600	95 - 190	95 - 190	389	254	307	150
XC2127	XC3127	279	82000	164000	2300	110 - 210	110 - 210	425	279	334,5	175
XC2130	XC3130	305	150000	300000	2100	120 - 230	120 - 230	457	305	366	190
XC2135	XC3135	355	195000	390000	1800	130 - 270	130 - 270	527	355	423	220

To continue see next page

Gear Couplings RINGFEDER® TNZ ZCA / TNZ ZCB

Identifier		Size	E	E_{l1}	E_{l2}	L	L_{l1}	L_{l2}	L_3	S_D	ΔK_r	ΔK_w	J	V_{GR}	Gw_{sb}
ZCA	ZCB		mm	mm	mm	mm	mm	mm	mm	mm	mm	degree	$10^{-3}kgm^2$	dm^3	kg
XC2106	---	69	3	5	7	89	91	93	39	30	0,42	2 x 0,5	4	0,07	4,1
XC2108	---	85	3	8	13	103	108	113	46	37	0,51	2 x 0,5	18	0,08	8,7
XC2110	XC3110	107	3	14	25	127	138	149	59	48	0,66	2 x 0,5	40	0,13	14,4
XC2113	XC3113	133	5	12	19	157	164	171	69	56	0,77	2 x 0,5	102	0,22	25,6
XC2115	XC3115	152	5	24	43	185	204	223	83	70	0,99	2 x 0,5	187	0,38	37,3
XC2117	XC3117	179	6	27	48	216	237	258	93	79	1,15	2 x 0,5	407	0,58	58,9
XC2120	XC3120	209	6	32	58	246	272	298	106	92	1,33	2 x 0,5	801	0,75	88,6
XC2123	XC3123	234	8	37	66	278	307	336	118	103	1,5	2 x 0,5	1248	1,25	116,1
XC2125	XC3125	254	8	50	92	308	350	392	138	120	1,75	2 x 0,5	2370	1,92	166,0
XC2127	XC3127	279	8	53	98	358	403	448	154	136	1,99	2 x 0,5	3638	2,67	219,2
XC2130	XC3130	305	8	58	108	388	438	488	166	148	2,16	2 x 0,5	4830	3,33	265,9
XC2135	XC3135	355	10	72	134	450	512	574	193	174	2,55	2 x 0,5	10022	5,00	415,8

Explanation

T_{KN} = Nom. Transmissible torque
T_{Kmax} = Max. transmissible torque of the coupling
n_{max} = Max. transmissible torque of the coupling
d_{1kmin};d_{2kmin} = Min. bore diameter d_1/d_2 with keyway acc. to DIN 6885-1
d_{1kmax};d_{2kmax} = Max. bore diameter d_1/d_2 with keyway acc. to DIN 6885-1

D_1 = Outer diameter
D_2 = Outer diameter hub
D_6 = Diameter
C_1 = Guided length in hub bore
E = Gap width between left and right component
E_{l1}; E_{l2} = Gap width between left and right component of inverted variant 1/2
L = Total length

L_{l1}; L_{l2} = Complete length of inverted variant 1/2
L_3 = Length
S_D = Disassembly Space
ΔK_r = Max. permissible radial misalignment
ΔK_w = Max. permissible angular misalignment
J = Total moment of inertia
V_{GR} = Grease volume
Gw_{sb} = Weight at smallest bore diameter

Ordering example

Identifier	Size	d_{1k}	d_{2k}	Further details
XC2113	133	70	90	*

*) Without any other specification, we deliver as a standard: keyway acc. to DIN 6885-1, keyway side fit P9, bore tolerance H7; optional with set screw

Further information on
RINGFEDER® TNZ ZCA / TNZ ZCB
on **www.ringfeder.com**

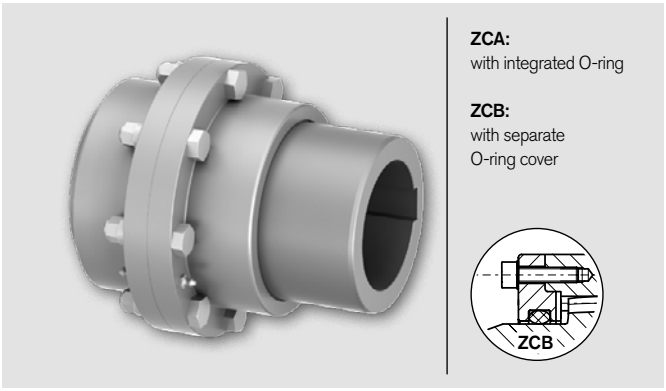
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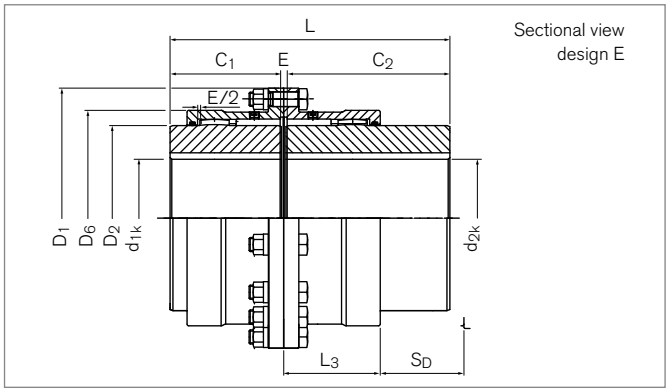
RINGFEDER POWER TRANSMISSION

Gear Couplings

RINGFEDER® TNZ ZCAU / TNZ ZCBU

Standard hub and extended universal hub





Identifier		Size	T_{KN}	T_{Kmax}	n_{max}	d_{1k} min-max	d_{2k} min-max	D_1	D_2	D_6	C_1	C_2
ZCAU	ZCBU		Nm	Nm	1/min	mm	mm	mm	mm	mm	mm	mm
XC2206	---	69	1750	3500	6000	12 - 50	12 - 50	111	69	81,5	43	105
XC2208	---	85	2750	5500	4600	18 - 60	18 - 60	152	85	103,5	50	115
XC2210	XC3210	107	5500	11000	4200	28 - 75	28 - 75	178	107	127,5	62	130
XC2213	XC3213	133	8500	17000	4000	40 - 95	40 - 95	213	133	156	76	150
XC2215	XC3215	152	13500	27000	3850	50 - 110	50 - 110	240	152	181	90	170
XC2217	XC3217	179	22000	44000	3700	60 - 130	60 - 130	280	178	209	105	185
XC2220	XC3220	209	35000	70000	3200	70 - 155	70 - 155	318	209	245,5	120	215
XC2223	XC3223	234	43000	86000	2900	85 - 170	85 - 170	346	234	274	135	245
XC2225	XC3225	254	68000	136000	2600	95 - 190	95 - 190	389	254	307	150	295
XC2227	XC3227	279	82000	164000	2300	110 - 210	110 - 210	425	279	334,5	175	300
XC2230	XC3230	305	150000	300000	2100	120 - 230	120 - 230	457	305	366	190	305
XC2235	XC3235	355	195000	390000	1800	130 - 270	130 - 270	527	355	423	220	310

Identifier		Size	E	E_{l1}	L	L_{l1}	L_3	S_D	ΔK_r	ΔK_w	J	V_{GR}	Gw_{sb}
ZCAU	ZCBU		mm	mm	mm	mm	mm	mm	mm	degree	$10^{-3}kgm^2$	dm^3	kg
XC2206	---	69	3	5	151	153	39	80	0,42	2 x 0,5	5	0,07	5,8
XC2208	---	85	3	8	168	173	46	83	0,51	2 x 0,5	18	0,08	11,2
XC2210	XC3210	107	3	14	195	206	59	85	0,66	2 x 0,5	40	0,13	18,6
XC2213	XC3213	133	5	12	231	238	69	100	0,77	2 x 0,5	120	0,22	32,3
XC2215	XC3215	152	5	24	265	284	83	106	1,00	2 x 0,5	220	0,38	46,7
XC2217	XC3217	179	6	27	296	317	93	115	1,15	2 x 0,5	469	0,58	72,0
XC2220	XC3220	209	6	32	341	367	106	132	1,33	2 x 0,5	939	0,75	110,1
XC2223	XC3223	234	8	37	388	417	118	151	1,5	2 x 0,5	1498	1,25	146,4
XC2225	XC3225	254	8	50	453	498	138	181	1,75	2 x 0,5	2827	1,92	213,4
XC2227	XC3227	279	8	53	483	528	154	185	1,99	2 x 0,5	4209	2,67	266,8
XC2230	XC3230	305	8	58	503	553	166	178	2,16	2 x 0,5	5580	3,33	317,9
XC2235	XC3235	355	10	72	540	602	193	174	2,55	2 x 0,5	11104	5,00	470,3

- Examine the load capacity of the shaft-hub connection
- Hubs pilot bored, bore diameter 2 mm smaller than smallest finish bore diameter

With inverted standard hub note EI1 and LI1

To continue see next page

Gear Couplings RINGFEDER® TNZ ZCAU / TNZ ZCBU

Explanation

T_{KN}	= Nom. Transmissible torque	D_2	= Outer diameter hub	L_{I1}	= Complete length of inverted variant 1/2
T_{Kmax}	= Max. transmissible torque of the coupling	D_6	= Diameter	L_3	= Length
n_{max}	= Max. rotation speed	C_1	= Guided length in hub bore	S_D	= Disassembly Space
$d_{1kmin};d_{2kmin}$	= Min. bore diameter d_1/d_2 with keyway acc. to DIN 6885-1	C_2	= Guided length in hub bore	ΔK_r	= Max. permissible radial misalignment
$d_{1kmax};d_{2kmax}$	= Max. bore diameter d_1/d_2 with keyway acc. to DIN 6885-1	E	= Gap width between left and right component	ΔK_w	= Max. permissible angular misalignment
D_1	= Outer diameter	E_{I1}	= Gap width between left and right component of inverted variant 1/2	J	= Total moment of inertia
		L	= Total length	V_{GR}	= Grease volume
				Gw_{sb}	= Weight at smallest bore diameter

Ordering example

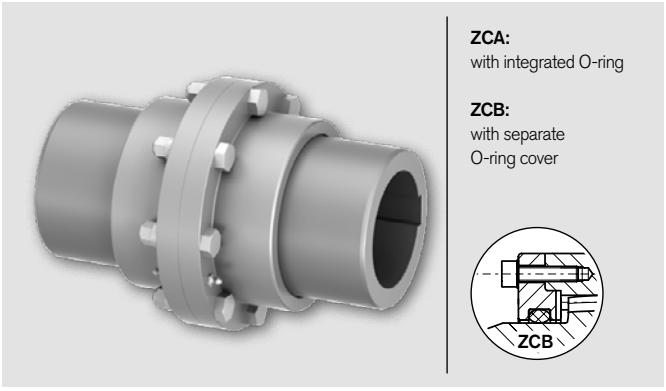
Identifier	Size	d_{1k}	d_{2k}	Further details
XC3215	152	90	110	*

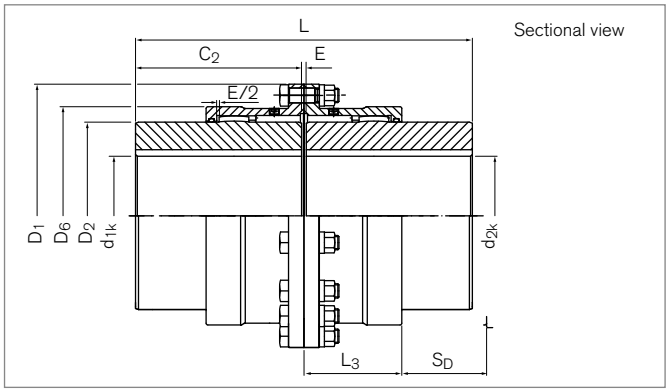
*) Without any other specification, we deliver as a standard: keyway acc. to DIN 6885-1, keyway side fit P9, bore tolerance H7; optional with set screw

Further information on
RINGFEDER® TNZ ZCAU / TNZ ZCBU
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Gear Couplings
RINGFEDER®
TNZ ZCAUU / TNZ ZCBUU
Extended universal hubs





Identifier		Size	T_{KN}	T_{Kmax}	n_{max}	d_{1k} min-max	d_{2k} min-max	D_1	D_2	D_6	C_2
ZCAUU	ZCBUU		Nm	Nm	1/min	mm	mm	mm	mm	mm	mm
XC2306	---	69	1750	3500	6000	12 - 50	12 - 50	111	69	81,5	105
XC2308	---	85	2750	5500	4600	18 - 60	18 - 60	152	85	103,5	115
XC2310	XC3310	107	5500	11000	4200	28 - 75	28 - 75	178	107	127,5	130
XC2313	XC3313	133	8500	17000	4000	40 - 95	40 - 95	213	133	156	150
XC2315	XC3315	152	13500	27000	3850	50 - 110	50 - 110	240	152	181	170
XC2317	XC3317	179	22000	44000	3700	60 - 130	60 - 130	280	179	209	185
XC2320	XC3320	209	35000	70000	3200	70 - 155	70 - 155	318	209	245,5	215
XC2323	XC3323	234	43000	86000	2900	85 - 170	85 - 170	346	234	274	245
XC2325	XC3325	254	68000	136000	2600	95 - 190	95 - 190	389	254	307	295
XC2327	XC3327	279	82000	164000	2300	110 - 210	110 - 210	425	279	334,5	300
XC2330	XC3330	305	150000	300000	2100	120 - 230	120 - 230	457	305	366	305
XC2335	XC3335	355	195000	390000	1800	130 - 270	130 - 270	527	355	423	310

To continue see next page

Gear Couplings RINGFEDER® TNZ ZCAUU / TNZ ZCBUU

Identifier		Size	E	L	L_3	S_D	ΔK_r	ΔK_w	J	V_{GR}	Gw_{sb}
ZCAUU	ZCBUU		mm	mm	mm	mm	mm		$10^{-3}kgm^2$	dm^3	kg
XC2306	---	69	3	213	39	80	0,42	2 x 0,5	6	0,07	7,5
XC2308	---	85	3	233	46	83	0,51	2 x 0,5	23	0,08	14,0
XC2310	XC3310	107	3	263	59	85	0,66	2 x 0,5	54	0,13	23,1
XC2313	XC3313	133	5	305	69	100	0,77	2 x 0,5	137	0,22	39,8
XC2315	XC3315	152	5	345	83	106	0,99	2 x 0,5	252	0,38	57,1
XC2317	XC3317	179	6	376	93	115	1,15	2 x 0,5	530	0,58	86,0
XC2320	XC3320	209	6	436	106	132	1,33	2 x 0,5	1077	0,75	133,1
XC2323	XC3323	234	8	498	118	151	1,5	2 x 0,5	1748	1,25	179,1
XC2325	XC3325	254	8	598	138	181	1,75	2 x 0,5	3283	1,92	263,7
XC2327	XC3327	279	8	608	154	185	1,99	2 x 0,5	4780	2,67	318,1
XC2330	XC3330	305	8	618	166	178	2,13	2 x 0,5	6329	3,33	374,4
XC2335	XC3335	355	10	630	193	174	2,55	2 x 0,5	12186	5	531,4

- Examine the load capacity of the shaft-hub connection
- Hubs pilot bored, bore diameter 2 mm smaller than smallest finish bore diameter

Explanation

T_{KN} = Nom. Transmissible torque
T_{Kmax} = Max. transmissible torque of the coupling
n_{max} = Max. rotation speed
d_{1kmin};d_{2kmin} = Min. bore diameter d_1/d_2 with keyway acc. to DIN 6885-1
d_{1kmax};d_{2kmax} = Max. bore diameter d_1/d_2 with keyway acc. to DIN 6885-1

D_1 = Outer diameter
D_2 = Outer diameter hub
D_6 = Diameter
C_2 = Guided length in hub bore
E = Gap width between left and right component
L = Total length

L_3 = Length
S_D = Disassembly Space
ΔK_r = Max. permissible radial misalignment
ΔK_w = Max. permissible angular misalignment
J = Total moment of inertia
V_{GR} = Grease volume
Gw_{sb} = Weight at smallest bore diameter

Ordering example

Identifier	Size	d_{1k}	d_{2k}	Further details
XC2325	254	150	180	*

*) Without any other specification, we deliver as a standard: keyway acc. to DIN 6885-1, keyway side fit P9, bore tolerance H7; optional with set screw

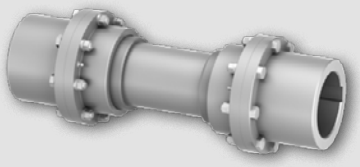
Further information on
RINGFEDER® TNZ ZCAUU / TNZ ZCBUU
on **www.ringfeder.com**

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Gear Couplings

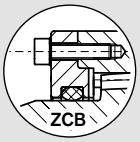
RINGFEDER® TNZ ZCAF / TNZ ZCBF

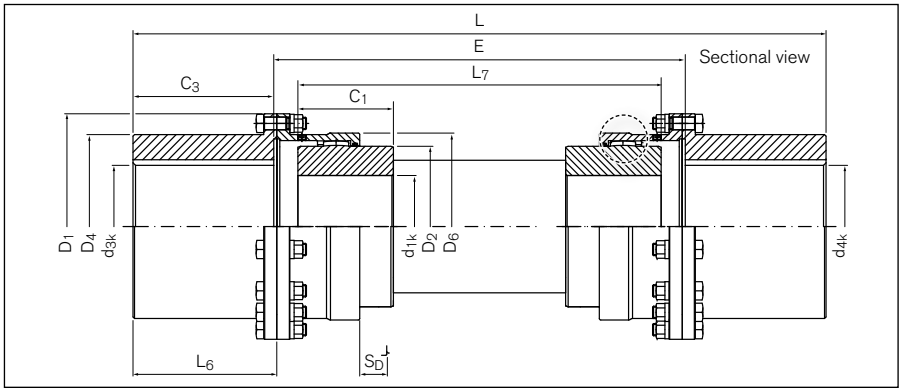
Intermediate shaft and rigid counter-flanges



ZCA:
with integrated O-ring

ZCB:
with separate O-ring cover





Identifier		Size	T_{KN}	T_{Kmax}	n_{max}	d_{1k} min-max	d_{3k} min-max	d_{4k} min-max	D_1	D_2	D_4	D_6	C_1	C_3
ZCAF	ZCBF		Nm	Nm	1/min	mm	mm	mm	mm	mm	mm	mm	mm	mm
XC6106	---	69	1750	3500	↑	12 - 50	12 - 55	0 - 55	111	69	80	81,5	43	40
XC6108	---	85	2750	5500		18 - 60	18 - 75	0 - 75	152	85	103,5	103,5	50	47
XC6110	XC7110	107	5500	11000		28 - 75	28 - 95	0 - 95	178	107	126	127,5	62	58
XC6113	XC7113	133	8500	17000		40 - 95	40 - 110	0 - 110	213	133	152	156	76	74
XC6115	XC7115	152	13500	27000		50 - 110	50 - 130	0 - 130	240	152	178	181	90	87
XC6117	XC7117	179	22000	44000		60 - 130	60 - 155	55 - 155	280	179	208	209	105	101
XC6120	XC7120	209	35000	70000		70 - 155	70 - 180	65 - 180	318	209	245	245,5	120	113
XC6123	XC7123	234	43000	86000		85 - 170	85 - 200	80 - 200	346	234	270	274	135	129
XC6125	XC7125	254	68000	136000		95 - 190	95 - 230	90 - 230	389	254	305	307	150	150
XC6127	XC7127	279	82000	164000		110 - 210	110 - 250	100 - 250	425	279	330	334,5	175	175
XC6130	XC7130	305	150000	300000		120 - 230	120 - 280	120 - 280	457	305	362	366	190	190
XC6135	XC7135	355	195000	390000	↓	130 - 270	130 - 330	150 - 330	527	355	419	423	220	220

On request

Identifier		Size	E_{min}	L	L_6	L_{7min}	S_D	ΔK_r	ΔK_w	J	V_{GR}	Gw_{sb}
ZCAF	ZCBF		mm	mm	mm	mm	mm	mm	degree	10^{-3}kgm²	dm³	kg
XC6106	---	69	99	179	43,5	86	30	↑	2 x 0,5	↑	2 x 0,035	↑
XC6108	---	85	119	213	50,5	100	37		2 x 0,5		2 x 0,040	
XC6110	XC7110	107	155	271	61,5	124	48		2 x 0,5		2 x 0,065	
XC6113	XC7113	133	177	325	77,5	152	56		2 x 0,5		2 x 0,110	
XC6115	XC7115	152	229	403	90,5	180	70		2 x 0,5		2 x 0,190	
XC6117	XC7117	179	264	466	104	210	79		2 x 0,5		2 x 0,290	
XC6120	XC7120	209	304	530	116,5	240	92		2 x 0,5		2 x 0,375	
XC6123	XC7123	234	344	602	133	270	103		2 x 0,5		2 x 0,625	
XC6125	XC7125	254	400	700	154	300	120		2 x 0,5		2 x 0,960	
XC6127	XC7127	279	456	806	179	350	136		2 x 0,5		2 x 1,335	
XC6130	XC7130	305	500	880	196	380	148		2 x 0,5		2 x 1,665	
XC6135	XC7135	355	590	1040	228	440	174	↓	2 x 0,5	↓	2 x 2,500	↓

Depends on E

- Examine the load capacity of the shaft-hub connection
- Hubs pilot bored, bore diameter 2 mm smaller than smallest finish bore diameter, without intermediate shaft

To continue see next page

Gear Couplings RINGFEDER® TNZ ZCAF / TNZ ZCBF

Explanation

T_{KN}	= Nom. Transmissible torque	D_1	= Outer diameter	L_6	= Length of basic part
T_{Kmax}	= Max. transmissible torque of the coupling	D_2	= Outer diameter hub	L_{7min}	= Min. length of the middle connection part
n_{max}	= Max. rotation speed	D_4	= Outer diameter hub	S_D	= Disassembly Space
d_{1kmin}; d_{3kmin}; d_{4kmin};	= Min. bore diameter $d_1/d_3/d_4$ with keyway acc. to DIN 6885-1	D_6	= Diameter	ΔK_r	= Max. permissible radial misalignment
		C_1	= Guided length in hub bore	ΔK_w	= Max. permissible angular misalignment
d_{1kmax}; d_{3kmax}; d_{4kmax}	= Max. bore diameter $d_1/d_3/d_4$ with keyway acc. to DIN 6885-1	C_3	= Guided length in hub bore	J	= Total moment of inertia
		E_{min}	= Min. gap width between left and right component	V_{GR}	= Grease volume
		L	= Total length	Gw_{sb}	= Weight at smallest bore diameter

Ordering example

Identifier	Size	d_{3k}	d_{4k}	Further details
XC6127	279	180	230	*

*) Without any other specification, we deliver as a standard: keyway acc. to DIN 6885-1, keyway side fit P9, bore tolerance H7; optional with set screw

Further information on
RINGFEDER® TNZ ZCAF / TNZ ZCBF
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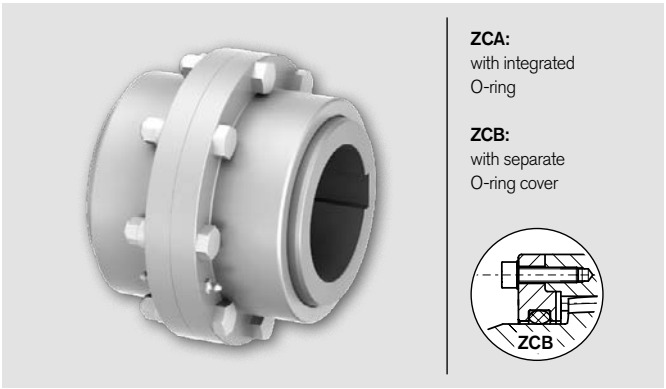
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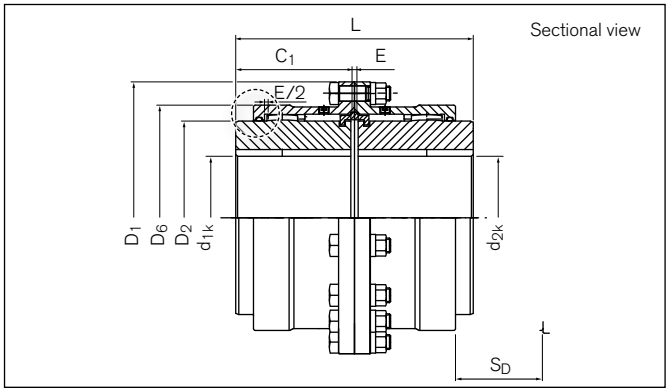
RINGFEDER POWER TRANSMISSION

Gear Couplings

RINGFEDER® TNZ ZCAK / TNZ ZCBK

Type with limited end float





Identifier		Size	T_{KN}	T_{Kmax}	n_{max}	d_{1k} min-max	d_{2k} min-max	D_1	D_2	D_6
ZCAK	ZCBK		Nm	Nm	1/min	mm	mm	mm	mm	mm
XC2706	---	69	1750	3500	6000	12 - 50	12 - 50	111	69	81,5
XC2708	---	85	2750	5500	4600	18 - 60	18 - 60	152	85	103,5
XC2710	XC3710	107	5500	11000	4200	28 - 75	28 - 75	178	107	127,5
XC2713	XC3713	133	8500	17000	4000	40 - 95	40 - 95	213	133	156
XC2715	XC3715	152	13500	27000	3850	50 - 110	50 - 110	240	152	181
XC2717	XC3717	179	22000	44000	3700	60 - 130	60 - 130	280	179	209
XC2720	XC3720	209	35000	70000	3200	70 - 155	70 - 155	318	209	245,5
XC2723	XC3723	234	43000	86000	2900	85 - 170	85 - 170	346	234	274
XC2725	XC3725	254	68000	136000	2600	95 - 190	95 - 190	389	254	307
XC2727	XC3727	279	82000	164000	2300	110 - 210	110 - 210	425	279	334,5
XC2730	XC3730	305	150000	300000	2100	120 - 230	120 - 230	457	305	366
XC2735	XC3735	355	195000	390000	1800	130 - 270	130 - 270	527	355	423

Limited end float adjustable depends on coupling size

Identifier		Size	C_1	E	L	S_D	J	V_{GR}	Gw_{sb}
ZCAK	ZCBK		mm	mm	mm	mm	$10^{-3}kgm^2$	dm^3	kg
XC2706	---	69	43	3	89	30	4	2 x 0,035	4,0
XC2708	---	85	50	3	103	37	18	2 x 0,040	8,4
XC2710	XC3710	107	62	3	127	48	40	2 x 0,065	14,1
XC2713	XC3713	133	76	5	157	56	102	2 x 0,110	24,8
XC2715	XC3715	152	90	5	185	70	187	2 x 0,190	36,4
XC2717	XC3717	179	105	6	216	79	407	2 x 0,290	58,0
XC2720	XC3720	209	120	6	245	92	801	2 x 0,375	87,0
XC2723	XC3723	234	135	8	278	103	1248	2 x 0,625	113,7
XC2725	XC3725	254	150	8	308	120	2370	2 x 0,960	163,1
XC2727	XC3727	279	175	8	358	136	3638	2 x 1,335	215,4
XC2730	XC3730	305	190	8	388	148	4830	2 x 1,665	261,5
XC2735	XC3735	355	220	10	450	174	10022	2 x 2,500	409,2

- Examine the load capacity of the shaft-hub connection
- Hubs pilot bored, bore diameter 2 mm smaller than smallest finish bore diameter

To continue see next page

Gear Couplings RINGFEDER® TNZ ZCAK / TNZ ZCBK

Explanation

T_{KN}	= Nom. Transmissible torque	D_1	= Outer diameter	S_D	= Disassembly Space
T_{Kmax}	= Max. transmissible torque of the coupling	D_2	= Outer diameter hub	J	= Total moment of inertia
n_{max}	= Max. rotation speed	D_6	= Diameter	V_{GR}	= Grease volume
$d_{1kmin};d_{2kmin}$	= Min. bore diameter d_1/d_2 with keyway acc. to DIN 6885-1	C_1	= Guided length in hub bore	Gw_{sb}	= Weight at smallest bore diameter
$d_{1kmax};d_{2kmax}$	= Max. bore diameter d_1/d_2 with keyway acc. to DIN 6885-1	E	= Gap width between left and right component		
		L	= Total length		

Ordering example

Identifier	Size	d_{1k}	d_{2k}	Further details
XC2720	209	155	155	*

*) Without any other specification, we deliver as a standard: keyway acc. to DIN 6885-1, keyway side fit P9, bore tolerance H7; optional with set screw

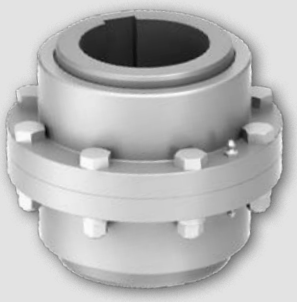
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Gear Couplings

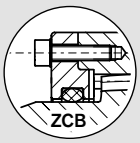
RINGFEDER® TNZ ZCAV / TNZ ZCBV

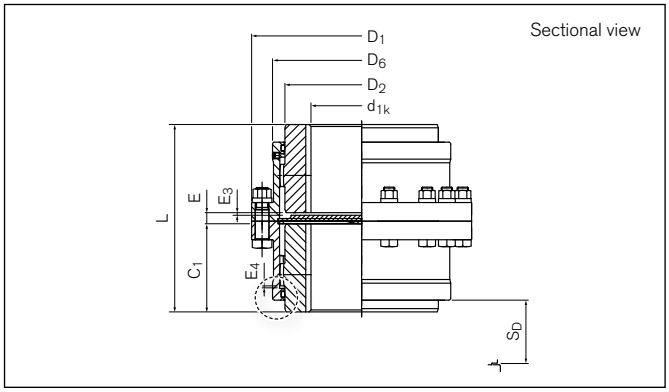
Vertical construction



ZCA:
with integrated
O-ring

ZCB:
with separate
O-ring cover





Identifier		Size	T_{KN}	T_{Kmax}	n_{max}	d_{1k} min-max	d_{2k} min-max	D_1	D_2	D_6
ZCAV	ZCBV		Nm	Nm	1/min	mm	mm	mm	mm	mm
XC2606	---	69	1750	3500	6000	12 - 50	12 - 50	111	69	81,5
XC2608	---	85	2750	5500	4600	18 - 60	18 - 60	152	85	103,5
XC2610	XC3610	107	5500	11000	4200	28 - 75	28 - 75	178	107	127,5
XC2613	XC3613	133	8500	17000	4000	40 - 95	40 - 95	213	133	156
XC2615	XC3615	152	13500	27000	3850	50 - 110	50 - 110	240	152	181
XC2617	XC3617	179	22000	44000	3700	60 - 130	60 - 130	280	179	209
XC2620	XC3620	209	35000	70000	3200	70 - 155	70 - 155	318	209	245,5
XC2623	XC3623	234	43000	86000	2900	85 - 170	85 - 170	346	234	274
XC2625	XC3625	254	68000	136000	2600	95 - 190	95 - 190	389	254	307
XC2627	XC3627	279	82000	164000	2300	110 - 210	110 - 210	425	279	334,5
XC2630	XC3630	305	150000	300000	2100	120 - 230	120 - 230	457	305	366
XC2635	XC3635	355	195000	390000	1800	130 - 270	130 - 270	527	355	423

Identifier		Size	C_1	E	E_3	E_4	L	S_D	ΔK_r	ΔK_w	J	V_{GR}	Gw_{sb}
ZCAV	ZCBV		mm	mm	mm	mm	mm	mm	mm	degree	$10^{-3}kgm^2$	dm^3	kg
XC2606	---	69	43	7	1,5	1,5	93	30	0,42	2 x 0,5	4		4,1
XC2608	---	85	50	8	1,5	1,5	108	37	0,51	2 x 0,5	18		8,8
XC2610	XC3610	107	62	11	1,5	1,5	135	48	0,66	2 x 0,5	40		14,8
XC2613	XC3613	133	76	12	2,5	2,5	164	56	0,77	2 x 0,5	102		25,8
XC2615	XC3615	152	90	16,5	5,5	2,5	196	70	0,99	2 x 0,5	187		37,9
XC2617	XC3617	179	105	15	3	3	225	79	1,15	2 x 0,5	407		60,2
XC2620	XC3620	209	120	18	6	3	258	92	1,33	2 x 0,5	801		89,9
XC2623	XC3623	234	135	23	9	4	293	103	1,5	2 x 0,5	1248		117,9
XC2625	XC3625	254	150	34	20	4	334	120	1,75	2 x 0,5	2370		168,2
XC2627	XC3627	279	175	36	22	4	386	136	1,99	2 x 0,5	3638		221,8
XC2630	XC3630	305	190	38	24	4	418	148	2,16	2 x 0,5	4830		269,3
XC2635	XC3635	355	220	48	32	5	488	174	2,55	2 x 0,5	10022		421,7

Follow lubrication instruction

- Examine the load capacity of the shaft-hub connection
- Hubs pilot bored, bore diameter 2 mm smaller than smallest finish bore diameter

Distance E may not vary during operation

To continue see next page

Gear Couplings RINGFEDER® TNZ ZCAV / TNZ ZCBV

Explanation

T_{KN}	= Nom. Transmissible torque	D_1	= Outer diameter	L	= Total length
T_{Kmax}	= Max. transmissible torque of the coupling	D_2	= Outer diameter hub	S_D	= Disassembly Space
		D_6	= Diameter	ΔK_r	= Max. permissible radial misalignment
n_{max}	= Max. rotation speed	C_1	= Guided length in hub bore	ΔK_w	= Max. permissible angular misalignment
d_{1kmin};d_{2kmin}	= Min. bore diameter d_1/d_2 with keyway acc. to DIN 6885-1	E	= Gap width between left and right component	J	= Total moment of inertia
		E_3	= Gap width	V_{GR}	= Grease volume
d_{1kmax};d_{2kmax}	= Max. bore diameter d_1/d_2 with keyway acc. to DIN 6885-1	E_4	= Gap width	Gw_{sb}	= Weight at smallest bore diameter

Ordering example

Identifier	Size	d_{1k}	d_{2k}	Further details
XC3630	305	140	220	*

*) Without any other specification, we deliver as a standard: keyway acc. to DIN 6885-1, keyway side fit P9, bore tolerance H7; optional with set screw

Further information on
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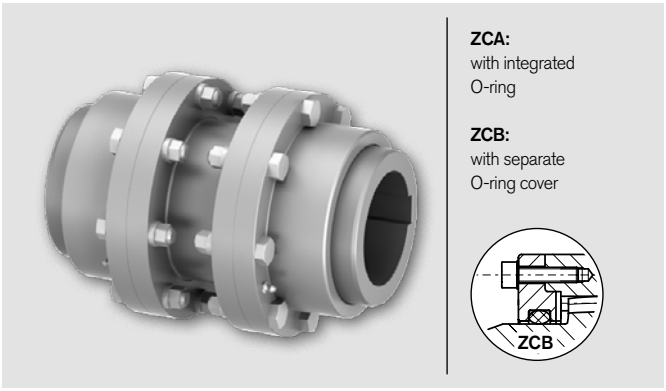
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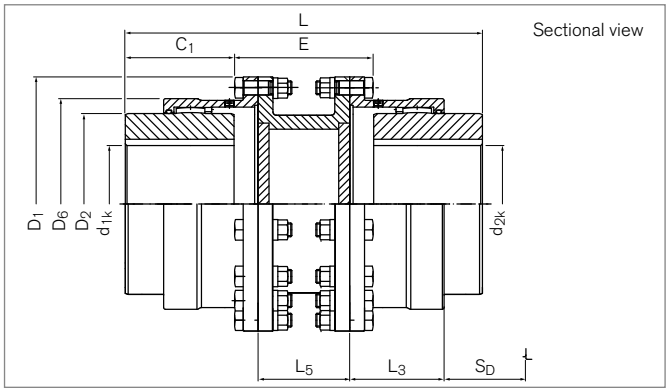
RINGFEDER POWER TRANSMISSION

Gear Couplings

RINGFEDER® TNZ ZCAZ / TNZ ZCBZ

Standard hubs and spacer





Identifier		Size	T_{KN}	T_{Kmax}	n_{max}	d_{1k} min-max	d_{2k} min-max	D_1	D_2	D_6	C_1
ZCAZ	ZCBZ		Nm	Nm	1/min	mm	mm	mm	mm	mm	mm
XC4106	---	69	1750	3500		12 - 50	12 - 50	111	69	81,5	43
XC4108	---	85	2750	5500		18 - 60	18 - 60	152	85	103,5	50
XC4110	XC5110	107	5500	11000		28 - 75	28 - 75	178	107	127,5	62
XC4113	XC5113	133	8500	17000		40 - 95	40 - 95	213	133	156	76
XC4115	XC5115	152	13500	27000		50 - 110	50 - 110	240	152	181	90
XC4117	XC5117	179	22000	44000		60 - 130	60 - 130	280	179	209	105
XC4120	XC5120	209	35000	70000		70 - 155	70 - 155	318	209	245,5	120
XC4123	XC5123	234	43000	86000		85 - 170	85 - 170	346	234	274	135
XC4125	XC5125	254	68000	136000		95 - 190	95 - 190	389	254	307	150
XC4127	XC5127	279	82000	164000		110 - 210	110 - 210	425	279	334,5	175
XC4130	XC5130	305	150000	300000		120 - 230	120 - 230	457	305	366	190
XC4135	XC5135	355	195000	390000		130 - 270	130 - 270	527	355	423	220

On request

Identifier		Size	E_{min}	L_{min}	L_3	L_{5min}	S_D	ΔK_r	ΔK_w	J	V_{GR}	Gw_{sb}
ZCAZ	ZCBZ		mm	mm	mm	mm	mm	mm	degree	$10^{-3}kgm^2$	dm^3	kg
XC4106	---	69	67	153	39	60	30		2 x 0,5		2 x 0,035	
XC4108	---	85	93	193	46	80	37		2 x 0,5		2 x 0,040	
XC4110	XC5110	107	115	239	59	90	48		2 x 0,5		2 x 0,065	
XC4113	XC5113	133	129	281	69	110	56		2 x 0,5		2 x 0,110	
XC4115	XC5115	152	153	333	83	110	70		2 x 0,5		2 x 0,190	
XC4117	XC5117	179	178	388	93	130	79		2 x 0,5		2 x 0,290	
XC4120	XC5120	209	188	428	106	130	92		2 x 0,5		2 x 0,375	
XC4123	XC5123	234	196	466	118	130	103		2 x 0,5		2 x 0,625	
XC4125	XC5125	254	252	552	138	160	120		2 x 0,5		2 x 0,960	
XC4127	XC5127	279	258	608	154	160	136		2 x 0,5		2 x 1,335	
XC4130	XC5130	305	268	648	166	160	148		2 x 0,5		2 x 1,665	
XC4135	XC5135	355	294	734	193	160	174		2 x 0,5		2 x 2,500	

Depends on E

- Examine the load capacity of the shaft-hub connection
- Hubs pilot bored, bore diameter 2 mm smaller than smallest finish bore diameter

To continue see next page

Gear Couplings RINGFEDER® TNZ ZCAZ / TNZ ZCBZ

Explanation

T_{KN}	= Nom. Transmissible torque	D_1	= Outer diameter	L_{5min}	= Min. length of spacer
T_{Kmax}	= Max. transmissible torque of the coupling	D_2	= Outer diameter hub	S_D	= Disassembly Space
n_{max}	= Max. rotation speed	D_6	= Diameter	ΔK_r	= Max. permissible radial misalignment
$d_{1kmin};d_{2kmin}$	= Min. bore diameter d_1/d_2 with keyway acc. to DIN 6885-1	C_1	= Guided length in hub bore	ΔK_w	= Max. permissible angular misalignment
$d_{1kmax};d_{2kmax}$	= Max. bore diameter d_1/d_2 with keyway acc. to DIN 6885-1	E_{min}	= Min. gap width between left and right component	J	= Total moment of inertia
		L_{min}	= Minimum length	V_{GR}	= Grease volume
		L_3	= Length	Gw_{sb}	= Weight at smallest bore diameter

Ordering example

Identifier	Size	d_{1k}	d_{2k}	Further details
XC5117	179	120	120	*

*) Without any other specification, we deliver as a standard: keyway acc. to DIN 6885-1, keyway side fit P9, bore tolerance H7; optional with set screw

Further information on
RINGFEDER® TNZ ZCAZ / TNZ ZCBZ
on **www.ringfeder.com**

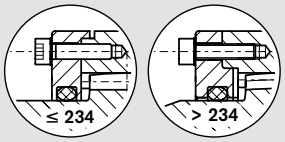
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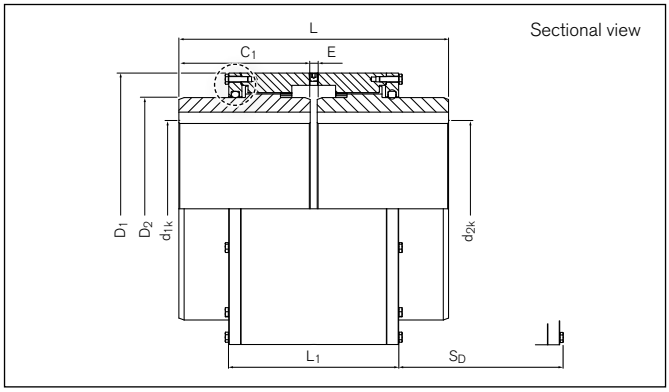
RINGFEDER POWER TRANSMISSION

Gear Couplings
RINGFEDER® TNZ ZCH
Standard hubs with one-piece casing



Size:
With separate O-ring cover
For ≤ 234 the cover is centred from the outside, for > 234 from the inside.





Identifier	Size	T_{KN}	T_{Kmax}	n_{max}	d_{1k} min-max	d_{2k} min-max	D_1	D_2
ZCH		Nm	Nm	1/min	mm	mm	mm	mm
XC0106	69	1750	3500	6000	12 - 50	12 - 50	98	69
XC0108	85	2750	5500	4600	18 - 60	18 - 60	115	85
XC0110	107	5500	11000	4200	28 - 75	28 - 75	145	107
XC0113	133	8500	17000	4000	40 - 95	40 - 95	176	133
XC0115	152	13500	27000	3850	50 - 110	50 - 110	196	152
XC0117	179	22000	44000	3700	60 - 130	60 - 130	225	179
XC0120	209	35000	70000	3200	70 - 155	70 - 155	256	209
XC0123	234	43000	86000	2900	85 - 170	85 - 170	286	234
XC0125	254	68000	136000	2600	95 - 190	95 - 190	310	254
XC0127	279	82000	164000	2300	110 - 210	110 - 210	345	279
XC0130	305	150000	300000	2100	120 - 230	120 - 230	375	305
XC0135	355	195000	390000	1800	130 - 270	130 - 270	430	355

Identifier	Size	C_1	E	L	L_1	S_D	ΔK_r	ΔK_w	J	V_{GR}	Gw_{sb}
ZCH		mm	mm	mm	mm	mm	mm	degree	$10^{-3}kgm^2$	dm^3	kg
XC0106	69	43	3	89	76	30	0,42	2 x 0,5	6	0,07	4,6
XC0108	85	50	3	103	83	37	0,51	2 x 0,5	11	0,08	7,0
XC0110	107	62	3	127	94	48	0,66	2 x 0,5	33	0,13	13,3
XC0113	133	76	5	157	123	56	0,77	2 x 0,5	93	0,22	24,5
XC0115	152	90	5	185	127	70	0,99	2 x 0,5	155	0,38	33,8
XC0117	179	105	6	216	144	79	1,15	2 x 0,5	327	0,58	50,5
XC0120	209	120	6	246	160	92	1,33	2 x 0,5	595	0,75	75,9
XC0123	234	135	8	278	178	103	1,50	2 x 0,5	1040	1,25	104,7
XC0125	254	150	8	308	194	120	1,75	2 x 0,5	1551	1,92	131,7
XC0127	279	175	8	358	220	136	1,99	2 x 0,5	2713	2,67	185,4
XC0130	305	190	8	388	234	148	2,16	2 x 0,5	4071	3,33	236,6
XC0135	355	220	10	450	264	174	2,16	2 x 0,5	8208	5,00	368,0

- Examine the load capacity of the shaft-hub connection
- Hubs pilot bored, bore diameter 2 mm smaller than smallest finish bore diameter

To continue see next page

Gear Couplings RINGFEDER® TNZ ZCH

Explanation

T_{KN}	= Nom. Transmissible torque	D_1	= Outer diameter	S_D	= Disassembly Space
T_{Kmax}	= Max. transmissible torque of the coupling	D_2	= Outer diameter hub	ΔK_r	= Max. permissible radial misalignment
n_{max}	= Max. rotation speed	C_1	= Guided length in hub bore	ΔK_w	= Max. permissible angular misalignment
$d_{1kmin};d_{2kmin}$	= Min. bore diameter d_1/d_2 with keyway acc. to DIN 6885-1	E	= Gap width between left and right component	J	= Total moment of inertia
$d_{1kmax};d_{2kmax}$	= Max. bore diameter d_1/d_2 with keyway acc. to DIN 6885-1	L	= Total length	V_{GR}	= Grease volume
		L_1	= Overall length (without screws)	Gw_{sb}	= Weight at smallest bore diameter

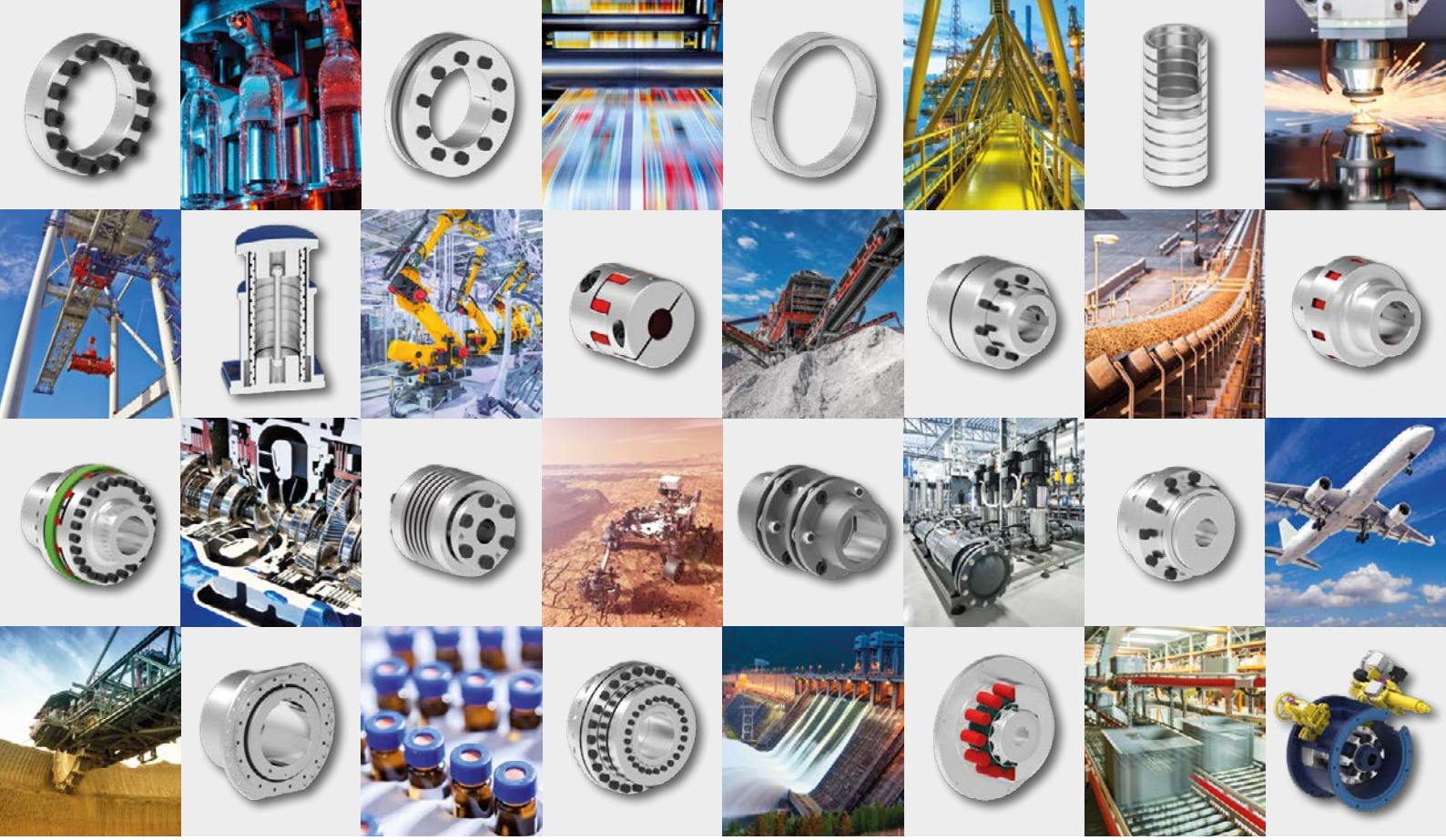
Ordering example

Identifier	Size	d_{1k}	d_{2k}	Further details
XC0120	209	140	155	*

*) Without any other specification, we deliver as a standard: keyway acc. to DIN 6885-1, keyway side fit P9, bore tolerance H7; optional with set screw

Further information on
RINGFEDER® TNZ ZCH
on **www.ringfeder.com**

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