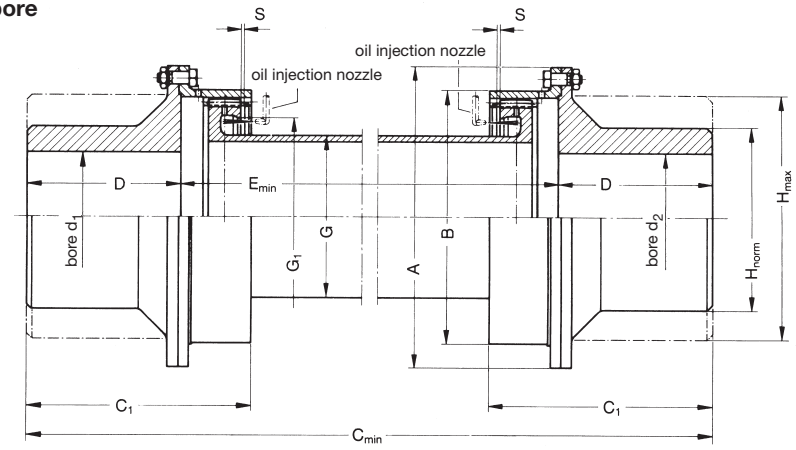
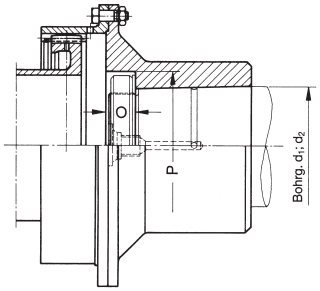
Curved Tooth Couplings
High-Speed Series ZTF and ZTFK

Hardened and ground gear teeth
Dimension table No. 243 111/1

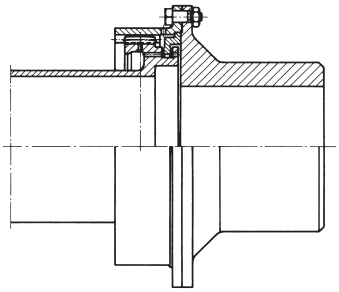
Series ZTF with cylindrical bore



Series ZTFK with tapered bore



Series ZTFR with retaining ring



For technical reasons, hydraulic fits require the supply of the pressure oil through the shaft.

The coupling series ZTFR and ZTFKR are equipped with two Z-shaped retaining rings for end float limitation.

For coupling selection and size determination, please see page 5.

[1]) Values of the complete coupling, series ZTF and ZTFK, with E = E_{min}, H_{norm} and bore d_1; $d_{2\,nom}$

Larger sizes on request.

Coupling Type ZTF + ZTFK	Normal cont. operation P_{KN} / n	Speed n_{max}	Dimensions																		Oil injection nozzles per half Quantity and size	Total oil requirement per min at 1.5 bar pressure	Mass moment of inertia J [1])	per 10 mm tube length, if L > L_{min}	Weight [1])
			bore d_1; d_2																						
			min	nom	max	A	B	C_{min}	C_1	D	E_{min}	G	G_1	H_{norm}	H_{max}	O	P	S							
Size	kW·min	rpm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm		litre	kgm^2	kgm^2	kg
35	0,11	40.000	18	35	55	117	82	190	73	45	100	50	60	50	78	10	42	1,5	1xØ2		4,5	0,005	0,000022	3,5
40	0,14	37.500	20	40	60	127	88	200	79	50	100	56	66	56	84	10	48	1,5	1xØ2		4,5	0,0071	0,000031	4,2
45	0,19	32.000	35	45	71	143	104	222	91	55	112	55	73	65	100	10	58	2,5	1xØ2		4,5	0,013	0,000033	6,3
55	0,32	28.000	40	55	80	157	120	255	104	65	125	70	87	77	115	10	70	2,5	1xØ2		4,5	0,022	0,000071	8,4
63	0,51	25.000	45	63	90	172	135	290	117	75	140	80	101	88	130	10	80	2,5	1xØ2,5		7	0,034	0,00012	11,0
73	0,79	22.000	50	73	110	197	155	340	139	90	160	90	118	102	155	15	90	3	1xØ2,5		7	0,067	0,00022	16,5
85	1,23	20.000	55	85	120	212	174	390	156	105	180	100	133	120	170	15	106	3	1xØ3		10	0,11	0,00042	23,3
100	1,92	18.000	65	100	130	247	198	440	176	120	200	120	156	140	185	15	126	3	1xØ3		10	0,20	0,00080	34,2
115	3,15	16.000	75	115	155	277	224	495	199	135	225	140	178	160	220	15	144	4	1xØ3,5		13	0,38	0,0016	50
130	4,40	13.500	85	130	170	310	256	590	229	155	280	165	200	182	240	20	166	4	1xØ3,5		13	0,73	0,0026	74
150	7,00	11.500	100	150	200	345	288	675	263	180	315	190	230	210	280	25	192	4	2xØ3		20	1,3	0,0046	109
175	10,5	10.000	115	175	220	398	330	775	305	210	355	215	265	245	310	30	227	5	2xØ3		20	2,8	0,0080	166
205	15,8	9.000	135	205	270	465	390	890	348	245	400	255	315	290	380	35	270	5	2xØ3,5		26	6,0	0,014	264

Subject to change due to technical improvement.

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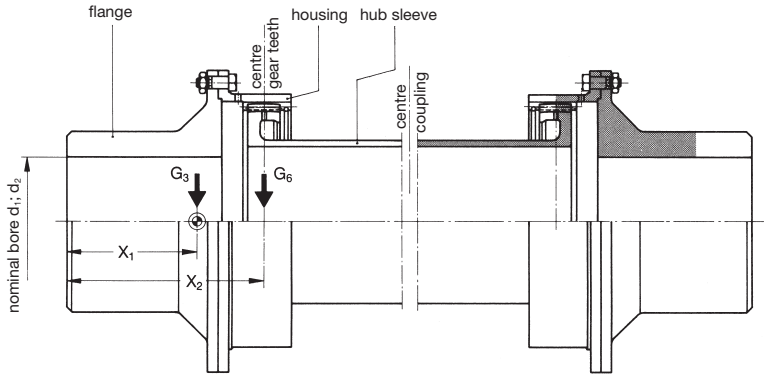
Centres of Gravity, Torsional Spring Rates



Determination of the centres of gravity

Details for determining the centres of gravity

X_1 = Distance to centre of gravity, G_3

X_2 = Distance to weight take-up, G_6

G_1 = Weight of flange

G_2 = Weight of housing

G_3 = $G_1 + G_2$

G_4 = Weight of hub sleeve, if $E = E_{min}$

G_5 = Extra weight of hub sleeve per 1 mm length, if i $E > E_{min}$

$$G_6 = \frac{1}{2} \cdot G_4 \quad \text{if } E = E_{min}$$

or

$$G_6 = \frac{1}{2} \cdot G_4 + \frac{1}{2} \cdot (E - E_{min}) \cdot G_5 \quad \text{if } E > E_{min}$$

Determination of the torsional spring rates

Details for determining the torsional spring rates

C_{T1} = torsional spring rate of the complete coupling, if $E = E_{min}$

C_{T2} = torsional spring rate of hub sleeve per 1 mm length, if $E > E_{min}$

C_{T3} = torsional spring rate of the complete coupling, if $E > E_{min}$

$$C_{T3} = \frac{1}{\frac{1}{C_{T1}} + \frac{E - E_{min}}{C_{T2}}}$$

[2]) Details based on H_{norm} and bore d_1; $d_{2\ nom}$

Coupling Type **ZTF + ZTFK** Size	Weights and Centre of Gravity Distances [2])									Torsional Spring Rates [2])		
	bore d_1; d_2 nom	X_1	X_2	G_1	G_2	G_3	G_4	G_5	G_6	C_{T1}	C_{T2}	C_{T3}
	mm	mm	mm	kg	kg	kg	kg	kg/mm	kg	MNm/rad	MNm·mm/rad	MNm/rad
35	35	38,0	61,5	1	0,51	1,51	0,5	0,0040		0,22	22	
40	40	40,9	67	1,2	0,64	1,84	0,56	0,0045		0,28	32	
45	45	49,2	78,5	1,8	0,91	2,71	0,86	0,0050		0,36	33	
55	55	56,8	90,5	2,4	1,2	3,6	1,18	0,0065		0,58	72	
63	63	63,3	102,5	3,2	1,4	4,6	1,72	0,0084		0,85	121	
73	73	73,8	122	5,1	1,8	6,9	2,9	0,0124		1,3	223	
85	85	81,4	138	7,1	2,2	9,3	4,7	0,0202		2,1	427	
100	100	89,8	156	10	3,1	13,1	6,8	0,0259		3,7	806	
115	115	103	174,5	15	4,3	19,3	11,1	0,0379		5,7	1584	
130	130	118	201,5	22	6,6	28,6	16,5	0,0435		7,9	2610	
150	150	132	232	33	8,4	41,4	24,8	0,0588		12,5	4660	
175	175	152,3	269	50	13	63	38,8	0,0808		19,6	8110	
205	205	173,2	309	84	18	102	57,8	0,0970		30,4	14037	

Calculation acc. to above equation

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